Sarasota County
Transportation Department

Stormwater
Environmental Utility

Clower Creek Sediment Study

May, 1993

ST 93051-3 E

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CLOWER CREEK SEDIMENT STUDY
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INTRODUCTION

1.10 General

Clower Creek, located just north of the Vamo area in western Sarasota County, is an irregular shaped channel almost one mile long which drains an approximately one half square mile urbanized basin into Little Sarasota Bay. Development in the Clower Creek Basin has raised concerns of an increased quantity of flow and a resultant increase in sedimentation in Clower Creek. These concerns prompted Sarasota County with the assistance of the Sarasota Bay Estuary Program to authorize Briley, Wild & Associates to prepare the Clower Creek Stormwater Improvement Study which was completed in March 1992.

1.20 Clower Creek Stormwater Improvements

The purpose of the Clower Creek Stormwater Study was to develop improvements that would improve the quality and reduce the quantity of stormwater runoff entering Little Sarasota Bay. Three of the recommended improvements are scheduled for construction in 1993. These improvements include construction of ditch checks in the swales along U.S. 41 and Vamo Road; routing of untreated stormwater runoff from the Park East Mobile Home Park into a stormwater treatment pond; and the improvement of approximately 1,300 feet of Clower Creek channel.

With these improvements in place, all stormwater runoff entering Clower Creek east of Vamo Road will be treated. The only area in the Clower Creek basin discharging untreated stormwater into the Creek will be the Pelican Cove area. This neighborhood was built prior to stormwater control requirements and the density of this development and its close proximity to the Creek banks precludes the incorporation of stormwater treatment methods.

1.30 Sediment Analysis

In addition to the stormwater construction projects, the Clower Creek Stormwater Study recommended that the existing weirs near the mouth of Clower Creek be maintained to minimize sedimentation in the lower reaches of Clower Creek and thence into the Bay. Sarasota County authorized this sedimentation analysis to determine the estimated frequency of weir maintenance and estimate the change in sedimentation as development occurred. Three conditions were evaluated including predevelopment, existing and proposed conditions. The predevelopment condition is prior to the construction of the Sarasota Square Mall, Wilbanks Point Shopping Center and Pelican Plaza Shopping Center. The existing condition is prior to construction of the recommended stormwater improvements and the proposed condition assumes completion of the improvements. For the purposes of this study it was assumed the runoff from future development would not exceed predevelopment rates and volumes.

Section 2.0 of this technical memorandum provides a general description of the modeling techniques used to evaluate the flows and sediment transport. The AdICPR (Advanced Interconnected Pond Routing) Model was used to evaluate flow rates and stages for each of the three conditions. HEC-6, the U.S. Army Corps of Engineers Scour and Deposition on Rivers and Reservoirs Model, was used to simulate the sediment transport and estimate the expected frequency of dredging for each of the three conditions.

Section 3.0 provides a summary of the modeling results for each development condition. The summary and conclusions of the study are found in Section 4.0.

SECTION 2.0

MODELING TECHNIQUES

SECTION 2.0
MODELING TECHNIQUES

2.10 General

This section outlines the procedures used to simulate stormwater runoff and quantify flood elevations throughout the Clower Creek basin. The Advanced Interconnected Pond Routing Model (AdICPR) developed by Peter J. Singhofen, P.E., was used to analyze the existing drainage system and simulate the effects of proposed improvements. This model was selected due to (1) the complexity of the drainage network in the Clower Creek basin, and (2) the impact which downstream water elevations have on the effectiveness of drainage from the area. It is designed in such a way that the simultaneous interactions of each sub-basin are captured during a series of storm event simulations. This modeling method facilitates both in identifying problem areas throughout an existing drainage system and in evaluating the effectiveness of proposed improvements. This model was also used to evaluate the conditions prior to the development of the Sarasota Square Mall, the Wilbanks Point Shopping Center and the Pelican Plaza Shopping Center. The predevelopment data was obtained from the South Florida Water Management District permit files.

After reviewing the computer softwater available for modeling sediment transport, the HEC-6 program was determined to best fit the needs for this project. HEC-6, the Scour and Deposition of Rivers and Reservoirs Model designed by the Army Corps of Engineers Hydraulics Engineering Center, is a one-dimensional model of river behavior that computes scour and deposition by simulating the interaction between the hydraulics of the flow and the rate of sediment transport. A dynamic balance exists between the sediment moving in a natural stream, the size and gradation of sediment material in the stream's boundaries, and the hydraulics of flow. When a controlled structure is placed in the river, or a minimum depth of flow maintained for navigation, this balance is changed. The HEC-6 software most easily lends itself to be used to predict the impacts of making one or more of these changes in the river hydraulics, the sediment transport rates, and the channel geometry.

2.20 General

2.21 AdICPR Stormwater Model

The AdICPR Model uses generally accepted procedures to compute the flows (surface runoff) from each of the drainage sub-basins in the Clower Creek basin. These procedures include establishing a design rainfall for a particular frequency and the computation of direct runoff (rainfall-excess increments) from the design rainfall employing the Soil Conservation Service (SCS) runoff curve number procedures. The design hydrograph of each sub-basin was computed by the SCS unit hydrograph method. Further, the modified Puls method was used for flood routing to delineate attenuated stormwater levels in the ponds and channel areas.

Required input parameters for the hydrograph computations are the design rainfall amounts and distribution, hydrograph peak flow factor, total area, composite runoff curve number (CN), and the time of concentration (Tc) of each sub-basin. These parameters are discussed in the following sub-sections. The Appendices contain a summary of the hydrograph input data for each of the Clower Creek sub-basins for the predevelopment, existing and proposed conditions. The input data required for flood routing include the elevation/area data for reservoir storage and the dimensions and elevations of the culvert structures and channel systems in each sub-basin.

2.22 Design Rainfalls

In order to evaluate the stormwater management system for each of the study conditions, design hydrographs resulting from a 25-year frequency, 24-hour duration design rainfall were computed and routed through the stormwater system by the AdICPR Model. The standard Type III rainfall distribution of the Soil Conservation Service was used. Rainfall was uniformly applied over the entire basin.

The average yearly rainfall for the Clower Creek basin was determined from seven years of daily rainfall data. This data was used to determine the average number of inches of rain per day. Three representative rainfalls, 0.5-inch, 1.0-inch and 3.0-inch were evaluated by the AdiCPR model to compute the resultant flow rates. The FDOT two hour rainfall distribution was used. This duration is typical of the frequent Florida afternoon rains. These rainfalls were uniformly applied over the Clower Creek basin.

2.23 Composite Runoff Curve Numbers

Rainfall is converted to runoff by the use of a runoff curve number. A weighted (composite) runoff curve number (CN) was computed for the pervious area and non-directly connected impervious area of each sub-basin. CN is a parameter used in estimating soil moisture prior to a storm event. It is determined based on the following factors: hydrologic soil group, land use, plant cover and hydrologic condition.

2.24 Directly Connected Impervious Area

The directly connected impervious area (DCIA), comprises those impervious surfaces that are hydraulically connected to the drainage system (i.e. streets with curb and gutter and paved parking lots with storm sewer systems). These impervious areas are connected to the sub-basin outlet point (i.e. the node) without flowing over any pervious areas. Essentially, all of the rainfall falling on these areas runs off to the node, therefore, a runoff curve number of 98 is routinely assigned to the percent of the sub-basin that is directly connected.

2.25 Times of Concentration

The time of concentration (Tc) is the time it takes for runoff to travel from the hydraulically most remote part of the watershed to the point of reference downstream. The SCS velocity method was used to compute the Tc in each of the sub-basins. In this method, the flow path is divided into three portions: a sheet flow portion, a shallow concentrated flow portion and a channel flow portion. The travel time through the sheet flow portion is computed by a kinematic wave equation. An overland flow equation is used to calculate the travel time through the swale portion. Manning's equation is used for the channel travel time.

2.26 Peak Flow Factor (K)

The peak rate factor (K) is a parameter used to reflect the effect of watershed storage on the shape of the runoff hydrograph. High values of K are assigned to watersheds with little or no storage effects and low values are assigned to watersheds with significant ponding effects. The AdICPR Model has three K values built into the program, 256, 323 and 484. Other values may be developed if needed.

A peak flow factor of 256 was used to compute the hydrograph in sub-basins with flat topography and considerable natural surface storage. A peak flow factor of 323 was used in sub-basins with flat topography with minimal storage available. A 484 value was used in the areas where essentially no natural surface storage occurs.

2.27 Flood Routing

The AdICPR model works on a node-reach concept. This concept involves identifying locations in the drainage system where stormwater stage elevations need to be assessed. Each of these locations is considered a node. Nodes are connected together with conveyance elements (channels, culverts, etc.) which are called reaches. Discharge rates are computed for these reach elements. The entire system of nodes and reaches forms the nodal network and serves as the computation framework for AdICPR. Layout of the node and reach diagrams developed for the analysis of the Clower Creek basin for the predevelopment, existing and proposed conditions are shown in the Appendices.

The design hydrographs of each sub-basin are routed through the nodes and reaches to the boundary point of the study area. Historic tidal stage data for Little Sarasota Bay was used to establish the initial stage/time condition for the boundary node. Stage/area relationships of the remaining nodes were also required as input to the model. Input data required for the reaches included the dimensions, inverts and type of culverts; and the length, bottom elevations and cross sections of the swales, ditches and channel. Manning's roughness coefficients for all reaches were also developed.

The appendices lists the nodal maximum values resulting from each of the four storm events applied to the predevelopment, existing and proposed drainage systems. The maximum stage, peak inflow and outflow are shown for each node. The reach maximum flows and stages resulting from each of the storm events are also tabulated in the appendices.

2.30 HEC-6 Sediment Transport Model

2.31 General

HEC-6 is a one-dimensional numerical model of river mechanics that computes scour and deposition by simulating the interaction between the hydraulics of the flow and the rate of sediment transport. Prediction of the behavior of reservoirs, rivers and channels often requires the inclusion of the interaction between the flow hydraulics, sediment transport and related changes in boundary geometry and roughness. HEC-6 is designed to include those interactions. By joining the hydraulic properties of the flow with the characteristics of the sediment material (which can be determined by analyzing samples of the stream bed sediment particles), the rate of sediment transport can be computed. HEC-6 can be used to evaluate the volume of maintenance dredging, predict the influence that dredging has on the rate of deposition, estimate maximum scour during large flood events, and evaluate sedimentation on modified channels.

2.32 Geometry

Geometry of the Creek system is represented by cross sections which are specified by coordinate points (stations and elevations) and the distance between cross sections. HEC-6 raises or lowers cross section elevations to reflect deposition and scour. The horizontal locations of the channel banks are considered fixed and the floodplains on each side of the channel are considered as having fixed ground locations but can move vertically if within the movable bed.

The Clower Creek Model utilized 22 stream cross-sections from approximately 100-feet west of the existing weirs to Vamo Road. For the predevelopment and existing conditions, the existing cross-section data was used in the sediment modeling. The proposed cross-sections were used in evaluating the proposed condition. The cross section data for each study condition is shown in the Appendices.

2.33 Hydraulics and Hydrology

The water discharge hydrograph is approximated by a sequence of steady flow discharges, each of which last for a specified period of time. Water surface profiles are calculated by using the standard step method to solve the energy and continuity equations. It is necessary to specify the downstream water surface elevation for water surface profile calculations. Conveyance limits, containment of the flow by levees , ineffective flow areas and over topping of levees are simulated in a manner similar to HEC-2. A stage-discharge rating curve is specified as the downstream boundary condition. The AdICPR model was used to determine the discharge and water surface elevations for each of the three study conditions. The data is summarized in Section 3.0 of this report and may be seen in its entirety is the Appendices.

2.34 Sediment Transport

Inflowing sediment loads are related to water discharge by sediment-discharge curves for the upstream ends of the main stem, tributaries and local inflow points. For realistic computation of scour and equilibrium conditions, the gradation of the material forming the stream bed must be measured and specified at each cross section. The inflow sediment-discharge curves for each of the three development conditions are shown in the Appendices.

Sediment mixtures are classified by grain size using the American Geophysical Union scale. The program accommodates clay (particles less than 0.004 mm diameter), four classes of silt (0.004-0.0625 mm), five classes of sand (from very fine sand, 0.0625 mm, to very coarse sand, 2.0 mm), and five classes of gravel (from very fine gravel, 2.0 mm, to very coarse gravel, 64 mm).

The movable bed (i.e. the area which is allowed to vertically change due to sediment activity) limits may extend beyond the channel bank "limits". Deposition is allowed to occur in all wetted areas, even if the wetted areas are beyond the conveyance or movable bed limits. Scour occurs only within the movable bed limits. Sediment transport potential is based upon the hydraulic and sediment characteristics of the channel alone.

Transport capacity is determined at each cross section by using hydraulic information from the water surface profile calculation (e.g., width, depth, energy slope, and flow velocity) and the gradation of bed material. Sediment is routed downstream after the backwater computations are made for each successive discharge.

Based on continuity of sediment, changes are calculated with respect to time and distance along the study reach for the following: total sediment load, volume and gradation of sediment that is scoured or deposited, armoring of the bed surface, and the resulting bed elevation. In addition, sediment outflow at the downstream end of the study reach is calculated. The location and amount of material that has to be dredged is also calculated.

There are several sand and gravel transport relationships available in HEC-6. The Clower Creek study used Yang's Stream Power for Sands. Two methods for clay and silt transport are available in HEC-6. They are only applicable for flows with suspended sediment concentrations less than 300 mg/l. The first method allows the deposition of clays and silts but does not allow scour. The second method allows for both deposition and scour. This method was used in the Clower Creek Study and required information regarding critical shear stress thresholds for deposition and shear stress thresholds and erosion rates for both particle and mass erosion.

2.35 Sediment Data

Sediment data includes the inflowing sediment load data, gradation of material in the stream bed, and information about fluid and sediment properties. The transport capacity relationship(s), and unit weights of deposited material are also input.

The grain sizes of sediment particles commonly transported by rivers may range over seven log cycles. Small sizes behave much differently from large sizes. Therefore, it is necessary to classify sediment material into groups for application of different transport theories. The three basic classes considered by HEC-6 are clay, silt and sand/gravel. The groups are identified and subdivided based on the American Geophysical Union (AGU) classification scale. HEC-6 accounts for 15 different sizes of material including one size for clay, four silt sizes, five sand sizes, and five gravel sizes. The representative size of each class is the geometric mean size, which the square root of the class ranges multiplies together. For example, the geometric mean size for medium silt is $(0.016 \cdot 0.032)^{1/2}$ or 0.023 mm.

Soil boring data obtained in three reports by Ardaman and Associates was used to determine the required sediment data. The input data for each of the study conditions may be found in the Appendices. As shown in the Appendices, the native soil material in the channel embankment will scour with velocities greater than or equal to 2.0 fps.

2.35.1 Inflowing Sediment Load

The aggradation or degradation of a stream bed profile depends upon the amount and size of sediment inflow relative to the transport capacity of the stream. The sediment entering the water inflow points of the geometric model (i.e., local inflow points, main stem and tributary boundaries) are inflowing sediment loads and are expressed in tons/day. The sediment load includes both bed and suspended load (total load) and is expressed as a log-log function of water discharge in cfs versus sediment load in tons/day. The resultant curves for each of the development conditions are shown in the Appendices.

In the predevelopment condition most areas were assumed to have adequate ground cover to prevent silt and sediment deposition into the stream, therefore greatly reducing that source of sedimentation. The proposed condition also assumed a lesser inflow sediment load due to the increased stormwater treatment provided by the proposed stormwater improvements.

2.35.2 Sediment Material in the Stream Bed

Transport theory for sand relates the total sand and coarser load moving to the gradation of sediment particles on the bed surface. Armor calculations require the gradation of material beneath the bed surface and knowledge about the depth to bedrock or some other material that might prevent degradation.

These requirements are accommodated in the sediment program by assigning a depth of sediment material to each cross section and specifying the surface gradation and the subsurface gradation as illustrated in Figure 2-1.

The coordinate connected with the solid line define the cross section at the beginning of the study. For scour conditions, the program lowers all coordinates within the "movable bed" by an amount D_{sm} and calculates the amount of sediment material available for transport from the cross-sectional area defined by D_{sm}.

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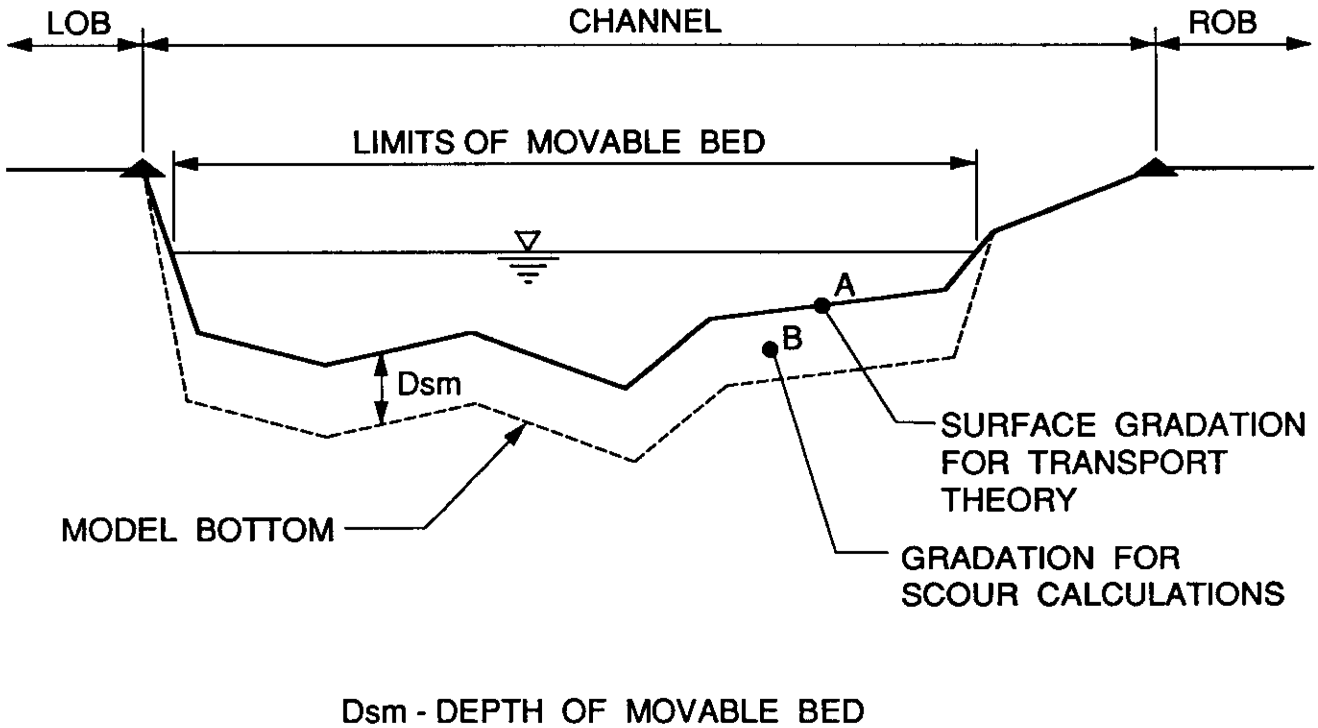

SEDIMENT MATERIAL IN THE STREAMBED

R - XXX

PREPARED BY:
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CONSULTING ENGINEERS AND PLANNERS

FIGURE 2 - 1

The gradation of sediment particles on the stream bed, point A (Figure 2-1), and the distribution of sizes in the inflowing load are intimately related. One must complement the other in transport theory. The gradation for the scour calculations region around point B (Figure 2-1), is a completely different data source and easier to sample than the bed surface gradation. Therefore, in using HEC-6, it is customary to specify inflowing sediment load and gradation of the region identified by point B and have the program calculate the bed surface gradation required to transport the inflowing load. The gradation of sediment material in the stream bed is coded as percent fines versus grain size or the fraction of material contained in each grain size class.

2.35.3 Sediment Properties

Five basic properties are considered: grain size, grain shape factor, specific gravity, unit weight of deposits and fall velocity. Grain size classifications are fixed in the program. The program defaults to a specific gravity of 2.65 and the grain shape factor defaults to 0.667 if no values are specified.

SECTION 3.0

MODELING RESULTS

SECTION 3.0
MODELING RESULTS

3.10 General

The AdICPR stormwater model and the HEC-6 sediment transport model were used to evaluate the flow and resultant sediment transport associated with three development conditions. The predevelopment condition is prior to the construction of the major commercial areas in the Clower Creek basin, including Sarasota Square Mall, Wilbanks Point Shopping Center and Pelican Plaza Shopping Center. The existing condition is prior to the construction of the proposed stormwater improvements and the proposed condition assumes completion of the improvements.

Each of the three modeled conditions were evaluated using an average yearly rainfall determined from daily rainfall data for seven years, 1983 through 1989. The recorded rainfall data was evaluated to determine the average total rainfall in inches per year and also the average number of days per year the rainfall amount is less than 0.5-inches, between 0.5 and 1.0-inches, between 1.0 and 3.0-inches and greater than 3.0-inches. For the purposes of this study, a rainfall duration of two hours was assumed. This duration was assumed to be typical of the afternoon rains which frequent Florida in the rainy season. The design rainfall of a 25-year frequency - 24 hour duration storm event of 8.0-inches was also evaluated.

The results of the stormwater routing and sediment transport modeling for each development condition are discussed in the following sections. The computer modeling data for each model is included in the Appendices.

3.20 Predevelopment Condition

3.21 General

As previously discussed, the predevelopment condition is prior to the mall and shopping center commercial development. The predevelopment data for these sites was obtained from the South Florida Water Management District permit files. The existing cross-section of Clower Creek just upstream of the Sarasota Square Mall was used to simulate the Creek prior to the construction of the piping which now carries stream flow beneath the mall.

In the predevelopment condition, the sediment inflow and quantity of sediment available for transportation (moveable bed) is assumed to be less than the existing condition. These assumptions were made to account for the changed land use and potential increase in sediment inflow and sediment transport. The sediment inflow and depth of moveable bed for each development condition are shown in the Appendices.

3.22 Stormwater Model Results

As discussed previously, four rainfall events were analyzed to determine the resultant flow conditions. Table 3-1 illustrates the peak flow rates, the peak stages and peak velocities which result from the four rainfall simulations. The data reflects the peak conditions in Clower Creek just upstream of the Brookhouse Drive Bridge in the Pelican Cove development. This location is approximately 400-feet west of Vamo Road. It is within the section of the Creek proposed for improvement and was chosen for comparative purposes and does not represent the conditions at other locations in the Creek.

TABLE 3-1
STORMWATER FLOW SUMMARY

Development Condition	Rainfall, inches	Peak Flow Rate, cfs	Peak Stage, ft	Peak Velocity, fps
Predevelopment	0.5	3.19	2.0	1.0
	1.0	8.03	2.8	1.2
	3.0	91.8	5.9	2.1
	8.0	259	8.2	2.5
Existing	0.5	3.99	2.6	0.85
	1.0	15.0	3.2	1.3
	3.0	92.0	5.9	2.1
	8.0	222	7.8	2.5
Proposed	0.5	3.42	2.6	0.61
	1.0	9.71	3.1	0.87
	3.0	70.9	5.2	1.6
	8.0	186	7.0	1.8

As can be seen in the Hydrograph Summary in Appendix A the flows resulting from 0.5-inch rainfall event are essentially runoff from the Park East Mobile Home Park, U. S. 41 and Vamo Road, Bay Village, the residential development along Marcia and Marbeth Streets and the Pelican Cove development. In the predevelopment condition, a 0.5-inch rainfall does not produce any runoff from the yet to be developed commercial areas. The peak runoff occurring during a 0.5-inch rainfall event produces a peak stage of 2.0 ft. and a peak velocity of approximately 1.0 fps. This velocity is less than the scour velocity of 2.0 fps; therefore no bank erosion at this section of the Creek would result from this event.

The runoff resulting from a 1.0-inch rainfall event is mainly from the roadways and residential areas but a small amount of runoff also discharges from the yet to be developed commercial areas with this event. As with the 0.5-inch event, this rainfall does not produce a scour velocity in this Creek section.

A 3.0-inch rainfall event produces a significant quantity of stormwater runoff from the yet to be developed commercial areas. This runoff combined with the runoff from the roadways, residential areas and Bay Village produces a high peak stage in the Creek of 5.9 ft. and a scour velocity of 2.1 fps in this section of the Creek.

The runoff resulting from an 8.0-inch rainfall is sufficient to cause significant scour in the Creek at this location. The peak stage is approximately at the top of the Creek banks. With the Creek flowing full, the potential for bank erosion is at its greatest.

3.23 Sediment Transport Model Results

As with the stormwater model, the sediment transport was evaluated for four rainfall events. Table 3-2 illustrates the rainfall, the number of days per year this rainfall occurs in an average year, the tons of sediment deposited upstream of the weirs, the tons of sediment deposited between the weirs and the tons of sediment deposited downstream of the weirs.

The sediment deposited between the two existing weir structures near the mouth of Clower Creek just upstream of the Pelican Cove harbor entrance will be the focal point of the comparative discussion between the three study conditions. These weirs were constructed to trap sediment and provide a point of maintenance dredging to reduce siltation of the harbor entrance. These weirs are approximately 30-feet apart and can hold a maximum of 200 tons of sediment between the weirs assuming approximately 3-feet of depth is available for sediment storage. For comparitive purposes it was assumed the full storage was available in the analysis of each development condition.

As shown in Table 3-2, no sediment is transported to the weirs as a result of the 80 one half inch rainfall events or the 18 one inch rainfall events. However sediment is transported and deposited between the weirs as a result of the two three inch rainfalls. Approximately 121 tons/year is deposited between the weirs which is not sufficient to fill the weirs and overtop the weirs thereby depositing sediment into the harbor entrance. The 8.0-inch storm event, however, fills the weirs and deposits sediment downstream of the weirs.

TABLE 3-2
SEDIMENT TRANSPORT SUMMARY

Development Condition	Rainfall, inches	Number of Days/Year	Tons/yr of Sediment Deposited Upstream of Weirs	Tons/yr of Sediment Deposited Between Weirs	Tons/yr of Sediment Deposited Downstream of Weirs
Predevelopment	0.5	80	0	0	0
	1.0	18	0	0	0
	3.0	2	244	121	0
	8.0	1	1,103	678	233
Existing	0.5	80	0	0	0
	1.0	18	0	0	0
	3.0	2	355	173	0
	8.0	1	1,334	766	354
Proposed	0.5	80	0	0	0
	1.0	18	0	0	0
	3.0	2	131	56	0
	8.0	1	1,243	697	98

3.30 Existing Condition

3.31 General

The existing condition includes the present commercial development in the Clower Creek basin but does not include the construction of the recommended stormwater improvements. The existing commercial development with retention/detention stormwater ponds and the piped portion of Clower Creek, existing channel cross-sections, and existing sediment inflow were used in the evaluation of this condition.

3.32 Stormwater Model Results

The flow conditions resulting from the four rainfall events are shown in Table 3-1. As previously discussed, this data is specific for the section of Creek just upstream of the Brookhouse Drive Bridge. The 0.5-inch rainfall even produces stormwater runoff from all areas in the Basin. Except for two small ponds in Sarasota Square Mall, all of the retention/detention storage ponds in Bay Village, Sarasota Square Mall, Wilbanks Point Shopping Center and Pelican Plaza Shopping center have sufficient storage volume to completely retain the runoff from a 0.5-inch rainfall throughout an average year. The northwest pond and the central west pond of the Mall have a small amount of discharge associated with this rainfall event during the assumed seasonal high conditions. As shown in Table 3-1, the peak stage produced is 2.8 and the velocity is only 1.2 fps. This velocity is less than scour velocity, therefore this section of the Creek would not erode as a result of a 0.5-inch rainfall event.

The 1.0-inch rainfall event produces discharge from the three smaller ponds on the west side of the Sarasota Square Mall but does not produce discharge from the large pond on the east side of the Mall or from the Wilbanks Point pond, Bay Village pond, or Pelican Plaza pond. However the additional discharge from the three mall ponds is sufficient to produce almost twice the peak discharge rate in the Creek as in the predevelopment condition. This peak flow results in a peak stage of 3.2 ft. and a velocity of 1.3 fps. This velocity also is less than scour velocity and does not produce erosion in this section of the Creek.

As in the predevelopment condition, the 3.0-inch rainfall results in discharge from all areas in the Basin. This runoff is essentially equal to the predevelopment runoff resulting in a peak stage of 5.9 ft. and a peak velocity of 2.1 fps. This velocity does produce some scour in this section of the Creek.

During an 8.0-inch rainfall the stormwater runoff is slightly less than in the predevelopment condition. This is due mainly to the variations in the time the discharge is released. The stormwater ponds provide some peak attenuation in this event which results in a lower peak flow and peak stage. The velocity is the same as predevelopment and results in scour of the channel banks in this location.

3.33 Sediment Transport Model Results

The sediment deposited as a result of the four rainfall events is shown in Table 3-2. As with the predevelopment condition, the 0.5-inch rainfall and the 1.0-inch rainfall does not produce any sediment transport to the weirs. The 3.0-inch event transports sediment to the weirs and deposits approximately 173 tons/year between the weirs. This quantity does not fill and overtop the weirs.

The 8.0-inch rainfall does not deposit as much sediment in the existing condition as in the predevelopment condition. This is due to the lower peak flows in the existing condition. However the sediment transported in this condition fills the area available for sediment deposition and overtops the weirs discharging sediment to the harbor entrance and thence to Little Sarasota Bay.

3.40 Proposed Condition

3.41 General

The proposed condition assumes the completion of the recommended stormwater improvement projects. These projects include routing untreated stormwater runoff into an existing wet detention pond in Park East Mobile Home Park, the construction of ditch checks in the swales along U.S. 41 and Vamo Road, and the improvement of the 1,300-feet of Clower Creek channel. The channel improvements include the removal of a narrow section of channel where significant erosion has occurred and the stabilization of the channel banks and bottom with erosion control fabric and planted littoral vegetation. With the completion of these improvements, all the stormwater runoff entering the Creek upstream of Vamo Road will be treated.

3.42 Stormwater Modeling Results

The quantity of runoff resulting from each of the four rainfall events in the proposed condition does not vary from the existing condition. The discharge of that runoff does vary as the flow from Park East Mobile Home Park, U.S. 41 and Vamo Road is routed through retention/detention treatment systems prior to discharge.

In the smaller storm events, the 0.5-inch and the 1.0-inch rainfalls, the peak flow in Clower Creek is slightly higher than the predevelopment conditions flows. This is a result of the discharge from the Sarasota Square Mall ponds during the small storm events. The proposed flow is slightly less than the existing flow resulting from the 0.5-inch event and significantly less than the existing flow resulting from the 1.0-inch event. The impact of the proposed retention swales and routing flow from Park East Mobile Home Park into the wet detention pond is more significant in the 1.0-inch and greater rainfalls. This is demonstrated further with the proposed flows resulting from the 3.0-inch and 8.0-inch storm events. These flows are significantly less than the existing condition flows and the predevelopment flows.

The resultant peak stage and peak velocities in the proposed condition are also significantly less than the existing condition for each of the four rainfalls and the velocities are less than the predevelopment condition for each rainfall event. The proposed condition peak stages resulting from the slightly higher peak flows in the smaller storm events are moderately higher than the predevelopment condition. The proposed peak stages in the 3.0 and 8.0-inch rainfalls are significantly less than the predevelopment peak stages. This is the result of the lower peak flows and the improved channel cross-section. The peak velocities produced by the four rainfall events in the proposed condition are less than scour velocity for each event. Therefore in this section of the channel, no significant bank erosion will occur upon completion of construction of the stormwater improvements projects.

3.43 Sediment Transport Model Results

As in the predevelopment and existing conditions, only the 3.0 and 8.0-inch rainfall events produce sediment transport and deposition between the weirs in the proposed condition. The sediment deposit rate between the weirs in the proposed condition is approximately one-half of the sediment deposit rate in the predevelopment condition and approximately one-third of that deposition rate in the existing condition for the 3.0-inch event. In all conditions for the 3.0 inch event, the material deposited does not fill the weirs and discharge downstream.

In each of the three conditions, one 8.0-inch event representing a 25-year occurrence rate, produces a sufficient quantity of sediment transport and deposition between the weirs, filling the weirs and transporting and depositing material downstream of the weirs into the harbor entrance and Little Sarasota Bay. The proposed condition does produce significantly less material than the predevelopment and existing conditions.

3.50 Summary of Modeling Results

The four rainfall events represent an average year of rainfall with the proposed stormwater improvements design storm event also analyzed. The estimated flows resulting from these storm events were evaluated for the three development conditions. These flows were used to determine the sediment transported to the existing weirs for each development condition.

The design storm event, 8.0-inches in 24 hours which is expected to occur once in twenty five years, produces sufficient sediment transport and deposition to fill the weirs and discharge sediment downstream of the weirs into the Pelican Cove harbor entrance and into Little Sarasota Bay. While this occurs with each development condition, the proposed condition does transport and deposit considerably less material downstream of the weirs when compared to predevelopment and existing conditions. However, even with the completion of the stormwater improvements, the weirs will need to be dredged in the event this design storm occurs.

In the predevelopment condition approximately 121 tons/year is deposited between the weirs. With approximately 200 tons of capacity between the weirs before overtopping occurs, the weirs would have needed dredging every 1.6 years. If a major storm event such at the design storm occurred, this frequency would be increased.

In the existing condition, the sediment deposited between the weirs is approximately 173 tons/year. This quantity in a typical year would require the weirs to be dredged every 1.2 years. As in the predevelopment condition this frequency would be increased with a major storm event.

The sediment deposited between the weirs in the proposed condition is approximately 56 tons/year with the typical yearly rainfall. This quantity will require dredging the weirs every 3.6 years. A major storm event will require dredging more frequently and if the design storm event occurs, the weirs would be completely full and will require immediate dredging.

SECTION 4.0

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

SECTION 4.0
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

4.10 Summary

The purpose of this study was to determine the quantity of sediment transported and deposited between the exiting weirs near the mouth of Clower Creek. By determining the sediment transport, the frequency of dredging the weirs could be estimated.

Seven years of rainfall data was analyzed to determine an average year rainfall quantity and frequency. The three storm events representing an average yearly rainfall and the proposed stormwater improvements design storm event of a 25 year frequency - 24 hour duration were applied to three development conditions. The three conditions include the predevelopment, prior to the construction of the major commercial areas; the existing, prior to the construction of the proposed stormwater improvements; and the proposed, subsequent to the construction of the stormwater improvements.

