CITY OF ALBUQUERQUE

April 18, 2006

Jarrod Likar, P.E.
Huitt-Zollars, Inc.
333 Rio Rancho Blvd.
Rio Rancho, NM 87124

Re: Winrock Market Center Redevelopment, Site Development Plan Engineer's Stamp dated 3-13-06 (J19-D58)

Dear Mr. Likar,

Based upon the information provided in your submittal received 3-13-06, the above referenced plan is approved for Site Development Plan for Subdivision and Building Permit action by the DRB.

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE INFORMATION SHEET

(REV. 1/28/2003)

PROJECT TITLE: Winrock Market Center ZONE ATLAS/DRNG. FILE #: J-19-Z/D58

DRB #: EPC#: WORK ORDER #:

LEGAL DESCRIPTION: Parcels A-1-A1, D-1A, E-1 of Winrock Center Addition within Section 18, T. 10 N. , R. 4 E., NMPM, City of Albuquerque, Bernalillo County, NM

CITY ADDRESS: Southeast corner of Louisiana Boulevard and Indian School Drive

ENGINEERING FIRM:	Huitt-Zollars, Inc.	CONTACT:	Kim R. Kemper
ADDRESS:	333 Rio Rancho Blvd.	PHONE:	892-5141
CITY, STATE:	Rio Rancho, NM	ZIP CODE:	87124
OWNER:	Pru Winrock, LLC	CONTACT:	
ADDRESS:	8 Campus Drive	PHONE:	
CITY, STATE:	Parsipanny, NJ	ZIP CODE:	07054
ARCHITECT:	Nadel Architects, Inc.	CONTACT:	Jim P. Connelly
ADDRESS:	3080 Bristol St., Suite 500	PHONE:	714-540-5000
CITY, STATE:	Costa Mesa, CA	ZIP CODE:	92626
SURVEYOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- ___ DRAINAGE PLAN 1ST SUBMITTAL, *REQUIRES TCL or equal*
- ___ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERTIFICATION (TCL)
- ___ ENGINEER'S CERT. (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA/FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- X S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN FOR BLDG. PRMT. APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ___ BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM.)
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- WA OTHER (SPECIFY) ~~Drainage Report Approval~~

RECEIVED
MAR 13 2006
HYDROLOGY SECTION

WAS A PRE-DESIGN MEETING ATTENDED:

- ___ YES
- ___ NO
- ___ COPY PROVIDED

DATE SUBMITTED: 3-13-06 BY: Kim R. Kemper

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or More of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than (10) lots or constituting five (5) acres

FINAL
DRAINAGE STUDY

For

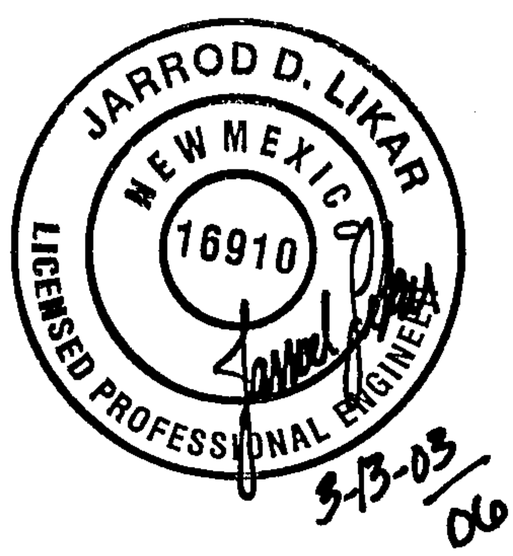
Winrock Redevelopment
Winrock MarketCenter

South~~West~~east Intersection of Louisiana Boulevard and Indian School Road
Albuquerque, New Mexico

for

Pru Winrock, LLC
8 Campus Drive
Parsipanny, NJ 07054

March 13, 2006



Prepared By:

HUITT-ZOLLARS, Inc.
333 RIO RANCHO DRIVE NE, SUITE 101, RIO RANCHO, NEW MEXICO
(505) 892-5141

FINAL DRAINAGE STUDY
FOR
WINROCK MARKET CENTER

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FINAL DRAINAGE STUDY
FOR
WINROCK MARKET CENTER

PURPOSE

This drainage report addresses the storm water runoff and proposed infrastructure needed to convey the runoff from the redevelopment of Winrock Mall to the Winrock Market Center. The report will exhibit compliance with the corresponding drainage studies for the Winrock area (See **Related Reports**).

PROJECT LOCATION AND DESCRIPTION

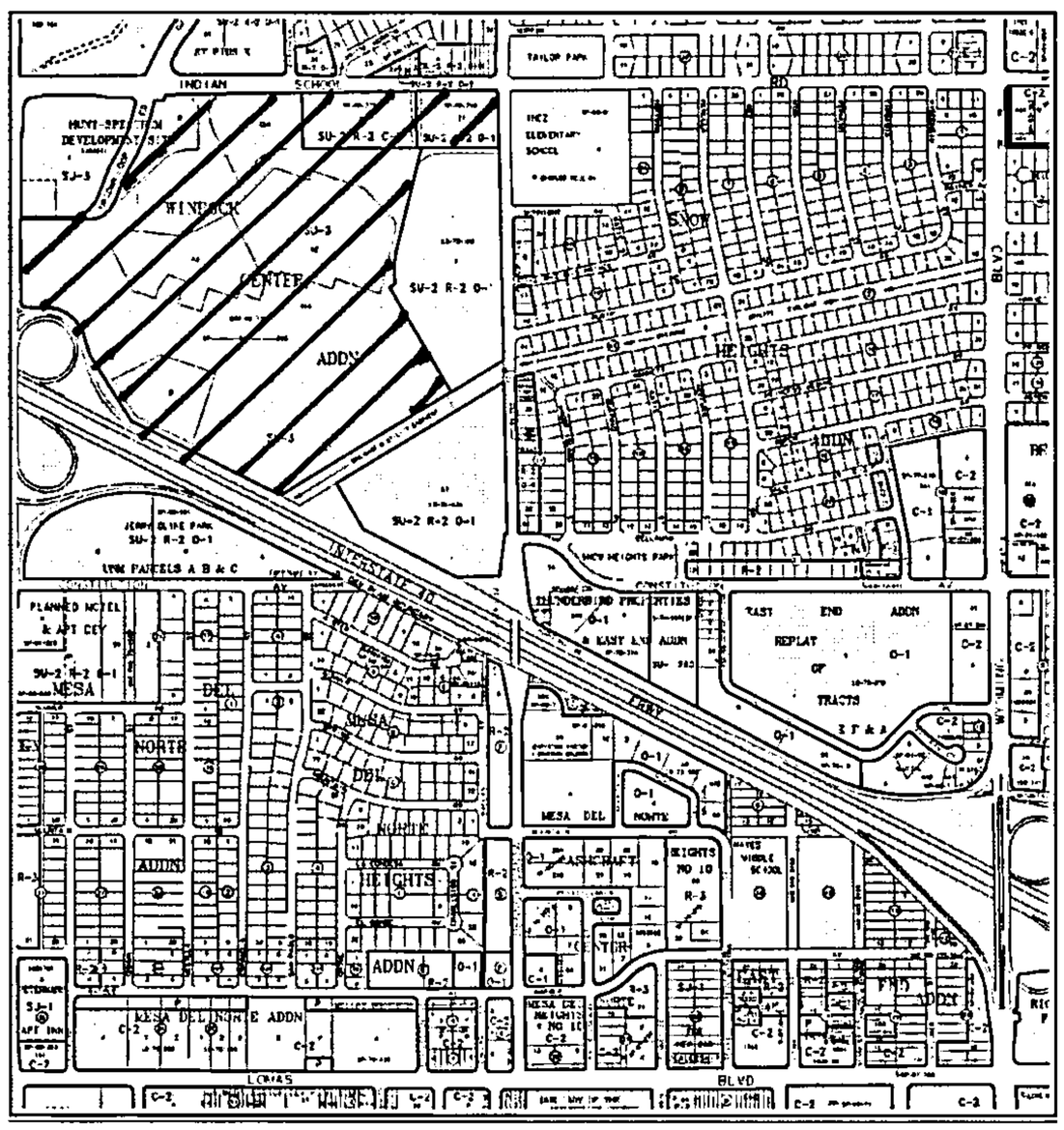

Exhibit 1 – Vicinity Map – J-19-Z

The project is located on the southeast corner of the intersection of Louisiana Boulevard and Indian School Road; see **Exhibit 1**. The site is currently developed as a mall with several outlining structures which include motels, restaurants and retail centers. The north side of Winrock Mall is bound by Indian School Road while the southwest section sits along Interstate 40. The western entrance to the mall is off of Louisiana Boulevard and Americas Parkway which runs along the northwest of the property. The east side of the property lies next to the Winrock Villas, a multi-family development. The southeast portion of the property runs along the Embudo Channel, a major storm drain facility.

ZONING AND PLATTING STATUS

The current zoning for this project is SU-3 and SU-2/R-2/C-2/O-1 (Tracts D1 and E1). The zoning for the project will remain unchanged. The current plat for Winrock Mall is comprised of

a total of eight tracts. The new Winrock Market Center may subdivide individual retail structures into their own lot at some time in the future.

FLOOD HAZARD ZONES

Per FEMA's Flood Insurance Rate Map (FIRM) 350002 0030 C, dated October 14, 1983 and the project site is not located within a FEMA 100-year Flood Hazard Zone. See **Appendix A-1**.

RELATED REPORTS

There are three existing drainage reports that have an impact on the drainage infrastructure within Winrock Market Center. These reports are Drainage Study for the ABQ Uptown Area, dated August 13, 2002 and prepared by Bohannan Huston, Inc., Winrock Shopping Center master Drainage Plan, dated July, 1993 and prepared by Avid Engineering, Inc. and Drainage Study for Winrock Villas, dated March 10, 2003 and prepared by Applied Engineering & Surveying, Inc. These reports outline allowable discharge rates, discharge affecting Winrock and storm drain infrastructure to be used by Winrock.

JURISDICTIONS OF PUBLIC AGENCIES

Local

This project is located entirely within the City of Albuquerque (CoA) Municipal Limits and is therefore within their jurisdiction and must comply with the City's development requirements. The storm drain system will remain private as it currently is.

METHODOLOGY

This drainage study is based on the procedures outlined in the City of Albuquerque's Development Process Manual Section 22.2, City of Albuquerque (CoA DPM), latest revision, or the AHYMO version of the ARS HYMO Computer Program. This drainage study follows the procedures outlined in both the CoA DPM Section 22.2 and the AHYMO Computer Program.

PRECIPITATION

The AHYMO Computer Program requires the 1, 6 and 24-hour precipitation values. These values were obtained from the CoA DPM Chapter 22 Table A-2, and are shown on **Table 1**.

Table 1
Precipitation Values

Return Period (yrs)	24 hr Rainfall (in)	6 hr Rainfall (in)	1 hr Rainfall (in)
100	3.10	2.60	2.14

LAND TREATMENTS

The land treatments used in the AHYMO Computer model are as described by Table A-4 of the CoA DPM Section 22.2, 1993 revision, and are summarized in **Table 2**.

Table 2
Land Treatment Classifications

Treatment	Land Condition
A	Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, groundcover and infiltration capacity. Croplands. Unlined Arroyos.
B	Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.
C	Soil compacted by human activity. Unpaved parking, roads and trail. Most vacant lots. Gravel or rock on plastic (desert landscaping)
D	Impervious areas, pavement and roofs.

The majority of the project is land treatment Type 'D'. The only variation from a land treatment of 100% Type 'D' will come from landscaped areas within individual basins. The landscape treatment will vary within the individual basins and will be classified as treatment 'B".

PRE-DEVELOPMENT CONDITIONS

The current Winrock configuration allows for discharge to three distinct locations. First, free discharge was allowed to Indian School Road for northern portions of the Winrock property. Second, storm drain water was allowed to discharge through a 42" RCP culvert that penetrated the interstate 40 channel on the south side of the property. This culvert drained the eastern portion of the Winrock property. The third location is into an existing storm drain pipeline running long the west side of the property. The current drainage patterns and storm water quantities are described in the Winrock Shopping Center Master Drainage Plan, dated July 1993, and prepared by Avid Engineering, Inc. Please refer to **Exhibit #2** for the existing drainage basin map.

ULTIMATE DEVELOPED CONDITIONS

The new Winrock Market Center will discharge into five separate locations. The locations are as follows: 1. the Embudo Channel, 2. Indian School Road, 3. new 84" RCP Pipeline, 4. new I-40 on ramp, 5. existing 42" RCP and 6. Americas Parkway. The drainage patterns for each set of basins are described below.

Embudo Channel – Exhibit #3

Seven separate basins will discharge storm water into the Embudo Channel located along the southeast boundary of the Winrock Market Center. **Basin 101** will drain the Winrock Villas. Storm water will enter **Storm Drain System #1** through a trench grate at **Analysis Point 1A**. **Basin 102** will surface flow water along loop roads to a sump inlet at **Analysis Point 1B**, where storm water will enter **Storm Drain System #1**. **Basin 103** drains the loading dock for the east Dillard's. This inlet will collect water and pipe it to **Analysis Point 1C** where it will join with **Points 1A** and **1B** in **System #1**. **Basin 104** will surface drain onto **Basin 106** at **Analysis Point 1D**. The combined storm water will be collected into four sump inlets within **Basin 106** (**Points 1E, 1F, 1G** and **1H**). All sump inlets will discharge into **System #1**. **Basin 105** will surface flow to the southwest corner of the basin. Storm water will enter a sump inlet at **Analysis Point 1J**. **Basin 107** will collect into a sump inlet at **Analysis Point 1K**. The total combined flow will enter the Embudo Channel at **Analysis Point 1L** with a total flow of 161.42 cfs.

THIS SEEMS TO BE FOR 54" NOT 36"
45.88 per HZ 4553.81 Dufs

Indian School Road – Exhibit #4

Five separate basins discharge storm water onto Indian School Road. **Basin 201** will surface flow onto **Basin 202** through driveway entrances at **Analysis Point 2A**. The combined flow will join **Basin 203** which discharges through a sidewalk culvert at **Analysis Point 2B**. The three basins will surface flow through a parking lot along the west side of the existing Toys 'R' Us. The flow will drain onto Indian School Road via a sidewalk culvert at **Analysis Point 2C**. **Basin 204** will sheet flow directly onto Indian School Road through the adjacent entrance road. **Basin 205** will drain to the northwest side of the basin and discharge onto Indian School Road through a sidewalk culvert at **Analysis Point 2D**. Calculations for all sidewalk culverts can be viewed in **Appendix C**.

The total discharge that affects Indian School Road is 81.26 cfs. **Table 3** compares the discharge onto Indian School Road for existing and redeveloped conditions.

