FINAL REPORT

Maryvale Area Drainage Master Study

Hydrology

FCD #93-29

Prepared for

Flood Control District of Maricopa County

FEBRUARY 1997

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February 7, 1997

Mr. Russ Miracle, P.E.
Flood Control District of Maricopa County
2801 West Durango Street
Phoenix, AZ 85009

Re: **Maryvale ADMS**
Hydrology
FCD #93-29
WP #95154

Dear Mr. Miracle:

Enclosed please find four (4) sets of Final Hydrology Reports for the **Maryvale ADMS.**

This submittal, prepared by the Wood/Patel-CH2M Hill team, covers hydrologic analyses for the entire watershed within the ADMS. The HEC-1 model incorporated comments and suggestions from all of our previous submittals including the Pilot HEC-1 Study, Hydrologic Analysis First Phase, Hydrologic Analysis Entire Watershed, Draft Final Report, and Pre-Final Report.

Please note that the report (each set) is prepared in two separate 3-ring binders. The first binder is the main body of the report including drainage parameters, technical backup data, spreadsheets, computer disks, and exhibits. The second binder includes hard printouts of the results of our HEC-1 analysis.

Per our discussion, additional copies of this report are also being submitted separately to the following:

Ray Acuña, P.E. - 2 sets
City of Phoenix

Daniel A. Sherwood, P.E. - 2 sets
City of Glendale

Dan Nissen, P.E. - 2 sets
City of Peoria

This submittal concludes Phase I, Hydrology of our Scope of Work. We are now looking forward to initiating Phase II, Area Drainage Master Plan (ADMP). The ADMP will require site-specific flood mitigation study/solutions. We are ready to meet with the Cities of Phoenix, Glendale and Peoria to coordinate the ADMP. I will be contacting you soon to initiate the coordination meetings.

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E-Mail: woodpatl@netzone.com

Mr. Amir Motamedi and you provided critical technical support and decision-making guidance throughout the study phase. These contributions represent a key role in the successful completion of the hydrology phase. We sincerely enjoyed these relationships and look forward to similar support through the ADMP phase.

Sincerely,

WOOD, PATEL & ASSOCIATES, INC.

Ashok C. Patel, P.E., R.L.S.
Principal

ACP/djp

Enclosures

cc: Steve Walker, P.E., CH2M Hill
David Dust, P.E., CH2M Hill

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Registered Professional Engineer (Civil) CERTIFICATE NO. 10512 ASHOK C. PATEL Date Signed 2/7/97 ARIZONA, U.S.A.

Registered Professional Engineer (Civil) CERTIFICATE NO. 21660 DAVID W. DUST Date Signed 2-7-97 ARIZONA, U.S.A.

1. Introduction

1.1 Scope

Wood, Patel & Associates, Inc. has been contracted by the Flood Control District of Maricopa County (District) to prepare the Maryvale Area Drainage Master Study (ADMS). CH2M HILL assisted Wood, Patel and Associates, Inc. by preparing the "existing conditions" hydrologic analyses for the approximately 100-square-mile Maryvale ADMS study area.

The primary purposes of this report are to:

- Document the methodologies and procedures used to develop the HEC-1 models for the Maryvale ADMS study area, under existing conditions.
- Document the results of the hydrologic analyses.

1.2 Objectives

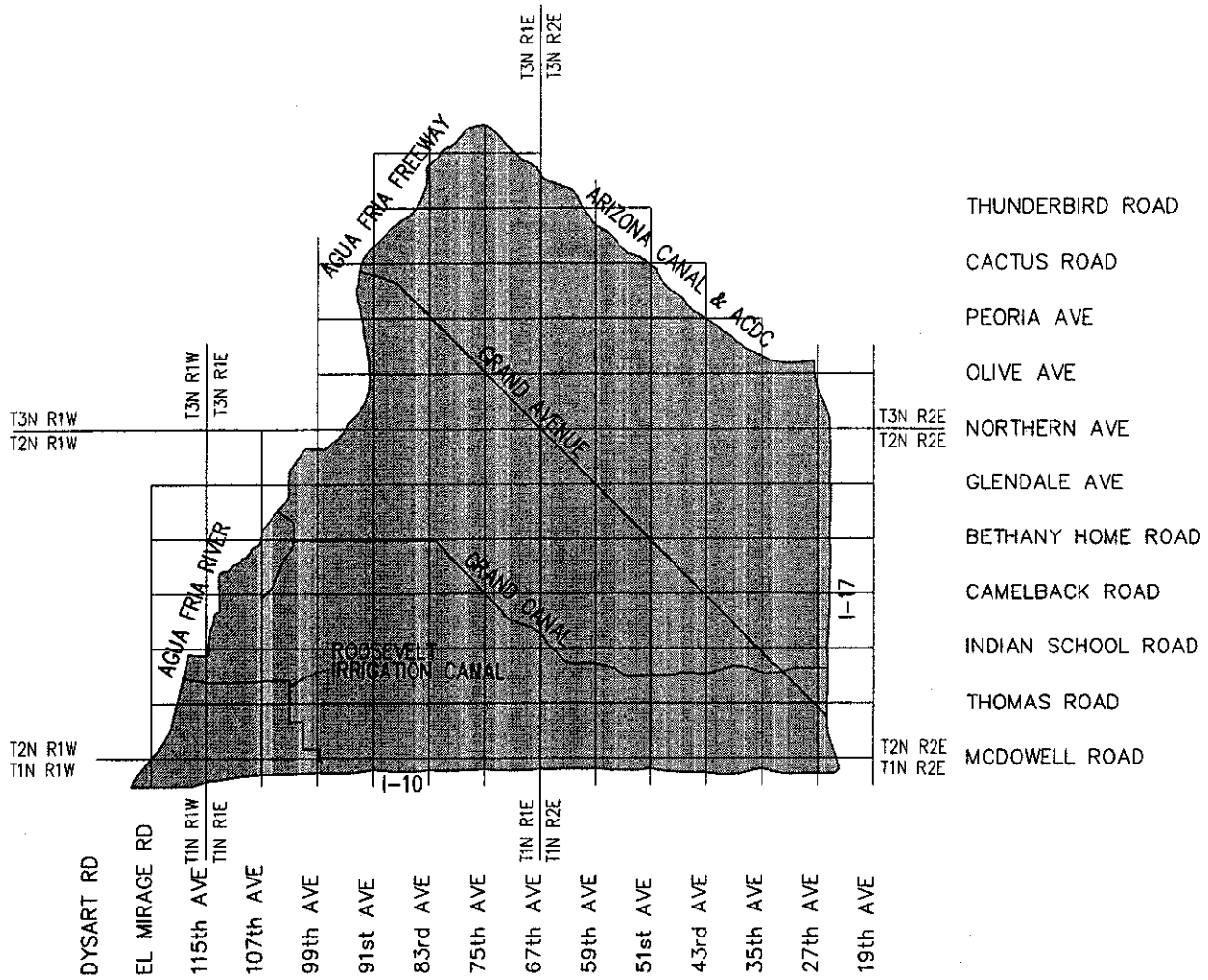
To allow the identification and quantification of flood hazards within the study area, the primary objectives of the hydrologic modeling component of the Maryvale ADMS project were to develop HEC-1 models that:

- Provide runoff computations for a primarily urban drainage area, where sub-basin drainage boundaries are not well defined and flow paths are very complex.
- Evaluate 10-year, 6-hour; 100-year, 6-hour; and 100-year, 24-hour rainfall events.
- Allow efficient evaluation of both existing and future storm drain systems.
- Provide a cost-effective planning and analysis tool.
- Allow for efficient updating.

The HEC-1 modeling approach documented in this report meets these objectives and the criteria specified in the project's scope of work. It is anticipated that the HEC-1 model created for the Maryvale ADMS will be a useful and cost-effective planning tool.

1.3 Study Area Description

The study area for the Maryvale ADMS is approximately 100 square miles in size and encompasses portions of the City of Peoria, the City of Glendale, the City of Avondale, the City of Tolleson, the City of Phoenix, and un-incorporated Maricopa County. As indicated in Figure 1-1, the study area is bounded on the north by the Arizona Canal Diversion Channel (ACDC) and Skunk Creek, on the east by I-17, on the south by I-10, and on the west by the Agua Fria River and the Agua Fria Freeway.



N.T.S.

Figure 1-1: STUDY AREA MAP

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The study area can be characterized as follows.

- **Slope.** The slope of the land is generally from the northeast to the southwest at approximately 0.4 percent.

- **Land Uses.** The primary land use with the study area is single family residential. However, essentially all of the study area had been agricultural land at some point in the past.

- **Primary Flooding Locations.** During significant rainfall events, stormwater ponds at several locations along the upstream side of the Roosevelt Canal, the Grand Canal, and Grand Avenue and/or the adjacent railroad embankment. However, flooding also occurs at numerous intersections and along several major streets.

- **Existing Channel Systems.** The ACDC and Skunk Creek define the northern boundary of the study area. The ACDC and Skunk Creek are regional flood control facilities, with design capacities greater than the 100-year event. Within the study area, two major flood control channel systems were built and are maintained by the Arizona Department of Transportation (ADOT), as illustrated in Figure 1-2. These channel systems extend along the east side of the Agua Fria Freeway and along the north side of I-10. The existing ADOT channel system along the east side of the Agua Fria Freeway extends from approximately Greenway Road to Glendale Avenue. This channel system outfalls at several locations into the New River and collects both surface and storm drain flow. The ADOT channel system, along the north side of I-10, outfalls into the Agua Fria River and collects both surface and storm drain flow.

- **Existing Storm Drain Systems (Peoria and Glendale).** There are three major storm drain systems in the northern portion of the study area, as shown schematically in Figure 1-2. The Cactus Road storm drain system currently extends from approximately 67th Avenue west to 83rd Avenue. The Cactus Road storm drain system will be extended to the ADOT channel system along the east side of the Agua Fria Freeway, with an expected completion date of July 1997. The Olive Avenue storm drain system extends from approximately 51st Avenue west to the ADOT channel system, along the east side of the Agua Fria Freeway. The Olive Avenue storm drain system has two surge basins located at approximately 71st Avenue and 83rd Avenue. The Olive Avenue storm drain system has a 10-year event design capacity. The Peoria Avenue storm drain system extends from approximately Grand Avenue to the Agua Fria Freeway channel system.

- **Existing Storm Drain Systems (Phoenix).** As shown in Figure 1-2, the City of Phoenix has a complex system of storm drains that convey stormwater from as far north as Northern Avenue south to the Salt River. Primary components of this system include storm drains along 27th, 35th, 39th, 43rd, 51st, 67th, 75th, 83rd, and 91st Avenues. The design capacities for these storm drain systems are generally estimated to be between the 2- and 10-year events.

- **Future Storm Drain Systems.** Several future storm drain systems were included in the HEC-1 model for "existing conditions." These future systems include storm drains along Butler Drive, Northern Avenue, and Orangewood/Glendale Avenues, as indicated in Figure 1-2. In addition, the Cactus Road storm drain system was assumed to be complete and, therefore, extend to the Agua Fria Freeway channel.

2. A Brief Chronology of Previous Studies

Reports of the flooding of agricultural fields and of flows overtopping canal banks date back to the 1940's, when agriculture was essentially the only land use in the Maryvale ADMS study area. Even as late as the 1960s, agriculture was still the primary land use within the study area (FCDMC, 1962). In the 1960s, the U.S. Army Corps of Engineers documented, in detail, the storm and flood event of August 16, 1963. During the 1963 storm event, the Corps documented flooding of both residential and commercial properties along primarily the Grand Canal.

Also in the early 1960s, the District prepared the "Flood Control Survey Report"(FCDMC, 1962) and the "Comprehensive Flood Control Program Report"(FCDMC, 1963). These studies identified and documented the flood hazards along Grand Avenue and the canal systems. The latter of these two studies documents plans for several regional flood control facilities, including the ACDC, the New River Dam, and Adobe Dam. Many of the regional flood control facilities identified in the 1963 study were designed and built in the 1970s, 1980s, and the early 1990s.

In the late 1980s, the Arizona Department of Transportation evaluated flood hazards and drainage requirements for the future Outer Loop Highway (WLB, 1987), and future highway improvements along Grand Avenue (Tudor, 1989). Also in the 1980s, the District prepared the "Glendale-Peoria Area Drainage Master Plan"(Camp Dresser and McKee et. al., 1987). This study evaluated flooding hazards and flood control alternatives for an area located within the study area for the Maryvale ADMS. The flood control alternatives evaluated in this study primarily involved networks of storm drain systems.

In the early 1990s, the District sponsored studies that evaluated various storm drain alternatives along Cactus Road, Butler Drive, Northern Avenue, and Orangewood/Glendale Avenue (SFC, 1992) and (WPA, 1995). In 1995, the District had flooding hazards and flood control alternatives evaluated for the flooding area along the Grand Canal, between approximately 35th and 67th Avenues (CVL, 1995). This study evaluated storm drain and retention basin alternatives for relieving flooding along the north side of the canal.

The Maryvale ADMS is intended to address the drainage issues for a study area that essentially encompasses the study areas of the previous studies. Within this study area, there is a complex network of existing drainage facilities. In addition, there are several future flood control systems at various levels of planning and design. Hence, an important aspect of this study was to develop a hydrologic model that is flexible and adaptable.

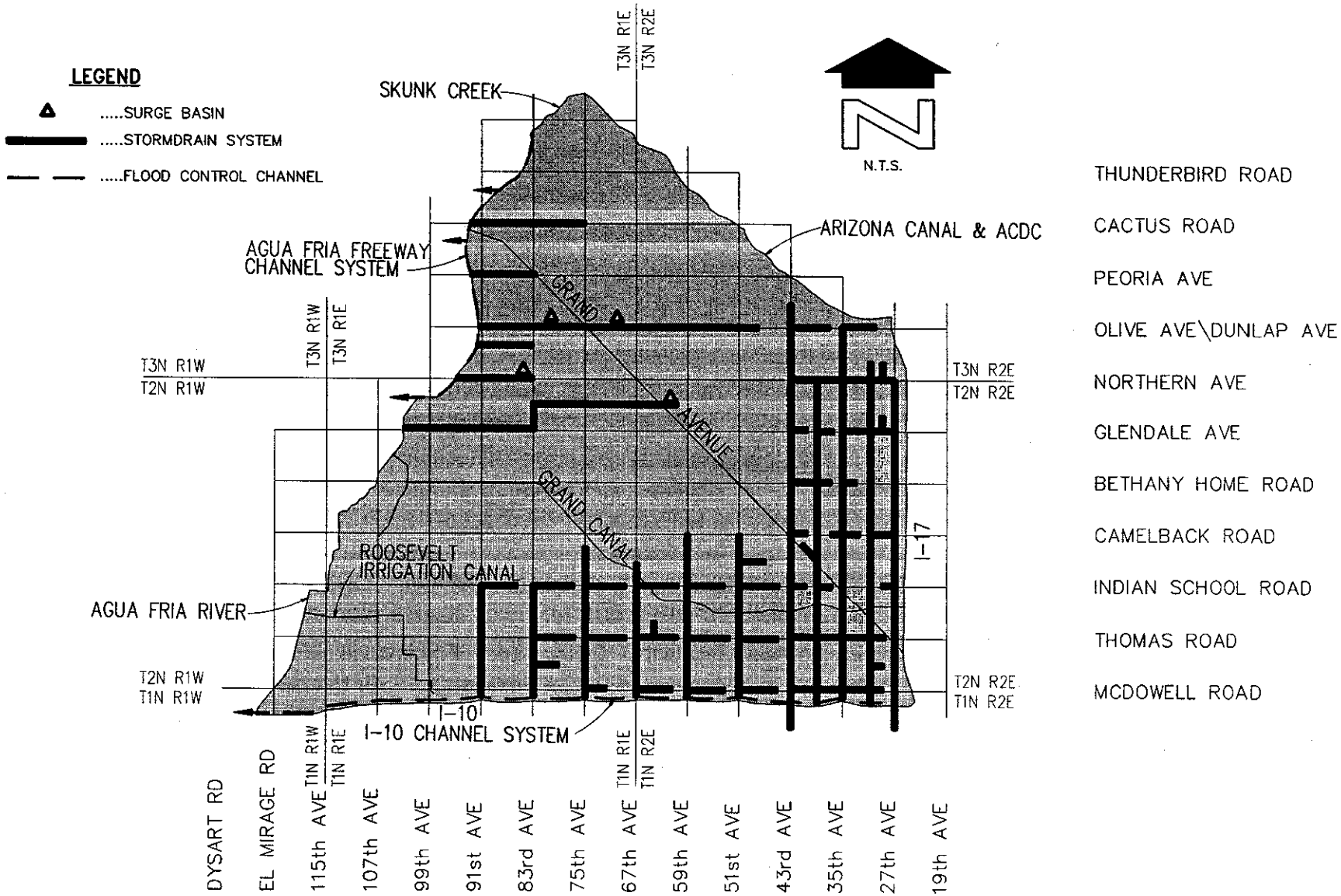

Figure 1-2: SCHEMATIC OF STORMDRAIN SYSTEMS

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3. Hydrologic Analyses

3.1 HEC-1 Modeling Approach

To meet the primary objectives of the hydrologic modeling component of the Maryvale ADMS project, it was essential to develop a HEC-1 modeling approach that is adaptable. The HEC-1 modeling approach used in this study was developed by first evaluating the drainage patterns within a 3.8-square-mile pilot study area.

The pilot study area selected appeared to be reasonably representative of the highly urbanized portion of the total 100-square-mile study area. Detailed evaluation of the detailed topographic mapping and site conditions for the pilot study area indicated that:

- Arterial streets are very important conveyors of storm water; however, the capacity of the arterial streets will typically be exceeded during the 10-year event. Stormwater flows will exit typical arterial streets as weir flow down side streets.
- Since the arterial streets are the primary conveyors of stormwater, it is logical to consider the approximately 1-square-mile area bounded by arterial streets as a sub-basin. However, it is important to recognize that stormwater can cross all four sides of the essentially square sub-basin and that the sub-basin does not have a single concentration point. Instead, each sub-basin has a concentration line that extends along the arterial streets along the downstream sides of the essentially square sub-basin.
- The flow patterns within a typical 1-square-mile sub-basin are very complex and can vary significantly during the course of a rainfall event. However, the flow patterns within the sub-basin are primarily controlled by residential and collector street patterns.

Figure 3-1 is a HEC-1 schematic diagram for a typical sub-basin. This figure illustrates the key elements and structure of the HEC-1 modeling approach used in this study. As indicated in Figure 3-1, the HEC-1 model for a typical sub-basin includes the following standard elements:

- Hydrograph computations for the sub-basins per the District's methodologies.
- Normal depth channel routings for the arterial streets.
- Normal depth composite-channel routings for flow passing through a sub-basin along multiple streets.
- In some cases, reservoir routings for ponding areas and regional retention basin systems within a sub-basin.
- Hydrograph combines along streets and within sub-basins.

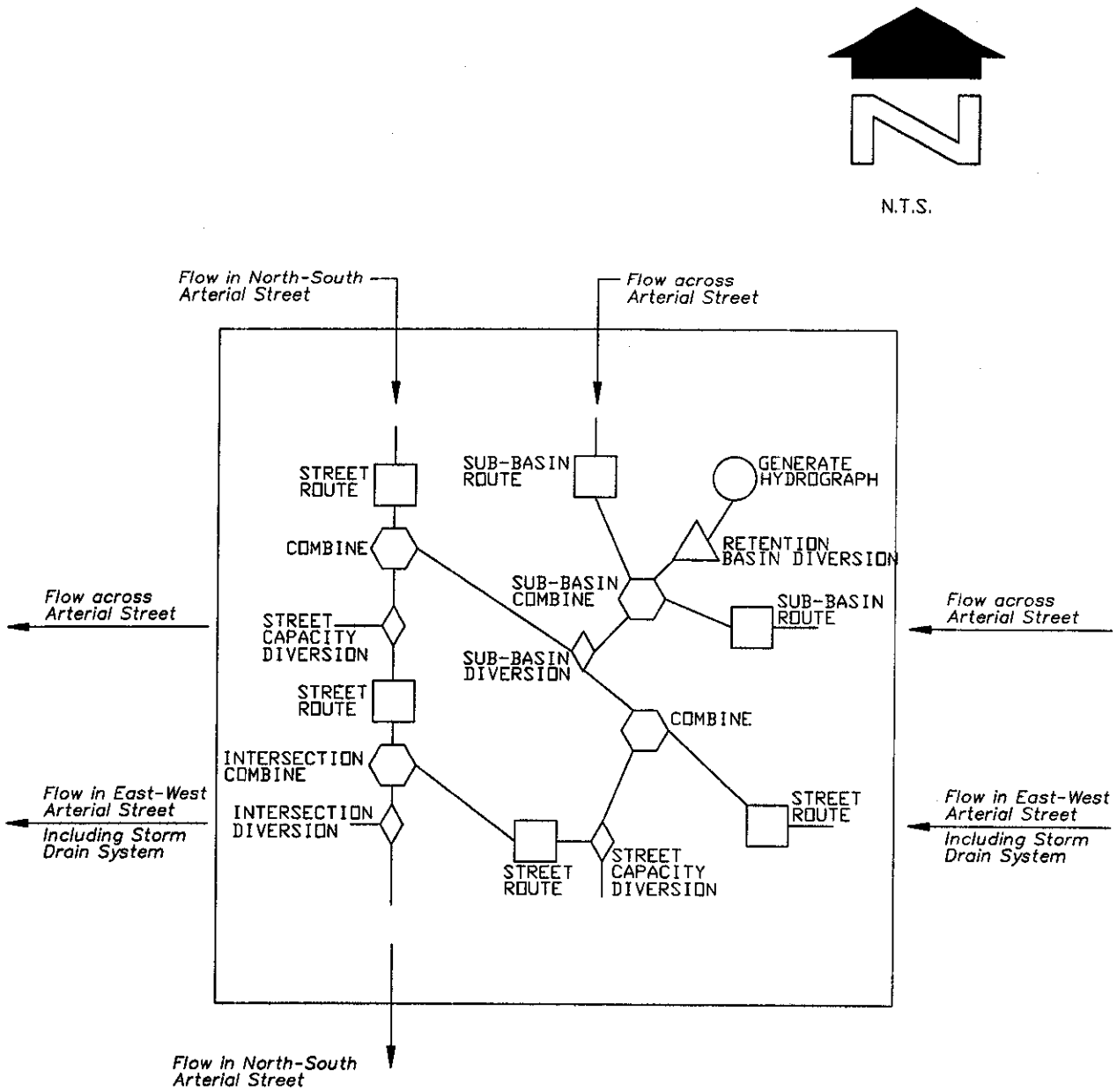

Figure 3-1: HEC-1 SCHEMATIC FOR A ONE SQUARE MILE SUB-BASIN

However, the uniqueness of the proposed HEC-1 modeling approach lies in its structure and the use of various categories of flow diversions. The ability to model flow diversions flexibly was the key for developing a modeling approach for the study area that meets the project objectives. As indicated in Figure 3-1, flow diversions are used in five distinctly different ways:

1. **Street Capacity Diversions.** Street capacity diversions are used to compute the flow being conveyed by a major/arterial street and the flow that exits the arterial street and enters the adjacent sub-basin via both residential and collector streets.

2. **Street Intersection Diversions.** Street intersection diversions are used to distribute the flow passing through an intersection. Intersection diversion rating curves for arterial streets are based on relative street capacities and the capacity of existing or future storm drain systems.

3. **Sub-basin Diversions.** Sub-basin diversions are used to identify the southerly and westerly components of runoff generated within a sub-basin and flow entering a sub-basin from adjacent arterial streets. Rating curves for these diversions are primarily based on easily measured areas; however, some judgment is required.

4. **Retention Basin Diversions.** In cases where a portion of a sub-basin drains to a retention basin or system of retention basins, flow diversions are used to divert the volume of water corresponding to the measured capacities of the retention basins. The percentage of the flow rate that can be diverted (i.e., the DQ-record information) corresponds to the percentage of the sub-basin area that drains to the retention basin(s).

5. **Surge Basin Diversions.** The Olive Avenue, Northern Avenue, and Orangewood/Glendale Avenue storm drain systems have surge basins, as indicated in Figure 1-2. Flow diversions are used to simulate the diversion of flow from a storm drain system into a surge basin.

The schematic for the Maryvale ADMS HEC-1 model is shown in Exhibit 1. The computational sequence of the HEC-1 model has been set up to minimize the number of hanging hydrographs and emphasize the east-west streets. Emphasizing or following east-west streets simplifies the task of modifying the model to reflect storm drain alternatives that may extend along the east-west streets. Yet, the structure of the model is such that the computational path for the north-south streets is relatively easy to identify and follow.

In addition, the structure of the HEC-1 modeling approach is such that :

- Flow can be routed into and out of a typical 1-square-mile sub-basin across essentially all four sides of the sub-basin.

- Flow can be routed along all four sides of a typical 1-square-mile sub-basin.

- Street intersection, street capacity, and sub-basin diversions can be modified to reflect future or existing storm drain systems, along arterial and collector streets.

- Retention basin diversions can be added and modified to reflect future retention facilities.

As indicated in Exhibit 1, the HEC-1 element names are based on section numbers and street names. A detailed description of the element name nomenclature is provided in Appendix B and in the ID-records of the HEC-1 data sets.

3.2 HEC-1 Input Data Development

3.2.1 General

The input parameters for the Maryvale ADMS HEC-1 models have been measured from or are primarily based on the following sources of data:

- Detailed topographic mapping (i.e., 1"=200' with a contour interval of 1 or 2 feet) prepared by Kenney Aerial Mapping, based on photography flown on March 28, 1994.
- 1990/1991 land use data provided in GIS format by the District.
- Soil type data, based on the *Soil Survey of Maricopa County, Arizona: Central Part* (SCS, 1977), as provided in GIS format by the District.
- NOAA Atlas II precipitation data as documented in *Drainage Design Manual for Maricopa County: Volume I: Hydrology* (FCDMC, Jan. 1995).

The following sections of this report describe the specific sources of data and the techniques used to develop the HEC-1 input data. However, detailed documentation and computation sheets for the various components of the HEC-1 model are provided in the appendix as follows:

Appendix A:	Precipitation Data
Appendix B:	Sub-basin Parameters
Appendix C:	Sub-basin Diversions
Appendix D:	Arterial and Composite Street Routes
Appendix E:	Retention Basin and Ponding Area Data
Appendix F:	Street Capacity Diversions
Appendix G:	Street Intersection Diversions
Appendix H:	Storm Drain and Surge Basin Data
Appendix I:	Cumulative Area Computations for Hydrograph Combines
Appendix J:	I-10 Freeway Channel Analysis
Appendix K:	HEC-1 Element Nomenclature, HEC-1 Output and Input Files

3.2.2 Rainfall Event Parameters

3.2.2.1 Precipitation Data

Adjusted point rainfall depths for the 10-year, 6-hour; 100-year, 6-hour; and the 100-year, 24-hour events were computed for the study area. The point rainfall values were computed using the District's DDMS/PREFRE software package and the isopluvial maps, as documented in the *Drainage Design Manual for Maricopa County: Volume I Hydrology* (FCDMC, 1995). The point rainfall depth computations are documented in Appendix A.

3.2.2.2 Rainfall Distributions

Rainfall events with 6- and 24-hour rainfall distributions were evaluated for the study area.

- **6-Hour Rainfall Distributions.** The dimensionless storm patterns documented in the *Drainage Design Manual for Maricopa County: Volume I Hydrology* (FCDMC, 1995), were used in this study.
- **24-Hour Rainfall Distribution.** The SCS Type II distribution was used in this study to model the 100-year, 24-hour event.

3.2.2.3 Multiple versus Single Storm Event

The District's DDMS software allows computation of sub-basin parameters (i.e. Clark Unit Hydrograph Parameters "Tc" and "R") for either "multiple" or "single" storm events. When the single storm option is used, the HEC-1 model has a single point rainfall value and a single rainfall distribution, that corresponds to a specified drainage area. Whereas, the "multiple storm" HEC-1 model uses point rainfall values and rainfall distributions, from the multiple point rainfall values and distributions listed in the HEC-1 data set, based on the drainage area specified for each sub-basin.

The multiple storm option has been used to model the general "existing conditions." However, there may be applications of the basic Maryvale ADMS HEC-1 Model, where the single storm option may be more appropriate.

3.2.3 Sub-basin Parameters

3.2.3.1 Sub-basin Boundaries

As indicated in Figure 1-1, the study area encompasses approximately 100 square miles. As shown in Exhibits 1 and 2, the study area has been delineated into 141 sub-basins in a manner consistent with the HEC-1 modeling approach described in Section 3.1 of this report. The sub-basin parameter data collected for the study area is documented in detail in Appendix B.

3.2.3.2 Land Use and Soil Data

The District provided land use and soil map data in GIS format. The land use and soil map data are shown in Exhibits 3 and 4. GIS software was used to compute the sub-basin areas, the area of each soil unit in each sub-basin, and the area of each land use category in each sub-basin. This information was used as input data for the DDMS software. The various parameters assigned to each land use type are as given in Table 3-1. The percent impervious specified for each land use (i.e. RTIMP) was assumed to be 100% effective.

3.2.3.3 Unit Hydrograph

The Clark Unit Hydrograph option in HEC-1 was used for all sub-basins. The HEC-1 input parameters (UA and UC-records) were generated using the District's DDMS software. The DDMS sub-basin parameter data for the study area are given in Appendix B

3.2.3.4 Precipitation Losses

The Green-Ampt precipitation loss option was used for all sub-basins. Green-Ampt parameters for each sub-basin were computed using the DDMS software, based on the land use and soil data.

3.2.3.5 Time of Concentration Flow Paths

Time of concentration flow path data was determined for each sub-basin using the detailed topographic mapping. The time of concentration flow paths for each sub-basin are shown in Exhibit 2.

TABLE 3-1
Land Use Parameters

Land Use Type	DTHETA Condition	% Veg. Cover	RTIMP Percent	IA Inches	Kn	Kb Roughness Type
Desert	Dry	25	0	0.350	0.030	Low
Open	Dry	10	0	0.200	0.020	Min
VLDR	Normal	30	5	0.300	0.050	Hi
LDR	Normal	50	15	0.300	0.050	Hi
MDR	Normal	50	30	0.250	0.050	Hi
MFR	Normal	50	45	0.250	0.050	Hi
Ind	Normal	60	55	0.150	0.030	Min
Comm	Normal	75	50	0.100	0.020	Min
Park	Normal	90	10	0.200	0.100	Hi
Rowcrop	Normal	85	0	0.500	0.100	Hi
School1	Normal	80	45	0.290	0.050	Hi

3.2.4 Sub-basin Diversions

Within the study area, the slope of the land is generally from the northeast to the southwest at approximately 0.4 percent. Hence, stormwater flowing within a typical sub-basin is directed and conveyed to the arterial streets along the west and south sides of the sub-basin, by residential and collector streets. That is, some of the stormwater is conveyed west to the north-south arterial street, by residential and collector streets, while the remainder of the stormwater is conveyed south to the east-west arterial street by residential and collector streets.

Sub-basin diversions are used to separate or divide the hydrograph, for the stormwater within a sub-basin, into a southerly and a westerly component. The hydrograph for the stormwater within a sub-basin includes runoff generated within a sub-basin and typically the flow entering a sub-basin from the adjacent arterial streets.

Sub-basin diversion data have been computed based on the drainage patterns within each of the sub-basins. The drainage patterns within the sub-basins have been evaluated using the topographic mapping for the study area and site observations. The sub-basin diversion data computations are documented in Appendix C.

3.2.5 Arterial and Sub-basin Street Routes

3.2.5.1 Arterial Street Routes

The Normal-Depth Channel Routing option in HEC-1 is used for arterial street routes. The input data for arterial street routes are based on a typical arterial street section and measured street slopes and reach lengths. Detailed documentation for each arterial street route is provided in Appendix D.

3.2.5.2 Sub-basin Street Routes

The Normal-Depth Channel Routing option in HEC-1 is used for sub-basin street routes. The input data for sub-basin street routes was based on a composite section and measured street slopes and reach lengths. Detailed documentation for each sub-basin street route is provided in Appendix D.

3.2.6 Retention Basin and Ponding Area Data

3.2.6.1 Retention Basin Data

In cases where a portion of a sub-basin drains to a retention basin or system of retention basins, flow diversions are used to divert the volume of water corresponding to the measured capacities of the retention basins. The percentage of the flow rate that can be diverted (i.e., the DQ-record information) corresponds to the percentage of the sub-basin area that drains to the retention basin(s). The retention basin computation sheets for each sub-basin are given in Appendix E.

3.2.6.2 Ponding Area Data

During significant rainfall events, stormwater ponds at several locations along the upstream side of the Roosevelt Canal, the Grand Canal, and Grand Avenue and/or the adjacent railroad embankment. Storage volume, ponding elevation, and outfall data were computed based on the detailed topographic mapping and supplemental surveyed spot elevations. The ponding area computation sheets are given in Appendix E.

3.2.6.3 Maryvale Mitigation Area

Within the Maryvale Mitigation Area study limits, the ponding areas have been modeled based primarily on the data documented by CVL (1995) ; however, this data has been revised to reflect preliminary analyses of the conveyance capacity along the north side of the Grand Canal and additional storm drain capacity computations. The data used to develop the HEC-1 input data for the ponding areas and corresponding diversions are provided in Appendix E and Appendix H.

3.2.7 Street Capacity Diversions

Street capacity diversions are used to compute the flow being conveyed by arterial street and the flow that exits the arterial street and enters the adjacent sub-basin via both residential and collector streets. Two general cases of street capacity diversions have been evaluated. The typical case (Case "1") is when flow exits the arterial street as weir flow into the side streets. Along most arterial streets, the side streets have been designed with a high point or grade break near the intersection. This prevents stormwater flowing in the gutter of the arterial from being directly conveyed into the side street. However, a special case, that occurs at several locations, is when stormwater can exit the arterial street directly into the side street. In this case, normal depth calculations are use to develop rating data for both the arterial and side street(s). As indicated in the detailed documentation given in Appendix F, spreadsheets have been used to compute the rating curves for the street capacity diversions based on easily measured physical parameters and future/existing storm drain system capacities.

3.2.8 Street Intersection Diversions

Street intersection diversions are used to distribute the flow passing through an intersection. Intersection diversion rating curves for arterial streets are based on relative street capacities and the capacity of existing or future storm drain systems. Two general types of street intersections have been evaluated. *Type A--Arterial Street Intersections* are the typical type of arterial street intersections within the study area. The characteristics of a Type A intersection are as follows:

- Continuous pavement crowns in both directions; that is, valley gutters are **not** used to direct stormwater through the intersection.
- Street slopes in the vicinity of the intersection are relatively mild (i.e., less than 1%).
- Intersection is subject to low velocity inundation.

The special case or *Type B--Arterial Street Intersections* refers to the condition where the pavement crown is continuous in only one direction through the intersection. In this case, the intersection diversion is based on normal depth and weir flow computations. The intersection diversion data collected for the study area are documented in detail in Appendix G.

3.2.9 Storm Drain Systems

3.2.9.1 Existing Storm Drain Systems within the Cities of Peoria and Glendale

There are three major storm drain systems in the northern portion of the study area, as shown schematically in Figure 1-2. The Cactus Road storm drain system currently extends from approximately 67th Avenue west to 83rd Avenue. The Cactus Road storm drain system will be extended to the ADOT channel system along the east side of the Agua Fria Freeway, with an expected completion date of July 1997. The Olive Avenue storm drain system extends from approximately 51st Avenue west to the ADOT channel system along the east side of the Agua Fria Freeway. The Olive Avenue storm drain system has two surge basins located at approximately 71st Avenue and 83rd Avenue. The Olive Avenue storm drain system has a 10-year event design capacity. The Peoria Avenue storm drain

system extends from approximately Grand Avenue to the Agua Fria Freeway channel system.

The Peoria Avenue, Cactus Road, and Olive Avenue storm drain systems have been incorporated into the HEC-1 model, by modification of the appropriate street intersection and street capacity diversion rating curves. The Cactus Road storm drain system has been modeled assuming the system is complete and outfalls to the Agua Fria Freeway Channel. Storm drain capacity data for these systems are based on the capacities given in the design reports for these storm drain systems. The storm drain capacity data and detailed documentation describing how the storm drain systems are reflected in the HEC-1 model are provided in Appendix H.

3.2.9.2 Existing Storm Drain Systems within the City of Phoenix

As shown schematically in Figure 1-2, the City of Phoenix has a complex system of storm drains that convey stormwater from as far north as Northern Avenue south to the Salt River. Primary components of this system include storm drains along 27th, 35th, 39th, 43rd, 51st, 67th, 75th, 83rd, and 91st Avenues. The design capacities for these storm drain systems are generally estimated to be between the 2- and 10-year event.

The capacities of the storm drain systems located within the City of Phoenix have been estimated based on pipe slopes and diameters, assuming pipe full conditions. The capacity computations for these storm drain systems are given in Appendix H.

3.2.9.3 Future Storm Drain Systems Included In "Existing Conditions"

Several future storm drain systems were included in the HEC-1 model for "existing conditions." These future systems include:

- The storm drain systems evaluated and proposed in the "Northern /Orangewood Storm Drain Project: Concept Routing Study FCD #94-12" by Wood, Patel & Associates(1996). The study proposed systems along Butler Drive, Northern Avenue, and Orangewood/Glendale Avenues, as indicated in Figure 1-2. The storm drain capacity data for these storm drain systems are given in Appendix H.

- Extension and completion of the Cactus Road storm drain system. The Cactus Road storm drain system will be extended to the ADOT channel system along the east side of the Agua Fria Freeway, with an expected completion date of July 1997.

3.2.10 Cumulative Area Computations for Hydrograph Combines

When hydrographs generated from diverts are combined, HEC-1 requires a drainage area specified on the HC-record. This area is used to compute an interpolated hydrograph for the "combined hydrograph," based on the data given in the JD-records (HEC,1990).

For this study, areas have been computed for each combine node based on the total area of all the sub-basins located upstream of the combine node. These "Cumulative Area Computations," given in Appendix I, list the areas and names for all of the upstream sub-basins for each combine node.

The drainage area specified for each of the combine nodes represents the maximum drainage area that may contribute flow to the combine node. It is recognized that a combine node may only receive a small fraction or none of the runoff hydrograph for some of the upstream sub-basins.

3.3 Data Management

The HEC-1 model for the Maryvale ADMS study area is composed of approximately 12,320 lines of data. The model includes approximately:

- 140 Sub-Basins.
- 400 Arterial Street Routes.
- 330 Composite Street Routes.
- 200 Street Capacity Diversions.
- 140 Sub-Basin Diversions.
- 90 Intersection Diversions.
- 30 Retention Basin Diversions.
- 24 Ponding Areas (i.e., reservoir routes).
- 80 Miles of Storm Drain Systems.

When possible, Excel spreadsheets have been used to compute and manipulate the data required to generate the input data for the HEC-1 model. As provided in the appendices, listings of these spreadsheets have also been used to document the input data development.

As indicated in Exhibits 3 and 4, developing the sub-basin data for the HEC-1 model involved the manipulation of a large amount of soil and land use data. GIS software, more specifically ArcInfo, was used to compute the total area for each Sub-Basin and the portions thereof within each of the soil groups and land use categories.

4. Evaluation of Study Results

4.1 Results of Hydrologic Modeling

The computed peak discharges for the 10-year, 6-hour and the 100-year, 6-hour events are summarized in Exhibits 5 and 6, respectively. The computed peak discharges indicated in Exhibits 5 and 6 represent surface and/or storm drain flows. The complete HEC-1 input and output files are provided in Appendix K.

As illustrated in Exhibits 5 and 6, it is important to note that the HEC-1 models do not concentrate extremely large flows in the arterial streets. That is, the structure of the HEC-1 model results in the computed runoff being distributed amongst the arterial streets , the residential/collector streets, and storm drain systems. .Based on site observations and the topographic mapping, the distribution of the runoff amongst the HEC-1 flow paths appears to be consistent with the anticipated flooding patterns.

4.1.1 Flood Prone Areas Along 35th and 27th Avenues

It is apparent in Exhibit 1 that the typical sub-basin schematic, as illustrated in Figure 1-3, is appropriate for the vast majority of the study area. However, some of the sub-basins located adjacent to 35th or 27th Avenues do not drain southwest, as implied in the typical sub-basin schematic. North of Grand Avenue and South of Olive Avenue, grade breaks and low lying areas cause 35th and 27th Avenues to collect and convey storm water directly south. Along 35th and 27th Avenues, storm water is conveyed as surface and/or storm drain flows. Review of the detailed topographic mapping indicates that the gutter elevations in 27th Avenue are higher than adjacent areas in several locations. This is specifically the case along the west side of 27th Avenue from Maryland Avenue to Missouri Avenue. The results of this study indicate that several low lying areas adjacent to 35th and 27th Avenues are prone to flooding.

4.1.2 I-10 Freeway Channel

The I-10 Freeway and drainage channel define the southern boundary of the study area. The channel system along the north side of the freeway collects and conveys storm water westerly to the Agua Fria River. The channel system collects surface flows and flows from the City of Phoenix's storm drain systems.

The capacity of the I-10 Freeway channel has been assessed on a simple level. In Table 4-1, estimated water surface elevations are compared with top-of-bank elevations at several locations along the channel. Flow depths in the I-10 Freeway channel have been estimated based on uniform flow computations; even though, backwater flow conditions are anticipated in the channel, during major flood events. The results of the analyses, summarized in Table 4-1, indicate that the I-10 Freeway Channel may not have capacity for the 100-year event in the vicinity of 83rd and 91st Avenues.

Table 4-1: Comparison of Computed Peak Discharges and Capacity of I-10 Freeway Channel

Summary: This table indicates that the I-10 Freeway Channel may not have capacity for the 100-Year event in the vicinity of 83rd and 91st Avenues.

ADOT: I-10 Freeway Channel Configuration Data[2]						10-Year, 6-Hour Event			100-Year, 6-Hour Event			100-Year, 24-Hour Event		
Location[1]	Approx. Invert Elev.	Approx. Channel Slope (ft/ft)	Approx. Bottom Width (ft)	Approx. Side Slope	Approx. Top of Bank Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.
43rd Ave	1055.4	0.00100	10	2:1	1070	1950	9.1	1065	4140	12.6	1068	3620	11.9	1067
51st Ave	1051.0	0.00056	10	2:1	1070	2620	11.8	1063	5430	16.1	1067	5030	15.6	1067
59th Ave	1038.0	0.00044	10	2:1	1060	3080	13.3	1051	5770	17.4	1055	5520	17.1	1055
67th Ave	1034.0	0.00194	20	2:1	1050	3490	8.5	1043	6560	11.5	1046	6390	11.4	1045
75th Ave	1023.9	0.00177	20	2:1	1044	4040	9.3	1033	7550	12.6	1037	7410	12.5	1036
83rd Ave[4]	1013.5	0.00020	20	2:1	**1032**	4150	15.9	1029	**7700**	**21.0**	**1035**	**7920**	**21.3**	**1035**
91st Ave[4]	1003.4	0.00056	20	2:1	**1022**	4590	16.2	1020	**8680**	**22.3**	**1026**	**9070**	**22.8**	**1026**
99th Ave	999.0	0.00213	20	2:1	1016	4580	9.5	1009	9030	13.1	1012	9540	13.5	1013
107th Ave	990.5	0.00139	20	2:1	1010	4590	10.5	1001	9360	14.8	1005	9920	15.2	1006
115th Ave	981.5	0.00071	60	2:1	996	4610	8.0	990	9530	12.0	994	10120	12.4	994

Notes:

(1) The channel configurations correspond to a location immediately downstream of the indicated road crossing.

(2) The channel configuration data is based on topographic mapping (1"=200', 2' contour interval) flown in March 1994.

(3) The estimated flow depths are based on uniform flow computations; however, backwater flow conditions are anticipated during major flood events.

(4) The results of this analysis indicate that overtopping of the channel banks may occur at this location.

4.1.3 Ponding Areas Along Grand Avenue And The Canals

A total of 24 ponding areas were assessed with the HEC-1 model in this study. These ponding areas are shown in Exhibits 5, 6 and A through S (Appendix L). The computed peak discharges exiting from the ponding areas and the corresponding high water elevations are summarized in Table 4-2.

The ponding area delineations shown in Exhibits A through S are based strictly on the results of the HEC-1 model. These ponding areas correspond to depressed areas that lack a positive drainage outfall, as identified with the detailed topographic mapping(1"=200', 2' contour interval). There are also areas along the canals and Grand Avenue that are subject to inundation by relatively slow moving stormwater flows. Within the study area, the Flood Insurance Rate Maps (or FIRMS) illustrate flood hazard areas that correspond to a combination of ponding areas and areas subject to relatively slow moving stormwater flows. However, detailed evaluation of the flow depths in the areas subject to innundation by stormwater flows is beyond the scope of the HEC-1 modeling in this study.

4.2 Comparison To Previous Studies

The results of this study have been compared to three drainage previous studies. The study areas for these studies are encompassed by the Maryvale ADMS study area. These three studies are:

- The "Off-site Drainage Concept Study for the Outer Loop Highway" prepared by WLB(1987) for the Arizona Department of Transportation.
- The "Northern/Orangewood Storm Drain Project, Concept Routing Study" prepared by Wood, Patel & Associates(1996) for the District.
- The "Maryvale Area Flooding Mitigation Project, Phase I Pre-Design Report" prepared by CVL(1996).for the District.

4.2.1 Off-site Drainage Concept Study - Outer Loop Highway

The off-site hydrology report for the Outer Loop Highway between Buckeye Road and Northern Avenue was prepared by the WLB Group(1987). The WLB Group was subcontracted by DeLeuw, Cather and Company, the Outer Loop Management Consultant for the Arizona Department of Transportation. The scope of the study was to evaluate the off-site flows that will impact the Outer Loop and to investigate alternative conceptual drainage designs. The WLB Group used HEC-1 to model the 78.3 square mile study area. The hydrologic analysis was based on the SCS Dimensionless Unit Hydrograph and the 24 hour "Hypothetical Storm Distribution" (WLB,1987).

The Outer Loop Highway study has been selected for comparison purposes, since the study area is very similar in extent to the study area for Maryvale ADMS. Computed peak discharges from the Outer Loop Highway study are compared with the results of this study in Table 4-3. As indicated in Table 4-3, the 100-year, 24-hour peak discharges computed as part of the Maryvale ADMS are primarily less than those documented in the Outer Loop

Table 4-2: Summary of Computed Water Surface Elevations

		Computed Peak Discharge from the Ponding Area (cfs)		Computed Water Surface Elevation	
Ponding Area Exhibit	Ponding Area Name	Q100-Yr 6-Hr (cfs)	Q100-Yr 24-Hr (cfs)	Q100-Yr 6-Hr Event	Q100-Yr 24-Hr Event
A	RES8N	401	488	1053.1	1053.1
A	RES8S	1042	1152	1055.5	1055.5
B	PA55	121	124	1102.4	1102.8
B	PA59	615	626	1101.1	1101.1
B	PA63	965	1042	1098.2	1098.3
C	PA43	1032	982	1108.4	1108.3
C	PA47	373	368	1104.9	1104.9
C	PA51	947	910	1105.7	1105.7
D	RES14E	83	86	1087.6	1087.6
E	RES36	2409	2305	1138.2	1138.2
F	RES33	0	0	1123.0	1123.0
G	RES6	2141	1681	1146.0	1145.8
H	RES26T	3104	2893	1113.2	1113.2
I	RES29S	565	620	1021.7	1021.7
J	RES29W	627	674	1018.4	1018.4
K	RES10	994	1070	1068.7	1068.8
L	RES32E	188	197	1021.1	1021.1
M	RES22	473	379	1136.2	1136.2
N	RES9	897	970	1058.5	1058.6
O	RES26S	1100	989	1138.6	1138.6
P	RES8	458	369	1150.6	1150.5
Q	RES26E	3033	2547	1099.4	1099.3
R	RES24N	382	364	1097.5	1097.5
S	RES26N	398	145	1141.8	1141.7

Table 4-3: Comparison To Outer Loop Highway Study

Summary: This table indicates that the 100-year, 24 hour discharges computed as part of the Maryvale ADMS are primarily less than those documented in the Outer Loop Highway study by WLB(1987).

	Outer Loop Highway Study (WLB, 1987)		Maryvale ADMS		Comparison of Study Results
Location	Q100-Yr 24-Hr (cfs)	HEC-1 Node ID	Q100-Yr 24-Hr (cfs)	HEC-1 Node ID	Percent Difference (2)
35th Ave & I-10 Freeway Channel	2730	CP1	2370	DI10B	-15%
43rd Ave & I-10 Freeway Channel	5230	CP2	3620	DI10C	-44%
51st Ave & I-10 Freeway Channel	7320	CP3	5030	DI10D	-46%
59th Ave & I-10 Freeway Channel	9380	CP4	5520	DI10E	-70%
67th Ave & I-10 Freeway Channel	10110	CP5	6390	DI10F	-58%
75th Ave & I-10 Freeway Channel	10530	CP6	7410	DI10G	-42%
83rd Ave & I-10 Freeway Channel	10790	CP7	7920	DI10H	-36%
91st Ave & I-10 Freeway Channel	10880	CP8	9070	DI10I	-20%
Northern Avenue & Grand Avenue (1)	2620	CP10	1020	C2631S	-157%
Olive Avenue & Grand Avenue(1)	1260	CP11	2360	C622EA	47%
Glendale & 99th Avenues	3360	CP 13	1210	CGA99	-178%
Bethany Home Road & 99th Avenue	6790	CP14	910	DBH99	-646%
Camelback Road & 99th Avenue	790	CP15	530	CCB99	-49%
Indian School Road & 99th Avenue	2400	CP16	830	CIS99	-189%
Thomas Road & 99th Avenue	3690	CP17	580	CTR99	-536%

NOTES:

(1) The precise location of the concentration point in the WLB study is not known; hence, this comparison is approximate.

(2) The percent differences were computed as follows:

Percent Dif. = [(Q Maryvale ADMS) - (Q Outer Loop Hwy)]/(Q Maryvale ADMS)

Highway study. In comparison, the Outer Loop Highway study is a "big picture" type of hydrologic study and does not include detailed analysis of the ponding areas along the canal and Grand Avenue. It would be expected that an analysis that does not evaluate ponding storage along the canals and Grand Avenue would have higher computed peak discharges. Hence, the results of the comparison are consistent with the level of detail associated with each of the two studies.

4.2.2 Northern/Orangewood Storm Drain Project

The Northern/Orangewood Storm Drain Project was prepared by Wood, Patel & Associates(1996). This study evaluated various storm drain alternatives along Butler Drive, Northern Avenue, Orangewood Avenue, and Glendale Avenue. The storm drain systems proposed in the study have been included in the HEC-1 model for the Maryvale ADMS.

In Table 4-4, the results from hydrologic analysis for the Northern /Orangewood Storm Drain Project are compared with computed discharges for the Maryvale ADMS study. As indicated in Table 4-4, the results of these two studies are very similar. The levels of detail and the basic hydrologic parameters for these two studies were very similar. Hence, the results of the comparison are consistent with the level of detail associated with each of the two studies; even though, the overall HEC-1 modeling approaches used in the two studies are significantly different.

4.2.3 Maryvale Area Flooding Mitigation Project

The Maryvale Area Flooding Mitigation Project was prepared by Coe & Van Loo Consultants (CVL, 1996). This study evaluated flooding mitigation alternatives for the area along the north side of the Grand Canal, between approximately 35th Avenue and 67th Avenue. The flood control facilities proposed in the study have not been included in the "existing conditions" HEC-1 model for the Maryvale ADMS.

In Table 4-5, the results from hydrologic analysis for the Maryvale Area Flooding Mitigation Project are compared with computed discharges for the Maryvale ADMS study. As indicated in Table 4-5, the results of these two studies are significantly different. The differences are primarily due to the different approaches used to estimate the capacity for flow along the north side of the Grand Canal. In the Maryvale ADMS study, a HEC-2 model was used to evaluate the capacity for flow along the north side of the Grand Canal This analysis appears in a separate document entitled "Maryvale ADMS: Preliminary Grand Canal Floodplain Analysis." The ponding area analyses in Appendix E, subsection "Maryvale Mitigation Area" incorporate the results of this HEC-2 model.

Table 4-4: Comparison To Northern/Orangewood Storm Drain Project

Summary: This table indicates that the 10-year, 6 hour discharges computed as part of the Maryvale ADMS in this study are very similar to those documented in the Northern/Orangewood Storm Drain Project (WPA, 1996).

	Northern/Orangewood Storm Drain Project(WPA, 1996)		**Maryvale ADMS**		**Comparison of Study Results**
Location	Q10-Yr 6-Hr (cfs)	HEC-1 Node ID	Q10-Yr 6-Hr (cfs)	HEC-1 Node ID	Percent Difference (1)
Olive Avenue @ Grand Avenue	900	116C	890	C622EA	-1%
75th Avenue @ Glendale Avenue	170	270C	140	CGA75	-21%
83rd Avenue @ Glendale Avenue	390	290C	330	CGA83	-18%
91st Avenue @ Glendale Avenue	455	310C	430	CGA91	-6%
99th Avenue @ Glendale Avenue	490	330C	440	CGA99	-11%

NOTES:

(1) The percent differences were computed as follows:

Percent Dif. = [(Q Maryvale ADMS) - (Q Northern/Orangewood SD Project)]/(Q Maryvale ADMS)

Table 4-5: Comparison To Maryvale Area Flooding Mitigation Project

Summary: This table indicates that the 100-year, 6 hour discharges computed as part of the Maryvale ADMS are significantly different than those documented in the Maryvale Area Flooding Mitigation Project (CVL, 1996). The differences are primarily due to the different approaches used to estimate the capacity for flow along the North side of the Grand Canal. In this study, a HEC-2 model was used to evaluate the capacity for flow along the North side of the Grand Canal.

	Maryvale Area Flooding Mitigation Project (CVL,1996)		**Maryvale ADMS**		**Comparison of Study Results**
Location	Q100-Yr 6-Hr (cfs)	HEC-1 Node ID	Q100-Yr 6-Hr (cfs)	HEC-1 Node ID	Percent Difference (1)
Flow Along N. Side of Grand Canal in Vicinity of 39th Ave	440	D39	600	D39	27%
Total Flow to South of Grand Canal in Vicinity of 39th Ave	80	D39S	1080	D39s	93%
Flow Along N. Side of Grand Canal in Vicinity of 43rd Ave	960	D43	200	D43	-380%
Total Flow to South of Grand Canal in Vicinity of 43rd Ave	30	D43S	830	D43S	96%
Flow Along N. Side of Grand Canal in Vicinity of 47th Ave	770	D47	370	D47	-108%
Total Flow to South of Grand Canal in Vicinity of 47th Ave	550	D47S	0	D47S	-
Flow Along N. Side of Grand Canal in Vicinity of 51st Ave	None	-	20	D51	-
Total Flow to South of Grand Canal in Vicinity of 51st Ave	1080	D51S	930	D51S	-16%
Flow Along N. Side of Grand Canal in Vicinity of 59th Ave	500	D59	270	D59	-85%
Total Flow to South of Grand Canal in Vicinity of 59th Ave	460	D59S	350	D59S	-31%
Total Flow to South of Grand Canal in Vicinity of 63rd Ave	2020	S63	970	PA63	-108%

NOTES:

(1) The percent differences were computed as follows:

Percent Dif. = [(Q Maryvale ADMS) - (Q Maryvale Mitigation Project)]/(Q Maryvale ADMS)

5. Conclusions

The hydrologic modeling component of the Maryvale ADMS project has five primary objectives. As described below, it was necessary to develop a very flexible modeling approach and an efficient data management approach, to meet the project's objectives.

1) **Objective:** *Develop HEC-1 models that provide runoff computations for a primarily urban drainage area, where sub-basin drainage boundaries are not well defined and flow paths are very complex. Thereby allowing identification and quantification of flood hazards within the study area for existing conditions.*

   - The ability to model flow diversions flexibly was the key for developing a modeling approach that meets this project's objective. The proposed HEC-1 modeling approach uses flow diversions (i.e. DT/DI/DQ Records) in five distinctly different ways. Using physical parameters obtained from the detailed topographic mapping, flow diversions are used to simulate retention basins, surges basins associated with storm drain systems, and complicated street flow conditions.

2) **Objective:** *Develop HEC-1 models that evaluate the 10-year, 6-hour; 100-year, 6-hour; and 100-year, 24-hour rainfall events.*

   - Since the flow diversions and other aspects of the HEC-1 models are based strictly on physical parameters measured from the detailed topographic mapping, the model can be used to evaluate a wide range of storm events. In other words, the model structure **is not** based on assumptions which may only be valid for certain magnitudes of storm events.

3) **Objective:** *Develop HEC-1 models that allows efficient evaluation of both existing and future storm drain systems.*

   - The HEC-1 models prepared for this study take into account all of the major storm drain systems documented by previous studies and the City of Phoenix quarter section mapping. The HEC-1 models have been specifically setup to allow the incorporation of various types of flood control alternatives.

4) **Objective:** *Develop HEC-1 models that provide a cost-effective planning and analysis tool.*

   - Due to flexibility of the modeling approach, flood control alternatives involving various combinations of storm drain systems and/or retention basins can be easily incorporated into the HEC-1 models. DDMS can be used to update sub-basin parameters, that can be re-incorporated into the models without changing the computational structure. In addition, typical improvements associated with subdivisions can also be simulated without requiring significant modification of the computational structure of the HEC-1 models, where the computational structure of the models are illustrated in Exhibit 1.

5) **Objective:** *Develop HEC-1 models that allow for efficient updating.*

- Updating the HEC-1 models to reflect future street improvements and/or sub-divisions should only involve adjusting the elements of the model directly impacted by the construction activities. The overall structure of the model should not require adjustment.

The results of this study identify the locations and magnitudes of flood hazards, within the study area. In conclusion, the modeling approach and the HEC-1 models developed for this study meet the aforementioned objectives and the criteria specified in the project's scope of work.

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Appendix A: Precipitation Data

*** O U T P U T D A T A ***

REVISED JUNE 1988 TO UPDATE COMPUTATION OF SHORT-DURATION VALUES

PRECIPITATION FREQUENCY VALUES FOR Maryvale ADMS,
PRIMARY ZONE NUMBER= 7
SHORT-DURATION ZONE NUMBER= 8

OPTION NUMBER 2 --- INPUT OF 12 PRECIP VALUES
ELEVATION 1200 FEET

POINT VALUES

RETURN PERIOD

DURATION	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR	500-YR	
5-MIN	.35	.44	.50	.59	.66	.72	.88	5-MIN
10-MIN	.52	.66	.76	.90	1.00	1.11	1.36	10-MIN
15-MIN	.64	.83	.96	1.14	1.28	1.42	1.75	15-MIN
30-MIN	.84	1.11	1.29	1.54	1.73	1.93	2.38	30-MIN
1-HR	1.03	1.37	1.59	1.92	2.16	2.41	2.98	1-HR
2-HR	1.10	1.47	1.73	2.08	2.36	2.63	3.27	2-HR
3-HR	1.14	1.55	1.82	2.20	2.49	2.78	3.45	3-HR
6-HR	1.23	1.68	1.99	2.41	2.73	3.06	3.81	6-HR
12-HR	1.30	1.82	2.16	2.64	3.01	3.37	4.22	12-HR
24-HR	1.37	1.95	2.34	2.87	3.28	3.69	4.63	24-HR

* IF YOUR SITE IS IN ARIZONA OR NEW MEXICO, PLEASE CONSULT THE FOLLOWING PAPER FOR REVISED DEPTH-AREA VALUES:
DEPTH-AREA RATIOS IN THE SEMI-ARID SOUTHWEST UNITED STATES
NOAA TECHNICAL MEMORANDUM NWS HYDRO-40
ZEHR AND MYERS
AUGUST 1984

INPUT DATA

PROJECT NAME=Maryvale ADMS,
ZONE= 7 SHORT-DURATION ZONE= 8
LATITUDE= .00 LONGITUDE= 100.00 ELEVATION= 1200
12-VALUE PRECIPITATION OPTION
PRECIPITATION VALUE:

1.20	1.70
2.00	2.40
2.80	3.00
1.40	2.00
2.30	2.80
3.20	3.80

SUBJECT Maryvale ADMS

BY DWD DATE 1/96

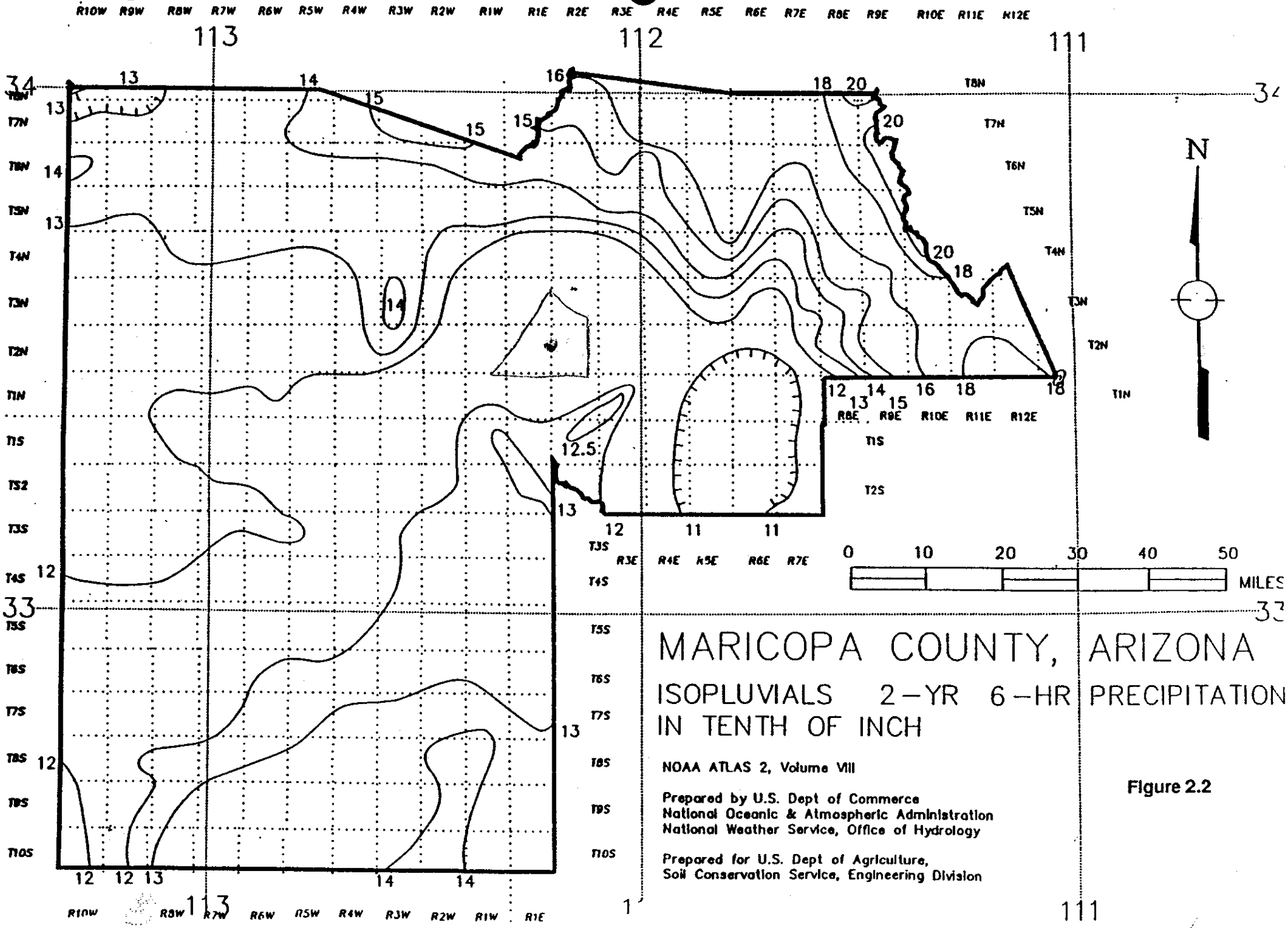
SHEET NO. 1 OF 1

PROJECT NO. 132586

Point Rainfall Values from Isopluvials, NOAA ATLAS 2, Vol VIII as reproduced in the Maricopa Co's Manual

	6 hr	24 hr
2yr	1.20"	1.40"
5yr	1.70"	2.00"
10yr	2.00"	2.30"
25yr	2.40"	2.80"
50yr	2.80"	3.20"
100yr	3.00"	3.80"

FORM 3B


MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 2-YR 6-HR PRECIPITATION
IN TENTH OF INCH
NOAA ATLAS 2, Volume VIII
Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
National Weather Service, Office of Hydrology
Prepared for U.S. Dept of Agriculture,
Soil Conservation Service, Engineering Division
N
0 10 20 30 40 50
MILES
113
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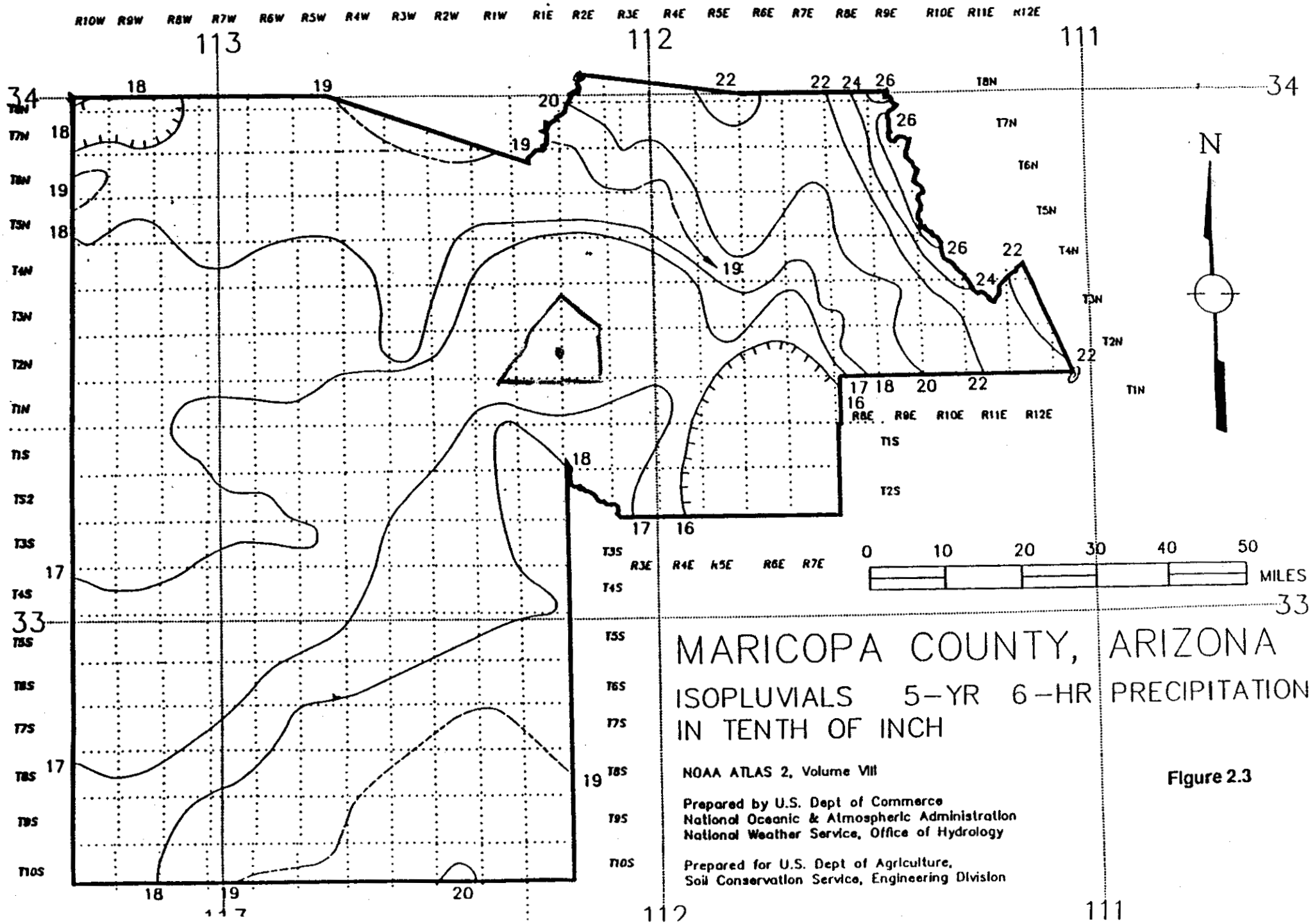
34
33
R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E R9E R10E R11E R12E
T8N T7N T6N T5N T4N T3N T2N T1N T1S T2S T3S T4S T5S T6S T7S T8S T9S T10S

Figure 2.2



MARICOPA COUNTY, ARIZONA

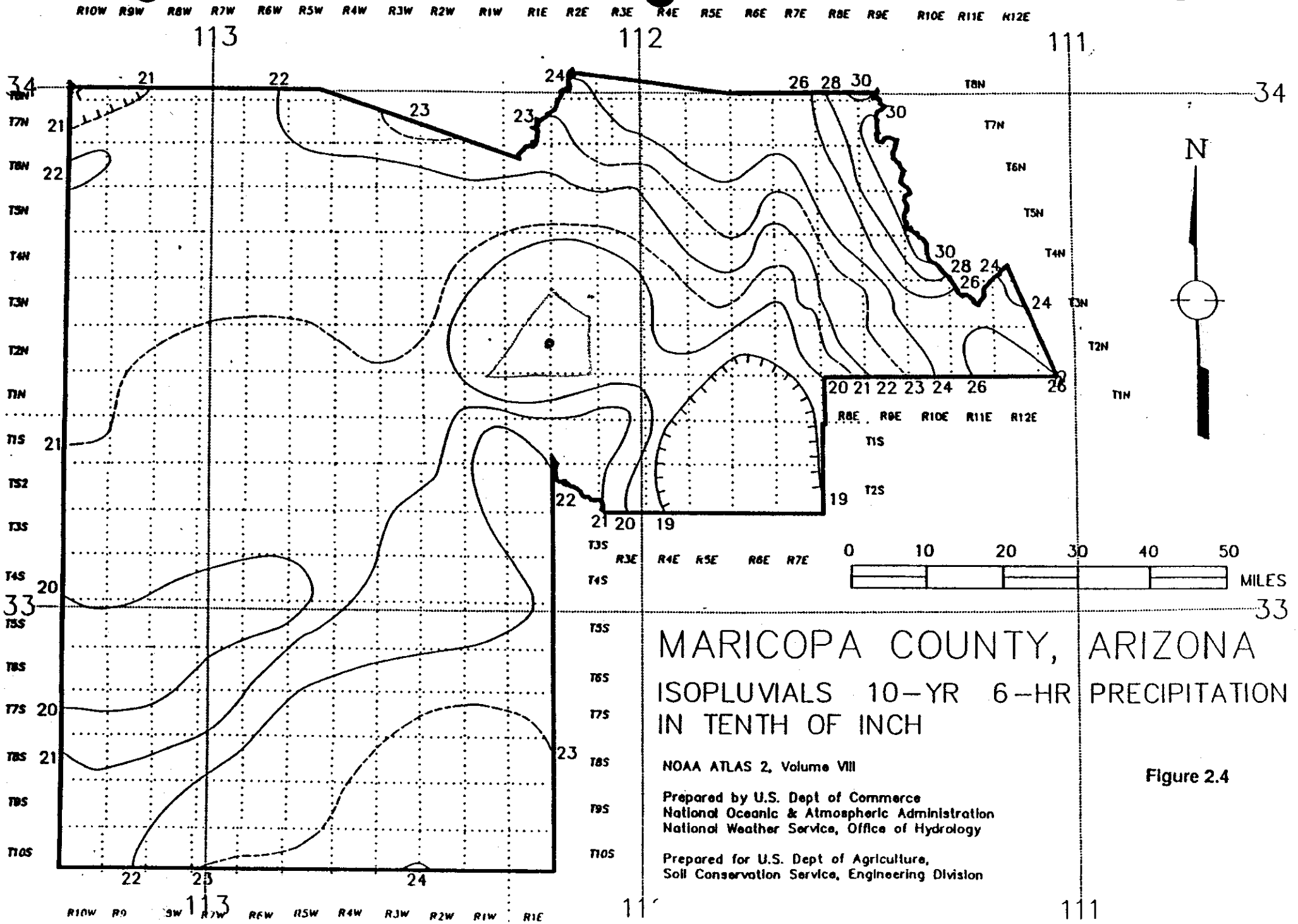
ISOPLUVIALS 5-YR 6-HR PRECIPITATION IN TENTH OF INCH

NOAA ATLAS 2, Volume VIII

Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
National Weather Service, Office of Hydrology

Prepared for U.S. Dept of Agriculture,
Soil Conservation Service, Engineering Division

Figure 2.3



MARICOPA COUNTY, ARIZONA

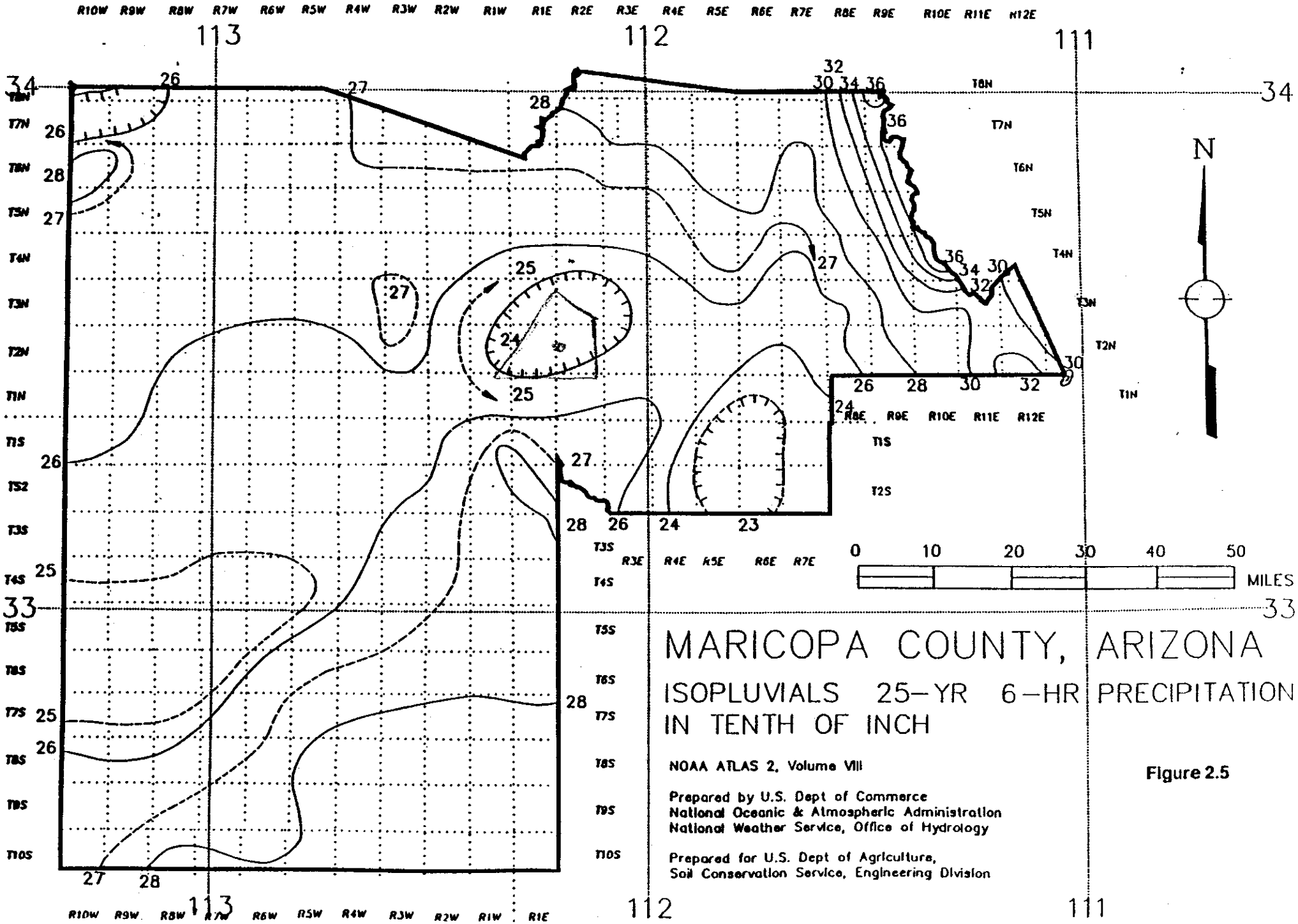
ISOPLUVIALS 10-YR 6-HR PRECIPITATION IN TENTH OF INCH

NOAA ATLAS 2, Volume VIII

Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
National Weather Service, Office of Hydrology

Prepared for U.S. Dept of Agriculture,
Soil Conservation Service, Engineering Division

Figure 2.4


MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 25-YR 6-HR PRECIPITATION
IN TENTH OF INCH
NOAA ATLAS 2, Volume VIII
Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
National Weather Service, Office of Hydrology
Prepared for U.S. Dept of Agriculture,
Soil Conservation Service, Engineering Division
N
0 10 20 30 40 50
MILES
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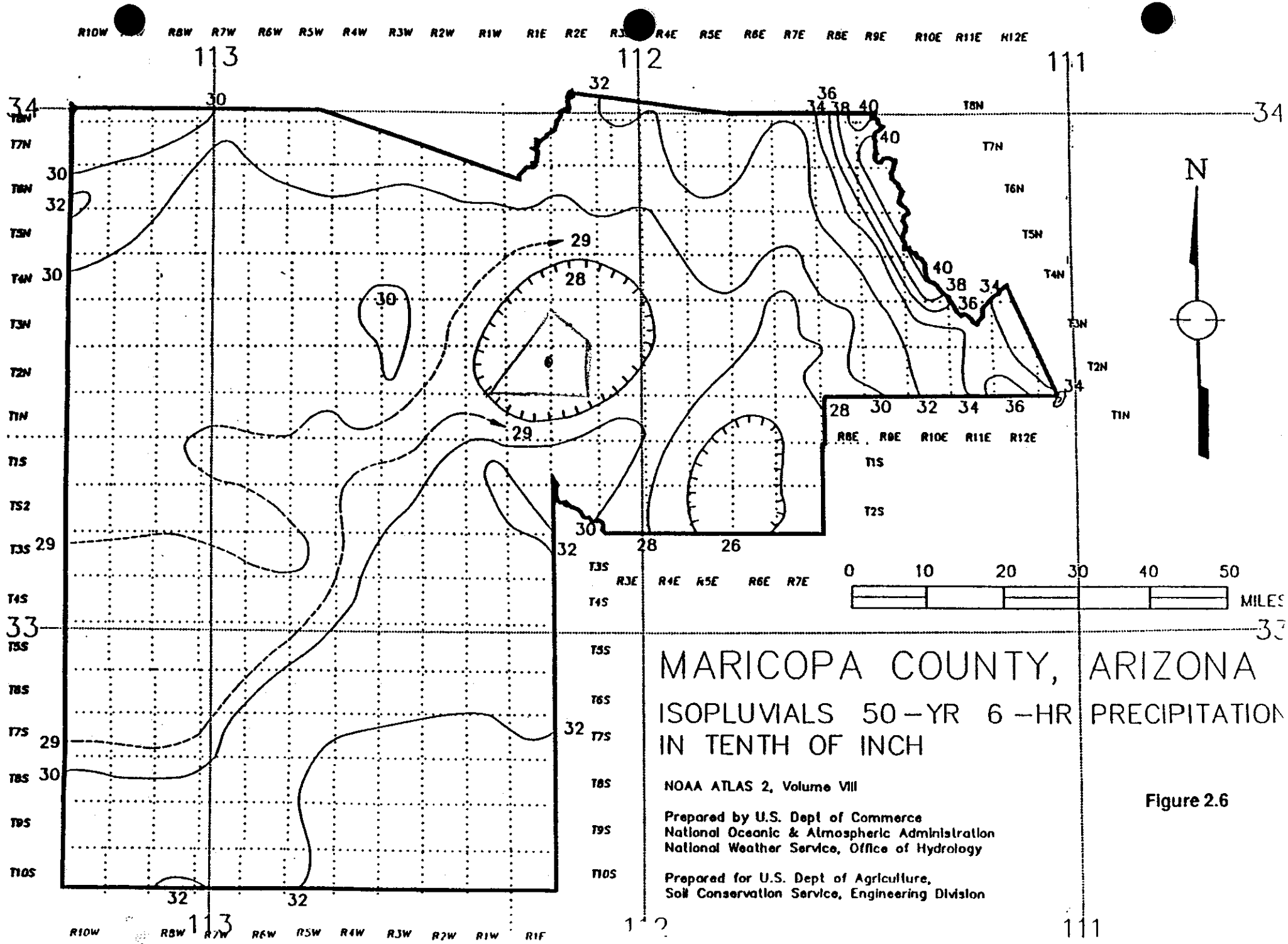
R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E R9E R10E R11E R12E
T8N T7N T6N T5N T4N T3N T2N T1N T1S T2S T3S T4S T5S T6S T7S T8S T9S T10S

Figure 2.5


MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 50-YR 6-HR PRECIPITATION
IN TENTH OF INCH
NOAA ATLAS 2, Volume VIII
Prepared by U.S. Dept of Commerce
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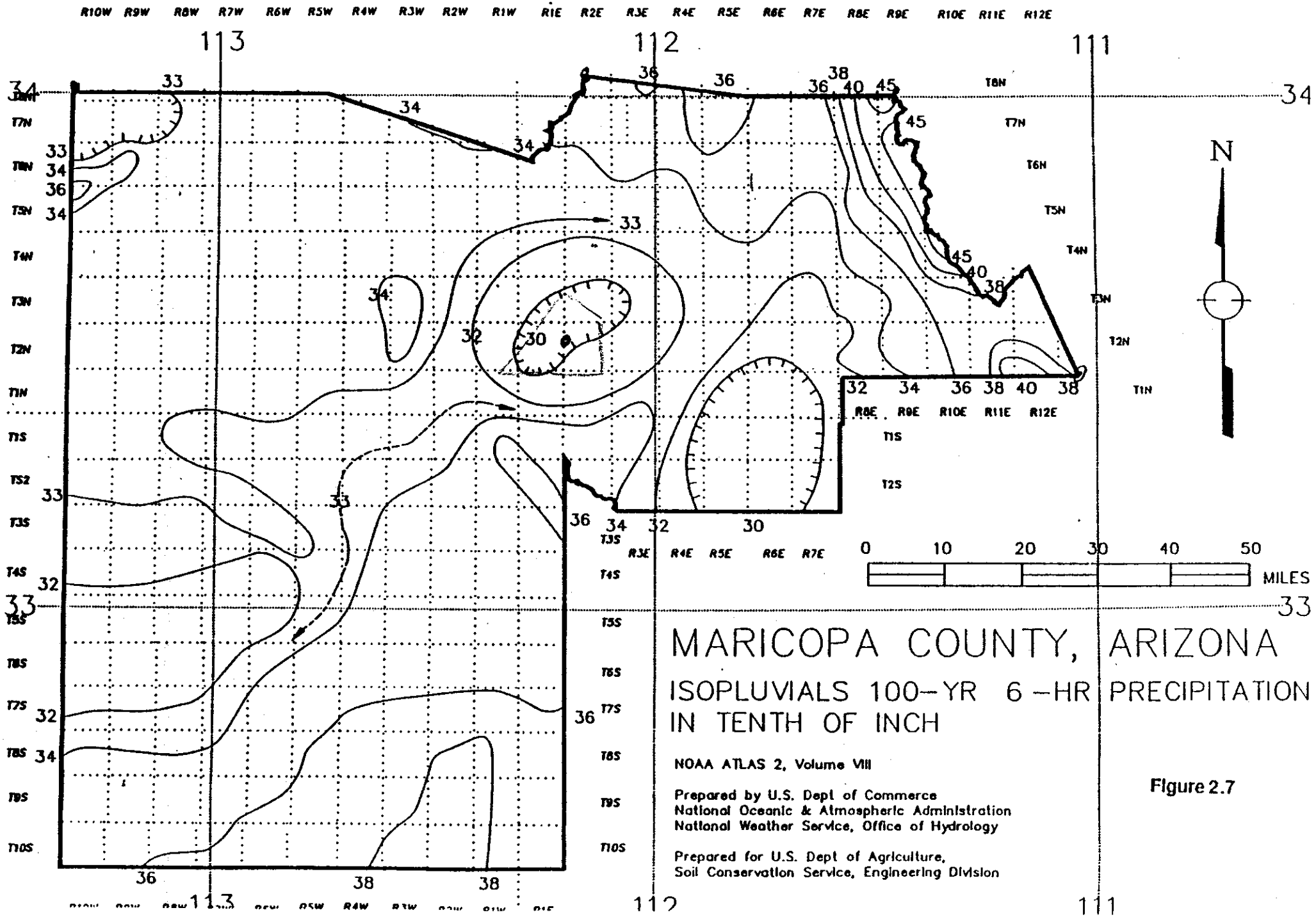
T8N T7N T6N T5N T4N T3N T2N T1N T1S T2S T3S T4S T5S T6S T7S T8S T9S T10S

Figure 2.6



MARICOPA COUNTY, ARIZONA

ISOPLUVIALS 100-YR 6-HR PRECIPITATION IN TENTH OF INCH

NOAA ATLAS 2, Volume VIII

Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
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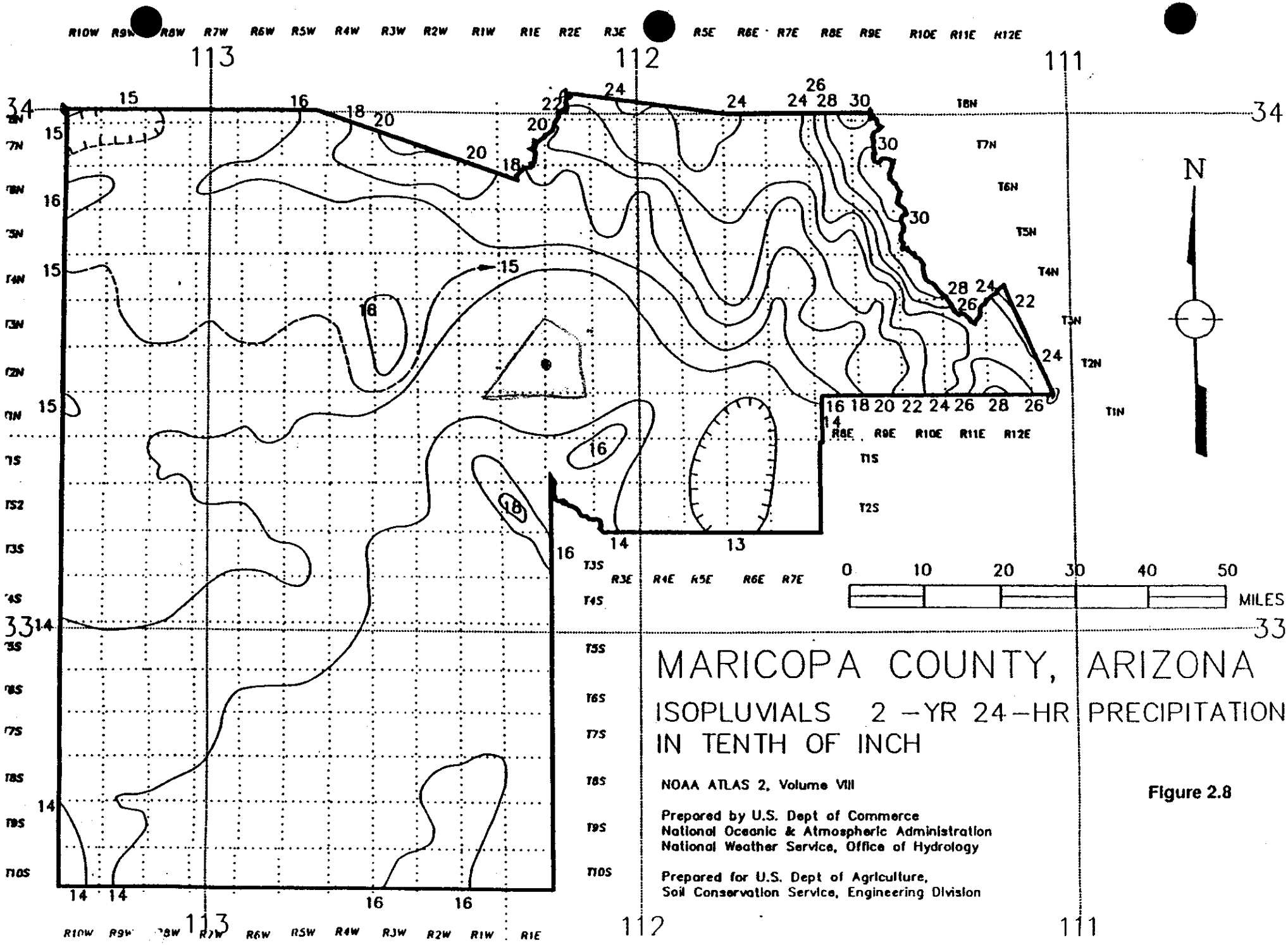
Figure 2.7


MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 2 -YR 24-HR PRECIPITATION
IN TENTH OF INCH
NOAA ATLAS 2, Volume VIII
Prepared by U.S. Dept of Commerce
National Oceanic & Atmospheric Administration
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R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R5E R6E R7E R8E R9E R10E R11E R12E
T8N T7N T6N T5N T4N T3N T2N T1N T1S T2S T3S T4S T5S T6S T7S T8S T9S T10S

Figure 2.8

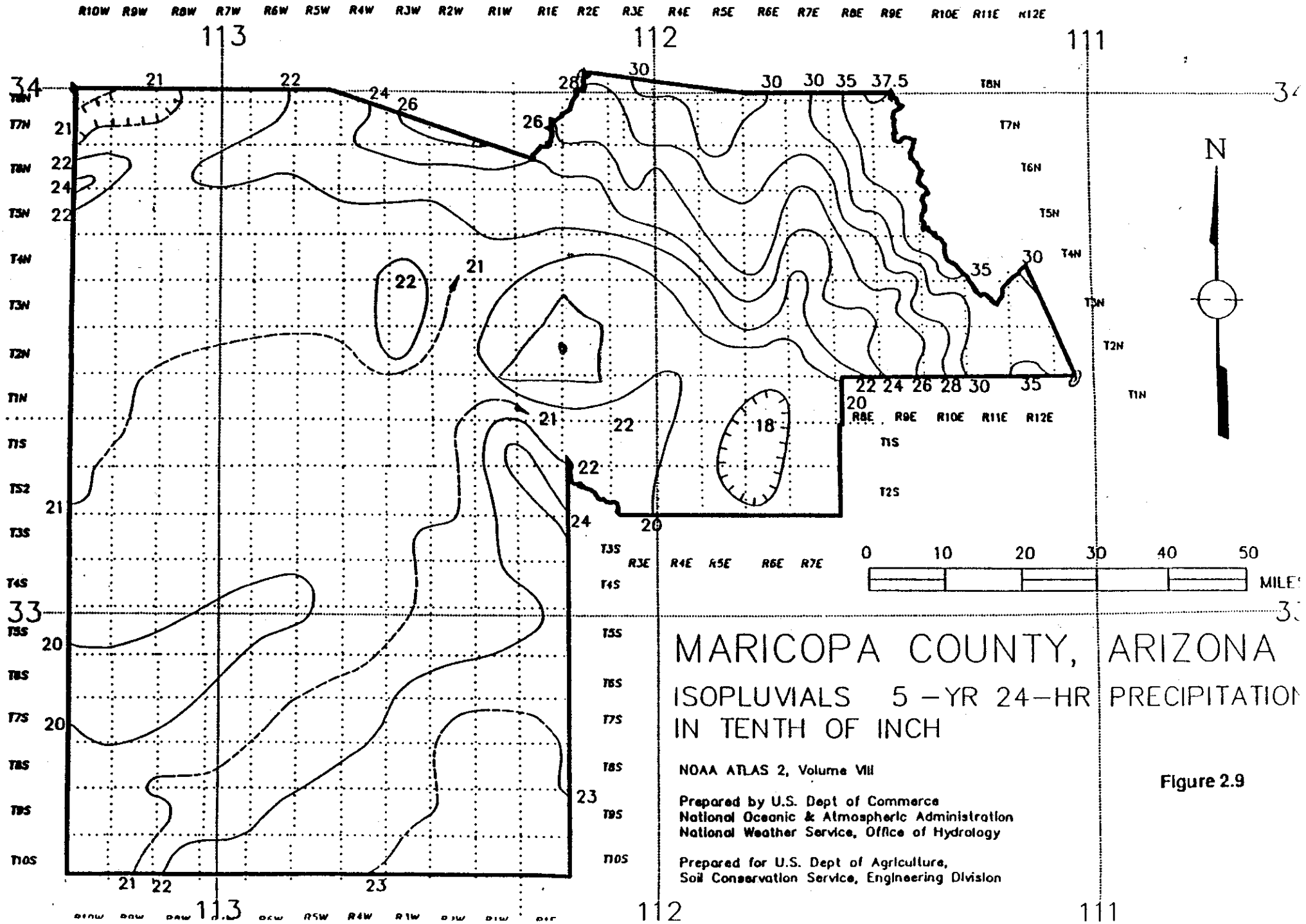
MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 5 –YR 24–HR PRECIPITATION
IN TENTH OF INCH
NOAA ATLAS 2, Volume VIII
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Figure 2.9

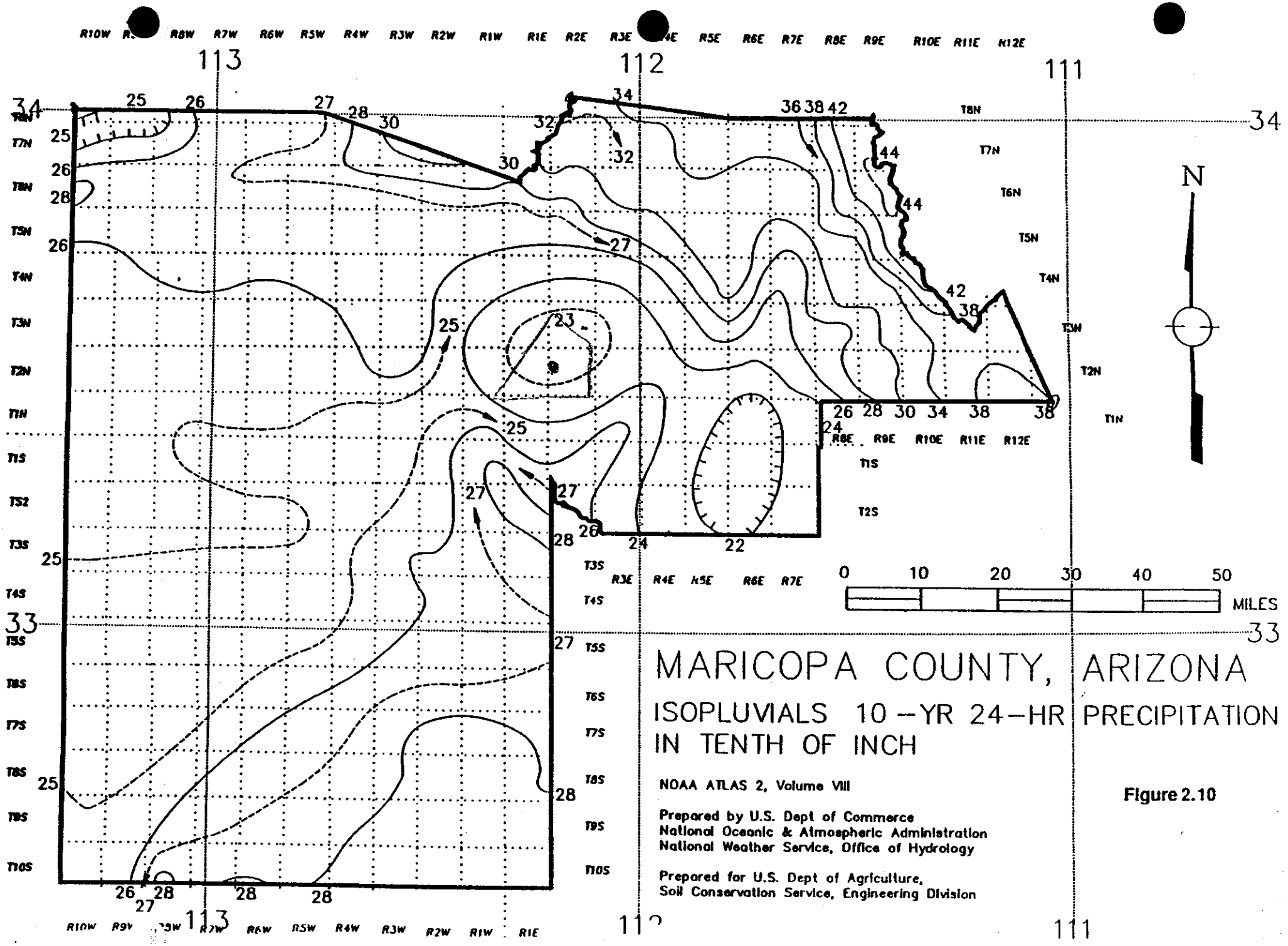
MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 10-YR 24-HR PRECIPITATION
IN TENTH OF INCH
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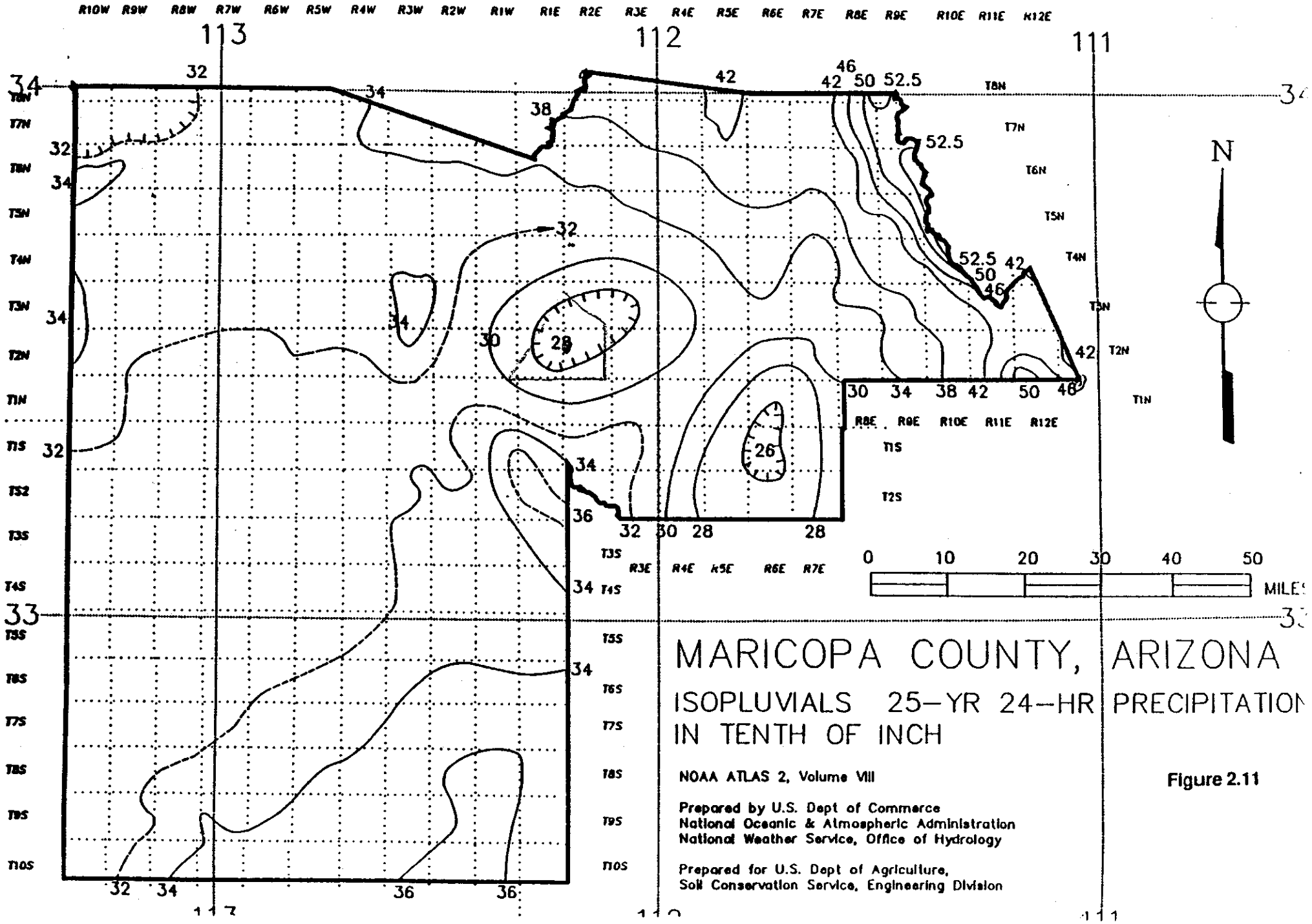
Figure 2.10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MILES
MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 25-YR 24-HR PRECIPITATION
IN TENTH OF INCH
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Figure 2.11

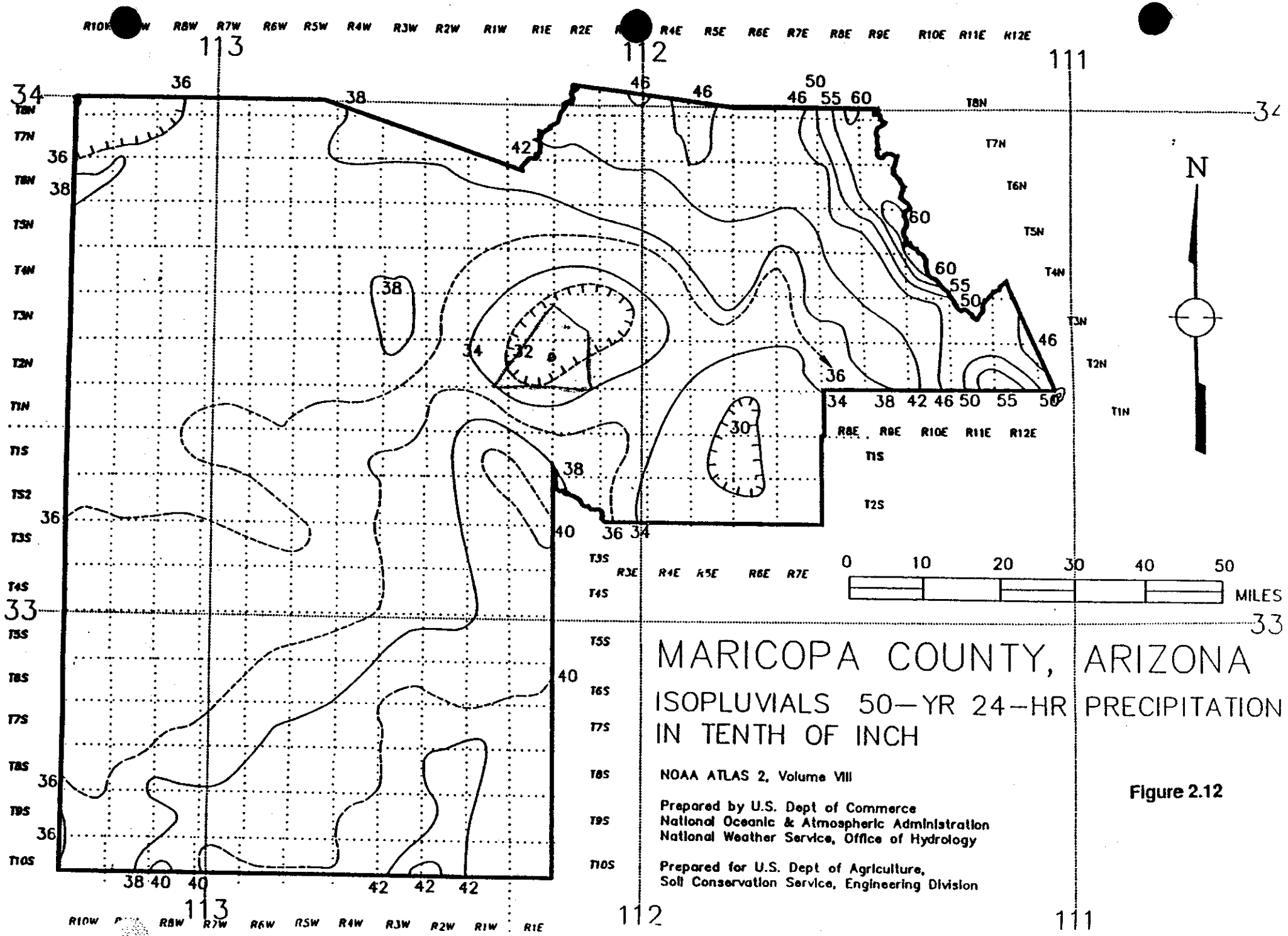
MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 50—YR 24—HR PRECIPITATION
IN TENTH OF INCH
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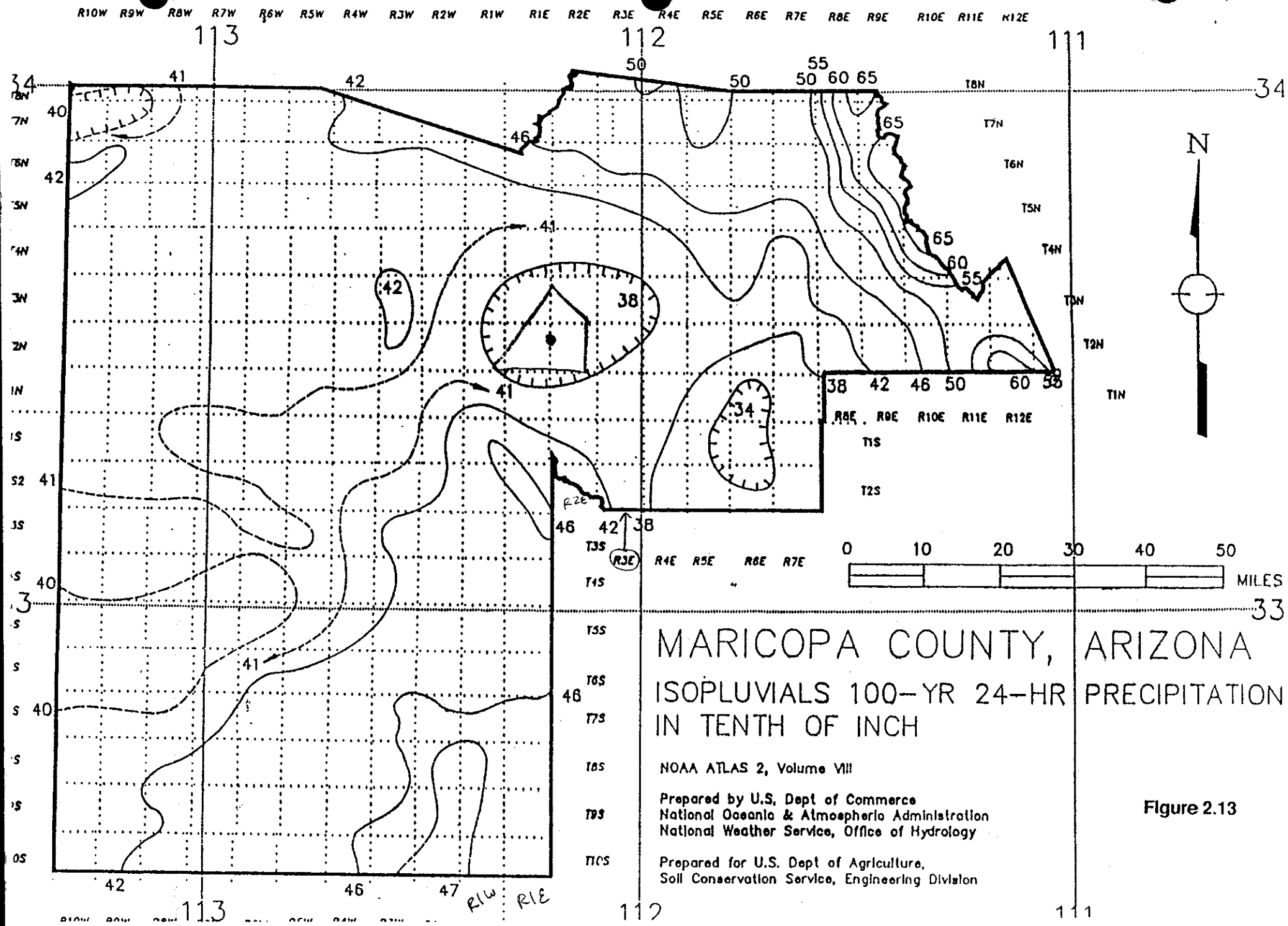
Figure 2.12


MARICOPA COUNTY, ARIZONA
ISOPLUVIALS 100-YR 24-HR PRECIPITATION
IN TENTH OF INCH
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R10W R9W R8W R7W R6W R5W R4W R3W R2W R1W R1E R2E R3E R4E R5E R6E R7E R8E R9E R10E R11E R12E
T8N T7N T6N T5N T4N T3N T2N T1N
T1S T2S T3S T4S T5S T6S T7S T8S T9S T10S

Figure 2.13

Appendix B: HEC-1 Sub-basin Parameters

Maryvale ADMS

HEC-1 Element Nomenclature

○ **SUB-BASIN HYDROGRAPH GENERATION:**

Format: (section no.) - (township no.) (range no.)(optional alphanumeric)

Example: **17-32N**

Generate hydrograph for the northern portion of Section 17, T3N, R2E.

◇ **SUB-BASIN DIVERSION:**

Format: **D**(section no.)(**W, S, E,** or **N**)

Example: **D17S**

Southerly component of flow diversion of Section 17.

□ **SUB-BASIN ROUTE:**

Format: **R**(section no.)(township no.) (range no.)(**W, S, E,** or **N**)

Example: **R1732S**

Southerly component of flow route through Section 17, T3N, R2E.

△ **SUB-BASIN RESERVOIR ROUTE OR SURGE BASIN DIVERSION:**

Format: **RES**(section no.)

Example: **RES17**

Reservoir route or surge basin diversion in Section 17. Reservoir routes were used to model "regional retention basins" and "ponding areas."

In the Maryvale Mitigation Area, an alternate format was used to be consistent with a previous study. This format is:

PA(street no.)

Example: **PA43**

This corresponds to a ponding area at 43rd Avenue & the Grand Canal.

◇ **SUB-BASIN RETENTION BASIN DIVERSION: Subdivision Retention Basins**

Format: **RET**(section no.)

Example: **RET19**

Retention basin diversion in Section 19.

□ **STREET ROUTE:**

Format: **R**(street ID, up to 3 characters per street code)(sequential alphanumeric)

Example: **RPA1**

First route for Peoria Avenue.

Example: **R67C**

Third route for 67th Avenue.

◇ **STREET CAPACITY DIVERSION:**

Format: **S**(street ID, up to 3 characters) (sequential alphanumeric) (**W, S, E,** or **N**)

Example: **SPA1S**

First diversion from Peoria Avenue to the south.

Example: **S67CW**

Third diversion from 67th Avenue to the west.

◇ **STREET INTERSECTION DIVERSION:**

Format: **D**(street ID, up to 3 characters) (street ID, up to 3 characters)

Example: **DPA67**

Flow component in Peoria Avenue from diversion at Peoria & 67th Avenues.

Example: **D67PA**

Flow component in 67th Avenue from diversion at Peoria & 67th Avenues.

⬡ **STREET INTERSECTION COMBINE:**

Format: **C**(street ID, up to 3 characters) (street ID, up to 3 characters)

Example: **CPA67**

Flow combine at the intersection of Peoria & 67th Avenues.

STREET COMBINE:

Format: C(street ID, up to 3 characters) (sequential alphanumeric character)

Example: **CPA2**

Second flow combine along Peoria Avenue.

SUB-BASIN COMBINE:

Format: C(section no.) - (township no.) (range no.)(optional alphanumeric)

Example: **C17-32**

Hydrograph combine in Section 17, T3N, R2E.

Alternate formats C1732N, C1732A, C1732B, & ETC ... ...

These formats are used when there are multiple combines within a sub-basin and/or when the section is sub-divided into multiple sub-basins.

"NULL" COMBINE:

Format: **NULL**(sequential alphanumeric character)

Example: **NULL2**

Second NULL flow combine. NULL flow combines are strictly used to combine computational paths that terminate along the west side of the study area. Hence; the hydrographs associated with the NULL combines are meaningless.

STREET NAME CODES FOR NAMED STREETS

Street Name	Code
Thunderbird Road	TB
Cactus Road	CR
Peoria Avenue	PA
Olive Avenue	OA
Northern Avenue	NA
Glendale Avenue	GA
Bethany Home Road	BH
Camelback Road	CB
Indian School Road	IS
Thomas Road	TR
McDowell Road	MD

Note: The codes for numbered streets simply corresponds to the street number. For example the code for 51st Avenue is "51." The study area extends west from 27th Avenue to approximately 120th Avenue.

Input Data for DDMS:
Land Use Data for Each Sub-Basin

Maryvale ADMS
Table 1: Land Use Categories

LUCODE	MAG CATEGORIES: LUDESC - from GIS Data (See Attached Detailed Descriptions)	Corresponding FCDMC Hydrologic Land Use Categories
1	Rural	Very Low Density Residential(VLDR)
2	Large Lot Residential	Low Density Residential(LDR)
3	Small Lot Residential	Medium Density Residential(MDR)
4	Medium Density Residential	Multi-Family Residential(MFR)
5	High Density Residential	Multi-Family Residential(MFR)
6	Neighborhood Retail Center	Commercial(Comm)
7	Community Retail Center	Commercial(Comm)
8	Regional Retail Center	Commercial(Comm)
9	Hotel	Commercial(Comm)
10	Warehouse/Distribution Center	Commercial(Comm)
11	Industrial	Industrial(Ind)
12	Business Park	Commercial(Comm)
13	Office	Commercial(Comm)
14	Educational	School1 & School2
15	Institutional	Commercial(Comm)
16	Public Facility	Commercial(Comm)
17	Large Assembly Areas	None
18	Transportation	Industrial(Ind)
19	Airport	Industrial(Ind)
20	Recreational Open Space	Park
22	Water	Water
23	Agriculture	Rowcrop
24	Vacant	Desert and/or Open

SUBJECT Manyvale ADMS
Update of Landuses

BY DWD DATE 8/96
SHEET NO. ___ OF ___
PROJECT NO. 132586.01

The following Sub-basin Data has been revised from GIS (1990/1991) to Reflect the 1995 Topographic Mapping

Sub-basin 34-21 : A = 1.005 mi²

Land Use	Area Per GIS (mi²)	Estimated for Mapping (mi²)	
Open	0.511	0.25	(-)
MDR	0.183	0.556	(+)
MFR	0.025	0.025	
Comm	0.048	0.048	
Row Crop	0.237	0.125	(-)

Sub-basin 14-31 : A = 1.008 mi²

Landuse			
Open	0.141	0	(-)
MDR	0.558	0.737	(+)
MFR	0.032	0.032	
Row Crop	0.226	0.188	(-)
Comm	0.019	0.019	

Sub-basin 13-31 : A = 1.003 mi²

Open	0.09	0.06	(-)
LDR	0.257	0.257	
MDR	0.359	0.449	(+)
MFR	0.016	0.016	
Comm	0.033	0.033	
Row Crop	0.249	0.189	(-)

FORM 3B

SUBJECT Manyvale ADMS

BY _____ DATE _____

SHEET NO. ____ OF ____

PROJECT NO. _____

Parameter Estimation for

Land Use Category - Schools

Characteristics:

- From review of Landis Aerial Photos of study area it is estimated that 55% of the school area is impervious (ie, roofs parking lots etc...), with an effective impervious area of approximately 45%

∴ IA: Per Table 4.1 (MCFCD, 1992):

IA impervious area ≅ 0.11"

IA Turf Areas ≅ 0.50"

$\therefore IA \cong 0.55(0.11) + 0.45(0.50) = 0.29$

- RTIMP ≅ 45%

- Percent Veg. Cover = 80%

FORM 3B

AREA OF LAND USE TYPES BY SUBBASIN				
MARYVALE ADMS				
SUBBASIN	LUCODE	LUDESC	FCDMC's Categories	Area (mi^2)
1-11	3	Small Lot Residential	Medium Density Residential(MDR)	0.002
1-11	4	Medium Density Residential	Multi-Family Residential(MFR)	0.033
1-11	18	Transportation	Industrial(Ind)	0.001
1-11	23	Agriculture	Rowcrop	0.065
1-11	24	Vacant	Desert and/or Open	0.082
1-W11	3	Small Lot Residential	Medium Density Residential(MDR)	0.231
1-W11	18	Transportation	Industrial(Ind)	0.002
1-W11	22	Water	Water	0.014
1-W11	23	Agriculture	Rowcrop	0.000
1-W11	24	Vacant	Desert and/or Open	0.125
1-12	10	Warehouse/Distribution Center	Commercial(Comm)	0.000
1-12	11	Industrial	Industrial(Ind)	0.001
1-12	12	Business Park	Commercial(Comm)	0.081
1-12	18	Transportation	Industrial(Ind)	0.008
1-12	24	Vacant	Desert and/or Open	0.008
1-21	2	Large Lot Residential	Low Density Residential(LDR)	0.210
1-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.086
1-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.035
1-21	6	Neighborhood Retail Center	Commercial(Comm)	0.011
1-21	11	Industrial	Industrial(Ind)	0.026
1-21	12	Business Park	Commercial(Comm)	0.087
1-21	16	Public Facility	Commercial(Comm)	0.001
1-21	23	Agriculture	Rowcrop	0.504
1-21	24	Vacant	Desert and/or Open	0.040
1-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.200
1-22	6	Neighborhood Retail Center	Commercial(Comm)	0.004
1-22	7	Community Retail Center	Commercial(Comm)	0.011
1-22	14	Educational	School1 & School2	0.000
1-22	16	Public Facility	Commercial(Comm)	0.004
1-22	18	Transportation	Industrial(Ind)	0.004
1-22	24	Vacant	Desert and/or Open	0.020
10-21	2	Large Lot Residential	Low Density Residential(LDR)	0.122
10-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.128
10-21	6	Neighborhood Retail Center	Commercial(Comm)	0.004
10-21	14	Educational	School1 & School2	0.013
10-21	20	Recreational Open Space	Park	0.019
10-21	22	Water	Water	0.001
10-21	23	Agriculture	Rowcrop	0.368
10-21	24	Vacant	Desert and/or Open	0.325
10-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.760
10-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.059
10-22	6	Neighborhood Retail Center	Commercial(Comm)	0.014
10-22	7	Community Retail Center	Commercial(Comm)	0.039
10-22	13	Office	Commercial(Comm)	0.002
10-22	14	Educational	School1 & School2	0.039
10-22	20	Recreational Open Space	Park	0.078
10-22	24	Vacant	Desert and/or Open	0.000
10-31	12	Business Park	Commercial(Comm)	0.018
10-31	18	Transportation	Industrial(Ind)	0.013
10-31	23	Agriculture	Rowcrop	0.083
11-21	2	Large Lot Residential	Low Density Residential(LDR)	0.067
11-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.211
11-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.029
11-21	14	Educational	School1 & School2	0.071

11-21	22	Water	Water	0.000
11-21	23	Agriculture	Rowcrop	0.586
11-21	24	Vacant	Desert and/or Open	0.018
11-22	2	Large Lot Residential	Low Density Residential(LDR)	0.019
11-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.596
11-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.082
11-22	6	Neighborhood Retail Center	Commercial(Comm)	0.026
11-22	7	Community Retail Center	Commercial(Comm)	0.101
11-22	12	Business Park	Commercial(Comm)	0.044
11-22	13	Office	Commercial(Comm)	0.000
11-22	14	Educational	School1 & School2	0.026
11-22	15	Institutional	Commercial(Comm)	0.000
11-22	16	Public Facility	Commercial(Comm)	0.018
11-22	24	Vacant	Desert and/or Open	0.094
11-31	2	Large Lot Residential	Low Density Residential(LDR)	0.344
11-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.078
11-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.011
11-31	13	Office	Commercial(Comm)	0.000
11-31	14	Educational	School1 & School2	0.062
11-31	23	Agriculture	Rowcrop	0.419
11-31	24	Vacant	Desert and/or Open	0.083
12-21	2	Large Lot Residential	Low Density Residential(LDR)	0.035
12-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.298
12-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.053
12-21	6	Neighborhood Retail Center	Commercial(Comm)	0.033
12-21	7	Community Retail Center	Commercial(Comm)	0.000
12-21	15	Institutional	Commercial(Comm)	0.030
12-21	16	Public Facility	Commercial(Comm)	0.000
12-21	23	Agriculture	Rowcrop	0.528
12-21	24	Vacant	Desert and/or Open	0.025
12-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.000
12-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.152
12-22	7	Community Retail Center	Commercial(Comm)	0.033
12-22	12	Business Park	Commercial(Comm)	0.018
12-22	15	Institutional	Commercial(Comm)	0.013
12-22	18	Transportation	Industrial(Ind)	0.000
12-22	24	Vacant	Desert and/or Open	0.028
12-31	2	Large Lot Residential	Low Density Residential(LDR)	0.533
12-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.142
12-31	6	Neighborhood Retail Center	Commercial(Comm)	0.003
12-31	14	Educational	School1 & School2	0.021
12-31	22	Water	Water	0.033
12-31	23	Agriculture	Rowcrop	0.181
12-31	24	Vacant	Desert and/or Open	0.106
13-21	2	Large Lot Residential	Low Density Residential(LDR)	0.037
13-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.663
13-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.018
13-21	6	Neighborhood Retail Center	Commercial(Comm)	0.030
13-21	14	Educational	School1 & School2	0.039
13-21	20	Recreational Open Space	Park	0.008
13-21	23	Agriculture	Rowcrop	0.117
13-21	24	Vacant	Desert and/or Open	0.087
13-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.104
13-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.005
13-22	6	Neighborhood Retail Center	Commercial(Comm)	0.004
13-22	7	Community Retail Center	Commercial(Comm)	0.020
13-22	12	Business Park	Commercial(Comm)	0.099

13-22	14	Educational	School1 & School2	0.015
13-31	2	Large Lot Residential	Low Density Residential(LDR)	0.257
13-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.358
13-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.016
13-31	6	Neighborhood Retail Center	Commercial(Comm)	0.033
13-31	9	Hotel, Motel, or Resort	Commercial(Comm)	0.000
13-31	23	Agriculture	Rowcrop	0.249
13-31	24	Vacant	Desert and/or Open	0.090
14-21E	2	Large Lot Residential	Low Density Residential(LDR)	0.003
14-21E	3	Small Lot Residential	Medium Density Residential(MDR)	0.051
14-21E	20	Recreational Open Space	Park	0.001
14-21E	22	Water	Water	0.012
14-21E	23	Agriculture	Rowcrop	0.264
14-21E	24	Vacant	Desert and/or Open	0.101
14-21W	2	Large Lot Residential	Low Density Residential(LDR)	0.133
14-21W	3	Small Lot Residential	Medium Density Residential(MDR)	0.155
14-21W	6	Neighborhood Retail Center	Commercial(Comm)	0.023
14-21W	15	Institutional	Commercial(Comm)	0.009
14-21W	22	Water	Water	0.006
14-21W	23	Agriculture	Rowcrop	0.150
14-21W	24	Vacant	Desert and/or Open	0.086
14-22	2	Large Lot Residential	Low Density Residential(LDR)	0.009
14-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.563
14-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.080
14-22	6	Neighborhood Retail Center	Commercial(Comm)	0.012
14-22	7	Community Retail Center	Commercial(Comm)	0.080
14-22	12	Business Park	Commercial(Comm)	0.001
14-22	14	Educational	School1 & School2	0.153
14-22	16	Public Facility	Commercial(Comm)	0.005
14-22	20	Recreational Open Space	Park	0.065
14-22	24	Vacant	Desert and/or Open	0.032
14-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.558
14-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.032
14-31	6	Neighborhood Retail Center	Commercial(Comm)	0.000
14-31	13	Office	Commercial(Comm)	0.010
14-31	14	Educational	School1 & School2	0.032
14-31	15	Institutional	Commercial(Comm)	0.009
14-31	23	Agriculture	Rowcrop	0.226
14-31	24	Vacant	Desert and/or Open	0.141
15-21	2	Large Lot Residential	Low Density Residential(LDR)	0.001
15-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.125
15-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.001
15-21	6	Neighborhood Retail Center	Commercial(Comm)	0.000
15-21	20	Recreational Open Space	Park	0.006
15-21	22	Water	Water	0.022
15-21	23	Agriculture	Rowcrop	0.709
15-21	24	Vacant	Desert and/or Open	0.148
15-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.641
15-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.174
15-22	6	Neighborhood Retail Center	Commercial(Comm)	0.017
15-22	7	Community Retail Center	Commercial(Comm)	0.044
15-22	14	Educational	School1 & School2	0.035
15-22	20	Recreational Open Space	Park	0.000
15-22	24	Vacant	Desert and/or Open	0.087
15-31	2	Large Lot Residential	Low Density Residential(LDR)	0.019
15-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.215
15-31	6	Neighborhood Retail Center	Commercial(Comm)	0.000

15-31	7	Community Retail Center	Commercial(Comm)	0.000
15-31	12	Business Park	Commercial(Comm)	0.015
15-31	15	Institutional	Commercial(Comm)	0.001
15-31	16	Public Facility	Commercial(Comm)	0.003
15-31	18	Transportation	Industrial(Ind)	0.027
15-31	23	Agriculture	Rowcrop	0.449
15-31	24	Vacant	Desert and/or Open	0.111
16-21	2	Large Lot Residential	Low Density Residential(LDR)	0.121
16-21	6	Neighborhood Retail Center	Commercial(Comm)	0.000
16-21	22	Water	Water	0.026
16-21	23	Agriculture	Rowcrop	0.871
16-21	24	Vacant	Desert and/or Open	0.004
16-22E	3	Small Lot Residential	Medium Density Residential(MDR)	0.245
16-22E	4	Medium Density Residential	Multi-Family Residential(MFR)	0.080
16-22E	6	Neighborhood Retail Center	Commercial(Comm)	0.000
16-22E	7	Community Retail Center	Commercial(Comm)	0.118
16-22E	11	Industrial	Industrial(Ind)	0.002
16-22E	18	Transportation	Industrial(Ind)	0.015
16-22E	20	Recreational Open Space	Park	0.005
16-22E	24	Vacant	Desert and/or Open	0.046
16-22W	11	Industrial	Industrial(Ind)	0.452
16-22W	12	Business Park	Commercial(Comm)	0.001
16-22W	18	Transportation	Industrial(Ind)	0.024
16-22W	24	Vacant	Desert and/or Open	0.001
17-21E	2	Large Lot Residential	Low Density Residential(LDR)	0.001
17-21E	3	Small Lot Residential	Medium Density Residential(MDR)	0.042
17-21E	4	Medium Density Residential	Multi-Family Residential(MFR)	0.001
17-21E	14	Educational	School1 & School2	0.001
17-21E	20	Recreational Open Space	Park	0.011
17-21E	22	Water	Water	0.008
17-21E	23	Agriculture	Rowcrop	0.592
17-21E	24	Vacant	Desert and/or Open	0.044
17-21W	2	Large Lot Residential	Low Density Residential(LDR)	0.092
17-21W	23	Agriculture	Rowcrop	0.215
17-21W	24	Vacant	Desert and/or Open	0.000
17-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.112
17-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.071
17-22	6	Neighborhood Retail Center	Commercial(Comm)	0.040
17-22	7	Community Retail Center	Commercial(Comm)	0.049
17-22	11	Industrial	Industrial(Ind)	0.349
17-22	12	Business Park	Commercial(Comm)	0.161
17-22	16	Public Facility	Commercial(Comm)	0.004
17-22	18	Transportation	Industrial(Ind)	0.001
17-22	20	Recreational Open Space	Park	0.016
17-22	23	Agriculture	Rowcrop	0.099
17-22	24	Vacant	Desert and/or Open	0.113
17-32	2	Large Lot Residential	Low Density Residential(LDR)	0.000
17-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.087
17-32	6	Neighborhood Retail Center	Commercial(Comm)	0.006
17-32	14	Educational	School1 & School2	0.015
17-32	22	Water	Water	0.017
17-32	23	Agriculture	Rowcrop	0.159
18-21	2	Large Lot Residential	Low Density Residential(LDR)	0.004
18-21	22	Water	Water	0.004
18-21	23	Agriculture	Rowcrop	0.511
18-21	24	Vacant	Desert and/or Open	0.024
18-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.681

18-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.128
18-22	6	Neighborhood Retail Center	Commercial(Comm)	0.053
18-22	7	Community Retail Center	Commercial(Comm)	0.000
18-22	12	Business Park	Commercial(Comm)	0.001
18-22	13	Office	Commercial(Comm)	0.000
18-22	14	Educational	School1 & School2	0.026
18-22	15	Institutional	Commercial(Comm)	0.007
18-22	20	Recreational Open Space	Park	0.049
18-22	23	Agriculture	Rowcrop	0.001
18-22	24	Vacant	Desert and/or Open	0.023
18-32	2	Large Lot Residential	Low Density Residential(LDR)	0.152
18-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.408
18-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.014
18-32	6	Neighborhood Retail Center	Commercial(Comm)	0.020
18-32	14	Educational	School1 & School2	0.080
18-32	16	Public Facility	Commercial(Comm)	0.005
18-32	20	Recreational Open Space	Park	0.000
18-32	22	Water	Water	0.009
18-32	23	Agriculture	Rowcrop	0.216
18-32	24	Vacant	Desert and/or Open	0.001
19-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.149
19-21	6	Neighborhood Retail Center	Commercial(Comm)	0.022
19-21	22	Water	Water	0.021
19-21	23	Agriculture	Rowcrop	0.548
19-21	24	Vacant	Desert and/or Open	0.134
19-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.585
19-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.014
19-22	6	Neighborhood Retail Center	Commercial(Comm)	0.013
19-22	7	Community Retail Center	Commercial(Comm)	0.006
19-22	13	Office	Commercial(Comm)	0.018
19-22	14	Educational	School1 & School2	0.046
19-22	15	Institutional	Commercial(Comm)	0.001
19-22	20	Recreational Open Space	Park	0.216
19-22	24	Vacant	Desert and/or Open	0.038
19-32	2	Large Lot Residential	Low Density Residential(LDR)	0.060
19-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.591
19-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.057
19-32	6	Neighborhood Retail Center	Commercial(Comm)	0.012
19-32	7	Community Retail Center	Commercial(Comm)	0.001
19-32	14	Educational	School1 & School2	0.027
19-32	15	Institutional	Commercial(Comm)	0.013
19-32	20	Recreational Open Space	Park	0.029
19-32	23	Agriculture	Rowcrop	0.075
19-32	24	Vacant	Desert and/or Open	0.098
2-11	7	Community Retail Center	Commercial(Comm)	0.000
2-11	18	Transportation	Industrial(Ind)	0.002
2-11	23	Agriculture	Rowcrop	0.176
2-11	24	Vacant	Desert and/or Open	0.000
2-W11	3	Small Lot Residential	Medium Density Residential(MDR)	0.011
2-W11	18	Transportation	Industrial(Ind)	0.003
2-W11	22	Water	Water	0.000
2-W11	24	Vacant	Desert and/or Open	0.071
2-12	3	Small Lot Residential	Medium Density Residential(MDR)	0.077
2-12	6	Neighborhood Retail Center	Commercial(Comm)	0.001
2-12	10	Warehouse/Distribution Center	Commercial(Comm)	0.100
2-12	11	Industrial	Industrial(Ind)	0.001
2-12	13	Office	Commercial(Comm)	0.021

2-12	14	Educational	School1 & School2	0.000
2-12	18	Transportation	Industrial(Ind)	0.002
2-12	20	Recreational Open Space	Park	0.000
2-12	24	Vacant	Desert and/or Open	0.028
2-21	2	Large Lot Residential	Low Density Residential(LDR)	0.263
2-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.070
2-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.037
2-21	6	Neighborhood Retail Center	Commercial(Comm)	0.008
2-21	15	Institutional	Commercial(Comm)	0.003
2-21	23	Agriculture	Rowcrop	0.536
2-21	24	Vacant	Desert and/or Open	0.078
2-22	2	Large Lot Residential	Low Density Residential(LDR)	0.414
2-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.377
2-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.031
2-22	6	Neighborhood Retail Center	Commercial(Comm)	0.023
2-22	7	Community Retail Center	Commercial(Comm)	0.054
2-22	13	Office	Commercial(Comm)	0.014
2-22	14	Educational	School1 & School2	0.000
2-22	16	Public Facility	Commercial(Comm)	0.000
2-22	20	Recreational Open Space	Park	0.035
2-22	24	Vacant	Desert and/or Open	0.057
2-31	2	Large Lot Residential	Low Density Residential(LDR)	0.000
2-31	22	Water	Water	0.020
2-31	23	Agriculture	Rowcrop	0.228
2-31	24	Vacant	Desert and/or Open	0.040
20-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.353
20-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.119
20-21	6	Neighborhood Retail Center	Commercial(Comm)	0.060
20-21	14	Educational	School1 & School2	0.020
20-21	20	Recreational Open Space	Park	0.180
20-21	22	Water	Water	0.011
20-21	23	Agriculture	Rowcrop	0.171
20-21	24	Vacant	Desert and/or Open	0.108
20-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.689
20-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.070
20-22	6	Neighborhood Retail Center	Commercial(Comm)	0.014
20-22	7	Community Retail Center	Commercial(Comm)	0.002
20-22	8	Regional Retail Center	Commercial(Comm)	0.131
20-22	11	Industrial	Industrial(Ind)	0.000
20-22	12	Business Park	Commercial(Comm)	0.002
20-22	14	Educational	School1 & School2	0.038
20-22	15	Institutional	Commercial(Comm)	0.041
20-22	20	Recreational Open Space	Park	0.025
20-22	24	Vacant	Desert and/or Open	0.002
20-32	2	Large Lot Residential	Low Density Residential(LDR)	0.112
20-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.636
20-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.016
20-32	6	Neighborhood Retail Center	Commercial(Comm)	0.004
20-32	7	Community Retail Center	Commercial(Comm)	0.066
20-32	14	Educational	School1 & School2	0.037
20-32	15	Institutional	Commercial(Comm)	0.023
20-32	22	Water	Water	0.001
20-32	23	Agriculture	Rowcrop	0.026
20-32	24	Vacant	Desert and/or Open	0.066
21-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.000
21-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
21-21	6	Neighborhood Retail Center	Commercial(Comm)	0.001

21-21	14	Educational	School1 & School2	0.000
21-21	23	Agriculture	Rowcrop	1.002
21-21	24	Vacant	Desert and/or Open	0.004
21-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.398
21-22	7	Community Retail Center	Commercial(Comm)	0.056
21-22	8	Regional Retail Center	Commercial(Comm)	0.001
21-22	11	Industrial	Industrial(Ind)	0.001
21-22	12	Business Park	Commercial(Comm)	0.131
21-22	13	Office	Commercial(Comm)	0.019
21-22	14	Educational	School1 & School2	0.026
21-22	16	Public Facility	Commercial(Comm)	0.004
21-22	18	Transportation	Industrial(Ind)	0.001
21-22	20	Recreational Open Space	Park	0.000
21-22	24	Vacant	Desert and/or Open	0.356
21-32	2	Large Lot Residential	Low Density Residential(LDR)	0.053
21-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.266
21-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.010
21-32	6	Neighborhood Retail Center	Commercial(Comm)	0.012
21-32	7	Community Retail Center	Commercial(Comm)	0.008
21-32	16	Public Facility	Commercial(Comm)	0.027
21-32	22	Water	Water	0.010
21-32	23	Agriculture	Rowcrop	0.011
21-32	24	Vacant	Desert and/or Open	0.000
22-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.560
22-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.037
22-21	6	Neighborhood Retail Center	Commercial(Comm)	0.020
22-21	14	Educational	School1 & School2	0.024
22-21	15	Institutional	Commercial(Comm)	0.034
22-21	23	Agriculture	Rowcrop	0.273
22-21	24	Vacant	Desert and/or Open	0.054
22-22E	3	Small Lot Residential	Medium Density Residential(MDR)	0.192
22-22E	4	Medium Density Residential	Multi-Family Residential(MFR)	0.088
22-22E	7	Community Retail Center	Commercial(Comm)	0.092
22-22E	13	Office	Commercial(Comm)	0.002
22-22E	14	Educational	School1 & School2	0.074
22-22E	18	Transportation	Industrial(Ind)	0.038
22-22E	20	Recreational Open Space	Park	0.001
22-22E	24	Vacant	Desert and/or Open	0.045
22-22W	7	Community Retail Center	Commercial(Comm)	0.001
22-22W	11	Industrial	Industrial(Ind)	0.359
22-22W	12	Business Park	Commercial(Comm)	0.074
22-22W	18	Transportation	Industrial(Ind)	0.014
22-22W	24	Vacant	Desert and/or Open	0.020
22-31E	2	Large Lot Residential	Low Density Residential(LDR)	0.000
22-31E	3	Small Lot Residential	Medium Density Residential(MDR)	0.026
22-31E	6	Neighborhood Retail Center	Commercial(Comm)	0.023
22-31E	7	Community Retail Center	Commercial(Comm)	0.027
22-31E	12	Business Park	Commercial(Comm)	0.000
22-31E	14	Educational	School1 & School2	0.054
22-31E	18	Transportation	Industrial(Ind)	0.045
22-31E	23	Agriculture	Rowcrop	0.335
22-31E	24	Vacant	Desert and/or Open	0.001
22-31W	2	Large Lot Residential	Low Density Residential(LDR)	0.001
22-31W	3	Small Lot Residential	Medium Density Residential(MDR)	0.327
22-31W	4	Medium Density Residential	Multi-Family Residential(MFR)	0.058
22-31W	6	Neighborhood Retail Center	Commercial(Comm)	0.027
22-31W	7	Community Retail Center	Commercial(Comm)	0.112