The Advanced Interconnected Pond Routing Stormwater Model was used to determine the flow rates, creek stages and velocities resulting from each of the four rainfall events in each development condition. The HEC-6 Scour and Deposition on Rivers and Reservoirs Sediment Transport Model was used to simulate the sediment transport and estimate the frequency of dredging for each of the development conditions.

4.20 Conclusions

The stormwater improvements design storm event expected to occur once in twenty five years provides sufficient sediment transport and deposition to completely fill the capacity of the weirs and discharge sediment downstream of the weirs into the Pelican Cove harbor entrance and into Little Sarasota Bay. This occurs with each of the three development conditions studied. With the completion of the stormwater improvements, however, significantly less material will be deposited downstream of the weirs than in either the existing or the predevelopment condition.

The average year rainfall transports and deposits sediments between the weirs but does not discharge sediment past the weirs into the harbor or Little Sarasota Bay. The quantity of sediment deposited between the weirs and the weir storage capacity were used to estimate the frequency of dredging for each development condition.

In the predevelopment condition, an average year rainfall would require the weirs to be dredged every 1.6 years. As discussed in Section 2.20, the sediment inflow rate and moveable bed quantity were assumed to be less than the existing condition. This would account for the change in ground cover and the commercial area construction activities which affect the sediment inflow rates and the moveable bed quantity.

The existing sediment inflow rate and quantity of sediment in the movable bed available for transport were used in the evaluation of the existing condition. The frequency of dredging required in a typical year is estimated to be every 1.2 years. This compares favorably to the recent dredging operations which have been reported by the Pelican Cove Homeowners Association to occur approximately every 18 months.

In the proposed condition, less sediment inflow was assumed due to the routing of all upstream stormwater runoff into a treatment facility prior to discharge to Clower Creek. The quantity of sediment in the movable bed was also reduced as a result of the proposed channel improvements. These improvements reduce the channel bank area available for erosion thus reducing this quantity as well. With the construction of the stormwater improvements completed, the estimated frequency of dredging required as a result of an average year rainfall would be every 3.6 years. This is a significant improvement over both the existing and predevelopment conditions.

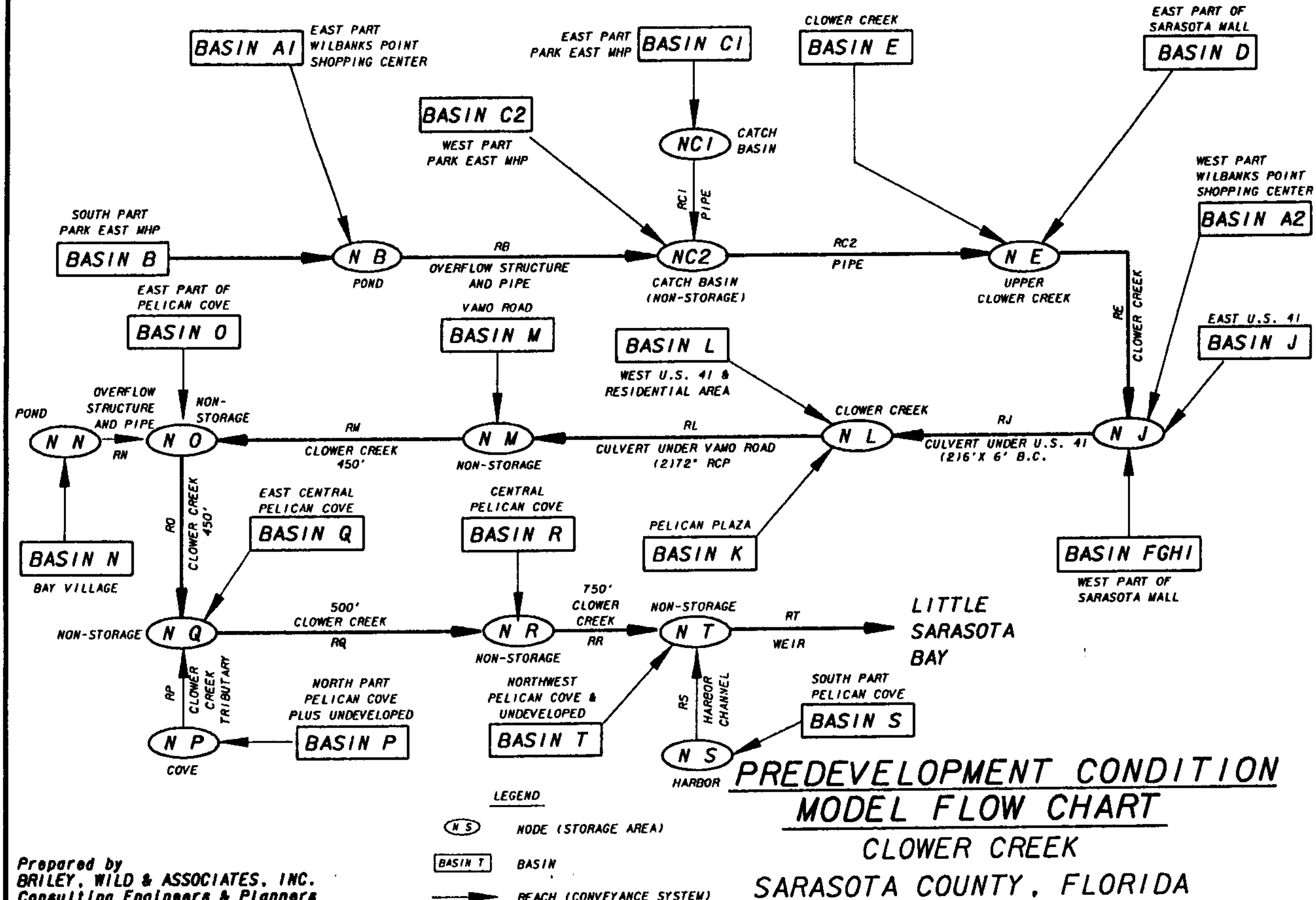
4.30 Recommendations

As a result of this sediment analysis study the frequency of dredging between the existing weirs has been estimated for the predevelopment, the existing and the proposed conditions. The proposed stormwater improvements reduce the required frequency of dredging from every 1.2 years in the exisiting condition to every 3.6 years in the proposed conditions for the average year rainfall.

It is recommended the proposed stormwater improvements be constructed. These improvements significantly reduce the required maintenance dredging. It is the recommendation of this study, the existing weirs be maintained a minimum of every 3.5 years and at a greater frequency should a major storm event occur.

APPENDIX A

PREDEVELOPMENT CONDITION



PREDEVELOPMENT CONDITION MODEL FLOW CHART

CLOWER CREEK
SARASOTA COUNTY, FLORIDA

Prepared by
BRILEY, WILD & ASSOCIATES, INC.
Consulting Engineers & Planners

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 0.5 INCH RAINFALL
4/15/93

BASIN!NAME	A1	A2	B	C1	C2
NODE NAME	NB	NJ	NB	NC1	NC2
UNIT HYDROGRAPH	UH323	UH323	UH323	UH484	UH484
PEAKING FACTOR	323.	323.	323.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	3.30	3.30	15.28	10.60	8.28
CURVE NUMBER	73.00	73.00	82.00	89.00	89.00
DCIA (%)	.00	.00	39.90	13.00	31.20
TC (mins)	20.00	20.00	24.00	23.00	25.90
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A1	.00	.00	.00	WILBANKS POINTE SHOPPING CENTER
A2	.00	.00	.00	WILBANKS POINTE SHOPPING CENTER
B	2.31	.96	.16	SOUTH PARK EAST MHP
C1	.96	.97	.09	EAST PARK EAST MHP
C2	1.39	.98	.15	WEST PARK EAST MHP

BASIN!NAME	D	E	FGHI	J	K
NODE NAME	NE	NE	NJ	NJ	NL
UNIT HYDROGRAPH	UH323	UH323	UH323	UH256	UH484
PEAKING FACTOR	323.	323.	323.	256.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	48.80	6.48	46.20	23.20	14.16
CURVE NUMBER	73.00	75.00	73.00	81.00	70.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	45.00	15.00	75.00	197.00	75.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
D	.00	.00	.00	SARASOTA MALL EAST
E	.00	.00	.00	CLOWER CREEK EAST OF PIPED PORTION!
FGHI	.00	.00	.00	SARASOTA MALL NORTHWEST
J	.00	4.00	.00	US 41 AND UNDEV. SOUTHEAST AREA
K	.00	.00	.00	PELICAN!PLAZA SHOPPING CENTER

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PREDEVELOPMENT CONDITION!- 0.5 INCH RAINFALL
4/15/93

BASIN!NAME	L	M	N!	O	P
NODE NAME	NL	NM	NN!	NO	NP
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	22.92	8.24	12.16	4.16	24.88
CURVE NUMBER	84.00	82.00	81.00	85.00	80.00
DCIA (%)	.00	.00	12.80	7.00	3.00
TC (mins)	62.20	36.50	18.80	17.50	47.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
L	.09	2.21	.01	US 41 AND SOUTH CENTRAL RESID. AREA
M	.01	2.11	.00	VAMO ROAD
N!	.66	.92	.05	BAY VILLAGE
O	.13	.89	.04	PELICAN!COVE EAST
P	.19	1.27	.01	PELICAN!COVE NORTHEAST AND UNDEV.

BASIN!NAME	Q	R	S	T
NODE NAME	NQ	NR	NS	NT
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00
AREA (ac)	4.04	6.72	26.88	8.04
CURVE NUMBER	80.00	82.00	84.00	80.00
DCIA (%)	8.00	4.00	18.40	9.10
TC (mins)	18.00	23.80	33.20	23.80
LAG TIME (hrs)	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
Q	.14	.88	.03	PELICAN!COVE EAST CENTRAL
R	.10	.95	.02	PELICAN!COVE CENTRAL
S	1.56	1.03	.08	PELICAN!COVE SOUTHWEST
T	.28	.95	.04	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 0.5 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NB	11.04	.20	2.27	.00	.00	.00
NC1	10.52	.02	.96	.00	.00	.64
NC2	9.47	.04	1.38	.00	.64	2.58
NE	8.04	.13	.00	.00	2.58	4.20
NJ	6.11	.04	.00	.00	4.20	1.16
NL	5.40	.01	.09	.00	1.16	6.94
NM	3.14	.02	.01	.00	6.94	3.19
NN!	12.06	.05	.62	.00	.00	.00
NO	2.32	.02	.12	.00	3.19	1.40
NP	2.01	.21	.19	.00	.00	.09
NQ	2.01	.16	.13	.00	1.49	1.33
NR	2.00	.44	.10	.00	1.33	1.39
NS	2.00	1.72	1.53	.00	.00	1.49
NT	2.00	1.03	.27	.00	2.30	2.20
NU	2.00	.00	.00	.00	2.20	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 0.5 INCH RAINFALL
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	1.25	.64	NC1	10.52	NC2	9.47
RC2	.00	2.58	NC2	9.00	NE	8.00
RJ	2.00	1.16	NJ	6.11	NL	5.40
RL	2.75	6.94	NL	5.40	NM	3.08
RB	.00	.00	NB	11.00	NC2	9.00
RN!	.00	.00	NN!	12.00	NO	2.00
RE	.00	4.20	NE	8.00	NJ	6.00
RM	.00	3.19	NM	3.00	NO	2.00
RP	2.25	.09	NP	2.01	NQ	2.01
RQ	2.25	1.33	NQ	2.01	NR	2.00
RR	2.25	1.39	NR	2.00	NT	2.00
RS	1.00	1.49	NS	2.00	NT	2.00
RT	2.25	2.20	NT	2.00	NU	2.00
RO	2.25	1.40	NO	2.32	NQ	2.01

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PREDEVELOPMENT CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	A1	A2	B	C1	C2
NODE NAME	NB	NJ	NB	NC1	NC2
UNIT HYDROGRAPH	UH323	UH323	UH323	UH484	UH484
PEAKING FACTOR	323.	323.	323.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	3.30	3.30	15.28	10.60	8.28
CURVE NUMBER	73.00	73.00	82.00	89.00	89.00
DCIA (%)	.00	.00	39.90	13.00	31.20
TC (mins)	20.00	20.00	24.00	23.00	25.90
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A1	.05	1.82	.02	WILBANKS POINTE SHOPPING CENTER
A2	.05	1.82	.02	WILBANKS POINTE SHOPPING CENTER
B	5.54	.96	.43	SOUTH PARK EAST MHP
C1	4.44	.97	.36	EAST PARK EAST MHP
C2	4.32	.98	.47	WEST PARK EAST MHP

BASIN!NAME	D	E	FGHI	J	K
NODE NAME	NE	NE	NJ	NJ	NL
UNIT HYDROGRAPH	UH323	UH323	UH323	UH256	UH484
PEAKING FACTOR	323.	323.	323.	256.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	48.80	6.48	46.20	23.20	14.16
CURVE NUMBER	73.00	75.00	73.00	81.00	70.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	45.00	15.00	75.00	197.00	75.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
D	.59	2.10	.02	SARASOTA MALL EAST
E	.18	1.67	.03	CLOWER CREEK EAST OF PIPED PORTION!
FGHI	.41	2.33	.02	SARASOTA MALL NORTHWEST
J	.40	3.50	.10	US 41 AND UNDEV. SOUTHEAST AREA
K	.05	2.50	.00	PELICAN!PLAZA SHOPPING CENTER

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PREDEVELOPMENT CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	L	M	N!	O	P
NODE NAME	NL	NM	NN!	NO	NP
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	22.92	8.24	12.16	4.16	24.88
CURVE NUMBER	84.00	82.00	81.00	85.00	80.00
DCIA (%)	.00	.00	12.80	7.00	3.00
TC (mins)	62.20	36.50	18.80	17.50	47.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
L	1.72	1.80	.15	US 41 AND SOUTH CENTRAL RESID. AREA
M	.59	1.54	.11	VAMO ROAD
N!	2.04	.96	.20	BAY VILLAGE
O	.85	.97	.22	PELICAN!COVE EAST
P	1.45	1.69	.10	PELICAN!COVE NORTHEAST AND UNDEV.

BASIN!NAME	Q	R	S	T
NODE NAME	NQ	NR	NS	NT
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00
AREA (ac)	4.04	6.72	26.88	8.04
CURVE NUMBER	80.00	82.00	84.00	80.00
DCIA (%)	8.00	4.00	18.40	9.10
TC (mins)	18.00	23.80	33.20	23.80
LAG TIME (hrs)	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
Q	.48	1.00	.15	PELICAN!COVE EAST CENTRAL
R	.72	1.16	.14	PELICAN!COVE CENTRAL
S	5.30	1.18	.29	PELICAN!COVE SOUTHWEST
T	.92	1.11	.16	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 1.0 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NB	11.10	.55	5.49	.00	.00	.00
NC1	11.29	.05	4.37	.00	.00	3.40
NC2	10.14	.08	4.27	.00	3.40	6.77
NE	8.39	.22	.72	.00	6.77	6.08
NJ	6.34	.13	.70	.00	6.08	5.77
NL	6.16	.03	1.72	.00	5.77	7.51
NM	3.84	.06	.59	.00	7.51	8.03
NN!	12.24	.20	2.03	.00	.00	.00
NO	2.88	.07	.85	.00	8.03	8.90
NP	2.27	.26	1.45	.00	.00	1.28
NQ	2.23	.21	.48	.00	9.38	9.34
NR	2.04	.45	.70	.00	9.34	9.72
NS	2.00	1.73	5.17	.00	.00	5.12
NT	2.00	1.03	.89	.00	12.98	13.58
NU	2.00	.00	.00	.00	13.58	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 1.0 INCH RAINFALL
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	1.25	3.40	NC1	11.29	NC2	10.14
RC2	1.25	6.77	NC2	10.14	NE	8.37
RJ	1.75	5.77	NJ	6.34	NL	6.16
RL	1.75	7.51	NL	6.16	NM	3.84
RB	.00	.00	NB	11.00	NC2	9.00
RN!	.00	.00	NN!	12.00	NO	2.00
RE	1.50	6.08	NE	8.39	NJ	6.33
RM	1.75	6.03	NM	3.84	NO	2.80
RP	2.25	1.28	NP	2.26	NQ	2.22
RQ	2.00	9.34	NQ	2.23	NR	2.04
RR	2.00	9.72	NR	2.04	NT	2.00
RS	1.25	5.12	NS	2.00	NT	2.00
RT	2.00	13.58	NT	2.00	NU	2.00
RO	1.75	8.90	NO	2.80	NQ	2.19

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN!NAME	A1	A2	B	C1	C2
NODE NAME	NB	NJ	NB	NC1	NC2
UNIT HYDROGRAPH	UH323	UH323	UH323	UH484	UH484
PEAKING FACTOR	323.	323.	323.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	3.30	3.30	15.28	10.60	8.28
CURVE NUMBER	73.00	73.00	82.00	89.00	89.00
DCIA (%)	.00	.00	39.90	13.00	31.20
TC (mins)	20.00	20.00	24.00	23.00	25.90
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A1	2.59	.98	.86	WILBANKS POINTE SHOPPING CENTER
A2	2.59	.98	.86	WILBANKS POINTE SHOPPING CENTER
B	26.47	.96	1.98	SOUTH PARK EAST MHP
C1	25.44	.92	2.03	EAST PARK EAST MHP
C2	20.27	.92	2.20	WEST PARK EAST MHP

BASIN!NAME	D	E	FGHI	J	K
NODE NAME	NE	NE	NJ	NJ	NL
UNIT HYDROGRAPH	UH323	UH323	UH323	UH256	UH484
PEAKING FACTOR	323.	323.	323.	256.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	46.80	6.48	46.20	23.20	14.16
CURVE NUMBER	73.00	75.00	73.00	81.00	70.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	45.00	15.00	75.00	197.00	75.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
D	24.85	1.30	.86	SARASOTA MALL EAST
E	6.71	.90	.96	CLOWER CREEK EAST OF PIPED PORTION!
FGHI	17.61	1.83	.86	SARASOTA MALL NORTHWEST
J	5.24	3.25	1.31	US 41 AND UNDEV. SOUTHEAST AREA
K	6.43	1.67	.71	PELICAN!PLAZA SHOPPING CENTER

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN!NAME	L	M	N!	O	P
NODE NAME	NL	NM	NN!	NO	NP
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	22.92	8.24	12.16	4.16	24.88
CURVE NUMBER	84.00	82.00	81.00	85.00	80.00
DCIA (%)	.00	.00	12.80	7.00	3.00
TC (mins)	62.20	36.50	18.80	17.50	47.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
L	17.60	1.52	1.50	US 41 AND SOUTH CENTRAL RESID. AREA
M	7.90	1.14	1.37	VAMO ROAD
N!	18.13	.92	1.51	BAY VILLAGE
O	7.21	.93	1.68	PELICAN!COVE EAST
P	19.02	1.36	1.28	PELICAN!COVE NORTHEAST AND UNDEV.

BASIN!NAME	Q	R	S	T
NODE NAME	NQ	NR	NS	NT
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00
AREA (ac)	4.04	6.72	26.88	8.04
CURVE NUMBER	80.00	82.00	84.00	80.00
DCIA (%)	8.00	4.00	18.40	9.10
TC (mins)	18.00	23.80	33.20	23.80
LAG TIME (hrs)	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
Q	5.62	.92	1.38	PELICAN!COVE EAST CENTRAL
R	6.52	1.00	1.43	PELICAN!COVE CENTRAL
S	35.05	1.11	1.77	PELICAN!COVE SOUTHWEST
T	9.60	1.00	1.39	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 3.0 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	|<------- INFLOW -------->| RUNOFF (cfs)	OFFSITE (cfs)	OTHER (cfs)	OUTFLOW (cfs)
NB	11.37	3.00	26.73	.00	.00	1.61
NC1	14.23	.78	24.09	.00	.00	9.42
NC2	11.89	.19	19.79	.00	10.96	17.58
NE	9.63	.66	28.97	.00	17.58	44.39
NJ	8.09	.78	21.41	.00	44.39	63.01
NL	8.07	.18	23.53	.00	63.01	86.00
NM	6.80	.31	7.76	.00	86.00	91.79
NN1	13.33	1.14	17.49	.00	.00	4.86
NO	5.89	.47	6.81	.00	96.22	98.75
NP	4.68	.82	18.82	.00	.00	15.47
NQ	4.58	.86	5.38	.00	114.22	115.56
NR	3.51	1.08	8.51	.00	115.56	118.83
NS	2.33	2.21	33.71	.00	.00	26.53
NT	2.31	1.26	9.79	.00	138.80	143.25
NU	2.00	22.34	.00	.00	143.25	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PREDEVELOPMENT CONDITION!- 3.0 INCH RAINFALL
4/15/9[illegible]

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	2.50	9.42	NC1	14.07	NC2	10.73
RC2	1.00	17.58	NC2	11.89	NE	9.30
RJ	1.75	63.01	NJ	8.09	NL	8.07
RL	1.75	86.00	NL	8.07	NM	6.80
RB	2.75	1.61	NB	11.57	NC2	10.66
RN!	2.00	4.86	NN!	13.33	NO	5.83
RE	1.50	44.39	NE	9.63	NJ	8.04
RM	1.75	91.79	NM	6.80	NO	5.89
RP	1.75	15.47	NP	4.68	NQ	4.58
RQ	1.75	115.56	NQ	4.58	NR	3.51
RR	2.00	118.83	NR	3.51	NT	2.31
RS	1.75	26.53	NS	2.20	NT	2.15
RT	2.00	143.25	NT	2.31	NU	2.00
RO	1.75	98.75	NO	5.89	NQ	4.58

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

CLOWER CREEK PREDELOPMENT - 25 YR - 24 HR
3/10/93

BASIN!NAME	A1	A2	B	C1	C2
NODE NAME	NB	NJ	NB	NC1	NC2
UNIT HYDROGRAPH	UH323	UH323	UH323	UH484	UH484
PEAKING FACTOR	323.	323.	323.	484.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	3.30	3.30	15.28	10.60	8.28
CURVE NUMBER	73.00	73.00	82.00	89.00	89.00
DCIA (%)	.00	.00	39.90	13.00	31.20
TC (mins)	20.00	20.00	24.00	23.00	25.90
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A1	9.88	12.31	4.81	WILBANKS POINTE SHOPPING CENTER
A2	9.88	12.31	4.81	WILBANKS POINTE SHOPPING CENTER
B	53.60	12.32	6.68	SOUTH PARK EAST MHP
C1	49.48	12.32	6.83	EAST PARK EAST MHP
C2	37.84	12.32	7.05	WEST PARK EAST MHP

BASIN!NAME	D	E	FGHI	J	K
NODE NAME	NE	NE	NJ	NJ	NL
UNIT HYDROGRAPH	UH323	UH323	UH323	UH256	UH484
PEAKING FACTOR	323.	323.	323.	256.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	48.80	6.48	46.20	23.20	14.16
CURVE NUMBER	73.00	75.00	73.00	81.00	70.00
DCIA (%)	.00	.00	.00	.00	.00
TC (mins)	45.00	15.00	75.00	197.00	75.00
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
D	94.12	12.60	4.81	SARASOTA MALL EAST
E	22.78	12.30	5.04	CLOWER CREEK EAST OF PIPED PORTION!
FGHI	63.89	12.83	4.81	SARASOTA MALL NORTHWEST
J	15.56	14.50	5.74	US 41 AND UNDEV. SOUTHEAST AREA
K	25.51	12.83	4.46	PELICAN!PLAZA SHOPPING CENTER

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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CLOWER CREEK PREDELOPMENT - 25 YR - 24 HR
2/10/93

BASIN!NAME	L	M	N!	O	P
NODE NAME	NL	NM	NN!	NO	NP
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	22.92	8.24	12.16	4.16	24.88
CURVE NUMBER	84.00	82.00	81.00	85.00	80.00
DCIA (%)	.00	.00	12.80	7.00	3.00
TC (mins)	62.20	36.50	18.80	17.50	47.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
L	45.52	12.72	6.09	US 41 AND SOUTH CENTRAL RESID. AREA
M	21.93	12.49	5.86	VAMO ROAD
N!	44.99	12.32	6.02	BAY VILLAGE
O	16.52	12.29	6.33	PELICAN!COVE EAST
P	54.89	12.59	5.69	PELICAN!COVE NORTHEAST AND UNDEV.

BASIN!NAME	Q	R	S	T
NODE NAME	NQ	NR	NS	NT
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00
AREA (ac)	4.04	6.72	26.88	8.04
CURVE NUMBER	80.00	82.00	84.00	80.00
DCIA (%)	8.00	4.00	18.40	9.10
TC (mins)	18.00	23.80	33.20	23.80
LAG TIME (hrs)	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
Q	14.84	12.32	5.81	PELICAN!COVE EAST CENTRAL
R	22.31	12.32	5.94	PELICAN!COVE CENTRAL
S	79.87	12.39	6.43	PELICAN!COVE SOUTHWEST
T	26.10	12.38	5.83	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

CLOWER CREEK PREDELOPMENT - 25 YR - 24 HR
[illegible]/10/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NB	12.58	8.37	54.03	.00	.00	14.46
NC1	14.80	2.21	34.40	.00	.00	8.00
NC2	13.02	.26	29.25	.00	17.19	18.89
NE	10.99	1.36	108.65	.00	18.89	115.51
NJ	10.05	1.51	75.04	.00	115.51	177.17
NL	9.87	.41	65.24	.00	177.17	244.27
NM	9.36	.62	21.81	.00	244.27	259.05
NN1	15.42	3.14	33.46	.00	.00	9.02
NO	8.22	.88	11.72	.00	266.81	273.14
NP	6.80	1.59	53.80	.00	.00	44.68
NQ	6.68	1.73	10.76	.00	317.82	325.95
NR	5.34	2.14	19.19	.00	325.95	338.80
NS	3.83	4.72	77.67	.00	.00	67.73
NT	3.81	2.59	22.49	.00	387.19	400.09
NU	3.50	119.92	.00	.00	400.09	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

CLOWER CREEK PREDELOPMENT - 25 YR - 24 HR
2/10/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	13.00	8.00	NC1	14.80	NC2	12.41
RC2	16.00	18.89	NC2	12.34	NE	9.37
RJ	13.00	177.17	NJ	10.05	NL	9.87
RL	13.00	244.27	NL	9.87	NM	9.36
RB	20.00	14.46	NB	12.01	NC2	11.56
RN!	15.00	9.02	NN!	14.95	NO	6.15
RE	12.50	115.51	NE	10.99	NJ	9.56
RM	13.00	259.05	NM	9.36	NO	8.22
RP	13.00	44.68	NP	6.80	NQ	6.68
RQ	13.00	325.95	NQ	6.68	NR	5.34
RR	13.00	338.80	NR	5.34	NT	3.81
RS	12.50	67.73	NS	3.81	NT	3.77
RT	13.00	400.09	NT	3.81	NU	3.50
RO	13.00	273.14	NO	8.22	NQ	6.68

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* SCOUR AND DEPOSITION IN RIVERS AND RESERVOIRS      *         * U.S. ARMY CORPS OF ENGINEERS       *
* VERSION 4.0.6 RELEASED JUNE 1991                   *         *                                    *
* INPUT FILE:  3clowm.dat                            *         * THE HYDROLOGIC ENGINEERING CENTER  *
* OUTPUT FILE: 3frout                                *         * 609 SECOND STREET, SUITE D         *
* RUN DATE 05/10/1993        TIME 13:01:27           *         * DAVIS, CALIFORNIA 95616-4687       *
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   HMVersion: 5.00


                    X     X XXXXXXX  XXXXX         XXXXX
                    X     X X       X     X       X     X
                    X     X X       X             X
                    XXXXXXX XXXX    X       XXXXX XXXXXX
                    X     X X       X             X     X
                    X     X X       X     X       X     X
                    X     X XXXXXXX  XXXXX         XXXXX