Table 3 – Runoff Comparison at Indian School Road

Hydrograph ID #	Basin Area (Mi^2)	Time to Peak (hr)	100-Yr Runoff Volume (ac-ft)	100-Yr Peak Discharge (Ft^3/s)
INDSCH.4 (HZI)	0.0269	1.50	3.233	82.18
AREA 101 (AVID)	0.0329	1.50	3.96	101.61
TOYS6 (BHI)	0.0329	1.50	3.71	82.30

84" Storm Drain Pipeline – Exhibit #5

Eighteen separate basins contribute to flows discharging into the existing 84" RCP pipeline. **Basin 301** sheet flows to the southwest corner of the basin and into a sump inlet at **Analysis Point 3A**. This is the start of **Storm Drain System #2**. **Basin 302** will collect portions of the loop road with curb inlets at **Analysis Point 3B**. **Basin 303** is a large parking lot that drains runoff to the western edge of the basin boundary. The basin is collected into two inlets at **Analysis Point 3C**, where it enters **Storm Drain System #2**. **Basin 304** drains to a sump inlet at the southeast corner of the basin (**Analysis Point 3D**) and directly into **System #2**. **Basin 306** drains to a sump inlet located in the loading dock (**Analysis Point 3E**) of Dillard's. The inlet will pipe storm water through **Basin 305** and combine with water collected at **Analysis Point 3F** from **Basin 305**. **Basin 307** will flow to a dual battery of inlets at **Analysis Points 3H** and **3G**. **Basins 308** through **312** collect flow from ventilation areas for the underground parking structure. All basins will sheet flow along the bottom level of the parking garage to a trench grate at **Analysis Point 3J**. **Basin 313** will flow to the same trench grate at **3J**. **Basin 314** will collect into an area drain at **Analysis Point 3K** where it will join with **3J** and enter **Storm Drain System #2** between **Points 3G** and **3H**. **Basin 315** will drain to an existing curb inlet at **Analysis Point 3L**. The inlet will be modified to a surface inlet that will drain directly into the existing 84" RCP pipeline. **Basin 316** will drain the south side of the Macaroni Grill lot through an existing drop inlet and directly in the 84" RCP. **Basin 317** will drain to an existing inlet at **Analysis Point 3M**. The inlet will be modified to accommodate the **Storm Drain System #2** pipeline from **Analysis Point 3H** which will be connected to the existing 84" pipeline. **Basin 318** will drain to an existing drop inlet that is connected to the 84" pipeline.

The total discharge to the 84" pipeline will be 118.93 cfs. **Table 4** compares the discharge into the existing 84" RCP pipeline for existing and redeveloped conditions.

Table 4 – Runoff Comparison at 84" RCP

Hydrograph ID #	Basin Area (Mi^2)	Time to Peak (hr)	100-Yr Runoff Volume (ac-ft)	100-Yr Peak Discharge (Ft^3/s)
84".17 (HZI)	0.0398	1.50	4.72	120.39
AREA 103 & 105 (AVID)	0.0349	1.50	4.21	141.01
103.10 – 107.30 (BHI)	0.0447	1.50	5.05	138.55

I-40 On Ramp – Exhibit #6

There is a single basin (**Basin 401**) that will sheet flow down the new I-40 on ramp and into two area drains at the bottom of the ramp (See **Analysis Point 4A**). The total discharge into the inlets is 15.50 cfs.

42" Storm Drain Pipeline – Exhibit #7

Two basins will contribute storm water runoff to the existing 42" RCP. **Basins 501** and **502** will combine to discharge through **Storm Drain System #3** and into the existing 42" RCP(**Analysis Point 5A**). This pipeline penetrates the I-40 drainage channel.

The total discharge into the 42" pipeline is 44.01 cfs. **Table 5** compares the discharge into the existing 42" RCP pipeline for existing and redeveloped conditions.

Table 5 – Runoff Comparison at 42" RCP

Hydrograph ID #	Basin Area (Mi^2)	Time to Peak (hr)	100-Yr Runoff Volume (ac-ft)	100-Yr Peak Discharge (Ft^3/s)
T.36 (HZI)	0.0143	1.50	1.75	44.30
AREA 104 (AVID)	0.0523	1.50	11.21	174.49

Americas Parkway – Exhibit #8

Basins 601 through **605** will sheet flow directly onto Americas Parkway. The combined runoff will flow to existing curb inlets at the intersection of Louisiana Boulevard and Americas Parkway.

The total discharge onto Americas Parkway will be 18.37 cfs. **Table 6** compares the discharge onto Americas Parkway for existing and redeveloped conditions.

Table 6 – Runoff Comparison at Americas Parkway

Hydrograph ID #	Basin Area (Mi^2)	Time to Peak (hr)	100-Yr Runoff Volume (ac-ft)	100-Yr Peak Discharge (Ft^3/s)
PRWY.4 (HZI)	0.006	1.50	0.729	18.53
AREA 102 (AVID)	0.0078	1.50	0.93	24.01

CONCLUSION

The new Winrock Market Center has improved drainage at every discharge location as shown above. The main reason for the drop in discharge rates throughout the site is the inclusion of direct discharge into the Embudo Channel along the southeast boundary of the development. The existing discharge from the site totals 441.12 cfs. The improvements to the site have lowered discharge rates at comparable locations to a total of 265.40 cfs. An additional 174.43 cfs discharges directly to the Embudo Channel. 439.8

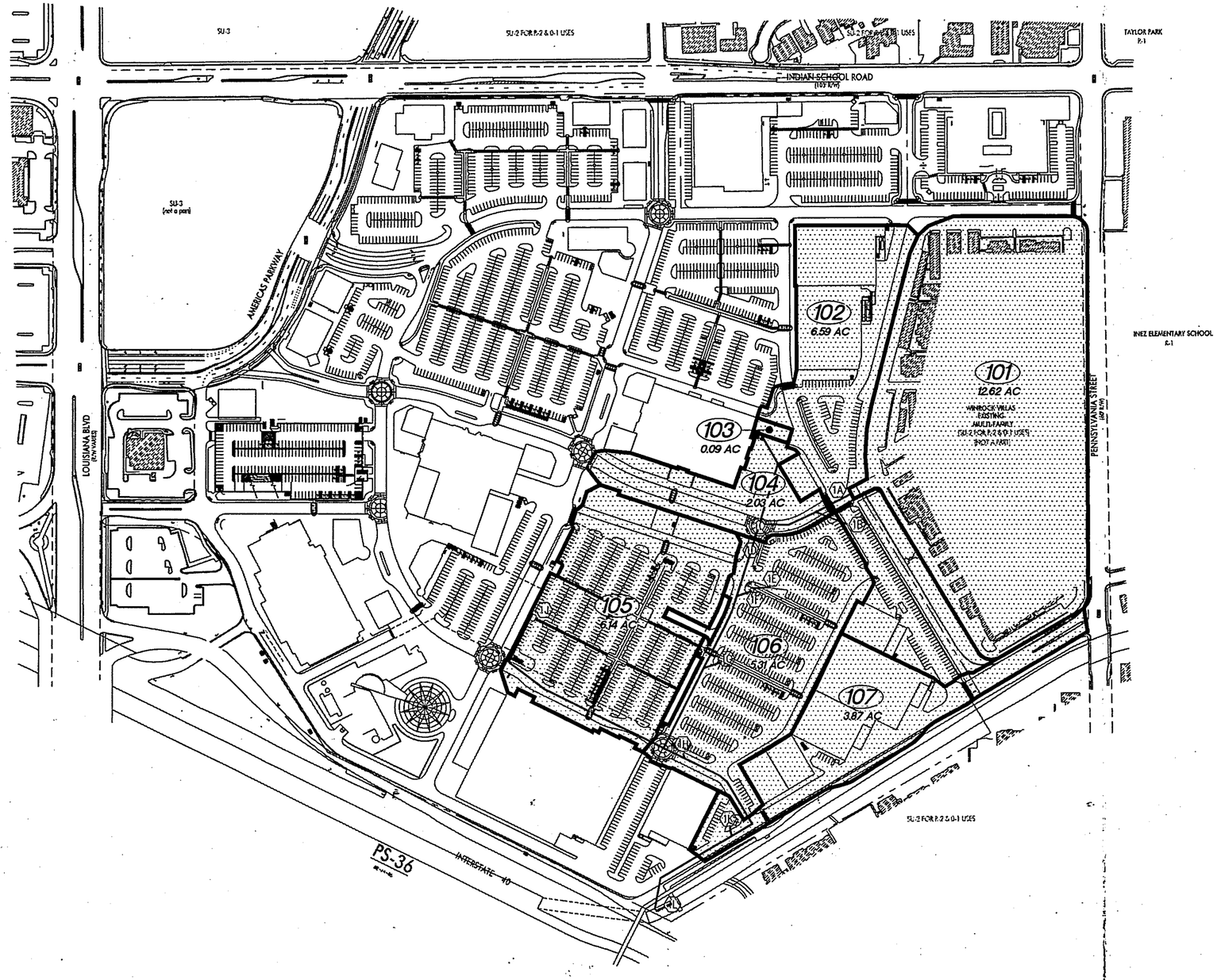

EXHIBIT #3

Designed For:

PRUDENTIAL PROPERTIES

EMBUDO CHANNEL BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

HUITT-ZOLLARS
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Rio Rancho, New Mexico 87124
Phone (505) 892-5141 Fax (505) 892-3259

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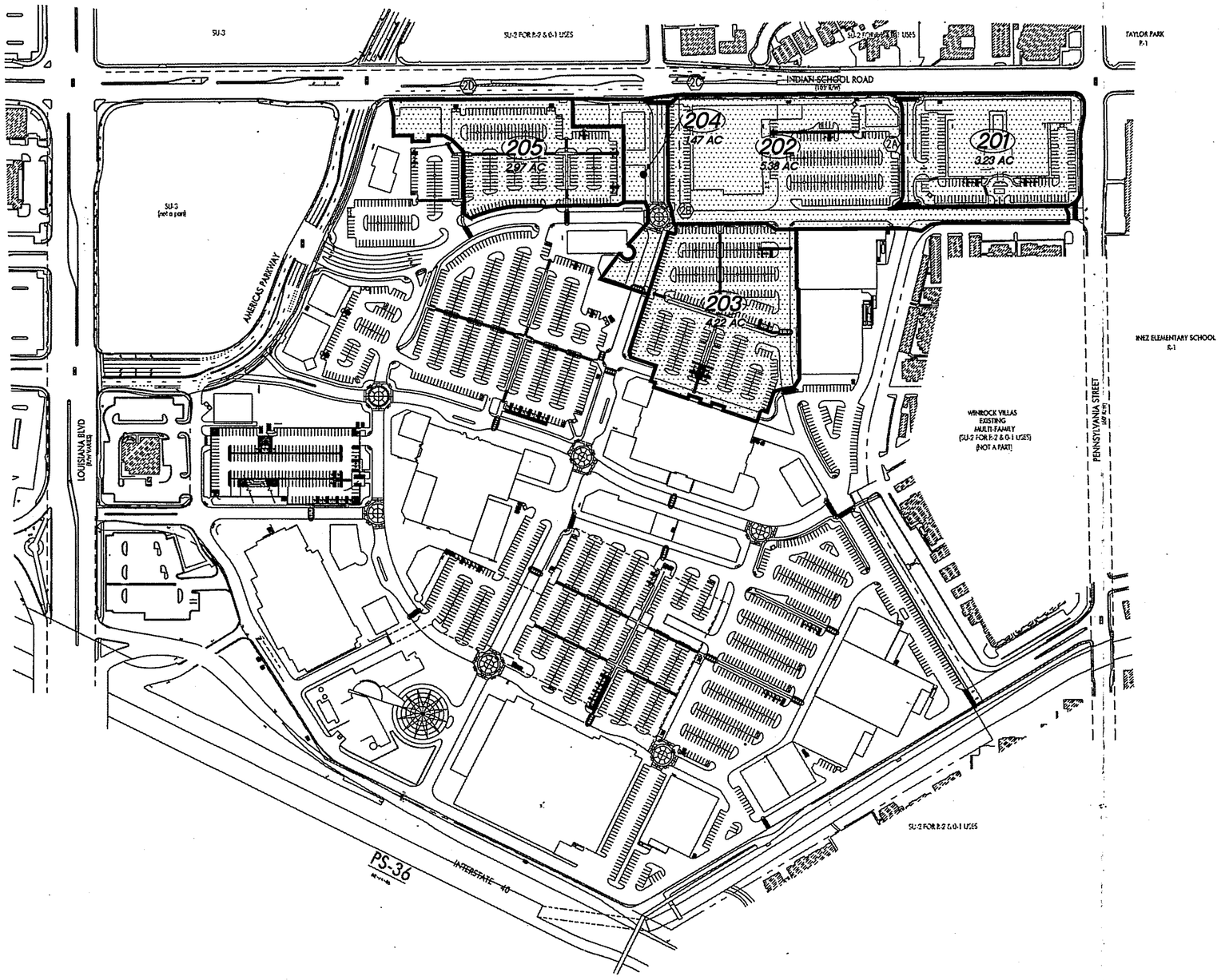

EXHIBIT #4

Designed For:

PRUDENTIAL PROPERTIES

INDIAN SCHOOL BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

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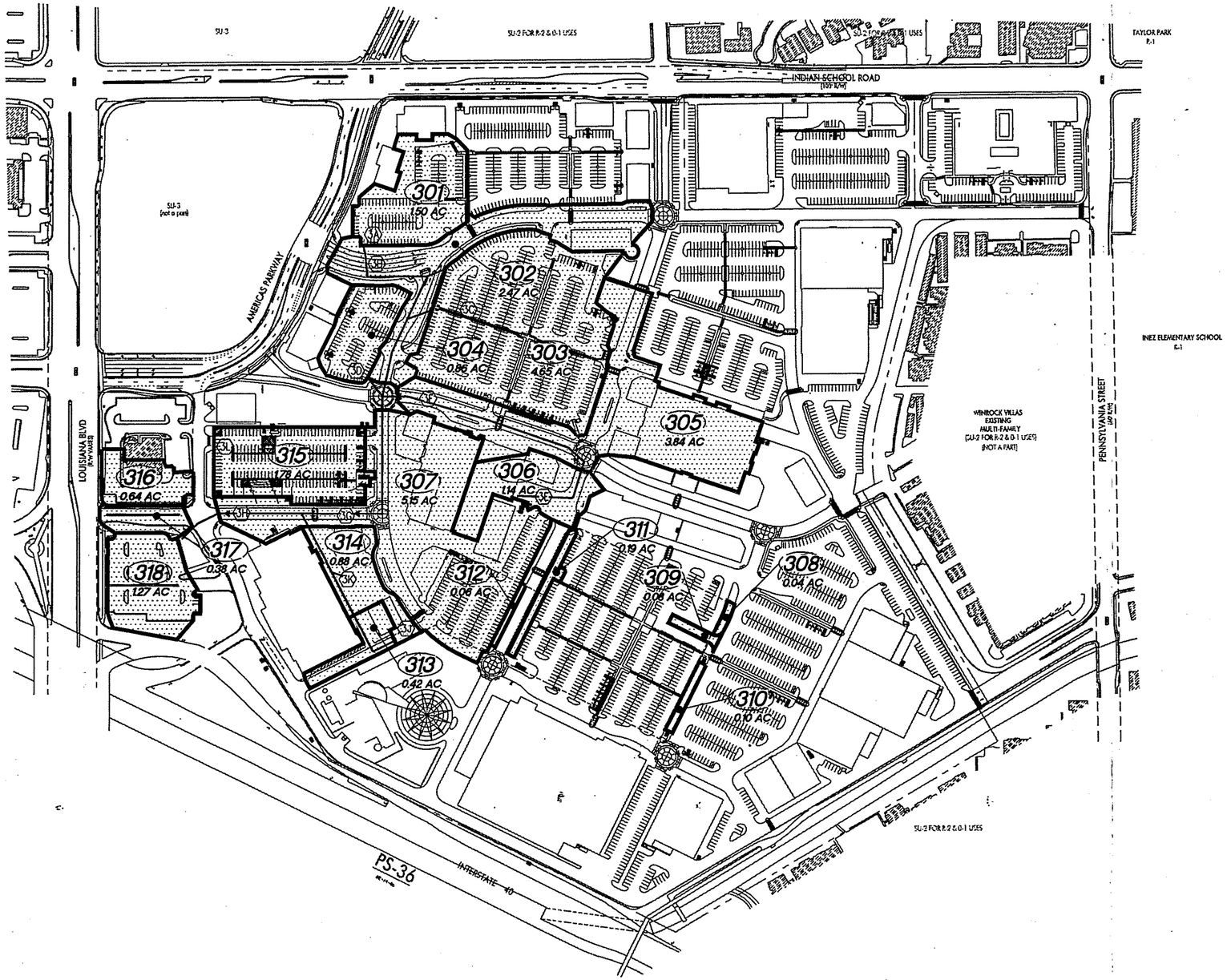

EXHIBIT #5

Designed For

PRUDENTIAL PROPERTIES

84" RCP PIPELINE BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

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Phone (505) 892-5141 Fax (505) 892-3259

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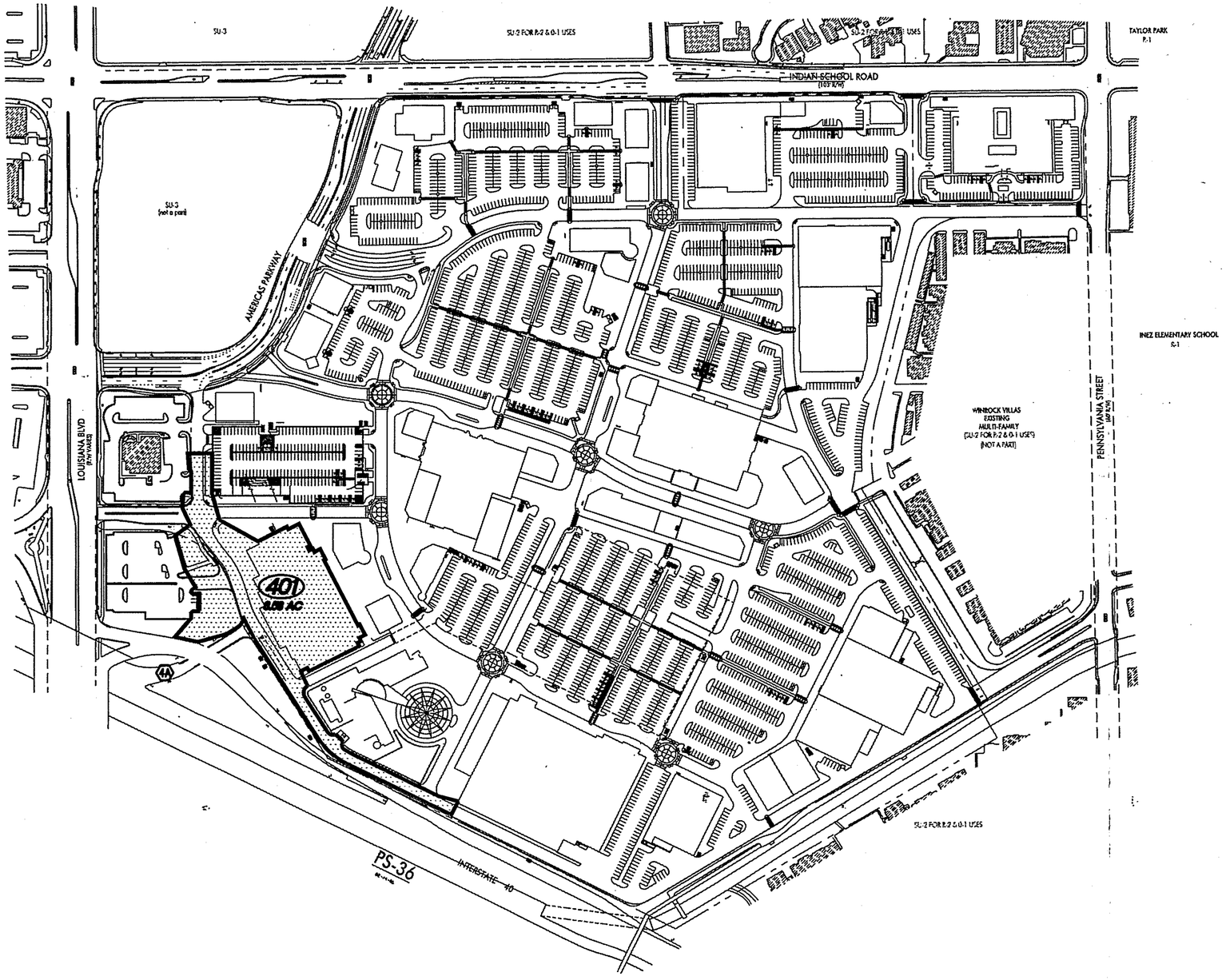

EXHIBIT #6

Designed For:

PRUDENTIAL PROPERTIES

I-40 ON RAMP BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

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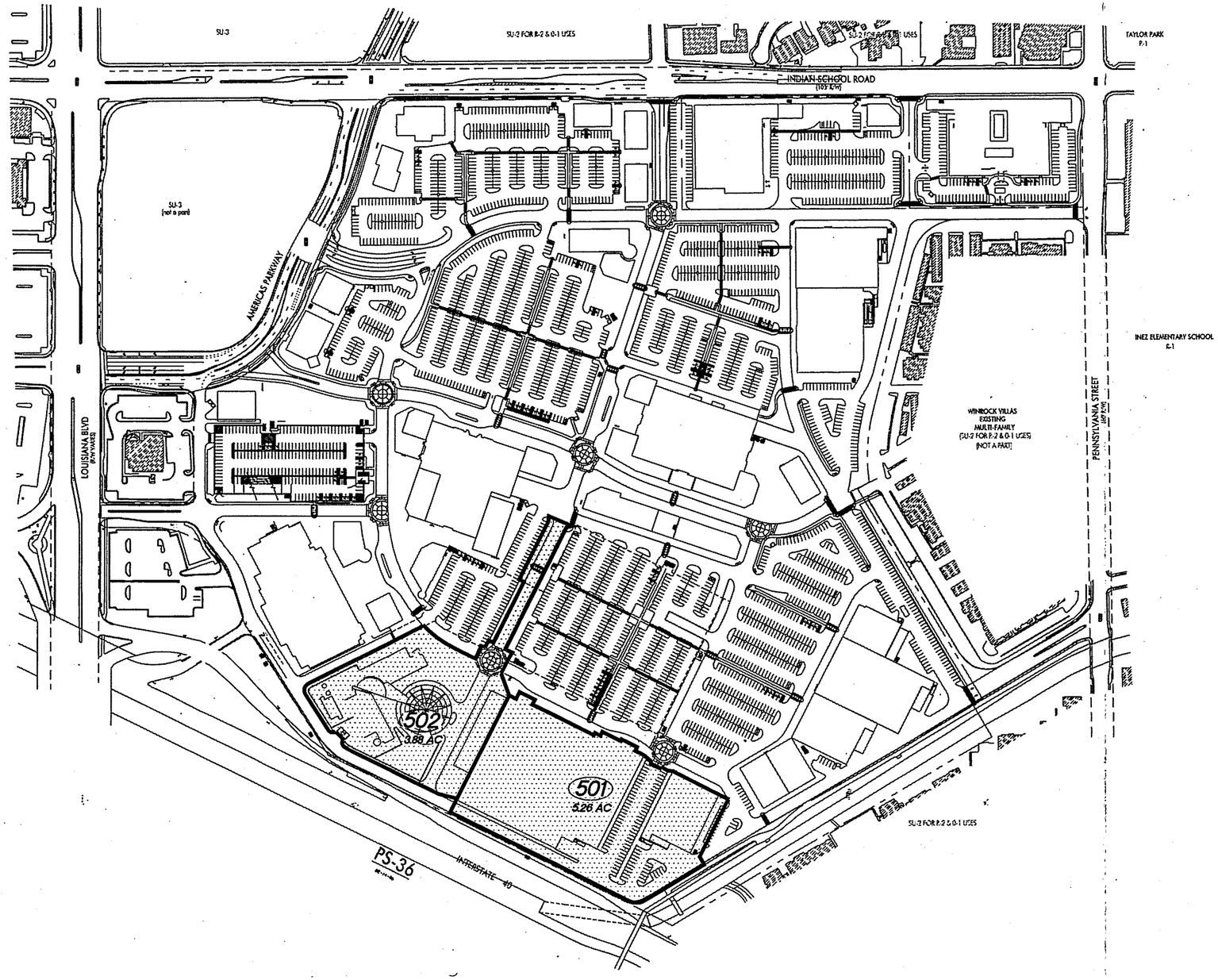

EXHIBIT #7

Designed For

PRUDENTIAL PROPERTIES

42" RCP PIPELINE BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

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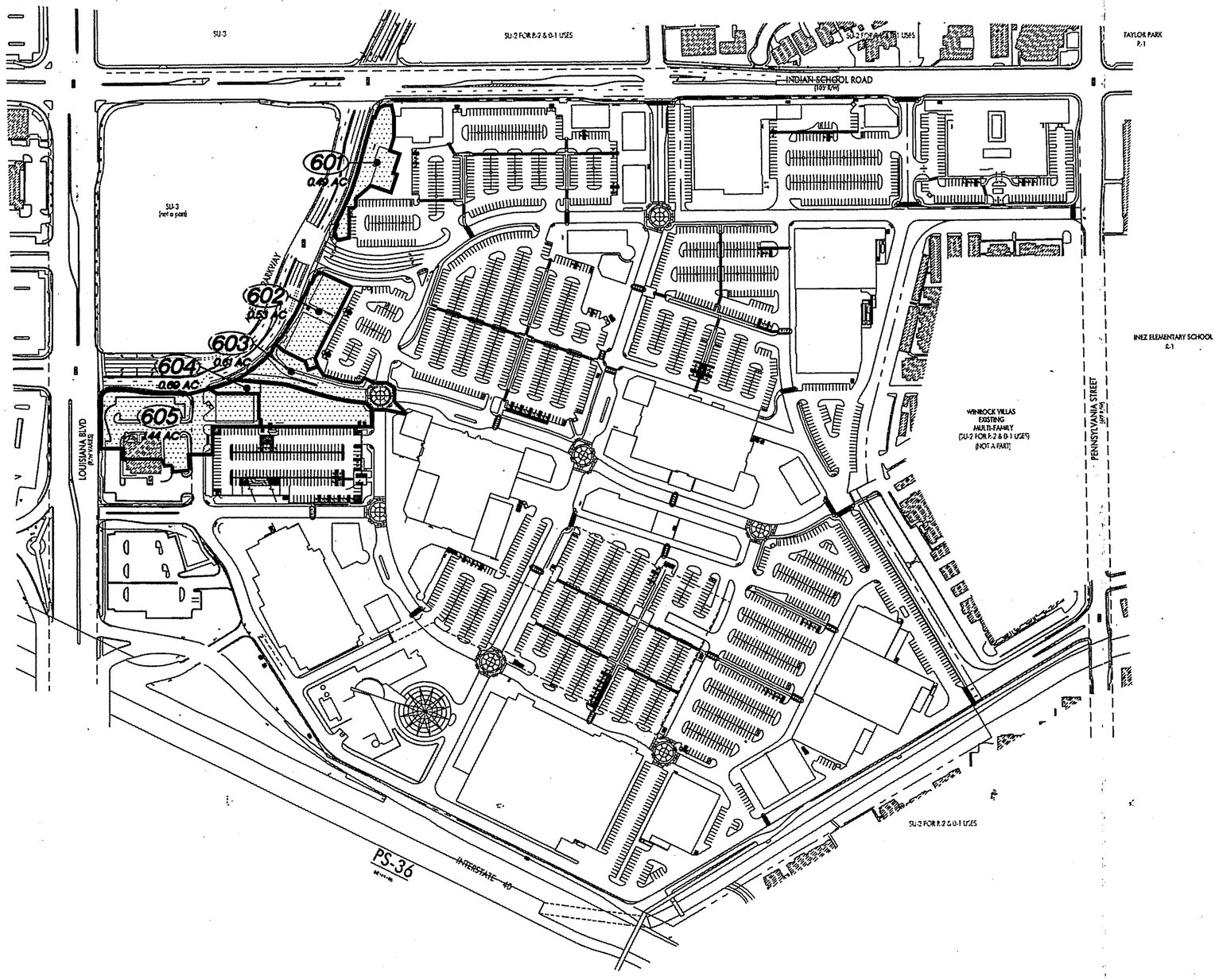

EXHIBIT #8

Designed For:

PRUDENTIAL PROPERTIES

AMERICAS PARKWAY BASIN MAP

WINROCK MARKET CENTER
LOUISIANA AND INDIAN SCHOOL

Designed By:

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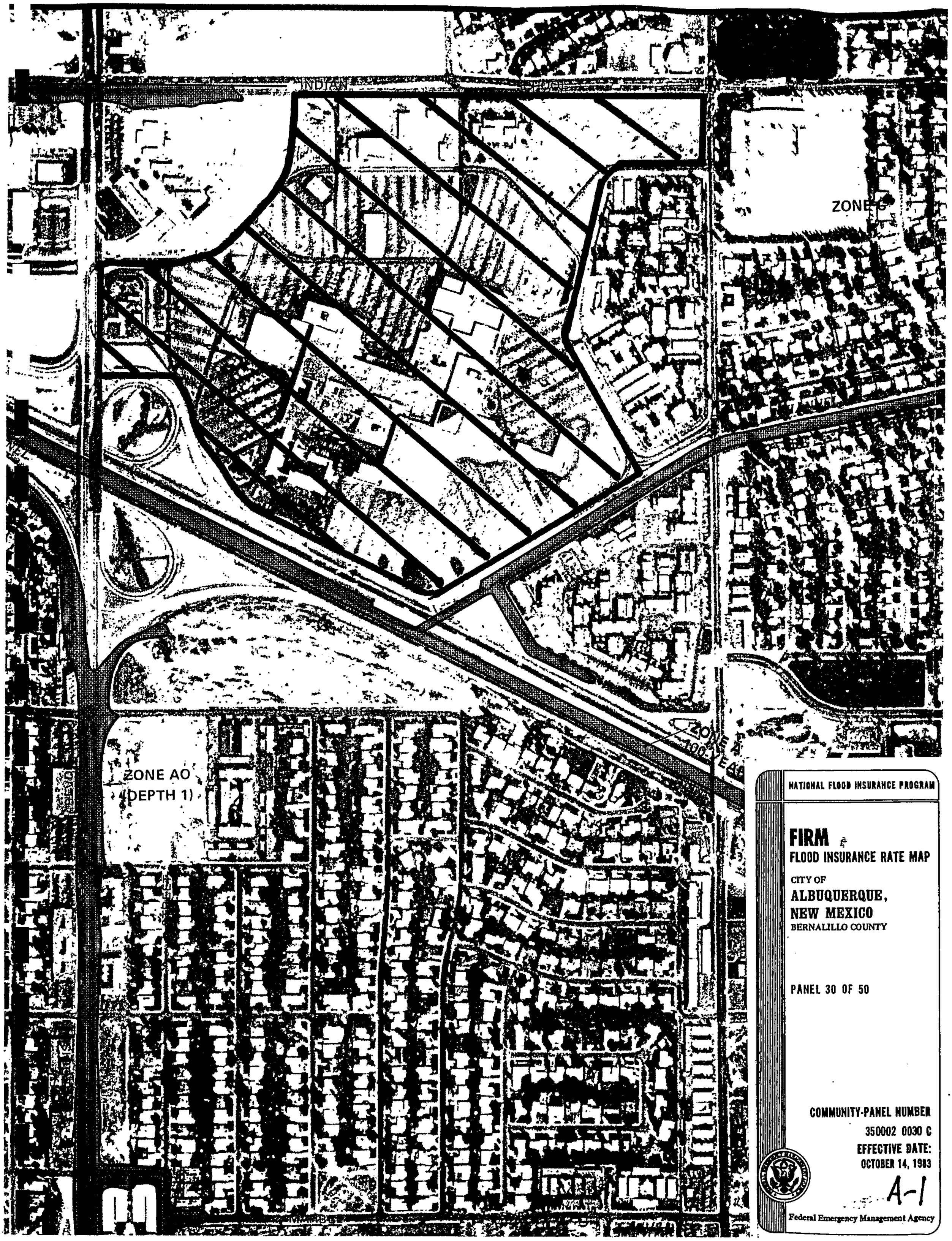

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
ALBUQUERQUE, NEW MEXICO
BERNALILLO COUNTY

PANEL 30 OF 50

COMMUNITY-PANEL NUMBER
350002 0030 C
EFFECTIVE DATE:
OCTOBER 14, 1983

A-1

Federal Emergency Management Agency

Winrock Market Center
100-Year 24-Hour Duration Storm-Developed
AHYMO Summary File

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   COMMAND       IDENTIFICATION  NO.  NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE     NOTATION

   *S Winrock Mall Renovation - Existing Drainage Analysis
   *S Data File: windev7.dat
   *S Compute 100-Year Flow
   *S Use 24 Hour Storm
   *S THIS STUDY IS TO DETERMINE THE FLOWS FOR POND SIZING AND OUTLET FLOWS
   *S
   START                                                                                                   TIME=       .00
   *S*****************************************************************************
   *S USE COA DPM ZONE 3 RAINFALL
   *S*****************************************************************************
   RAINFALL  TYPE= 1                                                                                       RAIN6=    2.600
   *S*****************************************************************************
   *S*****************************************************************************
   *S******************** AREA W/ DIRECT DISCHARGE TO INDIAN SCHOOL ***************
   *S*****************************************************************************
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 201
   COMPUTE NM HYD         201.D   -    1      .00500      15.07       .590     2.21380    1.500    4.709 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 202
   COMPUTE NM HYD         202.D   -    2      .00840      25.93      1.024     2.28568    1.500    4.824 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD BASIN 201 AND 202
   ADD HYD             INDSCH.1  1& 2   3      .01340      41.00      1.614     2.25882    1.500    4.781
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 203
   COMPUTE NM HYD         203.D   -    4      .00660      20.38       .805     2.28568    1.500    4.825 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD INDSCH.1 AND 203
   ADD HYD             INDSCH.2  3& 4   5      .02000      61.38      2.419     2.26767    1.500    4.795
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 204
   COMPUTE NM HYD         204.D   -    6      .00230       6.94       .272     2.21380    1.500    4.716 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S ADD INDSCH.2 AND 204
   ADD HYD             INDSCH.3  5& 6   7      .02230      68.32      2.690     2.26210    1.500    4.787
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 205
   COMPUTE NM HYD         205.D   -    8      .00460      13.86       .543     2.21380    1.500    4.709 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S ADD 205 AND INDSCH.3
   *S *************** TOTAL FLOW IMPACTING INDIAN SCHOOL **************************
   ADD HYD             INDSCH.4  7& 8   9      .02690      82.18      3.233     2.25383    1.500    4.774
   *S-----------------------------------------------------------------------------
   *S*****************************************************************************
   *S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL ************************
   *S*****************************************************************************
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 101
   COMPUTE NM HYD         101.D   -   10      .01970      59.32      2.326     2.21380    1.500    4.705 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 102
   COMPUTE NM HYD         102.D   -   11      .01030      31.02      1.216     2.21380    1.500    4.706 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S ADD 101 AND 102
   ADD HYD               EMBU.1 10&11  12      .03000      90.34      3.542     2.21378    1.500    4.705
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 103
   COMPUTE NM HYD         103.D   -   13      .00010        .32       .013     2.35757    1.500    5.064 PER IMP= 100.00
   *S-----------------------------------------------------------------------------
   *S ADD EMBU.1 AND 103
   ADD HYD               EMBU.2 12&13  14      .03010      90.66      3.555     2.21425    1.500    4.706
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 104
   COMPUTE NM HYD         104.D   -   15      .00320       8.89       .390     2.28568    1.500    4.828 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD EMBU.2 AND 104
   ADD HYD               EMBU.3 14&15  16      .03330     100.55      3.945     2.22111    1.500    4.718
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 105
                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =   2
                   HYDROGRAPH   ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
   COMMAND       IDENTIFICATION  NO.  NO.     (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE     NOTATION

   COMPUTE NM HYD         105.D   -   17      .00960      30.34      1.207     2.35757    1.500    4.939 PER IMP= 100.00
   *S-----------------------------------------------------------------------------
   *S ADD EMBU.3 AND 105
   ADD HYD               EMBU.4 16&17  18      .04290     130.90      5.152     2.25164    1.500    4.767
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 106
   COMPUTE NM HYD         106.D   -   19      .00830      25.00       .980     2.21380    1.500    4.707 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S ADD EMBU.4 AND 106
   ADD HYD               EMBU.5 18&19  20      .05120     155.90      6.132     2.24550    1.500    4.758
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 107
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COMPUTE NM HYD         107.D   -    21        .00600        18.53        .731      2.28568    1.500    4.825 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD EMBU.5 AND 107
*S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL ************************
ADD HYD                EMBU.6 20&21  22        .05720       174.43       6.863      2.24971    1.500    4.765
*S-----------------------------------------------------------------------------
*S*****************************************************************************
*S***************** TOTAL FLOW IMPACTING EXISTING 42" RCP ************************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 501
COMPUTE NM HYD         501.D   -    23        .00820        25.92       1.031      2.35757    1.500    4.939 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 502
COMPUTE NM HYD         502.D   -    24        .00610        18.38        .720      2.21380    1.500    4.708 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 501 AND 502
*S******************* TOTAL FLOW ENTERING 42" RCP ******************************
ADD HYD                 T.42 23&24  25        .01430        44.30       1.751      2.29620    1.500    4.841
*S-----------------------------------------------------------------------------
*S*****************************************************************************
*S**************** TOTAL FLOW DISCHARGING TO 84" RCP ****************************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 301
COMPUTE NM HYD         301.D   -    26        .00230         7.11        .280      2.28568    1.500    4.833 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 302
COMPUTE NM HYD         302.D   -    27        .00390        11.76        .460      2.21380    1.500    4.710 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 301 AND 302
ADD HYD                84".1 26&27  28        .00620        18.87        .741      2.24037    1.500    4.756
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 303
COMPUTE NM HYD         303.D   -    29        .00730        21.99        .862      2.21380    1.500    4.707 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 84".1 AND 303
ADD HYD                84".2 28&29  30        .01350        40.86       1.603      2.22598    1.500    4.729
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 304
COMPUTE NM HYD         304.D   -    31        .00130         4.03        .158      2.28568    1.500    4.842 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD 84".2 AND 304
ADD HYD                84".3 30&31  32        .01480        44.89       1.761      2.23121    1.500    4.739
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 305
COMPUTE NM HYD         305.D   -    33        .00600        18.08        .708      2.21380    1.500    4.708 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 84".3 AND 305
ADD HYD                84".4 32&33  34        .02080        62.97       2.470      2.22618    1.500    4.730
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 306
COMPUTE NM HYD         306.D   -    35        .00180         5.57        .219      2.28568    1.500    4.836 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD 84".4 AND 306
ADD HYD                84".5 34&35  36        .02260        68.54       2.689      2.23090    1.500    4.739
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 307
COMPUTE NM HYD         307.D   -    37        .00800        24.10        .945      2.21380    1.500    4.707 PER IMP=  90.00
*S-----------------------------------------------------------------------------
                                FROM  TO                    PEAK       RUNOFF                TIME TO   CFS       PAGE =   3
                     HYDROGRAPH  ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK    PER
COMMAND        IDENTIFICATION   NO.  NO.      (SQ MI)      (CFS)      (AC-FT)    (INCHES)   (HOURS)  ACRE      NOTATION

*S ADD 84".5 AND 307
ADD HYD                84".6 36&37  38        .03060        92.64       3.634      2.22642    1.500    4.730
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 308
COMPUTE NM HYD         308.D   -    39        .00006         .11        .003       .91991    1.500    2.844 PER IMP=    .00
*S-----------------------------------------------------------------------------
*S ADD 84".6 AND 308
ADD HYD                84".7 38&39  40        .03066        92.75       3.636      2.22386    1.500    4.727
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 309
COMPUTE NM HYD         309.D   -    41        .00013         .42        .016      2.35757    1.500    5.038 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 84".7 AND 309
ADD HYD                84".8 40&41  42        .03079        93.17       3.653      2.22442    1.500    4.728
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 310
COMPUTE NM HYD         310.D   -    43        .00016         .27        .008       .91991    1.500    2.680 PER IMP=    .00
*S-----------------------------------------------------------------------------
*S ADD 84".8 AND 310
ADD HYD                84".9 42&43  44        .03095        93.44       3.661      2.21767    1.500    4.717
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 311
COMPUTE NM HYD         311.D   -    45        .00030         .51        .015       .91991    1.500    2.639 PER IMP=    .00
*S-----------------------------------------------------------------------------
*S ADD 84".9 AND 311
ADD HYD               84".10 44&45  46        .03125        93.95       3.675      2.20521    1.500    4.697
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 312
COMPUTE NM HYD         312.D   -    47        .00010         .18        .005       .91991    1.500    2.740 PER IMP=    .00
*S-----------------------------------------------------------------------------
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*S ADD 84".10 AND 312
ADD HYD              84".11 46&47  48        .03135        94.12       3.680      2.20111    1.500    4.691
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 313
COMPUTE NM HYD        313.D   -    49        .00066         2.09        .083      2.35757    1.500    4.957 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 84".11 AND 313
ADD HYD              84".12 48&49  50        .03201        96.22       3.763      2.20432    1.500    4.697
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 314
COMPUTE NM HYD        314.D   -    51        .00138         4.37        .174      2.35757    1.500    4.947 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 84".12 AND 314
ADD HYD              84".13 50&51  52        .03339       100.59       3.937      2.21065    1.500    4.707
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 315
COMPUTE NM HYD        315.D   -    53        .00278         8.79        .350      2.35756    1.500    4.943 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 84".13 AND 315
ADD HYD              84".14 52&53  54        .03617       109.38       4.286      2.22193    1.500    4.725
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 316
COMPUTE NM HYD        316.D   -    55        .00100         3.10        .122      2.28568    1.500    4.849 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD 84".14 AND 316
ADD HYD              84".15 54&55  56        .03717       112.48       4.408      2.22364    1.500    4.728
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 317
COMPUTE NM HYD        317.D   -    57        .00060         1.87        .073      2.28568    1.500    4.863 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD 84".15 AND 317
ADD HYD              84".16 56&57  58        .03777       114.35       4.481      2.22462    1.500    4.731
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 318
COMPUTE NM HYD        318.D   -    59        .00200         6.04        .236      2.21380    1.500    4.718 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 84".16 AND 318
*S ****************** TOTAL FLOW DISCHARGING TO 84" RCP *************************
ADD HYD              84".17 58&59  60        .03977       120.39       4.717      2.22407    1.500    4.730
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 401
*S ****************** TOTAL FLOW ENTERING I-40 ON RAMP **************************
                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =   4
                   HYDROGRAPH   ID   ID        AREA     DISCHARGE      VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION NO.  NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE     NOTATION