22-31W	18	Transportation	Industrial(Ind)	0.060
22-31W	20	Recreational Open Space	Park	0.005
22-31W	23	Agriculture	Rowcrop	0.148
22-31W	24	Vacant	Desert and/or Open	0.030
23-21	2	Large Lot Residential	Low Density Residential(LDR)	0.006
23-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.823
23-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.015
23-21	6	Neighborhood Retail Center	Commercial(Comm)	0.070
23-21	14	Educational	School1 & School2	0.024
23-21	16	Public Facility	Commercial(Comm)	0.002
23-21	22	Water	Water	0.002
23-21	23	Agriculture	Rowcrop	0.005
23-21	24	Vacant	Desert and/or Open	0.041
23-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.742
23-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.023
23-22	6	Neighborhood Retail Center	Commercial(Comm)	0.000
23-22	7	Community Retail Center	Commercial(Comm)	0.048
23-22	11	Industrial	Industrial(Ind)	0.008
23-22	12	Business Park	Commercial(Comm)	0.000
23-22	14	Educational	School1 & School2	0.081
23-22	20	Recreational Open Space	Park	0.077
23-22	23	Agriculture	Rowcrop	0.004
23-22	24	Vacant	Desert and/or Open	0.007
23-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.641
23-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.012
23-31	6	Neighborhood Retail Center	Commercial(Comm)	0.009
23-31	7	Community Retail Center	Commercial(Comm)	0.052
23-31	9	Hotel, Motel, or Resort	Commercial(Comm)	0.000
23-31	14	Educational	School1 & School2	0.019
23-31	15	Institutional	Commercial(Comm)	0.031
23-31	18	Transportation	Industrial(Ind)	0.001
23-31	20	Recreational Open Space	Park	0.020
23-31	23	Agriculture	Rowcrop	0.000
23-31	24	Vacant	Desert and/or Open	0.222
24-21N	3	Small Lot Residential	Medium Density Residential(MDR)	0.339
24-21N	4	Medium Density Residential	Multi-Family Residential(MFR)	0.025
24-21N	6	Neighborhood Retail Center	Commercial(Comm)	0.012
24-21N	14	Educational	School1 & School2	0.000
24-21N	20	Recreational Open Space	Park	0.012
24-21N	22	Water	Water	0.010
24-21N	24	Vacant	Desert and/or Open	0.016
24-21S	2	Large Lot Residential	Low Density Residential(LDR)	0.023
24-21S	3	Small Lot Residential	Medium Density Residential(MDR)	0.315
24-21S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.065
24-21S	6	Neighborhood Retail Center	Commercial(Comm)	0.032
24-21S	7	Community Retail Center	Commercial(Comm)	0.056
24-21S	14	Educational	School1 & School2	0.026
24-21S	22	Water	Water	0.030
24-21S	23	Agriculture	Rowcrop	0.012
24-21S	24	Vacant	Desert and/or Open	0.053
24-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.002
24-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.064
24-22	7	Community Retail Center	Commercial(Comm)	0.049
24-22	11	Industrial	Industrial(Ind)	0.000
24-22	12	Business Park	Commercial(Comm)	0.096
24-22	24	Vacant	Desert and/or Open	0.014
24-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.806

24-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.009
24-31	6	Neighborhood Retail Center	Commercial(Comm)	0.013
24-31	7	Community Retail Center	Commercial(Comm)	0.025
24-31	9	Hotel, Motel, or Resort	Commercial(Comm)	0.015
24-31	14	Educational	School1 & School2	0.025
24-31	15	Institutional	Commercial(Comm)	0.001
24-31	23	Agriculture	Rowcrop	0.049
24-31	24	Vacant	Desert and/or Open	0.066
25-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.372
25-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.201
25-21	6	Neighborhood Retail Center	Commercial(Comm)	0.033
25-21	7	Community Retail Center	Commercial(Comm)	0.051
25-21	14	Educational	School1 & School2	0.046
25-21	15	Institutional	Commercial(Comm)	0.025
25-21	20	Recreational Open Space	Park	0.117
25-21	23	Agriculture	Rowcrop	0.000
25-21	24	Vacant	Desert and/or Open	0.155
25-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.702
25-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.026
25-31	6	Neighborhood Retail Center	Commercial(Comm)	0.031
25-31	7	Community Retail Center	Commercial(Comm)	0.043
25-31	14	Educational	School1 & School2	0.018
25-31	18	Transportation	Industrial(Ind)	0.000
25-31	20	Recreational Open Space	Park	0.010
25-31	23	Agriculture	Rowcrop	0.018
25-31	24	Vacant	Desert and/or Open	0.155
26-22W	11	Industrial	Industrial(Ind)	0.071
26-22W	12	Business Park	Commercial(Comm)	0.000
26-22W	18	Transportation	Industrial(Ind)	0.004
26-22W	22	Water	Water	0.003
26-21	2	Large Lot Residential	Low Density Residential(LDR)	0.000
26-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.846
26-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
26-21	6	Neighborhood Retail Center	Commercial(Comm)	0.036
26-21	7	Community Retail Center	Commercial(Comm)	0.014
26-21	8	Regional Retail Center	Commercial(Comm)	0.000
26-21	14	Educational	School1 & School2	0.025
26-21	15	Institutional	Commercial(Comm)	0.011
26-21	16	Public Facility	Commercial(Comm)	0.010
26-21	20	Recreational Open Space	Park	0.015
26-21	23	Agriculture	Rowcrop	0.002
26-21	24	Vacant	Desert and/or Open	0.031
26-22E	3	Small Lot Residential	Medium Density Residential(MDR)	0.087
26-22E	6	Neighborhood Retail Center	Commercial(Comm)	0.004
26-22E	7	Community Retail Center	Commercial(Comm)	0.035
26-22E	11	Industrial	Industrial(Ind)	0.197
26-22E	12	Business Park	Commercial(Comm)	0.026
26-22E	18	Transportation	Industrial(Ind)	0.019
26-22E	22	Water	Water	0.007
26-22E	24	Vacant	Desert and/or Open	0.009
26-22N	3	Small Lot Residential	Medium Density Residential(MDR)	0.027
26-22N	7	Community Retail Center	Commercial(Comm)	0.005
26-22N	11	Industrial	Industrial(Ind)	0.285
26-22N	12	Business Park	Commercial(Comm)	0.041
26-22N	18	Transportation	Industrial(Ind)	0.011
26-22N	22	Water	Water	0.011
26-22S	3	Small Lot Residential	Medium Density Residential(MDR)	0.002

26-22S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
26-22S	6	Neighborhood Retail Center	Commercial(Comm)	0.000
26-22S	7	Community Retail Center	Commercial(Comm)	0.014
26-22S	11	Industrial	Industrial(Ind)	0.366
26-22S	12	Business Park	Commercial(Comm)	0.000
26-22S	18	Transportation	Industrial(Ind)	0.005
26-22S	22	Water	Water	0.005
26-31E	3	Small Lot Residential	Medium Density Residential(MDR)	0.090
26-31E	6	Neighborhood Retail Center	Commercial(Comm)	0.009
26-31E	12	Business Park	Commercial(Comm)	0.078
26-31E	18	Transportation	Industrial(Ind)	0.002
26-31E	20	Recreational Open Space	Park	0.003
26-31E	23	Agriculture	Rowcrop	0.024
26-31E	24	Vacant	Desert and/or Open	0.255
26-31W	2	Large Lot Residential	Low Density Residential(LDR)	0.044
26-31W	3	Small Lot Residential	Medium Density Residential(MDR)	0.012
26-31W	6	Neighborhood Retail Center	Commercial(Comm)	0.007
26-31W	7	Community Retail Center	Commercial(Comm)	0.011
26-31W	12	Business Park	Commercial(Comm)	0.011
26-31W	18	Transportation	Industrial(Ind)	0.056
26-31W	20	Recreational Open Space	Park	0.000
26-31W	23	Agriculture	Rowcrop	0.380
26-31W	24	Vacant	Desert and/or Open	0.019
26-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.002
26-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
26-32	6	Neighborhood Retail Center	Commercial(Comm)	0.004
26-32	16	Public Facility	Commercial(Comm)	0.017
26-32	20	Recreational Open Space	Park	0.053
26-32	22	Water	Water	0.010
27-21	2	Large Lot Residential	Low Density Residential(LDR)	0.019
27-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.630
27-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.020
27-21	6	Neighborhood Retail Center	Commercial(Comm)	0.018
27-21	7	Community Retail Center	Commercial(Comm)	0.001
27-21	14	Educational	School1 & School2	0.032
27-21	15	Institutional	Commercial(Comm)	0.000
27-21	23	Agriculture	Rowcrop	0.196
27-21	24	Vacant	Desert and/or Open	0.088
27-22N	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
27-22N	7	Community Retail Center	Commercial(Comm)	0.059
27-22N	11	Industrial	Industrial(Ind)	0.133
27-22N	12	Business Park	Commercial(Comm)	0.173
27-22N	18	Transportation	Industrial(Ind)	0.002
27-22N	22	Water	Water	0.005
27-22S	3	Small Lot Residential	Medium Density Residential(MDR)	0.424
27-22S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.059
27-22S	6	Neighborhood Retail Center	Commercial(Comm)	0.020
27-22S	7	Community Retail Center	Commercial(Comm)	0.000
27-22S	11	Industrial	Industrial(Ind)	0.000
27-22S	12	Business Park	Commercial(Comm)	0.062
27-22S	14	Educational	School1 & School2	0.013
27-22S	15	Institutional	Commercial(Comm)	0.004
27-22S	22	Water	Water	0.017
27-22S	24	Vacant	Desert and/or Open	0.032
27-31	2	Large Lot Residential	Low Density Residential(LDR)	0.102
27-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.351
27-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.039

27-31	6	Neighborhood Retail Center	Commercial(Comm)	0.014
27-31	7	Community Retail Center	Commercial(Comm)	0.023
27-31	13	Office	Commercial(Comm)	0.017
27-31	14	Educational	School1 & School2	0.031
27-31	18	Transportation	Industrial(Ind)	0.004
27-31	23	Agriculture	Rowcrop	0.359
27-31	24	Vacant	Desert and/or Open	0.072
27-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.524
27-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.027
27-32	6	Neighborhood Retail Center	Commercial(Comm)	0.004
27-32	7	Community Retail Center	Commercial(Comm)	0.012
27-32	14	Educational	School1 & School2	0.020
27-32	15	Institutional	Commercial(Comm)	0.013
27-32	20	Recreational Open Space	Park	0.000
27-32	22	Water	Water	0.011
28-21	2	Large Lot Residential	Low Density Residential(LDR)	0.007
28-21	6	Neighborhood Retail Center	Commercial(Comm)	0.004
28-21	7	Community Retail Center	Commercial(Comm)	0.000
28-21	14	Educational	School1 & School2	0.035
28-21	23	Agriculture	Rowcrop	0.954
28-21	24	Vacant	Desert and/or Open	0.000
28-22N	3	Small Lot Residential	Medium Density Residential(MDR)	0.335
28-22N	4	Medium Density Residential	Multi-Family Residential(MFR)	0.021
28-22N	7	Community Retail Center	Commercial(Comm)	0.059
28-22N	13	Office	Commercial(Comm)	0.001
28-22N	14	Educational	School1 & School2	0.012
28-22N	15	Institutional	Commercial(Comm)	0.005
28-22N	22	Water	Water	0.018
28-22N	24	Vacant	Desert and/or Open	0.000
28-22S	3	Small Lot Residential	Medium Density Residential(MDR)	0.470
28-22S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.001
28-22S	6	Neighborhood Retail Center	Commercial(Comm)	0.002
28-22S	7	Community Retail Center	Commercial(Comm)	0.021
28-22S	13	Office	Commercial(Comm)	0.004
28-22S	14	Educational	School1 & School2	0.022
28-22S	15	Institutional	Commercial(Comm)	0.005
28-22S	20	Recreational Open Space	Park	0.014
28-22S	22	Water	Water	0.003
28-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.001
28-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
28-31	6	Neighborhood Retail Center	Commercial(Comm)	0.000
28-31	18	Transportation	Industrial(Ind)	0.012
28-31	23	Agriculture	Rowcrop	0.127
28-31	24	Vacant	Desert and/or Open	0.000
28-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.687
28-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.107
28-32	6	Neighborhood Retail Center	Commercial(Comm)	0.025
28-32	7	Community Retail Center	Commercial(Comm)	0.018
28-32	9	Hotel, Motel, or Resort	Commercial(Comm)	0.044
28-32	14	Educational	School1 & School2	0.033
28-32	15	Institutional	Commercial(Comm)	0.001
28-32	16	Public Facility	Commercial(Comm)	0.003
28-32	20	Recreational Open Space	Park	0.015
28-32	22	Water	Water	0.000
28-32	23	Agriculture	Rowcrop	0.062
29-21S	2	Large Lot Residential	Low Density Residential(LDR)	0.230
29-21S	22	Water	Water	0.016

29-21S	23	Agriculture	Rowcrop	0.000
29-21S	24	Vacant	Desert and/or Open	0.016
29-21N	6	Neighborhood Retail Center	Commercial(Comm)	0.000
29-21N	14	Educational	School1 & School2	0.001
29-21N	22	Water	Water	0.015
29-21N	23	Agriculture	Rowcrop	0.744
29-21N	24	Vacant	Desert and/or Open	0.001
29-22N	3	Small Lot Residential	Medium Density Residential(MDR)	0.158
29-22N	4	Medium Density Residential	Multi-Family Residential(MFR)	0.024
29-22N	6	Neighborhood Retail Center	Commercial(Comm)	0.008
29-22N	7	Community Retail Center	Commercial(Comm)	0.048
29-22N	8	Regional Retail Center	Commercial(Comm)	0.002
29-22N	13	Office	Commercial(Comm)	0.003
29-22N	14	Educational	School1 & School2	0.029
29-22N	15	Institutional	Commercial(Comm)	0.000
29-22N	20	Recreational Open Space	Park	0.000
29-22N	22	Water	Water	0.006
29-22N	24	Vacant	Desert and/or Open	0.137
29-22S	3	Small Lot Residential	Medium Density Residential(MDR)	0.386
29-22S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.006
29-22S	6	Neighborhood Retail Center	Commercial(Comm)	0.020
29-22S	14	Educational	School1 & School2	0.082
29-22S	15	Institutional	Commercial(Comm)	0.021
29-22S	20	Recreational Open Space	Park	0.054
29-22S	22	Water	Water	0.021
29-22S	24	Vacant	Desert and/or Open	0.004
29-32	2	Large Lot Residential	Low Density Residential(LDR)	0.030
29-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.737
29-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.069
29-32	6	Neighborhood Retail Center	Commercial(Comm)	0.011
29-32	7	Community Retail Center	Commercial(Comm)	0.016
29-32	14	Educational	School1 & School2	0.025
29-32	15	Institutional	Commercial(Comm)	0.006
29-32	20	Recreational Open Space	Park	0.018
29-32	23	Agriculture	Rowcrop	0.060
29-32	24	Vacant	Desert and/or Open	0.020
3-11	7	Community Retail Center	Commercial(Comm)	0.025
3-11	12	Business Park	Commercial(Comm)	0.011
3-11	18	Transportation	Industrial(Ind)	0.007
3-11	22	Water	Water	0.003
3-11	23	Agriculture	Rowcrop	0.000
3-11	24	Vacant	Desert and/or Open	0.120
3-12	3	Small Lot Residential	Medium Density Residential(MDR)	0.131
3-12	4	Medium Density Residential	Multi-Family Residential(MFR)	0.060
3-12	6	Neighborhood Retail Center	Commercial(Comm)	0.046
3-12	7	Community Retail Center	Commercial(Comm)	0.000
3-12	18	Transportation	Industrial(Ind)	0.004
3-12	23	Agriculture	Rowcrop	0.000
3-12	24	Vacant	Desert and/or Open	0.000
3-21	2	Large Lot Residential	Low Density Residential(LDR)	0.061
3-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
3-21	6	Neighborhood Retail Center	Commercial(Comm)	0.004
3-21	23	Agriculture	Rowcrop	0.916
3-21	24	Vacant	Desert and/or Open	0.000
3-22	2	Large Lot Residential	Low Density Residential(LDR)	0.009
3-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.812
3-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.013

3-22	6	Neighborhood Retail Center	Commercial(Comm)	0.010
3-22	7	Community Retail Center	Commercial(Comm)	0.080
3-22	13	Office	Commercial(Comm)	0.004
3-22	14	Educational	School1 & School2	0.032
3-22	20	Recreational Open Space	Park	0.002
3-22	24	Vacant	Desert and/or Open	0.036
30-21N	3	Small Lot Residential	Medium Density Residential(MDR)	0.190
30-21N	12	Business Park	Commercial(Comm)	0.002
30-21N	14	Educational	School1 & School2	0.068
30-21N	22	Water	Water	0.049
30-21N	24	Vacant	Desert and/or Open	0.358
30-21S	3	Small Lot Residential	Medium Density Residential(MDR)	0.122
30-21S	22	Water	Water	0.052
30-21S	23	Agriculture	Rowcrop	0.038
30-21S	24	Vacant	Desert and/or Open	0.538
30-22N	3	Small Lot Residential	Medium Density Residential(MDR)	0.130
30-22N	4	Medium Density Residential	Multi-Family Residential(MFR)	0.002
30-22N	7	Community Retail Center	Commercial(Comm)	0.001
30-22N	15	Institutional	Commercial(Comm)	0.016
30-22N	20	Recreational Open Space	Park	0.011
30-22N	22	Water	Water	0.000
30-22S	3	Small Lot Residential	Medium Density Residential(MDR)	0.649
30-22S	4	Medium Density Residential	Multi-Family Residential(MFR)	0.020
30-22S	6	Neighborhood Retail Center	Commercial(Comm)	0.021
30-22S	7	Community Retail Center	Commercial(Comm)	0.036
30-22S	14	Educational	School1 & School2	0.028
30-22S	22	Water	Water	0.020
30-22S	24	Vacant	Desert and/or Open	0.037
30-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.466
30-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.009
30-32	6	Neighborhood Retail Center	Commercial(Comm)	0.022
30-32	7	Community Retail Center	Commercial(Comm)	0.028
30-32	14	Educational	School1 & School2	0.262
30-32	20	Recreational Open Space	Park	0.132
30-32	23	Agriculture	Rowcrop	0.000
30-32	24	Vacant	Desert and/or Open	0.038
31-21	23	Agriculture	Rowcrop	0.960
31-21	24	Vacant	Desert and/or Open	0.004
31-22	2	Large Lot Residential	Low Density Residential(LDR)	0.019
31-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.608
31-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.028
31-22	6	Neighborhood Retail Center	Commercial(Comm)	0.020
31-22	7	Community Retail Center	Commercial(Comm)	0.003
31-22	14	Educational	School1 & School2	0.022
31-22	16	Public Facility	Commercial(Comm)	0.014
31-22	20	Recreational Open Space	Park	0.082
31-22	23	Agriculture	Rowcrop	0.046
31-22	24	Vacant	Desert and/or Open	0.138
31-32	2	Large Lot Residential	Low Density Residential(LDR)	0.001
31-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.163
31-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.285
31-32	6	Neighborhood Retail Center	Commercial(Comm)	0.022
31-32	12	Business Park	Commercial(Comm)	0.051
31-32	14	Educational	School1 & School2	0.009
31-32	15	Institutional	Commercial(Comm)	0.003
31-32	18	Transportation	Industrial(Ind)	0.000
31-32	20	Recreational Open Space	Park	0.074

31-32	23	Agriculture	Rowcrop	0.253
31-32	24	Vacant	Desert and/or Open	0.093
32-21W	2	Large Lot Residential	Low Density Residential(LDR)	0.038
32-21W	22	Water	Water	0.029
32-21W	23	Agriculture	Rowcrop	0.694
32-21W	24	Vacant	Desert and/or Open	0.010
32-22	2	Large Lot Residential	Low Density Residential(LDR)	0.000
32-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.864
32-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.033
32-22	6	Neighborhood Retail Center	Commercial(Comm)	0.038
32-22	14	Educational	School1 & School2	0.024
32-22	15	Institutional	Commercial(Comm)	0.007
32-22	20	Recreational Open Space	Park	0.030
32-22	24	Vacant	Desert and/or Open	0.008
32-32	2	Large Lot Residential	Low Density Residential(LDR)	0.028
32-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.516
32-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.085
32-32	6	Neighborhood Retail Center	Commercial(Comm)	0.001
32-32	7	Community Retail Center	Commercial(Comm)	0.008
32-32	13	Office	Commercial(Comm)	0.000
32-32	14	Educational	School1 & School2	0.022
32-32	20	Recreational Open Space	Park	0.094
32-32	23	Agriculture	Rowcrop	0.231
32-32	24	Vacant	Desert and/or Open	0.006
33-21	6	Neighborhood Retail Center	Commercial(Comm)	0.005
33-21	22	Water	Water	0.038
33-21	23	Agriculture	Rowcrop	0.945
33-21	24	Vacant	Desert and/or Open	0.002
33-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.655
33-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.177
33-22	6	Neighborhood Retail Center	Commercial(Comm)	0.026
33-22	7	Community Retail Center	Commercial(Comm)	0.036
33-22	13	Office	Commercial(Comm)	0.000
33-22	14	Educational	School1 & School2	0.011
33-22	15	Institutional	Commercial(Comm)	0.006
33-22	20	Recreational Open Space	Park	0.081
33-22	23	Agriculture	Rowcrop	0.000
33-22	24	Vacant	Desert and/or Open	0.008
33-31	18	Transportation	Industrial(Ind)	0.018
33-31	23	Agriculture	Rowcrop	0.239
33-32	2	Large Lot Residential	Low Density Residential(LDR)	0.000
33-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.563
33-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.152
33-32	6	Neighborhood Retail Center	Commercial(Comm)	0.019
33-32	7	Community Retail Center	Commercial(Comm)	0.074
33-32	9	Hotel, Motel, or Resort	Commercial(Comm)	0.012
33-32	13	Office	Commercial(Comm)	0.007
33-32	14	Educational	School1 & School2	0.120
33-32	20	Recreational Open Space	Park	0.018
33-32	23	Agriculture	Rowcrop	0.026
33-32	24	Vacant	Desert and/or Open	0.000
34-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.183
34-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.025
34-21	6	Neighborhood Retail Center	Commercial(Comm)	0.004
34-21	7	Community Retail Center	Commercial(Comm)	0.034
34-21	12	Business Park	Commercial(Comm)	0.010
34-21	22	Water	Water	0.001

34-21	23	Agriculture	Rowcrop	0.237
34-21	24	Vacant	Desert and/or Open	0.511
34-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.684
34-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.078
34-22	6	Neighborhood Retail Center	Commercial(Comm)	0.004
34-22	7	Community Retail Center	Commercial(Comm)	0.065
34-22	11	Industrial	Industrial(Ind)	0.000
34-22	12	Business Park	Commercial(Comm)	0.064
34-22	14	Educational	School1 & School2	0.017
34-22	20	Recreational Open Space	Park	0.026
34-22	23	Agriculture	Rowcrop	0.000
34-22	24	Vacant	Desert and/or Open	0.063
34-31	2	Large Lot Residential	Low Density Residential(LDR)	0.002
34-31	3	Small Lot Residential	Medium Density Residential(MDR)	0.385
34-31	4	Medium Density Residential	Multi-Family Residential(MFR)	0.030
34-31	6	Neighborhood Retail Center	Commercial(Comm)	0.009
34-31	12	Business Park	Commercial(Comm)	0.023
34-31	23	Agriculture	Rowcrop	0.493
34-31	24	Vacant	Desert and/or Open	0.052
34-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.842
34-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.015
34-32	6	Neighborhood Retail Center	Commercial(Comm)	0.039
34-32	7	Community Retail Center	Commercial(Comm)	0.045
34-32	14	Educational	School1 & School2	0.028
34-32	16	Public Facility	Commercial(Comm)	0.006
34-32	20	Recreational Open Space	Park	0.020
35-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.000
35-21	4	Medium Density Residential	Multi-Family Residential(MFR)	0.020
35-21	7	Community Retail Center	Commercial(Comm)	0.001
35-21	8	Regional Retail Center	Commercial(Comm)	0.141
35-21	23	Agriculture	Rowcrop	0.707
35-21	24	Vacant	Desert and/or Open	0.121
35-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.372
35-22	6	Neighborhood Retail Center	Commercial(Comm)	0.000
35-22	7	Community Retail Center	Commercial(Comm)	0.015
35-22	11	Industrial	Industrial(Ind)	0.581
35-22	12	Business Park	Commercial(Comm)	0.000
35-22	14	Educational	School1 & School2	0.012
35-22	18	Transportation	Industrial(Ind)	0.000
35-22	20	Recreational Open Space	Park	0.018
35-31	2	Large Lot Residential	Low Density Residential(LDR)	0.018
35-31	11	Industrial	Industrial(Ind)	0.009
35-31	12	Business Park	Commercial(Comm)	0.147
35-31	16	Public Facility	Commercial(Comm)	0.002
35-31	18	Transportation	Industrial(Ind)	0.001
35-31	23	Agriculture	Rowcrop	0.743
35-31	24	Vacant	Desert and/or Open	0.086
35-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.608
35-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.228
35-32	6	Neighborhood Retail Center	Commercial(Comm)	0.049
35-32	7	Community Retail Center	Commercial(Comm)	0.002
35-32	14	Educational	School1 & School2	0.074
35-32	16	Public Facility	Commercial(Comm)	0.025
35-32	20	Recreational Open Space	Park	0.001
36-21	2	Large Lot Residential	Low Density Residential(LDR)	0.005
36-21	3	Small Lot Residential	Medium Density Residential(MDR)	0.745
36-21	6	Neighborhood Retail Center	Commercial(Comm)	0.000

36-21	7	Community Retail Center	Commercial(Comm)	0.066
36-21	8	Regional Retail Center	Commercial(Comm)	0.000
36-21	14	Educational	School1 & School2	0.010
36-21	20	Recreational Open Space	Park	0.021
36-21	23	Agriculture	Rowcrop	0.101
36-21	24	Vacant	Desert and/or Open	0.054
36-W21	3	Small Lot Residential	Medium Density Residential(MDR)	0.008
36-W21	22	Water	Water	0.161
36-W21	23	Agriculture	Rowcrop	0.652
36-W21	24	Vacant	Desert and/or Open	0.016
36-22	11	Industrial	Industrial(Ind)	0.226
36-22	18	Transportation	Industrial(Ind)	0.001
36-22	24	Vacant	Desert and/or Open	0.000
36-31E	3	Small Lot Residential	Medium Density Residential(MDR)	0.067
36-31E	4	Medium Density Residential	Multi-Family Residential(MFR)	0.071
36-31E	11	Industrial	Industrial(Ind)	0.001
36-31E	12	Business Park	Commercial(Comm)	0.075
36-31E	18	Transportation	Industrial(Ind)	0.026
36-31E	23	Agriculture	Rowcrop	0.234
36-31E	24	Vacant	Desert and/or Open	0.021
36-31W	2	Large Lot Residential	Low Density Residential(LDR)	0.003
36-31W	11	Industrial	Industrial(Ind)	0.045
36-31W	12	Business Park	Commercial(Comm)	0.047
36-31W	16	Public Facility	Commercial(Comm)	0.182
36-31W	18	Transportation	Industrial(Ind)	0.021
36-31W	23	Agriculture	Rowcrop	0.204
36-31W	24	Vacant	Desert and/or Open	0.002
36-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.001
36-32	4	Medium Density Residential	Multi-Family Residential(MFR)	0.046
36-32	7	Community Retail Center	Commercial(Comm)	0.040
36-32	14	Educational	School1 & School2	0.027
4-11	18	Transportation	Industrial(Ind)	0.012
4-11	22	Water	Water	0.000
4-11	23	Agriculture	Rowcrop	0.164
4-12	3	Small Lot Residential	Medium Density Residential(MDR)	0.000
4-12	4	Medium Density Residential	Multi-Family Residential(MFR)	0.000
4-12	6	Neighborhood Retail Center	Commercial(Comm)	0.000
4-12	7	Community Retail Center	Commercial(Comm)	0.000
4-12	16	Public Facility	Commercial(Comm)	0.001
4-12	18	Transportation	Industrial(Ind)	0.003
4-12	23	Agriculture	Rowcrop	0.004
4-12	24	Vacant	Desert and/or Open	0.208
4-21	18	Transportation	Industrial(Ind)	0.026
4-21	23	Agriculture	Rowcrop	0.848
4-22	2	Large Lot Residential	Low Density Residential(LDR)	0.076
4-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.556
4-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.133
4-22	6	Neighborhood Retail Center	Commercial(Comm)	0.030
4-22	7	Community Retail Center	Commercial(Comm)	0.094
4-22	12	Business Park	Commercial(Comm)	0.010
4-22	13	Office	Commercial(Comm)	0.000
4-22	14	Educational	School1 & School2	0.025
4-22	20	Recreational Open Space	Park	0.007
4-22	23	Agriculture	Rowcrop	0.013
4-22	24	Vacant	Desert and/or Open	0.059
5-11	18	Transportation	Industrial(Ind)	0.001
5-11	23	Agriculture	Rowcrop	0.182

5-12	2	Large Lot Residential	Low Density Residential(LDR)	0.000
5-12	3	Small Lot Residential	Medium Density Residential(MDR)	0.041
5-12	4	Medium Density Residential	Multi-Family Residential(MFR)	0.041
5-12	6	Neighborhood Retail Center	Commercial(Comm)	0.000
5-12	7	Community Retail Center	Commercial(Comm)	0.009
5-12	18	Transportation	Industrial(Ind)	0.001
5-12	24	Vacant	Desert and/or Open	0.093
5-21	0		#N/A	0.138
5-21	18	Transportation	Industrial(Ind)	0.026
5-21	23	Agriculture	Rowcrop	0.100
5-21	24	Vacant	Desert and/or Open	0.082
5-22	2	Large Lot Residential	Low Density Residential(LDR)	0.001
5-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.406
5-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.027
5-22	7	Community Retail Center	Commercial(Comm)	0.174
5-22	9	Hotel, Motel, or Resort	Commercial(Comm)	0.090
5-22	14	Educational	School1 & School2	0.029
5-22	16	Public Facility	Commercial(Comm)	0.010
5-22	20	Recreational Open Space	Park	0.005
5-22	23	Agriculture	Rowcrop	0.250
5-22	24	Vacant	Desert and/or Open	0.023
6-11	18	Transportation	Industrial(Ind)	0.005
6-11	23	Agriculture	Rowcrop	0.216
6-12	2	Large Lot Residential	Low Density Residential(LDR)	0.007
6-12	3	Small Lot Residential	Medium Density Residential(MDR)	0.001
6-12	4	Medium Density Residential	Multi-Family Residential(MFR)	0.033
6-12	6	Neighborhood Retail Center	Commercial(Comm)	0.015
6-12	18	Transportation	Industrial(Ind)	0.001
6-12	23	Agriculture	Rowcrop	0.001
6-12	24	Vacant	Desert and/or Open	0.122
6-22E	2	Large Lot Residential	Low Density Residential(LDR)	0.000
6-22E	3	Small Lot Residential	Medium Density Residential(MDR)	0.285
6-22E	4	Medium Density Residential	Multi-Family Residential(MFR)	0.016
6-22E	6	Neighborhood Retail Center	Commercial(Comm)	0.006
6-22E	7	Community Retail Center	Commercial(Comm)	0.041
6-22E	9	Hotel, Motel, or Resort	Commercial(Comm)	0.000
6-22E	12	Business Park	Commercial(Comm)	0.028
6-22E	16	Public Facility	Commercial(Comm)	0.002
6-22E	18	Transportation	Industrial(Ind)	0.017
6-22E	20	Recreational Open Space	Park	0.043
6-22E	23	Agriculture	Rowcrop	0.059
6-22E	24	Vacant	Desert and/or Open	0.000
6-22W	2	Large Lot Residential	Low Density Residential(LDR)	0.000
6-22W	3	Small Lot Residential	Medium Density Residential(MDR)	0.144
6-22W	4	Medium Density Residential	Multi-Family Residential(MFR)	0.017
6-22W	6	Neighborhood Retail Center	Commercial(Comm)	0.000
6-22W	7	Community Retail Center	Commercial(Comm)	0.027
6-22W	11	Industrial	Industrial(Ind)	0.019
6-22W	12	Business Park	Commercial(Comm)	0.166
6-22W	14	Educational	School1 & School2	0.047
6-22W	18	Transportation	Industrial(Ind)	0.007
6-22W	20	Recreational Open Space	Park	0.015
6-22W	23	Agriculture	Rowcrop	0.032
7-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.590
7-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.110
7-22	6	Neighborhood Retail Center	Commercial(Comm)	0.045
7-22	7	Community Retail Center	Commercial(Comm)	0.100

7-22	12	Business Park	Commercial(Comm)	0.019
7-22	14	Educational	School1 & School2	0.032
7-22	18	Transportation	Industrial(Ind)	0.002
7-22	20	Recreational Open Space	Park	0.007
7-22	24	Vacant	Desert and/or Open	0.066
7-32	2	Large Lot Residential	Low Density Residential(LDR)	0.027
7-32	3	Small Lot Residential	Medium Density Residential(MDR)	0.065
7-32	20	Recreational Open Space	Park	0.040
7-32	22	Water	Water	0.027
7-32	23	Agriculture	Rowcrop	0.006
7-32	24	Vacant	Desert and/or Open	0.085
8-21E	22	Water	Water	0.010
8-21E	23	Agriculture	Rowcrop	0.482
8-21E	24	Vacant	Desert and/or Open	0.016
8-21W	22	Water	Water	0.023
8-21W	23	Agriculture	Rowcrop	0.224
8-21W	24	Vacant	Desert and/or Open	0.026
8-22E	2	Large Lot Residential	Low Density Residential(LDR)	0.001
8-22E	3	Small Lot Residential	Medium Density Residential(MDR)	0.145
8-22E	7	Community Retail Center	Commercial(Comm)	0.172
8-22E	12	Business Park	Commercial(Comm)	0.150
8-22E	14	Educational	School1 & School2	0.017
8-22E	15	Institutional	Commercial(Comm)	0.004
8-22E	18	Transportation	Industrial(Ind)	0.012
8-22E	20	Recreational Open Space	Park	0.005
8-22E	24	Vacant	Desert and/or Open	0.017
8-22W	3	Small Lot Residential	Medium Density Residential(MDR)	0.044
8-22W	4	Medium Density Residential	Multi-Family Residential(MFR)	0.009
8-22W	7	Community Retail Center	Commercial(Comm)	0.016
8-22W	12	Business Park	Commercial(Comm)	0.289
8-22W	18	Transportation	Industrial(Ind)	0.032
8-22W	20	Recreational Open Space	Park	0.014
8-22W	23	Agriculture	Rowcrop	0.045
8-22W	24	Vacant	Desert and/or Open	0.044
9-21	2	Large Lot Residential	Low Density Residential(LDR)	0.000
9-21	20	Recreational Open Space	Park	0.000
9-21	23	Agriculture	Rowcrop	0.965
9-21	24	Vacant	Desert and/or Open	0.002
9-22	2	Large Lot Residential	Low Density Residential(LDR)	0.012
9-22	3	Small Lot Residential	Medium Density Residential(MDR)	0.434
9-22	4	Medium Density Residential	Multi-Family Residential(MFR)	0.265
9-22	7	Community Retail Center	Commercial(Comm)	0.175
9-22	14	Educational	School1 & School2	0.051
9-22	15	Institutional	Commercial(Comm)	0.000
9-22	20	Recreational Open Space	Park	0.029
9-22	24	Vacant	Desert and/or Open	0.024
26-32E	7	Community Retail Center	Commercial(Comm)	0.026
26-32E	16	Public Facility	Commercial(Comm)	0.061
26-32E	22	Water	Water	0.020
32-21E	22	Water	Water	0.025
32-21E	23	Agriculture	Rowcrop	0.217

Table 4.2a IA, RTIMP, and Percent Vegetation Cover for Representative Land Uses in Maricopa County

Land Use Category	IA (inches)	RTIMP ** (percent)	Percent ** Veg. Cover	Gilbert Zoning Unit	Gilbert Description	Chandler Zoning Unit	Chandler Description	Mesa Zoning Unit	Mesa Description	Tempe Zoning Unit	Tempe Description	County Zoning Unit	County Description	Phoenix Zoning Unit	Phoenix Description
Agriculture	0.5*	0*	85*	AG	Agriculture	AG-1	Agriculture	AG	Agriculture	AG	Agriculture				
Very Low Density Residential	0.3*	5*	30*					R1-90	Single Residence			RURAL-190	190,000 sq. ft./dwelling unit	S-1	Ranch or Farm Residential, > 1 acre
								SR	Suburban Ranch			RURAL-70	70,000 sq. ft./dwelling unit	S-2	Ranch or Farm Commercial
				R1-43	Rural							RURAL-43	one acre/dwelling unit	RE-43	Single Family, 1 acre minimum
Low Density Residential	0.3*	15*	50*	R1-35	Rural Residential	SF-33	Single Family	R1-35	Single Residence			R1-35	Single Family Residential, 35,000 sq. ft./dwelling unit	RE-35	SF, 35,000 sq.ft min.
														RE-24	SF, 24,000 sq.ft min.
				R1-20	SF, Residential	SF-18	Single Family					R1-18	SFR, 18,000 sq. ft./unit	R1-18	SF, 18,000 sq.ft min.
				R1-15	" "			R1-15	Single Residence	R1-15	One Family Residential			R1-14	SF, 14,000 sq.ft min.
Medium Density Residential	0.25*	30*	50*	R1-10	" "	SF-10	Single Family	R1-9	Single Residence	R1-10	One Family Residential	R1-10	SFR, 10,000 sq. ft./unit	R1-10	SF, 10,000 sq.ft min.
				R1-8	" "					R1-8	One Family Residential	R1-8	SFR, 8,000 sq. ft./unit	R1-8	SF, 8,000 sq.ft min.
				R1-7	" "	SF-7	Single Family	R1-7	Single Residence	R1-7	One Family Residential				
								R1-6	Single Residence	R1-6	One Family Residential	R1-6	SFR, 6,000 sq. ft./unit	R1-6	SF, 6,000 sq.ft min.
								TCR-1	Town Center, Single Family	RO	Residence/Office			R-O	Res. Office
Multiple Family Residential	0.25*	45*	50*	R-2	Duplex	MF-1	Medium Density	R-2	Restricted Multiple Resid.	R-2	Multi-Family Residential	R-2	2 Family Residence	R-2	MF, 4,000 sq.ft./unit
				R-3	Multi-Family, Apartments	MF-2	Multi-Family	R-3	Limited Multiple Resid.	R-3R	Multi-Family Restricted	R-3	Multiple Family, Residential	R-3	MF, 3,000 sq.ft./unit
				R-4	Multi-Family, General	MF-3	High Density	R-4	General Multiple Resid.	R-3	Multi-Family Limited	R-4	Multiple Family, Residential	R-4	MF, 1,500 sq.ft./unit
				R-5	Townhouse Residential					R-4	Multi-Family General	R-5	Multiple Family, Residential	R-4A	MF, 1,000 sq.ft./unit
										R-Th	Townhouse			R-5	MF, 1,000 sq.ft./unit
				MH	Mobile Home	MH-1	Mobile Homes	TCR-2	TC, Restricted Multi-Res.	RMH	Mobile Home Residence	MHR	Manufactured Housing, Resid.	CP/BP	Business Park
				CTP	Commercial Trailer Park			TCR-3	TC, General Res.	MHS	Manufactured Housing Subd.			R-H	Resort District
										TP	Trailer Park				
Industrial	0.15*	55*	60*	I-1	Garden Type Industrial			M-1	Limited Industrial	I-1	Light Industrial			IND PARK	Industrial Park
				I-2	Light Industrial	I-1	Light Industrial			I-2	General Industrial	I-2	Light Industrial	A-1	Light Industrial
				I-3	General Industrial	I-2	General Industrial	M-2	General Industrial	I-3	Heavy Industrial	I-3	Heavy Industrial	A-2	Heavy Industrial
Commercial	0.1*	80*	75*	C-1	Light Commercial	C-1	Neighborhood Commercial	C-1	Neighborhood Comm.	CCR	Convenience Commercial	C-1	Neighborhood Commercial	C-1	Neighborhood Commercial
				C-2	General Commercial	C-2	Community Commercial	C-2	Limited Comm.	C-1	Neighborhood Commercial	C-2	Intermediate Commercial	C-2	Intermediate Commercial
				C-3	Central Commercial	C-3	Regional Commercial	C-3	General Comm.	C-2	General Commercial	C-3	General Commercial	C-3	General Commercial
				RS	Residential Services			OS	Office-Sercives	CCD	Central Comm. District	C-O	Commercial Office	C-O	Commercial Office
				RCC	Residential Conveniences			TCC	TC,High Intensity Mixed Use					HR	High Rise District
								TCB-1	TC, Limited Comm./General Manufacturing						
								TCB-2	TC, General Comm./ Light Manufacturing						
MISCELLANEOUS CATEGORIES: These zoning units should be evaluated on a case by case basis.															
				PAD	Planned Area Development	PAD	Planned Area Development			S	Private School	PD	Planned Development Overlay	PAD	Planned Area Development
				PSC-1	Planned Neighborhood Shopping										
				PSC-2	Planned Shopping Center							CS	Planned Shopping Center	PSC	Planned Shopping Center
				IB	Industrial Buffer										
						PCO	Planned C Offices	PEP	Planned Employment Park						
								PF	Public Facilities			SU	Special Uses		
												SC	Senior Citizen Overlay	PCD	Planned Community Development
												NUP	Neighborhood Plan of Development		
												RUP	Residential Plan of Development		
												IUP	Industrial Plan of Development		
														R.O.W.	Right of Way
														P-1	Parking, Open
														P-2	Parking, Structures
														D.G	Dwelling Group

NOTES

* These values have been selected to fit many typical settings in Maricopa County. However, the engineer/hydrologist should ALWAYS evaluate the specific circumstances in any particular watershed for hydrological variations from these typical values.

** RTIMP = Percent Effective Impervious Area, Including R.O.W.

** Percent Veg. Cover = Percent vegetation cover for pervious area only

Input Data for DDMS:
Soil Group Data for Each Sub-Basin

AREA OF SOIL TYPES BY SUBBASIN
MARYVALE ADMS

SUBBASIN	SOIL TYPE	ACRES	SQMI
1-11	Aa	7.14	0.0112
1-11	Ao	9.11	0.0142
1-11	Es	10.22	0.0160
1-11	GgA	40.22	0.0628
1-11	Gt	36.85	0.0576
1-11	Vh	13.02	0.0203
1-W11	Aa	0.48	0.0008
1-W11	AbA	1.64	0.0026
1-W11	AbB	3.62	0.0057
1-W11	Br	6.59	0.0103
1-W11	Bs	1.59	0.0025
1-W11	Ge	43.96	0.0687
1-W11	GgA	18.57	0.0290
1-W11	Gt	48.71	0.0761
1-W11	Gv	15.61	0.0244
1-W11	Lb	3.64	0.0057
1-W11	LcA	24.68	0.0386
1-W11	Ma	12.85	0.0201
1-W11	Mr	1.14	0.0018
1-W11	PsA	1.83	0.0029
1-W11	RbA	3.66	0.0057
1-W11	TD	2.29	0.0036
1-W11	Tt	37.82	0.0591
1-W11	Vh	9.33	0.0146
1-12	Ao	11.29	0.0176
1-12	GgA	51.87	0.0810
1-21	GgA	0.83	0.0013
1-21	LcA	7.24	0.0113
1-21	Le	97.14	0.1518
1-21	Mr	258.08	0.4033
1-21	Tt	233.47	0.3648
1-21	Tu	7.04	0.0110
1-21	Tw	35.80	0.0559
1-22	Es	21.92	0.0343
1-22	Mp	55.43	0.0866
1-22	Mr	72.12	0.1127
1-22	Tc	0.02	0.0000
1-22	Tt	6.15	0.0096
10-21	LcA	180.60	0.2822
10-21	Le	70.63	0.1104
10-21	Mr	312.49	0.4883
10-21	RbA	15.62	0.0244
10-21	Tg	3.96	0.0062
10-21	Tt	17.63	0.0275
10-21	Tw	26.33	0.0411
10-22	Ao	69.00	0.1078

10-22	Bt	2.54	0.0040
10-22	GgA	562.79	0.8794
10-31	Vh	0.64	0.0010
10-31	Mr	56.96	0.0890
10-31	LcA	10.24	0.0160
10-31	Aa	3.84	0.0060
10-31	TD	1.28	0.0020
11-21	GgA	3.10	0.0048
11-21	Gt	119.11	0.1861
11-21	LcA	217.64	0.3401
11-21	Le	257.03	0.4016
11-21	Mr	7.52	0.0118
11-21	Ms	1.59	0.0025
11-21	RbA	1.08	0.0017
11-21	Tt	22.13	0.0346
11-22	Aa	33.12	0.0518
11-22	Ao	58.12	0.0908
11-22	Es	105.94	0.1655
11-22	GgA	385.55	0.6024
11-22	Mp	48.67	0.0760
11-22	Mr	7.79	0.0122
11-22	Tt	4.32	0.0068
11-31	Aa	1.58	0.0025
11-31	GgA	36.05	0.0563
11-31	GxA	15.26	0.0238
11-31	LcA	308.80	0.4825
11-31	Mr	244.08	0.3814
11-31	RbA	0.02	0.0000
11-31	TD	1.09	0.0017
11-31	Tw	22.23	0.0347
11-31	Vf	5.65	0.0088
11-31	Vh	3.42	0.0053
12-21	Ao	22.42	0.0350
12-21	GgA	15.82	0.0247
12-21	Gt	279.10	0.4361
12-21	LcA	2.89	0.0045
12-21	Le	38.74	0.0605
12-21	Mr	113.16	0.1768
12-21	Ms	9.72	0.0152
12-21	Tt	160.10	0.2502
12-22	Es	20.14	0.0315
12-22	GgA	18.10	0.0283
12-22	Mp	118.40	0.1850
12-31	GxA	2.34	0.0037
12-31	LcA	259.46	0.4054
12-31	Mp	44.85	0.0701
12-31	Mr	323.22	0.5050
12-31	TD	1.29	0.0020
12-31	Tw	10.45	0.0163

12-31	Vf	11.01	0.0172
13-21	Aa	19.15	0.0299
13-21	AbA	26.36	0.0412
13-21	An	16.42	0.0257
13-21	Ao	208.21	0.3253
13-21	Bs	12.52	0.0196
13-21	Ge	38.82	0.0607
13-21	GgA	52.97	0.0828
13-21	Gt	139.90	0.2186
13-21	LcA	10.04	0.0157
13-21	Ma	29.16	0.0456
13-21	Mr	0.12	0.0002
13-21	Ms	1.72	0.0027
13-21	Tt	17.00	0.0266
13-21	Vg	20.46	0.0320
13-21	Vh	47.38	0.0740
13-22	GgA	146.05	0.2282
13-22	Le	11.65	0.0182
13-31	Gt	14.04	0.0219
13-31	LcA	114.69	0.1792
13-31	Mp	7.19	0.0112
13-31	Mr	256.63	0.4010
13-31	Ms	42.93	0.0671
13-31	Tw	77.37	0.1209
13-31	Vf	129.01	0.2016
14-21E	Aa	7.37	0.0115
14-21E	Ao	31.78	0.0497
14-21E	GgA	36.56	0.0571
14-21E	Gt	135.39	0.2115
14-21E	Le	23.28	0.0364
14-21E	Mr	3.90	0.0061
14-21E	Ms	0.60	0.0009
14-21E	Tt	37.41	0.0585
14-21W	Aa	2.81	0.0044
14-21W	An	26.30	0.0411
14-21W	Ao	71.11	0.1111
14-21W	Bs	4.35	0.0068
14-21W	Es	29.17	0.0456
14-21W	GgA	43.40	0.0678
14-21W	Gt	83.53	0.1305
14-21W	Le	54.46	0.0851
14-21W	Ma	6.50	0.0102
14-21W	Mr	1.06	0.0017
14-21W	Tt	36.68	0.0573
14-22	Aa	156.15	0.2440
14-22	Ao	30.36	0.0474
14-22	GgA	452.45	0.7070
14-22	Le	1.01	0.0016
14-31	LcA	153.80	0.2403

14-31	Le	30.06	0.0470
14-31	Mr	283.74	0.4433
14-31	Ms	9.98	0.0156
14-31	PeA	21.79	0.0340
14-31	RbA	6.90	0.0108
14-31	Tw	4.97	0.0078
14-31	Vf	133.70	0.2089
15-21	Gt	97.53	0.1524
15-21	LcA	10.10	0.0158
15-21	Le	19.67	0.0307
15-21	Mr	239.46	0.3742
15-21	Tt	276.45	0.4320
15-21	Tw	4.10	0.0064
15-22	Aa	205.50	0.3211
15-22	Bt	0.12	0.0002
15-22	GgA	433.20	0.6769
15-31	Aa	19.59	0.0306
15-31	AbA	4.16	0.0065
15-31	Es	3.95	0.0062
15-31	GgA	37.66	0.0588
15-31	LcA	179.89	0.2811
15-31	Le	118.70	0.1855
15-31	Mr	132.37	0.2068
15-31	RbA	0.00	0.0000
15-31	TD	0.06	0.0001
15-31	Tg	6.76	0.0106
15-31	Tw	3.73	0.0058
15-31	Vf	31.67	0.0495
15-31	Vh	0.00	0.0000
16-21	Gt	22.54	0.0352
16-21	Lb	11.20	0.0175
16-21	LcA	48.09	0.0751
16-21	Le	35.22	0.0550
16-21	Mr	383.33	0.5990
16-21	Tt	153.30	0.2395
16-22E	Aa	75.75	0.1184
16-22E	Ao	11.39	0.0178
16-22E	Bt	1.20	0.0019
16-22E	GgA	230.64	0.3604
16-22E	Vk	9.37	0.0146
16-22W	Aa	40.91	0.0639
16-22W	Ao	14.47	0.0226
16-22W	GgA	251.08	0.3923
17-21E	AbA	7.03	0.0110
17-21E	AbB	13.02	0.0203
17-21E	GgA	4.44	0.0069
17-21E	LcA	144.90	0.2264
17-21E	Le	5.89	0.0092
17-21E	Mp	3.07	0.0048

17-21E	Mr	249.10	0.3892
17-21E	RaB	0.03	0.0000
17-21E	Tt	19.52	0.0305
17-21E	Va	0.33	0.0005
17-21W	AbB	26.52	0.0414
17-21W	Bs	18.75	0.0293
17-21W	GgA	26.24	0.0410
17-21W	Gt	71.37	0.1115
17-21W	GxA	0.03	0.0000
17-21W	Mr	0.02	0.0000
17-21W	RaB	53.10	0.0830
17-22	Aa	3.55	0.0055
17-22	An	22.66	0.0354
17-22	Ao	37.49	0.0586
17-22	GgA	566.79	0.8856
17-22	Gt	5.31	0.0083
17-22	Vg	14.04	0.0219
17-32	LcA	28.66	0.0448
17-32	Le	29.60	0.0463
17-32	Mr	94.39	0.1475
17-32	RbA	0.80	0.0013
17-32	Tg	12.84	0.0201
17-32	Vf	15.70	0.0245
18-21	Aa	82.93	0.1296
18-21	AbA	7.17	0.0112
18-21	An	7.92	0.0124
18-21	Ao	48.55	0.0759
18-21	Br	21.83	0.0341
18-21	Bs	2.85	0.0045
18-21	GgA	129.35	0.2021
18-21	Gt	30.99	0.0484
18-21	GxA	4.58	0.0072
18-21	RaB	0.03	0.0000
18-21	TD	0.33	0.0005
18-21	Vh	10.75	0.0168
18-22	Aa	19.62	0.0307
18-22	An	48.22	0.0753
18-22	Ao	363.69	0.5683
18-22	Bt	9.11	0.0142
18-22	GgA	134.26	0.2098
18-22	Gt	0.62	0.0010
18-22	Ma	11.27	0.0176
18-22	Vh	33.25	0.0520
18-32	GxA	12.29	0.0192
18-32	LcA	160.13	0.2502
18-32	Le	80.31	0.1255
18-32	Mp	17.93	0.0280
18-32	Mr	197.71	0.3089
18-32	RbA	32.79	0.0512

18-32	Ta	1.84	0.0029
18-32	Th	5.76	0.0090
18-32	Tw	56.24	0.0879
18-32	Vf	14.44	0.0226
19-21	Aa	42.34	0.0662
19-21	AbA	72.03	0.1125
19-21	Ao	52.36	0.0818
19-21	Br	0.17	0.0003
19-21	Ge	24.83	0.0388
19-21	GgA	213.40	0.3334
19-21	Gt	3.66	0.0057
19-21	Lb	10.10	0.0158
19-21	LcA	42.43	0.0663
19-21	Le	3.31	0.0052
19-21	Ma	18.36	0.0287
19-21	Mp	1.91	0.0030
19-21	Mr	12.45	0.0195
19-21	Vg	0.14	0.0002
19-21	Vh	54.09	0.0845
19-21	Vk	6.93	0.0108
19-22	An	16.43	0.0257
19-22	Ao	257.15	0.4018
19-22	Bt	4.56	0.0071
19-22	GgA	246.87	0.3857
19-22	Gt	75.30	0.1177
19-32	Gt	6.09	0.0095
19-32	GxA	12.25	0.0191
19-32	LcA	181.14	0.2830
19-32	Le	78.71	0.1230
19-32	Mr	222.96	0.3484
19-32	RbA	27.28	0.0426
19-32	Tg	11.56	0.0181
19-32	Th	1.53	0.0024
19-32	Tw	50.07	0.0782
19-32	Vf	23.84	0.0373
2-11	Ao	54.64	0.0854
2-11	GgA	51.20	0.0800
2-11	Gt	7.98	0.0125
2-W11	AbB	4.35	0.0068
2-W11	Ge	24.68	0.0386
2-W11	GgA	17.29	0.0270
2-W11	Gt	3.70	0.0058
2-W11	LcA	3.67	0.0057
2-W11	PsA	0.13	0.0002
2-W11	RbA	0.15	0.0002
2-12	Ao	28.19	0.0440
2-12	Gt	94.03	0.1469
2-12	Gv	24.34	0.0380
2-21	Gt	3.30	0.0052

2-21	LcA	172.52	0.2696
2-21	Le	53.44	0.0835
2-21	Mr	373.82	0.5841
2-21	RbA	9.35	0.0146
2-21	Tu	0.10	0.0002
2-21	Tw	24.07	0.0376
2-22	Aa	47.91	0.0749
2-22	An	16.20	0.0253
2-22	Ao	92.27	0.1442
2-22	Bt	7.31	0.0114
2-22	Es	47.27	0.0739
2-22	GgA	308.87	0.4826
2-22	Le	9.50	0.0148
2-22	Mp	0.67	0.0010
2-22	Mr	45.70	0.0714
2-22	Tt	67.02	0.1047
2-31	AbA	5.85	0.0091
2-31	GgA	72.19	0.1128
2-31	GxA	39.86	0.0623
2-31	LcA	47.59	0.0744
2-31	Ma	5.59	0.0087
2-31	Mp	0.07	0.0001
2-31	Mr	0.72	0.0011
2-31	RbA	10.24	0.0160
2-31	TD	2.06	0.0032
20-21	GgA	2.29	0.0036
20-21	Gt	36.71	0.0574
20-21	LcA	23.54	0.0368
20-21	Le	68.03	0.1063
20-21	Mp	107.02	0.1672
20-21	Mr	261.42	0.4085
20-21	Tt	137.33	0.2146
20-21	Tu	14.84	0.0232
20-21	Tw	3.54	0.0055
20-22	Aa	3.23	0.0050
20-22	Ao	49.29	0.0770
20-22	GgA	563.94	0.8812
20-22	Gt	32.44	0.0507
20-32	9x9*	1.26	0.0020
20-32	Bt	2.02	0.0032
20-32	Gt	32.20	0.0503
20-32	GxA	0.68	0.0011
20-32	LcA	23.78	0.0372
20-32	Le	158.67	0.2479
20-32	Mr	274.92	0.4296
20-32	PeA	4.64	0.0073
20-32	Tg	4.46	0.0070
20-32	Th	1.31	0.0020
20-32	Tw	107.76	0.1684

20-32	Vf	20.73	0.0324
21-21	Gt	148.51	0.2320
21-21	Le	219.06	0.3423
21-21	Mr	153.58	0.2400
21-21	Tt	123.72	0.1933
21-22	Aa	127.21	0.1988
21-22	An	4.54	0.0071
21-22	Ao	30.39	0.0475
21-22	GgA	473.84	0.7404
21-32	Ao	8.04	0.0126
21-32	GgA	3.66	0.0057
21-32	LcA	5.57	0.0087
21-32	Le	9.45	0.0148
21-32	Mp	2.76	0.0043
21-32	Mr	144.87	0.2264
21-32	Tt	6.08	0.0095
21-32	Tw	50.20	0.0784
21-32	Vf	24.21	0.0378
22-21	Ao	15.54	0.0243
22-21	Es	2.17	0.0034
22-21	GgA	0.27	0.0004
22-21	Gt	273.26	0.4270
22-21	Le	85.51	0.1336
22-21	Mr	52.63	0.0822
22-21	Tt	206.07	0.3220
22-21	Tw	5.85	0.0091
22-22E	Aa	52.76	0.0824
22-22E	GgA	287.92	0.4499
22-22E	Ma	0.16	0.0003
22-22W	Aa	20.72	0.0324
22-22W	GgA	278.20	0.4347
22-31E	Aa	10.64	0.0166
22-31E	Cb	0.10	0.0002
22-31E	GgA	7.59	0.0119
22-31E	Le	73.79	0.1153
22-31E	Mr	59.73	0.0933
22-31E	Ms	95.38	0.1490
22-31E	RbA	6.91	0.0108
22-31E	Tg	9.64	0.0151
22-31E	Tw	23.28	0.0364
22-31E	Vf	40.83	0.0638
22-31W	Aa	32.91	0.0514
22-31W	An	15.65	0.0245
22-31W	Ao	44.42	0.0694
22-31W	Bs	3.03	0.0047
22-31W	Cb	0.09	0.0001
22-31W	Ge	8.95	0.0140
22-31W	GgA	49.39	0.0772
22-31W	Gt	4.76	0.0074

22-31W	GxA	36.69	0.0573
22-31W	Le	72.94	0.1140
22-31W	Ma	2.73	0.0043
22-31W	Mr	60.62	0.0947
22-31W	Ms	46.98	0.0734
22-31W	RbA	11.49	0.0180
22-31W	Tg	4.30	0.0067
22-31W	Th	2.18	0.0034
22-31W	Tw	36.52	0.0571
22-31W	Vf	56.46	0.0882
23-21	Aa	49.52	0.0774
23-21	An	25.66	0.0401
23-21	Ao	195.95	0.3062
23-21	Bt	26.18	0.0409
23-21	Es	12.31	0.0192
23-21	GgA	242.16	0.3784
23-21	Gt	66.71	0.1042
23-21	Le	3.20	0.0050
23-21	Tt	6.19	0.0097
23-21	Vh	3.70	0.0058
23-21	Vk	0.05	0.0001
23-22	An	5.32	0.0083
23-22	Ao	353.93	0.5530
23-22	Bs	1.19	0.0019
23-22	GgA	192.15	0.3002
23-22	Le	34.76	0.0543
23-22	Ma	15.30	0.0239
23-22	Vh	30.62	0.0478
23-31	LcA	6.01	0.0094
23-31	Le	92.56	0.1446
23-31	Mp	5.49	0.0086
23-31	Mr	240.78	0.3762
23-31	Ms	154.89	0.2420
23-31	RbA	48.95	0.0765
23-31	Te	1.37	0.0021
23-31	Tg	6.23	0.0097
23-31	Tw	7.19	0.0112
23-31	Vf	80.21	0.1253
24-21N	Aa	9.07	0.0142
24-21N	An	3.15	0.0049
24-21N	Ao	136.65	0.2135
24-21N	Bs	1.58	0.0025
24-21N	Ge	18.92	0.0296
24-21N	GgA	42.78	0.0668
24-21N	Gt	40.74	0.0637
24-21N	Ma	1.45	0.0023
24-21N	Vh	10.16	0.0159
24-21S	Aa	9.44	0.0148
24-21S	Ao	93.75	0.1465

24-21S	Bt	0.06	0.0001
24-21S	Ge	17.34	0.0271
24-21S	GgA	56.89	0.0889
24-21S	Gt	156.43	0.2444
24-21S	Ma	17.50	0.0273
24-21S	Vh	24.52	0.0383
24-21S	Vk	15.98	0.0250
24-22	GgA	38.02	0.0594
24-22	LcA	19.72	0.0308
24-22	Le	86.17	0.1346
24-31	Gt	17.74	0.0277
24-31	GxA	8.53	0.0133
24-31	LcA	143.99	0.2250
24-31	Le	43.85	0.0685
24-31	Mp	2.80	0.0044
24-31	Mr	198.65	0.3104
24-31	Ms	27.16	0.0424
24-31	RbA	59.04	0.0923
24-31	Te	10.09	0.0158
24-31	Tu	8.96	0.0140
24-31	Tw	24.09	0.0376
24-31	Vf	99.91	0.1561
25-21	Aa	0.15	0.0002
25-21	Ao	441.92	0.6905
25-21	Bt	3.75	0.0059
25-21	GgA	4.34	0.0068
25-21	Gt	189.95	0.2968
25-31	Ao	4.84	0.0076
25-31	Gt	5.04	0.0079
25-31	GxA	2.59	0.0040
25-31	LcA	26.93	0.0421
25-31	Le	95.27	0.1489
25-31	Mr	278.91	0.4358
25-31	Ms	61.83	0.0966
25-31	RbA	5.56	0.0087
25-31	Tu	3.18	0.0050
25-31	Tw	154.76	0.2418
25-31	Vf	3.00	0.0047
26-22W	Ao	0.39	0.0006
26-22W	Bs	8.40	0.0131
26-22W	Ge	1.66	0.0026
26-22W	GgA	11.25	0.0176
26-22W	Ma	28.36	0.0443
26-21	Aa	82.58	0.1290
26-21	An	30.78	0.0481
26-21	Ao	259.64	0.4057
26-21	Bt	28.23	0.0441
26-21	GgA	194.14	0.3033
26-21	Gt	38.37	0.0600

26-22E	An	3.73	0.0058
26-22E	Ao	169.32	0.2646
26-22E	GgA	57.46	0.0898
26-22E	Le	14.40	0.0225
26-22N	An	18.59	0.0290
26-22N	Ao	8.04	0.0126
26-22N	Bs	3.54	0.0055
26-22N	GgA	156.39	0.2444
26-22N	LcA	6.94	0.0108
26-22N	Ma	21.77	0.0340
26-22N	Vh	27.76	0.0434
26-22S	Aa	6.76	0.0106
26-22S	An	14.87	0.0232
26-22S	Ao	103.42	0.1616
26-22S	GgA	75.28	0.1176
26-22S	Gt	44.96	0.0703
26-22S	Gv	4.00	0.0063
26-22S	Ma	1.87	0.0029
26-31E	GxA	5.84	0.0091
26-31E	Le	106.59	0.1665
26-31E	Mr	80.83	0.1263
26-31E	Ms	59.05	0.0923
26-31E	Tw	2.83	0.0044
26-31E	Vf	40.25	0.0629
26-31W	LcA	0.01	0.0000
26-31W	Le	169.68	0.2651
26-31W	Mr	40.26	0.0629
26-31W	Ms	90.39	0.1412
26-31W	Ta	2.47	0.0039
26-31W	Tg	1.59	0.0025
26-31W	Tw	28.47	0.0445
26-31W	Vf	12.90	0.0202
26-32	Ao	0.04	0.0001
26-32	GgA	55.36	0.0865
27-21	Aa	32.41	0.0506
27-21	An	136.36	0.2131
27-21	Ao	126.54	0.1977
27-21	Bt	8.85	0.0138
27-21	GgA	176.36	0.2756
27-21	Gt	135.86	0.2123
27-21	Le	0.02	0.0000
27-21	Mr	4.69	0.0073
27-21	Tt	4.33	0.0068
27-21	Vk	17.56	0.0274
27-22N	Ao	48.68	0.0761
27-22N	Ge	9.20	0.0144
27-22N	GgA	152.33	0.2380
27-22N	Gt	2.85	0.0045
27-22N	Ma	10.90	0.0170

27-22N	Tt	13.80	0.0216
27-22S	Ao	25.46	0.0398
27-22S	Ge	23.28	0.0364
27-22S	GgA	35.75	0.0559
27-22S	Gt	208.56	0.3259
27-22S	Gv	7.10	0.0111
27-22S	Tt	103.76	0.1621
27-31	GxA	18.50	0.0289
27-31	LcA	44.30	0.0692
27-31	Le	164.93	0.2577
27-31	Mr	193.35	0.3021
27-31	Ms	69.46	0.1085
27-31	RbA	25.01	0.0391
27-31	Tg	6.47	0.0101
27-31	Tw	74.26	0.1160
27-31	Vf	51.75	0.0809
27-32	Aa	29.81	0.0466
27-32	Ao	59.41	0.0928
27-32	Bs	13.21	0.0206
27-32	Es	7.53	0.0118
27-32	GgA	278.96	0.4359
27-32	Vh	2.89	0.0045
28-21	Ao	40.79	0.0637
28-21	GgA	11.60	0.0181
28-21	Gt	221.85	0.3466
28-21	Le	64.87	0.1014
28-21	Mr	199.98	0.3125
28-21	Tt	42.42	0.0663
28-21	Tw	58.21	0.0910
28-22N	Aa	6.11	0.0095
28-22N	Ao	16.89	0.0264
28-22N	GgA	266.16	0.4159
28-22S	Aa	14.47	0.0226
28-22S	An	0.59	0.0009
28-22S	Ao	54.53	0.0852
28-22S	GgA	196.31	0.3067
28-22S	Gt	61.00	0.0953
28-22S	Tt	20.57	0.0321
28-31	Gt	9.95	0.0155
28-31	GxA	9.78	0.0153
28-31	LcA	1.96	0.0031
28-31	Le	3.17	0.0050
28-31	Mr	36.79	0.0575
28-31	RbA	2.01	0.0031
28-31	Tw	10.79	0.0169
28-31	Vf	15.53	0.0243
28-32	Ao	231.34	0.3615
28-32	GgA	252.95	0.3952
28-32	Le	12.99	0.0203

28-32	Mr	120.71	0.1886
28-32	Tt	7.02	0.0110
28-32	Vh	1.06	0.0017
28-32	Vk	9.90	0.0155
29-21S	Gt	69.93	0.1093
29-21S	Le	6.60	0.0103
29-21S	Mr	3.38	0.0053
29-21S	Tt	88.11	0.1377
29-21N	Gt	73.88	0.1154
29-21N	Le	11.00	0.0172
29-21N	Mr	197.57	0.3087
29-21N	Tt	170.18	0.2659
29-21N	Tw	34.54	0.0540
29-22N	Aa	6.01	0.0094
29-22N	Ao	80.41	0.1256
29-22N	GgA	178.43	0.2788
29-22S	Aa	0.95	0.0015
29-22S	An	3.23	0.0050
29-22S	Ao	151.08	0.2361
29-22S	GgA	224.71	0.3511
29-32	9x9*	9.49	0.0148
29-32	Ao	23.32	0.0364
29-32	GgA	9.67	0.0151
29-32	Gt	0.37	0.0006
29-32	LcA	6.67	0.0104
29-32	Le	137.54	0.2149
29-32	Mr	312.10	0.4877
29-32	RbA	14.35	0.0224
29-32	Tw	112.90	0.1764
29-32	Vf	7.85	0.0123
3-11	Gt	107.24	0.1676
3-12	Ao	13.80	0.0216
3-12	GgA	6.69	0.0105
3-12	Gt	98.15	0.1534
3-12	Gv	17.71	0.0277
3-12	Mr	18.06	0.0282
3-21	Aa	29.70	0.0464
3-21	Bs	28.30	0.0442
3-21	Bt	4.12	0.0064
3-21	Cb	8.17	0.0128
3-21	Ge	5.82	0.0091
3-21	GgA	16.24	0.0254
3-21	Gt	68.37	0.1068
3-21	GxA	7.89	0.0123
3-21	Lb	18.55	0.0290
3-21	LcA	169.53	0.2649
3-21	Le	106.08	0.1658
3-21	Mr	124.76	0.1949
3-21	RbA	6.77	0.0106

3-21	TfA	3.05	0.0048
3-21	Tg	10.88	0.0170
3-21	Th	6.80	0.0106
3-21	Tw	12.66	0.0198
3-22	Ao	347.17	0.5425
3-22	GgA	291.51	0.4555
30-21N	Aa	15.33	0.0240
30-21N	Ao	0.15	0.0002
30-21N	Br	5.47	0.0085
30-21N	Bs	26.81	0.0419
30-21N	Ge	28.32	0.0443
30-21N	GgA	55.11	0.0861
30-21N	Gt	89.11	0.1392
30-21N	Le	2.13	0.0033
30-21N	Ma	7.43	0.0116
30-21N	Mr	53.09	0.0830
30-21N	TD	8.40	0.0131
30-21N	Ta	5.57	0.0087
30-21N	Tt	77.12	0.1205
30-21N	Vg	10.79	0.0169
30-21N	Vh	42.18	0.0659
30-21S	Br	15.04	0.0235
30-21S	Bs	11.68	0.0183
30-21S	Cb	22.77	0.0356
30-21S	Ge	47.97	0.0750
30-21S	GgA	81.97	0.1281
30-21S	Gt	94.97	0.1484
30-21S	Le	24.10	0.0377
30-21S	Ma	30.31	0.0474
30-21S	Mr	12.25	0.0191
30-21S	Ta	0.84	0.0013
30-21S	Tt	126.68	0.1979
30-21S	Vg	7.02	0.0110
30-21S	Vh	4.12	0.0064
30-22N	Ao	44.58	0.0697
30-22N	GgA	53.52	0.0836
30-22N	Gt	4.92	0.0077
30-22S	Ao	363.49	0.5680
30-22S	GgA	142.95	0.2234
30-22S	Gt	12.52	0.0196
30-32	9x9*	13.61	0.0213
30-32	AbA	1.93	0.0030
30-32	GgA	14.78	0.0231
30-32	Gt	14.42	0.0225
30-32	Gv	13.76	0.0215
30-32	LcA	77.38	0.1209
30-32	Le	204.92	0.3202
30-32	Mr	164.60	0.2572
30-32	Ms	0.00	0.0000

30-32	PeA	18.20	0.0284
30-32	RbA	2.56	0.0040
30-32	Tg	8.68	0.0136
30-32	Tw	78.82	0.1232
31-21	Gt	120.17	0.1878
31-21	Lb	14.14	0.0221
31-21	LcA	180.80	0.2825
31-21	Le	227.65	0.3557
31-21	Mr	18.60	0.0291
31-21	Tt	41.34	0.0646
31-21	Tu	6.25	0.0098
31-21	Tw	8.22	0.0128
31-22	Ao	296.25	0.4629
31-22	GgA	107.83	0.1685
31-22	Gt	199.86	0.3123
31-22	Mr	17.69	0.0276
31-22	Tt	4.02	0.0063
31-32	AbA	0.15	0.0002
31-32	Ao	22.49	0.0351
31-32	Es	0.01	0.0000
31-32	LcA	28.67	0.0448
31-32	Le	111.94	0.1749
31-32	Mr	183.93	0.2874
31-32	Tt	110.03	0.1719
31-32	Tw	152.89	0.2389
32-21W	Gt	9.01	0.0141
32-21W	LcA	20.28	0.0317
32-21W	Le	369.98	0.5781
32-21W	Mr	47.83	0.0747
32-21W	Tu	37.67	0.0589
32-21W	Tw	9.14	0.0143
32-22	Aa	16.38	0.0256
32-22	An	50.33	0.0786
32-22	Ao	138.53	0.2165
32-22	GgA	214.19	0.3347
32-22	Gt	150.69	0.2355
32-22	Mr	43.91	0.0686
32-22	Tt	28.53	0.0446
32-32	Aa	24.08	0.0376
32-32	Ao	92.58	0.1447
32-32	Bs	9.13	0.0143
32-32	Es	30.49	0.0476
32-32	Ge	28.35	0.0443
32-32	GgA	117.53	0.1836
32-32	Gt	14.43	0.0225
32-32	LcA	15.99	0.0250
32-32	Le	24.22	0.0378
32-32	Mr	74.77	0.1168
32-32	Te	4.55	0.0071

32-32	Tt	191.82	0.2997
32-32	Tw	3.04	0.0048
32-32	Vh	3.16	0.0049
33-21	Ao	15.91	0.0249
33-21	GgA	8.18	0.0128
33-21	Gt	510.69	0.7980
33-21	LcA	0.61	0.0010
33-21	Le	56.64	0.0885
33-21	Tt	41.40	0.0647
33-22	Aa	13.95	0.0218
33-22	Ao	247.71	0.3870
33-22	GgA	97.02	0.1516
33-22	Gt	211.59	0.3306
33-22	Tt	70.13	0.1096
33-31	Lb	27.81	0.0435
33-31	LcA	41.52	0.0649
33-31	Mr	63.71	0.0995
33-31	RbA	6.07	0.0095
33-31	Tw	5.55	0.0087
33-31	Vf	19.84	0.0310
33-32	Aa	144.86	0.2263
33-32	An	12.51	0.0195
33-32	Ao	158.88	0.2483
33-32	Bs	30.51	0.0477
33-32	Bt	5.03	0.0079
33-32	Es	9.75	0.0152
33-32	Ge	21.49	0.0336
33-32	GgA	172.94	0.2702
33-32	Tt	13.04	0.0204
33-32	Vh	19.66	0.0307
33-32	Vk	46.58	0.0728
34-21	Ao	178.74	0.2793
34-21	GgA	43.91	0.0686
34-21	Gt	420.79	0.6575
34-22	Ao	15.87	0.0248
34-22	BP1	28.36	0.0443
34-22	CrB	3.31	0.0052
34-22	Gt	325.44	0.5085
34-22	Gv	85.83	0.1341
34-22	Mr	9.50	0.0148
34-22	Tg	8.08	0.0126
34-22	Tt	163.69	0.2558
34-31	Bt	3.29	0.0051
34-31	Cb	1.27	0.0020
34-31	Gt	31.02	0.0485
34-31	GxA	17.56	0.0274
34-31	Lb	4.18	0.0065
34-31	LcA	123.32	0.1927
34-31	Le	7.36	0.0115

34-31	Mr	372.45	0.5820
34-31	Ms	17.69	0.0276
34-31	PeA	11.23	0.0175
34-31	RbA	2.34	0.0037
34-31	TfA	9.17	0.0143
34-31	Tg	5.38	0.0084
34-31	Tw	23.23	0.0363
34-31	Vf	7.10	0.0111
34-32	Aa	47.94	0.0749
34-32	Ao	230.13	0.3596
34-32	GgA	333.06	0.5204
34-32	Vk	24.92	0.0389
35-21	Aa	14.90	0.0233
35-21	An	11.12	0.0174
35-21	Ao	135.46	0.2117
35-21	GgA	39.57	0.0618
35-21	Gt	432.98	0.6765
35-22	Aa	1.22	0.0019
35-22	An	5.14	0.0080
35-22	Ao	180.81	0.2825
35-22	GRV	5.38	0.0084
35-22	GgA	5.98	0.0093
35-22	Gt	323.31	0.5052
35-22	Gv	109.81	0.1716
35-22	Tc	7.65	0.0120
35-31	GgA	7.46	0.0117
35-31	Gt	107.56	0.1681
35-31	GxA	6.58	0.0103
35-31	Lb	8.41	0.0131
35-31	LcA	3.72	0.0058
35-31	Le	178.02	0.2782
35-31	Mr	143.60	0.2244
35-31	Ms	34.26	0.0535
35-31	RbA	16.57	0.0259
35-31	Ta	11.03	0.0172
35-31	Tw	126.24	0.1973
35-32	Aa	46.61	0.0728
35-32	An	53.70	0.0839
35-32	Ao	87.37	0.1365
35-32	Bt	0.34	0.0005
35-32	GgA	416.48	0.6508
35-32	Tt	27.39	0.0428
36-21	Aa	11.91	0.0186
36-21	An	22.42	0.0350
36-21	Ao	286.03	0.4469
36-21	Bt	9.48	0.0148
36-21	Es	0.42	0.0007
36-21	Ge	6.91	0.0108
36-21	GgA	192.46	0.3007

36-21	Gt	96.68	0.1511
36-21	Vh	14.50	0.0227
36-W21	Br	54.52	0.0852
36-W21	Bs	0.85	0.0013
36-W21	Ge	1.70	0.0027
36-W21	GgA	40.86	0.0638
36-W21	Gt	25.47	0.0398
36-W21	Gv	13.20	0.0206
36-W21	GxA	4.62	0.0072
36-W21	Lb	10.94	0.0171
36-W21	LcA	92.29	0.1442
36-W21	LcB	20.20	0.0316
36-W21	Le	11.32	0.0177
36-W21	Ma	20.96	0.0328
36-W21	Mr	67.32	0.1052
36-W21	PeA	2.39	0.0037
36-W21	TD	80.69	0.1261
36-W21	Tt	79.03	0.1235
36-W21	Vh	9.29	0.0145
36-22	An	7.64	0.0119
36-22	Ao	27.81	0.0435
36-22	GgA	43.09	0.0673
36-22	Gt	12.60	0.0197
36-22	Le	54.16	0.0846
36-31E	LcA	13.20	0.0206
36-31E	Le	63.61	0.0994
36-31E	Mr	153.59	0.2400
36-31E	Ms	12.13	0.0190
36-31E	Tw	74.39	0.1162
36-31W	GxA	12.24	0.0191
36-31W	Lb	1.52	0.0024
36-31W	LcA	48.99	0.0765
36-31W	Le	34.91	0.0545
36-31W	Mr	130.35	0.2037
36-31W	Ms	7.26	0.0113
36-31W	Tt	32.93	0.0515
36-31W	Tw	54.77	0.0856
36-32	Ao	3.18	0.0050
36-32	GgA	0.66	0.0010
36-32	Mr	16.00	0.0250
36-32	Tc	3.05	0.0048
36-32	Tt	49.73	0.0777
4-11	Gt	82.94	0.1296
4-11	LcA	19.30	0.0302
4-11	Le	10.23	0.0160
4-12	Ao	38.03	0.0594
4-12	GgA	6.31	0.0099
4-12	Gt	94.19	0.1472
4-21	Aa	13.73	0.0215

4-21	Bs	2.55	0.0040
4-21	Cb	3.73	0.0058
4-21	Cp	2.65	0.0041
4-21	GgA	44.78	0.0700
4-21	Gr	7.88	0.0123
4-21	Gt	27.97	0.0437
4-21	LcA	213.99	0.3344
4-21	Le	5.15	0.0080
4-21	Mr	129.83	0.2029
4-21	RbA	7.52	0.0118
4-21	Tw	99.57	0.1556
4-22	Aa	33.15	0.0518
4-22	An	10.48	0.0164
4-22	Ao	106.03	0.1657
4-22	Bs	0.52	0.0008
4-22	Bt	3.67	0.0057
4-22	GgA	431.10	0.6736
4-22	Ma	14.69	0.0230
4-22	Vk	42.52	0.0664
5-11	LcA	2.79	0.0044
5-11	Le	88.68	0.1386
5-11	Mr	1.08	0.0017
5-11	Tw	24.17	0.0378
5-12	An	2.63	0.0041
5-12	Ao	34.74	0.0543
5-12	Gt	80.29	0.1255
5-12	Mr	0.61	0.0010
5-21		88.10	0.1377
5-21	Aa	10.31	0.0161
5-21	Ao	19.79	0.0309
5-21	Br	3.31	0.0052
5-21	Bs	8.54	0.0133
5-21	Cp	12.62	0.0197
5-21	GRV	2.27	0.0035
5-21	GgA	20.42	0.0319
5-21	Gt	27.17	0.0425
5-21	LcA	0.48	0.0008
5-21	Mr	20.85	0.0326
5-21	PeA	4.05	0.0063
5-21	RbA	3.06	0.0048
5-21	Vf	0.13	0.0002
5-22	Aa	84.51	0.1320
5-22	Ao	50.03	0.0782
5-22	Es	16.23	0.0254
5-22	GgA	487.24	0.7613
5-22	Gt	3.89	0.0061
5-22	Tt	7.84	0.0123
6-11	Gt	0.33	0.0005
6-11	LcA	36.06	0.0563

6-11	Le	97.59	0.1525
6-11	Tu	7.22	0.0113
6-12	An	3.59	0.0056
6-12	Ao	30.81	0.0481
6-12	Gt	68.66	0.1073
6-12	Mr	11.87	0.0185
6-22E	Ao	1.24	0.0019
6-22E	Es	4.75	0.0074
6-22E	GgA	114.03	0.1782
6-22E	Gt	9.62	0.0150
6-22E	Le	20.39	0.0319
6-22E	Mr	55.53	0.0868
6-22E	Tt	113.30	0.1770
6-22W	Es	66.28	0.1036
6-22W	GgA	144.86	0.2263
6-22W	Le	2.45	0.0038
6-22W	Mr	33.92	0.0530
6-22W	Tt	55.95	0.0874
7-22	Aa	2.60	0.0041
7-22	Ao	44.73	0.0699
7-22	Es	6.32	0.0099
7-22	GgA	490.27	0.7660
7-22	Gt	46.16	0.0721
7-22	Mr	20.34	0.0318
7-22	Tt	10.08	0.0158
7-22	Vh	0.24	0.0004
7-32	LcA	2.10	0.0033
7-32	Le	6.03	0.0094
7-32	Mr	95.73	0.1496
7-32	Tw	32.90	0.0514
7-32	Vf	22.91	0.0358
8-21E	Aa	7.72	0.0121
8-21E	AbB	19.86	0.0310
8-21E	Ao	28.63	0.0447
8-21E	Br	8.61	0.0135
8-21E	Bs	10.57	0.0165
8-21E	Cb	28.28	0.0442
8-21E	GgA	49.09	0.0767
8-21E	Gt	63.00	0.0984
8-21E	Lb	6.30	0.0098
8-21E	LcA	34.65	0.0541
8-21E	Mr	46.97	0.0734
8-21E	RaB	3.74	0.0058
8-21E	RbA	16.08	0.0251
8-21E	Va	2.03	0.0032
8-21W	Br	4.26	0.0067
8-21W	Bs	17.71	0.0277
8-21W	GgA	51.35	0.0802
8-21W	Gt	72.99	0.1140

8-21W	RaB	22.23	0.0347
8-21W	TD	6.34	0.0099
8-22E	Aa	8.52	0.0133
8-22E	GgA	324.35	0.5068
8-22E	Vk	1.51	0.0024
8-22W	Aa	11.79	0.0184
8-22W	An	0.60	0.0009
8-22W	Ao	21.13	0.0330
8-22W	Cb	7.71	0.0120
8-22W	GgA	257.60	0.4025
8-22W	Vg	0.30	0.0005
8-22W	Vk	16.76	0.0262
9-21	Cb	0.06	0.0001
9-21	Cp	30.95	0.0484
9-21	GgA	53.36	0.0834
9-21	Gt	38.38	0.0600
9-21	Lb	61.69	0.0964
9-21	LcA	82.35	0.1287
9-21	Le	20.18	0.0315
9-21	Mr	304.78	0.4762
9-21	Tw	27.20	0.0425
9-22	Aa	13.74	0.0215
9-22	Ao	192.20	0.3003
9-22	Bt	0.80	0.0013
9-22	GgA	427.08	0.6673
26-32E	Ao	18.73	0.0293
26-32E	GgA	49.60	0.0775
32-21E	Gt	10.33	0.0161
32-21E	Le	123.49	0.1930
32-21E	Mr	12.27	0.0192
32-21E	Tt	9.47	0.0148

Note:

Soil type 9x9 is an unlabeled area. As such, the area associated with this soil group has been evenly distributed amongst all other soil types within the sub-basin.

Input Data for DDMS:
Flow Path Data for Each Sub-Basin

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Thunderbird Rd.	**2-31**	**7-32**	**12-31**	**11-31**	**10-31**								
Total Area (Sq. Mi.)	**0.2878**	**0.2495**	**1.0197**	**0.9972**	**0.1140**								
Flow Path Data													
High Elevation	1206.0	1214.0	1210.0	1201.0	1180.0								
Low Elevation	1180.0	1200.8	1192.5	1177.0	1163.0								
Length (Miles)	1.000	0.767	1.050	1.380	0.862								
Slope (ft/Miles)	26	17	17	17	20								

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Cactus Rd.	**18-32**	**17-32**	**13-31**	**14-31**	**15-31**								
Total Area (Sq. Mi.)	0.9053	0.2844	1.0029	1.0078	0.9555								
Flow Path Data													
High Elevation	1212.0	1216.0	1200.0	1184.0	1166.0								
Low Elevation	1193.0	1203.6	1176.4	1160.5	1140.0								
Length (Miles)	1.203	0.881	1.370	1.320	1.430								
Slope (ft/Miles)	16	14	17	18	18								

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Data

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Peoria Ave.	21-32	20-32	19-32	24-31	23-31	22-31E	22-31W					
Total Area (Sq. Mi.)	0.3982	0.9882	0.9616	1.0075	1.0057	0.5123	0.7658					
Flow Path Data												
High Elevation	1216.0	1220.0	1202.0	1181.0	1166.5	1152.0	1138.5					
Low Elevation	1205.0	1197.0	1177.0	1176.5	1142.4	1134.0	1120.3					
Length (Miles)	0.820	1.350	1.405	1.328	1.407	1.184	0.994					
Slope (ft/Miles)	13	17	18	3	17	15	18					

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Olive Ave.	**26-32E**	**26-32W**	**27-32**	**28-32**	**29-32**	**30-32**	**25-31**	**26-31E**	**26-31W**	**27-31**	**28-31**
Total Area (Sq. Mi.)	**0.1068**	**0.0866**	**0.6122**	**0.9937**	**0.9910**	**0.9588**	**1.0030**	**0.4615**	**0.5403**	**1.0125**	**0.1406**
Flow Path Data											
High Elevation	1234.0	1228.0	1227.0	1217.0	1203.0	1180.5	1169.0	1152.5	1137.4	1137.0	1117.0
Low Elevation	1222.0	1220.4	1215.9	1198.5	1180.7	1162.3	1141.6	1134.0	1130.2	1113.7	1092.4
Length (Miles)	0.606	0.477	0.619	1.288	1.326	1.153	1.420	0.773	0.511	1.420	0.966
Slope (ft/Miles)	20	16	18	14	17	16	19	24	14	16	25

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Northern Ave.	**36-32**	**35-32**	**34-32**	**33-32**	**32-32**	**31-32**	**36-31E**	**36-31W**	**35-31**	**34-31**	**33-31**		
Total Area (Sq. Mi.)	**0.1135**	**0.9873**	**0.9938**	**0.9926**	**0.9908**	**0.9533**	**0.4952**	**0.5046**	**1.0054**	**0.9947**	**0.2570**		
Flow Path Data													
High Elevation	1215.0	1226.0	1218.0	1208.0	1190.0	1171.0	1151.0	1135.0	1134.0	1122.0	1110.0		
Low Elevation	1201.0	1200.4	1195.4	1186.8	1168.7	1149.0	1136.6	1126.5	1112.4	1102.8	1076.8		
Length (Miles)	0.568	1.150	1.206	1.384	1.375	1.326	0.814	0.657	1.326	1.345	1.080		
Slope (ft/Miles)	25	22	19	15	15	17	18	13	16	14	31		

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Data

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Glendale Ave.	1-22	2-22	3-22	4-22	5-22	6-22E	6-22W	1-21	2-21	3-21	4-21	5-21
Total Area (Sq. Mi.)	0.2432	1.0042	0.9979	1.0034	1.0152	0.4982	0.4742	0.9994	0.9947	0.9808	0.8740	0.3455
Flow Path Data												
High Elevation	1200.5	1201.0	1198.0	1190.0	1179.5	1160.0	1145.4	1141.0	1124.5	1101.0	1093.0	1072.0
Low Elevation	1190.1	1180.9	1179.8	1167.9	1154.6	1145.8	1132.0	1120.3	1106.0	1090.0	1075.0	1060.0
Length (Miles)	0.701	1.424	1.220	1.455	1.275	0.907	0.703	1.432	1.153	1.422	1.354	0.739
Slope (ft/Miles)	15	14	15	15	20	16	19	14	16	8	13	16

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Bethany Home Rd.	12-22	11-22	10-22	9-22	8-22E	8-22W	7-22	12-21	11-21	10-21	9-21	8-21E	8-21W
Total Area (Sq. Mi.)	0.2447	1.0055	0.9911	0.9903	0.5225	0.4936	0.9699	1.0030	0.9831	0.9801	0.9671	0.5087	0.2733
Flow Path Data													
High Elevation	1180.0	1180.0	1179.0	1171.2	1166.0	1150.0	1150.0	1128.0	1112.0	1091.0	1077.0	1065.0	1050.0
Low Elevation	1169.6	1159.2	1158.4	1153.3	1152.8	1143.2	1128.8	1107.1	1091.0	1067.0	1060.8	1051.2	1039.0
Length (Miles)	0.680	1.483	1.354	1.360	0.879	0.508	1.474	1.294	1.250	1.419	1.303	0.960	0.699
Slope (ft/Miles)	15	14	15	13	15	13	14	16	17	17	12	14	16

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Camel Back Rd.	13-22	14-22	15-22	16-22E	16-22W	17-22	18-22	13-21	14-21E	14-21W	15-21	16-21	17-21E
Total Area (Sq. Mi.)	0.2464	1.0000	0.9982	0.5130	0.4788	1.0154	0.9688	1.0003	0.4317	0.5615	1.0114	1.0214	0.6990
Flow Path Data													
High Elevation	1159.0	1157.0	1160.7	1154.0	1146.0	1151.0	1137.0	1122.0	1102.0	1084.0	1082.0	1064.0	1054.0
Low Elevation	1140.8	1140.0	1137.1	1140.0	1134.0	1126.5	1115.7	1098.9	1084.0	1080.1	1059.5	1047.9	1033.2
Length (Miles)	1.002	1.318	1.544	1.136	0.830	1.320	1.396	1.322	0.985	0.530	1.483	1.347	1.682
Slope (ft/Miles)	18	13	15	12	14	19	15	17	18	7	15	12	12

PARAMETERS

Sub-basin I.D.: Camel Back Rd.	17-21W	18-21
Total Area (Sq. Mi.)	0.3063	0.5426
Flow Path Data		
High Elevation	1051.0	1037.5
Low Elevation	1034.2	1020.0
Length (Miles)	1.108	1.216
Slope (ft/Miles)	15	14

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Indian School Rd.	24-22	23-22	22-22E	22-22W	21-22	20-22	19-22	24-21N	24-21S	23-21	22-21	21-21	20-21	19-21
Total Area (Sq. Mi.)	0.2249	0.9895	0.5325	0.4671	0.9937	1.0139	0.9380	0.4133	0.6123	0.9869	1.0020	1.0076	1.0230	0.8727
Flow Path Data														
High Elevation	1138.0	1138.0	1139.0	1140.0	1140.0	1130.5	1120.5	1105.0	1094.0	1093.0	1073.0	1054.0	1040.5	1032.0
Low Elevation	1119.7	1119.7	1117.5	1115.0	1115.2	1112.9	1098.7	1090.0	1087.7	1069.8	1050.5	1036.8	1025.4	997.4
Length (Miles)	0.996	1.411	1.055	0.962	1.453	1.417	1.314	0.761	0.530	1.265	1.424	1.235	1.591	1.328
Slope (ft/Miles)	18	13	20	26	17	12	17	20	12	18	16	14	9	26

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Data

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Thomas Rd.	26-22N	26-22E	26-22S	26-22W	27-22N	27-22S	28-22N	28-22S	29-22N	30-22N	30-22S	25-21
Total Area (Sq. Mi.)	0.3798	0.3827	0.3924	0.0782	0.3715	0.6311	0.4518	0.5429	0.4138	0.1610	0.8109	1.0002
Flow Path Data												
High Elevation	1118.5	1114.0	1107.5	1115.2	1117.0	1107.0	1114.0	1104.0	1112.0	1103.5	1099.5	1091.0
Low Elevation	1110.0	1098.1	1096.8	1110.0	1105.0	1093.7	1104.0	1093.8	1101.0	1092.0	1080.2	1071.1
Length (Miles)	0.568	0.843	0.483	0.426	1.153	0.938	0.714	0.691	0.653	0.823	1.188	1.381
Slope (ft/Miles)	15	19	22	12	10	14	14	15	17	14	16	14

PARAMETERS

Sub-basin I.D.: Thomas Rd.	26-21	27-21	28-21	29-21N	29-21S	30-21N	30-21S	29-22S					
Total Area (Sq. Mi.)	0.9902	1.0046	0.9995	0.7612	0.2625	0.6672	0.7496	0.5937					
Flow Path Data													
High Elevation	1078.0	1061.0	1044.0	1031.0	1021.0	1020.0	1018.0	1100.0					
Low Elevation	1057.6	1043.1	1031.9	1019.0	1013.2	1009.0	1008.3	1087.5					
Length (Miles)	1.398	1.339	1.114	1.407	0.885	0.708	0.786	0.788					
Slope (ft/Miles)	15	13	11	9	9	16	12	16					

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Data

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: McDowell Rd.	**36-22**	**35-22**	**34-22**	**33-22**	**32-22**	**31-22**	**36-21**	**35-21**	**34-21**	**33-21**	**32-21E**	**32-21W**
Total Area (Sq. Mi.)	**0.2270**	**0.9989**	**1.0001**	**1.0006**	**1.0040**	**0.9776**	**1.0013**	**0.9907**	**1.0054**	**0.9898**	**0.2431**	**0.7717**
Flow Path Data												
High Elevation	1090.5	1096.0	1096.0	1092.5	1090.5	1081.0	1076.5	1057.0	1050.0	1035.5	1024.0	1018.0
Low Elevation	1080.9	1079.6	1075.7	1073.7	1070.6	1059.9	1054.1	1042.7	1030.0	1025.9	1019.2	1016.9
Length (Miles)	0.879	1.496	1.373	1.214	1.335	1.278	1.358	1.044	1.479	1.316	0.494	0.902
Slope (ft/Miles)	11	11	15	15	15	17	16	14	14	7	10	1

PARAMETERS

Sub-basin I.D.: McDowell Rd.	**31-21**	**36-W21**
Total Area (Sq. Mi.)	**0.9643**	**0.8369**
Flow Path Data		
High Elevation	1014.0	1008.0
Low Elevation	1002.9	983.5
Length (Miles)	1.203	0.922
Slope (ft/Miles)	9	27

DDMS Data Summary for Each Sub-Basin

LOSS PARAMETERS FOR SUBBASIN: 7-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.003	1.2	0.25	0
LE	0.009	3.6	0.04	0
MR	0.150	60.2	0.05	0
TW	0.051	20.5	0.05	0
VF	0.036	14.5	0.01	0

TOTAL = 0.249 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
	Desert		DRY	25	0	0.35	0.03	Low	
0.085	OPEN	34.0	DRY	10	0	0.20	0.02	Min	0.03
	V.L.D.R		NORMAL	30	5	0.30	0.05	Hi	
0.027	L.D.R.	10.8	NORMAL	50	15	0.30	0.05	Hi	0.12
0.065	M.D.R.	26.0	NORMAL	50	30	0.25	0.05	Hi	0.11
	M.F.R.		NORMAL	50	45	0.25	0.05	Hi	
	Ind		NORMAL	60	55	0.15	0.03	Min	
	Comm		NORMAL	75	80	0.10	0.02	Min	
0.040	Park	16.0	NORMAL	90	10	0.20	0.10	Hi	0.11
0.006	RowCrop	2.4	NORMAL	85	0	0.50	0.10	Hi	0.14
	SCHOOL1		NORMAL	80	45	0.29	0.05	Hi	
0.027	WATER	10.8	WET	0	10	0.00	0.00	Min	0.03
0.250 = Total Area			Avg. =	41	22%	0.210			

PERCENT OF SUBBASIN
DRY = 34.0 %
NORMAL = 55.0 %
WET = 11.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.05

IMPERVIOUS AREA:
URBAN @ 100 % effective = 22
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 22

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
7-32	0.249	0.770	0.064	17.0	0.21	0.17	9.70	0.05	22

LOSS PARAMETERS FOR SUBBASIN: 12-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GXA	0.004	0.4	0.23	0
LCA	0.405	39.7	0.25	0
MP	0.070	6.9	0.25	0
MR	0.505	49.6	0.05	0
TD	0.002	0.2	1.20	0
TW	0.016	1.6	0.05	0
VF	0.017	1.7	0.01	0

TOTAL = 1.019 Sq.Miles XKSAT = 0.10 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 7.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
	Desert		DRY	25	0	0.35	0.03	Low	
0.106	OPEN	10.4	DRY	10	0	0.20	0.02	Min	0.03
	V.L.D.R		NORMAL	30	5	0.30	0.05	Hi	
0.533	L.D.R.	52.3	NORMAL	50	15	0.30	0.05	Hi	0.09
0.142	M.D.R.	13.9	NORMAL	50	30	0.25	0.05	Hi	0.10
	M.F.R.		NORMAL	50	45	0.25	0.05	Hi	
	Ind		NORMAL	60	55	0.15	0.03	Min	
0.003	Comm	0.3	NORMAL	75	80	0.10	0.02	Min	0.04
	Park		NORMAL	90	10	0.20	0.10	Hi	
0.181	RowCrop	17.8	NORMAL	85	0	0.50	0.10	Hi	0.10
0.021	SCHOOL1	2.1	NORMAL	80	45	0.29	0.05	Hi	0.12
0.033	WATER	3.2	WET	0	10	0.00	0.00	Min	0.03
1.019 = Total Area			Avg. =	53	16%	0.310			

PERCENT OF SUBBASIN
DRY = 10.0 %
NORMAL = 86.0 %
WET = 3.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.15

IMPERVIOUS AREA:
URBAN @ 100 % effective = 16
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 16

INPUT VALUES FOR MCUHP1 PROGRAM

K/4 4PRINT

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
12-31	1.019	1.050	0.072	17.0	0.31	0.16	7.00	0.15	16

LOSS PARAMETERS FOR SUBBASIN: 2-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABA	0.009	3.1	0.38	0
GGA	0.113	39.4	0.25	0
GXA	0.062	21.6	0.23	0
LCA	0.074	25.8	0.25	0
MA	0.009	3.1	0.40	0
MP	0.000	0.0	0.25	0
MR	0.001	0.3	0.05	0
RBA	0.016	5.6	0.26	0
TD	0.003	1.0	1.20	0

TOTAL = 0.287 Sq.Miles XKSAT = 0.26 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.70
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
	Desert		DRY	25	0	0.35	0.03	Low	
0.040	OPEN	13.9	DRY	10	0	0.20	0.02	Min	0.03
	V.L.D.R		NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
	M.D.R.		NORMAL	50	30	0.25	0.05	Hi	
	M.F.R.		NORMAL	50	45	0.25	0.05	Hi	
	Ind		NORMAL	60	55	0.15	0.03	Min	
	Comm		NORMAL	75	80	0.10	0.02	Min	
	Park		NORMAL	90	10	0.20	0.10	Hi	
0.228	RowCrop	79.2	NORMAL	85	0	0.50	0.10	Hi	0.10
	SCHOOL1		NORMAL	80	45	0.29	0.05	Hi	
0.020	WATER	6.9	WET	0	10	0.00	0.00	Min	0.03

0.288 = Total Area Avg. = 74 7% 0.420

PERCENT OF SUBBASIN DRY = 14.0 %
NORMAL = 79.0 %
WET = 7.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.44

IMPERVIOUS AREA: URBAN @ 100 % effective = 7
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 7

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-31	0.287	1.000	0.079	26.0	0.42	0.25	4.70	0.44	7

LOSS PARAMETERS FOR SUBBASIN: 11-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.003	0.3	0.26	0
GGA	0.056	5.6	0.25	0
GXA	0.024	2.4	0.23	0
LCA	0.483	48.4	0.25	0
MR	0.381	38.2	0.05	0
RBA	0.000	0.0	0.26	0
TD	0.002	0.2	1.20	0
TW	0.035	3.5	0.05	0
VF	0.009	0.9	0.01	0
VH	0.005	0.5	0.27	0

TOTAL = 0.998 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
	Desert		DRY	25	0	0.35	0.03	Low	
0.083	OPEN	8.3	DRY	10	0	0.20	0.02	Min	0.03
	V.L.D.R		NORMAL	30	5	0.30	0.05	Hi	
0.344	L.D.R.	34.5	NORMAL	50	15	0.30	0.05	Hi	0.09
0.078	M.D.R.	7.8	NORMAL	50	30	0.25	0.05	Hi	0.11
0.011	M.F.R.	1.1	NORMAL	50	45	0.25	0.05	Hi	0.13
	Ind		NORMAL	60	55	0.15	0.03	Min	
	Comm		NORMAL	75	80	0.10	0.02	Min	
	Park		NORMAL	90	10	0.20	0.10	Hi	
0.419	RowCrop	42.0	NORMAL	85	0	0.50	0.10	Hi	0.09
0.062	SCHOOL1	6.2	NORMAL	80	45	0.29	0.05	Hi	0.11
	WATER		WET	0	10	0.00	0.00	Min	

0.997 = Total Area Avg. = 64 11% 0.370

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.20

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.19

IMPERVIOUS AREA: URBAN @ 100 % effective = 11
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 11

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
11-31	0.998	1.380	0.075	17.0	0.37	0.20	6.60	0.19	11

LOSS PARAMETERS FOR SUBBASIN: 10-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.006	5.3	0.26	0
LCA	0.016	14.0	0.25	0
MR	0.089	78.1	0.05	0
TD	0.002	1.8	1.20	0
VH	0.001	0.9	0.27	0

TOTAL = 0.114 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
	Desert		DRY	25	0	0.35	0.03	Low	
	OPEN		DRY	10	0	0.20	0.02	Min	
	V.L.D.R		NORMAL	30	5	0.30	0.05	Hi	
	L.D.R.		NORMAL	50	15	0.30	0.05	Hi	
	M.D.R.		NORMAL	50	30	0.25	0.05	Hi	
	M.F.R.		NORMAL	50	45	0.25	0.05	Hi	
0.013	Ind	11.4	NORMAL	60	55	0.15	0.03	Min	0.03
0.018	Comm	15.8	NORMAL	75	80	0.10	0.02	Min	0.03
	Park		NORMAL	90	10	0.20	0.10	Hi	
0.083	RowCrop	72.8	NORMAL	85	0	0.50	0.10	Hi	0.11
	SCHOOL1		NORMAL	80	45	0.29	0.05	Hi	
	WATER		WET	0	10	0.00	0.00	Min	

0.114 = Total Area Avg. = 83 19% 0.400

PERCENT OF SUBBASIN DRY = 0.0 %

NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 19
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 19

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
10-31	0.114	0.860	0.083	20.0	0.40	0.15	8.00	0.13	19

LOSS PARAMETERS FOR SUBBASIN: 17-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.045	15.8	0.25	0
LE	0.046	16.1	0.04	0
MR	0.148	51.9	0.05	0
RBA	0.001	0.4	0.26	0
TG	0.020	7.0	0.04	0
VF	0.025	8.8	0.01	0

TOTAL = 0.285 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.087	M.D.R.	30.6	NORMAL	50	30	0.25	0.05	Hi	0.11
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.006	Comm	2.1	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.159	RowCrop	56.0	NORMAL	85	0	0.50	0.10	Hi	0.10
0.015	SCHOOL1	5.3	NORMAL	80	45	0.29	0.05	Hi	0.13
0.017	WATER	6.0	WET	0	10	0.00	0.00	Min	0.03

K&J 4PRINT

0.284 = Total Area Avg. = 75 19% 0.370

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 94.0 %
WET = 6.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.14

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 19
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 19

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
17-32	0.285	0.880	0.088	14.0	0.37	0.14	8.80	0.09	19

LOSS PARAMETERS FOR SUBBASIN: 18-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GXA	0.019	2.1	0.23	0
LCA	0.250	27.6	0.25	0
LE	0.126	13.9	0.04	0
MP	0.028	3.1	0.25	0
MR	0.309	34.1	0.05	0
RBA	0.051	5.6	0.26	0
TA	0.003	0.3	0.25	0
TH	0.009	1.0	0.04	0
TW	0.088	9.7	0.05	0
VF	0.023	2.5	0.01	0

TOTAL = 0.906 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.001	OPEN	0.1	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.152	L.D.R.	16.8	NORMAL	50	15	0.30	0.05	Hi	0.10
0.408	M.D.R.	45.1	NORMAL	50	30	0.25	0.05	Hi	0.09
0.014	M.F.R.	1.5	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.025	Comm	2.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.216	RowCrop	23.9	NORMAL	85	0	0.50	0.10	Hi	0.10
0.080	SCHOOL1	8.8	NORMAL	80	45	0.29	0.05	Hi	0.11
0.009	WATER	1.0	WET	0	10	0.00	0.00	Min	0.04

0.905 = Total Area Avg. = 63 24% 0.310

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 99.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA: URBAN @ 100 % effective = 24
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 24

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
18-32	0.906	1.200	0.079	16.0	0.31	0.15	7.30	0.14	24

LOSS PARAMETERS FOR SUBBASIN: 13-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.022	2.2	0.04	0
LCA	0.179	17.9	0.25	0
MP	0.011	1.1	0.25	0
MR	0.401	40.0	0.05	0
MS	0.067	6.7	0.01	0
TW	0.121	12.1	0.05	0
VF	0.202	20.1	0.01	0

TOTAL = 1.003 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.060	OPEN	6.0	DRY	10	0	0.20	0.02	Min	0.03

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0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.257	L.D.R.	25.6	NORMAL	50	15	0.30	0.05	Hi	0.09
0.449	M.D.R.	44.7	NORMAL	50	30	0.25	0.05	Hi	0.09
0.016	M.F.R.	1.6	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.033	Comm	3.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.189	RowCrop	18.8	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.004 = Total Area Avg. = 56 21% 0.300

PERCENT OF SUBBASIN
DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA:
URBAN @ 100 % effective = 21
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 21

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
13-31	1.003	1.370	0.075	17.0	0.30	0.16	9.70	0.06	21

LOSS PARAMETERS FOR SUBBASIN: 14-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.240	23.8	0.25	0
LE	0.047	4.7	0.04	0
MR	0.443	44.0	0.05	0
MS	0.016	1.6	0.01	0
PEA	0.034	3.4	0.37	0
RBA	0.011	1.1	0.26	0
TW	0.008	0.8	0.05	0
VF	0.209	20.7	0.01	0

TOTAL = 1.008 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA

Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.737	M.D.R.	73.1	NORMAL	50	30	0.25	0.05	Hi	0.08
0.032	M.F.R.	3.2	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.019	Comm	1.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.188	RowCrop	18.6	NORMAL	85	0	0.50	0.10	Hi	0.10
0.032	SCHOOL1	3.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.008 = Total Area Avg. = 60 26% 0.290

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA:
URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
14-31	1.008	1.320	0.079	18.0	0.29	0.15	8.40	0.09	26

LOSS PARAMETERS FOR SUBBASIN: 15-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.031	3.7	0.26	0
ABA	0.007	0.8	0.38	0
ES	0.006	0.7	0.25	0
GGA	0.059	7.0	0.25	0
LCA	0.281	33.3	0.25	0
LE	0.186	22.0	0.04	0
MR	0.207	24.5	0.05	0
RBA	0.000	0.0	0.26	0
TD	0.000	0.0	1.20	0
TG	0.011	1.3	0.04	0
TW	0.006	0.7	0.05	0
VF	0.050	5.9	0.01	0

TOTAL = 0.844 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA
========
Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.111	OPEN	13.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.019	L.D.R.	2.3	NORMAL	50	15	0.30	0.05	Hi	0.12
0.215	M.D.R.	25.6	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.027	Ind	3.2	NORMAL	60	55	0.15	0.03	Min	0.03
0.020	Comm	2.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.449	RowCrop	53.4	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.841 = Total Area Avg. = 65 12% 0.370

PERCENT OF SUBBASIN DRY = 13.0 %
NORMAL = 87.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA: URBAN @ 100 % effective = 12
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 12

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
15-31	0.844	1.430	0.071	18.0	0.37	0.17	7.30	0.14	12

LOSS PARAMETERS FOR SUBBASIN: 21-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.013	3.3	0.04	0
GGA	0.006	1.5	0.25	0
LCA	0.009	2.3	0.25	0
LE	0.015	3.8	0.04	0
MP	0.004	1.0	0.25	0
MR	0.226	56.6	0.05	0
TT	0.010	2.5	0.04	0
TW	0.078	19.5	0.05	0
VF	0.038	9.5	0.01	0

TOTAL = 0.399 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========
Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.053	L.D.R.	13.4	NORMAL	50	15	0.30	0.05	Hi	0.11
0.266	M.D.R.	67.0	NORMAL	50	30	0.25	0.05	Hi	0.09
0.010	M.F.R.	2.5	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.047	Comm	11.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.011	RowCrop	2.8	NORMAL	85	0	0.50	0.10	Hi	0.13
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.010	WATER	2.5	WET	0	10	0.00	0.00	Min	0.03

0.397 = Total Area Avg. = 52 35% 0.240

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 98.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 35
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 35

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
21-32	0.399	0.820	0.080	13.0	0.24	0.15	8.80	0.07	35

LOSS PARAMETERS FOR SUBBASIN: 20-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop

BT	0.003	0.3	0.25	0
GT	0.050	5.1	0.04	0
GXA	0.001	0.1	0.23	0
LCA	0.037	3.8	0.25	0
LE	0.248	25.2	0.04	0
MR	0.430	43.7	0.05	0
PEA	0.007	0.7	0.37	0
TG	0.007	0.7	0.04	0
TH	0.002	0.2	0.04	0
TW	0.168	17.1	0.05	0
VF	0.032	3.2	0.01	0

TOTAL = 0.985 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========
Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.066	OPEN	6.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.112	L.D.R.	11.4	NORMAL	50	15	0.30	0.05	Hi	0.10
0.636	M.D.R.	64.4	NORMAL	50	30	0.25	0.05	Hi	0.08
0.016	M.F.R.	1.6	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.093	Comm	9.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.026	RowCrop	2.6	NORMAL	85	0	0.50	0.10	Hi	0.12
0.037	SCHOOL1	3.7	NORMAL	80	45	0.29	0.05	Hi	0.12
0.001	WATER	0.1	WET	0	10	0.00	0.00	Min	0.04

0.987 = Total Area Avg. = 49 31% 0.250

PERCENT OF SUBBASIN DRY = 7.0 %
NORMAL = 93.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 31
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 31

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
20-32	0.985	1.350	0.071	17.0	0.25	0.16	8.80	0.07	31

LOSS PARAMETERS FOR SUBBASIN: 19-32

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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.010	1.0	0.04	0
GXA	0.019	2.0	0.23	0
LCA	0.283	29.5	0.25	0
LE	0.123	12.8	0.04	0
MR	0.348	36.2	0.05	0
RBA	0.043	4.5	0.26	0
TG	0.018	1.9	0.04	0
TH	0.002	0.2	0.04	0
TW	0.078	8.1	0.05	0
VF	0.037	3.8	0.01	0

TOTAL = 0.961 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========
Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.098	OPEN	10.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.060	L.D.R.	6.2	NORMAL	50	15	0.30	0.05	Hi	0.11
0.591	M.D.R.	61.4	NORMAL	50	30	0.25	0.05	Hi	0.09
0.057	M.F.R.	5.9	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.025	Comm	2.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.030	Park	3.1	NORMAL	90	10	0.20	0.10	Hi	0.12
0.075	RowCrop	7.8	NORMAL	85	0	0.50	0.10	Hi	0.11
0.027	SCHOOL1	2.8	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.963 = Total Area Avg. = 51 26% 0.260

PERCENT OF SUBBASIN DRY = 10.0 %
NORMAL = 90.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %

19-32	0.961	1.400	0.073	18.0	0.26	0.17	7.60	0.12	26

LOSS PARAMETERS FOR SUBBASIN: 24-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.028	2.8	0.04	0
GXA	0.013	1.3	0.23	0
LCA	0.225	22.3	0.25	0
LE	0.069	6.9	0.04	0
MP	0.004	0.4	0.25	0
MR	0.310	30.8	0.05	0
MS	0.042	4.2	0.01	0
RBA	0.092	9.1	0.26	0
TE	0.016	1.6	0.25	0
TU	0.014	1.4	0.25	0
TW	0.038	3.8	0.05	0
VF	0.156	15.5	0.01	0

TOTAL = 1.007 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA

Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.066	OPEN	6.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.806	M.D.R.	79.9	NORMAL	50	30	0.25	0.05	Hi	0.08
0.009	M.F.R.	0.9	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.054	Comm	5.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.049	RowCrop	4.9	NORMAL	85	0	0.50	0.10	Hi	0.11
0.025	SCHOOL1	2.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.009 = Total Area			Avg. =	50	30%	0.250			

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 30

ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 30

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
24-31	1.007	1.330	0.073	3.0	0.25	0.16	8.40	0.09	30

LOSS PARAMETERS FOR SUBBASIN: 23-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.009	0.9	0.25	0
LE	0.145	14.4	0.04	0
MP	0.009	0.9	0.25	0
MR	0.376	37.4	0.05	0
MS	0.242	24.1	0.01	0
RBA	0.077	7.7	0.26	0
TE	0.002	0.2	0.25	0
TG	0.010	1.0	0.04	0
TW	0.011	1.1	0.05	0
VF	0.125	12.4	0.01	0

TOTAL = 1.006 Sq.Miles XKSAT = 0.03 %Rock = 0

DTHETA

Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.222	OPEN	22.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.641	M.D.R.	63.7	NORMAL	50	30	0.25	0.05	Hi	0.08
0.012	M.F.R.	1.2	NORMAL	50	45	0.25	0.05	Hi	0.13
0.001	Ind	0.1	NORMAL	60	55	0.15	0.03	Min	0.04
0.092	Comm	9.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.020	Park	2.0	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.019	SCHOOL1	1.9	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.007 = Total Area			Avg. =	40	28%	0.230			

PERCENT OF SUBBASIN DRY = 22.0 %
NORMAL = 78.0 %

WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 28
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 28

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
23-31	1.006	1.410	0.062	17.0	0.23	0.15	10.10	0.04	28

LOSS PARAMETERS FOR SUBBASIN: 22-31E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.017	3.3	0.26	0
CB	0.000	0.0	0.40	0
GGA	0.012	2.3	0.25	0
LE	0.115	22.5	0.04	0
MR	0.093	18.2	0.05	0
MS	0.149	29.1	0.01	0
RBA	0.011	2.1	0.26	0
TG	0.015	2.9	0.04	0
TW	0.036	7.0	0.05	0
VF	0.064	12.5	0.01	0

TOTAL = 0.512 Sq.Miles XKSAT = 0.03 %Rock = 0

DTHETA

Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.001	OPEN	0.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.026	M.D.R.	5.1	NORMAL	50	30	0.25	0.05	Hi	0.12
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.045	Ind	8.8	NORMAL	60	55	0.15	0.03	Min	0.03
0.051	Comm	10.0	NORMAL	75	80	0.10	0.02	Min	0.03
	Park		NORMAL	90	10	0.20	0.10	Hi	
0.335	RowCrop	65.4	NORMAL	85	0	0.50	0.10	Hi	0.09
0.054	SCHOOL1	10.6	NORMAL	80	45	0.29	0.05	Hi	0.11
	WATER		WET	0	10	0.00	0.00	Min	

0.512 = Total Area Avg. = 81 19% 0.390

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.13

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.05

IMPERVIOUS AREA: URBAN @ 100 % effective = 19
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 19

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
22-31E	0.512	1.180	0.075	15.0	0.39	0.13	10.10	0.05	19

LOSS PARAMETERS FOR SUBBASIN: 22-31W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.051	6.7	0.26	0
AN	0.025	3.3	0.05	0
AO	0.069	9.0	0.04	0
BS	0.005	0.7	0.39	0
CB	0.000	0.0	0.40	0
GE	0.014	1.8	0.26	0
GGA	0.077	10.1	0.25	0
GT	0.007	0.9	0.04	0
GXA	0.057	7.5	0.23	0
LE	0.114	14.9	0.04	0
MA	0.004	0.5	0.40	0
MR	0.095	12.4	0.05	0
MS	0.073	9.6	0.01	0
RBA	0.018	2.4	0.26	0
TG	0.007	0.9	0.04	0
TH	0.003	0.4	0.04	0
TW	0.057	7.5	0.05	0
VF	0.088	11.5	0.01	0

TOTAL = 0.764 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

K&T 4PRINT

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.030	OPEN	3.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.1	NORMAL	50	15	0.30	0.05	Hi	0.15
0.327	M.D.R.	42.6	NORMAL	50	30	0.25	0.05	Hi	0.09
0.058	M.F.R.	7.6	NORMAL	50	45	0.25	0.05	Hi	0.11
0.060	Ind	7.8	NORMAL	60	55	0.15	0.03	Min	0.03
0.139	Comm	18.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.005	Park	0.7	NORMAL	90	10	0.20	0.10	Hi	0.14
0.148	RowCrop	19.3	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.768 = Total Area			Avg. =	60	35%	0.260			

PERCENT OF SUBBASIN
DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA:
URBAN @ 100 % effective = 35
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 35

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
22-31W	0.764	0.990	0.065	18.0	0.26	0.15	8.80	0.08	35

LOSS PARAMETERS FOR SUBBASIN: 26-32W

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.000	0.0	0.04	0
GGA	0.086	100.	0.25	0
TOTAL =	0.086 Sq.Miles		XKSAT = 0.25	%Rock = 0

DTHETA
========
Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.002	M.D.R.	2.3	NORMAL	50	30	0.25	0.05	Hi	0.15
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.021	Comm	24.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.053	Park	61.6	NORMAL	90	10	0.20	0.10	Hi	0.11
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.010	WATER	11.6	WET	0	10	0.00	0.00	Min	0.03
0.086 = Total Area			Avg. =	88	38%	0.150			

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 88.0 %
WET = 12.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.22

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.47

IMPERVIOUS AREA:
URBAN @ 100 % effective = 38
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 38

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-32W	0.086	0.480	0.078	16.0	0.15	0.22	4.80	0.47	38

LOSS PARAMETERS FOR SUBBASIN: 27-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.047	7.7	0.26	0
AO	0.093	15.1	0.04	0
BS	0.021	3.4	0.39	0
ES	0.012	2.0	0.25	0
GGA	0.436	71.0	0.25	0
VH	0.005	0.8	0.27	0
TOTAL =	0.614 Sq.Miles		XKSAT = 0.19	%Rock = 0

DTHETA
========
Dry = 0.38 PSIF = 5.40
Normal = 0.25

Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.524	M.D.R.	85.8	NORMAL	50	30	0.25	0.05	Hi	0.09
0.027	M.F.R.	4.4	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.029	Comm	4.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.020	SCHOOL1	3.3	NORMAL	80	45	0.29	0.05	Hi	0.12
0.011	WATER	1.8	WET	0	10	0.00	0.00	Min	0.03

0.611 = Total Area Avg. = 51 35% 0.240

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 98.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.28

IMPERVIOUS AREA: URBAN @ 100 % effective = 35
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 35

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
27-32	0.614	0.620	0.081	18.0	0.24	0.25	5.40	0.28	35

LOSS PARAMETERS FOR SUBBASIN: 28-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.362	36.4	0.04	0
GGA	0.395	39.7	0.25	0
LE	0.020	2.0	0.04	0
MR	0.189	19.0	0.05	0
TT	0.011	1.1	0.04	0
VH	0.002	0.2	0.27	0
VK	0.016	1.6	0.26	0

TOTAL = 0.995 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA
========

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.687	M.D.R.	69.1	NORMAL	50	30	0.25	0.05	Hi	0.08
0.107	M.F.R.	10.8	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.090	Comm	9.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.015	Park	1.5	NORMAL	90	10	0.20	0.10	Hi	0.13
0.062	RowCrop	6.2	NORMAL	85	0	0.50	0.10	Hi	0.11
0.033	SCHOOL1	3.3	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.994 = Total Area Avg. = 56 34% 0.250

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
28-32	0.995	1.290	0.075	14.0	0.25	0.15	7.30	0.14	34

LOSS PARAMETERS FOR SUBBASIN: 29-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.038	3.8	0.04	0
GGA	0.017	1.7	0.25	0
GT	0.003	0.3	0.04	0
LCA	0.012	1.2	0.25	0
LE	0.217	21.9	0.04	0
MR	0.490	49.3	0.05	0

RBA	0.024	2.4	0.26	0
TW	0.178	17.9	0.05	0
VF	0.014	1.4	0.01	0

TOTAL = 0.993 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========
Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.020	OPEN	2.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.030	L.D.R.	3.0	NORMAL	50	15	0.30	0.05	Hi	0.12
0.737	M.D.R.	74.3	NORMAL	50	30	0.25	0.05	Hi	0.08
0.069	M.F.R.	7.0	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.033	Comm	3.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.018	Park	1.8	NORMAL	90	10	0.20	0.10	Hi	0.12
0.060	RowCrop	6.0	NORMAL	85	0	0.50	0.10	Hi	0.11
0.025	SCHOOL1	2.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.992 = Total Area Avg. = 54 30% 0.260

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 30
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 30

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
29-32	0.993	1.330	0.077	17.0	0.26	0.15	8.80	0.07	30

LOSS PARAMETERS FOR SUBBASIN: 30-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABA	0.005	0.5	0.38	0
GGA	0.025	2.6	0.25	0
GT	0.025	2.6	0.04	0
GV	0.023	2.4	0.01	0
LCA	0.123	12.8	0.25	0
LE	0.322	33.5	0.04	0
MR	0.259	27.0	0.05	0
MS	0.002	0.2	0.01	0
PEA	0.030	3.1	0.37	0
RBA	0.006	0.6	0.26	0
TG	0.015	1.6	0.04	0
TW	0.125	13.0	0.05	0

TOTAL = 0.960 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA
========
Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.038	OPEN	4.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.466	M.D.R.	48.6	NORMAL	50	30	0.25	0.05	Hi	0.09
0.009	M.F.R.	0.9	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.051	Comm	5.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.132	Park	13.8	NORMAL	90	10	0.20	0.10	Hi	0.10
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.262	SCHOOL1	27.4	NORMAL	80	45	0.29	0.05	Hi	0.09
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.958 = Total Area Avg. = 62 33% 0.240

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 33
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 33

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
30-32	0.960	1.150	0.075	16.0	0.24	0.16	8.40	0.09	33

LOSS PARAMETERS FOR SUBBASIN: 25-31

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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.008	0.8	0.04	0
GT	0.008	0.8	0.04	0
GXA	0.004	0.4	0.23	0
LCA	0.042	4.2	0.25	0
LE	0.149	14.8	0.04	0
MR	0.436	43.4	0.05	0
MS	0.097	9.7	0.01	0
RBA	0.009	0.9	0.26	0
TU	0.005	0.5	0.25	0
TW	0.242	24.1	0.05	0
VF	0.005	0.5	0.01	0

TOTAL = 1.005 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA
========

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.155	OPEN	15.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.702	M.D.R.	70.0	NORMAL	50	30	0.25	0.05	Hi	0.08
0.026	M.F.R.	2.6	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.074	Comm	7.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.010	Park	1.0	NORMAL	90	10	0.20	0.10	Hi	0.13
0.018	RowCrop	1.8	NORMAL	85	0	0.50	0.10	Hi	0.12
0.018	SCHOOL1	1.8	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.003 = Total Area			Avg. =	44	29%	0.240			

PERCENT OF SUBBASIN DRY = 15.0 %
NORMAL = 85.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA: URBAN @ 100 % effective = 29
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 29

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb ft/mi	Slope	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
25-31	1.005	1.420	0.067	19.0	0.24	0.17	9.70	0.06	29

LOSS PARAMETERS FOR SUBBASIN: 26-31E
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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GXA	0.009	2.0	0.23	0
LE	0.167	36.2	0.04	0
MR	0.126	27.3	0.05	0
MS	0.092	20.0	0.01	0
TW	0.004	0.9	0.05	0
VF	0.063	13.7	0.01	0

TOTAL = 0.461 Sq.Miles XKSAT = 0.03 %Rock = 0

DTHETA
========

Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.255	OPEN	55.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.090	M.D.R.	19.5	NORMAL	50	30	0.25	0.05	Hi	0.11
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.002	Ind	0.4	NORMAL	60	55	0.15	0.03	Min	0.04
0.087	Comm	18.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.003	Park	0.7	NORMAL	90	10	0.20	0.10	Hi	0.14
0.024	RowCrop	5.2	NORMAL	85	0	0.50	0.10	Hi	0.12
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.461 = Total Area			Avg. =	26	21%	0.210			

PERCENT OF SUBBASIN DRY = 55.0 %
NORMAL = 45.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.18

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 21
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 21

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-31E	0.461	0.770	0.041	24.0	0.21	0.18	10.10	0.04	21

LOSS PARAMETERS FOR SUBBASIN: 26-31W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.000	0.0	0.25	0
LE	0.265	49.0	0.04	0
MR	0.063	11.6	0.05	0
MS	0.141	26.1	0.01	0
TA	0.004	0.7	0.25	0
TG	0.003	0.6	0.04	0
TW	0.045	8.3	0.05	0
VF	0.020	3.7	0.01	0

TOTAL = 0.541 Sq.Miles XKSAT = 0.03 %Rock = 0

DTHETA

Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.019	OPEN	3.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.044	L.D.R.	8.1	NORMAL	50	15	0.30	0.05	Hi	0.11
0.012	M.D.R.	2.2	NORMAL	50	30	0.25	0.05	Hi	0.13
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.056	Ind	10.4	NORMAL	60	55	0.15	0.03	Min	0.03
0.029	Comm	5.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.380	RowCrop	70.4	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.540 = Total Area Avg. = 77 12% 0.410

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.13

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.05

IMPERVIOUS AREA: URBAN @ 100 % effective = 12

ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 12

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-31W	0.541	0.510	0.075	14.0	0.41	0.13	10.10	0.05	12

LOSS PARAMETERS FOR SUBBASIN: 27-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GXA	0.029	2.9	0.23	0
LCA	0.069	6.8	0.25	0
LE	0.258	25.5	0.04	0
MR	0.302	29.8	0.05	0
MS	0.109	10.8	0.01	0
RBA	0.039	3.8	0.26	0
TG	0.010	1.0	0.04	0
TW	0.116	11.4	0.05	0
VF	0.081	8.0	0.01	0

TOTAL = 1.013 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.072	OPEN	7.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.102	L.D.R.	10.1	NORMAL	50	15	0.30	0.05	Hi	0.10
0.351	M.D.R.	34.7	NORMAL	50	30	0.25	0.05	Hi	0.09
0.039	M.F.R.	3.9	NORMAL	50	45	0.25	0.05	Hi	0.12
0.004	Ind	0.4	NORMAL	60	55	0.15	0.03	Min	0.04
0.054	Comm	5.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.359	RowCrop	35.5	NORMAL	85	0	0.50	0.10	Hi	0.09
0.031	SCHOOL1	3.1	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.012 = Total Area Avg. = 63 20% 0.330

PERCENT OF SUBBASIN DRY = 7.0 %
NORMAL = 93.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA: URBAN @ 100 % effective = 20
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 20

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
27-31	1.013	1.420	0.072	16.0	0.33	0.16	9.70	0.06	20

LOSS PARAMETERS FOR SUBBASIN: 28-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.016	11.4	0.04	0
GXA	0.015	10.6	0.23	0
LCA	0.003	2.1	0.25	0
LE	0.005	3.5	0.04	0
MR	0.058	41.1	0.05	0
RBA	0.003	2.1	0.26	0
TW	0.017	12.1	0.05	0
VF	0.024	17.0	0.01	0

TOTAL = 0.141 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.001	M.D.R.	0.7	NORMAL	50	30	0.25	0.05	Hi	0.15
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.012	Ind	8.6	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.127	RowCrop	90.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.140 = Total Area Avg. = 84 5% 0.470

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 5
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 5

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
28-31	0.141	0.970	0.095	25.0	0.47	0.15	8.80	0.09	5

LOSS PARAMETERS FOR SUBBASIN: 26-32E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.029	27.1	0.04	0
GGA	0.078	72.9	0.25	0

TOTAL = 0.107 Sq.Miles XKSAT = 0.15 %Rock = 0

DTHETA

Dry = 0.40 PSIF = 6.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.087	Comm	81.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.020	WATER	18.7	WET	0	10	0.00	0.00	Min	0.03

0.107 = Total Area Avg. = 75 84% 0.080

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 81.0 %
WET = 19.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.20

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.26

IMPERVIOUS AREA: URBAN @ 100 % effective = 84
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 84

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-32E	0.107	0.610	0.029	20.0	0.08	0.20	6.00	0.26	84

LOSS PARAMETERS FOR SUBBASIN: 35-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.073	7.4	0.26	0
AN	0.084	8.5	0.05	0
AO	0.137	13.9	0.04	0
BT	0.001	0.1	0.25	0
GGA	0.651	65.8	0.25	0
TT	0.043	4.3	0.04	0

TOTAL = 0.989 Sq.Miles XKSAT = 0.16 %Rock = 0

DTHETA

Dry = 0.39 PSIF = 5.80
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.608	M.D.R.	61.6	NORMAL	50	30	0.25	0.05	Hi	0.09
0.228	M.F.R.	23.1	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.076	Comm	7.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.001	Park	0.1	NORMAL	90	10	0.20	0.10	Hi	0.15
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.074	SCHOOL1	7.5	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.987 = Total Area Avg. = 53 38% 0.240

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.24

IMPERVIOUS AREA: URBAN @ 100 % effective = 38
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 38

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
35-32	0.989	1.150	0.075	22.0	0.24	0.25	5.80	0.24	38

LOSS PARAMETERS FOR SUBBASIN: 34-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.075	7.6	0.26	0
AO	0.359	36.2	0.04	0
GGA	0.520	52.4	0.25	0
VK	0.039	3.9	0.26	0
AA			0.26	0
AA			0.26	0
AA			0.26	0

TOTAL = 0.993 Sq.Miles XKSAT = 0.13 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 6.40
Normal = 0.21
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.842	M.D.R.	84.6	NORMAL	50	30	0.25	0.05	Hi	0.08
0.015	M.F.R.	1.5	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	

0.090	Comm	9.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.020	Park	2.0	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.028	SCHOOL1	2.8	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.995 = Total Area Avg. = 53 35% 0.240

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.21

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.19

IMPERVIOUS AREA: URBAN @ 100 % effective = 35
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 35

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
34-32	0.993	1.210	0.075	19.0	0.24	0.21	6.40	0.19	35

LOSS PARAMETERS FOR SUBBASIN: 33-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.226	22.8	0.26	0
AN	0.020	2.0	0.05	0
AO	0.248	25.0	0.04	0
BS	0.048	4.8	0.39	0
BT	0.008	0.8	0.25	0
ES	0.015	1.5	0.25	0
GE	0.034	3.4	0.26	0
GGA	0.270	27.2	0.25	0
TT	0.020	2.0	0.04	0
VH	0.031	3.1	0.27	0
VK	0.073	7.4	0.26	0

TOTAL = 0.993 Sq.Miles XKSAT = 0.15 %Rock = 0

DTHETA

Dry = 0.40 PSIF = 6.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.563	M.D.R.	56.8	NORMAL	50	30	0.25	0.05	Hi	0.09
0.152	M.F.R.	15.3	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.112	Comm	11.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.018	Park	1.8	NORMAL	90	10	0.20	0.10	Hi	0.12
0.026	RowCrop	2.6	NORMAL	85	0	0.50	0.10	Hi	0.12
0.120	SCHOOL1	12.1	NORMAL	80	45	0.29	0.05	Hi	0.10
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.991 = Total Area Avg. = 57 39% 0.240

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.23

IMPERVIOUS AREA: URBAN @ 100 % effective = 39
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 39

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
33-32	0.993	1.380	0.073	15.0	0.24	0.25	6.00	0.23	39

LOSS PARAMETERS FOR SUBBASIN: 32-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.038	3.8	0.26	0
AO	0.145	14.6	0.04	0
BS	0.014	1.4	0.39	0
ES	0.048	4.8	0.25	0
GE	0.044	4.4	0.26	0
GGA	0.184	18.5	0.25	0
GT	0.023	2.3	0.04	0
LCA	0.025	2.5	0.25	0
LE	0.038	3.8	0.04	0
MR	0.117	11.8	0.05	0
TE	0.007	0.7	0.25	0
TT	0.300	30.2	0.04	0
TW	0.005	0.5	0.05	0
VH	0.005	0.5	0.27	0

TOTAL = 0.993 Sq.Miles XKSAT = 0.08 %Rock = 0

K-14PRINT

DTHETA
========
Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.006	OPEN	0.6	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.028	L.D.R.	2.8	NORMAL	50	15	0.30	0.05	Hi	0.12
0.516	M.D.R.	52.1	NORMAL	50	30	0.25	0.05	Hi	0.09
0.085	M.F.R.	8.6	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.009	Comm	0.9	NORMAL	75	80	0.10	0.02	Min	0.04
0.094	Park	9.5	NORMAL	90	10	0.20	0.10	Hi	0.11
0.231	RowCrop	23.3	NORMAL	85	0	0.50	0.10	Hi	0.10
0.022	SCHOOL1	2.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.991 = Total Area			Avg. =	65	23%	0.300			

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 99.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 23
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 23

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
32-32	0.993	1.380	0.079	15.0	0.30	0.15	7.60	0.13	23

LOSS PARAMETERS FOR SUBBASIN: 31-32

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABA	0.000	0.0	0.38	0
AO	0.035	3.7	0.04	0
ES	0.000	0.0	0.25	0
LCA	0.045	4.7	0.25	0
LE	0.175	18.4	0.04	0
MR	0.287	30.1	0.05	0
TT	0.172	18.0	0.04	0
TW	0.239	25.1	0.05	0
TOTAL =	0.953 Sq.Miles	XKSAT = 0.05	%Rock = 0	

DTHETA
========
Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.090	OPEN	9.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.1	NORMAL	50	15	0.30	0.05	Hi	0.15
0.163	M.D.R.	17.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.285	M.F.R.	30.0	NORMAL	50	45	0.25	0.05	Hi	0.09
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.076	Comm	8.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.074	Park	7.8	NORMAL	90	10	0.20	0.10	Hi	0.11
0.253	RowCrop	26.6	NORMAL	85	0	0.50	0.10	Hi	0.09
0.009	SCHOOL1	0.9	NORMAL	80	45	0.29	0.05	Hi	0.13
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.951 = Total Area			Avg. =	62	26%	0.300			

PERCENT OF SUBBASIN DRY = 10.0 %
NORMAL = 90.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA: URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
31-32	0.953	1.330	0.071	17.0	0.30	0.16	8.80	0.08	26