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                   :::  Full Microcomputer Implementation :::
                   :::                by                  :::
                   :::       Haestad Methods, Inc.        :::
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          37 Brookside Road * Waterbury, Connecticut  06708 * (203) 755-1666
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T1       CLOWER CREEK PREDEVELOPMENT SYSTEM.
T2       FROM STATION 0+00 TO STATION 19+00
T3
NC   .070     .070     .040      .1       .3
X1   0.0      13.      43.5     129.0     0.        0.        0.
GR   7.7      0.0      6.91     10.0      6.88      24.3      6.6       43.5      3.9       57.
GR   1.7      59.5     0.4      74.0      0.6       80.0      0.4       86.0      0.01      96.
GR   0.4      111.0    1.7      124.0     3.5       129.0
HD   0.0      .75      57.2     124.0     0.        0.4       43.5      129.0     0.
X1   0.02     8.       74.0     111.0     104.      104.      104.
GR   7.7      0.0      6.6      43.5      3.9       57.0      0.4       74.0      0.4       86.
GR   0.4      111.0    1.7      124.0     3.5       129.0
HD   0.02     .75      57.0     124.0     0.        0.4       74.0      111.0     0.
X10.0201      5.0      74.0     111.0     1.        1.        1.
GR   7.5      0.0      4.0      57.0      1.1       58.0      1.0       124.0     3.5       129.
HD0.0201      .75      58.0     124.0     0.        0.4       58.0      124.0     0.
X10.0202      8.       74.0     111.0     1.        1.        1.
GR   7.7      0.0      6.6      43.5      3.9       57.0      -1.00     74.0      -1.00     86.
GR   -1.00    111.0    1.7      124.0     3.5       129.0
HD0.0202      .75      58.0     124.0     0.        -1.00     58.0      124.0     0.
X1   0.026    8.       74.0     111.0     31.       31.       31.
GR   7.7      0.0      6.6      43.5      3.9       57.0      -1.00     74.0      -1.00     86.
GR   -1.00    111.0    1.7      124.0     3.5       129.0
HD   0.026    .75      57.0     111.0     0.        0.4       57.0      111.0     0.
X10.0261      5.0      57.0     111.0     1.0       1.0       1.0
GR   7.7      0.0      3.9      57.0      1.4       65.0      1.85      124.0     3.5       129.
HD0.0261      .75      57.0     111.0     0.        0.4       57.0      111.0     0.
X10.0262      8.       74.0     111.0     1.        1.        1.
GR   7.7      0.0      6.6      43.5      3.9       57.0      -1.00     74.0      -1.00     86.
GR   -1.00    111.0    1.7      124.0     3.5       129.0
HD0.0262      .75      57.0     111.0     0.        -1.00     57.0      111.0     0.
X1   0.057    7.       32.1     57.8      165.      165.      165.
GR   6.6      0.0      2.3      32.1      0.6       32.9      0.14      38.3      2.1       43.
GR   2.0      55.5     4.5      57.8
HD   0.057    .75      43.0     55.5      0.        0.5       32.9      55.5      0.
X1   0.076    8.       40.5     55.4      100.      100.      100.
GR   8.68     0.0      8.49     11.9      1.7       35.5      2.2       38.7      1.15      40.
GR   0.4      46.6     0.3      55.4      4.7       59.4
HD   0.076    .75      35.5     55.4      0.        0.6       40.5      55.4      0.
X1   0.095    11.0     53.0     68.3      100.      100.      100.
GR   8.6      0.0      8.51     3.9       7.95      23.4      3.9       48.0      2.7       53
GR   0.7      54.7     0.00     60.5      0.4       68.3      2.3       69.5      1.3       80
GR   6.4      90.0
HD   0.095    1.0      48.0     69.5      0.        0.7       53.0      68.3      0.
X1   0.114    10.0     49.0     65.4      100.      100.      100.
GR   8.85     0.0      8.52     16.9      4.9       40.0      2.2       45.3      1.15      49
GR   1.16     56.0     1.3      65.4      3.4       66.6      2.6       69.0      5.2       74
HD   0.114    1.0      45.3     66.4      0.        0.8       49.0      65.4      0.
X1   0.133    9.0      30.0     40.0      100.      100.      100.
GR   8.2      0.0      7.8      7.2       4.0       30.0      1.16      32.4      0.6       40
GR   0.9      46.7     2.8      47.8      2.4       53.0      7.8       63.0
HD   0.133    1.0      32.4     46.7      0.        0.8       30.0      40.0      0.
X1   0.152    8.0      23.7     35.7      100.      100.      100.
GR   7.7      0.0      3.0      22.7      0.9       23.7      0.5       29.3      0.9       35
GR   2.5      37.0     3.3      40.8      6.8       47.0
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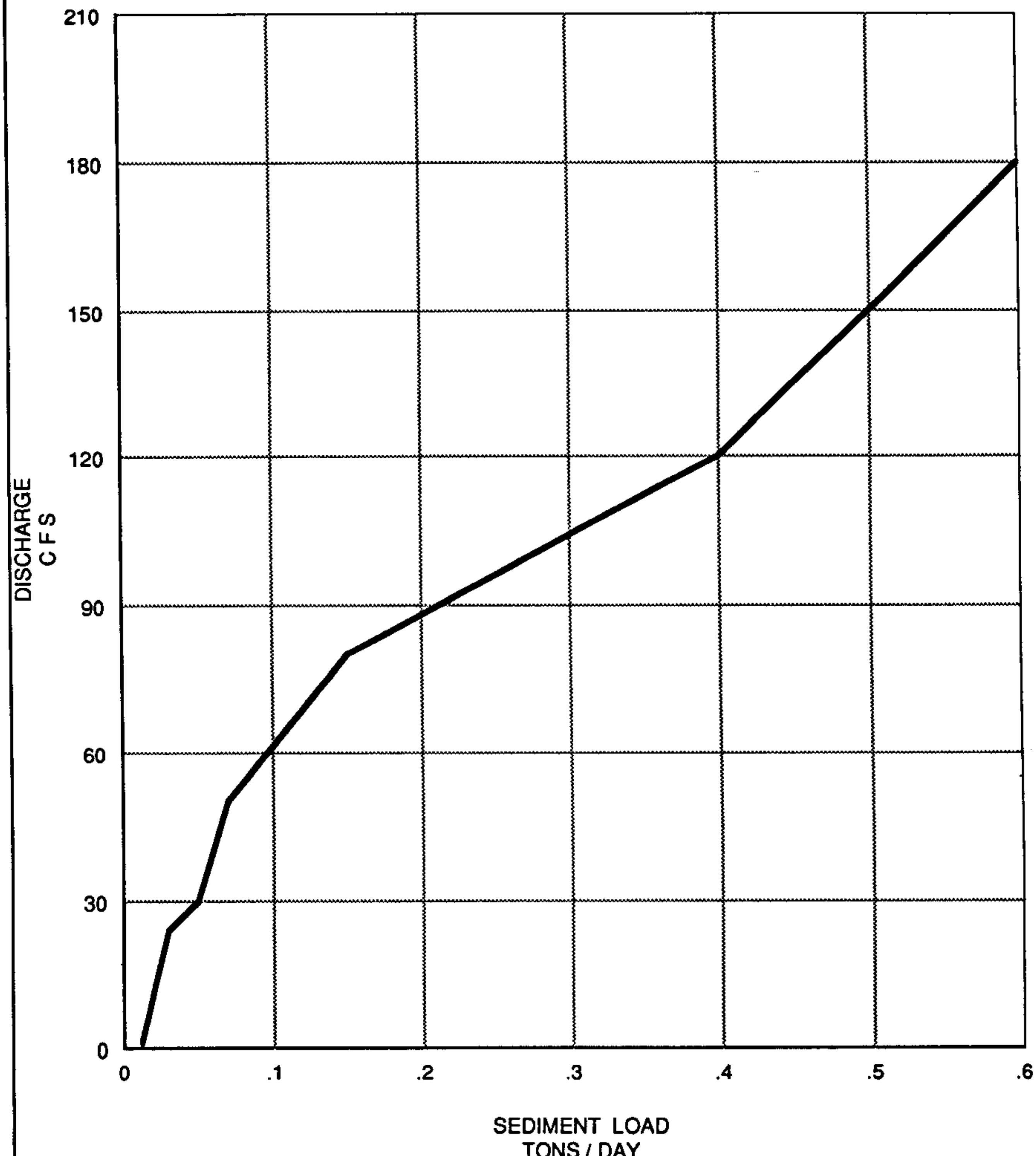
HD	0.153	1.0	22.7	37.0	0.	0.8	23.7	35.7	0.	
X1	0.170	6.0	20.7	29.6	100.	100.	100.			
GR	7.3	0.0	4.18	18.4	0.4	20.7	0.4	25.0	0.7	29.6
GR	5.3	33.3								
HD	0.170	1.0	20.7	29.6	0.	0.9	20.7	29.6	0.	
X1	0.189	8.0	24.0	30.5	100.	100.	100.			
GR	7.9	0.0	3.9	21.1	0.7	24.0	0.0	27.0	0.5	30.5
GR	3.0	31.8	3.7	39.8	6.5	44.8				
HD	0.189	1.0	24.0	30.5	0.	1.0	24.0	30.5	0.	
X1	0.207	11.0	24.0	30.5	100.	100.	100.			
GR	8.0	0.0	8.2	4.0	3.9	21.0	0.3	24.0	0.0	26.
GR	0.0	29.0	0.5	30.5	3.0	32.0	3.8	40.0	7.3	45.
GR	7.3	52.0								
HD	0.207	.75	24.0	30.5	0.	1.0	24.0	30.5	0.	
X1	0.226	10.0	10.0	25.0	100.	100.	100.			
GR	7.0	0.0	6.2	5.0	6.0	7.0	1.3	10.0	0.8	14.
GR	0.8	17.0	3.5	20.0	3.2	25.0	6.2	35.0	6.5	42.
HD	0.226	.75	10.0	25.0	0.	1.1	10.0	25.0	0.	
X1	0.245	10.0	14.0	29.0	100.	100.	100.			
GR	6.5	0.0	5.0	12.0	1.1	14.0	0.7	18.5	0.8	21.
GR	4.0	25.0	3.8	29.0	6.1	34.0	6.4	44.0	6.5	47.
HD	0.245	.75	14.0	29.0	0.	1.1	14.0	29.0	0.	
X1	0.264	11.0	17.0	25.5	100.	100.	100.			
GR	6.9	0.0	6.2	11.0	6.0	14.0	1.2	17.0	1.0	20.
GR	1.0	23.0	3.3	25.5	4.0	29.5	6.5	36.0	6.5	41.
GR	6.5	45.0								
HD	0.264	.75	17.0	25.5	0.	1.2	17.0	25.5	0.	
X1	0.283	7.0	12.0	34.0	100.	100.	100.			
GR	7.4	0.0	6.5	12.0	2.0	21.0	1.6	24.0	2.0	27.
GR	7.1	34.0	7.3	43.0						
HD	0.283	.75	21.0	27.0	0.	1.3	21.0	27.0		
X1	0.302	9.0	20.0	35.0	100.	100.	100.			
GR	10.3	0.0	10.0	7.0	9.5	7.5	7.0	9.0	2.0	20.
GR	1.7	27.0	2.0	35.0	8.2	46.0	8.5	53.0		
HD	0.302	.75	20.0	35.0	0.	1.4	20.0	35.0	0.	
X1	0.321	8.0	21.0	29.0	100.	100.	100.			
GR	9.4	0.0	9.0	5.0	8.4	13.0	2.2	21.0	1.1	25.
GR	2.1	29.0	9.1	40.0	9.3	46.0				
HD	0.321	.75	21.0	29.0	0.	1.5	21.0	29.0	0.	
X1	0.340	8.0	25.0	32.0	100.	100.	100.			
GR	10.8	0.0	10.0	14.5	9.9	17.5	2.5	25.0	1.0	28.
GR	2.3	32.0	10.9	42.5	11.0	54.5				
HD	0.340	.75	25.0	32.0	0.	1.5	25.0	32.0	0.	
X1	0.358	6.0	43.0	53.0	100.	100.	100.			
GR	11.0	0.0	10.6	28.0	2.8	43.0	2.8	53.0	11.7	66.
GR	11.8	72.0								
HD	0.358	.75	43.0	53.0	0.	1.5	43.0	53.0	0.	
EJ										

```
T4       MAIN STREAM. SEGMENT 1
T5       LOAD CURVE
T6       BED GRADATIONS FROM FIELD SAMPLES.
T7
T8       SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971)
I1     0        5
I2  CLAY        2
I2  CLAY        1      .01      .02      .05      .75      60.0
I2  CLAY        2      .02     .125      .23      2.0      32.0
I3  SILT        2
I4  SAND        4
LO CFS-F        1       24       30       50       80       120      180
LT TOTAL     .012      .03     0.05     0.07     0.15       0.4      0.6
LF  CLAY      .10      .10      .10      .10      .15
LF SILT1        0        0        0        0        0
LF SILT2        0        0        0        0        0
LF SILT3      .30      .30      .20      .20      .25
LF SILT4        0        0        0        0        0
LF   VFS     .100     .100     .215     .311     .400
LF    FS     .850     .850     .675     .565     .462
LF    MS     .050     .050     .100     .100     .110
LF    CS     .000     .000     .010     .016     .020
LF   VCS     .000     .000     .000     .008     .005
LF   VFG     .000     .000     .000     .000     .002
LF    FG     .000     .000     .000     .000     .001
LF    MG     .000     .000     .000     .000     .000
LF    CG     .000     .000     .000     .000     .000
LF   VCG       .0       .0     .000     .000     .000
PF EXAMP    0.358   .01429     64.0     32.0    100.0      16.0    100.0      8.0     99.0
PFC  4.0     99.0      2.0     98.0      1.0     80.0       .50     50.0     .125      0.0
$HYD
*   AB      FLOW 1 = BASE FLOW OF 0 CFS
Q      0.
R     1.5
T     70.
W    291.
*   AB      FLOW 2 = 1/2" RAINFALL = 3.19 CFS
Q    3.19
R     2.0
T     70.
W    6.67
*   AB      FLOW 3 = 1" RAINFALL = 8.03 CFS
Q    8.03
R     2.0
T     70.
W    1.50
*   AB      FLOW 4 = 3" RAINFALL = 91.80 CFS
Q   91.80
R     2.0
T     70.
W   0.167
*   AB      FLOW 5 = 8" RAINFALL = 259.00 CFS
Q    259.
R     2.0
T     70.
W   0.083
$$END
```

ST 93051-3E



PREDEVELOPMENT CONDITION

R - 948

PREPARED BY:
BRILEY, WILD AND ASSOCIATES
CONSULTING ENGINEERS AND PLANNERS

```
T1      CLOWER CREEK PREDEVELOPMENT SYSTEM.
T2      FROM STATION 0+00 TO STATION 19+00
T3

NC  .0700   .0700   .0400   .1000   .3000

SECTION NO.  1 RIVER MILE=        .000
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  2 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  3 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  4 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  5 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  6 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  7 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  8 RIVER MILE=        .057
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO.  9 RIVER MILE=        .076
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO. 10 RIVER MILE=        .095
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 11 RIVER MILE=        .114
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 12 RIVER MILE=        .133
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 13 RIVER MILE=        .152
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 14 RIVER MILE=        .170
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 15 RIVER MILE=        .189
...Set the Depth (ft) of the Bed Sediment Reservoir to      1.00

SECTION NO. 16 RIVER MILE=        .207
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO. 17 RIVER MILE=        .226
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO. 18 RIVER MILE=        .245
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75

SECTION NO. 19 RIVER MILE=        .264
...Set the Depth (ft) of the Bed Sediment Reservoir to       .75
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SECTION NO. 20 RIVER MILE=        .283
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO. 21 RIVER MILE=        .302
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO. 22 RIVER MILE=        .321
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO. 23 RIVER MILE=        .340
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO. 24 RIVER MILE=        .358
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

NO. OF CROSS SECTIONS IN STREAM SEGMENT= 24
NO. OF INPUT DATA MESSAGES =   0

TOTAL NO. OF CROSS SECTIONS IN THE NETWORK =  24
TOTAL NO. OF STREAM SEGMENTS IN THE NETWORK=   1
END OF GEOMETRIC DATA

=================================================================================

T4      MAIN STREAM, SEGMENT 1
T5      LOAD CURVE
T6      BED GRADATIONS FROM FIELD SAMPLES.
T7
T8      SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971)
CLOWER CREEK PREDEVELOPMENT SYSTEM.
FROM STATION 0+00 TO STATION 19+00


- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

SEDIMENT PROPERITES AND PARAMETERS

       SPI     IBG    MNQ      SPGF      ACGR    NFALL    IBSHER
I1      5.       0      1     1.000    32.174        2         1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

CLAY IS PRESENT.

       MTCL    SPGC      PUCD      UWCL      CCCD
I2      2     2.650    78.000    30.000    16.000


  DEPOSITION COEFFICIENTS BY LAYER
                     DEPOSITION
                     THRESHOLD
                       SHEAR
             LAYER     STRESS
              NO.     lb/sq.ft

  ACTIVE LAYER  1       .0100
 INACTIVE LAYER  2       .0200

  EROSION COEFFICIENTS BY LAYER
                   PARTICLE   MASS       MASS       SLOPE OF   SLOPE OF
                   EROSION    EROSION    EROSION    PARTICLE   MASS
                   SHEAR      SHEAR      RATE       EROSION    EROSION
             LAYER STRESS     STRESS                LINE=ER1   LINE=ER2
              NO   lb/sq.ft   lb/sq.ft.  lb/sf/hr   1/hr       1/hr
```

ACTIVE LAYER	1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER	2	.1250	.2300	2.0000	19.0476	32.0000

- -

SILT IS PRESENT

	MTCL	IASL	LASL	SGSL	PUSDLB	UWSDLB	CCSDLB
I3	2	1	4	2.650	82.000	65.000	5.700

DEPOSITION COEFFICIENTS BY LAYER

	LAYER NO.	DEPOSITION THRESHOLD SHEAR STRESS lb/sq.ft
ACTIVE LAYER	1	.0200
INACTIVE LAYER	2	.0200

EROSION COEFFICIENTS BY LAYER

	LAYER NO	PARTICLE EROSION SHEAR STRESS lb/sq.ft	MASS EROSION SHEAR STRESS lb/sq.ft.	MASS EROSION RATE lb/sf/hr	SLOPE OF PARTICLE EROSION LINE=ER1 1/hr	SLOPE OF MASS EROSION LINE=ER2 1/hr
ACTIVE LAYER	1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER	2	.1250	.2300	2.0000	19.0476	32.0000

FINE-GRAIN SEDIMENT TYPES BY CROSS SECTION (XSEC,TYPE)

.000	1	.020	1	.020	1	.020	1	.026	1
.026	1	.026	1	.057	1	.076	1	.095	1
.114	1	.133	1	.152	1	.170	1	.189	1
.207	1	.226	1	.245	1	.264	1	.283	1
.302	1	.321	1	.340	1	.358	1		

- -

SAND AND/OR GRAVEL ARE PRESENT

	MTC	IASA	LASA	SPGS	GSF	BSAE	PSI	UWDLB
I4	4	1	10	2.650	.667	.500	30.000	93.000

USING TRANSPORT CAPACITY RELATIONSHIP # 4, YANG

FOLLOWING GRAIN SIZES UTILIZED (MM)

CLAY:	.0027				
SILT:	.0056	.0110	.0220	.0440	
SAND:	.0880	.1770	.3540	.7070	1.4140
	2.8280	5.6570	11.3140	22.6270	45.2550

- -

SEDIMENT LOAD TABLE FOR STREAM SEGMENT # 1
LOAD BY GRAIN SIZE CLASS (tons/day)

L	CFS-F	1.00000	24.0000	30.0000	50.0000	80.0000	120.000	180.000
L	CLAY	.120000E-02	.300000E-02	.500000E-02	.700000E-02	.225000E-01	.100000E-19	.100000E-19
L	SILT1	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT2	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT3	.360000E-02	.900000E-02	.100000E-01	.140000E-01	.375000E-01	.100000E-19	.100000E-19
L	SILT4	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VFS	.120000E-02	.300000E-02	.107500E-01	.217700E-01	.600000E-01	.100000E-19	.100000E-19
L	FS	.102000E-01	.255000E-01	.337500E-01	.395500E-01	.693000E-01	.100000E-19	.100000E-19
L	MS	.600000E-03	.150000E-02	.500000E-02	.700000E-02	.165000E-01	.100000E-19	.100000E-19
L	CS	.100000E-19	.100000E-19	.500000E-03	.112000E-02	.300000E-02	.100000E-19	.100000E-19
L	VCS	.100000E-19	.100000E-19	.100000E-19	.560000E-03	.750000E-03	.100000E-19	.100000E-19
L	VFG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.300000E-03	.100000E-19	.100000E-19
L	FG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.150000E-03	.100000E-19	.100000E-19
L	MG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	CG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VCG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
	TOTAL	.168000E-01	.420000E-01	.650000E-01	.910000E-01	.210000	.150000E-18	.150000E-18

REACH GEOMETRY FOR STREAM SEGMENT 1

CROSS SECTION ID. NO.	REACH LENGTH (ft)	MOVABLE BED WIDTH	INITIAL BED-ELEVATIONS LEFT SIDE (ft)	THALWEG (ft)	RIGHT SIDE (ft)	ACCUMULATED CHANNEL DISTANCE FROM DOWNSTREAM (ft)	(miles)
	.00						
.000		76.15	3.90	.01	1.70	.00	.00
	104.00						
.020		76.25	3.90	.40	1.70	104.00	.02
	1.00						
.020		69.00	1.10	1.00	1.00	105.00	.02
	1.00						
.020		61.00	-1.00	-1.00	1.70	106.00	.02
	31.00						
.026		67.25	3.90	-1.00	-1.00	137.00	.03
	1.00						
.026		89.00	3.90	1.40	1.75	138.00	.03
	1.00						
.026		67.25	3.90	-1.00	-1.00	139.00	.03
	165.00						
.057		16.00	2.10	2.00	2.00	304.00	.06
	100.00						
.076		33.70	1.70	.30	.30	404.00	.08
	100.00						
.095		39.05	3.90	.00	2.30	504.00	.10
	100.00						
.114		23.35	2.20	1.15	1.30	604.00	.11
	100.00						
.133		16.05	1.16	.60	.90	704.00	.13
	100.00						
.152		27.55	3.00	.50	2.50	804.00	.15
	100.00						
.170		11.90	.40	.40	.70	904.00	.17
	100.00						
.189		8.60	.70	.00	.50	1004.00	.19
	100.00						
.207		8.75	.30	.00	.50	1104.00	.21

```
N    .189  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .207  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .226  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .245  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .264  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .283  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .302  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .321  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .340  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
N    .358  .014  .210  .210 1.000 1.000  .000  .000  .000  .000  .000
                                         .000  .250  .250  .300  .180
                                         .010  .000  .010  .000  .000
```

STREAM SEGMENT # 1: CLOWER CREEK PREDEVELOPMENT SYSTEM.
BED SEDIMENT CONTROL VOLUMES

SECTION NUMBER	LENGTH (ft)	MAX. WIDTH (ft)	DEPTH (ft)	VOLUME (cu.ft)	VOLUME (cu.yd)
.000	52.00	76.18	.75	2971.14	110.042
.020	52.50	76.19	.75	3000.13	111.116
.020	1.00	68.88	.75	51.6563	1.91319
.020	16.00	63.10	.75	757.219	28.0451
.026	16.00	65.46	.75	785.500	29.0926
.026	1.00	81.75	.75	61.3125	2.27083
.026	83.00	50.31	.75	3131.99	116.000
.057	132.50	28.86	.75	2868.25	106.231
.076	100.00	31.64	.75	2373.12	87.8933
.095	100.00	35.54	1.00	3554.17	131.636
.114	100.00	24.75	1.00	2475.00	91.6667
.133	100.00	19.18	1.00	1918.33	71.0494
.152	100.00	23.03	1.00	2302.50	85.2778
.170	100.00	13.96	1.00	1395.83	51.6975
.189	100.00	9.18	1.00	917.500	33.9815
.207	100.00	10.85	.75	813.750	30.1389
.226	100.00	18.88	.75	1415.63	52.4306
.245	100.00	17.92	.75	1343.75	49.7685
.264	100.00	13.42	.75	1006.25	37.2685
.283	100.00	15.67	.75	1175.00	43.5185
.302	100.00	22.58	.75	1693.75	62.7315
.321	100.00	18.67	.75	1400.00	51.8519
.340	100.00	17.58	.75	1318.75	48.8426
.358	50.00	21.33	.75	800.000	29.6296

NO. OF INPUT DATA MESSAGES= 0
END OF SEDIMENT DATA

==

* AB FLOW 2 = 1/2" RAINFALL = 3.19 CFS

- -
- -

CLOWER CREEK PREDEVELOPMENT SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO. 1
TIME STEP NO. 2
WATER DISCHARGE= 3.19
ELEVATION= 2.000
TEMPERATURE= 70.000
FLOW DURATION(DAYS) 6.670

**** N	DISCHARGE (CFS)	WATER SURFACE	ENERGY LINE	VELOCITY HEAD	ALPHA	TOP WIDTH	AVG BED	AVG VEL (by subsection) 1	2	3
SEC NO.	.000									
**** 1	3.2	2.00	2.00	.00	1.00	65.65	.64	.00	.04	.00
					FLOW DISTRIBUTION (%) =			.0	100.0	.0
SEC NO.	.020									
**** 1	3.2	2.00	2.00	.00	1.26	58.60	.40	.02	.05	.02
					FLOW DISTRIBUTION (%) =			3.3	89.4	7.3
SEC NO.	.020									
**** 1	3.2	2.00	2.00	.00	1.24	68.31	1.05	.03	.06	.03
					FLOW DISTRIBUTION (%) =			15.6	69.3	15.1
SEC NO.	.020									
**** 1	3.2	2.00	2.00	.00	1.29	61.24	-1.00	.01	.03	.01
					FLOW DISTRIBUTION (%) =			4.4	89.3	6.3
SEC NO.	.026									
**** 1	3.2	2.00	2.00	.00	1.29	61.24	-1.00	.01	.03	.01
					FLOW DISTRIBUTION (%) =			4.4	89.3	6.3
SEC NO.	.026									
**** 1	3.2	2.00	2.00	.00	1.13	61.38	1.58	.00	.15	.05
					FLOW DISTRIBUTION (%) =			.0	95.7	4.3
SEC NO.	.026									
**** 1	3.2	2.00	2.00	.00	1.29	61.24	-1.00	.01	.03	.01
					FLOW DISTRIBUTION (%) =			4.4	89.3	6.3
SEC NO.	.057									
**** 1	3.2	2.00	2.00	.00	1.00	10.55	.73	.00	.24	.00
					FLOW DISTRIBUTION (%) =			.0	100.0	.0

WS= 2.000 (X,Y) COORDINATES= 43.0 2.10 55.5 2.00

SEC NO.	.076									
**** 1	3.2	2.00	2.00	.00	1.14	20.86	.53	.02	.14	.04
					FLOW DISTRIBUTION (%) =			.8	97.5	1.8
SEC NO.	.095									
**** 1	3.2	2.00	2.00	.00	1.22	24.47	.35	.00	.13	.03
					FLOW DISTRIBUTION (%) =			.0	96.7	3.3
SEC NO.	.114									
**** 1	3.2	2.00	2.00	.00	1.10	19.81	1.20	.08	.23	.05
					FLOW DISTRIBUTION (%) =			3.4	96.4	.2
SEC NO.	.133									
**** 1	3.2	2.01	2.01	.00	1.18	15.65	.95	.00	.23	.14
					FLOW DISTRIBUTION (%) =			.0	62.6	37.4
SEC NO.	.152									
**** 1	3.2	2.01	2.01	.00	1.07	13.43	.70	.04	.20	.05
					FLOW DISTRIBUTION (%) =			.3	98.9	.7
SEC NO.	.170									
**** 1	3.2	2.01	2.01	.00	1.14	10.94	.48	.05	.23	.05
					FLOW DISTRIBUTION (%) =			1.4	97.5	1.2
SEC NO.	.189									
**** 1	3.2	2.02	2.02	.00	1.17	8.48	.30	.06	.28	.06
					FLOW DISTRIBUTION (%) =			1.6	97.4	1.0
SEC NO.	.207									
**** 1	3.2	2.02	2.02	.00	1.20	8.84	.11	.06	.25	.05
					FLOW DISTRIBUTION (%) =			2.4	96.5	1.1
SEC NO.	.226									
**** 1	3.2	2.02	2.02	.00	1.03	8.81	1.02	.08	.38	.00
					FLOW DISTRIBUTION (%) =			.4	99.6	.0
SEC NO.	.245									
**** 1	3.2	2.03	2.03	.00	1.03	9.00	.96	.07	.35	.00
					FLOW DISTRIBUTION (%) =			.5	99.5	.0
SEC NO.	.264									
**** 1	3.2	2.04	2.05	.00	1.04	7.64	1.14	.11	.49	.00
					FLOW DISTRIBUTION (%) =			.8	99.2	.0
SEC NO.	.283									
**** 1	3.2	2.10	2.15	.05	1.00	6.29	1.83	.00	1.84	.00
					FLOW DISTRIBUTION (%) =			.0	100.0	.0
SEC NO.	.302									
**** 1	3.2	2.33	2.33	.00	1.03	16.12	1.90	.12	.49	.12
					FLOW DISTRIBUTION (%) =			.3	99.4	.3
SEC NO.	.321									
**** 1	3.2	2.37	2.38	.00	1.01	8.53	1.67	.06	.56	.09
					FLOW DISTRIBUTION (%) =			.0	99.9	.1
SEC NO.	.340									
**** 1	3.2	2.42	2.42	.01	1.00	6.83	1.71	.00	.67	.05
					FLOW DISTRIBUTION (%) =			.0	100.0	.0

```
SEC NO.     .026
**** 1      8.0      2.00      2.00     .00     1.29    61.25     -1.00   .02   .06   .02
                                                FLOW DISTRIBUTION (%) =    4.4  89.3   6.3

SEC NO.     .026
**** 1      8.0      2.00      2.00     .00     1.13    61.38      1.58   .00   .38   .13
                                                FLOW DISTRIBUTION (%) =     .0  95.7   4.3

SEC NO.     .026
**** 1      8.0      2.00      2.00     .00     1.29    61.24     -1.00   .02   .06   .02
                                                FLOW DISTRIBUTION (%) =    4.4  89.3   6.3

SEC NO.     .057
**** 1      8.0      2.00      2.00     .01     1.00    10.65       .74   .00   .60   .00
                                                FLOW DISTRIBUTION (%) =     .0 100.0    .0


         WS=      1.998   (X,Y) COORDINATES=       43.0    2.10      55.5    2.00

SEC NO.     .076
**** 1      8.0      2.01      2.01     .00     1.14    20.87       .54   .06   .36   .11
                                                FLOW DISTRIBUTION (%) =     .8  97.5   1.8

SEC NO.     .095
**** 1      8.0      2.02      2.02     .00     1.22    24.63       .35   .00   .32   .07
                                                FLOW DISTRIBUTION (%) =     .0  96.6   3.4

SEC NO.     .114
**** 1      8.0      2.02      2.03     .00     1.11    19.87      1.20   .21   .57   .12
                                                FLOW DISTRIBUTION (%) =    3.5  96.3    .2

SEC NO.     .133
**** 1      8.0      2.05      2.06     .00     1.19    15.69       .97   .00   .56   .33
                                                FLOW DISTRIBUTION (%) =     .0  62.7  37.3

SEC NO.     .152
**** 1      8.0      2.07      2.08     .00     1.07    13.49       .71   .09   .49   .12
                                                FLOW DISTRIBUTION (%) =     .4  98.9    .8

SEC NO.     .170
**** 1      8.0      2.08      2.09     .00     1.15    11.02       .49   .13   .55   .13
                                                FLOW DISTRIBUTION (%) =    1.4  97.4   1.2

SEC NO.     .189
**** 1      8.0      2.09      2.10     .01     1.18     8.58       .31   .16   .67   .13
                                                FLOW DISTRIBUTION (%) =    1.7  97.2   1.1

SEC NO.     .207
**** 1      8.0      2.11      2.11     .01     1.21     8.96       .12   .15   .60   .12
                                                FLOW DISTRIBUTION (%) =    2.5  96.3   1.1

SEC NO.     .226
**** 1      8.0      2.13      2.14     .01     1.03     8.98      1.05   .18   .87   .00
                                                FLOW DISTRIBUTION (%) =     .5  99.5    .0

SEC NO.     .245
**** 1      8.0      2.17      2.18     .01     1.04     9.19      1.01   .16   .79   .00
                                                FLOW DISTRIBUTION (%) =     .5  99.5    .0
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SEC NO. .264
**** 1 8.0 2.25 2.28 .04 1.04 7.56 1.50 .35 1.51 .00
FLOW DISTRIBUTION (%) = .6 99.4 .0

SEC NO. .283
**** 1 8.0 2.46 2.48 .02 1.00 8.40 1.67 .00 1.21 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .302
**** 1 8.0 2.57 2.57 .01 1.07 17.29 1.84 .21 .72 .20
FLOW DISTRIBUTION (%) = 1.0 98.3 .7

SEC NO. .321
**** 1 8.0 2.64 2.66 .02 1.05 9.10 1.79 .15 1.18 .28
FLOW DISTRIBUTION (%) = .1 99.2 .7

SEC NO. .340
**** 1 8.0 2.77 2.79 .02 1.04 7.84 1.85 .16 1.24 .25
FLOW DISTRIBUTION (%) = .1 99.5 .4

SEC NO. .358
**** 1 8.0 2.97 3.00 .03 1.09 11.83 2.44 .66 1.41 .20
FLOW DISTRIBUTION (%) = 5.9 94.0 .0

TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PREDEVELOPMENT SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.17	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.03	.00	.00	.75	.00	.00	1.00

TABLE SB-1.	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.01	.00	.00	.01	.00	
SANDS & GRAVELS	.02	.00	.02	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.03					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.01	.00	.00	.01	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.01					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.74	2.97	2.06	8.	0.	0.	0.
.340	.16	2.77	1.16	8.	0.	0.	6.
.321	.23	2.64	1.33	8.	0.	0.	4.
.302	.05	2.57	1.75	8.	0.	0.	1.
.283	-.28	2.46	1.32	8.	0.	0.	2.
.264	.15	2.25	1.15	8.	0.	0.	9.
.245	.27	2.17	.97	8.	0.	0.	1.
.226	.02	2.13	.82	8.	0.	0.	0.
.207	.01	2.11	.01	8.	0.	0.	0.
.189	.00	2.09	.00	8.	0.	0.	0.
.170	.00	2.08	.40	8.	0.	0.	0.
.152	.00	2.07	.50	8.	0.	0.	0.
.133	.00	2.05	.60	8.	0.	0.	0.
.114	.00	2.02	1.15	8.	0.	0.	0.
.095	.00	2.02	.00	8.	0.	0.	0.
.076	.00	2.01	.40	8.	0.	0.	0.
.057	.00	2.00	.14	8.	0.	0.	0.
.026	.00	2.00	-1.00	8.	0.	0.	0.
.026	.00	2.00	1.40	8.	0.	0.	0.
.026	.00	2.00	-1.00	8.	0.	0.	0.
.020	.00	2.00	-1.00	8.	0.	0.	0.
.020	.00	2.00	1.00	8.	0.	0.	0.
.020	.00	2.00	.40	8.	0.	0.	0.
.000	.00	2.00	.01	8.	0.	0.	0.

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* AB FLOW 4 = 3" RAINFALL = 91.80 CFS

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CLOWER CREEK PREDEVELOPMENT SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO. 1
TIME STEP NO. 4
WATER DISCHARGE= 91.80
ELEVATION= 2.000
TEMPERATURE= 70.000
FLOW DURATION(DAYS) .1670

**** N	DISCHARGE (CFS)	WATER SURFACE	ENERGY LINE	VELOCITY HEAD	ALPHA	TOP WIDTH	AVG BED	AVG VEL (by subsection) 1	2	3
SEC NO.	.000									
**** 1	91.8	2.00	2.02	.02	1.00	65.65	.64	.00	1.03	.00
					FLOW DISTRIBUTION (%) =			.0	100.0	.0
SEC NO.	.020									
**** 1	91.8	2.06	2.08	.03	1.26	58.95	.41	.48	1.34	.52
					FLOW DISTRIBUTION (%) =			3.4	89.1	7.5
SEC NO.	.020									
**** 1	91.8	2.05	2.08	.04	1.24	68.44	1.04	.92	1.71	.94
					FLOW DISTRIBUTION (%) =			15.6	69.3	15.1
SEC NO.	.020									
**** 1	91.8	2.08	2.09	.01	1.29	61.55	-.97	.25	.73	.26
					FLOW DISTRIBUTION (%) =			4.5	89.1	6.4
SEC NO.	.026									
**** 1	91.8	2.08	2.09	.01	1.29	61.75	-1.00	.25	.72	.26
					FLOW DISTRIBUTION (%) =			4.5	89.0	6.5

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SEC NO.      .026

SUPERCRITICAL
SEC NO.    .026 TIME =    8.34 DAYS.
TRIAL    TRIAL       COMPUTED     CRITICAL
 NO.      WS           WS           WS
  1.      2.02        1.91
  2.      2.12        1.97         2.07
**** 1     91.8      2.12       2.28     .17     1.13     62.10      1.58   .00  3.35  1.32
                                                 FLOW DISTRIBUTION (%) =    .0  93.9   6.1

SEC NO.      .026
**** 1     91.8      2.29       2.30     .01     1.30     62.84      -.96   .24   .67   .25
                                                 FLOW DISTRIBUTION (%) =   4.7  88.4   6.8

SEC NO.      .057

SUPERCRITICAL
SEC NO.    .057 TIME =    8.34 DAYS.
TRIAL    TRIAL       COMPUTED     CRITICAL
 NO.      WS           WS           WS
  1.      2.21        2.07
  2.      2.30        2.13         2.25
**** 1     91.8      2.30       2.63     .33     1.00     23.70      1.46   .04  4.62   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.      .076
**** 1     91.8      2.95       3.03     .08     1.35     26.74       .51   .65  2.31   .68
                                                 FLOW DISTRIBUTION (%) =   6.0  91.6   2.4

SEC NO.      .095
**** 1     91.8      3.08       3.13     .05     1.42     31.93       .45   .19  1.98   .66
                                                 FLOW DISTRIBUTION (%) =    .1  86.9  13.1

SEC NO.      .114
**** 1     91.8      3.18       3.28     .10     1.24     25.83      1.22  1.00  2.62   .47
                                                 FLOW DISTRIBUTION (%) =   7.0  92.1    .9

SEC NO.      .133
**** 1     91.8      3.43       3.52     .09     1.41     24.34      1.19   .00  2.80  1.32
                                                 FLOW DISTRIBUTION (%) =    .0  64.7  35.3

SEC NO.      .152
**** 1     91.8      3.59       3.69     .10     1.29     21.35       .72   .43  2.54   .61
                                                 FLOW DISTRIBUTION (%) =   1.1  95.5   3.4

SEC NO.      .170
**** 1     91.8      3.69       3.83     .14     1.30     13.29       .50   .72  3.05   .77
                                                 FLOW DISTRIBUTION (%) =   2.6  94.5   3.0

SEC NO.      .189
**** 1     91.8      3.82       4.01     .19     1.64     18.77       .32   .95  3.69   .63
                                                 FLOW DISTRIBUTION (%) =   4.5  91.3   4.3

SEC NO.      .207
**** 1     91.8      4.02       4.17     .15     1.72     19.56       .16   .83  3.27   .61
                                                 FLOW DISTRIBUTION (%) =   5.1  89.6   5.3

SEC NO.      .226
**** 1     91.8      4.22       4.33     .11     1.15     20.10      2.03   .81  2.71   .58
                                                 FLOW DISTRIBUTION (%) =   2.3  96.7   1.0
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SEC NO.     .245
**** 1      91.8     4.42     4.54     .12     1.11    17.98     2.26   .80  2.76   .41
                                               FLOW DISTRIBUTION (%) =  2.2  97.6    .2

SEC NO.     .264
**** 1      91.8     4.60     4.75     .16     1.36    16.08     1.52   .86  3.28   .76
                                               FLOW DISTRIBUTION (%) =  3.1  93.4   3.5

SEC NO.     .283
**** 1      91.8     4.85     4.95     .11     1.00    15.84     2.64   .00  2.63   .00
                                               FLOW DISTRIBUTION (%) =   .0 100.0    .0

SEC NO.     .302
**** 1      91.8     5.01     5.06     .04     1.36    26.88     1.90   .57  1.75   .56
                                               FLOW DISTRIBUTION (%) =  6.0  89.1   4.9

SEC NO.     .321
**** 1      91.8     5.03     5.16     .14     1.45    16.12     1.78   .86  3.14   .96
                                               FLOW DISTRIBUTION (%) =  4.3  88.6   7.1

SEC NO.     .340
**** 1      91.8     5.17     5.34     .17     1.42    13.28     1.75   .90  3.48   .97
                                               FLOW DISTRIBUTION (%) =  3.9  90.9   5.3

SEC NO.     .358
**** 1      91.8     5.40     5.50     .10     1.44    19.58     2.46   .95  2.68   .78
                                               FLOW DISTRIBUTION (%) = 10.0  85.9   4.1
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TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PREDEVELOPMENT SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.34	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	-.01	.00	.00	-.20	.00	.00	-11.45

TABLE SB-1.

	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.00					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.25	.00	.00	.25	.00	
SANDS & GRAVELS	10.78	.00	6.08	2.83	1.71	.15
		.00	.00	.00	.00	.00
TOTAL LOAD	11.03					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.74	5.40	2.06	92.	0.	0.	0.
.340	-.48	5.17	.52	92.	0.	0.	213.
.321	.05	5.03	1.15	92.	0.	0.	281.
.302	.42	5.01	2.12	92.	0.	0.	96.
.283	-.56	4.85	1.04	92.	0.	0.	208.
.264	-.29	4.60	.71	92.	0.	0.	352.
.245	.13	4.42	.83	92.	0.	0.	409.
.226	.15	4.22	.95	92.	0.	0.	355.
.207	-.08	4.02	-.08	92.	0.	0.	379.
.189	-.30	3.82	-.30	92.	0.	0.	447.
.170	.25	3.69	.65	92.	0.	0.	359.
.152	.13	3.59	.63	92.	0.	0.	275.
.133	-.23	3.43	.37	92.	0.	0.	399.
.114	.07	3.18	1.22	92.	0.	0.	353.
.095	.26	3.08	.26	92.	0.	0.	145.
.076	-.25	2.95	.15	92.	0.	0.	345.
.057	-.56	2.30	-.42	92.	0.	0.	841.
.026	.72	2.29	-.28	92.	0.	0.	244.
.026	-.23	2.12	1.17	92.	0.	0.	247.
.026	-.23	2.08	-1.23	92.	0.	0.	299.
.020	.71	2.08	-.29	92.	0.	0.	121.
.020	-.70	2.05	.30	92.	0.	0.	134.
.020	-.04	2.06	.36	92.	0.	0.	171.
.000	.17	2.00	.18	92.	0.	0.	0.

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*   AB     FLOW 5 = 8" RAINFALL = 259.00 CFS

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- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK PREDEVELOPMENT SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      5
WATER    DISCHARGE=      259.00
         ELEVATION=       2.000
       TEMPERATURE=      70.000
FLOW DURATION(DAYS)  .8300E-01

****  N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP      AVG       AVG VEL (by subsection)
           (CFS)    SURFACE    LINE     HEAD              WIDTH     BED     1      2      3

SEC NO.      .000
****  1     259.0      2.00      2.17      .17     1.00     65.05      .80   .00   3.31    .00
                                                   FLOW DISTRIBUTION (%) =    .0  100.0    .0

SEC NO.      .020
****  1     259.0      2.44      2.56      .12     1.29     62.27      .34  1.03   2.89   1.19
                                                   FLOW DISTRIBUTION (%) =   4.2   86.7   9.1

SEC NO.      .020
****  1     259.0      2.50      2.57      .06     1.27     70.00      .36  1.19   2.27   1.19
                                                   FLOW DISTRIBUTION (%) =  15.8   69.5  14.7

SEC NO.      .020
****  1     259.0      2.50      2.57      .07     1.29     62.02     -.32   .78   2.21    .79
                                                   FLOW DISTRIBUTION (%) =   4.9   89.3   5.8

SEC NO.      .026
****  1     259.0      2.55      2.59      .04     1.32     64.60    -1.10   .60   1.68    .61
                                                   FLOW DISTRIBUTION (%) =   5.3   87.9   6.8

SEC NO.      .026

SUPERCRITICAL
SEC NO.      .026 TIME =    8.42 DAYS.
TRIAL    TRIAL      COMPUTED    CRITICAL
 NO.      WS           WS          WS
  2.     2.34         2.24
  3.     2.43         2.31        2.38
****  1     259.0      2.43      2.82      .38     1.14     64.47     1.49   .00   5.11   2.13
                                                   FLOW DISTRIBUTION (%) =    .0   92.8   7.2

SEC NO.      .026
****  1     259.0      2.80      2.85      .05     1.32     65.31     -.48   .61   1.83    .75
                                                   FLOW DISTRIBUTION (%) =   4.5   86.0   9.6

SEC NO.      .057
****  1     259.0      2.63      3.41      .78     1.02     26.81     1.13   .98   7.09    .00
                                                   FLOW DISTRIBUTION (%) =    .2   99.8    .0

SEC NO.      .076
****  1     259.0      3.85      4.09      .24     1.48     31.31      .32  1.39   4.22   1.18
                                                   FLOW DISTRIBUTION (%) =  11.5   85.9   2.7

SEC NO.      .095
****  1     259.0      4.15      4.35      .20     1.52     36.79      .72   .69   3.93   1.51
                                                   FLOW DISTRIBUTION (%) =    .9   79.5  19.6
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SEC NO.    .114
**** 1    259.0    4.38    4.65    .27    1.40    31.27    1.27  1.66  4.43  1.18
                                          FLOW DISTRIBUTION (%) =   9.0  87.1   3.9

SEC NO.    .133
**** 1    259.0    4.78    4.98    .20    1.44    31.87    1.12   .59  4.31  2.09
                                          FLOW DISTRIBUTION (%) =    .4  60.9  38.7

SEC NO.    .152
**** 1    259.0    4.99    5.29    .30    1.58    30.05     .87  1.00  4.63  1.36
                                          FLOW DISTRIBUTION (%) =   4.3  88.4   7.3

SEC NO.    .170
**** 1    259.0    5.12    5.64    .51    1.53    20.09     .70  1.18  6.00  1.57
                                          FLOW DISTRIBUTION (%) =   3.9  91.4   4.7

SEC NO.    .189
**** 1    259.0    5.57    5.95    .38    2.24    30.71     .10  1.23  5.60  1.52
                                          FLOW DISTRIBUTION (%) =   8.1  76.9  15.0

SEC NO.    .207
**** 1    259.0    5.85    6.17    .32    2.21    29.51     .05  1.21  5.18  1.46
                                          FLOW DISTRIBUTION (%) =   8.7  75.3  16.0

SEC NO.    .226
**** 1    259.0    6.14    6.36    .22    1.39    28.94    2.13   .98  3.91  1.16
                                          FLOW DISTRIBUTION (%) =   2.7  90.9   6.4

SEC NO.    .245
**** 1    259.0    6.33    6.54    .21    1.49    41.15    2.09   .82  3.82   .61
                                          FLOW DISTRIBUTION (%) =   4.3  93.8   1.9

SEC NO.    .264
**** 1    259.0    6.44    6.77    .32    1.75    28.88    1.11   .87  4.91  1.45
                                          FLOW DISTRIBUTION (%) =   3.6  85.8  10.6

SEC NO.    .283
**** 1    259.0    6.80    6.98    .18    1.01    25.26    3.28   .25  3.40   .00
                                          FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.    .302
**** 1    259.0    6.99    7.11    .11    1.55    34.72    2.19   .97  2.96   .99
                                          FLOW DISTRIBUTION (%) =   9.3  82.3   8.4

SEC NO.    .321
**** 1    259.0    6.97    7.28    .31    1.72    21.90    1.63  1.43  4.89  1.52
                                          FLOW DISTRIBUTION (%) =   8.1  80.8  11.1

SEC NO.    .340
**** 1    259.0    7.13    7.51    .38    1.69    17.83    1.30  1.49  5.34  1.51
                                          FLOW DISTRIBUTION (%) =   7.7  84.1   8.2

SEC NO.    .358
**** 1    259.0    7.49    7.70    .21    1.67    26.29    2.46  1.40  4.05  1.22
                                          FLOW DISTRIBUTION (%) =  13.8  78.7   7.5
** Q ABOVE TABLE **                                                                        **INLOAD:
**WATER DISCHARGE, WATER-SEDIMENT LOAD TABLE ENDPOINT**      259.00      180.00      .000000
```

TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PREDEVELOPMENT SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.42	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	-.01	.00	.00	-.20	.00	.19	-2626.58

TABLE SB-1.	TOTAL	VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.00					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	4557.53	.15	2340.38	1005.85	799.47	410.57
		.92	.00	.18	.00	.00
TOTAL LOAD	4557.53					

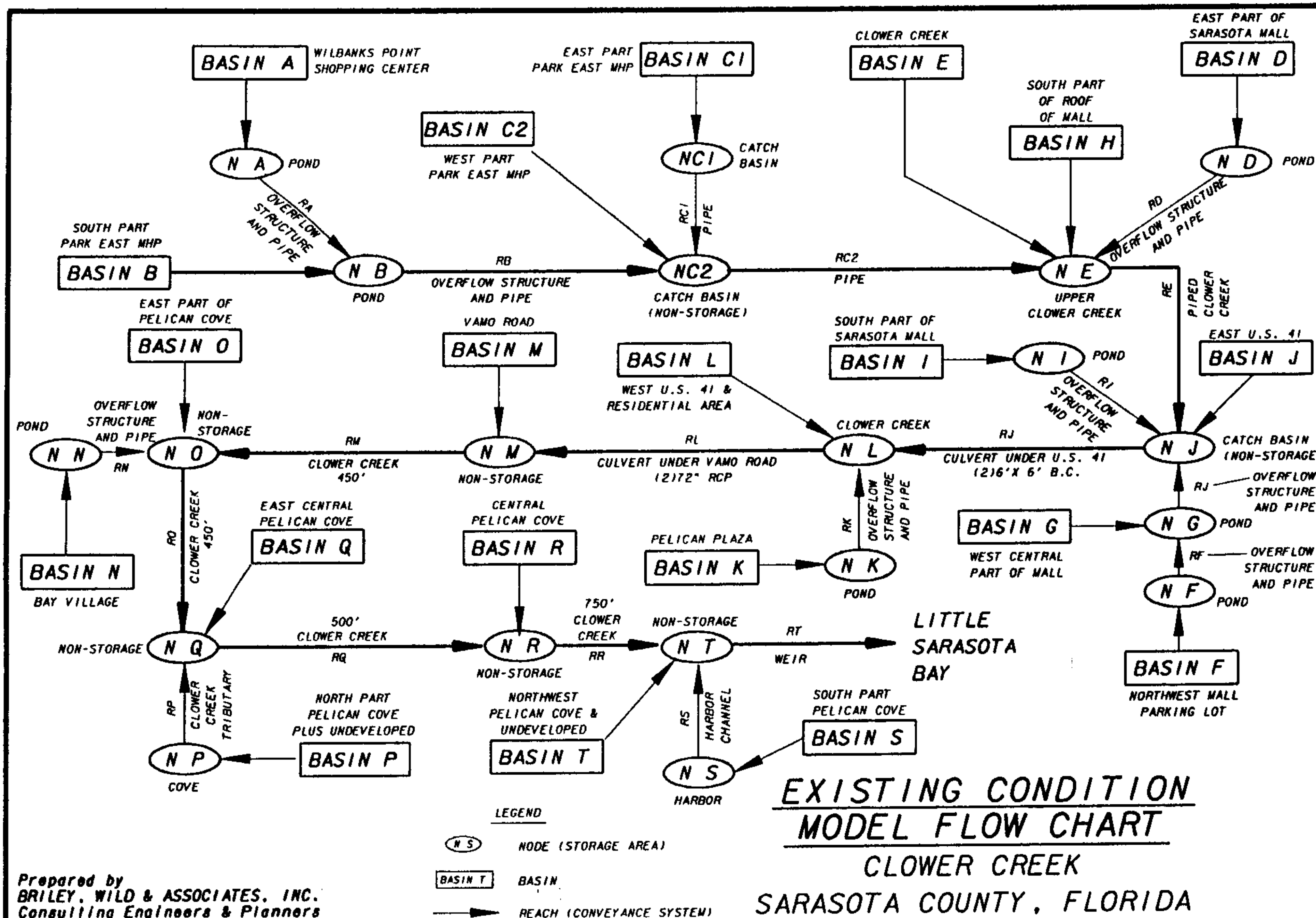
LOAD BY GRAIN SIZE (TONS/DAY)

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.74	7.49	2.06	259.	0.	0.	1.
.340	-.74	7.13	.26	259.	0.	0.	181.
.321	-.69	6.97	.41	259.	0.	0.	323.
.302	.34	6.99	2.04	259.	0.	0.	403.
.283	-.67	6.80	.93	259.	0.	0.	493.
.264	-.57	6.44	.43	259.	0.	0.	675.
.245	-.19	6.33	.51	259.	0.	0.	844.
.226	.05	6.14	.85	259.	0.	0.	1024.
.207	-.57	5.85	-.57	259.	0.	0.	882.
.189	-.71	5.57	-.71	259.	0.	0.	875.
.170	-.80	5.12	-.40	259.	0.	0.	1631.
.152	-.13	4.99	.37	259.	0.	0.	1973.
.133	-.08	4.78	.52	259.	0.	0.	1807.
.114	-.10	4.38	1.05	259.	0.	0.	2047.
.095	.46	4.15	.46	259.	0.	0.	1604.
.076	-.64	3.85	-.24	259.	0.	0.	1281.
.057	-.65	2.63	1.35	259.	0.	0.	1443.
.026	-.10	2.80	-1.10	259.	0.	0.	1103.
.026	3.74	2.43	5.14	259.	0.	0.	1096.
.026	.03	2.55	-.97	259.	0.	0.	1078.
.020	5.79	2.50	4.79	259.	0.	0.	678.
.020	-.13	2.50	.87	259.	0.	0.	505.
.020	-.72	2.44	-.32	259.	0.	0.	278.
.000	-.50	2.00	-.49	259.	0.	0.	233.

$$END

APPENDIX B

EXISTING CONDITION



EXISTING CONDITION MODEL FLOW CHART

CLOWER CREEK

SARASOTA COUNTY, FLORIDA

Prepared by
BRILEY, WILD & ASSOCIATES, INC.
Consulting Engineers & Planners

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 0.5 INCH RAINFALL
4/8/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	10.60	8.28	48.80
CURVE NUMBER	75.00	82.00	89.00	89.00	75.00
DCIA (%)	85.20	39.90	13.00	31.20	85.60
TC (mins)	16.00	24.00	23.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	3.18	.85	.34	WILBANKS POINTE SHOPPING CENTER
B	2.31	.96	.16	SOUTH PARK EAST MHP
C1	.96	.97	.09	EAST PARK EAST MHP
C2	1.39	.98	.15	WEST PARK EAST MHP
D	21.02	.93	.34	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	.61	.91	.09	CLOWER CREEK EAST OF PIPED PORTION!
F	5.19	.85	.35	SARASOTA MALL NORTHWEST
G	10.54	.86	.36	SARASOTA MALL CENTRAL WEST
H	2.70	.82	.40	SARASOTA MALL SOUTH ROOF
I	5.16	.79	.36	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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EXISTING CONDITION!- 0.5 INCH RAINFALL
4/8/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ	NK	NL	NM	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	.00	4.00	.00	US 41 AND UNDEV. SOUTHEAST AREA
K	6.68	.88	.34	PELICAN!PLAZA SHOPPING CENTER
L	.09	2.21	.01	US 41 AND SOUTH CENTRAL RESID. AREA
M	.01	2.11	.00	VAMO ROAD
N!	.66	.92	.05	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	4.16	24.88	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	.13	.89	.04	PELICAN!COVE EAST
P	.19	1.27	.01	PELICAN!COVE NORTHEAST AND UNDEV.
Q	.14	.88	.03	PELICAN!COVE EAST CENTRAL
R	.10	.95	.02	PELICAN!COVE CENTRAL
S	1.55	1.03	.08	PELICAN!COVE SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 0.5 INCH RAINFALL
4/8/93

BASIN:NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN!AMOUNT (in)	.50
STORM DURATION!(hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T .28	.95	.04	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 0.5 INCH RAINFALL
4/8/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NA	11.39	.19	2.86	.00	.00	.00
NB	11.04	.20	2.27	.00	.00	.00
NC1	10.52	.02	.96	.00	.00	.65
NC2	9.47	.04	1.38	.00	.65	2.58
ND	11.42	1.38	19.59	.00	.00	.00
NE	8.49	.08	3.05	.00	2.58	3.71
NF	12.95	.31	4.53	.00	.00	.00
NG	10.57	.59	9.07	.00	.00	.64
NI	11.74	.19	5.09	.00	.00	.77
NJ	6.27	.03	.00	.00	4.11	4.13
NK	6.40	.40	5.83	.00	.00	.00
NL	5.96	.02	.09	.00	4.13	4.14
NM	3.49	.04	.01	.00	4.14	3.99
NN1	12.06	.05	.62	.00	.00	.00
NO	2.55	.04	.12	.00	3.99	4.29
NP	2.04	.22	.19	.00	.00	.18
NQ	2.04	.17	.13	.00	3.47	3.41
NR	2.01	.44	.10	.00	3.41	3.48
NS	2.00	1.72	1.53	.00	.00	1.59
NT	2.00	1.03	.27	.00	4.33	4.21
NU	2.00	.00	.00	.00	4.21	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 0.5 INCH RAINFALL
4/8/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	1.25	.65	NC1	10.52	NC2	9.47
RC2	.00	2.58	NC2	9.00	NE	8.00
RE	.00	3.71	NE	8.00	NJ	6.00
RJ	1.25	4.13	NJ	6.27	NL	5.96
RL	1.25	4.14	NL	5.96	NM	3.48
RA	.00	.00	NA	11.00	NB	11.00
RB	.00	.00	NB	11.00	NC2	9.00
RD	.00	.00	ND	11.00	NE	8.00
RF	.00	.00	NF	12.00	NG	10.00
RG	2.25	.64	NG	10.57	NJ	6.20
RI	1.50	.77	NI	11.74	NJ	6.26
RK	.00	.00	NK	5.50	NL	5.00
RN!	.00	.00	NN!	12.00	NO	2.00
RM	1.50	3.99	NM	3.49	NO	2.55
RP	2.50	.18	NP	2.03	NQ	2.03
RQ	2.25	3.41	NQ	2.04	NR	2.01
RR	2.25	3.48	NR	2.01	NT	2.00
RS	1.00	1.59	NS	2.00	NT	2.00
RT	2.25	4.21	NT	2.00	NU	2.00
RO	1.75	4.29	NO	2.55	NQ	2.02

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	10.60	8.28	48.80
CURVE NUMBER	75.00	62.00	89.00	89.00	75.00
DCIA (%)	85.20	39.90	13.00	31.20	85.60
TC (mins)	16.00	24.00	23.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	6.44	.85	.77	WILBANKS POINTE SHOPPING CENTER
B	5.54	.96	.43	SOUTH PARK EAST MHP
C1	4.44	.97	.36	EAST PARK EAST MHP
C2	4.32	.98	.47	WEST PARK EAST MHP
D	43.51	.88	.77	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	1.44	.91	.25	CLOWER CREEK EAST OF PIPED PORTION!
F	10.59	.85	.79	SARASOTA MALL NORTHWEST
G	21.60	.86	.81	SARASOTA MALL CENTRAL WEST
H	5.41	.82	.90	SARASOTA MALL SOUTH ROOF
I	10.31	.79	.82	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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EXISTING CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ	NK	NL	NM	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	.40	3.50	.10	US 41 AND UNDEV. SOUTHEAST AREA
K	13.58	.88	.77	PELICAN!PLAZA SHOPPING CENTER
L	1.72	1.80	.15	US 41 AND SOUTH CENTRAL RESID. AREA
M	.59	1.54	.11	VAMO ROAD
N!	2.04	.86	.20	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	4.16	24.88	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	.65	.97	.22	PELICAN!COVE EAST
P	1.45	1.69	.10	PELICAN!COVE NORTHEAST AND UNDEV.
Q	.48	1.00	.15	PELICAN!COVE EAST CENTRAL
R	.72	1.16	.14	PELICAN!COVE CENTRAL
S	5.30	1.18	.29	PELICAN!COVE SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 1.0 INCH RAINFALL
4/15/93

FASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
FEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN!AMOUNT (in)	1.00
STORM DURATION!(hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	60.00
DCIA (%)	9.10
C (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T	.92	1.11	.16	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 1.0 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	!<------- RUNOFF (cfs)	INFLOW OFFSITE (cfs)	-------->!! OTHER (cfs)	OUTFLOW (cfs)
NA	11.89	.42	5.90	.00	.00	.00
NB	11.10	.54	5.49	.00	.00	.00
NC1	11.29	.05	4.37	.00	.00	3.39
NC2	10.15	.08	4.27	.00	3.39	6.81
ND	11.94	3.13	40.02	.00	.00	.00
NE	9.03	.15	6.26	.00	6.81	10.02
NF	13.81	.63	9.55	.00	.00	1.35
NG	11.24	1.29	19.32	.00	1.35	2.66
NI	12.04	.44	10.18	.00	.00	1.56
NJ	6.46	.05	.40	.00	13.43	13.01
NK	7.42	.91	12.25	.00	.00	.00
NL	6.45	.05	1.71	.00	13.01	14.21
NM	4.27	.09	.59	.00	14.21	15.01
NN!	12.24	.20	2.03	.00	.00	.00
NO	3.26	.11	.85	.00	15.01	14.66
NP	2.46	.29	1.45	.00	.00	1.73
NQ	2.43	.25	.48	.00	15.25	14.47
NR	2.10	.47	.70	.00	14.47	14.92
NS	2.01	1.73	5.17	.00	.00	4.98
NT	2.01	1.04	.89	.00	18.77	19.50
NU	2.00	.16	.00	.00	19.50	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 1.0 INCH RAINFALL

4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	1.25	3.39	NC1	11.29	NC2	10.15
RC2	1.25	6.81	NC2	10.15	NE	9.03
RE	1.25	10.02	NE	9.03	NJ	6.46
RJ	1.25	13.01	NJ	6.46	NL	6.45
RL	1.25	14.21	NL	6.45	NM	4.27
RA	.00	.00	NA	11.00	NB	11.00
RB	.00	.00	NB	11.00	NC2	9.00
RD	.00	.00	ND	11.00	NE	8.00
RF	2.00	1.35	NF	13.81	NG	11.23
RG	2.25	2.66	NG	11.24	NJ	6.31
RI	1.50	1.56	NI	12.04	NJ	6.44
RK	.00	.00	NK	5.50	NL	5.00
RN!	.00	.00	NN!	12.00	NO	2.00
RM	1.50	15.01	NM	4.25	NO	3.22
RP	2.25	1.73	NP	2.42	NQ	2.37
RQ	1.75	14.47	NQ	2.43	NR	2.10
RR	2.00	14.92	NR	2.10	NT	2.01
RS	1.25	4.98	NS	2.01	NT	2.01
RT	1.75	19.50	NT	2.01	NU	2.00
RO	1.25	14.66	NO	3.11	NQ	2.30

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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EXISTING CONDITION!- 3.0 INCH RAINFALL
[illegible]/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	10.60	8.28	48.80
CURVE NUMBER	75.00	82.00	89.00	89.00	75.00
DCIA (%)	85.20	39.90	13.00	31.20	85.60
TC (mins)	16.00	24.00	23.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	20.58	.85	2.61	WILBANKS POINTE SHOPPING CENTER
B	26.47	.96	1.98	SOUTH PARK EAST MHP
C1	25.44	.92	2.03	EAST PARK EAST MHP
C2	20.27	.92	2.20	WEST PARK EAST MHP
D	136.64	.88	2.61	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	10.03	.91	1.55	CLOWER CREEK EAST OF PIPED PORTION!
F	33.46	.85	2.65	SARASOTA MALL NORTHWEST
G	67.46	.86	2.70	SARASOTA MALL CENTRAL WEST
H	16.23	.82	2.89	SARASOTA MALL SOUTH ROOF
I	32.26	.79	2.72	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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EXISTING CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ	NK	NL	NM	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	5.24	3.25	1.31	US 41 AND UNDEV. SOUTHEAST AREA
K	43.34	.88	2.62	PELICAN!PLAZA SHOPPING CENTER
L	17.60	1.52	1.50	US 41 AND SOUTH CENTRAL RESID. AREA
M	7.90	1.14	1.37	VAMO ROAD
N	18.13	.92	1.51	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	4.16	24.88	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	7.21	.93	1.68	PELICAN!COVE EAST
P	9.02	1.38	1.28	PELICAN!COVE NORTHEAST AND UNDEV.
Q	5.62	.92	1.38	PELICAN!COVE EAST CENTRAL
R	6.[illegible]	1.00	1.43	PELICAN!COVE CENTRAL
S	35.05	1.11	1.77	PELICAN!COVE SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN!AMOUNT (in)	3.00
STORM DURATION!(hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T 9.80	1.00	1.39	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 3.0 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NA	13.41	1.32	18.64	.00	.00	1.67
NB	11.59	3.09	26.15	.00	1.67	2.24
NC1	14.23	.79	24.09	.00	.00	9.12
NC2	12.01	.20	19.79	.00	11.36	15.14
ND	13.61	8.93	128.47	.00	.00	19.73
NE	10.23	.44	22.65	.00	32.28	38.17
NF	15.30	1.93	29.97	.00	.00	4.26
NG	13.37	3.89	60.21	.00	4.26	13.85
NI	13.16	1.42	31.72	.00	.00	7.08
NJ	8.10	.23	5.24	.00	58.95	74.15
NK	9.93	2.41	38.65	.00	.00	8.32
NL	8.07	.18	17.56	.00	75.45	86.13
NM	6.60	.31	7.76	.00	86.13	91.97
NN	13.33	1.14	17.49	.00	.00	4.86
NO	5.90	.47	6.81	.00	96.40	99.19
NP	4.72	.83	18.82	.00	.00	16.80
NQ	4.61	.66	5.38	.00	115.99	117.64
NR	3.55	1.10	8.51	.00	117.64	121.82
NS	2.35	2.25	33.71	.00	.00	24.75
NT	2.33	1.28	9.79	.00	144.50	149.83
NU	2.00	25.94	.00	.00	149.83	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 3.0 INCH RAINFALL
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	2.75	9.12	NC1	14.02	NC2	10.94
RC2	1.00	15.14	NC2	12.01	NE	10.12
RE	1.75	38.17	NE	10.23	NJ	8.10
RJ	3.50	74.15	NJ	7.21	NL	7.18
RL	1.75	86.13	NL	8.07	NM	6.80
RA	2.00	1.67	NA	13.41	NB	11.54
RB	2.75	2.24	NB	11.59	NC2	10.94
RD	2.00	19.73	ND	13.61	NE	10.20
RF	.75	4.26	NF	14.24	NG	11.52
RG	2.00	13.85	NG	13.37	NJ	8.07
RI	1.25	7.08	NI	13.16	NJ	7.95
RK	1.75	8.32	NK	9.93	NL	8.07
RN!	2.00	4.86	NN!	13.33	NO	5.85
RM	1.75	91.97	NM	6.80	NO	5.90
RP	1.75	16.80	NP	4.72	NQ	4.61
RQ	1.75	117.64	NQ	4.61	NR	3.55
RR	1.75	121.82	NR	3.55	NT	2.33
RS	1.25	24.75	NS	2.26	NT	2.23
RT	1.75	149.83	NT	2.33	NU	2.00
RO	1.75	99.19	NO	5.90	NQ	4.61

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 25 YR - 24 HR
4/8/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	6.60	15.28	10.60	8.28	48.80
CURVE NUMBER	75.00	82.00	89.00	89.00	75.00
DCIA (%)	85.20	39.90	13.00	31.20	85.60
TC (mins)	16.00	24.00	23.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	33.65	12.27	7.47	WILBANKS POINTE SHOPPING CENTER
B	53.80	12.32	6.68	SOUTH PARK EAST MHP
C1	49.48	12.32	6.83	EAST PARK EAST MHP
C2	37.64	12.32	7.05	WEST PARK EAST MHP
D	250.93	12.32	7.48	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	24.20	12.30	6.02	CLOWER CREEK EAST OF PIPED PORTION!
F	54.79	12.28	7.53	SARASOTA MALL NORTHWEST
G	109.20	12.27	7.61	SARASOTA MALL CENTRAL WEST
H	24.26	12.22	7.89	SARASOTA MALL SOUTH ROOF
I	48.47	12.23	7.63	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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EXISTING CONDITION!- 25 YR - 24 HR
4/6/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ	NK	NL	NM	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	15.56	14.50	5.74	US 41 AND UNDEV. SOUTHEAST AREA
K	71.20	12.28	7.48	PELICAN!PLAZA SHOPPING CENTER
L	45.52	12.72	6.09	US 41 AND SOUTH CENTRAL RESID. AREA
M	21.93	12.49	5.86	VAMO ROAD
N!	44.99	12.32	6.02	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	4.16	24.88	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	16.52	12.29	6.33	PELICAN!COVE EAST
P	54.89	12.59	5.69	PELICAN!COVE NORTHEAST AND UNDEV.
Q	14.84	12.32	5.81	PELICAN!COVE EAST CENTRAL
R	22.31	12.32	5.94	PELICAN!COVE CENTRAL
S	79.67	12.39	6.43	PELICAN!COVE SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 25 YR - 24 HR
4/8/93

BASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	SCSIII
RAIN!AMOUNT (in)	8.00
STORM DURATION!(hrs)	24.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
T	26.10	12.38	5.83	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

[redacted]

4/8/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NA	14.61	2.20	33.61	.00	.00	13.05
NB	12.91	10.10	50.87	.00	13.05	14.56
NC1	14.81	2.25	48.59	.00	.00	7.74
[redacted]		.27	36.54	.00	16.50	17.54
ND	15.51	15.91	227.32	.00	.00	79.85
NE	12.00	1.08	47.75	.00	88.95	106.05
NF	16.12	4.15	54.63	.00	.00	4.30
NG	15.41	6.90	108.62	.00	4.30	28.72
NI	14.45	2.67	47.98	.00	.00	9.05
NJ	9.35	.37	15.56	.00	143.74	150.47
NK	11.70	5.20	71.02	.00	.00	11.70
NL	9.22	.32	45.14	.00	157.79	202.80
NM	6.87	.55	21.61	.00	202.80	220.08
NN1	15.38	3.10	43.61	.00	.00	8.81
NO	7.75	.81	16.20	.00	228.04	235.40
NP	6.58	1.51	53.80	.00	.00	50.15
NQ	5.40	1.61	14.43	.00	285.56	292.00
NR	5.03	1.94	20.96	.00	292.00	304.35
NS	3.15	3.48	77.67	.00	.00	58.70
NT	3.09	1.91	24.49	.00	363.05	378.05
NU	2.00	135.14	.00	.00	378.05	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

EXISTING CONDITION!- 25 YR - 24 HR
4/8/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC1	13.00	7.74	NC1	14.81	NC2	12.57
RC2	19.25	17.54	NC2	12.45	NE	9.94
RE	12.75	106.05	NE	12.00	NJ	9.35
RJ	12.75	150.47	NJ	9.35	NL	9.22
RL	12.75	202.80	NL	9.22	NM	8.87
RA	12.50	13.05	NA	14.61	NB	12.02
RB	20.50	14.56	NB	12.44	NC2	11.99
RD	12.75	79.85	ND	15.51	NE	12.00
RF	21.25	4.30	NF	15.68	NG	12.37
RG	13.00	26.72	NG	15.35	NJ	9.25
RI	13.00	9.05	NI	14.41	NJ	9.25
RK	15.00	11.70	NK	11.50	NL	7.70
RN!	15.25	8.81	NN!	14.81	NO	6.28
RM	12.75	220.08	NM	8.87	NO	7.75
RP	12.75	50.15	NP	6.58	NQ	6.40
RQ	12.75	292.00	NQ	6.40	NR	5.03
RR	12.75	304.35	NR	5.03	NT	3.09
RS	12.75	58.70	NS	3.15	NT	3.09
RT	12.75	378.05	NT	3.09	NU	2.00
RO	12.75	235.40	NO	7.75	NQ	6.40

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*****************************************************          **************************************
*  SCOUR AND DEPOSITION IN RIVERS AND RESERVOIRS    *          * U.S. ARMY CORPS OF ENGINEERS       *
*  VERSION 4.0.6 RELEASED JUNE 1991                 *          *                                    *
*  INPUT FILE:  4clowm.dat                          *          * THE HYDROLOGIC ENGINEERING CENTER  *
*  OUTPUT FILE: 4frout                              *          * 609 SECOND STREET, SUITE D         *
*  RUN DATE 05/10/1993       TIME 13:02:27          *          * DAVIS, CALIFORNIA 95616-4687       *
*****************************************************          **************************************

   HMVersion: 5.00


                    X     X XXXXXXX  XXXXX         XXXXX
                    X     X X       X     X       X     X
                    X     X X       X             X
                    XXXXXXX XXXX    X       XXXXX XXXXXX
                    X     X X       X             X     X
                    X     X X       X     X       X     X
                    X     X XXXXXXX  XXXXX         XXXXX