COMPUTE NM HYD        401.D   -    61        .00560        16.03        .618      2.07003    1.500    4.474 PER IMP=  80.00
*S-----------------------------------------------------------------------------
*S*****************************************************************************
*S*************** TOTAL FLOW DISCHARGING TO AMERICAS PARKWAY *********************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 601
COMPUTE NM HYD        601.D   -    62        .00080         2.54        .101      2.35757    1.500    4.953 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 602
COMPUTE NM HYD        602.D   -    63        .00080         2.54        .101      2.35757    1.500    4.953 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 601 AND 602
ADD HYD              PRWY.1 62&63  64        .00160         5.07        .201      2.35724    1.500    4.953
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 603
COMPUTE NM HYD        603.D   -    65        .00100         3.03        .118      2.21380    1.500    4.732 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD PRWY.1 AND 603
ADD HYD              PRWY.2 64&65  66        .00260         8.10        .319      2.30196    1.500    4.868
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 604
COMPUTE NM HYD        604.D   -    67        .00110         3.48        .138      2.35756    1.500    4.950 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD PRWY.2 AND 604
ADD HYD              PRWY.3 66&67  68        .00370        11.59        .458      2.31841    1.500    4.892
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 605
COMPUTE NM HYD        605.D   -    69        .00230         6.94        .272      2.21380    1.500    4.716 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD PRWY.3 AND 605
*S ****************** TOTAL FLOW ENTERING AMERICAS PARKWAY **********************
ADD HYD              PRWY.4 68&69  70        .00600        18.53        .729      2.27827    1.500    4.825
*S-----------------------------------------------------------------------------
FINISH
_(s0p10h4099T_&16D__
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_(s16.67h8.5v0T_&18D

        AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
             RUN DATE (MON/DAY/YR) = 03/13/2006
             START TIME (HR:MIN:SEC) = 06:55:38     USER NO.= AHYMO-I-9702a0100015O-SH
             INPUT FILE = G:\Proj\140209~1\DRN_ST~1\AHYMO\WINDEV7.dat


    *S Winrock Mall Renovation - Existing Drainage Analysis
    *S Data File: windev7.dat
    *S Compute 100-Year Flow
    *S Use 24 Hour Storm
    *S THIS STUDY IS TO DETERMINE THE FLOWS FOR POND SIZING AND OUTLET FLOWS
    *S
    START                    TIME=0.0   CODE 0     LINES -6
    *S*****************************************************************************
    *S USE COA DPM ZONE 3 RAINFALL
    *S*****************************************************************************
    RAINFALL                 TYPE=-1 RAIN QUARTER=0.0 RAIN ONE=2.14
                                     RAIN SIX=2.60 RAIN DAY=3.10 DT=0.050


                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =     .050000 HOURS       END TIME =     6.000000 HOURS
*S*****************************************************************************
*S*****************************************************************************
*S******************** AREA W/ DIRECT DISCHARGE TO INDIAN SCHOOL ***************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 201
COMPUTE NM HYD           ID=1  HYD NO=201.D DA=0.005 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   17.806    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 2.1400
     AREA =       .004500 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   1.2099    CFS   UNIT VOLUME =    .9904       B =   321.84      P60 = 2.1400
     AREA =       .000500 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=1   CODE=1

                                   HYDROGRAPH FROM AREA 201.D


    RUNOFF VOLUME =      2.21380 INCHES      =        .5903 ACRE-FEET
    PEAK DISCHARGE RATE =       15.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0050 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 202
COMPUTE NM HYD           ID=2  HYD NO=202.D DA=0.0084 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   31.577    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1400
     AREA =       .007980 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   1.0164    CFS   UNIT VOLUME =    .9875       B =   321.84      P60 = 2.1400
     AREA =       .000420 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 202.D


    RUNOFF VOLUME =      2.28568 INCHES      =       1.0240 ACRE-FEET
    PEAK DISCHARGE RATE =       25.93 CFS  AT   1.500 HOURS   BASIN AREA =   .0084 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD BASIN 201 AND 202
ADD HYD                  ID=3 HYD=INDSCH.1 IDi=1 IDii=2
PRINT HYD                ID=3 CODE=10

                                   HYDROGRAPH FROM AREA INDSCH.1
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	41.0	3.000	.6	4.500	.3	6.000	.4
.500	.0	2.000	10.0	3.500	.4	5.000	.3	6.500	.0
1.000	.6	2.500	1.5	4.000	.4	5.500	.3	7.000	.0

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    RUNOFF VOLUME =      2.25882 INCHES      =        1.6143 ACRE-FEET
    PEAK DISCHARGE RATE =      41.00 CFS  AT   1.500 HOURS   BASIN AREA =   .0134 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 203
COMPUTE NM HYD           ID=4  HYD NO=203.D DA=0.0066 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   24.810    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 2.1400
     AREA =      .006270 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .79856    CFS   UNIT VOLUME =    .9836       B =   321.84      P60 = 2.1400
     AREA =      .000330 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=4   CODE=1

                                    HYDROGRAPH FROM AREA 203.D


    RUNOFF VOLUME =      2.28568 INCHES      =         .8046 ACRE-FEET
    PEAK DISCHARGE RATE =      20.38 CFS  AT   1.500 HOURS   BASIN AREA =   .0066 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD INDSCH.1 AND 203
ADD HYD                ID=5 HYD=INDSCH.2 IDi=3 IDii=4
PRINT HYD              ID=5 CODE=10

                                    HYDROGRAPH FROM AREA INDSCH.2

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     61.4          3.000       .9          4.500       .5          6.000       .5
      .500       .0          2.000     15.0          3.500       .6          5.000       .5          6.500       .0
     1.000       .9          2.500      2.2          4.000       .5          5.500       .5          7.000       .0

    RUNOFF VOLUME =      2.26767 INCHES      =        2.4188 ACRE-FEET
    PEAK DISCHARGE RATE =      61.38 CFS  AT   1.500 HOURS   BASIN AREA =   .0200 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 204
COMPUTE NM HYD           ID=6  HYD NO=204.D DA=0.0023 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.1909    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.1400
     AREA =      .002070 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .55657    CFS   UNIT VOLUME =    .9757       B =   321.84      P60 = 2.1400
     AREA =      .000230 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=6   CODE=1

                                    HYDROGRAPH FROM AREA 204.D


    RUNOFF VOLUME =      2.21380 INCHES      =         .2716 ACRE-FEET
    PEAK DISCHARGE RATE =       6.94 CFS  AT   1.500 HOURS   BASIN AREA =   .0023 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD INDSCH.2 AND 204
ADD HYD                ID=7 HYD=INDSCH.3 IDi=5 IDii=6
PRINT HYD              ID=7 CODE=10

                                    HYDROGRAPH FROM AREA INDSCH.3

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     68.3          3.000      1.0          4.500       .6          6.000       .6
      .500       .0          2.000     16.7          3.500       .7          5.000       .6          6.500       .0
     1.000      1.0          2.500      2.4          4.000       .6          5.500       .6          7.000       .0

    RUNOFF VOLUME =      2.26210 INCHES      =        2.6904 ACRE-FEET
    PEAK DISCHARGE RATE =      68.32 CFS  AT   1.500 HOURS   BASIN AREA =   .0223 SQ. MI.
```

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```
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 205
COMPUTE NM HYD          ID=8  HYD NO=205.D DA=0.0046 SQ MI
                        PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   16.382    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 2.1400
     AREA =      .004140 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   1.1131    CFS   UNIT VOLUME =    .9890       B =   321.84      P60 = 2.1400
     AREA =      .000460 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

 PRINT HYD               ID=8   CODE=1

                                        HYDROGRAPH FROM AREA 205.D


    RUNOFF VOLUME =     2.21380 INCHES     =        .5431 ACRE-FEET
    PEAK DISCHARGE RATE =      13.86 CFS  AT   1.500 HOURS   BASIN AREA =   .0046 SQ. MI.
*S-----------------------------------------------------------------------------
*S ADD 205 AND INDSCH.3
*S *************** TOTAL FLOW IMPACTING INDIAN SCHOOL **************************
 ADD HYD                ID=9 HYD=INDSCH.4 IDi=7 IDii=8
 PRINT HYD              ID=9 CODE=10

                                        HYDROGRAPH FROM AREA INDSCH.4
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	82.2	3.000	1.2	4.500	.7	6.000	.7
.500	.0	2.000	20.0	3.500	.8	5.000	.7	6.500	.0
1.000	1.2	2.500	2.9	4.000	.7	5.500	.7	7.000	.0

```
    RUNOFF VOLUME =     2.25383 INCHES     =       3.2335 ACRE-FEET
    PEAK DISCHARGE RATE =      82.18 CFS  AT   1.500 HOURS   BASIN AREA =   .0269 SQ. MI.


 *S-----------------------------------------------------------------------------
 *S***************************************************************************
 *S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL **********************
 *S***************************************************************************
 *S-----------------------------------------------------------------------------
 *S COMPUTE BASIN 101
 COMPUTE NM HYD          ID=10  HYD NO=101.D DA=0.0197 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   70.157    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 2.1400
     AREA =      .017730 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   4.7672    CFS   UNIT VOLUME =    .9983       B =   321.84      P60 = 2.1400
     AREA =      .001970 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

 PRINT HYD               ID=10   CODE=1

                                        HYDROGRAPH FROM AREA 101.D


    RUNOFF VOLUME =     2.21380 INCHES     =       2.3260 ACRE-FEET
    PEAK DISCHARGE RATE =      59.32 CFS  AT   1.500 HOURS   BASIN AREA =   .0197 SQ. MI.


 *S-----------------------------------------------------------------------------
 *S COMPUTE BASIN 102
 COMPUTE NM HYD          ID=11  HYD NO=102.D DA=0.0103 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   36.681    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1400
     AREA =      .009270 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   2.4925    CFS   UNIT VOLUME =    .9953       B =   321.84      P60 = 2.1400
     AREA =      .001030 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