LOSS PARAMETERS FOR SUBBASIN: 36-31E

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop

LCA	0.021	4.2	0.25	0
LE	0.099	20.0	0.04	0
MR	0.240	48.5	0.05	0
MS	0.019	3.8	0.01	0
TW	0.116	23.4	0.05	0

TOTAL = 0.495 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========
Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.021	OPEN	4.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.067	M.D.R.	13.5	NORMAL	50	30	0.25	0.05	Hi	0.11
0.071	M.F.R.	14.3	NORMAL	50	45	0.25	0.05	Hi	0.11
0.027	Ind	5.5	NORMAL	60	55	0.15	0.03	Min	0.03
0.075	Comm	15.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.234	RowCrop	47.3	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.495 = Total Area Avg. = 71 26% 0.340

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA: URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-31E	0.495	0.810	0.072	18.0	0.34	0.15	8.80	0.08	26

LOSS PARAMETERS FOR SUBBASIN: 36-31W

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock	Outcrop
GXA	0.019	3.8	0.23	0	
LB	0.002	0.4	0.40	0	
LCA	0.077	15.2	0.25	0	
LE	0.055	10.9	0.04	0	
MR	0.204	40.3	0.05	0	
MS	0.011	2.2	0.01	0	
TT	0.052	10.3	0.04	0	
TW	0.086	17.0	0.05	0	

TOTAL = 0.506 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA
========
Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.002	OPEN	0.4	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.003	L.D.R.	0.6	NORMAL	50	15	0.30	0.05	Hi	0.14
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.066	Ind	13.1	NORMAL	60	55	0.15	0.03	Min	0.03
0.229	Comm	45.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.204	RowCrop	40.5	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.504 = Total Area Avg. = 80 44% 0.270

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.11

IMPERVIOUS AREA: URBAN @ 100 % effective = 44
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 44

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-31W	0.506	0.660	0.050	13.0	0.27	0.15	8.40	0.11	44

LOSS PARAMETERS FOR SUBBASIN: 35-31

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.012	1.2	0.25	0
GT	0.168	16.7	0.04	0
GXA	0.010	1.0	0.23	0
LB	0.013	1.3	0.40	0
LCA	0.006	0.6	0.25	0
LE	0.278	27.7	0.04	0
MR	0.224	22.3	0.05	0
MS	0.054	5.4	0.01	0
RBA	0.026	2.6	0.26	0
TA	0.017	1.7	0.25	0
TW	0.197	19.6	0.05	0

TOTAL = 1.005 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.086	OPEN	8.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.018	L.D.R.	1.8	NORMAL	50	15	0.30	0.05	Hi	0.12
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.010	Ind	1.0	NORMAL	60	55	0.15	0.03	Min	0.03
0.149	Comm	14.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.743	RowCrop	73.9	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.006 = Total Area Avg. = 77 13% 0.410

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 13
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 13

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
35-31	1.005	1.330	0.066	16.0	0.41	0.16	8.80	0.09	13

LOSS PARAMETERS FOR SUBBASIN: 34-31

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
BT	0.005	0.5	0.25	0
CB	0.002	0.2	0.40	0
GT	0.049	4.9	0.04	0
GXA	0.027	2.7	0.23	0
LB	0.007	0.7	0.40	0
LCA	0.193	19.4	0.25	0
LE	0.012	1.2	0.04	0
MR	0.582	58.4	0.05	0
MS	0.028	2.8	0.01	0
PEA	0.018	1.8	0.37	0
RBA	0.004	0.4	0.26	0
TFA	0.014	1.4	0.37	0
TG	0.008	0.8	0.04	0
TW	0.036	3.6	0.05	0
VF	0.011	1.1	0.01	0

TOTAL = 0.996 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA
========

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.052	OPEN	5.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.002	L.D.R.	0.2	NORMAL	50	15	0.30	0.05	Hi	0.15
0.385	M.D.R.	38.7	NORMAL	50	30	0.25	0.05	Hi	0.09
0.030	M.F.R.	3.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.032	Comm	3.2	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.493	RowCrop	49.6	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.994 = Total Area Avg. = 68 16% 0.370

PERCENT OF SUBBASIN DRY = 5.0 %
NORMAL = 95.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 16
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 16

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
34-31	0.996	1.350	0.075	14.0	0.37	0.16	8.00	0.12	16

LOSS PARAMETERS FOR SUBBASIN: 33-31

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LB	0.044	17.0	0.40	0
LCA	0.065	25.1	0.25	0
MR	0.100	38.6	0.05	0
RBA	0.010	3.9	0.26	0
TW	0.009	3.5	0.05	0
VF	0.031	12.0	0.01	0

TOTAL = 0.259 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.018	Ind	7.0	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.239	RowCrop	93.0	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.257 = Total Area			Avg. =	84	4%	0.480			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.16

IMPERVIOUS AREA: URBAN @ 100 % effective = 4
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 4

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
33-31	0.259	1.080	0.090	31.0	0.48	0.15	7.30	0.16	4

LOSS PARAMETERS FOR SUBBASIN: 36-32

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.005	4.4	0.04	0
GGA	0.001	0.9	0.25	0
MR	0.025	21.9	0.05	0
TC	0.005	4.4	0.40	0
TT	0.078	68.4	0.04	0

TOTAL = 0.114 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.001	M.D.R.	0.9	NORMAL	50	30	0.25	0.05	Hi	0.15
0.046	M.F.R.	40.3	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.040	Comm	35.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.027	SCHOOL1	23.7	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.114 = Total Area			Avg. =	63	57%	0.210			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %

WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA: URBAN @ 100 % effective = 57
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 57

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-32	0.114	0.570	0.077	25.0	0.21	0.15	8.80	0.08	57

LOSS PARAMETERS FOR SUBBASIN: 1-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ES	0.034	13.9	0.25	0
MP	0.087	35.7	0.25	0
MR	0.113	46.3	0.05	0
TC	0.000	0.0	0.40	0
TT	0.010	4.1	0.04	0

TOTAL = 0.244 Sq.Miles XKSAT = 0.11 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 6.80
Normal = 0.17
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.020	OPEN	8.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.200	M.D.R.	82.6	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.004	Ind	1.7	NORMAL	60	55	0.15	0.03	Min	0.04
0.018	Comm	7.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.242 = Total Area			Avg. =	46	32%	0.230			

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.19

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.15

IMPERVIOUS AREA: URBAN @ 100 % effective = 32
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 32

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
1-22	0.244	0.700	0.083	15.0	0.23	0.19	6.80	0.15	32

LOSS PARAMETERS FOR SUBBASIN: 2-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.075	7.5	0.26	0
AN	0.025	2.5	0.05	0
AO	0.144	14.3	0.04	0
BT	0.011	1.1	0.25	0
ES	0.074	7.4	0.25	0
GGA	0.483	48.1	0.25	0
LE	0.015	1.5	0.04	0
MP	0.001	0.1	0.25	0
MR	0.071	7.1	0.05	0
TT	0.105	10.5	0.04	0

TOTAL = 1.004 Sq.Miles XKSAT = 0.13 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 6.40
Normal = 0.21
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.057	OPEN	5.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.414	L.D.R.	41.2	NORMAL	50	15	0.30	0.05	Hi	0.09
0.377	M.D.R.	37.5	NORMAL	50	30	0.25	0.05	Hi	0.09
0.031	M.F.R.	3.1	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.091	Comm	9.1	NORMAL	75	80	0.10	0.02	Min	0.03

KA4PRINT

0.035	Park	3.5	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.005 = Total Area Avg. = 49 26% 0.250

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.22

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.19

IMPERVIOUS AREA: URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-22	1.004	1.420	0.072	14.0	0.25	0.22	6.40	0.19	26

LOSS PARAMETERS FOR SUBBASIN: 3-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.543	54.3	0.04	0
GGA	0.456	45.7	0.25	0

TOTAL = 0.999 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.036	OPEN	3.6	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.009	L.D.R.	0.9	NORMAL	50	15	0.30	0.05	Hi	0.13
0.812	M.D.R.	81.4	NORMAL	50	30	0.25	0.05	Hi	0.08
0.013	M.F.R.	1.3	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.094	Comm	9.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.002	Park	0.2	NORMAL	90	10	0.20	0.10	Hi	0.15

0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.032	SCHOOL1	3.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.998 = Total Area Avg. = 49 34% 0.240

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
3-22	0.999	1.220	0.073	15.0	0.24	0.16	7.30	0.13	34

LOSS PARAMETERS FOR SUBBASIN: 4-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.052	5.2	0.26	0
AN	0.016	1.6	0.05	0
AO	0.166	16.5	0.04	0
BS	0.001	0.1	0.39	0
BT	0.006	0.6	0.25	0
GGA	0.674	67.1	0.25	0
MA	0.023	2.3	0.40	0
VK	0.066	6.6	0.26	0

TOTAL = 1.004 Sq.Miles XKSAT = 0.18 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 5.60
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.059	OPEN	5.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.076	L.D.R.	7.6	NORMAL	50	15	0.30	0.05	Hi	0.11

K<14PRINT

0.556	M.D.R.	55.4	NORMAL	50	30	0.25	0.05	Hi	0.09
0.133	M.F.R.	13.3	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.134	Comm	13.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.007	Park	0.7	NORMAL	90	10	0.20	0.10	Hi	0.13
0.013	RowCrop	1.3	NORMAL	85	0	0.50	0.10	Hi	0.13
0.025	SCHOOL1	2.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.003 = Total Area Avg. = 49 36% 0.230

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.26

IMPERVIOUS AREA: URBAN @ 100 % effective = 36
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 36

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
4-22	1.004	1.460	0.069	15.0	0.23	0.26	5.60	0.26	36

LOSS PARAMETERS FOR SUBBASIN: 5-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.132	13.0	0.26	0
AO	0.078	7.7	0.04	0
ES	0.025	2.5	0.25	0
GGA	0.761	75.1	0.25	0
GT	0.006	0.6	0.04	0
TT	0.012	1.2	0.04	0

TOTAL = 1.014 Sq.Miles XKSAT = 0.21 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 5.20
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.023	OPEN	2.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.1	NORMAL	50	15	0.30	0.05	Hi	0.15
0.406	M.D.R.	40.0	NORMAL	50	30	0.25	0.05	Hi	0.09
0.027	M.F.R.	2.7	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.274	Comm	27.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.005	Park	0.5	NORMAL	90	10	0.20	0.10	Hi	0.14
0.250	RowCrop	24.6	NORMAL	85	0	0.50	0.10	Hi	0.09
0.029	SCHOOL1	2.9	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.015 = Total Area Avg. = 65 36% 0.270

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 36
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 36

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
5-22	1.014	1.270	0.063	20.0	0.27	0.25	5.20	0.34	36

LOSS PARAMETERS FOR SUBBASIN: 6-22E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.002	0.4	0.04	0
ES	0.007	1.4	0.25	0
GGA	0.178	35.7	0.25	0
GT	0.015	3.0	0.04	0
LE	0.032	6.4	0.04	0
MR	0.087	17.5	0.05	0
TT	0.177	35.5	0.04	0

TOTAL = 0.498 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.285	M.D.R.	57.3	NORMAL	50	30	0.25	0.05	Hi	0.09
0.016	M.F.R.	3.2	NORMAL	50	45	0.25	0.05	Hi	0.12
0.017	Ind	3.4	NORMAL	60	55	0.15	0.03	Min	0.03
0.077	Comm	15.5	NORMAL	75	80	0.10	0.02	Min	0.03
0.043	Park	8.7	NORMAL	90	10	0.20	0.10	Hi	0.11
0.059	RowCrop	11.9	NORMAL	85	0	0.50	0.10	Hi	0.11
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.497 = Total Area			Avg. =	62	34%	0.250			

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
6-22E	0.498	0.910	0.075	16.0	0.25	0.15	7.60	0.13	34

LOSS PARAMETERS FOR SUBBASIN: 6-22W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ES	0.104	21.9	0.25	0
GGA	0.226	47.7	0.25	0
LE	0.004	0.8	0.04	0
MR	0.053	11.2	0.05	0
TT	0.087	18.4	0.04	0

TOTAL = 0.474 Sq.Miles XKSAT = 0.15 %Rock = 0

DTHETA

Dry = 0.40 PSIF = 6.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.144	M.D.R.	30.4	NORMAL	50	30	0.25	0.05	Hi	0.10
0.017	M.F.R.	3.6	NORMAL	50	45	0.25	0.05	Hi	0.12
0.026	Ind	5.5	NORMAL	60	55	0.15	0.03	Min	0.03
0.193	Comm	40.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.015	Park	3.2	NORMAL	90	10	0.20	0.10	Hi	0.13
0.032	RowCrop	6.8	NORMAL	85	0	0.50	0.10	Hi	0.12
0.047	SCHOOL1	9.9	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.474 = Total Area			Avg. =	65	51%	0.200			

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.24

IMPERVIOUS AREA: URBAN @ 100 % effective = 51
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 51

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
6-22W	0.474	0.700	0.058	19.0	0.20	0.25	6.00	0.24	51

LOSS PARAMETERS FOR SUBBASIN: 1-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.001	0.1	0.25	0
LCA	0.011	1.1	0.25	0
LE	0.152	15.2	0.04	0
MR	0.403	40.3	0.05	0
TT	0.365	36.5	0.04	0
TU	0.011	1.1	0.25	0
TW	0.056	5.6	0.05	0

TOTAL = 0.999 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

KC14PRINT

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.040	OPEN	4.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.210	L.D.R.	21.0	NORMAL	50	15	0.30	0.05	Hi	0.10
0.086	M.D.R.	8.6	NORMAL	50	30	0.25	0.05	Hi	0.11
0.035	M.F.R.	3.5	NORMAL	50	45	0.25	0.05	Hi	0.12
0.026	Ind	2.6	NORMAL	60	55	0.15	0.03	Min	0.03
0.099	Comm	9.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.504	RowCrop	50.4	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.000 = Total Area			Avg. =	70	17%	0.370			

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA: URBAN @ 100 % effective = 17
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 17

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
1-21	0.999	1.430	0.071	14.0	0.37	0.15	8.80	0.08	17

LOSS PARAMETERS FOR SUBBASIN: 2-21
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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.005	0.5	0.04	0
LCA	0.270	27.1	0.25	0
LE	0.084	8.4	0.04	0
MR	0.584	58.6	0.05	0
RBA	0.015	1.5	0.26	0
TU	0.000	0.0	0.25	0
TW	0.038	3.8	0.05	0

TOTAL = 0.996 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.078	OPEN	7.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.263	L.D.R.	26.4	NORMAL	50	15	0.30	0.05	Hi	0.09
0.070	M.D.R.	7.0	NORMAL	50	30	0.25	0.05	Hi	0.11
0.037	M.F.R.	3.7	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.011	Comm	1.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.536	RowCrop	53.9	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.995 = Total Area			Avg. =	67	9%	0.390			

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 9
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 9

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-21	0.996	1.150	0.075	16.0	0.39	0.16	7.60	0.13	9

LOSS PARAMETERS FOR SUBBASIN: 3-21
==========

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.046	4.7	0.26	0
BS	0.044	4.5	0.39	0
BT	0.006	0.6	0.25	0
CB	0.013	1.3	0.40	0

GE	0.009	0.9	0.26	0
GGA	0.025	2.5	0.25	0
GT	0.107	10.9	0.04	0
GXA	0.012	1.2	0.23	0
LB	0.029	3.0	0.40	0
LCA	0.265	27.0	0.25	0
LE	0.166	16.9	0.04	0
MR	0.195	19.9	0.05	0
RBA	0.011	1.1	0.26	0
TFA	0.005	0.5	0.37	0
TG	0.017	1.7	0.04	0
TH	0.011	1.1	0.04	0
TW	0.020	2.0	0.05	0

TOTAL = 0.981 Sq.Miles XKSAT = 0.11 %Rock = 0

DTHETA
========
Dry = 0.36 PSIF = 6.80
Normal = 0.17
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.061	L.D.R.	6.2	NORMAL	50	15	0.30	0.05	Hi	0.11
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.004	Comm	0.4	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.916	RowCrop	93.4	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.981 = Total Area Avg. = 83 1% 0.490

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.20

IMPERVIOUS AREA:
URBAN @ 100 % effective = 1
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 1

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
3-21	0.981	1.420	0.080	8.0	0.49	0.17	6.80	0.20	1

LOSS PARAMETERS FOR SUBBASIN: 4-21

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.022	2.5	0.26	0
BS	0.004	0.5	0.39	0
CB	0.006	0.7	0.40	0
CP	0.004	0.5	0.40	0
GGA	0.070	8.0	0.25	0
GR	0.012	1.4	0.23	0
GT	0.044	5.0	0.04	0
LCA	0.334	38.2	0.25	0
LE	0.008	0.9	0.04	0
MR	0.203	23.2	0.05	0
RBA	0.012	1.4	0.26	0
TW	0.156	17.8	0.05	0

TOTAL = 0.875 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA
========
Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.026	Ind	3.0	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.848	RowCrop	97.0	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.874 = Total Area Avg. = 85 2% 0.490

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.19

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.22

IMPERVIOUS AREA:
URBAN @ 100 % effective = 2
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 2

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
4-21	0.875	1.350	0.080	13.0	0.49	0.19	6.60	0.22	2

LOSS PARAMETERS FOR SUBBASIN: 5-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.027	7.8	0.26	0
AO	0.041	11.8	0.04	0
BR	0.016	4.6	1.05	0
BS	0.024	6.9	0.39	0
CP	0.030	8.6	0.40	0
GGA	0.014	4.0	0.25	0
GR	0.043	12.4	0.23	0
GT	0.053	15.2	0.04	0
LCA	0.014	4.0	0.25	0
MR	0.043	12.4	0.05	0
PEA	0.017	4.9	0.37	0
RBA	0.015	4.3	0.26	0
VF	0.011	3.2	0.01	0

TOTAL = 0.348 Sq.Miles XKSAT = 0.13 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 6.40
Normal = 0.21
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.128	OPEN	37.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.072	Ind	20.8	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.146	RowCrop	42.2	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.346 = Total Area Avg. = 51 11% 0.320

PERCENT OF SUBBASIN DRY = 37.0 %
NORMAL = 63.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.27

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.19

IMPERVIOUS AREA: URBAN @ 100 % effective = 11
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 11

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
5-21	0.348	0.740	0.053	16.0	0.32	0.27	6.40	0.19	11

LOSS PARAMETERS FOR SUBBASIN: 12-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ES	0.032	13.1	0.25	0
GGA	0.028	11.4	0.25	0
MP	0.185	75.5	0.25	0

TOTAL = 0.245 Sq.Miles XKSAT = 0.25 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.028	OPEN	11.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.152	M.F.R.	62.3	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.064	Comm	26.2	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.244 = Total Area Avg. = 44 49% 0.200

PERCENT OF SUBBASIN DRY = 12.0 %
NORMAL = 88.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 49
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 49

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
12-22	0.245	0.680	0.069	15.0	0.20	0.26	4.80	0.34	49

LOSS PARAMETERS FOR SUBBASIN: 11-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.052	5.2	0.26	0
AO	0.091	9.0	0.04	0
ES	0.166	16.5	0.25	0
GGA	0.602	59.8	0.25	0
MP	0.076	7.6	0.25	0
MR	0.012	1.2	0.05	0
TT	0.007	0.7	0.04	0

TOTAL = 1.006 Sq.Miles XKSAT = 0.21 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 5.20
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.094	OPEN	9.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.019	L.D.R.	1.9	NORMAL	50	15	0.30	0.05	Hi	0.12
0.596	M.D.R.	59.2	NORMAL	50	30	0.25	0.05	Hi	0.09
0.082	M.F.R.	8.2	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.189	Comm	18.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.026	SCHOOL1	2.6	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.006 = Total Area			Avg. =	46	38%	0.220			

PERCENT OF SUBBASIN DRY = 9.0 %

NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.29

IMPERVIOUS AREA: URBAN @ 100 % effective = 38
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 38

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
11-22	1.006	1.480	0.064	14.0	0.22	0.26	5.20	0.29	38

LOSS PARAMETERS FOR SUBBASIN: 10-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.108	10.9	0.04	0
BT	0.004	0.4	0.25	0
GGA	0.879	88.7	0.25	0

TOTAL = 0.991 Sq.Miles XKSAT = 0.20 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 5.30
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.760	M.D.R.	76.7	NORMAL	50	30	0.25	0.05	Hi	0.08
0.059	M.F.R.	6.0	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.055	Comm	5.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.078	Park	7.9	NORMAL	90	10	0.20	0.10	Hi	0.11
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.039	SCHOOL1	3.9	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.991 = Total Area			Avg. =	56	33%	0.240			

PERCENT OF SUBBASIN DRY = 0.0 %

NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.30

IMPERVIOUS AREA: URBAN @ 100 % effective = 33
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 33

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
10-22	0.991	1.350	0.077	15.0	0.24	0.25	5.30	0.30	33

LOSS PARAMETERS FOR SUBBASIN: 9-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.022	2.2	0.26	0
AO	0.300	30.3	0.04	0
BT	0.001	0.1	0.25	0
GGA	0.667	67.4	0.25	0

TOTAL = 0.990 Sq.Miles XKSAT = 0.14 %Rock = 0

DTHETA

Dry = 0.39 PSIF = 6.20
Normal = 0.23
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.024	OPEN	2.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.012	L.D.R.	1.2	NORMAL	50	15	0.30	0.05	Hi	0.13
0.434	M.D.R.	43.8	NORMAL	50	30	0.25	0.05	Hi	0.09
0.265	M.F.R.	26.8	NORMAL	50	45	0.25	0.05	Hi	0.09
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.175	Comm	17.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.029	Park	2.9	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.051	SCHOOL1	5.2	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.990 = Total Area Avg. = 53 42% 0.220

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.23

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.21

IMPERVIOUS AREA: URBAN @ 100 % effective = 42
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 42

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
9-22	0.990	1.360	0.069	13.0	0.22	0.23	6.20	0.21	42

LOSS PARAMETERS FOR SUBBASIN: 8-22E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.013	2.5	0.26	0
GGA	0.507	97.1	0.25	0
VK	0.002	0.4	0.26	0

TOTAL = 0.522 Sq.Miles XKSAT = 0.25 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.017	OPEN	3.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.2	NORMAL	50	15	0.30	0.05	Hi	0.15
0.145	M.D.R.	27.7	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.012	Ind	2.3	NORMAL	60	55	0.15	0.03	Min	0.03
0.326	Comm	62.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.005	Park	1.0	NORMAL	90	10	0.20	0.10	Hi	0.14
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.017	SCHOOL1	3.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.523 = Total Area Avg. = 57 61% 0.150

K/14PRINT

PERCENT OF SUBBASIN DRY = 3.0 %
NORMAL = 97.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.38

IMPERVIOUS AREA: URBAN @ 100 % effective = 61
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 61

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
8-22E	0.522	0.880	0.044	15.0	0.15	0.25	4.80	0.38	61

LOSS PARAMETERS FOR SUBBASIN: 8-22W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.018	3.6	0.26	0
AN	0.001	0.2	0.05	0
AO	0.033	6.7	0.04	0
CB	0.012	2.4	0.40	0
GGA	0.403	81.6	0.25	0
VG	0.001	0.2	0.91	0
VK	0.026	5.3	0.26	0

TOTAL = 0.494 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.044	OPEN	8.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.044	M.D.R.	8.9	NORMAL	50	30	0.25	0.05	Hi	0.11
0.009	M.F.R.	1.8	NORMAL	50	45	0.25	0.05	Hi	0.13
0.032	Ind	6.5	NORMAL	60	55	0.15	0.03	Min	0.03
0.305	Comm	61.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.014	Park	2.8	NORMAL	90	10	0.20	0.10	Hi	0.13
0.045	RowCrop	9.1	NORMAL	85	0	0.50	0.10	Hi	0.11
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.493 = Total Area Avg. = 59 57% 0.170

PERCENT OF SUBBASIN DRY = 9.0 %
NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 57
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 57

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
8-22W	0.494	0.510	0.039	13.0	0.17	0.26	5.10	0.34	57

LOSS PARAMETERS FOR SUBBASIN: 7-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.004	0.4	0.26	0
AO	0.070	7.2	0.04	0
ES	0.010	1.0	0.25	0
GGA	0.766	79.0	0.25	0
GT	0.072	7.4	0.04	0
MR	0.032	3.3	0.05	0
TT	0.016	1.6	0.04	0
VH	0.000	0.0	0.27	0

TOTAL = 0.970 Sq.Miles XKSAT = 0.18 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 5.60
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.066	OPEN	6.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.590	M.D.R.	60.8	NORMAL	50	30	0.25	0.05	Hi	0.09
0.110	M.F.R.	11.3	NORMAL	50	45	0.25	0.05	Hi	0.10

0.002	Ind	0.2	NORMAL	60	55	0.15	0.03	Min	0.04
0.164	Comm	16.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.007	Park	0.7	NORMAL	90	10	0.20	0.10	Hi	0.13
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.032	SCHOOL1	3.3	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.971 = Total Area Avg. = 48 39% 0.220

PERCENT OF SUBBASIN DRY = 7.0 %
NORMAL = 93.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.26

IMPERVIOUS AREA: URBAN @ 100 % effective = 39
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 39

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
7-22	0.970	1.470	0.067	14.0	0.22	0.26	5.60	0.26	39

LOSS PARAMETERS FOR SUBBASIN: 12-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.035	3.5	0.04	0
GGA	0.025	2.5	0.25	0
GT	0.436	43.4	0.04	0
LCA	0.005	0.5	0.25	0
LE	0.061	6.1	0.04	0
MR	0.177	17.6	0.05	0
MS	0.015	1.5	0.01	0
TT	0.250	24.9	0.04	0

TOTAL = 1.004 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.025	OPEN	2.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.035	L.D.R.	3.5	NORMAL	50	15	0.30	0.05	Hi	0.12
0.298	M.D.R.	29.7	NORMAL	50	30	0.25	0.05	Hi	0.09
0.053	M.F.R.	5.3	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.063	Comm	6.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.528	RowCrop	52.7	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.002 = Total Area Avg. = 71 17% 0.370

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 17
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 17

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
12-21	1.004	1.290	0.074	16.0	0.37	0.15	9.70	0.07	17

LOSS PARAMETERS FOR SUBBASIN: 11-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.005	0.5	0.25	0
GT	0.186	18.9	0.04	0
LCA	0.340	34.5	0.25	0
LE	0.402	40.8	0.04	0
MR	0.012	1.2	0.05	0
MS	0.003	0.3	0.01	0
RBA	0.002	0.2	0.26	0
TT	0.035	3.6	0.04	0

TOTAL = 0.985 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE

========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.018	OPEN	1.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.067	L.D.R.	6.8	NORMAL	50	15	0.30	0.05	Hi	0.11
0.211	M.D.R.	21.5	NORMAL	50	30	0.25	0.05	Hi	0.10
0.029	M.F.R.	3.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.586	RowCrop	59.7	NORMAL	85	0	0.50	0.10	Hi	0.09
0.071	SCHOOL1	7.2	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.982 = Total Area Avg. = 74 12% 0.400

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA: URBAN @ 100 % effective = 12
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 12

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
11-21	0.985	1.250	0.079	17.0	0.40	0.15	7.60	0.14	12

LOSS PARAMETERS FOR SUBBASIN: 10-21

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.282	28.8	0.25	0
LE	0.110	11.2	0.04	0
MR	0.488	49.8	0.05	0
RBA	0.024	2.5	0.26	0
TG	0.006	0.6	0.04	0
TT	0.028	2.9	0.04	0
TW	0.041	4.2	0.05	0

TOTAL = 0.979 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========
Dry = 0.32 PSIF = 7.60

Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.325	OPEN	33.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.122	L.D.R.	12.4	NORMAL	50	15	0.30	0.05	Hi	0.10
0.128	M.D.R.	13.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.004	Comm	0.4	NORMAL	75	80	0.10	0.02	Min	0.04
0.019	Park	1.9	NORMAL	90	10	0.20	0.10	Hi	0.12
0.368	RowCrop	37.5	NORMAL	85	0	0.50	0.10	Hi	0.09
0.013	SCHOOL1	1.3	NORMAL	80	45	0.29	0.05	Hi	0.13
0.001	WATER	0.1	WET	0	10	0.00	0.00	Min	0.04

0.980 = Total Area Avg. = 51 7% 0.330

PERCENT OF SUBBASIN DRY = 33.0 %
NORMAL = 67.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.21

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 7
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 7

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
10-21	0.979	1.420	0.061	17.0	0.33	0.21	7.60	0.12	7

LOSS PARAMETERS FOR SUBBASIN: 9-21

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
CB	0.000	0.0	0.40	0
CP	0.048	5.0	0.40	0
GGA	0.083	8.6	0.25	0
GT	0.060	6.2	0.04	0
LB	0.096	9.9	0.40	0
LCA	0.129	13.3	0.25	0
LE	0.032	3.3	0.04	0
MR	0.476	49.2	0.05	0
TW	0.043	4.4	0.05	0

K/14PRINT

TOTAL = 0.967 Sq.Miles XKSAT = 0.10 %Rock = 0

DTHETA
========
Dry = 0.35 PSIF = 7.00
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.002	OPEN	0.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.965	RowCrop	99.8	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.967 = Total Area Avg. = 85 0% 0.500

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.18

IMPERVIOUS AREA: URBAN @ 100 % effective = 0
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 0

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
9-21	0.967	1.300	0.080	12.0	0.50	0.15	7.00	0.18	0

LOSS PARAMETERS FOR SUBBASIN: 8-21E

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.012	2.4	0.26	0
ABA	0.031	6.1	0.38	0
AO	0.045	8.9	0.04	0
BR	0.014	2.8	1.05	0
BS	0.016	3.2	0.39	0
CB	0.044	8.7	0.40	0
GGA	0.077	15.2	0.25	0
GT	0.098	19.3	0.04	0
LB	0.010	2.0	0.40	0
LCA	0.054	10.6	0.25	0
MR	0.073	14.4	0.05	0
RAB	0.006	1.2	0.39	0
RBA	0.025	4.9	0.26	0
VA	0.003	0.6	0.39	0

TOTAL = 0.508 Sq.Miles XKSAT = 0.14 %Rock = 0

DTHETA
========
Dry = 0.39 PSIF = 6.20
Normal = 0.23
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.016	OPEN	3.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.482	RowCrop	94.9	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.010	WATER	2.0	WET	0	10	0.00	0.00	Min	0.03

0.508 = Total Area Avg. = 83 2% 0.480

PERCENT OF SUBBASIN DRY = 3.0 %
NORMAL = 95.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.23

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.25

IMPERVIOUS AREA: URBAN @ 100 % effective = 2
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 2

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
8-21E	0.508	0.960	0.085	14.0	0.48	0.23	6.20	0.25	2

LOSS PARAMETERS FOR SUBBASIN: 8-21W

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
BR	0.007	2.6	1.05	0
BS	0.028	10.2	0.39	0
GGA	0.080	29.2	0.25	0
GT	0.114	41.6	0.04	0
RAB	0.035	12.8	0.39	0
TD	0.010	3.7	1.20	0

TOTAL = 0.274 Sq.Miles XKSAT = 0.14 %Rock = 0

DTHETA
========

Dry = 0.39 PSIF = 6.20
Normal = 0.23
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.026	OPEN	9.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.224	RowCrop	82.1	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.023	WATER	8.4	WET	0	10	0.00	0.00	Min	0.03

0.273 = Total Area Avg. = 77 8% 0.430

PERCENT OF SUBBASIN DRY = 10.0 %
NORMAL = 82.0 %
WET = 8.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.23

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.24

IMPERVIOUS AREA: URBAN @ 100 % effective = 8
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 8

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
8-21W	0.274	0.700	0.081	16.0	0.43	0.23	6.20	0.24	8

LOSS PARAMETERS FOR SUBBASIN: 13-22
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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.228	92.7	0.25	0
LE	0.018	7.3	0.04	0

TOTAL = 0.246 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA
========

Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.104	M.D.R.	42.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.005	M.F.R.	2.0	NORMAL	50	45	0.25	0.05	Hi	0.14
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.123	Comm	49.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.015	SCHOOL1	6.1	NORMAL	80	45	0.29	0.05	Hi	0.13
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.247 = Total Area Avg. = 58 56% 0.180

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 56
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 56

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
13-22	0.246	1.000	0.061	18.0	0.18	0.25	5.10	0.34	56

KC/14PRINT

LOSS PARAMETERS FOR SUBBASIN: 14-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.244	24.4	0.26	0
AO	0.047	4.7	0.04	0
GGA	0.707	70.7	0.25	0
LE	0.002	0.2	0.04	0

TOTAL = 1.000 Sq.Miles XKSAT = 0.23 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.032	OPEN	3.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.009	L.D.R.	0.9	NORMAL	50	15	0.30	0.05	Hi	0.13
0.563	M.D.R.	56.3	NORMAL	50	30	0.25	0.05	Hi	0.09
0.080	M.F.R.	8.0	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.098	Comm	9.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.065	Park	6.5	NORMAL	90	10	0.20	0.10	Hi	0.11
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.153	SCHOOL1	15.3	NORMAL	80	45	0.29	0.05	Hi	0.10
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.000 = Total Area			Avg. =	56	36%	0.240			

PERCENT OF SUBBASIN DRY = 3.0 %
NORMAL = 97.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.35

IMPERVIOUS AREA: URBAN @ 100 % effective = 36
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 36

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
14-22	1.000	1.320	0.073	13.0	0.24	0.25	5.00	0.35	36

LOSS PARAMETERS FOR SUBBASIN: 15-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.321	32.2	0.26	0
BT	0.000	0.0	0.25	0
GGA	0.677	67.8	0.25	0

TOTAL = 0.998 Sq.Miles XKSAT = 0.25 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.087	OPEN	8.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.641	M.D.R.	64.2	NORMAL	50	30	0.25	0.05	Hi	0.08
0.174	M.F.R.	17.4	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.061	Comm	6.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.035	SCHOOL1	3.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.998 = Total Area			Avg. =	46	34%	0.240			

PERCENT OF SUBBASIN DRY = 9.0 %
NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.35

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
15-22	0.998	1.540	0.072	15.0	0.24	0.26	4.80	0.35	34

K/71-4PRINT

LOSS PARAMETERS FOR SUBBASIN: 16-22E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.118	23.0	0.26	0
AO	0.018	3.5	0.04	0
BT	0.002	0.4	0.25	0
GGA	0.360	70.2	0.25	0
VK	0.015	2.9	0.26	0

TOTAL = 0.513 Sq.Miles XKSAT = 0.24 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.90
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.046	OPEN	9.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.245	M.D.R.	48.0	NORMAL	50	30	0.25	0.05	Hi	0.10
0.080	M.F.R.	15.7	NORMAL	50	45	0.25	0.05	Hi	0.11
0.017	Ind	3.3	NORMAL	60	55	0.15	0.03	Min	0.03
0.118	Comm	23.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.005	Park	1.0	NORMAL	90	10	0.20	0.10	Hi	0.14
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.511 = Total Area			Avg. =	47	42%	0.210			

PERCENT OF SUBBASIN DRY = 9.0 %
NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 42
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 42

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
16-22E	0.513	1.140	0.065	12.0	0.21	0.26	4.90	0.34	42

LOSS PARAMETERS FOR SUBBASIN: 16-22W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.064	13.4	0.26	0
AO	0.023	4.8	0.04	0
GGA	0.392	81.8	0.25	0

TOTAL = 0.479 Sq.Miles XKSAT = 0.23 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.001	OPEN	0.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.476	Ind	99.6	NORMAL	60	55	0.15	0.03	Min	0.02
0.001	Comm	0.2	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.478 = Total Area			Avg. =	60	55%	0.150			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.36

IMPERVIOUS AREA: URBAN @ 100 % effective = 55
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 55

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
16-22W	0.479	0.830	0.024	14.0	0.15	0.25	5.00	0.36	55

LOSS PARAMETERS FOR SUBBASIN: 17-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.006	0.6	0.26	0
AN	0.035	3.4	0.05	0
AO	0.059	5.8	0.04	0
GGA	0.886	87.2	0.25	0
GT	0.008	0.8	0.04	0
VG	0.022	2.2	0.91	0

TOTAL = 1.016 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.113	OPEN	11.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.112	M.D.R.	11.0	NORMAL	50	30	0.25	0.05	Hi	0.10
0.071	M.F.R.	7.0	NORMAL	50	45	0.25	0.05	Hi	0.11
0.350	Ind	34.5	NORMAL	60	55	0.15	0.03	Min	0.03
0.254	Comm	25.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.016	Park	1.6	NORMAL	90	10	0.20	0.10	Hi	0.12
0.099	RowCrop	9.8	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.015 = Total Area			Avg. =	54	46%	0.200			

PERCENT OF SUBBASIN DRY = 11.0 %
NORMAL = 89.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.33

IMPERVIOUS AREA: URBAN @ 100 % effective = 46
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 46

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
17-22	1.016	1.320	0.039	19.0	0.20	0.26	5.10	0.33	46

LOSS PARAMETERS FOR SUBBASIN: 18-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.031	3.2	0.26	0
AN	0.075	7.7	0.05	0
AO	0.568	58.6	0.04	0
BT	0.014	1.4	0.25	0
GGA	0.210	21.7	0.25	0
GT	0.001	0.1	0.04	0
MA	0.018	1.9	0.40	0
VH	0.052	5.4	0.27	0

TOTAL = 0.969 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.023	OPEN	2.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.681	M.D.R.	70.3	NORMAL	50	30	0.25	0.05	Hi	0.08
0.128	M.F.R.	13.2	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.061	Comm	6.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.049	Park	5.1	NORMAL	90	10	0.20	0.10	Hi	0.11
0.001	RowCrop	0.1	NORMAL	85	0	0.50	0.10	Hi	0.15
0.026	SCHOOL1	2.7	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.969 = Total Area			Avg. =	53	34%	0.240			

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 98.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
18-22	0.969	1.400	0.076	15.0	0.24	0.15	7.60	0.12	34

LOSS PARAMETERS FOR SUBBASIN: 13-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.030	3.0	0.26	0
ABA	0.041	4.1	0.38	0
AN	0.026	2.6	0.05	0
AO	0.325	32.4	0.04	0
BS	0.020	2.0	0.39	0
GE	0.061	6.1	0.26	0
GGA	0.083	8.3	0.25	0
GT	0.219	21.8	0.04	0
LCA	0.016	1.6	0.25	0
MA	0.046	4.6	0.40	0
MR	0.000	0.0	0.05	0
MS	0.003	0.3	0.01	0
TT	0.027	2.7	0.04	0
VG	0.032	3.2	0.91	0
VH	0.074	7.4	0.27	0

TOTAL = 1.003 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.087	OPEN	8.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.037	L.D.R.	3.7	NORMAL	50	15	0.30	0.05	Hi	0.12
0.663	M.D.R.	66.4	NORMAL	50	30	0.25	0.05	Hi	0.08
0.018	M.F.R.	1.8	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.030	Comm	3.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.008	Park	0.8	NORMAL	90	10	0.20	0.10	Hi	0.13
0.117	RowCrop	11.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.039	SCHOOL1	3.9	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.999 = Total Area			Avg. =	52	26%	0.270			

PERCENT OF SUBBASIN DRY = 9.0 %

NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 26
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 26

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
13-21	1.003	1.320	0.073	18.0	0.27	0.17	7.30	0.13	26

LOSS PARAMETERS FOR SUBBASIN: 14-21E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.012	2.8	0.26	0
AO	0.050	11.6	0.04	0
GGA	0.057	13.2	0.25	0
GT	0.212	49.1	0.04	0
LE	0.036	8.3	0.04	0
MR	0.006	1.4	0.05	0
MS	0.001	0.2	0.01	0
TT	0.058	13.4	0.04	0

TOTAL = 0.432 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.101	OPEN	23.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.003	L.D.R.	0.7	NORMAL	50	15	0.30	0.05	Hi	0.14
0.051	M.D.R.	11.8	NORMAL	50	30	0.25	0.05	Hi	0.11
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.001	Park	0.2	NORMAL	90	10	0.20	0.10	Hi	0.15
0.264	RowCrop	61.1	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	

KC14PRINT

0.012	WATER	2.8	WET	0	10	0.00	0.00	Min	0.03

0.432 = Total Area Avg. = 63 6% 0.380

PERCENT OF SUBBASIN DRY = 23.0 %
NORMAL = 74.0 %
WET = 3.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.08

IMPERVIOUS AREA: URBAN @ 100 % effective = 6
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 6

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
14-21E	0.432	0.990	0.072	18.0	0.38	0.17	8.80	0.08	6

LOSS PARAMETERS FOR SUBBASIN: 14-21W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.004	0.7	0.26	0
AN	0.041	7.3	0.05	0
AO	0.111	19.8	0.04	0
BS	0.007	1.2	0.39	0
ES	0.046	8.2	0.25	0
GGA	0.068	12.1	0.25	0
GT	0.131	23.3	0.04	0
LE	0.085	15.1	0.04	0
MA	0.010	1.8	0.40	0
MR	0.002	0.4	0.05	0
TT	0.057	10.1	0.04	0

TOTAL = 0.562 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA

Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.086	OPEN	15.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.133	L.D.R.	23.7	NORMAL	50	15	0.30	0.05	Hi	0.10
0.155	M.D.R.	27.6	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.032	Comm	5.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.150	RowCrop	26.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.006	WATER	1.1	WET	0	10	0.00	0.00	Min	0.04

0.562 = Total Area Avg. = 54 17% 0.310

PERCENT OF SUBBASIN DRY = 15.0 %
NORMAL = 84.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 17
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 17

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
14-21W	0.562	0.530	0.073	7.0	0.31	0.17	8.40	0.09	17

LOSS PARAMETERS FOR SUBBASIN: 15-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.152	15.0	0.04	0
LCA	0.016	1.6	0.25	0
LE	0.031	3.1	0.04	0
MR	0.374	37.0	0.05	0
TT	0.432	42.7	0.04	0
TW	0.006	0.6	0.05	0

TOTAL = 1.011 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb

0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.148	OPEN	14.6	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.1	NORMAL	50	15	0.30	0.05	Hi	0.15
0.125	M.D.R.	12.4	NORMAL	50	30	0.25	0.05	Hi	0.10
0.001	M.F.R.	0.1	NORMAL	50	45	0.25	0.05	Hi	0.15
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.006	Park	0.6	NORMAL	90	10	0.20	0.10	Hi	0.14
0.709	RowCrop	70.1	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.022	WATER	2.2	WET	0	10	0.00	0.00	Min	0.03

1.012 = Total Area Avg. = 70 6% 0.410

PERCENT OF SUBBASIN DRY = 15.0 %
NORMAL = 83.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 6
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 6

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
15-21	1.011	1.480	0.071	15.0	0.41	0.16	9.70	0.07	6

LOSS PARAMETERS FOR SUBBASIN: 16-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.035	3.4	0.04	0
LB	0.018	1.8	0.40	0
LCA	0.075	7.3	0.25	0
LE	0.055	5.4	0.04	0
MR	0.599	58.6	0.05	0
TT	0.240	23.5	0.04	0

TOTAL = 1.022 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.004	OPEN	0.4	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.121	L.D.R.	11.8	NORMAL	50	15	0.30	0.05	Hi	0.10
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.871	RowCrop	85.2	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.026	WATER	2.5	WET	0	10	0.00	0.00	Min	0.03

1.022 = Total Area Avg. = 81 4% 0.460

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 97.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 4
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 4

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
16-21	1.022	1.350	0.078	12.0	0.46	0.15	8.80	0.09	4

LOSS PARAMETERS FOR SUBBASIN: 17-21E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABA	0.011	1.6	0.38	0
ABB	0.020	2.9	0.39	0
GGA	0.007	1.0	0.25	0
LCA	0.226	32.3	0.25	0
LE	0.009	1.3	0.04	0
MP	0.005	0.7	0.25	0
MR	0.389	55.7	0.05	0
RAB	0.000	0.0	0.39	0
TT	0.031	4.4	0.04	0
VA	0.001	0.1	0.39	0

TOTAL = 0.699 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

========
Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.044	OPEN	6.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.001	L.D.R.	0.1	NORMAL	50	15	0.30	0.05	Hi	0.15
0.042	M.D.R.	6.0	NORMAL	50	30	0.25	0.05	Hi	0.11
0.001	M.F.R.	0.1	NORMAL	50	45	0.25	0.05	Hi	0.15
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.011	Park	1.6	NORMAL	90	10	0.20	0.10	Hi	0.13
0.592	RowCrop	84.6	NORMAL	85	0	0.50	0.10	Hi	0.09
0.001	SCHOOL1	0.1	NORMAL	80	45	0.29	0.05	Hi	0.15
0.008	WATER	1.1	WET	0	10	0.00	0.00	Min	0.04

0.700 = Total Area Avg. = 79 3% 0.450

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 92.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.16

IMPERVIOUS AREA: URBAN @ 100 % effective = 3
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 3

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
17-21E	0.699	1.680	0.079	12.0	0.45	0.16	7.30	0.16	3

LOSS PARAMETERS FOR SUBBASIN: 17-21W

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABA	0.041	13.4	0.38	0
BS	0.029	9.5	0.39	0
GGA	0.041	13.4	0.25	0
GT	0.112	36.6	0.04	0
GXA	0.000	0.0	0.23	0
MR	0.000	0.0	0.05	0
RAB	0.083	27.1	0.39	0

TOTAL = 0.306 Sq.Miles XKSAT = 0.16 %Rock = 0

DTHETA
========
Dry = 0.39 PSIF = 5.80
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.092	L.D.R.	30.0	NORMAL	50	15	0.30	0.05	Hi	0.11
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.215	RowCrop	70.0	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.307 = Total Area Avg. = 76 4% 0.440

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.28

IMPERVIOUS AREA: URBAN @ 100 % effective = 4
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 4

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
17-21W	0.306	1.110	0.093	15.0	0.44	0.25	5.80	0.28	4

LOSS PARAMETERS FOR SUBBASIN: 18-21

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.130	24.0	0.26	0
ABA	0.011	2.0	0.38	0
AN	0.012	2.2	0.05	0

KC/14-PRINT

AO	0.076	14.0	0.04	0
BR	0.034	6.3	1.05	0
BS	0.004	0.7	0.39	0
GGA	0.202	37.3	0.25	0
GT	0.048	8.9	0.04	0
GXA	0.007	1.3	0.23	0
RAB	0.000	0.0	0.39	0
TD	0.001	0.2	1.20	0
VH	0.017	3.1	0.27	0

TOTAL = 0.542 Sq.Miles XKSAT = 0.18 %Rock = 0

DTHETA
========
Dry = 0.38 PSIF = 5.60
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.024	OPEN	4.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.004	L.D.R.	0.7	NORMAL	50	15	0.30	0.05	Hi	0.14
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.511	RowCrop	94.1	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.004	WATER	0.7	WET	0	10	0.00	0.00	Min	0.04

0.543 = Total Area Avg. = 81 1% 0.480

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 95.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.32

IMPERVIOUS AREA: URBAN @ 100 % effective = 1
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 1

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
18-21	0.542	1.220	0.083	10.0	0.48	0.25	5.60	0.32	1

LOSS PARAMETERS FOR SUBBASIN: 24-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.059	26.2	0.25	0
LCA	0.031	13.8	0.25	0
LE	0.135	60.0	0.04	0

TOTAL = 0.225 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========
Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.014	OPEN	6.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.002	M.D.R.	0.9	NORMAL	50	30	0.25	0.05	Hi	0.15
0.064	M.F.R.	28.4	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.145	Comm	64.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.225 = Total Area Avg. = 52 65% 0.150

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 65
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 65

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
24-22	0.225	1.000	0.047	18.0	0.15	0.16	7.60	0.12	65

LOSS PARAMETERS FOR SUBBASIN: 23-22

Soil Survey Used Central County

K/L14PRINT

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.008	0.8	0.05	0
AO	0.553	55.9	0.04	0
BS	0.002	0.2	0.39	0
GGA	0.300	30.3	0.25	0
LE	0.054	5.5	0.04	0
MA	0.024	2.4	0.40	0
VH	0.048	4.9	0.27	0

TOTAL = 0.989 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.007	OPEN	0.7	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.742	M.D.R.	74.9	NORMAL	50	30	0.25	0.05	Hi	0.08
0.023	M.F.R.	2.3	NORMAL	50	45	0.25	0.05	Hi	0.12
0.008	Ind	0.8	NORMAL	60	55	0.15	0.03	Min	0.04
0.048	Comm	4.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.077	Park	7.8	NORMAL	90	10	0.20	0.10	Hi	0.11
0.004	RowCrop	0.4	NORMAL	85	0	0.50	0.10	Hi	0.14
0.081	SCHOOL1	8.2	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.990 = Total Area			Avg. =	56	32%	0.240			

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 99.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 32
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 32

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
23-22	0.989	1.410	0.076	13.0	0.24	0.15	7.60	0.12	32

LOSS PARAMETERS FOR SUBBASIN: 22-22E
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Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.082	15.4	0.26	0
GGA	0.450	84.6	0.25	0
MA	0.000	0.0	0.40	0

TOTAL = 0.532 Sq.Miles XKSAT = 0.25 %Rock = 0

DTHETA
========

Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.045	OPEN	8.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.192	M.D.R.	36.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.088	M.F.R.	16.5	NORMAL	50	45	0.25	0.05	Hi	0.11
0.038	Ind	7.1	NORMAL	60	55	0.15	0.03	Min	0.03
0.094	Comm	17.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.001	Park	0.2	NORMAL	90	10	0.20	0.10	Hi	0.15
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.074	SCHOOL1	13.9	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.532 = Total Area			Avg. =	50	43%	0.220			

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.36

IMPERVIOUS AREA: URBAN @ 100 % effective = 43
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 43

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
22-22E	0.532	1.050	0.065	20.0	0.22	0.26	4.80	0.36	43

1K/14PRINT

LOSS PARAMETERS FOR SUBBASIN: 22-22W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.032	6.9	0.26	0
GGA	0.435	93.2	0.25	0

TOTAL = 0.467 Sq.Miles XKSAT = 0.25 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 4.80
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.020	OPEN	4.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.373	Ind	79.7	NORMAL	60	55	0.15	0.03	Min	0.03
0.075	Comm	16.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.468 = Total Area			Avg. =	56	57%	0.140			

PERCENT OF SUBBASIN
DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.38

IMPERVIOUS AREA:
URBAN @ 100 % effective = 57
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 57

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
22-22W	0.467	0.960	0.025	26.0	0.14	0.25	4.80	0.38	57

LOSS PARAMETERS FOR SUBBASIN: 21-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.200	20.1	0.26	0
AN	0.007	0.7	0.05	0
AO	0.048	4.8	0.04	0
GGA	0.740	74.4	0.25	0

TOTAL = 0.995 Sq.Miles XKSAT = 0.23 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.00
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.356	OPEN	35.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.398	M.D.R.	40.1	NORMAL	50	30	0.25	0.05	Hi	0.09
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.002	Ind	0.2	NORMAL	60	55	0.15	0.03	Min	0.04
0.211	Comm	21.2	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.026	SCHOOL1	2.6	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.993 = Total Area			Avg. =	32	30%	0.200			

PERCENT OF SUBBASIN
DRY = 36.0 %
NORMAL = 64.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.29

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.29

IMPERVIOUS AREA:
URBAN @ 100 % effective = 30
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 30

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
21-22	0.995	1.450	0.047	17.0	0.20	0.29	5.00	0.29	30

K/14PRINT

LOSS PARAMETERS FOR SUBBASIN: 20-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.005	0.5	0.26	0
AO	0.077	7.6	0.04	0
GGA	0.881	86.9	0.25	0
GT	0.051	5.0	0.04	0

TOTAL = 1.014 Sq.Miles XKSAT = 0.20 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 5.30
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.002	OPEN	0.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.689	M.D.R.	67.9	NORMAL	50	30	0.25	0.05	Hi	0.08
0.070	M.F.R.	6.9	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.190	Comm	18.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.025	Park	2.5	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.038	SCHOOL1	3.7	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.014 = Total Area			Avg. =	54	40%	0.220			

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.30

IMPERVIOUS AREA:
URBAN @ 100 % effective = 40
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 40

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
20-22	1.014	1.420	0.069	12.0	0.22	0.25	5.30	0.30	40

LOSS PARAMETERS FOR SUBBASIN: 19-22

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.026	2.8	0.05	0
AO	0.402	42.8	0.04	0
BT	0.007	0.7	0.25	0
GGA	0.386	41.1	0.25	0
GT	0.118	12.6	0.04	0

TOTAL = 0.939 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.038	OPEN	4.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.585	M.D.R.	62.4	NORMAL	50	30	0.25	0.05	Hi	0.09
0.014	M.F.R.	1.5	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.039	Comm	4.2	NORMAL	75	80	0.10	0.02	Min	0.03
0.216	Park	23.0	NORMAL	90	10	0.20	0.10	Hi	0.10
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.046	SCHOOL1	4.9	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.938 = Total Area			Avg. =	61	27%	0.230			

PERCENT OF SUBBASIN
DRY = 4.0 %
NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA:
URBAN @ 100 % effective = 27
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 27

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
19-22	0.939	1.310	0.076	17.0	0.23	0.16	7.30	0.14	27

LOSS PARAMETERS FOR SUBBASIN: 24-21N

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.014	3.4	0.26	0
AN	0.005	1.2	0.05	0
AO	0.213	51.6	0.04	0
BS	0.002	0.5	0.39	0
GE	0.030	7.3	0.26	0
GGA	0.067	16.2	0.25	0
GT	0.064	15.5	0.04	0
MA	0.002	0.5	0.40	0
VH	0.016	3.9	0.27	0

TOTAL = 0.413 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.016	OPEN	3.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.339	M.D.R.	81.9	NORMAL	50	30	0.25	0.05	Hi	0.09
0.025	M.F.R.	6.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.012	Comm	2.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.012	Park	2.9	NORMAL	90	10	0.20	0.10	Hi	0.13
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.010	WATER	2.4	WET	0	10	0.00	0.00	Min	0.03

0.414 = Total Area Avg. = 49 32% 0.240

PERCENT OF SUBBASIN DRY = 4.0 %
NORMAL = 94.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.10

IMPERVIOUS AREA: URBAN @ 100 % effective = 32
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 32

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
24-21N	0.413	0.760	0.084	20.0	0.24	0.15	8.00	0.10	32

LOSS PARAMETERS FOR SUBBASIN: 24-21S

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.015	2.5	0.26	0
AO	0.147	24.0	0.04	0
BT	0.000	0.0	0.25	0
GE	0.027	4.4	0.26	0
GGA	0.089	14.5	0.25	0
GT	0.244	39.9	0.04	0
MA	0.027	4.4	0.40	0
VH	0.038	6.2	0.27	0
VK	0.025	4.1	0.26	0

TOTAL = 0.612 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.053	OPEN	8.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.023	L.D.R.	3.8	NORMAL	50	15	0.30	0.05	Hi	0.12
0.315	M.D.R.	51.5	NORMAL	50	30	0.25	0.05	Hi	0.09
0.065	M.F.R.	10.6	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.088	Comm	14.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.012	RowCrop	2.0	NORMAL	85	0	0.50	0.10	Hi	0.13
0.026	SCHOOL1	4.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.030	WATER	4.9	WET	0	10	0.00	0.00	Min	0.03

0.612 = Total Area Avg. = 48 39% 0.220

PERCENT OF SUBBASIN DRY = 9.0 %
NORMAL = 86.0 %
WET = 5.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.11

IMPERVIOUS AREA: URBAN @ 100 % effective = 39

ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 39

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
24-21S	0.612	0.530	0.068	12.0	0.22	0.16	7.60	0.11	39

LOSS PARAMETERS FOR SUBBASIN: 23-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.077	7.8	0.26	0
AN	0.040	4.1	0.05	0
AO	0.306	31.0	0.04	0
BT	0.041	4.2	0.25	0
ES	0.019	1.9	0.25	0
GGA	0.378	38.3	0.25	0
GT	0.104	10.6	0.04	0
LE	0.005	0.5	0.04	0
TT	0.010	1.0	0.04	0
VH	0.006	0.6	0.27	0
VK	0.000	0.0	0.26	0

TOTAL = 0.986 Sq.Miles XKSAT = 0.11 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 6.80
Normal = 0.17
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.041	OPEN	4.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.006	L.D.R.	0.6	NORMAL	50	15	0.30	0.05	Hi	0.14
0.823	M.D.R.	83.3	NORMAL	50	30	0.25	0.05	Hi	0.08
0.015	M.F.R.	1.5	NORMAL	50	45	0.25	0.05	Hi	0.13
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.072	Comm	7.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.005	RowCrop	0.5	NORMAL	85	0	0.50	0.10	Hi	0.14
0.024	SCHOOL1	2.4	NORMAL	80	45	0.29	0.05	Hi	0.12
0.002	WATER	0.2	WET	0	10	0.00	0.00	Min	0.04

0.988 = Total Area Avg. = 49 33% 0.240

PERCENT OF SUBBASIN DRY = 4.0 %

NORMAL = 96.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.18

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.16

IMPERVIOUS AREA: URBAN @ 100 % effective = 33
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 33

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
23-21	0.986	1.260	0.073	18.0	0.24	0.18	6.80	0.16	33

LOSS PARAMETERS FOR SUBBASIN: 22-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.024	2.4	0.04	0
ES	0.003	0.3	0.25	0
GGA	0.000	0.0	0.25	0
GT	0.427	42.7	0.04	0
LE	0.134	13.4	0.04	0
MR	0.082	8.2	0.05	0
TT	0.322	32.2	0.04	0
TW	0.009	0.9	0.05	0

TOTAL = 1.001 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.054	OPEN	5.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.560	M.D.R.	55.9	NORMAL	50	30	0.25	0.05	Hi	0.09
0.037	M.F.R.	3.7	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.054	Comm	5.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.273	RowCrop	27.2	NORMAL	85	0	0.50	0.10	Hi	0.09
0.024	SCHOOL1	2.4	NORMAL	80	45	0.29	0.05	Hi	0.12

0.000	WATER	0.0	WET	0	10	0.00	0.00	Min

1.002 = Total Area Avg. = 61 24% 0.310

PERCENT OF SUBBASIN
DRY = 5.0 %
NORMAL = 95.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA:
URBAN @ 100 % effective = 24
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 24

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
22-21	1.001	1.420	0.073	16.0	0.31	0.16	9.70	0.06	24

LOSS PARAMETERS FOR SUBBASIN: 21-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.232	23.0	0.04	0
LE	0.342	34.0	0.04	0
MR	0.240	23.8	0.05	0
TT	0.193	19.2	0.04	0

TOTAL = 1.007 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA
Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.004	OPEN	0.4	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.001	Comm	0.1	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
1.002	RowCrop	99.5	NORMAL	85	0	0.50	0.10	Hi	0.08

0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min

1.007 = Total Area Avg. = 85 0% 0.500

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA:
URBAN @ 100 % effective = 0
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 0

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
21-21	1.007	1.240	0.079	14.0	0.50	0.15	9.70	0.07	0

LOSS PARAMETERS FOR SUBBASIN: 20-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GGA	0.004	0.4	0.25	0
GT	0.057	5.6	0.04	0
LCA	0.037	3.6	0.25	0
LE	0.106	10.4	0.04	0
MP	0.167	16.3	0.25	0
MR	0.408	39.9	0.05	0
TT	0.215	21.0	0.04	0
TU	0.023	2.2	0.25	0
TW	0.005	0.5	0.05	0

TOTAL = 1.022 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA
Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.108	OPEN	10.6	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	

0.353	M.D.R.	34.5	NORMAL	50	30	0.25	0.05	Hi	0.09
0.119	M.F.R.	11.6	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.060	Comm	5.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.180	Park	17.6	NORMAL	90	10	0.20	0.10	Hi	0.10
0.171	RowCrop	16.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.020	SCHOOL1	2.0	NORMAL	80	45	0.29	0.05	Hi	0.12
0.011	WATER	1.1	WET	0	10	0.00	0.00	Min	0.03

1.022 = Total Area Avg. = 61 24% 0.270

PERCENT OF SUBBASIN DRY = 11.0 %
NORMAL = 88.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.11

IMPERVIOUS AREA: URBAN @ 100 % effective = 24
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 24

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
20-21	1.022	1.590	0.070	9.0	0.27	0.17	8.00	0.11	24

LOSS PARAMETERS FOR SUBBASIN: 19-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.066	7.6	0.26	0
ABA	0.112	12.8	0.38	0
AO	0.082	9.4	0.04	0
BR	0.000	0.0	1.05	0
GE	0.039	4.5	0.26	0
GGA	0.333	38.2	0.25	0
GT	0.006	0.7	0.04	0
LB	0.016	1.8	0.40	0
LCA	0.066	7.6	0.25	0
LE	0.005	0.6	0.04	0
MA	0.029	3.3	0.40	0
MP	0.003	0.3	0.25	0
MR	0.020	2.3	0.05	0
VG	0.000	0.0	0.91	0
VH	0.084	9.6	0.27	0
VK	0.011	1.3	0.26	0

TOTAL = 0.872 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.134	OPEN	15.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.149	M.D.R.	17.0	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.022	Comm	2.5	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.548	RowCrop	62.7	NORMAL	85	0	0.50	0.10	Hi	0.09
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.021	WATER	2.4	WET	0	10	0.00	0.00	Min	0.03

0.874 = Total Area Avg. = 68 10% 0.390

PERCENT OF SUBBASIN DRY = 15.0 %
NORMAL = 82.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.36

IMPERVIOUS AREA: URBAN @ 100 % effective = 10
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 10

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
19-21	0.872	1.330	0.070	26.0	0.39	0.26	5.10	0.36	10

LOSS PARAMETERS FOR SUBBASIN: 26-22N

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.029	7.6	0.05	0
AO	0.013	3.4	0.04	0
BS	0.006	1.6	0.39	0
GGA	0.244	64.2	0.25	0
LCA	0.011	2.9	0.25	0
MA	0.034	8.9	0.40	0
VH	0.043	11.3	0.27	0

TOTAL = 0.380 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA
========
Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.027	M.D.R.	7.1	NORMAL	50	30	0.25	0.05	Hi	0.12
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.296	Ind	77.9	NORMAL	60	55	0.15	0.03	Min	0.03
0.046	Comm	12.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.011	WATER	2.9	WET	0	10	0.00	0.00	Min	0.03

0.380 = Total Area Avg. = 60 58% 0.150

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 97.0 %
WET = 3.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.24

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 58
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 58

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-22N	0.380	0.570	0.030	15.0	0.15	0.24	5.10	0.34	58

LOSS PARAMETERS FOR SUBBASIN: 26-22W

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.001	1.3	0.04	0
BS	0.013	16.5	0.39	0
GE	0.003	3.8	0.26	0
GGA	0.018	22.8	0.25	0
MA	0.044	55.7	0.40	0

TOTAL = 0.079 Sq.Miles XKSAT = 0.34 %Rock = 0

DTHETA
========
Dry = 0.35 PSIF = 4.30
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.075	Ind	96.2	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.003	WATER	3.8	WET	0	10	0.00	0.00	Min	0.04

0.078 = Total Area Avg. = 60 57% 0.140

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 96.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.24

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.53

IMPERVIOUS AREA: URBAN @ 100 % effective = 57
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 57

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-22W	0.079	0.430	0.029	13.0	0.14	0.24	4.30	0.53	57

LOSS PARAMETERS FOR SUBBASIN: 27-22N

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.076	20.4	0.04	0
GE	0.014	3.8	0.26	0

GGA	[illegible].238	64.0	0.25	0
GT	0.005	1.3	0.04	0
MA	0.017	4.6	0.40	0
TT	0.022	5.9	0.04	0

TOTAL = 0.372 Sq.Miles XKSAT = 0.15 %Rock = 0

DTHETA
========
Dry = 0.40 PSIF = 6.00
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.135	Ind	36.3	NORMAL	60	55	0.15	0.03	Min	0.03
0.232	Comm	62.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.005	WATER	1.3	WET	0	10	0.00	0.00	Min	0.04

0.372 = Total Area Avg. = 66 71% 0.120

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 99.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.24

IMPERVIOUS AREA: URBAN @ 100 % effective = 71
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 71

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
27-22N	0.372	1.150	0.025	10.0	0.12	0.25	6.00	0.24	71

LOSS PARAMETERS FOR SUBBASIN: 28-22N

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.010	2.2	0.26	0
AO	0.026	5.8	0.04	0
GGA	0.416	92.0	0.25	0

TOTAL = 0.452 Sq.Miles XKSAT = 0.22 %Rock = 0

DTHETA
========
Dry = 0.36 PSIF = 5.10
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.335	M.D.R.	74.3	NORMAL	50	30	0.25	0.05	Hi	0.09
0.021	M.F.R.	4.7	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.065	Comm	14.4	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.012	SCHOOL1	2.7	NORMAL	80	45	0.29	0.05	Hi	0.13
0.018	WATER	4.0	WET	0	10	0.00	0.00	Min	0.03

0.451 = Total Area Avg. = 52 41% 0.220

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 96.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.24

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.32

IMPERVIOUS AREA: URBAN @ 100 % effective = 41
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 41

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
28-22N	0.452	0.710	0.077	14.0	0.22	0.24	5.10	0.32	41

LOSS PARAMETERS FOR SUBBASIN: 29-22N

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop

K&E 4PRINT

AA	0.009	2.2	0.26	0
AO	0.126	30.4	0.04	0
GGA	0.279	67.4	0.25	0

TOTAL = 0.414 Sq.Miles XKSAT = 0.14 %Rock = 0

DTHETA
========
Dry = 0.39 PSIF = 6.20
Normal = 0.23
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.137	OPEN	33.0	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.158	M.D.R.	38.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.024	M.F.R.	5.8	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.061	Comm	14.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.029	SCHOOL1	7.0	NORMAL	80	45	0.29	0.05	Hi	0.12
0.006	WATER	1.4	WET	0	10	0.00	0.00	Min	0.04

0.415 = Total Area Avg. = 34 30% 0.210

PERCENT OF SUBBASIN DRY = 33.0 %
NORMAL = 66.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.28

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.18

IMPERVIOUS AREA: URBAN @ 100 % effective = 30
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 30

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
29-22N	0.414	0.650	0.058	17.0	0.21	0.28	6.20	0.18	30

LOSS PARAMETERS FOR SUBBASIN: 30-22N

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop

AO	0.070	43.2	0.04	0
GGA	0.084	51.8	0.25	0
GT	0.008	4.9	0.04	0

TOTAL = 0.162 Sq.Miles XKSAT = 0.10 %Rock = 0

DTHETA
========
Dry = 0.35 PSIF = 7.00
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.130	M.D.R.	81.2	NORMAL	50	30	0.25	0.05	Hi	0.10
0.002	M.F.R.	1.2	NORMAL	50	45	0.25	0.05	Hi	0.15
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.017	Comm	10.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.011	Park	6.9	NORMAL	90	10	0.20	0.10	Hi	0.13
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.160 = Total Area Avg. = 55 34% 0.230

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.15

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
30-22N	0.162	0.820	0.092	14.0	0.23	0.15	7.00	0.15	34

LOSS PARAMETERS FOR SUBBASIN: 26-22E

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop

K/74PRINT

AN	0.006	1.6	0.05	0
AO	0.265	69.0	0.04	0
GGA	0.090	23.4	0.25	0
LE	0.023	6.0	0.04	0

TOTAL = 0.384 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA
========
Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.009	OPEN	2.3	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.087	M.D.R.	22.7	NORMAL	50	30	0.25	0.05	Hi	0.11
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.216	Ind	56.2	NORMAL	60	55	0.15	0.03	Min	0.03
0.065	Comm	16.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.007	WATER	1.8	WET	0	10	0.00	0.00	Min	0.04

0.384 = Total Area Avg. = 55 53% 0.160

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 96.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 53
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 53

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-22E	0.384	0.840	0.040	19.0	0.16	0.15	8.40	0.09	53

LOSS PARAMETERS FOR SUBBASIN: 26-22S

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock	Outcrop
AA	0.011	2.8	0.26	0	
AN	0.023	5.9	0.05	0	
AO	0.162	41.2	0.04	0	
GGA	0.118	30.0	0.25	0	
GT	0.070	17.8	0.04	0	
GV	0.006	1.5	0.01	0	
MA	0.003	0.8	0.40	0	

TOTAL = 0.393 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA
========
Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.002	M.D.R.	0.5	NORMAL	50	30	0.25	0.05	Hi	0.15
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.371	Ind	94.6	NORMAL	60	55	0.15	0.03	Min	0.03
0.014	Comm	3.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.005	WATER	1.3	WET	0	10	0.00	0.00	Min	0.04

0.392 = Total Area Avg. = 60 56% 0.150

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 99.0 %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.11

IMPERVIOUS AREA: URBAN @ 100 % effective = 56
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 56

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-22S	0.393	0.480	0.026	22.0	0.15	0.15	8.00	0.11	56

LOSS PARAMETERS FOR SUBBASIN: 27-22S

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.040	6.3	0.04	0
GE	0.036	5.7	0.26	0
GGA	0.056	8.9	0.25	0
GT	0.326	51.7	0.04	0
GV	0.011	1.7	0.01	0
TT	0.162	25.7	0.04	0

TOTAL = 0.631 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA
========

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.032	OPEN	5.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.424	M.D.R.	67.2	NORMAL	50	30	0.25	0.05	Hi	0.09
0.059	M.F.R.	9.4	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.086	Comm	13.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.013	SCHOOL1	2.1	NORMAL	80	45	0.29	0.05	Hi	0.13
0.017	WATER	2.7	WET	0	10	0.00	0.00	Min	0.03
0.631 = Total Area			Avg. =	48	39%	0.220			

PERCENT OF SUBBASIN
DRY = 5.0 %
NORMAL = 92.0 %
WET = 3.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA:
URBAN @ 100 % effective = 39
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 39

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
27-22S	0.631	0.940	0.072	14.0	0.22	0.15	8.80	0.07	39

LOSS PARAMETERS FOR SUBBASIN: 28-22S

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Soil Survey Used Central County

XKSAT
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Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.023	4.2	0.26	0
AN	0.001	0.2	0.05	0
AO	0.085	15.6	0.04	0
GGA	0.307	56.5	0.25	0
GT	0.095	17.5	0.04	0
TT	0.032	5.9	0.04	0

TOTAL = 0.543 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA
========

Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.470	M.D.R.	86.7	NORMAL	50	30	0.25	0.05	Hi	0.09
0.001	M.F.R.	0.2	NORMAL	50	45	0.25	0.05	Hi	0.15
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.032	Comm	5.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.014	Park	2.6	NORMAL	90	10	0.20	0.10	Hi	0.13
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.022	SCHOOL1	4.1	NORMAL	80	45	0.29	0.05	Hi	0.12
0.003	WATER	0.6	WET	0	10	0.00	0.00	Min	0.04
0.542 = Total Area			Avg. =	53	33%	0.240			

PERCENT OF SUBBASIN
DRY = 0.0 %
NORMAL = 100. %
WET = 1.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.19

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.18

IMPERVIOUS AREA:
URBAN @ 100 % effective = 33
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 33

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
28-22S	0.543	0.690	0.083	15.0	0.24	0.19	6.60	0.18	33

LOSS PARAMETERS FOR SUBBASIN: 29-22S

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.002	0.3	0.26	0
AN	0.005	0.8	0.05	0
AO	0.236	39.7	0.04	0
GGA	0.351	59.1	0.25	0

TOTAL = 0.594 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.004	OPEN	0.7	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.386	M.D.R.	65.0	NORMAL	50	30	0.25	0.05	Hi	0.09
0.006	M.F.R.	1.0	NORMAL	50	45	0.25	0.05	Hi	0.14
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.041	Comm	6.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.054	Park	9.1	NORMAL	90	10	0.20	0.10	Hi	0.11
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.082	SCHOOL1	13.8	NORMAL	80	45	0.29	0.05	Hi	0.11
0.021	WATER	3.5	WET	0	10	0.00	0.00	Min	0.03

0.594 = Total Area Avg. = 59 36% 0.230

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 96.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.19

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.19

IMPERVIOUS AREA: URBAN @ 100 % effective = 36
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 36

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
29-22S	0.594	0.790	0.079	16.0	0.23	0.19	6.60	0.19	36

LOSS PARAMETERS FOR SUBBASIN: 30-22S

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.568	70.0	0.04	0
GGA	0.223	27.5	0.25	0
GT	0.020	2.5	0.04	0

TOTAL = 0.811 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.037	OPEN	4.6	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.649	M.D.R.	80.0	NORMAL	50	30	0.25	0.05	Hi	0.08
0.020	M.F.R.	2.5	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.057	Comm	7.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.028	SCHOOL1	3.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.020	WATER	2.5	WET	0	10	0.00	0.00	Min	0.03

0.811 = Total Area Avg. = 49 35% 0.230

PERCENT OF SUBBASIN DRY = 5.0 %
NORMAL = 93.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.10

IMPERVIOUS AREA: URBAN @ 100 % effective = 35
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 35

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
30-22S	0.811	1.190	0.074	16.0	0.23	0.15	8.00	0.10	35

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LOSS PARAMETERS FOR SUBBASIN: 25-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.000	0.0	0.26	0
AO	0.691	69.0	0.04	0
BT	0.006	0.6	0.25	0
GGA	0.007	0.7	0.25	0
GT	0.297	29.7	0.04	0

TOTAL = 1.001 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.155	OPEN	15.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.372	M.D.R.	37.2	NORMAL	50	30	0.25	0.05	Hi	0.09
0.201	M.F.R.	20.1	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.109	Comm	10.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.117	Park	11.7	NORMAL	90	10	0.20	0.10	Hi	0.10
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.046	SCHOOL1	4.6	NORMAL	80	45	0.29	0.05	Hi	0.11
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.000 = Total Area			Avg. =	49	32%	0.220			

PERCENT OF SUBBASIN DRY = 16.0 %
NORMAL = 84.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA: URBAN @ 100 % effective = 32
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 32

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
25-21	1.001	1.380	0.065	14.0	0.22	0.17	9.70	0.06	32

LOSS PARAMETERS FOR SUBBASIN: 26-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.129	13.0	0.26	0
AN	0.048	4.8	0.05	0
AO	0.406	41.0	0.04	0
BT	0.044	4.4	0.25	0
GGA	0.303	30.6	0.25	0
GT	0.060	6.1	0.04	0

TOTAL = 0.990 Sq.Miles XKSAT = 0.10 %Rock = 0

DTHETA

Dry = 0.35 PSIF = 7.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.031	OPEN	3.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.846	M.D.R.	85.4	NORMAL	50	30	0.25	0.05	Hi	0.08
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.071	Comm	7.2	NORMAL	75	80	0.10	0.02	Min	0.03
0.015	Park	1.5	NORMAL	90	10	0.20	0.10	Hi	0.13
0.002	RowCrop	0.2	NORMAL	85	0	0.50	0.10	Hi	0.15
0.025	SCHOOL1	2.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.990 = Total Area			Avg. =	50	33%	0.240			

PERCENT OF SUBBASIN DRY = 3.0 %
NORMAL = 97.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.14

IMPERVIOUS AREA: URBAN @ 100 % effective = 33
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 33

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
26-21	0.990	1.400	0.074	15.0	0.24	0.16	7.00	0.14	33

LOSS PARAMETERS FOR SUBBASIN: 27-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.051	5.1	0.26	0
AN	0.213	21.2	0.05	0
AO	0.198	19.7	0.04	0
BT	0.014	1.4	0.25	0
GGA	0.276	27.5	0.25	0
GT	0.212	21.1	0.04	0
LE	0.000	0.0	0.04	0
MR	0.007	0.7	0.05	0
TT	0.007	0.7	0.04	0
VK	0.027	2.7	0.26	0

TOTAL = 1.005 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.088	OPEN	8.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.019	L.D.R.	1.9	NORMAL	50	15	0.30	0.05	Hi	0.12
0.630	M.D.R.	62.8	NORMAL	50	30	0.25	0.05	Hi	0.08
0.020	M.F.R.	2.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.019	Comm	1.9	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.196	RowCrop	19.5	NORMAL	85	0	0.50	0.10	Hi	0.10
0.032	SCHOOL1	3.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.004 = Total Area Avg. = 55 23% 0.290

PERCENT OF SUBBASIN DRY = 9.0 %
NORMAL = 91.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 23
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 23

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
27-21	1.005	1.340	0.073	13.0	0.29	0.17	7.60	0.12	23

LOSS PARAMETERS FOR SUBBASIN: 28-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.064	6.4	0.04	0
GGA	0.018	1.8	0.25	0
GT	0.347	34.7	0.04	0
LE	0.101	10.1	0.04	0
MR	0.312	31.2	0.05	0
TT	0.066	6.6	0.04	0
TW	0.091	9.1	0.05	0

TOTAL = 0.999 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.007	L.D.R.	0.7	NORMAL	50	15	0.30	0.05	Hi	0.13
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.004	Comm	0.4	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.954	RowCrop	95.4	NORMAL	85	0	0.50	0.10	Hi	0.08
0.035	SCHOOL1	3.5	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.000 = Total Area Avg. = 85 2% 0.490

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 2
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 2

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
28-21	0.999	1.110	0.080	11.0	0.49	0.15	8.80	0.09	2

LOSS PARAMETERS FOR SUBBASIN: 29-21N

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.115	15.1	0.04	0
LE	0.017	2.2	0.04	0
MR	0.309	40.6	0.05	0
TT	0.266	35.0	0.04	0
TW	0.054	7.1	0.05	0
TOTAL =	0.761 Sq.Miles		XKSAT = 0.04	%Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.001	OPEN	0.1	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.744	RowCrop	97.8	NORMAL	85	0	0.50	0.10	Hi	0.08
0.001	SCHOOL1	0.1	NORMAL	80	45	0.29	0.05	Hi	0.15
0.015	WATER	2.0	WET	0	10	0.00	0.00	Min	0.03
0.761 = Total Area			Avg. =	85	2%	0.490			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 98.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 2
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 2

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
29-21N	0.761	1.410	0.082	9.0	0.49	0.15	9.70	0.07	2

LOSS PARAMETERS FOR SUBBASIN: 29-21S

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.109	41.6	0.04	0
LE	0.010	3.8	0.04	0
MR	0.005	1.9	0.05	0
TT	0.138	52.7	0.04	0
TOTAL =	0.262 Sq.Miles		XKSAT = 0.04	%Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.016	OPEN	6.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.230	L.D.R.	87.8	NORMAL	50	15	0.30	0.05	Hi	0.10
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.016	WATER	6.1	WET	0	10	0.00	0.00	Min	0.03
0.262 = Total Area			Avg. =	47	19%	0.280			

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 88.0 %

WET = 6.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA: URBAN @ 100 % effective = 19
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 19

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
29-21S	0.262	0.880	0.086	9.0	0.28	0.15	9.70	0.06	19

LOSS PARAMETERS FOR SUBBASIN: 30-21N

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.024	3.6	0.26	0
AO	0.000	0.0	0.04	0
BR	0.009	1.3	1.05	0
BS	0.042	6.3	0.39	0
GE	0.044	6.6	0.26	0
GGA	0.086	12.9	0.25	0
GT	0.139	20.8	0.04	0
LE	0.003	0.4	0.04	0
MA	0.012	1.8	0.40	0
MR	0.083	12.4	0.05	0
TA	0.013	1.9	0.25	0
TD	0.009	1.3	1.20	0
TT	0.120	18.0	0.04	0
VG	0.017	2.5	0.91	0
VH	0.066	9.9	0.27	0

TOTAL = 0.667 Sq.Miles XKSAT = 0.11 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 6.80
Normal = 0.17
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.358	OPEN	53.7	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.190	M.D.R.	28.5	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.002	Comm	0.3	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.068	SCHOOL1	10.2	NORMAL	80	45	0.29	0.05	Hi	0.11
0.049	WATER	7.3	WET	0	10	0.00	0.00	Min	0.03

0.667 = Total Area Avg. = 25 21% 0.210

PERCENT OF SUBBASIN DRY = 54.0 %
NORMAL = 39.0 %
WET = 7.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 21
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 21

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
30-21N	0.667	0.710	0.047	15.0	0.21	0.26	6.80	0.13	21

LOSS PARAMETERS FOR SUBBASIN: 30-21S

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
BR	0.023	3.1	1.05	0
BS	0.018	2.4	0.39	0
CB	0.036	4.8	0.40	0
GE	0.075	10.0	0.26	0
GGA	0.128	17.1	0.25	0
GT	0.148	19.8	0.04	0
LE	0.038	5.1	0.04	0
MA	0.047	6.3	0.40	0
MR	0.019	2.5	0.05	0
TA	0.001	0.1	0.25	0
TT	0.198	26.5	0.04	0
VG	0.011	1.5	0.91	0
VH	0.006	0.8	0.27	0

TOTAL = 0.748 Sq.Miles XKSAT = 0.11 %Rock = 0

DTHETA

Dry = 0.36 PSIF = 6.80
Normal = 0.17
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.538	OPEN	71.7	DRY	10	0	0.20	0.02	Min	0.02
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.122	M.D.R.	16.3	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.038	RowCrop	5.1	NORMAL	85	0	0.50	0.10	Hi	0.12
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.052	WATER	6.9	WET	0	10	0.00	0.00	Min	0.03

0.750 = Total Area Avg. = 19 12% 0.210

PERCENT OF SUBBASIN DRY = 72.0 %
NORMAL = 21.0 %
WET = 7.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.29

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 12
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 12

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
30-21S	0.748	0.790	0.036	12.0	0.21	0.29	6.80	0.12	12

LOSS PARAMETERS FOR SUBBASIN: 36-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.012	5.3	0.05	0
AO	0.043	18.9	0.04	0
GGA	0.067	29.5	0.25	0
GT	0.020	8.8	0.04	0
LE	0.085	37.4	0.04	0

TOTAL = 0.227 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA
========
Dry = 0.30 PSIF = 8.00
Normal = 0.15

Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.227	Ind	100.	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.227 = Total Area Avg. = 60 55% 0.150

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.11

IMPERVIOUS AREA: URBAN @ 100 % effective = 55
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 55

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-22	0.227	0.880	0.026	11.0	0.15	0.15	8.00	0.11	55

LOSS PARAMETERS FOR SUBBASIN: 35-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.002	0.2	0.26	0
AN	0.008	0.8	0.05	0
AO	0.282	28.3	0.04	0
GGA	0.009	0.9	0.25	0
GR	0.008	0.8	0.23	0
GT	0.505	50.6	0.04	0
GV	0.172	17.2	0.01	0
TC	0.012	1.2	0.40	0

TOTAL = 0.998 Sq.Miles XKSAT = 0.03 %Rock = 0

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DTHETA
========
Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.372	M.D.R.	37.3	NORMAL	50	30	0.25	0.05	Hi	0.09
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.581	Ind	58.2	NORMAL	60	55	0.15	0.03	Min	0.02
0.015	Comm	1.5	NORMAL	75	80	0.10	0.02	Min	0.03
0.018	Park	1.8	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.012	SCHOOL1	1.2	NORMAL	80	45	0.29	0.05	Hi	0.13
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
0.998 = Total Area			Avg. =	56	45%	0.190			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.13

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.05

IMPERVIOUS AREA: URBAN @ 100 % effective = 45
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 45

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
35-22	0.998	1.500	0.045	11.0	0.19	0.13	10.10	0.05	45

LOSS PARAMETERS FOR SUBBASIN: 34-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.031	3.1	0.04	0
CRB	0.012	1.2	0.40	0
GT	0.515	51.5	0.04	0
GV	0.140	14.0	0.01	0
MR	0.021	2.1	0.05	0
TG	0.019	1.9	0.04	0
TT	0.262	26.2	0.04	0
TOTAL =	1.000 Sq.Miles	XKSAT = 0.03	%Rock = 0	

DTHETA
========
Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.063	OPEN	6.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.684	M.D.R.	68.3	NORMAL	50	30	0.25	0.05	Hi	0.08
0.078	M.F.R.	7.8	NORMAL	50	45	0.25	0.05	Hi	0.11
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.133	Comm	13.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.026	Park	2.6	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.017	SCHOOL1	1.7	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	
1.001 = Total Area			Avg. =	49	36%	0.230			

PERCENT OF SUBBASIN DRY = 6.0 %
NORMAL = 94.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.14

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 36
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 36

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
34-22	1.000	1.370	0.068	15.0	0.23	0.14	10.10	0.04	36

LOSS PARAMETERS FOR SUBBASIN: 33-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.022	2.2	0.26	0

AO	0.387	38.6	0.04	0
GGA	0.152	15.2	0.25	0
GT	0.331	33.0	0.04	0
TT	0.110	11.0	0.04	0

TOTAL = 1.002 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA
========
Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.008	OPEN	0.8	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.655	M.D.R.	65.5	NORMAL	50	30	0.25	0.05	Hi	0.08
0.177	M.F.R.	17.7	NORMAL	50	45	0.25	0.05	Hi	0.10
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.068	Comm	6.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.081	Park	8.1	NORMAL	90	10	0.20	0.10	Hi	0.11
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.011	SCHOOL1	1.1	NORMAL	80	45	0.29	0.05	Hi	0.13
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.000 = Total Area Avg. = 55 34% 0.240

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 99.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 34
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 34

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
33-22	1.002	1.210	0.076	16.0	0.24	0.15	8.40	0.09	34

LOSS PARAMETERS FOR SUBBASIN: 32-22

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.026	2.6	0.26	0
AN	0.079	7.9	0.05	0
AO	0.216	21.5	0.04	0
GGA	0.335	33.3	0.25	0
GT	0.235	23.4	0.04	0
MR	0.069	6.9	0.05	0
TT	0.045	4.5	0.04	0

TOTAL = 1.005 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========
Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.008	OPEN	0.8	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.864	M.D.R.	86.1	NORMAL	50	30	0.25	0.05	Hi	0.08
0.033	M.F.R.	3.3	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.045	Comm	4.5	NORMAL	75	80	0.10	0.02	Min	0.03
0.030	Park	3.0	NORMAL	90	10	0.20	0.10	Hi	0.12
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.024	SCHOOL1	2.4	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.004 = Total Area Avg. = 52 32% 0.240

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 99.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 32
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 32

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
32-22	1.005	1.340	0.077	15.0	0.24	0.15	7.60	0.12	32

LOSS PARAMETERS FOR SUBBASIN: 31-22

Soil Survey Used Central County

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XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.463	47.3	0.04	0
GGA	0.169	17.3	0.25	0
GT	0.312	31.9	0.04	0
MR	0.028	2.9	0.05	0
TT	0.006	0.6	0.04	0

TOTAL = 0.978 Sq.Miles XKSAT = 0.06 %Rock = 0

DTHETA
========

Dry = 0.29 PSIF = 8.40
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.138	OPEN	14.1	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.019	L.D.R.	1.9	NORMAL	50	15	0.30	0.05	Hi	0.12
0.608	M.D.R.	62.0	NORMAL	50	30	0.25	0.05	Hi	0.09
0.028	M.F.R.	2.9	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.037	Comm	3.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.082	Park	8.4	NORMAL	90	10	0.20	0.10	Hi	0.11
0.046	RowCrop	4.7	NORMAL	85	0	0.50	0.10	Hi	0.11
0.022	SCHOOL1	2.2	NORMAL	80	45	0.29	0.05	Hi	0.12
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.980 = Total Area Avg. = 49 25% 0.250

PERCENT OF SUBBASIN DRY = 14.0 %
NORMAL = 86.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.17

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 25
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 25

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
31-22	0.978	1.280	0.069	16.0	0.25	0.17	8.40	0.09	25

LOSS PARAMETERS FOR SUBBASIN: 36-21
==========

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.019	1.9	0.26	0
AN	0.035	3.5	0.05	0
AO	0.447	44.6	0.04	0
BT	0.015	1.5	0.25	0
ES	0.001	0.1	0.25	0
GE	0.011	1.1	0.26	0
GGA	0.301	30.0	0.25	0
GT	0.151	15.1	0.04	0
VH	0.023	2.3	0.27	0

TOTAL = 1.003 Sq.Miles XKSAT = 0.08 %Rock = 0

DTHETA
========

Dry = 0.32 PSIF = 7.60
Normal = 0.15
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.054	OPEN	5.4	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.005	L.D.R.	0.5	NORMAL	50	15	0.30	0.05	Hi	0.14
0.745	M.D.R.	74.3	NORMAL	50	30	0.25	0.05	Hi	0.08
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.066	Comm	6.6	NORMAL	75	80	0.10	0.02	Min	0.03
0.021	Park	2.1	NORMAL	90	10	0.20	0.10	Hi	0.12
0.101	RowCrop	10.1	NORMAL	85	0	0.50	0.10	Hi	0.10
0.010	SCHOOL1	1.0	NORMAL	80	45	0.29	0.05	Hi	0.13
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

1.002 = Total Area Avg. = 54 28% 0.260

PERCENT OF SUBBASIN DRY = 5.0 %
NORMAL = 95.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.12

IMPERVIOUS AREA: URBAN @ 100 % effective = 28
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 28

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-21	1.003	1.360	0.073	16.0	0.26	0.16	7.60	0.12	28

1-2-4 APRINT

LOSS PARAMETERS FOR SUBBASIN: 35-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.023	2.3	0.26	0
AN	0.017	1.7	0.05	0
AO	0.212	21.4	0.04	0
GGA	0.062	6.3	0.25	0
GT	0.677	68.3	0.04	0

TOTAL = 0.991 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.121	OPEN	12.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.020	M.F.R.	2.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.142	Comm	14.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.707	RowCrop	71.4	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.990 = Total Area Avg. = 74 12% 0.400

PERCENT OF SUBBASIN DRY = 12.0 %
NORMAL = 88.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.16

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 12
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 12

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
35-21	0.991	1.040	0.065	14.0	0.40	0.16	8.80	0.09	12

LOSS PARAMETERS FOR SUBBASIN: 34-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.279	27.7	0.04	0
GGA	0.069	6.9	0.25	0
GT	0.658	65.4	0.04	0

TOTAL = 1.006 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.250	OPEN	24.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.556	M.D.R.	55.3	NORMAL	50	30	0.25	0.05	Hi	0.09
0.025	M.F.R.	2.5	NORMAL	50	45	0.25	0.05	Hi	0.12
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.048	Comm	4.8	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.125	RowCrop	12.4	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.001	WATER	0.1	WET	0	10	0.00	0.00	Min	0.04

1.005 = Total Area Avg. = 43 22% 0.260

PERCENT OF SUBBASIN DRY = 25.0 %
NORMAL = 75.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.18

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 22
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 22

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %

KUTPRINT

34-21	1.006	1.480	0.062	14.0	0.26	0.18	8.80	0.07	22

LOSS PARAMETERS FOR SUBBASIN: 33-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.025	2.5	0.04	0
GGA	0.013	1.3	0.25	0
GT	0.798	80.5	0.04	0
LCA	0.001	0.1	0.25	0
LE	0.089	9.0	0.04	0
TT	0.065	6.6	0.04	0

TOTAL = 0.991 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.002	OPEN	0.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.005	Comm	0.5	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.945	RowCrop	95.4	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.038	WATER	3.8	WET	0	10	0.00	0.00	Min	0.03
0.990 = Total Area			Avg. =	85	4%	0.480			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 96.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.14

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 4
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 4

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
33-21	0.991	1.320	0.077	7.0	0.48	0.14	9.70	0.07	4

LOSS PARAMETERS FOR SUBBASIN: 32-21E

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.016	6.6	0.04	0
LE	0.193	79.4	0.04	0
MR	0.019	7.8	0.05	0
TT	0.015	6.2	0.04	0

TOTAL = 0.243 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.217	RowCrop	89.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.025	WATER	10.3	WET	0	10	0.00	0.00	Min	0.03
0.242 = Total Area			Avg. =	85	10%	0.450			

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 90.0 %
WET = 10.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.14

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 10
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 10

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
32-21E	0.243	0.490	0.088	10.0	0.45	0.14	9.70	0.07	10

LOSS PARAMETERS FOR SUBBASIN: 32-21W

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.014	1.8	0.04	0
LCA	0.032	4.1	0.25	0
LE	0.578	74.9	0.04	0
MR	0.075	9.7	0.05	0
TU	0.059	7.6	0.25	0
TW	0.014	1.8	0.05	0

TOTAL = 0.772 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.010	OPEN	1.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.038	L.D.R.	4.9	NORMAL	50	15	0.30	0.05	Hi	0.12
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.694	RowCrop	90.0	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.029	WATER	3.8	WET	0	10	0.00	0.00	Min	0.03

0.771 = Total Area Avg. = 82 5% 0.470

PERCENT OF SUBBASIN DRY = 1.0 %
NORMAL = 95.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 5
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 5

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
32-21W	0.772	0.900	0.079	1.0	0.47	0.15	8.80	0.09	5

LOSS PARAMETERS FOR SUBBASIN: 31-21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.188	19.5	0.04	0
LB	0.022	2.3	0.40	0
LCA	0.282	29.2	0.25	0
LE	0.356	36.9	0.04	0
MR	0.029	3.0	0.05	0
TT	0.065	6.7	0.04	0
TU	0.010	1.0	0.25	0
TW	0.013	1.3	0.05	0

TOTAL = 0.965 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.004	OPEN	0.4	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.960	RowCrop	99.6	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.964 = Total Area Avg. = 85 0% 0.500

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 0
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 0

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
31-21	0.965	1.200	0.080	9.0	0.50	0.15	8.00	0.13	0

LOSS PARAMETERS FOR SUBBASIN: 36-W21

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
BR	0.085	10.2	1.05	0
BS	0.001	0.1	0.39	0
GE	0.003	0.4	0.26	0
GGA	0.064	7.6	0.25	0
GT	0.040	4.8	0.04	0
GV	0.021	2.5	0.01	0
GXA	0.007	0.8	0.23	0
LB	0.017	2.0	0.40	0
LCA	0.144	17.2	0.25	0
LCB	0.032	3.8	0.25	0
LE	0.018	2.2	0.04	0
MA	0.033	3.9	0.40	0
MR	0.105	12.5	0.05	0
PEA	0.004	0.5	0.37	0
TD	0.126	15.1	1.20	0
TT	0.123	14.7	0.04	0
VH	0.014	1.7	0.27	0

TOTAL = 0.837 Sq.Miles XKSAT = 0.19 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 5.40
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.016	OPEN	1.9	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.008	M.D.R.	1.0	NORMAL	50	30	0.25	0.05	Hi	0.13
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.000	Ind	0.0	NORMAL	60	55	0.15	0.03	Min	
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.652	RowCrop	77.9	NORMAL	85	0	0.50	0.10	Hi	0.08
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.161	WATER	19.2	WET	0	10	0.00	0.00	Min	0.03

0.837 = Total Area Avg. = 83 20% 0.400

PERCENT OF SUBBASIN DRY = 2.0 %
NORMAL = 79.0 %
WET = 19.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.21

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.34

IMPERVIOUS AREA: URBAN @ 100 % effective = 20
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 20

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
36-W21	0.837	0.920	0.070	27.0	0.40	0.21	5.40	0.34	20

LOSS PARAMETERS FOR SUBBASIN: 1-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.018	18.2	0.04	0
GGA	0.081	81.8	0.25	0

TOTAL = 0.099 Sq.Miles XKSAT = 0.18 %Rock = 0

DTHETA

Dry = 0.38 PSIF = 5.60
Normal = 0.25
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.008	OPEN	8.2	DRY	10	0	0.20	0.02	Min	0.04
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.009	Ind	9.2	NORMAL	60	55	0.15	0.03	Min	0.04
0.081	Comm	82.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	

0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min

0.098 = Total Area Avg. = 54 71% 0.110

PERCENT OF SUBBASIN DRY = 8.0 %
NORMAL = 92.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.26

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.27

IMPERVIOUS AREA: URBAN @ 100 % effective = 71
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 71

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
1-12	0.099	0.450	0.029	18.0	0.11	0.26	5.60	0.27	71

LOSS PARAMETERS FOR SUBBASIN: 2-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.044	19.2	0.04	0
GT	0.147	64.2	0.04	0
GV	0.038	16.6	0.01	0

TOTAL = 0.229 Sq.Miles XKSAT = 0.03 %Rock = 0

DTHETA

Dry = 0.22 PSIF = 10.10
Normal = 0.13
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.028	OPEN	12.2	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.077	M.D.R.	33.5	NORMAL	50	30	0.25	0.05	Hi	0.11
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.003	Ind	1.3	NORMAL	60	55	0.15	0.03	Min	0.04
0.122	Comm	53.0	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	

0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min

0.230 = Total Area Avg. = 45 53% 0.160

PERCENT OF SUBBASIN DRY = 12.0 %
NORMAL = 88.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.14

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 53
ROCK OUTCROP @ 100 % effective = 0

% EFFECTIVE IMP. = 53

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-12	0.229	0.700	0.050	14.0	0.16	0.14	10.10	0.04	53

LOSS PARAMETERS FOR SUBBASIN: 3-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.022	9.1	0.04	0
GGA	0.010	4.1	0.25	0
GT	0.153	63.5	0.04	0
GV	0.028	11.6	0.01	0
MR	0.028	11.6	0.05	0

TOTAL = 0.241 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.131	M.D.R.	54.4	NORMAL	50	30	0.25	0.05	Hi	0.10
0.060	M.F.R.	24.9	NORMAL	50	45	0.25	0.05	Hi	0.11
0.004	Ind	1.7	NORMAL	60	55	0.15	0.03	Min	0.04

KC/4PRINT

0.046 Comm	19.1	NORMAL	75	80	0.10	0.02	Min	0.03
0.000 Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000 RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000 SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000 WATER	0.0	WET	0	10	0.00	0.00	Min	

0.241 = Total Area Avg. = 52 44% 0.220

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.06

IMPERVIOUS AREA: URBAN @ 100 % effective = 44
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 44

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
3-12	0.241	0.720	0.081	7.0	0.22	0.15	9.70	0.06	44

LOSS PARAMETERS FOR SUBBASIN: 4-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.059	27.3	0.04	0
GGA	0.010	4.6	0.25	0
GT	0.147	68.1	0.04	0

TOTAL = 0.216 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.208	OPEN	96.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.003	Ind	1.4	NORMAL	60	55	0.15	0.03	Min	0.04

0.001 Comm	0.5	NORMAL	75	80	0.10	0.02	Min	0.04
0.000 Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.004 RowCrop	1.9	NORMAL	85	0	0.50	0.10	Hi	0.14
0.000 SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000 WATER	0.0	WET	0	10	0.00	0.00	Min	

0.216 = Total Area Avg. = 12 1% 0.200

PERCENT OF SUBBASIN DRY = 96.0 %
NORMAL = 4.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 1
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 1

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
4-12	0.216	0.710	0.028	9.0	0.20	0.25	9.70	0.04	1

LOSS PARAMETERS FOR SUBBASIN: 5-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.004	2.2	0.05	0
AO	0.054	29.4	0.04	0
GT	0.125	67.9	0.04	0
MR	0.001	0.5	0.05	0

TOTAL = 0.184 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.093	OPEN	50.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.041	M.D.R.	22.2	NORMAL	50	30	0.25	0.05	Hi	0.11
0.041	M.F.R.	22.2	NORMAL	50	45	0.25	0.05	Hi	0.11

KC 4PRINT

0.001	Ind	0.5	NORMAL	60	55	0.15	0.03	Min	0.04
0.009	Comm	4.9	NORMAL	75	80	0.10	0.02	Min	0.04
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.185 = Total Area Avg. = 25 21% 0.220

PERCENT OF SUBBASIN DRY = 50.0 %
NORMAL = 50.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.20

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.05

IMPERVIOUS AREA: URBAN @ 100 % effective = 21
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 21

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
5-12	0.184	0.900	0.059	14.0	0.22	0.20	9.70	0.05	21

LOSS PARAMETERS FOR SUBBASIN: 6-12

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AN	0.006	3.3	0.05	0
AO	0.048	26.7	0.04	0
GT	0.107	59.4	0.04	0
MR	0.019	10.6	0.05	0

TOTAL = 0.180 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.122	OPEN	67.8	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.007	L.D.R.	3.9	NORMAL	50	15	0.30	0.05	Hi	0.13
0.001	M.D.R.	0.6	NORMAL	50	30	0.25	0.05	Hi	0.15
0.033	M.F.R.	18.3	NORMAL	50	45	0.25	0.05	Hi	0.12
0.001	Ind	0.6	NORMAL	60	55	0.15	0.03	Min	0.04
0.015	Comm	8.3	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.001	RowCrop	0.6	NORMAL	85	0	0.50	0.10	Hi	0.15
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.180 = Total Area Avg. = 18 16% 0.210

PERCENT OF SUBBASIN DRY = 68.0 %
NORMAL = 32.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.22

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 16
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 16

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
6-12	0.180	0.930	0.044	10.0	0.21	0.22	9.70	0.04	16

LOSS PARAMETERS FOR SUBBASIN: 1-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.011	6.0	0.26	0
AO	0.014	7.7	0.04	0
ES	0.016	8.8	0.25	0
GGA	0.063	34.6	0.25	0
GT	0.058	31.9	0.04	0
VH	0.020	11.0	0.27	0

TOTAL = 0.182 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA

Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.082	OPEN	44.8	DRY	10	0	0.20	0.02	Min	0.03

0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.002	M.D.R.	1.1	NORMAL	50	30	0.25	0.05	Hi	0.15
0.033	M.F.R.	18.0	NORMAL	50	45	0.25	0.05	Hi	0.12
0.001	Ind	0.5	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.065	RowCrop	35.5	NORMAL	85	0	0.50	0.10	Hi	0.11
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.183 = Total Area Avg. = 44 9% 0.320

PERCENT OF SUBBASIN DRY = 45.0 %
NORMAL = 55.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.27

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.17

IMPERVIOUS AREA: URBAN @ 100 % effective = 9
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 9

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
1-11	0.182	0.920	0.066	13.0	0.32	0.27	6.60	0.17	9

LOSS PARAMETERS FOR SUBBASIN: 2-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AO	0.085	47.8	0.04	0
GGA	0.080	44.9	0.25	0
GT	0.013	7.3	0.04	0

TOTAL = 0.178 Sq.Miles XKSAT = 0.09 %Rock = 0

DTHETA

Dry = 0.33 PSIF = 7.30
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.002	Ind	1.1	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.176	RowCrop	98.9	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.178 = Total Area Avg. = 85 1% 0.500

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.17

IMPERVIOUS AREA: URBAN @ 100 % effective = 1
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 1

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-11	0.178	0.980	0.098	15.0	0.50	0.15	7.30	0.17	1

LOSS PARAMETERS FOR SUBBASIN: 3-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.168	100.	0.04	0

TOTAL = 0.168 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.120	OPEN	72.3	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	

0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.007	Ind	4.2	NORMAL	60	55	0.15	0.03	Min	0.04
0.036	Comm	21.7	NORMAL	75	80	0.10	0.02	Min	0.03
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.003	WATER	1.8	WET	0	10	0.00	0.00	Min	0.04

0.166 = Total Area Avg. = 15 21% 0.170

PERCENT OF SUBBASIN DRY = 72.0 %
NORMAL = 26.0 %
WET = 2.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.22

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.04

IMPERVIOUS AREA: URBAN @ 100 % effective = 21
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 21

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
3-11	0.168	1.000	0.027	12.0	0.17	0.22	9.70	0.04	21

LOSS PARAMETERS FOR SUBBASIN: 4-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.130	73.9	0.04	0
LCA	0.030	17.0	0.25	0
LE	0.016	9.1	0.04	0

TOTAL = 0.176 Sq.Miles XKSAT = 0.05 %Rock = 0

DTHETA

Dry = 0.27 PSIF = 8.80
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	

0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.012	Ind	6.8	NORMAL	60	55	0.15	0.03	Min	0.03
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.164	RowCrop	93.2	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.176 = Total Area Avg. = 84 4% 0.480

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.09

IMPERVIOUS AREA: URBAN @ 100 % effective = 4
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 4

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
4-11	0.176	0.870	0.093	10.0	0.48	0.15	8.80	0.09	4

LOSS PARAMETERS FOR SUBBASIN: 5-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
LCA	0.004	2.2	0.25	0
LE	0.139	76.0	0.04	0
MR	0.002	1.1	0.05	0
TW	0.038	20.8	0.05	0

TOTAL = 0.183 Sq.Miles XKSAT = 0.04 %Rock = 0

DTHETA

Dry = 0.25 PSIF = 9.70
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	

0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.001	Ind	0.5	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.182	RowCrop	99.4	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.183 = Total Area Avg. = 85 0% 0.500

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.07

IMPERVIOUS AREA: URBAN @ 100 % effective = 0
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 0

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
5-11	0.183	0.860	0.098	9.0	0.50	0.15	9.70	0.07	0

LOSS PARAMETERS FOR SUBBASIN: 6-11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
GT	0.001	0.5	0.04	0
LCA	0.056	25.3	0.25	0
LE	0.153	69.2	0.04	0
TU	0.011	5.0	0.25	0

TOTAL = 0.221 Sq.Miles XKSAT = 0.07 %Rock = 0

DTHETA

Dry = 0.30 PSIF = 8.00
Normal = 0.15
Wet = 0.00

LAND USE

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.000	OPEN	0.0	DRY	10	0	0.20	0.02	Min	
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.000	M.D.R.	0.0	NORMAL	50	30	0.25	0.05	Hi	
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.005	Ind	2.3	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.216	RowCrop	97.7	NORMAL	85	0	0.50	0.10	Hi	0.10
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.221 = Total Area Avg. = 85 1% 0.490

PERCENT OF SUBBASIN DRY = 0.0 %
NORMAL = 100. %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.15

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.13

IMPERVIOUS AREA: URBAN @ 100 % effective = 1
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 1

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
6-11	0.221	0.950	0.094	13.0	0.49	0.15	8.00	0.13	1

LOSS PARAMETERS FOR SUBBASIN: 1-W11

Soil Survey Used Central County

XKSAT

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
AA	0.001	0.3	0.26	0
ABA	0.003	0.8	0.38	0
ABB	0.006	1.6	0.39	0
BR	0.010	2.7	1.05	0
BS	0.002	0.5	0.39	0
GE	0.069	18.5	0.26	0
GGA	0.029	7.8	0.25	0
GT	0.076	20.3	0.04	0
GV	0.024	6.4	0.01	0
LB	0.006	1.6	0.40	0
LCA	0.039	10.4	0.25	0
MA	0.020	5.3	0.40	0
MR	0.002	0.5	0.05	0
PSA	0.003	0.8	0.25	0
RBA	0.006	1.6	0.26	0
TD	0.004	1.1	1.20	0
TT	0.059	15.8	0.04	0
VH	0.015	4.0	0.27	0

TOTAL = 0.374 Sq.Miles XKSAT = 0.12 %Rock = 0

DTHETA
========
Dry = 0.37 PSIF = 6.60
Normal = 0.19
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.125	OPEN	33.6	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.231	M.D.R.	62.1	NORMAL	50	30	0.25	0.05	Hi	0.10
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.002	Ind	0.5	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.014	WATER	3.8	WET	0	10	0.00	0.00	Min	0.03

0.372 = Total Area Avg. = 33 23% 0.220

PERCENT OF SUBBASIN DRY = 34.0 %
NORMAL = 63.0 %
WET = 4.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.25

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.15

IMPERVIOUS AREA: URBAN @ 100 % effective = 23
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 23

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
1-W11	0.374	1.430	0.065	16.0	0.22	0.25	6.60	0.15	23

LOSS PARAMETERS FOR SUBBASIN: 2-W11

Soil Survey Used Central County

XKSAT
=======

Map Unit	AREA Sq.Miles	% Area	XKSAT	% Rock Outcrop
ABB	0.007	8.2	0.39	0
GE	0.039	45.9	0.26	0
GGA	0.027	31.8	0.25	0
GT	0.006	7.1	0.04	0
LCA	0.006	7.1	0.25	0
PSA	0.000	0.0	0.25	0
RBA	0.000	0.0	0.26	0

TOTAL = 0.085 Sq.Miles XKSAT = 0.23 %Rock = 0

DTHETA
========
Dry = 0.36 PSIF = 5.00
Normal = 0.25
Wet = 0.00

LAND USE
========

AREA Sq.Miles	LAND USE Type	% Area	DTHETA condition	%Veg. cover	RTIMP%	IA in.	Kn	Kb Type	Kb
0.000	Desert	0.0	DRY	25	0	0.35	0.03	Low	
0.071	OPEN	83.5	DRY	10	0	0.20	0.02	Min	0.03
0.000	V.L.D.R	0.0	NORMAL	30	5	0.30	0.05	Hi	
0.000	L.D.R.	0.0	NORMAL	50	15	0.30	0.05	Hi	
0.011	M.D.R.	12.9	NORMAL	50	30	0.25	0.05	Hi	0.13
0.000	M.F.R.	0.0	NORMAL	50	45	0.25	0.05	Hi	
0.003	Ind	3.5	NORMAL	60	55	0.15	0.03	Min	0.04
0.000	Comm	0.0	NORMAL	75	80	0.10	0.02	Min	
0.000	Park	0.0	NORMAL	90	10	0.20	0.10	Hi	
0.000	RowCrop	0.0	NORMAL	85	0	0.50	0.10	Hi	
0.000	SCHOOL1	0.0	NORMAL	80	45	0.29	0.05	Hi	
0.000	WATER	0.0	WET	0	10	0.00	0.00	Min	

0.085 = Total Area Avg. = 15 6% 0.200

PERCENT OF SUBBASIN DRY = 84.0 %
NORMAL = 16.0 %
WET = 0.0 %

SUBBASIN DTHETA WEIGHTED BY LAND USE = 0.34

SUBBASIN XKSAT ADJUSTED FOR VEG. = 0.24

IMPERVIOUS AREA: URBAN @ 100 % effective = 6
ROCK OUTCROP @ 100 % effective = 0
% EFFECTIVE IMP. = 6

INPUT VALUES FOR MCUHP1 PROGRAM

SUBBASIN	Area sq.mi.	Length mi.	Kb	Slope ft/mi	IA in.	DTHETA	PSIF	XKSAT adj.	RTIMP %
2-W11	0.085	0.860	0.039	19.0	0.20	0.34	5.00	0.24	6

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Appendix C: Sub-basin Diversions

Sub-basin Diversions

Computational Methodology

Background: Within the study area, the slope of the land is generally from the northeast to the southwest at approximately 0.4 percent. Hence, stormwater flowing within a typical sub-basin is directed and conveyed to the arterial streets along the west and south sides of the sub-basin, by residential and collector streets. That is, some of the stormwater is conveyed west to the north-south arterial street, by residential and collector streets; while, the remainder of the stormwater is conveyed south to the east-west arterial street, by residential and collector streets.

Sub-basin diversions are used to separate the hydrograph, for the stormwater within a bu-basin, into a southerly and a westerly component. The hydrograph for the storm water within a sub-basin includes runoff generated within a sub-basin and , typically,the flow entering a sub-basin from the adjacent arterial streets.

Premise: Stormwater generated within a sub-basin and stormwater entering a sub-basin from adjacent sub-basins are directed to the downstream arterial streets based on drainage patterns within the sub-basin.

Procedure: Compute the percentage of the stormwater being directed into each of the downstream arterial streets that border the sub-basin based on street patterns and topography.

Input Parameters: Drainage areas for those portions of the sub-basin that drain directly to adjacent arterial streets and an estimated percentage for the flow split that may occur along the collector streets.

Main Assumptions:

- Street patterns and topography determine the percentage of the stormwater that is directed to each of the downstream arterial streets.
- The drainage patterns, within a sub-basin, have an equal influence on both the stormwater generated within the sub-basin and the stormwater entering a sub-basin from adjacent sub-basins.

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Thunderbird Rd.	**2-31**	**7-32**	**12-31**	**11-31**	**10-31**
Total Area (Sq. Mi.)	0.288	N/D	1.020	0.997	N/D
Area that Drains Directly West (sq. mi.) = Aw					
N. of E-W 1/2 mi. street:	0.000		0.360	0.251	
S. of E-W 1/2 mi. street:	0.223		0.217	0.250	
Total, Aw:	0.223		0.577	0.501	
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.065		0.283	0.250	
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.000		0.160	0.246	
Percentage of An Directed to the West (%)	0.00		0.50	0.80	
Percentage of An Directed to the South (%)	1.00		0.50	0.20	
Ratio of Total Sub-basin Directed to the West(%)	**0.77**		**0.64**	**0.70**	
Ratio of Total Sub-basin Directed to the South(%)	**0.23**		**0.36**	**0.30**	
Area Check	**0.2878**	**0.2495**	**1.0197**	**0.9972**	**0.1140**

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Subject: Maryvale ADMS
Sub-Basin Diversions

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Cactus Rd.	18-32	17-32	13-31	14-31	15-31
Total Area (Sq. Mi.)	0.906	N/D	1.003	1.008	0.956
Area that Drains Directly West (sq. mi.) = Aw					
N. of E-W 1/2 mi. street:	0.080		0.127	0.171	0.108
S. of E-W 1/2 mi. street:	0.177		0.109	0.090	N/A
Total, Aw:	0.257		0.236	0.261	0.108
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.299		0.394	0.427	0.628
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.350		0.373	0.320	0.220
Percentage of An Directed to the West (%)	0.52		0.70	0.70	0.50
Percentage of An Directed to the South (%)	0.48		0.30	0.30	0.50
Ratio of Total Sub-basin Directed to the West(%)	**0.48**		**0.50**	**0.48**	**0.23**
Ratio of Total Sub-basin Directed to the South(%)	**0.52**		**0.50**	**0.52**	**0.77**
Area Check	**0.9053**	**0.2844**	**1.0029**	**1.0078**	**0.9555**

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Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Peoria Ave.	**21-32**	**20-32**	**19-32**	**24-31**	**23-31**	**22-31E**	**22-31W**
Total Area (Sq. Mi.)	0.384	0.989	0.964	1.008	1.006	0.512	0.766
Area that Drains Directly West (sq. mi.) = Aw							
N. of E-W 1/2 mi. street:	0.036	0.000	0.164	0.102	0.123	0.185	0.258
S. of E-W 1/2 mi. street:	0.080	0.151	0.084	0.093	0.100	N/A	N/A
Total, Aw:	0.116	0.151	0.248	0.195	0.223	0.185	0.258
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.234	0.344	0.398	0.415	0.406	0.327	0.508
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.035	0.494	0.318	0.398	0.377	0.000	0.000
Percentage of An Directed to the West (%)	0.00	0.25	0.50	0.70	0.70	0.00	0.00
Percentage of An Directed to the South (%)	1.00	0.75	0.50	0.30	0.30	1.00	1.00
Ratio of Total Sub-basin Directed to the West(%)	**0.30**	**0.28**	**0.42**	**0.47**	**0.48**	**0.36**	**0.34**
Ratio of Total Sub-basin Directed to the South(%)	**0.70**	**0.72**	**0.58**	**0.53**	**0.52**	**0.64**	**0.66**
Area Check	**0.3982**	**0.9882**	**0.9616**	**1.0075**	**1.0057**	**0.5123**	**0.7658**

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Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Olive Ave.	**26-32E**	**26-32W**	**27-32**	**28-32**	**29-32**	**30-32**	**25-31**	**26-31E**	**26-31W**	**27-31**	**28-31**
Total Area (Sq. Mi.)	N/D	N/D	0.612	0.994	0.991	0.959	1.003	0.462	0.540	1.013	N/D
Area that Drains Directly West (sq. mi.) = Aw											
N. of E-W 1/2 mi. street:			N/A	0.125	0.127	0.107	0.124	0.164	0.133	0.119	
S. of E-W 1/2 mi. street:			0.287	0.106	0.111	0.219	0.115	N/A	0.159	0.110	
Total, Aw:			0.287	0.231	0.238	0.326	0.239	0.164	0.292	0.229	
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As			0.325	0.397	0.382	0.258	0.381	0.298	0.248	0.380	
			n/a					n/a	n/a		
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An			0.000	0.366	0.371	0.375	0.383	0.000	0.000	0.404	
Percentage of An Directed to the West (%)			0.00	0.30	0.30	0.20	0.60	0.00	0.00	0.30	
Percentage of An Directed to the South (%)			1.00	0.70	0.70	0.80	0.40	1.00	1.00	0.70	
Ratio of Total Sub-basin Directed to the West(%)			**0.47**	**0.34**	**0.35**	**0.42**	**0.47**	**0.35**	**0.54**	**0.35**	
Ratio of Total Sub-basin Directed to the South(%)			**0.53**	**0.66**	**0.65**	**0.58**	**0.53**	**0.65**	**0.46**	**0.65**	
Area Check	**0.1068**	**0.0866**	**0.6122**	**0.9937**	**0.9910**	**0.9588**	**1.0030**	**0.4615**	**0.5403**	**1.0125**	**0.1406**

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Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Northern Ave.	**36-32**	**35-32**	**34-32**	**33-32**	**32-32**	**31-32**	**36-31E**	**36-31W**	**35-31**	**34-31 (1)**	**33-31**		
Total Area (Sq. Mi.)	N/D	0.987	0.994	0.993	0.991	0.953	N/D	0.505	1.005	0.995	N/D		
Area that Drains Directly West (sq. mi.) = Aw													
N. of E-W 1/2 mi. street:		0.107	0.245	0.134	0.231	0.164		0.112	0.184	0.110			
S. of E-W 1/2 mi. street:		0.217	0.130	0.101	0.121	0.101		0.287	0.224	0.119			
Total, Aw:		0.324	0.375	0.235	0.352	0.265		0.399	0.408	0.229			
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As		0.275	0.369	0.380	0.392	0.381		0.106	0.301	0.382			
								n/a					
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An		0.388	0.250	0.378	0.247	0.307		0.000	0.296	0.384			
Percentage of An Directed to the West (%)		0.00	0.00	0.10	0.00	0.05		0.00	0.30	0.30			
Percentage of An Directed to the South (%)		1.00	1.00	0.90	1.00	0.95		1.00	0.70	0.70			
Ratio of Total Sub-basin Directed to the West(%)		**0.33**	**0.38**	**0.27**	**0.36**	**0.29**		**0.79**	**0.49**	**0.35**			
Ratio of Total Sub-basin Directed to the South(%)		**0.67**	**0.62**	**0.73**	**0.64**	**0.71**		**0.21**	**0.51**	**0.65**			
Area Check	**0.1135**	**0.9873**	**0.9938**	**0.9926**	**0.9908**	**0.9533**	**0.4952**	**0.5046**	**1.0054**	**0.9947**	**0.2570**		

NOTES:
(1) Butler Drive storm drain system (FCD 94-12) directs 78cfs west @ D3431W

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Subject Maryvale ADMS
Sub-Basin Diversions

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Glendale Ave.	1-22	2-22	3-22 (4)	4-22	5-22	6-22E	6-22W (1)	1-21 (2)	2-21 (3)	3-21	4-21	5-21
Total Area (Sq. Mi.)	0.243	1.004	0.998	1.003	1.015	N/D	0.474	0.999	0.995	0.981	0.874	N/D
Area that Drains Directly West (sq. mi.) = Aw												
N. of E-W 1/2 mi. street:	0.196	0.095	0.198	0.208	0.211		0.110	0.098	0.252	0.112	0.112	
S. of E-W 1/2 mi. street:	0.000	0.000	0.167	0.186	0.215		0.063	0.119	0.089	0.117	0.111	
Total, Aw:	0.196	0.095	0.365	0.394	0.426		0.173	0.217	0.341	0.229	0.223	
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.047	0.489	0.313	0.327	0.302		0.301	0.390	0.416	0.388	0.365	
							n/a					
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.000	0.420	0.320	0.282	0.287		0.000	0.392	0.238	0.364	0.286	
Percentage of An Directed to the West (%)	0.00	0.00	0.20	0.10	0.20		0.00	0.30	0.60	0.20	0.50	
Percentage of An Directed to the South (%)	1.00	1.00	0.80	0.90	0.80		1.00	0.70	0.40	0.80	0.50	
Ratio of Total Sub-basin Directed to the West(%)	**0.81**	**0.09**	**0.43**	**0.42**	**0.48**		**0.36**	**0.33**	**0.49**	**0.31**	**0.42**	
Ratio of Total Sub-basin Directed to the South(%)	**0.19**	**0.91**	**0.57**	**0.58**	**0.52**		**0.64**	**0.67**	**0.51**	**0.69**	**0.58**	
Area Check	**0.2432**	**1.0042**	**0.9979**	**1.0034**	**1.0152**	**0.4982**	**0.4742**	**0.9994**	**0.9947**	**0.9808**	**0.8740**	**0.3455**

NOTES:
(1) Orangewood storm drain system (FCD 94-12) directs 235cfs west @ D622WW
(2) Orangewood storm drain system (FCD 94-12) directs 83cfs west @ D121W
(3) Orangewood storm drain system (FCD 94-12) directs 159cfs west @ D221W
(4) 39TH Avenue storm drain system directs 150cfs south @ D322W

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Diversions

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Bethany Home Rd.	12-22	11-22	10-22	9-22	8-22E	8-22W	7-22	12-21	11-21	10-21	9-21	8-21E	8-21W
Total Area (Sq. Mi.)	N/D	1.006	0.991	0.990	0.523	0.494	0.970	1.003	0.983	0.980	0.967	0.509	N/D
Area that Drains Directly West (sq. mi.) = Aw													
N. of E-W 1/2 mi. street:		0.065	0.370	0.109	0.119	0.086	0.134	0.166	0.117	0.188	0.342	0.168	
S. of E-W 1/2 mi. street:		0.100	0.211	0.117	0.000	0.015	0.159	0.149	0.121	0.144	0.033	0.117	
Total, Aw:		0.165	0.581	0.226	0.119	0.101	0.293	0.315	0.238	0.332	0.375	0.285	
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As		0.412	0.300	0.391	0.114	0.367	0.396	0.373	0.442	0.360	0.466	0.107	
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An		0.429	0.110	0.373	0.290	0.026	0.281	0.315	0.303	0.288	0.126	0.117	
Percentage of An Directed to the West (%)		0.10	0.00	0.30	0.50	0.10	0.20	0.20	0.20	0.30	0.00	0.00	
Percentage of An Directed to the South (%)		0.90	1.00	0.70	0.50	0.90	0.80	0.80	0.80	0.70	1.00	1.00	
Ratio of Total Sub-basin Directed to the West(%)		**0.21**	**0.59**	**0.34**	**0.50**	**0.21**	**0.36**	**0.38**	**0.30**	**0.43**	**0.39**	**0.56**	
Ratio of Total Sub-basin Directed to the South(%)		**0.79**	**0.41**	**0.66**	**0.50**	**0.79**	**0.64**	**0.62**	**0.70**	**0.57**	**0.61**	**0.44**	
Area Check	**0.2447**	**1.0055**	**0.9911**	**0.9903**	**0.5225**	**0.4936**	**0.9699**	**1.0030**	**0.9831**	**0.9801**	**0.9671**	**0.5087**	**0.2733**

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Camel Back Rd.	13-22	14-22	15-22	16-22E	16-22W	17-22	18-22	13-21	14-21E	14-21W	15-21	16-21	17-21E
Total Area (Sq. Mi.)	N/D	1.000	0.998	N/D	0.479	1.015	0.969	1.000	N/D	0.562	1.011	1.021	0.699
Area that Drains Directly West (sq. mi.) = Aw													
N. of E-W 1/2 mi. street:		0.252	0.238		0.087	0.124	0.103	0.121		0.159	0.238	0.245	N/A
S. of E-W 1/2 mi. street:		0.224	0.248		0.255	0.058	0.138	0.117		0.121	0.120	0.114	0.144
Total, Aw:		0.476	0.486		0.342	0.182	0.241	0.238		0.280	0.358	0.359	0.144
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As		0.267	0.262		0.137	0.458	0.355	0.375		0.282	0.174	0.406	0.247
										n/a			
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An		0.257	0.250		0.000	0.375	0.373	0.387		0.000	0.479	0.256	0.308
Percentage of An Directed to the West (%)		0.00	0.00		0.00	0.30	0.50	0.30		0.00	0.00	0.20	0.00
Percentage of An Directed to the South (%)		1.00	1.00		1.00	0.70	0.50	0.70		1.00	1.00	0.80	1.00
Ratio of Total Sub-basin Directed to the West(%)		**0.48**	**0.49**		**0.71**	**0.29**	**0.44**	**0.35**		**0.50**	**0.35**	**0.40**	**0.21**
Ratio of Total Sub-basin Directed to the South(%)		**0.52**	**0.51**		**0.29**	**0.71**	**0.56**	**0.65**		**0.50**	**0.65**	**0.60**	**0.79**
Area Check	**0.2464**	**1.0000**	**0.9982**	**0.5130**	**0.4788**	**1.0154**	**0.9688**	**1.0003**	**0.4317**	**0.5615**	**1.0114**	**1.0214**	**0.6990**

PARAMETERS

Sub-basin I.D.: Camel Back Rd.	17-21W	18-21											
Total Area (Sq. Mi.)	0.306	N/D											
Area that Drains Directly West (sq. mi.) = Aw													
N. of E-W 1/2 mi. street:	0.159												
S. of E-W 1/2 mi. street:	0.088												
Total, Aw:	0.247												
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.059												
	n/a												
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.000												
Percentage of An Directed to the West (%)	0.10												
Percentage of An Directed to the South (%)	0.90												
Ratio of Total Sub-basin Directed to the West(%)	**0.81**												
Ratio of Total Sub-basin Directed to the South(%)	**0.19**												
Area Check	**0.3063**	**0.5426**											

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Diversions

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: Indian School Rd.	24-22	23-22	22-22E	22-22W	21-22	20-22	19-22	24-21N	24-21S	23-21	22-21	21-21	20-21	19-21
Total Area (Sq. Mi.)	N/D	0.990	N/D	0.467	0.994	1.014	0.938	0.413	0.612	0.987	1.002	1.008	1.023	0.873
Area that Drains Directly West (sq. mi.) = Aw														
N. of E-W 1/2 mi. street:		0.328		0.065	0.077	0.109	0.124	0.229	0.068	0.157	0.140	0.410	0.157	0.361
S. of E-W 1/2 mi. street:		0.261		N/A	0.037	0.177	0.154	N/A	0.050	0.142	0.246	0.119	0.085	0.271
Total, Aw:		0.589		0.065	0.114	0.286	0.278	0.229	0.118	0.299	0.386	0.529	0.242	0.632
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As		0.224		0.402	0.460	0.377	0.328	0.063	0.450	0.368	0.243	0.397	0.477	0.241
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An		0.177		0.000	0.420	0.351	0.332	0.121	0.044	0.320	0.373	0.082	0.304	0.000
Percentage of An Directed to the West (%)		0.00		0.00	0.40	0.30	0.40	0.40	0.30	0.40	0.50	0.10	0.10	1.00
Percentage of An Directed to the South (%)		1.00		1.00	0.60	0.70	0.60	0.60	0.70	0.60	0.50	0.90	0.90	0.00
Ratio of Total Sub-basin Directed to the West(%)		**0.59**		**0.14**	**0.28**	**0.39**	**0.44**	**0.67**	**0.21**	**0.43**	**0.57**	**0.53**	**0.27**	**0.72**
Ratio of Total Sub-basin Directed to the South(%)		**0.41**		**0.86**	**0.72**	**0.61**	**0.56**	**0.33**	**0.79**	**0.57**	**0.43**	**0.47**	**0.73**	**0.28**
Area Check	**0.2249**	**0.9895**	**0.5325**	**0.4671**	**0.9937**	**1.0139**	**0.9380**	**0.4133**	**0.6123**	**0.9869**	**1.0020**	**1.0076**	**1.0230**	**0.8727**

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Sub-Basin Diversions

By: **J. Geisbush**
Checked: **D. Dust**
Project No. **132586**

PARAMETERS

Sub-basin I.D.: Thomas Rd.	26-22N	26-22E	26-22S	26-22W	27-22N	27-22S (1)	28-22N	28-22S	29-22N	30-22N	30-22S	25-21
Total Area (Sq. Mi.)	N/D	N/D	0.392	0.078	0.448	0.631	0.452	0.543	0.414	N/D	0.811	1.000
Area that Drains Directly West (sq. mi.) = Aw												
N. of E-W 1/2 mi. street:			0.033	0.000	0.045	0.001	0.220	0.003	0.178		0.072	0.147
S. of E-W 1/2 mi. street:			0.063	N/A	N/A	0.050	N/A	0.007	N/A		0.069	0.095
Total, Aw:			0.096	0.000	0.045	0.051	0.220	0.010	0.178		0.141	0.242
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As			0.296	N/A	N/A	0.460	N/A	0.474	N/A		0.419	0.389
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An			0.000	0.078	0.403	0.120	0.232	0.059	0.236		0.251	0.369
Percentage of An Directed to the West (%)			0.00	0.00	0.10	0.00	0.50	0.00	0.20		0.20	0.00
Percentage of An Directed to the South (%)			1.00	1.00	0.90	1.00	0.50	1.00	0.80		0.80	1.00
Ratio of Total Sub-basin Directed to the West(%)			**0.24**	**0.00**	**0.19**	**0.08**	**0.74**	**0.02**	**0.54**		**0.24**	**0.24**
Ratio of Total Sub-basin Directed to the South(%)			**0.76**	**1.00**	**0.81**	**0.92**	**0.26**	**0.98**	**0.46**		**0.76**	**0.76**
Area Check	**0.3798**	**0.3827**	**0.3924**	**0.0782**	**0.3715**	**0.6311**	**0.4518**	**0.5429**	**0.4138**	**0.1610**	**0.8109**	**1.0002**

NOTE: (1) 39TH AVENUE STORM DRAIN 286 CFS SOUTH

PARAMETERS

Sub-basin I.D.: Thomas Rd.	26-21	27-21	28-21	29-21N	29-21S	30-21N	30-21S	29-22S
Total Area (Sq. Mi.)	0.990	1.005	1.000	0.761	0.234	0.667	0.750	0.594
Area that Drains Directly West (sq. mi.) = Aw								
N. of E-W 1/2 mi. street:	0.114	0.176	0.381	0.248	N/A	0.143	N/A	0.044
S. of E-W 1/2 mi. street:	0.109	0.059	0.246	N/A	0.234	N/A	0.136	0.114
Total, Aw:	0.223	0.235	0.627	0.248	0.234	0.143	0.136	0.158
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.379	0.443	0.248	0.270	N/A	N/A	0.614	0.436
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.388	0.327	0.125	0.243	0.000	0.524	0.000	0.000
Percentage of An Directed to the West (%)	0.10	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Percentage of An Directed to the South (%)	0.90	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Ratio of Total Sub-basin Directed to the West(%)	**0.26**	**0.30**	**0.63**	**0.33**	**1.00**	**0.21**	**0.18**	**0.27**
Ratio of Total Sub-basin Directed to the South(%)	**0.74**	**0.70**	**0.37**	**0.67**	**0.00**	**0.79**	**0.82**	**0.73**
Area Check	**0.9902**	**1.0046**	**0.9995**	**0.7612**	**0.2625**	**0.6672**	**0.7496**	**0.5937**

Wood/Patel

CH2M HILL

Subject Maryvale ADMS
Sub-Basin Diversions

By: J. Geisbush
Checked: D. Dust
Project No. 132586

PARAMETERS

Sub-basin I.D.: McDowell Rd.	36-22	35-22 (1)	34-22 (2)	33-22	32-22	31-22	36-21	35-21	34-21	33-21	32-21E	32-21W
Total Area (Sq. Mi.)	0.227	0.999	1.000	1.001	1.004	0.978	1.001	0.991	1.005	0.990	0.243	0.772
Area that Drains Directly West (sq. mi.) = Aw												
N. of E-W 1/2 mi. street:	0.067	0.188	0.125	0.120	0.045	0.221	0.115	0.240	0.243	0.497	0.116	0.250
S. of E-W 1/2 mi. street:	0.079	0.058	0.121	0.099	0.366	0.234	0.074	0.156	0.263	0.121	N/A	0.434
Total, Aw:	0.146	0.246	0.246	0.219	0.411	0.455	0.189	0.396	0.506	0.618	0.116	0.684
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.081	0.440	0.373	0.402	0.064	0.249	0.436	0.539	0.249	0.372	0.057	0.000
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.000	0.313	0.381	0.380	0.529	0.274	0.376	0.056	0.250	0.000	0.070	0.088
Percentage of An Directed to the West (%)	1.00	0.05	0.30	0.20	0.30	0.20	0.30	0.40	0.20	0.00	0.10	0.50
Percentage of An Directed to the South (%)	0.00	0.95	0.70	0.80	0.70	0.80	0.70	0.60	0.80	1.00	0.90	0.50
Ratio of Total Sub-basin Directed to the West(%)	**0.64**	**0.26**	**0.36**	**0.29**	**0.57**	**0.52**	**0.30**	**0.42**	**0.55**	**0.62**	**0.51**	**0.94**
Ratio of Total Sub-basin Directed to the South(%)	**0.36**	**0.74**	**0.64**	**0.71**	**0.43**	**0.48**	**0.70**	**0.58**	**0.45**	**0.38**	**0.49**	**0.06**
Area Check	**0.2270**	**0.9989**	**1.0001**	**1.0006**	**1.0040**	**0.9776**	**1.0013**	**0.9907**	**1.0054**	**0.9898**	**0.2431**	**0.7717**

NOTES:
(1) 31SR AVE. STORM DRAIN SYSTEM 182CFS SOUTH
(2) 39TH AVE STORM DRAIN 319CFS SOUTH

PARAMETERS

Sub-basin I.D.: McDowell Rd.	31-21	36-W21
Total Area (Sq. Mi.)	0.964	0.837
Area that Drains Directly West (sq. mi.) = Aw		
N. of E-W 1/2 mi. street:	0.218	0.317
S. of E-W 1/2 mi. street:	0.228	0.238
Total, Aw:	0.446	0.555
Area, S. of E-W 1/2 mi. St., that Drains Directly South (sq. mi.) = As	0.256	0.282
Remaining Area North of E-W 1/2 mi. Street (sq. mi.) = An	0.262	0.000
Percentage of An Directed to the West (%)	0.50	
Percentage of An Directed to the South (%)	0.50	1.00
Ratio of Total Sub-basin Directed to the West(%)	**0.60**	**0.66**
Ratio of Total Sub-basin Directed to the South(%)	**0.40**	**0.34**
Area Check	**0.9643**	**0.8369**

Appendix D: Arterial and Composite Street Routes

Sub-basin Routes

Computational Methodology

Premise: Use the normal depth routing option to route flow through a sub-basin using a "composite" street cross section. The composite street cross section is used to represent a combination of collector and residential streets.

Procedure: Count the number and types of street that convey flow from an arterial street through the sub-basin to the next arterial street.

Input Parameters: The x-y points specified on the RX & RY cards correspond to the total right-of-way and pavement widths for streets being represented by the composite section.

Main Assumptions:

- The flow depths, slopes, and flow path lengths along the streets, being represented by the composite section, are approximately equal.