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                   :::  Full Microcomputer Implementation  :::
                   :::                 by                  :::
                   :::         Haestad Methods, Inc.       :::
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           37 Brookside Road * Waterbury, Connecticut  06708 * (203) 755-1666
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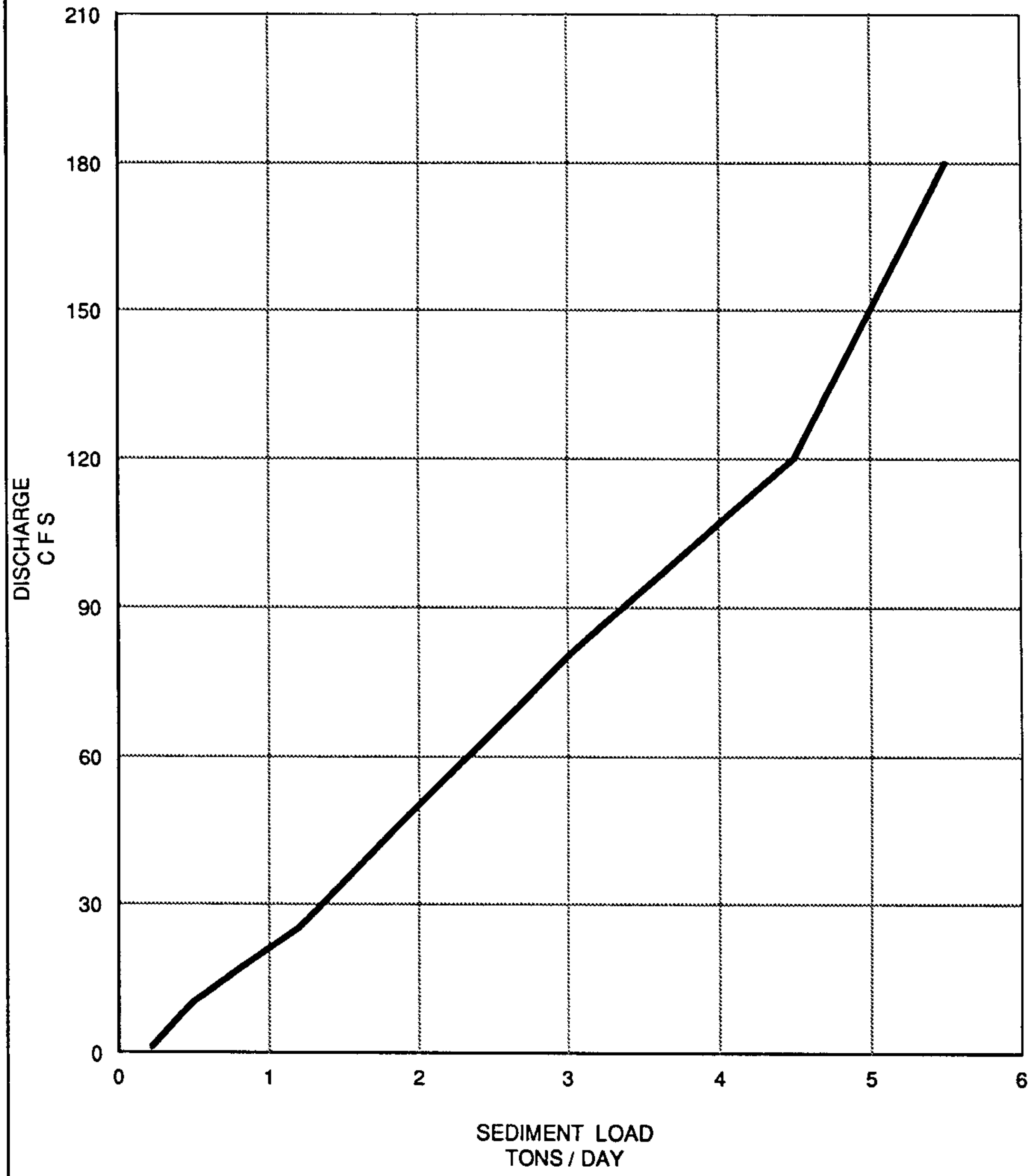
T1       CLOWER CREEK EXISTING SYSTEM.
T2       FROM STATION 0+00 TO STATION 19+00
T3
NC   .070     .070     .040       .1        .3
X1    0.0      13.     43.5    129.0        0.        0.        0.
GR    7.7      0.0     6.91     10.0      6.88      24.3       6.6      43.5       3.9     57.
GR    1.7     59.5      0.4     74.0       0.6      80.0       0.4      86.0      0.01     96.
GR    0.4    111.0      1.7    124.0       3.5     129.0
HD    0.0      1.0     57.2    124.0        0.       0.4      43.5     129.0        0.
X1   0.02       8.     74.0    111.0      104.      104.      104.
GR    7.7      0.0      6.6     43.5       3.9      57.0       0.4      74.0       0.4     86.
GR    0.4    111.0      1.7    124.0       3.5     129.0
HD   0.02      1.0     57.0    124.0        0.       0.4      74.0     111.0        0.
X10.0201       5.0     74.0    111.0        1.        1.        1.
GR    7.5      0.0      4.0     57.0       1.1      58.0       1.0     124.0       3.5    129.
HD0.0201       1.0     58.0    124.0        0.       0.4      58.0     124.0        0.
X10.0202        8.     74.0    111.0        1.        1.        1.
GR    7.7      0.0      6.6     43.5       3.9      57.0     -1.00      74.0     -1.00     86.
GR -1.00     111.0      1.7    124.0       3.5     129.0
HD0.0202       .75     58.0    124.0        0.     -1.00      58.0     124.0        0.
X1 0.026        8.     74.0    111.0       31.       31.       31.
GR    7.7      0.0      6.6     43.5       3.9      57.0     -1.00      74.0     -1.85     86.
GR -1.00     111.0      1.7    124.0       3.5     129.0
HD 0.026       1.0     57.0    111.0        0.       0.4      57.0     111.0        0.
X10.0261       5.0     57.0    111.0       1.0       1.0       1.0
GR    7.7      0.0      3.9     57.0       1.4      65.0      1.85     124.0       3.5    129.
HD0.0261       1.0     57.0    111.0        0.       0.4      57.0     111.0        0.
X10.0262        8.     74.0    111.0        1.        1.        1.
GR    7.7       0.      6.6     43.5       3.9      57.0     -1.00      74.0     -1.00     86
GR -1.00     111.0      1.7    124.0       3.5     129.0
HD0.0262       .75     57.0    111.0        0.     -1.00      57.0     111.0        0.
X1 0.057        7.     32.1     57.8      165.      165.      165.
GR    6.6      0.0      2.3     32.1       0.6      32.9      0.14      38.3       2.1     43
GR    2.0     55.5      4.5     57.8
HD 0.057       1.0     43.0     55.5        0.       0.5      32.9      55.5        0.
X1 0.076        8.     40.5     55.4      100.      100.      100.
GR   8.68      0.0     8.49     11.9       1.7      35.5       2.2      38.7      1.15     40
GR    0.4     46.6      0.3     55.4       4.7      59.4
HD 0.076       2.0     35.5     55.4        0.       0.6      40.5      55.4        0.
X1 0.095      11.0     53.0     68.3      100.      100.      100.
GR    8.6      0.0     8.51      3.9      7.95      23.4       3.9      48.0       2.7     53
GR    0.7     54.7     0.00     60.5       0.4      68.3       2.3      69.5       1.3     80
GR    6.4     90.0
HD 0.095       2.0     48.0     69.5        0.       0.7      53.0      68.3        0.
X1 0.114      10.0     49.0     65.4      100.      100.      100.
GR   8.85      0.0     8.52     16.9       4.9      40.0       2.2      45.3      1.15     49
GR   1.16     56.0      1.3     65.4       3.4      66.6       2.6      69.0       5.2     74
HD 0.114       2.0     45.3     66.4        0.       0.8      49.0      65.4        0.
X1 0.133       9.0     30.0     40.0      100.      100.      100.
GR    8.2      0.0      7.8      7.2       4.0      30.0      1.16      32.4       0.6     40
GR    0.9     46.7      2.8     47.8       2.4      53.0       7.8      63.0
HD 0.133       2.0     32.4     46.7        0.       0.8      30.0      40.0        0.
X1 0.152       8.0     23.7     35.7      100.      100.      100.
GR    7.7      0.0      3.0     22.7       0.9      23.7       0.5      29.3       0.9     35
GR    2.5     37.0      3.3     40.8       6.8      47.0
HD 0.153       2.0     22.7     37.0        0.       0.8      23.7      35.7        0.
```

```
T4        MAIN STREAM. SEGMENT 1
T5        LOAD CURVE
T6        BED GRADATIONS FROM FIELD SAMPLES.
T7
T8        SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971)
I1    0         5
I2  CLAY        2
I2  CLAY        1     .01     .02     .05     .75     60.0
I2  CLAY        2     .02    .125     .23     2.0     32.0
I3  SILT        2
I4  SAND        4
LQ CFS-F        1      10      25      50      80      120     180
LT TOTAL      .22      .5     1.2     2.0     3.0      4.5     5.5
LF  CLAY      .10     .10     .10     .10     .15
LF SILT1        0       0       0       0       0
LF SILT2        0       0       0       0       0
LF SILT3      .30     .30     .20     .20     .25
LF SILT4        0       0       0       0       0
LF   VFS     .100    .100    .215    .311    .400
LF    FS     .850    .850    .675    .565    .462
LF    MS     .050    .050    .100    .100    .110
LF    CS     .000    .000    .010    .016    .020
LF   VCS     .000    .000    .000    .008    .005
LF   VFG     .000    .000    .000    .000    .002
LF    FG     .000    .000    .000    .000    .001
LF    MG     .000    .000    .000    .000    .000
LF    CG     .000    .000    .000    .000    .000
LF   VCG       .0      .0    .000    .000    .000
PF EXAMP   0.358  .01429    64.0    32.0   100.0     16.0   100.0     8.0    99.
PFC  4.0    99.0     2.0    98.0     1.0    80.0      .50    50.0    .125    0.
$HYD
*   AB      FLOW 1 = BASE FLOW OF 0 CFS
Q     0.
R    1.5
T    70.
W   291.
*   AB      FLOW 2 = 1/2" RAINFALL = 3.99 CFS
Q   3.99
R    2.0
T    70.
W   6.67
*   AB      FLOW 3 = 1" RAINFALL = 15.00 CFS
Q   15.0
R    2.0
T    70.
W    1.5
*   AB      FLOW 4 = 3" RAINFALL = 92.00 CFS
Q   99.0
R    2.0
T    70.
W   .167
*   AB      FLOW 5 = 8" RAINFALL = 222.00 CFS
Q  222.0
R    2.0
T    70.
W   .083
$$END
```

ST 93051-3E



EXISTING CONDITION

PREPARED BY:
BRILEY, WILD AND ASSOCIATES
CONSULTING ENGINEERS AND PLANNERS

R - 948

```
T1      CLOWER CREEK EXISTING SYSTEM.
T2      FROM STATION 0+00 TO STATION 19+00
T3

NC  .0700   .0700   .0400   .1000   .3000

SECTION NO.  1 RIVER MILE=       .000
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  2 RIVER MILE=       .020
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  3 RIVER MILE=       .020
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  4 RIVER MILE=       .020
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO.  5 RIVER MILE=       .026
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  6 RIVER MILE=       .026
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  7 RIVER MILE=       .026
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO.  8 RIVER MILE=       .057
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  9 RIVER MILE=       .076
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 10 RIVER MILE=       .095
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 11 RIVER MILE=       .114
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 12 RIVER MILE=       .133
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 13 RIVER MILE=       .152
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 14 RIVER MILE=       .170
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 15 RIVER MILE=       .189
...Set the Depth (ft) of the Bed Sediment Reservoir to     2.00

SECTION NO. 16 RIVER MILE=       .207
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 17 RIVER MILE=       .226
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 18 RIVER MILE=       .245
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 19 RIVER MILE=       .264
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00
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SECTION NO. 20 RIVER MILE=       .283
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 21 RIVER MILE=       .302
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 22 RIVER MILE=       .321
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 23 RIVER MILE=       .340
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 24 RIVER MILE=       .358
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

NO. OF CROSS SECTIONS IN STREAM SEGMENT= 24
NO. OF INPUT DATA MESSAGES =   0

TOTAL NO. OF CROSS SECTIONS IN THE NETWORK =  24
TOTAL NO. OF STREAM SEGMENTS IN THE NETWORK=   1
END OF GEOMETRIC DATA

==========================================================================================

T4      MAIN STREAM, SEGMENT 1
T5      LOAD CURVE
T6      BED GRADATIONS FROM FIELD SAMPLES.
T7
T8      SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971)
CLOWER CREEK EXISTING SYSTEM.
FROM STATION 0+00 TO STATION 19+00


- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

SEDIMENT PROPERITES AND PARAMETERS

       SPI     IBG    MNQ      SPGF     ACGR     NFALL    IBSHER
I1     5.       0       1      1.000    32.174       2         1

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

CLAY IS PRESENT.

       MTCL    SPGC      PUCD      UWCL      CCCD
I2      2     2.650    78.000    30.000    16.000


  DEPOSITION COEFFICIENTS BY LAYER
                      DEPOSITION
                      THRESHOLD
                        SHEAR
              LAYER     STRESS
               NO.      lb/sq.ft

  ACTIVE LAYER  1       .0100
INACTIVE LAYER  2       .0200

  EROSION COEFFICIENTS BY LAYER
                    PARTICLE  MASS        MASS        SLOPE OF   SLOPE OF
                    EROSION   EROSION     EROSION     PARTICLE   MASS
                    SHEAR     SHEAR       RATE        EROSION    EROSION
              LAYER STRESS    STRESS                  LINE=ER1   LINE=ER2
               NO   lb/sq.ft  lb/sq.ft.  lb/sf/hr     1/hr       1/hr
```

ACTIVE LAYER 1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER 2	.1250	.2300	2.0000	19.0476	32.0000

- -

SILT IS PRESENT

	MTCL	IASL	LASL	SGSL	PUSDLB	UWSDLB	CCSDLB
I3	2	1	4	2.650	82.000	65.000	5.700

DEPOSITION COEFFICIENTS BY LAYER

LAYER NO.	DEPOSITION THRESHOLD SHEAR STRESS lb/sq.ft
ACTIVE LAYER 1	.0200
INACTIVE LAYER 2	.0200

EROSION COEFFICIENTS BY LAYER

LAYER NO	PARTICLE EROSION SHEAR STRESS lb/sq.ft	MASS EROSION SHEAR STRESS lb/sq.ft.	MASS EROSION RATE lb/sf/hr	SLOPE OF PARTICLE EROSION LINE=ER1 1/hr	SLOPE OF MASS EROSION LINE=ER2 1/hr
ACTIVE LAYER 1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER 2	.1250	.2300	2.0000	19.0476	32.0000

FINE-GRAIN SEDIMENT TYPES BY CROSS SECTION (XSEC,TYPE)

.000	1	.020	1	.020	1	.020	1	.026	1
.026	1	.026	1	.057	1	.076	1	.095	1
.114	1	.133	1	.152	1	.170	1	.189	1
.207	1	.226	1	.245	1	.264	1	.283	1
.302	1	.321	1	.340	1	.358	1		

- -

SAND AND/OR GRAVEL ARE PRESENT

	MTC	IASA	LASA	SPGS	GSF	BSAE	PSI	UWDLB
I4	4	1	10	2.650	.667	.500	30.000	93.000

USING TRANSPORT CAPACITY RELATIONSHIP # 4, YANG

FOLLOWING GRAIN SIZES UTILIZED (MM)

CLAY:	.0027				
SILT:	.0056	.0110	.0220	.0440	
SAND:	.0880	.1770	.3540	.7070	1.4140
	2.8280	5.6570	11.3140	22.6270	45.2550

- -

SEDIMENT LOAD TABLE FOR STREAM SEGMENT # 1

LOAD BY GRAIN SIZE CLASS (tons/day)

L	CFS-F	1.00000	10.0000	25.0000	50.0000	80.0000	120.000	180.000
L	CLAY	.220000E-01	.500000E-01	.120000	.200000	.450000	.100000E-19	.100000E-19
L	SILT1	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT2	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT3	.660000E-01	.150000	.240000	.400000	.750000	.100000E-19	.100000E-19
L	SILT4	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VFS	.220000E-01	.500000E-01	.258000	.622000	1.20000	.100000E-19	.100000E-19
L	FS	.187000	.425000	.810000	1.13000	1.38600	.100000E-19	.100000E-19
L	MS	.110000E-01	.250000E-01	.120000	.200000	.330000	.100000E-19	.100000E-19
L	CS	.100000E-19	.100000E-19	.120000E-01	.320000E-01	.600000E-01	.100000E-19	.100000E-19
L	VCS	.100000E-19	.100000E-19	.100000E-19	.160000E-01	.150000E-01	.100000E-19	.100000E-19
L	VFG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.600000E-02	.100000E-19	.100000E-19
L	FG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.300000E-02	.100000E-19	.100000E-19
L	MG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	CG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VCG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
	TOTAL	.308000	.700000	1.56000	2.60000	4.20000	.150000E-18	.150000E-18

REACH GEOMETRY FOR STREAM SEGMENT 1

CROSS SECTION ID. NO.	REACH LENGTH (ft)	MOVABLE BED WIDTH	INITIAL BED-ELEVATIONS LEFT SIDE (ft)	THALWEG (ft)	RIGHT SIDE (ft)	ACCUMULATED CHANNEL DISTANCE FROM DOWNSTREAM (ft)	(miles)
	.00						
.000		76.15	3.90	.01	1.70	.00	.00
	104.00						
.020		76.25	3.90	.40	1.70	104.00	.02
	1.00						
.020		69.00	1.10	1.00	1.00	105.00	.02
	1.00						
.020		61.00	-1.00	-1.00	1.70	106.00	.02
	31.00						
.026		67.25	3.90	-1.85	-1.00	137.00	.03
	1.00						
.026		89.00	3.90	1.40	1.75	138.00	.03
	1.00						
.026		67.25	3.90	-1.00	-1.00	139.00	.03
	165.00						
.057		16.00	2.10	2.00	2.00	304.00	.06
	100.00						
.076		33.70	1.70	.30	.30	404.00	.08
	100.00						
.095		39.05	3.90	.00	2.30	504.00	.10
	100.00						
.114		23.35	2.20	1.15	1.30	604.00	.11
	100.00						
.133		16.05	1.16	.60	.90	704.00	.13
	100.00						
.152		27.55	3.00	.50	2.50	804.00	.15
	100.00						
.170		11.90	.40	.40	.70	904.00	.17
	100.00						
.189		8.60	.70	.00	.50	1004.00	.19
	100.00						
.207		8.75	.30	.00	.50	1104.00	.21
	100.00						

.226		21.50	1.30	.80	3.20	1204.00	.23
	100.00						
.245		18.50	1.10	.70	3.80	1304.00	.25
	100.00						
.264		12.00	1.20	1.00	3.30	1404.00	.27
	100.00						
.283		14.00	2.00	1.60	2.00	1504.00	.28
	100.00						
.302		26.00	2.00	1.70	2.00	1604.00	.30
	100.00						
.321		17.50	2.20	1.10	2.10	1704.00	.32
	100.00						
.340		16.00	2.50	1.00	2.30	1804.00	.34
	100.00						
.358		24.00	2.80	2.80	2.80	1904.00	.36

ED MATERIAL GRADATION (as computed from PF-records)

	SECID	SAE (%)	DMAX (ft)	DXPI (ft)	XPI	TOTAL BED	BED MATERIAL FRACTIONS per grain size, fine - coarse.				
N	.000	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.057	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.076	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.095	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.114	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.133	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.152	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.170	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.189	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000

N	.207	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.226	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.245	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.264	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.283	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.302	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.321	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.340	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.358	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000

STREAM SEGMENT # 1: CLOWER CREEK EXISTING SYSTEM.
BED SEDIMENT CONTROL VOLUMES

SECTION NUMBER	LENGTH (ft)	MAX. WIDTH (ft)	DEPTH (ft)	VOLUME (cu.ft)	(cu.yd)
.000	52.00	76.18	1.00	3961.52	146.723
.020	52.50	76.19	1.00	4000.17	148.155
.020	1.00	68.88	1.00	68.8750	2.55093
.020	16.00	63.10	.75	757.219	28.0451
.026	16.00	65.46	1.00	1047.33	38.7901
.026	1.00	81.75	1.00	81.7500	3.02778
.026	83.00	50.31	.75	3131.99	116.000
.057	132.50	28.86	1.00	3824.33	141.642
.076	100.00	31.64	2.00	6328.32	234.382
.095	100.00	35.54	2.00	7108.33	263.272
.114	100.00	24.75	2.00	4950.00	183.333
.133	100.00	19.18	2.00	3836.67	142.099
.152	100.00	23.03	2.00	4605.00	170.556
.170	100.00	13.96	2.00	2791.67	103.395
.189	100.00	9.18	2.00	1835.00	67.9630
.207	100.00	10.85	1.00	1085.00	40.1852
.226	100.00	18.88	1.00	1887.50	69.9074
.245	100.00	17.92	1.00	1791.67	66.3580
.264	100.00	13.42	1.00	1341.67	49.6914
.283	100.00	15.67	1.00	1566.67	58.0247
.302	100.00	22.58	1.00	2258.33	83.6420
.321	100.00	18.67	1.00	1866.67	69.1358
.340	100.00	17.58	1.00	1758.33	65.1235
.358	50.00	21.33	1.00	1066.67	39.5062

NO. OF INPUT DATA MESSAGES= 0
END OF SEDIMENT DATA

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* AB    FLOW 1 = BASE FLOW OF 0 CFS

CLOWER CREEK EXISTING SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      1
WATER    DISCHARGE=
          ELEVATION=
        TEMPERATURE=
FLOW DURATION(DAYS)

**** N  DISCHARGE  WATER    ENERGY  VELOCITY   ALPHA    TOP      AVG       AVG VEL (by subsection)
          (CFS)   SURFACE    LINE     HEAD              WIDTH     BED    1     2     3

SEC NO.      .000

SEC NO.      .020

SEC NO.      .020

SEC NO.      .020

SEC NO.      .026

SEC NO.      .026

SEC NO.      .026

SEC NO.      .057

SEC NO.      .076

SEC NO.      .095

SEC NO.      .114

SEC NO.      .133

SEC NO.      .152

SEC NO.      .170

SEC NO.      .189

SEC NO.      .207

SEC NO.      .226

SEC NO.      .245

SEC NO.      .264

SEC NO.      .283

SEC NO.      .302

SEC NO.      .321

SEC NO.      .340

SEC NO.      .358
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*  AB    FLOW 2 = 1/2" RAINFALL = 3.99 CFS

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 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK EXISTING SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      2
WATER   DISCHARGE=       3.99
        ELEVATION=      2.000
      TEMPERATURE=     70.000
FLOW DURATION(DAYS)  6.670

****  N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP      AVG      AVG VEL (by subsection)
           (CFS)    SURFACE    LINE    HEAD               WIDTH     BED     1     2     3

SEC NO.      .000
****  1      4.0      2.00      2.00      .00     1.00    65.65      .64   .00   .04   .00
                                                  FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.      .020
****  1      4.0      2.00      2.00      .00     1.26    58.60      .40   .02   .06   .02
                                                  FLOW DISTRIBUTION (%) =   3.3  89.4   7.3

SEC NO.      .020
****  1      4.0      2.00      2.00      .00     1.24    68.31     1.05   .04   .08   .04
                                                  FLOW DISTRIBUTION (%) =  15.6  69.3  15.1

SEC NO.      .020
****  1      4.0      2.00      2.00      .00     1.29    61.24    -1.00   .01   .03   .01
                                                  FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .026
****  1      4.0      2.00      2.00      .00     1.28    61.24    -1.42   .01   .03   .01
                                                  FLOW DISTRIBUTION (%) =   3.6  91.2   5.2

SEC NO.      .026
****  1      4.0      2.00      2.00      .00     1.13    61.38     1.58   .00   .19   .07
                                                  FLOW DISTRIBUTION (%) =    .0  95.7   4.3

SEC NO.      .026
****  1      4.0      2.00      2.00      .00     1.29    61.24    -1.00   .01   .03   .01
                                                  FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .057
****  1      4.0      2.00      2.00      .00     1.00    10.57      .73   .00   .30   .00
                                                  FLOW DISTRIBUTION (%) =    .0 100.0    .0

         WS=     2.000  (X,Y) COORDINATES=      43.0    2.10      55.5    2.00

SEC NO.      .076
****  1      4.0      2.00      2.00      .00     1.14    20.86      .53   .03   .18   .05
                                                  FLOW DISTRIBUTION (%) =    .8  97.5   1.8

SEC NO.      .095
****  1      4.0      2.00      2.00      .00     1.22    24.48      .35   .00   .16   .03
                                                  FLOW DISTRIBUTION (%) =    .0  96.7   3.3
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SEC NO.    .114
**** 1      4.0     2.01     2.01     .00    1.10     19.81     1.20   .11   .29   .06
                                             FLOW DISTRIBUTION (%) =   3.4  96.4    .2

SEC NO.    .133
**** 1      4.0     2.01     2.01     .00    1.18     15.66      .95   .00   .28   .17
                                             FLOW DISTRIBUTION (%) =    .0  62.7  37.3

SEC NO.    .152
**** 1      4.0     2.02     2.02     .00    1.07     13.44      .70   .05   .25   .06
                                             FLOW DISTRIBUTION (%) =    .3  98.9    .8

SEC NO.    .170
**** 1      4.0     2.02     2.02     .00    1.14     10.95      .48   .07   .28   .07
                                             FLOW DISTRIBUTION (%) =   1.4  97.5   1.2

SEC NO.    .189
**** 1      4.0     2.02     2.03     .00    1.17      8.49      .30   .08   .35   .07
                                             FLOW DISTRIBUTION (%) =   1.6  97.3   1.0

SEC NO.    .207
**** 1      4.0     2.03     2.03     .00    1.20      8.85      .11   .08   .31   .06
                                             FLOW DISTRIBUTION (%) =   2.4  96.5   1.1

SEC NO.    .226
**** 1      4.0     2.03     2.04     .00    1.03      8.83     1.02   .09   .47   .00
                                             FLOW DISTRIBUTION (%) =    .4  99.6    .0

SEC NO.    .245
**** 1      4.0     2.05     2.05     .00    1.03      9.02      .96   .09   .43   .00
                                             FLOW DISTRIBUTION (%) =    .5  99.5    .0

SEC NO.    .264
**** 1      4.0     2.07     2.07     .01    1.04      7.67     1.14   .14   .60   .00
                                             FLOW DISTRIBUTION (%) =    .8  99.2    .0

SEC NO.    .283
**** 1      4.0     2.15     2.21     .06    1.00      6.45     1.84   .00  1.97   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.    .302
**** 1      4.0     2.38     2.38     .00    1.04     16.41     1.88   .14   .52   .14
                                             FLOW DISTRIBUTION (%) =    .5  99.1    .4

SEC NO.    .321
**** 1      4.0     2.43     2.43     .01    1.02      8.67     1.67   .08   .66   .11
                                             FLOW DISTRIBUTION (%) =    .0  99.8    .2

SEC NO.    .340
**** 1      4.0     2.48     2.49     .01    1.01      7.15     1.69   .00   .73   .08
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.    .358

SUPERCRITICAL
SEC NO.    .358 TIME =    6.67 DAYS.
TRIAL   TRIAL      COMPUTED    CRITICAL
 NO.     WS          WS           WS
  0.     2.98       2.68
  1.     3.01       2.67         2.96
**** 1      4.0     3.01     3.06     .06    1.04     10.71     2.80   .63  1.89   .60
                                             FLOW DISTRIBUTION (%) =    .7  98.9    .5
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TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK EXISTING SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP E[cut off]
6.67	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.04	.00	.00	.94	.00	.00	1.(

TABLE SB-1.

	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.04					
SILT	.11	.00	.00	.11	.00	
SANDS & GRAVELS	.36	.04	.31	.02	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.50					
SEDIMENT OUTFLOW						
CLAY	.03					
SILT	.01	.00	.00	.01	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.04					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.88	3.01	1.92	4.	0.	0.	5.
.340	.34	2.48	1.34	4.	0.	0.	2.
.321	.28	2.43	1.38	4.	0.	0.	0.
.302	-.01	2.38	1.69	4.	0.	0.	0.
.283	-.38	2.15	1.22	4.	0.	0.	4.
.264	.54	2.07	1.54	4.	0.	0.	0.
.245	.03	2.05	.73	4.	0.	0.	0.
.226	.00	2.03	.80	4.	0.	0.	0.
.207	.00	2.03	.00	4.	0.	0.	0.
.189	.00	2.02	.00	4.	0.	0.	0.
.170	.00	2.02	.40	4.	0.	0.	0.
.152	.00	2.02	.50	4.	0.	0.	0.
.133	.00	2.01	.60	4.	0.	0.	0.
.114	.00	2.01	1.15	4.	0.	0.	0.
.095	.00	2.00	.00	4.	0.	0.	0.
.076	.00	2.00	.30	4.	0.	0.	0.
.057	.00	2.00	2.00	4.	0.	0.	0.
.026	.00	2.00	-1.00	4.	0.	0.	0.
.026	.00	2.00	1.40	4.	0.	0.	0.
.026	.00	2.00	-1.85	4.	0.	0.	0.
.020	.00	2.00	-1.00	4.	0.	0.	0.
.020	.00	2.00	1.00	4.	0.	0.	0.
.020	.00	2.00	.40	4.	0.	0.	0.
.000	.00	2.00	.01	4.	0.	0.	0.

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*   AB     FLOW 3 = 1" RAINFALL = 15.00 CFS

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CLOWER CREEK EXISTING SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      3
WATER    DISCHARGE=       15.00
         ELEVATION=       2.000
       TEMPERATURE=      70.000
FLOW DURATION(DAYS)  1.500

****  N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP      AVG       AVG VEL (by subsection)
           (CFS)    SURFACE    LINE     HEAD              WIDTH     BED     1      2      3

SEC NO.      .000
****  1      15.0      2.00      2.00      .00      1.00     65.65      .64    .00    .17    .00
                                                    FLOW DISTRIBUTION (%) =    .0  100.0    .0

SEC NO.      .020
****  1      15.0      2.00      2.00      .00      1.26     58.60      .40    .08    .23    .09
                                                    FLOW DISTRIBUTION (%) =   3.3  89.4   7.3

SEC NO.      .020
****  1      15.0      2.00      2.00      .00      1.24     68.31     1.05    .16    .29    .16
                                                    FLOW DISTRIBUTION (%) =  15.6  69.3  15.1

SEC NO.      .020
****  1      15.0      2.00      2.00      .00      1.29     61.25    -1.00    .04    .12    .04
                                                    FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .026
****  1      15.0      2.00      2.00      .00      1.28     61.26    -1.42    .03    .11    .04
                                                    FLOW DISTRIBUTION (%) =   3.6  91.2   5.2

SEC NO.      .026
****  1      15.0      2.00      2.00      .01      1.13     61.39     1.58    .00    .71    .24
                                                    FLOW DISTRIBUTION (%) =    .0  95.7   4.3

SEC NO.      .026
****  1      15.0      2.01      2.01      .00      1.29     61.23     -.99    .04    .12    .04
                                                    FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .057
****  1      15.0      1.99      2.01      .02      1.00     11.10      .78    .00   1.11    .00
                                                    FLOW DISTRIBUTION (%) =    .0  100.0    .0

            WS=      1.994   (X,Y) COORDINATES=      43.0    2.10      55.5    2.00

SEC NO.      .076
****  1      15.0      2.04      2.05      .01      1.14     20.83      .57    .11    .67    .20
                                                    FLOW DISTRIBUTION (%) =    .8  97.5   1.8

SEC NO.      .095
****  1      15.0      2.06      2.07      .01      1.23     25.08      .37    .00    .58    .13
                                                    FLOW DISTRIBUTION (%) =    .0  96.4   3.6
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TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK EXISTING SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.17	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.01	.00	.00	.24	.00	.00	1.00

TABLE SB-1.

	TOTAL	VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.07					
SILT	.18	.00	.00	.18	.00	
SANDS & GRAVELS	.72	.10	.57	.05	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.98					
SEDIMENT OUTFLOW						
CLAY	.08					
SILT	.48	.00	.00	.48	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.55					

LOAD BY GRAIN SIZE (TONS/DAY)

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.99	3.31	1.81	15.	0.	0.	3.
.340	.02	3.15	1.02	15.	0.	0.	15.
.321	.27	3.00	1.37	15.	0.	0.	15.
.302	.22	2.94	1.92	15.	0.	0.	2.
.283	-.60	2.85	1.00	15.	0.	0.	12.
.264	-.28	2.57	.72	15.	0.	0.	37.
.245	.92	2.45	1.62	15.	0.	0.	10.
.226	.16	2.35	.96	15.	0.	0.	5.
.207	.16	2.31	.16	15.	0.	0.	1.
.189	.01	2.27	.01	15.	0.	0.	1.
.170	.02	2.24	.42	15.	0.	0.	1.
.152	.00	2.21	.50	15.	0.	0.	1.
.133	-.02	2.17	.58	15.	0.	0.	2.
.114	.00	2.08	1.15	15.	0.	0.	2.
.095	.02	2.06	.02	15.	0.	1.	0.
.076	.00	2.04	.40	15.	0.	1.	0.
.057	.00	1.99	.14	15.	0.	1.	0.
.026	.01	2.01	-.99	15.	0.	1.	0.
.026	-.16	2.00	1.24	15.	0.	1.	0.
.026	.01	2.00	-1.84	15.	0.	1.	0.
.020	.00	2.00	-1.00	15.	0.	1.	0.
.020	.00	2.00	1.00	15.	0.	1.	0.
.020	.00	2.00	.40	15.	0.	1.	0.
.000	.00	2.00	.01	15.	0.	0.	0.

SEC NO. .114
**** 1 15.0 2.08 2.10 .02 1.11 20.06 1.22 .37 1.02 .21
FLOW DISTRIBUTION (%) = 3.6 96.1 .2

SEC NO. .133
**** 1 15.0 2.17 2.18 .01 1.19 15.87 .97 .00 .94 .56
FLOW DISTRIBUTION (%) = .0 63.2 36.8

SEC NO. .152
**** 1 15.0 2.21 2.22 .01 1.08 13.64 .74 .16 .84 .20
FLOW DISTRIBUTION (%) = .4 98.7 .9

SEC NO. .170
**** 1 15.0 2.24 2.25 .01 1.16 11.22 .50 .23 .94 .23
FLOW DISTRIBUTION (%) = 1.5 97.1 1.4

SEC NO. .189
**** 1 15.0 2.27 2.29 .02 1.20 8.80 .32 .27 1.15 .23
FLOW DISTRIBUTION (%) = 2.0 96.8 1.2

SEC NO. .207
**** 1 15.0 2.31 2.32 .02 1.23 9.21 .14 .26 1.02 .21
FLOW DISTRIBUTION (%) = 2.8 95.9 1.3

SEC NO. .226
**** 1 15.0 2.35 2.38 .03 1.04 9.33 1.10 .30 1.37 .00
FLOW DISTRIBUTION (%) = .6 99.4 .0

SEC NO. .245
**** 1 15.0 2.45 2.47 .02 1.05 9.70 1.06 .25 1.19 .00
FLOW DISTRIBUTION (%) = .7 99.3 .0

SEC NO. .264
**** 1 15.0 2.57 2.65 .08 1.05 8.01 1.69 .56 2.29 .00
FLOW DISTRIBUTION (%) = .9 99.1 .0

SEC NO. .283
**** 1 15.0 2.85 2.88 .03 1.00 9.91 1.73 .00 1.35 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .302
**** 1 15.0 2.94 2.96 .01 1.12 18.83 1.83 .27 .87 .26
FLOW DISTRIBUTION (%) = 1.8 96.8 1.4

SEC NO. .321
**** 1 15.0 3.00 3.04 .04 1.11 10.09 1.85 .29 1.58 .43
FLOW DISTRIBUTION (%) = .3 97.9 1.8

SEC NO. .340
**** 1 15.0 3.15 3.19 .04 1.10 8.69 1.87 .31 1.64 .39
FLOW DISTRIBUTION (%) = .4 98.4 1.1

SEC NO. .358
**** 1 15.0 3.31 3.34 .03 1.16 13.28 2.32 .59 1.40 .30
FLOW DISTRIBUTION (%) = 6.9 92.6 .4

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*  AB     FLOW 4 = 3" RAINFALL = 92.00 CFS

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- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK EXISTING SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      4
WATER   DISCHARGE=      99.00
        ELEVATION=      2.000
      TEMPERATURE=     70.000
FLOW DURATION(DAYS)  .1670

****  N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP      AVG       AVG VEL (by subsection)
           (CFS)    SURFACE    LINE     HEAD              WIDTH     BED     1      2      3

SEC NO.      .000
****  1      99.0      2.00      2.02      .02      1.00     65.64      .64    .00  1.11    .00
                                                    FLOW DISTRIBUTION (%) =     .0 100.0    .0

SEC NO.      .020
****  1      99.0      2.06      2.09      .03      1.26     59.01      .41    .51  1.44    .56
                                                    FLOW DISTRIBUTION (%) =   3.4  89.0   7.5

SEC NO.      .020
****  1      99.0      2.06      2.10      .04      1.24     68.46     1.04    .98  1.83  1.01
                                                    FLOW DISTRIBUTION (%) =  15.6  69.3  15.1

SEC NO.      .020
****  1      99.0      2.09      2.10      .01      1.29     61.60     -.96    .27   .78    .28
                                                    FLOW DISTRIBUTION (%) =   4.5  89.1   6.4

SEC NO.      .026
****  1      99.0      2.10      2.10      .01      1.29     61.81    -1.41    .22   .69    .23
                                                    FLOW DISTRIBUTION (%) =   3.7  90.9   5.4

SEC NO.      .026

SUPERCRITICAL
SEC NO.     .026 TIME =    8.34 DAYS.
TRIAL   TRIAL      COMPUTED     CRITICAL
 NO.      WS          WS           WS
  1.     1.96        1.90
  2.     2.06        1.97         2.01
****  1      99.0      2.06      2.24      .19      1.13     62.08     1.50    .00  3.54  1.19
                                                    FLOW DISTRIBUTION (%) =     .0  95.9   4.1

SEC NO.      .026
****  1      99.0      2.26      2.26      .01      1.30     62.59     -.96    .26   .74    .27
                                                    FLOW DISTRIBUTION (%) =   4.7  88.6   6.8

SEC NO.      .057

SUPERCRITICAL
SEC NO.     .057 TIME =    8.34 DAYS.
TRIAL   TRIAL      COMPUTED     CRITICAL
 NO.      WS          WS           WS
  0.     2.24        2.03
  1.     2.34        2.09         2.29
****  1      99.0      2.34      2.69      .36      1.00     23.98     1.46    .21  4.78    .00
                                                    FLOW DISTRIBUTION (%) =     .0 100.0    .0
```