 PRINT HYD               ID=11   CODE=1
```

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```
                                    HYDROGRAPH FROM AREA 102.D

    RUNOFF VOLUME =      2.21380 INCHES     =       1.2161 ACRE-FEET
    PEAK DISCHARGE RATE =      31.02 CFS  AT   1.500 HOURS   BASIN AREA =   .0103 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 101 AND 102
ADD HYD                ID=12 HYD=EMBU.1 IDi=10 IDii=11
PRINT HYD              ID=12 CODE=10

                                    HYDROGRAPH FROM AREA EMBU.1

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000        .0          1.500      90.3         3.000       1.4         4.500        .7         6.000        .8
     .500        .0          2.000      21.8         3.500        .9         5.000        .7         6.500        .0
    1.000       1.2          2.500       3.2         4.000        .8         5.500        .8         7.000        .0

    RUNOFF VOLUME =      2.21378 INCHES     =       3.5420 ACRE-FEET
    PEAK DISCHARGE RATE =      90.34 CFS  AT   1.500 HOURS   BASIN AREA =   .0300 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 103
COMPUTE NM HYD         ID=13  HYD NO=103.D DA=0.0001 SQ MI
                       PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                       MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .39570    CFS   UNIT VOLUME =    .9741       B =   526.28      P60 = 2.1400
     AREA =      .000100 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=13   CODE=1

                                    HYDROGRAPH FROM AREA 103.D

    RUNOFF VOLUME =      2.35757 INCHES     =        .0126 ACRE-FEET
    PEAK DISCHARGE RATE =        .32 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD EMBU.1 AND 103
ADD HYD                ID=14 HYD=EMBU.2 IDi=12 IDii=13
PRINT HYD              ID=14 CODE=10

                                    HYDROGRAPH FROM AREA EMBU.2

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000        .0          1.500      90.7         3.000       1.4         4.500        .7         6.000        .8
     .500        .0          2.000      21.9         3.500        .9         5.000        .7         6.500        .0
    1.000       1.3          2.500       3.2         4.000        .8         5.500        .8         7.000        .0

    RUNOFF VOLUME =      2.21425 INCHES     =       3.5546 ACRE-FEET
    PEAK DISCHARGE RATE =      90.66 CFS  AT   1.500 HOURS   BASIN AREA =   .0301 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 104
COMPUTE NM HYD         ID=15  HYD NO=104.D DA=0.0032 SQ MI
                       PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                       MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   12.029    CFS   UNIT VOLUME =    .9983       B =   526.28      P60 = 2.1400
     AREA =      .003040 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .38718    CFS   UNIT VOLUME =    .9686       B =   321.84      P60 = 2.1400
     AREA =      .000160 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=15   CODE=1

                                    HYDROGRAPH FROM AREA 104.D

    RUNOFF VOLUME =      2.28568 INCHES     =        .3901 ACRE-FEET
    PEAK DISCHARGE RATE =       9.89 CFS  AT   1.500 HOURS   BASIN AREA =   .0032 SQ. MI.


*S-----------------------------------------------------------------------------
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*S ADD EMBU.2 AND 104
ADD HYD                ID=16 HYD=EMBU.3 IDi=14 IDii=15
PRINT HYD              ID=16 CODE=10

                                HYDROGRAPH FROM AREA EMBU.3

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500     100.6         3.000       1.5         4.500        .8         6.000        .9
      .500        .0         2.000      24.3         3.500       1.0         5.000        .8         6.500        .0
     1.000       1.4         2.500       3.5         4.000        .9         5.500        .8         7.000        .0

    RUNOFF VOLUME =     2.22111 INCHES     =       3.9447 ACRE-FEET
    PEAK DISCHARGE RATE =     100.55 CFS  AT   1.500 HOURS   BASIN AREA =   .0333 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 105
COMPUTE NM HYD         ID=17  HYD NO=105.D DA=0.0096 SQ MI
                       PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                       MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   37.987    CFS   UNIT VOLUME =    .9989       B =   526.28      P60 = 2.1400
     AREA =       .009600 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD              ID=17   CODE=1

                                HYDROGRAPH FROM AREA 105.D


    RUNOFF VOLUME =     2.35757 INCHES     =       1.2071 ACRE-FEET
    PEAK DISCHARGE RATE =      30.34 CFS  AT   1.500 HOURS   BASIN AREA =   .0096 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD EMBU.3 AND 105
ADD HYD                ID=18 HYD=EMBU.4 IDi=16 IDii=17
PRINT HYD              ID=18 CODE=10

                                HYDROGRAPH FROM AREA EMBU.4

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500     130.9         3.000       2.0         4.500       1.1         6.000       1.2
      .500        .0         2.000      31.9         3.500       1.3         5.000       1.1         6.500        .1
     1.000       1.8         2.500       4.6         4.000       1.1         5.500       1.1         7.000        .0

    RUNOFF VOLUME =     2.25164 INCHES     =       5.1517 ACRE-FEET
    PEAK DISCHARGE RATE =     130.90 CFS  AT   1.500 HOURS   BASIN AREA =   .0429 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 106
COMPUTE NM HYD         ID=19  HYD NO=106.D DA=0.0083 SQ MI
                       PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                       MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   29.558    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 2.1400
     AREA =       .007470 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

     K =    .133365HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    2.0085    CFS   UNIT VOLUME =    .9946       B =   321.84      P60 = 2.1400
     AREA =       .000830 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD              ID=19   CODE=1

                                HYDROGRAPH FROM AREA 106.D

    RUNOFF VOLUME =     2.21380 INCHES     =        .9800 ACRE-FEET
    PEAK DISCHARGE RATE =      25.00 CFS  AT   1.500 HOURS   BASIN AREA =   .0083 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD EMBU.4 AND 106
ADD HYD                ID=20 HYD=EMBU.5 IDi=18 IDii=19
PRINT HYD              ID=20 CODE=10

                                HYDROGRAPH FROM AREA EMBU.5

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500     155.9         3.000       2.3         4.500       1.3         6.000       1.4
      .500        .0         2.000      37.9         3.500       1.6         5.000       1.3         6.500        .1
```

```
 1.000      2.2        2.500      5.5        4.000      1.4        5.500      1.3        7.000      .0

RUNOFF VOLUME =     2.24550 INCHES     =       6.1317 ACRE-FEET
PEAK DISCHARGE RATE =     155.90 CFS  AT   1.500 HOURS   BASIN AREA =   .0512 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 107
COMPUTE NM HYD          ID=21  HYD NO=107.D DA=0.0060 SQ MI
                        PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                        MASS RAINFALL=-1

  K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
  UNIT PEAK =   22.555    CFS   UNIT VOLUME =    .9986       B =   526.28      P60 = 2.1400
  AREA =      .005700 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

  K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
  UNIT PEAK =   .72597    CFS   UNIT VOLUME =    .9836       B =   321.84      P60 = 2.1400
  AREA =      .000300 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=21   CODE=1

                                   HYDROGRAPH FROM AREA 107.D


RUNOFF VOLUME =     2.28568 INCHES     =        .7314 ACRE-FEET
PEAK DISCHARGE RATE =      18.53 CFS  AT   1.500 HOURS   BASIN AREA =   .0060 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD EMBU.5 AND 107
*S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL **********************
ADD HYD                 ID=22 HYD=EMBU.6 IDi=20 IDii=21
PRINT HYD               ID=22 CODE=10

                                   HYDROGRAPH FROM AREA EMBU.6

   TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW
   HRS       CFS         HRS       CFS         HRS       CFS         HRS       CFS         HRS       CFS
   .000       .0        1.500     174.4        3.000      2.6        4.500      1.4        6.000      1.6
   .500       .0        2.000      42.4        3.500      1.8        5.000      1.4        6.500       .1
  1.000      2.4        2.500       6.2        4.000      1.5        5.500      1.5        7.000       .0

RUNOFF VOLUME =     2.24971 INCHES     =       6.8631 ACRE-FEET
PEAK DISCHARGE RATE =     174.43 CFS  AT   1.500 HOURS   BASIN AREA =   .0572 SQ. MI.


*S--------------------------------------------------------------------------
*S*************************************************************************
*S***************** TOTAL FLOW IMPACTING EXISTING 42" RCP *********************
*S*************************************************************************
*S--------------------------------------------------------------------------
*S COMPUTE BASIN 501
COMPUTE NM HYD          ID=23  HYD NO=501.D DA=0.0082 SQ MI
                        PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                        MASS RAINFALL=-1

  K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
  UNIT PEAK =   32.447    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1400
  AREA =      .008200 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=23   CODE=1

                                   HYDROGRAPH FROM AREA 501.D


RUNOFF VOLUME =     2.35757 INCHES     =       1.0310 ACRE-FEET
PEAK DISCHARGE RATE =      25.92 CFS  AT   1.500 HOURS   BASIN AREA =   .0082 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 502
COMPUTE NM HYD          ID=24  HYD NO=502.D DA=0.0061 SQ MI
                        PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                        MASS RAINFALL=-1

  K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
  UNIT PEAK =   21.724    CFS   UNIT VOLUME =    .9986       B =   526.28      P60 = 2.1400
  AREA =      .005490 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

  K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
  UNIT PEAK =   1.4761    CFS   UNIT VOLUME =    .9917       B =   321.84      P60 = 2.1400
  AREA =      .000610 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
  RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000
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```
PRINT HYD                ID=24   CODE=1

                                    HYDROGRAPH FROM AREA 502.D


    RUNOFF VOLUME =     2.21380 INCHES     =        .7202 ACRE-FEET
    PEAK DISCHARGE RATE =      18.38 CFS  AT   1.500 HOURS   BASIN AREA =   .0061 SQ. MI.


*S-----------------------------------------------------------------------
*S ADD 501 AND 502
*S******************* TOTAL FLOW ENTERING 42" RCP ******************************
ADD HYD                  ID=25 HYD=T.42 IDi=23 IDii=24
PRINT HYD                ID=25 CODE=10

                                    HYDROGRAPH FROM AREA T.42

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     44.3          3.000       .7          4.500       .4          6.000       .4
      .500       .0          2.000     10.9          3.500       .5          5.000       .4          6.500       .0
     1.000       .6          2.500      1.6          4.000       .4          5.500       .4          7.000       .0

    RUNOFF VOLUME =     2.29620 INCHES     =       1.7512 ACRE-FEET
    PEAK DISCHARGE RATE =      44.30 CFS  AT   1.500 HOURS   BASIN AREA =   .0143 SQ. MI.


*S-----------------------------------------------------------------------
*S***********************************************************************
*S**************** TOTAL FLOW DISCHARGING TO 84" RCP **************************
*S***********************************************************************
*S-----------------------------------------------------------------------
*S COMPUTE BASIN 301
COMPUTE NM HYD           ID=26  HYD NO=301.D DA=0.0023 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.6460    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.1400
     AREA =      .002185 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .27829    CFS   UNIT VOLUME =    .9538       B =   321.84      P60 = 2.1400
     AREA =      .000115 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=26   CODE=1

                                    HYDROGRAPH FROM AREA 301.D


    RUNOFF VOLUME =     2.28568 INCHES     =        .2804 ACRE-FEET
    PEAK DISCHARGE RATE =       7.11 CFS  AT   1.500 HOURS   BASIN AREA =   .0023 SQ. MI.


*S-----------------------------------------------------------------------
*S COMPUTE BASIN 302
COMPUTE NM HYD           ID=27  HYD NO=302.D DA=0.0039 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   13.889    CFS   UNIT VOLUME =    .9983       B =   526.28      P60 = 2.1400
     AREA =      .003510 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .94376    CFS   UNIT VOLUME =    .9875       B =   321.84      P60 = 2.1400
     AREA =      .000390 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=27   CODE=1

                                    HYDROGRAPH FROM AREA 302.D


    RUNOFF VOLUME =     2.21380 INCHES     =        .4605 ACRE-FEET
    PEAK DISCHARGE RATE =      11.76 CFS  AT   1.500 HOURS   BASIN AREA =   .0039 SQ. MI.


*S-----------------------------------------------------------------------
*S ADD 301 AND 302
ADD HYD                  ID=28 HYD=84".1 IDi=26 IDii=27
PRINT HYD                ID=28 CODE=10

                                    HYDROGRAPH FROM AREA 84".1
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	18.9	3.000	.3	4.500	.2	6.000	.2
.500	.0	2.000	4.6	3.500	.2	5.000	.2	6.500	.0
1.000	.3	2.500	.7	4.000	.2	5.500	.2		

```
RUNOFF VOLUME =      2.24037 INCHES      =         .7408 ACRE-FEET
PEAK DISCHARGE RATE =      18.87 CFS  AT   1.500 HOURS   BASIN AREA =   .0062 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 303
COMPUTE NM HYD          ID=29  HYD NO=303.D DA=0.0073 SQ MI
                        PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   25.997    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 2.1400
     AREA =      .006570 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   1.7665    CFS   UNIT VOLUME =    .9937       B =   321.84      P60 = 2.1400
     AREA =      .000730 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=29   CODE=1

                                   HYDROGRAPH FROM AREA 303.D


    RUNOFF VOLUME =      2.21380 INCHES      =         .8619 ACRE-FEET
    PEAK DISCHARGE RATE =      21.99 CFS  AT   1.500 HOURS   BASIN AREA =   .0073 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".1 AND 303
ADD HYD                 ID=30 HYD=84".2 IDi=28 IDii=29
PRINT HYD               ID=30 CODE=10

                                   HYDROGRAPH FROM AREA 84".2
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	40.9	3.000	.6	4.500	.3	6.000	.4
.500	.0	2.000	9.9	3.500	.4	5.000	.3	6.500	.0
1.000	.6	2.500	1.4	4.000	.4	5.500	.3		

```
    RUNOFF VOLUME =      2.22598 INCHES      =       1.6027 ACRE-FEET
    PEAK DISCHARGE RATE =      40.86 CFS  AT   1.500 HOURS   BASIN AREA =   .0135 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 304
COMPUTE NM HYD          ID=31  HYD NO=304.D DA=0.0013 SQ MI
                        PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   4.8868    CFS   UNIT VOLUME =    .9971       B =   526.28      P60 = 2.1400
     AREA =      .001235 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .15729    CFS   UNIT VOLUME =    .9129       B =   321.84      P60 = 2.1400
     AREA =      .000065 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=31   CODE=1

                                   HYDROGRAPH FROM AREA 304.D


    RUNOFF VOLUME =      2.28568 INCHES      =         .1585 ACRE-FEET
    PEAK DISCHARGE RATE =       4.03 CFS  AT   1.500 HOURS   BASIN AREA =   .0013 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".2 AND 304
ADD HYD                 ID=32 HYD=84".3 IDi=30 IDii=31
PRINT HYD               ID=32 CODE=10

                                   HYDROGRAPH FROM AREA 84".3
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	44.9	3.000	.7	4.500	.4	6.000	.4

```
  .500        .0        2.000     10.9        3.500       .5        5.000       .4        6.500       .0
 1.000        .6        2.500      1.6        4.000       .4        5.500       .4

RUNOFF VOLUME =     2.23121 INCHES     =       1.7612 ACRE-FEET
PEAK DISCHARGE RATE =      44.89 CFS  AT   1.500 HOURS   BASIN AREA =   .0148 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 305
COMPUTE NM HYD          ID=33  HYD NO=305.D DA=0.0060 SQ MI
                        PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                        MASS RAINFALL=-1

K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   21.368    CFS   UNIT VOLUME =    .9986       B =   526.28      P60 = 2.1400
AREA =      .005400 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
UNIT PEAK =   1.4519    CFS   UNIT VOLUME =    .9917       B =   321.84      P60 = 2.1400
AREA =      .000600 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=33   CODE=1

                                HYDROGRAPH FROM AREA 305.D


RUNOFF VOLUME =     2.21380 INCHES     =        .7084 ACRE-FEET
PEAK DISCHARGE RATE =      18.08 CFS  AT   1.500 HOURS   BASIN AREA =   .0060 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".3 AND 305
ADD HYD                 ID=34 HYD=84".4 IDi=32 IDii=33
PRINT HYD               ID=34 CODE=10

                                HYDROGRAPH FROM AREA 84".4

  TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW
   HRS      CFS          HRS      CFS          HRS      CFS          HRS      CFS          HRS      CFS
  .000        .0        1.500     63.0        3.000       .9        4.500       .5        6.000       .6
  .500        .0        2.000     15.2        3.500       .6        5.000       .5        6.500       .0
 1.000        .9        2.500      2.2        4.000       .5        5.500       .5

RUNOFF VOLUME =     2.22618 INCHES     =       2.4696 ACRE-FEET
PEAK DISCHARGE RATE =      62.97 CFS  AT   1.500 HOURS   BASIN AREA =   .0208 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 306
COMPUTE NM HYD          ID=35  HYD NO=306.D DA=0.0018 SQ MI
                        PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                        MASS RAINFALL=-1

K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   6.7664    CFS   UNIT VOLUME =    .9976       B =   526.28      P60 = 2.1400
AREA =      .001710 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
UNIT PEAK =   .21779    CFS   UNIT VOLUME =    .9405       B =   321.84      P60 = 2.1400
AREA =      .000090 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=35   CODE=1

                                HYDROGRAPH FROM AREA 306.D


RUNOFF VOLUME =     2.28568 INCHES     =        .2194 ACRE-FEET
PEAK DISCHARGE RATE =       5.57 CFS  AT   1.500 HOURS   BASIN AREA =   .0018 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".4 AND 306
ADD HYD                 ID=36 HYD=84".5 IDi=34 IDii=35
PRINT HYD               ID=36 CODE=10

                                HYDROGRAPH FROM AREA 84".5

  TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW        TIME      FLOW
   HRS      CFS          HRS      CFS          HRS      CFS          HRS      CFS          HRS      CFS
  .000        .0        1.500     68.5        3.000      1.0        4.500       .6        6.000       .6
  .500        .0        2.000     16.6        3.500       .7        5.000       .6        6.500       .0
 1.000       1.0        2.500      2.4        4.000       .6        5.500       .6

RUNOFF VOLUME =     2.23090 INCHES     =       2.6890 ACRE-FEET
```

```
PEAK DISCHARGE RATE =      68.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0226 SQ. MI.


*S-----------------------------------------------------------------------
*S COMPUTE BASIN 307
COMPUTE NM HYD          ID=37  HYD NO=307.D DA=0.0080 SQ MI
                        PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   28.490    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 2.1400
     AREA =      .007200 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   1.9359    CFS   UNIT VOLUME =    .9937       B =   321.84      P60 = 2.1400
     AREA =      .000800 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=37   CODE=1

                                     HYDROGRAPH FROM AREA 307.D


    RUNOFF VOLUME =     2.21380 INCHES     =        .9445 ACRE-FEET
    PEAK DISCHARGE RATE =      24.10 CFS  AT   1.500 HOURS   BASIN AREA =   .0080 SQ. MI.


*S-----------------------------------------------------------------------
*S ADD 84".5 AND 307
ADD HYD                 ID=38 HYD=84".6 IDi=36 IDii=37
PRINT HYD               ID=38 CODE=10

                                     HYDROGRAPH FROM AREA 84".6

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     92.6          3.000      1.3          4.500       .8          6.000       .8
      .500       .0          2.000     22.4          3.500       .9          5.000       .8          6.500       .0
     1.000      1.3          2.500      3.3          4.000       .8          5.500       .8

    RUNOFF VOLUME =     2.22642 INCHES     =       3.6335 ACRE-FEET
    PEAK DISCHARGE RATE =      92.64 CFS  AT   1.500 HOURS   BASIN AREA =   .0306 SQ. MI.