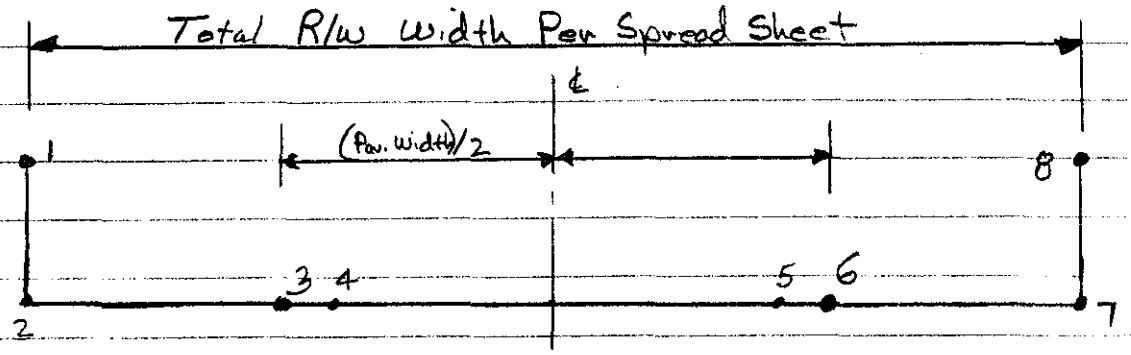
SUBJECT Maryvale ADMS

BY DWD DATE 2/96

SHEET NO. 1 OF 1

PROJECT NO. 132586

Typical Sub-basin Route: Composite Section



For R/w width = 270

Pt	1	2	3	4	5	6	7	8
Rx	0	0.1	43.5	53.5	216.5	226.5	270.	270.1
Ry	4	0.3	0.0	0.0	0.0	0.0	0.3	4

$$Rx(3) = \frac{(R/W - Pav)}{2}$$

$$Rx(6) = R/W - \frac{(R/W - Pav)}{2}$$

$$Rx(4) = Rx(3) + 10'$$

$$Rx(5) = Rx(6) - 10'$$

FORM 3B

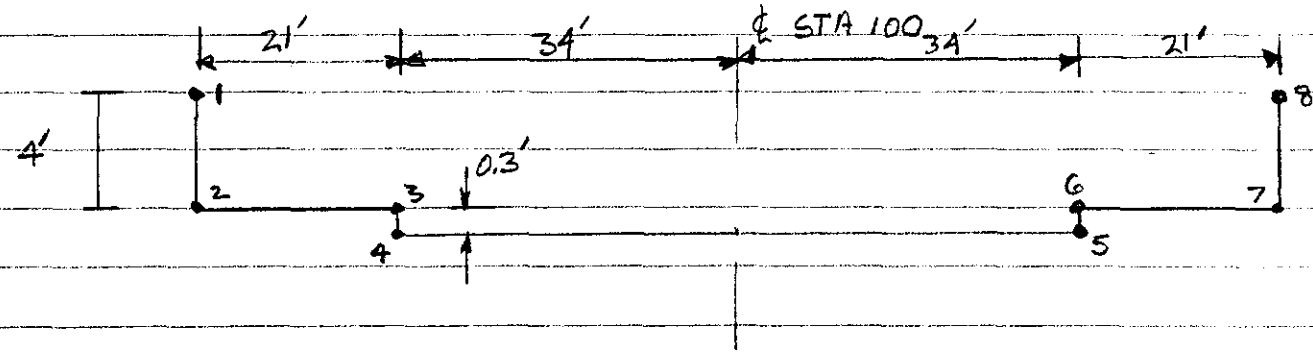
SUBJECT Manyvale ADMS

BY DWD DATE 3/96

SHEET NO. 1 OF 1

PROJECT NO. 132586

Routing Parameters for An Anterial Street



Typical 8 pt. Section

Pt	1	2	3	4	5	6	7	8
Rx	44.9	45	66	66.1	134	134.1	155	155.1
RY	4.3	0.3	0.3	0.0	0.0	0.3	0.3	4.3

FORM 3B

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

S = Street Route, B = Basin Route
R/W = Right of Way, PW = pavement width

Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

NMIN = 5 minutes

Streets

TB = Thunderbird Road	BH = Bethany Home Road
CR = Cactus Road	CB = Camelback Road
PA = Peoria Avenue	IS = Indian School Road
OA = Olive Avenue	TR = Thomas Road
NA = Northern Avenue	MD = McDowell Road
GA = Glendale Avenue	GR = Grand Avenue

Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R27A	S	1201.00	1190.10	2620	0.0042	2620	3.7	2	1	0	0	68	110
R27B	S	1190.10	1179.50	2630	0.0040	2630	3.6	2	1	0	0	68	110
R27C	S	1179.50	1159.20	5270	0.0039	5270	3.6	5	1	0	0	68	110
R27D	S	1159.20	1140.80	5280	0.0035	5280	3.4	5	1	0	0	68	110
R27E	S	1140.80	1119.70	5250	0.0040	5250	3.6	5	1	0	0	68	110
R27F	S	1119.70	1115.00	1740	0.0027	1740	3.0	2	1	0	0	68	110
R27G	S	1098.10	1087.20	2620	0.0042	2620	3.7	2	1	0	0	68	110
R27H	S	1087.20	1080.90	2700	0.0023	2700	2.7	3	1	0	0	68	110
R35A	S	1220.40	1209.40	2600	0.0042	2600	3.7	2	1	0	0	68	110
R35B	S	1209.40	1201.20	2600	0.0032	2600	3.2	3	1	0	0	68	110
R35C	S	1201.20	1192.40	2620	0.0034	2620	3.3	3	1	0	0	68	110
R35D	S	1192.40	1184.30	2640	0.0031	2640	3.2	3	1	0	0	68	110
R35E	S	1184.30	1170.10	2620*	0.0054	2620	4.3	2	1	0	0	68	110
R35F	S	1170.10	1159.10	2630	0.0042	2630	3.7	2	1	0	0	68	110
R35G	S	1159.10	1137.10	5260	0.0042	5260	3.7	5	1	0	0	68	110
R35H	S	1137.10	1125.00	2580	0.0047	2580	3.9	2	1	0	0	68	110
R35I	S	1125.00	1117.50	2690	0.0028	2690	3.0	3	1	0	0	68	110
R35J	S	1108.30	1095.30	2640	0.0049	2640	4.0	2	1	0	0	68	110
R35K	S	1095.30	1084.10	2690	0.0042	2690	3.7	2	1	0	0	68	110
R35L	S	1084.10	1076.20	2630	0.0030	2630	3.1	3	1	0	0	68	110
R43A	S	1212.70	1208.80	2600	0.0015	2600	2.2	4	1	0	0	68	110
R43B	S	1208.80	1200.30	2590	0.0033	2590	3.3	3	1	0	0	68	110
R43C	S	1200.30	1190.00	2600	0.0040	2600	3.6	2	1	0	0	68	110
R43D	S	1190.00	1179.80	2660	0.0038	2660	3.5	3	1	0	0	68	110
R43E	S	1179.80	1171.80	2620	0.0031	2620	3.2	3	1	0	0	68	110
R43F	S	1171.80	1165.30	2610	0.0025	2610	2.9	3	1	0	0	68	110
R43G	S	1165.30	1157.30	2620	0.0031	2620	3.2	3	1	0	0	68	110
R43H	S	1157.30	1147.60	2620	0.0037	2620	3.5	3	1	0	0	68	110
R43I	S	1147.60	1140.40	2600	0.0028	2600	3.0	3	1	0	0	68	110
R43J	S	1130.00	1115.00	3750	0.0040	3750	3.6	3	1	0	0	68	110
R43K	S	1115.00	1107.00	2120	0.0038	2120	3.5	2	1	0	0	68	110
R43L	S				Not Used								
R43M	S	1103.60	1093.40	2640	0.0039	2640	3.6	2	1	0	0	68	110
R43N	S	1093.40	1082.30	2650	0.0042	2650	3.7	2	1	0	0	68	110
R43O	S	1082.30	1073.70	2600	0.0033	2600	3.3	3	1	0	0	68	110
R51A	S	1211.80	1205.40	2635	0.0024	2635	2.8	3	1	0	0	68	110
R51B	S	1205.40	1198.10	2600	0.0028	2600	3.0	3	1	0	0	68	110
R51C	S	1198.10	1190.80	2590	0.0028	2590	3.0	3	1	0	0	68	110
R51D	S	1190.80	1184.70	2670	0.0023	2670	2.7	3	1	0	0	68	110
R51E	S	1184.70	1180.40	2610	0.0016	2610	2.3	4	1	0	0	68	110
R51F	S	1180.40	1171.20	2630	0.0035	2630	3.4	3	1	0	0	68	110
R51G	S	1171.20	1165.70	2640	0.0021	2640	2.6	3	1	0	0	68	110
R51H	S	1165.70	1154.90	2600	0.0042	2600	3.7	2	1	0	0	68	110
R51I	S	1154.90	1149.40	2630	0.0021	2630	2.6	3	1	0	0	68	110
R51J	S	1140.10	1133.30	2680	0.0025	2680	2.9	3	1	0	0	68	110
R51K	S	1133.30	1122.20	2650	0.0042	2650	3.7	2	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

S = Street Route, B = Basin Route
R/W = Right of Way, PW = pavement width

Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

NMIN = 5 minutes

Streets

TB = Thunderbird Road	BH = Bethany Home Road
CR = Cactus Road	CB = Camelback Road
PA = Peoria Avenue	IS = Indian School Road
OA = Olive Avenue	TR = Thomas Road
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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R51L	S	1122.20	1113.70	2650	0.0032	2650	3.2	3	1	0	0	68	110
R51M	S	1113.70	1104.20	2500	0.0038	2500	3.5	2	1	0	0	68	110
R51N	S	1101.60	1091.30	2570	0.0040	2570	3.6	2	1	0	0	68	110
R51O	S	1091.30	1081.60	2630	0.0037	2630	3.5	3	1	0	0	68	110
R51P	S	1081.60	1073.10	2670	0.0032	2670	3.2	3	1	0	0	68	110
R59A	S	1203.59	1194.00	2610	0.0037	2610	3.5	3	1	0	0	68	110
R59B	S	1194.00	1183.90	2600	0.0039	2600	3.6	2	1	0	0	68	110
R59C	S	1183.90	1177.90	2600	0.0023	2600	2.7	3	1	0	0	68	110
R59D	S	1177.90	1172.80	2600	0.0020	2600	2.6	3	1	0	0	68	110
R59E	S	1172.80	1164.40	2760	0.0030	2760	3.1	3	1	0	0	68	110
R59F	S	1164.40	1159.10	2420	0.0022	2420	2.7	3	1	0	0	68	110
R59G	S	1159.10	1154.60	2620	0.0017	2620	2.4	4	1	0	0	68	110
R59H	S	1154.60	1149.70	2620	0.0019	2620	2.5	4	1	0	0	68	110
R59I	S	1143.10	1137.50	2690	0.0021	2690	2.6	3	1	0	0	68	110
R59J	S	1137.50	1128.40	2660	0.0034	2660	3.3	3	1	0	0	68	110
R59K	S	1128.40	1121.40	2670	0.0026	2670	2.9	3	1	0	0	68	110
R59L	S	1121.40	1112.90	2660	0.0032	2660	3.2	3	1	0	0	68	110
R59M	S	1112.90	1105.50	2630	0.0028	2630	3.0	3	1	0	0	68	110
R59N	S	1100.00	1094.00	1130	0.0053	1130	4.2	1	1	0	0	68	110
R59O	S	1094.00	1084.10	2620	0.0038	2620	3.5	2	1	0	0	68	110
R59P	S	1084.10	1073.80	2670	0.0039	2670	3.6	2	1	0	0	68	110
R59Q	S	1073.80	1065.50	2660	0.0031	2660	3.2	3	1	0	0	68	110
R67A	S	1200.80	1191.40	2600	0.0036	2600	3.4	3	1	0	0	68	110
R67B	S	1191.40	1182.97	2600	0.0032	2600	3.2	3	1	0	0	68	110
R67C	S	1182.97	1176.50	2635	0.0025	2635	2.9	3	1	0	0	68	110
R67D	S	1176.50	1170.30	2635	0.0024	2635	2.8	3	1	0	0	68	110
R67E	S	1170.30	1161.80	2620	0.0032	2620	3.2	3	1	0	0	68	110
R67F	S	1161.80	1154.30	2620	0.0029	2620	3.1	3	1	0	0	68	110
R67G	S	1154.30	1146.60	2590	0.0030	2590	3.1	3	1	0	0	68	110
R67I	S	1146.60	1143.30	2660	0.0012	2660	2.0	4	1	0	0	68	110
R67J	S	1143.30	1126.40	2660	0.0064	2660	5.0	2	1	0	0	68	110
R67K	S	1126.40	1122.30	2640	0.0016	2640	2.3	4	1	0	0	68	110
R67L	S	1122.30	1115.70	2650	0.0025	2650	2.9	3	1	0	0	68	110
R67M	S	1115.70	1108.40	2660	0.0027	2660	3.0	3	1	0	0	68	110
R67N	S	1108.40	1098.70	2680	0.0036	2680	3.4	3	1	0	0	68	110
R67O	S	1084.70	1076.80	2630	0.0030	2630	3.1	3	1	0	0	68	110
R67P	S	1076.80	1066.90	2650	0.0037	2650	3.5	3	1	0	0	68	110
R67Q	S	1066.90	1057.60	2640	0.0035	2640	3.4	3	1	0	0	68	110
R75A	S	1195.00	1186.00	2620	0.0034	2620	3.3	3	1	0	0	68	110
R75B	S	1186.00	1174.10	2620	0.0045	2620	3.8	2	1	0	0	68	110
R75C	S	1174.10	1167.30	2660	0.0026	2660	2.9	3	1	0	0	68	110
R75D	S	1167.30	1160.90	2600	0.0025	2600	2.9	3	1	0	0	68	110
R75E	S	1160.90	1151.80	2630	0.0035	2630	3.4	3	1	0	0	68	110
R75F	S	1151.80	1141.60	2620	0.0039	2620	3.6	2	1	0	0	68	110
R75G	S	1141.60	1136.00	2280	0.0025	2280	2.9	3	1	0	0	68	110
R75H	S	1129.00	1127.80	2630	0.0005	2630	1.3	7	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

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Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
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r	50	35

Streets

TB = Thunderbird Road	BH = Bethany Home Road
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NMIN = 5 minutes

Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R75I	S	1127.80	1121.30	2650	0.0025	2650	2.9	3	1	0	0	68	110
R74J	S	1121.30	1112.60	2640	0.0033	2640	3.3	3	1	0	0	68	110
R75K	S	1112.60	1107.10	2620	0.0021	2620	2.6	3	1	0	0	68	110
R75L	S	1107.10	1102.20	2640	0.0019	2640	2.5	4	1	0	0	68	110
R75M	S	1102.20	1098.90	2620	0.0013	2620	2.1	4	1	0	0	68	110
R75N	S	1098.90	1095.30	2650	0.0014	2650	2.1	4	1	0	0	68	110
R75O	S	1087.70	1078.40	2610	0.0036	2610	3.4	3	1	0	0	68	110
R75P	S	1078.40	1070.30	2670	0.0030	2670	3.1	3	1	0	0	68	110
R75Q	S	1070.30	1064.40	2660	0.0022	2660	2.7	3	1	0	0	68	110
R75R	S	1064.40	1057.10	2660	0.0027	2660	3.0	3	1	0	0	68	110
R75S	S	1057.10	1049.60	2650	0.0028	2650	3.0	3	1	0	0	68	110
R83A	S	1175.00	1167.60	2620	0.0028	2620	3.0	3	1	0	0	68	110
R83B	S	1167.60	1160.50	2620	0.0027	2620	3.0	3	1	0	0	68	110
R83C	S	1160.50	1152.20	2600	0.0032	2600	3.2	3	1	0	0	68	110
R83D	S	1152.20	1139.90	5470	0.0022	5470	2.7	7	1	0	0	68	110
R83E	S	1130.20	1123.60	2640	0.0025	2640	2.9	3	1	0	0	68	110
R83F	S	1123.60	1112.40	2610	0.0043	2610	3.7	2	1	0	0	68	110
R83G	S	1112.40	1103.00	2620	0.0036	2620	3.4	3	1	0	0	68	110
R83H	S	1102.50	1105.90	2530		Special Case							
R83I	S	1105.90	1095.30	2630	0.0040	2630	3.6	2	1	0	0	68	110
R83J	S	1095.30	1088.80	2590	0.0025	2590	2.9	3	1	0	0	68	110
R83K	S	1088.80	1084.20	2580	0.0018	2580	2.4	4	1	0	0	68	110
R83L	S	1084.20	1080.10	2730	0.0015	2730	2.2	4	1	0	0	68	110
R83M	S	1080.10	1075.50	2630	0.0017	2630	2.4	4	1	0	0	68	110
R83N	S	1075.50	1069.80	2650	0.0022	2650	2.7	3	1	0	0	68	110
R83O	S	1069.80	1063.10	2680	0.0025	2680	2.9	3	1	0	0	68	110
R83P	S	1063.10	1057.60	2630	0.0021	2630	2.6	3	1	0	0	68	110
R83Q	S	1057.60	1051.20	2630	0.0024	2630	2.8	3	1	0	0	68	110
R83R	S	1051.20	1042.80	2640	0.0032	2640	3.2	3	1	0	0	68	110
R83S	S	1042.80	1036.10	2640	0.0025	2640	2.9	3	1	0	0	68	110
R91A	S	1120.30	1113.70	2600	0.0025	2600	2.9	3	1	0	0	68	110
R91B	S	1113.70	1110.10	2640	0.0014	2640	2.1	4	1	0	0	68	110
R91C	S	1110.10	1102.80	2640	0.0028	2640	3.0	3	1	0	0	68	110
R91D	S	1102.80	1095.10	2640	0.0029	2640	3.1	3	1	0	0	68	110
R91E	S	1095.10	1086.60	2570	0.0033	2570	3.3	3	1	0	0	68	110
R91F	S	1086.60	1078.20	2610	0.0032	2610	3.2	3	1	0	0	68	110
R91G	S	1078.20	1071.90	2600	0.0024	2600	2.8	3	1	0	0	68	110
R91H	S	1071.90	1068.10	2580	0.0015	2580	2.2	4	1	0	0	68	110
R91I*	S	1068.10	1059.00	2600	0.0035	2600	3.4	3	1	0	0	68	110
R91J	S	1059.00	1056.40	2640	0.0010	2640	1.8	5	1	0	0	68	110
R91K	S	1056.40	1050.50	2680	0.0022	2680	2.7	3	1	0	0	68	110
R91L	S	1050.50	1047.20	2640	0.0012	2640	2.0	4	1	0	0	68	110
R91M	S	1047.20	1043.10	2630	0.0016	2630	2.3	4	1	0	0	68	110
R91N	S	1043.10	1036.60	2650	0.0025	2650	2.9	3	1	0	0	68	110
R91O	S	1036.60	1030.40	2650	0.0023	2650	2.7	3	1	0	0	68	110
R91P	S	1030.40	1025.00	2700	0.0020	2700	2.6	4	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

S = Street Route, B = Basin Route
R/W = Right of Way, PW = pavement width

Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R99A	S	1073.40	1066.70	2610	0.0026	2610	2.9	3	1	0	0	68	110
R99B	S	1066.70	1059.00	2580	0.0030	2580	3.1	3	1	0	0	68	110
R99C	S	1059.00	1056.00	2220	0.0014	2220	2.1	3	1	0	0	68	110
R99D*	S	1059.80	1048.70	2590	0.0043	2590	3.7	2	1	0	0	68	110
R99E	S	1048.70	1041.80	2620	0.0026	2620	2.9	3	1	0	0	68	110
R99F	S	1041.80	1036.80	2660	0.0019	2660	2.5	4	1	0	0	68	110
R99G	S	1036.80	1031.70	2680	0.0019	2680	2.5	4	1	0	0	68	110
R99H	S	1031.70	1029.20	2650	0.0009	2650	1.7	5	1	0	0	68	110
R99I	S	1029.20	1026.70	2660	0.0009	2660	1.7	5	1	0	0	68	110
R99J	S	1026.70	1025.90	2690	0.0003	2690	1.0	9	1	0	0	68	110
R99K	S	1025.90	1021.70	2640	0.0016	2640	2.3	4	1	0	0	68	110
R107A	S	1034.50	1025.60	2660	0.0033	2660	3.3	3	1	0	0	68	110
R107B	S	1025.60	1020.30	2640	0.0020	2640	2.6	3	1	0	0	68	110
R107C	S	1020.30	1018.00	2490	0.0009	2490	1.7	5	1	0	0	68	110
R107D	CHNL	1016.90	1010.00	2640	0.0023	2640	2.4	4	4' Bottom Width, 8' Depth, 1:1 Side Slopes				
R115A	S	1008.40	1002.90	2650	0.0021	2650	2.6	3	1	0	0	68	110
R115B	S	1002.90	998.90	2630	0.0015	2630	2.2	4	1	0	0	68	110
RA2-OT1	CHNL	1194.20	1181.50	3430	0.0043	3430	10.9	1	40' Bottom Width, 10' Depth, 2:1 Side Slopes				
RA2-OT2	CHNL	1183.90	1176.60	5780	0.0035	5780	9.8	2	40' Bottom Width, 10' Depth, 2:1 Side Slopes				
RTB1	S	1200.00	1192.00	2740	0.0029	2650	3.1	3	1	0	0	68	110
RTB2	S	1192.00	1186.00	2560	0.0023	2650	2.7	3	1	0	0	68	110
RTB3	S	1186.00	1177.00	2830	0.0032	2700	3.2	3	1	0	0	68	110
RTB4	S	1177.00	1167.60	2500	0.0038	2630	3.5	2	1	0	0	68	110
RCR1	S	1203.59	1182.97	5090	0.0041	2545	3.7	2	1	0	0	68	110
RCR2	S	1203.59	1182.97	5090	0.0041	2545	3.7	2	1	0	0	68	110
RCR3	S	1182.97	1176.40	2660	0.0025	2660	2.9	3	1	0	0	68	110
RCR4	S	1176.40	1167.30	2670	0.0034	2670	3.3	3	1	0	0	68	110
RCR5	S	1167.30	1159.00	2670	0.0031	2670	3.2	3	1	0	0	68	110
RCR6	S	1159.00	1152.20	2660	0.0026	2660	2.9	3	1	0	0	68	110
RCR7	S	1152.20	1144.20	2640	0.0030	2640	3.1	3	1	0	0	68	110
RCR8	S	1144.20	1138.40	2400	0.0024	2620	2.8	3	1	0	0	68	110
RPA1	S	1214.37	1205.40	2635	0.0034	2635	3.3	3	1	0	0	68	110
RPA2	S	1205.40	1183.90	5260	0.0041	2630	3.7	2	1	0	0	68	110
RPA3	S	1205.40	1183.90	5260	0.0041	2630	3.7	2	1	0	0	68	110
RPA4	S	1183.90	1170.30	5080	0.0027	2540	3.0	3	1	0	0	68	110
RPA5	S	1183.90	1170.30	5080	0.0027	2540	3.0	3	1	0	0	68	110
RPA6	S	1170.30	1157.50	2650	0.0048	2650	4.0	2	1	0	0	68	110
RPA7	S	1157.50	1151.80	2650	0.0022	2650	2.7	3	1	0	0	68	110
RPA8	S	1151.80	1145.00	2650	0.0026	2650	2.9	3	1	0	0	68	110
RPA9	S	1145.00	1139.90	2660	0.0019	2660	2.5	4	1	0	0	68	110
RPA10	S	1126.60	1120.30	2680	0.0024	2680	2.8	3	1	0	0	68	110
ROA1	S	1220.40	1215.90	2650	0.0017	2650	2.4	4	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
ROA2	S	1215.90	1208.80	2650	0.0027	2650	3.0	3	1	0	0	68	110
ROA3	S	1208.80	1198.50	2640	0.0039	2640	3.6	2	1	0	0	68	110
ROA4	S	1198.50	1190.80	2640	0.0029	2640	3.1	3	1	0	0	68	110
ROA5	S	1190.80	1180.70	2620	0.0039	2620	3.6	2	1	0	0	68	110
ROA6	S	1180.70	1172.80	2630	0.0030	2630	3.1	3	1	0	0	68	110
ROA7	S	1172.80	1162.30	2630	0.0040	2630	3.6	2	1	0	0	68	110
ROA8	S	1162.30	1154.30	2430	0.0033	2430	3.3	2	1	0	0	68	110
ROA9	S	1154.30	1144.40	2640	0.0037	2640	3.5	3	1	0	0	68	110
ROA10	S	1144.40	1137.60	2640	0.0026	2640	2.9	3	1	0	0	68	110
ROA11	S	1127.90	1123.60	2660	0.0016	2660	2.3	4	1	0	0	68	110
ROA12	S	1123.60	1117.70	2660	0.0022	2660	2.7	3	1	0	0	68	110
ROA13	S	1117.70	1110.10	2650	0.0029	2650	3.1	3	1	0	0	68	110
RNA1	S	1201.20	1195.40	2640	0.0022	2640	2.7	3	1	0	0	68	110
RNA2	S	1195.40	1190.00	2630	0.0021	2630	2.6	3	1	0	0	68	110
RNA3	S	1190.00	1186.80	2630	0.0012	2630	2.0	4	1	0	0	68	110
RNA4	S	1186.80	1180.40	2630	0.0024	2630	2.8	3	1	0	0	68	110
RNA5	S	1180.40	1168.70	2640	0.0044	2640	3.8	2	1	0	0	68	110
RNA6	S	1168.70	1159.10	2640	0.0036	2640	3.4	3	1	0	0	68	110
RNA7	S	1159.10	1149.00	2670	0.0038	2670	3.5	3	1	0	0	68	110
RNA8	S	1149.00	1143.30	2420	0.0024	2420	2.8	3	1	0	0	68	110
RNA9	S	1134.90	1127.80	2690	0.0026	2690	2.9	3	1	0	0	68	110
RNA10	S	1127.80	1113.20	2660	0.0055	2660	4.3	2	1	0	0	68	110
RNA11	S	1113.20	1103.00	2690	0.0038	2690	3.5	3	1	0	0	68	110
RNA12	S	1102.50	1097.10	2620	0.0021	2620	2.6	3	1	0	0	68	110
RNA13	S	1097.10	1095.10	2640	0.0008	2640	1.6	5	1	0	0	68	110
RNA14	S	1095.10	1088.50	2680	0.0025	2680	2.9	3	1	0	0	68	110
RGA1	S	1184.30	1178.70	2590	0.0022	2590	2.7	3	1	0	0	68	110
RGA2	S	1178.70	1171.80	2630	0.0026	2630	2.9	3	1	0	0	68	110
RGA3	S	1171.80	1167.90	2630	0.0015	2630	2.2	4	1	0	0	68	110
RGA4	S	1167.90	1165.70	2600	0.0008	2600	1.6	5	1	0	0	68	110
RGA5	S	1165.70	1159.70	2300	0.0026	2300	2.9	3	1	0	0	68	110
RGA6	S	1159.70	1149.70	3040	0.0033	3040	3.3	3	1	0	0	68	110
RGA7	S	1140.00	1129.70	2500	0.0041	2500	3.7	2	1	0	0	68	110
RGA8	S	1129.70	1120.30	2680	0.0035	2680	3.4	3	1	0	0	68	110
RGA9	S	1120.30	1112.60	2660	0.0029	2660	3.1	3	1	0	0	68	110
RGA10	S	1112.60	1106.00	2610	0.0025	2610	2.9	3	1	0	0	68	110
RGA11	S	1106.00	1095.30	2630	0.0041	2630	3.7	2	1	0	0	68	110
RGA12	S	1095.30	1089.90	2690	0.0020	2690	2.6	4	1	0	0	68	110
RGA13	S	1089.90	1078.20	2650	0.0044	2650	3.8	2	1	0	0	68	110
RGA14	S	1078.20	1068.00	2580	0.0040	2580	3.6	2	1	0	0	68	110
RGA15	S	1068.00	1066.70	2690	0.0005	2690	1.3	7	1	0	0	68	110
RBH1	S	1162.20	1159.20	2630	0.0011	2630	1.9	5	1	0	0	68	110
RBH2	S	1162.20	1159.10	2650	0.0012	2650	2.0	4	1	0	0	68	110
RBH3	S	1157.30	1153.30	2610	0.0015	2610	2.2	4	1	0	0	68	110
RBH4	S	1153.30	1149.40	2590	0.0015	2590	2.2	4	1	0	0	68	110
RBH5	S	1143.20	1137.50	2740	0.0021	2740	2.6	3	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

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NMIN = 5 minutes

Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
RBH6	S	1137.50	1128.80	2690	0.0032	2690	3.2	3	1	0	0	68	110
RBH7	S	1128.80	1122.30	2510	0.0026	2510	2.9	3	1	0	0	68	110
RBH8	S	1122.30	1112.60	2650	0.0037	2650	3.5	3	1	0	0	68	110
RBH9	S	1112.60	1102.20	2680	0.0039	2680	3.6	3	1	0	0	68	110
RBH10	S	1102.20	1093.20	2590	0.0035	2590	3.4	3	1	0	0	68	110
RBH11	S	1093.20	1084.20	2620	0.0034	2620	3.3	3	1	0	0	68	110
RBH12	B	1084.20	1068.00	5220	0.0031	5220	3.2	5	0	0	2	70	100
RBH13	B	1068.00	1056.00	5290	0.0023	5290	2.7	6	0	0	2	70	100
RBH14	B	1056.00	1054.00	2270	0.0009	2270	1.7	4	0	0	2	70	100
RCB1	S	1137.00	1133.30	3540	0.0010	3540	1.8	7	1	0	0	68	110
RCB2	S	1133.30	1127.10	2430	0.0026	2710	2.9	3	1	0	0	68	110
RCB3	S	1127.10	1121.40	2980	0.0019	2710	2.5	4	1	0	0	68	110
RCB4	S	1121.40	1113.80	2640	0.0029	2640	3.1	3	1	0	0	68	110
RCB5	S	1113.80	1108.40	2520	0.0021	2520	2.6	3	1	0	0	68	110
RCB6	S	1108.40	1101.20	2470	0.0029	2470	3.1	3	1	0	0	68	110
RCB7	S	1101.20	1095.30	2810	0.0021	2810	2.6	4	1	0	0	68	110
RCB8	S	1095.30	1084.70	2510	0.0042	2510	3.7	2	1	0	0	68	110
RCB9	S	1084.70	1075.50	2770	0.0033	2770	3.3	3	1	0	0	68	110
RCB10	S	1075.50	1063.70	2650	0.0045	2650	3.8	2	1	0	0	68	110
RCB11	S	1063.70	1056.40	2650	0.0028	2650	3.0	3	1	0	0	68	110
RCB12	S	1056.40	1047.90	2730	0.0031	2730	3.2	3	1	0	0	68	110
RCB13	S	1047.90	1041.80	2640	0.0023	2640	2.7	3	1	0	0	68	110
RCB14	S	1041.80	1037.50	2640	0.0016	2640	2.3	4	1	0	0	68	110
RCB15	S	1037.50	1034.50	2630	0.0011	2630	1.9	5	1	0	0	68	110
RIS1	S	1116.00	1115.00	1400	0.0007	1400	1.5	3	1	0	0	68	110
RIS2	S	1115.50	1113.70	2650	0.0007	2650	1.5	6	1	0	0	68	110
RIS3	S	1113.70	1109.80	2710	0.0014	2710	2.1	4	1	0	0	68	110
RIS4	S	1109.80	1105.50	2710	0.0016	2710	2.3	4	1	0	0	68	110
RIS5	S	1105.50	1100.40	2680	0.0019	2680	2.5	4	1	0	0	68	110
RIS6	S	1100.40	1092.00	1420	0.0059	1420	4.6	1	1	0	0	68	110
RIS7	S	1091.40	1084.70	2650	0.0025	2650	2.9	3	1	0	0	68	110
RIS8	S	1084.70	1078.40	2650	0.0024	2650	2.8	3	1	0	0	68	110
RIS9	S	1078.40	1071.50	2520	0.0027	2520	3.0	3	1	0	0	68	110
RIS10	S	1071.50	1063.10	2760	0.0030	2760	3.1	3	1	0	0	68	110
RIS11	S	1063.10	1055.20	2670	0.0030	2670	3.1	3	1	0	0	68	110
RIS12	S	1055.20	1047.20	2640	0.0030	2640	3.1	3	1	0	0	68	110
RIS13	S	1047.20	1038.00	2670	0.0034	2670	3.3	3	1	0	0	68	110
RIS14	S	1038.00	1031.70	2620	0.0024	2620	2.8	3	1	0	0	68	110
RIS15	S	1031.70	1025.40	2640	0.0024	2640	2.8	3	1	0	0	68	110
RIS16	S	1025.40	1020.30	2800	0.0018	2800	2.4	4	1	0	0	68	110
RIS17	S	1020.30	1016.60	2560	0.0014	2560	2.1	4	1	0	0	68	110
RIS18	S	1016.60	1013.80	2500	0.0011	2500	1.9	4	1	0	0	68	110
RTR1	S	1096.80	1095.30	2640	0.0006	2640	1.4	6	1	0	0	68	110
RTR2	S	1095.30	1093.70	2640	0.0006	2640	1.4	6	1	0	0	68	110
RTR3	S	1093.70	1093.40	2660	0.0001	2660	0.6	16	1	0	0	68	110
RTR4	S	1093.80	1091.30	2820	0.0009	2820	1.7	5	1	0	0	68	110

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

S = Street Route, B = Basin Route
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NMIN = 5 minutes

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TB = Thunderbird Road	BH = Bethany Home Road
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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
RTR5	S	1091.30	1087.50	2720	0.0014	2720	2.1	4	1	0	0	68	110
RTR6	S	1087.50	1084.10	2600	0.0013	2600	2.1	4	1	0	0	68	110
RTR7	S	1084.10	1080.20	2630	0.0015	2630	2.2	4	1	0	0	68	110
RTR8	S	1080.20	1076.80	2520	0.0013	2520	2.1	4	1	0	0	68	110
RTR9	S	1076.80	1071.10	2630	0.0022	2630	2.7	3	1	0	0	68	110
RTR10	S	1071.10	1064.40	2670	0.0025	2670	2.9	3	1	0	0	68	110
RTR11	S	1064.40	1056.80	2600	0.0029	2600	3.1	3	1	0	0	68	110
RTR12	S	1056.80	1051.20	2620	0.0021	2620	2.6	3	1	0	0	68	110
RTR13	S	1051.20	1044.90	2640	0.0024	2640	2.8	3	1	0	0	68	110
RTR14	S	1044.90	1036.60	2650	0.0031	2650	3.2	3	1	0	0	68	110
RTR15	S	1036.60	1031.90	2650	0.0018	2650	2.4	4	1	0	0	68	110
RTR16	S	1031.90	1026.70	2640	0.0020	2640	2.6	3	1	0	0	68	110
RTR17	S	1026.70	1022.00	2530	0.0019	2530	2.5	3	1	0	0	68	110
RTR18	S	1015.20	1010.00	3130	0.0017	2390	2.4	3	1	0	0	68	110
RTR19	S	1010.00	1008.40	2060	0.0008	2800	1.6	6	1	0	0	68	110
RMD1	S	1080.90	1079.60	2630	0.0005	2630	1.3	7	1	0	0	68	110
RMD2	S	1079.60	1076.20	2670	0.0013	2670	2.1	4	1	0	0	68	110
RMD3	S	1076.20	1075.70	2620	0.0002	2620	0.8	11	1	0	0	68	110
RMD4	S	1075.70	1073.70	2670	0.0007	2670	1.5	6	1	0	0	68	110
RMD5	S	1073.70	1073.10	2780	0.0002	2780	0.8	11	1	0	0	68	110
RMD6	S	1073.10	1070.60	2630	0.0010	2630	1.8	5	1	0	0	68	110
RMD7	S	1070.60	1065.50	2660	0.0019	2660	2.5	4	1	0	0	68	110
RMD8	S	1065.50	1060.00	2620	0.0021	2620	2.6	3	1	0	0	68	110
RMD9	S	1060.00	1057.60	2530	0.0009	2530	1.7	5	1	0	0	68	110
RMD10	S	1057.60	1054.10	2630	0.0013	2630	2.1	4	1	0	0	68	110
RMD11	S	1054.10	1049.60	2640	0.0017	2640	2.4	4	1	0	0	68	110
RMD12	S	1049.60	1042.70	2630	0.0026	2630	2.9	3	1	0	0	68	110
RMD13	S	1042.70	1036.10	2680	0.0025	2680	2.9	3	1	0	0	68	110
RMD14	S	1036.10	1028.70	2620	0.0028	2620	3.0	3	1	0	0	68	110
RMD15	S	1028.70	1025.00	2560	0.0014	2560	2.1	4	1	0	0	68	110
RMD16	S	1025.00	1021.70	5320	0.0006	2660	1.4	6	1	0	0	68	110
RMD16A	S	1025.00	1021.70	5320	0.0006	2660	1.4	6	1	0	0	68	110
RMD17	S	1021.70	1016.90	2660	0.0018	2660	2.4	4	1	0	0	68	110
RMD18	S	1016.90	1010.90	2620	0.0023	2620	2.7	3	1	0	0	68	110
RMD19	S	1010.90	1005.60	2650	0.0020	2650	2.6	3	1	0	0	68	110
RMD20	S	1005.60	998.90	2450	0.0027	2450	3.0	3	1	0	0	68	110
RMD21	S	998.90	994.00	2650	0.0018	2650	2.4	4	1	0	0	68	110
RMD22	S	994.00	974.00	4840	0.0041	4840	3.7	4	1	0	0	68	110
RGR1	S		Not Used										
RGR2	S		Not Used										
RGR3	S	1152.80	1149.70	3760	0.0008	3760	1.6	8	Special Case			88	93
RGR4	S	1149.70	1146.10	3690	0.0010	3690	1.8	7	Special Case			88	93
RGR5	S	1146.10	1140.40	3620	0.0016	3620	2.3	5	Special Case			88	93
RGR6	S	1140.40	1129.00	3760	0.0030	3760	3.1	4	Special Case			88	93
RGR7	S	1129.00	1117.40	3690	0.0031	3690	3.2	4	Special Case			88	93
RGR8	S	1117.40	1112.60	4000	0.0012	4000	2.0	7	Special Case			88	93

Wood/Patel

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R1W11S	B	994.00	974.00	5840	0.0034	5840	3.3	6	0	0	1	35	50
R1W11W	CHNL	981.00	976.00	5340	0.0009	5340	5.0	4					
R1W11A	CHNL	976.00	973.00	2040	0.0015	2040	6.4	1					
R111S	B	1054.00	1048.00	3220	0.0019	3220	2.5	4	0	0	3	105	150
R111W	CHNL	1048.00	1024.00	5000	0.0020	5000	7.4	3					
R211S	B	1042.70	1034.00	3250	0.0027	3250	3.0	4	0	0	1	35	50
R211W	CHNL	1022.60	1014.00	5130	0.0016	5130	6.6	3					
R311S	B	1028.70	1026.00	2790	0.0010	2790	1.8	5	0	0	1	35	50
R311W	CHNL	1012.50	1004.00	5170	0.0016	5170	6.6	3					
R411S	B	1021.20	1018.00	3170	0.0010	3170	1.8	6	0	0	1	35	50
R411W	CHNL	1004.90	1000.00	5220	0.0008	5220	4.7	4					
R511S	B	1016.90	1010.00	2800	0.0025	2800	2.9	3	0	0	2	70	100
R511W	CHNL	1000.10	991.60	5290	0.0017	5290	6.8	3					
R611S	B	1005.60	996.00	2930	0.0033	2930	3.3	3	0	0	1	35	50
R611W	CHNL	991.00	981.00	5150	0.0019	5150	7.2	2					
R212S	B	1079.60	1070.00	3590	0.0027	3590	3.0	4	0	1	4	183	270
R212W	B	1076.00	1074.00	5300	0.0004	5300	1.1	15	0	0	1	35	50
R312S	B	1075.70	1070.00	3840	0.0015	3840	2.2	6	0	1	3	148	220
R312W	B	1074.00	1070.00	5430	0.0007	5430	1.5	12	0	0	2	70	100
R412S	B	1074.00	1070.00	3390	0.0012	3390	2.0	6	0	3	0	129	210
R412W	CHNL	1065.80	1061.00	5180	0.0027	5180	8.6	2					
R512S	B	1070.00	1064.00	3210	0.0019	3210	2.5	4	0	0	1	35	50
R512W	CHNL	1051.00	1042.00	5150	0.0017	5150	6.8	3					
R612S	B	1060.00	1055.30	2620	0.0018	2620	2.4	4	0	1	0	43	70
R612W	CHNL	1040.00	1034.00	5060	0.0012	5060	5.7	3					
R121S	B	1134.90	1120.30	5310	0.0027	5310	3.0	6	0	1	0	43	70
R121W	B	1134.50	1121.30	5290	0.0025	5290	2.9	6	0	1	2	113	170
R221S	B	1113.20	1106.00	5270	0.0014	5270	2.1	8	0	0	1	35	50
R221W	B	1121.30	1105.90	5300	0.0029	5300	3.1	6	0	1	0	43	70
R321S	B	1097.10	1089.90	5280	0.0014	5280	2.1	8	0	0	1	35	50
R321W	B	1104.00	1086.60	5310	0.0033	5310	3.3	5	0	0	1	35	50
R421S	B	1086.00	1076.00	2410	0.0041	2410	3.7	2	0	0	1	35	50
R421W	B	1086.60	1076.00	4830	0.0022	4830	2.7	6	0	0	1	35	50

Wood/Patel

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R821EW	B	1059.00	1051.10	3300	0.0024	3300	2.8	4	0	1	0	43	70
R921S	B	1068.00	1060.80	5160	0.0014	5160	2.1	8	0	0	1	35	50
R921W	B	1071.90	1059.00	5280	0.0024	5280	2.8	6	0	1	0	43	70
R1021S	B	1089.90	1072.00	5140	0.0035	5140	3.4	5	0	0	1	35	50
R1021W	B	1088.80	1071.90	5260	0.0032	5260	3.2	5	0	1	1	78	120
R1121S	B	1106.00	1093.20	5300	0.0024	5960	2.8	7	0	1	0	43	70
R1121W	B	1107.10	1088.80	5240	0.0035	5240	3.4	5	0	0	1	35	50
R1221S	B	1120.30	1112.60	5220	0.0015	5220	2.2	8	0	1	0	43	70
R1221W	B	1126.40	1107.10	5330	0.0036	5330	3.4	5	0	1	1	78	120
R1321S	B	1112.60	1101.20	5630	0.0020	5630	2.6	7	0	1	3	148	220
R1321W	B	1115.70	1098.90	5320	0.0032	5320	3.2	5	0	1	4	183	270
R1421S	B	1093.20	1084.80	3400	0.0025	3400	2.9	4	0	0	1	35	50
R1421W	B	1098.90	1084.80	5360	0.0026	5360	2.9	6	0	0	1	35	50
R1521S	B	1074.40	1063.70	5220	0.0020	5220	2.6	7	0	0	1	35	50
R1521W	B	1080.10	1059.00	5280	0.0040	5280	3.6	5	0	1	0	43	70
R1621S	B	1060.80	1047.90	5260	0.0025	5260	2.9	6	0	0	1	35	50
R1621W	B	1060.10	1048.70	5300	0.0022	5300	2.7	7	0	1	2	113	170
R1721W	B	1048.70	1033.20	6515	0.0024	6515	2.8	8	0	0	1	35	50
R1821W	B	1050.00	1026.00	8950	0.0027	8950	3.0	10	0	0	2	70	100
R1921W	B	1025.60	1015.30	2640	0.0039	2640	3.6	2	0	1	1	78	120
R2021S	B	1037.50	1025.40	5800	0.0021	5800	2.6	7	0	1	1	78	120
R2021W	B	1036.80	1024.70	6000	0.0020	6000	2.6	8	0	1	1	78	120
R2121S	B	1047.90	1038.00	5310	0.0019	5310	2.5	7	0	0	2	70	100
R2121W	B	1050.50	1036.80	5050	0.0027	5050	3.0	6	0	0	3	105	150
R2221S	B	1063.70	1055.20	5290	0.0016	5290	2.3	8	0	1	1	78	120
R2221W	B	1069.80	1050.50	5260	0.0037	5260	3.5	5	0	1	0	43	70
R2321S	B	1084.70	1069.80	5010	0.0030	5010	3.1	5	0	1	3	148	220
R2321W	B	1087.70	1071.50	5030	0.0032	5030	3.2	5	0	1	8	323	470
R2421S	B	1101.20	1094.20	3800	0.0018	3800	2.4	5	0	1	0	43	70
R2421W	B	1098.70	1094.20	5790	0.0008	5790	1.6	12	0	1	6	253	370
R2521S	B	1084.70	1071.10	5300	0.0026	5300	2.9	6	0	1	1	78	120
R2521W	B	1084.70	1070.30	5390	0.0027	5390	3.0	6	0	1	3	148	220

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: J. GEISBUSH
Checked: D. DUST
Project No. 132586

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a	110	68
c	70	43
r	50	35

NMIN = 5 minutes

Streets

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R2621S	B	1072.00	1056.80	5250	0.0029	5700	3.1	6	0	1	6	253	370
R2621W	B	1070.30	1057.60	5280	0.0024	5280	2.8	6	0	1	4	183	270
R2721S	B	1055.20	1044.90	5300	0.0019	5700	2.5	8	0	1	3	148	220
R2721W	B	1057.60	1043.10	5280	0.0027	5280	3.0	6	0	1	3	148	220
R2821S	B	1038.00	1031.90	5340	0.0011	5700	1.9	10	0	0	1	35	50
R2821W	B	1043.10	1029.20	5300	0.0026	5300	2.9	6	0	0	1	35	50
R2921S	B	1025.40	1019.90	2680	0.0021	5700	2.6	7	0	0	1	35	50
R2921W	B	1029.20	1019.90	2640	0.0035	2640	3.4	3	0	0	1	35	50
R2921A	B	1017.00	1015.00	2610	0.0008	2610	1.6	5	0	0	3	105	150
R3021W	B	1018.00	1010.00	3540	0.0023	3540	2.7	4	0	1	0	43	70
R3021R*	CURB	1010.00	1004.00	2030	0.0030	2030	3.5	2	10' Bottom Width, 2:1 sides				
R3121S	B	1010.00	1005.60	5240	0.0008	5240	1.6	11	0	0	1	35	50
R3321S	B	1031.90	1022.00	5160	0.0019	5160	2.5	7	0	0	1	35	50
R3321W	B	1030.40	1025.90	5300	0.0008	5300	1.6	11	0	0	1	35	50
R3421S	B	1044.90	1028.70	6140	0.0026	6140	2.9	7	0	1	2	113	170
R3421W	B	1042.80	1030.40	5460	0.0023	5460	2.7	7	0	1	1	78	120
R3521S	B	1056.80	1042.70	5150	0.0027	5150	3.0	6	0	0	1	35	50
R3521W	B	1057.10	1042.80	5220	0.0027	5220	3.0	6	0	0	1	35	50
R3621S	B	1071.10	1054.10	5290	0.0032	5290	3.2	5	0	1	2	113	170
R3621W	B	1066.90	1057.10	5330	0.0018	5330	2.4	7	0	1	7	288	420
R3621A	B	1002.90	980.30	3400	0.0066	3400	5.2	2	0	1	0	43	70
R0222S	B	1202.00	1180.90	5240	0.0040	5240	3.6	5	0	1	2	113	170
R0222W*	B	1190.00	1178.00	4100	0.0029	4100	3.1	4	0	0	2	70	100
R0322S	B	1195.40	1178.70	5260	0.0032	5260	3.2	5	0	1	2	113	170
R0322W	B	1192.40	1179.80	5210	0.0024	5210	2.8	6	0	1	4	183	270
R0422S	B	1186.80	1167.90	5260	0.0036	5260	3.4	5	0	1	2	113	170
R0422W	B	1179.80	1171.20	5240	0.0016	5240	2.3	8	0	1	2	113	170
R0522S	B	1168.70	1159.30	5300	0.0018	5300	2.4	7	0	1	2	113	170
R0522W	B	1171.20	1154.60	5360	0.0031	5360	3.2	6	0	1	2	113	170
R622ES	B	1154.50	1142.00	6250	0.0020	6250	2.6	8	0	1	2	113	170
R622EW	B	1154.60	1142.00	5300	0.0024	5300	2.8	6	0	1	2	113	170
R622WW	B	1142.00	1134.60	2200	0.0034	2200	3.3	2	0	0	2	70	100

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS**
Routings Using Normal Depth

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

S = Street Route, B = Basin Route
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Streets

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R722S	B	1140.20	1128.80	5240	0.0022	5240	2.7	7	0	1	5	218	320
R722W	B	1143.10	1122.40	5200	0.0040	5200	3.6	5	0	1	3	148	220
R822ES	B	1159.30	1152.80	2620	0.0025	2620	2.9	3	0	1	6	253	370
R822EW	B	1154.90	1152.80	2630	0.0008	2630	1.6	5	0	1	2	113	170
R822WW	B	1150.00	1143.20	3090	0.0022	3090	2.7	4	1	0	0	68	110
R0922S	B	1168.00	1153.30	5230	0.0028	5230	3.0	6	0	1	2	113	170
R0922W	B	1165.30	1154.90	5240	0.0020	5240	2.6	7	0	1	4	183	270
R1022S	B	1178.70	1160.80	5260	0.0034	5260	3.3	5	0	1	0	43	70
R1122S	B	1180.90	1162.20	5250	0.0036	5250	3.4	5	0	1	1	78	120
R1622S	B	1153.30	1145.00	2650	0.0031	2650	3.2	3	0	1	1	78	120
R1622W	B	1148.00	1145.00	2550	0.0012	2550	2.0	4	0	1	1	78	120
R1722S	B	1143.20	1126.50	5370	0.0031	5370	3.2	6	0	1	1	78	120
R1722W	B	1140.20	1128.40	5380	0.0022	5380	2.7	7	0	1	1	78	120
R1822S	B	1128.30	1113.80	5440	0.0027	5440	3.0	6	0	1	1	78	120
R1822W	B	1128.40	1115.70	5200	0.0024	5200	2.8	6	0	1	1	78	120
R1922S	B	1113.80	1100.40	5320	0.0025	5320	2.9	6	0	1	4	183	270
R1922W	B	1112.90	1098.70	5170	0.0027	5170	3.0	6	0	1	3	148	220
R2022S	B	1126.60	1109.80	5340	0.0031	5340	3.2	6	0	1	3	148	220
R2022W	B	1122.20	1112.90	5400	0.0017	5400	2.4	8	0	1	1	78	120
R2122S	B	1136.30	1115.20	5330	0.0040	5330	3.6	5	0	2	0	86	140
R2122W	B	1130.50	1113.00	4980	0.0035	4980	3.4	5	0	0	1	35	50
R2622S	B	1112.80	1097.10	3710	0.0042	3710	3.7	3	0	0	3	105	150
R2722S	B	1114.90	1106.00	3060	0.0029	3060	3.1	3	0	1	2	113	170
R2722W	B	1113.00	1106.00	4660	0.0015	4660	2.2	7	0	0	1	35	50
R2722A	B	1108.00	1093.70	3550	0.0040	3550	3.6	3	0	1	3	148	220
R2722B	B	1108.30	1103.60	5300	0.0009	5300	1.7	10	0	1	1	78	120
R2822S	B	1115.30	1105.00	2250	0.0046	2250	3.9	2	0	1	4	183	270
R2822W	B	1107.00	1105.00	2640	0.0008	2640	1.6	5	0	0	3	105	150
R2822A	B	1102.00	1093.80	2760	0.0030	2760	3.1	3	0	1	3	148	220
R2822B	B	1103.60	1091.30	7290	0.0017	7290	2.4	10	0	1	3	148	220
R2922S	B	1109.80	1101.00	2040	0.0043	2040	3.7	2	0	1	4	183	270
R2922A	B	1102.00	1087.50	2890	0.0050	2890	4.0	2	0	1	4	183	270
R2922B	B	1100.00	1094.00	5300	0.0011	5300	1.9	9	0	1	4	183	270
R3022S	B	1100.40	1092.00	2250	0.0037	2250	3.5	2	0	0	2	70	100

Wood/Patel

CH2M HILL

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By: J. GEISBUSH
Checked: D. DUST
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Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Streets

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NMIN = 5 minutes

Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R3022A	B	1096.00	1080.20	4000	0.0039	4000	3.6	4	0	1	2	113	170
R3022B	B	1094.00	1084.70	5080	0.0018	5080	2.4	7	0	1	6	253	370
R3122S	B	1080.20	1059.90	5280	0.0038	5280	3.5	5	0	1	2	113	170
R3122W	B	1073.80	1066.90	5200	0.0013	5200	2.1	8	0	1	7	288	420
R3222S	B	1087.50	1070.60	5260	0.0032	5260	3.2	5	0	1	2	113	170
R3222W	B	1081.60	1073.80	5270	0.0015	5270	2.2	8	0	1	4	183	270
R3322S	B	1093.80	1073.70	5340	0.0038	5340	3.5	5	0	1	4	183	270
R3422S	B	1093.70	1075.70	5310	0.0034	5310	3.3	5	0	1	4	183	270
R3422W	B	1084.10	1082.30	5290	0.0003	5290	1.0	18	0	1	7	288	420
R3522S	B	1096.80	1079.60	5400	0.0032	5400	3.2	6	0	1	4	183	270
R3522W	B	1087.20	1084.10	5310	0.0006	5310	1.4	13	0	1	2	113	170
R1131S	B	1190.00	1176.50	5200	0.0026	5350	2.9	6	0	0	1	35	50
R1131W	B	1194.00	1175.10	5290	0.0036	5290	3.4	5	0	1	4	183	270
R1331S	B	1192.80	1166.50	5240	0.0050	5240	4.0	4	0	1	3	148	220
R1331W	B	1191.40	1174.10	5310	0.0033	5310	3.3	5	0	1	5	218	320
R1431S	B	1176.50	1159.00	5220	0.0034	5220	3.3	5	0	1	3	148	220
R1431W	B	1174.10	1160.50	5340	0.0025	5340	2.9	6	0	1	1	78	120
R1531W	B	1160.80	1152.00	2630	0.0033	4450	3.3	5	0	1	5	218	320
R2231E	B	1140.00	1130.80	4350	0.0021	4350	2.6	6	0	0	2	70	100
R2231W	B	1138.50	1124.30	3160	0.0045	3160	3.8	3	0	0	2	70	100
R2231S	B	1138.90	1120.30	4200	0.0044	4200	3.8	4	1	0	2	138	210
R2231N	B	1152.00	1124.50	6150	0.0045	6150	3.8	5	0	0	2	70	100
R2331S	B	1166.80	1145.00	5220	0.0042	5220	3.7	5	0	1	2	113	170
R2331W	B	1160.90	1142.40	5310	0.0035	5310	3.4	5	0	1	3	148	220
R2431S	B	1176.40	1157.50	5230	0.0036	5230	3.4	5	0	1	2	113	170
R2431W	B	1176.50	1160.90	5310	0.0029	5310	3.1	6	0	1	4	183	270
R2531S	B	1157.50	1144.40	5220	0.0025	5220	2.9	6	0	1	3	148	220
R2531W	B	1161.80	1141.60	5290	0.0038	5290	3.5	5	0	1	4	183	270
R2631W	B	1141.50	1130.20	2310	0.0049	2310	4.0	2	0	0	2	70	100
R2731S	B	1126.60	1117.70	5240	0.0017	5240	2.4	7	0	1	2	113	170
R2731W	B	1130.20	1113.70	5280	0.0031	5280	3.2	6	0	1	2	113	170
R2831	B	1113.70	1092.40	2790	0.0076	2790	6.5	1	0	0	1	35	50

Wood/Patel

CH2M HILL

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c	70	43
r	50	35

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Route ID	Route Type	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Slope, ft/ft	Reach Length, ft.	Ave. Vel., ft/s	NSTPS	Number of Streets Art.'s	Coll.'s	Resid.'s	Total PW, ft.	Total R/W, ft.
R3331W	B	1102.80	1088.50	3920	0.0036	3920	3.4	4	0	0	1	35	50
R3431S	B	1117.70	1097.10	5240	0.0039	5240	3.6	5	0	1	2	113	170
R3431W	B	1111.70	1102.80	5210	0.0017	5210	2.4	7	0	1	2	113	170
R3531S	B	1127.90	1113.20	5220	0.0028	5220	3.0	6	0	1	2	113	170
R3531W	B	1127.00	1112.40	5310	0.0027	5310	3.0	6	0	1	0	43	70
R3631W	B	1146.60	1135.10	6200	0.0019	6200	2.5	8	0	1	1	78	120
R3631	B	1137.00	1129.00	2290	0.0035	2290	3.4	2	0	0	1	35	50
R1932S	B	1193.54	1177.10	5225	0.0031	5225	3.2	5	0	1	2	113	170
R1932W	B	1194.00	1176.50	5085	0.0034	5100	3.3	5	0	1	3	148	220
R2032W	B	1211.80	1194.00	5270	0.0034	5270	3.3	5	0	1	4	183	270
R2832S	B	1214.40	1198.50	5190	0.0031	5190	3.2	5	0	1	3	148	220
R2832W	B	1212.70	1198.10	5280	0.0028	5280	3.0	6	0	1	4	183	270
R2932S	B	1196.60	1180.70	5220	0.0030	5220	3.1	6	0	1	4	183	270
R2932W	B	1198.10	1177.90	5260	0.0038	5260	3.5	5	0	1	5	218	320
R3032S	B	1177.10	1162.30	5220	0.0028	5220	3.0	6	0	1	3	148	220
R3032W	B	1177.90	1161.80	5070	0.0032	5070	3.2	5	0	0	1	35	50
R3132S	B	1162.30	1149.00	5190	0.0026	5190	2.9	6	0	1	2	113	170
R3132W	B	1163.80	1146.70	5100	0.0034	5100	3.3	5	0	0	2	70	100
R3132S	B	1080.20	1059.90	5300	0.0038	5300	3.5	5	0	1	3	148	220
R3132W	B	1073.80	1066.90	5180	0.0013	5180	2.1	8	0	1	9	358	520
R3232S	B	1087.50	1070.60	5300	0.0032	5300	3.2	5	0	1	2	113	170
R3232W	B	1081.60	1073.80	5290	0.0015	5290	2.2	8	0	1	4	183	270
R3232S	B	1180.70	1168.70	5200	0.0023	5200	2.7	6	0	1	2	113	170
R3232W	B	1184.70	1164.40	5420	0.0037	5420	3.5	5	0	1	3	148	220
R3332S	B	1198.50	1186.80	5200	0.0023	5200	2.7	6	0	1	3	148	220
R3332W	B	1200.30	1184.70	5270	0.0030	5270	3.1	6	0	1	5	218	320
R3432S	B	1215.90	1195.40	5200	0.0039	5200	3.6	5	0	1	3	148	220
R3432W	B	1209.40	1200.30	5280	0.0017	5280	2.4	7	0	0	9	315	450
R3532S	B	1222.80	1202.00	5220	0.0040	5220	3.6	5	0	1	3	148	220

* Not Used

For Estimation of NSTPS: Average Velocity Calculations for Arterial & Composite Street Routes

Arterial Q vs. slope for d=1.0 ft.
Rating Table for Irregular Channel

Project Description	
Project File	p:\sww\132586\hyd\streetq.fm2
Worksheet	MARYVALE ADMS: Art. Capacity
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Constant Data	
Water Surface Elevation	101.00 ft

Input Data			
	Minimum	Maximum	Increment
Channel Slope	0.000100	0.005000	0.000100 ft/ft

Rating Table		
Channel Slope (ft/ft)	Wtd. Mannings Coefficient	Discharge (cfs)
0.000100	0.018	18.81
0.000200	0.018	26.60
0.000300	0.018	32.58
0.000400	0.018	37.62
0.000500	0.018	42.06
0.000600	0.018	46.07
0.000700	0.018	49.76
0.000800	0.018	53.20
0.000900	0.018	56.43
0.001000	0.018	59.48
0.001100	0.018	62.38
0.001200	0.018	65.16
0.001300	0.018	67.82
0.001400	0.018	70.38
0.001500	0.018	72.85
0.001600	0.018	75.24
0.001700	0.018	77.55
0.001800	0.018	79.80
0.001900	0.018	81.99
0.002000	0.018	84.12
0.002100	0.018	86.19
0.002200	0.018	88.22
0.002300	0.018	90.21
0.002400	0.018	92.15
0.002500	0.018	94.05
0.002600	0.018	95.91

Note:

- Rating Table information used to estimate the average velocity needed to estimate "NSTPS" on the RC-Card

$$V = \frac{Q_{cfs}}{32.95\ ft^2} = \frac{Q}{A}$$

- Assumed a gutter depth of 1' to represent an average condition.
- A = Flow area for half street (32.95 sf)

Arterial Q vs. slope for d=1.0 ft.
Rating Table for Irregular Channel

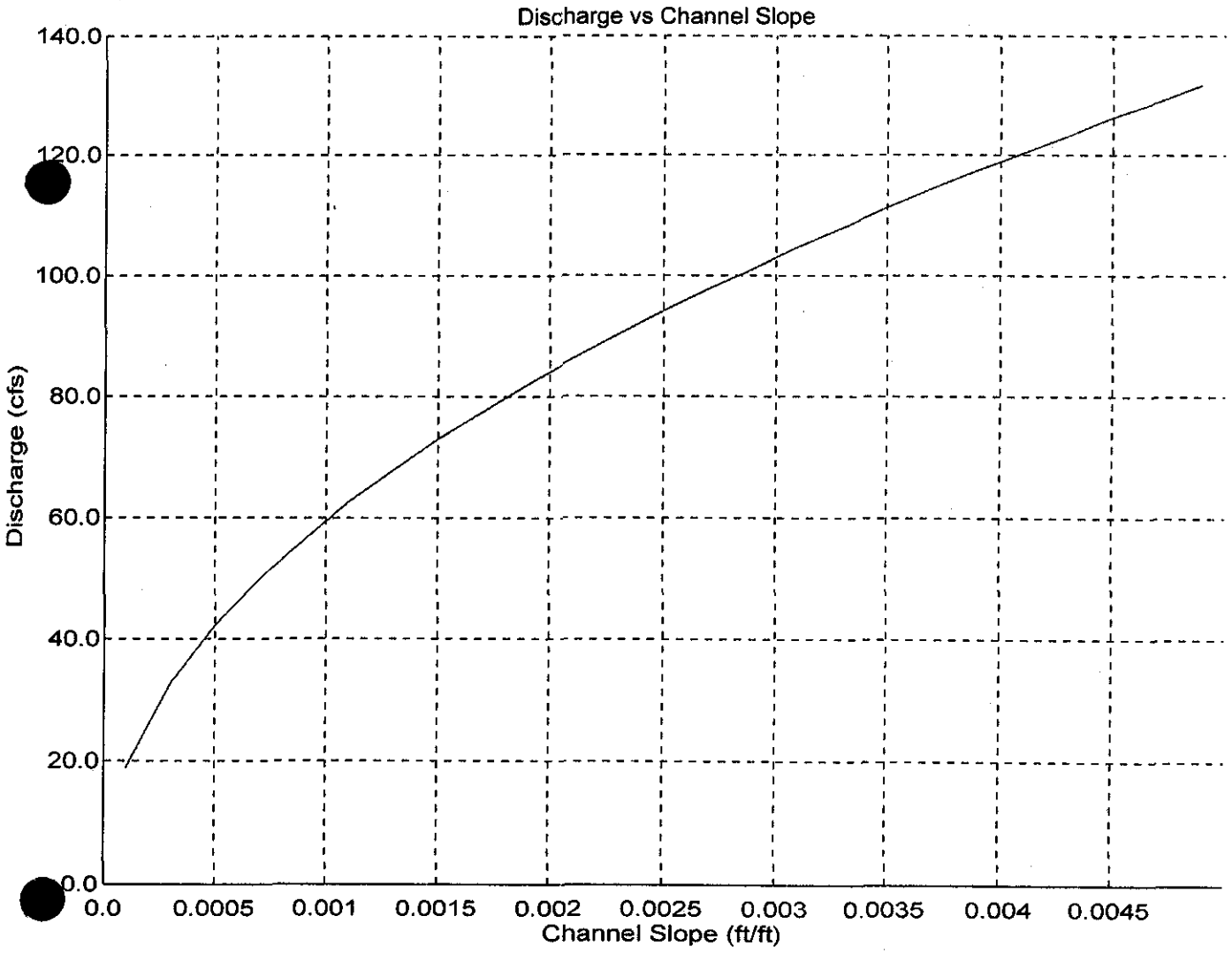
Rating Table		
Channel Slope (ft/ft)	Wtd. Mannings Coefficient	Discharge (cfs)
0.002700	0.018	97.74
0.002800	0.018	99.53
0.002900	0.018	101.29
0.003000	0.018	103.02
0.003100	0.018	104.73
0.003200	0.018	106.40
0.003300	0.018	108.05
0.003400	0.018	109.68
0.003500	0.018	111.28
0.003600	0.018	112.86
0.003700	0.018	114.41
0.003800	0.018	115.95
0.003900	0.018	117.46
0.004000	0.018	118.96
0.004100	0.018	120.44
0.004200	0.018	121.90
0.004300	0.018	123.34
0.004400	0.018	124.77
0.004500	0.018	126.18
0.004600	0.018	127.57
0.004700	0.018	128.95
0.004800	0.018	130.31
0.004900	0.018	131.66
0.005000	0.018	133.00

Arterial Q vs. slope for d=1.0 ft.
Plotted Curves for Irregular Channel

Project Description	
Project File	p:\sww\132586\hyd\streetq.fm2
Worksheet	MARYVALE ADMS: Art. Capacity
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Constant Data	
Water Surface Elevation	101.00 ft

Input Data			
	Minimum	Maximum	Increment
Channel Slope	0.000100	0.005000	0.000200 ft/ft



Arterial Q for d=1.0 ft.
Worksheet for Irregular Channel

Project Description	
Project File	p:\sww\132586\hyd\streetq.fm2
Worksheet	MARYVALE ADMS: Art. Capacity
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Channel Slope	0.000750	ft/ft
Water Surface Elevation	101.00	ft

Elevation range: 100.00 ft to 100.68 ft.

Station (ft)	Elevation (ft)	Start Station	End Station	Roughness
0.00	100.50	0.00	21.00	0.030
21.00	100.50	21.00	55.00	0.016
21.10	100.00			
55.00	100.68			

Results		
Wtd. Mannings Coefficient	0.018	
Discharge	51.51	cfs
Flow Area	32.95	ft²
Wetted Perimeter	56.24	ft
Top Width	55.00	ft
Height	1.00	ft
Critical Depth	100.70	ft
Critical Slope	0.006321	ft/ft
Velocity	1.56	ft/s
Velocity Head	0.04	ft
Specific Energy	101.04	ft
Froude Number	0.36	

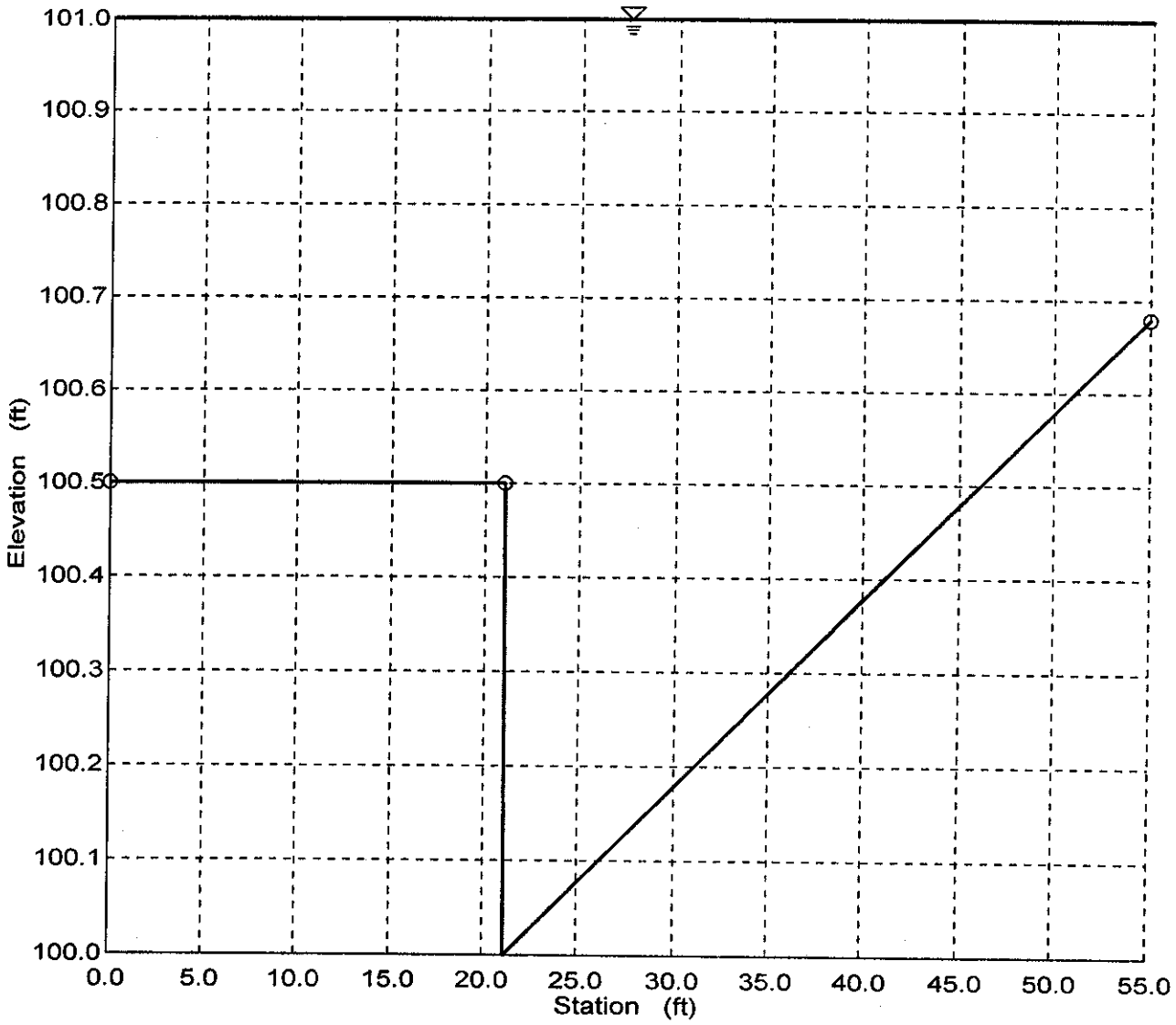
Flow is subcritical.

Water elevation exceeds lowest end station by 0.50 ft.

Arterial Q for d=1.0 ft.
Cross Section for Irregular Channel

Project Description	
Project File	p:\sww\132586\hyd\streetq.fm2
Worksheet	MARYVALE ADMS: Art. Capacity
Flow Element	Irregular Channel
Method	Manning's Formula
Solve For	Discharge

Section Data		
Wtd. Mannings Coefficient	0.018	
Channel Slope	0.000750	ft/ft
Water Surface Elevation	101.00	ft
Discharge	51.51	cfs

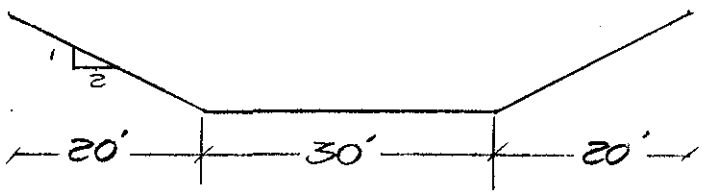


For Estimation of NSTPS:
Average Velocity Calculations for Channel Routes

RADOT2

ASSUMED CHANNEL CONFIGURATION

70' TOP WIDTH 2:1 SIDE SLOPES
30' BOTTOM WIDTH 10' DEEP



HEC-1 CHANNEL ROUTE

RX	Ø	1Ø	15	2Ø	5Ø	55	6Ø	7Ø
RY	1Ø	5	2.5	Ø	Ø	2.5	5	1Ø

$$\text{SLOPE} \approx \frac{87.9 - 76.8}{3{,}180} \sim .0035$$

REACH LENGTH ~ 5,780'

ASSUME AVG FLOW DEPTH OF 2'
VEL ~ 9.8 FT/SEC
SEE ATTACHED "FLOWMASTER WORKSHEET"

NSTPS = 2

THE SAME CHANNEL GEOMETRY WAS ASSUMED FOR RADOT1, HOWEVER A SLOPE OF 0.0043 FT/FT WAS USED.
VEL ~ 10.9 FT/SEC

R107D Channel Route
Worksheet for Trapezoidal Channel

Project Description	
Project File	untitled.fm2
Worksheet	R107D
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.035	
Channel Slope	0.002300	ft/ft
Depth	2.00	ft
Left Side Slope	1.000000	H : V
Right Side Slope	1.000000	H : V
Bottom Width	4.00	ft

Results		
Discharge	28.24	cfs
Flow Area	12.00	ft^2
Wetted Perimeter	9.66	ft
Top Width	8.00	ft
Critical Depth	1.05	ft
Critical Slope	0.022325	ft/ft
Velocity	2.35	ft/s
Velocity Head	0.09	ft
Specific Energy	2.09	ft
Froude Number	0.34	
Flow is subcritical.		

RADOT2 Channel Route
Worksheet for Trapezoidal Channel

Project Description	
Project File	untitled.fm2
Worksheet	RADOT2
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.003500	ft/ft
Depth	2.00	ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	30.00	ft

Results		
Discharge	666.76	cfs
Flow Area	68.00	ft^2
Wetted Perimeter	38.94	ft
Top Width	38.00	ft
Critical Depth	2.35	ft
Critical Slope	0.002005	ft/ft
Velocity	9.81	ft/s
Velocity Head	1.49	ft
Specific Energy	3.49	ft
Froude Number	1.29	
Flow is supercritical.		

RADOT1 Channel Route
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\hyd\channel1.fm2
Worksheet	RADOT1
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.004300	ft/ft
Depth	2.00	ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	30.00	ft

Results		
Discharge	739.05	cfs
Flow Area	68.00	ft^2
Wetted Perimeter	38.94	ft
Top Width	38.00	ft
Critical Depth	2.51	ft
Critical Slope	0.001970	ft/ft
Velocity	10.87	ft/s
Velocity Head	1.84	ft
Specific Energy	3.84	ft
Froude Number	1.43	
Flow is supercritical.		

R612W
Worksheet for Trapezoidal Channel

Project Description	
Project File	untitled.fm2
Worksheet	I-10
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.013	
Channel Slope	0.001200	ft/ft
Depth	2.00	ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	30.00	ft

Results		
Discharge	390.42	cfs
Flow Area	68.00	ft^2
Wetted Perimeter	38.94	ft
Top Width	38.00	ft
Critical Depth	1.67	ft
Critical Slope	0.002203	ft/ft
Velocity	5.74	ft/s
Velocity Head	0.51	ft
Specific Energy	2.51	ft
Froude Number	0.76	
Flow is subcritical.		

R3021R Channel Route
Worksheet for Trapezoidal Channel

Project Description	
Project File	untitled.fm2
Worksheet	R3021A Channel Route
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Discharge

Input Data		
Mannings Coefficient	0.030	
Channel Slope	0.003000	ft/ft
Depth	2.00	ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft

Results		
Discharge	98.56	cfs
Flow Area	28.00	ft^2
Wetted Perimeter	18.94	ft
Top Width	18.00	ft
Critical Depth	1.32	ft
Critical Slope	0.013440	ft/ft
Velocity	3.52	ft/s
Velocity Head	0.19	ft
Specific Energy	2.19	ft
Froude Number	0.50	
Flow is subcritical.		

Appendix E: Retention Basin and Ponding Area Data

Retention Basin Diversion Data

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: **2-11** **Total Sub-basin Area (square miles):** **0.178**

Retention Basin ID: **RET211**

MAP SHT 208	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.00					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	0.28					0.28	1.00	0.14	0.14	
Stage(ft)	3					3				
Area(ac)	0.42					0.42	3.00	0.70	0.83	
Stage(ft)	5					5				
Area(ac)	0.61					0.61	5.00	1.03	**1.87**	
Drainage Area (ac)	7.0					7				
Total Area (Acres)						114				
Percent of Total						**6%**				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Retention Basins

By: **J. Geisbush**
Checked: **D.Dust**
Project No.: **132586**

Sub-basin ID: 1-21 **Total Sub-basin Area (square miles): 0.999**

Retention Basin ID: RET1

MAP SHT 65	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.09					0.09	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	1.06					1.06	2.00	1.15	1.15	
Stage(ft)	4					4				
Area(ac)	1.45					1.45	4.00	2.51	**3.66**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	41.6					42				
Total Area (Acres)						640				
Percent of Total						**7%**				

NOTES: Retention Basin No. 1 located in S.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 4-21 **Total Sub-basin Area (square miles):** 0.874

Retention Basin ID: RET4

MAP SHT 62	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.1					0.12	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	1.8					1.85	2.00	1.96	1.96	
Stage(ft)	4					4				
Area(ac)	2.1					2.12	4.00	3.97	5.94	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	71.0					71				
Total Area (Acres)						559				
Percent of Total						13%				

NOTES: Basin No. located at end of Agua Fria EXPW. Does not appear to be associated with a residential development
Drainage Area = .111 Mi^2

Retention Basin No. 1 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 10-21 **Total Sub-basin Area (square miles):** 0.980

Retention Basin ID: RET10

MAP SHT 76 & 89	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0	0		0				
Area(ac)	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
Stage(ft)	1	1	1	1		1				
Area(ac)	1.29	1.38	0.74	1.11		4.51	1.00	2.26	2.26	
Stage(ft)	3	3	3	3		3				
Area(ac)	2.05	2.26	2.20	1.49		8.00	3.00	12.52	**14.77**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	70.4	52.6	26.4	33.9		183				
Total Area (Acres)						627				
Percent of Total						**29%**				

NOTES: Apparent basin at 91st Ave and Grand Canal is a "Regional Retention Basin" and is input as a Ponding Area.

Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No.2 located in N.W. Quarter of Sub-basin
Retention Basin No.3 located in S.W. Quarter of Sub-basin
Retention Basin No.4 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 11-21 **Total Sub-basin Area (square miles):** 0.983

Retention Basin ID: RET11

MAP SHT 77 & 90	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0	0		0				
Area(ac)	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	
Stage(ft)	1	1	1	1		1				
Area(ac)	1.07	1.04	1.36	0.25		3.72	1.00	1.86	1.86	
Stage(ft)	3	3	3	3		3				
Area(ac)	1.12	1.61	1.83	0.34		4.90	3.00	8.62	10.48	
Stage(ft)				4		4				
Area(ac)				0.4		0.40	4.00	2.65	13.13	
Drainage Area (ac)	62.2	38.0	38.1	13.1		151				
Total Area (Acres)						629				
Percent of Total						24%				

NOTES:
Retention Basin No.1 located in N.W. Quarter of Sub-basin
Retention Basin No.2 located in N.E. Quarter of Sub-basin
Retention Basin No.3 located in N.E. Quarter of Sub-basin
Retention Basin No.4 located in S.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 12-21 **Total Sub-basin Area (square miles):** 1.003

Retention Basin ID: RET12

MAP SHT 78	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.00					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	0.70					0.70	1.00	0.35	0.35	
Stage(ft)	3					3				
Area(ac)	0.96					0.96	3.00	1.66	2.01	
Stage(ft)	5					5				
Area(ac)	1.21					1.21	5.00	2.17	4.18	
Drainage Area (ac)	37.9					38				
Total Area (Acres)						642				
Percent of Total						6%				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 14-21E **Total Sub-basin Area (square miles): 0.432**

Retention Basin ID: RET14E

MAP SHT 103	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	0.10	0.00				0.10	0.00	0.00	0.00	
Stage(ft)	2	2				2				
Area(ac)	0.61	0.74				1.35	2.00	1.45	1.45	
Stage(ft)	3	3				3				
Area(ac)	0.86	0.93				1.79	3.00	1.57	3.02	
Stage(ft)		4								
Area(ac)		1.11								
Drainage Area (ac)	33.6	55.2				89				
Total Area (Acres)						276				
Percent of Total						32%				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No.2 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 14-21W **Total Sub-basin Area (square miles): 0.562**

Retention Basin ID: RET14W

MAP SHT 116	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	0.00	0.00				0.00	0.00	0.00	0.00	
Stage(ft)	1	1				1				
Area(ac)	0.23	0.37				0.60	1.00	0.30	0.30	
Stage(ft)	3	3				3				
Area(ac)	0.41	0.69				1.10	3.00	1.70	2.00	
Stage(ft)	5					5				
Area(ac)	0.597					0.60	5.00	1.70	**3.70**	
Drainage Area (ac)	76.1	66.4				143				
Total Area (Acres)						359				
Percent of Total						**40%**				

NOTES: Retention Basin No.1 located in S.W. Quarter of Sub-basin
Retention Basin No.2 located in S.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 20-21 **Total Sub-basin Area (square miles): 1.023**

Retention Basin ID: RET20

MAP SHT 126	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	0.00	8.30				8.30	0.00	0.00	0.00	
Stage(ft)	2	2				2				
Area(ac)	0.40	8.30				8.70	2.00	17.00	17.00	
Stage(ft)	3	3				3				
Area(ac)	0.54	8.30				8.84	3.00	8.77	25.77	
Stage(ft)	4					4				
Area(ac)	0.67					0.67	4.00	4.76	**30.53**	
Drainage Area (ac)	26.1	404.0				430				
Total Area (Acres)						655				
Percent of Total						**66%**				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No. 2 represents a composite of the low lying areas and lakes located at various locations within the golf course.
Based on the topography within the golf cousre, a maximum ponding depth of 2' was assumed for the lakes and low lying areas.

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 25-21 **Total Sub-basin Area (square miles): 1.000**

Retention Basin ID: RET25

MAP SHT 169	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.00					0.00	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	4.98					4.98	2.00	4.98	4.98	
Stage(ft)	4					4				
Area(ac)	5.52					5.52	4.00	10.50	**15.49**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	10.0					10				
Total Area (Acres)						640				
Percent of Total						**2%**				

NOTES: May not be a retention basin

Retention Basin No.1 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Retention Basins

By: **J. Geisbush**
Checked: **D.Dust**
Project No.: **132586**

Sub-basin ID: 27-21 **Total Sub-basin Area (square miles): 1.005**

Retention Basin ID: RET27

MAP SHT 154	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.00					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	0.87					0.87	1.00	0.43	0.43	
Stage(ft)	3					3				
Area(ac)	1.06					1.06	3.00	1.92	**2.36**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	31.6					32				
Total Area (Acres)						643				
Percent of Total						**5%**				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 30-21N **Total Sub-basin Area (square miles): 0.667**

Retention Basin ID: RET30N

MAP SHT 151	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Lake	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0	0	0	0				
Area(ac)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Stage(ft)	0.5	0.5	0.5	0.5	0.5	0.5				
Area(ac)	0.00	0.00	0.00	0.00	22.25	22.25	0.50	5.56	5.56	
Stage(ft)	2	2	2	2		2				
Area(ac)	1.38	0.96	1.38	1.34		5.06	2.00	20.48	26.05	
Stage(ft)	3					3				
Area(ac)	1.59					1.59	3.00	3.33	**29.37**	
Drainage Area (ac)						351				
Total Area (Acres)						427				
Percent of Total						**82%**				

NOTES:
Retention Basin No.1 located in N.W. Quarter of Sub-basin
Retention Basin No.2 located in S.W. Quarter of Sub-basin
Retention Basin No.3 located in N.W. Quarter of Sub-basin
Retention Basin No.4 located in S.W. Quarter of Sub-basin
Lake located in the center of Sub-basin

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Retention Basins

By: **J. Geisbush**
Checked: **D.Dust**
Project No.: **132586**

Sub-basin ID: 30-21S **Total Sub-basin Area (square miles): 0.750**

Retention Basin ID: RET30S

MAP SHT 164	Input Data						Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	Lake	COMP. BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0	0	0	0	0				
Area(ac)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Stage(ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5				
Area(ac)	0.00	0.00	0.00	0.00	0.00	23.72	23.72	0.50	5.93	5.93	
Stage(ft)	1	1	1	1	1		1				
Area(ac)	0.23	0.49	0.63	0.19	0.24		1.78	1.00	6.38	12.31	
Stage(ft)	2	2	2	2	2		2				
Area(ac)	0.47	0.7	0.78	0.37	0.48		2.80	2.00	2.29	14.60	
Stage(ft)	3	3	3	3	3		3				
Area(ac)	0.579	0.909	0.918	0.545	0.627		3.58	3.00	3.19	**17.78**	
Drainage Area (ac)							390				
Total Area (Acres)							480				
Percent of Total							**81%**				

NOTES:
Retention Basin No.1 located in N.W. Quarter of Sub-basin
Retention Basin No.2 located in S.W. Quarter of Sub-basin
Retention Basin No.3 located in S.W. Quarter of Sub-basin
Retention Basin No.4 located in S.W. Quarter of Sub-basin
Retention Basin No.5 located in S.W. Quarter of Sub-basin
Lake located in the center of Sub-basin

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Retention Basins

By: **J. Geisbush**
Checked: **D.Dust**
Project No.: **132586**

Sub-basin ID: 35-21 **Total Sub-basin Area (square miles): 0.991**

Retention Basin ID: RET35

MAP SHT 181	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	0.00	0.00				0.00	0.00	0.00	0.00	
Stage(ft)	1	1				1				
Area(ac)	0.66	2.84				3.50	1.00	1.75	1.75	
Stage(ft)	3	3				3				
Area(ac)	2.98	8.50				11.48	3.00	14.98	16.73	
Stage(ft)	5					5				
Area(ac)	3.861					3.86	5.00	15.34	**32.06**	
Drainage Area (ac)	121.6	57.6				179				
Total Area (Acres)						634				
Percent of Total						**28%**				

NOTES:

3	4
0	0
0.00	0.00
1	1
0.88	0.19
3	3
1.34	0.60

Data saved

Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No.2 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 14-31 **Total Sub-basin Area (square miles): 1.008**

Retention Basin ID: RET14

MAP SHT 2	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.0					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	1.5					1.50	1.00	0.75	0.75	
Stage(ft)	3					3				
Area(ac)	2.7					2.70	3.00	4.20	**4.95**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	58.4					58				
Total Area (Acres)						645				
Percent of Total						**9%**				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 23-31 **Total Sub-basin Area (square miles): 1.006**

Retention Basin ID: RET23

MAP SHT 10 & 15	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0			0				
Area(ac)	0.1	0.50	0.20			0.80	0.00	0.00	0.00	
Stage(ft)	2	2	2			2				
Area(ac)	0.4	0.80	0.40			1.60	2.00	2.40	2.40	
Stage(ft)	3		3			3				
Area(ac)	0.6		0.30			0.90	3.00	1.25	**3.65**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	26.9	18.0	34.3			79.2				
Total Area (Acres)						644				
Percent of Total						**12%**				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin
Retention Basin No.2 located in N.E. Quarter of Sub-basin
Retention Basin No.3 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 24-31 **Total Sub-basin Area (square miles): 1.007**

Retention Basin ID: RET24

MAP SHT 16	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.1					0.10	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	0.2					0.20	2.00	0.30	**0.30**	
Stage(ft)										
Area(ac)										
Stage(ft)										
Area(ac)										
Drainage Area (ac)	6.9					6.9				
Total Area (Acres)						645				
Percent of Total						1%				

NOTES: Retention Basin No.1 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Retention Basins

By: **J. Geisbush**
Checked: **D.Dust**
Project No.: **132586**

Sub-basin ID: 25-31 **Total Sub-basin Area (square miles): 1.003**

Retention Basin ID: RET25

MAP SHT 27	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0			0				
Area(ac)	0.3	0.20	10.70			11.20	0.00	0.00	0.00	
Stage(ft)	2	2	2			2				
Area(ac)	0.7	0.40	11.10			12.20	2.00	23.40	23.40	
Stage(ft)	3	3	3			3				
Area(ac)	0.9	0.60	11.50			13.00	3.00	12.60	36.00	
Stage(ft)			4			4				
Area(ac)			11.8			11.80	4.00	12.40	48.40	
Stage(ft)			6			6				
Area(ac)			12.6			12.6	6.00	24.4	**72.80**	
Drainage Area (ac)	17.1	20.6	35.6			73.3				
Total Area (Acres)						641.92				
Percent of Total						**11%**				

NOTES: Retention Basin No.1 located in S.W. Quarter of Sub-basin
Retention Basin No.2 located in S.E. Quarter of Sub-basin
Retention Basin No.3 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 26-31E **Total Sub-basin Area (square miles): 0.462**

Retention Basin ID: RET26

MAP SHT 20	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0			0				
Area(ac)	0.6	0.60	0.40			1.60	0.00	0.00	0.00	
Stage(ft)	2	2	2			2				
Area(ac)	0.8	0.90	0.50			2.20	2.00	3.80	3.80	
Stage(ft)	3					3				
Area(ac)	1.0					1.00	3.00	1.60	**5.40**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	52.2	24.4	10.1			86.7				
Total Area (Acres)						295				
Percent of Total						**29%**				

NOTES:
Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No.2 located in N.E. Quarter of Sub-basin
Retention Basin No.3 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 34-31 **Total Sub-basin Area (square miles): 0.995**

Retention Basin ID: RET34

MAP SHT 10A	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.0					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	0.4					0.43	1.00	0.21	0.21	
Stage(ft)	3					3				
Area(ac)	3.1					3.13	3.00	3.56	3.77	
Stage(ft)	5					5				
Area(ac)	5.01					5.01	5.00	8.14	**11.91**	
Drainage Area (ac)	35.9					36				
Total Area (Acres)						637				
Percent of Total						**6%**				

NOTES: Retention Basin No.1 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 7-32 **Total Sub-basin Area (square miles):** 0.249

Retention Basin ID: RET7

MAP SHT 1	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.00					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	0.34					0.34	1.00	0.17	0.17	
Stage(ft)	3					3				
Area(ac)	0.93					0.93	3.00	1.27	1.44	
Stage(ft)						0				
Area(ac)						0.00	0.00	0.00	1.44	
Drainage Area (ac)	47.0					47				
Total Area (Acres)						160				
Percent of Total						29%				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 17-32 **Total Sub-basin Area (square miles): 0.284**

Retention Basin ID: RET17

MAP SHT 9	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0	0	0	0	0				
Area(ac)	0.07	0.52	0.00	0.00	0.00	0.59	0.00	0.00	0.00	
Stage(ft)	1	1	1	1	1	1				
Area(ac)	0.21	0.55	0.23	0.37	0.10	1.45	1.00	1.02	1.02	
Stage(ft)	3	3	3	3	3	3				
Area(ac)	0.55	0.57	0.43	0.55	0.21	2.31	3.00	3.76	4.78	
Stage(ft)						0				
Area(ac)						0.00	0.00	0.00	**4.78**	
Drainage Area (ac)						63				
Total Area (Acres)						182				
Percent of Total						**35%**				

NOTES:
Retention Basin No.1 located in S.W. Quarter of Sub-basin
Retention Basin No.2 located in S.W. Quarter of Sub-basin
Retention Basin No.3 located in S.W. Quarter of Sub-basin
Retention Basin No.4 located in S.E. Quarter of Sub-basin
Retention Basin No.5 located in S.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 19-32 **Total Sub-basin Area (square miles): 0.962**

Retention Basin ID: RET19

MAP SHT 17	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.46					0.46	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	2.72					2.72	2.00	3.18	3.18	
Stage(ft)	4					4				
Area(ac)	4.16					4.16	4.00	6.88	10.06	
Stage(ft)						0				
Area(ac)						0.00	0.00	0.00	**10.06**	
Drainage Area (ac)	61.0					61				
Total Area (Acres)						615				
Percent of Total						**10%**				

NOTES: Retention Basin No.1 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 20-32 **Total Sub-basin Area (square miles):** 0.988

Retention Basin ID: RET20

MAP SHT 18	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	1.40	0.00				1.40	0.00	0.00	0.00	
Stage(ft)	1	1				1				
Area(ac)	2.81	0.66				3.47	1.00	2.44	2.44	
Stage(ft)	3	3				3				
Area(ac)		0.68				0.68	3.00	4.15	6.59	
Stage(ft)		5				5				
Area(ac)		1.66				1.66	0.00	-3.51	**3.08**	
Drainage Area (ac)	63.0	39.0				102				
Total Area (Acres)						632				
Percent of Total						**16%**				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin
Retention Basin No.2 located in S.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 28-32 **Total Sub-basin Area (square miles):** 0.994

Retention Basin ID: RET28

MAP SHT 24	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.1					0.10	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	1.7					1.70	2.00	1.80	1.80	
Stage(ft)	3					3				
Area(ac)	3.7					3.70	3.00	2.70	**4.50**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	23.2					23.2				
Total Area (Acres)						636				
Percent of Total						**4%**				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 29-32 **Total Sub-basin Area (square miles):** 0.991

Retention Basin ID: RET29

MAP SHT 23	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.0					0.00	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	1.8					1.80	1.00	0.90	0.90	
Stage(ft)	3					3				
Area(ac)	2.4					2.40	3.00	4.20	**5.10**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	65.4					65.4				
Total Area (Acres)						634				
Percent of Total						**10%**				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 30-32 **Total Sub-basin Area (square miles):** 0.959

Retention Basin ID: RET30

MAP SHT 22	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	2.1	0.14				2.24	0.00	0.00	0.00	
Stage(ft)	2	2				2				
Area(ac)	2.9	0.90				3.80	2.00	6.04	6.04	
Stage(ft)	4	4				4				
Area(ac)	7.0	1.20				8.20	4.00	12.00	18.04	
Stage(ft)		6				6				
Area(ac)		1.7				1.70	6.00	9.90	**27.94**	
Drainage Area (ac)	34.1	13.8				48				
Total Area (Acres)						614				
Percent of Total						**8%**				

NOTES: Retention Basin No.1 located in N.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 31-32 **Total Sub-basin Area (square miles):** 0.953

Retention Basin ID: RET31

MAP SHT 36	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.5					0.50	0.00	0.00	0.00	
Stage(ft)	2					2				
Area(ac)	0.8					0.80	2.00	1.30	1.30	
Stage(ft)										
Area(ac)										
Stage(ft)										
Area(ac)										
Drainage Area (ac)	37.3					37.3				
Total Area (Acres)						610				
Percent of Total						6%				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject:	Maryvale ADMS	By:	J. Geisbush
	Composite Storage Volume Computations	Checked:	D.Dust
	Retention Basins	Project No.:	132586

Sub-basin ID: 32-32 **Total Sub-basin Area (square miles):** 0.991

Retention Basin ID: RET32

MAP SHT 37 & 45	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0	0				0				
Area(ac)	0.5	0.17				0.67	0.00	0.00	0.00	
Stage(ft)	2	2				2				
Area(ac)	1.0	0.20				1.20	2.00	1.87	**1.87**	
Stage(ft)										
Area(ac)										
Stage(ft)										
Area(ac)										
Drainage Area (ac)	51.2	7.6				58.8				
Total Area (Acres)						634				
Percent of Total						**9%**				

NOTES: Retention Basin No.1 located in N.W. Quarter of Sub-basin
Retention Basin No.1 located in S.E. Quarter of Sub-basin

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Retention Basins

By: J. Geisbush
Checked: D.Dust
Project No.: 132586

Sub-basin ID: 15-21 **Total Sub-basin Area (square miles):** 1.011

Retention Basin ID: RET15

MAP SHT 37 & 45	Input Data					Composite Basin Data				
Parameters	Basin No. 1	Basin No. 2	Basin No. 3	Basin No. 4	Basin No. 5	COMPOSITE BASIN	Stage (ft)	Incremental Vol. (acft)	Cumulative Vol. (acft)	Comments
Stage(ft)	0					0				
Area(ac)	0.5					0.50	0.00	0.00	0.00	
Stage(ft)	1					1				
Area(ac)	2.1					2.10	1.00	1.30	1.30	
Stage(ft)	3					3				
Area(ac)	2.5					2.50	3.00	4.60	**5.90**	
Stage(ft)										
Area(ac)										
Drainage Area (ac)	80.0					80.0				
Total Area (Acres)						647				
Percent of Total						**12%**				

NOTES: Retention Basin No.1 located in S.W. corner of the S.E. Quarter of Sub-basin

Ponding Area Data

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Ponding Areas

By: J. Geisbush
Checked: D. Dust
Project No.: 132586

Ponding Location **8-21E** *MAP SHT* 74 & 87 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES8N** Min Weir Crest Elevation = 1053

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1050	0.0	--	--	--			0	--	0	0
1052	15.0	7.50	15.00	15.00			0	--	0	0
1053	24.4	19.70	19.70	34.70			1,600	2.7	0	0
1054	33.7	29.05	29.05	63.75			1,800	2.7	4,536	4,536
1055	54.0	43.85	43.85	107.60			2,000	2.7	13,441	13,441

NOTES: Ponding due to Grand Canal

(1) See following weir flow computation sheet.

Project MADYVALE ADMS
Project No. 132586
Sheet No. 1 of 1
Calculated by JG Date 8/7

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 8-21E
RES8N

CROSS SECTION PARAMETERS: FILENAME: res8n.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1055.00
Bank Stations.....Left: 0.0 Right....: 2000.0 Min Elev.:1053.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

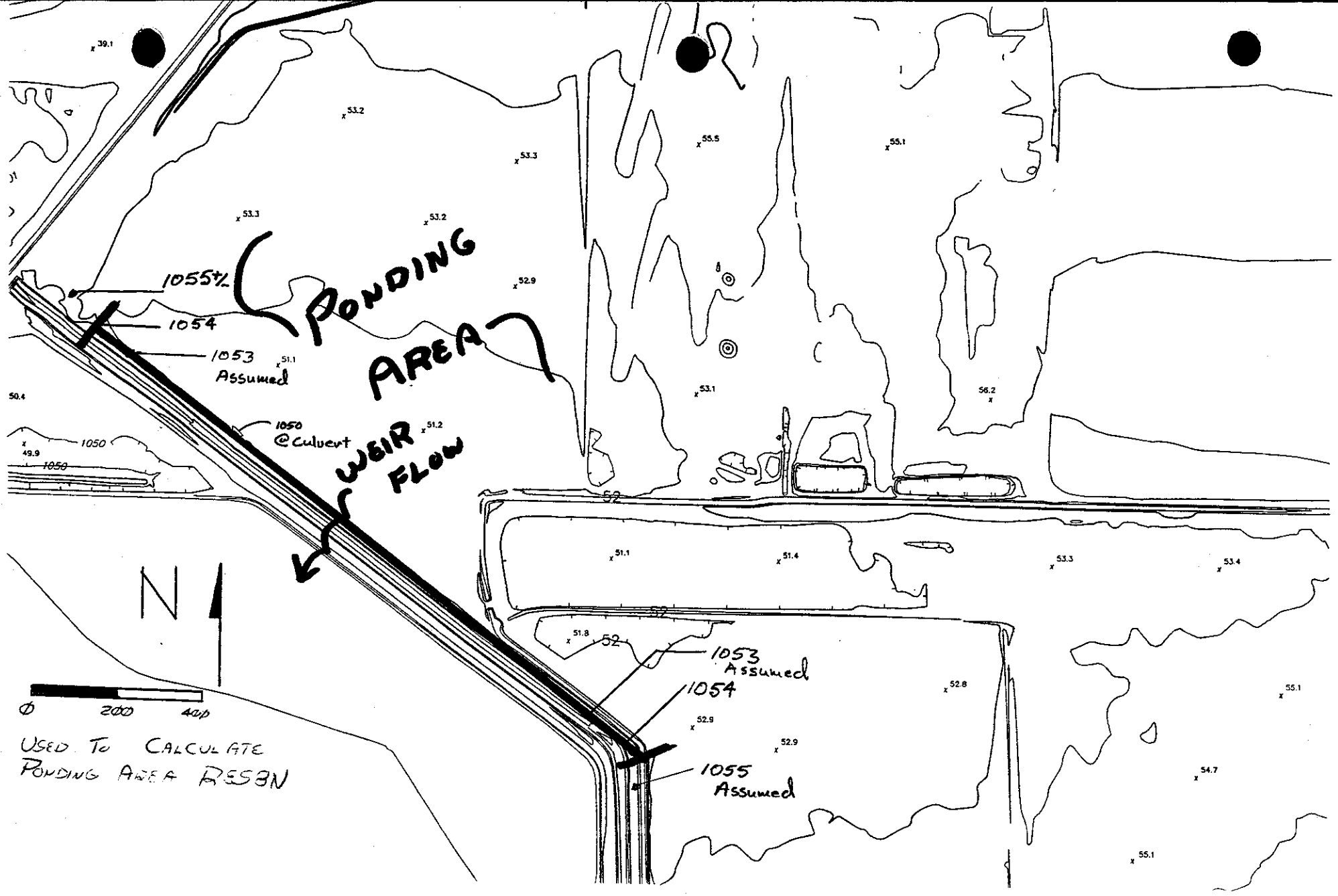
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1055.00	0.00	2)	1054.00	100.00	3)	1053.00	200.00
4)	1053.00	1800.00	5)	1054.00	1900.00	6)	1055.00	2000.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1053.50	1565.5	0.50	0.49	1700.0	825.0
1054.00	4536.0	1.00	0.94	1800.0	1700.0
[illegible].00	13440.7	2.00	1.80	2000.0	3600.0

NOTES:



USED TO CALCULATE
PONDING AREA RESIN

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS** By: **J. Geisbush**
Composite Storage Volume Computations Checked: **D. Dust**
Ponding Areas Project No.: **132586**

Ponding Location **8-21E** *MAP SHT* 74 & 87 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES8S** Min Weir Crest Elevation = 1055

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1052	0.1	--	--	--			0	--	0	0
1054	17.9	9.01	18.02	18.02			0	--	0	0
1055	35.5	26.70	26.70	44.72			720	2.7	0	0
1056	53.1	44.30	44.30	89.02			1,300	2.7	2,160	2,160

NOTES: (1) See following weir flow computation sheet.

Ponding due to Grand Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 1 of 1
Calculated by JG Date 8/7

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 8-21E
RES8S

CROSS SECTION PARAMETERS: FILENAME: res8s.SEC

No. of Cross Section Points: 5 Bed Slope:0.00500 Max Elev.:1056.00
Bank Stations.....Left: 0.0 Right....: 1300.0 Min Elev.:1055.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

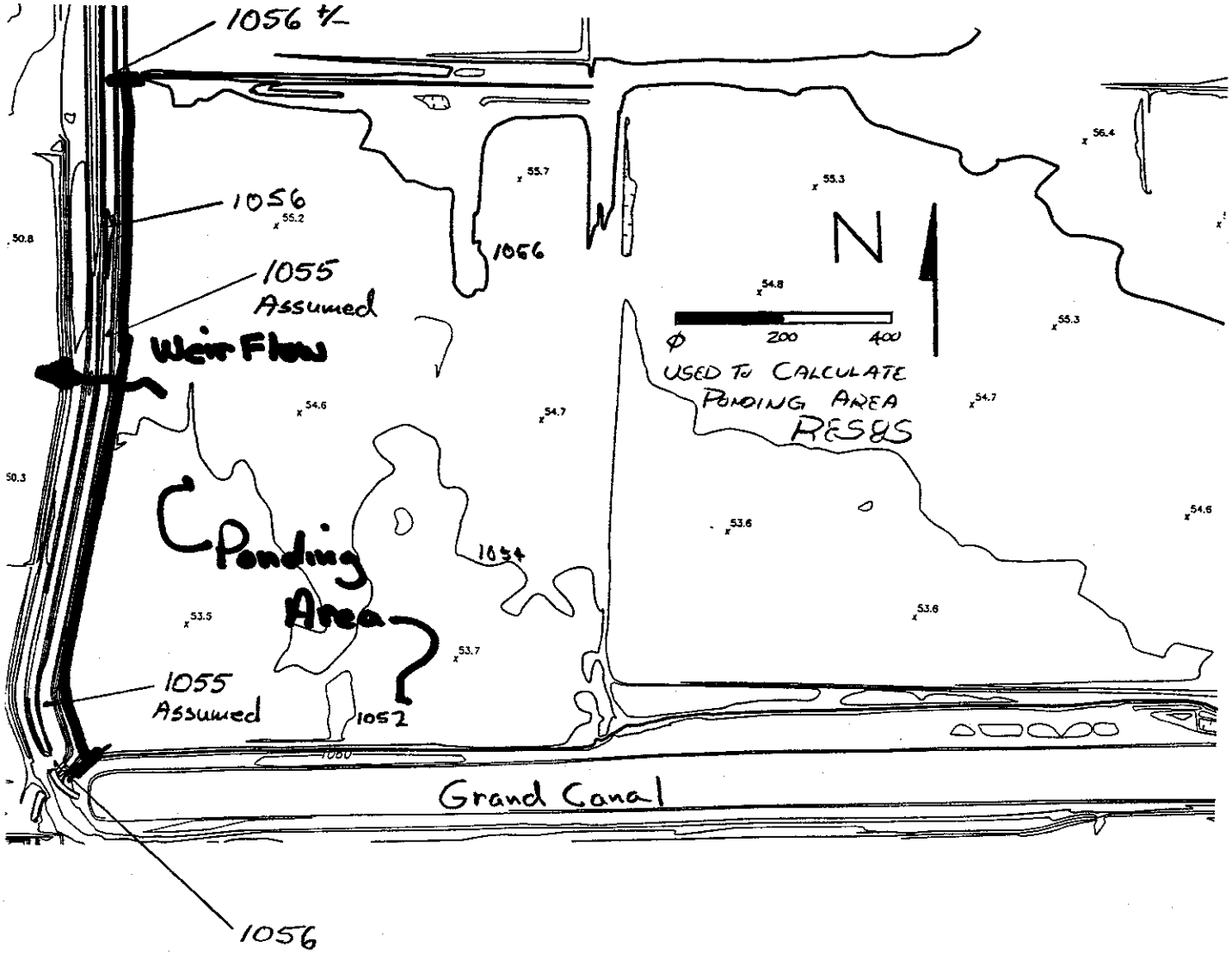
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1056.00	0.00	2)	1055.00	100.00	3)	1055.00	820.00
4)	1056.00	920.00	5)	1056.00	1300.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1055.50	725.5	0.50	0.47	820.0	385.0
1056.00	2160.0	1.00	0.89	920.0	820.0
[illegible].50	4491.1	1.50	1.13	1300.0	1470.0
1057.00	7530.3	2.00	1.63	1300.0	2120.0

NOTES:


1056 +/-
1056
1055
Assumed
Weir Flow
1056
N
0 200 400
USED TO CALCULATE
PONDING AREA
RESULTS
Ponding
Area
1054
1055
Assumed
1052
Grand Canal
1056

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Ponding Areas

By: J. Geisbush
Checked: D. Dust
Project No.: 132586

Ponding Location **9-21** *MAP SHT* 75 & 88 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES9** Min Weir Crest Elevation = 1058

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1056	2.4	--	--	--			0	--	0	0
1058	14.1	8.25	16.50	16.50			450	2.7	0	0
1059	29.5	21.80	21.80	38.30			650	2.7	1,755	1,755
1060	44.8	37.15	37.15	75.45			1,600	2.7	6,437	6,437
1061	85.1	64.95	64.95	140.40			3,800	2.7	16,856	16,856
1062	125.4	105.25	105.25	245.65			5,300	2.7	37,621	37,621

NOTES: Weir Lengths are for both the west and south boundaries

	South	West	Total
58	0	450	450
59	0	650	650
60	200	1400	1600
61	2100	1700	3800
62	3500	1800	5300

(1) See following weir flow computation sheet.

Ponding due to Grand Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 1 of 2
Calculated by JG Date 8/5

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 9-21
RES9 → WEIR FLOW WEST
& SBH8 Data

CROSS SECTION PARAMETERS: FILENAME: res9.SEC

No. of Cross Section Points: 11 Bed Slope:0.00500 Max Elev.:1062.00
Bank Stations.....Left: 0.0 Right....: 5300.0 Min Elev.:1058.00
Encroachment Stations..Left: 0.0 Right....: 1800.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1062.00	0.00	2)	1061.00	100.00	3)	1060.00	400.00
4)	1059.00	700.00	5)	1058.00	1000.00	6)	1058.00	1450.00
7)	1059.00	1650.00	8)	1060.00	1800.00	9)	1060.00	2000.00
10)	1061.00	3900.00	11)	1062.00	5300.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	1755.0	1.00	0.74	950.0	700.0
1060.00	6437.2	2.00	1.34	1400.0	1875.0
1061.00	14263.6	3.00	2.01	1700.0	3425.0
1062.00	25025.8	4.00	2.88	1800.0	5175.0

NOTES:

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM

Project MARYVALE ADMS
Project No. 132586
Sheet No. 2 of 2
Calculated by JG Date 8/5

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 9-21
RES9 => WEIR FLOW SOUTH

CROSS SECTION PARAMETERS: FILENAME: res9.SEC

No. of Cross Section Points: 11 Bed Slope:0.00500 Max Elev.:1062.00
Bank Stations.....Left: 0.0 Right....: 5300.0 Min Elev.:1060.00
Encroachment Stations..Left: 1800.0 Right....: 5300.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1062.00	0.00	2)	1061.00	100.00	3)	1060.00	400.00
4)	1059.00	700.00	5)	1058.00	1000.00	6)	1058.00	1450.00
7)	1059.00	1650.00	8)	1060.00	1800.00	9)	1060.00	2000.00
10)	1061.00	3900.00	11)	1062.00	5300.00			

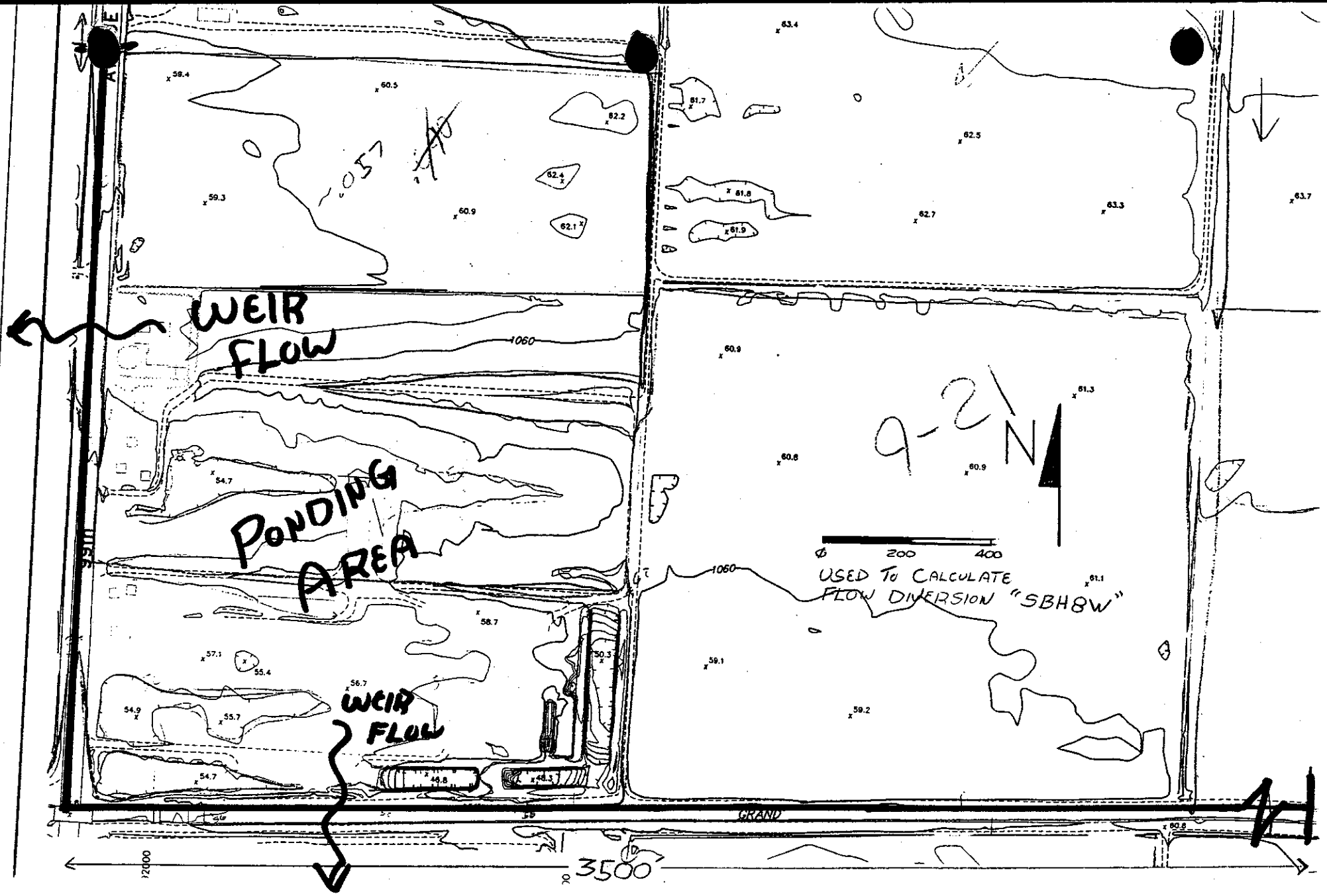
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	2592.0	1.00	0.55	2100.0	1150.0
1062.00	12595.2	2.00	1.13	3500.0	3950.0

	WEST		SOUTH		TOTAL	
ELEV	WEIR LENGTH (ft)	Q (cfs)	WEIR LENGTH (ft)	Q (cfs)	WEIR LENGTH (ft)	Q (cfs)
1059	650	1,755	Ø	–	650	1,755
1060	1400	6,437	200	–	1600	6,437
1061	1700	14,264	2100	2592	3800	16,856
1062	1800	25,026	3500	12595	5300	37,621

NOTES:

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM


WEIR FLOW
PONDING AREA
WEIR FLOW
1060
1060
GRAND
3500
0 200 400
USED TO CALCULATE FLOW DIVERSION "SBH8W"
9-2
N

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **10-21** *MAP SHT* 76 & 89 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES10** Min Weir Crest Elevation = 1068

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1064	7.9	--	--	--				--	0	0
1066	8.8	8.35	16.69	16.69				--	0	0
1068	14.6	11.72	23.43	40.12			350	2.7	0	0
1069	15.7	15.16	15.16	55.28			750	2.7	1,377	1,377
1070	16.9	16.32	16.32	71.60			1,050	2.7	5,008	5,008

NOTES: This is actually a "Regional Retention Basin"

Ponding due to Grand Canal

(1) See following weir flow computation sheet.

Weir Lengths are for both the west and south boundaries

	South	West	Total
68	350	0	350
69	350	400	750
70	350	700	1050

Project MARYVALE ADMS
Project No. 132586
Sheet No. 1 of 2
Calculated by JG Date 8/5

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 10-21
RES10 => WEIR FLOW WEST
& SBH7 Data

CROSS SECTION PARAMETERS: FILENAME: res10-w.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1070.00
Bank Stations.....Left: 0.0 Right....: 1050.0 Min Elev.:1068.00
Encroachment Stations..Left: 0.0 Right....: 350.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1070.00	0.00	2)	1069.00	0.10	3)	1068.00	0.20
4)	1068.00	350.00	5)	1069.00	750.00	6)	1070.00	1050.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1069.00	944.6	1.00	1.00	349.9	349.8
1070.00	2671.9	2.00	2.00	350.0	699.8

NOTES:

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM

72

Project MARYVALE ADMS
Project No. 132586
Sheet No. 2 of 2
Calculated by JG Date 8/5

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 10-21
RES10 => WEIR FLOW SOUTH

CROSS SECTION PARAMETERS: FILENAME: res10-s.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1070.00
Bank Stations.....Left: 0.0 Right....: 1050.0 Min Elev.:1068.00
Encroachment Stations..Left: 350.0 Right....: 1050.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1070.00	0.00	2)	1069.00	0.10	3)	1068.00	0.20
4)	1068.00	350.00	5)	1069.00	750.00	6)	1070.00	1050.00

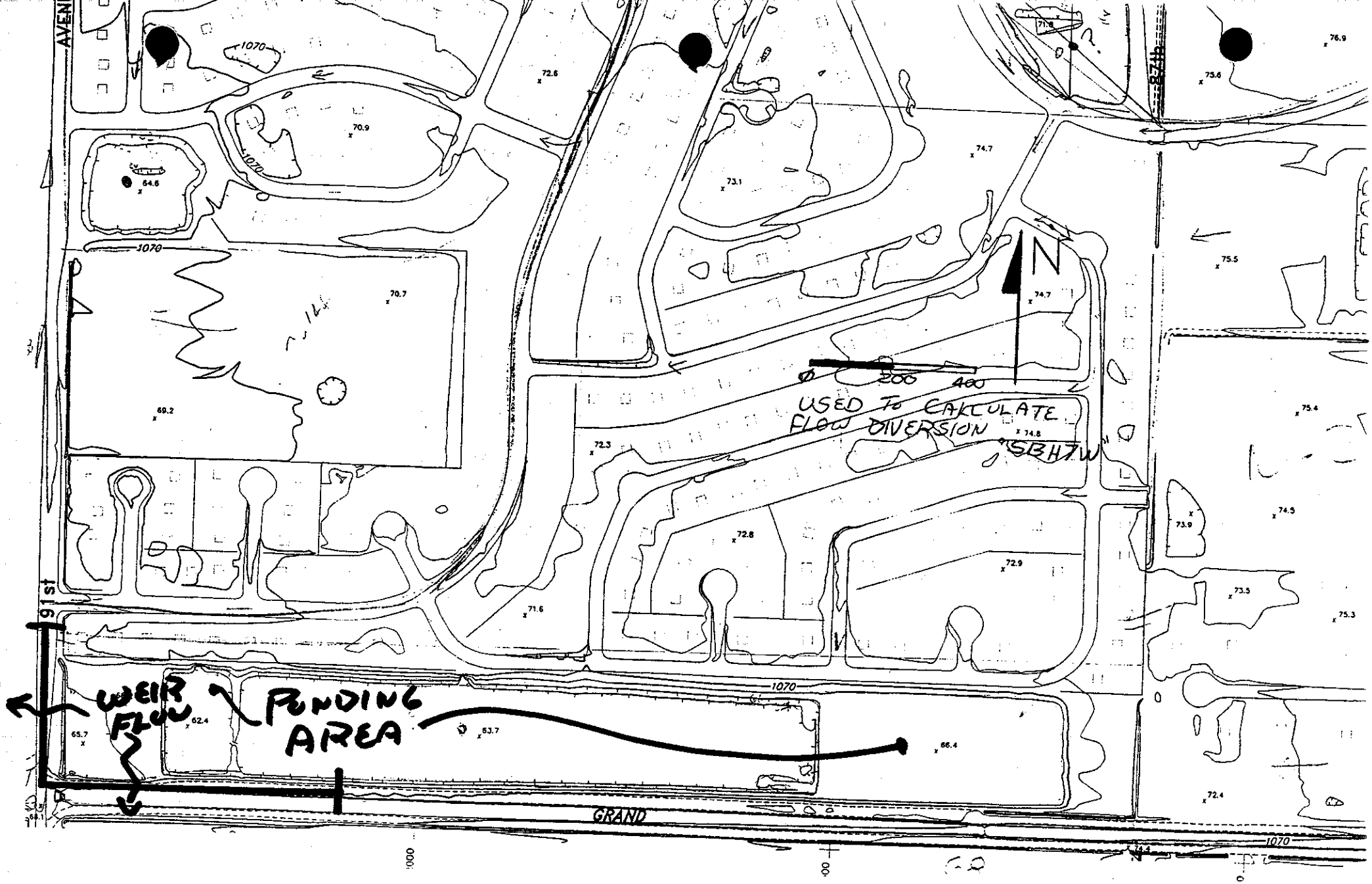
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1069.00	432.0	1.00	0.50	400.0	200.0
1070.00	2335.8	2.00	1.07	700.0	750.0

NOTES:

ELEV	Q_{WEST}	Q_{SOUTH}	Q_{TOTAL}
1069	945	432	1,377
1070	2,672	2,336	5,008

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM


AVENUE
91st
GRAND
1070
N
0 200 400
USED TO CALCULATE FLOW DIVERSION
SBH7W
WEIR FLOW
PONDING AREA

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **14-21E** *MAP SHT* 103 & 116 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES14E** Min Weir Crest Elevation = 1087.5

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1086	7.0	--	--	--			0	--	0	0
1087	15.1	11.05	11.05	11.05			0	--	0	0
1087.5	19.2	17.13	8.56	19.61			100	2.7	0	0
1088	23.2	21.17	10.59	30.20			1,300	2.7	553	553
1089	32.9	28.05	28.05	58.24			2,400	2.7	6,234	6,234
1090	42.5	37.70	37.70	95.94			3,100	2.7	18,306	18,306

NOTES: (1) See following weir flow computation sheet.

Ponding due to Grand Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 7 of
Calculated by JG Date 8/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 14-21E

RES14E

CROSS SECTION PARAMETERS: FILENAME: res14e.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1090.00
Bank Stations.....Left: 0.0 Right....: 3100.0 Min Elev.:1087.50
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

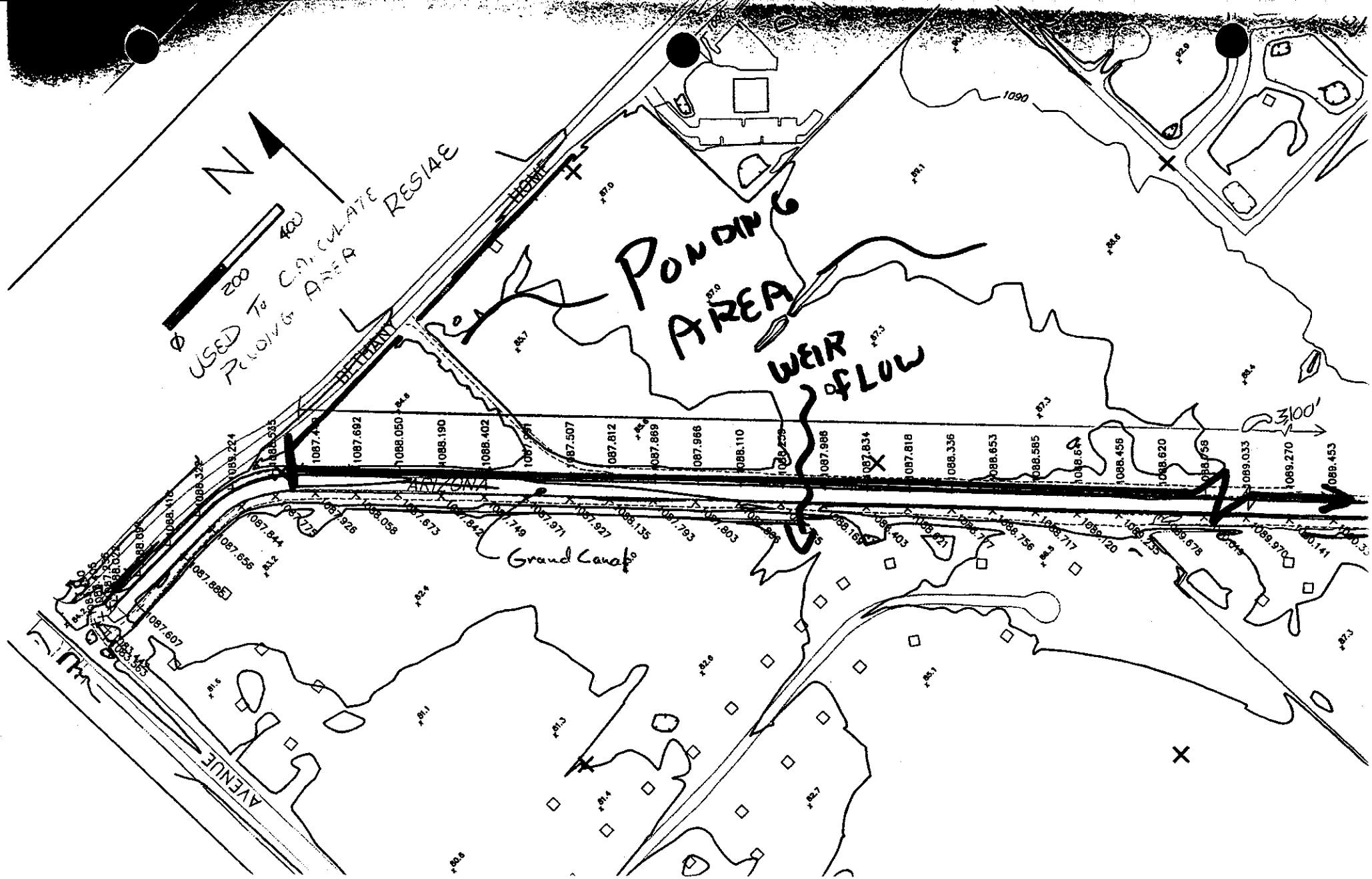
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1090.00	0.00	2)	1089.00	0.10	3)	1088.00	0.20
4)	1087.50	0.30	5)	1087.50	100.00	6)	1088.00	1300.00
7)	1089.00	2400.00	8)	1090.00	3100.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	553.4	0.50	0.27	1299.8	349.9
[illegible].00	6233.7	1.50	0.92	2399.9	2199.7
1090.00	18305.8	2.50	1.60	3100.0	4949.7

NOTES:

SECTION IS TAKEN LEFT TO RIGHT LOOKING UPSTREAM


N
0
200
400
USED TO CALCULATE
PONDING AREA RESIAE
PONDING
AREA
WEIR
FLOW
3100'
BETHANY
HOME
ARIZONA
AVENUE
Grand Canal
1090
1087.692
1088.050
1088.190
1088.402
1087.507
1087.812
1087.869
1087.966
1088.110
1087.988
1087.834
1087.818
1088.336
1088.653
1088.585
1088.458
1088.620
1089.033
1089.270
1089.453
1089.224
1087.844
1087.656
1087.607
1087.926
1088.058
1087.873
1087.842
1087.749
1087.971
1087.927
1088.135
1087.793
1087.803
1088.403
1088.717
1088.756
1089.120
1089.235
1089.678
1089.970

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **24-21N** *MAP SHT* 130 & 143 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES24N** Min Weir Crest Elevation = 1097

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1092	0.8	--	--	--			0	--	0	0
1094	13.4	7.12	14.23	14.23			0	--	0	0
1096	56.2	34.81	69.61	83.84			0	--	0	0
1097	72.2	64.20	64.20	148.04			100	2.7	0	0
1097.5	80.2	76.21	38.10	186.14			680	2.7	317	317
1098	88.2	84.21	42.11	228.25			2,400	2.7	1,958	1,958

NOTES: (1) See following weir flow computation sheet.

Ponding due to Grand Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 6 of
Calculated by JG Date 8/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 24-21N
RES24N

CROSS SECTION PARAMETERS: FILENAME: res24n.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1098.00
Bank Stations.....Left: 0.0 Right....: 2400.0 Min Elev.:1097.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

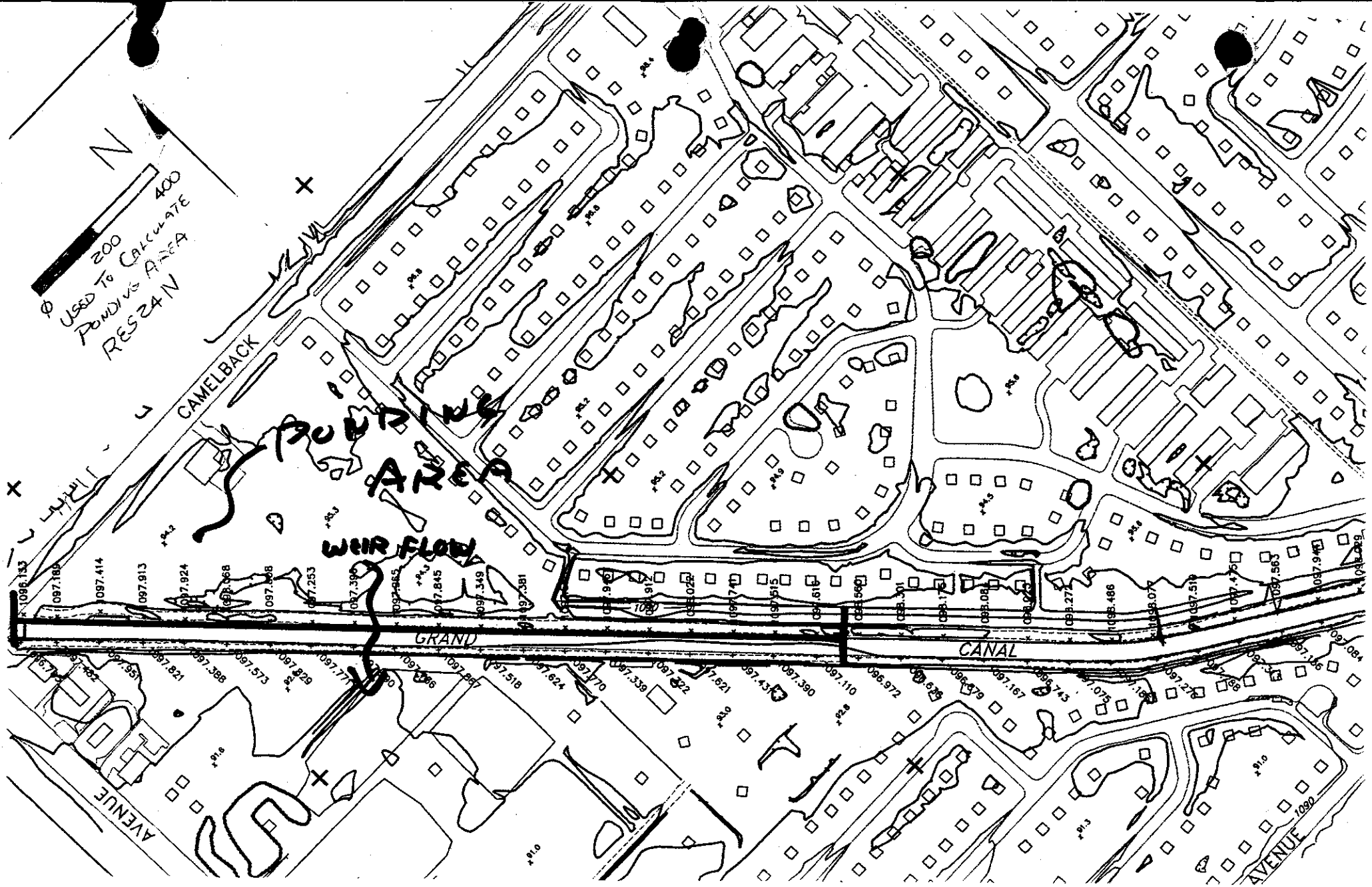
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1098.00	0.00	2)	1097.50	1000.00	3)	1097.00	1300.00
4)	1097.00	1400.00	5)	1097.50	1680.00	6)	1098.00	2400.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1097.50	316.9	0.50	0.29	680.0	195.0
1098.00	1958.1	1.00	0.40	2400.0	965.0

NOTES:

SECTION IS TAKEN LEFT TO
RIGHT LOOKING UPSTREAM


N
200
400
USED TO CALCULATE
PONDING AREA
RESZAN
CAMELBACK
AVENUE
PONDING
AREA
WEIR FLOW
GRAND
CANAL
AVENUE

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **29-21N** *MAP SHT* 152 & 165 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES29W** Min Weir Crest Elevation = 1018

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1016	4.1	--	--	--			0	--	0	0
1018	44.8	24.45	48.90	48.90			0	2.7	0	0
1018.5	58.3	51.55	25.78	74.68			968	2.7	771	771
1019.3	80.4	69.35	55.48	130.15			1,397	2.7	3,920	3,920
1020	99.6	90.00	63.00	193.16			2,560	2.7	9,112	9,112

NOTES: (1) See following weir flow computation sheet.

Ponding due to Roosevelt Irrigation Canal

Project Maryvale
Project No. 132586
Sheet No. 1 of 2
Calculated by DWD Date 8/96

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

Flow Diversion D2921B

Flow west Over 107th Ave

CROSS SECTION PARAMETERS: FILENAME: D2921W.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1020.00
Bank Stations.....Left: 2250.0 Right....: 4000.0 Min Elev.:1018.00
Encroachment Stations..Left: 2250.0 Right....: 4000.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1021.10	1000.00	2)	1020.20	1200.00	3)	1019.70	1800.00
4)	1019.30	2100.00	5)	1019.74	2250.00	6)	1018.00	2400.00
7)	1018.00	3100.00	8)	1020.00	4000.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].50	770.6	0.50	0.43	968.1	417.0
[illegible].30	3917.2	1.30	0.98	1397.1	1363.1
1020.00	8618.4	2.00	1.41	1750.0	2469.5
1021.00	18196.1	3.00	2.41	1750.0	4219.5

NOTES: Composite Rating Curve

Elev	West (cfs)	South (cfs)	Total (cfs)	Total Weir Length (ft)
1018	0	0	0	0
1018.5	771	0	771	968
1019.3	3920	0	3920	1397
1020	8618	494	9112	2560
1021	18196	4115	22,311	—

Project Manyvale ADMS
Project No. 132586
Sheet No. 2 of 2
Calculated by DWD Date

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

Flow Diversion D2921

Flow South Over RID

CROSS SECTION PARAMETERS: FILENAME: D2921S.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1021.10
Bank Stations.....Left: 1000.0 Right....: 2250.0 Min Elev.:1019.30
Encroachment Stations..Left: 1000.0 Right....: 2250.0 Weir Coef: 2.700

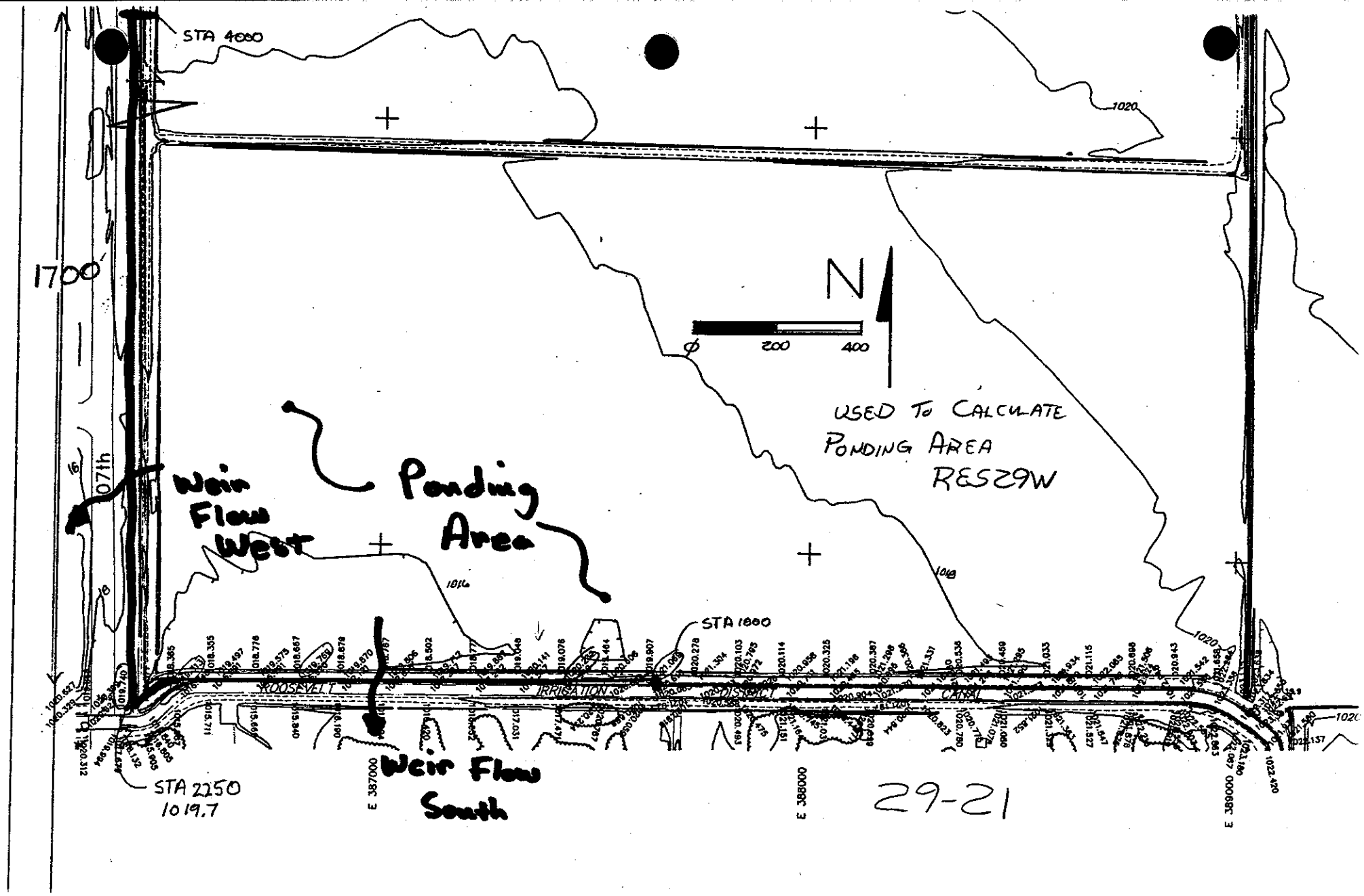
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1021.10	1000.00	2)	1020.20	1200.00	3)	1019.70	1800.00
4)	1019.30	2100.00	5)	1019.74	2250.00	6)	1018.00	2400.00
7)	1018.00	3100.00	8)	1020.00	4000.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1020.00	494.3	0.70	0.34	810.0	276.0
[illegible].00	4115.3	1.70	1.12	1227.8	1373.1

NOTES:


STA 4000
1700'
107th
Weir Flow West
Ponding Area
1016
1018
1020
N
0
200
400
USED TO CALCULATE PONDING AREA
RES29W
STA 1000
ROOSEVELT IRRIGATION DISTRICT CANAL
STA 2250
1019.7
E 387000
Weir Flow South
E 388000
29-21
E 389000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **29-21N** *MAP SHT* 152 & 165 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES29S** Min Weir Crest Elevation = 1021.4

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1019	10.9	--	--	--			0	--	0	0
1020	21.9	16.40	16.40	16.40			0	--	0	0
1021	46.7	34.30	34.30	50.70			0	--	0	0
1021.4	56.6	51.65	20.66	71.36			700	2.7	0	0
1021.5	59.1	57.85	5.79	77.15			1,760	2.7	96	96
1022	71.4	65.25	32.63	109.77			2,350	2.7	1,160	1,160

NOTES: (1) See following weir flow computation sheet.