SEC NO.	.076									
**** 1	99.0	3.02	3.10	.08	1.36	27.04	.51	.69	2.41	.71
					FLOW DISTRIBUTION (%) =			6.3	91.3	2.4
SEC NO.	.095									
**** 1	99.0	3.16	3.21	.06	1.43	32.40	.47	.23	2.07	.70
					FLOW DISTRIBUTION (%) =			.1	86.1	13.8
SEC NO.	.114									
**** 1	99.0	3.26	3.37	.11	1.26	26.45	1.21	1.03	2.71	.50
					FLOW DISTRIBUTION (%) =			7.2	91.8	1.1
SEC NO.	.133									
**** 1	99.0	3.52	3.61	.09	1.41	24.58	1.19	.00	2.86	1.36
					FLOW DISTRIBUTION (%) =			.0	64.3	35.7
SEC NO.	.152									
**** 1	99.0	3.68	3.78	.10	1.31	21.93	.72	.46	2.65	.65
					FLOW DISTRIBUTION (%) =			1.3	95.1	3.7
SEC NO.	.170									
**** 1	99.0	3.78	3.93	.15	1.31	13.41	.51	.76	3.20	.81
					FLOW DISTRIBUTION (%) =			2.6	94.3	3.1
SEC NO.	.189									
**** 1	99.0	3.91	4.12	.21	1.68	19.03	.32	.99	3.83	.70
					FLOW DISTRIBUTION (%) =			4.6	90.4	5.0
SEC NO.	.207									
**** 1	99.0	4.13	4.30	.17	1.77	20.14	.28	.87	3.51	.70
					FLOW DISTRIBUTION (%) =			5.1	88.5	6.4
SEC NO.	.226									
**** 1	99.0	4.35	4.47	.12	1.17	20.59	2.11	.84	2.84	.65
					FLOW DISTRIBUTION (%) =			2.3	96.4	1.4
SEC NO.	.245									
**** 1	99.0	4.59	4.76	.17	1.11	18.39	2.64	.99	3.30	.62
					FLOW DISTRIBUTION (%) =			2.2	97.4	.4
SEC NO.	.264									
**** 1	99.0	4.83	4.96	.12	1.39	16.91	1.16	.76	2.94	.70
					FLOW DISTRIBUTION (%) =			3.4	92.7	3.9
SEC NO.	.283									
**** 1	99.0	5.01	5.09	.08	1.00	16.86	2.48	.00	2.32	.00
					FLOW DISTRIBUTION (%) =			.0	100.0	.0
SEC NO.	.302									
**** 1	99.0	5.13	5.19	.05	1.37	27.13	2.05	.61	1.90	.62
					FLOW DISTRIBUTION (%) =			5.9	88.7	5.4
SEC NO.	.321									
**** 1	99.0	5.16	5.30	.14	1.48	16.53	1.79	.89	3.23	1.00
					FLOW DISTRIBUTION (%) =			4.5	87.9	7.6
SEC NO.	.340									
**** 1	99.0	5.30	5.47	.17	1.45	13.71	1.63	.92	3.48	.96
					FLOW DISTRIBUTION (%) =			4.4	90.3	5.4
SEC NO.	.358									
**** 1	99.0	5.52	5.61	.09	1.46	20.26	2.32	.94	2.62	.75
					FLOW DISTRIBUTION (%) =			11.1	84.8	4.0

TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK EXISTING SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.34	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.00	.00	.00	-.01	.00	.00	.13

TABLE SB-1.	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.00					
SEDIMENT OUTFLOW						
CLAY	.03					
SILT	1.49	.00	.00	1.49	.00	
SANDS & GRAVELS	18.22	.10	10.03	4.49	2.92	.67
		.00	.00	.00	.00	.00
TOTAL LOAD	19.74					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.99	5.52	1.81	99.	0.	0.	0.
.340	-.47	5.30	.53	99.	0.	0.	167.
.321	-.05	5.16	1.05	99.	0.	0.	287.
.302	.56	5.13	2.26	99.	0.	0.	120.
.283	-.66	5.01	.94	99.	0.	0.	147.
.264	-.55	4.83	.45	99.	0.	0.	233.
.245	.07	4.59	.77	99.	0.	0.	590.
.226	.33	4.35	1.13	99.	0.	0.	517.
.207	.18	4.13	.18	99.	0.	0.	512.
.189	-.27	3.91	-.27	99.	0.	0.	577.
.170	.35	3.78	.75	99.	0.	0.	458.
.152	.17	3.68	.67	99.	0.	0.	343.
.133	-.23	3.52	.37	99.	0.	0.	456.
.114	.08	3.26	1.23	99.	0.	0.	409.
.095	.31	3.16	.31	99.	0.	0.	181.
.076	-.27	3.02	.13	99.	0.	0.	397.
.057	-.73	2.34	-.59	99.	0.	0.	1041.
.026	.84	2.26	-.16	99.	0.	0.	355.
.026	-.10	2.06	1.30	99.	0.	0.	355.
.026	-.23	2.10	-2.08	99.	0.	0.	408.
.020	.94	2.09	-.06	99.	0.	0.	173.
.020	-.87	2.06	.13	99.	0.	0.	169.
.020	-.06	2.06	.34	99.	0.	1.	246.
.000	.24	2.00	.25	99.	0.	1.	0.

```
*   AB     FLOW 5 = 8" RAINFALL = 222.00 CFS

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK EXISTING SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      5
WATER    DISCHARGE=     222.00
         ELEVATION=      2.000
       TEMPERATURE=     70.000
FLOW DURATION(DAYS)  .8300E-01

**** N  DISCHARGE  WATER    ENERGY  VELOCITY  ALPHA    TOP      AVG      AVG VEL (by subsection)
          (CFS)   SURFACE    LINE     HEAD            WIDTH     BED     1     2     3

SEC NO.     .000
**** 1     222.0     2.00     2.14      .14    1.00    64.76      .86   .00  3.02   .00
                                                 FLOW DISTRIBUTION (%) =   .0 100.0    .0

SEC NO.     .020
**** 1     222.0     2.38     2.47      .09    1.29    61.74      .34   .91  2.56  1.05
                                                 FLOW DISTRIBUTION (%) =  4.1  87.0   8.9

SEC NO.     .020
**** 1     222.0     2.43     2.48      .04    1.27    69.98      .19   .97  1.86   .97
                                                 FLOW DISTRIBUTION (%) = 15.7  69.6  14.7

SEC NO.     .020
**** 1     222.0     2.42     2.48      .07    1.27    59.69     -.07   .77  2.17   .77
                                                 FLOW DISTRIBUTION (%) =  4.6  90.2   5.2

SEC NO.     .026
**** 1     222.0     2.48     2.50      .03    1.32    64.37    -1.56   .44  1.33   .45
                                                 FLOW DISTRIBUTION (%) =  4.5  89.8   5.7

SEC NO.     .026

SUPERCRITICAL
SEC NO.    .026 TIME =    8.42 DAYS.
TRIAL   TRIAL     COMPUTED    CRITICAL
 NO.     WS          WS          WS
  1.     2.31       2.18
  2.     2.40       2.25        2.35
**** 1     222.0     2.40     2.74      .34    1.14    64.05     1.55   .00  4.87  2.10
                                                 FLOW DISTRIBUTION (%) =   .0  92.2   7.8

SEC NO.     .026
**** 1     222.0     2.74     2.78      .04    1.32    64.82     -.42   .54  1.63   .68
                                                 FLOW DISTRIBUTION (%) =  4.2  85.9   9.9

SEC NO.     .057
**** 1     222.0     2.71     3.14      .44    1.03    27.76     1.00   .82  5.31   .00
                                                 FLOW DISTRIBUTION (%) =   .3  99.7    .0
```

```
SEC NO.    .076
**** 1     222.0    3.44    3.69    .25    1.43    29.48     .34  1.35  4.21  1.17
                                           FLOW DISTRIBUTION (%) =   9.8  87.9   2.4

SEC NO.    .095
**** 1     222.0    3.79    3.99    .20    1.48    35.92     .77   .58  3.93  1.47
                                           FLOW DISTRIBUTION (%) =    .4  81.6  18.0

SEC NO.    .114
**** 1     222.0    4.07    4.32    .26    1.37    30.02    1.28  1.61  4.30  1.07
                                           FLOW DISTRIBUTION (%) =   8.4  88.4   3.1

SEC NO.    .133
**** 1     222.0    4.49    4.67    .18    1.41    29.62    1.12   .42  4.05  1.97
                                           FLOW DISTRIBUTION (%) =    .1  61.6  38.3

SEC NO.    .152
**** 1     222.0    4.70    4.98    .27    1.52    27.96     .92   .91  4.41  1.26
                                           FLOW DISTRIBUTION (%) =   3.3  90.1   6.6

SEC NO.    .170
**** 1     222.0    4.87    5.31    .45    1.48    18.50     .75  1.10  5.58  1.48
                                           FLOW DISTRIBUTION (%) =   3.4  92.0   4.6

SEC NO.    .189
**** 1     222.0    5.26    5.60    .35    2.16    28.55     .11  1.14  5.27  1.38
                                           FLOW DISTRIBUTION (%) =   7.0  79.4  13.6

SEC NO.    .207
**** 1     222.0    5.52    5.83    .31    2.15    27.58     .31  1.18  5.05  1.40
                                           FLOW DISTRIBUTION (%) =   7.8  77.0  15.2

SEC NO.    .226
**** 1     222.0    5.83    6.03    .20    1.35    26.56    2.24  1.07  3.77  1.11
                                           FLOW DISTRIBUTION (%) =   2.9  91.4   5.7

SEC NO.    .245
**** 1     222.0    6.03    6.20    .17    1.35    30.49    1.85   .66  3.36   .78
                                           FLOW DISTRIBUTION (%) =   3.2  94.9   2.0

SEC NO.    .264
**** 1     222.0    6.12    6.38    .26    1.63    23.36     .87   .92  4.36  1.24
                                           FLOW DISTRIBUTION (%) =   3.6  87.5   8.9

SEC NO.    .283
**** 1     222.0    6.40    6.56    .16    1.00    20.91    3.10   .00  3.21   .00
                                           FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.    .302
**** 1     222.0    6.59    6.70    .11    1.51    33.07    2.27   .93  2.86   .98
                                           FLOW DISTRIBUTION (%) =   8.4  83.4   8.2

SEC NO.    .321
**** 1     222.0    6.59    6.86    .27    1.68    20.80    1.57  1.32  4.55  1.39
                                           FLOW DISTRIBUTION (%) =   7.6  82.4  10.0

SEC NO.    .340
**** 1     222.0    6.74    7.08    .33    1.65    17.02    1.29  1.38  4.96  1.38
                                           FLOW DISTRIBUTION (%) =   7.2  85.3   7.5

SEC NO.    .358
**** 1     222.0    7.07    7.25    .18    1.63    25.15    2.33  1.30  3.73  1.10
                                           FLOW DISTRIBUTION (%) =  13.8  79.7   6.5
```

** Q ABOVE TABLE **
WATER DISCHARGE, WATER-SEDIMENT LOAD TABLE ENDPOINT 222.00 180.00 .000000

TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK EXISTING SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EF
8.42	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.00	.00	.00	-.01	.00	.15	-84.7

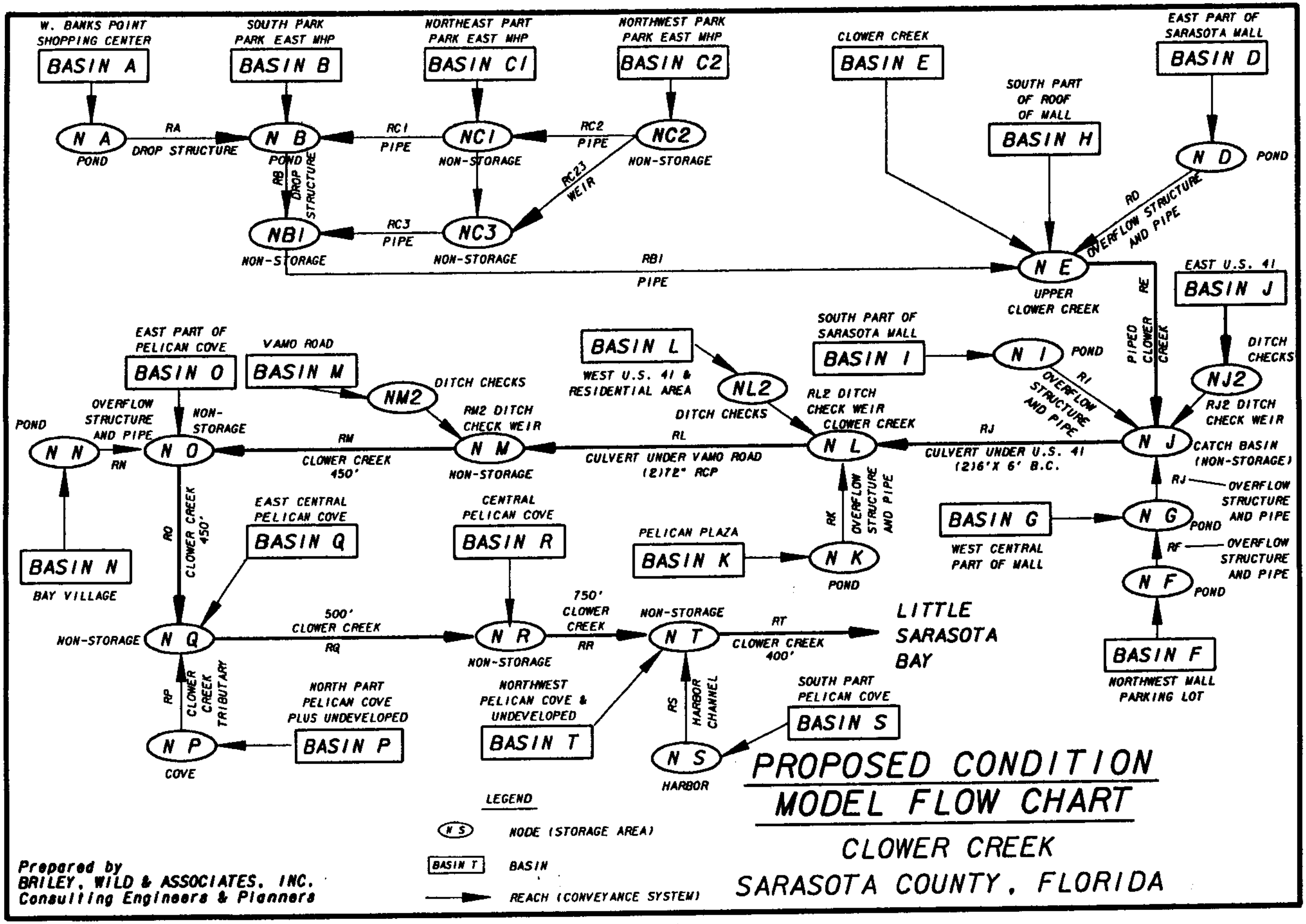
TABLE SB-1. LOAD BY GRAIN SIZE (TONS/DAY)

	TOTAL	VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.00					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	3558.89	3.87	1927.15	789.12	574.45	263.76
		.53	.00	.00	.00	.00
TOTAL LOAD	3558.89					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.99	7.07	1.81	222.	0.	0.	1.
.340	-.98	6.74	.02	222.	0.	0.	248.
.321	-.78	6.59	.32	222.	0.	0.	382.
.302	.75	6.59	2.45	222.	0.	0.	483.
.283	-.79	6.40	.81	222.	0.	0.	588.
.264	-.91	6.12	.09	222.	0.	0.	824.
.245	.16	6.03	.86	222.	0.	0.	945.
.226	.08	5.83	.88	222.	0.	0.	1053.
.207	-.59	5.52	-.59	222.	0.	0.	858.
.189	-1.50	5.26	-1.50	222.	0.	0.	1128.
.170	-.25	4.67	.15	222.	0.	0.	1561.
.152	.14	4.70	.64	222.	0.	0.	1613.
.133	-.08	4.49	.52	222.	0.	0.	1452.
.114	-.18	4.07	.97	222.	0.	0.	1785.
.095	.43	3.79	.43	222.	0.	0.	1580.
.076	-.63	3.44	-.23	222.	0.	0.	1154.
.057	-.87	2.71	1.13	222.	0.	0.	1411.
.026	.57	2.74	-.43	222.	0.	0.	1334.
.026	1.67	2.40	3.07	222.	0.	0.	1205.
.026	-.35	2.48	-2.20	222.	0.	0.	1257.
.020	3.90	2.42	2.90	222.	0.	0.	766.
.020	.15	2.43	1.15	222.	0.	0.	492.
.020	-.09	2.38	.31	222.	0.	0.	552.
.000	-.29	2.00	-.28	222.	0.	0.	354.

APPENDIX C

PROPOSED CONDITION


W. BANKS POINT SHOPPING CENTER
BASIN A
SOUTH PARK PARK EAST MHP
BASIN B
NORTHEAST PART PARK EAST MHP
BASIN C1
NORTHWEST PARK PARK EAST MHP
BASIN C2
CLOWER CREEK
BASIN E
EAST PART OF SARASOTA MALL
BASIN D
SOUTH PART OF ROOF OF MALL
BASIN H
N A
POND
RA
DROP STRUCTURE
N B
POND
RC1
PIPE
NC1
NON-STORAGE
RC2
PIPE
NC2
NON-STORAGE
N D
POND
RB
DROP STRUCTURE
RC23
WEIR
RD
OVERFLOW STRUCTURE AND PIPE
NB1
NON-STORAGE
RC3
PIPE
NC3
NON-STORAGE
RB1
PIPE
N E
UPPER CLOWER CREEK
RE
PIPED CLOWER CREEK
EAST U.S. 41
BASIN J
DITCH CHECKS
NJ2
RJ2 DITCH CHECK WEIR
EAST PART OF PELICAN COVE
BASIN O
VAMO ROAD
BASIN M
NM2
DITCH CHECKS
BASIN L
WEST U.S. 41 & RESIDENTIAL AREA
NL2
DITCH CHECKS
SOUTH PART OF SARASOTA MALL
BASIN I
N I
POND
RI
OVERFLOW STRUCTURE AND PIPE
POND
N N
RN
OVERFLOW STRUCTURE AND PIPE
N O
NON-STORAGE
RM
CLOWER CREEK 450'
RM2 DITCH CHECK WEIR
N M
NON-STORAGE
RL
CULVERT UNDER VAMO ROAD (2)72" RCP
RL2 DITCH CHECK WEIR
CLOWER CREEK
N L
RJ
CULVERT UNDER U.S. 41 (2)6'X 6' B.C.
N J
CATCH BASIN (NON-STORAGE)
RJ
OVERFLOW STRUCTURE AND PIPE
RO
CLOWER CREEK 450'
EAST CENTRAL PELICAN COVE
BASIN Q
CENTRAL PELICAN COVE
BASIN R
PELICAN PLAZA
BASIN K
RK
OVERFLOW STRUCTURE AND PIPE
N K
POND
BASIN G
WEST CENTRAL PART OF MALL
N G
POND
RF
OVERFLOW STRUCTURE AND PIPE
N F
POND
BASIN N
BAY VILLAGE
NON-STORAGE
N Q
500' CLOWER CREEK
RQ
N R
NON-STORAGE
750' CLOWER CREEK
RR
NON-STORAGE
N T
RT
CLOWER CREEK 400'
LITTLE SARASOTA BAY
BASIN F
NORTHWEST MALL PARKING LOT
RP
CLOWER CREEK TRIBUTARY
NORTH PART PELICAN COVE PLUS UNDEVELOPED
BASIN P
N P
COVE
NORTHWEST PELICAN COVE & UNDEVELOPED
BASIN T
RS
HARBOR CHANNEL
SOUTH PART PELICAN COVE
BASIN S
N S
HARBOR
LEGEND
N S NODE (STORAGE AREA)
BASIN T BASIN
REACH (CONVEYANCE SYSTEM)
PROPOSED CONDITION MODEL FLOW CHART
CLOWER CREEK
SARASOTA COUNTY, FLORIDA
Prepared by
BRILEY, WILD & ASSOCIATES, INC.
Consulting Engineers & Planners

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PROPOSED CONDITION!- 0.5 INCH RAINFALL
4/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	11.32	7.56	48.80
CURVE NUMBER	75.00	82.00	82.00	82.00	75.00
DCIA (%)	85.20	39.90	13.00	20.00	85.60
TC (mins)	16.00	24.00	35.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	3.18	.85	.34	WILBANKS POINTE SHOPPING CENTER
B	2.31	.96	.16	SOUTH PARK EAST MHP
C1	.62	1.01	.05	EAST PARK EAST MHP
C2	.74	.92	.08	WEST PARK EAST MHP
D	21.02	.93	.34	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	.61	.91	.09	CLOWER CREEK EAST OF PIPED PORTION!
F	5.19	.85	.35	SARASOTA MALL NORTHWEST
G	10.54	.86	.36	SARASOTA MALL CENTRAL WEST
H	2.70	.82	.40	SARASOTA MALL SOUTH ROOF
I	5.16	.79	.36	SARASOTA MALL SOUTHWEST

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PROPOSED CONDITION!- 0.5 INCH RAINFALL
4/15/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ2	NK	NL2	NM2	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	.00	4.00	.00	US 41 AND UNDEV. SOUTHEAST AREA
K	6.68	.88	.34	PELICAN!PLAZA SHOPPING CENTER
L	.09	2.21	.01	US 41 AND SOUTH CENTRAL RESID. AREA
M	.01	2.11	.00	VAMO ROAD
N!	.66	.92	.05	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	.50	.50	.50	.50	.50
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	4.16	24.88	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	.13	.89	.04	PELICAN!COVE EAST
P	.19	1.27	.01	PELICAN!COVE NORTHEAST AND UNDEV.
Q	.14	.88	.03	PELICAN!COVE EAST CENTRAL
R	.10	.95	.02	PELICAN!COVE CENTRAL
S	1.56	1.03	.08	PELICAN!COVE SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 0.5 INCH RAINFALL
4/15/93

BASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN!AMOUNT (in)	.50
STORM DURATION!(hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T	.28	.95	.04	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PROPOSED CONDITION!- 0.5 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	¦<------- RUNOFF (cfs)	INFLOW OFFSITE (cfs)	------->¦! OTHER (cfs)	OUTFLOW (cfs)
NA	11.39	.19	2.86	.00	.00	.00
NB	11.00	.02	2.27	.00	.65	.00
NB1	9.62	.04	.00	.00	1.96	1.79
NC1	10.63	.08	.62	.00	.57	.65
NC2	10.52	.05	.71	.00	.00	.57
NC3	10.03	.05	.00	.00	2.22	1.96
ND	11.42	1.38	19.59	.00	.00	.00
NE	8.38	.06	3.05	.00	1.79	2.17
NF	12.95	.31	4.53	.00	.00	.00
NG	10.57	.59	9.07	.00	.00	.64
NI	11.74	.19	5.09	.00	.00	.77
NJ	6.24	.01	.00	.00	3.56	3.56
NJ2	11.00	.00	.00	.00	.00	.00
NK	6.40	.40	5.83	.00	.00	.00
NL	5.92	.03	.00	.00	3.56	6.93
NL2	11.05	.01	.09	.00	.00	.00
NM	3.46	.04	.00	.00	6.93	3.42
NM2	11.01	.00	.01	.00	.00	.00
NN!	12.06	.05	.62	.00	.00	.00
NO	2.62	.05	.12	.00	3.42	3.40
NP	2.03	.24	.19	.00	.00	.17
NQ	2.03	.22	.13	.00	3.41	3.42
NR	2.01	.46	.10	.00	3.42	3.44
NS	2.00	1.72	1.53	.00	.00	1.52
NT	2.00	.41	.27	.00	3.44	3.48
NU	2.00	.00	.00	.00	4.57	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 0.5 INCH RAINFALL
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC23	1.50	2.22	NC2	10.52	NC3	10.02
RL2	.00	.00	NL2	11.00	NL	4.50
RJ2	.00	.00	NJ2	11.00	NJ	6.00
RT	2.25	3.48	NT	2.00	NU	2.00
RB1	2.00	1.79	NB1	9.62	NE	8.38
RC1	2.75	.65	NC1	10.19	NB	10.19
RC2	.00	.57	NC2	9.50	NC1	9.30
RC3	1.75	1.96	NC3	10.03	NB1	9.61
RE	2.00	2.17	NE	8.38	NJ	6.24
RJ	2.00	3.56	NJ	6.24	NL	5.92
RL	1.75	6.93	NL	5.40	NM	3.42
RA	.00	.00	NA	11.00	NB	11.00
RB	.00	.00	NB	11.00	NB1	8.90
RD	.00	.00	ND	11.00	NE	7.50
RF	.00	.00	NF	12.00	NG	10.00
RG	2.25	.64	NG	10.57	NJ	6.23
RI	1.50	.77	NI	11.74	NJ	6.20
RK	.00	.00	NK	5.50	NL	4.50
RN!	.00	.00	NN!	12.00	NO	2.00
RM	2.25	3.42	NM	3.46	NO	2.62
RO	2.25	3.40	NO	2.62	NQ	2.03
RP	2.00	.17	NP	2.02	NQ	2.02
RQ	2.25	3.42	NQ	2.03	NR	2.01
RR	2.25	3.44	NR	2.01	NT	2.00
RS	1.00	1.52	NS	2.00	NU	2.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	11.32	7.56	48.80
CURVE NUMBER	75.00	82.00	82.00	82.00	75.00
DCIA (%)	85.20	39.90	13.00	20.00	85.60
TC (mins)	16.00	24.00	35.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	6.44	.85	.77	WILBANKS POINTE SHOPPING CENTER
B	5.54	.96	.43	SOUTH PARK EAST MHP
C1	2.10	1.17	.21	EAST PARK EAST MHP
C2	2.03	.98	.27	WEST PARK EAST MHP
D	43.51	.68	.77	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	1.00	1.00	1.00	1.00	1.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	67.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	1.44	.91	.25	CLOWER CREEK EAST OF PIPED PORTION!
F	10.59	.85	.79	SARASOTA MALL NORTHWEST
G	21.60	.86	.81	SARASOTA MALL CENTRAL WEST
H	5.41	.82	.90	SARASOTA MALL SOUTH ROOF
I	10.31	.79	.82	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 1.0 INCH RAINFALL
4/15/93

BASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN!AMOUNT (in)	1.00
STORM DURATION!(hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T	.92	1.11	.16	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 1.0 INCH RAINFALL
4/15/93

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	INFLOW RUNOFF (cfs)	INFLOW OFFSITE (cfs)	INFLOW OTHER (cfs)	OUTFLOW (cfs)
NA	11.89	.42	5.90	.00	.00	.00
NB	11.04	.24	5.49	.00	-.03	.00
NB1	9.99	.07	.00	.00	4.06	3.99
NC1	11.04	.10	2.00	.00	.57	-.03
NC2	10.88	.07	2.02	.00	.00	1.69
NC3	10.46	.07	.00	.00	4.52	4.06
ND	11.94	3.13	40.02	.00	.00	.00
NE	6.74	.10	6.26	.00	3.99	5.92
NF	13.61	.63	9.55	.00	.00	1.35
NG	11.24	1.29	19.32	.00	1.35	2.66
NI	12.04	.44	10.18	.00	.00	1.56
NJ	6.48	.02	.00	.00	9.73	9.71
NJ2	11.70	.08	.40	.00	.00	.00
NK	7.42	.91	12.25	.00	.00	.00
NL	6.26	.04	.00	.00	9.71	9.68
NL2	11.86	.28	1.71	.00	.00	.00
NM	3.92	.07	.00	.00	9.68	9.71
NM2	11.50	.08	.59	.00	.00	.00
NN1	12.24	.20	2.03	.00	.00	.00
NO	3.11	.11	.85	.00	9.71	10.19
NP	2.25	.29	1.45	.00	.00	1.43
NQ	2.24	.27	.48	.00	11.37	11.61
NR	2.08	.48	.70	.00	11.61	12.11
NS	2.00	1.72	5.17	.00	.00	5.16
NT	2.02	.42	.89	.00	12.11	12.66
NU	2.00	.37	.00	.00	16.41	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 1.0 INCH RAINFALL
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC23	1.00	4.52	NC2	10.85	NC3	10.19
RL2	.00	.00	NL2	11.00	NL	4.50
RJ2	.00	.00	NJ2	11.00	NJ	6.00
RT	2.00	12.66	NT	2.02	NU	2.00
RB1	1.50	3.99	NB1	9.99	NE	8.74
RC1	.25	-.03	NC1	9.49	NB	9.49
RC2	.00	.57	NC2	9.50	NC1	9.30
RC3	1.25	4.06	NC3	10.44	NB1	9.88
RE	1.50	5.92	NE	8.74	NJ	6.48
RJ	1.50	9.71	NJ	6.48	NL	6.26
RL	1.75	9.68	NL	6.26	NM	3.92
RA	.00	.00	NA	11.00	NB	11.00
RB	2.00	.00	NB	11.04	NB1	9.98
RD	.00	.00	ND	11.00	NE	7.50
RF	2.00	1.35	NF	13.81	NG	11.23
RG	2.25	2.66	NG	11.24	NJ	6.44
RI	1.50	1.56	NI	12.04	NJ	6.48
RK	.00	.00	NK	5.50	NL	4.50
RN!	.00	.00	NN!	12.00	NO	2.00
RM	1.75	9.71	NM	3.92	NO	3.11
RO	1.75	10.19	NO	3.11	NQ	2.23
RP	2.25	1.43	NP	2.23	NQ	2.22
RQ	2.00	11.61	NQ	2.24	NR	2.08
RR	2.00	12.11	NR	2.08	NT	2.02
RS	1.25	5.16	NS	2.00	NU	2.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.60	15.28	11.32	7.56	48.80
CURVE NUMBER	75.00	82.00	82.00	82.00	75.00
DCIA (%)	85.20	39.90	13.00	20.00	85.60
TC (mins)	16.00	24.00	35.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
A	20.58	.85	2.61	WILBANKS POINTE SHOPPING CENTER
B	26.47	.96	1.98	SOUTH PARK EAST MHP
C1	17.44	1.09	1.56	EAST PARK EAST MHP
C2	14.12	.98	1.67	WEST PARK EAST MHP
D	138.84	.88	2.61	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN!AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION!(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	6.48	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	67.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
E	10.03	.91	1.55	CLOWER CREEK EAST OF PIPED PORTION!
F	33.46	.85	2.65	SARASOTA MALL NORTHWEST
G	67.46	.86	2.70	SARASOTA MALL CENTRAL WEST
H	16.23	.82	2.89	SARASOTA MALL SOUTH ROOF
I	32.26	.79	2.72	SARASOTA MALL SOUTHWEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION - 3.0 INCH RAINFALL
4/15/93

BASIN NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	FDOT-2
RAIN AMOUNT (in)	3.00
STORM DURATION (hrs)	2.00
AREA (ac)	8.04
CURVE NUMBER	60.00
DCIA (%)	9.10
TC (mins)	23.60
LAG TIME (hrs)	.00
BASIN STATUS	ONSITE

BASIN	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T	[illegible]	[illegible]	1.39	PELICAN COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PROPOSED CONDITION!- 3.0 INCH RAINFALL
[illegible]

NODAL MAXIMUM CONDITIONS REPORT

NODE ID	STAGE (ft)	VOLUME (af)	RUNOFF (cfs)	INFLOW OFFSITE (cfs)	OTHER (cfs)	OUTFLOW (cfs)
[illegible]	15.41	[illegible]	18.64	.00	.00	1.67
[illegible]	11.70	3.69	26.15	.00	18.88	.24
[illegible]	[illegible]	.10	.00	.00	8.12	8.02
[illegible]	11.69	.14	16.80	.00	3.17	18.88
[illegible]	[illegible]	.12	13.93	.00	.00	12.52
[illegible]	11.37	.12	.00	.00	9.35	7.96
[illegible]	[illegible]	8.93	[illegible]	.00	.00	19.73
NE	10.03	.35	22.65	.00	26.85	32.44
NF	[illegible]	1.33	29.97	.00	.00	4.26
NG	13.37	3.89	60.21	.00	4.26	13.85
[illegible]	[illegible]	1.42	31.72	.00	.00	7.08
NJ	7.63	.09	.00	.00	53.22	107.05
[illegible]	[illegible]	.35	5.24	.00	.00	5.02
[illegible]	9.90	2.39	38.65	.00	.00	8.84
NL	[illegible]	.16	.00	.00	126.24	70.96
NL2	13.18	1.18	17.56	.00	.00	11.55
[illegible]	[illegible]	.25	.00	.00	70.96	70.90
NM2	13.06	.94	7.76	.00	.00	.00
[illegible]	[illegible]	1.14	17.49	.00	.00	4.86
NO	5.15	.44	6.81	.00	75.75	77.44
[illegible]	[illegible]	.72	18.62	.00	.00	15.71
NQ	4.02	.84	5.38	.00	91.77	93.46
[illegible]	[illegible]	1.04	8.51	.00	93.46	96.95
[illegible]	[illegible]	1.85	33.71	.00	.00	32.80
[illegible]	[illegible]	[illegible]	9.79	.00	96.95	101.00
[illegible]	[illegible]	23.16	.00	.00	122.79	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
[illegible] 1984-1990, Streamline Technologies, Inc.