*S-----------------------------------------------------------------------
*S COMPUTE BASIN 308
COMPUTE NM HYD          ID=39  HYD NO=308.D DA=0.00006 SQ MI
                        PER A=0.00 PER B=100.00 PER C=0.00 PER D=0.00 TP=-.133
                        MASS RAINFALL=-1

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .14519    CFS   UNIT VOLUME =    .9129       B =   321.84      P60 = 2.1400
     AREA =      .000060 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=39   CODE=1

                                     HYDROGRAPH FROM AREA 308.D


    RUNOFF VOLUME =      .91991 INCHES     =        .0029 ACRE-FEET
    PEAK DISCHARGE RATE =        .11 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S-----------------------------------------------------------------------
*S ADD 84".6 AND 308
ADD HYD                 ID=40 HYD=84".7 IDi=38 IDii=39
PRINT HYD               ID=40 CODE=10

                                     HYDROGRAPH FROM AREA 84".7

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     92.7          3.000      1.3          4.500       .8          6.000       .8
      .500       .0          2.000     22.4          3.500       .9          5.000       .8          6.500       .0
     1.000      1.3          2.500      3.3          4.000       .8          5.500       .8

    RUNOFF VOLUME =     2.22386 INCHES     =       3.6364 ACRE-FEET
    PEAK DISCHARGE RATE =      92.75 CFS  AT   1.500 HOURS   BASIN AREA =   .0307 SQ. MI.


*S-----------------------------------------------------------------------
*S COMPUTE BASIN 309
COMPUTE NM HYD          ID=41  HYD NO=309.D DA=0.00013 SQ MI
                        PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                        MASS RAINFALL=-1
```

```
     K =    .072485HR     TP =    .133000HR     K/TP RATIO =    .545000      SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    .51440     CFS   UNIT VOLUME =     .9793        B =    526.28       P60 = 2.1400
     AREA =       .000130 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=41   CODE=1

                                        HYDROGRAPH FROM AREA 309.D


    RUNOFF VOLUME =      2.35757 INCHES      =         .0163 ACRE-FEET
    PEAK DISCHARGE RATE =         .42 CFS  AT   1.500 HOURS   BASIN AREA =    .0001 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD 84".7 AND 309
ADD HYD                ID=42 HYD=84".8 IDi=40 IDii=41
PRINT HYD              ID=42 CODE=10

                                        HYDROGRAPH FROM AREA 84".8

     TIME       FLOW           TIME       FLOW           TIME       FLOW           TIME       FLOW           TIME       FLOW
      HRS       CFS             HRS       CFS             HRS       CFS             HRS       CFS             HRS       CFS
      .000        .0           1.500      93.2           3.000       1.4           4.500        .8           6.000        .8
      .500        .0           2.000      22.5           3.500        .9           5.000        .8           6.500        .0
     1.000       1.3           2.500       3.3           4.000        .8           5.500        .8

    RUNOFF VOLUME =      2.22442 INCHES      =        3.6528 ACRE-FEET
    PEAK DISCHARGE RATE =       93.17 CFS  AT   1.500 HOURS   BASIN AREA =    .0308 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 310
COMPUTE NM HYD           ID=43  HYD NO=310.D DA=0.00016 SQ MI
                         PER A=0.00 PER B=100.00 PER C=0.00 PER D=0.00 TP=-.133
                         MASS RAINFALL=-1

     K =    .133355HR     TP =    .133000HR     K/TP RATIO =  1.002670      SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .38718     CFS   UNIT VOLUME =     .9686        B =    321.84       P60 = 2.1400
     AREA =       .000160 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=43   CODE=1

                                        HYDROGRAPH FROM AREA 310.D

    RUNOFF VOLUME =       .91991 INCHES      =         .0078 ACRE-FEET
    PEAK DISCHARGE RATE =         .27 CFS  AT   1.500 HOURS   BASIN AREA =    .0002 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD 84".8 AND 310
ADD HYD                ID=44 HYD=84".9 IDi=42 IDii=43
PRINT HYD              ID=44 CODE=10

                                        HYDROGRAPH FROM AREA 84".9

     TIME       FLOW           TIME       FLOW           TIME       FLOW           TIME       FLOW           TIME       FLOW
      HRS       CFS             HRS       CFS             HRS       CFS             HRS       CFS             HRS       CFS
      .000        .0           1.500      93.4           3.000       1.4           4.500        .8           6.000        .8
      .500        .0           2.000      22.5           3.500        .9           5.000        .8           6.500        .0
     1.000       1.3           2.500       3.3           4.000        .8           5.500        .8

    RUNOFF VOLUME =      2.21767 INCHES      =        3.6606 ACRE-FEET
    PEAK DISCHARGE RATE =       93.44 CFS  AT   1.500 HOURS   BASIN AREA =    .0310 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 311
COMPUTE NM HYD           ID=45  HYD NO=311.D DA=0.00030 SQ MI
                         PER A=0.00 PER B=100.00 PER C=0.00 PER D=0.00 TP=-.133
                         MASS RAINFALL=-1

     K =    .133355HR     TP =    .133000HR     K/TP RATIO =  1.002670      SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .72597     CFS   UNIT VOLUME =     .9836        B =    321.84       P60 = 2.1400
     AREA =       .000300 SQ MI     IA =     .50000 INCHES     INF =    1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=45   CODE=1

                                        HYDROGRAPH FROM AREA 311.D


    RUNOFF VOLUME =       .91991 INCHES      =         .0147 ACRE-FEET
    PEAK DISCHARGE RATE =         .51 CFS  AT   1.500 HOURS   BASIN AREA =    .0003 SQ. MI.


*S--------------------------------------------------------------------------
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Winrock Market Center
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```
*S ADD 84".9 AND 311
ADD HYD                ID=46 HYD=84".10 IDi=44 IDii=45
PRINT HYD              ID=46 CODE=10

                                   HYDROGRAPH FROM AREA 84".10

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     93.9          3.000      1.4          4.500       .8          6.000       .8
      .500       .0          2.000     22.6          3.500       .9          5.000       .8          6.500       .0
     1.000      1.3          2.500      3.3          4.000       .8          5.500       .8

    RUNOFF VOLUME =      2.20521 INCHES      =       3.6753 ACRE-FEET
    PEAK DISCHARGE RATE =      93.95 CFS  AT   1.500 HOURS   BASIN AREA =   .0313 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 312
COMPUTE NM HYD         ID=47  HYD NO=312.D DA=0.0001 SQ MI
                       PER A=0.00 PER B=100.00 PER C=0.00 PER D=0.00 TP=-.133
                       MASS RAINFALL=-1

     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .24199    CFS   UNIT VOLUME =    .9476       B =   321.84      P60 = 2.1400
     AREA =      .000100 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=47   CODE=1

                                   HYDROGRAPH FROM AREA 312.D


    RUNOFF VOLUME =      .91991 INCHES      =        .0049 ACRE-FEET
    PEAK DISCHARGE RATE =        .18 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".10 AND 312
ADD HYD                ID=48 HYD=84".11 IDi=46 IDii=47
PRINT HYD              ID=48 CODE=10

                                   HYDROGRAPH FROM AREA 84".11

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     94.1          3.000      1.4          4.500       .8          6.000       .8
      .500       .0          2.000     22.6          3.500       .9          5.000       .8          6.500       .0
     1.000      1.3          2.500      3.3          4.000       .8          5.500       .8

    RUNOFF VOLUME =      2.20111 INCHES      =       3.6802 ACRE-FEET
    PEAK DISCHARGE RATE =      94.12 CFS  AT   1.500 HOURS   BASIN AREA =   .0314 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 313
COMPUTE NM HYD         ID=49  HYD NO=313.D DA=0.00066 SQ MI
                       PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                       MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   2.6116    CFS   UNIT VOLUME =    .9952       B =   526.28      P60 = 2.1400
     AREA =      .000660 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=49   CODE=1

                                   HYDROGRAPH FROM AREA 313.D


    RUNOFF VOLUME =      2.35757 INCHES      =        .0830 ACRE-FEET
    PEAK DISCHARGE RATE =       2.09 CFS  AT   1.500 HOURS   BASIN AREA =   .0007 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".11 AND 313
ADD HYD                ID=50 HYD=84".12 IDi=48 IDii=49
PRINT HYD              ID=50 CODE=10

                                   HYDROGRAPH FROM AREA 84".12

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     96.2          3.000      1.4          4.500       .8          6.000       .8
      .500       .0          2.000     23.1          3.500      1.0          5.000       .8          6.500       .0
     1.000      1.3          2.500      3.4          4.000       .8          5.500       .8