Ponding due to Roosevelt Irrigation Canal

Project Manyvale
Project No. 132586
Sheet No. 1 of 1
Calculated by DWD Date 8/96

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

RES29S

Weir Flow West

CROSS SECTION PARAMETERS: FILENAME: RES29S.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1022.10
Bank Stations.....Left: 2199.9 Right....: 4750.0 Min Elev.:1021.40
Encroachment Stations..Left: 2199.9 Right....: 4750.0 Weir Coef: 2.700

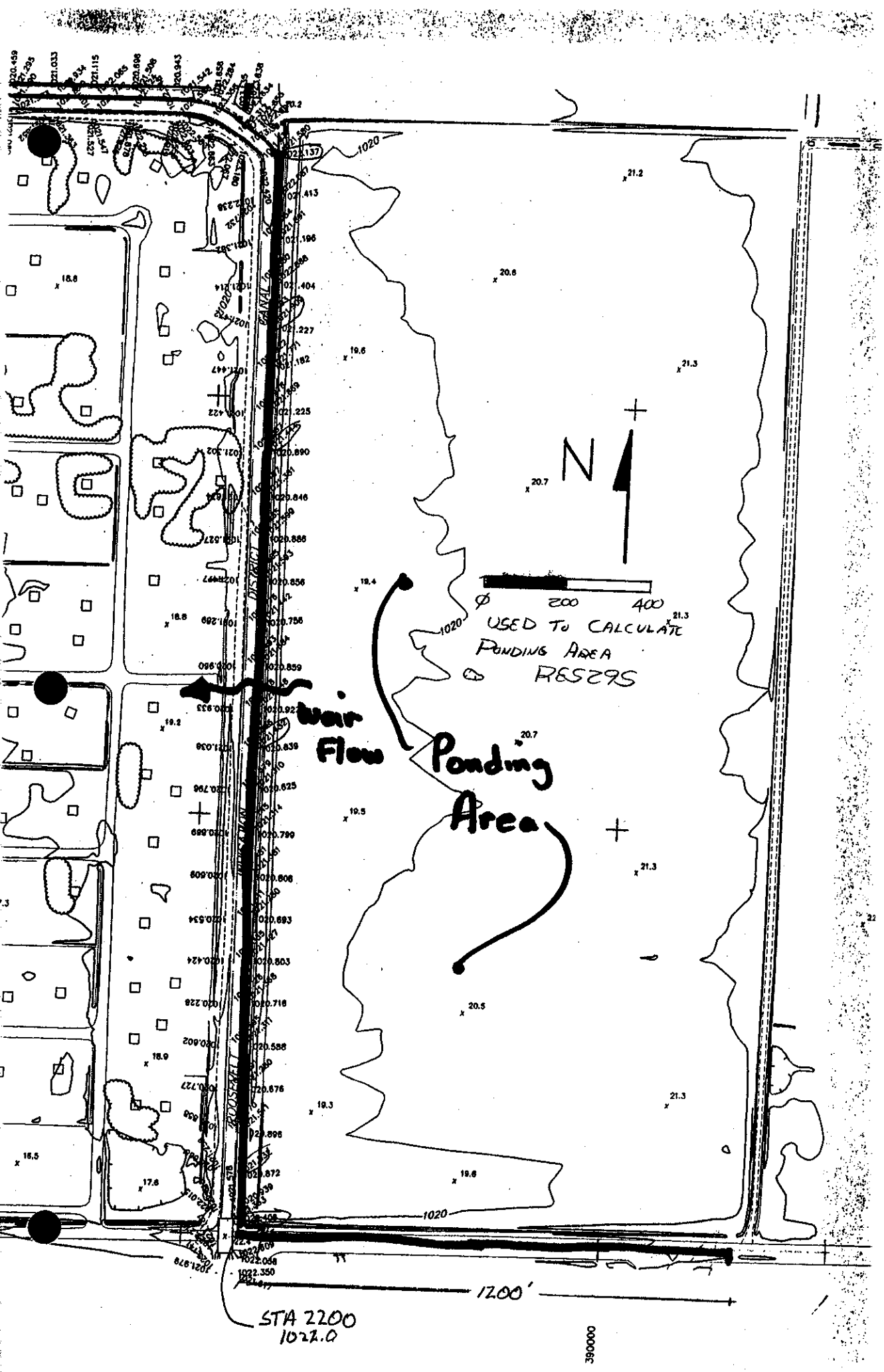
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1022.00	1000.00	2)	1022.00	2199.90	3)	1021.50	2200.00
4)	1021.50	2350.00	5)	1021.40	3350.00	6)	1021.40	4050.00
7)	1021.90	4350.00	8)	1022.10	4750.00			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible]1.50	95.9	0.10	0.07	1760.0	123.0
[illegible].00	2309.4	0.60	0.49	2350.1	1160.0

NOTES:


N
0 200 400
USED TO CALCULATE
PONDING AREA
RES295
Weir
Flow
Ponding
Area
1020
1020
1200'
STA 2200
1022.0
390000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **32-21E** *MAP SHT* 178 & 191 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES32E** Min Weir Crest Elevation = 1021

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1020	13.8	--	--	--			0	--	0	0
1021	17.7	15.73	15.73	15.73			1,100	2.7	0	0
1021.5	19.7	18.69	9.34	25.07			1,150	2.7	1,069	1,069
1022	21.6	20.63	10.32	35.38			1,200	2.7	3,077	3,077
1023	78.8	50.20	50.20	85.58			3,300	2.7	11,170	11,170
1024	126.1	102.45	102.45	188.03			4,900	2.7	28,792	28,792

NOTES: (1) See following weir flow computation sheet.

Ponding due to Roosevelt Irrigation Canal

Project MARYVALE ADMS
Project No. 13258
Sheet No. 3 of
Calculated by JG Date 8/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 32-21E
RES 32E

CROSS SECTION PARAMETERS: FILENAME: res32e.SEC

No. of Cross Section Points: 10 Bed Slope:0.00500 Max Elev.:1024.00
Bank Stations.....Left: 0.0 Right....: 4900.0 Min Elev.:1021.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

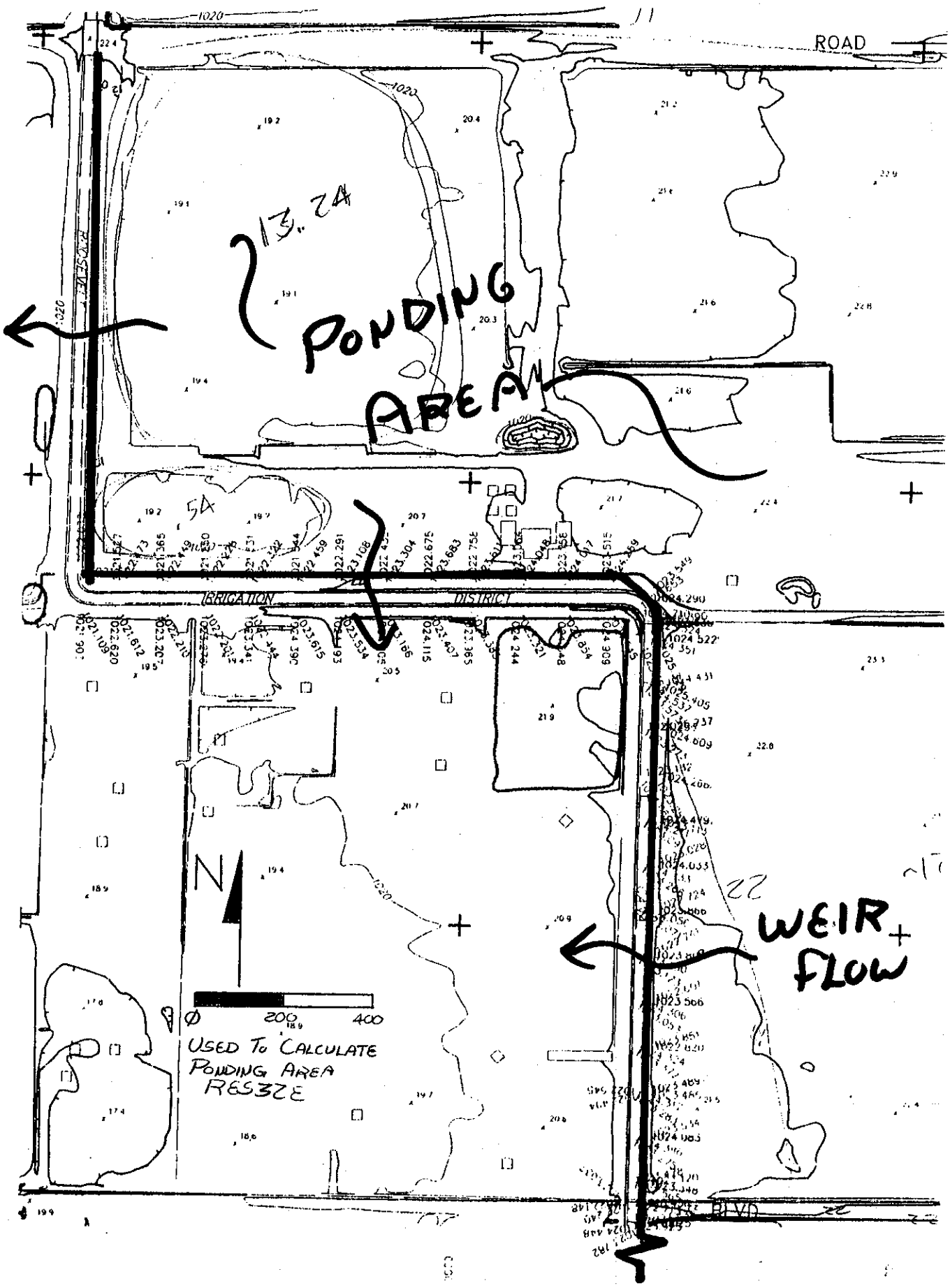
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1024.00	0.00	2)	1023.00	0.10	3)	1022.00	0.20
4)	1021.50	0.25	5)	1021.00	0.30	6)	1021.00	1100.00
7)	1021.50	1150.00	8)	1022.00	1200.00	9)	1023.00	3300.00
10)	1024.00	4900.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].50	1068.9	0.50	0.49	1149.8	562.4
1022.00	3077.3	1.00	0.96	1199.8	1149.8
1023.00	11169.7	2.00	1.03	3299.9	3399.6
1024.00	28792.4	3.00	1.53	4900.0	7499.5

NOTES:

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM


ROAD
1020
13.24
PONDING
AREA
5A
IRRIGATION
DISTRICT
N
0
200
400
USED TO CALCULATE
PONDING AREA
RESIZE
WEIR
FLOW
BLVD

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **33-21** *MAP SHT* 179 & 192 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES33** Min Weir Crest Elevation = 1123

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	XXTH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1122	46.5	--	--	--			0	--	0	0
1123	82.9	64.70	64.70	64.70			0	2.7	0	0
1124	143.1	112.98	112.98	177.68			600	2.7	1,355	1,355
1124.5	173.2	158.11	79.05	256.73			3,800	2.7	7,107	7,107
1125	203.3	188.21	94.11	350.83			6,200	2.7	31,884	31,884

NOTES: (1) See following weir flow computation sheet.

Ponding due to Roosevelt Irrigation Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 4 of
Calculated by JG Date 8/13

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 33-21
RES 33

CROSS SECTION PARAMETERS: FILENAME: res33.SEC

No. of Cross Section Points: 18 Bed Slope:0.00500 Max Elev.:1025.00
Bank Stations.....Left: 0.0 Right....: 6200.0 Min Elev.:1024.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

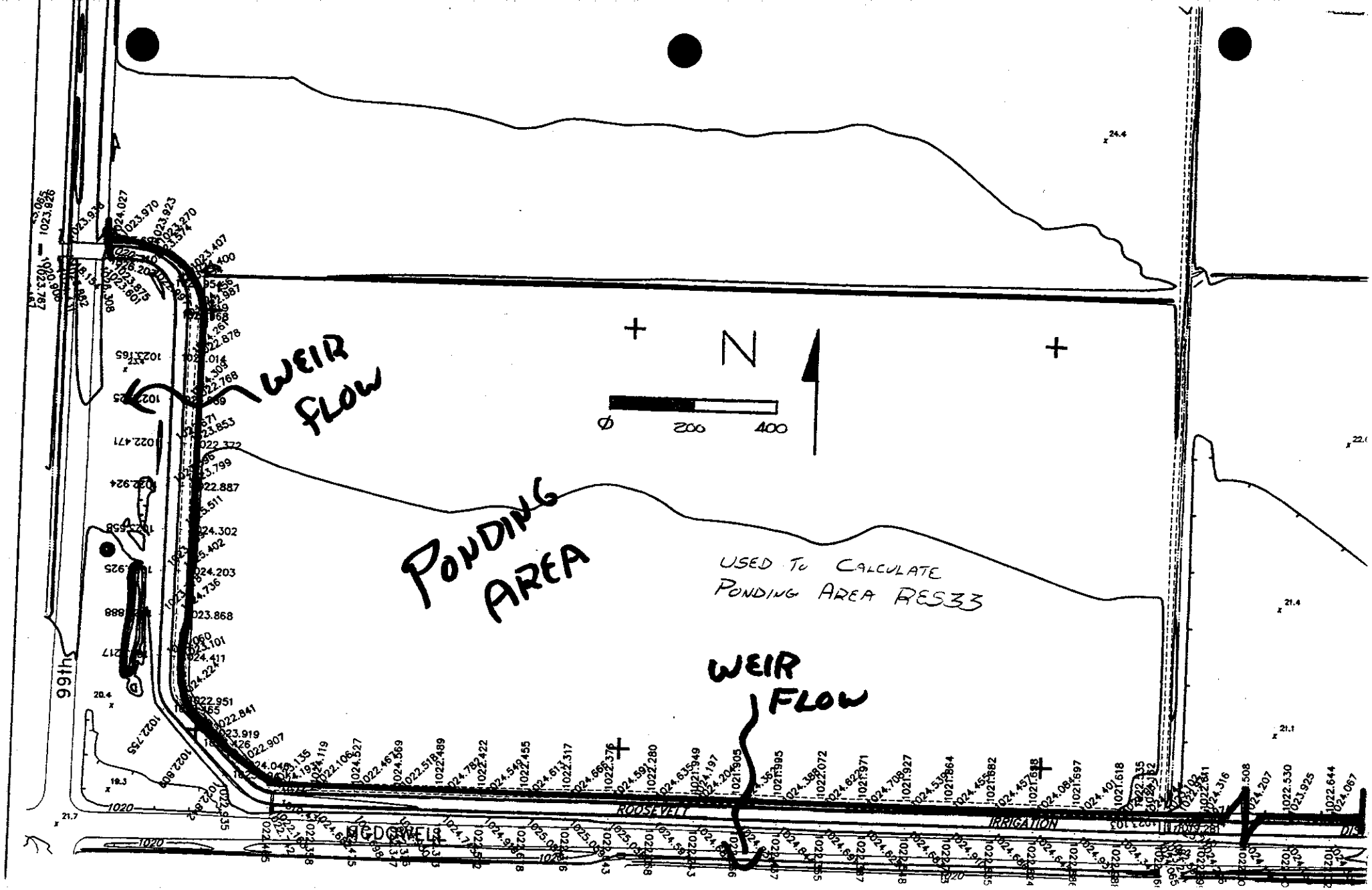
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1025.00	0.00	2)	1024.50	1000.00	3)	1024.00	1500.00
4)	1024.00	1750.00	5)	1024.50	1800.00	6)	1024.00	2200.00
7)	1024.00	2400.00	8)	1024.50	2650.00	9)	1025.00	2700.00
10)	1024.50	3500.00	11)	1024.50	3750.00	12)	1025.00	3800.00
13)	1024.50	4000.00	14)	1024.00	4800.00	15)	1024.00	4950.00
16)	1024.50	5000.00	17)	1024.50	5600.00	18)	1025.00	6200.00

COMPUTED PARAMETERS:

W(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1024.50	1355.5	0.50	0.31	2650.0	812.5
1025.00	7107.6	1.00	0.52	6200.0	3237.5
1026.00	31883.8	2.00	1.52	6200.0	9437.5

NOTES:

SECTION IS TAKEN LEFT TO RIGHT LOOKING UPSTREAM


WEIR FLOW
PONDING AREA
USED TO CALCULATE PONDING AREA RES33
WEIR FLOW
N
0 200 400
99th
ROOSEVELT
IRRIGATION
DIS
MEDOWEIR

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **6-22E** *MAP SHT* 55 & 66 Weir Coeff = 2.8

Ponding/Reservior I.D. **RES6** Min Weir Crest Elevation = 1144

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV (2)	Surcharge Capacity of Canal [cfs]	Culvert/Storm Drain Capacity [cfs] (3)	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1141	0.4	--	--	147.0		108	0	--	0	108
1142	6.1	3.25	3.25	150.3		108	0	--	0	108
1143	18.3	12.20	12.20	162.5		108	0	--	0	108
1144	37.6	27.95	27.95	190.4		108	0	2.8	0	108
1145	51.5	44.55	44.55	235.0		108	160	2.8	0	108
1146	65.3	58.40	58.40	293.4		108	1,460	2.8	2,190	2,298
1147	78.1	71.70	71.70	365.1		108	2110	2.8	9,030	9,138
1148	91.0	84.55	84.55	449.6		108	2110	2.8	20,390	20,498

NOTES: (1) See following weir flow computation sheet.
(2) Starting cumulative volume corresponds to the capacity of the "East Basin" of the Orangewood storm drain system (FCD 94-12) per the data given in Appendix H.
(3) The capacity of the storm drain corresponds to the capacity of the Orangewood storm drain system - Pipe # 10 (FCD 94-12) per the data given in Appendix H.
Ponding due to railroad embankment adjacent to Grand Avenue.

Project MARYVALE ADMS
Project No. 132566
Sheet No. 6 of
Calculated by JCS Date 5/31

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 6-22E
(RES6)

CROSS SECTION PARAMETERS: FILENAME: RES6.SEC

No. of Cross Section Points: 12 Bed Slope:0.00500 Max Elev.:1148.00
Bank Stations.....Left: 0.0 Right....: 2110.1 Min Elev.:1145.00
Encroachment Stations..Left: Right....: Weir Coef: 2.800

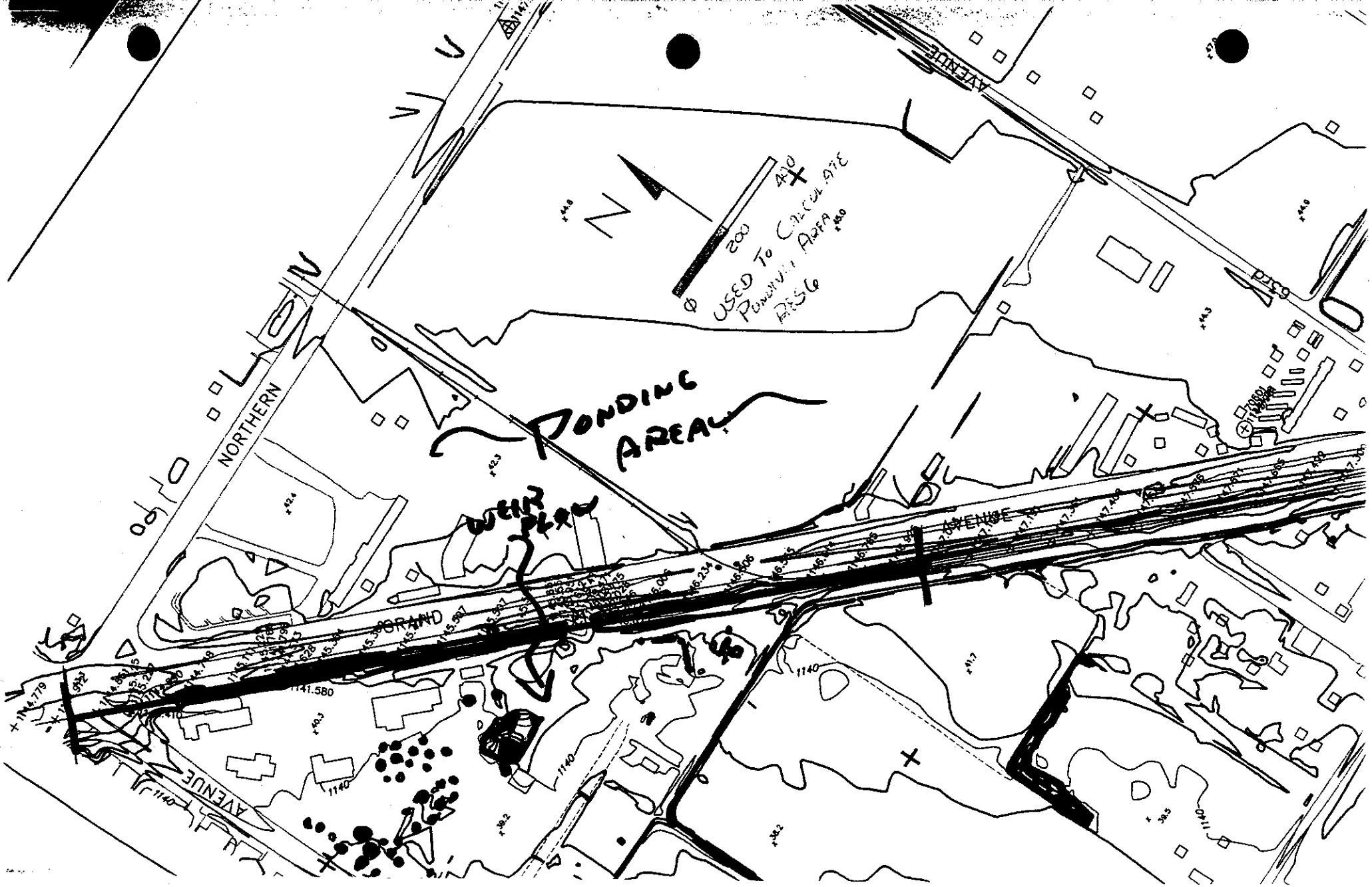
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1148.00	0.00	2)	1147.00	0.10	3)	1146.50	0.20
4)	1146.00	0.30	5)	1145.50	0.35	6)	1145.00	0.40
7)	1145.00	160.00	8)	1145.50	1010.00	9)	1146.00	1460.00
10)	1146.50	1610.00	11)	1147.00	2110.00	12)	1148.00	2110.10

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	2192.6	1.00	0.62	1459.7	909.7
1146.50	5053.3	1.50	1.04	1609.8	1677.0
1147.00	9032.9	2.00	1.24	2109.9	2606.9
1148.00	20389.5	3.00	2.24	2110.1	4717.0
1149.00	34910.4	4.00	3.24	2110.1	6827.0
1150.00	51956.8	5.00	4.24	2110.1	8937.2

NOTES:


NORTHERN
AVENUE
PORLAND
AVENUE
AVENUE
6th
PONDING AREA
WEIR PLAN
USED TO CALCULATE PONDING AREA
200
400
1141.580
1140

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **8-22** *MAP SHT* 80 & 93 Weir Coeff = 2.8

Ponding/Reservior I.D. **RES8** Min Weir Crest Elevation = 1150

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	Culvert/Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1148	3.0	--	--	--			0	--	0	0
1149	26.9	14.95	14.95	14.95			0	--	0	0
1150	44.5	35.70	35.70	50.65			250	2.8	0	0
1150.5	66.1	55.30	27.65	78.30			400	2.8	310	310
1151	87.8	76.95	38.48	116.78			670	2.8	1,070	1,070
1152	119.5	103.65	103.65	220.43			820	2.8	4,090	4,090

NOTES: Includes part of Section 9-22
(1) See attached weir flow computation sheets.

Ponding due to railroad embankment adjacent to Grand Avenue

Project MARYVALE ADMS
Project No. 132586
Sheet No. 7 of
Calculated by JG Date 6/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 8-22
(RES8)

CROSS SECTION PARAMETERS: FILENAME: RES8.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1152.00
Bank Stations.....Left: 0.0 Right....: 820.3 Min Elev.:1150.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

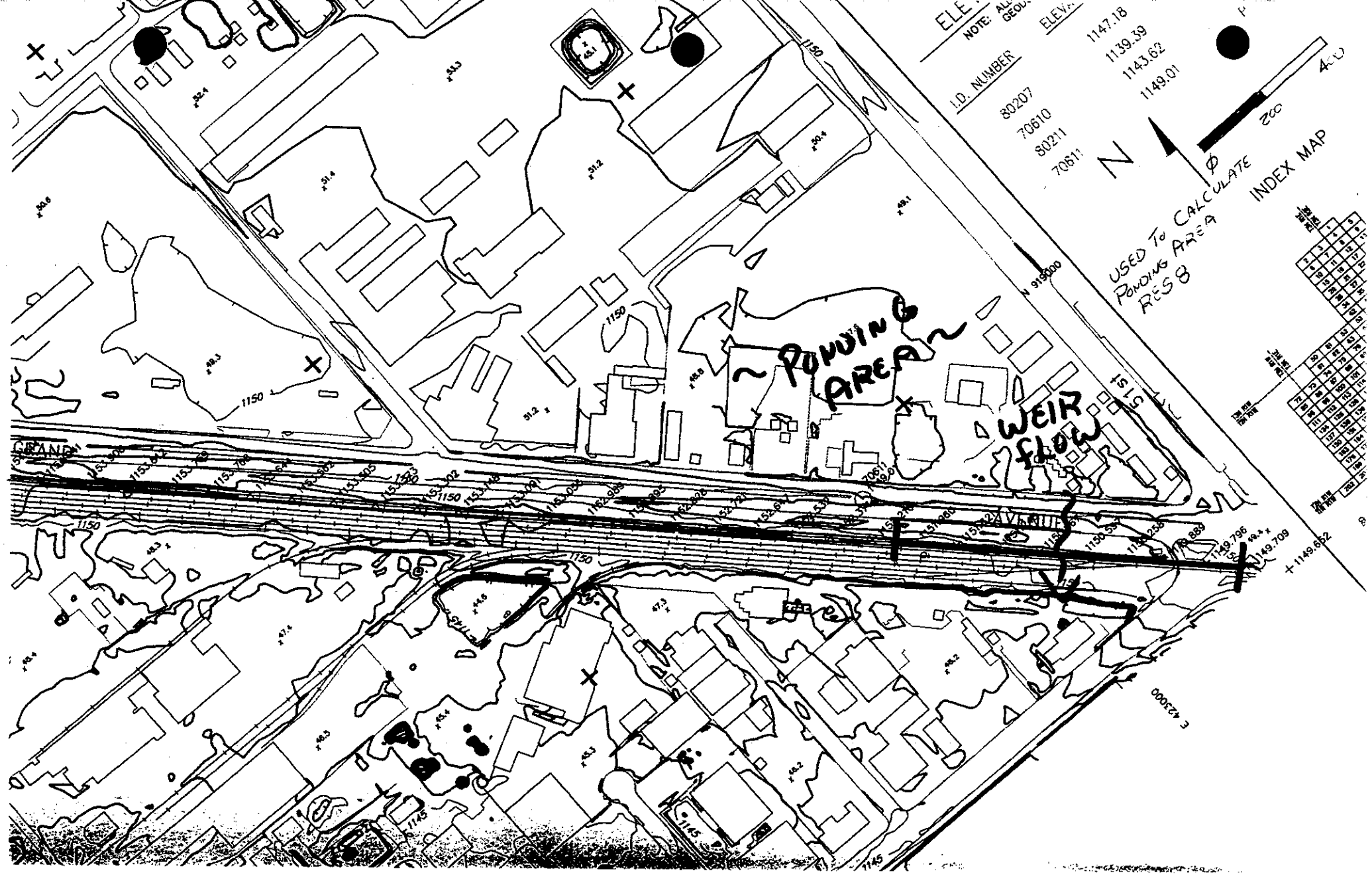
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1152.00	0.00	2)	1151.00	140.00	3)	1150.50	420.00
4)	1150.00	550.00	5)	1150.00	820.00	6)	1150.50	820.10
7)	1151.00	820.20	8)	1152.00	820.30			

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].50	307.4	0.50	0.42	400.1	167.5
[illegible]1.00	1067.3	1.00	0.64	680.2	437.6
1152.00	4090.7	2.00	1.45	820.3	1187.8
1153.00	8652.5	3.00	2.45	820.3	2008.1

NOTES:


ELEV
NOTE: ALL
GEOD
I.D. NUMBER
ELEV.
80207
70610
80211
70611
1147.18
1139.39
1143.62
1149.01
N
200
400
INDEX MAP
USED TO CALCULATE
PONDING AREA
RES 8
~ PONDING AREA ~
WEIR FLOW
GRAND
AVENUE
51 ST
N 915000
E 423000
1150
1145
1149.796
1149.709
1149.652

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **26-22N** *MAP SHT* 161 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES26T** Min Weir Crest Elevation = 1112

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	27TH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1111	0.0	--	--	--		160	0	--	0	160
1112	0.0	0.00	0.00	0.00		160	400	2.7	0	160
1112.5	9.4	4.70	2.35	2.35		160	650	2.7	480	640
1113	18.7	14.05	7.03	9.38		160	900	2.7	1,620	1,780
1114	30.3	24.50	24.50	33.88		160	2,860	2.7	9,936	10,096
1115	42.6	36.45	36.45	70.33		160	3,130	2.7	24,740	24,900

NOTES: Includes part of Section 25-22
(1) See following weir flow computation sheet.

Ponding due to Grand Canal

Project MARYVALE ADMS
Project No. 132586
Sheet No. 8 of
Calculated by JR Date 6/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 26-22N
(RES 26T)

CROSS SECTION PARAMETERS: FILENAME: RES26N.SEC

No. of Cross Section Points: 12 Bed Slope:0.00500 Max Elev.:1116.00
Bank Stations.....Left: 0.0 Right....: 3130.1 Min Elev.:1112.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1116.00	0.00	2)	1115.00	0.10	3)	1114.00	0.20
4)	1113.00	0.30	5)	1112.00	0.40	6)	1112.00	400.00
7)	1113.00	900.00	8)	1113.00	1550.00	9)	1113.00	2290.00
10)	1114.00	2860.00	11)	1115.00	3130.00	12)	1116.00	3130.10

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].50	476.9	0.50	0.40	649.7	262.3
1113.00	1619.0	1.00	0.72	899.7	649.7
1114.00	9935.6	2.00	1.13	2859.8	3224.4
1115.00	24744.4	3.00	1.99	3129.9	6219.3
1116.00	44470.2	4.00	2.99	3130.1	9349.3
1117.00	67999.0	5.00	3.99	3130.1	12479.4

NOTES:

PONDING AREA
WEIR FLOW
USED TO CALCULATE PONDING AREA
0 200 400
N
CANAL
OSBORN
70700
1115.74
80242
112.61
70702
112.79

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **26-22E** *MAP SHT* 174 & 175 Weir Coeff = 2.7

Ponding/Reservior I.D. **RES26E** Min Weir Crest Elevation = 1097

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	27TH Ave. Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1096	0.3	--	--	--		160	0	--	0	160
1097	26.2	13.23	13.23	13.23		160	0	2.7	0	160
1098	39.2	32.70	32.70	45.92		160	80	2.7	216	376
1099	51.1	45.17	45.17	91.09		160	710	2.7	896	1,056
1100	65.6	58.39	58.39	149.48		160	2,690	2.7	5,918	6,078

NOTES: (1) See following weir flow computation sheet.

Ponding due to railroad embankment adjacent to Grand Avenue

Project MARYVALE ADMS
Project No. 132586
Sheet No. 5 of
Calculated by JG Date 8/3

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 26-22E
RES 26E

CROSS SECTION PARAMETERS: FILENAME: RES26E.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1100.00
Bank Stations.....Left: 0.0 Right....: 2690.0 Min Elev.:1098.00
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

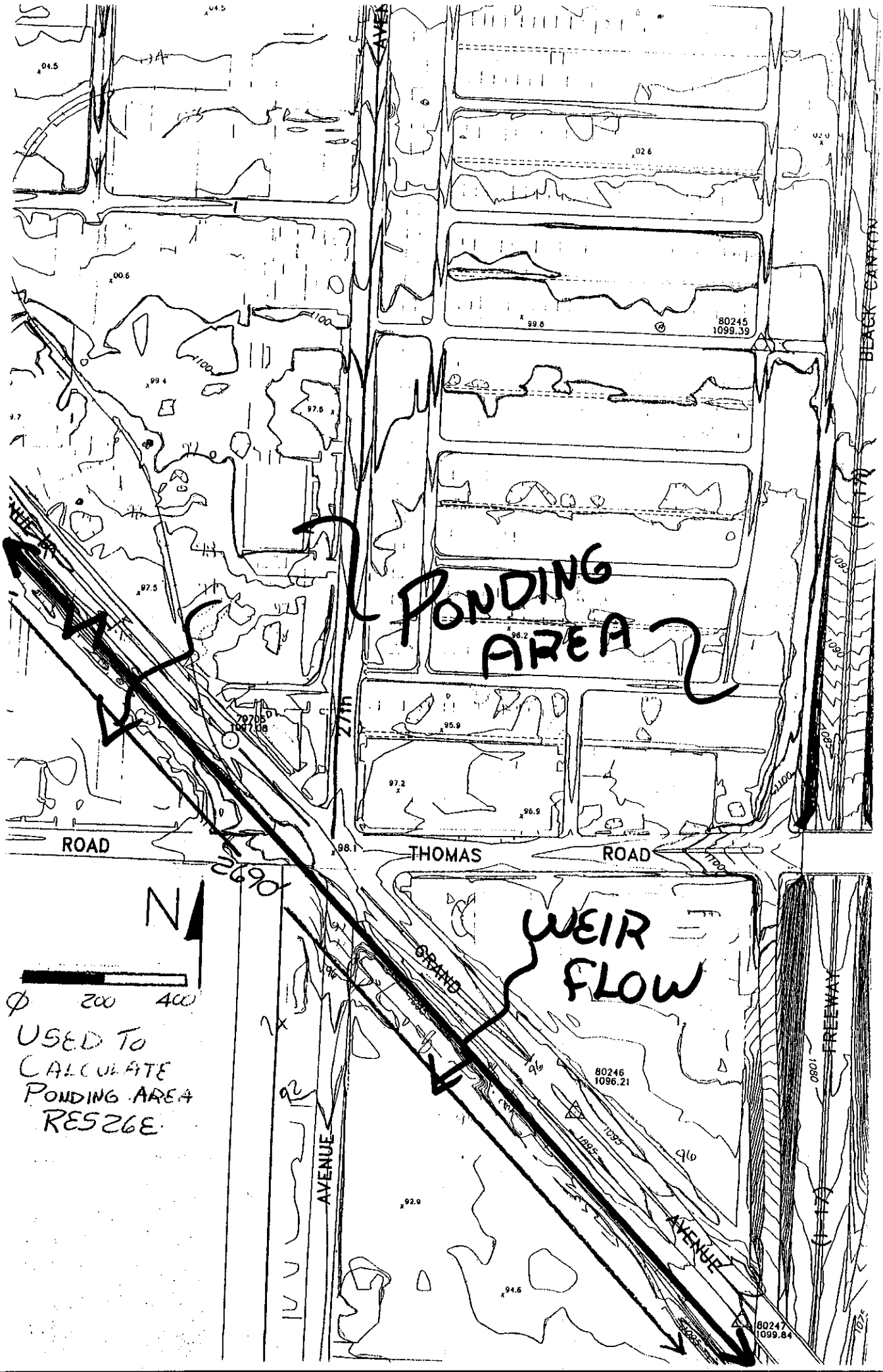
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1100.00	0.00	2)	1099.00	1000.00	3)	1098.00	1500.00
4)	1098.00	1580.00	5)	1099.00	1710.00	6)	1100.00	2690.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1099.00	896.4	1.00	0.56	710.0	395.0
[illegible].00	5917.9	2.00	0.78	2690.0	2095.0

NOTES:

SECTION IS TAKEN LEFT TO
RIGHT LOOKING UPSTREAM


PONDING AREA
WEIR FLOW
THOMAS ROAD
ROAD
GRAND
AVENUE
AVENUE
AVENUE
FREEWAY
BLACK CANYON
2690
N
0 200 400
USED TO CALCULATE PONDING AREA RES26E
80245 1099.39
80246 1096.21
80247 1099.84

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **22-31E** *MAP SHT* **11** Weir Coeff = 2.8

Ponding/Reservior I.D. **RES22** Min Weir Crest Elevation = 1136.5

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	Culvert/Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1134	0.1	--	--	--			0	--	--	0
1136	5.3	2.70	5.40	5.40			0	--	0	0
1136.5	11.5	8.40	4.20	9.60			1,183	2.8	970	970
1138	28.7	20.10	30.15	39.75			2,210	2.8	10,990	10,990
1140	64.5	46.60	93.20	132.95			2,230	2.8	39,090	39,090

NOTES: Structure 28+21/179.51: Assumed ineffective since it does not positively drain. Grand Avenue (Top of Curb, North) is 2.0 to 2.5 ft above the invert of the bridge opening.
(1) See attached weir flow computations

Ponding due to railroad embankment and Grand Avenue

Project MARYVALE ADMS
Project No. 132546
Sheet No. 1 of
Calculated by JG Date 5/31

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 22-31E (RES22)

CROSS SECTION PARAMETERS: FILENAME: RES22.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1140.00
Bank Stations.....Left: 0.0 Right....: 2230.1 Min Elev.:1136.00
Encroachment Stations..Left: Right....: Weir Coef: 2.800

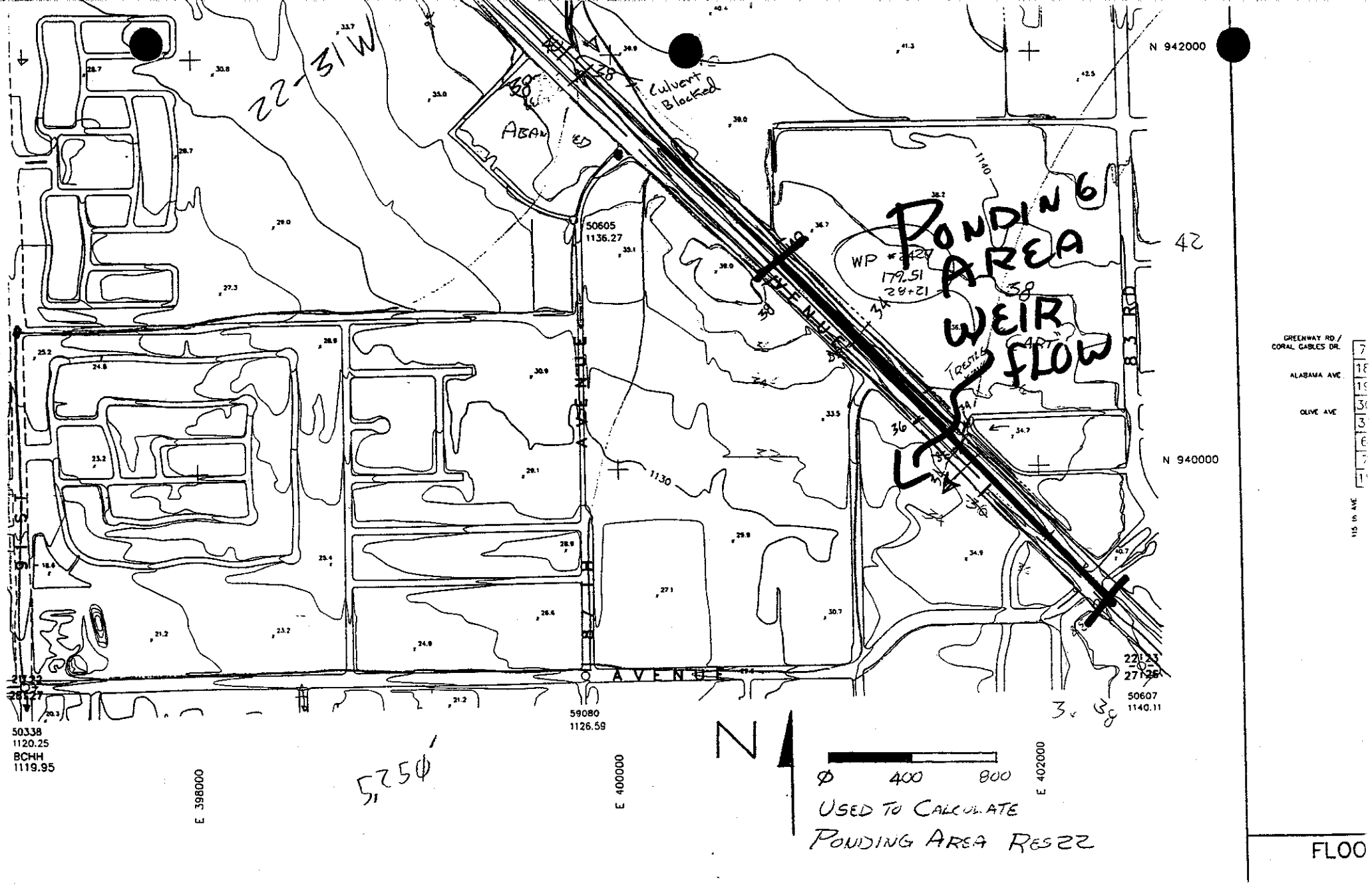
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1140.00	0.00	2)	1138.00	20.00	3)	1136.00	980.00
4)	1136.00	1820.00	5)	1138.00	2230.00	6)	1140.00	2230.10

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1136.50	967.2	0.50	0.43	1182.5	505.6
[illegible].00	3119.2	1.00	0.78	1525.0	1182.5
[illegible].00	10992.4	2.00	1.38	2210.0	3050.0
1139.00	23424.9	3.00	2.37	2220.1	5265.0
1140.00	39090.1	4.00	3.36	2230.1	7490.1
1141.00	57388.7	5.00	4.36	2230.1	9720.2

NOTES:


22-31W
Culvert Blocked
ABAN ED
50605
1136.27
WP #2429
179.51
28+21
PONDING AREA
WEIR FLOW
TRESTLE
N 942000
N 940000
42
1140
1130
GREENWAY RD / CORAL GABLES DR.
ALABAMA AVE.
OLIVE AVE
115 th AVE
AVENUE
50338
1120.25
BCHH
1119.95
59080
1126.59
50607
1140.11
E 398000
E 400000
E 402000
5,250'
N
0 400 800
USED TO CALCULATE
PONDING AREA RES22
FLOO

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Ponding Areas

By: J. Geisbush
Checked: D. Dust
Project No.: 132586

Ponding Location **26-31 (SE)** *MAP SHT* 26 Weir Coeff = 2.8

Ponding/Reservior I.D. **RES26S** Min Weir Crest Elevation = 1138

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Weir Flow South Over Olive Ave.(1) [cfs]	Culvert/Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate Over RR (1) [cfs]	Total Outflow [cfs] SQ
1132	1.5	--	--	--			0	--	0	0
1134	1.9	1.70	3.40	3.40			0	--	0	0
1136	22.3	12.10	24.20	27.60			0	--	0	0
1137	36.1	29.20	29.20	56.80	0		0	--	0	0
1138	49.9	43.00	43.00	99.80	2170		100	2.8	0	2,170
1138.5	67.4	58.65	29.33	129.13	4160		1,500	2.8	650	4,810
1140	84.8	76.10	114.15	243.28	40250		1,950	2.8	10,820	51,070

NOTES: Includes part of Section 25-31
(1) See following weir flow computation sheets.

Ponding due to railroad embankment adjacent to Grand Avenue.

Project MARYVALE ADMS
Project No. 152586
Sheet No. 2 of
Calculated by JG Date 5/31

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 26-31 (SE)
(RES26S)

CROSS SECTION PARAMETERS: FILENAME: RES26SE.SEC

No. of Cross Section Points: 6 Bed Slope:0.00500 Max Elev.:1140.00
Bank Stations.....Left: 0.0 Right....: 1950.1 Min Elev.:1138.00
Encroachment Stations..Left: Right....: Weir Coef: 2.800

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1140.00	0.00	2)	1138.50	450.00	3)	1138.00	750.00
4)	1138.00	850.00	5)	1138.50	1950.00	6)	1140.00	1950.10

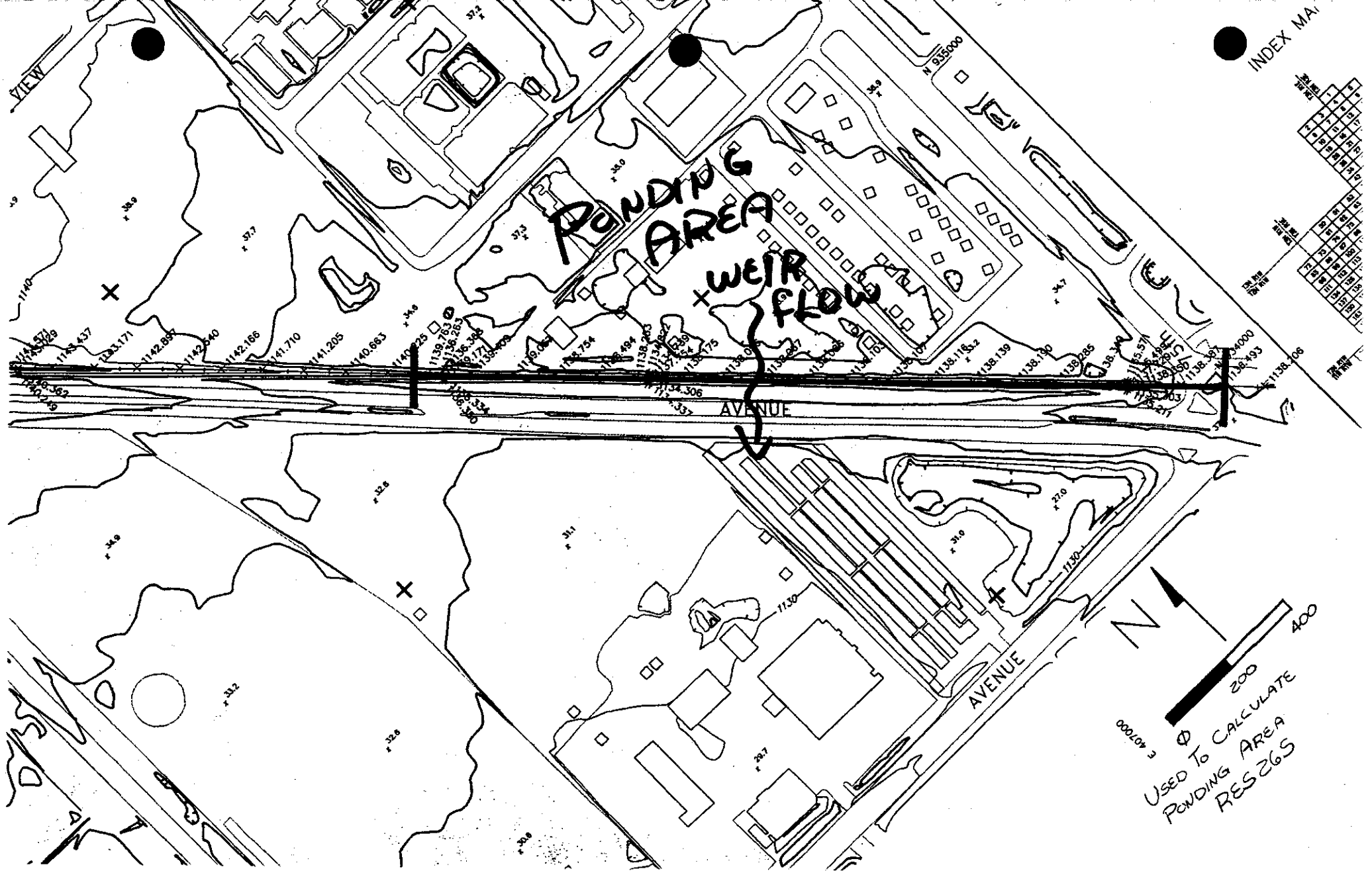
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1138.50	653.4	0.50	0.27	1500.0	400.0
[illegible].00	2921.0	1.00	0.72	1650.0	1187.5
[illegible].00	10816.2	2.00	1.53	1950.1	2987.6
1141.00	22335.1	3.00	2.53	1950.1	4937.7
1142.00	36523.2	4.00	3.53	1950.1	6887.8

NOTES:

Rating Data for
D26AW

West	0	0	650
south	0	2170	4160
Total	0	2170	4810


PONDING AREA
WEIR FLOW
AVENUE
AVENUE
INDEX MA
VIEW
N 935000
E 407000
200
400
N
USED TO CALCULATE PONDING AREA RES26S

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **26-31 (NW)** *MAP SHT* 20 & 26 Weir Coeff = 2.8

Ponding/Reservior I.D. **RES26N** Min Weir Crest Elevation = 1141.3

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	Culvert/Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate [cfs]	Total Outflow [cfs] SQ
1136	0.0	--	--	--			0	--	--	0
1138	2.8	1.41	2.81	2.81			0	--	0	0
1140	29.5	16.15	32.30	35.11			0	--	0	0
1141	44.5	37.00	37.00	72.11			0	--	0	0
1141.3	49.0	46.75	14.02	86.13			0	2.8	0	0
1141.5	52.0	50.50	10.10	96.24			400	2.8	100	100
1141.7	55.0	53.50	10.70	106.94			980	2.8	160	160
1142	59.6	57.30	17.19	124.13			1,850	2.8	970	970

NOTES: (1) See following weir flow computation sheets

Ponding due to railroad embankment adjacent to Grand Avenue.

Project MARYVALE ADMS
Project No. 13 E 56
Sheet No. 4 of
Calculated by JG Date 5/31

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 26-31 NW
(RES 26 N)

CROSS SECTION PARAMETERS: FILENAME: RES26NW.SEC

No. of Cross Section Points: 4 Bed Slope:0.00500 Max Elev.:1142.00
Bank Stations.....Left: 0.0 Right....: 1850.0 Min Elev.:1141.50
Encroachment Stations..Left: Right....: Weir Coef: 2.800

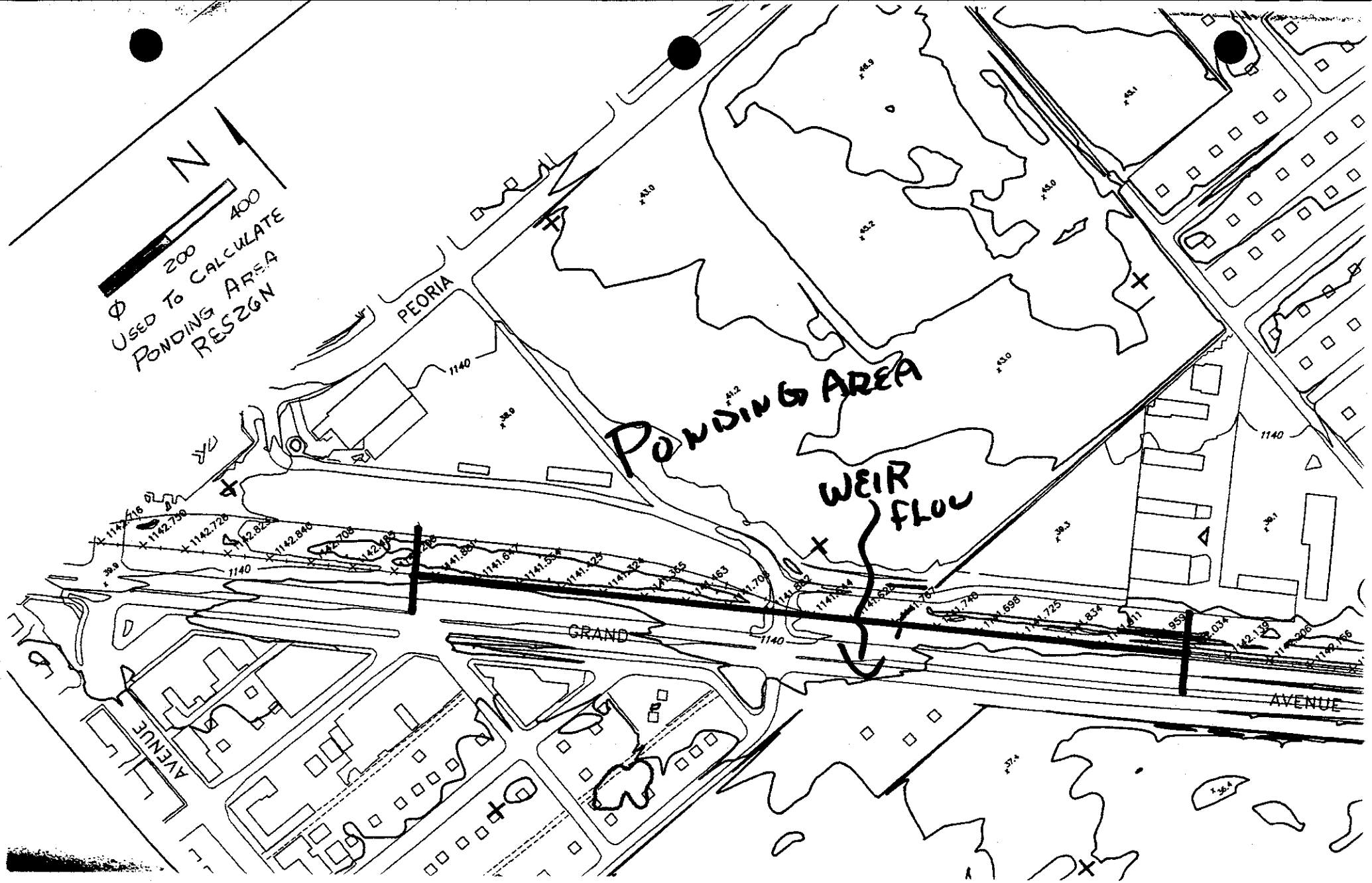
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1142.00	0.00	2)	1141.50	250.00	3)	1141.50	650.00
4)	1142.00	1850.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1141.70	158.2	0.20	0.14	979.9	138.0
[illegible].00	970.2	0.50	0.30	1850.0	562.5
[illegible].00	7760.0	1.50	1.30	1850.0	2412.5

NOTES:


N
0 200 400
USED TO CALCULATE
PONDING AREA
RESIGN
PEORIA
PONDING AREA
WEIR
FLOW
GRAND
AVENUE
AVENUE
1140

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS** By: **J. Geisbush**
Composite Storage Volume Computations Checked: **D. Dust**
Ponding Areas Project No.: **132586**

Ponding Location **36-31E** *MAP SHT* 35 Weir Coeff = 2.8

Ponding/Reservior I.D. **RES36** Min Weir Crest Elevation = 1137

Storage Data					Outflow Data					
Contour Elevation [ft] SE	Contour Area [ac]	Avg Area [ac]	Incremental Vol [acft]	Cumulative Vol [acft] SV	Surcharge Capacity of Canal [cfs]	Culvert/Storm Drain Capacity [cfs]	Weir Length [ft]	Weir Coeff "C"	Weir Flow Rate(1) [cfs]	Total Outflow [cfs] SQ
1132	0	--	--	--			0	--	0	0
1134	3	1.55	3.10	3.10			0	--	0	0
1136	13.1	8.05	16.10	19.20			0	--	0	0
1137	19.0	16.05	16.05	35.25			440	2.8	0	0
1138	24.9	21.95	21.95	57.20			650	2.8	1,470	1,470
1140	47.9	36.40	72.80	130.00			750	2.8	9,050	9,050
1141	74.7	61.30	61.30	191.30			2,550	2.8	16,540	16,540

NOTES: (1) See following weir flow computation sheet.

Ponding due to railroad embankment and Grand Avenue.

Project MARYVALE ADMS
Project No. 132586
Sheet No. 5 of
Calculated by JG Date 5/31

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

PONDING AREA 36-31E
(RES 36)

CROSS SECTION PARAMETERS: FILENAME: RES36.SEC

No. of Cross Section Points: 10 Bed Slope:0.00500 Max Elev.:1142.00
Bank Stations.....Left: 0.0 Right....: 3250.0 Min Elev.:1137.00
Encroachment Stations..Left: Right....: Weir Coef: 2.800

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1142.00	0.00	2)	1140.00	0.10	3)	1140.00	0.20
4)	1138.00	0.30	5)	1137.00	130.00	6)	1137.00	570.00
7)	1138.00	650.00	8)	1140.00	750.00	9)	1141.00	2550.00
10)	1142.00	3250.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	1466.9	1.00	0.84	649.7	544.8
1139.00	4634.4	2.00	1.74	699.8	1219.6
1140.00	9051.3	3.00	2.59	749.8	1944.3
1141.00	16544.6	4.00	1.41	2549.9	3594.3
1142.00	31037.8	5.00	2.00	3250.0	6494.3
1143.00	51623.2	6.00	3.00	3250.0	9744.3

NOTES:

Project MARYVALE ADMS
Project No. 1325 [illegible]
Sheet No. 3 of
Calculated by JGT Date 5/-/

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

Rating Curve 26-[illegible] St. [illegible]
St. [illegible] Along Olive Ave

CROSS SECTION PARAMETERS: FILENAME: OLIVE.SEC

No. of Cross Section Points: 8 Bed Slope:0.00500 Max Elev.:1142.00
Bank Stations.....Left: 0.0 Right....: 2220.0 Min Elev.:1137.00
Encroachment Stations..Left: Right....: Weir Coef: 2.800

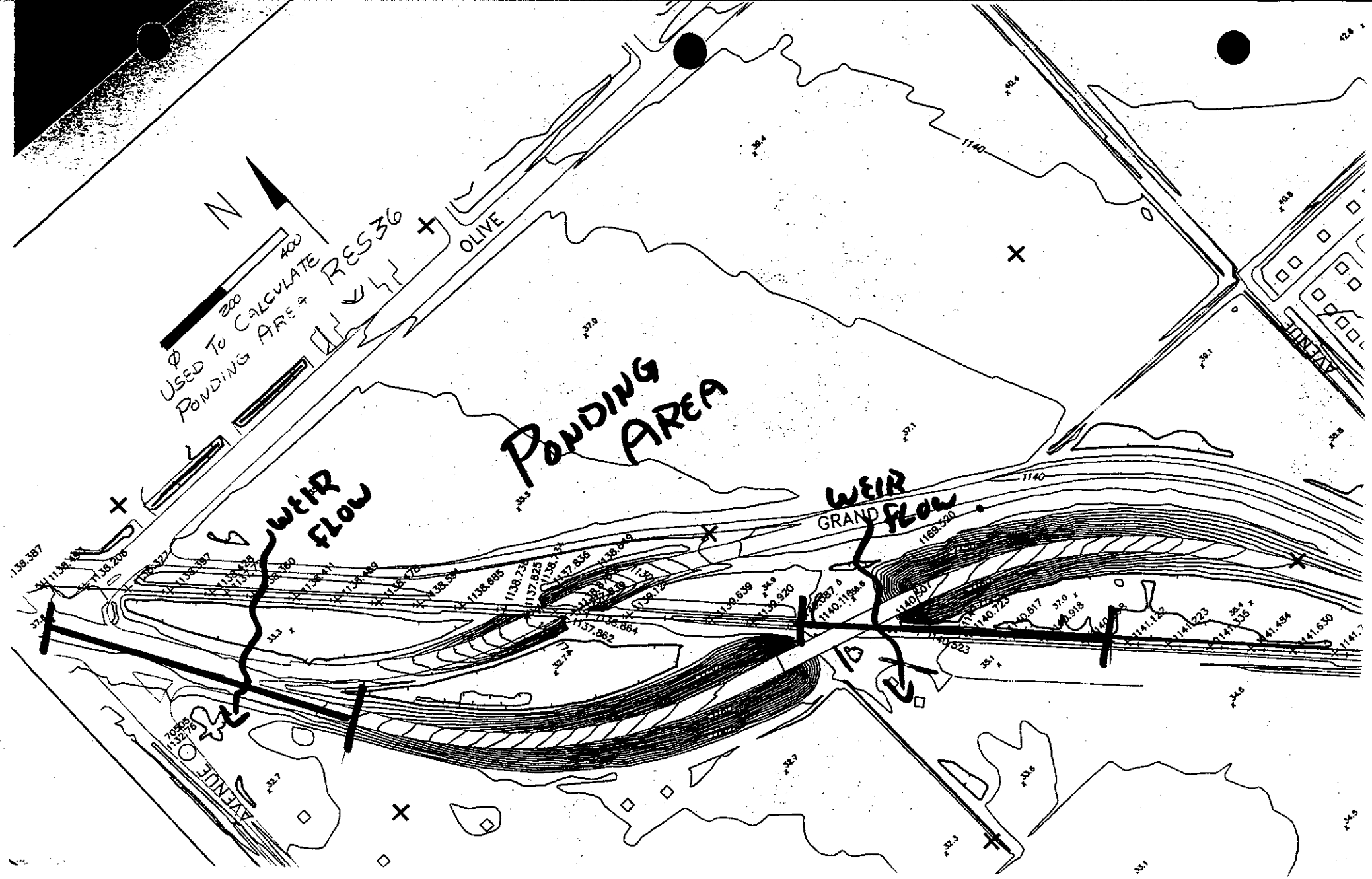
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1142.00	0.00	2)	1140.00	0.10	3)	1138.00	180.00
4)	1137.00	220.00	5)	1137.00	950.00	6)	1138.00	1020.00
7)	1140.00	1710.00	8)	1142.00	2220.00			

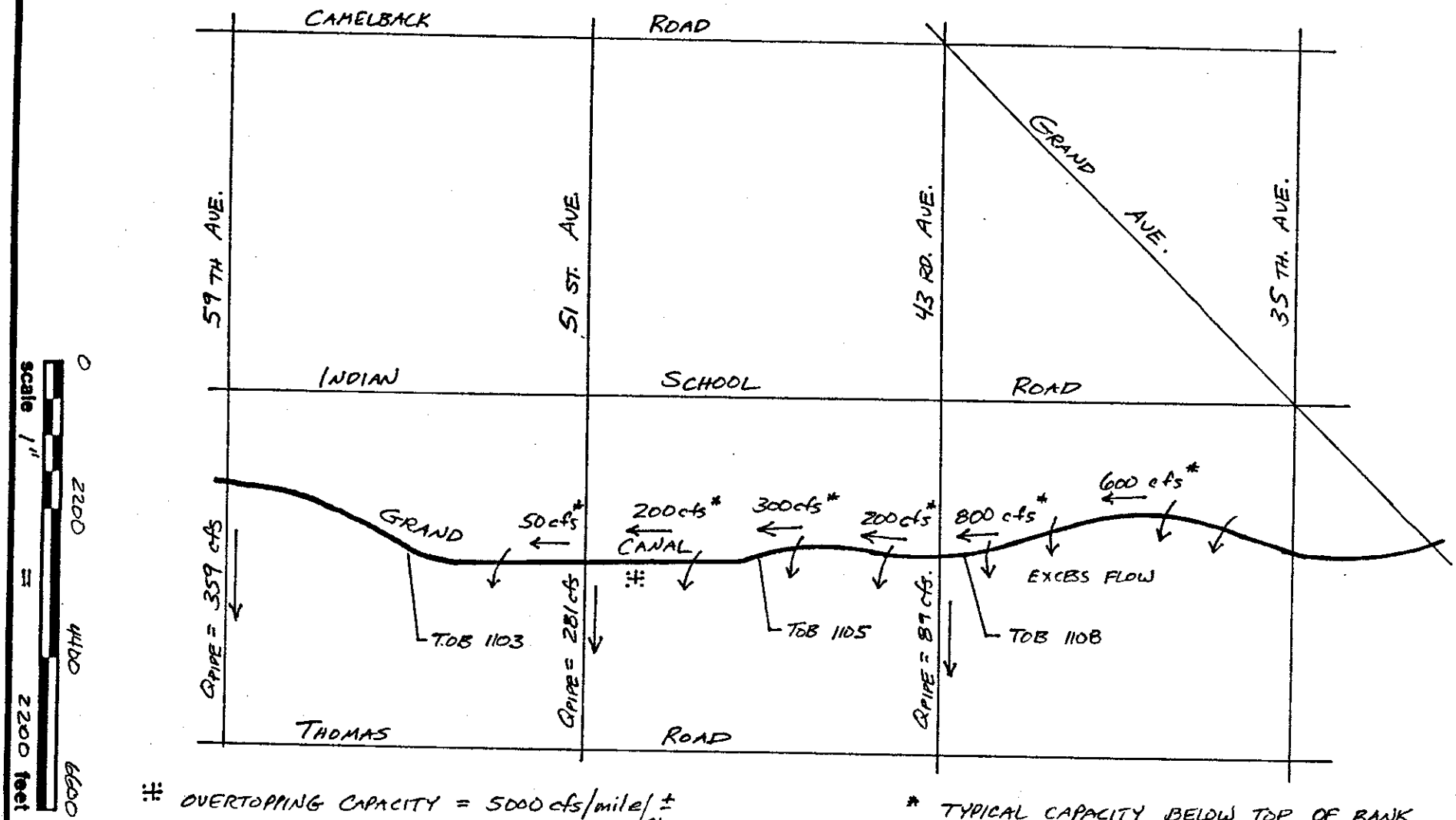
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	2167.2	1.00	0.93	840.0	785.0
[illegible].50	4158.9	1.50	1.19	1057.5	1259.4
1139.00	6842.2	2.00	1.45	1274.9	1842.5
1140.00	14600.2	3.00	1.95	1709.9	3334.9
1141.00	25766.2	4.00	2.63	1964.9	5172.3
1142.00	40246.1	5.00	3.27	2220.0	7264.8

NOTES:


N
0 200 400
USED TO CALCULATE PONDING AREA
RES36
OLIVE
PONDING AREA
WEIR FLOW
WEIR FLOW
GRAND
AVENUE
AVENUE
1140
1138.387
1138.206
1138.327
1138.397
1138.685
1138.739
1137.825
1137.836
1137.862
1138.639
1138.920
1140.117
1140.723
1140.817
1140.918
1140.523
1141.112
1141.223
1141.335
1141.484
1141.630
1169.520
70905
1132.76

Maryvale Mitigation Area



‡ OVERTOPPING CAPACITY = 5000 cfs/mile/ft ±

* TYPICAL CAPACITY BELOW TOP OF BANK

WOOD/PATEL ASSOCIATES Civil Engineers Hydrologists Land Surveyors (602) 234-1344	Scale 1" = 2200'	Design ACP	MARYVALE ADMS - GRAND CANAL PRELIMINARY HEC-2 RESULTS
	Date 8/27/96	Drawn AJR	
	Job # 94154	Chk.	

SUBJECT Maryvale Mitigation Area

BY D. Dusi DATE 6/96

SHEET NO. ___ OF ___

PROJECT NO. ___

Canal Capacity & Storm Drain Data
Per WPA's Prelim. Analyses

ID "D39"
Canal Capacity = 600 cfs
Storm Drain Capacity = 286 cfs (39th Avenue)

ID PA 43/D43
D/S Canal Capacity = 200 cfs
Storm Drain Capacity @ 43RD Ave = 89 cfs
Top of Canal Bank Elev = 1108

ID PA47/D47
D/S Canal Capacity = 300 cfs
Storm Drain Cap. (South) = 0
Storm Drain Cap. (west) = 105 cfs per CVL
Top of Canal Bank Elev. = 1105

ID PA51/D51
D/S Canal Capacity = 50 cfs
Storm Drain Cap. (South) = 281 cfs
Top of Canal Bank Elev. = 1105.5

ID PA55/D55
D/S Canal Capacity = 50 cfs +/-
Storm Drain Capacity = 220 cfs (west)
Top of Canal Bank Elev 1103

FORM 3B

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **27-22N** *MAP SHT* **160**

Ponding/Reservior I.D. **PA43** Est. Avg. Top of Canal Bank Elevation = 1108

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1104	0	0.00	0	0	0	89	0	89
1104.1	89	0.01	0	0	0	89	0	89
1105	89	0.10	0	0	0	89	0	89
1106	89	0.65	0	0	0	89	0	89
1106.8	89	4.77	0	0	0	89	0	89
1107	289	6.79	200	0	0	89	200	89
1108	289	29.76	200	0	0	89	200	89
1109	2,289	33.00	200	0	2,000	89	200	2,089

NOTES:

Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).

Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **28-22N** *MAP SHT* **159**

Ponding/Reservior I.D. **PA47** Est. Avg. Top of Canal Bank Elevation = 1105

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1104	0	0	0	0	0	0	0	0
1104.1	105	0.01	0	105	0	0	105	0
1104.8	338	4.04	300	105	0	0	405	0
1105	405	6.31	300	105	0	0	405	0
1106	2405	28.74	300	105	2000	0	405	2,000

NOTES:
Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).
Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **28-22N** *MAP SHT* **159**

Ponding/Reservior I.D. **PA51** Est. Avg. Top of Canal Bank Elevation = 1105.5

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1103	0	0	0	0	0	0	0	0
1103.1	281	0.01	50	0	0	281	50	281
1104	306	4.81	50	0	0	281	50	281
1105	331	23.3	50	0	0	281	50	281
1105.5	331	40.5	50	0	0	281	50	281
1106	2231	57.73	50	0	1900	281	50	2,181

NOTES:
Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).
Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Wood/Patel

CH2M HILL

Subject: Maryvale ADMS
Composite Storage Volume Computations
Ponding Areas

By: J. Geisbush
Checked: D. Dust
Project No.: 132586

Ponding Location **29-22N** *MAP SHT* 158

Ponding/Reservior I.D. **PA55** Est. Avg. Top of Canal Bank Elevation = 1103

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1100	0	0	0	0	0	0	0	0
1100.1	74	0.01	0	74	0	0	74	0
1100.7	87	0.04	0	87	0	0	87	0
1101	93	0.08	0	93	0	0	93	0
1102	114	5.56	0	114	0	0	114	0
1102.5	124	12.08	0	124	0	0	124	0
1103	124	20.8	0	124	0	0	124	0
1104	629	22.9	50	220	359	0	270	359

NOTES:

Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).

Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **29-22N** *MAP SHT* 158

Ponding/Reservior I.D. **PA59** Est. Avg. Top of Canal Bank Elevation = 1101.5

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1099	0	0		0	0	0	0	0
1099.1	220	0.01		0	0	220	0	220
1100	220	2.31		0	0	220	0	220
1100.8	267	9.93		0	0	267	0	267
1101	378	15.88		52	54	272	52	326
1102	2689	46.45		52	2,365	272	52	2,637

NOTES:
Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).
Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS**
Composite Storage Volume Computations
Ponding Areas

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

Ponding Location **30-22N** *MAP SHT* **157**

Ponding/Reservior I.D. **PA63** Est. Avg. Top of Canal Bank Elevation = 1098.5

			Capacity on North Side of Canal		Flow Diverted Beyond Canal to the South			
Contour Elevation [ft] SE	Total Discharges [cfs]	Cumulative Vol [acft] SV	Surface Flow per HEC-2 [cfs]	Estimated Capacity of Storm Drain Parallel to Canal [cfs]	Weir Flow over Canal [cfs]	Storm Drain Beneath Canal [cfs]	Total Flow Along the Canal [cfs]	Total Flow Past the Canal [cfs]
1096	0	0	N/A	0	0	0	0	0
1097	52	0.3	N/A	0	0	52	0	52
1097.2	52	1.27	N/A	0	0	52	0	52
1097.5	52	3.89	N/A	0	0	52	0	52
1098	219	10.16	N/A	0	167	52	0	219
1099	3220	34.71	N/A	0	3168	52	0	3,220

NOTES:
Storage volumes based on data from Maryvale Area Flooding Mitigation Study(CVL,1996).
Flow capacity along the north side of the canal is based on the results of the HEC-2 analysis by Wood, Patel, & Associates (see Appendix E).

Project Manyvale ADMS
Project No. 132586
Sheet No. 1 of 1
Calculated by DWD Date 1/97

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

Ponding Area 63

CROSS SECTION PARAMETERS: FILENAME: PA63.SEC

No. of Cross Section Points: 10 Bed Slope: 0.00500 Max Elev.: 1099.70
Bank Stations.....Left: 0.0 Right....: 2060.0 Min Elev.: 1097.60
Encroachment Stations..Left: Right....: Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

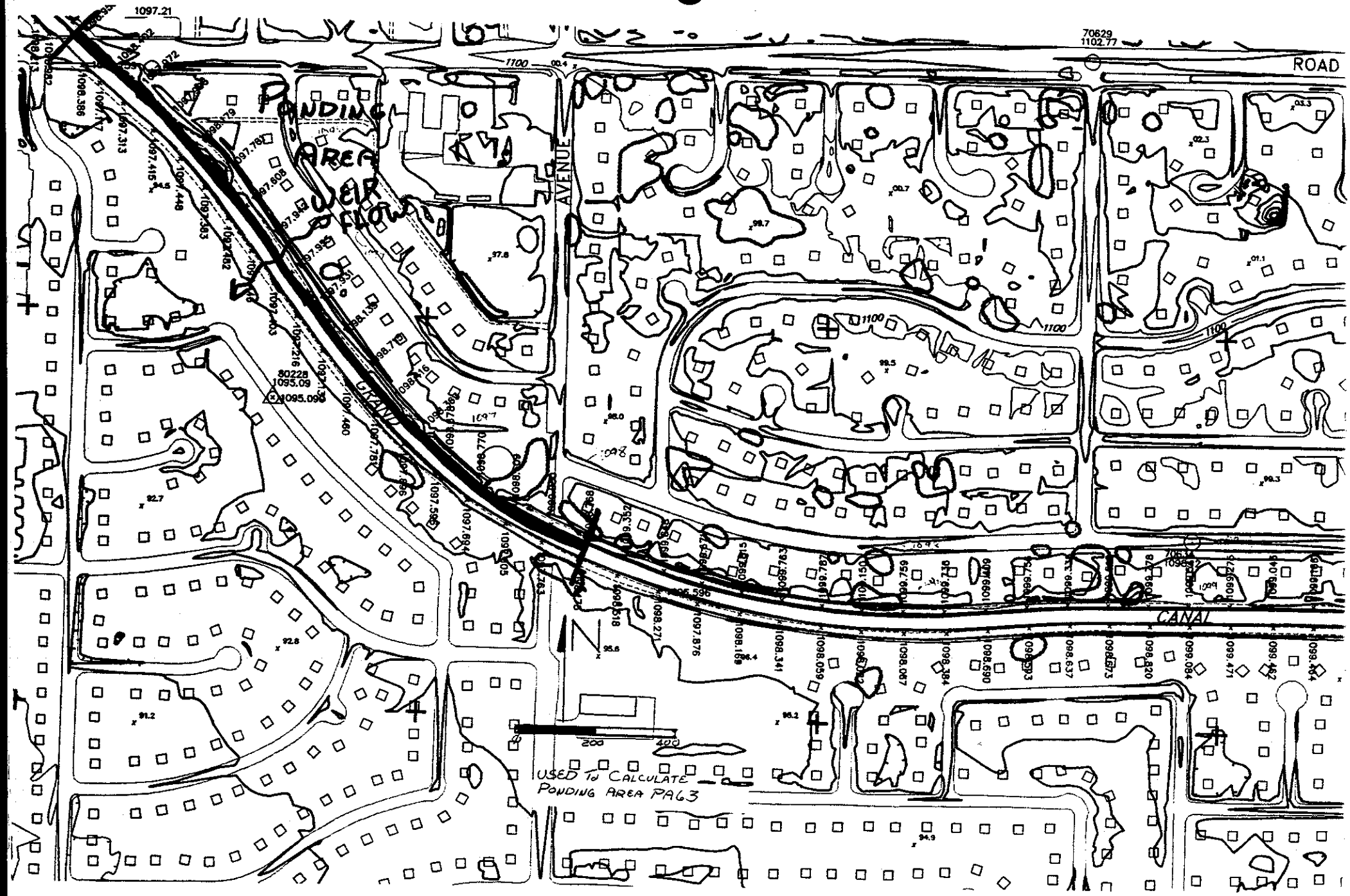
No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1099.70	0.00	2)	1098.80	220.00	3)	1098.60	420.00
4)	1098.80	530.00	5)	1098.70	930.00	6)	1097.90	1140.00
7)	1097.60	1460.00	8)	1097.80	1550.00	9)	1098.40	1940.00
10)	1099.00	2060.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1098.00	166.9	0.40	0.21	566.2	121.3
1099.00	3167.5	1.40	0.66	1888.9	1248.9

NOTES:

Low area in the Top of Bank along Grand Canal occurs approximately 200' south Indian School Rd.


PONDING AREA
WEIR FLOW
GRAND
AVENUE
ROAD
CANAL
1097.21
70629
1102.77
80228
1095.09
1095.098
200
400
USED TO CALCULATE
PONDING AREA PA63

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 39th Ave

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SO, DI	Outflow (cfs) DO
1107	.23				78	0.005%	84				84
1109	14.75										84

Remarks:

72" crosses Grand Ave. - Slope = 0.005 FT/FT, Q = 348 cfs
78" capacity = 432 cfs Excess capacity = 84 cfs

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 43rd Ave

Prepared by: PH
Date: 6/16/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SQ, DI	Outflow (cfs) DQ
1104	0				63	.004 ft/ft	~~27~~ 289	0	0	27	27
1105	.05	.025	.025	0				0	0	27	27
1106	1.19	.62	.62	.645				0	0	27	27
1106.8	9.11*	5.15	4.12	4.77				0	0	27	27
1107	11.09	10.10	2.02	6.79				27	0	54	27
1107.2								149	0	176	27
1107.4								394	0	421	27
1108	34.84	22.97	22.97	29.76				1788	0	1815	27

Remarks:

* By linear interpolation.
60" crosses Grand Ave. - Slope = 0.004 FT/FT , Q = 191 cfs
63" capacity = 218 cfs Excess capacity = 27 cfs

Q:\950024\ADMIN\24-013T8.WP5

Coe & Van Loo Consultants, Inc.

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 47TH Ave.

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SO, DI	Outflow (cfs) DO
1104	0	0	0	0	48	0.004%	105	0	0	105	0
1104.8	10.10*	5.05	4.04	4.04	48	0.004%	105	10	0	115	0
1105	12.62	11.36	2.27	6.31	48	0.004%	105	55	22	182	22
1106	32.24	22.43	22.43	28.74	48	0.004%	105	1058	825	1988	825

Remarks:

* Linear interpolation

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 51ST Ave.

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SQ, DI	Outflow (cfs) DQ
1103	0.18				72	0.004%	312	0	0	312	312
1104	9.44	4.81	4.81	4.81	72	0.004%	312	4	0	316	316
1105	27.54	18.49	18.49	23.30	72	0.004%	312	337	567	1216	879
1106	41.31	34.43	34.43	57.73	72	0.004%	312	1870	1900	4082	2212

Remarks:

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 55TH Ave.

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SQ, DI	Outflow (cfs) DQ
1100	0				42	0.004%	74	0	0	74	0
1100.7	0.10*	0.05	0.04	0.04	42	0.004%	74	3	0	77	0
1101	0.14	0.12	0.04	0.08	42	0.004%	74	39	0	113	0
1102	10.82	5.48	5.48	5.56	42	0.004%	74	1101	0	1175	0
1102.5	15.23*	13.03	6.52	12.08	42	0.004%	74	2268	134	2476	134
1103	19.64	17.44	8.72	20.80	42	0.004%	74	3868	505	4447	505

Remarks:

* Linear interpolation

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: 59TH Ave.

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SQ, DI	Outflow (cfs) DQ
99	0				72	0.003%	220**	0	0	220	272
1100	4.62	2.31	2.31	2.31	72	0.003%	220	0	0	220	272
1100.8	17.14*	10.88	7.62	9.93	72	0.003%	220	47	0	267	272
1101	22.50	19.82	5.95	15.88	72	0.003%	220	158	0	378	272
1102	38.63	30.57	30.57	46.45	72	0.003%	220	1659	810	2689	1030

Remarks:

* Linear interpolation

** The flow capacity of the 72" pipe exiting at 59TH Ave. is 272 cfs. The 42" pipe from the west has a flow capacity of 52 cfs. The flow diversion is then 220 cfs.

MARYVALE FLOODING MITIGATION PROJECT
STORAGE VOLUME COMPUTATION

FCD 93-34
Location: Indian School & Grand Canal

Prepared by: PH
Date: 6/19/95

Contour Elev. (ft) SE	Contour Area (Ac)	Average Area (Ac)	Inc. Vol (Acre-ft)	Cum Vol (Acre-ft) SV	Storm Drain			Road Weir	Canal Weir	Total	Diversion South
					Size (")	Storm Slope	Outflow (cfs)	Outflow (cfs)	Outflow (cfs)	Outflow (cfs) SO, DI	Outflow (cfs) DO
97	5.38				42	0.002%	52**	0	1220	1272	1220
97.2	7.29*	6.34	1.27	1.27	42	0.002%	52**	0	1573	1625	1573
97.5	10.15*	8.72	2.62	3.89	42	0.002%	52**	0	2154	2206	2154
98	14.92	12.54	6.27	10.16	42	0.002%	52**	0	3248	3300	3248
99	34.17	24.55	24.55	34.71	42	0.002%	52**	0	5846	5898	5846

Remarks:

* Linear interpolation

** There are two 42" storm drains exiting this subbasin, one to the west and the other to the east and then south. The flow capacity of each is 52 cfs.

Appendix F: Street Capacity Diversions

Street Capacity Diversions

Arterial Streets

Arterial street characteristics:

- Continuous pavement crown; that is, valley gutters are **not** used to direct stormwater across the street.
- Street slopes are relatively uniform.
- Side streets (collectors and residential), along the arterial street, have grade breaks that prevent stormwater from directly flowing down the side street.

Computational Methodology

Premise: Stormwater exits the arterial street as weir flow down the side streets.

Procedure: Compute rating tables for down street flow, based on normal depth computations. Compute rating tables for flow down side streets based on broad-crested weir flow computations.

Input Parameters: Arterial street slope and the number and widths of the side streets that lead away from the arterial street (excluding other arterial streets).

Main Assumptions:

- Normal depth conditions are dominant along the street.
- Flow exits the street as broad-crested weir flow.
- Street widths and slopes are relatively uniform between the one mile intersections.

Changing Street Capacity Diversions to Reflect Storm Drain Systems

Computational Methodology

Premise: *Modify the inflow and outflow data to reflect an existing or future storm drain system.*

Procedure: Enter the capacity of the future or existing storm drain system in the appropriate column in the Street Capacity Diversion spreadsheet. The spreadsheet generates the appropriate diversion data as indicated in the attached sample spreadsheet and the sample HEC-1 input data provided below.

Input Parameters: The storm drain system's design capacity.

Main Assumptions:

- There is a sufficient number of inlets to allow the storm drain system to capture flow up to its design capacity.
- Extra capacity, due to surcharge, is insignificant and not taken into account.

Example: Street Capacity Diversion for "Long Avenue" (LA).

HEC-1 Input : No Storm Drain:

```
- KK  SLA1W
- KM  STREET CAPACITY DIVERSION
- KM  LONG AVENUE(LA)
- KM  DIVERSION TO SOUTH
- DT  SLA1S
- DI      0     46.   115.  1185.  2018.
- DQ      0     0.1    49.   818.  1389.
```

HEC-1 Input: Storm Drain Along Long Avenue- Capacity = 80 cfs:

```
- KK  SLA1W
- KM  STREET CAPACITY DIVERSION
- KM  LONG AVENUE(LA)
- KM  DIVERSION TO SOUTH
- KM  FUTURE STORM DRAIN ALONG LONG AVENUE
- KM  CAPACITY = 80 CFS WEST
- DT  SLA1S
- DI      0    126.   195.  1265.  2098.
  (Note: These values have been increased by 80cfs.)
- DQ      0     0.1    49.   818.  1389.
```

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Glendale	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Glendale Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Curb height = 0.5 ft.

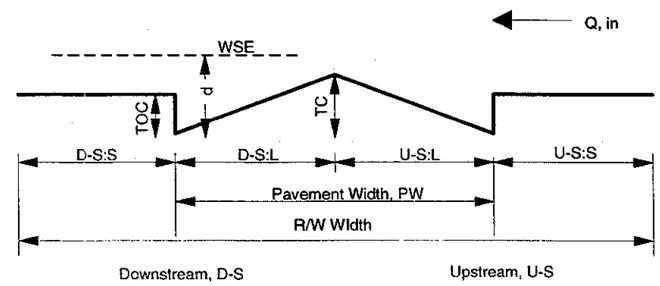
Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road



							DOWN-STREET FLOW & STORM DRAIN FLOW							WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ)									INFLOW CAPACITY (DI)			
Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Storm Drain Capacity, cfs	Qcap before overtop curb D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC. cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5. cfs	Total at TOC. cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5. cfs
S51A	a	1214.00	1205.40	3825	0.0022	0.02	0.68		10.8	26.9	38	53.9	598.2	1026.0		1	70	4	200	270	0.0	59.8	1003.7	1705.0	38	113.7	1601.9	2731.0
S51B	a	1205.40	1190.80	5190	0.0028	0.02	0.68		12.1	30.1	42	60.3	669.1	1147.6		1	70	6	300	370	0.0	81.9	1375.4	2336.5	42	142.2	2044.5	3484.1
S51C	a	1190.80	1180.40	5280	0.0020	0.02	0.68		10.1	25.2	35	50.4	559.9	960.3		1	70	3	150	220	0.0	48.7	817.8	1389.3	35	99.1	1377.7	2349.6
S51D	a	1180.40	1165.70	5270	0.0028	0.02	0.68		12.0	30.0	42	60.0	666.3	1142.8		1	70	4	200	270	0.0	59.8	1003.7	1705.0	42	119.8	1669.9	2847.8
S51E	a	1165.70	1149.40	5230	0.0031	0.02	0.68		12.7	31.7	44	63.4	704.3	1208.0		1	70	5	250	320	0.0	70.9	1189.5	2020.7	44	134.3	1893.8	3228.7
S51F	a	1149.40	1133.30	5280	0.0030	0.02	0.68		12.6	31.4	44	62.7	696.6	1194.8		1	70	2	100	170	0.0	37.6	631.9	1073.5	44	100.4	1328.6	2268.3
S59A	a	1203.59	1183.90	5210	0.0038	0.02	0.68		14.0	34.9	49	69.8	775.6	1330.2		1	70	3	150	220	0.0	48.7	817.8	1389.3	49	118.6	1593.4	2719.4
S59B	a	1183.90	1172.80	5200	0.0021	0.02	0.68		10.5	26.2	37	52.5	582.9	999.7		1	70	1	50	120	0.0	26.6	446.1	757.8	37	79.1	1028.9	1757.5
S59C	a	1172.80	1159.10	5180	0.0026	0.02	0.68		11.7	29.2	41	58.4	648.8	1112.8		0	0	5	250	250	0.0	55.4	929.3	1578.7	41	113.8	1578.1	2691.5
S59D	a	1159.10	1149.70	5240	0.0018	0.02	0.68		9.7	24.1	34	48.1	534.3	916.4		1	70	6	300	370	0.0	81.9	1375.4	2336.5	34	130.1	1909.7	3252.9
S59E	a	1149.70	1137.50	5290	0.0023	0.02	0.68		10.9	27.3	38	54.6	605.8	1039.1		1	70	2	100	170	0.0	37.6	631.9	1073.5	38	92.2	1237.8	2112.6
S59F	a	1137.50	1121.40	5300	0.0030	0.02	0.68		12.6	31.3	44	62.6	695.3	1192.6		1	70	4	200	270	0.0	59.8	1003.7	1705.0	44	122.4	1699.0	2897.6
S67A	a	1200.80	1182.97	5200	0.0034	0.02	0.68		13.3	33.3	47	66.5	738.7	1267.0		1	70	5	250	320	0.0	70.9	1189.5	2020.7	47	137.4	1928.2	3287.8
S67B	a	1182.97	1170.30	5270	0.0024	0.02	0.68		11.2	27.8	39	55.7	618.6	1060.9		1	70	5	250	320	0.0	70.9	1189.5	2020.7	39	126.6	1808.1	3081.7
S67C	a	1170.30	1154.30	5240	0.0031	0.02	0.68		12.6	31.4	44	62.8	697.1	1195.6		1	70	3	150	220	0.0	48.7	817.8	1389.3	44	111.5	1514.9	2584.9
S67D	a	1154.30	1143.30	5160	0.0021	0.02	0.68		10.5	26.2	37	52.4	582.5	999.0		0	0	1	50	50	0.0	11.1	185.9	315.7	37	63.5	768.3	1314.8
S67E	a	1143.30	1129.70	5280	0.0026	0.02	0.68		11.6	28.8	40	57.7	640.3	1098.1	235.0	1	70	0	0	70	235.0	250.5	495.2	677.0	275	308.2	1135.5	1775.2
S67F	a	1129.70	1122.30	5290	0.0014	0.02	0.68		8.5	21.2	30	42.5	471.8	809.3		1	70	1	50	120	0.0	26.6	446.1	757.8	30	69.1	917.9	1567.1
S67G	a	1122.30	1108.40	5290	0.0026	0.02	0.68		11.7	29.1	41	58.2	646.7	1109.1		1	70	4	200	270	0.0	59.8	1003.7	1705.0	41	118.0	1650.3	2814.1
S67H	a	1108.40	1098.00	3150	0.0033	0.02	0.68		13.1	32.6	46	65.3	724.9	1243.3		1	70	4	200	270	0.0	59.8	1003.7	1705.0	46	125.1	1728.5	2948.3
S75F	a	1127.80	1112.60	5290	0.0029	0.02	0.68		12.2	30.4	43	60.9	676.2	1159.8	124.0	1	70	2	100	170	124.0	161.6	755.9	1197.5	167	222.5	1432.2	2357.4
S75G	a	1112.60	1102.20	5260	0.0020	0.02	0.68		10.1	25.3	35	50.5	561.0	962.1		1	70	0	0	70	0.0	15.5	260.2	442.0	35	66.0	821.2	1404.2
S75H	a	1102.20	1095.30	5270	SPECIAL CASE 100% WEST																							
S83E	a	1102.50	1095.30	5160	0.0014	0.02	0.68	220.0	8.5	21.2	250	262.4	691.3	1028.3		0	0	1	50	50	0.0	11.1	185.9	315.7	250	273.5	877.1	1344.0
S83F	a	1095.30	1084.20	5370	0.0021	0.02	0.68		10.4	17.3	28	34.6	573.6	983.7		1	70	0	0	70	0.0	15.5	260.2	442.0	28	50.1	833.8	1425.8
S83G	a	1084.20	1075.50	5360	0.0016	0.02	0.68		9.2	15.3	25	30.6	508.3	871.7		1	70	0	0	70	0.0	15.5	260.2	442.0	25	46.1	768.5	1313.8
S91B	a	1110.10	1095.10	5280	0.0028	0.02	0.68		12.1	30.3	42	60.5	672.4	1153.3	78.0	0	0	1	50	50	78.0	89.1	263.9	393.7	120	149.6	936.3	1547.0
S91C	a	1095.20	1078.20	5180	0.0033	0.02	0.68		13.1	32.5	46	65.1	722.7	1239.6		0	0	1	50	50	0.0	11.1	185.9	315.7	46	76.2	908.6	1555.3

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Glendale	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Glendale Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Curb height = 0.5 ft.

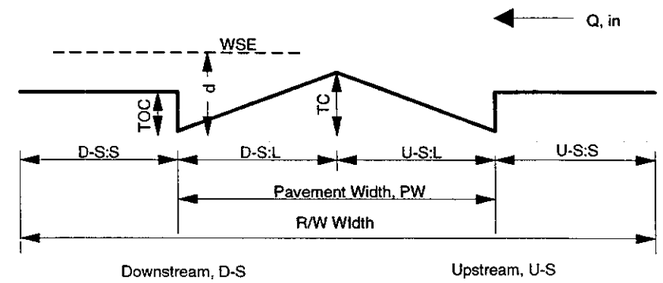
Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road



Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	DOWN-STREET FLOW & STORM DRAIN FLOW: Storm Drain Capacity, cfs	Qcap before overtop curb: D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ): Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	INFLOW CAPACITY (DI): Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
S91D	a	1070.20	1068.10	5380	0.0004	0.02	0.68		4.5	7.5	12	15.0	249.2	427.5		0	0	1	50	50	0.0	11.1	185.9	315.7	12	26.1	435.1	743.2
S99A	a	SPECIAL CASE 100% WEST																										
S99B	a	1059.80	1041.80	5210	0.0035	0.02	0.68		13.4	22.4	36	44.7	741.5	1271.8		1	70	0	0	70	0.0	15.5	260.2	442.0	36	60.2	1001.7	1713.9
SCR1	a	1203.60	1183.00	5090	0.0040	0.02	0.68		14.5	36.1	51	72.3	802.6	1376.5		1	70	2	100	170	0.0	37.6	631.9	1073.5	51	109.9	1434.5	2450.0
SPA1	a	1220.00	1205.40	4320	0.0034	0.02	0.68		13.2	33.0	46	66.0	733.4	1257.9		1	70	3	150	220	0.0	48.7	817.8	1389.3	46	114.8	1551.2	2647.2
SPA2	a	1205.40	1183.90	5260	0.0041	0.02	0.68		14.6	36.3	51	72.6	806.6	1383.4		1	70	3	150	220	0.0	48.7	817.8	1389.3	51	121.3	1624.4	2772.6
SPA3	a	1183.90	1170.30	5080	0.0027	0.02	0.68		11.8	29.4	41	58.8	652.8	1119.6		1	70	4	200	270	0.0	59.8	1003.7	1705.0	41	118.6	1656.4	2824.6
SOA2	a	1208.80	1190.80	5280	0.0034	0.02	0.68		13.3	33.2	46	66.3	736.6	1263.4		1	70	2	100	170	0.0	37.6	631.9	1073.5	46	104.0	1368.5	2336.9
SOA3	a	1190.80	1172.80	5250	0.0034	0.02	0.68	380.0	13.3	33.3	427	446.5	1118.7	1647.0		1	70	4	200	270	0.0	59.8	1003.7	1705.0	427	506.3	2122.4	3352.0
SOA4	a	1172.80	1154.30	5060	0.0037	0.02	0.68	520.0	13.8	34.3	568	588.7	1282.3	1828.3		1	70	2	100	170	0.0	37.6	631.9	1073.5	568	626.3	1914.7	2901.9
SNA3	a	1190.00	1180.40	5260	0.0018	0.02	0.68		9.7	24.3	34	48.5	539.0	924.4		1	70	3	150	220	0.0	48.7	817.8	1389.3	34	97.3	1356.7	2313.6
SNA4	a	SPECIAL CASE																										
SNA5	a	1159.10	1143.30	5090	0.0031	0.02	0.68		12.7	31.6	44	63.3	702.9	1205.5		1	70	2	100	170	0.0	37.6	631.9	1073.5	44	100.9	1334.8	2279.1
SNA6	a	1144.00	1127.80	5010	0.0032	0.02	0.68		13.0	32.3	45	64.6	717.4	1230.4		1	70	1	50	120	0.0	26.6	446.1	757.8	45	91.2	1163.4	1988.2
SNA7	a	1127.80	1103.00	5350	0.0046	0.02	0.68		15.5	38.7	54	77.3	858.9	1473.2		1	70	0	0	70	0.0	15.5	260.2	442.0	54	92.8	1119.1	1915.2
SNA8	a	1102.50	1095.10	5260	0.0014	0.02	0.68	33.0	8.5	21.3	63	75.6	506.2	844.6		0	0	2	100	100	0.0	22.1	371.7	631.5	63	97.8	877.9	1476.1
SGA5	a	1149.70	1129.70	5210	0.0038	0.02	0.68		14.1	35.2	49	70.4	781.6	1340.6		1	70	5	250	320	0.0	70.9	1189.5	2020.7	49	141.3	1971.2	3361.4
SGA6	a	1129.70	1112.60	5340	0.0032	0.02	0.68		12.9	32.1	45	64.3	713.9	1224.4		1	70	0	0	70	0.0	15.5	260.2	442.0	45	79.8	974.1	1666.5
SGA7	a	1112.60	1095.30	5240	0.0033	0.02	0.68		13.1	32.6	46	65.3	724.9	1243.3		1	70	2	100	170	0.0	37.6	631.9	1073.5	46	102.9	1356.8	2316.8
SGA8	a	1095.30	1078.20	5340	0.0032	0.02	0.68	455.0	12.9	32.1	500	519.3	1168.9	1679.4		0	0	1	50	50	0.0	11.1	185.9	315.7	500	530.4	1354.8	1995.2
SGA9	a	1078.20	1066.70	5270	0.0022	0.02	0.68	487.0	10.6	26.5	524	540.1	1076.3	1497.8		0	0	1	50	50	0.0	11.1	185.9	315.7	524	551.1	1262.2	1813.5
SBH3	a	1150.30	1137.50	5260	0.0024	0.02	0.68		11.2	28.0	39	56.0	622.3	1067.4		1	70	1	50	120	0.0	26.6	446.1	757.8	39	82.6	1068.4	1825.2
SBH4	a	1137.50	1122.30	5170	0.0029	0.02	0.68		12.4	30.8	43	61.6	684.0	1173.2		1	70	7	350	420	0.0	93.0	1561.2	2652.2	43	154.6	2245.3	3825.5
SBH5	a	1122.30	1102.20	5330	0.0038	0.02	0.68		14.0	23.4	37	46.7	774.7	1328.7		1	70	1	50	120	0.0	26.6	446.1	757.8	37	73.3	1220.8	2086.5
SBH6	a	1102.20	1084.20	5210	0.0035	0.02	0.68		13.4	22.4	36	44.7	741.5	1271.8		0	0	1	50	50	0.0	11.1	185.9	315.7	36	55.8	927.4	1587.6
SBH7	a	See Note (1) Below																										

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Glendale	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Glendale Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
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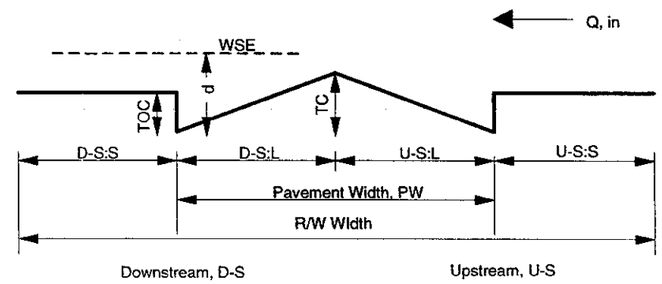

Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	DOWN-STREET FLOW & STORM DRAIN FLOW: Storm Drain Capacity, cfs	Qcap before overtop curb: D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ): Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	INFLOW CAPACITY (DI): Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
SBH8	a	See Note (1) Below																										
SCB3	a	1121.40	1108.40	5160	0.0025	0.02	0.68		11.4	19.1	31	38.2	633.2	1086.1		1	70	3	150	220	0.0	48.7	817.8	1389.3	31	86.9	1451.0	2475.3
SCB4	a	1108.40	1095.30	5280	0.0025	0.02	0.68		11.3	18.9	30	37.9	628.4	1077.8		1	70	3	150	220	0.0	48.7	817.8	1389.3	30	86.6	1446.2	2467.0
SCB8	a	1041.80	1034.50	5270	0.0014	0.02	0.68		8.5	14.2	23	28.3	469.5	805.3		1	70	0	0	70	0.0	15.5	260.2	442.0	23	43.8	729.7	1247.3

Notes
(1) Bethany Home Road does not extend west past 83rd Avenue; however, SBH7 & SBH8 are flow diversions used to model weir flow over the Grand Canal and flow along north side of canal.

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Phoenix	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Phoenix Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	80	64
c	60	40
r	50	36

Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
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PA = Peoria Avenue
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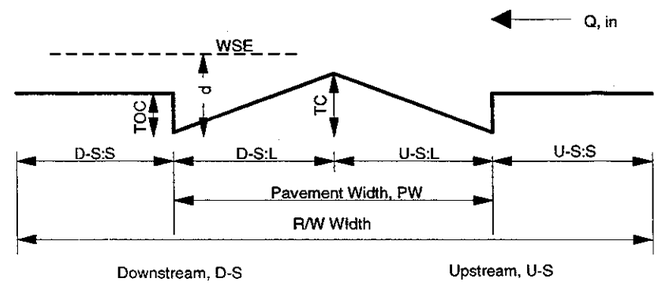

								DOWN-STREET FLOW & STORM DRAIN FLOW							WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ)									INFLOW CAPACITY (DI)			
Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Storm Drain Capacity, cfs	Qcap before overtop curb D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
S27A	a	1201.00	1179.50	5250	0.0041	0.02	0.64	120.0	14.6	24.3	159	168.7	773.7	1234.5		1	60	3	150	210	0.0	31.9	741.3	1279.0	159	200.6	1514.9	2513.6
S27B	a	1098.10	1080.90	5320	0.0032	0.02	0.64		13.0	21.6	35	43.2	580.8	990.3		1	60	2	100	160	0.0	24.3	564.8	974.5	35	67.6	1145.6	1964.8
S35A	a	1220.40	1201.20	5200	0.0037	0.02	0.64	81.0	13.8	23.1	118	127.2	701.7	1139.3		1	60	9	450	510	0.0	77.5	1800.2	3106.2	118	204.7	2501.9	4245.5
S35B	a	1201.20	1184.30	5260	0.0032	0.02	0.64	70.0	12.9	21.6	104	113.1	649.0	1057.2		1	60	4	200	260	0.0	39.5	917.8	1583.6	104	152.6	1566.7	2640.8
S35C	a	SPECIAL CASE 33% DIVERTED												0.0														
S35D	a	1108.80	1095.30	3060	0.0044	0.02	0.64	63.0	15.1	25.3	103	113.5	741.5	1219.8		1	60	2	100	160	0.0	24.3	564.8	974.5	103	137.8	1306.2	2194.3
S35E	a	1095.30	1076.20	5320	0.0036	0.02	0.64	53.0	13.7	22.8	89	98.6	665.0	1096.5		1	60	7	350	410	0.0	62.3	1447.2	2497.2	89	160.9	2112.3	3593.7
S43A	a	1225.90	1208.80	5210	0.0033	0.02	0.64		13.1	21.8	35	43.6	585.2	997.8		1	60	4	200	260	0.0	39.5	917.8	1583.6	35	83.1	1503.0	2581.3
S43B	a	1208.80	1190.00	5190	0.0036	0.02	0.64	115.0	13.7	22.9	152	160.8	729.8	1163.2		1	60	5	250	310	0.0	47.1	1094.3	1888.1	152	207.9	1824.0	3051.3
S43C	a	1190.00	1171.80	5280	0.0034	0.02	0.64	100.0	13.4	22.3	136	144.7	699.7	1122.5		1	60	2	100	160	0.0	24.3	564.8	974.5	136	169.0	1264.5	2097.0
S43D	a	1171.80	1157.30	5230	0.0028	0.02	0.64	100.0	12.0	20.0	132	140.0	637.8	1017.0		1	60	3	150	210	0.0	31.9	741.3	1279.0	132	172.0	1379.1	2296.1
S43E	a	1157.30	1140.40	5210	0.0032	0.02	0.64	165.0	13.0	21.7	200	208.3	746.8	1156.9		1	60	2	100	160	0.0	24.3	564.8	974.5	200	232.6	1311.5	2131.4
S43F	a	1140.40	1115.00	5310	0.0048	0.02	0.64	89.0	15.8	26.3	131	141.6	795.5	1293.5		0	0	1	50	50	0.0	7.6	176.5	304.5	131	149.2	972.0	1598.1
S43G	a	50/50 SPLIT EAST/WEST						89.0																				
S43H	a	1107.90	1093.40	2970	0.0049	0.02	0.64	89.0	15.9	26.6	131	142.1	802.7	1305.9		1	60	8	400	460	0.0	69.9	1623.7	2801.7	131	212.0	2426.4	4107.6
S43I	a	1093.40	1073.70	5250		100% South		207.0																				
S51G	a	1133.30	1113.70	5300	0.0037	0.02	0.64	38.0	13.9	23.1	75	84.3	659.2	1097.1		2	120	1	50	170	0.0	25.8	600.1	1035.4	75	110.1	1259.2	2132.5
S51H		50/50 SPLIT EAST/WEST						207.0																				
S51I	a	1102.00	1091.30	2620	0.0041	0.02	0.64	281.0	14.6	24.3	320	329.6	933.8	1394.0		1	60	4	200	260	0.0	39.5	917.8	1583.6	320	369.1	1851.5	2977.6
S51J	a	1091.30	1073.10	5300	0.0034	0.02	0.64	286.0	13.4	22.3	322	330.6	884.6	1306.6		1	60	4	200	260	0.0	39.5	917.8	1583.6	322	370.1	1802.3	2890.2
S59G	a	1121.40	1105.50	5250	0.0030	0.02	0.64	60.0	12.5	20.9	93	101.9	622.1	1018.4		1	60	4	200	260	0.0	39.5	917.8	1583.6	93	141.4	1539.9	2602.0
S59H		50/50 SPLIT EAST/WEST						359.0																				
S59I	a	1100.00	1084.10	3750	0.0042	0.02	0.64	389.0	14.8	24.8	429	438.5	1054.1	1523.1		1	60	7	350	410	0.0	62.3	1447.2	2497.2	429	500.8	2501.4	4020.2
S59J	a	1084.10	1065.50	5330	0.0035	0.02	0.64	448.0	13.5	22.5	484	492.9	1051.4	1476.8		1	60	9	450	510	0.0	77.5	1800.2	3106.2	484	570.4	2851.6	4583.1
S67I	a	1091.40	1076.80	5260	0.0028	0.02	0.64	240.0	12.0	20.0	272	280.1	778.2	1157.6		1	60	3	150	210	0.0	31.9	741.3	1279.0	272	312.0	1519.4	2436.6
S67J	a	1076.80	1057.60	5290	0.0036	0.02	0.64	532.0	13.7	22.9	569	577.8	1147.4	1581.2		1	60	8	400	460	0.0	69.9	1623.7	2801.7	569	647.7	2771.1	4382.9
S75I	a	1095.30	1078.40	5240	0.0032	0.02	0.64		12.9	21.6	35	43.2	580.1	989.1		1	60	4	200	260	0.0	39.5	917.8	1583.6	35	82.7	1497.9	2572.6

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Phoenix	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Phoenix Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	80	64
c	60	40
r	50	36

Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
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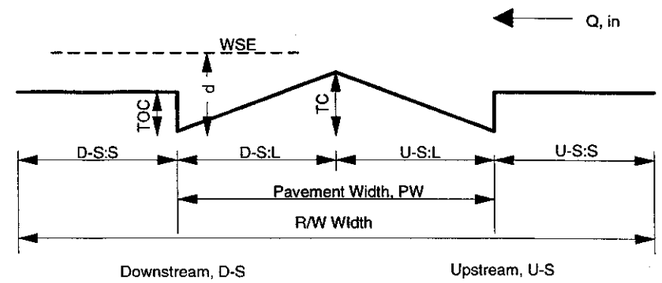

Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	DOWN-STREET FLOW & STORM DRAIN FLOW: Storm Drain Capacity, cfs	Qcap before overtop curb: D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ): Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	INFLOW CAPACITY (DI): Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
S75J	a	1078.40	1064.40	5330	0.0026	0.02	0.64	328.0	11.7	19.5	359	367.0	851.5	1220.6		1	60	3	150	210	0.0	31.9	741.3	1279.0	359	398.9	1592.8	2499.6
S75K	a	1064.40	1049.60	5310	0.0028	0.02	0.64	467.0	12.0	20.1	499	507.2	1006.3	1386.5		1	60	0	0	60	0.0	9.1	211.8	365.4	499	516.3	1218.1	1751.9
S83H	a	1075.50	1063.10	5330	0.0023	0.02	0.64		11.0	18.3	29	36.7	492.7	840.0		0	0	2	100	100	0.0	15.2	353.0	609.1	29	51.9	845.7	1449.1
S83I	a	1063.10	1051.20	5260	0.0023	0.02	0.64	243.0	10.8	18.1	272	279.2	728.8	1071.4		1	60	3	150	210	0.0	31.9	741.3	1279.0	272	311.1	1470.1	2350.4
S83J	a	1051.20	1036.10	5280	0.0029	0.02	0.64	243.0	12.2	20.3	276	283.7	789.3	1174.4		1	60	1	50	110	0.0	16.7	388.3	670.0	276	300.4	1177.5	1844.3
S91E	a	1088.10	1056.40	5240	0.0060	0.02	0.64		17.7	29.6	47	59.2	794.5	1354.6		1	60	2	100	160	0.0	24.3	564.8	974.5	47	83.5	1359.3	2329.1
S91F	a	1056.40	1047.20	5320	0.0017	0.02	0.64		9.5	15.8	25	31.6	424.8	724.2		0	0	3	150	150	0.0	22.8	529.5	913.6	25	54.4	954.3	1637.8
S91G	a	1047.20	1043.10	5280	0.0008	0.02	0.64	326.0	6.3	10.6	343	347.2	610.6	811.3		1	60	0	0	60	0.0	9.1	211.8	365.4	343	356.3	822.4	1176.8
S91H	a	1036.60	1025.00	5350	0.0022	0.02	0.64	380.0	10.6	17.7	408	415.4	855.6	1191.0		1	60	0	0	60	0.0	9.1	211.8	365.4	408	424.5	1067.4	1556.4
S99C	a	1041.80	1031.70	5340	0.0019	0.02	0.64		9.9	16.5	26	33.1	444.2	757.4		0	0	2	100	100	0.0	15.2	353.0	609.1	26	48.3	797.2	1366.5
S99D	a	1031.70	1026.70	5310	0.0009	0.02	0.64		7.0	11.7	19	23.3	313.4	534.4		0	0	1	50	50	0.0	7.6	176.5	304.5	19	30.9	489.9	839.0
S99E	a	1026.70	1021.70	5330	0.0009	0.02	0.64		7.0	11.6	19	23.3	312.9	533.4		0	0	1	50	50	0.0	7.6	176.5	304.5	19	30.9	489.3	838.0
S107A	a	1034.50	1020.30	5300	0.0027	0.02	0.64		11.8	19.7	31	39.4	528.7	901.5		1	60	1	50	110	0.0	16.7	388.3	670.0	31	56.1	917.0	1571.5
S107B	a	SPECIAL CASE ALL FLOW IS TO THE SOUTH																										
S115A	a	1008.40	998.90	5280	0.0018	0.02	0.64		9.7	16.1	26	32.3	433.3	738.7		1	60	0	0	60	0.0	9.1	211.8	365.4	26	41.4	645.1	1104.2
SOA1	a	1220.40	1208.80	5300	0.0022	0.02	0.64		10.7	17.8	28	35.6	477.9	814.8		1	60	2	100	160	0.0	24.3	564.8	974.5	28	59.9	1042.6	1789.3
SNA1	a	SPECIAL CASE ALL FLOW IS SOUTH EXCEPT FOR SD													61.0													
SNA2	a	1201.20	1190.00	5270	0.0021	0.02	0.64	18.0	10.5	17.5	46	53.1	488.9	820.9	133.0	1	60	3	150	210	133.0	164.9	874.3	1412.0	179	218.0	1363.2	2232.9
SGA1	a	SPECIAL CASE ALL FLOW IS TO THE SOUTH													132.0													
SCB1	a	1138.00	1133.30	4350	0.0011	0.02	0.64		7.5	12.5	20	25.0	335.8	572.5		2	120	0	0	120	0.0	18.2	423.6	730.9	20	43.2	759.3	1303.3
SCB2	a	1133.30	1121.40	5420	0.0022	0.02	0.64		10.7	17.8	28	35.6	478.6	816.1		0	0	5	250	250	0.0	38.0	882.5	1522.7	28	73.6	1361.1	2338.7
SCB5	a	1095.30	1075.50	5280	0.0037	0.02	0.64		14.0	23.3	37	46.6	625.5	1066.5		1	60	3	150	210	0.0	31.9	741.3	1279.0	37	78.5	1366.8	2345.5
SCB6	a	1075.50	1056.40	5300	0.0036	0.02	0.64		13.7	22.8	37	45.7	613.2	1045.5		1	60	1	50	110	0.0	16.7	388.3	670.0	37	62.4	1001.5	1715.5
SCB7	a	1056.40	1041.80	5370	0.0027	0.02	0.64		11.9	19.8	32	39.7	532.6	908.1		0	0	1	50	50	0.0	7.6	176.5	304.5	32	47.3	709.1	1212.6

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Phoenix	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

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Weir Flow down side streets, $Q=CLh^{1.5}$

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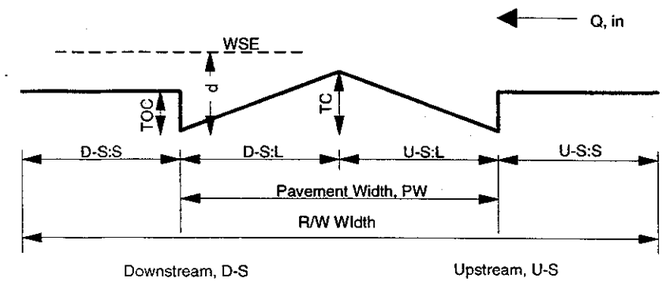


Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	DOWN-STREET FLOW & STORM DRAIN FLOW: Storm Drain Capacity, cfs	Qcap before overtop curb: D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ): Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	INFLOW CAPACITY (DI): Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
SIS1	a		SPECIAL CASE 43% WEST 57% SOUTH*												332.0													
SIS2	a	1115.20	1113.70	2650	0.0006	0.02	0.64	45.0	5.4	9.0	59	63.1	288.0	459.4		1	60	3	150	210	0.0	31.9	741.3	1279.0	59	95.0	1029.3	1738.4
SIS3	CASE 2																											
SIS4			SPECIAL CASE ONLY 26 CFS WEST IN SD					26.0																				
SIS5	a	1091.40	1078.40	5300	0.0025	0.02	0.64		11.3	18.8	30	37.7	505.9	862.5		1	60	2	100	160	0.0	24.3	564.8	974.5	30	62.0	1070.7	1837.1
SIS6	a	1078.40	1063.10	5280	0.0029	0.02	0.64	37.0	12.3	20.5	70	77.9	586.9	974.5		1	60	7	350	410	0.0	62.3	1447.2	2497.2	70	140.2	2034.1	3471.7
SIS7	a	1063.10	1047.20	5310	0.0030	0.02	0.64	33.0	12.5	20.8	66	74.6	591.9	986.0		1	60	3	150	210	0.0	31.9	741.3	1279.0	66	106.5	1333.2	2265.1
SIS8	a	1047.20	1031.70	5290	0.0029	0.02	0.64		12.3	20.6	33	41.2	552.9	942.7		0	0	2	100	100	0.0	15.2	353.0	609.1	33	56.4	905.9	1551.8
SIS9	a	1031.70	1020.30	5480	0.0021	0.02	0.64		10.4	17.3	28	34.7	465.9	794.3		0	0	1	50	50	0.0	7.6	176.5	304.5	28	42.3	642.4	1098.9
SIS10	a													0.0														
STR1	a	1098.10	1095.30	5200	0.0005	0.02	0.64	8.0	5.3	8.8	22	25.6	245.0	412.1	237.0	1	60	3	150	210	237.0	268.9	978.3	1516.0	259	294.6	1223.3	1928.2
STR2	a	1095.30	1093.40	5300	0.0004	0.02	0.64		4.3	7.2	12	14.4	193.4	329.8	286.0	1	60	3	150	210	286.0	317.9	1027.3	1565.0	298	332.3	1220.7	1894.8
STR3	a		SPECIAL CASE 50% WEST 50% SOUTH*											0.0														
STR4	a	1093.40	1091.30	5300	0.0004	0.02	0.64		4.5	7.6	12	15.1	203.3	346.7		1	60	3	150	210	0.0	31.9	741.3	1279.0	12	47.0	944.6	1625.7
STR5	a	1091.30	1084.10	5320	0.0014	0.02	0.64	26.0	8.4	14.0	48	54.0	401.8	666.7		1	60	2	100	160	0.0	24.3	564.8	974.5	48	78.3	966.6	1641.2
STR6	a	1084.10	1076.80	5150	0.0014	0.02	0.64		8.6	14.3	23	28.6	384.6	655.7		1	60	3	150	210	0.0	31.9	741.3	1279.0	23	60.5	1125.8	1934.7
STR7	a	1076.80	1064.40	5300	0.0023	0.02	0.64	91.0	11.0	18.4	120	127.8	585.1	933.4		1	60	2	100	160	0.0	24.3	564.8	974.5	120	152.1	1149.9	1907.9
STR8	a	1064.40	1051.20	5220	0.0025	0.02	0.64		11.5	19.1	31	38.2	513.7	875.8		0	0	1	50	50	0.0	7.6	176.5	304.5	31	45.8	690.1	1180.3
STR9	a	1051.20	1036.60	5290	0.0028	0.02	0.64		12.0	20.0	32	40.0	536.6	915.0		1	60	3	150	210	0.0	31.9	741.3	1279.0	32	71.9	1277.9	2194.0
STR10	a	1036.60	1026.70	5290	0.0019	0.02	0.64		9.9	16.5	26	32.9	441.9	753.4		0	0	1	50	50	0.0	7.6	176.5	304.5	26	40.5	618.4	1058.0
STR11	a	1015.20	1008.42	5190	0.0013	0.02	0.64		8.2	13.7	22	27.5	369.2	629.5		0	0	3	150	150	0.0	22.8	529.5	913.6	22	50.3	898.7	1543.1
SMD1	a	1080.90	1076.20	5300	0.0009	0.02	0.64		6.8	11.3	18	22.6	304.2	518.6	182.0	1	60	4	200	260	182.0	221.5	1099.8	1765.6	200	244.1	1403.9	2284.2
SMD2	a	1076.20	1073.70	5290	0.0005	0.02	0.64		5.0	8.3	13	16.5	222.1	378.6	319.0	1	60	5	250	310	319.0	366.1	1413.3	2207.1	332	382.6	1635.3	2585.7
SMD3	a		SPECIAL CASE 50% WEST 50% SOUTH*																									
SMD4	a	1074.00	1073.10	3980	0.0002	0.02	0.64		3.4	5.7	9	11.4	153.6	261.9		1	60	2	100	160	0.0	24.3	564.8	974.5	9	35.7	718.4	1236.4
SMD5	a	1073.10	1065.50	5290	0.0014	0.02	0.64		8.6	14.4	23	28.8	387.2	660.1		0	0	2	100	100	0.0	15.2	353.0	609.1	23	44.0	740.2	1269.2
SMD6	a	1065.50	1057.60	5150	0.0015	0.02	0.64	48.0	8.9	14.9	72	77.8	448.1	730.1		1	60	0	0	60	0.0	9.1	211.8	365.4	72	86.9	659.9	1095.6
SMD7	a	1057.60	1049.60	5270	0.0015	0.02	0.64		8.9	14.8	24	29.6	398.0	678.6		0	0	1	50	50	0.0	7.6	176.5	304.5	24	37.2	574.5	983.1
SMD8	a	1049.60	1036.10	5310	0.0025	0.02	0.64		11.5	19.2	31	38.4	515.0	878.2		0	0	1	50	50	0.0	7.6	176.5	304.5	31	45.9	691.5	1182.7
SMD9	a	1036.10	1025.00	5270	0.0021	0.02	0.64		10.5	17.5	28	34.9	468.8	799.3		0	0	1	50	50	0.0	7.6	176.5	304.5	28	42.5	645.3	1103.8

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Phoenix	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Phoenix Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	80	64
c	60	40
r	50	36

Curb height = 0.5 ft.

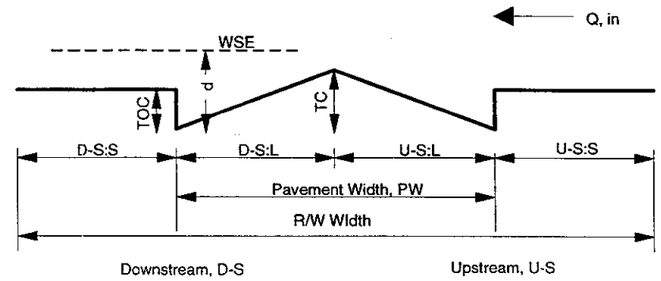
Capacity. $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road



								DOWN-STREET FLOW & STORM DRAIN FLOW							WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ)									INFLOW CAPACITY (DI)			
								Storm	Qcap before overtop curb			Top of	1.0 ft	1.5 ft	Storm		Coll.		Res.	Total	Weir Q	Weir Q	Weir Q	Weir Q	Total at	Total	Total	Total
Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Drain Capacity, cfs	D-S cfs	U-S cfs	Total, cfs	Crown, TC, cfs	over crown, cfs	over crown, cfs	Drain Capacity, cfs	# Coll. streets	street R/W, ft.	# Res. Streets	street R/W, ft.	R/W, ft.	at TOC, cfs	at TC, cfs	at TC+1.0, cfs	at TC+1.5, cfs	TOC, cfs	at TC, cfs	TC+1.0, cfs	TC+1.5, cfs
SMD10	a	1025.00	1021.70	5300	0.0006	0.02	0.64		5.7	9.5	15	19.0	254.9	434.6		1	60	0	0	60	0.0	9.1	211.8	365.4	15	28.1	466.7	800.0
SMD11	a	1021.70	1010.90	5280	0.0020	0.02	0.64		10.3	17.2	28	34.4	462.0	787.7		0	0	1	50	50	0.0	7.6	176.5	304.5	28	42.0	638.5	1092.2
SMD12	a	1010.90	998.90	5100	0.0024	0.02	0.64		11.1	18.4	29	36.9	495.5	844.8		0	0	1	50	50	0.0	7.6	176.5	304.5	29	44.5	672.0	1149.3
SMD13	a	998.90	974.00	7490	0.0033	0.02	0.64		13.1	21.9	35	43.9	589.0	1004.2		0	0	2	100	100	0.0	15.2	353.0	609.1	35	59.0	941.9	1613.2

Note:
* Based on Location of Grade Break & Associated Sub-basins

Wood/Patel

CH2M HILL

Subject	Maryvale ADMS: City of Peoria	By:	J. GEISBUSH
	Street Capacity Diversions	Checked:	D. DUST
	Case 1: Weir Flow Into Side Streets	Project No.	132586

City of Peoria Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	130	64
c	60	40
r	50	32

Curb height = 0.5 ft.

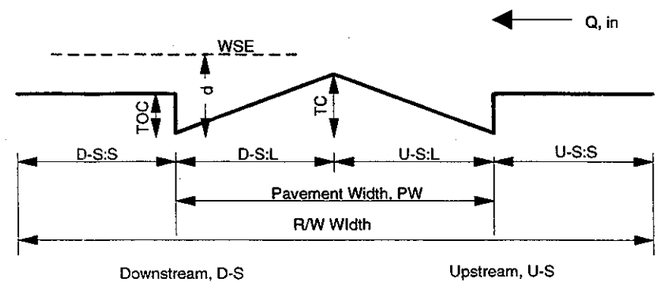
Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$

C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road



								DOWN-STREET FLOW & STORM DRAIN FLOW							WEIR FLOW & STORM DRAIN FLOW (flowing out of main street and into side streets) (DQ)									INFLOW CAPACITY (DI)			
Node	Street Type (a, c, r)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Storm Drain Capacity, cfs	Qcap before overtop curb D-S cfs	Qcap before overtop curb U-S cfs	Qcap before overtop curb Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	Storm Drain Capacity, cfs	# Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0. cfs	Weir Q at TC+1.5, cfs	Total at TOC, cfs	Total at TC, cfs	Total TC+1.0. cfs	Total TC+1.5, cfs
SCR2	a	1183.00	1167.30	5330	0.0029	0.02	0.64	367.0	12.4	30.8	410	428.7	1051.7	1541.3		1	60	3	150	210	0.0	31.9	741.3	1279.0	410	460.6	1793.0	2820.4
SCR3	a	1167.30	1152.20	5330	0.0028	0.02	0.64	777.0	12.1	30.2	819	837.5	1448.5	1928.7		1	60	5	250	310	0.0	47.1	1094.3	1888.1	819	884.6	2542.7	3816.8
SCR4	a	1151.90	1138.40	5050	0.0027	0.02	0.64	1000.0	11.8	29.4	1041	1058.7	1652.3	2118.7		0	0	2	100	100	0.0	15.2	353.0	609.1	1041	1073.9	2005.3	2727.8
SPA4	a	1170.30	1151.80	5300	0.0035	0.02	0.64		13.5	33.6	47	67.1	745.3	1278.4		1	60	3	150	210	0.0	31.9	741.3	1279.0	47	99.0	1486.6	2557.4
SPA5	a	1151.80	1139.90	5310	0.0022	0.02	0.64		10.8	26.9	38	53.8	597.2	1024.3		0	0	2	100	100	0.0	15.2	353.0	609.1	38	69.0	950.2	1633.4
SPA6	a	1140.70	1117.40	6260	0.0037	0.02	0.64	147.0	13.9	34.7	196	216.3	916.7	1467.1		1	60	2	100	160	0.0	24.3	564.8	974.5	196	240.6	1481.4	2441.6
S75A	a	1201.60	1185.90	5230	0.0030	0.02	0.64		12.5	31.1	44	62.2	691.2	1185.5		1	60	4	200	260	0.0	39.5	917.8	1583.6	44	101.7	1609.0	2769.1
S75B	a	1185.90	1167.30	5280	0.0035	0.02	0.64		13.5	33.7	47	67.4	748.8	1284.2		1	60	1	50	110	0.0	16.7	388.3	670.0	47	84.1	1137.1	1954.2
S75C	a	1167.30	1151.80	5230	0.0030	0.02	0.64		12.4	30.9	43	61.8	686.8	1177.9		1	60	2	100	160	0.0	24.3	564.8	974.5	43	86.1	1251.6	2152.4
S75D	a	1151.80	1137.80	5230	0.0027	0.02	0.64		11.8	29.4	41	58.8	652.7	1119.5		1	60	4	200	260	0.0	39.5	917.8	1583.6	41	98.3	1570.5	2703.1
S75E	a	1137.80	1127.80	5290	0.0019	0.02	0.64		9.9	24.7	35	49.4	548.5	940.8		0	0	1	50	50	0.0	7.6	176.5	304.5	35	57.0	725.0	S
STB1	a	1200.00	1186.00	5300	0.0026	0.02	0.64		11.7	29.2	41	58.4	648.4	1112.1		1	60	2	100	160	0.0	24.3	564.8	974.5	41	82.7	1213.2	2086.6
STB2	a	1186.00	1168.10	5330	0.0034	0.02	0.64		13.2	32.9	46	65.8	731.1	1253.9		1	60	1	50	110	0.0	16.7	388.3	670.0	46	82.5	1119.4	1923.9
S83A	a	1168.10	1152.20	5220	0.0030	0.02	0.64		12.6	31.3	44	62.7	696.3	1194.2		1	60	5	250	310	0.0	47.1	1094.3	1888.1	44	109.8	1790.5	3082.3
S83B	a	1167.30	1151.80	5230	0.0030	0.02	0.64		12.4	30.9	43	61.8	686.8	1177.9		1	60	2	100	160	0.0	24.3	564.8	974.5	43	86.1	1251.6	2152.4
S83C	a	1139.90	1123.60	5250	0.0031	0.02	0.64		12.7	31.6	44	63.3	703.0	1205.7		1	60	1	50	110	0.0	16.7	388.3	670.0	44	80.0	1091.2	1875.6
S83D	a	1123.60	1103.00	5230	0.0039	0.02	0.64		14.3	35.6	50	71.3	791.8	1358.0		1	60	2	100	160	0.0	24.3	564.8	974.5	50	95.6	1356.5	2332.5
S91A	a	1120.30	1110.10	5280	0.0019	0.02	0.64		10.0	25.0	35	49.9	554.5	951.0		0	0	1	50	50	0.0	7.6	176.5	304.5	35	57.5	731.0	1255.6
SOA5	a	1154.30	1137.60	5280	0.0032	0.02	0.64	262.0	12.8	31.9	307	325.9	971.5	1478.9		0	0	2	100	100	0.0	15.2	353.0	609.1	307	341.1	1324.5	2087.9
SOA6	a	1137.60	1123.60	5290	0.0026	0.02	0.64	427.0	11.7	29.2	468	485.4	1076.0	1540.1		1	60	1	50	110	0.0	16.7	388.3	670.0	468	502.1	1464.3	2210.1
SOA7	a	1123.60	1110.10	5310	0.0025	0.02	0.64	546.0	11.5	28.6	586	603.3	1182.1	1637.0		1	60	2	100	160	0.0	24.3	564.8	974.5	586	627.6	1746.9	2611.5

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS: City of Glendale**
Street Capacity Diversions: PART 1
Case 2: Weir & Normal Depth Flow Into Side Streets

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

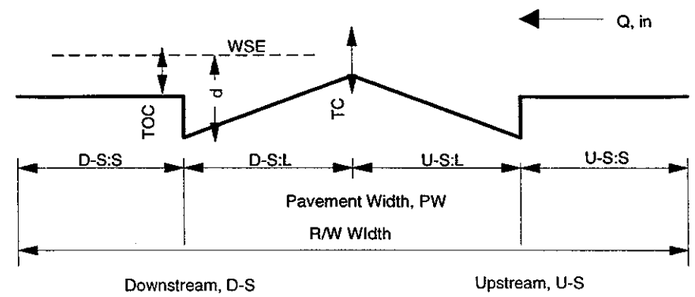
Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$
Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$
C = 2.6
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road

CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road



Node	Street Type (a)	ARTERIAL STREET DATA: Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	TC ft.	DOWN-STREET FLOW: Storm Drain Capacity, cfs	Qcap before overtop curb: D-S cfs	U-S cfs	Total, cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	WEIR FLOW FROM ARTERIAL TO SIDE STREETS (see attachments for Normal depth flow from the arterial street): # Coll. streets	Coll. street R/W, ft.	# Res. Streets	Res. street R/W, ft.	Total R/W, ft.	Weir Q at TOC, cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	TOTAL[1] INFLOW CAPACITY (DI): Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
SNA4	a	1180.40	1159.10	5280	0.0040	0.02	0.68		14.5	36.1	51	72.2	801.3	1374.3		0		0	0	0.0	0.0	0.0	0.0	77	116.8	1268.5	2150.1
SGA2	a	1184.30	1171.80	5220	0.0024	0.02	0.68	27.0	11.1	27.8	66	82.6	644.3	1085.8		0	2	100	100	0.0	19.9	333.3	566.2	247	305.5	1682.8	2723.8
SGA3	a	1171.80	1165.70	5230	0.0012	0.02	0.68		7.8	19.4	27	38.8	430.8	739.0		0	2	100	100	0.0	19.9	333.3	566.2	57	109.0	1290.6	2179.4
SGA4	a	1165.70	1149.70	5340	0.0030	0.02	0.68		12.5	31.1	44	62.2	690.6	1184.4		0	7	350	350	0.0	69.5	1166.4	1981.6	71	178.8	2350.2	3984.9
SBH1		SPECIAL CASE: 50% EAST & 50% WEST DUE TO GRADE BREAK ON BH										N.A.															
SBH2	a	1157.30	1149.40	5200	0.0015	0.02	0.68		8.9	22.1	31	44.3	491.7	843.4	0	0	1	50	50	0.0	9.9	166.6	283.1	93	159.6	1761.2	2957.7
SIS3	a	1113.70	1105.50	5420	0.0015	0.02	0.68	61.0	8.9	22.1	92	105.2	551.7	902.6	1	70	3	150	220	0.0	43.7	733.2	1245.5	134	221.4	2043.7	3408.1

Wood/Patel

CH2M HILL

Subject **Maryvale ADMS: City of Glendale**
Street Capacity Diversions: PART 2
Case 2: Weir & Normal Depth Flow Into Side Streets

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$

Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue

BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road

		COLLECTOR STREET DATA						COLLECTOR STREET FLOW					TOTAL FLOW ONTO SIDE STREETS (COLLECTOR & RESIDENTIAL STREETS) (DI)				
Node	Street Type (c)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Storm Drain Capacity (cfs)	Gutter Depth=0.5' cfs	Gutter Depth= 0.68' cfs	Gutter Depth= 1.68' cfs	Gutter Depth= 2.18' cfs		Gutter Depth=0.5' cfs	Gutter Depth= 0.68' cfs	Gutter Depth= 1.68' cfs	Gutter Depth= 2.18' cfs
SNA4	C	1168.70	1168.00	240	0.0029	0.02	0.43		26.1	44.7	467.2	775.8		26.1	44.7	467.2	775.8
SGA2	C	1178.70	1178.00	170	0.0041	0.02	0.43	150.0	181.1	203.1	705.2	1071.8		181.1	222.9	1038.4	1638.0
SGA3	C	1168.00	1166.00	540	0.0037	0.02	0.43		29.5	50.3	526.5	874.3		29.5	70.2	859.8	1440.4
SGA4	C	1159.30	1158.00	400	0.0032	0.02	0.43		27.6	47.2	493.2	819.0		27.6	116.6	1659.7	2800.5
SBH1		SPECIAL CASE: 50% EAST & 50% WEST DUE TO GRADE BREAK ON BH															
SBH2	C	1153.30	1152.00	80	0.0162	0.02	0.43		61.7	105.4	1102.9	1831.2		61.7	115.4	1269.5	2114.3
SIS3	C	1109.00	1108.00	130	0.0077	0.02	0.43		42.4	72.5	758.8	1259.9		42.4	116.2	1492.0	2505.5

Appendix G: Street Intersection Diversions

Street Intersection Diversions

Type A: Arterial Street Intersection

Type A - arterial street intersections characteristics:

- Continuous pavement crowns in both directions; that is, valley gutters are **not** used to direct stormwater through the intersection.
- Street slopes in the vicinity of the intersection are relatively mild(i.e., less than 1%).
- Intersection subject to low velocity inundation.

Computational Methodology

Premise: The distribution of flow leaving the intersection is primarily a function of the street capacities immediately downstream of the intersection. The underlying premise is that the flow split would be 50/50 or even, if the street slopes are equal, the effective flow areas/right-of-way widths are equal, and normal depth conditions are dominant downstream of the intersection. This underlying premise is consistent with assumptions used in the HEC-1 models for the ACDC/ADMS by Kaminski-Hubbard Engineering, Inc.(KHE), as documented in ***Volume 1.5: Hydrology Report***(March 1995). In the ACDC/ADMS it was assumed that all flow diversions at arterial street intersections are 50/50 or even.

Procedure: Compute flow diversion percentages based on ratios corresponding to the street capacity immediately downstream of the intersection. The ratios are functions of the street slopes to the 0.5 power and right-of-way/pavement widths. In other words, the ratios are essentially equivalent to ratios of the Normal Depth(i.e. Manning's Equation) capacity for the streets, assuming that the flow depth and hydraulic radius for each street immediately downstream of the intersection are approximately equal.

Input Parameters: Streets slopes immediately downstream of the intersection and right-of-way or pavement widths.

Main Assumptions:

- Normal depth conditions are dominant immediately downstream of the intersection.
- Pavement crowns are continuous in both directions.
- Intersection flooding can be characterized as being slow moving with relatively deep ponding.
- Street or right-of-way widths are nearly equal in both directions.