PROPOSED CONDITIONS- 3.0 INCH RAINFALL
[illegible]

REACH MAXIMUM FLOW REPORT
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REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC23	1.00	9.35	NC2	11.67	NC3	11.15
RL2	2.25	11.55	NL2	13.18	NL	7.75
RJ2	3.75	5.02	NJ2	12.68	NJ	7.22
RT	2.00	101.00	NT	2.61	NU	2.00
RB1	1.25	8.02	NB1	10.69	NE	9.94
RC1	1.00	18.88	NC1	11.47	NB	11.21
RC2	1.00	3.17	NC2	11.67	NC1	11.47
RC3	1.25	7.96	NC3	11.37	NB1	10.69
RE	1.75	32.44	NE	10.03	NJ	7.80
RJ	2.25	107.05	NJ	7.82	NL	7.75
RL	2.00	70.96	NL	7.81	NM	5.95
RA	2.00	1.67	NA	13.41	NB	11.66
RB	2.50	.24	NB	11.70	NB1	10.41
RD	2.00	19.73	ND	13.61	NE	10.01
RF	.75	4.26	NF	14.24	NG	11.52
RG	[illegible]	13.65	NG	13.37	NJ	7.83
RI	1.25	7.08	NI	13.16	NJ	7.54
RK	[illegible]	[illegible]	NK	9.68	NL	7.69
RN	2.00	4.86	NN1	13.33	NO	5.15
RM	[illegible]	[illegible]	NM	5.95	NO	5.15
RO	2.00	77.44	NO	5.15	NQ	4.02
RP	[illegible]	[illegible]	NP	3.92	NQ	3.66
RQ	2.00	93.46	NQ	4.02	NR	3.36
RR	[illegible]	[illegible]	NR	3.36	NT	2.61
RS	1.25	32.80	NS	2.09	NU	2.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)
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PROPOSED CONDITION!- 3.0 INCH RAINFALL
4/15/93

BASIN:NAME	J	K	L	M	N
NODE NAME	NJ2	NK	NL2	NM2	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN:AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION:(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN:STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN:QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
J	5.24	3.25	1.31	US 41 AND UNDEV. SOUTHEAST AREA
K	43.34	.88	2.62	PELICAN!PLAZA SHOPPING CENTER
L	17.60	1.52	1.50	US 41 AND SOUTH CENTRAL RESID. AREA
M	7.90	1.14	1.37	VAMO ROAD
N!	18.13	.92	1.51	BAY VILLAGE

BASIN:NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	FDOT-2	FDOT-2	FDOT-2	FDOT-2	FDOT-2
RAIN:AMOUNT (in)	3.00	3.00	3.00	3.00	3.00
STORM DURATION:(hrs)	2.00	2.00	2.00	2.00	2.00
AREA (ac)	4.16	24.68	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
O	7.21	.93	1.68	PELICAN!COVE EAST
P	19.02	1.38	1.28	PELICAN!COVE NORTHEAST AND UNDEV.
Q	5.62	.92	1.38	PELICAN!COVE EAST CENTRAL
R	8.52	1.00	1.43	PELICAN!COVE CENTRAL
S	35.05	1.11	1.77	PELICAN!COVE SOUTHWEST

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PROPOSED CONDITION!- 25 YR - 24 HR
4/15/93

BASIN!NAME	A	B	C1	C2	D
NODE NAME	NA	NB	NC1	NC2	ND
UNIT HYDROGRAPH	UH484	UH323	UH484	UH484	UH484
PEAKING FACTOR	484.	323.	484.	484.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	6.60	15.28	11.32	7.56	48.80
CURVE NUMBER	75.00	82.00	82.00	82.00	75.00
DCIA (%)	85.20	39.90	13.00	20.00	85.60
TC (mins)	16.00	24.00	35.00	25.90	23.30
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
A	33.65	12.27	7.47	WILBANKS POINTE SHOPPING CENTER
B	53.80	12.32	6.68	SOUTH PARK EAST MHP
C1	41.61	12.37	6.11	EAST PARK EAST MHP
C2	31.83	12.32	6.26	WEST PARK EAST MHP
D	230.93	12.32	7.48	SARASOTA MALL EAST

BASIN!NAME	E	F	G	H	I
NODE NAME	NE	NF	NG	NE	NI
UNIT HYDROGRAPH	UH323	UH484	UH484	UH484	UH484
PEAKING FACTOR	323.	484.	484.	484.	484.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	6.46	10.88	21.76	4.48	9.08
CURVE NUMBER	79.00	75.00	75.00	.00	75.00
DCIA (%)	21.40	87.50	90.40	100.00	90.90
TC (mins)	17.80	18.30	19.30	11.20	6.60
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!QMX (cfs)		TMX (hrs)	VOL (in)	NOTES
E	24.20	12.30	6.02	CLOWER CREEK EAST OF PIPED PORTION!
F	54.79	12.28	7.53	SARASOTA MALL NORTHWEST
G	109.20	12.27	7.61	SARASOTA MALL CENTRAL WEST
H	24.26	12.22	7.89	SARASOTA MALL SOUTH ROOF
I	48.47	12.23	7.63	SARASOTA MALL SOUTHWEST

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PROPOSED CONDITION!- 25 YR - 24 HR
4/15/93

BASIN!NAME	J	K	L	M	N
NODE NAME	NJ2	NK	NL2	NM2	NN
UNIT HYDROGRAPH	UH256	UH484	UH323	UH323	UH323
PEAKING FACTOR	256.	484.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	23.20	14.16	22.92	8.24	12.16
CURVE NUMBER	81.00	75.00	84.00	82.00	81.00
DCIA (%)	.00	85.70	.00	.00	12.80
TC (mins)	197.00	18.00	62.20	36.50	18.80
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
J	15.56	14.50	5.74	US 41 AND UNDEV. SOUTHEAST AREA
K	71.20	12.28	7.48	PELICAN!PLAZA SHOPPING CENTER
L	45.52	12.72	6.09	US 41 AND SOUTH CENTRAL RESID. AREA
M	21.93	12.49	5.86	VAMO ROAD
N!	44.99	12.32	6.02	BAY VILLAGE

BASIN!NAME	O	P	Q	R	S
NODE NAME	NO	NP	NQ	NR	NS
UNIT HYDROGRAPH	UH323	UH323	UH323	UH323	UH323
PEAKING FACTOR	323.	323.	323.	323.	323.
RAINFALL FILE	SCSIII	SCSIII	SCSIII	SCSIII	SCSIII
RAIN!AMOUNT (in)	8.00	8.00	8.00	8.00	8.00
STORM DURATION!(hrs)	24.00	24.00	24.00	24.00	24.00
AREA (ac)	4.16	24.68	4.04	6.72	26.88
CURVE NUMBER	85.00	80.00	80.00	82.00	84.00
DCIA (%)	7.00	3.00	8.00	4.00	18.40
TC (mins)	17.50	47.60	18.00	23.80	33.20
LAG TIME (hrs)	.00	.00	.00	.00	.00
BASIN!STATUS	ONSITE	ONSITE	ONSITE	ONSITE	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
O	16.52	12.29	6.33	PELICAN!COVE EAST
P	54.89	12.59	5.69	PELICAN!COVE NORTHEAST AND UNDEV.
Q	14.84	12.32	5.81	PELICAN!COVE EAST CENTRAL
R	22.31	12.32	5.94	PELICAN!COVE CENTRAL
S	79.87	12.39	6.43	PELICAN!COVE SOUTHWEST

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PROPOSED CONDITION!- 25 YR - 24 HR
4/15/93

BASIN!NAME	T
NODE NAME	NT
UNIT HYDROGRAPH	UH323
PEAKING FACTOR	323.
RAINFALL FILE	SCSIII
RAIN!AMOUNT (in)	8.00
STORM DURATION!(hrs)	24.00
AREA (ac)	8.04
CURVE NUMBER	80.00
DCIA (%)	9.10
TC (mins)	23.80
LAG TIME (hrs)	.00
BASIN!STATUS	ONSITE

BASIN!	QMX (cfs)	TMX (hrs)	VOL (in)	NOTES
T	26.10	12.38	5.83	PELICAN!COVE WEST

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

[redacted]
4/15/93

NODAL MAXIMUM CONDITIONS REPORT
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NODE ID	STAGE (ft)	VOLUME (af)	|<------- RUNOFF (cfs)	INFLOW OFFSITE (cfs)	------->|! OTHER (cfs)	OUTFLOW (cfs)
NA	14.61	2.20	33.61	.00	.00	13.05
NB	13.13	11.33	50.87	.00	56.53	10.28
NB1	12.74	.22	.00	.00	15.12	15.26
NC1	13.13	.22	39.44	.00	6.07	43.48
[redacted]	[redacted]	.51	30.52	.00	.00	16.96
NC3	13.56	.23	.00	.00	11.67	10.39
ND	15.51	15.90	227.32	.00	.00	80.03
NE	11.93	1.03	47.75	.00	87.35	102.38
NF	16.12	4.15	54.63	.00	.00	4.30
NG	15.41	6.90	108.62	.00	4.30	28.66
NI	14.45	2.67	47.98	.00	.00	9.05
NJ	9.57	.23	.00	.00	144.94	144.35
NJ2	13.43	.58	15.56	.00	.00	15.42
NK	11.74	5.31	71.02	.00	.00	11.36
NL	9.46	.36	.00	.00	185.05	185.22
NL2	14.55	2.13	45.14	.00	.00	36.59
NM	7.61	.49	.00	.00	185.22	185.45
NM2	16.13	3.98	21.81	.00	.00	.00
NN1	15.32	3.04	43.61	.00	.00	8.98
NO	6.93	.86	16.20	.00	193.99	199.43
NP	5.62	1.34	53.80	.00	.00	48.48
NQ	5.74	1.60	14.43	.00	242.22	248.30
NR	4.85	1.88	20.96	.00	248.30	259.25
NS	2.34	2.22	77.67	.00	.00	71.59
NT	3.57	.97	24.49	.00	259.25	271.00
NU	2.00	131.03	.00	.00	336.39	.00

Advanced Interconnected Channel & Pond Routing (adICPR Ver 1.31)

PROPOSED CONDITION!- 25 YR - 24 HR
4/15/93

REACH MAXIMUM FLOW REPORT

REACH ID	TIME (hrs)	FLOW (cfs)	FR NODE NAME	STAGE (ft)	TO NODE NAME	STAGE (ft)
RC23	12.25	11.67	NC2	13.10	NC3	12.96
RL2	13.25	36.59	NL2	14.55	NL	9.36
RJ2	14.75	15.42	NJ2	13.43	NJ	8.82
RT	13.00	271.00	NT	3.57	NU	2.00
RB1	18.50	15.26	NB1	12.26	NE	9.93
RC1	12.50	43.48	NC1	12.93	NB	12.08
RC2	12.75	6.07	NC2	13.61	NC1	12.86
RC3	12.50	10.39	NC3	13.44	NB1	12.21
RE	12.75	102.38	NE	11.93	NJ	9.52
RJ	12.75	144.35	NJ	9.52	NL	9.40
RL	13.00	185.22	NL	9.46	NM	7.81
RA	12.50	13.05	NA	14.61	NB	12.08
RB	17.75	10.28	NB	12.94	NB1	12.39
RD	12.75	60.03	ND	15.51	NE	11.93
RF	21.25	4.30	NF	15.68	NG	12.37
RG	13.00	28.66	NG	15.35	NJ	9.57
RI	13.00	9.05	NI	14.41	NJ	9.57
RK	17.00	11.36	NK	11.20	NL	8.08
RN!	14.75	8.98	NN!	14.94	NO	6.18
RM	13.00	185.45	NM	7.81	NO	6.93
RO	13.00	199.43	NO	6.93	NQ	5.74
RP	12.75	48.48	NP	5.82	NQ	5.72
RQ	13.00	248.30	NQ	5.74	NR	4.85
RR	13.00	259.25	NR	4.85	NT	3.57
RS	12.50	71.59	NS	2.34	NU	2.00

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*****************************************************
*  SCOUR AND DEPOSITION IN RIVERS AND RESERVOIRS    *
*  VERSION 4.0.6 RELEASED JUNE 1991                 *
*  INPUT FILE:  5clowm.dat                          *
*  OUTPUT FILE: 5frout                              *
*  RUN DATE 05/10/1993        TIME 13:11:18         *
*****************************************************

**************************************
*  U.S. ARMY CORPS OF ENGINEERS       *
*                                     *
*  THE HYDROLOGIC ENGINEERING CENTER  *
*  609 SECOND STREET, SUITE D         *
*  DAVIS, CALIFORNIA 95616-4687       *
**************************************

    HMVersion: 5.00

                  X     X  XXXXXXX   XXXXX           XXXXX
                  X     X  X        X     X         X     X
                  X     X  X        X               X
                  XXXXXXX  XXXX     X        XXXXX  XXXXXX
                  X     X  X        X               X     X
                  X     X  X        X     X         X     X
                  X     X  XXXXXXX   XXXXX           XXXXX

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                  :::                                    :::
                  :::  Full Microcomputer Implementation :::
                  :::                by                  :::
                  :::        Haestad Methods, Inc.       :::
                  :::                                    :::
                  ::::::::::::::::::::::::::::::::::::::::::
                  ::::::::::::::::::::::::::::::::::::::::::

      37 Brookside Road * Waterbury, Connecticut  06708 * (203) 755-1666
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```
T1       CLOWER CREEK PROPOSED SYSTEM.
T2       FROM STATION 0+00 TO STATION 19+00
T3
NC  .070     .070     .040      .1       .3
X1   0.0      13.     43.5    129.0      0.       0.       0.
GR   7.7      0.0     6.91     10.0     6.88     24.3      6.6     43.5      3.9     57.
GR   1.7     59.5      0.4     74.0      0.6     80.0      0.4     86.0     0.01     96.
GR   0.4    111.0      1.7    124.0      3.5    129.0
HD   0.0      1.0     57.2    124.0      0.       0.4     43.5    129.0      0.
X1  0.02       8.     74.0    111.0     104.     104.     104.
GR   7.7      0.0      6.6     43.5      3.9     57.0      0.4     74.0      0.4     86.
GR   0.4    111.0      1.7    124.0      3.5    129.0
HD  0.02      1.0     57.0    124.0      0.       0.4     74.0    111.0      0.
X10.0201      5.0     74.0    111.0      1.       1.       1.
GR   7.5      0.0      4.0     57.0      1.1     58.0      1.0    124.0      3.5    129.
HD0.0201      1.0     58.0    124.0      0.       0.4     58.0    124.0      0.
X10.0202       8.     74.0    111.0      1.       1.       1.
GR   7.7      0.0      6.6     43.5      3.9     57.0    -1.00     74.0    -1.00     86.
GR -1.00    111.0      1.7    124.0      3.5    129.0
HD0.0202      .75     58.0    124.0      0.     -1.00     58.0    124.0      0.
X1 0.026       8.     74.0    111.0      30.      30.      30.
GR   7.7      0.0      6.6     43.5      3.9     57.0      0.4     74.0      0.4     86.
GR   0.4    111.0      1.7    124.0      3.5    129.0
HD 0.026      1.0     57.0    111.0      0.       0.4     57.0    111.0      0.
X10.0261      5.0     57.0    111.0      1.0      1.0      1.0
GR   7.7      0.0      3.9     57.0      1.4     65.0     1.85    124.0      3.5    129.
HD0.0261      1.0     57.0    111.0      0.       0.4     57.0    111.0      0.
X10.0262       8.     74.0    111.0      1.       1.       1.
GR   7.7       0.      6.6     43.5      3.9     57.0    -1.00     74.0    -1.00     86.
GR -1.00    111.0      1.7    124.0      3.5    129.0
HD0.0262      .75     57.0    111.0      0.     -1.00     57.0    111.0      0.
X1 0.057       7.     32.1     57.8     164.     164.     164.
GR   6.6      0.0      2.3     32.1      0.6     32.9     0.14     38.3      2.1     43.
GR   2.0     55.5      4.5     57.8
HD 0.057      1.0     43.0     55.5      0.       0.5     32.9     55.5      0.
X1 0.076       8.     40.5     55.4     100.     100.     100.
GR  8.68      0.0     8.49     11.9      1.7     35.5      2.2     38.7     1.15     40.
GR   0.4     46.6      0.3     55.4      4.7     59.4
HD 0.076      1.0     35.5     55.4      0.       0.6     40.5     55.4      0.
X1 0.095     11.0     53.0     68.3     100.     100.     100.
GR   8.6      0.0     8.51      3.9     7.95     23.4      3.9     48.0      2.7     53.
GR   0.7     54.7     0.00     60.5      0.4     68.3      2.3     69.5      1.3     80.
GR   6.4     90.0
HD 0.095      1.0     48.0     69.5      0.       0.7     53.0     68.3      0.
X1 0.114     10.0     49.0     65.4     100.     100.     100.
GR  8.85      0.0     8.52     16.9      4.9     40.0      2.2     45.3     1.15     49.
GR  1.16     56.0      1.3     65.4      3.4     66.6      2.6     69.0      5.2     74.
HD 0.114      1.0     45.3     66.4      0.       0.8     49.0     65.4      0.
X1 0.133      9.0     30.0     40.0     100.     100.     100.
GR   8.2      0.0      7.8      7.2      4.0     30.0     1.16     32.4      0.6     40.
GR   0.9     46.7      2.8     47.8      2.4     53.0      7.8     63.0
HD 0.133      1.0     32.4     46.7      0.       0.8     30.0     40.0      0.
X1 0.152      8.0     23.7     35.7     100.     100.     100.
GR   7.7      0.0      3.0     22.7      0.9     23.7      0.5     29.3      0.9     35.
GR   2.5     37.0      3.3     40.8      6.8     47.0
HD 0.152      1.0     22.7     37.0      0.       0.8     23.7     35.7      0.
X1 0.170      6.0     20.7     29.6     100.     100.     100.
GR   7.3      0.0     4.18     18.4      0.4     20.7      0.4     25.0      0.7     29.
GR   5.3     33.3
HD 0.170      1.0     20.7     29.6      0.       0.9     20.7     29.6      0.
X1 0.189      8.0     24.0     30.5     100.     100.     100.
GR   7.9      0.0      3.9     21.1      0.7     24.0      0.0     27.0      0.5     30.
GR   7.0     31.8      3.7     37.8      6.5     44.8
HD [illegible]      1.0     24.0     30.5      0.       1.0     24.0     30.5      0.
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X1 0.207     7.0    15.0    45.0    100.    100.    100.
GR   8.0     0.0     7.2     4.0     6.5    15.0     0.0    26.0     0.0    33.
GR   7.3    45.0     7.3    55.0
HD 0.207     0.1    26.0    33.0     0.      1.0    26.0    33.0     0.
X1 0.226     6.0     5.0    36.0    100.    100.    100.
GR   7.0     0.0     6.2     5.0     0.9    14.5     0.9    25.0     6.2    36.
GR   6.5    42.0
HD 0.226     0.1    14.5    25.0     0.      0.9    14.5    25.0     0.
X1 0.245     5.0    13.5    44.0    100.    100.    100.
GR   6.5     0.0     6.0    13.5     1.0    25.0     1.0    33.5     6.4    44.
HD 0.245     0.1    25.0    33.5     0.      1.0    25.0    33.5     0.
X1 0.264     5.0    11.0    41.0    100.    100.    100.
GR   6.9     0.0     6.2    11.0     1.4    22.0     1.4    30.0     6.5    41.
HD 0.264     0.1    22.0    30.5     0.      1.4    22.0    30.0     0.
X1 0.283     6.0    10.0    40.0    100.    100.    100.
GR   7.4     0.0     6.5    10.0     1.5    20.0     1.5    28.0     7.2    40.
GR   7.3    43.0
HD 0.283     0.1    20.0    28.0     0.      1.5    20.0    28.0
X1 0.302     6.0     7.5    46.0    100.    100.    100.
GR  10.3     0.0     9.5     7.5     1.9    22.0     1.9    33.0     8.2    46.
GR   8.5    53.0
HD 0.302     0.1    22.0    33.0     0.      1.9    22.0    33.0     0.
X1 0.321     6.0     5.0    40.0    100.    100.    100.
GR   9.4     0.0     9.0     5.0     2.0    19.0     2.0    26.0     9.1    40.
GR   9.3    46.0
HD 0.321     0.1    19.0    26.0     0.      2.0    19.0    26.0     0.
X1 0.340     5.0    14.5    52.5    100.    100.    100.
GR  10.8     0.0    10.0    14.5     2.3    30.0     2.3    37.0    11.0    52
HD 0.340     0.1    30.0    37.0     0.      2.3    30.0    37.0     0.
X1 0.358     6.0    28.0    68.0    100.    100.    100.
GR  11.0     0.0    10.6    28.0     2.7    42.0     2.7    51.0    11.7    68
GR  11.8    72.0
HD 0.358     0.1    42.0    51.0     0.      2.7    42.0    51.0     0.
EJ
T4       MAIN STREAM, SEGMENT 1
T5       LOAD CURVE
T6       BED GRADATIONS FROM FIELD SAMPLES.
T7
T8       SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971).
I1     0       5
I2  CLAY       2
I2  CLAY       1     .01     .02     .05     .75    60.0
I2  CLAY       2     .02    .125     .23     2.0    32.0
I3  SILT       2
I4  SAND       4
LQ 25-yr       1      24      30      50      80     120     180
LT TOTAL    .002     .01     .03    0.05     0.1     0.3     0.5
LF  CLAY     .10     .10     .10     .10     .15
LF SILT1       0       0       0       0       0
LF SILT2       0       0       0       0       0
LF SILT3     .30     .30     .20     .20     .25
LF SILT4       0       0       0       0       0
LF   VFS    .100    .100    .215    .311    .400
LF    FS    .850    .850    .675    .565    .462
LF    MS    .050    .050    .100    .100    .110
LF    CS    .000    .000    .010    .016    .020
LF   VCS    .000    .000    .000    .008    .005
LF   VFG    .000    .000    .000    .000    .002
LF    FG    .000    .000    .000    .000    .000
LF    MG    .000    .000    .000    .000    .000
LF    CG    .000    .000    .000    .000    .000
LF   VCG      .0      .0    .000    .000    .000
PF EXAMP   0.358  .01429    64.0    32.0   100.0    16.0   100.0     8.0    99
PFC  4.0    99.0     2.0    98.0     1.0    80.0     .50    50.0    .125     0
$HYD
*    48       FLOW 1 = BASE FLOW OF 0 CFS
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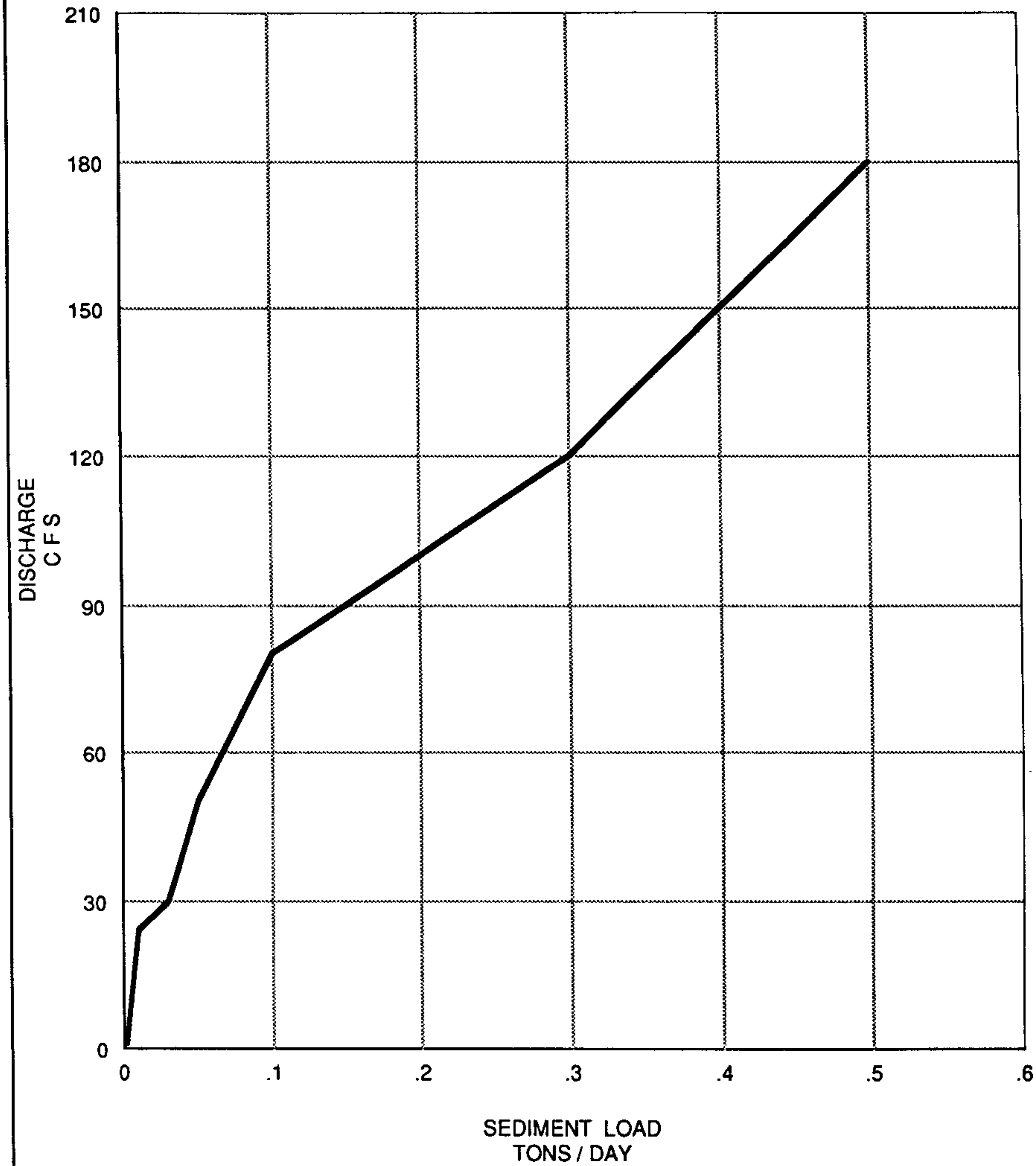
```
Q      0.
R     1.5
T     70.
W    291.
*     AB      FLOW 2 = 1/2" RAINFALL = 3.42 CFS
Q    3.42
R     2.0
T     70.
W    6.67
*     AB     FLOW 3 = 1" RAINFALL = 9.71 CFS
Q    9.71
R     2.0
T     70.
W     1.5
*     AB     FLOW 4 = 3" RAINFALL = 70.90 CFS
Q   70.90
R     2.0
T     70.
W    .167
*     AB     FLOW 5 = 8" RAINFALL = 186.00 CFS
Q   186.0
R     2.0
T     70.
W    .083
$$END
```

ST 93051-3E



PROPOSED CONDITION

R - 948

PREPARED BY:
BRILEY, WILD AND ASSOCIATES
CONSULTING ENGINEERS AND PLANNERS

```
T1      CLOWER CREEK PROPOSED SYSTEM.
T2      FROM STATION 0+00 TO STATION 19+00
T3

NC  .0700   .0700   .0400   .1000   .3000

SECTION NO.  1 RIVER MILE=        .000
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  2 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  3 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  4 RIVER MILE=        .020
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO.  5 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  6 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  7 RIVER MILE=        .026
...Set the Depth (ft) of the Bed Sediment Reservoir to      .75

SECTION NO.  8 RIVER MILE=        .057
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO.  9 RIVER MILE=        .076
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 10 RIVER MILE=        .095
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 11 RIVER MILE=        .114
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 12 RIVER MILE=        .133
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 13 RIVER MILE=        .152
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 14 RIVER MILE=        .170
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 15 RIVER MILE=        .189
...Set the Depth (ft) of the Bed Sediment Reservoir to     1.00

SECTION NO. 16 RIVER MILE=        .207
...Set the Depth (ft) of the Bed Sediment Reservoir to      .10

SECTION NO. 17 RIVER MILE=        .226
...Set the Depth (ft) of the Bed Sediment Reservoir to      .10

SECTION NO. 18 RIVER MILE=        .245
...Set the Depth (ft) of the Bed Sediment Reservoir to      .10

SECTION NO. 19 RIVER MILE=        .264
...Set the Depth (ft) of the Bed Sediment Reservoir to      .10
```

SECTION NO. 20 RIVER MILE= .283
...Set the Depth (ft) of the Bed Sediment Reservoir to .10

SECTION NO. 21 RIVER MILE= .302
...Set the Depth (ft) of the Bed Sediment Reservoir to .10

SECTION NO. 22 RIVER MILE= .321
...Set the Depth (ft) of the Bed Sediment Reservoir to .10

SECTION NO. 23 RIVER MILE= .340
...Set the Depth (ft) of the Bed Sediment Reservoir to .10

SECTION NO. 24 RIVER MILE= .358
...Set the Depth (ft) of the Bed Sediment Reservoir to .10

NO. OF CROSS SECTIONS IN STREAM SEGMENT= 24
NO. OF INPUT DATA MESSAGES = 0

TOTAL NO. OF CROSS SECTIONS IN THE NETWORK = 24
TOTAL NO. OF STREAM SEGMENTS IN THE NETWORK= 1
END OF GEOMETRIC DATA

==

T4 MAIN STREAM, SEGMENT 1
T5 LOAD CURVE
T6 BED GRADATIONS FROM FIELD SAMPLES.
T7
T8 SEDIMENT TRANSPORT BY STREAM POWER: SEE ASCE JOURNAL (YANG 1971)
CLOWER CREEK PROPOSED SYSTEM.
FROM STATION 0+00 TO STATION 19+00

- -

SEDIMENT PROPERITES AND PARAMETERS

	SPI	IBG	MNQ	SPGF	ACGR	NFALL	IBSHER
I1	5.	0	1	1.000	32.174	2	1

- -

CLAY IS PRESENT.

	MTCL	SPGC	PUCD	UWCL	CCCD
I2	2	2.650	78.000	30.000	16.000

DEPOSITION COEFFICIENTS BY LAYER

	LAYER NO.	DEPOSITION THRESHOLD SHEAR STRESS lb/sq.ft
ACTIVE LAYER	1	.0100
INACTIVE LAYER	2	.0200

EROSION COEFFICIENTS BY LAYER

LAYER NO	PARTICLE EROSION SHEAR STRESS lb/sq.ft	MASS EROSION SHEAR STRESS lb/sq.ft.	MASS EROSION RATE lb/sf/hr	SLOPE OF PARTICLE EROSION LINE=ER1 1/hr	SLOPE OF MASS EROSION LINE=ER2 1/hr

ACTIVE LAYER	1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER	2	.1250	.2300	2.0000	19.0476	32.0000

- -

SILT IS PRESENT

	MTCL	IASL	LASL	SGSL	PUSDLB	UWSDLB	CCSDLB
I3	2	1	4	2.650	82.000	65.000	5.700

DEPOSITION COEFFICIENTS BY LAYER

	LAYER NO.	DEPOSITION THRESHOLD SHEAR STRESS lb/sq.ft
ACTIVE LAYER	1	.0200
INACTIVE LAYER	2	.0200

EROSION COEFFICIENTS BY LAYER

	LAYER NO	PARTICLE EROSION SHEAR STRESS lb/sq.ft	MASS EROSION SHEAR STRESS lb/sq.ft.	MASS EROSION RATE lb/sf/hr	SLOPE OF PARTICLE EROSION LINE=ER1 1/hr	SLOPE OF MASS EROSION LINE=ER2 1/hr
ACTIVE LAYER	1	.0200	.0500	.7500	25.0000	60.0000
INACTIVE LAYER	2	.1250	.2300	2.0000	19.0476	32.0000

FINE-GRAIN SEDIMENT TYPES BY CROSS SECTION (XSEC,TYPE)

.000	1	.020	1	.020	1	.020	1	.026	1
.026	1	.026	1	.057	1	.076	1	.095	1
.114	1	.133	1	.152	1	.170	1	.189	1
.207	1	.226	1	.245	1	.264	1	.283	1
.302	1	.321	1	.340	1	.358	1		

- -

SAND AND/OR GRAVEL ARE PRESENT

	MTC	IASA	LASA	SPGS	GSF	BSAE	PSI	UWDLB
I4	4	1	10	2.650	.667	.500	30.000	93.000

USING TRANSPORT CAPACITY RELATIONSHIP # 4, YANG

FOLLOWING GRAIN SIZES UTILIZED (MM)

CLAY:	.0027				
SILT:	.0056	.0110	.0220	.0440	
SAND:	.0880	.1770	.3540	.7070	1.4140
	2.8280	5.6570	11.3140	22.6270	45.2550

- -

SEDIMENT LOAD TABLE FOR STREAM SEGMENT # 1
LOAD BY GRAIN SIZE CLASS (tons/day)

L	25-yr	1.00000	24.0000	30.0000	50.0000	80.0000	120.000	180.000
L	CLAY	.200000E-03	.100000E-02	.300000E-02	.500000E-02	.150000E-01	.100000E-19	.100000E-19
L	SILT1	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT2	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	SILT3	.600000E-03	.300000E-02	.600000E-02	.100000E-01	.250000E-01	.100000E-19	.100000E-19
L	SILT4	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VFS	.200000E-03	.100000E-02	.645000E-02	.155500E-01	.400000E-01	.100000E-19	.100000E-19
L	FS	.170000E-02	.850000E-02	.202500E-01	.282500E-01	.462000E-01	.100000E-19	.100000E-19
L	MS	.100000E-03	.500000E-03	.300000E-02	.500000E-02	.110000E-01	.100000E-19	.100000E-19
L	CS	.100000E-19	.100000E-19	.300000E-03	.800000E-03	.200000E-02	.100000E-19	.100000E-19
L	VCS	.100000E-19	.100000E-19	.100000E-19	.400000E-03	.500000E-03	.100000E-19	.100000E-19
L	VFG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.200000E-03	.100000E-19	.100000E-19
L	FG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	MG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	CG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
L	VCG	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19	.100000E-19
	TOTAL	.280000E-02	.140000E-01	.390000E-01	.650000E-01	.139900	.150000E-18	.150000E-18

REACH GEOMETRY FOR STREAM SEGMENT 1

CROSS SECTION ID. NO.	REACH LENGTH (ft)	MOVABLE BED WIDTH	INITIAL BED-ELEVATIONS LEFT SIDE (ft)	THALWEG (ft)	RIGHT SIDE (ft)	ACCUMULATED CHANNEL DISTANCE FROM DOWNSTREAM (ft)	(miles)
	.00						
.000		76.15	3.90	.01	1.70	.00	.00
	104.00						
.020		76.25	3.90	.40	1.70	104.00	.02
	1.00						
.020		69.00	1.10	1.00	1.00	105.00	.02
	1.00						
.020		61.00	-1.00	-1.00	1.70	106.00	.02
	30.00						
.026		67.25	3.90	.40	.40	136.00	.03
	1.00						
.026		89.00	3.90	1.40	1.75	137.00	.03
	1.00						
.026		67.25	3.90	-1.00	-1.00	138.00	.03
	164.00						
.057		16.00	2.10	2.00	2.00	302.00	.06
	100.00						
.076		33.70	1.70	.30	.30	402.00	.08
	100.00						
.095		39.05	3.90	.00	2.30	502.00	.10
	100.00						
.114		23.35	2.20	1.15	1.30	602.00	.11
	100.00						

.133		16.05	1.16	.60	.90	702.00	.13
	100.00						
.152		27.55	3.00	.50	2.50	802.00	.15
	100.00						
.170		11.90	.40	.40	.70	902.00	.17
	100.00						
.189		8.60	.70	.00	.50	1002.00	.19
	100.00						
.207		18.50	.00	.00	.00	1102.00	.21
	100.00						
.226		20.75	.90	.90	.90	1202.00	.23
	100.00						
.245		19.50	1.00	1.00	1.00	1302.00	.25
	100.00						
.264		19.00	1.40	1.40	1.40	1402.00	.27
	100.00						
.283		19.00	1.50	1.50	1.50	1502.00	.28
	100.00						
.302		24.75	1.90	1.90	1.90	1602.00	.30
	100.00						
.321		21.00	2.00	2.00	2.00	1702.00	.32
	100.00						
.340		22.50	2.30	2.30	2.30	1802.00	.34
	100.00						
.358		24.50	2.70	2.70	2.70	1902.00	.36

ED MATERIAL GRADATION (as computed from PF-records)

	SECID	SAE (%)	DMAX (ft)	DXPI (ft)	XPI	TOTAL BED	BED MATERIAL FRACTIONS per grain size, fine - coarse.				
N	.000	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.020	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.026	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.057	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.076	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.095	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.114	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000

N	.133	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.152	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.170	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.189	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.207	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.226	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.245	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.264	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.283	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.302	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.321	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.340	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000
N	.358	.014	.210	.210	1.000	1.000	.000	.000	.000	.000	.000
							.000	.250	.250	.300	.180
							.010	.000	.010	.000	.000

STREAM SEGMENT # 1: CLOWER CREEK PROPOSED SYSTEM.
BED SEDIMENT CONTROL VOLUMES

SECTION NUMBER	LENGTH (ft)	MAX. WIDTH (ft)	DEPTH (ft)	VOLUME (cu.ft)	VOLUME (cu.yd)
.000	52.00	76.18	1.00	3961.52	146.723
.020	52.50	76.19	1.00	4000.17	148.155
.020	1.00	68.88	1.00	68.8750	2.55093
.020	15.50	63.10	.75	733.563	27.1690
.026	15.50	65.47	1.00	1014.75	37.5833
.026	1.00	81.75	1.00	81.7500	3.02778
.026	82.50	50.31	.75	3113.18	115.303
.057	132.00	28.85	1.00	3807.79	141.029
.076	100.00	31.64	1.00	3164.16	117.191
.095	100.00	35.54	1.00	3554.17	131.636
.114	100.00	24.75	1.00	2475.00	91.6667
.133	100.00	19.18	1.00	1918.33	71.0494
.152	100.00	23.03	1.00	2302.50	85.2778
.170	100.00	13.96	1.00	1395.83	51.6975
.189	100.00	10.80	1.00	1080.00	40.0000
.207	100.00	17.23	.10	172.250	6.37963
.226	100.00	20.17	.10	201.666	7.46910
.245	100.00	19.62	.10	196.246	7.26836
.264	100.00	19.08	.10	190.829	7.06775
.283	100.00	19.96	.10	199.582	7.39194
.302	100.00	23.17	.10	231.667	8.58025
.321	100.00	21.87	.10	218.749	8.10182
.340	100.00	22.58	.10	225.830	8.36407
.358	50.00	23.83	.10	119.166	4.41355

NO. OF INPUT DATA MESSAGES= 0
END OF SEDIMENT DATA

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BEGIN COMPUTATIONS.
$HYD

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==========================================================================================

*  AB    FLOW 2 = 1/2" RAINFALL = 3.42 CFS

- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK PROPOSED SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.      2
WATER    DISCHARGE=        3.42
         ELEVATION=       2.000
       TEMPERATURE=      70.000
FLOW DURATION(DAYS)  6.670

****  N  DISCHARGE  WATER    ENERGY  VELOCITY  ALPHA    TOP      AVG      AVG VEL (by subsection)
          (CFS)    SURFACE   LINE     HEAD             WIDTH     BED     1     2     3

SEC NO.     .000
****  1      3.4      2.00      2.00      .00     1.00    65.65      .64   .00   .04   .00
                                                  FLOW DISTRIBUTION (%) =   .0 100.0    .0

SEC NO.     .020
****  1      3.4      2.00      2.00      .00     1.26    58.60      .40   .02   .05   .02
                                                  FLOW DISTRIBUTION (%) =  3.3  89.4   7.3

SEC NO.     .020
****  1      3.4      2.00      2.00      .00     1.24    68.31     1.05   .04   .07   .04
                                                  FLOW DISTRIBUTION (%) = 15.6  69.3  15.1

SEC NO.     .020
****  1      3.4      2.00      2.00      .00     1.29    61.24    -1.00   .01   .03   .01
                                                  FLOW DISTRIBUTION (%) =  4.4  89.3   6.3

SEC NO.     .026
****  1      3.4      2.00      2.00      .00     1.26    58.61      .40   .02   .05   .02
                                                  FLOW DISTRIBUTION (%) =  3.3  89.4   7.3

SEC NO.     .026
****  1      3.4      2.00      2.00      .00     1.13    61.38     1.58   .00   .16   .06
                                                  FLOW DISTRIBUTION (%) =   .0  95.7   4.3

SEC NO.     .026
****  1      3.4      2.00      2.00      .00     1.29    61.24    -1.00   .01   .03   .01
                                                  FLOW DISTRIBUTION (%) =  4.4  89.3   6.3

SEC NO.     .057
****  1      3.4      2.00      2.00      .00     1.00    10.56      .73   .00   .25   .00
                                                  FLOW DISTRIBUTION (%) =   .0 100.0    .0

           WS=     2.000  (X,Y) COORDINATES=      43.0    2.10      55.5    2.00

SEC NO.     .076
****  1      3.4      2.00      2.00      .00     1.14    20.86      .53   .02   .15   .05
                                                  FLOW DISTRIBUTION (%) =   .8  97.5   1.8

SEC NO.     .095
****  1      3.4      2.00      2.00      .00     1.22    24.47      .35   .00   .14   .03
                                                  FLOW DISTRIBUTION (%) =   .0  96.7   3.3
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SEC NO.     .114
**** 1      3.4     2.00      2.01      .00      1.10      19.81      1.20   .09   .25   .05
                                                 FLOW DISTRIBUTION (%) =   3.4  96.4    .2

SEC NO.     .133
**** 1      3.4     2.01      2.01      .00      1.18      15.65       .95   .00   .24   .15
                                                 FLOW DISTRIBUTION (%) =    .0  62.6  37.4

SEC NO.     .152
**** 1      3.4     2.01      2.01      .00      1.07      13.43       .70   .04   .22   .05
                                                 FLOW DISTRIBUTION (%) =    .3  98.9    .7

SEC NO.     .170
**** 1      3.4     2.02      2.02      .00      1.14      10.94       .48   .06   .24   .06
                                                 FLOW DISTRIBUTION (%) =   1.4  97.5   1.2

SEC NO.     .189
**** 1      3.4     2.02      2.02      .00      1.17       8.48       .30   .07   .30   .06
                                                 FLOW DISTRIBUTION (%) =   1.6  97.4   1.0

SEC NO.     .207
**** 1      3.4     2.02      2.02      .00      1.00      13.73       .50   .00   .16   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .226
**** 1      3.4     2.02      2.02      .00      1.00      14.84      1.07   .00   .24   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .245
**** 1      3.4     2.03      2.03      .00      1.00      12.84      1.18   .00   .31   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .264
**** 1      3.4     2.05      2.05      .01      1.00      10.80      1.50   .00   .58   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .283
**** 1      3.4     2.11      2.11      .01      1.00      10.47      1.58   .00   .61   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .302
**** 1      3.4     2.21      2.22      .01      1.00      12.44      1.87   .00   .81   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .321
**** 1      3.4     2.44      2.46      .02      1.00       8.70      2.06   .00  1.02   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .340
**** 1      3.4     2.72      2.73      .02      1.00       8.64      2.33   .00  1.01   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .358
**** 1      3.4     3.02      3.03      .02      1.00      10.28      2.69   .00  1.01   .00
                                                 FLOW DISTRIBUTION (%) =    .0 100.0    .0

TAPLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT #  1
            CLOWER CREEK PROPOSED SYSTEM.
            ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT
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TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
6.67	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.05	.00	.00	.98	.00	.00	1.00

****

TABLE SB-1.	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	.01					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	.00					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.09	3.02	2.61	3.	0.	0.	1.
.340	-.07	2.72	2.23	3.	0.	0.	2.
.321	-.03	2.44	1.97	3.	0.	0.	2.
.302	.08	2.21	1.98	3.	0.	0.	1.
.283	.06	2.11	1.56	3.	0.	0.	0.
.264	.01	2.05	1.41	3.	0.	0.	0.
.245	.00	2.03	1.00	3.	0.	0.	0.
.226	.00	2.02	.90	3.	0.	0.	0.
.207	.00	2.02	.00	3.	0.	0.	0.
.189	.00	2.02	.00	3.	0.	0.	0.
.170	.00	2.02	.40	3.	0.	0.	0.
.152	.00	2.01	.50	3.	0.	0.	0.
.133	.00	2.01	.60	3.	0.	0.	0.
.114	.00	2.00	1.15	3.	0.	0.	0.
.095	.00	2.00	.00	3.	0.	0.	0.
.076	.00	2.00	.30	3.	0.	0.	0.
.057	.00	2.00	2.00	3.	0.	0.	0.
.026	.00	2.00	-1.00	3.	0.	0.	0.
.026	.00	2.00	1.40	3.	0.	0.	0.
.026	.00	2.00	.40	3.	0.	0.	0.
.020	.00	2.00	-1.00	3.	0.	0.	0.
.020	.00	2.00	1.00	3.	0.	0.	0.
.020	.00	2.00	.40	3.	0.	0.	0.
.000	.00	2.00	.01	3.	0.	0.	0.

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* AB FLOW 3 = 1" RAINFALL = 9.71 CFS

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CLOWER CREEK PROPOSED SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
  TIME STEP NO.       3
WATER    DISCHARGE=        9.71
         ELEVATION=       2.000
       TEMPERATURE=      70.000
FLOW DURATION(DAYS)  1.500

**** N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP       AVG        AVG VEL (by subsection)
          (CFS)    SURFACE    LINE     HEAD               WIDTH     BED     1      2      3

SEC NO.      .000
**** 1        9.7      2.00      2.00      .00      1.00     65.65       .64   .00   .11   .00
                                                    FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.      .020
**** 1        9.7      2.00      2.00      .00      1.26     58.61       .40   .05   .15   .06
                                                    FLOW DISTRIBUTION (%) =   3.3  89.4   7.3

SEC NO.      .020
**** 1        9.7      2.00      2.00      .00      1.24     68.31      1.05   .10   .19   .11
                                                    FLOW DISTRIBUTION (%) =  15.6  69.3  15.1

SEC NO.      .020
**** 1        9.7      2.00      2.00      .00      1.29     61.25     -1.00   .03   .08   .03
                                                    FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .026
**** 1        9.7      2.00      2.00      .00      1.26     58.61       .40   .05   .15   .06
                                                    FLOW DISTRIBUTION (%) =   3.3  89.4   7.3

SEC NO.      .026
**** 1        9.7      2.00      2.00      .00      1.13     61.38      1.58   .00   .46   .16
                                                    FLOW DISTRIBUTION (%) =    .0  95.7   4.3

SEC NO.      .026
**** 1        9.7      2.00      2.00      .00      1.29     61.24     -1.00   .03   .08   .03
                                                    FLOW DISTRIBUTION (%) =   4.4  89.3   6.3

SEC NO.      .057
**** 1        9.7      2.00      2.01      .01      1.00     10.74       .75   .00   .72   .00
                                                    FLOW DISTRIBUTION (%) =    .0 100.0    .0

           WS=     1.998   (X,Y) COORDINATES=      43.0    2.10      55.5    2.00

SEC NO.      .076
**** 1        9.7      2.02      2.02      .00      1.14     20.87       .54   .07   .43   .13
                                                    FLOW DISTRIBUTION (%) =    .8  97.5   1.8

SEC NO.      .095
**** 1        9.7      2.03      2.03      .00      1.22     24.71       .35   .00   .38   .08
                                                    FLOW DISTRIBUTION (%) =    .0  96.6   3.4

SEC NO.      .114
**** 1        9.7      2.04      2.04      .01      1.11     19.91      1.21   .25   .69   .14
                                                    FLOW DISTRIBUTION (%) =   3.5  96.3    .2

SEC NO.      .133
**** 1        9.7      2.08      2.08      .01      1.19     15.71       .98   .00   .67   .40
                                                    FLOW DISTRIBUTION (%) =    .0  62.8  37.2
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SEC NO. .152
**** 1 9.7 2.10 2.11 .01 1.07 13.52 .72 .11 .58 .14
FLOW DISTRIBUTION (%) = .4 98.8 .8

SEC NO. .170
**** 1 9.7 2.12 2.12 .01 1.15 11.07 .49 .16 .65 .16
FLOW DISTRIBUTION (%) = 1.4 97.3 1.3

SEC NO. .189
**** 1 9.7 2.13 2.14 .01 1.18 8.63 .31 .19 .80 .16
FLOW DISTRIBUTION (%) = 1.8 97.1 1.1

SEC NO. .207
**** 1 9.7 2.15 2.16 .00 1.00 14.13 .56 .00 .43 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .226
**** 1 9.7 2.16 2.17 .01 1.00 15.35 1.11 .00 .60 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .245
**** 1 9.7 2.20 2.20 .01 1.00 13.46 1.24 .00 .76 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .264
**** 1 9.7 2.27 2.29 .02 1.00 11.78 1.56 .00 1.16 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .283
**** 1 9.7 2.42 2.44 .02 1.00 11.61 1.69 .00 1.14 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .302
**** 1 9.7 2.60 2.63 .02 1.00 13.59 2.02 .00 1.23 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .321
**** 1 9.7 2.81 2.84 .03 1.00 10.42 2.09 .00 1.29 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .340
**** 1 9.7 3.04 3.07 .03 1.00 10.00 2.36 .00 1.43 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

SEC NO. .358
**** 1 9.7 3.29 3.31 .03 1.00 11.63 2.64 .00 1.30 .00
FLOW DISTRIBUTION (%) = .0 100.0 .0

TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PROPOSED SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.17	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.03	.00	.00	.70	.00	.00	1.00

TABLE SB-1.

	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY) VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.01	.00	.01	.00	.00	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	.01					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	.00					

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.10	3.29	2.60	10.	0.	0.	0.
.340	-.10	3.04	2.20	10.	0.	0.	2.
.321	-.09	2.81	1.91	10.	0.	0.	6.
.302	.05	2.60	1.95	10.	0.	0.	8.
.283	.06	2.42	1.56	10.	0.	0.	8.
.264	.06	2.27	1.46	10.	0.	0.	5.
.245	.08	2.20	1.08	10.	0.	0.	1.
.226	.01	2.16	.91	10.	0.	0.	0.
.207	.00	2.15	.00	10.	0.	0.	0.
.189	.00	2.13	.00	10.	0.	0.	0.
.170	.00	2.12	.40	10.	0.	0.	0.
.152	.00	2.10	.50	10.	0.	0.	0.
.133	.00	2.08	.60	10.	0.	0.	0.
.114	.00	2.04	1.15	10.	0.	0.	0.
.095	.00	2.03	.00	10.	0.	0.	0.
.076	.00	2.02	.40	10.	0.	0.	0.
.057	.00	2.00	.14	10.	0.	0.	0.
.026	.00	2.00	-1.00	10.	0.	0.	0.
.026	-.02	2.00	1.38	10.	0.	0.	0.
.026	.00	2.00	.40	10.	0.	0.	0.
.020	.00	2.00	-1.00	10.	0.	0.	0.
.020	.00	2.00	1.00	10.	0.	0.	0.
.020	.00	2.00	.40	10.	0.	0.	0.
.000	.00	2.00	.01	10.	0.	0.	0.

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* AB FLOW 4 = 3" RAINFALL = 70.90 CFS

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CLOWER CREEK PROPOSED SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
 TIME STEP NO.      4
WATER    DISCHARGE=      70.90
         ELEVATION=      2.000
       TEMPERATURE=     70.000
FLOW DURATION(DAYS)  .1670

****  N  DISCHARGE   WATER    ENERGY  VELOCITY   ALPHA     TOP      AVG       AVG VEL (by subsection)
           (CFS)    SURFACE    LINE     HEAD              WIDTH     BED     1      2      3

SEC NO.       .000
****  1       70.9      2.00      2.01     .01     1.00     65.65       .64   .00   .80   .00
                                                   FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.       .020
****  1       70.9      2.03      2.05     .02     1.26     58.61       .43   .38  1.07   .41
                                                   FLOW DISTRIBUTION (%) =   3.3  89.4   7.3

SEC NO.       .020
****  1       70.9      2.03      2.05     .02     1.24     68.39      1.04   .72  1.35   .74
                                                   FLOW DISTRIBUTION (%) =  15.6  69.3  15.1

SEC NO.       .020
****  1       70.9      2.05      2.05     .00     1.29     61.44      -.98   .20   .56   .21
                                                   FLOW DISTRIBUTION (%) =   4.4  89.2   6.4

SEC NO.       .026
****  1       70.9      2.05      2.06     .02     1.26     58.98       .40   .37  1.03   .40
                                                   FLOW DISTRIBUTION (%) =   3.4  89.1   7.5

SEC NO.       .026
****  1       70.9      1.93      2.11     .18     1.12     61.31      1.52   .00  3.46  1.13
                                                   FLOW DISTRIBUTION (%) =    .0  96.2   3.8

SEC NO.       .026
****  1       70.9      2.13      2.13     .00     1.29     61.79      -.96   .19   .55   .20
                                                   FLOW DISTRIBUTION (%) =   4.5  89.0   6.5

SEC NO.       .057
****  1       70.9      1.73      2.37     .64     1.00      9.87       .61   .00  6.39   .00
                                                   FLOW DISTRIBUTION (%) =    .0 100.0    .0

          WS=      1.733   (X,Y) COORDINATES=       43.0    2.10       55.5    2.00

SEC NO.       .076
****  1       70.9      2.74      2.80     .06     1.31     25.67       .54   .53  2.01   .59
                                                   FLOW DISTRIBUTION (%) =   4.6  93.1   2.2

SEC NO.       .095
****  1       70.9      2.85      2.89     .04     1.40     30.52       .44   .09  1.71   .54
                                                   FLOW DISTRIBUTION (%) =    .0  88.8  11.2

SEC NO.       .114
****  1       70.9      2.94      3.02     .08     1.20     24.02      1.21   .89  2.33   .40
                                                   FLOW DISTRIBUTION (%) =   6.4  93.0    .6
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SEC NO.   .133
**** 1    70.9    3.16    3.23    .07    1.43    23.64    1.13   .00  2.50  1.15
                                         FLOW DISTRIBUTION (%) =  .0  66.5  33.5

SEC NO.   .152
**** 1    70.9    3.31    3.38    .07    1.23    19.48     .72   .37  2.21   .48
                                         FLOW DISTRIBUTION (%) =  .8  96.8   2.4

SEC NO.   .170
**** 1    70.9    3.40    3.50    .10    1.27    12.88     .49   .62  2.60   .65
                                         FLOW DISTRIBUTION (%) = 2.4  95.0   2.7

SEC NO.   .189
**** 1    70.9    3.50    3.65    .15    1.48    15.86     .31   .82  3.20   .49
                                         FLOW DISTRIBUTION (%) = 4.0  93.5   2.5

SEC NO.   .207
**** 1    70.9    3.71    3.74    .03    1.00    19.25    1.20   .00  1.47   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .226
**** 1    70.9    3.77    3.81    .04    1.00    21.39    1.67   .00  1.58   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .245
**** 1    70.9    3.85    3.90    .05    1.00    20.22    1.91   .00  1.82   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .264
**** 1    70.9    3.97    4.04    .07    1.00    19.07    2.22   .00  2.13   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .283
**** 1    70.9    4.13    4.20    .07    1.00    18.63    2.30   .00  2.08   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .302
**** 1    70.9    4.28    4.34    .06    1.00    20.46    2.46   .00  1.91   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .321
**** 1    70.9    4.42    4.51    .09    1.00    16.88    2.64   .00  2.36   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .340
**** 1    70.9    4.63    4.73    .10    1.00    16.14    2.88   .00  2.51   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0

SEC NO.   .358
**** 1    70.9    4.87    4.96    .09    1.00    17.26    3.13   .00  2.37   .00
                                         FLOW DISTRIBUTION (%) =  .0 100.0    .0
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TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PROPOSED SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.34	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.00	.00	.00	-.08	.00	.00	-4.84

TABLE SB-1.	TOTAL	LOAD BY GRAIN SIZE (TONS/DAY)				
		VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.01					
SILT	.02	.00	.00	.02	.00	
SANDS & GRAVELS	.08	.03	.04	.01	.00	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	.11					
SEDIMENT OUTFLOW						
CLAY	.01					
SILT	.07	.00	.00	.07	.00	
SANDS & GRAVELS	1.69	.00	1.08	.50	.11	.00
		.00	.00	.00	.00	.00

TOTAL LOAD	1.77					

SECTION	BED CHANGE	WS ELEV	THALWEG	Q	SEDIMENT LOAD (TONS/DAY)		
ID NO	FEET	FEET	EL FEET	CFS	CLAY	SILT	SAND
.358	-.10	4.87	2.60	71.	0.	0.	0.
.340	-.10	4.63	2.20	71.	0.	0.	1.
.321	-.10	4.42	1.90	71.	0.	0.	8.
.302	-.07	4.28	1.83	71.	0.	0.	65.
.283	.01	4.13	1.51	71.	0.	0.	114.
.264	.02	3.97	1.42	71.	0.	0.	136.
.245	.16	3.85	1.16	71.	0.	0.	93.
.226	.10	3.77	1.00	71.	0.	0.	44.
.207	.02	3.71	.02	71.	0.	0.	37.
.189	-.42	3.50	-.42	71.	0.	0.	154.
.170	-.04	3.40	.36	71.	0.	0.	168.
.152	.05	3.31	.55	71.	0.	0.	136.
.133	-.18	3.16	.42	71.	0.	0.	233.
.114	.05	2.94	1.20	71.	0.	0.	203.
.095	.16	2.85	.16	71.	0.	0.	73.
.076	-.21	2.74	.19	71.	0.	0.	235.
.057	-.97	1.73	-.83	71.	0.	0.	906.
.026	1.02	2.13	.02	71.	0.	0.	131.
.026	-1.00	1.93	.40	71.	0.	0.	144.
.026	-.29	2.05	.11	71.	0.	0.	207.
.020	.63	2.05	-.37	71.	0.	0.	56.
.020	-.81	2.03	.19	71.	0.	0.	71.
.020	.03	2.03	.43	71.	0.	0.	44.
.000	.04	2.00	.05	71.	0.	0.	0.

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*  AB   FLOW 5 = 8" RAINFALL = 186.00 CFS

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- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
CLOWER CREEK PROPOSED SYSTEM.

BOUNDARY CONDITION DATA, CONTROL POINT NO.  1
 TIME STEP NO.      5
WATER    DISCHARGE=     186.00
         ELEVATION=      2.000
       TEMPERATURE=     70.000
FLOW DURATION(DAYS)  .8300E-01

**** N  DISCHARGE  WATER    ENERGY  VELOCITY  ALPHA     TOP      AVG       AVG VEL (by subsection)
          (CFS)    SURFACE   LINE     HEAD              WIDTH     BED     1     2     3

SEC NO.     .000
**** 1     166.0     2.00     2.07     .07     1.00     65.50      .68   .00  2.16   .00
                                              FLOW DISTRIBUTION (%) =     .0 100.0    .0

SEC NO.     .020
**** 1     186.0     2.22     2.31     .09     1.27     60.07      .44   .89  2.49   .99
                                              FLOW DISTRIBUTION (%) =    3.7  88.3   8.0

SEC NO.     .020
**** 1     186.0     2.28     2.32     .04     1.27     69.67      .25   .91  1.72   .91
                                              FLOW DISTRIBUTION (%) =   15.8  69.5  14.7

SEC NO.     .020
**** 1     166.0     2.28     2.32     .04     1.28     60.51     -.40   .60  1.69   .60
                                              FLOW DISTRIBUTION (%) =    4.6  89.9   5.6

SEC NO.     .026
**** 1     186.0     2.29     2.35     .06     1.29     61.30      .22   .79  2.15   .81
                                              FLOW DISTRIBUTION (%) =    4.4  88.4   7.2

SEC NO.     .026
**** 1     186.0     2.21     2.39     .17     1.11     64.03     1.13   .00  3.36   .92
                                              FLOW DISTRIBUTION (%) =     .0  97.5   2.5

SEC NO.     .026
**** 1     186.0     2.37     2.40     .03     1.29     62.43     -.37   .51  1.59   .68
                                              FLOW DISTRIBUTION (%) =    3.5  86.4  10.1

SEC NO.     .057

SUPERCRITICAL
SEC NO.    .057 TIME =    8.42 DAYS.
TRIAL    TRIAL       COMPUTED      CRITICAL
 NO.      WS            WS            WS
  0.      2.35         2.28
  1.      2.44         2.32          2.39
**** 1    186.0        2.44     3.00     .56     1.00     24.86     1.14   .53  5.99   .00
                                              FLOW DISTRIBUTION (%) =     .0 100.0    .0

SEC NO.     .076
**** 1     186.0     3.41     3.59     .18     1.43     29.36      .34  1.14  3.58  1.01
                                              FLOW DISTRIBUTION (%) =    9.5  88.1   2.4

SEC NO.     .095
**** 1     166.0     3.66     3.80     .14     1.47     35.25      .62   .49  3.30  1.21
                                              FLOW DISTRIBUTION (%) =     .4  82.6  17.0
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SEC NO.     .114
**** 1    186.0     3.86     4.07    .21     1.35     29.27     1.25  1.47  3.88   .92
                                             FLOW DISTRIBUTION (%) =   8.2  89.2   2.6

SEC NO.     .133
**** 1    186.0     4.24     4.40    .15     1.39     27.67     1.16   .25  3.74  1.83
                                             FLOW DISTRIBUTION (%) =    .0  62.0  38.0

SEC NO.     .152
**** 1    186.0     4.44     4.65    .21     1.48     26.87      .76   .77  3.83  1.07
                                             FLOW DISTRIBUTION (%) =   3.0  91.1   6.0

SEC NO.     .170
**** 1    186.0     4.57     4.90    .33     1.41     16.36      .49   .96  4.78  1.21
                                             FLOW DISTRIBUTION (%) =   2.9  93.3   3.8

SEC NO.     .189
**** 1    186.0     4.82     5.15    .33     2.02     25.29      .03  1.06  5.00  1.20
                                             FLOW DISTRIBUTION (%) =   5.6  83.8  10.6

SEC NO.     .207
**** 1    186.0     5.21     5.30    .08     1.00     24.26     1.89   .00  2.31   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .226
**** 1    186.0     5.31     5.39    .08     1.00     27.34     2.35   .00  2.30   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .245
**** 1    186.0     5.41     5.51    .10     1.00     27.02     2.63   .00  2.48   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .264
**** 1    186.0     5.54     5.64    .11     1.00     26.36     2.86   .00  2.63   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .283
**** 1    186.0     5.68     5.79    .11     1.00     25.23     2.92   .00  2.67   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .302
**** 1    186.0     5.83     5.93    .09     1.00     26.74     3.01   .00  2.46   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .321
**** 1    186.0     5.95     6.10    .14     1.00     22.94     3.30   .00  3.05   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .340
**** 1    186.0     6.16     6.32    .16     1.00     21.86     3.54   .00  3.25   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0

SEC NO.     .358
**** 1    186.0     6.40     6.55    .15     1.00     22.74     3.75   .00  3.09   .00
                                             FLOW DISTRIBUTION (%) =    .0 100.0    .0
** Q ABOVE TABLE **                                                                                   **INLOAD*
**WATER DISCHARGE, WATER-SEDIMENT LOAD TABLE ENDPOINT**       186.00        180.00        .000000
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TABLE SA-1. TRAP EFFICIENCY ON STREAM SEGMENT # 1
CLOWER CREEK PROPOSED SYSTEM.
ACCUMULATED AC-FT ENTERING AND LEAVING THIS STREAM SEGMENT

TIME DAYS	ENTRY POINT	CLAY INFLOW	CLAY OUTFLOW	CLAY TRAP EFF	SILT INFLOW	SILT OUTFLOW	SILT TRAP EFF	SAND INFLOW	SAND OUTFLOW	SAND TRAP EFF
8.42	.358	.00			.00			.00		
TOTAL=	.000	.00	.00	.00	.00	.00	-.08	.00	.03	-1353.59

TABLE SB-1.	TOTAL	VF	F	M	C	VC
SEDIMENT INFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	.00	.00	.00	.00	.00	.00
		.00	.00	.00	.00	.00
TOTAL LOAD	.00					
SEDIMENT OUTFLOW						
CLAY	.00					
SILT	.00	.00	.00	.00	.00	
SANDS & GRAVELS	783.80	.05	475.07	149.01	108.14	51.49
		.05	.00	.00	.00	.00
TOTAL LOAD	783.80					

LOAD BY GRAIN SIZE (TONS/DAY)

SECTION ID NO	BED CHANGE FEET	WS ELEV FEET	THALWEG EL FEET	Q CFS	SEDIMENT LOAD (TONS/DAY) CLAY	SILT	SAND
.358	-.10	6.40	2.60	186.	0.	0.	0.
.340	-.10	6.16	2.20	186.	0.	0.	0.
.321	-.10	5.95	1.90	186.	0.	0.	0.
.302	-.10	5.83	1.80	186.	0.	0.	31.
.283	-.10	5.68	1.40	186.	0.	0.	150.
.264	-.08	5.54	1.32	186.	0.	0.	260.
.245	.08	5.41	1.08	186.	0.	0.	342.
.226	.14	5.31	1.04	186.	0.	0.	290.
.207	-.04	5.21	-.04	186.	0.	0.	346.
.189	-.97	4.82	-.97	186.	0.	0.	659.
.170	-.90	4.57	-.50	186.	0.	0.	1284.
.152	-.02	4.44	.48	186.	0.	0.	1368.
.133	-.22	4.24	.38	186.	0.	0.	1419.
.114	-.13	3.86	1.02	186.	0.	0.	1643.
.095	.39	3.66	.39	186.	0.	0.	1285.
.076	-.58	3.41	-.18	186.	0.	0.	1371.
.057	-.95	2.44	-.81	186.	0.	0.	1344.
.026	.99	2.37	-.01	186.	0.	0.	1243.
.026	3.00	2.21	4.40	186.	0.	0.	1291.
.026	-.93	2.29	-.53	186.	0.	0.	1057.
.020	3.20	2.28	2.20	186.	0.	0.	637.
.020	-.68	2.28	.32	186.	0.	0.	633.
.020	-.37	2.22	.03	186.	0.	0.	382.
.000	.51	2.00	.52	186.	0.	0.	98.

$$END

APPENDIX D

MOVEABLE BED DEPTH

Development Conditon	Depth of Moveable Bed, ft.	
	Upstream	Downstream
Predevelopment	0.75	1.0
Existing	1.0	2.0
Proposed	0.70	1.0

PREPARED BY:
BRILEY, WILD AND ASSOCIATES
CONSULTING ENGINEERS AND PLANNERS

SCOUR VELOCITIES

(SOURCE "OPEN CHANNEL HYDRAULICS" BY RICHARD H. FRENCH - McGRAW-HILL 1985)

Material (1)	n^2 (2)	Clear water				Water transporting colloidal silts			
		$\bar{u}$, ft/s (3)	τ_o, lb/ft² (4)	$\bar{u}$, m/s (5)	τ_o, N/m² (6)	$\bar{u}$, ft/s (7)	τ_o, lb/ft² (8)	$\bar{u}$, m/s (9)	τ_o, N/m² (10)
Fine sand, noncolloidal	0.020	1.50	0.027	0.457	1.29	2.50	0.075	0.762	3.59
Sandy loam, noncolloidal	0.020	1.75	0.037	0.533	1.77	2.50	0.075	0.762	3.59
Silt loam, noncolloidal	0.020	2.00	0.048	0.610	2.30	3.00	0.11	0.914	5.27
Alluvial silts, noncolloidal	0.020	2.00	0.048	0.610	2.30	3.50	0.15	1.07	7.18
Ordinary firm loam	0.020	2.50	0.075	0.762	3.59	3.50	0.15	1.07	7.18
Volcanic ash	0.020	2.50	0.075	0.762	3.59	3.50	0.15	1.07	7.18
Stiff clay, very colloidal	0.025	3.75	0.26	1.14	12.4	5.00	0.46	1.52	22.0
Alluvial silts, colloidal	0.025	3.75	0.26	1.14	12.4	5.00	0.46	1.52	22.0
Shales and hardpans	0.025	6.00	0.67	1.83	32.1	6.00	0.67	1.83	32.1
Fine gravel	0.020	2.50	0.075	0.762	3.59	5.00	0.32	1.52	15.3
Graded loam to cobbles when noncolloidal	0.030	3.75	0.38	1.14	18.2	5.00	0.66	1.52	31.6
Graded silts to cobbles when colloidal	0.030	4.00	0.43	1.22	20.6	5.50	0.80	1.68	38.3
Coarse gravel noncolloidal	0.025	4.00	0.30	1.22	14.4	6.00	0.67	1.83	32.1
Cobbles and shingles	0.035	5.00	0.91	1.52	43.6	5.50	1.10	1.68	52.7