Wood/Patel

CH2M HILL

Subject: **MARYVALE ADMS**
Type A: Intersection Diversions

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No.: **132586**

	Glendale			Peoria			Phoenix		
	a	c	r	a	c	r	a	c	r
R/W [ft]	110	70	50	130	60	50	80	60	50
PW [ft]	68	43	35	64	40	32	64	40	36

(a = arterial (1 mi.), c = collector (½ mi.), r = residential):

Note: County Arterial Streets' Assumed R/W is 110'

INTERSECTION PARAMETERS (enter)						CALCULATIONS:							
Location		Street Slope, S,		R/W Width		Slope Ratios,SR, (S^1/2)		R/W Ratios, R/WR,		Composite Ratios,CR,		Existing Storm Drain Capacity,	
E-W Street	N-S Street	West, ft/ft	South, ft/ft	West, ft.	South, ft.	West, (SR-W) $S_w^{1/2}/(S_w^{1/2}+S_s^{1/2})$	South, (SR-S) $S_s^{1/2}/(Sw^{1/2}+Ss^{1/2})$	West, (R/WR-W) $W_w/(W_w+W_s)$	South, (R/WR-S) $W_s/(W_w+W_s)$	West, (CR-W)	South, (CR-S)	West, cfs	South, cfs
TB	67	0.00308	0.00533	130	110	0.43	0.57	0.54	0.46	**0.47**	**0.53**		
TB	75	0.00640	0.00450	110	110	0.54	0.46	0.50	0.50	**0.54**	**0.46**		
TB	83	0.00330	0.00320	110	110	0.50	0.50	0.50	0.50	**0.50**	**0.50**		
CR	59	0.00274	0.00353	110	110	0.47	0.53	0.50	0.50	**0.47**	**0.53**		
CR	67	0.00323	0.00690	130	110	0.41	0.59	0.54	0.46	**0.45**	**0.55**	213	
CR	75	0.00300	0.00400	130	130	0.46	0.54	0.50	0.50	**0.46**	**0.54**	489	
CR	83	0.00286	0.00386	130	130	0.46	0.54	0.50	0.50	**0.46**	**0.54**	823	
PA	51	0.00438	0.00700	110	110	0.44	0.56	0.50	0.50	**0.44**	**0.56**		
PA	59	0.00167	0.00250	110	110	0.45	0.55	0.50	0.50	**0.45**	**0.55**		
PA	67	0.00740	0.00194	130	110	0.66	0.34	0.54	0.46	**0.70**	**0.30**		
PA	75	SPECIAL CASE -- TYPE B											
PA	83	At Grand Avenue, no surface flow west on Peoria Avenue, due to grade-break.								**0.00**	**1.00**	96	
PA	91	0.00346	0.00900	130	130	0.38	0.62	0.50	0.50	**0.38**	**0.62**	147	
OA	35	0.00296	0.01511	80	80	0.31	0.69	0.50	0.50	**0.31**	**0.69**		54
OA	43	0.00500	0.00563	110	80	0.49	0.51	0.58	0.42	**0.56**	**0.44**		81
OA	51	0.00320	0.00314	110	110	0.50	0.50	0.50	0.50	**0.50**	**0.50**	360	
OA	59	0.01333	0.01286	110	110	0.50	0.50	0.50	0.50	**0.50**	**0.50**	380	
OA	67	0.00496	0.00863	110	110	0.43	0.57	0.50	0.50	**0.43**	**0.57**	760	
OA	75	At Grand Avenue, no surface flow west on Olive Avenue, due to grade-break.								**0.00**	**1.00**	392	
OA	83	0.00281	0.00246	130	130	0.52	0.48	0.50	0.50	**0.52**	**0.48**	397	
OA	91	0.00063	0.00053	130	130	0.52	0.48	0.50	0.50	**0.52**	**0.48**	546	
NA	27	-	0.00464	80	80	All flow is South, due to grade-break & adverse slope on Northern Ave.				**0.00**	**1.00**		104
NA	35	0.00044	0.00443	80	80	0.24	0.76	0.50	0.50	**0.24**	**0.76**		81
NA	43	-	0.00313	-	80	All flow is South, due to grade-break & adverse slope on Northern Ave.				**0.00**	**1.00**		115
NA	51	0.00338	0.00545	110	110	0.44	0.56	0.50	0.50	**0.44**	**0.56**		
NA	59	0.00275	0.00250	110	110	0.51	0.49	0.50	0.50	**0.51**	**0.49**		

Wood/Patel

CH2M HILL

Subject: **MARYVALE ADMS**
Type A: Intersection Diversions

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No.: **132586**

	Glendale			Peoria			Phoenix		
	a	c	r	a	c	r	a	c	r
R/W [ft]	110	70	50	130	60	50	80	60	50
PW [ft]	68	43	35	64	40	32	64	40	36

(a = arterial (1 mi.), c = collector (½ mi.), r = residential):

Note: County Arterial Streets' Assumed R/W is 110'

INTERSECTION PARAMETERS (enter)						CALCULATIONS:							
Location		Street Slope, S,		R/W Width		Slope Ratios,SR, (S^1/2)		R/W Ratios, R/WR,		Composite Ratios,CR,		Existing Storm Drain Capacity,	
E-W Street	N-S Street	West, ft/ft	South, ft/ft	West, ft.	South, ft.	West, (SR-W) $S_W^{1/2}/(S_W^{1/2}+S_S^{1/2})$	South, (SR-S) $S_S^{1/2}/(Sw^{1/2}+Ss^{1/2})$	West, (R/WR-W) $W_W/(W_W+W_S)$	South, (R/WR-S) $W_S/(W_W+W_S)$	West, (CR-W)	South, (CR-S)	West, cfs	South, cfs
NA	67	At Grand Avenue, no surface flow west on Northern Avenue, due to grade-break.								0.00	1.00		
NA	75	0.00947	0.00188	110	110	0.69	0.31	0.50	0.50	0.69	0.31		
NA	83	0.00714	0.02500	130	130	All flow is West, due to grade-break & adverse slope on 83rd Ave.				1.00	0.00	214	
NA	91	0.00262	0.00611	110	110	0.40	0.60	0.50	0.50	0.40	0.60	33	
GA	27	-	0.00733	80	80	All flow is South, due to grade-break & adverse slope on Glendale Ave.				0.00	1.00		120
GA	35	0.00256	0.05750	80	80	0.17	0.83	0.50	0.50	0.17	0.83		64
GA	43	0.00265	0.00305	110	80	0.48	0.52	0.58	0.42	0.56	0.44		100
GA	51	0.00283	0.00425	110	110	0.45	0.55	0.50	0.50	0.45	0.55		
GA	59	At Grand Avenue, no surface flow west on Northern Avenue, due to grade-break. All flow is to the North.								0.00	1.00		
GA	67	0.00700	0.00130	110	110	0.70	0.30	0.50	0.50	0.70	0.30		
GA	75	0.00600	0.01500	110	110	0.39	0.61	0.50	0.50	0.39	0.61		
GA	83	0.00826	0.00373	110	110	0.60	0.40	0.50	0.50	0.60	0.40	455	
GA	91	0.00400	0.00125	110	110	0.64	0.36	0.50	0.50	0.64	0.36	455	
GA	99	-	0.00636	-	110	Note: All flow is to the South				0.00	1.00	487	
BH	27	-	0.00667	80	80	All flow is South, due to grade-break & adverse slope.				0.00	1.00		145
BH	35	-	0.00733	80	80	All flow is South, due to grade-break & adverse slope.				0.00	1.00		55
BH	43	0.00183	0.00325	110	80	0.43	0.57	0.58	0.42	0.51	0.49		100
BH	51	At Grand Avenue, no surface flow west on Bethany Home Road, due to grade-break. All flow is to the South.								0.00	1.00		
BH	59	0.00630	0.01000	110	110	0.44	0.56	0.50	0.50	0.44	0.56		
BH	67	0.00120	0.00430	110	110	0.35	0.65	0.50	0.50	0.35	0.65		
BH	75	0.01000	0.00200	110	110	0.69	0.31	0.50	0.50	0.69	0.31		
BH	83	SPECIAL CASE				70/30 Spilt Based on Road Slope & Grades				0.30	0.70		
BH	91	SPECIAL CASE		110	110	Storm Drain Only							
BH	99	SPECIAL CASE		110	110	Storm Drain Only							
CB	27	-	0.00667	80	80	All flow is South, due to grade-break & adverse slope.				0.00	1.00		152
CB	35	-	0.00688	80	80	All flow is South, due to grade-break & adverse slope.				0.00	1.00		86
CB	43	At Grand Avenue, no surface flow west on Camelback Road, due to grade-break. All flow is to the South.								0.00	1.00		100

Wood/Patel

CH2M HILL

Subject: MARYVALE ADMS
Type A: Intersection Diversions

By: J. GEISBUSH
Checked: D. DUST
Project No.: 132586

	Glendale			Peoria			Phoenix		
	a	c	r	a	c	r	a	c	r
R/W [ft]	110	70	50	130	60	50	80	60	50
PW [ft]	68	43	35	64	40	32	64	40	36

(a = arterial (1 mi.), c = collector (½ mi.), r = residential):

Note: County Arterial Streets' Assumed R/W is 110'

INTERSECTION PARAMETERS (enter)						CALCULATIONS:							
Location		Street Slope, S,		R/W Width		Slope Ratios,SR, (S^1/2)		R/W Ratios, R/WR,		Composite Ratios,CR,		Existing Storm Drain Capacity,	
E-W Street	N-S Street	West, ft/ft	South, ft/ft	West, ft.	South, ft.	West, (SR-W) $S_w^{1/2}/(S_w^{1/2}+S_s^{1/2})$	South, (SR-S) $S_s^{1/2}/(Sw^{1/2}+Ss^{1/2})$	West, (R/WR-W) $W_w/(W_w+W_s)$	South, (R/WR-S) $W_s/(W_w+W_s)$	West, (CR-W)	South, (CR-S)	West, cfs	South, cfs
CB	51	0.00620	0.00570	80	80	0.51	0.49	0.50	0.50	**0.51**	**0.49**		
CB	59	0.00670	0.00800	80	80	0.48	0.52	0.50	0.50	**0.48**	**0.52**		14
CB	67	0.00360	0.00500	110	80	0.46	0.54	0.58	0.42	**0.54**	**0.46**		
CB	75	0.00765	0.02600	110	110	0.35	0.65	0.50	0.50	**0.35**	**0.65**		
CB	83	0.01875	0.00600	80	80	0.64	0.36	0.50	0.50	**0.64**	**0.36**		
CB	91	0.00211	0.00364	80	80	0.43	0.57	0.50	0.50	**0.43**	**0.57**		
CB	99	0.00429	0.00225	110	80	0.58	0.42	0.58	0.42	**0.66**	**0.34**		
CB	107	0.01250	0.00833	110	110	0.55	0.45	0.50	0.50	**0.55**	**0.45**		
IS	27	-	0.01800	-	80	All flow is South, due to grade-break & adverse slope.				**0.00**	**1.00**		160
IS	35	Note: Flow is in 3 Directions - 1) South Along 35th Ave -2) West along "Frontage Rd" -3) S.E. Along Grand Ave											75
IS	43	0.00200	0.00590	80	80	0.37	0.63	0.50	0.50	**0.37**	**0.63**		89
IS	51	0.0008	0.01000	80	80	0.22	0.78	0.50	0.50	**0.22**	**0.78**		207
IS	59	0.0025	0.00600	80	80	0.39	0.61	0.50	0.50	**0.39**	**0.61**		359
IS	67	Note: All flow is to the South due to storm drain. Very small u/s watershed due to Grand Canal								**1.00**	**0.00**		174
IS	75	0.00571	0.04000	80	80	0.27	0.73	0.50	0.50	**0.27**	**0.73**	11	161
IS	83	0.00846	0.00229	80	80	0.66	0.34	0.50	0.50	**0.66**	**0.34**		199
IS	91	0.00800	0.00100	110	80	0.74	0.26	0.58	0.42	**0.80**	**0.20**		162
IS	99	0.00654	0.00100	110	80	0.72	0.28	0.58	0.42	**0.78**	**0.22**		
IS	107	0.00750	0.03000	80	80	0.33	0.67	0.50	0.50	**0.33**	**0.67**		
TR	27	SPECIAL CASE : ALL FLOW SOUTH EXCEPT FOR STORM DRAIN SYSTEMS								**0.00**	**1.00**	33	160
TR	35	0.00050	0.00619	80	80	0.22	0.78	0.50	0.50	**0.22**	**0.78**	20	63
TR	43	0.00036	0.00667	80	80	0.19	0.81	0.50	0.50	**0.19**	**0.81**		262
TR	51	0.00260	0.00650	80	80	0.39	0.61	0.50	0.50	**0.39**	**0.61**		281
TR	59	0.00091	0.00200	80	80	0.40	0.60	0.50	0.50	**0.40**	**0.60**		389
TR	67	0.00571	0.01333	80	80	0.40	0.60	0.50	0.50	**0.40**	**0.60**		240
TR	75	0.00343	0.01200	80	80	0.35	0.65	0.50	0.50	**0.35**	**0.65**		328
TR	83	0.00240	0.00800	80	80	0.35	0.65	0.50	0.50	**0.35**	**0.65**		243

Wood/Patel

CH2M HILL

Subject: **MARYVALE ADMS**
Type A: Intersection Diversions

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No.: **132586**

	Glendale			Peoria			Phoenix		
	a	c	r	a	c	r	a	c	r
R/W [ft]	110	70	50	130	60	50	80	60	50
PW [ft]	68	43	35	64	40	32	64	40	36

(a = arterial (1 mi.), c = collector (½ mi.), r = residential):

Note: County Arterial Streets' Assumed R/W is 110'

INTERSECTION PARAMETERS (enter)						CALCULATIONS:							
Location		Street Slope, S,		R/W Width		Slope Ratios,SR, (S^1/2)		R/W Ratios, R/WR,		Composite Ratios,CR,		Existing Storm Drain Capacity,	
E-W Street	N-S Street	West, ft/ft	South, ft/ft	West, ft.	South, ft.	West, (SR-W) $S_w^{1/2}/(S_w^{1/2}+S_s^{1/2})$	South, (SR-S) $S_s^{1/2}/(Sw^{1/2}+Ss^{1/2})$	West, (R/WR-W) $W_w/(W_w+W_s)$	South, (R/WR-S) $W_s/(W_w+W_s)$	West, (CR-W)	South, (CR-S)	West, cfs	South, cfs
TR	91	0.00300	0.00545	80	80	0.43	0.57	0.50	0.50	**0.43**	**0.57**		326
TR	99	0.00333	0.00037	80	80	0.75	0.25	0.50	0.50	**0.75**	**0.25**		
TR	107	0.00255	0.00076	80	80	0.65	0.35	0.50	0.50	**0.65**	**0.35**		
TR	115	0.00078	0.00045	80	80	0.57	0.43	0.50	0.50	**0.57**	**0.43**		
MD	27	0.00300	0.00818	80	80	0.38	0.62	0.50	0.50	**0.38**	**0.62**		131
MD	35	0.00013	0.00056	80	80	0.33	0.67	0.50	0.50	**0.33**	**0.67**		53
MD	43	-	0.00773	-	80	All flow is South, due to grade-break & adverse slope.				**0.00**	**1.00**		207
MD	51	0.00061	0.02200	80	80	0.14	0.86	0.50	0.50	**0.14**	**0.86**		286
MD	59	0.00417	0.00682	80	80	0.44	0.56	0.50	0.50	**0.44**	**0.56**		448
MD	67	0.00229	0.00485	80	80	0.41	0.59	0.50	0.50	**0.41**	**0.59**		532
MD	75	0.00214	0.00714	80	80	0.35	0.65	0.50	0.50	**0.35**	**0.65**		467
MD	83	0.00955	0.00368	80	80	0.62	0.38	0.50	0.50	**0.62**	**0.38**		243
MD	91	0.00167	0.00330	80	80	0.42	0.58	0.50	0.50	**0.42**	**0.58**		380
MD	99	0.00436	0.02833	80	80	0.28	0.72	0.50	0.50	**0.28**	**0.72**		
MD	107	0.00141	-	80	-	Note: All flow is to the West				**1.00**	**0.00**		
MD	115	0.00450	0.00900	80	80	0.41	0.59	0.50	0.50	**0.41**	**0.59**		
I-10 A	(27TH AVE.)	SPECIAL CASE: FLOW CONVEYED SOUTH OF I-10 BY STORM DRAIN SYSTEM											131
I-10 C	(43RD AVE.)	SPECIAL CASE: FLOW CONVEYED SOUTH OF I-10 BY STORM DRAIN SYSTEM											207

Street Intersection Diversions

Type B: Arterial Street Intersection

Type B - arterial street intersections characteristics:

- Continuous pavement crowns in only one direction; that is, valley gutters are may be used to direct stormwater through the intersection.
- Street slopes in the vicinity of the intersection are relatively mild(i.e., less than 1%).
- Intersection subject to low velocity inundation.

Computational Methodology

Premise: Stormwater primarily flows down the street with the continuous crown and gutter slope; however, stormwater will weir flow into the street with the gradebreak.

Procedure: Compute flow diversion rating data based on normal depth and weir flow computations.

Input Parameters: Streets slopes immediately downstream of the intersection and right-of-way or pavement widths.

Main Assumptions:

- Normal depth conditions are appropriate for the street with the continuous crown and gutter slope.
- Weir flow conditions apply to flow entering the street with the grade break.
- Intersection flooding can be characterized as being slow moving with relatively deep ponding.

Wood/Patel
CH2M HILL

Subject **Maryvale ADMS:**
Type B: Street Intersection Diversions

By: **J. GEISBUSH**
Checked: **D. DUST**
Project No. **132586**

City of Peoria Street Widths (a = arterial (1 mi.), c = collector (½ mi.), r = residential):

	R/W, ft.	PW, ft.
a	110	68
c	70	43
r	50	35

Curb height = 0.5 ft.

Capacity, $Q = (1.49/n)*(A^{1.67}/P^{0.67})*S^{0.5}$
Q = discharge, cfs
n = Manning's roughness
A = flow area, sq. ft.
P = wetted perimeter, ft.
S = longitudinal slope, ft/ft

Weir Flow down side streets, $Q=CLh^{1.5}$
C = 2.9
L = weir length, ft.
h = flow depth, ft.

Streets
TB = Thunderbird Road
CR = Cactus Road
PA = Peoria Avenue
OA = Olive Avenue
NA = Northern Avenue
GA = Glendale Avenue
BH = Bethany Home Road
CB = Camelback Road
IS = Indian School Road
TR = Thomas Road
MD = McDowell Road

DQ

								DOWN-STREET FLOW						WEIR FLOW INTO AN ARTERIAL STREET						INFLOW CAPACITY (DI)			
									Qcap before overtop curb														
Node	Street Type (a)	Top of Slope Elev., ft	Bottom of Slope Elev., ft.	Slope Length, ft.	Ave. Long. Slope, ft/ft	Cross Slope, Sx, ft/ft	Top of Crown ft.	Storm Drain Capacity, cfs	D-S cfs	U-S cfs	Total cfs	Top of Crown, TC, cfs	1.0 ft over crown, cfs	1.5 ft over crown, cfs	Storm Drain Capacity cfs	Arterial Street R/W, ft.	Weir Q at Top of Curb cfs	Weir Q at at TC, cfs	Weir Q at TC+1.0, cfs	Weir Q at TC+1.5, cfs	Total at TOC, cfs	Total at TC, cfs	Total TC+1.0, cfs	Total TC+1.5, cfs
PA75(1)	a	1151.80	1150.00	700	0.0026	0.02	0.68		11.6	28.8	40	57.6	639.7	1097.2		130	0.0	28.8	483.2	820.9	40	86.4	1123.0	1918.2

NOTES:
(1) Flow diversion is to the south down 75th Avenue. Peoria Avenue has a grade break just to the west of the intersection; hence, weir flow is west.

Changing Intersection Diversions to Reflect Storm Drain Systems

Computational Methodology

Premise: Modify the inflow and outflow data to reflect an existing or future storm drain system.

Procedure: Modify the DI & DQ Cards as indicated in the example below.

Input Parameters: The storm drain system's design capacity.

Main Assumptions:

- There is a sufficient number of inlets to allow the storm drain system to capture flow up to its design capacity.
- Extra capacity, due to surcharge, is insignificant and not taken into account.

Example: Street Intersection Diversion at "00"th Ave. and Long Rd.

HEC-1 Input : No Storm Drain:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- DT D00LR
- DI      0  1000.
- DQ      0   470.
```

HEC-1 Input: Storm Drain Along "Long Road"(LR) at "00"th Avenue: Capacity = 80 cfs:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- KM FUTURE STORM DRAIN ALONG LONG ROAD
- KM CAPACITY = 80 CFS WEST
- DT D00LR
- DI      0     80.  10080.
```

(Note: The 2nd value is set equal to the storm drain capacity(80cfs). & the 3rd value is 10000 plus the storm drain capacity (80cfs)

```
- DQ      0    0.01   4700.
```

(Note: The values are 47% of the DI -Card values minus the storm drain capacity (80cfs).).

HEC-1 Input: Storm Drain Along "00"th Ave. at "Long Road"(LR) :Capacity = 75 cfs:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- KM FUTURE STORM DRAIN ALONG 00th AVE.
- KM CAPACITY = 75 CFS SOUTH
- DT D00LR
- DI      0     75.  10075.
```

(Note: The 2nd value is set equal to the storm drain capacity(75cfs). & the 3rd value is 10000 plus the storm drain capacity (75cfs)

```
- DQ      0     75.   4775.
```

(Note: The values are 47% of the DI -Card values minus the storm drain capacity (80cfs)).

Special Case Flow Diversions

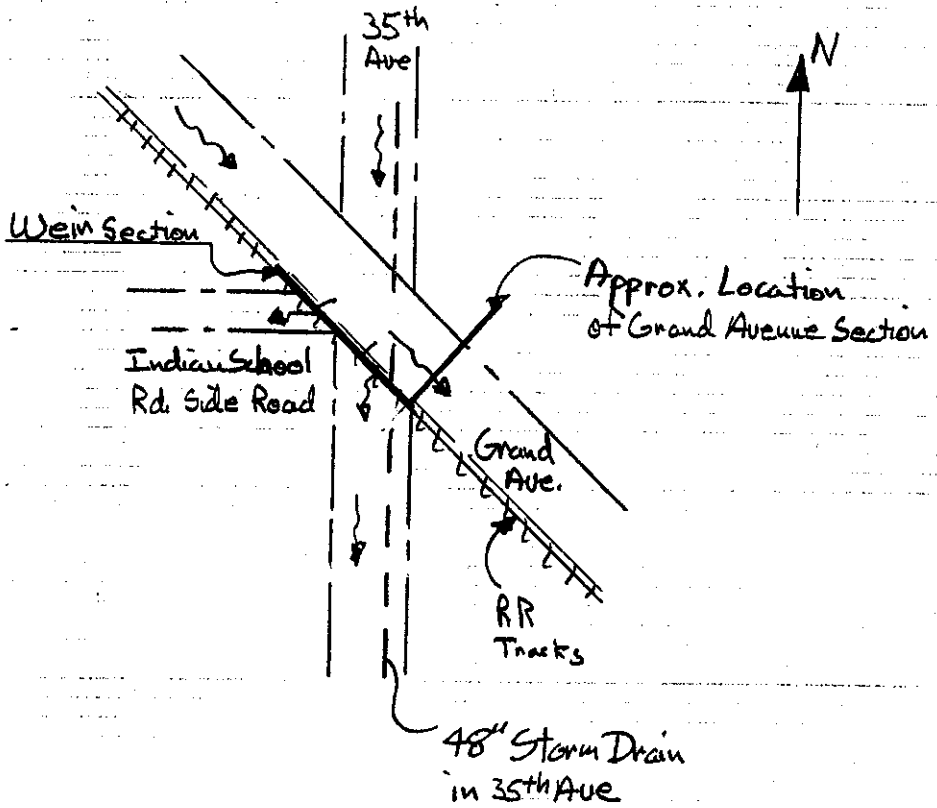
CH2M HILL

SHEET NO. 1 of 4 DATE 5/96

PROJECT NO. 132586

Flow Split @ 35th Avenue & Grand Avenue

Schematic Diagram



Project Marysville
Project No. 132586
Sheet No. 2 of 4
Calculated by DWD Date 8/96

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

DIS35 Rating Curves

Flow Southwest over RR

CROSS SECTION PARAMETERS: FILENAME: dis35-rr.SEC

No. of Cross Section Points: 24 Bed Slope:0.00190 Max Elev.:1117.81
Bank Stations.....Left: 271.0 Right....: 880.0 Min Elev.:1117.24
Encroachment Stations..Left: 271.0 Right....: 880.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1116.31	0.00	2)	1115.78	13.00	3)	1115.62	13.10
4)	1116.79	58.00	5)	1116.81	58.10	6)	1117.33	61.00
7)	1117.39	61.10	8)	1116.82	61.20	9)	1116.08	101.00
10)	1116.57	101.10	11)	1116.78	104.00	12)	1117.40	109.00
13)	1117.08	160.00	14)	1116.95	167.00	15)	1116.98	169.00
16)	1117.01	172.00	17)	1117.18	204.00	18)	1117.81	263.00
19)	1117.81	271.00	20)	1117.66	398.00	21)	1117.68	500.00
22)	1117.52	609.00	23)	1117.63	716.00	24)	1117.24	880.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1117.50	16.1	0.26	0.13	111.0	14.5
1118.00	448.9	0.76	0.41	609.0	250.3
1118.50	1440.4	1.26	0.91	609.0	554.8

NOTES: Composite Rating Curves

Elev	Weir Flow over RR to 35th Ave (cfs)	Flow South in S.D in 35th Ave (cfs)	Flow in Grand Ave (cfs)	Total (cfs)
1116	0	75	4	79
1117	0	75	216	291
1117.24	0	75	265	340
1117.50	16	75	389	480
1118.0	449	75	813	1337
1118.5	1440	75	1460	2975

Project Manyvale
Project No. 132586
Sheet No. 3 of 4
Calculated by LWD Date 8/96

UNIFORM FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

DIS35

Flow Along Grand Ave.

CROSS SECTION PARAMETERS: FILENAME: DIS35-ST.SEC

No. of Cross Section Points: 24 Bed Slope: 0.00190 Max Elev.: 1117.81
Bank Stations.....Left: 0.0 Right....: 109.0 Min Elev.: 1115.62
Encroachment Stations..Left: 0.0 Right....: 271.0
Manning-n Values.....LOB: 0.035 CHANNEL..: 0.016 ROB.....: 0.035

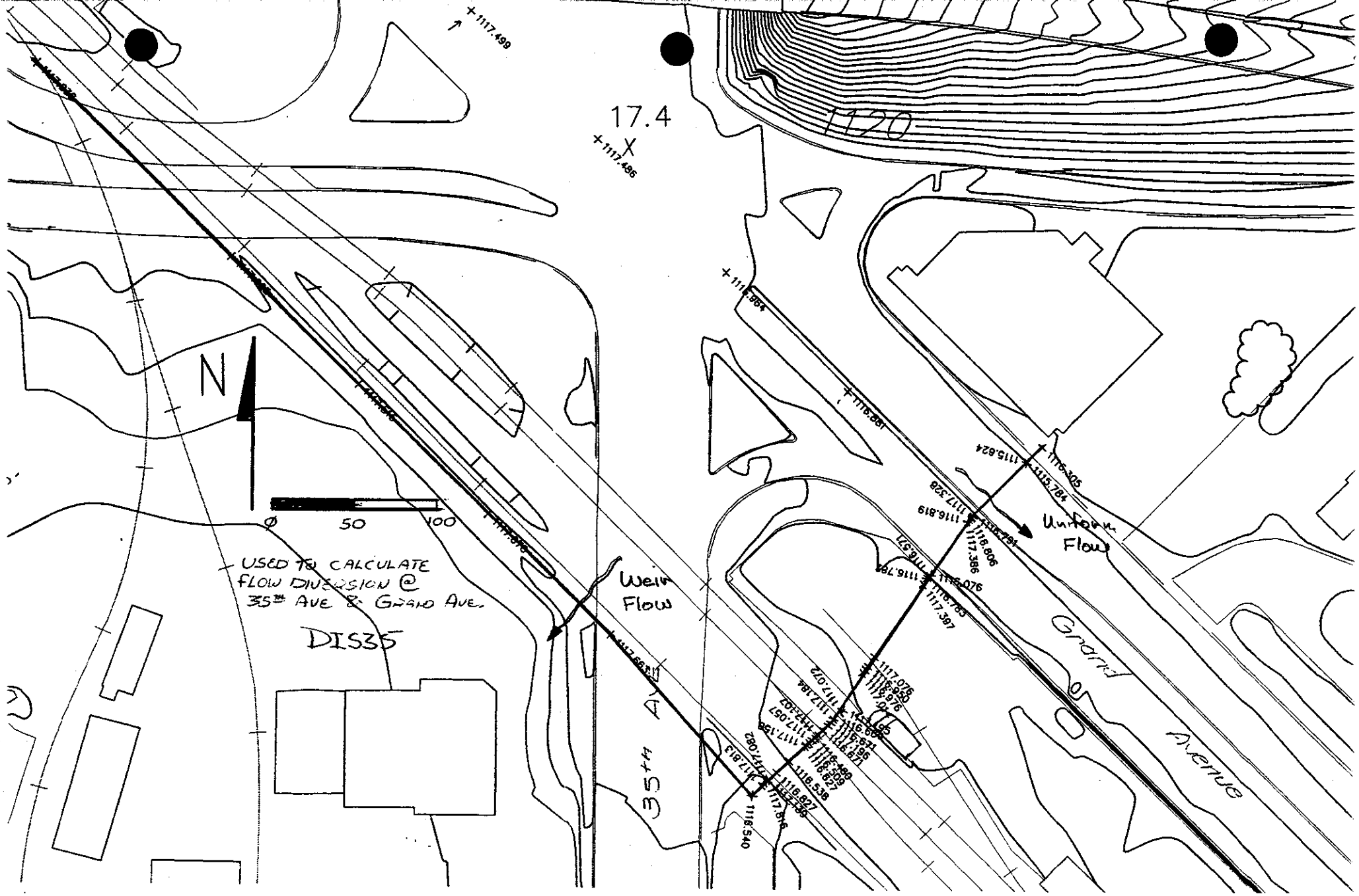
CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1116.31	0.00	2)	1115.78	13.00	3)	1115.62	13.10
4)	1116.79	58.00	5)	1116.81	58.10	6)	1117.33	61.00
7)	1117.39	61.10	8)	1116.82	61.20	9)	1116.08	101.00
10)	1116.57	101.10	11)	1116.78	104.00	12)	1117.40	109.00
13)	1117.08	160.00	14)	1116.95	167.00	15)	1116.98	169.00
16)	1117.01	172.00	17)	1117.18	204.00	18)	1117.81	263.00
19)	1117.81	271.00	20)	1117.66	398.00	21)	1117.68	500.00
22)	1117.52	609.00	23)	1117.63	716.00	24)	1117.24	880.00

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	V(fps)	Fr No.	ne	ALPHA	TW(ft)	A(sf)	WP(ft)	CRWS(ft)
1116.00	4.1	1.2	0.53	0.016	1.0	20.0	3.3	20.1	1115.92
1117.00	215.5	3.0	0.66	0.016	1.0	110.4	71.6	111.2	1116.81
1117.24	265.0	2.5	0.62	0.018	1.2	182.4	106.4	183.4	1116.89
1117.50	388.7	2.4	0.61	0.021	1.4	233.6	161.9	234.8	1117.07
1118.00	813.3	2.8	0.62	0.024	1.7	271.0	290.3	272.1	1117.58
1118.50	1460.2	3.4	0.63	0.025	1.7	271.0	425.8	272.1	1118.07

NOTES:


17.4
1120
N
0
50
100
USED TO CALCULATE
FLOW DIVERSION @
35th AVE & GRAND AVE.
DIS35
Weir
Flow
Uniform
Flow
35th Ave
Grand
Avenue

Project MARYVALE ADMS
Project No. 132586
Sheet No. 1 of
Calculated by JG Date 8/6

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

DBH83 RATING CURVES

Flow west

CROSS SECTION PARAMETERS: FILENAME: dbh83-w.SEC

No. of Cross Section Points: 4 Bed Slope:0.00500 Max Elev.:1085.00
Bank Stations.....Left: 0.0 Right....: 510.0 Min Elev.:1084.00
Encroachment Stations..Left: 0.0 Right....: 390.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1085.00	0.00	2)	1084.00	320.00	3)	1084.00	390.00
4)	1084.00	510.00						

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1084.50	127.9	0.50	0.33	230.0	75.0
[illegible].00	534.6	1.00	0.59	390.0	230.0
[illegible].50	1238.5	1.50	1.09	390.0	425.0

NOTES:

SECTION IS TAKEN LEFT TO RIGHT
LOOKING UPSTREAM

Project MADYVALE ADMS
Project No. 132586
Sheet No. 2 of
Calculated by JG Date 8/6

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

DBH83 RATING CURVE SOUTH

CROSS SECTION PARAMETERS: FILENAME: dbh83-s.SEC

No. of Cross Section Points: 4 Bed Slope:0.00500 Max Elev.:1084.00
Bank Stations.....Left: 0.0 Right....: 510.0 Min Elev.:1084.00
Encroachment Stations..Left: 390.0 Right....: 510.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1085.00	0.00	2)	1084.00	320.00	3)	1084.00	390.00
4)	1084.00	510.00						

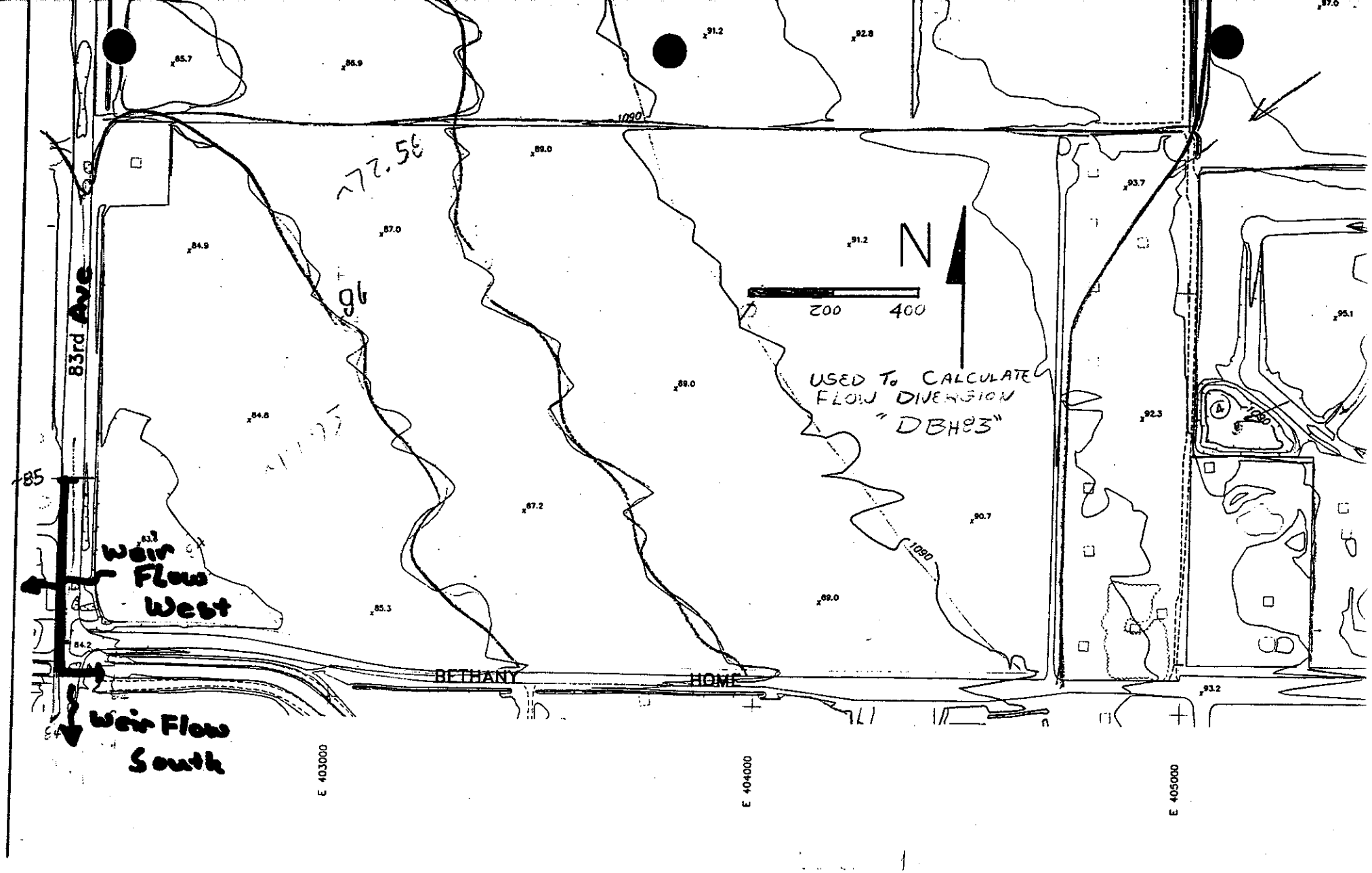
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
1084.50	114.6	0.50	0.50	120.0	60.0
[illegible].00	324.0	1.00	1.00	120.0	120.0
[illegible].50	595.2	1.50	1.50	120.0	180.0

NOTES: Composite Rating Curve

ELEV	Q_{WEST}	Q_{SOUTH}	Q_{TOTAL}
1084	Ø	Ø	Ø
1084.5	128	115	243
1085	535	324	859
1085.5	1,239	595	1,844

SECTION IS TAKEN LEFT TO RIGHT LOOKING UPSTREAM.


83rd Ave
BETHANY
HOME
N
200
400
USED TO CALCULATE
FLOW DIVERSION
"DBH83"
Weir
Flow
West
Weir Flow
South
E 403000
E 404000
E 405000
1090
85
96

Project Maricopa ADMS
Project No. 132 596.01
Sheet No. 1 of 3
Calculated by [illegible] Date 8/8

UNIFORM FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

D1421E Flow Diversion Rating Curves
Flow along N. side of Grand Canal

CROSS SECTION PARAMETERS: FILENAME: d1421-n.SEC

No. of Cross Section Points: 9 Bed Slope: 0.00240 Max Elev.: 1093.00
Bank Stations.....Left: 1230.0 Right....: 1850.2 Min Elev.: 1090.00
Encroachment Stations..Left: 1230.0 Right....: 1850.2
Manning-n Values.....LOB: 0.030 CHANNEL..: 0.030 ROB.....: 0.030

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1093.00	0.00	2)	1092.00	370.00	3)	1091.00	950.00
4)	1090.20	1230.00	5)	1090.00	1250.00	6)	1090.00	1450.00
7)	1091.00	1850.00	8)	1092.00	1850.10	9)	1093.00	1850.20

COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	V(fps)	Fr No.	ne	ALPHA	TW(ft)	A(sf)	WP(ft)	CRWS(ft)
[illegible].20	36.7	0.7	0.32	0.030	1.0	300.0	50.0	300.0	1090.09
1091.00	779.9	1.9	0.40	0.030	1.0	620.0	418.0	620.0	1090.61
1092.00	3547.9	3.4	0.47	0.030	1.0	620.1	1038.1	621.0	1091.33
1093.00	7736.3	4.7	0.50	0.030	1.0	620.2	1658.2	622.0	1092.01

NOTES:

Normal Depth flow along North side of Grand Canal

Project Manyvale
Project No. 132586
Sheet No. 2 of 3
Calculated by DWD Date 8/96

WEIR FLOW COMPUTATIONS

LOCATION/DESCRIPTION:

D 1421E

Weir Flow Over Grand Canal

CROSS SECTION PARAMETERS: FILENAME: d1421-wr.SEC

No. of Cross Section Points: 9 Bed Slope:0.00240 Max Elev.:1093.00
Bank Stations.....Left: 0.0 Right....: 1230.0 Min Elev.:1090.20
Encroachment Stations..Left: 0.0 Right....: 1230.0 Weir Coef: 2.700

CROSS SECTION POINTS - Elevations & Stations in feet:

No.	Elev.	Sta.	No.	Elev.	Sta.	No.	Elev.	Sta.
1)	1093.00	0.00	2)	1092.00	370.00	3)	1091.00	950.00
4)	1090.20	1230.00	5)	1090.00	1250.00	6)	1090.00	1450.00
7)	1091.00	1850.00	8)	1092.00	1850.10	9)	1093.00	1850.20

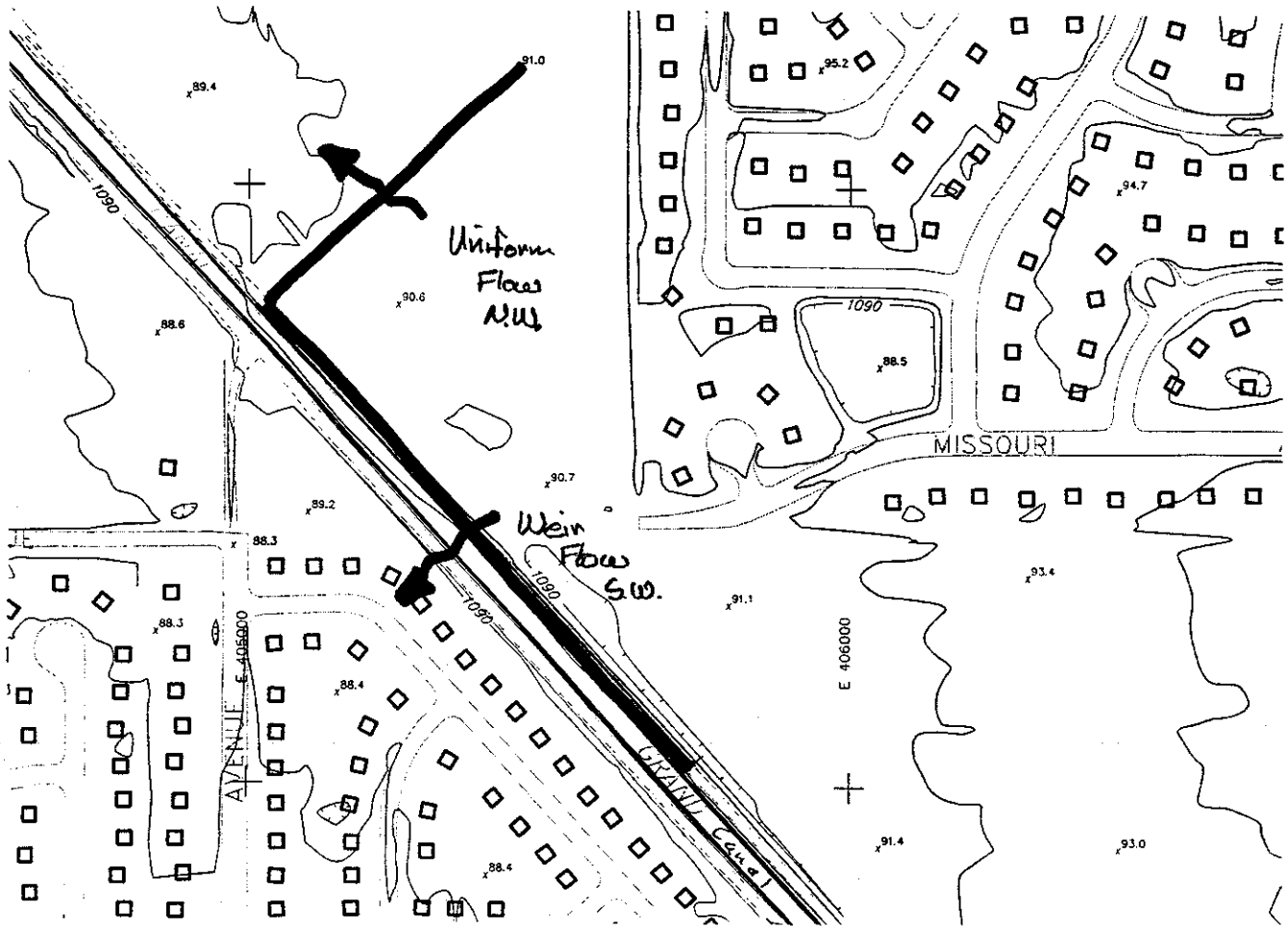
COMPUTED PARAMETERS:

WSEL(ft)	Q(cfs)	H:max(ft)	H:ave(ft)	TW(ft)	A(sf)
[illegible].00	216.4	0.80	0.40	280.0	112.0
[illegible].00	1891.6	1.80	0.79	860.0	682.0
1093.00	6137.3	2.80	1.40	1230.0	1727.0

NOTES:

Composite Rating Data

	Weir flow South bank	flow along Canal (cfs)	Total (cfs)
1090	0	0	0
1090.2	0	37	37
1091	216	780	996
1092	1890	3550	5440
1093	6140	7740	



N

0 200 400

USE TO CALCULATE FLOW DIRECTION

D14-21E

Appendix H: Storm Drain and Surge Basin Data

Changing Intersection Diversions to Reflect Storm Drain Systems

Computational Methodology

Premise: Modify the inflow and outflow data to reflect an existing or future storm drain system.

Procedure: Modify the DI & DQ Cards as indicated in the example below.

Input Parameters: The storm drain system's design capacity.

Main Assumptions:

- There is a sufficient number of inlets to allow the storm drain system to capture flow up to its design capacity.
- Extra capacity, due to surcharge, is insignificant and not taken into account.

Example: Street Intersection Diversion at "00"th Ave. and Long Rd.

HEC-1 Input : No Storm Drain:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- DT D00LR
- DI      0  1000.
- DQ      0   470.
```

HEC-1 Input: Storm Drain Along "Long Road"(LR) at "00"th Avenue: Capacity = 80 cfs:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- KM FUTURE STORM DRAIN ALONG LONG ROAD
- KM CAPACITY = 80 CFS WEST
- DT D00LR
- DI      0     80.  10080.
```

(Note: The 2nd value is set equal to the storm drain capacity(80cfs). & the 3rd value is 10000 plus the storm drain capacity (80cfs)

```
- DQ      0    0.01   4700.
```

(Note: The values are 47% of the DI -Card values minus the storm drain capacity (80cfs).).

HEC-1 Input: Storm Drain Along "00"th Ave. at "Long Road"(LR) :Capacity = 75 cfs:

```
- KK DLR00
- KM STREET INTERSECTION DIVERSION
- KM 53% West & 47% South
- KM FUTURE STORM DRAIN ALONG 00th AVE.
- KM CAPACITY = 75 CFS SOUTH
- DT D00LR
- DI      0     75.  10075.
```

(Note: The 2nd value is set equal to the storm drain capacity(75cfs). & the 3rd value is 10000 plus the storm drain capacity (75cfs)

```
- DQ      0     75.   4775.
```

(Note: The values are 47% of the DI -Card values minus the storm drain capacity (80cfs)).

Changing Street Capacity Diversions to Reflect Storm Drain Systems

Computational Methodology

Premise: Modify the inflow and outflow data to reflect an existing or future storm drain system.

Procedure: Enter the capacity of the future or existing storm drain system in the appropriate column in the Street Capacity Diversion spreadsheet. The spreadsheet generates the appropriate diversion data as indicated in the attached sample spreadsheet and the sample HEC-1 input data provided below.

Input Parameters: The storm drain system's design capacity.

Main Assumptions:

- There is a sufficient number of inlets to allow the storm drain system to capture flow up to its design capacity.
- Extra capacity, due to surcharge, is insignificant and not taken into account.

Example: Street Capacity Diversion for "Long Avenue" (LA).

HEC-1 Input : No Storm Drain:

```
-  KK  SLA1W
-  KM  STREET CAPACITY DIVERSION
-  KM  LONG AVENUE(LA)
-  KM  DIVERSION TO SOUTH
-  DT  SLA1S
-  DI      0     46.   115.  1185.  2018.
-  DQ      0     0.1    49.   818.  1389.
```

HEC-1 Input: Storm Drain Along Long Avenue- Capacity = 80 cfs:

```
-  KK  SLA1W
-  KM  STREET CAPACITY DIVERSION
-  KM  LONG AVENUE(LA)
-  KM  DIVERSION TO SOUTH
-  KM  FUTURE STORM DRAIN ALONG LONG AVENUE
-  KM  CAPACITY = 80 CFS WEST
-  DT  SLA1S
-  DI      0    126.   195.  1265.  2098.
   (Note: These values have been increased by  80cfs.)
-  DQ      0     0.1    49.   818.  1389.
```

Cactus Road Storm Drain

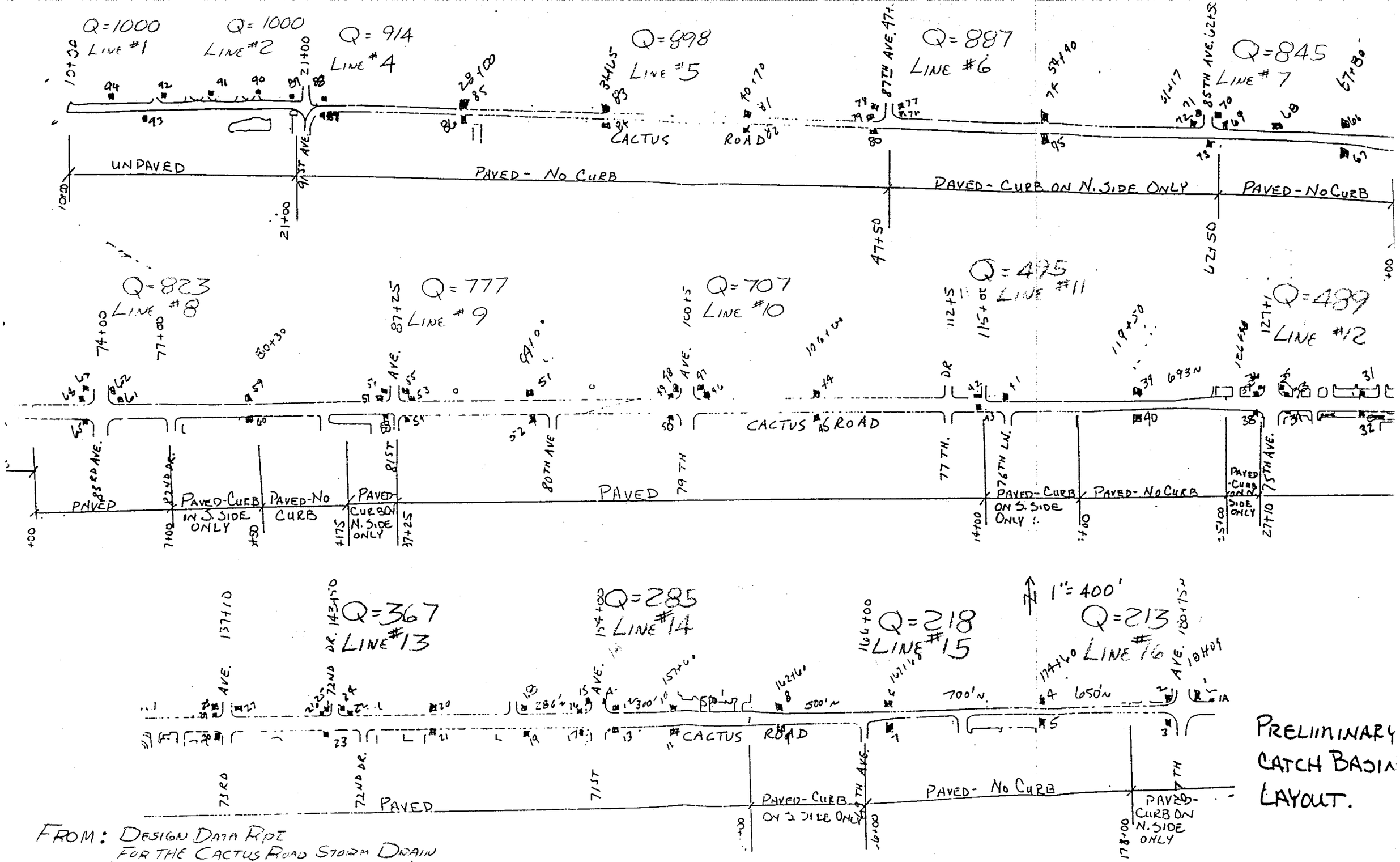
FROM: DESIGN DATA RPT
FOR THE CACTUS ROAD STORM DRAIN
(67TH AVE TO AGUA FRIA FREEWAY)
STANLEY, FRANZOY, COREY ENGINEERING CO.
JUNE 1992

FINAL DESIGN CACTUS

INPUT DATA LISTING

CD	L2	MAX Q	ADJ Q	LENGTH	FL 1	FL 2	CTL/TW	D	W	S	KJ	KK	KM	LC	L1	L3	L4	A1	A3	A4	J	N
8	1						1130.68															
2	2	1000.0	1000.0	10+00 30.00	1120.29	1120.30	.00	96.	120.	3	.00	.00	.00	1	3	0	0	0.	0.	0.	9.99	.014
2	3	1000.0	1000.0	22+00 1200.00	1120.30	1121.80	.00	120.	0.	3	.00	.00	.00	0	4	17	0	0.	45.	0.	9.99	.012
2	4	914.0	914.0	10.00	1121.80	1121.81	.00	120.	0.	3	.00	.00	.00	0	5	0	0	0.	0.	0.	9.99	.012
2	5	898.0	898.0	35+30 1320.00	1121.81	1125.46	.00	120.	0.	3	.00	.00	.00	0	6	0	0	0.	0.	0.	9.99	.012
2	6	887.0	887.0	48+50 1320.00	1125.46	1129.10	.00	120.	0.	3	.00	.00	.00	0	7	0	0	0.	0.	0.	9.99	.012
2	7	845.0	845.0	61+70 1320.00	1129.10	1131.21	.00	120.	0.	3	.00	.00	.00	0	8	0	0	0.	0.	0.	9.99	.012
2	8	823.0	823.0	74+90 1320.00	1131.21	1133.32	.00	120.	0.	3	.00	.00	.00	0	9	0	0	0.	0.	0.	9.99	.012
2	9	777.0	777.0	88+10 1320.00	1133.82	1137.39	.00	114.	0.	3	.00	.00	.00	0	10	0	0	0.	0.	0.	9.99	.012
2	10	707.0	707.0	101+30 1320.00	1137.39	1140.95	.00	114.	0.	3	.00	.00	.00	0	11	18	0	0.	45.	0.	9.99	.012
2	11	495.0	495.0	114+50 1320.00	1141.45	1145.02	.00	108.	0.	3	.00	.00	.00	0	12	0	0	0.	0.	0.	8.00	.012
2	12	489.0	489.0	127+70 1320.00	1145.02	1148.58	.00	108.	0.	3	.00	.00	.00	0	13	21	0	0.	45.	0.	8.00	.012
2	13	367.0	367.0	140+90 1320.00	1150.58	1153.22	.00	84.	0.	3	.00	.00	.00	0	14	0	0	0.	0.	0.	7.00	.012
2	14	285.0	285.0	154+10 1320.00	1153.22	1155.86	.00	84.	0.	3	.00	.00	.00	0	15	24	0	0.	45.	0.	7.00	.012
2	15	218.0	218.0	167+30 1320.00	1156.36	1159.86	.00	78.	0.	3	.00	.00	.00	0	16	0	0	0.	0.	0.	7.00	.012
2	16	213.0	213.0	180+50 1320.00	1159.86	1163.36	.00	78.	0.	1	.00	.00	.00	0	0	0	0	0.	0.	0.	.00	.012
				17,080'																		
2	17	87.0	87.0	4000.00	1121.80	1126.81	.00	84.	0.	1	.00	.00	.00	4	0	0	0	0.	0.	0.	.00	.012
2	18	214.0	214.0	20.00	1144.95	1145.06	.00	66.	0.	3	.00	.00	.00	11	19	0	0	0.	0.	0.	.00	.012
2	19	185.0	185.0	1300.00	1145.06	1152.22	.00	66.	0.	3	.00	.00	.00	0	20	0	0	0.	0.	0.	.00	.012
2	20	104.0	104.0	1320.00	1153.22	1159.50	.00	54.	0.	1	.00	.00	.00	0	0	0	0	0.	0.	0.	.00	.012
2	21	113.0	113.0	20.00	1154.08	1154.19	.00	42.	0.	3	.00	.00	.00	13	22	0	0	0.	0.	0.	.00	.012
2	22	84.0	84.0	1300.00	1154.19	1161.79	.00	42.	0.	3	.00	.00	.00	0	23	0	0	0.	0.	0.	.00	.012
2	23	44.0	44.0	1320.00	1161.79	1165.50	.00	42.	0.	1	.00	.00	.00	0	0	0	0	0.	0.	0.	.00	.012
2	24	30.0	30.0	20.00	1160.36	1160.46	.00	30.	0.	3	.00	.00	.00	15	25	0	0	0.	0.	0.	.00	.012
2	25	25.0	25.0	1300.00	1160.46	1167.14	.00	30.	0.	3	.00	.00	.00	0	26	0	0	0.	0.	0.	.00	.012

Project : CACTUS ROAD BASED UPON HEC-1 ANALYSIS-includes triangle area Date: 9/30/1991 Time: 11:40:55



PRELIMINARY CATCH BASIN LAYOUT.

FROM: DESIGN DATA RPE
FOR THE CACTUS ROAD STORM DRAIN
(67TH AVE TO AGUA FRIA FREEWAY)
STANLEY, FRANZOY, COREY ENGINEERING CO.
JUNE 1992

Olive Avenue Storm Drain

SUBJECT OLIVE AVE STORM DRAIN CAPACITY BY JRG PROJECT NO. 132586 DATE 16 APR SHT 1 OF 4

CAPACITY & STATIONING INFO FROM: "OLIVE AVENUE STORM DRAIN & PAVING PLANS 91ST AVE. TO 67TH AVE. PROJECT NO. FCD 89-16"
(AS BUILTS ⇒ JULY 1990)

[FLOW IN CFS]

STA 62+76.11 (STA 65+25 91ST AVE) — Q=546 — 10'x6' CBC + (11' TRANS STRCT & 9LF 96"Φ)

STA 66+29 — Q=425 — 96"Φ

STA 78+43 89TH AVE — Q=425 — 90 Φ

STA 90+78.6 ~ 87TH AVE — Q=397 — 90"Φ

STA 104+29 — Q=397 — 90"Φ

STA 118+12.9 83RD AVE. — Q=293 — 84"Φ — 48"Φ (NORTH)

STA 129+05.7 — Q=427 — 96"Φ — 54"Φ (NORTH) — Q = -134

STA 142+75 ~ 79TH AVE — Q=397 — 96"Φ

STA 156+40 — Q=392 — 90"Φ

STA 168+66 (STA 171+13 GRAND AVE & 75TH AVE) — Q=262 — 78"Φ — 36"Φ (SOUTH) & 54"Φ (N.E.)

STA 174+81 — Q=161 — 78"Φ

STA 179+05 — Q=161 — 78"Φ

STA 185+00 — Q=161 — 72"Φ

(STA 190+62 72ND AVE)

STA 193+51 — Q=589 — 96"Φ (NORTH)

(STA 197+62.4 71ST AVE) — Q=750 — 102"Φ

STA 208+55 — Q=750 — 102"Φ

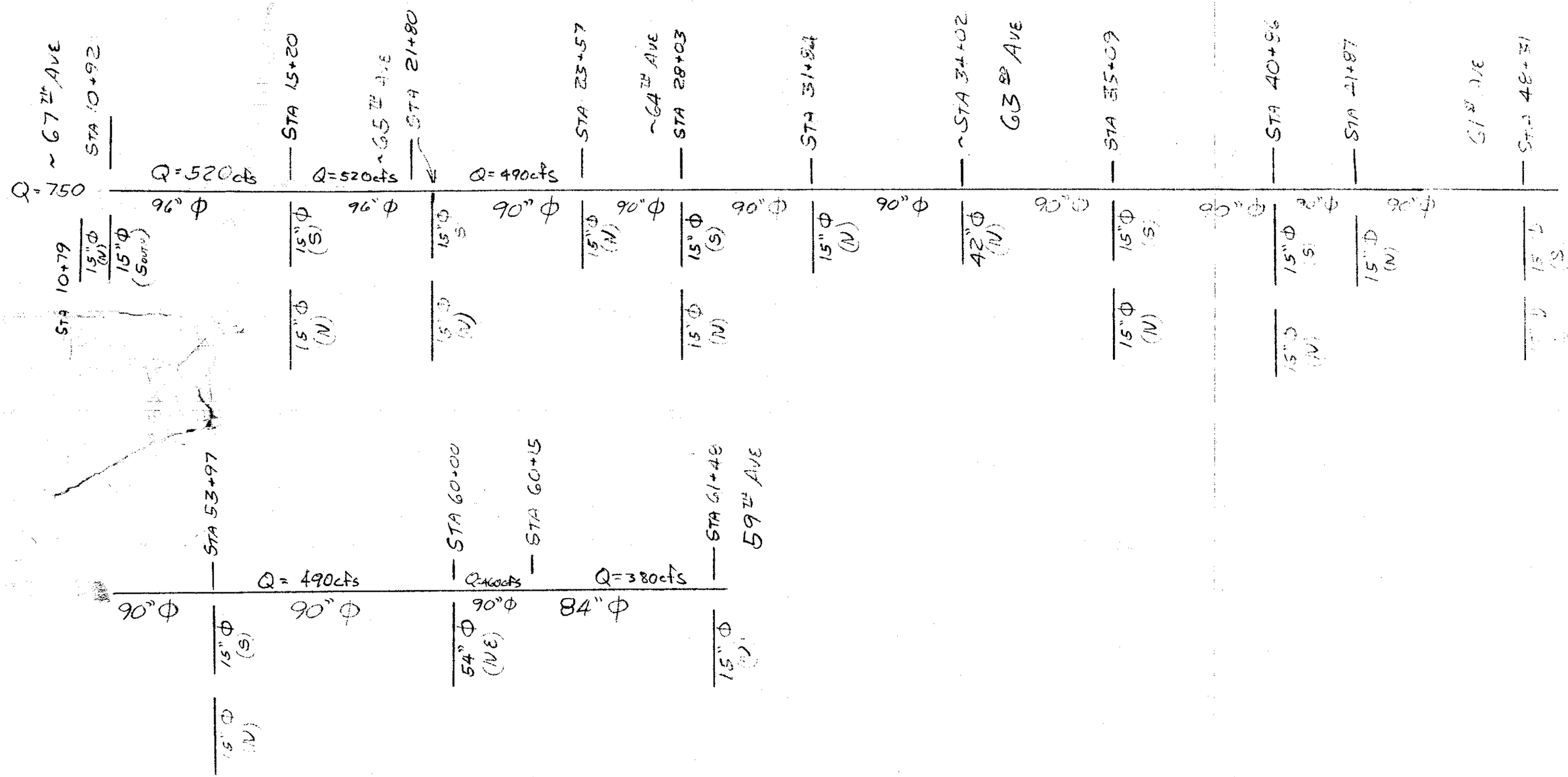
STA 223+36 ~ 67TH AVE — Q=520 — 96"Φ — 24"Φ (SOUTH) & Q=250 72"Φ N.E.

STA 225+10

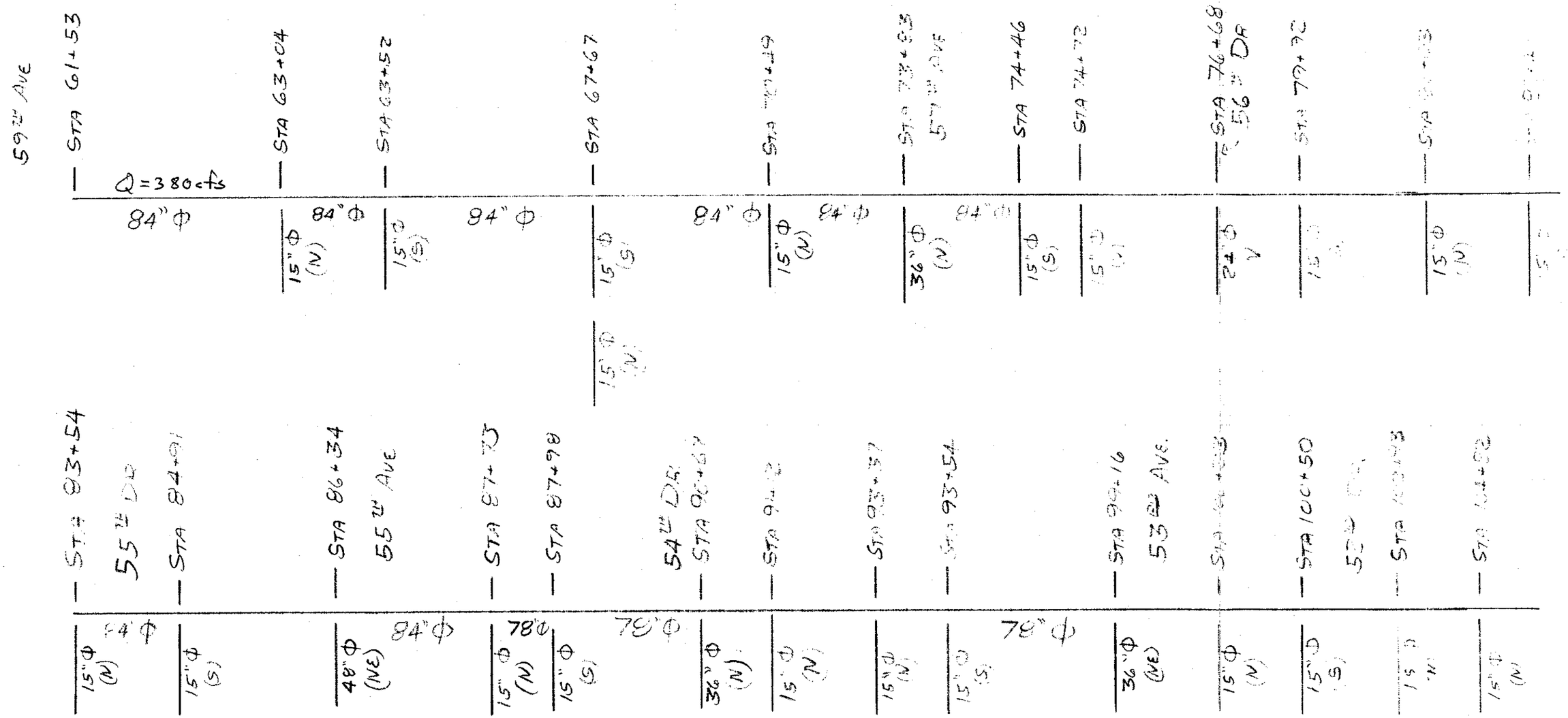
CH2M HILL SUBJECT MARYVALE ADMS BY JRG PROJECT NO. 132586.01 DATE 17 APR SHT 2 OF 4

OLIVE AVE STORM DRAIN CAPACITY

INFORMATION FROM: "P889005 OLIVE AVE. 67TH AVE TO 59TH AVE IMPROVEMENT PLANS" DTD APR '91 & CAPACITY CALCS RECEIVED FROM [illegible] PATEL.



OLIVE AVE STORM DRAIN CAPACITY
INFO FROM: # 889011 OLIVE AVE STORM DRAIN 69TH AVE TO 51ST AVE.
& CAPACITY CALCS RECEIVED FROM [illegible].



Q=380 BETWEEN 51ST AVE & 59TH AVE

STA 105+50
STA 106+70
STA 107+
STA 109+95
STA 110+70
STA 112+50
STA 112+73
STA 113+90
51st AVE
STA 114+27
STA 114+95
15" Φ (N)
15" Φ (S)
15" Φ (N)
15" Φ (N)
15" Φ (N)
66" Φ (N)
24" Φ (S)
15" Φ (N)
24" Φ (S)
15" Φ (S)
78" Φ
78" Φ
60" Φ
60" Φ
60" Φ
Q = 380
Q = 350

CH2M HILL

Maryvale ADMS

SHEET NO. ____ of ____ DATE 8/96

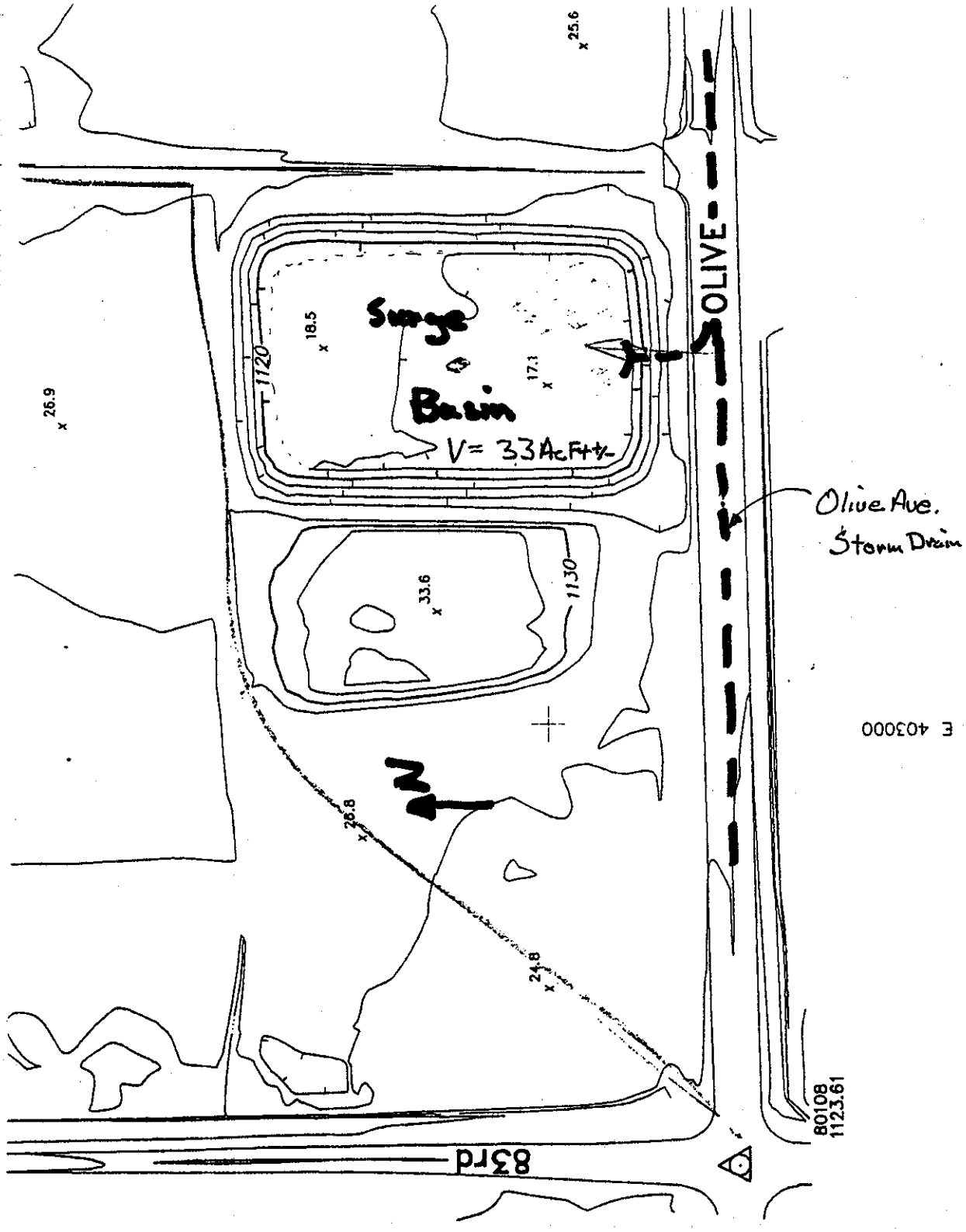
PROJECT NO. 132586

Olive Avenue Storm Drain: Surge Basin @ 83RD Ave

- Bottom Elev = 1118 +/- A = 3.1 Ac +/-

Top Elev = 1126 +/- A = 5.1 Ac +/-

Vol = 32.8 AcFt +/-



CH2M HILL

Manyvale ADMS

SHEET NO. ____ of ____ DATE 8/96

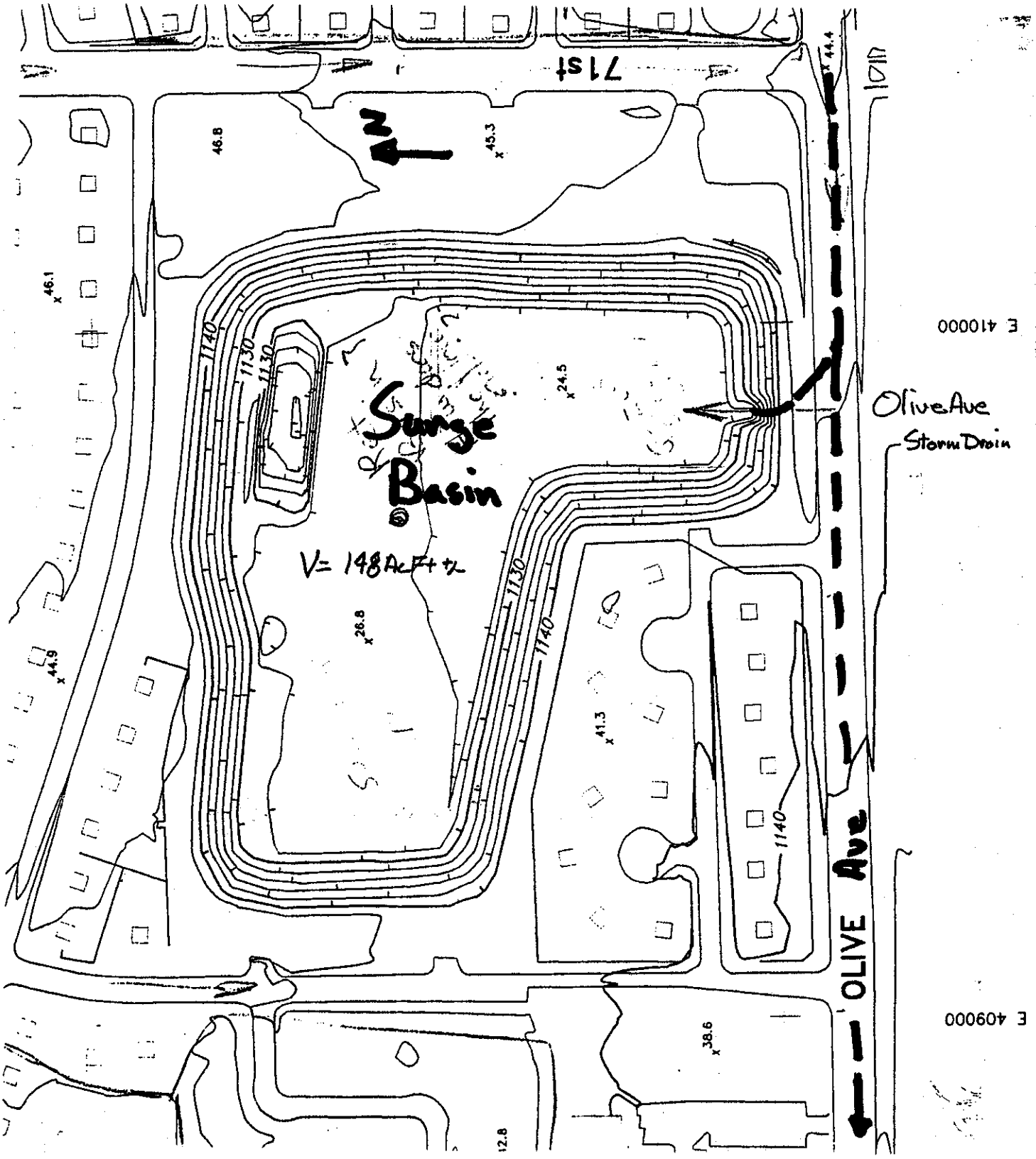
PROJECT NO. 132586

Olive Avenue Storm Drain / Surge Basin @ 75th Ave

Bot. Elev = 1126+/- A = 7.4 Ac

Top Elev = 1140+/- A = 13.7 Ac

Vol ≅ 148 Ac Ft



City of Phoenix Storm Drain Systems

CAPACITIES: EXISTING STORM DRAINS

Maryvale ADMS

Wood, Patel & Associates, Inc.

Date: 08/22/96
By: JGT/AJR
Checked:
Project No. 94154

INTERSECTION PARAMETERS

Manning's 0.013

Location			Pipe Sizes		Pipe Slopes		Storm Drain Capacity	
Plan Log No.	E-W Street	N-S Street	West (inches)	South (inches)	West (ft/ft)	South (ft/ft)	West (cfs)	South (cfs)
116	Bethany Home	27th Ave.		57		0.0041	0	145
180	Bethany Home	31st Ave.		60		0.0032	0	147
112,121	Bethany Home	35th Ave.		42		0.0030	0	55
111	Bethany Home	39th Ave.	36		0.0021		31	0
182	Bethany Home	39th Ave.		72		0.0015	0	164
22,110	Bethany Home	43rd Ave.		54		0.0026	0	100
125M	Cactus Road	67th Ave	78		0.0026		268	
125M	Cactus Road	71st Ave	84		0.0020		286	
125M	Cactus Road	75th Ave	108		0.0027		650	
125M	Cactus Road	79th Ave	114		0.0027		751	
125M	Cactus Road	83rd Ave	120		0.0016		664	
125M	Cactus Road	87th Ave	120		0.0028		877	
125M	Cactus Road	91st Ave	120		0.0013		599	
29	Camelback	27th Ave.		57		0.0045	0	152
6	Camelback	31st Ave.		66		0.0020	0	150
10	Camelback	35th Ave.		36		0.0048	0	46
15	Camelback	39th Ave.		72		0.0040	0	268
	Camelback	51st Ave.	48	84	0.0020	0.0015	64	247
26	Camelback	59th Ave.		24		0.0040	0	14
19	Camelback	43rd Ave.		60		0.0040	0	165
	Campbell	51st Ave.		36		0.0032		38
135	Dunlap	31st Ave.	33		0.0019		23	0
134	Dunlap	35th Ave.		42		0.0029	0	54
140	Dunlap	43rd Ave.		48		0.0032	0	81
215	Glendale	31st Ave.		54		0.0045	0	132
126	Glendale	35th Ave.		42		0.0040	0	64
120	Glendale	39th Ave.	33		0.0027		27	0
209	Glendale	39th Ave.	33	72		0.0057		
119	Glendale	43rd Ave.		54		0.0034	0	115
2,34	Indian School	31st Ave.		72		0.0035	0	251
8	Indian School	35th Ave.	24	48		0.0027	0	75
38	Indian School	39th Ave.	36		0.0013		24	0
16,36	Indian School	43rd Ave.		63		0.0009	0	89
	Indian School	47th Ave.	42		0.0020		45	
126MB	Indian School	51st Ave.		72		0.0024	0	207
71,30	Indian School	55th Ave.	42		0.0037		61	0
31	Indian School	59th Ave.		78		0.0047	0	359
67	Indian School	63rd Ave.	24		0.0131		26	0
97,167,20	Indian School	67th Ave.		66		0.0027	0	174
	Indian School	71st Ave.	42		0.0024		49	0
52,55,106	Indian School	75th Ave.		60		0.0038	0	161
55	Indian School	75th Ave.	18		0.0105	(a)	11	0
193	Indian School	78th Ave.	36		0.0030		37	0
191	Indian School	79th Dr.	36		0.0036		40	0
57	Indian School	83rd Ave.		72		0.0022	0	199
196	Indian School	83rd Ave.		72		0.0022	0	199
59,200	Indian School	87th Ave.	36		0.0024		33	0
199	Indian School	91st Ave.		72		0.0015	0	162
13	Indian School	39th Ave.		78		0.0040	0	332

CAPACITIES: EXISTING STORM DRAINS

Maryvale ADMS

Wood, Patel & Associates, Inc.

Date: 08/22/96
By: JGT/AJR
Checked:
Project No. 94154

INTERSECTION PARAMETERS

Manning's 0.013

Location			Pipe Sizes		Pipe Slopes		Storm Drain Capacity	
Plan Log No.	E-W Street	N-S Street	West (inches)	South (inches)	West (ft/ft)	South (ft/ft)	West (cfs)	South (cfs)
184,176	McDowell	31st Ave.		84		0.0008	0	182
77,79	McDowell	35th Ave.		51		0.0010	0	53
173	McDowell	39th Ave.		84		0.0025	0	319
98,101	McDowell	43rd Ave.		69		0.0030	0	207
92	McDowell	51st Ave.		84		0.0020	0	286
190	McDowell	59th Ave.		90		0.0034	0	448
194	McDowell	63rd Ave.	42		0.0023		48	0
163	McDowell	67th Ave.		90		0.0048	0	532
159	McDowell	75th Ave.		90		0.0037	0	467
149	McDowell	83rd Ave.		90		0.0010	0	243
	McDowell	91st Ave.		90		0.0020		380
218	Northern	27th Ave.		54		0.0028	0	104
213	Northern	31st Ave.		42		0.0037	0	61
129	Northern	35th Ave.		48		0.0032	0	81
220	Northern	39th Ave.	27		0.0035		18	0
137	Northern	43rd Ave.		54		0.0034	0	115
131,132,2	Northern	27th Ave.		54		0.0028	0	104
217	Northern	31st Ave.	42		0.0050	(a)	71	0
211	Northern	39th Ave.		60		0.0026	0	133
129M	Peoria	91st Ave.	72		0.0012		147	0
130M	Peoria	83rd Ave.	48		0.0045		96	0
75	Thomas	27th Ave.		66		0.0023	0	160
105	Thomas	27th Ave.	36	59	0.0024	0.0036 (a)	33	149
104	Thomas	31st Ave.	18		0.0061		8	0
178	Thomas	31st Ave.		66		0.0050	0	237
81	Thomas	35th Ave.		48		0.0019	0	63
109	Thomas	35th Ave.	27	48	0.0040	(a)	20	0
175	Thomas	39th Ave.		84		0.0020	0	286
96	Thomas	43rd Ave.		69		0.0048	0	262
87	Thomas	51st Ave.	24		0.0049	(a)	16	0
94	Thomas	51st Ave.		72		0.0044	0	281
86	Thomas	55th Ave.		36		0.0015	0	26
88	Thomas	59th Ave.		84		0.0037	0	389
160,165	Thomas	67th Ave.		78		0.0021	0	240
162	Thomas	71st Ave.	54		0.0021		91	0
157,161	Thomas	75th Ave.		81		0.0032	0	328
151,153	Thomas	83rd Ave.		94		0.0030	0	472
148	Thomas	91st Ave.		84		0.0026	0	326

Notes: (a) Flow is from west to east.
(?) Pipe slope is not readily available. Assume pipe slope the same as street slope for estimated capaci

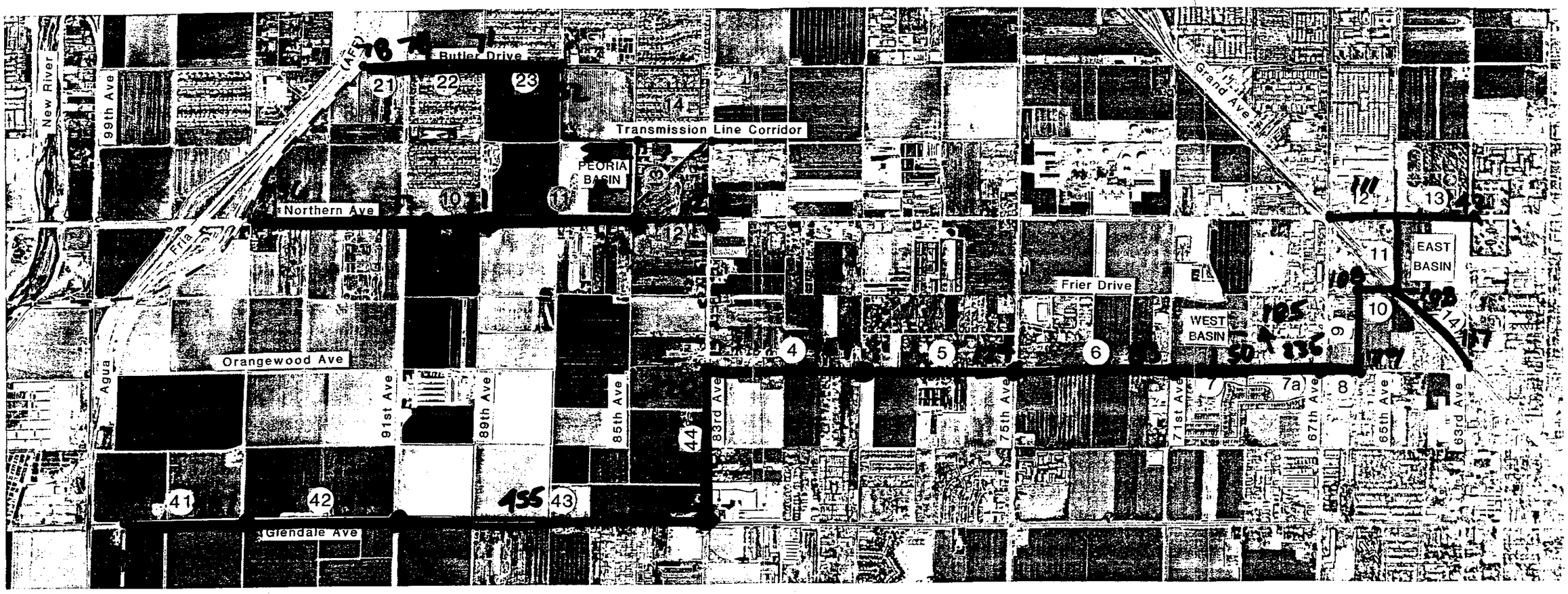
q:\mvladms\pipe.wq2

Northern/Orangewood Storm Drain System

NORTHERN/ORANGEWOOD STORM DRAIN PROJECT

CONCEPT/ROUTING STUDY

Contract FCD 94-12



LEGEND

455 Storm Drain Capacity (cfs)

Existing

- Storm Drain Pipe
- AFF Outlet Channel

NOTE: See Pertinent Table II for Pipe #'s, Sizes and Flows.

Proposed

- Storm Drain Pipe
- Detention/Surge Basin
- Future Outfall Channel
- 3 Butler Drive Storm Drain Pipe #
- 10 Northern Avenue Storm Drain Pipe #
- 44 Glendale Avenue Storm Drain Pipe #

½ Mile

SELECTED ALIGNMENTS

BUTLER AVENUE, NORTHERN AVENUE AND GLENDALE AVENUE ALIGNMENTS

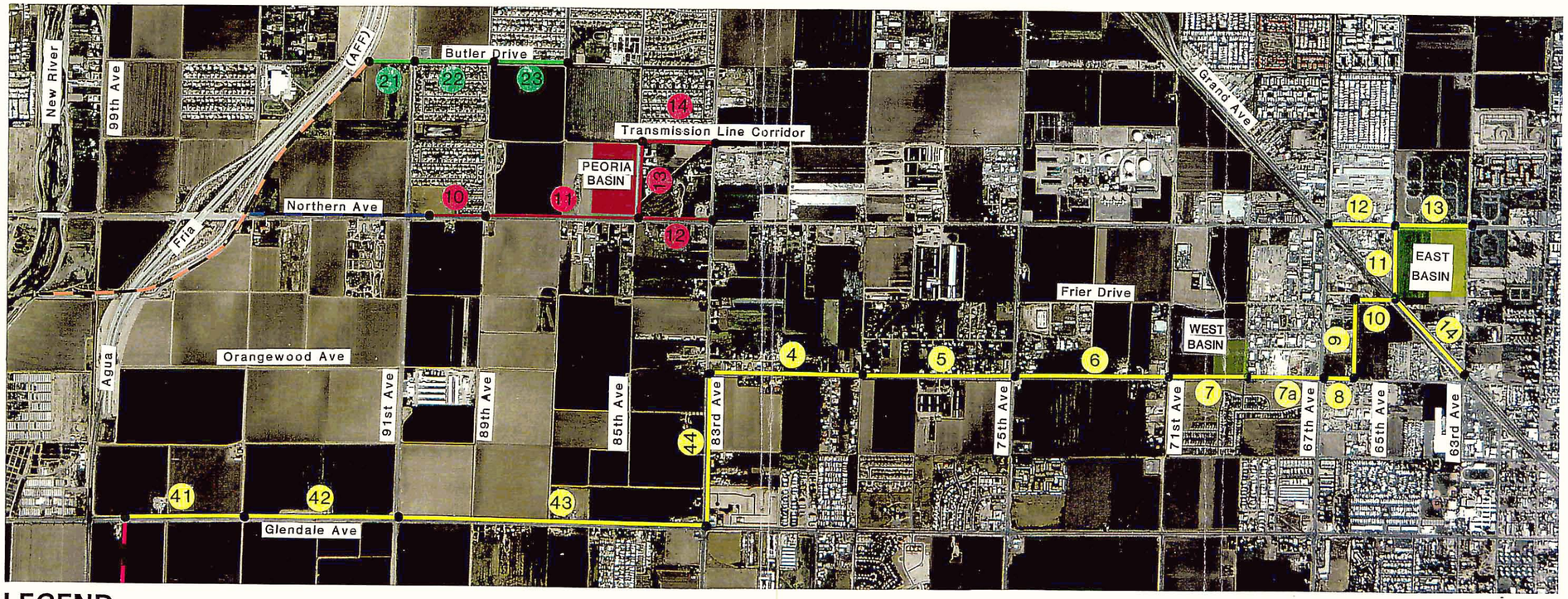
Wood, Patel & Associates, Inc.

PLATE II-3A

NORTHERN/ORANGEWOOD STORM DRAIN PROJECT

CONCEPT/ROUTING STUDY

Contract FCD 94-12



LEGEND

Existing	Proposed
Storm Drain Pipe	Storm Drain Pipe
AFF Outlet Channel	Detention/Surge Basin
	Future Outfall Channel
	3 Butler Drive Storm Drain Pipe #
	10 Northern Avenue Storm Drain Pipe #
	44 Glendale Avenue Storm Drain Pipe #

NOTE: See Pertinent Table II for Pipe #'s, Sizes and Flows.

N

½ Mile

SELECTED ALIGNMENTS

BUTLER AVENUE, NORTHERN AVENUE AND GLENDALE AVENUE ALIGNMENTS

Wood, Patel & Associates, Inc.

PLATE II-3A

TABLE 8B
Glendale Avenue Alignment with East Basin
Partial use (50 cfs bypass) of West Basin

ORANGEWOOD AVENUE STORM DRAIN ALIGNMENT
(SEE PLATE II-1)

11-Apr-96

Manning's "n"= 0.013

02:18 PM

	STORM SEWER LINE STATION LOCATION	PIPE #	STATION	PIPE DIA (in)		REACH LENGTH (ft)	SLOPE OF REACH (ft/ft)	INVERT ELEV (ft)	DESIGN Q (cfs)	PREL GRADE LINE ELEV ENERGY	PREL GRADE LINE ELEV HYDRAULIC	CHECK D+INV +.2vel hd	(a)	(b)	CONTROL HGL	CONTROL EGL	NATURAL GROUND ELEVATION	CHECK NAT GRND VS. EGL (c)	DEPTH TO INVERT	PIPE UNIT PRICE $	PIPE COST $
	Glendale Ave Alignment																				
1	AFF Cha Outlet @ 98th Ave.		0					1052.0		1060.00	1060.00				1060.00	***1060.00***	***1067***	ok	15.0		
		41		**102**	U	2100	0.0019													294	616963
2	95 th Ave		2100					1056.0	**487**	1065.46	1064.32	1064.73	-0.4	ok	1064.73	***1065.87***	***1068***	ok	12.0		
		42,43		**96**	U	8000	0.0034													276	2204007
3	83rd Ave @ Glendale		10100					1083.0	**455**	1085.69	1084.42	1091.25	-6.8	ocf	1091.25	***1092.53***	***1095***	ok	12.0		
		44		**66**	U	2640	0.0036													145	381784
4	83rd Ave @ Orangewood		12740					1092.5	**220**	1097.29	1095.96	1098.27	-2.3	ocf	1098.27	***1099.60***	***1106***	ok	13.5		
	Orangewood Alignment	**4**		**60**	R	2640	0.0019													110	290367
5	79th Ave		15380					1097.5	**159**	1106.98	1105.96	1102.70	3.3	ok	1105.96	***1106.98***	***1114***	ok	16.5		
		5		**54**	U	2640	0.0021													119	313720
6	75th Ave		18020					1103.0	**124**	1117.53	1116.59	1107.69	8.9	ok	1116.59	***1117.53***	***1121***	ok	18.0		
		6		**54**	U	2640	0.0019													119	313720
7	71st Ave		20660					1108.0	**83**	1121.77	1121.35	1112.58	8.8	ok	1121.35	***1121.77***	***1127***	ok	19.0		
		7		**48**	U	1320	0.0038													110	145842
	69th Ave		21980					1113.0	**50**	1123.24	1122.99	1117.05	5.9	ok	1122.99	***1123.24***	***1130***	ok	17.0		
		7a		**72**	U	1320	0.0038													157	207305
8	67th Ave		21980					1118.0	**235**	1128.32	1127.25	1124.21	3.0	ok	1127.25	***1128.32***	***1130***	ok	12.0		
		8		**72**	R	660	0.0015													132	87153
9	66th Ave		22640					1119.0	**179**	1129.17	1128.55	1125.12	3.4	ok	1128.55	***1129.17***	***1138***	ok	19.0		
	Alignment as Noted	**9**		**60**	R	1320	0.0038													110	145184
*	Along 66th to Frier		23960					1124.0	**108**	1131.37	1130.90	1129.09	1.8	ok	1130.90	***1131.37***	***1140***	ok	16.0		
		10		**54**	U	660	0.0030													119	78430
*	Along Frier to Grand		24620					1126.0	**108**	1133.74	1133.03	1130.64	2.4	ok	1133.03	***1133.74***	***1142***	ok	16.0		
																				TOTAL	$4,784,475
																STORM DRAIN SYSTEM WITH CONTINGENCY				***40 %***	***$6,698,265***
	City of Glendale																				
		11		**48**	R	1320	0.0038													91	120175
	Along 65th to Northern		25940					1131.0	**71**	1136.83	1136.33	1135.10	1.2	ok	1136.33	***1136.83***	***1145***	ok	14.0		
		12		**54**	U	1320	0.0038													119	156860
	Northern 67th to 65th		27260					1136.0	**111**	1141.42	1140.67	1140.65	0.0	ok	1140.67	***1141.42***	***1143***	ok	7.0		
		13		**36**	R	1320	0.0008													83	109841
	Northern 63rd to 65th		1320					1132.0	**42**	1142.19	1141.64	1135.11	6.5	ok	1141.64	***1142.19***	***1147***	ok	15.0		
																				TOTAL	$386,876
																STORM DRAIN SYSTEM WITH CONTINGENCY				***40 %***	***$541,627***
	ADOT (Grand Avenue)																				
		14		**60**	U	1880	0.0021													132	248554
	Grand Ave 63rd to 65th		1880					1130.0	**117**	1137.46	1136.91	1135.11	1.8	ok	1136.91	***1137.46***	***1145***	ok	15.0		
																STORM DRAIN SYSTEM WITH CONTINGENCY				***TOTAL***	$248,554
																				40 %	***$347,976***

Note: R = Rural Section
U = Urban Section

REVISED COSTS OF EAST BASIN:

DESCRIPTION	ITEM	UNIT	UNIT COST	COST
39 AC(+/-) BASIN	LAND	39	$56,400	$2,199,600
BASIN EXCAVATION	CY	650,000	$3	$1,950,000

BASIN TOTAL ***$4,149,600***

COSTS OF STORM DRAIN RIGHT OF WAY PURCHASE:

DESCRIPTION	AREA SF	UNIT COST	COST
Frier Dr - 65th Ave to 66th Ave	9,900	$1.03	$10,227
66th Ave - Frier to Orangewoo	19,800	$1.03	$20,453
66th Ave - Northern to Frier Dr	26,400	$1.03	$27,271

RIGHT OF WAY TOTAL ***$57,951***

COST OF MODIFYING AFF OUTFALL CHANNEL

DESCRIPTION	ITEM	UNIT	UNIT COST	COST
Glendale Ave to	Lining SF	60,768	$3	$182,304
Bethany Home Road	Excav CY	24,906	$3	$74,718
AFF CHANNEL MODIFICATION TOTAL				***$257,022***

COST OF WEST BASIN PER PURCHASE PRICE:

DESCRIPTION	ITEM	UNIT	UNIT COST	COST
9.4 AC BASIN	LAND	9.4	$42,253	$397,180
BASIN EXCAVATION	CY	114,000	$3	$342,000

BASIN TOTAL ***$739,000***

STORM DRAIN W/CONTINGENCIES	***$7,588,000***
BASIN, R/W AND AFF CHANNEL TOTAL	***$5,204,000***
GRAND TOTAL	***$12,792,000***

Only major friction losses have been considered in the computation of the hydraulic grade line. Minor losses have been ignored.
(a) This column depicts the difference between the calculated hydraulic grade & the elevation of (top of pipe + 0.2 v^2/2g)
(b) If HGL is significantly lower than the top of pipe elevation, open channel flow may exist, "ocf" statement then appears here.
(c) If natural ground is lower than EGL, "pb" statement appears here

TABLE II-2

Option B

Peoria Watershed Storm Drain System

Peoria Watershed Storm Drain Alignment (SEE PLATE II-3)

Northern Avenue; 83rd Avenue to the AFF Channel;Butler;Peoria Laterals

08-Apr-96
05:02 PM

Manning's "n"= 0.013

STORM SEWER LINE STATION LOCATION	PIPE #	STORM SEWER STATION	PIPE DIA (in)		REACH LENGTH (ft)	SLOPE OF REACH (ft/ft)	INVERT ELEV (ft)	DESIGN Q (cfs)	PREL GRADE LINE ELEV ENERGY	PREL GRADE LINE ELEV HYDRAULIC	CHECK D+INV +.2 v^2/2g	(a)	(b)	CONTROL HGL	CONTROL EGL	NATURAL GROUND ELEVATION	(c)	DEPTH TO INVERT	PIPE UNIT PRICE $	PIPE COST $
Northern Ave Alignment																				
@ AFF Pipe		-251					1079.2		1083.70	1083.70				1083.70	***1083.70***	***1088.0***	ok	8.8		
			60	U	1551	0.0007													EXISTING	0
93rd Ave (13+00)		1300					1080.2	36	1084.05	1083.99	1085.21	-1.2	ocf	1085.21	***1085.26***	***1094.0***	ok	13.8		
			60	U	1160	0.0006													EXISTING	0
91st Ave (24+60)		2460					1080.9	33	1084.22	1084.18	1085.91	-1.7	ocf	1085.91	***1085.95***	***1095.5***	ok	14.6		
			60	U	14	0.1643													EXISTING	0
@ Sta (24+74)		2474					1083.2	33	1084.23	1084.18	1088.21	-4.0	ocf	1088.21	***1088.25***	***1095.6***	ok	12.3		
			60	U	26	0.0077													EXISTING	0
@ Sta (25+00)		2500					1083.4	33	1084.23	1084.19	1088.41	-4.2	ocf	1088.41	***1088.45***	***1095.6***	ok	12.2		
			60	U	75	0.0080													EXISTING	0
@ Sta (25+75)		2575					1084.0	33	1084.24	1084.20	1089.01	-4.8	ocf	1089.01	***1089.05***	***1096.0***	ok	12.0		
			60	U	225	0.0007													EXISTING	0
@ Sta (28+00)		2800					1084.2	33	1084.28	1084.23	1089.17	-4.9	ocf	1089.17	***1089.21***	***1096.0***	ok	11.8		
	10		27	U	1020	0.0005													83	85056
91st Ave to 89th Ave		3820					1084.7	21	1089.32	1088.89	1087.01	1.9	ok	1088.89	***1089.32***	***1098.0***	ok	13.3		
	11		27	U	2640	0.0005													83	220145
89th Ave to 85th Ave		6460					1086.0	12	1092.96	1092.82	1088.27	4.6	ok	1092.82	***1092.96***	***1096.0***	ok	10.0		
	12		72	U	1320	0.0005													157	207305
85th Ave to 83rd Ave		7780					1086.7	214	1097.07	1096.18	1092.83	3.4	ok	1096.18	***1097.07***	***1102.0***	ok	15.3		

STORM DRAIN SYSTEM WITH CONTINGENCY — *TOTAL* $512,507; 40 % ***$717,510***

Peoria Laterals																				
@ Northern & 85th Ave							1086.0	12.0	1093.0	1092.8	1088.3	4.6	ok	1092.8	1093.0	1096.0	ok	10.0		
	13		24	R	1320	0.0064													69	91739
85th, Northern to Elec. Corridor		1320					1094.5	19	1102.63	1102.06	1096.61	5.4	ok	1102.06	***1102.63***	***1106.0***	ok	11.5		
	14		66	R	1320	0.0010													121	159725
Elec.Corridor, 83rd to 85th		2640					1095.8	132	1104.57	1104.09	1101.40	2.7	ok	1104.09	***1104.57***	***1106.0***	ok	10.2		

STORM DRAIN SYSTEM WITH CONTINGENCY — *TOTAL* $251,465; 40 % ***$352,050***

Butler Drive Alignment																				
@ AFF Channel		0					1089.0	78	1092.50	1092.50				1092.50	***1092.50***	***1102.0***	ok	13.0		
	21		48	R	840	0.0065													91	76475
AFF to 91st Ave		840					1094.5	78	1095.56	1094.96	1098.62	-3.7	ocf	1098.62	***1099.22***	***1102.8***	ok	8.3		
	22		42	U	1320	0.0020													105	138822
91st Ave to 89th Ave		2160					1097.1	71	1102.34	1101.50	1100.77	0.7	ok	1101.50	***1102.34***	***1105.8***	ok	8.7		
	23		36	U	1100	0.0020													100	109867
89th Ave to 87th Ave		3260					1099.3	32	1104.33	1104.01	1102.40	1.6	ok	1104.01	***1104.33***	***1107.0***	ok	7.7		

Note: R = Rural Section
U = Urban Section

STORM DRAIN SYSTEM WITH CONTINGENCY — *TOTAL* $325,164; 40 % ***$455,230***

DETENTION BASIN

DESCRIPTION	ITEM	UNIT	UNIT COST	COST
18AC (+/-) PEORIA BASIN	LAND	23	$27,437	$630,502
EXCAVATION	CY	225,000	$3	$675,000
BASIN TOTAL				***$1,305,502***

COST OF RIGHT OF WAY PURCHASE

DESCRIPTION	AREA SF	UNIT COST	COST
Butler, 91st to AFF	41,265	$0.37	$15,326
Elec Corridor	52,800	$0.37	$19,536
RIGHT OF WAY TOTAL			***$35,000***

STORM DRAIN W/CONTINGENCIES	***$1,525,000***
BASIN AND RIGHT OF WAY TOTAL	***$1,340,502***
GRAND TOTAL	***$2,865,502***

Only major friction losses have been considered in the computation of the hydraulic grade line. Minor losses have been ignored.
(a) This column depicts the diffference between the calculated hydraulic grade & the elevation of (top of pipe + 0.2 v^2/2g)
(b) If HGL is significantly lower than the top of pipe elevation, open channel flow may exist, "ocf" statement is appears here.
(c) If natural ground is lower than EGL, "pb" statement appears here.

Appendix I: Cumulative Area Computations

Cumulative Area Computations

Computational Methodology

Background: When hydrographs generated from diverts are combined, HEC-1 requires a drainage area specified on the HC record. This area is used to compute an interpolated hydrograph for the "combined hydrograph," based on the data given in the JD records (HEC,1990).

Premise: For this study, drainage areas have been computed for each combine node based on the total area of all the sub-basins located upstream of the combine node

Procedure:. The cumulative area spreadsheet was used to specify the upstream sub-basins and compute the total upstream drainage area.

Input Parameters: Sub-basin areas as computed using GIS software.

Main Assumptions:

- The drainage area specified for each of the combine nodes represents the maximum drainage area that may contribute flow to the combine node. It is recognized that a combine node may only receive a small fraction or none of the runoff hydrograph for some of the upstream sub-basins, depending upon the magnitude of the rainfall event being modeled, street capacities, storm drain capacities, and other minor factors.

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THUNDERBIRD RD

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs											
		CTB1		CTB75		CTB2		CTB-83		C11-31		CADOT1	
2-31	0.2878					1	0.288	1	0.288	1	0.288	1	0.288
10-31	0.1140											1	0.114
11-31	0.9972					1	0.997	1	0.997	1	0.997	1	0.997
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020
13-31	1.0029												
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249
17-32	0.2844												
18-32	0.9053												
Total Contributing Area(mi^2)			1.269		1.269		2.554		2.554		2.554		2.668

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**

Checked: **D. Dust**

Project No.: **132586**

CACTUS RD

Sub-Basin ID	Sub-Basin Area (mi²)		HEC-1 Combine Node IDs																										
			CCR1		CCR67		C67A		CCR2		C13-31		C75A		CCR75		CCR3		C14-31		C83A		CCR83			
2-31	0.2878															1	0.288	1	0.288	1	0.288	1	0.288		
10-31	0.1140																								
11-31	0.9972															1	0.997	1	0.997	1	0.997	1	0.997		
12-31	1.0197							1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020		
13-31	1.0029							1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
14-31	1.0078															1	1.008	1	1.008	1	1.008	1	1.008		
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249		
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284		
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905		
Total Contributing Area(mi²)			1.439		1.439		1.439		3.462		3.462		3.462		3.462		5.755		5.755		5.755		5.755		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

CACTUS RD

Sub-Basin ID	Sub-Basin Area (mi^2)		HEC-1 Combine Node IDs																											
			C15-31		CCR4		CADOT3		CADOT2																					
2-31	0.2878	1	0.288	1	0.288	1	0.288	1	0.288																					
10-31	0.1140							1	0.114																					
11-31	0.9972	1	0.997	1	0.997	1	0.997	1	0.997																					
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020																					
13-31	1.0029	1	1.003	1	1.003	1	1.003	1	1.003																					
14-31	1.0078	1	1.008	1	1.008	1	1.008	1	1.008																					
15-31	0.9555	1	0.955	1	0.955	1	0.955	1	0.955																					
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249																					
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284																					
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905																					
19-32	0.9616					1	0.962																							
20-32	0.9882					1	0.988																							
21-32	0.3982					1	0.398																							
22-31E	0.5123					1	0.512																							
23-31	1.0057					1	1.006																							
24-31	1.0075					1	1.007																							
Total Contributing Area(mi^2)			6.710		6.710		11.583		6.824		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

PEORIA AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
			CPA51		CPA1		C20-32		C59A		CPA59		CPA2		C19-32		C67B		CPA67		CPA3		C24-31		
12-31	1.0197																			1	1.020	1	1.020		
13-31	1.0029																			1	1.003	1	1.003		
7-32	0.2495															1	0.249	1	0.249	1	0.249	1	0.249		
17-32	0.2844							1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284		
18-32	0.9053											1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905		
19-32	0.9616											1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962		
20-32	0.9882			1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988		
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398		
Total Contributing Area(mi^2)			0.398		1.386		1.386		1.671		1.671		3.538		3.538		3.787		3.787		5.810		5.810		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

PEORIA AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
		CPA75		C75B		CPA4		C23-31		CPA83		C83B		C2231E		C2231N		C2231W		CPA91					
2-31	0.2878					1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288				
11-31	0.9972					1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997				
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020				
13-31	1.0029	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003				
14-31	1.0078					1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008				
15-31	0.9555													1	0.955	1	0.955	1	0.955	1	0.955				
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249				
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284				
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905				
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962			1	0.962	1	0.962				
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988			1	0.988	1	0.988				
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398			1	0.398	1	0.398				
22-31E	0.5123													1	0.512	1	0.512	1	0.512	1	0.512				
22-31W	0.7658																	1	0.766	1	0.766				
23-31	1.0057													1	1.006			1	1.006	1	1.006				
24-31	1.0075													1	1.007			1	1.007	1	1.007				
Total Contributing Area(mi^2)			5.810		5.810		8.102		8.102		8.102		8.102		11.583		7.222		12.349		12.349		0.000		0.000

Wood/Patel

CH2M HILL

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By: **J. Geisbush**
Checked: **D. Dust**
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OLIVE AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
			COA1		COA43		COA2		C28-32		C51A		COA51		COA3		C29-32		COA59		C59B				
17-32	0.2844																	1	0.284	1	0.284				
20-32	0.9882													1	0.988	1	0.988	1	0.988	1	0.988				
21-32	0.3982					1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398				
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087				
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612				
28-32	0.9937					1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994				
29-32	0.9910													1	0.991	1	0.991	1	0.991	1	0.991				
Total Contributing Area(mi²)			0.699		0.699		2.091		2.091		2.091		2.091		4.070		4.070		4.354		4.354		0.000		0.000

Wood/Patel

CH2M HILL

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By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

OLIVE AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
			COA4		C30-32		COA67		C67C		COA5		C25-31		COA75		C75C		C2631S		C2631E		C2631N		
2-31	0.2878																	1	0.288	1	0.288	1	0.288		
11-31	0.9972																	1	0.997	1	0.997	1	0.997		
12-31	1.0197									1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020		
13-31	1.0029									1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
14-31	1.0078																	1	1.008	1	1.008	1	1.008		
7-32	0.2495					1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249		
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284		
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905		
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962		
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988		
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398		
23-31	1.0057																	1	1.006	1	1.006	1	1.006		
24-31	1.0075									1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007		
25-31	1.0030									1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
26-31E	0.4615																	1	0.462	1	0.462	1	0.462		
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
30-32	0.9588	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959		
Total Contributing Area(mi²)			7.180		7.180		7.429		7.429		11.463		11.463		11.463		11.463		15.223		15.223		15.223		0.000

Wood/Patel

CH2M HILL

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By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

OLIVE AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																											
			COA6		C2631W		COA83		COA7		C27-31		COA91		C91A		C28-31												
2-31	0.2878	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288												
11-31	0.9972	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997												
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020												
13-31	1.0029	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003												
14-31	1.0078	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008												
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249												
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284												
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905												
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962												
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988												
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398												
22-31E	0.5123							1	0.512	1	0.512	1	0.512	1	0.512	1	0.512												
22-31W	0.7658							1	0.766	1	0.766	1	0.766	1	0.766	1	0.766												
23-31	1.0057	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006												
24-31	1.0075	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007												
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003												
26-31E	0.4615	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462												
26-31W	0.5403	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540												
27-31	1.0125							1	1.013	1	1.013	1	1.013	1	1.013	1	1.013												
28-31	0.1406															1	0.141												
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087												
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612												
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994												
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991												
30-32	0.9588	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959												
Total Contributing Area(mi²)			15.763		15.763		15.763		18.053		18.053		18.053		18.053		18.194		0.000		0.000		0.000		0.000				

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

NORTHERN AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																									
		C35-32		CNA35		C35A		CNA1		C34-32		CNA43		C43B		CNA2		C33-32		CNA51		C51B			
21-32	0.3982															1	0.398	1	0.398	1	0.398	1	0.398		
26-32E	0.1068	1	0.107																						
26-32W	0.0866			1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122							1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937															1	0.994	1	0.994	1	0.994	1	0.994		
33-32	0.9926															1	0.993	1	0.993	1	0.993	1	0.993		
34-32	0.9938							1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987		
36-32	0.1135																								
Total Contributing Area(mi^2)			1.094		1.074		1.074		2.680		2.680		2.680		2.680		5.064		5.064		5.064		5.064		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

NORTHERN AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
			CNA3		C32-32		CNA59		C59C		CNA4		C31-32		CNA67		C67D		C3631E		CNA5		C3631W		CNA75
2-31	0.2878																	1	0.288	1	0.288	1	0.288	1	0.288
11-31	0.9972																	1	0.997	1	0.997	1	0.997	1	0.997
12-31	1.0197																	1	1.020	1	1.020	1	1.020	1	1.020
13-31	1.0029																	1	1.003	1	1.003	1	1.003	1	1.003
14-31	1.0078																	1	1.008	1	1.008	1	1.008	1	1.008
7-32	0.2495													1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249
17-32	0.2844					1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284
18-32	0.9053									1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905
19-32	0.9616									1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398
23-31	1.0057																	1	1.006	1	1.006	1	1.006	1	1.006
24-31	1.0075																	1	1.007	1	1.007	1	1.007	1	1.007
25-31	1.0030																	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615																	1	0.462	1	0.462	1	0.462	1	0.462
36-31E	0.4952																	1	0.495	1	0.495	1	0.495	1	0.495
36-31W	0.5046																			1	0.505	1	0.505	1	0.505
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588									1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959
31-32	0.9533									1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953
32-32	0.9908	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987
Total Contributing Area(mi²)			8.034		8.034		8.319		8.319		12.098		12.098		12.347		12.347		20.636		21.140		21.140		21.140

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

NORTHERN AVE

Sub-Basin ID	Sub-Basin Area (mi²)		HEC-1 Combine Node IDs																							
			CNA6		C35-31		CNA83		C83C		CNA7		C34-31		CNA91		C91B		C33-31							
2-31	0.2878	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288							
11-31	0.9972	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997							
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020							
13-31	1.0029	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003							
14-31	1.0078	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008							
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249							
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284							
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905							
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962							
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988							
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398							
22-31E	0.5123									1	0.512	1	0.512	1	0.512	1	0.512	1	0.512							
22-31W	0.7658									1	0.766	1	0.766	1	0.766	1	0.766	1	0.766							
23-31	1.0057	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006							
24-31	1.0075	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007							
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003							
26-31E	0.4615	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462							
26-31W	0.5403	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540							
27-31	1.0125									1	1.013	1	1.013	1	1.013	1	1.013	1	1.013							
28-31	0.1406																	1	0.141							
33-31	0.2570																	1	0.257							
34-31	0.9947									1	0.995	1	0.995	1	0.995	1	0.995	1	0.995							
35-31	1.0054	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005							
36-31E	0.4952	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495							
36-31W	0.5046	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505							
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087							
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612							
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994							
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991							
30-32	0.9588	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959							
31-32	0.9533	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953							
32-32	0.9908	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991							
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993							
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994							
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987							
Total Contributing Area(mi²)			22.686		22.686		22.686		22.686		25.971		25.971		25.971		25.971		26.369		0.000		0.000		0.000	

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)		HEC-1 Combine Node IDs																								
			CGA27		C27A		CGA1		C2-22		CGA35		C35B		CGA2		C3-22		CGA43		C43C						
1-22	0.2432	1	0.243	1	0.243	1	0.243	1	0.243																		
2-22	1.0042					1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004						
3-22	0.9979													1	0.998	1	0.998	1	0.998	1	0.998						
26-32E	0.1068					1	0.107	1	0.107																		
26-32W	0.0866					1	0.087			1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087						
27-32	0.6122													1	0.612	1	0.612	1	0.612	1	0.612						
34-32	0.9938													1	0.994	1	0.994	1	0.994	1	0.994						
35-32	0.9873					1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987						
36-32	0.1135	1	0.113	1	0.113	1	0.113	1	0.113																		
Total Contributing Area(mi^2)			0.357		0.357		2.542		2.455		2.078		2.078		4.682		4.682		4.682		4.682		0.000		0.000		

Wood/Patel

CH2M HILL

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By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs											
		CGA27	C27A	CGA1	C2-22	CGA35	C35B	CGA2	C3-22	CGA43	C43C		

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																					
		CGA3		C4-22		CGA51		C51C		CGA4		C5-22		CGA59		C59D		C6-22E		C622EA			
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004		
3-22	0.9979	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998		
4-22	1.0034	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
5-22	1.0152									1	1.015	1	1.015	1	1.015	1	1.015	1	1.015	1	1.015		
6-22E	0.4982																	1	0.498	1	0.498		
8-22E	0.5225																			1	0.522		
7-32	0.2495																	1	0.249	1	0.249		
17-32	0.2844													1	0.284	1	0.284	1	0.284	1	0.284		
18-32	0.9053																	1	0.905	1	0.905		
19-32	0.9616																	1	0.962	1	0.962		
20-32	0.9882									1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988		
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398		
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
29-32	0.9910									1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
30-32	0.9588																	1	0.959	1	0.959		
31-32	0.9533																	1	0.953	1	0.953		
32-32	0.9908									1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993		
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987		
Total Contributing Area(mi^2)			8.070		8.070		8.070		8.070		12.055		12.055		12.340		12.340		16.866		17.389		0.000		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
		CGA27		C27A		CGA1		C2-22		CGA35		C35B		CGA2		C3-22		CGA43		C43C					

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
		CGA5		C6-22W		CGA67		CGA6		C1-21		CGA75		C75D		CGA7		C2-21		CGA83		C83D			
1-21	0.9994							1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.999	1	0.999	1	0.999	1	0.999		
2-21	0.9947															1	0.995	1	0.995	1	0.995	1	0.995		
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.004	1	1.004	1	1.004	1	1.004		
3-22	0.9979	1	0.998	1	0.998	1	0.998	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.998	1	0.998	1	0.998	1	0.998		
4-22	1.0034	1	1.003	1	1.003	1	1.003	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.003	1	1.003	1	1.003	1	1.003		
5-22	1.0152	1	1.015	1	1.015	1	1.015	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.015	1	1.015	1	1.015	1	1.015		
6-22E	0.4982	1	0.498	1	0.498	1	0.498	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.498	1	0.498	1	0.498	1	0.498		
6-22W	0.4742	1	0.474	1	0.474	1	0.474	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.474	1	0.474	1	0.474	1	0.474		
8-22E	0.5225	1	0.522	1	0.522	1	0.522	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.522	1	0.522	1	0.522	1	0.522		
2-31	0.2878							1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.288	1	0.288	1	0.288	1	0.288		
11-31	0.9972							1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.997	1	0.997	1	0.997	1	0.997		
12-31	1.0197							1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.020	1	1.020	1	1.020	1	1.020		
13-31	1.0029							1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.003	1	1.003	1	1.003	1	1.003		
14-31	1.0078							1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.008	1	1.008	1	1.008	1	1.008		
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.249	1	0.249	1	0.249	1	0.249		
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.284	1	0.284	1	0.284	1	0.284		
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.905	1	0.905	1	0.905	1	0.905		
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.962	1	0.962	1	0.962	1	0.962		
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.988	1	0.988	1	0.988	1	0.988		
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.398	1	0.398	1	0.398	1	0.398		
23-31	1.0057							1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.006	1	1.006	1	1.006	1	1.006		
24-31	1.0075							1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.007	1	1.007	1	1.007	1	1.007		
25-31	1.0030							1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
26-31E	0.4615							1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.462	1	0.462	1	0.462	1	0.462		
26-31W	0.5403															1	0.540	1	0.540	1	0.540	1	0.540		
35-31	1.0054															1	1.005	1	1.005	1	1.005	1	1.005		
36-31E	0.4952							1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.495	1	0.495	1	0.495	1	0.495		
36-31W	0.5046							1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.505	1	0.505	1	0.505	1	0.505		
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.994	1	0.994	1	0.994	1	0.994		
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
30-32	0.9588	1	0.959	1	0.959	1	0.959	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.959	1	0.959	1	0.959	1	0.959		
31-32	0.9533	1	0.953	1	0.953	1	0.953	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.953	1	0.953	1	0.953	1	0.953		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**

Checked: **D. Dust**

Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																									
			CGA27		C27A		CGA1		C2-22		CGA35		C35B		CGA2		C3-22		CGA43		C43C						
32-32	0.9908	1	0.991	1	0.991	1	0.991	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.991	1	0.991	1	0.991	1	0.991				
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.993	1	0.993	1	0.993	1	0.993				
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.994	1	0.994	1	0.994	1	0.994				
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.987	1	0.987	1	0.987	1	0.987				
Total Contributing Area(mi^2)			17.863		17.863		17.863		27.655		27.655		27.655		27.655		30.196		30.196		30.196		30.196		0.000		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
		CGA27		C27A		CGA1		C2-22		CGA35		C35B		CGA2		C3-22		CGA43		C43C									

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
		CGA8		C3-21		CGA91		C91C		CGA9		C4-21		CGA99		C5-21													
1-21	0.9994	1	0.999	1	0.999	1	0.999	1	0.999	1	0.999	1	0.999	1	0.999	1	0.999												
2-21	0.9947	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995												
3-21	0.9808	1	0.981	1	0.981	1	0.981	1	0.981	1	0.981	1	0.981	1	0.981	1	0.981												
4-21	0.8740									1	0.874	1	0.874	1	0.874	1	0.874												
5-21	0.3455															1	0.345												
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004												
3-22	0.9979	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998												
4-22	1.0034	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003												
5-22	1.0152	1	1.015	1	1.015	1	1.015	1	1.015	1	1.015	1	1.015	1	1.015	1	1.015												
6-22E	0.4982	1	0.498	1	0.498	1	0.498	1	0.498	1	0.498	1	0.498	1	0.498	1	0.498												
6-22W	0.4742	1	0.474	1	0.474	1	0.474	1	0.474	1	0.474	1	0.474	1	0.474	1	0.474												
8-22E	0.5225	1	0.522	1	0.522	1	0.522	1	0.522	1	0.522	1	0.522	1	0.522	1	0.522												
2-31	0.2878	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288	1	0.288												
11-31	0.9972	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997	1	0.997												
12-31	1.0197	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020	1	1.020												
13-31	1.0029	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003												
14-31	1.0078	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008	1	1.008												
7-32	0.2495	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249	1	0.249												
17-32	0.2844	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284	1	0.284												
18-32	0.9053	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905	1	0.905												
19-32	0.9616	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962	1	0.962												
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988	1	0.988												
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398												
22-31E	0.5123	1	0.512	1	0.512	1	0.512	1	0.512	1	0.512	1	0.512	1	0.512	1	0.512												
22-31W	0.7658	1	0.766	1	0.766	1	0.766	1	0.766	1	0.766	1	0.766	1	0.766	1	0.766												
23-31	1.0057	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006												
24-31	1.0075	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007	1	1.007												
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003												
26-31E	0.4615	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462	1	0.462												
26-31W	0.5403	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540	1	0.540												
27-31	1.0125	1	1.013	1	1.013	1	1.013	1	1.013	1	1.013	1	1.013	1	1.013	1	1.013												
34-31	0.9947	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995	1	0.995												
35-31	1.0054	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005	1	1.005												
36-31E	0.4952	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495	1	0.495												

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

GLENDALE AVE

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
		CGA27		C27A		CGA1		C2-22		CGA35		C35B		CGA2		C3-22		CGA43		C43C					
36-31W	0.5046	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505	1	0.505								
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087								
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612								
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994								
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991								
30-32	0.9588	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959	1	0.959								
31-32	0.9533	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953	1	0.953								
32-32	0.9908	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991								
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993								
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994								
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987								
Total Contributing Area(mi^2)			34.462		34.462		34.462		34.462		35.336		35.336		35.336		35.681		0.000		0.000		0.000		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
		CBH27		CI1-22		C35C		CBH35		C10-22		CBH43		C43D		CBH1		C9-22		CBH51		C51D			
1-22	0.2432	1	0.243	1	0.243			1	0.243																
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004		
3-22	0.9979							1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998		
4-22	1.0034															1	1.003	1	1.003	1	1.003	1	1.003		
9-22	0.9903															1	0.990	1	0.990	1	0.990	1	0.990		
10-22	0.9911							1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
11-22	1.0055	1	1.006	1	1.006	1	1.006	1	1.006																
12-22	0.2447	1	0.245																						
21-32	0.3982															1	0.398	1	0.398	1	0.398	1	0.398		
26-32E	0.1068	1	0.107	1	0.107			1	0.107																
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122							1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937															1	0.994	1	0.994	1	0.994	1	0.994		
32-32	0.9908															1	0.991	1	0.991	1	0.991	1	0.991		
34-32	0.9938							1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987		
36-32	0.1135	1	0.113	1	0.113			1	0.113																
Total Contributing Area(mi²)			3.792		3.547		3.084		7.142		5.673		5.673		5.673		10.050		10.050		10.050		10.050		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
		CBH27		C11-22		C35C		CBH35		C10-22		CBH43		C43D		CBH1		C9-22		CBH51		C51D			

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
		C8-22E		C822E1		C8-22W		CBH59		C7-22		C67E		CBH2		CBH67		CBH3		C12-21		CBH75		C75E	
12-21	1.0030																	1	1.003	1	1.003	1	1.003	1	1.003
1-22	0.2432																	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.998	1	0.998	1	0.998	1	0.998	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.003	1	1.003	1	1.003	1	1.003	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.015	1	1.015	1	1.015	1	1.015	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982									1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742									1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699									1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.522	1	0.522	1	0.522	1	0.522	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936					1	0.494	1	0.494	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903			1	0.990	1	0.990	1	0.990					1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911			1	0.991	1	0.991	1	0.991					1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
2-31	0.2878																	1	0.2878	1	0.2878	1	0.2878	1	0.2878
11-31	0.9972																	1	0.9972	1	0.9972	1	0.9972	1	0.9972
12-31	1.0197																	1	1.0197	1	1.0197	1	1.0197	1	1.0197
13-31	1.0029																	1	1.0029	1	1.0029	1	1.0029	1	1.0029
14-31	1.0078																	1	1.0078	1	1.0078	1	1.0078	1	1.0078
7-32	0.2495									1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844									1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053									1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616									1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.988	1	0.988	1	0.988	1	0.988	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
23-31	1.0057																	1	1.0057	1	1.0057	1	1.0057	1	1.0057
24-31	1.0075																	1	1.0075	1	1.0075	1	1.0075	1	1.0075
25-31	1.0030																	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615																	1	0.4615	1	0.4615	1	0.4615	1	0.4615
36-31E	0.4952																	1	0.4952	1	0.4952	1	0.4952	1	0.4952
36-31W	0.5046																	1	0.5046	1	0.5046	1	0.5046	1	0.5046
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																					
		CBH27		C11-22		C35C		CBH35		C10-22		CBH43		C43D		CBH1		C9-22		CBH51		C51D	
30-32	0.9588									1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533									1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.991	1	0.991	1	0.991	1	0.991	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
Total Contributing Area(mi^2)			12.578		14.559		15.053		15.053		19.326		19.326		21.308		21.308		31.347		31.347		31.347

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
			CBH27		C11-22		C35C		CBH35		C10-22		CBH43		C43D		CBH1		C9-22		CBH51		C51D						

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																											
			CBH4		C11-21		CBH83		C83E		CBH5		C10-21		C91D		CBH6		C9-21		C99A		CBH7		C8-21E				
2-21	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947				
3-21	0.9808									1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808				
4-21	0.8740															1	0.874	1	0.874	1	0.874	1	0.874	1	0.874				
5-21	0.3455																					1	0.3455	1	0.3455				
8-21E	0.5087																					1	0.5087	1	0.5087				
9-21	0.9671															1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671				
10-21	0.9801									1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801				
11-21	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831				
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003				
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432				
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042				
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979				
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034				
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152				
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982				
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742				
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699				
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225				
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936				
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903				
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911				
11-22	1.0055									1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055				
12-22	0.2447									1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447				
2-31	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878				
11-31	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972				
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197				
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029				
14-31	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078				
15-31	0.9555									1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555				
22-31E	0.5123									1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123				
22-31W	0.7658									1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658				
27-31	1.0125									1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125				
34-31	0.9947									1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947				
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495				

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi²)		HEC-1 Combine Node IDs																							
			CBH27		C11-22		C35C		CBH35		C10-22		CBH43		C43D		CBH1		C9-22		CBH51		C51D			
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
23-31	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615
26-31W	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403
34-31	0.9947									1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947
35-31	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
Total Contributing Area(mi²)			34.871		34.871		34.871		34.871		43.317		43.317		43.317		45.158		45.158		45.158		46.012		46.012

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)		HEC-1 Combine Node IDs										
			CBH27	C11-22	C35C	CBH35	C10-22	CBH43	C43D	CBH1	C9-22	CBH51	C51D

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi^2)		HEC-1 Combine Node IDs	
			C8-21A	
2-21	0.9947	1	0.9947	
3-21	0.9808	1	0.9808	
4-21	0.8740	1	0.874	
5-21	0.3455	1	0.3455	
8-21E	0.5087	1	0.5087	
9-21	0.9671	1	0.9671	
10-21	0.9801	1	0.9801	
11-21	0.9831	1	0.9831	
12-21	1.0030	1	1.003	
1-22	0.2432	1	0.2432	
2-22	1.0042	1	1.0042	
3-22	0.9979	1	0.9979	
4-22	1.0034	1	1.0034	
5-22	1.0152	1	1.0152	
6-22E	0.4982	1	0.4982	
6-22W	0.4742	1	0.4742	
7-22	0.9699	1	0.9699	
8-22E	0.5225	1	0.5225	
8-22W	0.4936	1	0.4936	
9-22	0.9903	1	0.9903	
10-22	0.9911	1	0.9911	
11-22	1.0055	1	1.0055	
12-22	0.2447	1	0.2447	
2-31	0.2878	1	0.2878	
11-31	0.9972	1	0.9972	
12-31	1.0197	1	1.0197	
13-31	1.0029	1	1.0029	
14-31	1.0078	1	1.0078	
15-31	0.9555	1	0.9555	
22-31E	0.5123	1	0.5123	
22-31W	0.7658	1	0.7658	
27-31	1.0125	1	1.0125	
34-31	0.9947	1	0.9947	
7-32	0.2495	1	0.2495	

Wood/Patel

CH2M HILL

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By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

BETHANY HOME

Sub-Basin ID	Sub-Basin Area (mi²)		HEC-1 Combine Node IDs											
			CBH27	C11-22	C35C	CBH35	C10-22	CBH43	C43D	CBH1	C9-22	CBH51	C51D	
17-32	0.2844	1	0.2844											
18-32	0.9053	1	0.9053											
19-32	0.9616	1	0.9616											
20-32	0.9882	1	0.9882											
21-32	0.3982	1	0.3982											
23-31	1.0057	1	1.0057											
24-31	1.0075	1	1.0075											
25-31	1.0030	1	1.003											
26-31E	0.4615	1	0.4615											
26-31W	0.5403	1	0.5403											
34-31	0.9947	1	0.9947											
35-31	1.0054	1	1.0054											
36-31E	0.4952	1	0.4952											
36-31W	0.5046	1	0.5046											
26-32W	0.0866	1	0.0866											
27-32	0.6122	1	0.6122											
28-32	0.9937	1	0.9937											
29-32	0.9910	1	0.991											
30-32	0.9588	1	0.9588											
31-32	0.9533	1	0.9533											
32-32	0.9908	1	0.9908											
33-32	0.9926	1	0.9926											
34-32	0.9938	1	0.9938											
35-32	0.9873	1	0.9873											
Total Contributing Area(mi²)			46.012	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

CAMELBACK

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
		CCB27		CCB35		C43E		CCB43		C1622E		CCB1		CCB51		CCB2		C17-22		CCB59		C59E			
1-22	0.2432	1	0.243	1	0.243																				
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004		
3-22	0.9979			1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998		
4-22	1.0034							1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
5-22	1.0152															1	1.015	1	1.015	1	1.015	1	1.015		
8-22E	0.5225															1	0.522	1	0.522	1	0.522	1	0.522		
8-22W	0.4936															1	0.494	1	0.494	1	0.494	1	0.494		
9-22	0.9903							1	0.990	1	0.990	1	0.990	1	0.990	1	0.990	1	0.990	1	0.990	1	0.990		
10-22	0.9911			1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
11-22	1.0055	1	1.006	1	1.006																				
12-22	0.2447	1	0.245																						
13-22	0.2464	1	0.246																						
14-22	1.0000	1	1.000	1	1.000																				
15-22	0.9982			1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998			1	0.998				
16-22E	0.5130							1	0.513	1	0.513	1	0.513	1	0.513	1	0.513			1	0.513				
16-22W	0.4788											1	0.479	1	0.479	1	0.479			1	0.479				
17-22	1.0154															1	1.015	1	1.015	1	1.015	1	1.015		
20-32	0.9882															1	0.988	1	0.988	1	0.988	1	0.988		
21-32	0.3982							1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398		
26-32E	0.1068	1	0.107	1	0.107																				
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087		
27-32	0.6122			1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612		
28-32	0.9937							1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
29-32	0.9910															1	0.991	1	0.991	1	0.991	1	0.991		
32-32	0.9908															1	0.991	1	0.991	1	0.991	1	0.991		
33-32	0.9926							1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993		
34-32	0.9938			1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994		
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987		
36-32	0.1135	1	0.113	1	0.113																				
Total Contributing Area(mi²)			5.038		9.140		6.671		11.563		11.563		12.041		12.041		18.058		16.068		18.058		16.068		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

CAMELBACK

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																					
			C18-22		C67F		CCB3		CCB67		CCB4		C13-21		CCB75		C75F		C1421E		CCB5		CCB83		C83F
1-21	0.9994									1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994
2-21	0.9947																	1	0.9947	1	0.9947	1	0.9947	1	0.9947
11-21	0.9831																	1	0.9831	1	0.9831	1	0.9831	1	0.9831
12-21	1.0030									1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
13-21	1.0003									1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003
14-21E	0.4317																	1	0.4317	1	0.4317	1	0.4317	1	0.4317
14-21W	0.5615																			1	0.5615	1	0.5615	1	0.5615
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
15-22	0.9982					1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130					1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688
2-31	0.2878									1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878
11-31	0.9972									1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972
12-31	1.0197									1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197
13-31	1.0029									1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029
14-31	1.0078									1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
23-31	1.0057									1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057
24-31	1.0075									1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075
25-31	1.0030									1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615									1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615
26-31W	0.5403																	1	0.5403	1	0.5403	1	0.5403	1	0.5403
35-31	1.0054																	1	1.0054	1	1.0054	1	1.0054	1	1.0054
36-31E	0.4952									1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952
36-31W	0.5046									1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
			30		30		32		32		46		46		46		46		51		52		52		52
Total Contributing Area(mi^2)			23.771		23.771		25.282		25.282		37.078		37.078		37.078		37.078		41.039		41.594		41.594		41.594

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

CAMELBACK

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
		C15-21		C91E		C16-21		C99B		C17-21E		CCB6		CCB91		CCB7		CCB99		CCB8		CCB107		C18-21	
1-21	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994
2-21	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947
3-21	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808
4-21	0.8740					1	0.874	1	0.874	1	0.874					1	0.874	1	0.874	1	0.874	1	0.874	1	0.874
9-21	0.9671					1	0.9671	1	0.9671	1	0.9671					1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671
10-21	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801
11-21	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
13-21	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003
14-21E	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615
15-21	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114
17-21E	0.6990									1	0.699									1	0.699	1	0.699	1	0.699
17-21W	0.3063																					1	0.3063	1	0.3063
18-21	0.5426																							1	0.5426
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688
2-31	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878
11-31	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029
14-31	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078
15-31	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
22-31E	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123
22-31W	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658
23-31	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615
26-31W	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403
27-21	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046
34-31	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947
35-31	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
			60		60		62		62		63		60		60		62		62		63		64		65
Total Contributing Area(mi^2)			48.800		48.800		50.641		50.641		51.340		48.800		48.800		50.641		50.641		51.340		51.646		52.189

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THOMAS RD

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																									
		C2622N		C2722N		C2722A		C2822A		C2822N		C2822B		C2822C		C2922N		C2922A		C2922B		C3022N					
1-22	0.2432	1	0.243	1	0.243	1	0.243	1	0.243	1	0.243	1	0.243	1	0.2432	1	0.243	1	0.243	1	0.243	1	0.243				
2-22	1.0042	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.0042	1	1.004	1	1.004	1	1.004	1	1.004				
3-22	0.9979	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.9979	1	0.998	1	0.998	1	0.998	1	0.998				
4-22	1.0034	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.0034	1	1.003	1	1.003	1	1.003	1	1.003				
5-22	1.0152															1	1.015	1	1.015	1	1.015	1	1.015				
6-22E	0.4982																					1	0.498				
6-22W	0.4742																					1	0.474				
7-22	0.9699																					1	0.970				
8-22E	0.5225															1	0.522	1	0.522	1	0.522	1	0.522				
8-22W	0.4936															1	0.494	1	0.494	1	0.494	1	0.494				
9-22	0.9903	1	0.990	1	0.990	1	0.990	1	0.990	1	0.990	1	0.990	1	0.9903	1	0.990	1	0.990	1	0.990	1	0.990				
10-22	0.9911	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.9911	1	0.991	1	0.991	1	0.991	1	0.991				
11-22	1.0055	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.006	1	1.0055	1	1.006	1	1.006	1	1.006	1	1.006				
12-22	0.2447	1	0.245																								
13-22	0.2464	1	0.246																								
14-22	1.0000	1	1.000	1	1.000	1	1.000	1	1.000	1	1.000	1	1.000	1	1	1	1.000	1	1.000	1	1.000	1	1.000				
15-22	0.9982	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.998	1	0.9982	1	0.998	1	0.998	1	0.998	1	0.998				
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513				
16-22W	0.4788							1	0.479	1	0.479	1	0.479	1	0.4788	1	0.479	1	0.479	1	0.479	1	0.479				
17-22	1.0154															1	1.015	1	1.015	1	1.015	1	1.015				
18-22	0.9688																					1	0.969				
19-22	0.9380																					1	0.938				
20-22	1.0139															1	1.014	1	1.014	1	1.014	1	1.014				
21-22	0.9937							1	0.994	1	0.994	1	0.994	1	0.9937	1	0.994	1	0.994	1	0.994	1	0.994				
22-22E	0.5325	1	0.533	1	0.533	1	0.533	1	0.533	1	0.533	1	0.533	1	0.5325	1	0.533	1	0.533	1	0.533	1	0.533				
22-22W	0.4671			1	0.467	1	0.467	1	0.467	1	0.467	1	0.467	1	0.4671	1	0.467	1	0.467	1	0.467	1	0.467				
23-22	0.9895	1	0.989	1	0.989	1	0.989	1	0.989	1	0.989	1	0.989	1	0.9895	1	0.989	1	0.989	1	0.989	1	0.989				
24-22	0.2249	1	0.225																								
26-22N	0.3798	1	0.380																								
27-22N	0.3715			1	0.371	1	0.371	1	0.371	1	0.371	1	0.371	1	0.3715			1	0.371	1	0.371	1	0.371				
28-22N	0.4518							1	0.452	1	0.452	1	0.452	1	0.4518			1	0.452	1	0.452	1	0.452				
29-22N	0.4138															1	0.414	1	0.414	1	0.414	1	0.414				
30-22N	0.1610																					1	0.161				
7-32	0.2495																					1	0.249				
17-32	0.2844																					1	0.284				
18-32	0.9053																					1	0.905				
19-32	0.9616																					1	0.962				
20-32	0.9882															1	0.988	1	0.988	1	0.988	1	0.988				
21-32	0.3982	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.398	1	0.3982	1	0.398	1	0.398	1	0.398	1	0.398				
26-32E	0.1068	1	0.107	1	0.107	1	0.107	1	0.107	1	0.107	1	0.107	1	0.1068	1	0.107	1	0.107	1	0.107	1	0.107				
26-32W	0.0866	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.087	1	0.0866	1	0.087	1	0.087	1	0.087	1	0.087				
27-32	0.6122	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.612	1	0.6122	1	0.612	1	0.612	1	0.612	1	0.612				
28-32	0.9937	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.9937	1	0.994	1	0.994	1	0.994	1	0.994				
29-32	0.9910															1	0.991	1	0.991	1	0.991	1	0.991				
30-32	0.9588																					1	0.959				
31-32	0.9533																					1	0.953				
32-32	0.9908															1	0.991	1	0.991	1	0.991	1	0.991				
33-32	0.9926	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.993	1	0.9926	1	0.993	1	0.993	1	0.993	1	0.993				
34-32	0.9938	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.994	1	0.9938	1	0.994	1	0.994	1	0.994	1	0.994				
35-32	0.9873	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.987	1	0.9873	1	0.987	1	0.987	1	0.987	1	0.987				
36-32	0.1135	1	0.113	1	0.113	1	0.113	1	0.113	1	0.113	1	0.113	1	0.1135	1	0.113	1	0.113	1	0.113	1	0.113				
			25		23		23		26		26		26		26		33		35		35		47				
Total Contributing Area(mi^2)			16.649		16.392		16.392		18.316		18.316		18.316		18.316		24.938		25.761		25.761		34.084		0.000		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THOMAS RD

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																									
			C2622E		C2622S		CTR35		C35E		CTR1		C2722S		CTR43		C43F		CTR2		C2822S		CTR51				
1-22	0.2432	1	0.2432															1	0.2432	1	0.2432	1	0.2432				
2-22	1.0042	1	1.0042							1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042				
3-22	0.9979	1	0.9979							1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979				
4-22	1.0034																	1	1.0034	1	1.0034	1	1.0034				
9-22	0.9903																	1	0.9903	1	0.9903	1	0.9903				
10-22	0.9911	1	0.9911							1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911				
11-22	1.0055	1	1.0055							1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055				
12-22	0.2447	1	0.2447																								
13-22	0.2464	1	0.2464																								
14-22	1.0000	1	1.0000							1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000				
15-22	0.9982	1	0.9982							1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982				
16-22E	0.5130																	1	0.513	1	0.513	1	0.513				
16-22W	0.4788																	1	0.4788	1	0.4788	1	0.4788				
21-22	0.9937																	1	0.9937	1	0.9937	1	0.9937				
22-22E	0.5325	1	0.5325							1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325				
22-22W	0.4671									1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671				
23-22	0.9895	1	0.9895							1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895				
24-22	0.2249	1	0.2249																								
26-22N	0.3798	1	0.3798																								
26-22E	0.3827	1	0.3827																								
26-22W	0.0782					1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782			1	0.0782				
26-22S	0.3924			1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924			1	0.3924				
27-22N	0.3715									1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715				
27-22S	0.6311									1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311			1	0.6311				
28-22N	0.4518																	1	0.4518	1	0.4518	1	0.4518				
28-22S	0.5429																	1	0.5429	1	0.5429	1	0.5429				
21-32	0.3982																	1	0.3982	1	0.3982	1	0.3982				
26-32E	0.1068	1	0.1068															1	0.1068	1	0.1068	1	0.1068				
26-32W	0.0866	1	0.0866							1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866				
27-32	0.6122	1	0.6122							1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122				
28-32	0.9937																	1	0.9937	1	0.9937	1	0.9937				
33-32	0.9926																	1	0.9926	1	0.9926	1	0.9926				
34-32	0.9938	1	0.9938							1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938				
35-32	0.9873	1	0.9873							1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873				
36-32	0.1135	1	0.1135															1	0.1135	1	0.1135	1	0.1135				
			20		1		2		2		17		17		17		17		30		27		30				
Total Contributing Area(mi^2)			12.141		0.392		0.471		0.471		12.139		12.139		12.139		12.139		19.961		18.859		19.961		0.000		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THOMAS RD

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
			CTR3		CTR59		C2922S		C59G		CTR4		C3022S		CTR67		CTR5		CTR75		C25-21		C75G		C67G1
24-21S	0.6123															1	0.6123	1	0.6123	1	0.6123	1	0.6123		
25-21	1.0002															1	1.0002	1	1.0002	1	1.0002	1	1.0002		
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982									1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742									1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699									1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154
18-22	0.9688									1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688
19-22	0.9380									1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895
26-22W	0.0782	1	0.0782	1	0.0782					1	0.0782			1	0.0782	1	0.0782	1	0.0782						
26-22S	0.3924	1	0.3924	1	0.3924					1	0.3924			1	0.3924	1	0.3924	1	0.3924						
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715
27-22S	0.6311	1	0.6311	1	0.6311					1	0.6311			1	0.6311	1	0.6311	1	0.6311						
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937
30-22N	0.1610									1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161
30-22S	0.8109									1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109
7-32	0.2495									1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844									1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053									1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616									1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588									1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533									1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135
			40		40		37		37		53		50		53		55		55		52		52		50
Total Contributing Area(mi^2)			27.999		27.999		26.898		26.898		37.133		36.031		37.133		38.746		38.746		37.644		37.644		36.031

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THOMAS RD

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																							
		CTR6		CTR83		C26-21		C83H		CTR7		CTR91		C27-21		C91G		CTR8		CTR99		C28-21		C99D	
1-21	0.9994			1	0.9994			1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994
2-21	0.9947			1	0.9947			1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947
3-21	0.9808									1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808
4-21	0.8740																	1	0.874	1	0.874	1	0.874	1	0.874
9-21	0.9671																	1	0.9671	1	0.9671	1	0.9671	1	0.9671
10-21	0.9801									1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801
11-21	0.9831			1	0.9831			1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831
12-21	1.0030			1	1.003			1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
13-21	1.0003			1	1.0003			1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003
14-21E	0.4317			1	0.4317			1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615
15-21	1.0114									1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114
16-21	1.0214																	1	1.0214	1	1.0214	1	1.0214	1	1.0214
21-21	1.0076																	1	1.0076	1	1.0076	1	1.0076	1	1.0076
22-21	1.0020									1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002
23-21	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869
24-21N	0.4133			1	0.4133					1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133
24-21S	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123
25-21	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002
26-21	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902
27-21	1.0046									1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046
28-21	0.9995																	1	0.9995	1	0.9995	1	0.9995	1	0.9995
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688
19-22	0.9380	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895
26-22W	0.0782	1	0.0782			1	0.0782	1	0.0782	1	0.0782	1	0.0782												
26-22S	0.3924	1	0.3924			1	0.3924	1	0.3924	1	0.3924	1	0.3924												
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715
27-22S	0.6311	1	0.6311			1	0.6311	1	0.6311	1	0.6311	1	0.6311												
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937
30-22N	0.1610	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161
30-22S	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109
2-31	0.2878			1	0.2878			1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878
11-31	0.9972			1	0.9972			1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972
12-31	1.0197			1	1.0197			1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197
13-31	1.0029			1	1.0029			1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029
14-31	1.0078			1	1.0078			1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078
15-31	0.9555									1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
22-31E	0.5123									1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123
22-31W	0.7658									1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658
23-31	1.0057			1	1.0057			1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057
24-31	1.0075			1	1.0075			1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075
25-31	1.0030			1	1.003			1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003
26-31E	0.4615			1	0.4615			1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615
26-31W	0.5403			1	0.5403			1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403
27-31	1.0125									1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125
34-31	0.9947									1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947
35-31	1.0054			1	1.0054			1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054
36-31E	0.4952			1	0.4952			1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952
36-31W	0.5046			1	0.5046			1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135
			58		75		58		77		88		88		85		85		90		90		90		90
Total Contributing Area(mi²)			41.284		56.347		41.284		57.035		66.668		66.668		65.566		65.566		70.436		70.436		70.436		70.436

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

THOMAS RD

Sub-Basin ID	Sub-Basin Area (mi²)		HEC-1 Combine Node IDs																							
			CTR9		C2921N		C107B		C107C		C3021S		C3021N													
1-21	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994													
2-21	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947													
3-21	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808													
4-21	0.8740	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874													
9-21	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671													
10-21	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801													
11-21	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831													
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003													
13-21	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003													
14-21E	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317													
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615													
15-21	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114													
16-21	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214													
17-21E	0.6990	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699													
20-21	1.0230	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023													
21-21	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076													
22-21	1.0020	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002													
23-21	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869													
24-21N	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133													
24-21S	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123													
25-21	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002													
26-21	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902													
27-21	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046													
28-21	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995													
29-21N	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612													
29-21S	0.2625							1	0.2625	1	0.2625															
30-21N	0.6672											1	0.6672													
30-21S	0.7496									1	0.7496															
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432													
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042													
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979													
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034													
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152													
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982													
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742													
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699													
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225													
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936													
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903													
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911													
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055													
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000													
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982													
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513													
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788													
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154													
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688													
19-22	0.9380	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938													
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139													
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937													
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325													
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671													
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895													
26-22W	0.0782	1	0.0782					1	0.0782	1	0.0782															
26-22S	0.3924	1	0.3924					1	0.3924	1	0.3924															
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715													
27-22S	0.6311	1	0.6311					1	0.6311	1	0.6311															
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518													
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429													
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138													
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937													
30-22N	0.1610	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161													
30-22S	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109													
2-31	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878													
11-31	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972													
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197													
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029													
14-31	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078													
15-31	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555	1	0.9555													
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495													
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844													
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053													
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616													
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882													
22-31E	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123													
22-31W	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658													
23-31	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057													
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075													
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003													
26-31E	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615													
26-31W	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403													
27-31	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125													
34-31	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947													
35-31	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054													
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952													
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046													
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982													
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068													
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866													
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122													
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937													
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991													
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588													
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533													
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908													
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926													
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938													
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873													
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135													
			96		93		93		97		98		94													
Total Contributing Area(mi²)			74.021		72.919		72.919		74.284		75.033		73.587		0.000		0.000		0.000		0.000		0.000		0.000	

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
		C27B		CMD27		C1-12		CMD1		CMD35		C35F		C35-22		C2-12		CMD2		CMD43		C34-22		C43G	
1-12	0.0987					1	0.0987									1	0.0987								
2-12	0.2290															1	0.229								
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325
22-22W	0.4671																	1	0.4671	1	0.4671	1	0.4671	1	0.4671
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827
26-22W	0.0782									1	0.0782	1	0.0782			1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782
26-22S	0.3924							1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924
27-22N	0.3715																	1	0.3715	1	0.3715	1	0.3715	1	0.3715
27-22S	0.6311																	1	0.6311	1	0.6311	1	0.6311	1	0.6311
34-22	1.0001																	1	1.0001	1	1.0001	1	1.0001	1	1.0001
35-22	0.9989							1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135
			27		27		28		29		30		30		29		32		34		34		34		34
Total Contributing Area(mi^2)			17.259		17.259		17.358		18.650		18.729		18.729		18.650		19.056		21.198		21.198		21.198		21.198

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																									
		C3-12		CMD3		C33-22		CMD51		C51F		C3322N		C4-12		CI1051		CMD4		C32-22		CMD59		C59H	
1-12	0.0987	1	0.0987													1	0.0987								
2-12	0.2290	1	0.229													1	0.229								
3-12	0.2413	1	0.2413													1	0.2413								
4-12	0.2164															1	0.2164								
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152																	1	1.0152	1	1.0152	1	1.0152	1	1.0152
8-22E	0.5225																	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936																	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788			1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154																	1	1.0154	1	1.0154	1	1.0154	1	1.0154
20-22	1.0139																	1	1.0139	1	1.0139	1	1.0139	1	1.0139
21-22	0.9937			1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827
26-22W	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782
26-22S	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715
27-22S	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311
28-22N	0.4518			1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518
28-22S	0.5429			1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429
29-22N	0.4138																	1	0.4138	1	0.4138	1	0.4138	1	0.4138
29-22S	0.5937																	1	0.5937	1	0.5937	1	0.5937	1	0.5937
32-22	1.0040																	1	1.004	1	1.004	1	1.004	1	1.004
33-22	1.0006			1	1.0006	1	1.0006	1	1.0006	1	1.0006			1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006
34-22	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001
35-22	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227
20-32	0.9882																	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910																	1	0.991	1	0.991	1	0.991	1	0.991
32-32	0.9908																	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135
			37		39		39		39		39		38		39		43		50		50		50		50
Total Contributing Area(mi²)			21.767		24.666		24.666		24.666		24.666		23.666		24.666		25.452		33.708		33.708		33.708		33.708

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																					
		C5-12		CMD5		C31-22		CMD67		C67H		C6-12		CMD6		C36-21		CMD75		C75H		C1-11	
1-11	0.1821																					1	0.1821
1-12	0.0987	1	0.0987									1	0.0987									1	0.0987
2-12	0.2290	1	0.229									1	0.229									1	0.229
3-12	0.2413	1	0.2413									1	0.2413									1	0.2413
4-12	0.2164	1	0.2164									1	0.2164									1	0.2164
5-12	0.1848	1	0.1848									1	0.1848									1	0.1848
6-12	0.1796											1	0.1796									1	0.1796
24-21S	0.6123													1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123
25-21	1.0002													1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002
36-21	1.0013													1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152
6-22E	0.4982			1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982
6-22W	0.4742			1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742
7-22	0.9699			1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154
18-22	0.9688			1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688
19-22	0.9380			1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827
26-22W	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782
26-22S	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715
27-22S	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937
30-22N	0.1610			1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161
30-22S	0.8109			1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109
31-22	0.9776			1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776
32-22	1.0040	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004
33-22	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006
34-22	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001
35-22	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227
7-32	0.2495			1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495
17-32	0.2844			1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844
18-32	0.9053			1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053
19-32	0.9616			1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991
30-32	0.9588			1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588
31-32	0.9533			1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135
			55		64		64		64		64		70		67		67		67		67		74		0
Total Contributing Area(mi²)			34.629		43.820		43.820		43.820		43.820		44.970		46.434		46.434		46.434		46.434		47.765		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																											
		CMD7		C35-21		CMD83		C83I		C2-11		CMD8		C34-21		CMD91		C91H		C3-11									
1-11	0.1821									1	0.1821									1	0.1821								
2-11	0.1778									1	0.1778									1	0.1778								
3-11	0.1676																			1	0.1676								
1-12	0.0987									1	0.0987									1	0.0987								
2-12	0.2290									1	0.229									1	0.229								
3-12	0.2413									1	0.2413									1	0.2413								
4-12	0.2164									1	0.2164									1	0.2164								
5-12	0.1848									1	0.1848									1	0.1848								
6-12	0.1796									1	0.1796									1	0.1796								
1-21	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994								
2-21	0.9947					1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947								
3-21	0.9808											1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808								
10-21	0.9801											1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801								
11-21	0.9831					1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831								
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003								
13-21	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003								
14-21E	0.4317					1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317								
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615								
15-21	1.0114											1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114								
22-21	1.0020											1	1.002	1	1.002	1	1.002	1	1.002	1	1.002								
23-21	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869								
24-21N	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133								
24-21S	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123								
25-21	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002								
26-21	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902								
27-21	1.0046											1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046								
34-21	1.0054											1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054								
35-21	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907								
36-21	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013								
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432								
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042								
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979								
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034								
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152								
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982								
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742								
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699								
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225								
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936								
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903								
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911								
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055								
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447								
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464								
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000								
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982								
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513								
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788								
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154								
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688								
19-22	0.9380	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938								
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139								
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937								
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325								
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671								
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895								
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249								
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798								
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827								
26-22W	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782								
26-22S	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924								
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715								
27-22S	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311								
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518								
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429								
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138								
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937								
30-22N	0.1610	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161								
30-22S	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109								
31-22	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776								
32-22	1.0040	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004								
33-22	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006								
34-22	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001								
35-22	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989								
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227								
2-31	0.2878					1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878								
11-31	0.9972					1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972								
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197								
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029								
14-31	1.0078					1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078								
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495								
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844								
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053								
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616								
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882								
22-31E	0.5123											1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123								
22-31W	0.7658											1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658								
23-31	1.0057					1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057								
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075								
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003								
26-31E	0.4615					1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615								
26-31W	0.5403					1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403								
27-31	1.0125											1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125								
34-31	0.9947											1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947								
35-31	1.0054					1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054								
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952								
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046								
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982								
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068								
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866								
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122								
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937								
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991								

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588				
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533				
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908				
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926				
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938				
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873				
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135				
			81		81		91		91		99		101		101		101		101		110		0		0
Total Contributing Area(mi^2)			58.412		58.412		66.127		66.127		67.637		75.397		75.397		75.397		75.397		77.074		0.000		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi^2)	HEC-1 Combine Node IDs																							
		CMD9		C33-21		CMD99		C99E		C4-11		C3221E		CMD10		C3221W		CMD107		C107D		C5-11			
1-11	0.1821									1	0.1821											1	0.1821		
2-11	0.1778									1	0.1778											1	0.1778		
3-11	0.1676									1	0.1676											1	0.1676		
4-11	0.1757									1	0.1757											1	0.1757		
5-11	0.1824																					1	0.1824		
1-12	0.0987									1	0.0987											1	0.0987		
2-12	0.2290									1	0.229											1	0.229		
3-12	0.2413									1	0.2413											1	0.2413		
4-12	0.2164									1	0.2164											1	0.2164		
5-12	0.1848									1	0.1848											1	0.1848		
6-12	0.1796									1	0.1796											1	0.1796		
1-21	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994		
2-21	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947		
3-21	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808		
4-21	0.8740	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874		
9-21	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671		
10-21	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801		
11-21	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831		
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
13-21	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003		
14-21E	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317		
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615		
15-21	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114		
16-21	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214		
17-21E	0.6990																	1	0.699	1	0.699	1	0.699		
20-21	1.0230																	1	1.023	1	1.023	1	1.023		
21-21	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076		
22-21	1.0020	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002		
23-21	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869		
24-21N	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133		
24-21S	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123		
25-21	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002		
26-21	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902		
27-21	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046		
28-21	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995		
29-21N	0.7612																	1	0.7612	1	0.7612	1	0.7612		
29-21S	0.2625																	1	0.2625	1	0.2625	1	0.2625		
32-21E	0.2431											1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431		
32-21W	0.7717													1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717		
33-21	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898		
34-21	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054		
35-21	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907		
36-21	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013		
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432		
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042		
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979		
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034		
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152		
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982		
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742		
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699		
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225		
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936		
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903		
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911		
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055		
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447		
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464		
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000		
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982		
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513		
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788		
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154		
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688		
19-22	0.9380	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938		
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139		
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937		
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325		
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671		
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895		
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249		
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798		
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827		
26-22W	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782		
26-22S	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924		
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715		
27-22S	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311		
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518		
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429		
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138		
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937		
30-22N	0.1610	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161		
30-22S	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109		
31-22	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776		
32-22	1.0040	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004		
33-22	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006		
34-22	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001		
35-22	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989		
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227		
2-31	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878		
11-31	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972		
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197		
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029		
14-31	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078		
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495		
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844		
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053		
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616		
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882		
22-31E	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123		
22-31W	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658		
23-31	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057		
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075		

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**

Checked: **D. Dust**

Project No.: **132586**

25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003		
26-31E	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615		
26-31W	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403		
27-31	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125		
34-31	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947		
35-31	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054		
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952		
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046		
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982		
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068		
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866		
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122		
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937		
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991		
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588		
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533		
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908		
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926		
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938		
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873		
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135		
			107		107		107		107		117		108		109		109		113		113		124		0
Total Contributing Area(mi^2)			81.256		81.256		81.256		81.256		83.109		81.499		82.271		82.271		85.017		85.017		87.052		0.000

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

MCDOWELL RD & I-10

Sub-Basin ID	Sub-Basin Area (mi²)	HEC-1 Combine Node IDs																											
		CMD11		C31-21		CMD115		C115A		C6-11		CMD12		C36W21		C1-W11		C2-W11											
1-11	0.1821									1	0.1821					1	0.1821	1	0.1821										
2-11	0.1778									1	0.1778					1	0.1778	1	0.1778										
3-11	0.1676									1	0.1676					1	0.1676	1	0.1676										
4-11	0.1757									1	0.1757					1	0.1757	1	0.1757										
5-11	0.1824									1	0.1824					1	0.1824	1	0.1824										
6-11	0.2206									1	0.2206					1	0.2206	1	0.2206										
1-12	0.0987									1	0.0987					1	0.0987	1	0.0987										
2-12	0.2290									1	0.229					1	0.229	1	0.229										
3-12	0.2413									1	0.2413					1	0.2413	1	0.2413										
4-12	0.2164									1	0.2164					1	0.2164	1	0.2164										
5-12	0.1848									1	0.1848					1	0.1848	1	0.1848										
6-12	0.1796									1	0.1796					1	0.1796	1	0.1796										
1-21	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994	1	0.9994										
2-21	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947										
3-21	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808	1	0.9808										
4-21	0.8740	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874	1	0.874										
9-21	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671	1	0.9671										
10-21	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801	1	0.9801										
11-21	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831	1	0.9831										
12-21	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003										
13-21	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003	1	1.0003										
14-21E	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317	1	0.4317										
14-21W	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615	1	0.5615										
15-21	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114	1	1.0114										
16-21	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214	1	1.0214										
17-21E	0.6990	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699	1	0.699										
20-21	1.0230	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023	1	1.023										
21-21	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076	1	1.0076										
22-21	1.0020	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002	1	1.002										
23-21	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869	1	0.9869										
24-21N	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133	1	0.4133										
24-21S	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123	1	0.6123										
25-21	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002	1	1.0002										
26-21	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902	1	0.9902										
27-21	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046	1	1.0046										
28-21	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995	1	0.9995										
29-21N	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612	1	0.7612										
29-21S	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625	1	0.2625										
30-21S	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496	1	0.7496										
31-21	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643	1	0.9643										
32-21E	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431	1	0.2431										
32-21W	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717	1	0.7717										
33-21	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898	1	0.9898										
34-21	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054										
35-21	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907	1	0.9907										
36-21	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013	1	1.0013										
1-22	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432	1	0.2432										
2-22	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042	1	1.0042										
3-22	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979	1	0.9979										
4-22	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034	1	1.0034										
5-22	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152	1	1.0152										
6-22E	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982	1	0.4982										
6-22W	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742	1	0.4742										
7-22	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699	1	0.9699										
8-22E	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225	1	0.5225										
8-22W	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936	1	0.4936										
9-22	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903	1	0.9903										
10-22	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911	1	0.9911										
11-22	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055	1	1.0055										
12-22	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447	1	0.2447										
13-22	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464	1	0.2464										
14-22	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000	1	1.0000										
15-22	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982	1	0.9982										
16-22E	0.5130	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513	1	0.513										
16-22W	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788	1	0.4788										
17-22	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154	1	1.0154										
18-22	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688	1	0.9688										
19-22	0.9380	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938	1	0.938										
20-22	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139	1	1.0139										
21-22	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937										
22-22E	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325	1	0.5325										
22-22W	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671	1	0.4671										
23-22	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895	1	0.9895										
24-22	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249	1	0.2249										
26-22N	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798	1	0.3798										
26-22E	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827	1	0.3827										
26-22W	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782	1	0.0782										
26-22S	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924	1	0.3924										
27-22N	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715	1	0.3715										
27-22S	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311	1	0.6311										
28-22N	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518	1	0.4518										
28-22S	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429	1	0.5429										
29-22N	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138	1	0.4138										
29-22S	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937	1	0.5937										
30-22N	0.1610	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161	1	0.161										
30-22S	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109	1	0.8109										
31-22	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776	1	0.9776										
32-22	1.0040	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004	1	1.004										
33-22	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006	1	1.0006										
34-22	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001	1	1.0001										
35-22	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989	1	0.9989										
36-22	0.2270	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227	1	0.227										
2-31	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878	1	0.2878										
11-31	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972	1	0.9972										
12-31	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197	1	1.0197										
13-31	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029	1	1.0029										
14-31	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078	1	1.0078										
7-32	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495	1	0.2495										
17-32	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844	1	0.2844										
18-32	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053	1	0.9053										
19-32	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616	1	0.9616										
20-32	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882	1	0.9882										
22-31E	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123	1	0.5123										

Wood/Patel

CH2M HILL

Subject: **Maryvale ADMS: Area Tabulations for HEC-1 Combines**

By: **J. Geisbush**
Checked: **D. Dust**
Project No.: **132586**

22-31W	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658	1	0.7658						
23-31	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057	1	1.0057						
24-31	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075	1	1.0075						
25-31	1.0030	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003	1	1.003						
26-31E	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615	1	0.4615						
26-31W	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403	1	0.5403						
27-31	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125	1	1.0125						
34-31	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947	1	0.9947						
35-31	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054	1	1.0054						
36-31E	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952	1	0.4952						
36-31W	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046	1	0.5046						
21-32	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982	1	0.3982						
26-32E	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068	1	0.1068						
26-32W	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866	1	0.0866						
27-32	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122	1	0.6122						
28-32	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937	1	0.9937						
29-32	0.9910	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991	1	0.991						
30-32	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588	1	0.9588						
31-32	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533	1	0.9533						
32-32	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908	1	0.9908						
33-32	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926	1	0.9926						
34-32	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938	1	0.9938						
35-32	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873	1	0.9873						
36-32	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135	1	0.1135						
1-W11	0.3719															1	0.3719	1	0.3719						
2-W11	0.0843																	1	0.0843						
36-W21	0.8369											1	0.8369	1	0.8369	1	0.8369	1	0.8369						
			115		115		115		115		127		116		116		129		130		0		0		0
Total Contributing Area(mi^2)			86.731		86.731		86.731		86.731		88.987		87.567		87.567		90.195		90.280		0.000		0.000		0.000

Appendix J: I-10 Freeway Channel Analysis

Table 4-1: Comparison of Computed Peak Discharges and Capacity of I-10 Freeway Channel

Summary: This table indicates that the I-10 Freeway Channel may not have capacity for the 100-Year event in the vicinity of 83rd and 91st Avenues.

ADOT: I-10 Freeway Channel Configuration Data[2]						10-Year, 6-Hour Event			100-Year, 6-Hour Event			100-Year, 24-Hour Event		
Location[1]	Approx. Invert Elev.	Approx. Channel Slope (ft/ft)	Approx. Bottom Width (ft)	Approx. Side Slope	Approx. Top of Bank Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.	Q (cfs)	Est. Flow Depth (ft) [3]	Est. Water Surface Elev.
43rd Ave	1055.4	0.00100	10	2:1	1070	1950	9.1	1065	4140	12.6	1068	3620	11.9	1067
51st Ave	1051.0	0.00056	10	2:1	1070	2620	11.8	1063	5430	16.1	1067	5030	15.6	1067
59th Ave	1038.0	0.00044	10	2:1	1060	3080	13.3	1051	5770	17.4	1055	5520	17.1	1055
67th Ave	1034.0	0.00194	20	2:1	1050	3490	8.5	1043	6560	11.5	1046	6390	11.4	1045
75th Ave	1023.9	0.00177	20	2:1	1044	4040	9.3	1033	7550	12.6	1037	7410	12.5	1036
83rd Ave[4]	1013.5	0.00020	20	2:1	**1032**	4150	15.9	1029	**7700**	**21.0**	**1035**	**7920**	**21.3**	**1035**
91st Ave[4]	1003.4	0.00056	20	2:1	**1022**	4590	16.2	1020	**8680**	**22.3**	**1026**	**9070**	**22.8**	**1026**
99th Ave	999.0	0.00213	20	2:1	1016	4580	9.5	1009	9030	13.1	1012	9540	13.5	1013
107th Ave	990.5	0.00139	20	2:1	1010	4590	10.5	1001	9360	14.8	1005	9920	15.2	1006
115th Ave	981.5	0.00071	60	2:1	996	4610	8.0	990	9530	12.0	994	10120	12.4	994

Notes:

(1) The channel configurations correspond to a location immediately downstream of the indicated road crossing.

(2) The channel configuration data is based on topographic mapping (1"=200' , 2' contour interval) flown in March 1994.

(3) The estimated flow depths are based on uniform flow computations; however, backwater flow conditions are anticipated during major flood events.

(4) The results of this analysis indicate that overtopping of the channel banks may occur at this location.

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 43rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q10yr-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001000	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	1,950.00	cfs

Results		
Depth	9.05	ft
Flow Area	254.20	ft^2
Wetted Perimeter	50.46	ft
Top Width	46.19	ft
Critical Depth	6.91	ft
Critical Slope	0.003226	ft/ft
Velocity	7.67	ft/s
Velocity Head	0.91	ft
Specific Energy	9.96	ft
Froude Number	0.58	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\hyd\project1.fm2
Worksheet	ADOT Channel @ 43rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q100yr-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001000	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	4,140.00	cfs

Results		
Depth	12.64	ft
Flow Area	446.06	ft^2
Wetted Perimeter	66.54	ft
Top Width	60.57	ft
Critical Depth	9.97	ft
Critical Slope	0.002933	ft/ft
Velocity	9.28	ft/s
Velocity Head	1.34	ft
Specific Energy	13.98	ft
Froude Number	0.60	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 43rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q100 yr - 24 hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001000	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	3,620.00	cfs

Results		
Depth	11.92	ft
Flow Area	403.45	ft^2
Wetted Perimeter	63.31	ft
Top Width	57.69	ft
Critical Depth	9.35	ft
Critical Slope	0.002983	ft/ft
Velocity	8.97	ft/s
Velocity Head	1.25	ft
Specific Energy	13.17	ft
Froude Number	0.60	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 51st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q 10YR-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	2,620.00	cfs

Results		
Depth	11.75	ft
Flow Area	393.50	ft²
Wetted Perimeter	62.54	ft
Top Width	56.99	ft
Critical Depth	7.99	ft
Critical Slope	0.003108	ft/ft
Velocity	6.66	ft/s
Velocity Head	0.69	ft
Specific Energy	12.44	ft
Froude Number	0.45	
Flow is subcritical.		

Worksheet

Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\hyd\project1.fm2
Worksheet	ADOT Channel @ 51st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q 100yr-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	5,430.00	cfs

Results		
Depth	16.09	ft
Flow Area	678.99	ft²
Wetted Perimeter	81.98	ft
Top Width	74.38	ft
Critical Depth	11.33	ft
Critical Slope	0.002834	ft/ft
Velocity	8.00	ft/s
Velocity Head	0.99	ft
Specific Energy	17.09	ft
Froude Number	0.47	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 51st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q100yr-24hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	5,030.00	cfs

Results		
Depth	15.58	ft
Flow Area	641.16	ft²
Wetted Perimeter	79.67	ft
Top Width	72.31	ft
Critical Depth	10.93	ft
Critical Slope	0.002861	ft/ft
Velocity	7.85	ft/s
Velocity Head	0.96	ft
Specific Energy	16.53	ft
Froude Number	0.46	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 59th
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q100YR-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000440	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	3,080.00	cfs

Results		
Depth	13.29	ft
Flow Area	486.04	ft²
Wetted Perimeter	69.43	ft
Top Width	63.15	ft
Critical Depth	8.65	ft
Critical Slope	0.003045	ft/ft
Velocity	6.34	ft/s
Velocity Head	0.62	ft
Specific Energy	13.91	ft
Froude Number	0.40	
Flow is subcritical.		

Worksheet

Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\hyd\project1.fm2
Worksheet	ADOT Channel @ 59th
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q 100YR-6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000440	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	5,770.00	cfs

Results		
Depth	17.38	ft
Flow Area	777.81	ft^2
Wetted Perimeter	87.72	ft
Top Width	79.51	ft
Critical Depth	11.66	ft
Critical Slope	0.002812	ft/ft
Velocity	7.42	ft/s
Velocity Head	0.86	ft
Specific Energy	18.23	ft
Froude Number	0.42	
Flow is subcritical.		

Worksheet

Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 59th
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q100YR-24hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000440	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	10.00	ft
Discharge	5,520.00	cfs

Results		
Depth	17.06	ft
Flow Area	752.41	ft²
Wetted Perimeter	86.28	ft
Top Width	78.23	ft
Critical Depth	11.42	ft
Critical Slope	0.002828	ft/ft
Velocity	7.34	ft/s
Velocity Head	0.84	ft
Specific Energy	17.89	ft
Froude Number	0.42	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 67th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q10YR-Cohn

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001940	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	3,540.00	cfs

Results		
Depth	8.51	ft
Flow Area	315.22	ft²
Wetted Perimeter	58.07	ft
Top Width	54.05	ft
Critical Depth	7.65	ft
Critical Slope	0.002962	ft/ft
Velocity	11.23	ft/s
Velocity Head	1.96	ft
Specific Energy	10.47	ft
Froude Number	0.82	
Flow is subcritical.		

Worksheet
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\hyd\project1.fm2
Worksheet	ADOT Channel @ 67th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Q_{100YR} - 6hr

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001940	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	6,590.00	cfs

Results		
Depth	11.55	ft
Flow Area	497.79	ft^2
Wetted Perimeter	71.65	ft
Top Width	66.20	ft
Critical Depth	10.63	ft
Critical Slope	0.002734	ft/ft
Velocity	13.24	ft/s
Velocity Head	2.72	ft
Specific Energy	14.27	ft
Froude Number	0.85	
Flow is subcritical.		

ADOT CHANNEL @ 67TH AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 67th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001940	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	3,490.00	cfs

Results		
Depth	8.45	ft
Flow Area	311.96	ft²
Wetted Perimeter	57.80	ft
Top Width	53.81	ft
Critical Depth	7.59	ft
Critical Slope	0.002967	ft/ft
Velocity	11.19	ft/s
Velocity Head	1.94	ft
Specific Energy	10.40	ft
Froude Number	0.82	
Flow is subcritical.		

ADOT CHANNEL @ 67TH AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 67th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001940	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	6,560.00	cfs

Results		
Depth	11.52	ft
Flow Area	496.12	ft^2
Wetted Perimeter	71.54	ft
Top Width	66.10	ft
Critical Depth	10.61	ft
Critical Slope	0.002735	ft/ft
Velocity	13.22	ft/s
Velocity Head	2.72	ft
Specific Energy	14.24	ft
Froude Number	0.85	
Flow is subcritical.		

ADOT CHANNEL @ 67TH AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 67th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001940	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	6,390.00	cfs

Results		
Depth	11.38	ft
Flow Area	486.59	ft^2
Wetted Perimeter	70.89	ft
Top Width	65.52	ft
Critical Depth	10.46	ft
Critical Slope	0.002744	ft/ft
Velocity	13.13	ft/s
Velocity Head	2.68	ft
Specific Energy	14.06	ft
Froude Number	0.85	
Flow is subcritical.		

ADOT CHANNEL @ 75TH AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 75th Avenue
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001770	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	4,040.00	cfs

Results		
Depth	9.30	ft
Flow Area	359.12	ft^2
Wetted Perimeter	61.60	ft
Top Width	57.21	ft
Critical Depth	8.22	ft
Critical Slope	0.002911	ft/ft
Velocity	11.25	ft/s
Velocity Head	1.97	ft
Specific Energy	11.27	ft
Froude Number	0.79	
Flow is subcritical.		

ADOT CHANNEL @ 75TH AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 75th Avenue
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001770	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	7,550.00	cfs

Results		
Depth	12.60	ft
Flow Area	569.45	ft^2
Wetted Perimeter	76.34	ft
Top Width	70.40	ft
Critical Depth	11.40	ft
Critical Slope	0.002687	ft/ft
Velocity	13.26	ft/s
Velocity Head	2.73	ft
Specific Energy	15.33	ft
Froude Number	0.82	
Flow is subcritical.		

ADOT CHANNEL @ 75TH AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 75th Avenue
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001770	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	7,410.00	cfs

Results		
Depth	12.49	ft
Flow Area	561.61	ft^2
Wetted Perimeter	75.84	ft
Top Width	69.95	ft
Critical Depth	11.29	ft
Critical Slope	0.002693	ft/ft
Velocity	13.19	ft/s
Velocity Head	2.71	ft
Specific Energy	15.19	ft
Froude Number	0.82	
Flow is subcritical.		

ADOT CHANNEL @ 83RD AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 83rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000200	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	4,150.00	cfs

Results		
Depth	15.86	ft
Flow Area	820.29	ft^2
Wetted Perimeter	90.93	ft
Top Width	83.44	ft
Critical Depth	8.33	ft
Critical Slope	0.002901	ft/ft
Velocity	5.06	ft/s
Velocity Head	0.40	ft
Specific Energy	16.26	ft
Froude Number	0.28	
Flow is subcritical.		

ADOT CHANNEL @ 83RD AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 83rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	*0.018*	
Channel Slope	0.000200	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	7,700.00	cfs

Results		
Depth	20.98	ft
Flow Area	1,300.41	ft^2
Wetted Perimeter	113.85	ft
Top Width	103.94	ft
Critical Depth	11.52	ft
Critical Slope	0.002680	ft/ft
Velocity	5.92	ft/s
Velocity Head	0.54	ft
Specific Energy	21.53	ft
Froude Number	0.30	
Flow is subcritical.		

ADOT CHANNEL @ 83RD AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 83rd Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000200	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	7,920.00	cfs

Results		
Depth	21.25	ft
Flow Area	1,328.06	ft²
Wetted Perimeter	115.03	ft
Top Width	105.00	ft
Critical Depth	11.68	ft
Critical Slope	0.002670	ft/ft
Velocity	5.96	ft/s
Velocity Head	0.55	ft
Specific Energy	21.80	ft
Froude Number	0.30	
Flow is subcritical.		

ADOT CHANNEL @ 91ST AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 91st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	0.000000	H : V
Bottom Width	20.00	ft
Discharge	4,590.00	cfs

Results		
Depth	16.15	ft
Flow Area	583.62	ft^2
Wetted Perimeter	72.25	ft
Top Width	52.29	ft
Critical Depth	9.91	ft
Critical Slope	0.003457	ft/ft
Velocity	7.86	ft/s
Velocity Head	0.96	ft
Specific Energy	17.11	ft
Froude Number	0.42	
Flow is subcritical.		

ADOT CHANNEL @ 91ST AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 91st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	0.000000	H : V
Bottom Width	20.00	ft
Discharge	8,680.00	cfs

Results		
Depth	22.29	ft
Flow Area	942.75	ft²
Wetted Perimeter	92.14	ft
Top Width	64.58	ft
Critical Depth	14.16	ft
Critical Slope	0.003308	ft/ft
Velocity	9.21	ft/s
Velocity Head	1.32	ft
Specific Energy	23.61	ft
Froude Number	0.42	
Flow is subcritical.		

ADOT CHANNEL @ 91ST AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 91st Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000560	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	0.000000	H : V
Bottom Width	20.00	ft
Discharge	9,070.00	cfs

Results		
Depth	22.78	ft
Flow Area	974.55	ft^2
Wetted Perimeter	93.72	ft
Top Width	65.56	ft
Critical Depth	14.50	ft
Critical Slope	0.003298	ft/ft
Velocity	9.31	ft/s
Velocity Head	1.35	ft
Specific Energy	24.13	ft
Froude Number	0.43	
Flow is subcritical.		

ADOT CHANNEL @ 99TH AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 99th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.002130	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	4,580.00	cfs

Results		
Depth	9.45	ft
Flow Area	367.89	ft^2
Wetted Perimeter	62.28	ft
Top Width	57.82	ft
Critical Depth	8.78	ft
Critical Slope	0.002864	ft/ft
Velocity	12.45	ft/s
Velocity Head	2.41	ft
Specific Energy	11.86	ft
Froude Number	0.87	
Flow is subcritical.		

ADOT CHANNEL @ 99TH AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 99th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.002130	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	9,030.00	cfs

Results		
Depth	13.13	ft
Flow Area	607.10	ft^2
Wetted Perimeter	78.70	ft
Top Width	72.50	ft
Critical Depth	12.49	ft
Critical Slope	0.002626	ft/ft
Velocity	14.87	ft/s
Velocity Head	3.44	ft
Specific Energy	16.56	ft
Froude Number	0.91	
Flow is subcritical.		

ADOT CHANNEL @ 99TH AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 99th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.002130	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	9,540.00	cfs

Results		
Depth	13.47	ft
Flow Area	632.33	ft^2
Wetted Perimeter	80.24	ft
Top Width	73.88	ft
Critical Depth	12.84	ft
Critical Slope	0.002608	ft/ft
Velocity	15.09	ft/s
Velocity Head	3.54	ft
Specific Energy	17.01	ft
Froude Number	0.91	
Flow is subcritical.		

ADOT CHANNEL @ 107TH AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 107th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001390	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	4,590.00	cfs

Results		
Depth	10.51	ft
Flow Area	431.10	ft^2
Wetted Perimeter	67.00	ft
Top Width	62.04	ft
Critical Depth	8.79	ft
Critical Slope	0.002864	ft/ft
Velocity	10.65	ft/s
Velocity Head	1.76	ft
Specific Energy	12.27	ft
Froude Number	0.71	
Flow is subcritical.		

ADOT CHANNEL @ 107TH AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 107th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001390	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	9,360.00	cfs

Results		
Depth	14.75	ft
Flow Area	730.45	ft^2
Wetted Perimeter	85.98	ft
Top Width	79.02	ft
Critical Depth	12.72	ft
Critical Slope	0.002614	ft/ft
Velocity	12.81	ft/s
Velocity Head	2.55	ft
Specific Energy	17.31	ft
Froude Number	0.74	
Flow is subcritical.		

ADOT CHANNEL @ 107TH AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 107th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.001390	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	20.00	ft
Discharge	9,920.00	cfs

Results		
Depth	15.16	ft
Flow Area	762.68	ft^2
Wetted Perimeter	87.79	ft
Top Width	80.63	ft
Critical Depth	13.10	ft
Critical Slope	0.002595	ft/ft
Velocity	13.01	ft/s
Velocity Head	2.63	ft
Specific Energy	17.79	ft
Froude Number	0.75	
Flow is subcritical.		

ADOT CHANNEL @ 115TH AVE: 10-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 115th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000710	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	60.00	ft
Discharge	4,610.00	cfs

Results		
Depth	8.02	ft
Flow Area	610.26	ft^2
Wetted Perimeter	95.89	ft
Top Width	92.10	ft
Critical Depth	5.34	ft
Critical Slope	0.002949	ft/ft
Velocity	7.55	ft/s
Velocity Head	0.89	ft
Specific Energy	8.91	ft
Froude Number	0.52	
Flow is subcritical.		

ADOT CHANNEL @ 115TH AVE: 100-YR 6-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 115th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000710	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	60.00	ft
Discharge	9,530.00	cfs

Results		
Depth	12.02	ft
Flow Area	1,010.28	ft^2
Wetted Perimeter	113.76	ft
Top Width	108.08	ft
Critical Depth	8.36	ft
Critical Slope	0.002625	ft/ft
Velocity	9.43	ft/s
Velocity Head	1.38	ft
Specific Energy	13.40	ft
Froude Number	0.54	
Flow is subcritical.		

ADOT CHANNEL @ 115TH AVE: 100-YR 24-HR
Worksheet for Trapezoidal Channel

Project Description	
Project File	p:\sww\132586\reports\final\sprdshts\adot-i10.fm2
Worksheet	ADOT Channel @ 115th Ave
Flow Element	Trapezoidal Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data		
Mannings Coefficient	0.018	
Channel Slope	0.000710	ft/ft
Left Side Slope	2.000000	H : V
Right Side Slope	2.000000	H : V
Bottom Width	60.00	ft
Discharge	10,120.00	cfs

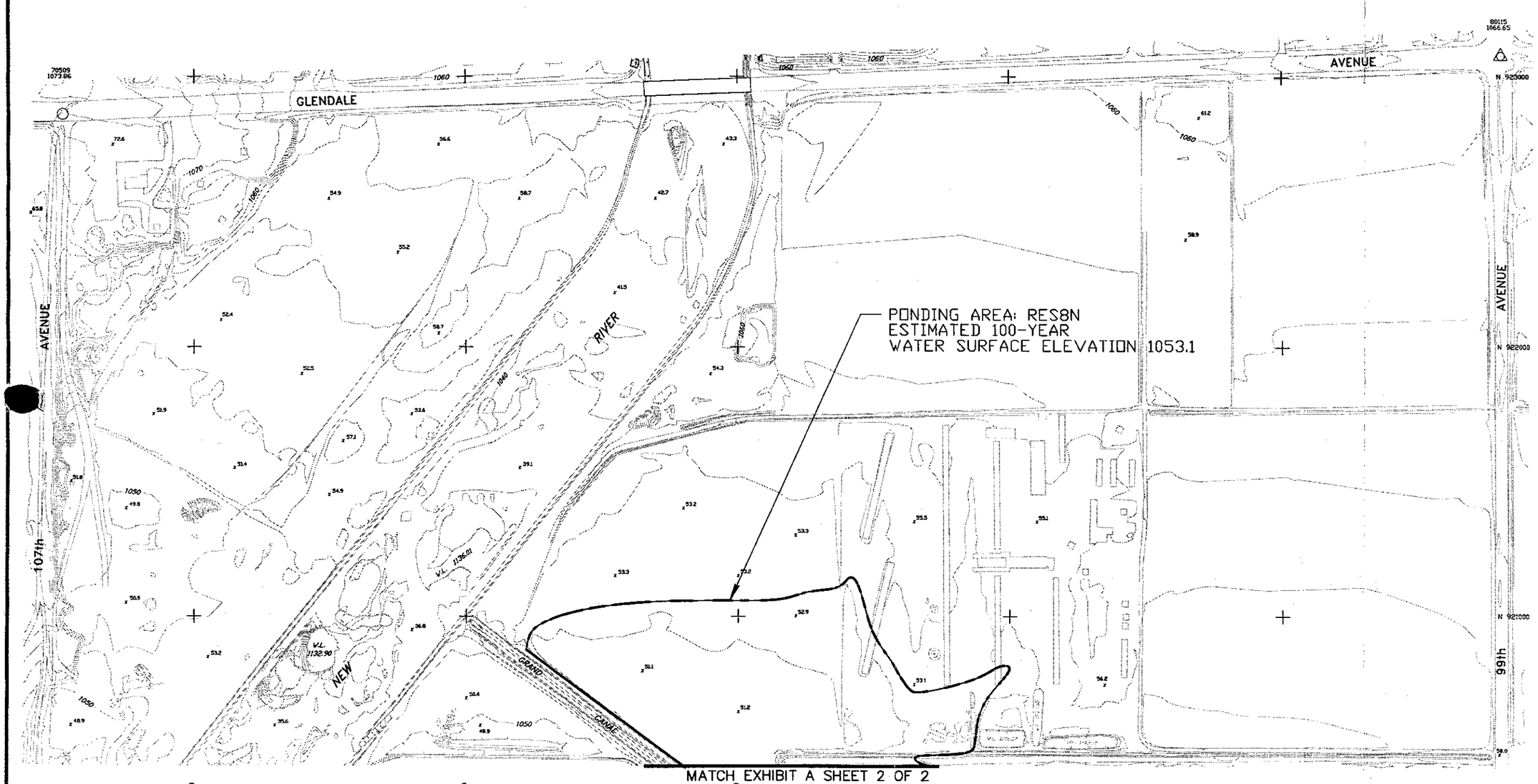
Results		
Depth	12.42	ft
Flow Area	1,053.92	ft²
Wetted Perimeter	115.55	ft
Top Width	109.69	ft
Critical Depth	8.67	ft
Critical Slope	0.002601	ft/ft
Velocity	9.60	ft/s
Velocity Head	1.43	ft
Specific Energy	13.85	ft
Froude Number	0.55	
Flow is subcritical.		

Maryvale ADMS: HEC-1 Output Printouts
Appendix K: Supplement is bound seperately

Appendix L: Ponding Area Exhibits A - S

Table 4-2: Summary of Computed Water Surface Elevations

		Computed Peak Discharge from the Ponding Area (cfs)		Computed Water Surface Elevation	
Ponding Area Exhibit	Ponding Area Name	Q100-Yr 6-Hr (cfs)	Q100-Yr 24-Hr (cfs)	Q100-Yr 6-Hr Event	Q100-Yr 24-Hr Event
A	RES8N	401	488	1053.1	1053.1
A	RES8S	1042	1152	1055.5	1055.5
B	PA55	121	124	1102.4	1102.8
B	PA59	615	626	1101.1	1101.1
B	PA63	965	1042	1098.2	1098.3
C	PA43	1032	982	1108.4	1108.3
C	PA47	373	368	1104.9	1104.9
C	PA51	947	910	1105.7	1105.7
D	RES14E	83	86	1087.6	1087.6
E	RES36	2409	2305	1138.2	1138.2
F	RES33	0	0	1123.0	1123.0
G	RES6	2141	1681	1146.0	1145.8
H	RES26T	3104	2893	1113.2	1113.2
I	RES29S	565	620	1021.7	1021.7
J	RES29W	627	674	1018.4	1018.4
K	RES10	994	1070	1068.7	1068.8
L	RES32E	188	197	1021.1	1021.1
M	RES22	473	379	1136.2	1136.2
N	RES9	897	970	1058.5	1058.6
O	RES26S	1100	989	1138.6	1138.6
P	RES8	458	369	1150.6	1150.5
Q	RES26E	3033	2547	1099.4	1099.3
R	RES24N	382	364	1097.5	1097.5
S	RES26N	398	145	1141.8	1141.7



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

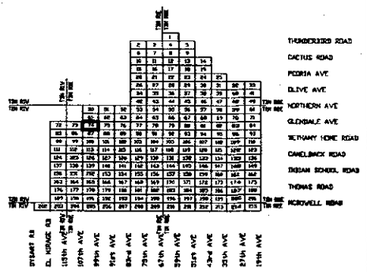
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80115	1066.65	BRASS CAP
70509	1073.86	BRASS CAP

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–

SUBMITTED BY: DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 74 OF 215

EXHIBIT A - 1 OF 2

X:\258BA1.DWG OCT-04-95

MATCH EXHIBIT A SHEET 1 OF 2

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

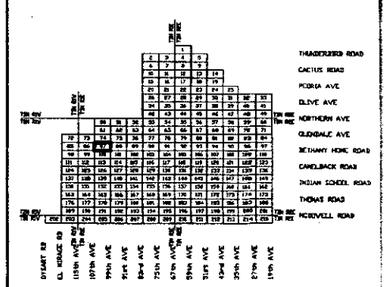
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

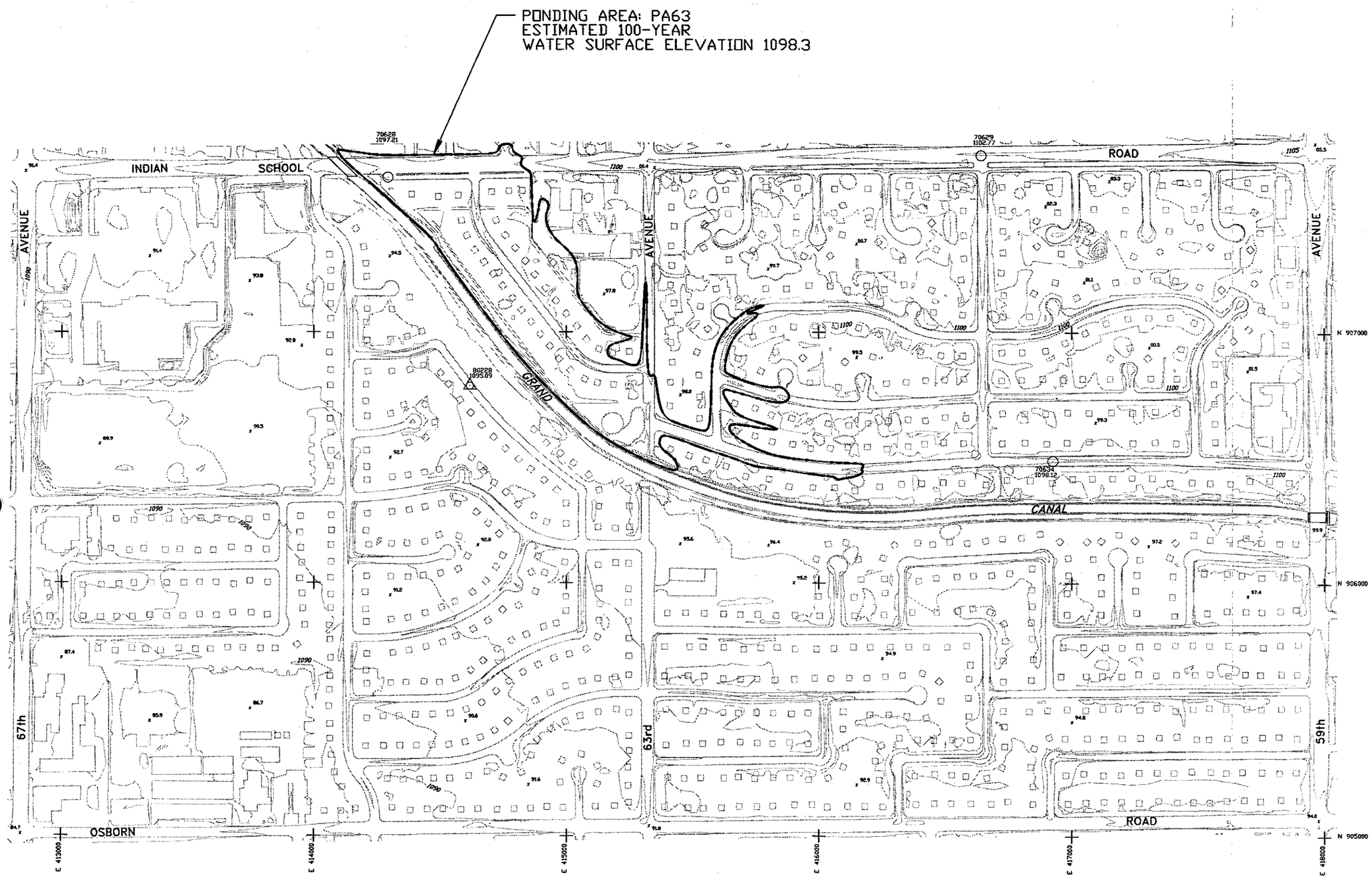
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 87 OF 215

EXHIBIT A - 2 OF 2

32586A2.DWG OCT-04



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

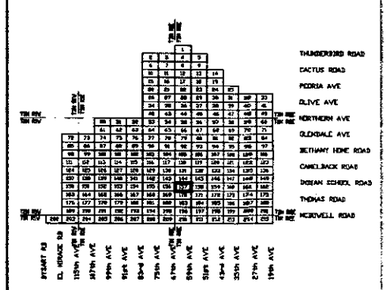
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80228	1095.09	BRASS CAP
70628	1097.21	P K NAIL
70629	1102.77	P K NAIL
70634	1098.12	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

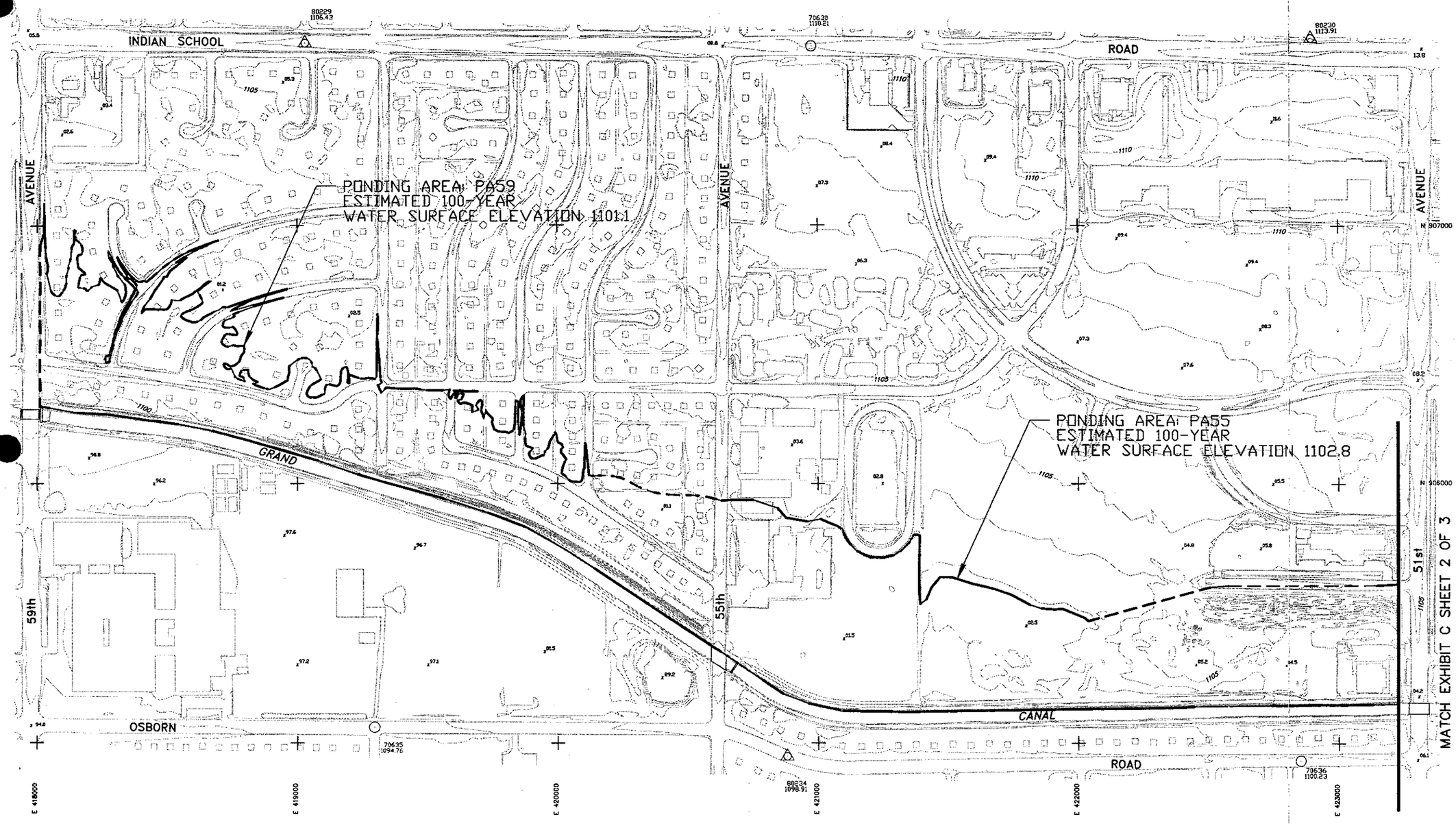
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 157 OF 215

EXHIBIT B

325968B1.DWG OCT-04-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

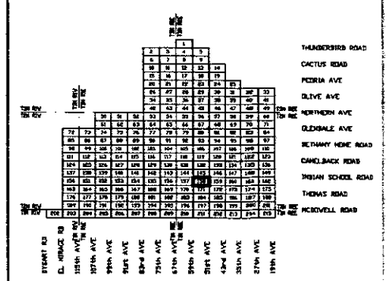
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80229	1106.43	BRASS CAP
80230	1113.91	P K NAIL
80234	1098.91	P K NAIL
70630	1110.21	P K NAIL
70635	1094.76	P K NAIL
70636	1100.23	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	--	--
DESIGN CHK.	--	--
PLANS	--	--
PLANS CHK.	--	--
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 158 OF 215

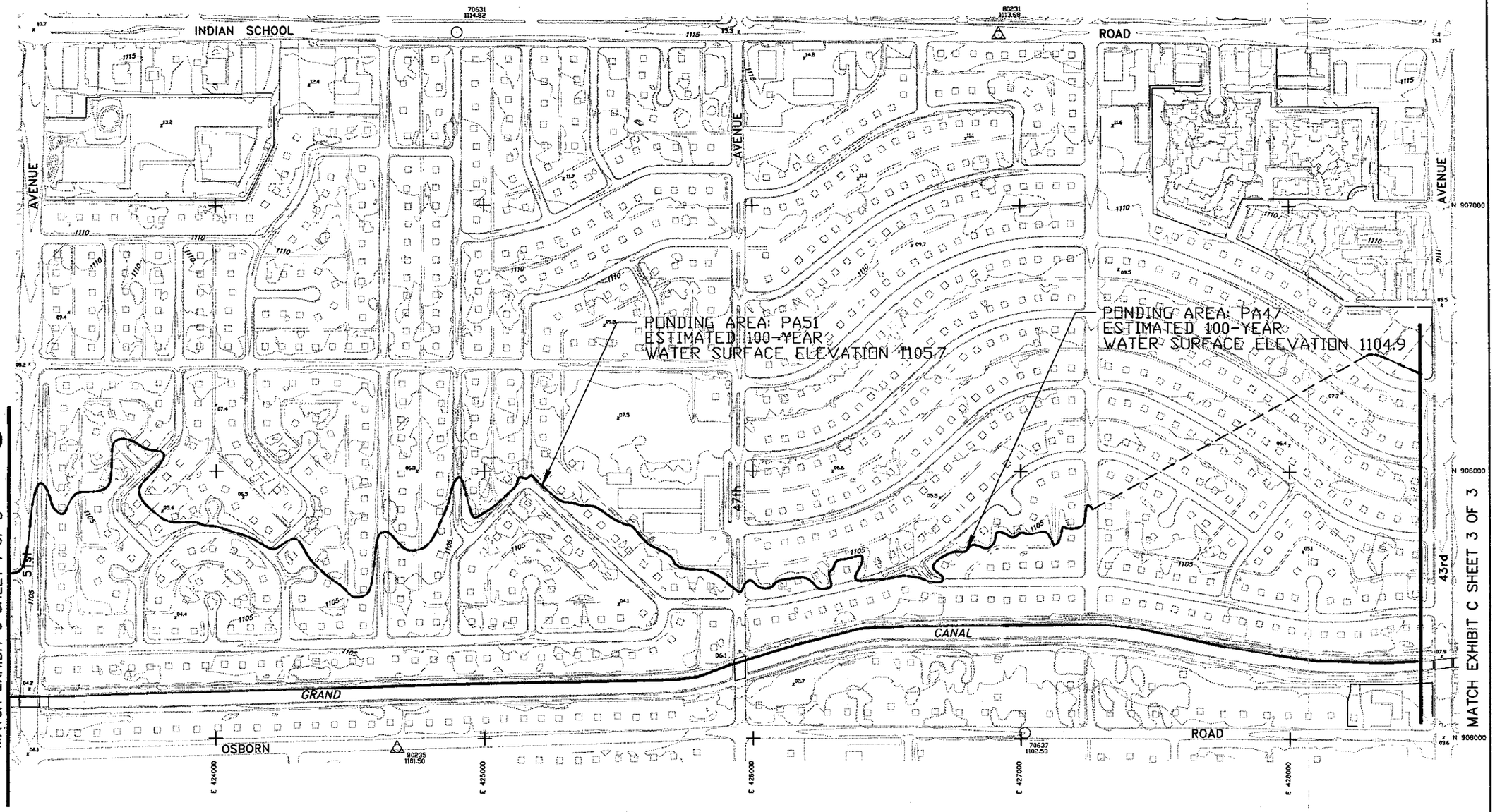
EXHIBIT C - 1 OF 3

32586C1.DWG OCT-04-96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"



LEGEND

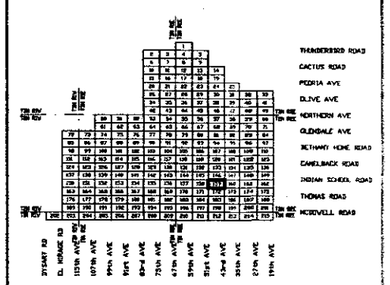
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80231	1113.68	P K NAIL
80235	1101.50	P K NAIL
70631	1114.82	P K NAIL
70637	1102.53	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	--	--
DESIGN CHK.	--	--
PLANS	--	--
PLANS CHK.	--	--
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

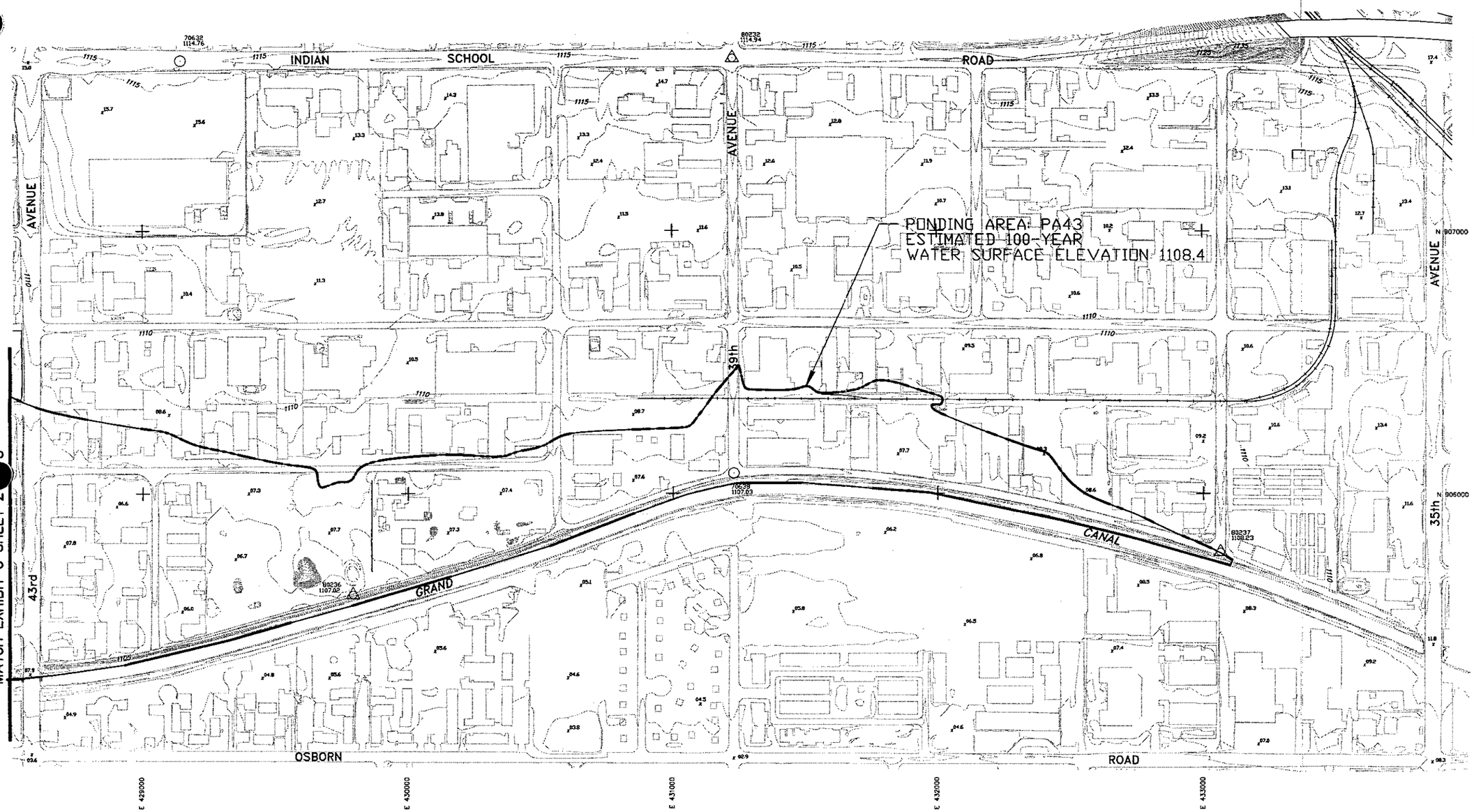
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 159 OF 215

EXHIBIT C - 2 OF 3

3253BC2.DWG OCT-04-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

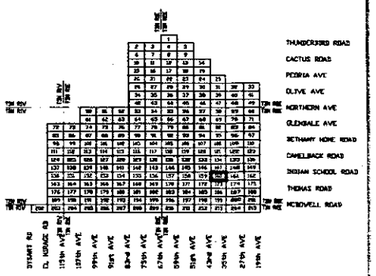
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80232	1114.94	B C H H
80236	1107.02	P K NAIL
80237	1108.23	BRASS CAP
70632	1114.76	P K NAIL
70638	1107.03	BRASS CAP

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 160 OF 215

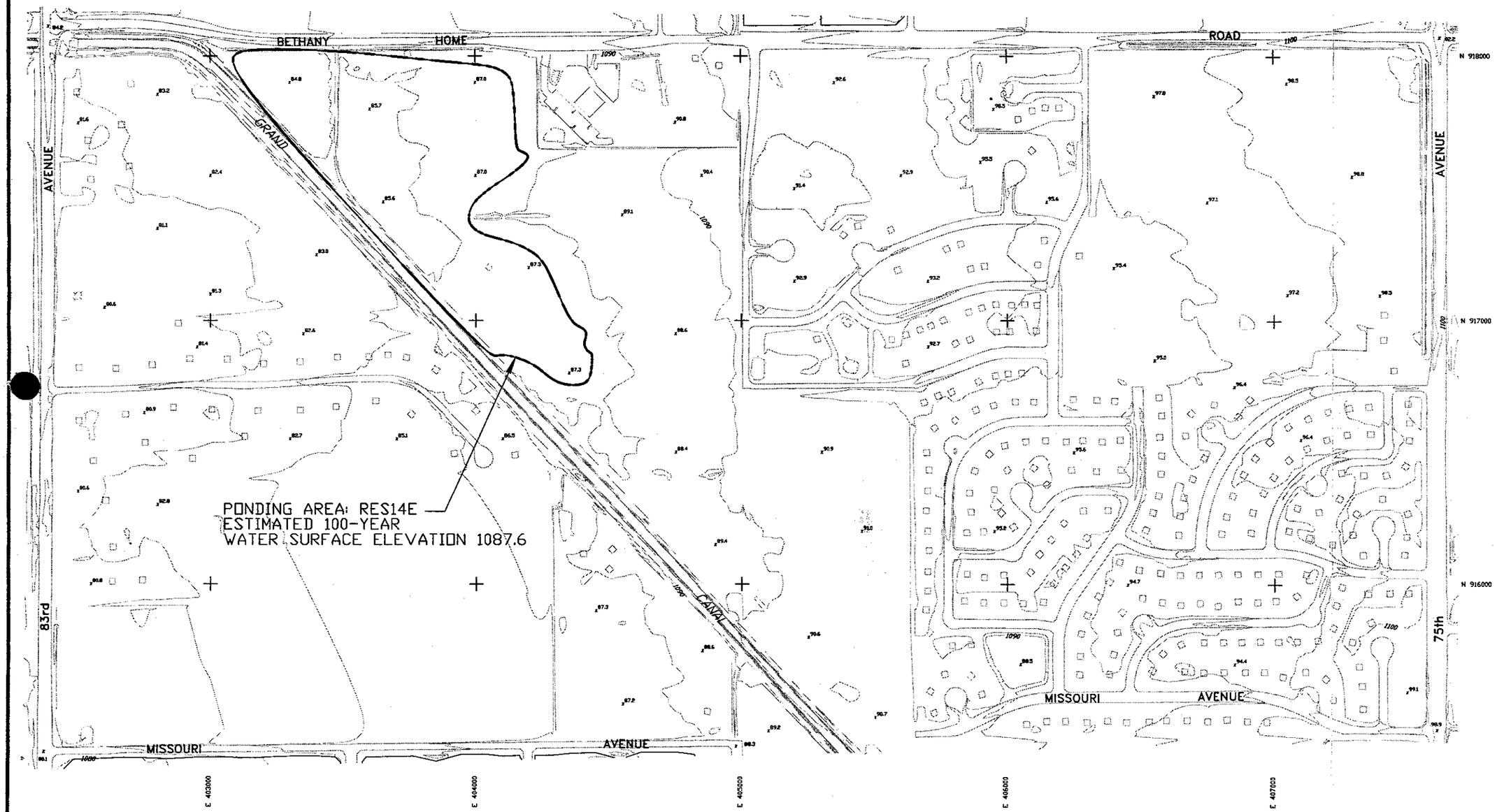
EXHIBIT C - 3 OF 3

32588C3.DWG OCT-04-96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"



LEGEND

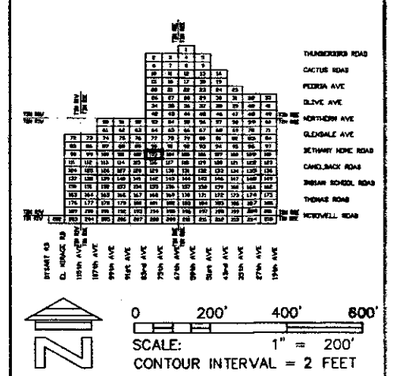
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

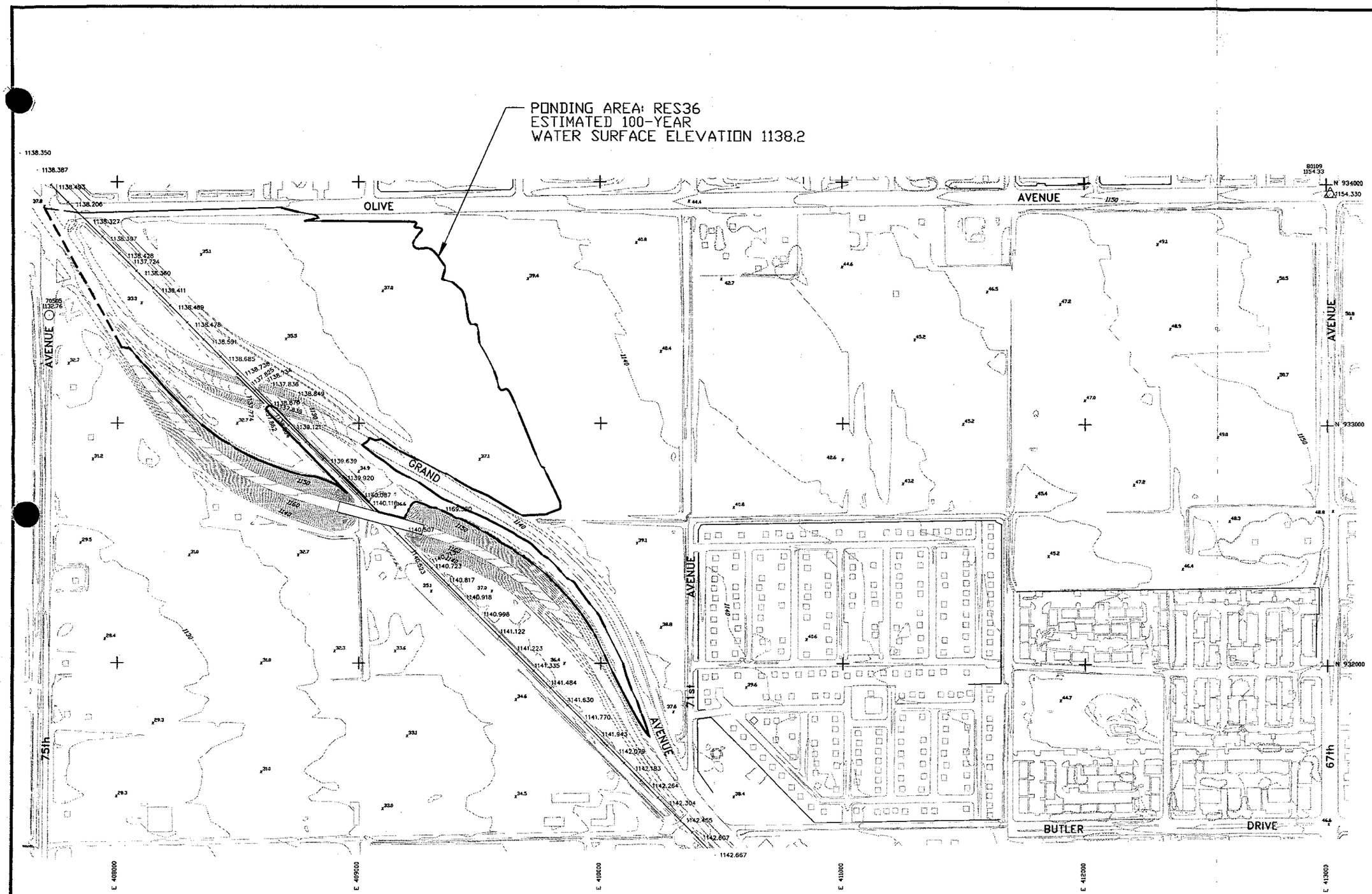
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE
APPROVED BY: DATE
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 103 OF 215

EXHIBIT D

325860.DWG OCT-07-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

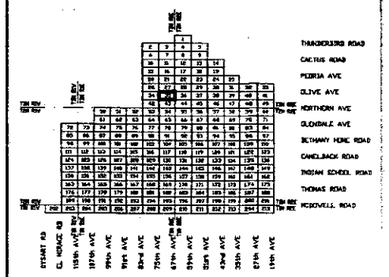
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80109	1154.33	B C H H
70505	1132.76	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

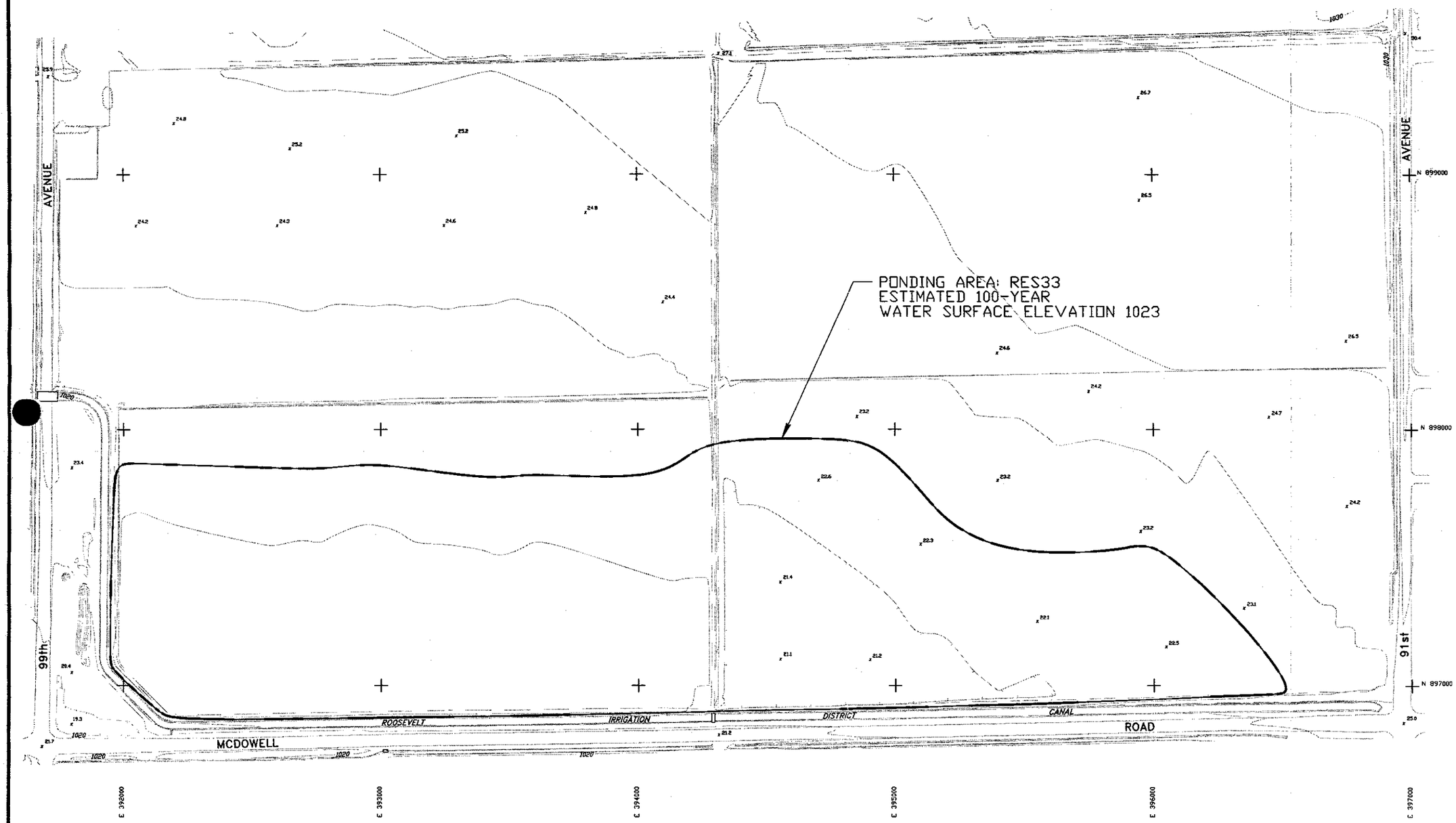
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 35 of 215

EXHIBIT E

3259861.DWG OCT-07-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

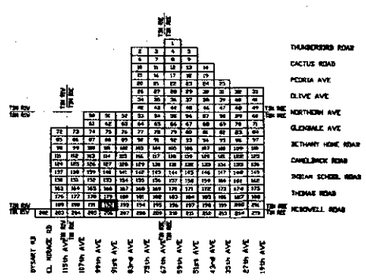
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	--	--
DESIGN CHK.	--	--
PLANS	--	--
PLANS CHK.	--	--

SUBMITTED BY: DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 192 OF 215

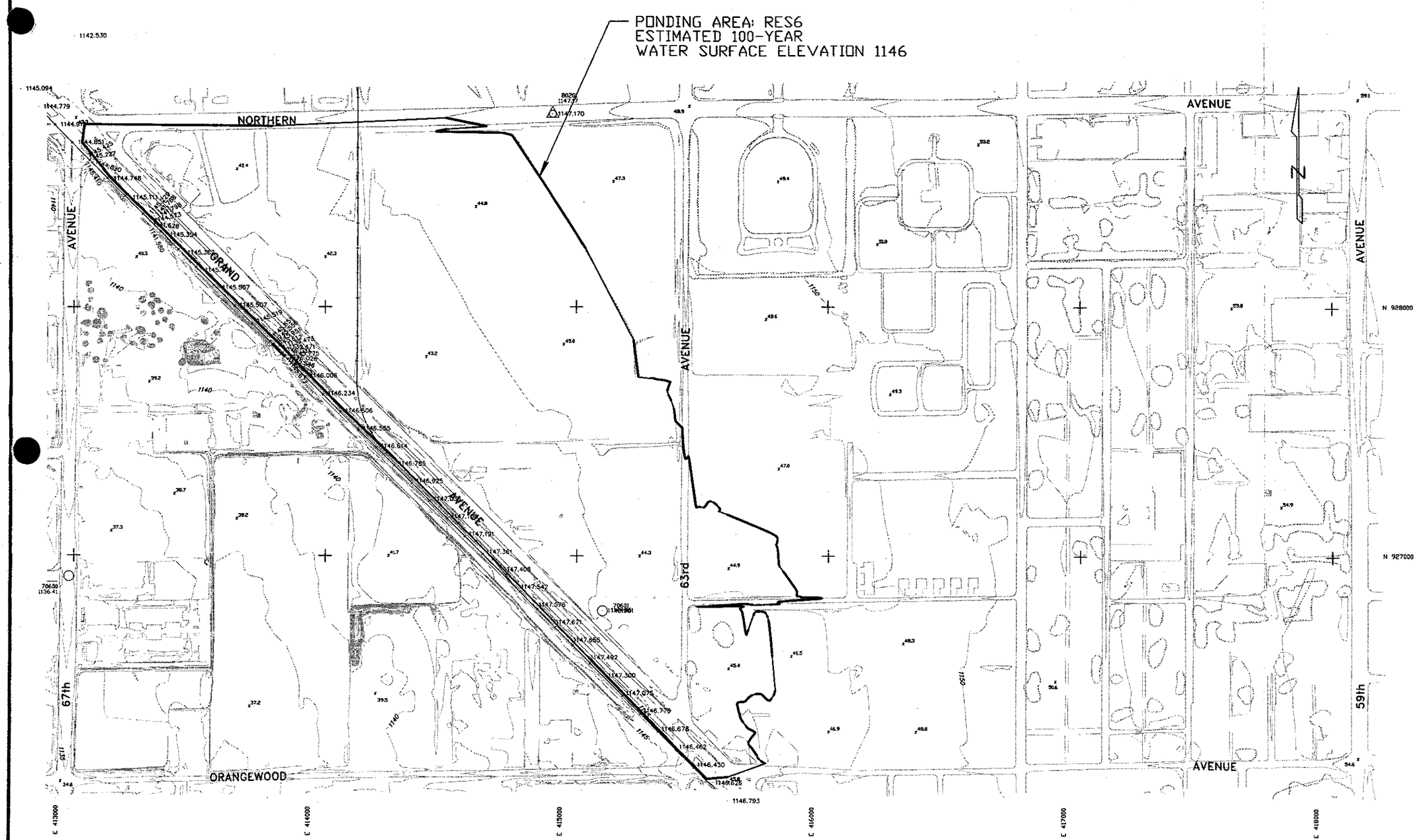
EXHIBIT F

32586F1.DWG OCT-07-96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"



LEGEND

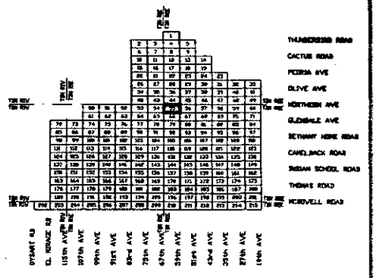
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80201	1147.17	P K NAIL
70600	1136.41	BRASS CAP
70601	1144.96	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 55 OF 215

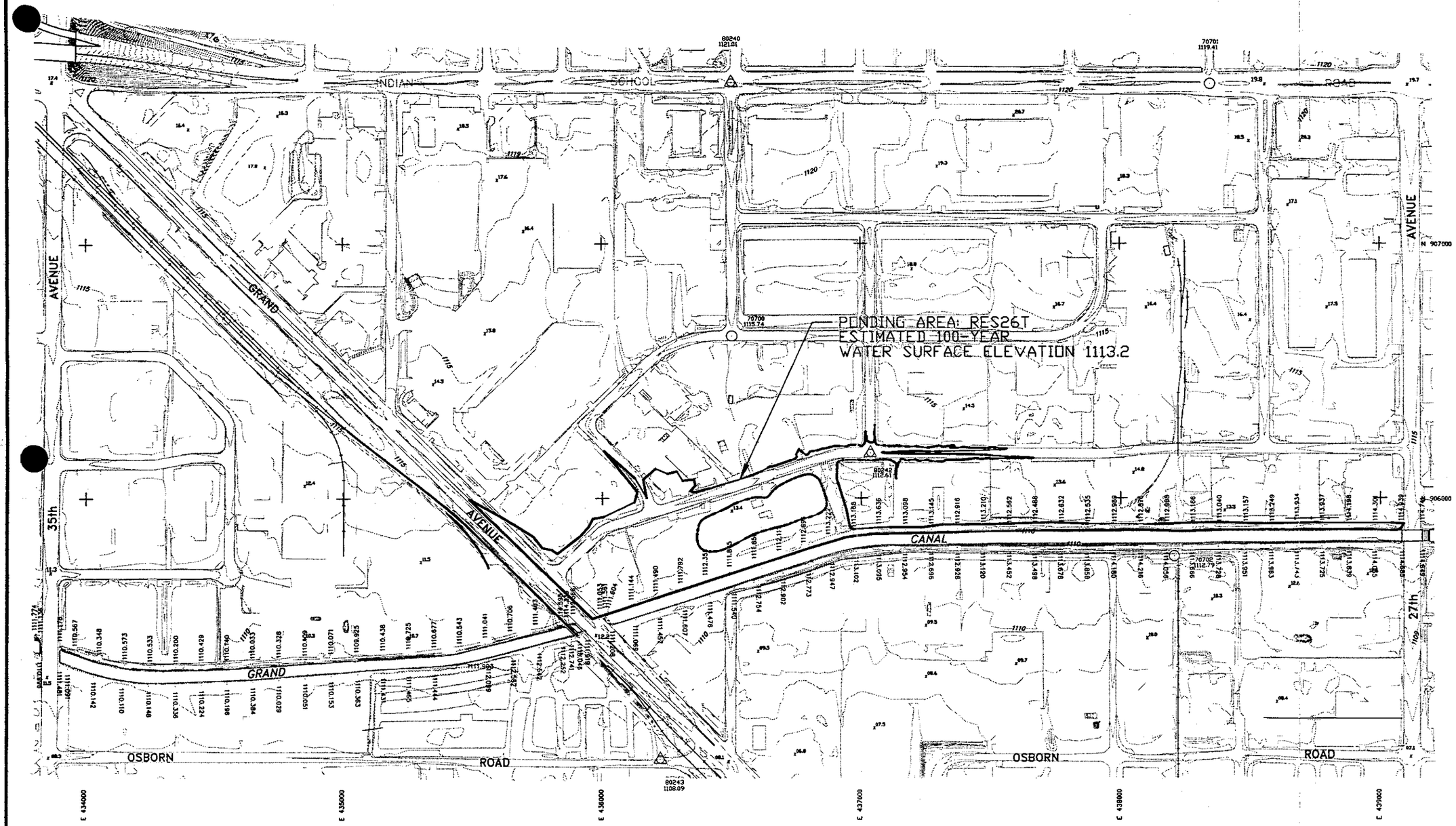
EXHIBIT G

3258601.DWG OCT-07-96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"



LEGEND

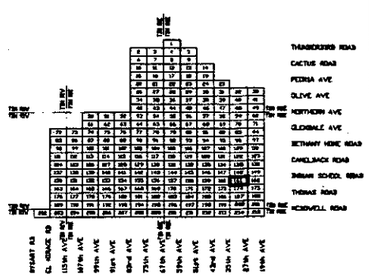
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80240	1121.01	B C H H
80242	1112.61	BRASS CAP
80243	1108.09	P K NAIL
70700	1115.74	BRASS CAP
70701	1119.41	B C H H
70702	1112.79	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

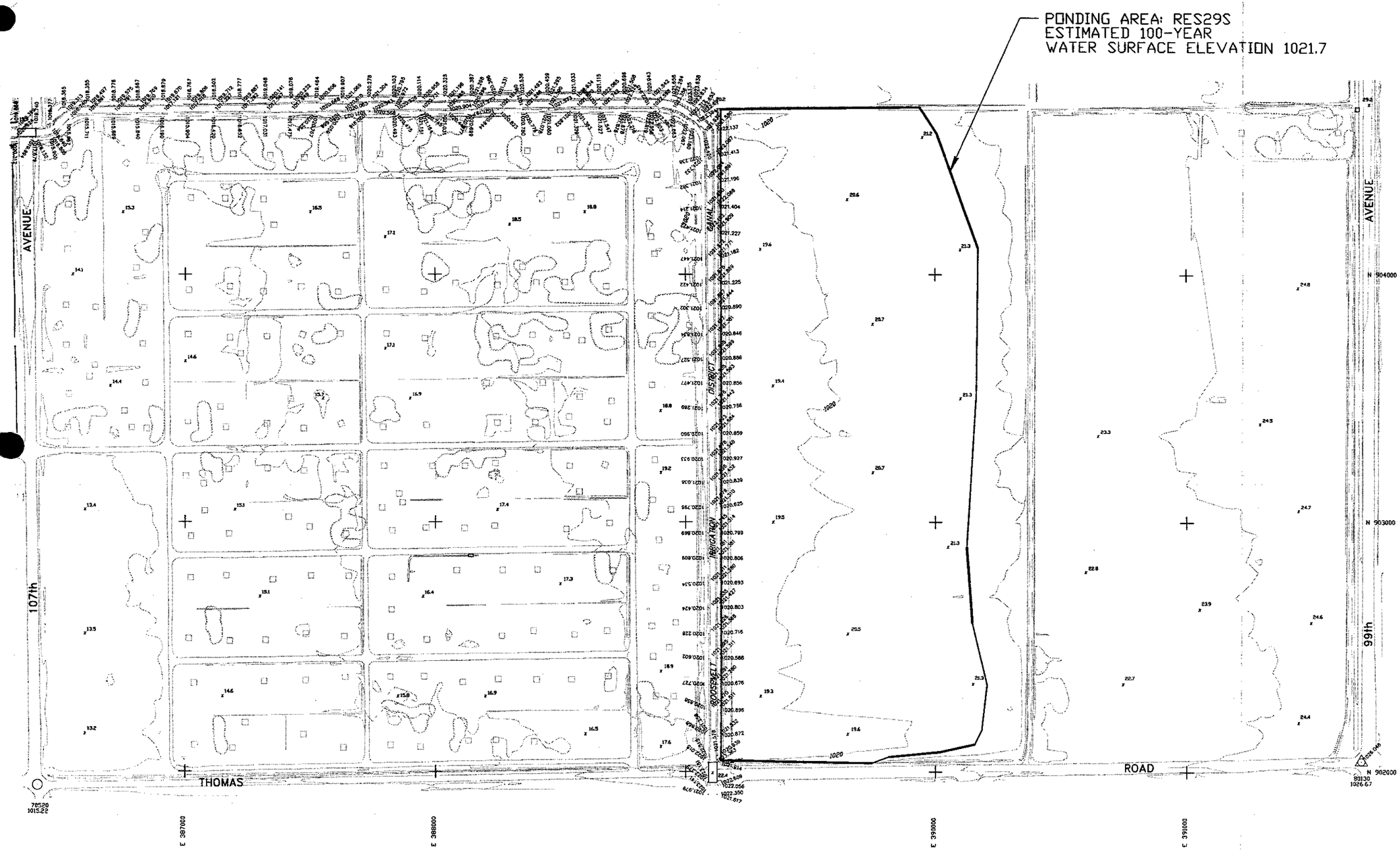
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 161 OF 215

EXHIBIT H

X:\2020211.P26 06-07-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

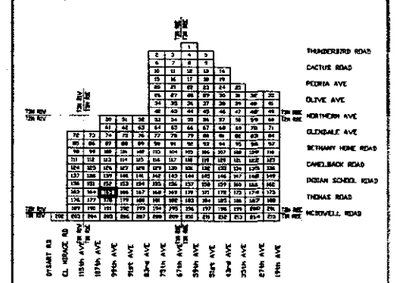
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
89130	1026.67	B C H H
70520	1015.22	B C H H

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL

WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

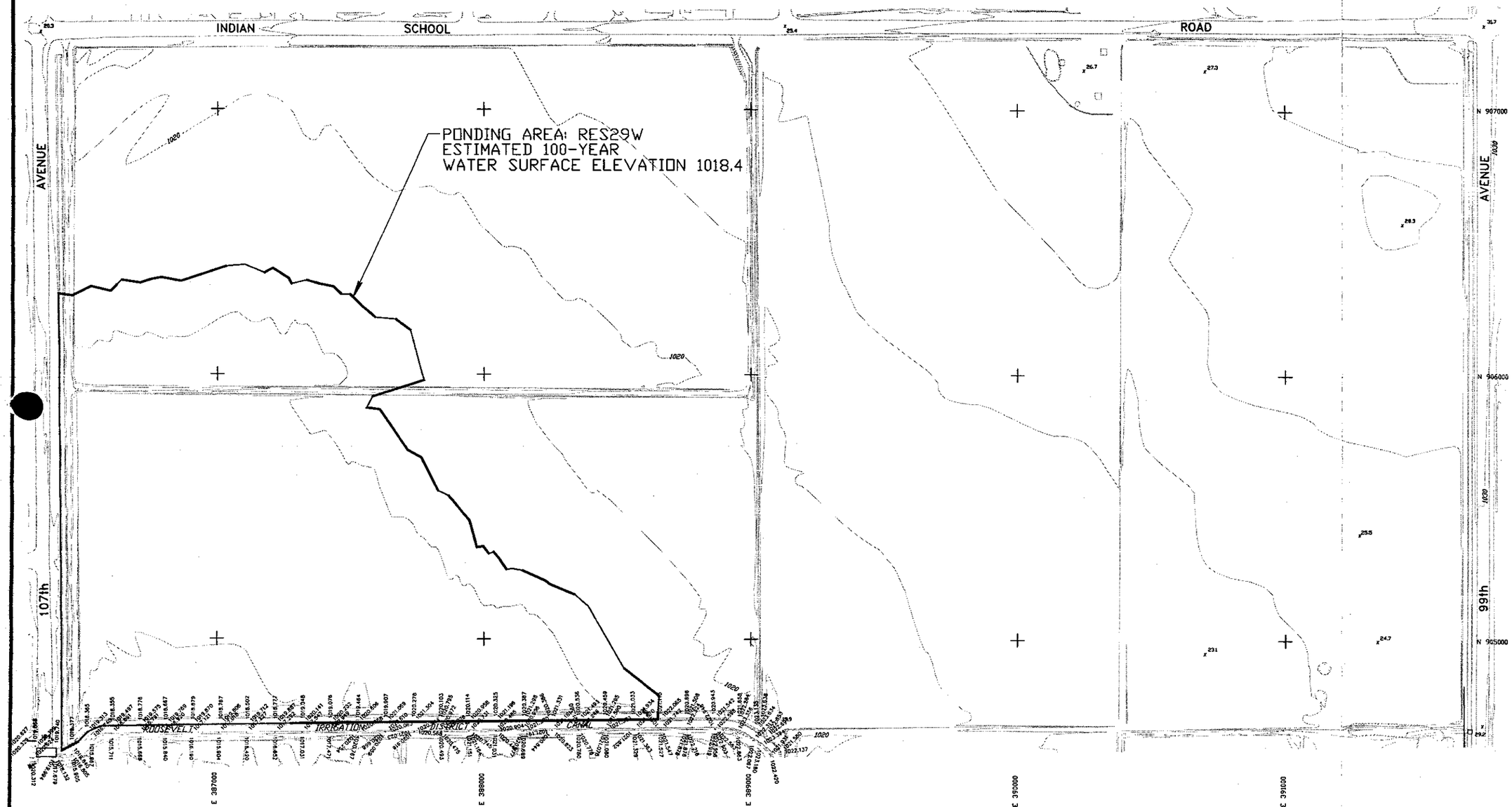
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 165 OF 215

EXHIBIT I

3258B1.DWG OCT-08-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

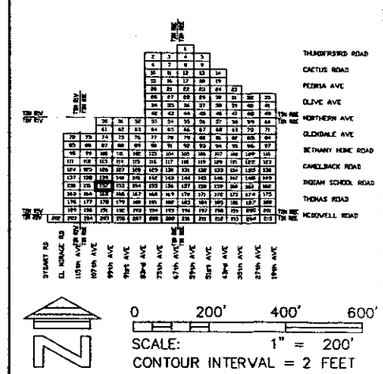
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

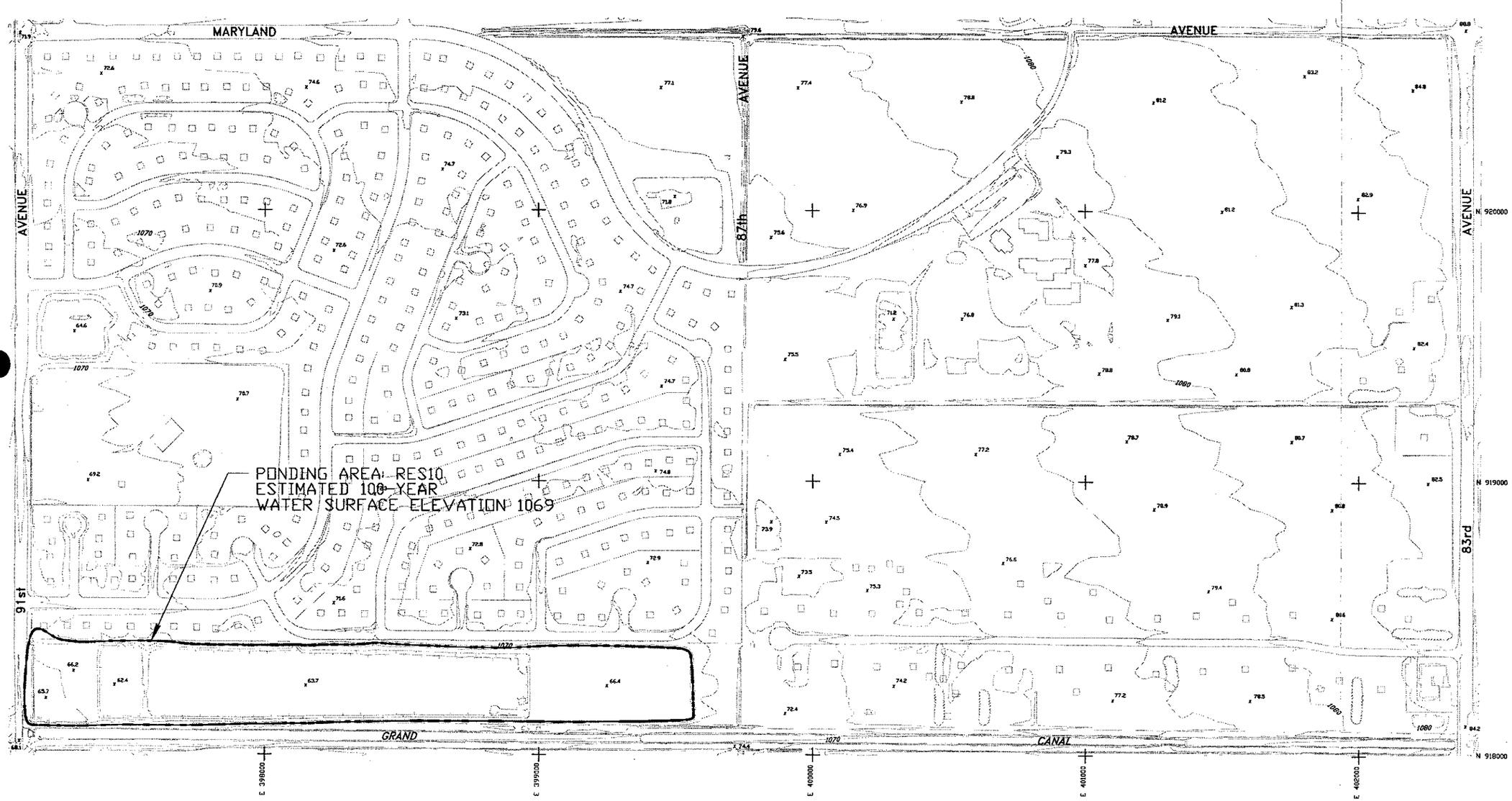
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 152 OF 215

EXHIBIT J

325585.J1.DWG OCT-10-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

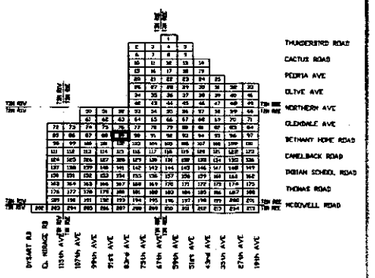
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–

SUBMITTED BY: DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

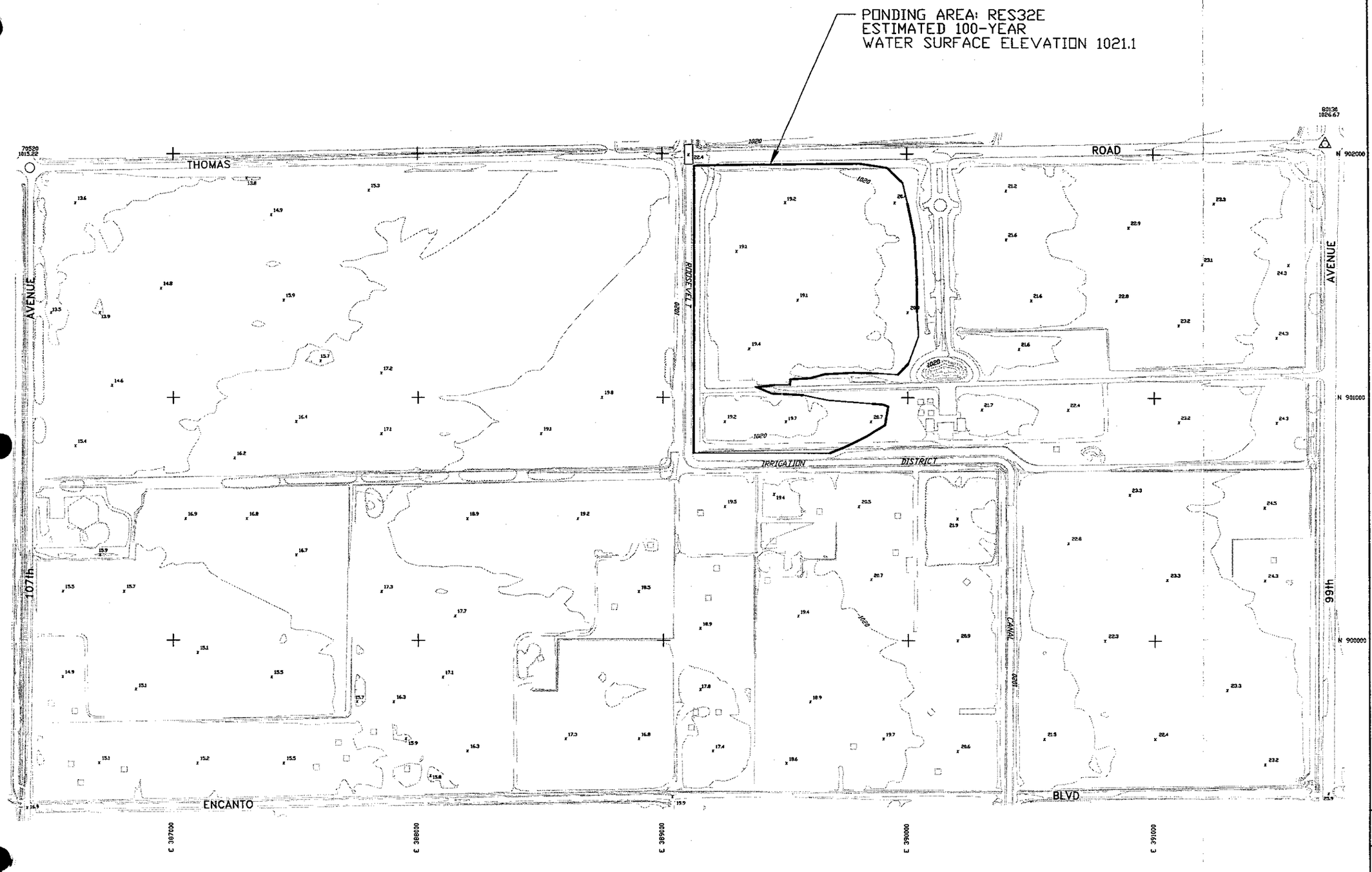
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 89 OF 215

EXHIBIT K

32586K1.DWG OCT-08-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

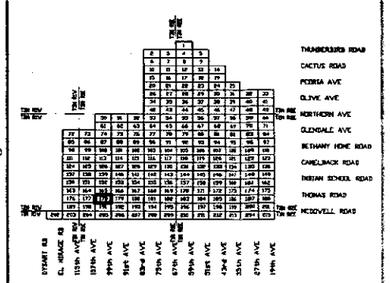
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- 21.4 SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80130	1026.67	B C H H
70520	1015.22	B C H H

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

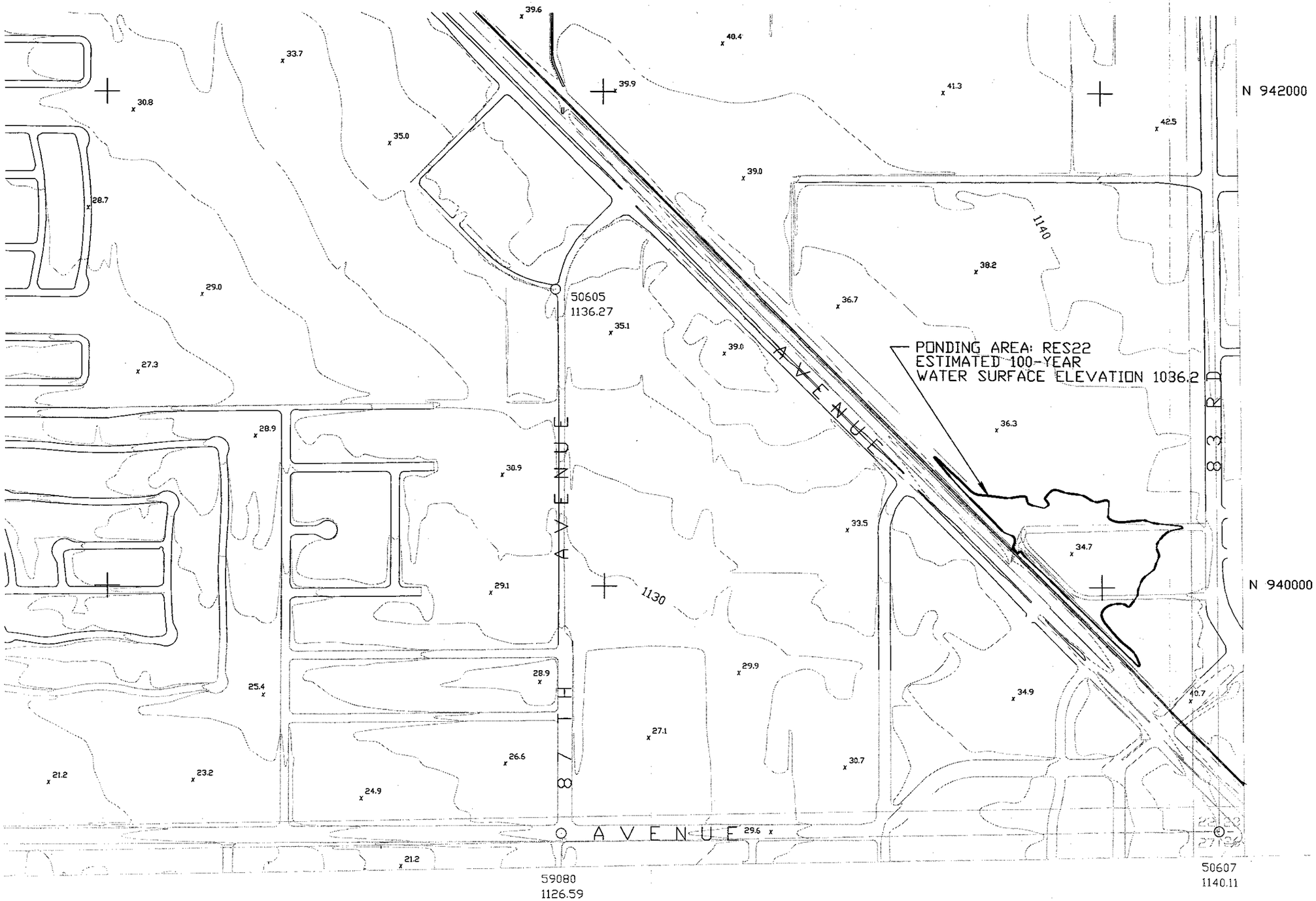
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 178 OF 215

EXHIBIT L

32586L1.DWG OCT-04-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

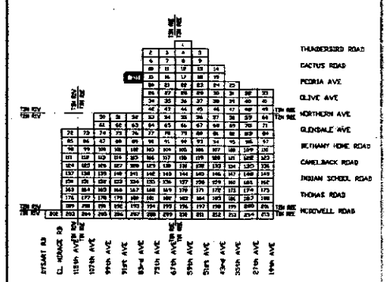
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- 21.4 SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
B0104	1182.97	B C H H
70502	1167.27	B C H H

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–

SUBMITTED BY: DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

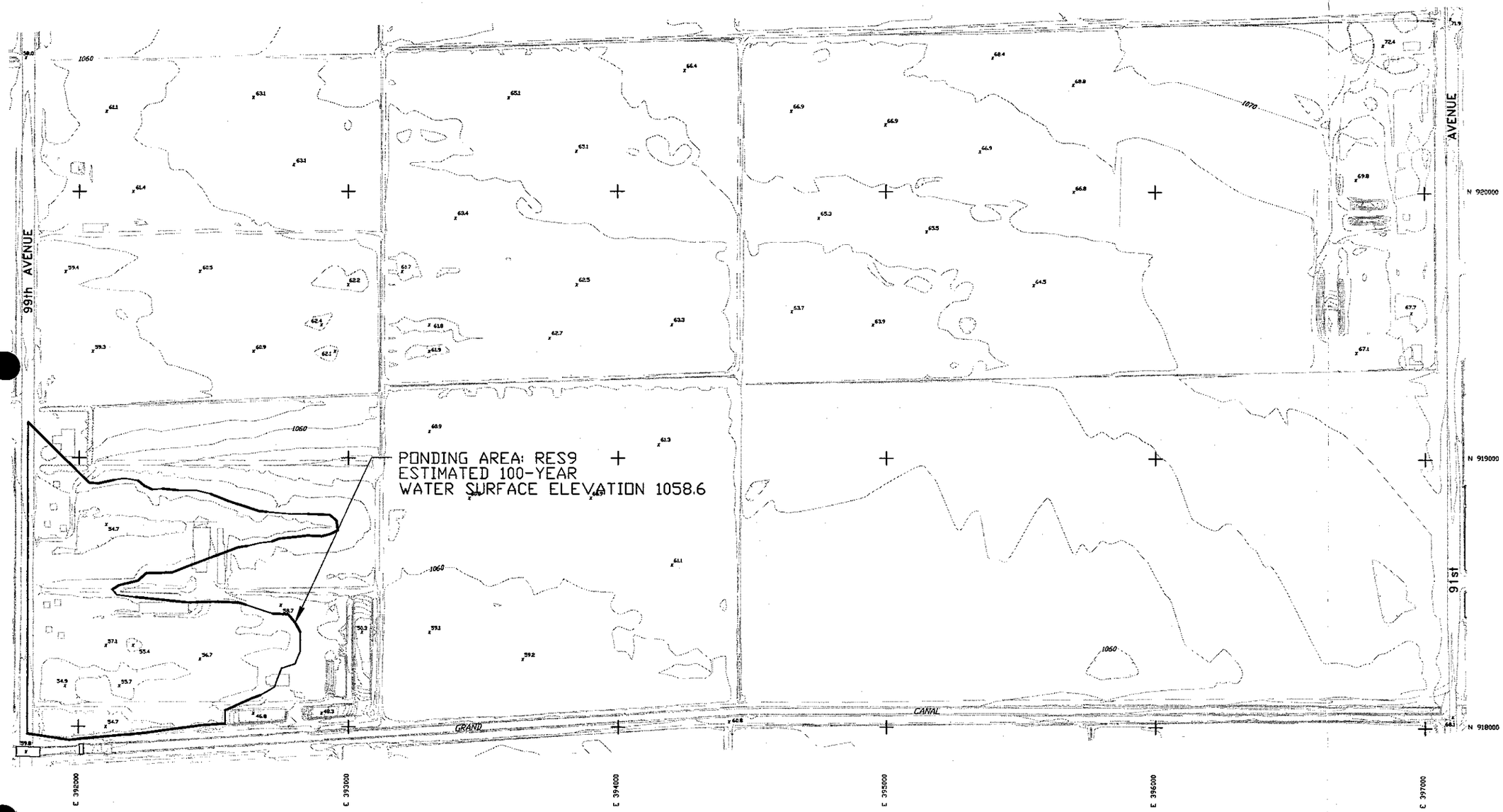
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 11 OF 215

EXHIBIT M

32586M1.DWG OCT-08-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

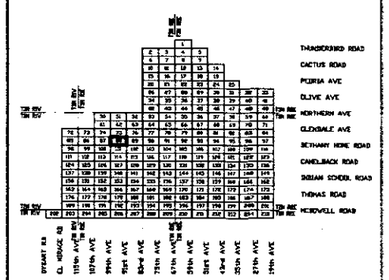
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL

WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

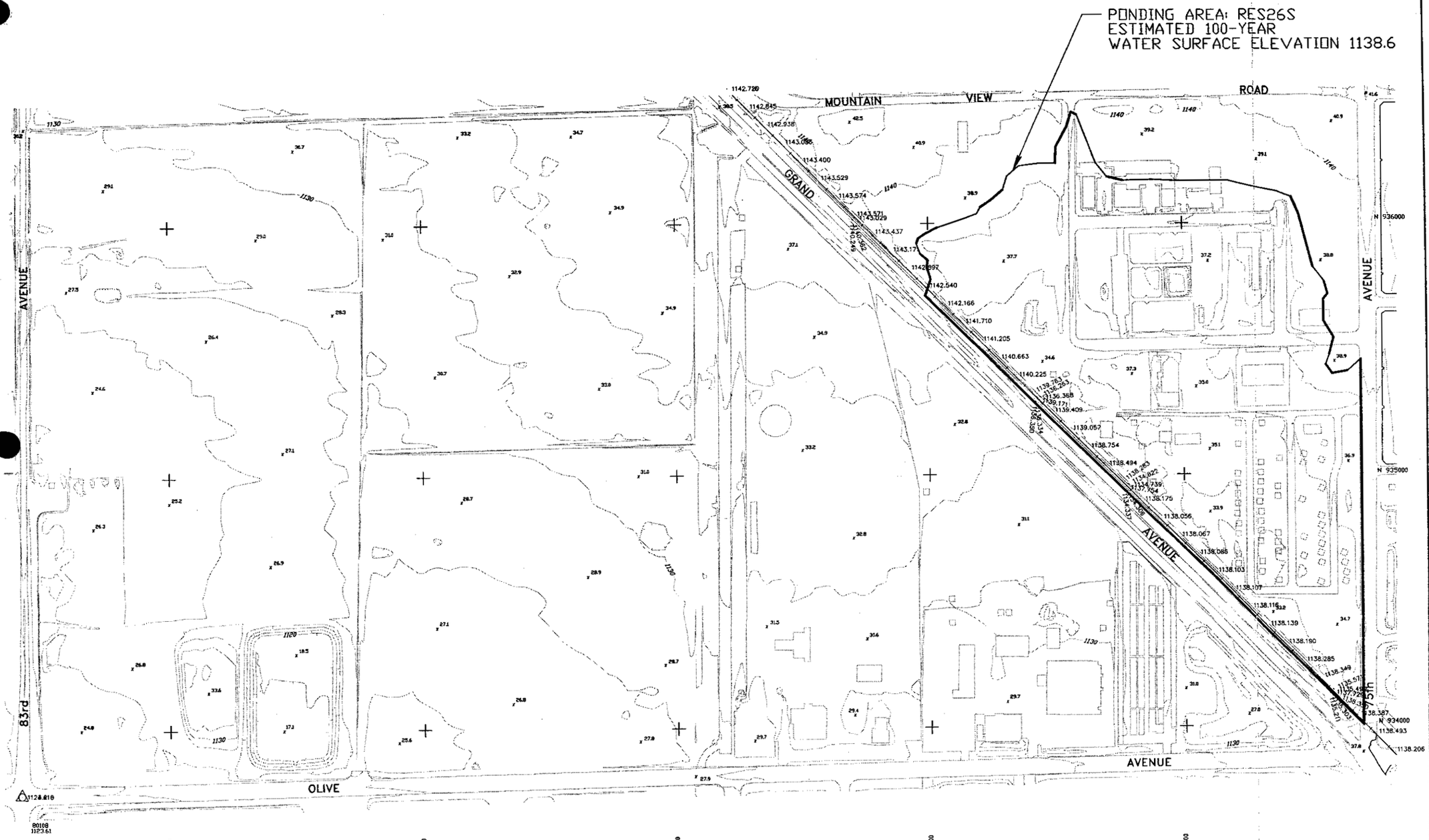
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 88 OF 215

EXHIBIT N

3255GENI.DWG 96-04-30



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

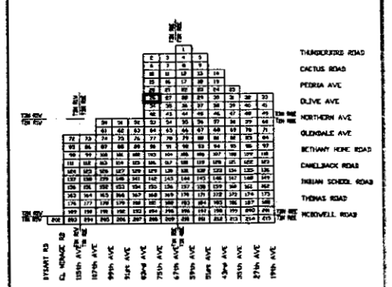
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80108	1123.61	B C H H

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

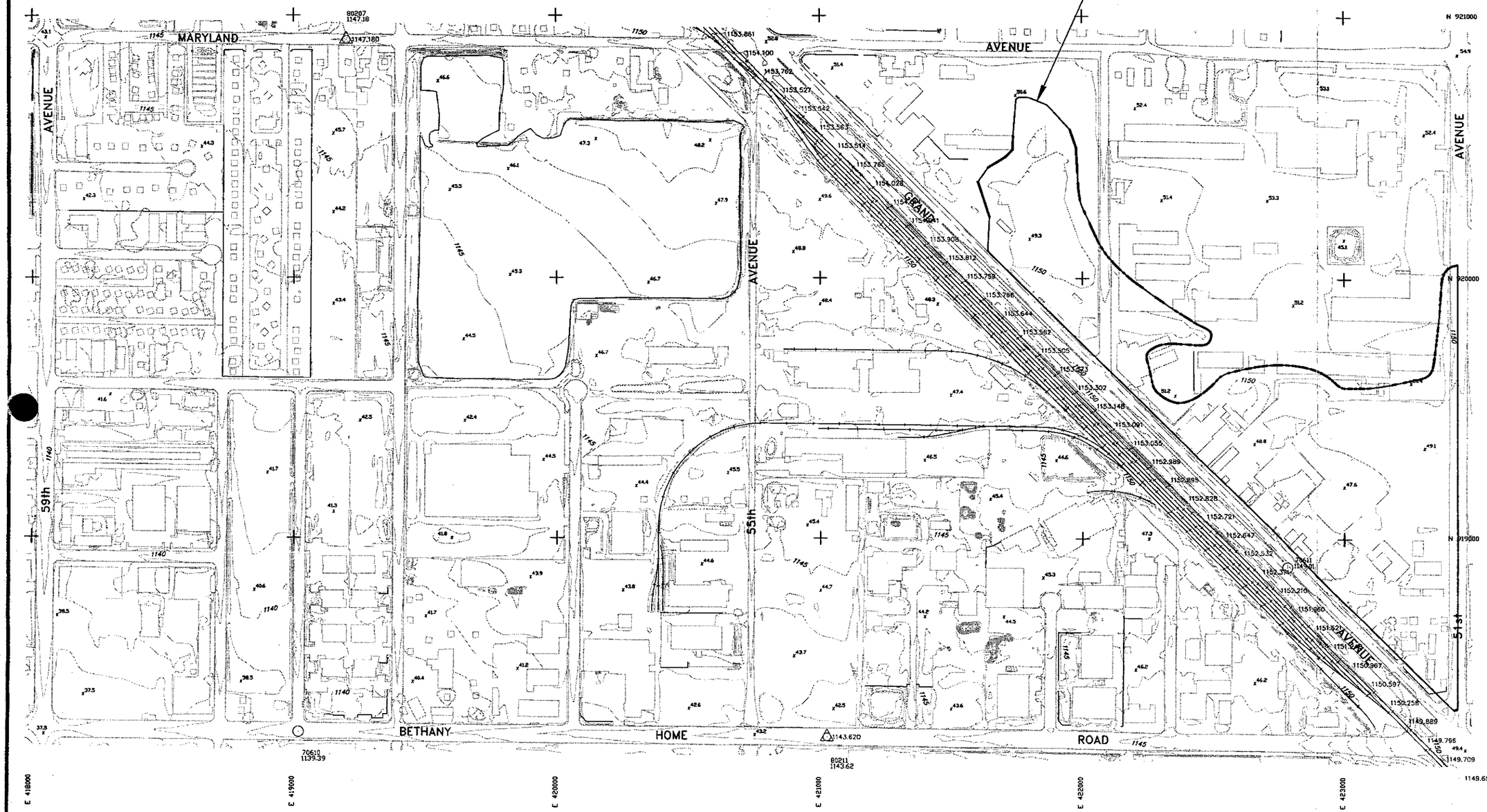
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 26 OF 215

EXHIBIT O

3258601.DWG OCT-08-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

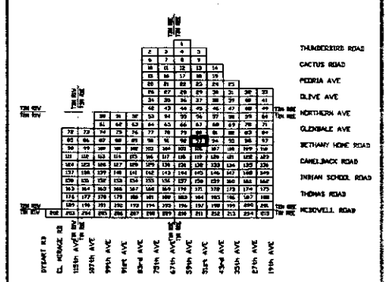
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80207	1147.18	P K NAIL
70610	1139.39	BRASS CAP
80211	1143.62	P K NAIL
70611	1149.01	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

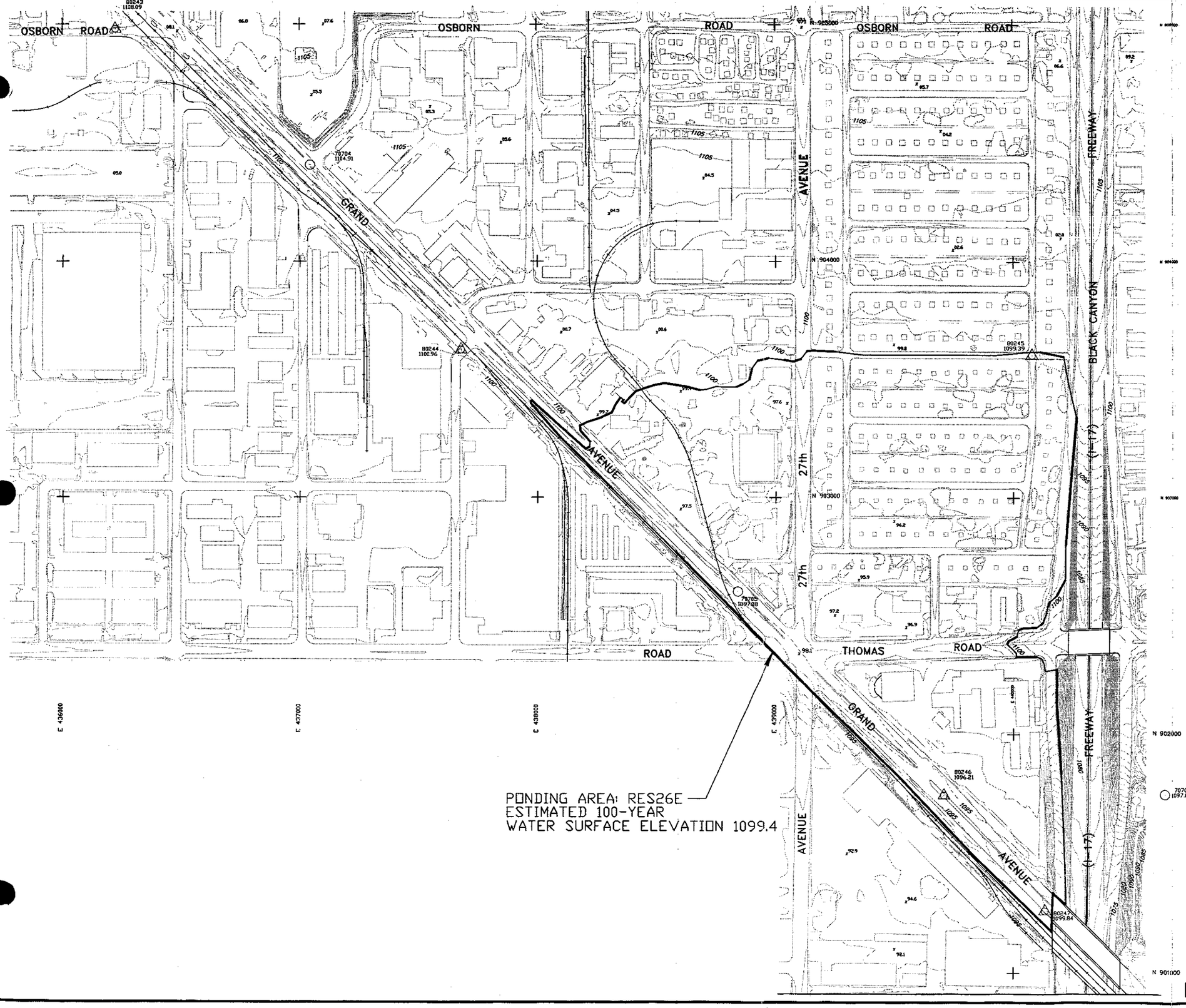
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 93 OF 215

EXHIBIT P

32588P1.DWG OCT-09-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

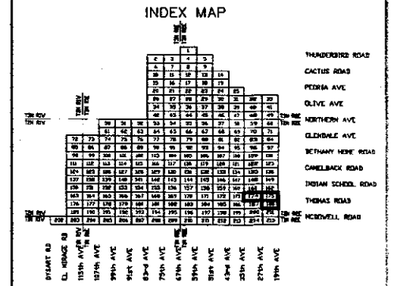
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80134	1095.30	B C H H
80243	1108.09	P K NAIL
80244	1100.96	P K NAIL
70704	1104.91	P K NAIL
70705	1097.08	P K NAIL
80246	1096.21	P K NAIL
80247	1099.84	P K NAIL
70706	1097.84	P K NAIL

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

DESIGN	BY	DATE
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

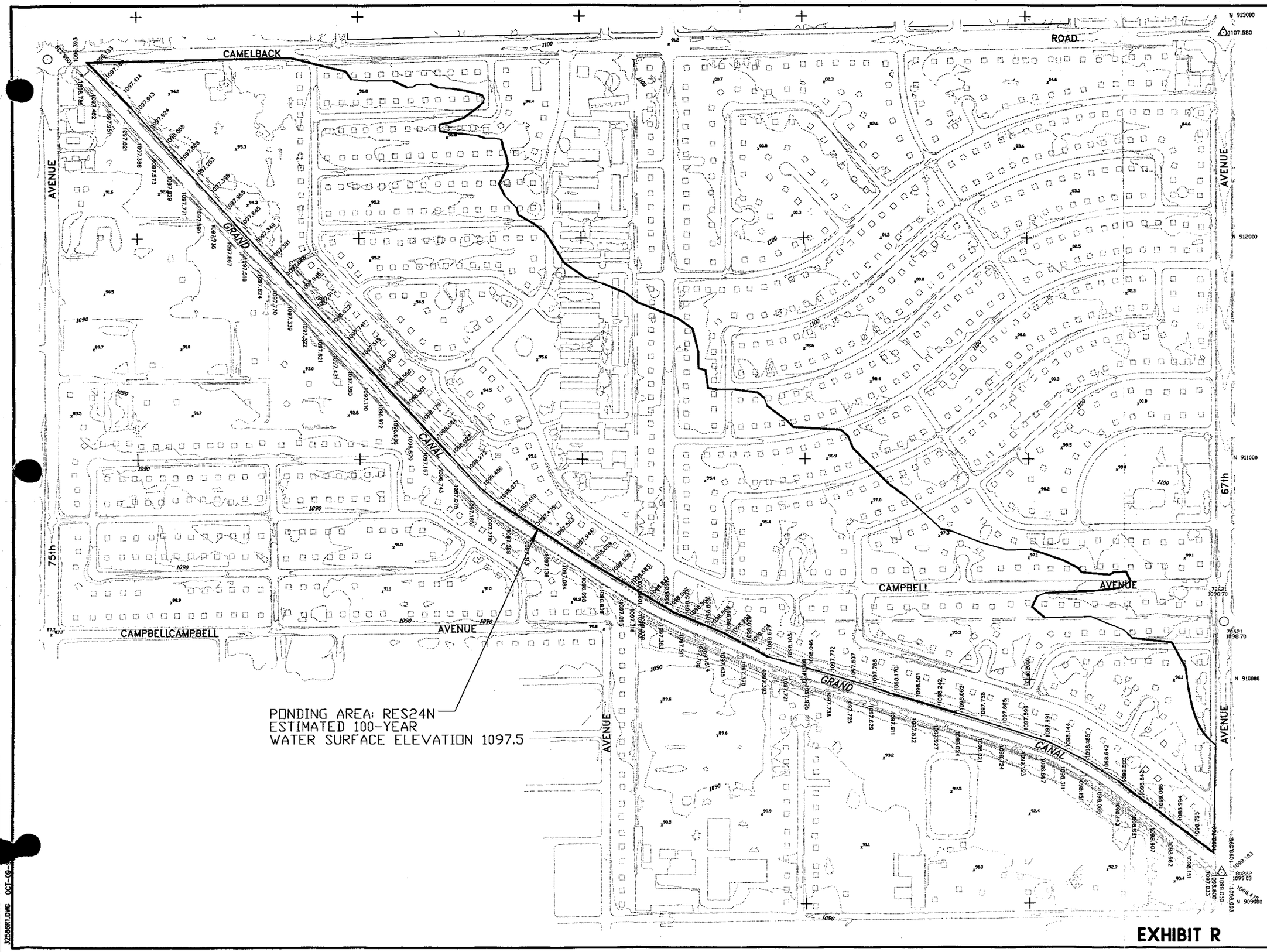
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 174,175,188 & 215

EXHIBIT Q

3258501.DWG OCT-09-96



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

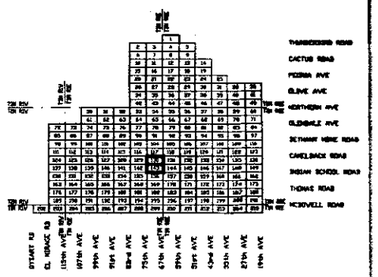
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION
80125	1107.58	BRASS CAP
70517	1095.31	B C H H
70621	1098.70	B C H H
80222	1099.03	P K NAIL
70621	1098.70	B C H H

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'

CONTOUR INTERVAL = 2 FEET

CH2M HILL

WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–

SUBMITTED BY: DATE

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

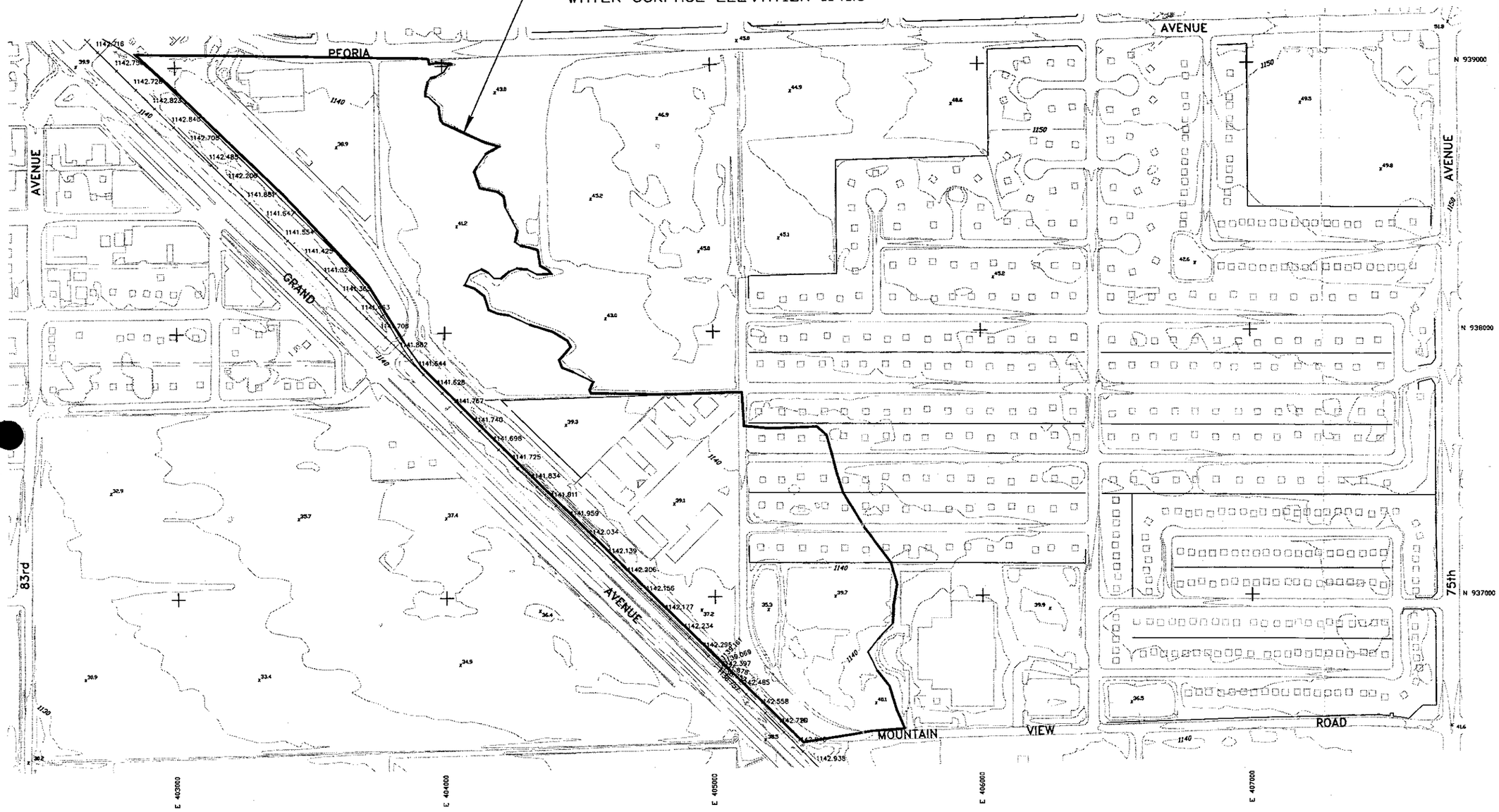
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 130,143 OF 215

EXHIBIT R

325561.DWG OCT-09-

PONDING AREA: RES26N
ESTIMATED 100-YEAR
WATER SURFACE ELEVATION 1141.8



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE ADMS PONDING AREA WORK MAP

"FCD CONTRACT # 93-29"

LEGEND

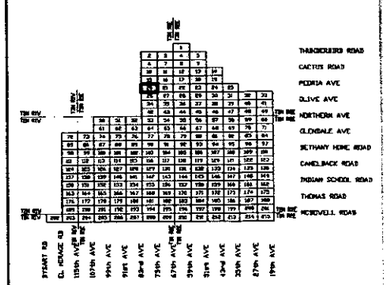
- BUILDING
- SINGLE RESIDENTIAL BUILDING
- ROAD/PAVEMENT
- DIRT ROAD
- HIDDEN ROAD/HIDDEN PAVEMENT
- CURB
- HIDDEN CURB
- RAILROAD
- INDEX CONTOUR
- DEPRESSED INDEX CONTOUR
- INTERMEDIATE CONTOUR
- DEPRESSED INTERMEDIATE CONTOUR
- WASH/ DRAINAGE/WATERLINE
- IRRIGATION DITCH
- TREE LINE
- SPOT ELEVATION
- HORIZONTAL & VERTICAL CONTROL POINT
- VERTICAL CONTROL POINT
- PONDING AREA

ELEVATION REFERENCE MARKS

NOTE: ALL ELEVATIONS ARE BASED ON NATIONAL GEODETIC VERTICAL DATUM OF 1929

I.D. NUMBER	ELEVATION (FT)	DESCRIPTION/LOCATION

INDEX MAP



0 200' 400' 600'

SCALE: 1" = 200'
CONTOUR INTERVAL = 2 FEET

CH2M HILL | WOOD / PATEL

FLOWN BY: KENNEY AERIAL MAPPING INC.
FLIGHT DATE MARCH 28,1994

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	–	–
SUBMITTED BY:		DATE:

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE
APPROVED BY: DATE
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 20 OF 215

EXHIBIT S

3258851.DWG OCT-09-

Appendix M: Exhibits 1 - 6

Maryvale ADMS

HEC-1 Element Nomenclature

○ **SUB-BASIN HYDROGRAPH GENERATION:**

Format: (section no.) - (township no.) (range no.)(optional alphanumeric)

Example: **17-32N**

Generate hydrograph for the northern portion of Section 17, T3N, R2E.

◇ **SUB-BASIN DIVERSION:**

Format: **D**(section no.)(**W, S, E,** or **N**)

Example: **D17S**

Southerly component of flow diversion of Section 17.

□ **SUB-BASIN ROUTE:**

Format: **R**(section no.)(township no.) (range no.)(**W, S, E,** or **N**)

Example: **R1732S**

Southerly component of flow route through Section 17, T3N, R2E.

△ **SUB-BASIN RESERVOIR ROUTE OR SURGE BASIN DIVERSION:**

Format: **RES**(section no.)

Example: **RES17**

Reservoir route or surge basin diversion in Section 17. Reservoir routes were used to model "regional retention basins" and "ponding areas."

In the Maryvale Mitigation Area, an alternate format was used to be consistent with a previous study. This format is:

PA(street no.)

Example: **PA43**

This corresponds to a ponding area at 43rd Avenue & the Grand Canal.

◇ **SUB-BASIN RETENTION BASIN DIVERSION: Subdivision Retention Basins**

Format: **RET**(section no.)

Example: **RET19**

Retention basin diversion in Section 19.

□ **STREET ROUTE:**

Format: **R**(street ID, up to 3 characters per street code)(sequential alphanumeric)

Example: **RPA1**

First route for Peoria Avenue.

Example: **R67C**

Third route for 67th Avenue.

◇ **STREET CAPACITY DIVERSION:**

Format: **S**(street ID, up to 3 characters) (sequential alphanumeric) (**W, S, E,** or **N**)

Example: **SPA1S**

First diversion from Peoria Avenue to the south.

Example: **S67CW**

Third diversion from 67th Avenue to the west.

◇ **STREET INTERSECTION DIVERSION:**

Format: **D**(street ID, up to 3 characters) (street ID, up to 3 characters)

Example: **DPA67**

Flow component in Peoria Avenue from diversion at Peoria & 67th Avenues.

Example: **D67PA**

Flow component in 67th Avenue from diversion at Peoria & 67th Avenues.

⬡ **STREET INTERSECTION COMBINE:**

Format: **C**(street ID, up to 3 characters) (street ID, up to 3 characters)

Example: **CPA67**

Flow combine at the intersection of Peoria & 67th Avenues.

- **STREET COMBINE:**

  Format: C(street ID, up to 3 characters) (sequential alphanumeric character)

  Example: **CPA2**

  Second flow combine along Peoria Avenue.

- **SUB-BASIN COMBINE:**

  Format: C(section no.) - (township no.) (range no.)(optional alphanumeric)

  Example: **C17-32**

  Hydrograph combine in Section 17, T3N, R2E.

  Alternate formats C1732N, C1732A, C1732B, & ETC ... ...

  These formats are used when there are multiple combines within a sub-basin and/or when the section is sub-divided into multiple sub-basins.

- **"NULL" COMBINE:**

  Format: **NULL**(sequential alphanumeric character)

  Example: **NULL2**

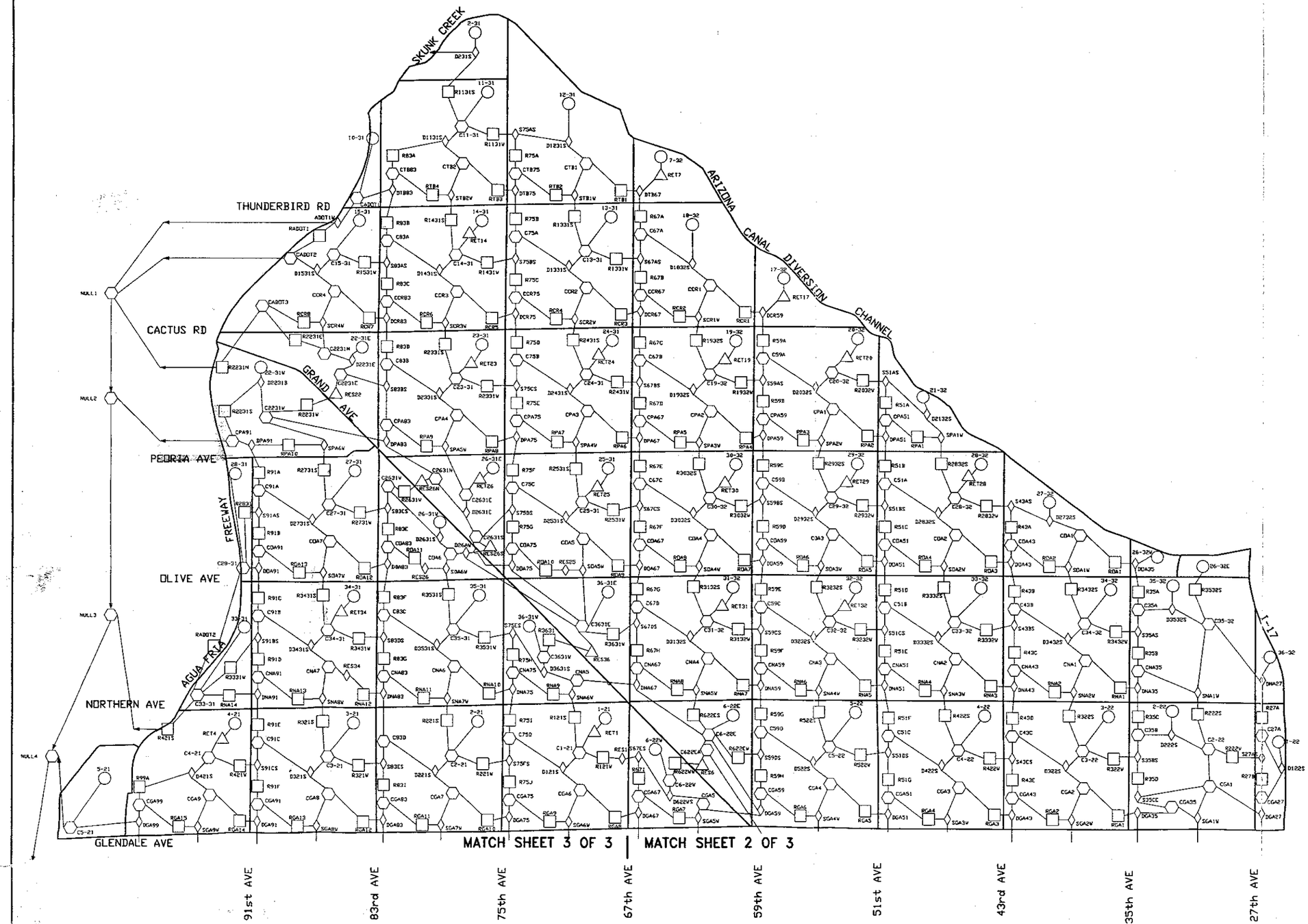
  Second NULL flow combine. NULL flow combines are strictly used to combine computational paths that terminate along the west side of the study area. Hence; the hydrographs associated with the NULL combines are meaningless.

STREET NAME CODES FOR NAMED STREETS

Street Name Code

- Thunderbird Road.....TB
- Cactus Road.....CR
- Peoria Avenue.....PA
- Olive Avenue.....OA
- Northern Avenue.....NA
- Glendale Avenue.....GA
- Bethany Home Road.....BH
- Camelback Road.....CB
- Indian School Road.....IS
- Thomas Road.....TR
- McDowell Road.....MD

Note: The codes for numbered streets simply corresponds to the street number. For example the code for 51st Avenue is "51." The study area extends west from 27th Avenue to approximately 120th Avenue.

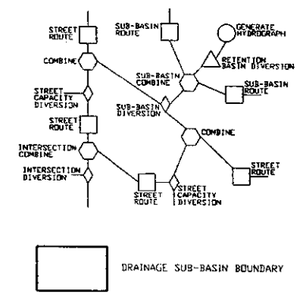


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

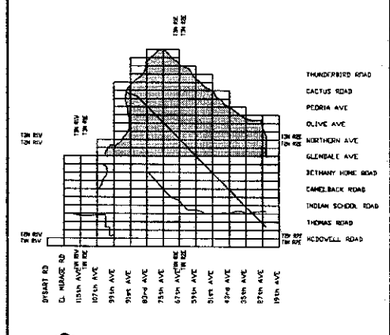
MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND



INDEX MAP



0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 1
HEC-1 SCHEMATIC

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

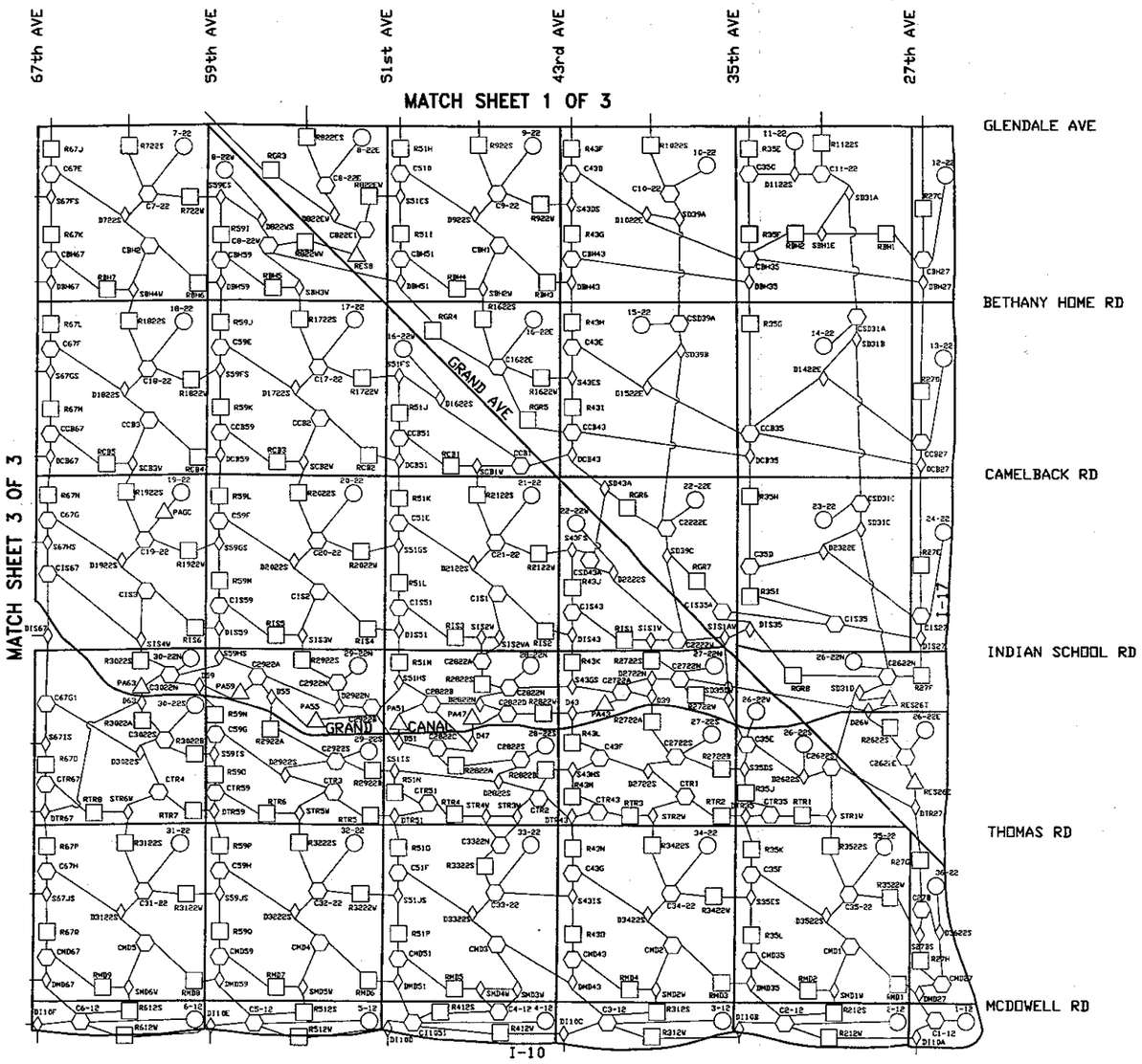
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3

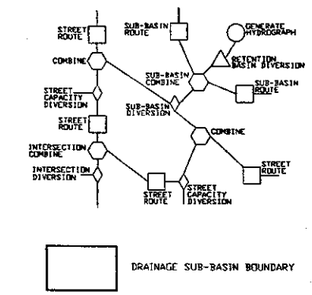


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

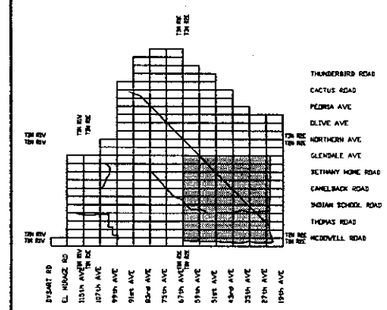
MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND



INDEX MAP



0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 1
HEC-1 SCHEMATIC

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

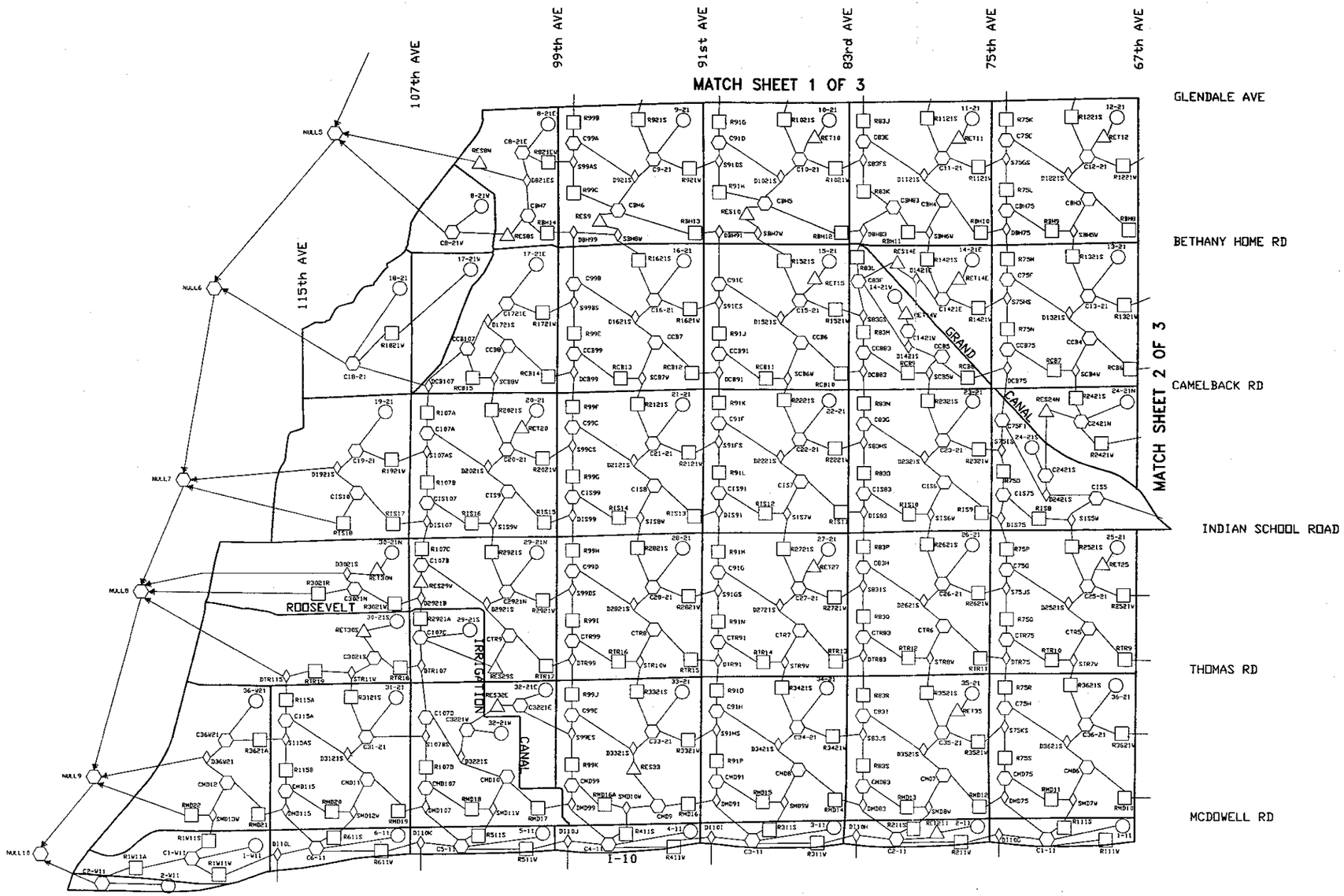
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 2 OF 3

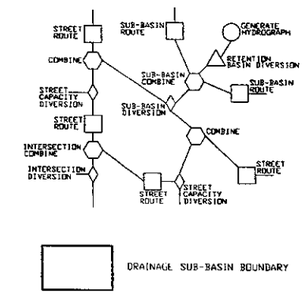


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND



INDEX MAP

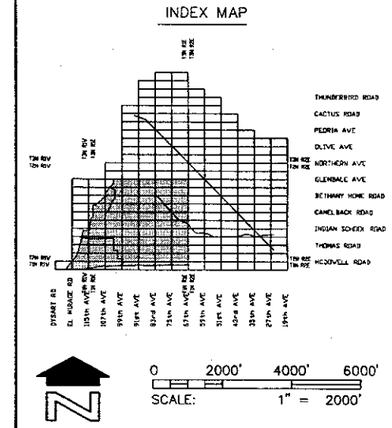


EXHIBIT 1
HEC-1 SCHEMATIC

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	--	--
DESIGN CHK.	--	--
PLANS	--	--
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

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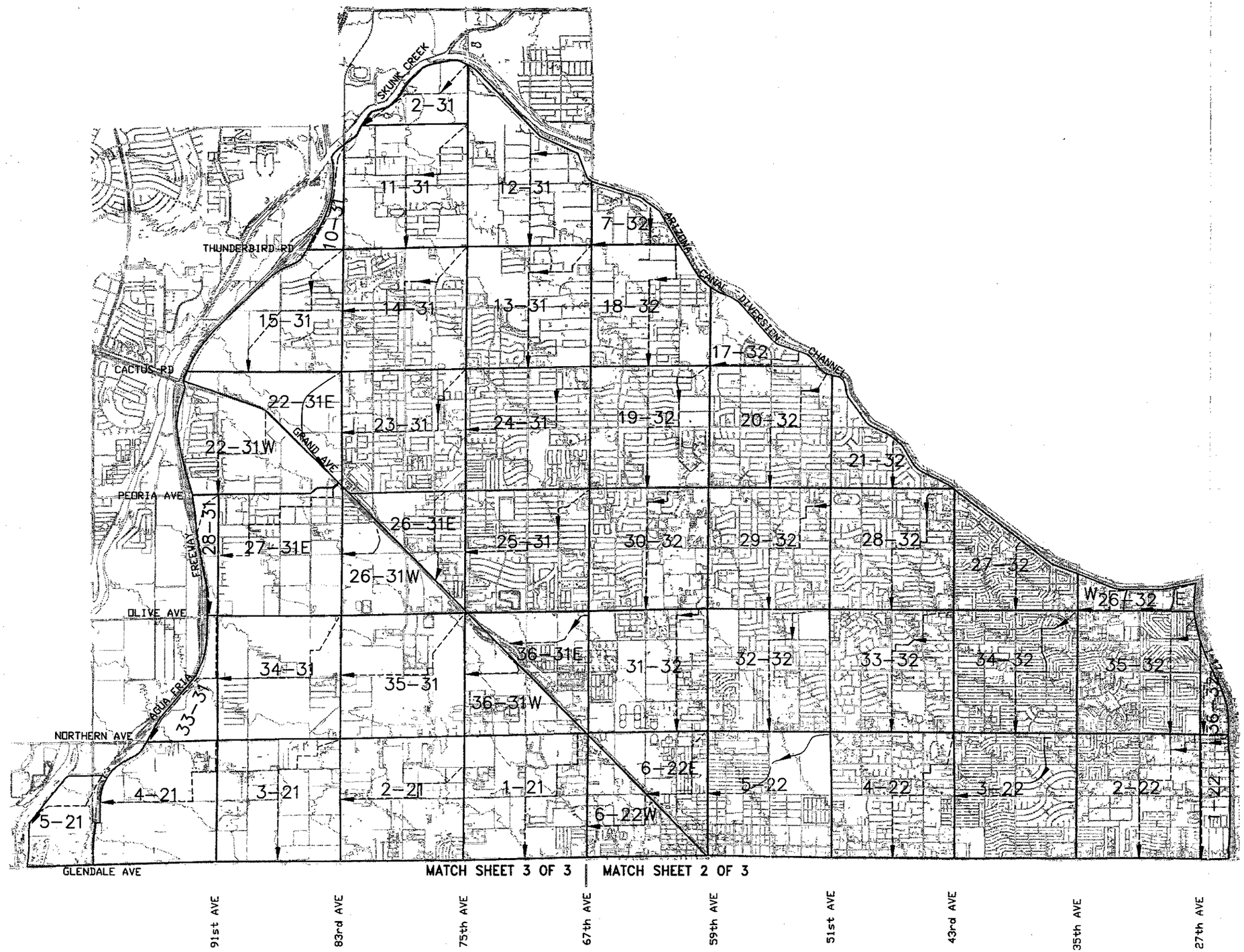
SHEET 3 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

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LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- SUB-BASIN FLOW PATH

INDEX MAP

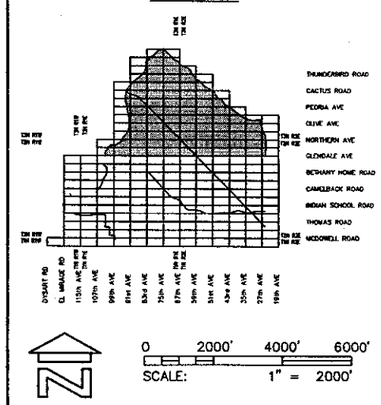

EXHIBIT 2

SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

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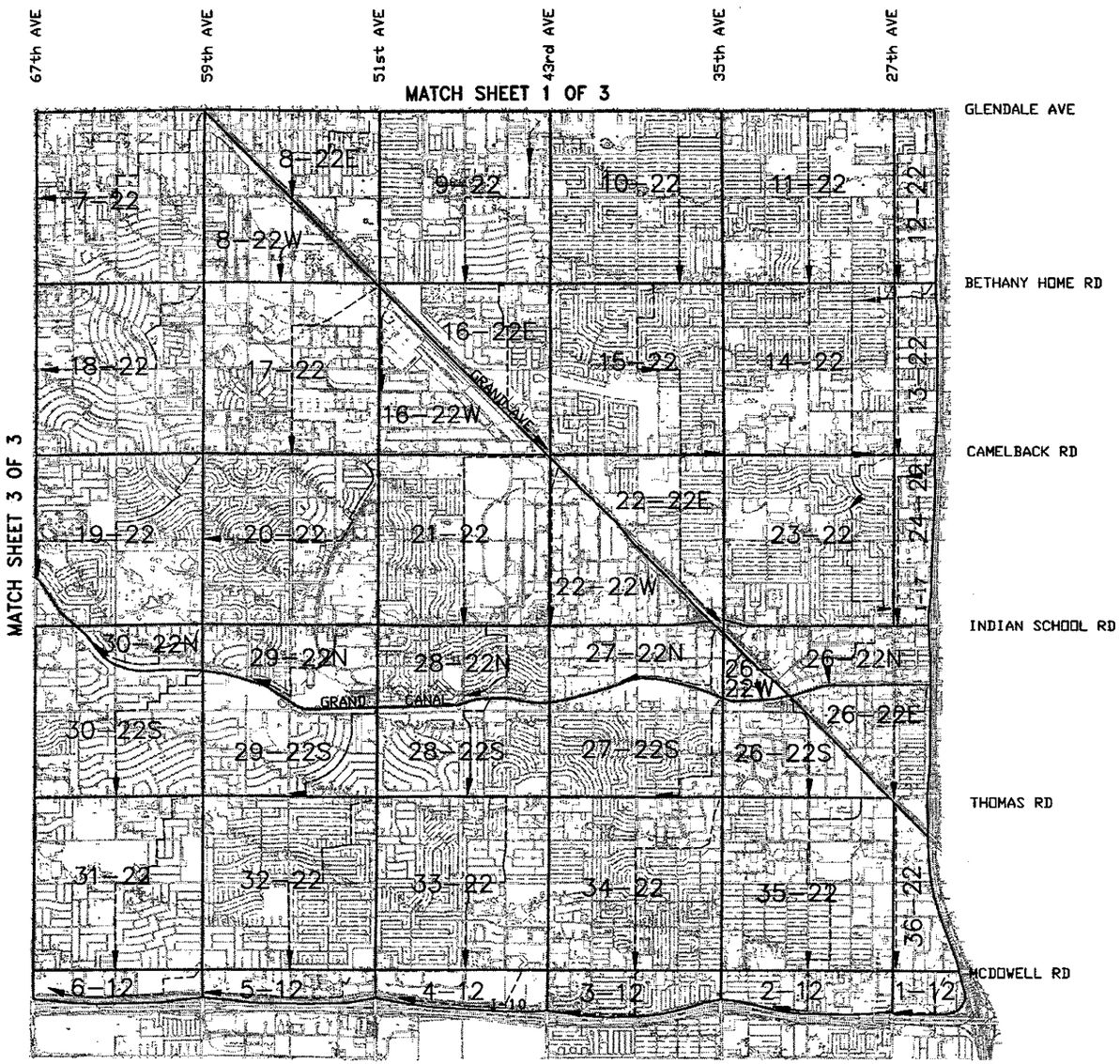
SHEET 1 OF 3



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MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

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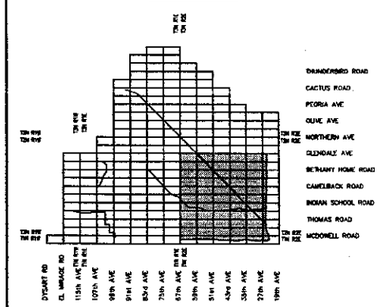
- 16-32 SUB-BASIN I.D. NO.
- SUB-BASIN FLOW PATH

INDEX MAP



N

0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 2
SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

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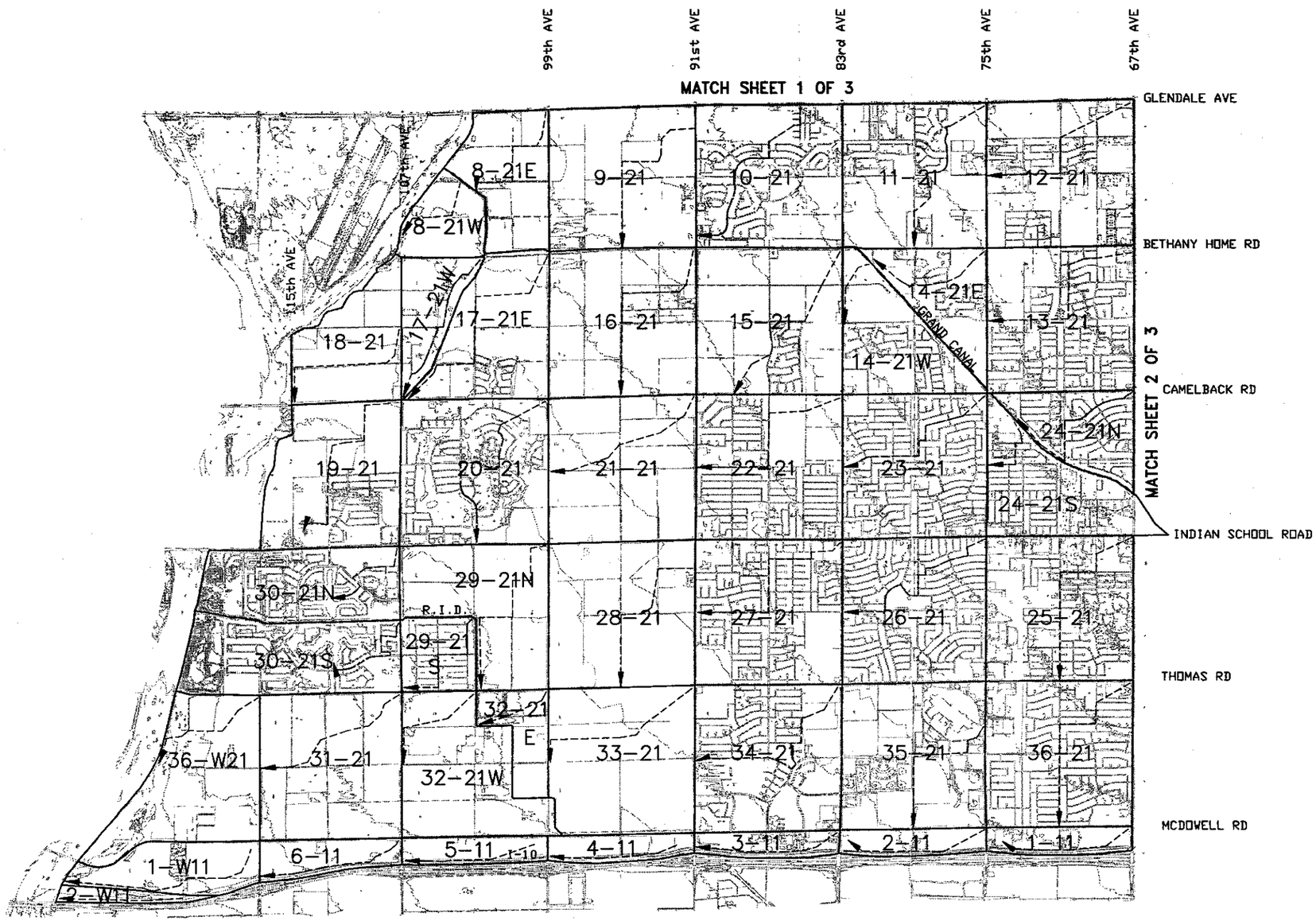
SHEET 2 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

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LEGEND

- ROAD/PAVEMENT
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- INDEX CONTOUR
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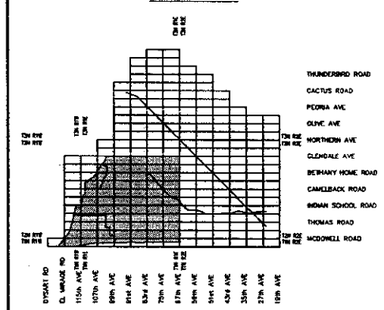
- SUB-BASIN FLOW PATH

INDEX MAP



0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 2
SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

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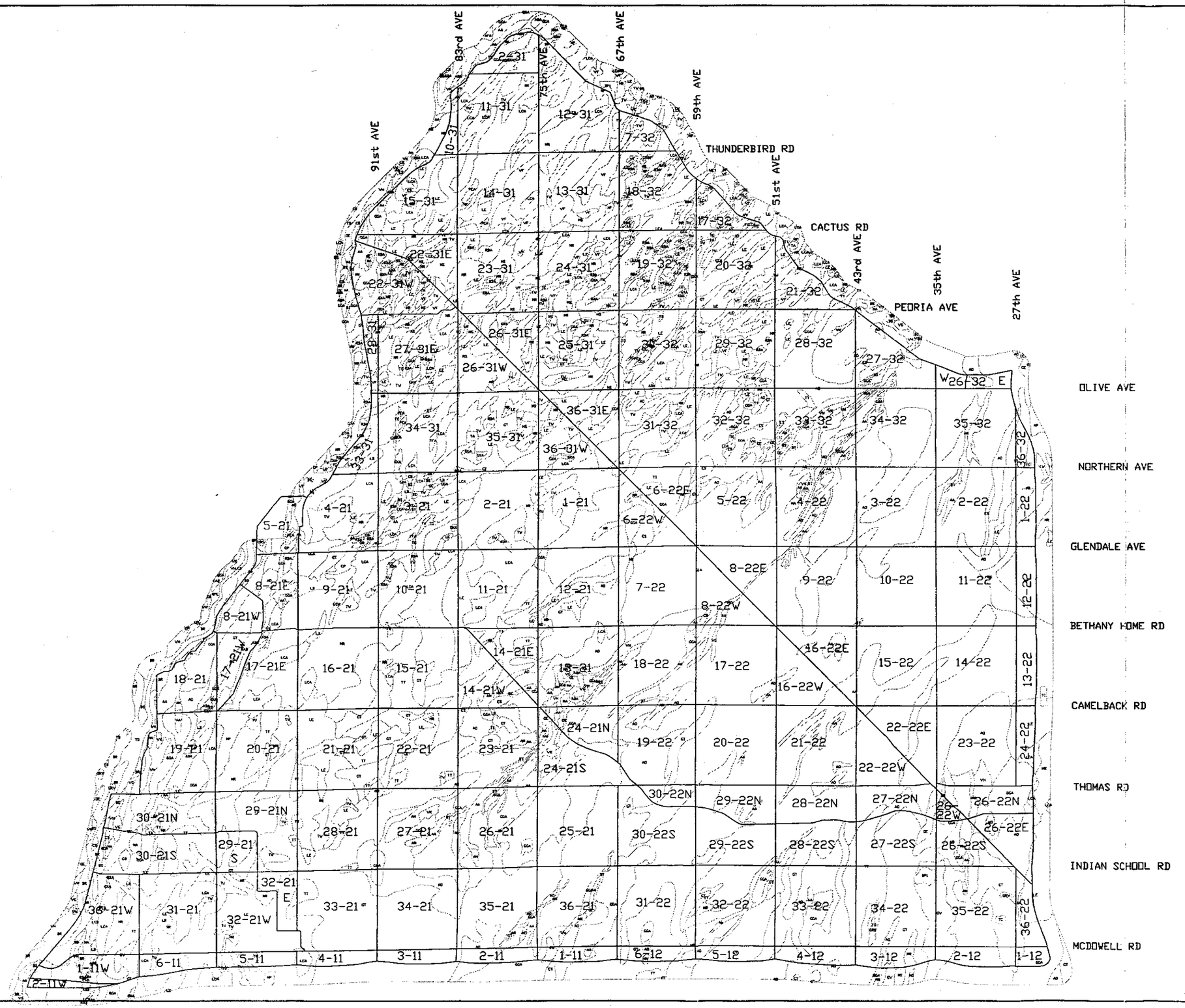
SHEET 3 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

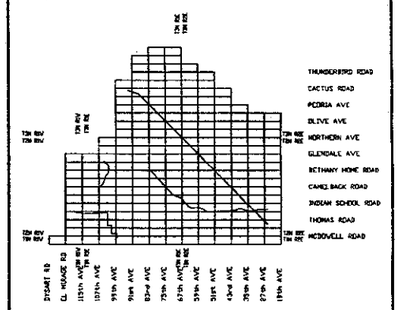
MARYVALE
AREA DRAINAGE MASTER STUDY
FCD CONTRACT # 93-29

LEGEND

16-22E — DRAINAGE SUB-BASIN BOUNDARY

SOIL GROUP AREA

INDEX MAP



0 3000' 6000' 9000'
SCALE: 1" = 3000'

EXHIBIT 3
SOIL GROUP MAP

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

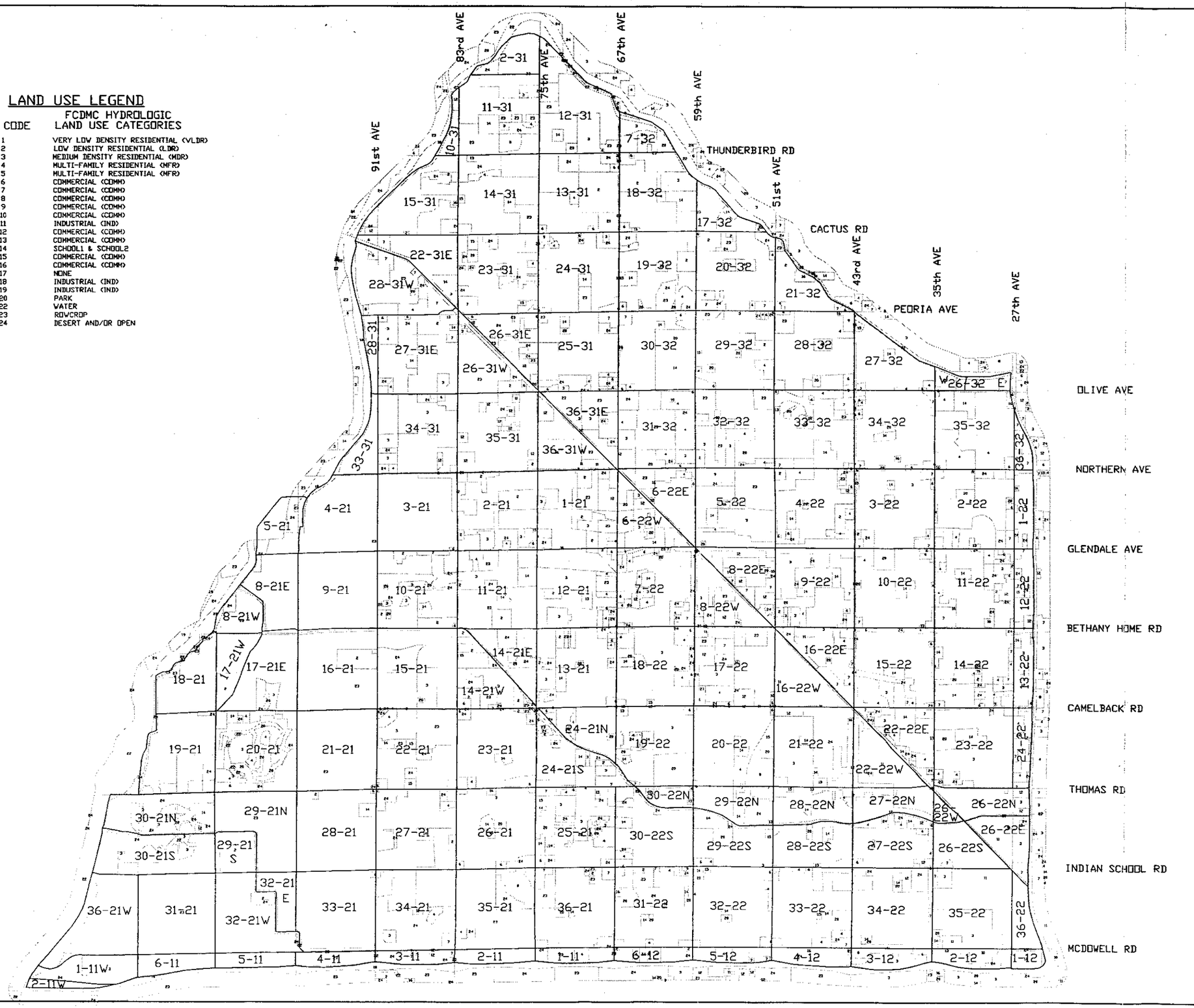
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 1

LAND USE LEGEND

LU CODE	FCDMC HYDROLOGIC LAND USE CATEGORIES
1	VERY LOW DENSITY RESIDENTIAL (VLDR)
2	LOW DENSITY RESIDENTIAL (LDR)
3	MEDIUM DENSITY RESIDENTIAL (MDR)
4	MULTI-FAMILY RESIDENTIAL (MFR)
5	MULTI-FAMILY RESIDENTIAL (MFR)
6	COMMERCIAL (COMM)
7	COMMERCIAL (COMM)
8	COMMERCIAL (COMM)
9	COMMERCIAL (COMM)
10	COMMERCIAL (COMM)
11	INDUSTRIAL (IND)
12	COMMERCIAL (COMM)
13	COMMERCIAL (COMM)
14	SCHOOL1 & SCHOOL2
15	COMMERCIAL (COMM)
16	COMMERCIAL (COMM)
17	NONE
18	INDUSTRIAL (IND)
19	INDUSTRIAL (IND)
20	PARK
22	WATER
23	ROWCROP
24	DESERT AND/OR OPEN



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND

16-22E — DRAINAGE SUB-BASIN BOUNDARY

LAND USE AREA

N

0 3000' 6000' 9000'

SCALE: 1" = 3000'

EXHIBIT 4
LAND USE MAP

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	-	-
DESIGN CHK.	-	-
PLANS	-	-
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

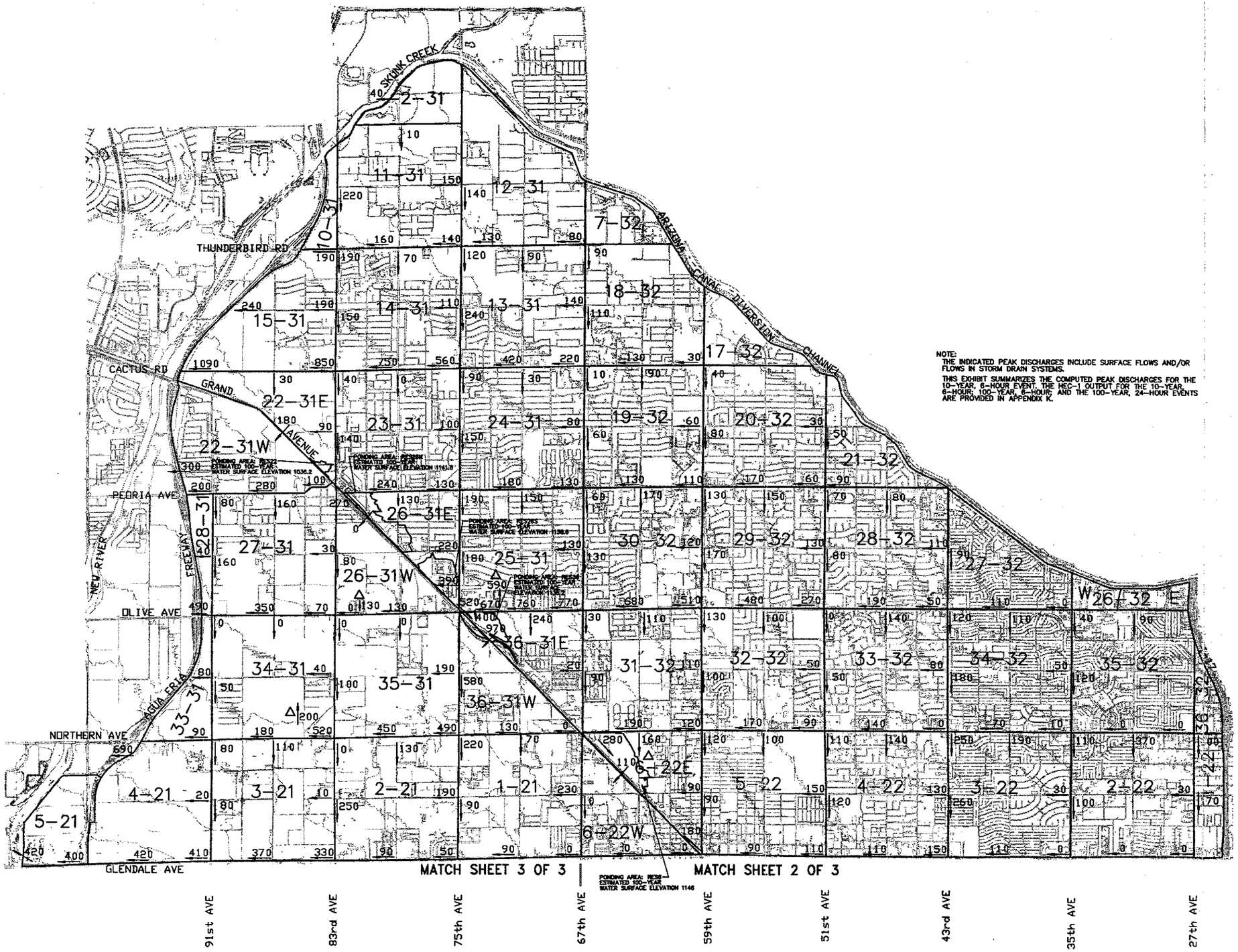
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 1



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 10-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR; 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- SURGE BASIN
- PONDING AREA

INDEX MAP

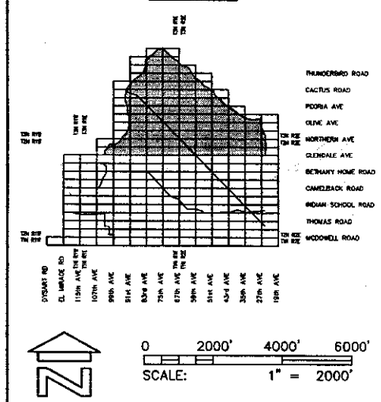


EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

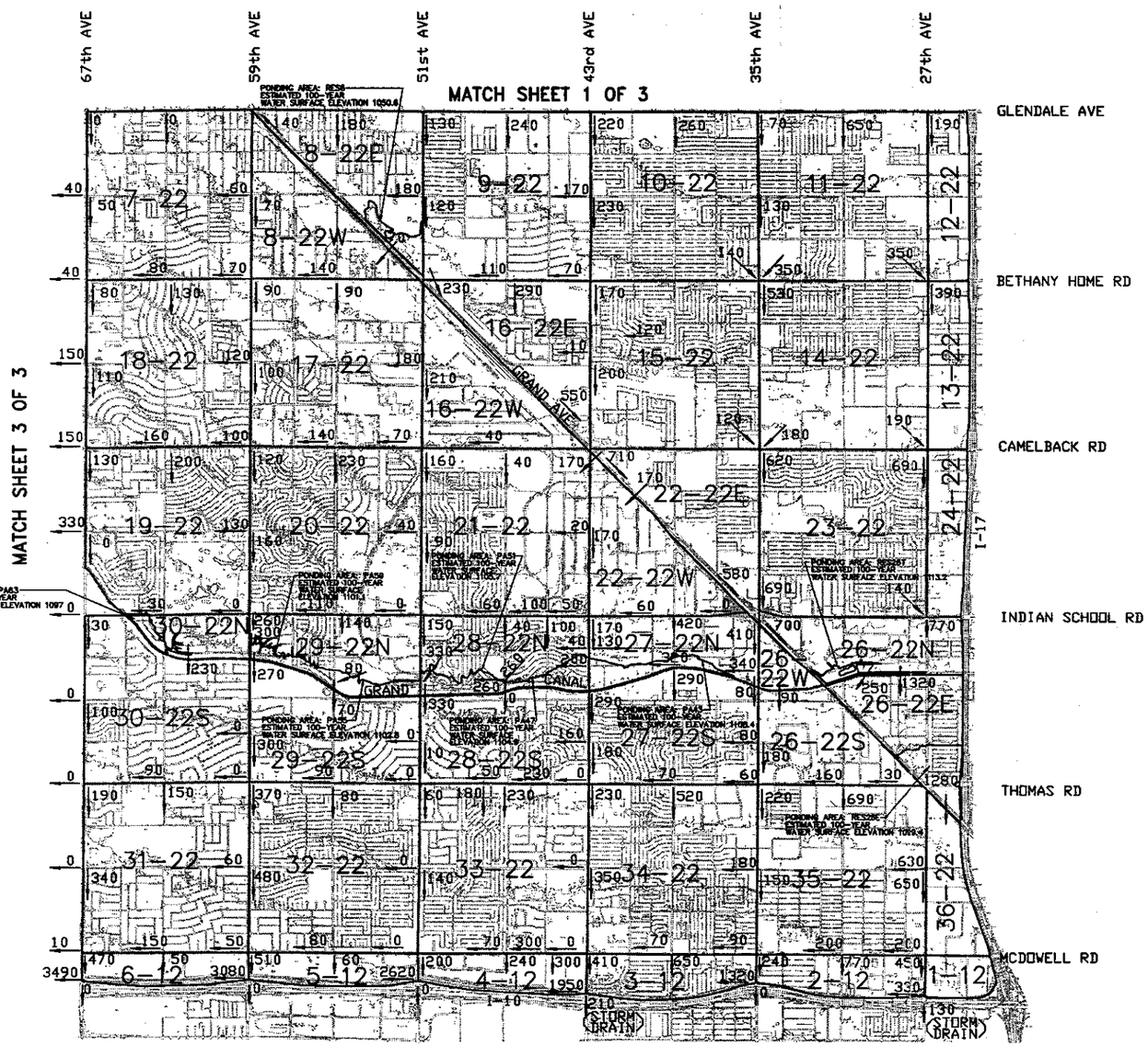
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 10-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR; 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

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- RAILROAD
- INDEX CONTOUR
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- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP

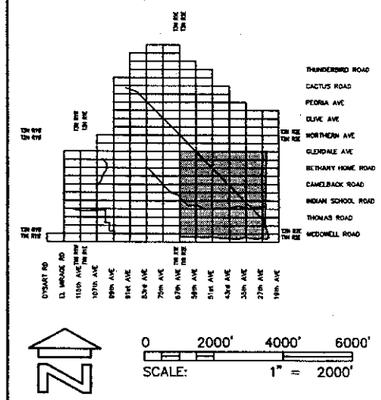


EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

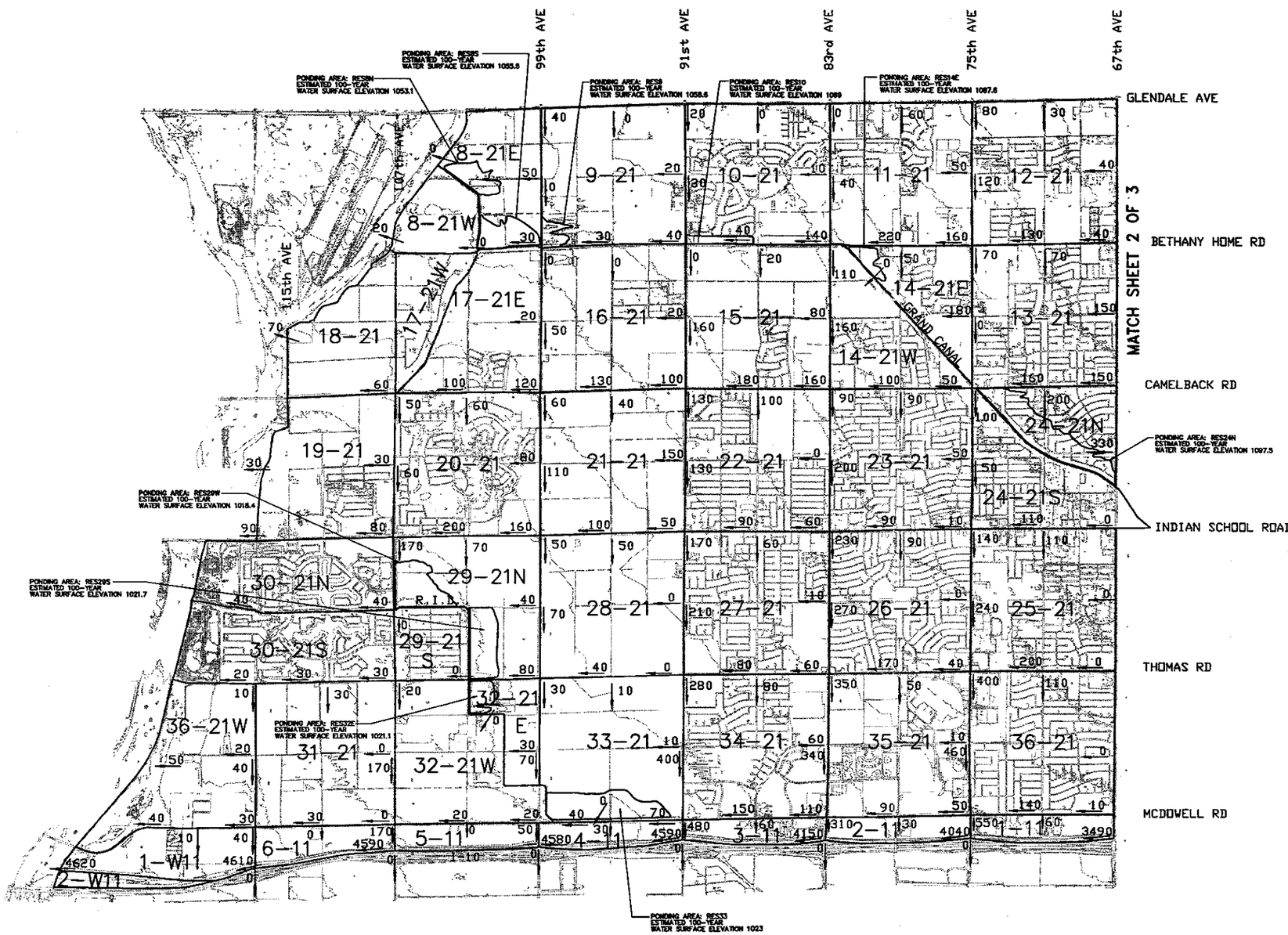
RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 2 OF 3

MATCH SHEET 1 OF 3



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 10-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR, 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

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- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP

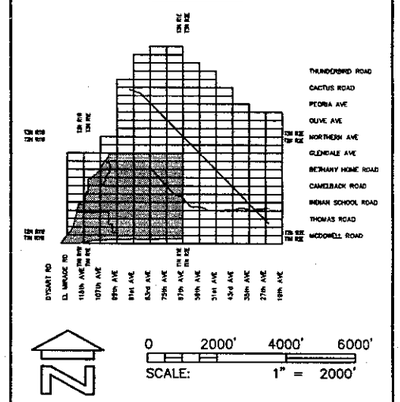


EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

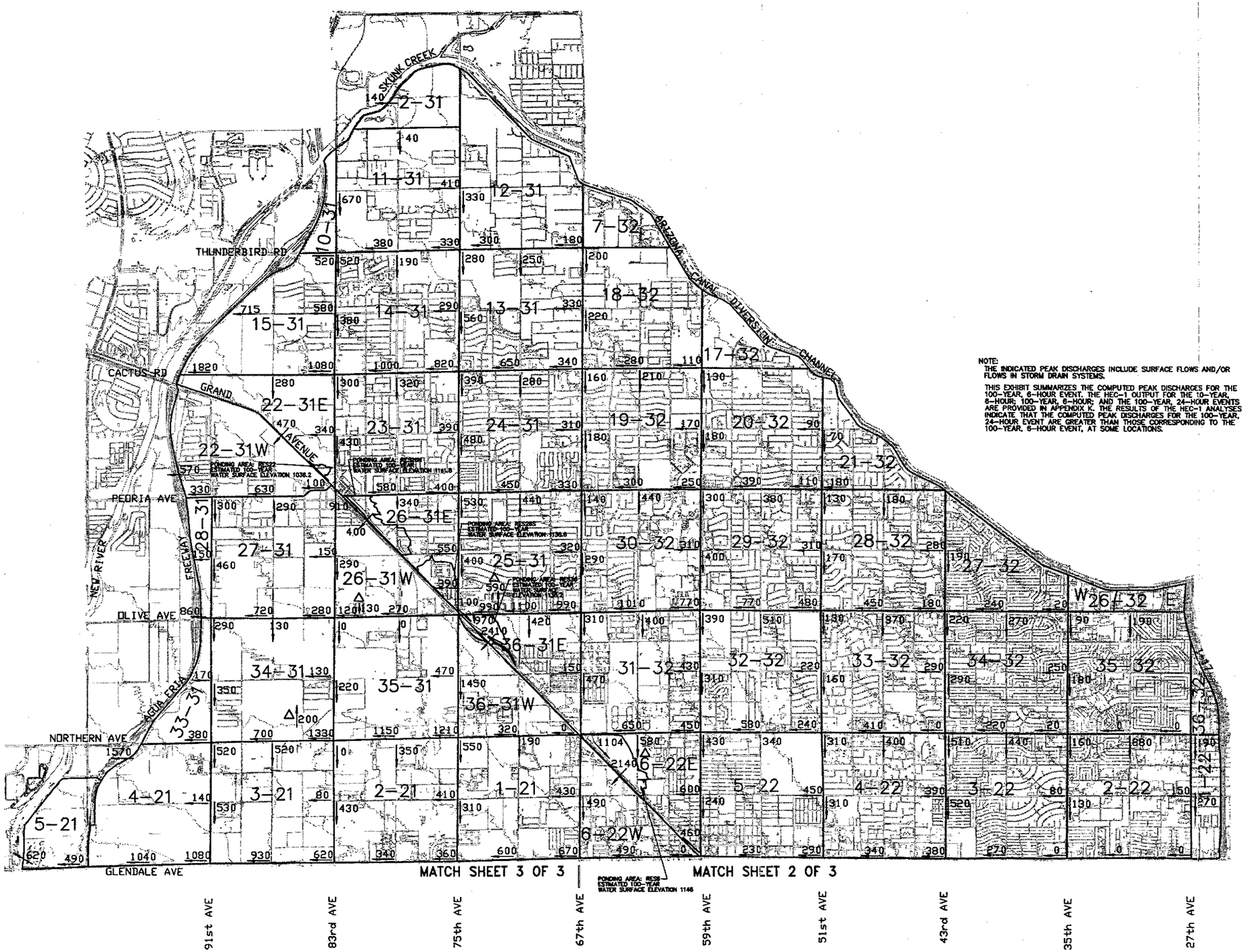
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 100-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR; 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K. THE RESULTS OF THE HEC-1 ANALYSES INDICATE THAT THE COMPUTED PEAK DISCHARGES FOR THE 100-YEAR, 24-HOUR EVENT ARE GREATER THAN THOSE CORRESPONDING TO THE 100-YEAR, 6-HOUR EVENT, AT SOME LOCATIONS.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY
"FCD CONTRACT # 93-29"

LEGEND

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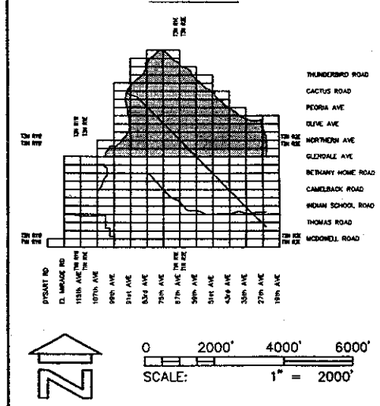
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- SURGE BASIN
- PONDING AREA

INDEX MAP



0 2000' 4000' 6000'
SCALE: 1" = 2000'

EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

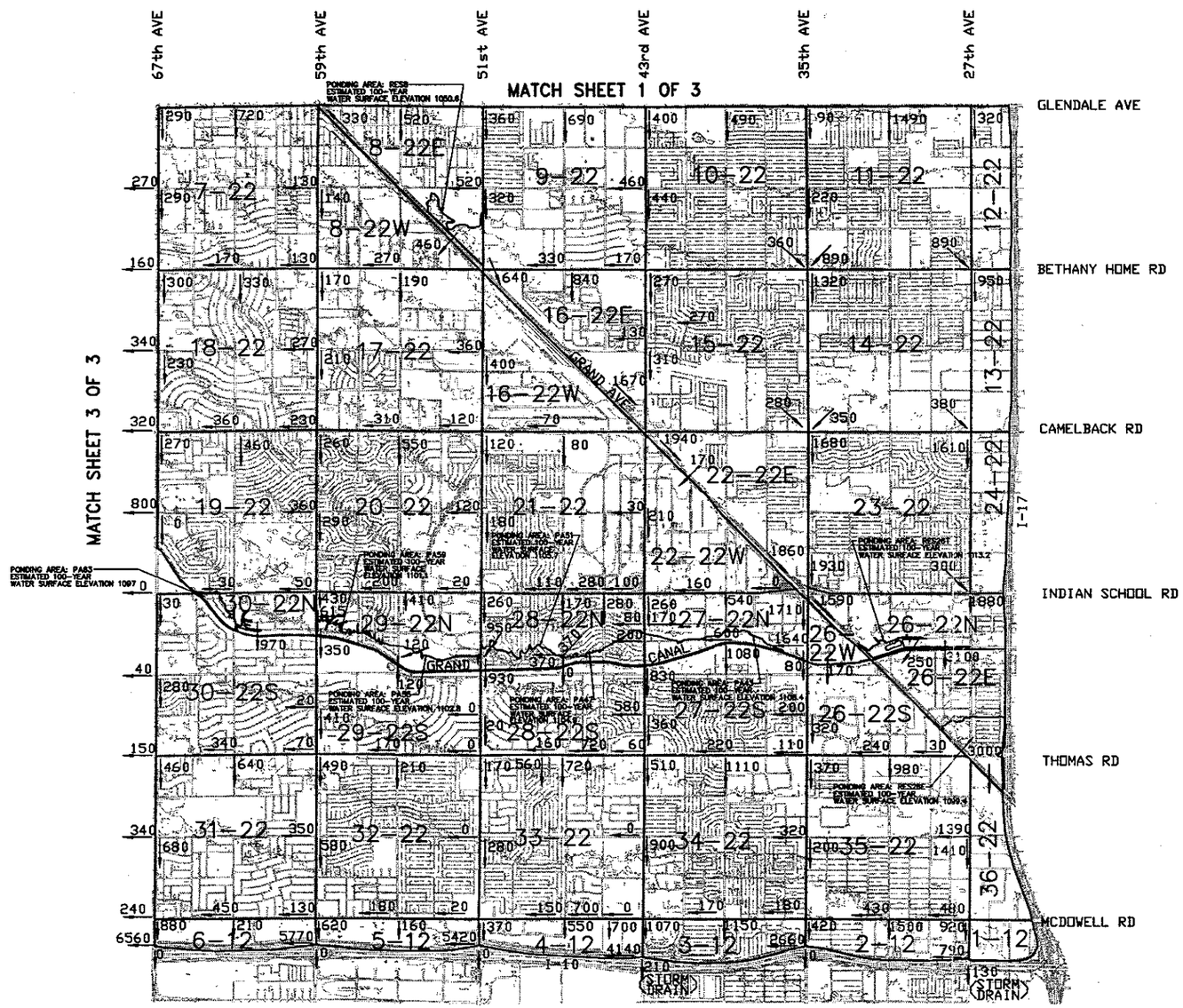
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 100-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR; 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K. THE RESULTS OF THE HEC-1 ANALYSES INDICATE THAT THE COMPUTED PEAK DISCHARGES FOR THE 100-YEAR, 24-HOUR EVENT ARE GREATER THAN THOSE CORRESPONDING TO THE 100-YEAR, 6-HOUR EVENT, AT SOME LOCATIONS.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP

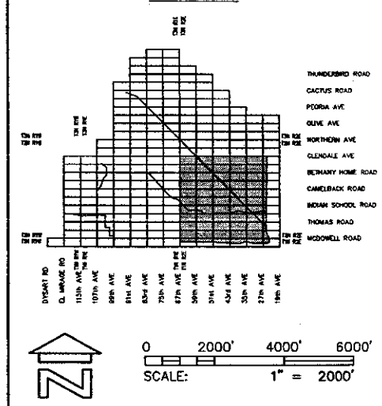


EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

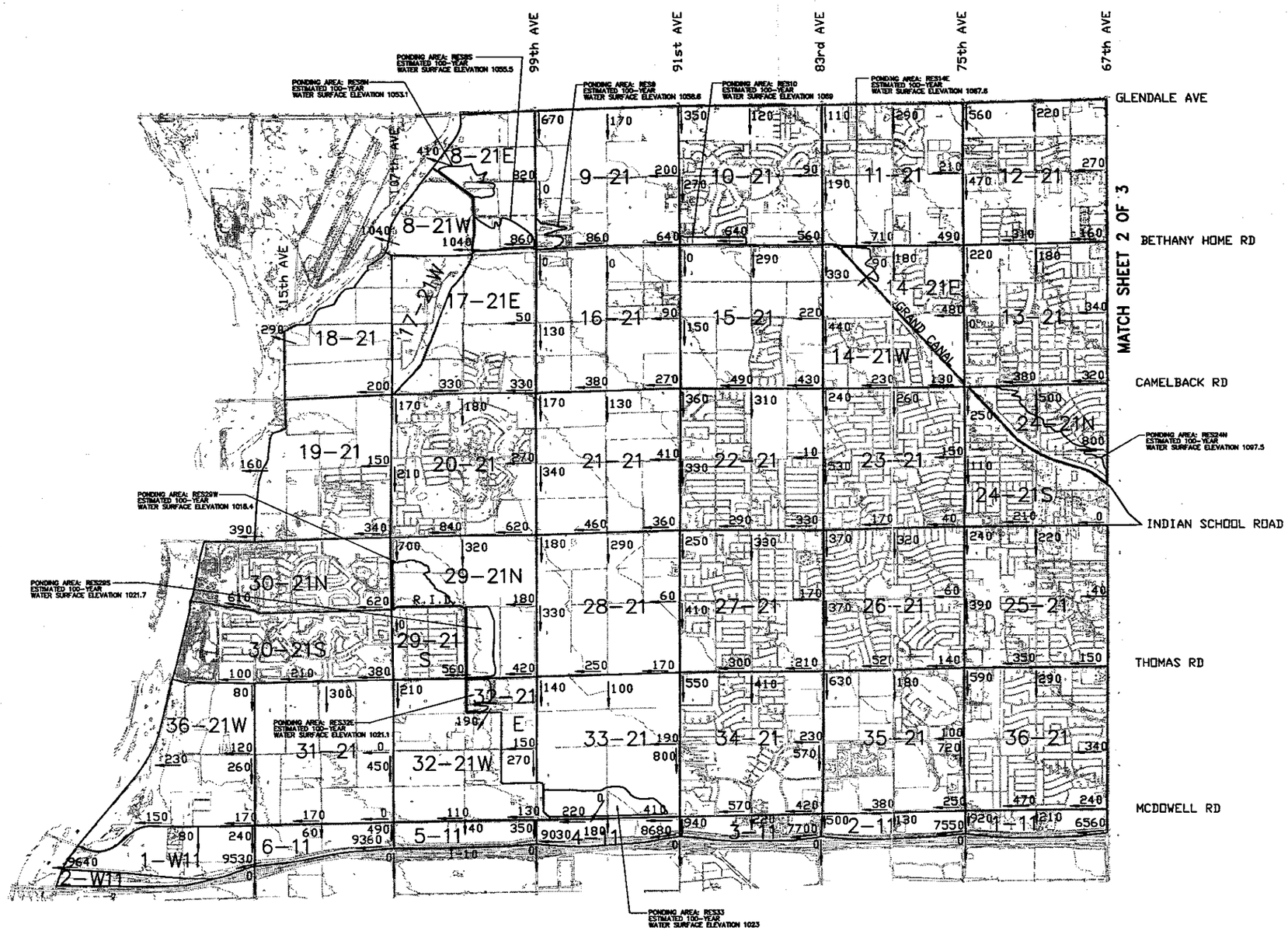
RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 2 OF 3

MATCH SHEET 1 OF 3



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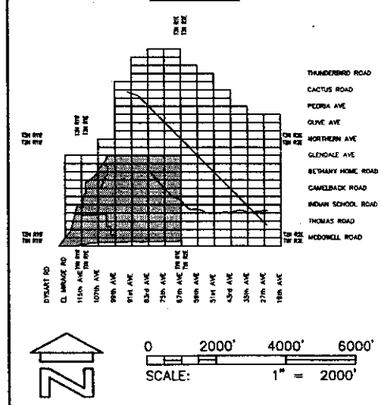
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY
"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP



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SCALE: 1" = 2000'

EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

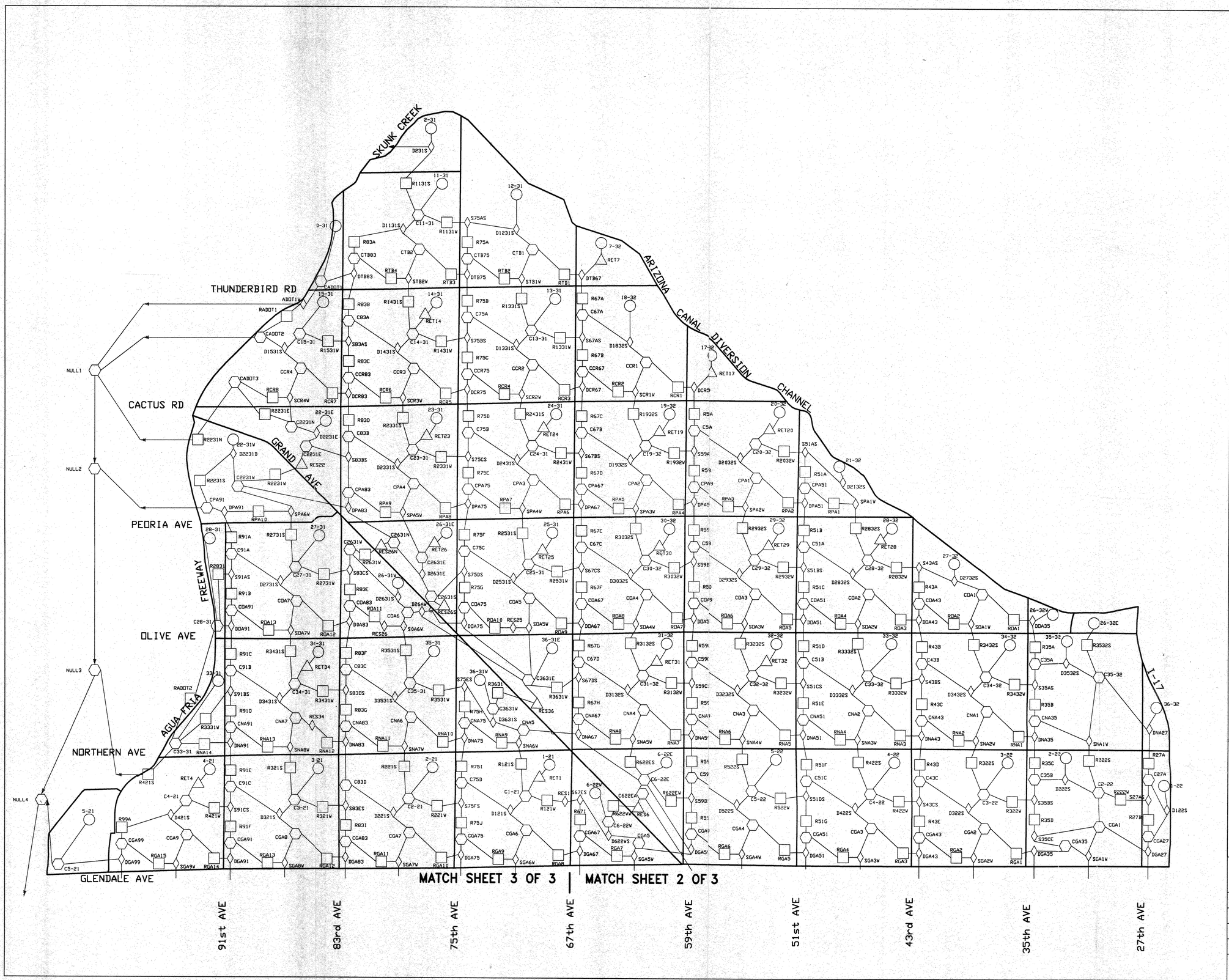
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3

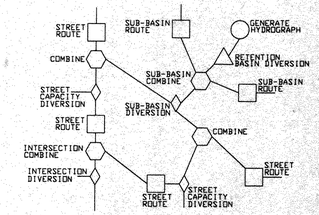


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

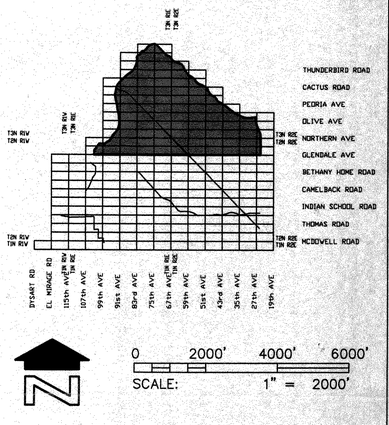
FCD CONTRACT # 93-29

LEGEND



DRAINAGE SUB-BASIN BOUNDARY

INDEX MAP



0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 1
HEC-1 SCHEMATIC

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

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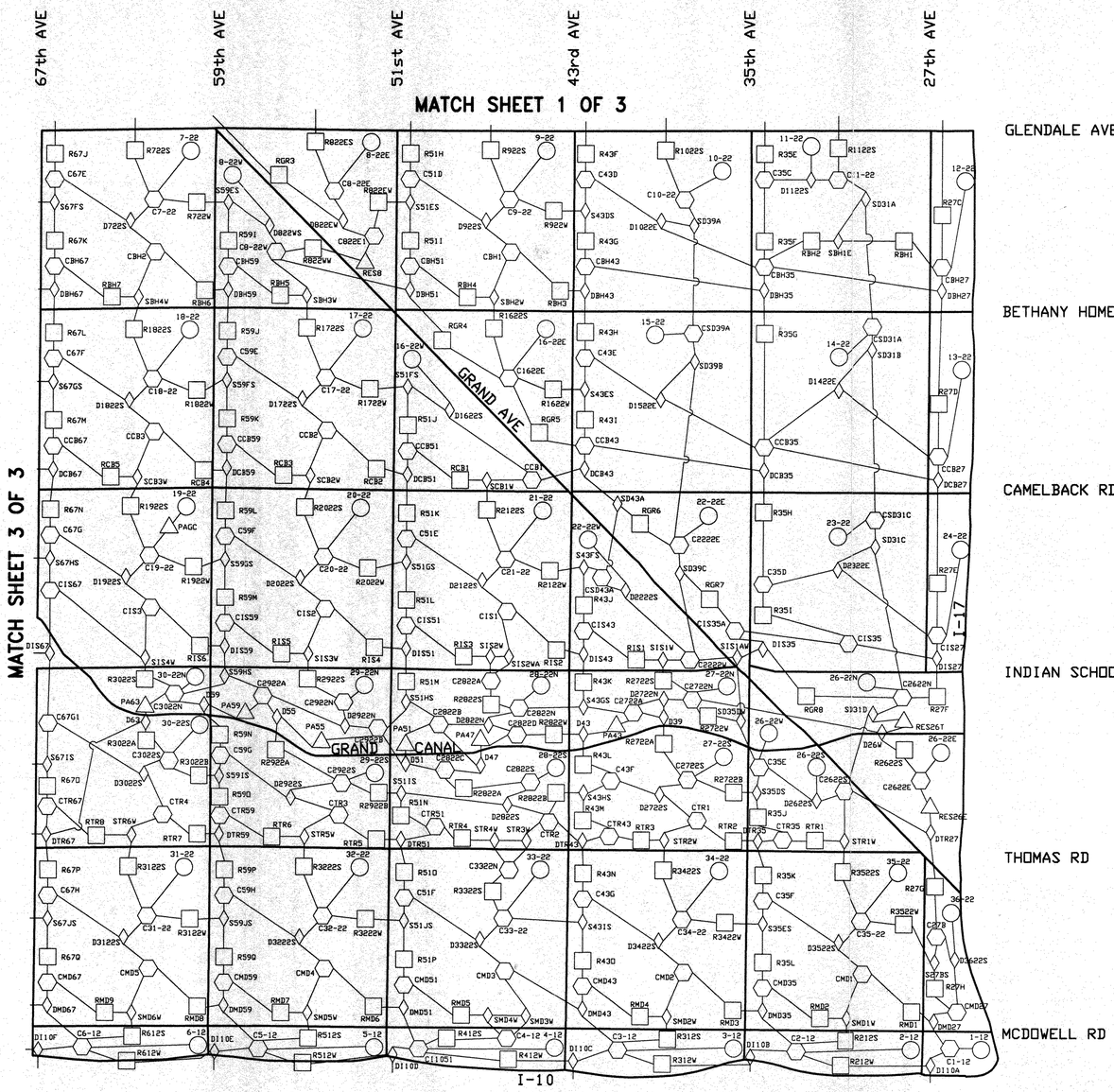
SHEET 1 OF 3

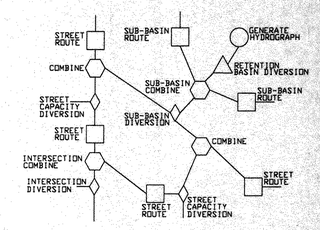


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND



DRAINAGE SUB-BASIN BOUNDARY

INDEX MAP

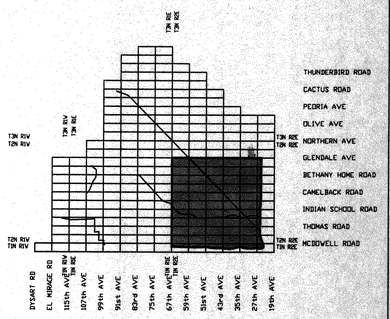


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EXHIBIT 1
HEC-1 SCHEMATIC

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

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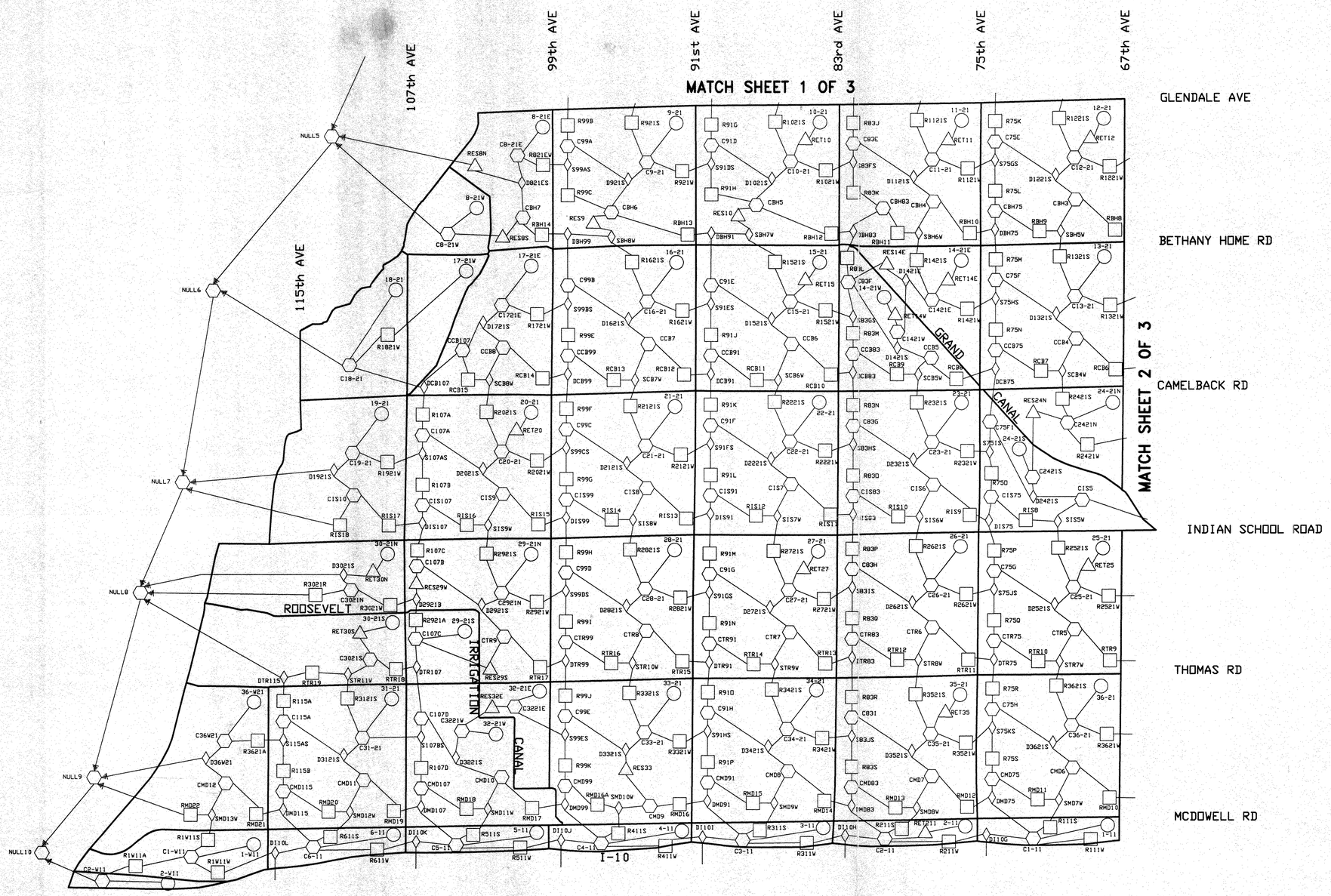
SHEET 2 OF 3

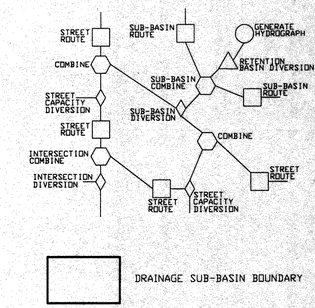


FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

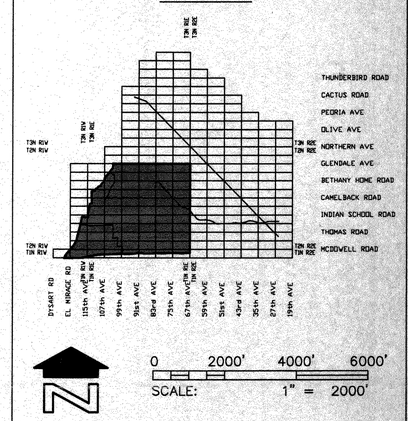
MARYVALE AREA DRAINAGE MASTER STUDY

FCD CONTRACT # 93-29

LEGEND



INDEX MAP



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CH2M HILL

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	BY	DATE
DESIGN	–	–
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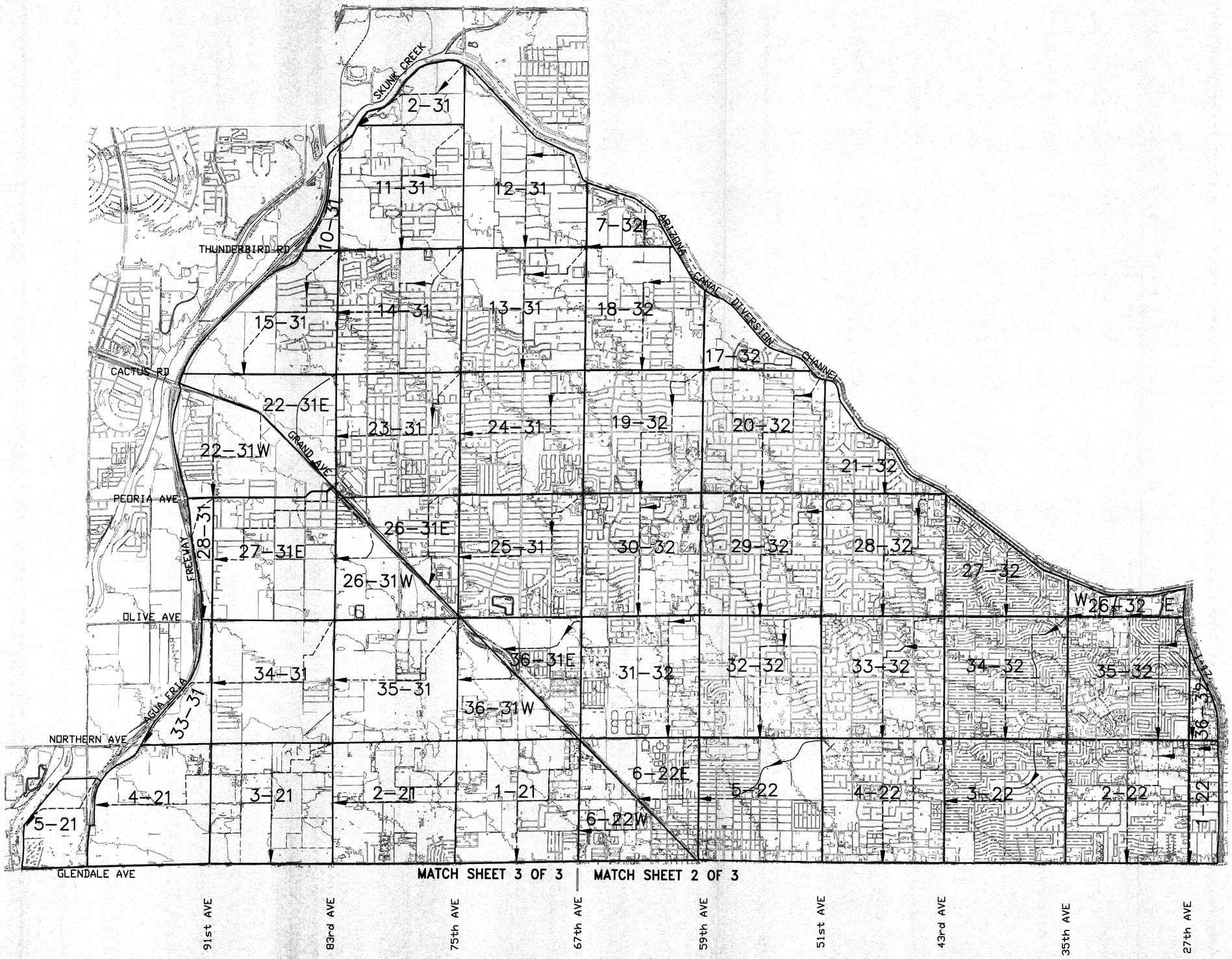
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

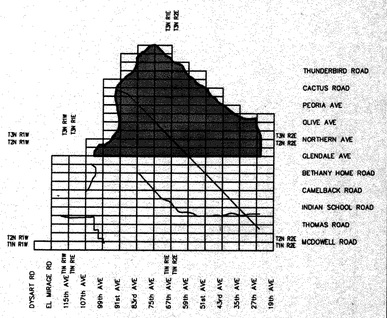
"FCD CONTRACT # 93-29"



LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- SUB-BASIN FLOW PATH

INDEX MAP



N

0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 2
SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

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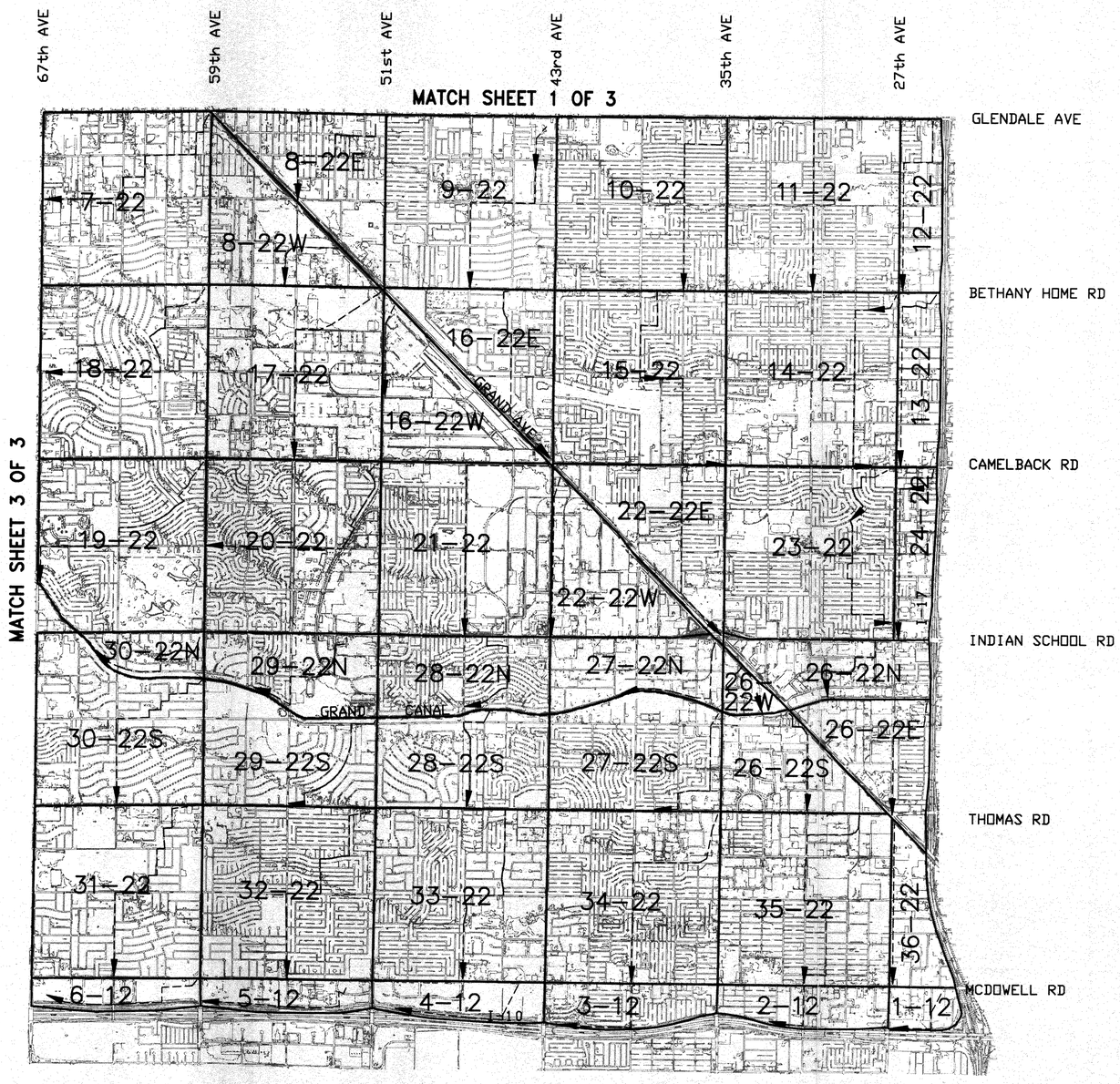
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- SUB-BASIN FLOW PATH

INDEX MAP

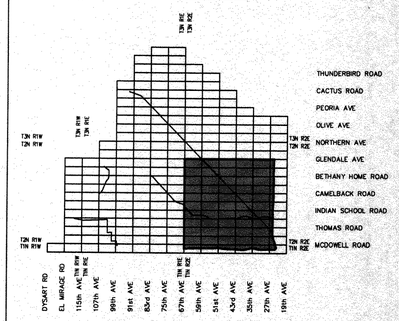


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EXHIBIT 2
SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL | WOOD / PATEL

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PLANS CHK.	DWD	OCT 96

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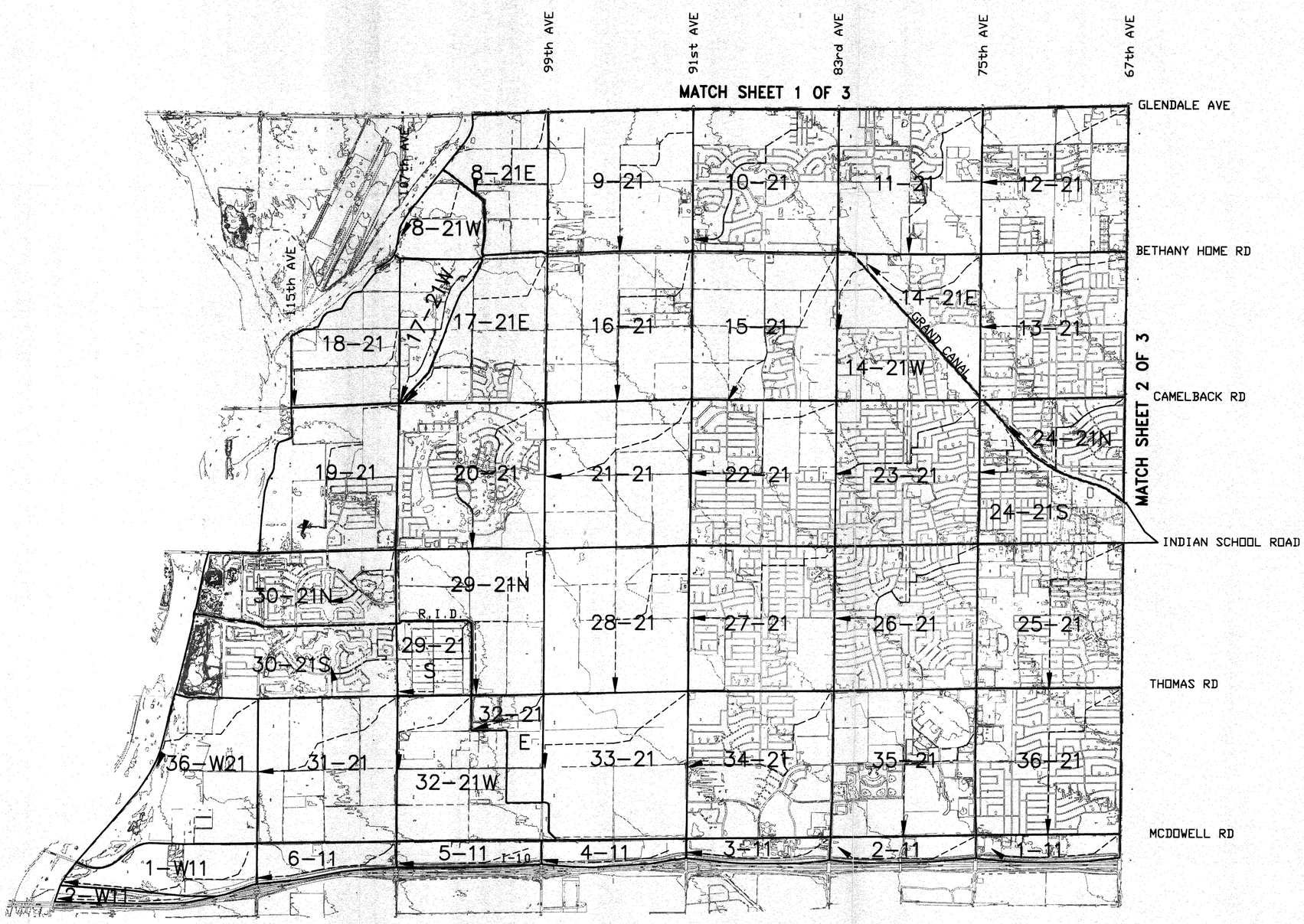
SHEET 2 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- SUB-BASIN FLOW PATH

INDEX MAP

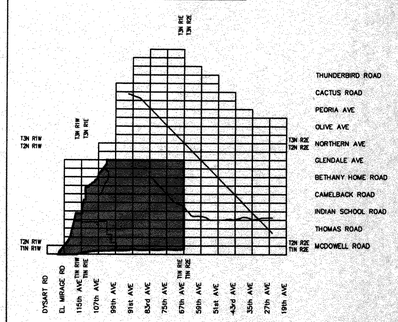


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EXHIBIT 2
SUB-BASIN BOUNDARY & FLOW PATH MAP

CH2M HILL | WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

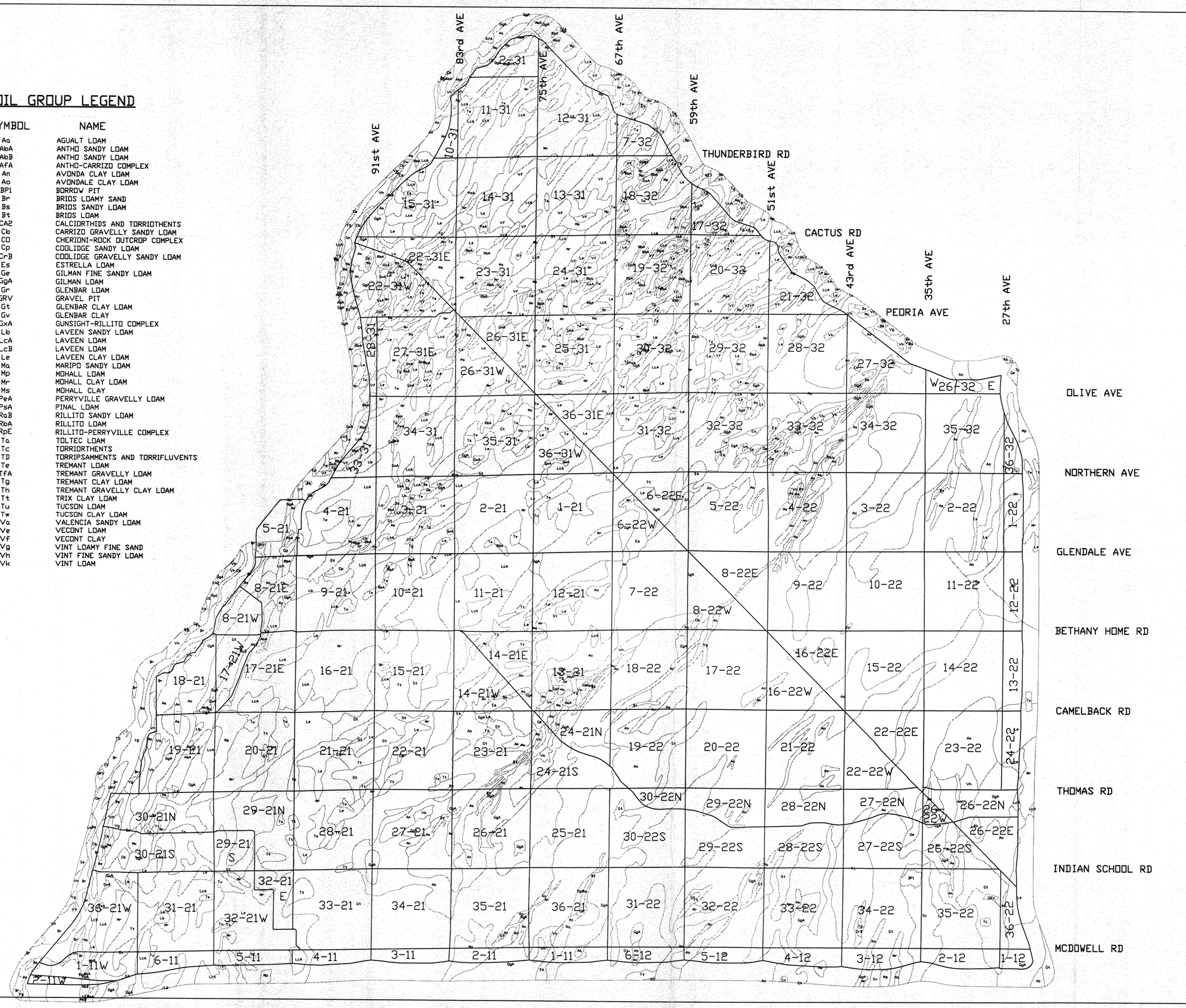
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3

SOIL GROUP LEGEND

SYMBOL	NAME
Aa	AGUALT LOAM
AbA	ANTHO SANDY LOAM
AbB	ANTHO SANDY LOAM
AfA	ANTHO-CARRIZO COMPLEX
An	AVONDA CLAY LOAM
Ao	AVONDALE CLAY LOAM
BP1	BORROW PIT
Br	BRIOS LOAMY SAND
Bs	BRIOS SANDY LOAM
Bt	BRIOS LOAM
CA2	CALCIORTHIDS AND TORRIOTHENTS
Cb	CARRIZO GRAVELLY SANDY LOAM
CD	CHERIONI-ROCK OUTCROP COMPLEX
Cp	COOLIDGE SANDY LOAM
CrB	COOLIDGE GRAVELLY SANDY LOAM
Es	ESTRELLA LOAM
Ge	GILMAN FINE SANDY LOAM
GgA	GILMAN LOAM
Gr	GLENBAR LOAM
GRV	GRAVEL PIT
Gt	GLENBAR CLAY LOAM
Gv	GLENBAR CLAY
GxA	GUNSIGHT-RILLITO COMPLEX
Lb	LAVEEN SANDY LOAM
LcA	LAVEEN LOAM
LcB	LAVEEN LOAM
Le	LAVEEN CLAY LOAM
Ma	MARIPO SANDY LOAM
Mp	MOHALL LOAM
Mr	MOHALL CLAY LOAM
Ms	MOHALL CLAY
PeA	PERRYVILLE GRAVELLY LOAM
PsA	PINAL LOAM
RaB	RILLITO SANDY LOAM
RbA	RILLITO LOAM
RpE	RILLITO-PERRYVILLE COMPLEX
Ta	TOLTEC LOAM
Tc	TORRIORTHENTS
TD	TORRIPSAMMENTS AND TORRIFLUVENTS
Te	TREMANT LOAM
TfA	TREMANT GRAVELLY LOAM
Tg	TREMANT CLAY LOAM
Th	TREMANT GRAVELLY CLAY LOAM
Tt	TRIX CLAY LOAM
Tu	TUCSON LOAM
Tw	TUCSON CLAY LOAM
Va	VALENCIA SANDY LOAM
Ve	VECONT LOAM
Vf	VECONT CLAY
Vg	VINT LOAMY FINE SAND
Vh	VINT FINE SANDY LOAM
Vk	VINT LOAM



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

LEGEND

16-22E — DRAINAGE SUB-BASIN BOUNDARY

SOIL GROUP AREA

N

0 3000' 6000' 9000'
SCALE: 1" = 3000'

EXHIBIT 3
SOIL GROUP MAP

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

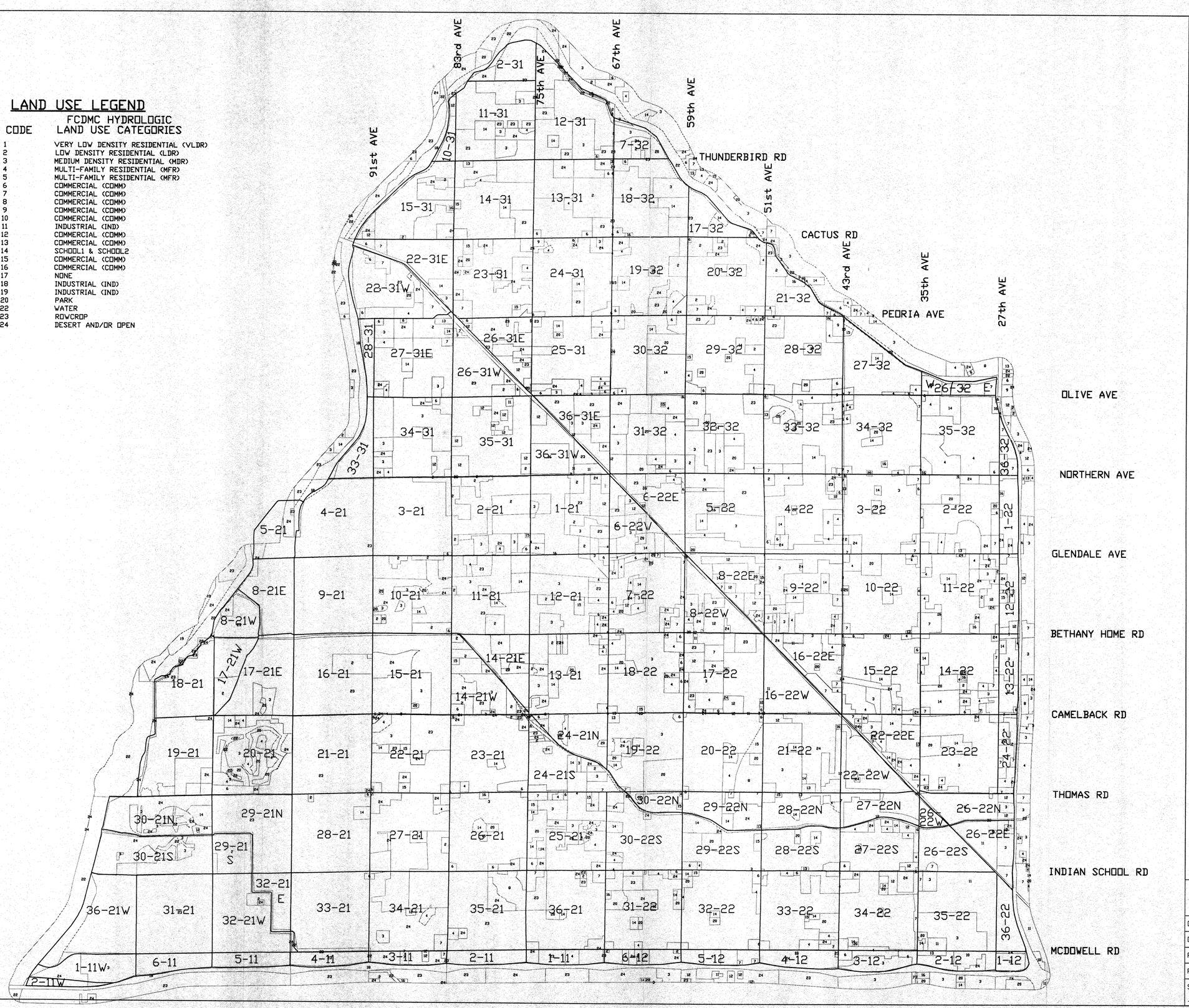
APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 1

LAND USE LEGEND

LU CODE	FCDMC HYDROLOGIC LAND USE CATEGORIES
1	VERY LOW DENSITY RESIDENTIAL (VLDR)
2	LOW DENSITY RESIDENTIAL (LDR)
3	MEDIUM DENSITY RESIDENTIAL (MDR)
4	MULTI-FAMILY RESIDENTIAL (MFR)
5	MULTI-FAMILY RESIDENTIAL (MFR)
6	COMMERCIAL (COMM)
7	COMMERCIAL (COMM)
8	COMMERCIAL (COMM)
9	COMMERCIAL (COMM)
10	COMMERCIAL (COMM)
11	INDUSTRIAL (IND)
12	COMMERCIAL (COMM)
13	COMMERCIAL (COMM)
14	SCHOOL1 & SCHOOL2
15	COMMERCIAL (COMM)
16	COMMERCIAL (COMM)
17	NONE
18	INDUSTRIAL (IND)
19	INDUSTRIAL (IND)
20	PARK
22	WATER
23	ROWCROP
24	DESERT AND/OR OPEN



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE
AREA DRAINAGE MASTER STUDY
FCD CONTRACT # 93-29

LEGEND

16-22E — DRAINAGE SUB-BASIN BOUNDARY

24 — LAND USE AREA

N

0 3000' 6000' 9000'
SCALE: 1" = 3000'

EXHIBIT 4
LAND USE MAP

CH2M HILL

WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

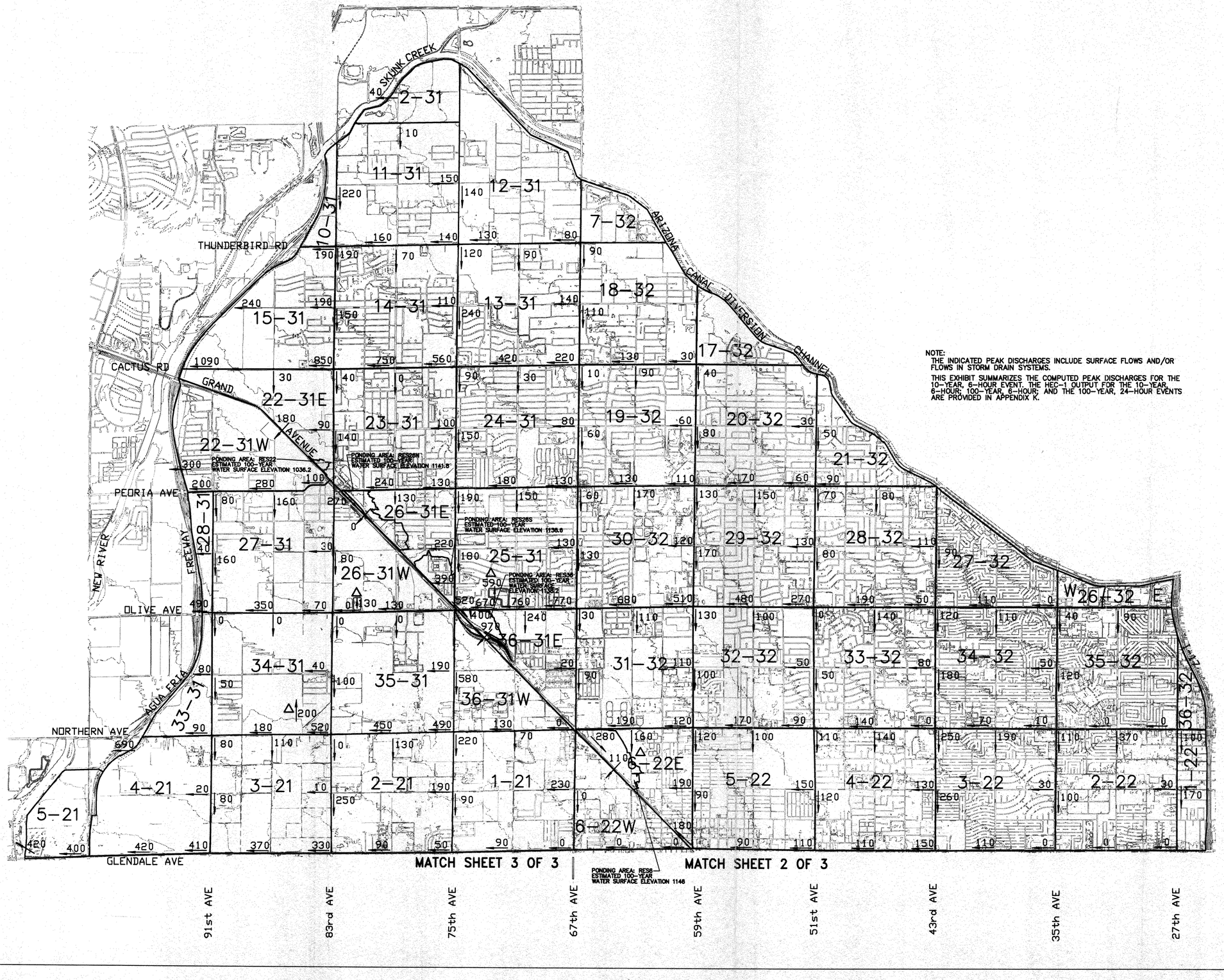
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 1



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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

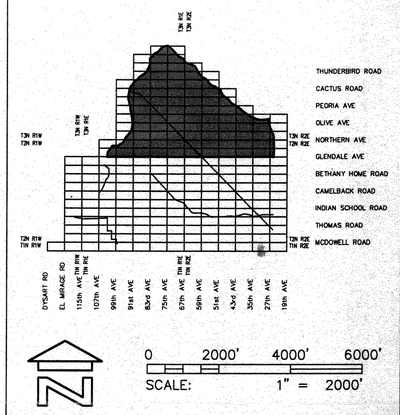
MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 — DRAINAGE SUB-BASIN BOUNDARY
- 16-32 — SUB-BASIN I.D. NO.
- 100 — COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- SURGE BASIN
- PONDING AREA

INDEX MAP



0 2000' 4000' 6000'
SCALE: 1" = 2000'

EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

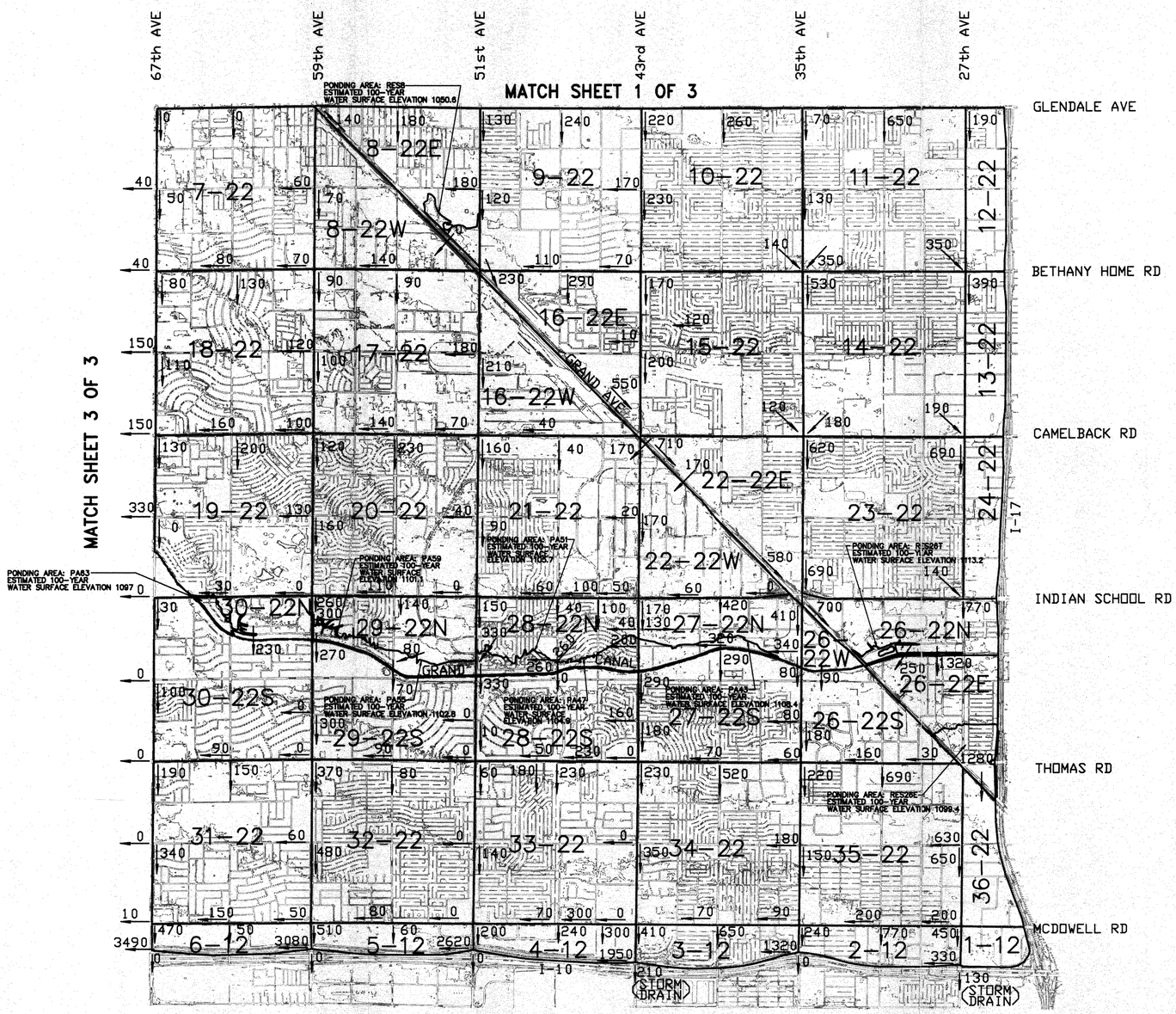
	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY:
DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE
APPROVED BY: DATE
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3



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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

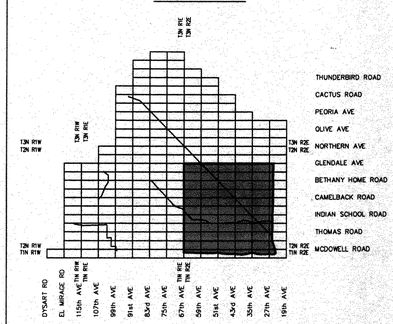
MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP



0 2000' 4000' 6000'
SCALE: 1" = 2000'

EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

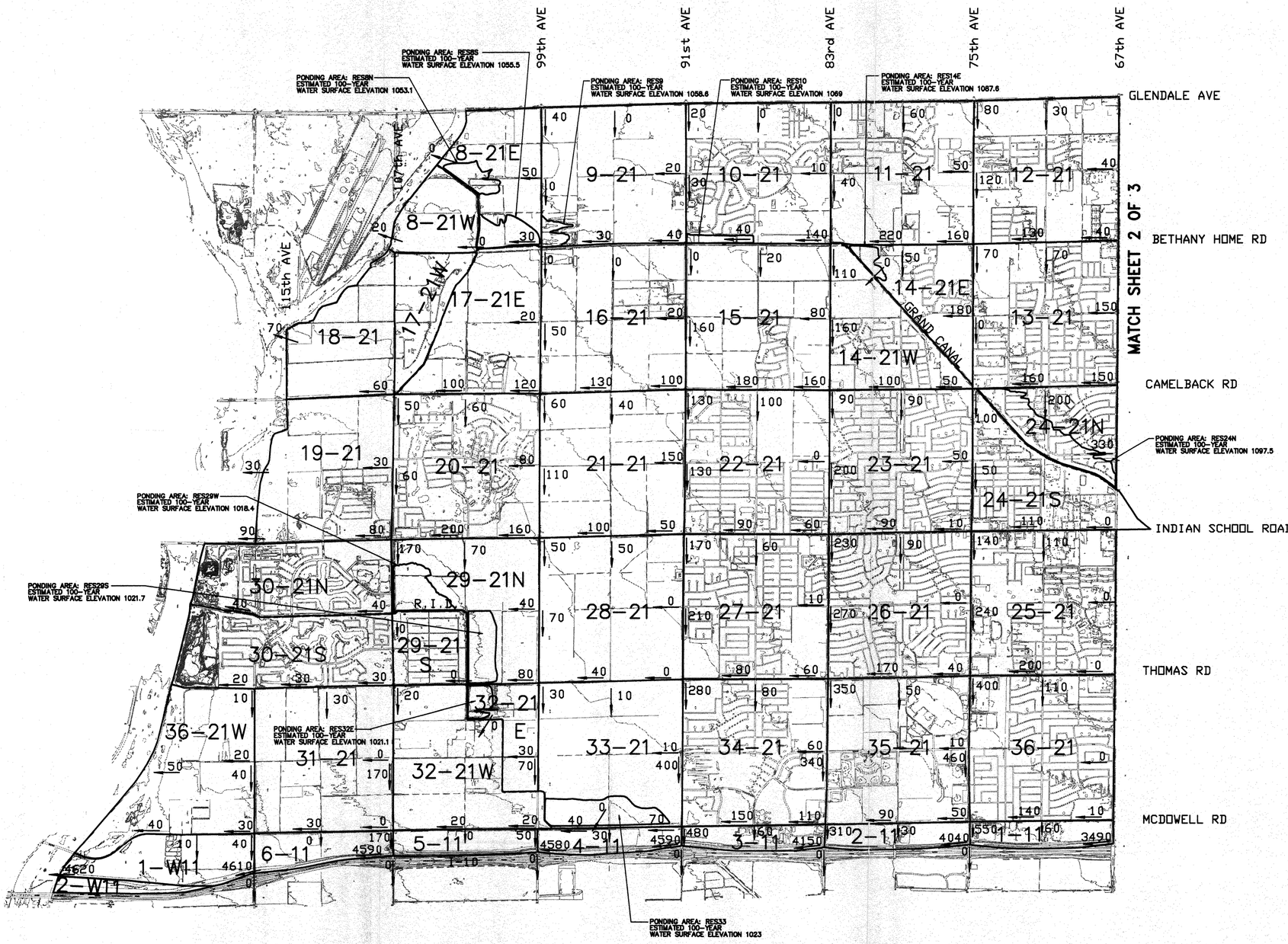
RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 2 OF 3

MATCH SHEET 1 OF 3



NOTE:
THE INDICATED PEAK DISCHARGES INCLUDE SURFACE FLOWS AND/OR FLOWS IN STORM DRAIN SYSTEMS.

THIS EXHIBIT SUMMARIZES THE COMPUTED PEAK DISCHARGES FOR THE 10-YEAR, 6-HOUR EVENT. THE HEC-1 OUTPUT FOR THE 10-YEAR, 6-HOUR; 100-YEAR, 6-HOUR; AND THE 100-YEAR, 24-HOUR EVENTS ARE PROVIDED IN APPENDIX K.

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

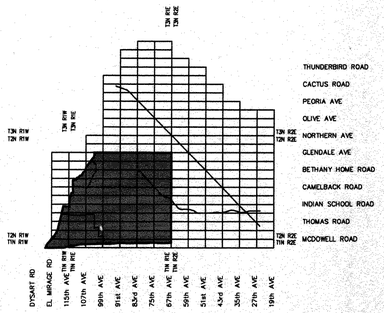
MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 10-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP



SCALE: 0 2000' 4000' 6000'
1" = 2000'

EXHIBIT 5
SUMMARY OF COMPUTED PEAK DISCHARGES: 10-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY:
DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

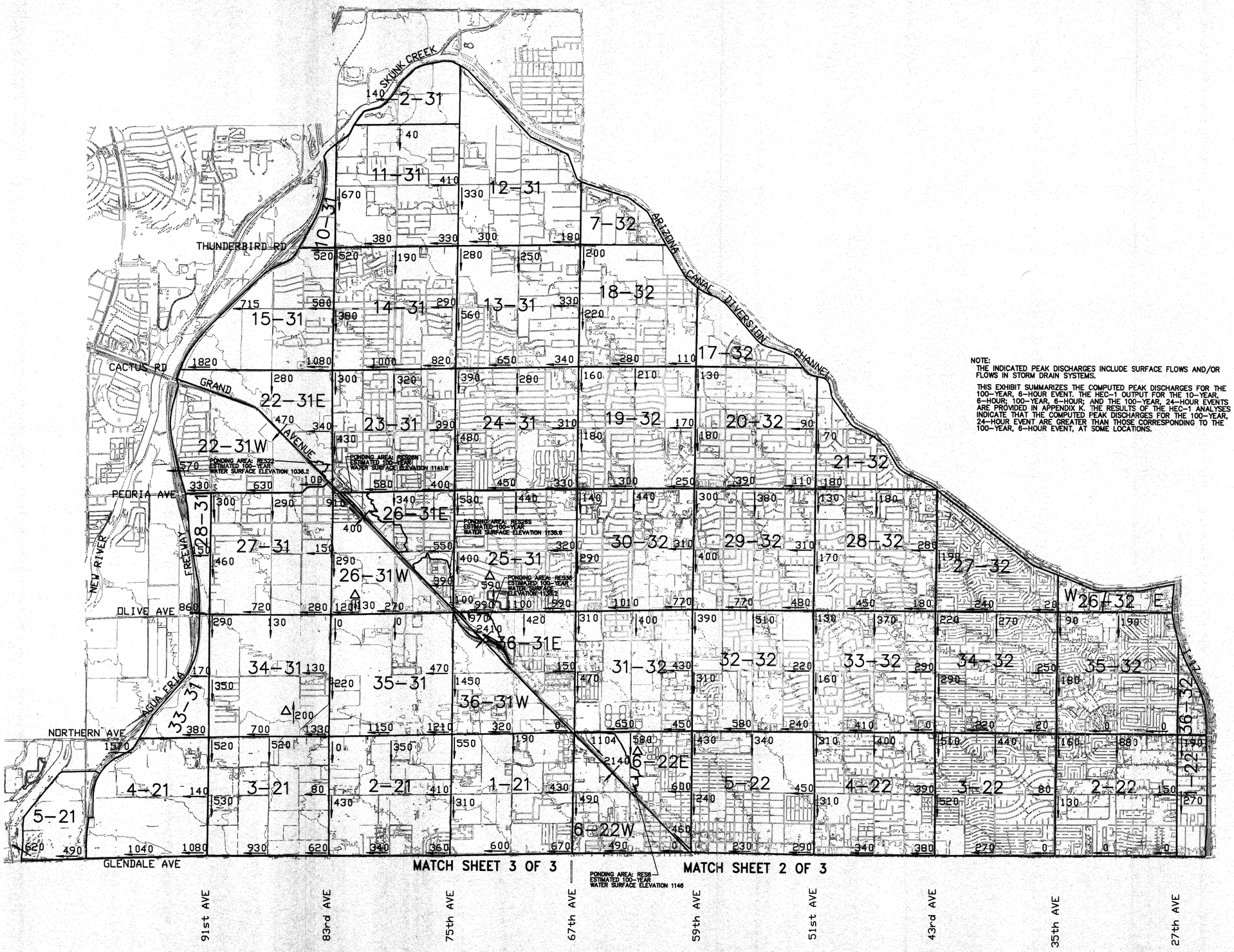
RECOMMENDED BY: DATE
APPROVED BY: DATE
CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"



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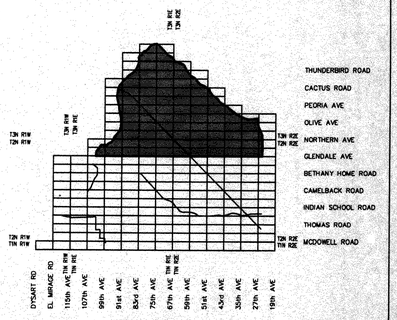
LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 — DRAINAGE SUB-BASIN BOUNDARY
- 16-32 — SUB-BASIN I.D. NO.
- 100 — COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- SURGE BASIN
- PONDING AREA

INDEX MAP



N

0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96

SUBMITTED BY: DATE: OCT 96

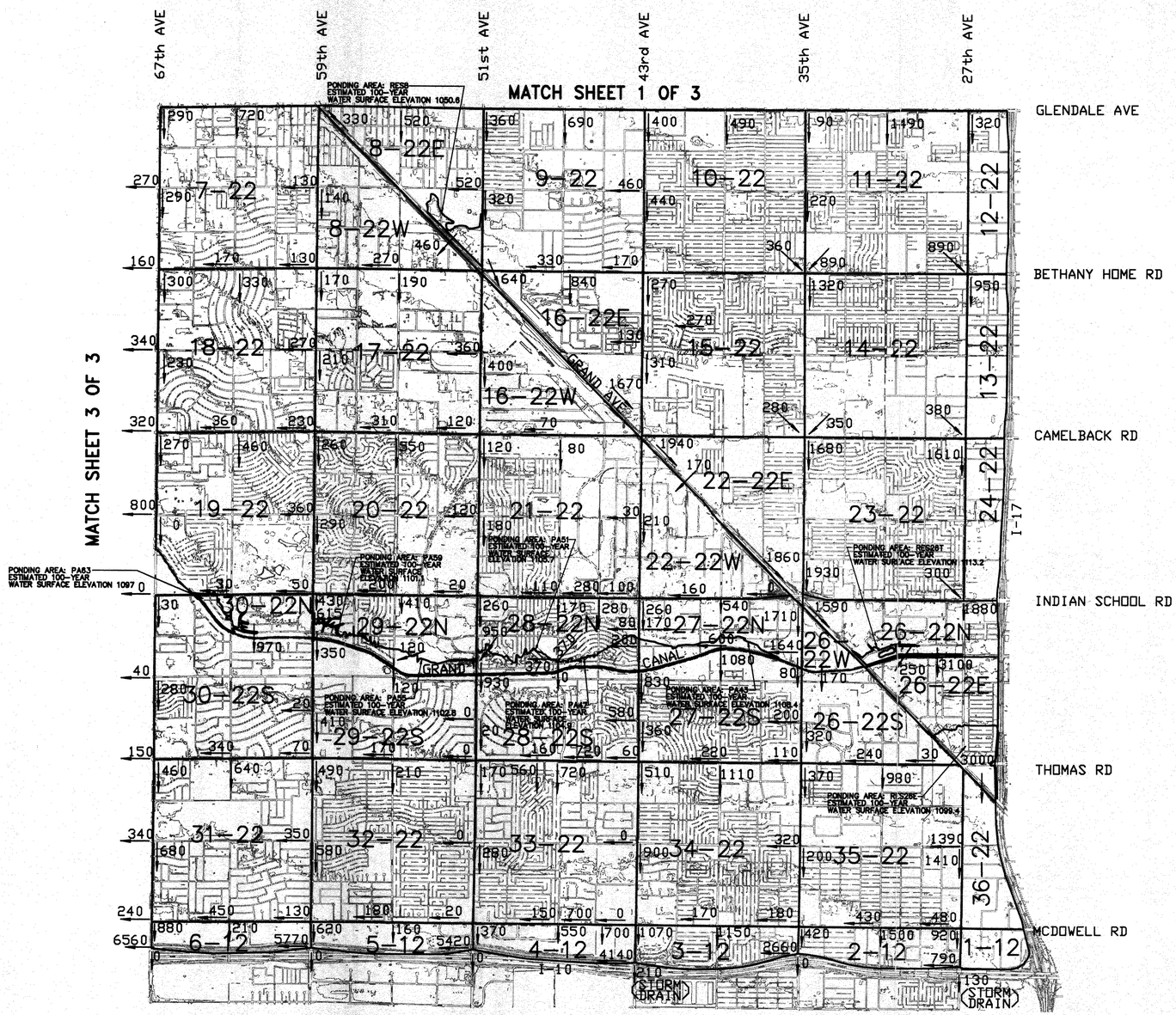
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

APPROVED BY: DATE

CHIEF ENGINEER AND GENERAL MANAGER

SHEET 1 OF 3



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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

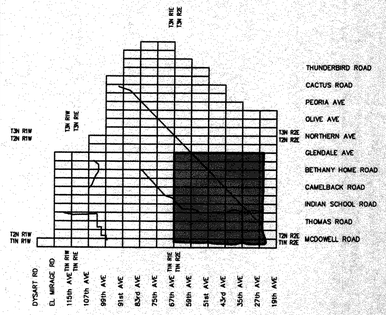
MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 DRAINAGE SUB-BASIN BOUNDARY
- 16-32 SUB-BASIN I.D. NO.
- 100 COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP



N

0 2000' 4000' 6000'

SCALE: 1" = 2000'

EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
SUBMITTED BY:		DATE: OCT 96

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

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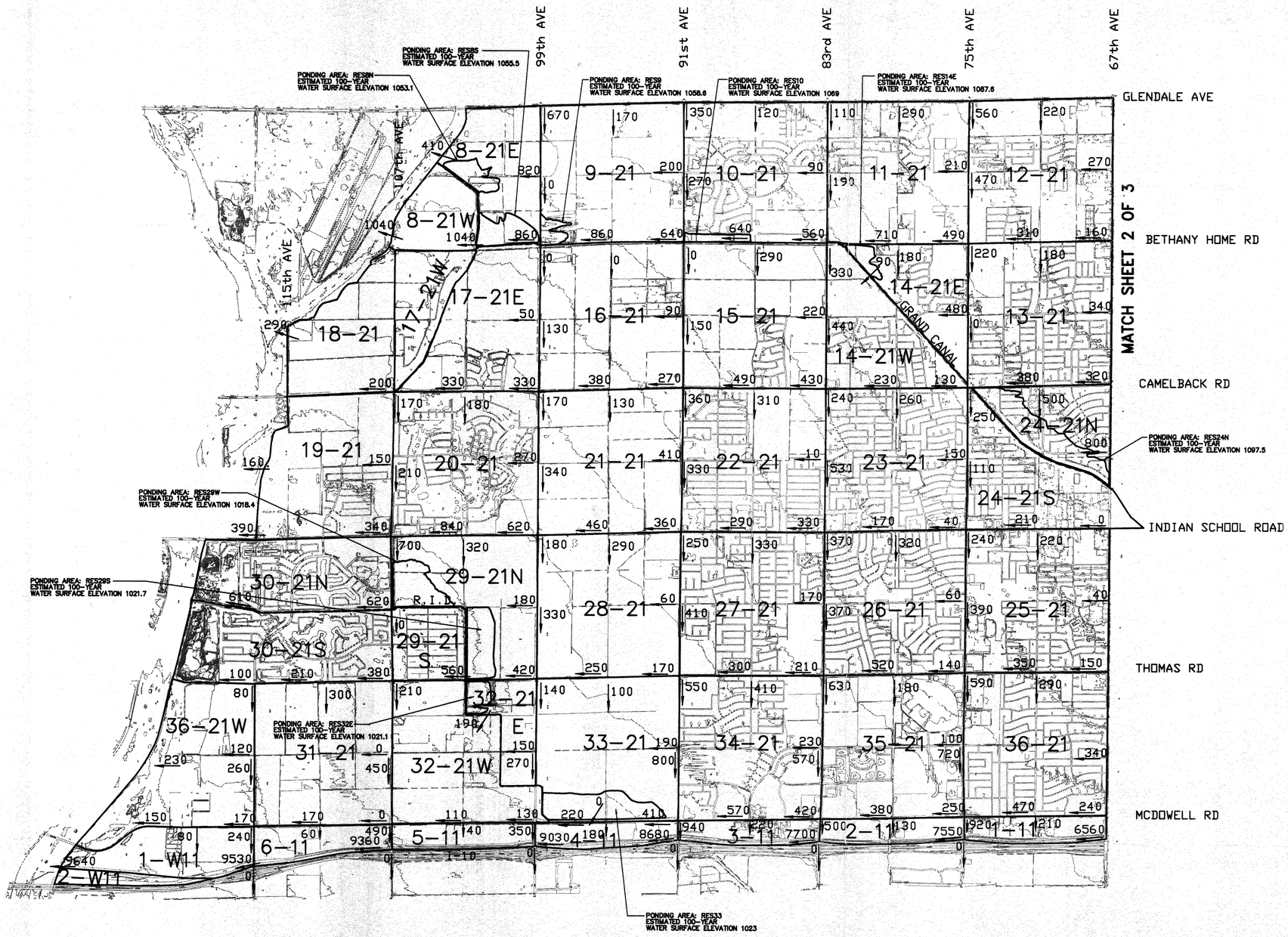
SHEET 2 OF 3

MATCH SHEET 1 OF 3



FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

MARYVALE AREA DRAINAGE MASTER STUDY

"FCD CONTRACT # 93-29"

LEGEND

- ROAD/PAVEMENT
- RAILROAD
- INDEX CONTOUR
- 16-32 — DRAINAGE SUB-BASIN BOUNDARY
- 16-32 — SUB-BASIN I.D. NO.
- 100 — COMPUTED PEAK DISCHARGE 100-YEAR 6-HOUR EVENT
- PONDING AREA

INDEX MAP

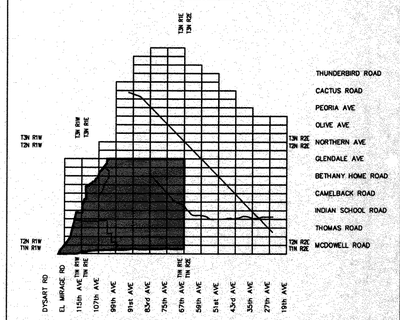


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EXHIBIT 6
SUMMARY OF COMPUTED PEAK DISCHARGES: 100-YEAR 6-HOUR EVENT

CH2M HILL — WOOD / PATEL

	BY	DATE
DESIGN	–	–
DESIGN CHK.	–	–
PLANS	–	–
PLANS CHK.	DWD	OCT 96
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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

RECOMMENDED BY: DATE

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CHIEF ENGINEER AND GENERAL MANAGER

SHEET 3 OF 3