    RUNOFF VOLUME =      2.20432 INCHES      =       3.7632 ACRE-FEET
    PEAK DISCHARGE RATE =      96.22 CFS  AT   1.500 HOURS   BASIN AREA =   .0320 SQ. MI.
```

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*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 314
COMPUTE NM HYD          ID=51  HYD NO=314.D DA=0.00138 SQ MI
                        PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    5.4606    CFS   UNIT VOLUME =     .9971       B =   526.28      P60 = 2.1400
     AREA =       .001380 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD               ID=51   CODE=1

                                        HYDROGRAPH FROM AREA 314.D


    RUNOFF VOLUME =      2.35757 INCHES      =         .1735 ACRE-FEET
    PEAK DISCHARGE RATE =        4.37 CFS  AT   1.500 HOURS   BASIN AREA =    .0014 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".12 AND 314
ADD HYD                 ID=52 HYD=84".13 IDi=50 IDii=51
PRINT HYD               ID=52 CODE=10

                                        HYDROGRAPH FROM AREA 84".13

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     100.6          3.000      1.4          4.500       .8          6.000       .9
      .500       .0          2.000      24.2          3.500      1.0          5.000       .8          6.500       .0
     1.000      1.4          2.500       3.5          4.000       .9          5.500       .8

    RUNOFF VOLUME =      2.21065 INCHES      =        3.9367 ACRE-FEET
    PEAK DISCHARGE RATE =      100.59 CFS  AT   1.500 HOURS   BASIN AREA =    .0334 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 315
COMPUTE NM HYD          ID=53  HYD NO=315.D DA=0.00278 SQ MI
                        PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.000    CFS   UNIT VOLUME =     .9981       B =   526.28      P60 = 2.1400
     AREA =       .002780 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD               ID=53   CODE=1

                                        HYDROGRAPH FROM AREA 315.D


    RUNOFF VOLUME =      2.35756 INCHES      =         .3495 ACRE-FEET
    PEAK DISCHARGE RATE =        8.79 CFS  AT   1.500 HOURS   BASIN AREA =    .0028 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".13 AND 315
ADD HYD                 ID=54 HYD=84".14 IDi=52 IDii=53
PRINT HYD               ID=54 CODE=10

                                        HYDROGRAPH FROM AREA 84".14

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     109.4          3.000      1.6          4.500       .9          6.000      1.0
      .500       .0          2.000      26.4          3.500      1.1          5.000       .9          6.500       .0
     1.000      1.5          2.500       3.8          4.000       .9          5.500       .9

    RUNOFF VOLUME =      2.22193 INCHES      =        4.2862 ACRE-FEET
    PEAK DISCHARGE RATE =      109.38 CFS  AT   1.500 HOURS   BASIN AREA =    .0362 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 316
COMPUTE NM HYD          ID=55  HYD NO=316.D DA=0.0010 SQ MI
                        PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    3.7591    CFS   UNIT VOLUME =     .9966       B =   526.28      P60 = 2.1400
     AREA =       .000950 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


     K =    .133355HR    TP =    .133000HR    K/TP RATIO =   1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .12099    CFS   UNIT VOLUME =     .8879       B =   321.84      P60 = 2.1400
     AREA =       .000050 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
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    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=55   CODE=1

                                    HYDROGRAPH FROM AREA 316.D


    RUNOFF VOLUME =      2.28568 INCHES     =        .1219 ACRE-FEET
    PEAK DISCHARGE RATE =        3.10 CFS  AT   1.500 HOURS   BASIN AREA =   .0010 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".14 AND 316
ADD HYD                ID=56 HYD=84".15 IDi=54 IDii=55
PRINT HYD              ID=56 CODE=10

                                    HYDROGRAPH FROM AREA 84".15

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     112.5          3.000      1.6          4.500       .9          6.000      1.0
      .500       .0          2.000      27.2          3.500      1.1          5.000       .9          6.500       .0
     1.000      1.6          2.500       3.9          4.000      1.0          5.500       .9

    RUNOFF VOLUME =      2.22364 INCHES     =       4.4081 ACRE-FEET
    PEAK DISCHARGE RATE =      112.48 CFS  AT   1.500 HOURS   BASIN AREA =   .0372 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 317
COMPUTE NM HYD           ID=57  HYD NO=317.D DA=0.0006 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00 TP=-.133
                         MASS RAINFALL=-1

    K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   2.2555    CFS   UNIT VOLUME =    .9941       B =   526.28      P60 = 2.1400
    AREA =       .000570 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


    K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
    UNIT PEAK =   .72597E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
    AREA =       .000030 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=57   CODE=1

                                    HYDROGRAPH FROM AREA 317.D


    RUNOFF VOLUME =      2.28568 INCHES     =        .0731 ACRE-FEET
    PEAK DISCHARGE RATE =        1.87 CFS  AT   1.500 HOURS   BASIN AREA =   .0006 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".15 AND 317
ADD HYD                ID=58 HYD=84".16 IDi=56 IDii=57
PRINT HYD              ID=58 CODE=10

                                    HYDROGRAPH FROM AREA 84".16

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     114.4          3.000      1.6          4.500       .9          6.000      1.0
      .500       .0          2.000      27.6          3.500      1.1          5.000       .9          6.500       .0
     1.000      1.6          2.500       4.0          4.000      1.0          5.500      1.0

    RUNOFF VOLUME =      2.22462 INCHES     =       4.4812 ACRE-FEET
    PEAK DISCHARGE RATE =      114.35 CFS  AT   1.500 HOURS   BASIN AREA =   .0378 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 318
COMPUTE NM HYD           ID=59  HYD NO=318.D DA=0.0020 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

    K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   7.1225    CFS   UNIT VOLUME =    .9976       B =   526.28      P60 = 2.1400
    AREA =       .001800 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


    K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
    UNIT PEAK =   .48398    CFS   UNIT VOLUME =    .9724       B =   321.84      P60 = 2.1400
    AREA =       .000200 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=59   CODE=1
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                                    HYDROGRAPH FROM AREA 318.D

    RUNOFF VOLUME =      2.21380 INCHES     =        .2361 ACRE-FEET
    PEAK DISCHARGE RATE =       6.04 CFS  AT   1.500 HOURS   BASIN AREA =   .0020 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 84".16 AND 318
*S ****************** TOTAL FLOW DISCHARGING TO 84" RCP ************************
ADD HYD                ID=60 HYD=84".17 IDi=58 IDii=59
PRINT HYD              ID=60 CODE=10

                                    HYDROGRAPH FROM AREA 84".17

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000        .0          1.500     120.4          3.000       1.7         4.500       1.0         6.000       1.1
     .500        .0          2.000      29.1          3.500       1.2         5.000       1.0         6.500        .0
    1.000       1.7          2.500       4.2          4.000       1.0         5.500       1.0

    RUNOFF VOLUME =      2.22407 INCHES     .=       4.7174 ACRE-FEET
    PEAK DISCHARGE RATE =     120.39 CFS  AT   1.500 HOURS   BASIN AREA =   .0398 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 401
*S ****************** TOTAL FLOW ENTERING I-40 ON RAMP *************************
COMPUTE NM HYD           ID=61  HYD NO=401.D DA=0.0056 SQ MI
                         PER A=0.00 PER B=20.00 PER C=0.00 PER D=80.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   17.727    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 2.1400
     AREA =      .004480 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   2.7103    CFS   UNIT VOLUME =    .9960       B =   321.84      P60 = 2.1400
     AREA =      .001120 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=61   CODE=1

                                    HYDROGRAPH FROM AREA 401.D

    RUNOFF VOLUME =      2.07003 INCHES     =        .6182 ACRE-FEET
    PEAK DISCHARGE RATE =      16.03 CFS  AT   1.500 HOURS   BASIN AREA =   .0056 SQ. MI.


*S-----------------------------------------------------------------------------
*S*****************************************************************************
*S************** TOTAL FLOW DISCHARGING TO AMERICAS PARKWAY ********************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 601
COMPUTE NM HYD           ID=62  HYD NO=601.D DA=0.0008 SQ MI
                         PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   3.1656    CFS   UNIT VOLUME =    .9960       B =   526.28      P60 = 2.1400
     AREA =      .000800 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=62   CODE=1

                                    HYDROGRAPH FROM AREA 601.D


    RUNOFF VOLUME =      2.35757 INCHES     =        .1006 ACRE-FEET
    PEAK DISCHARGE RATE =       2.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0008 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 602
COMPUTE NM HYD           ID=63  HYD NO=602.D DA=0.0008 SQ MI
                         PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   3.1656    CFS   UNIT VOLUME =    .9960       B =   526.28      P60 = 2.1400
     AREA =      .000800 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=63   CODE=1

                                    HYDROGRAPH FROM AREA 602.D
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```
RUNOFF VOLUME =      2.35757 INCHES      =         .1006 ACRE-FEET
PEAK DISCHARGE RATE =        2.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0008 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 601 AND 602
ADD HYD                ID=64 HYD=PRWY.1 IDi=62 IDii=63
PRINT HYD              ID=64 CODE=10

                                   HYDROGRAPH FROM AREA PRWY.1

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500       5.1         3.000       .1          4.500       .0          6.000       .0
      .500       .0          2.000       1.3         3.500       .1          5.000       .0          6.500       .0
     1.000       .1          2.500        .2         4.000       .0          5.500       .0

RUNOFF VOLUME =      2.35724 INCHES      =         .2011 ACRE-FEET
PEAK DISCHARGE RATE =        5.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0016 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 603
COMPUTE NM HYD         ID=65  HYD NO=603.D DA=0.0010 SQ MI
                       PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                       MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    3.5613    CFS   UNIT VOLUME =     .9960       B =   526.28      P60 = 2.1400
     AREA =       .000900 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


     K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .24199    CFS   UNIT VOLUME =     .9476       B =   321.84      P60 = 2.1400
     AREA =       .000100 SQ MI    IA =     .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD              ID=65   CODE=1

                                   HYDROGRAPH FROM AREA 603.D

RUNOFF VOLUME =      2.21380 INCHES      =         .1181 ACRE-FEET
PEAK DISCHARGE RATE =        3.03 CFS  AT   1.500 HOURS   BASIN AREA =   .0010 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD PRWY.1 AND 603
ADD HYD                ID=66 HYD=PRWY.2 IDi=64 IDii=65
PRINT HYD              ID=66 CODE=10

                                   HYDROGRAPH FROM AREA PRWY.2

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500       8.1         3.000       .1          4.500       .1          6.000       .1
      .500       .0          2.000       2.0         3.500       .1          5.000       .1          6.500       .0
     1.000       .1          2.500        .3         4.000       .1          5.500       .1

RUNOFF VOLUME =      2.30196 INCHES      =         .3192 ACRE-FEET
PEAK DISCHARGE RATE =        8.10 CFS  AT   1.500 HOURS   BASIN AREA =   .0026 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 604
COMPUTE NM HYD         ID=67  HYD NO=604.D DA=0.0011 SQ MI
                       PER A=0.00 PER B=0.00 PER C=0.00 PER D=100.00 TP=-.133
                       MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    4.3527    CFS   UNIT VOLUME =     .9966       B =   526.28      P60 = 2.1400
     AREA =       .001100 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD              ID=67   CODE=1

                                   HYDROGRAPH FROM AREA 604.D


RUNOFF VOLUME =      2.35756 INCHES      =         .1383 ACRE-FEET
PEAK DISCHARGE RATE =        3.48 CFS  AT   1.500 HOURS   BASIN AREA =   .0011 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD PRWY.2 AND 604
ADD HYD                ID=68 HYD=PRWY.3 IDi=66 IDii=67
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PRINT HYD              ID=68 CODE=10

                                   HYDROGRAPH FROM AREA PRWY.3

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     11.6          3.000       .2          4.500       .1          6.000       .1
      .500       .0          2.000      2.9          3.500       .1          5.000       .1          6.500       .0
     1.000       .2          2.500       .4          4.000       .1          5.500       .1

    RUNOFF VOLUME =      2.31841 INCHES      =        .4575 ACRE-FEET
    PEAK DISCHARGE RATE =      11.59 CFS  AT   1.500 HOURS   BASIN AREA =   .0037 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 605
COMPUTE NM HYD         ID=69  HYD NO=605.D DA=0.0023 SQ MI
                       PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                       MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.1909    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.1400
     AREA =       .002070 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


     K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .55657    CFS   UNIT VOLUME =    .9757       B =   321.84      P60 = 2.1400
     AREA =       .000230 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD              ID=69   CODE=1

                                   HYDROGRAPH FROM AREA 605.D


    RUNOFF VOLUME =      2.21380 INCHES      =        .2716 ACRE-FEET
    PEAK DISCHARGE RATE =       6.94 CFS  AT   1.500 HOURS   BASIN AREA =   .0023 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD PRWY.3 AND 605
*S ****************** TOTAL FLOW ENTERING AMERICAS PARKWAY *********************
ADD HYD                ID=70 HYD=PRWY.4 IDi=68 IDii=69
PRINT HYD              ID=70 CODE=10

                                   HYDROGRAPH FROM AREA PRWY.4

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     18.5          3.000       .3          4.500       .2          6.000       .2
      .500       .0          2.000      4.5          3.500       .2          5.000       .2          6.500       .0
     1.000       .3          2.500       .6          4.000       .2          5.500       .2

    RUNOFF VOLUME =      2.27827 INCHES      =        .7290 ACRE-FEET
    PEAK DISCHARGE RATE =      18.53 CFS  AT   1.500 HOURS   BASIN AREA =   .0060 SQ. MI.


*S-----------------------------------------------------------------------------
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 06:55:38
_(s0p10h4099T_&16D__
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Analysis Point 2B
Worksheet for Rectangular Channel

Project Description	
Worksheet	Analysis Point 2I
Flow Element	Rectangular Cha
Method	Manning's Formı
Solve For	Discharge

Input Data		
Mannings Coeffic	0.013	
Channel Slope	050000	ft/ft
Depth	0.50	ft
Bottom Width	4.00	ft

Results		
Discharge	27.75	cfs
Flow Area	2.0	ft²
Wetted Perim	5.00	ft
Top Width	4.00	ft
Critical Depth	1.14	ft
Critical Slope	0.004304	ft/ft
Velocity	13.88	ft/s
Velocity Head	2.99	ft
Specific Energ	3.49	ft
Froude Numb	3.46	
Flow Type	Supercritical	

Analysis Point 2C
Worksheet for Rectangular Channel

Project Description	
Worksheet	Analysis Point 2(
Flow Element	Rectangular Cha
Method	Manning's Form
Solve For	Discharge

Input Data		
Mannings Coeffic	0.013	
Channel Slope	040000	ft/ft
Depth	0.50	ft
Bottom Width	10.00	ft

Results		
Discharge	67.57	cfs
Flow Area	5.0	ft²
Wetted Perim(	11.00	ft
Top Width	10.00	ft
Critical Depth	1.12	ft
Critical Slope	0.003104	ft/ft
Velocity	13.51	ft/s
Velocity Head	2.84	ft
Specific Energ	3.34	ft
Froude Numb	3.37	
Flow Type	Supercritical	

Analysis Point 2D
Worksheet for Rectangular Channel

Project Description	
Worksheet	Analysis Point 2I
Flow Element	Rectangular Cha
Method	Manning's Formı
Solve For	Discharge

Input Data		
Mannings Coeffic	0.013	
Channel Slope	010000	ft/ft
Depth	0.50	ft
Bottom Width	5.00	ft

Results		
Discharge	15.94	cfs
Flow Area	2.5	ft²
Wetted Perim	6.00	ft
Top Width	5.00	ft
Critical Depth	0.68	ft
Critical Slope	0.003859	ft/ft
Velocity	6.38	ft/s
Velocity Head	0.63	ft
Specific Energ	1.13	ft
Froude Numb	1.59	
Flow Type	Supercritical	

Storm Drain System #1 Headloss Calculations

Description	Q1	V1	Q2	V2	X1	X3	Q3	V3	A1	A2	dia1	dia2	Q4	x4	A3	A4	D3	D4
JUNCTION 14	58.38	20.18	88.91	5.59	2.77	46.48	30.53	9.72	12.560	15.896	48	54			3.140	0.000	24	
JUNCTION 4	88.91	5.59	89.09	5.6	74.06	7.04	0.18	0.23	15.896	15.896	54	54			0.785	0.000	12	
JUNCTION 5	89.09	5.6	106.9	6.72	7.33	40.82	17.83	5.68	15.896	15.896	54	54			3.140	0.000	24	
JUNCTION 8	106.92	6.72	111.5	7.01	1.9	38.95	4.59	2.6	15.896	15.896	54	54			1.766	0.000	18	
JUNCTION 9	111.51	7.01	141.9	8.92	90.02	0.05	30.34	6.18	15.896	15.896	54	54			4.906	0.000	30	
JUNCTION 10	141.85	8.92	143	8.99	0.13	47.66	1.17	0.66	15.896	15.896	54	54			1.766	0.000	18	
JUNCTION 17	143.02	8.99	161.4	10.15	0.01	47.98	18.39	10.41	15.896	15.896	54	54			1.766	0.000	18	

EQUATION FROM MODERN SEWER DESIGN, THIRD EDITION, 1995

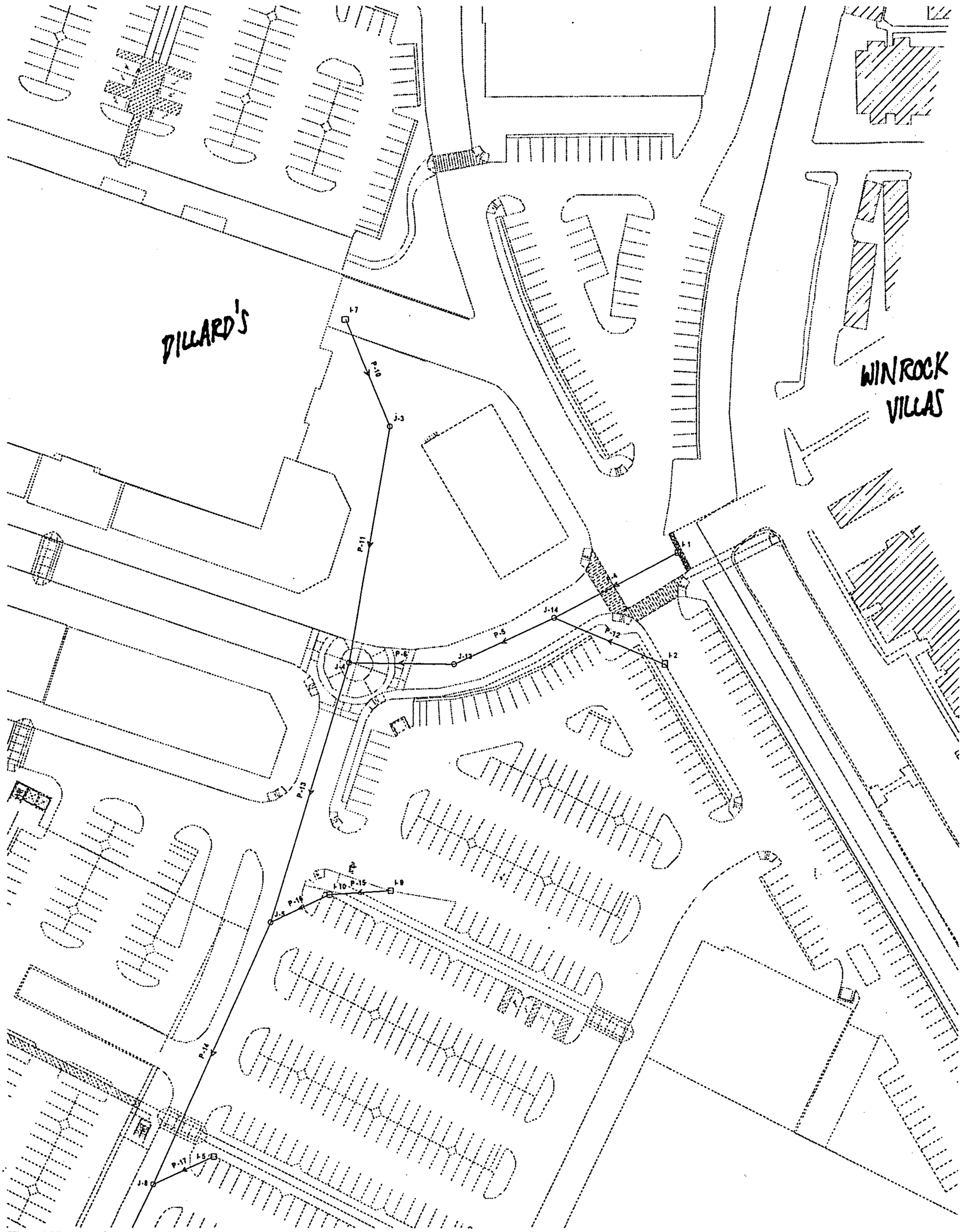
	Headloss, FT	# PIPES
Junc14	0.55	3
Junc4	0.70	3
Junc5	0.29	3
Junc8	0.11	3
Junc9	2.10	3
Junc10	0.04	3
Junc17	0.44	3

Junction #5 will require a locking ring and cover.

CALCULATED K VALUES

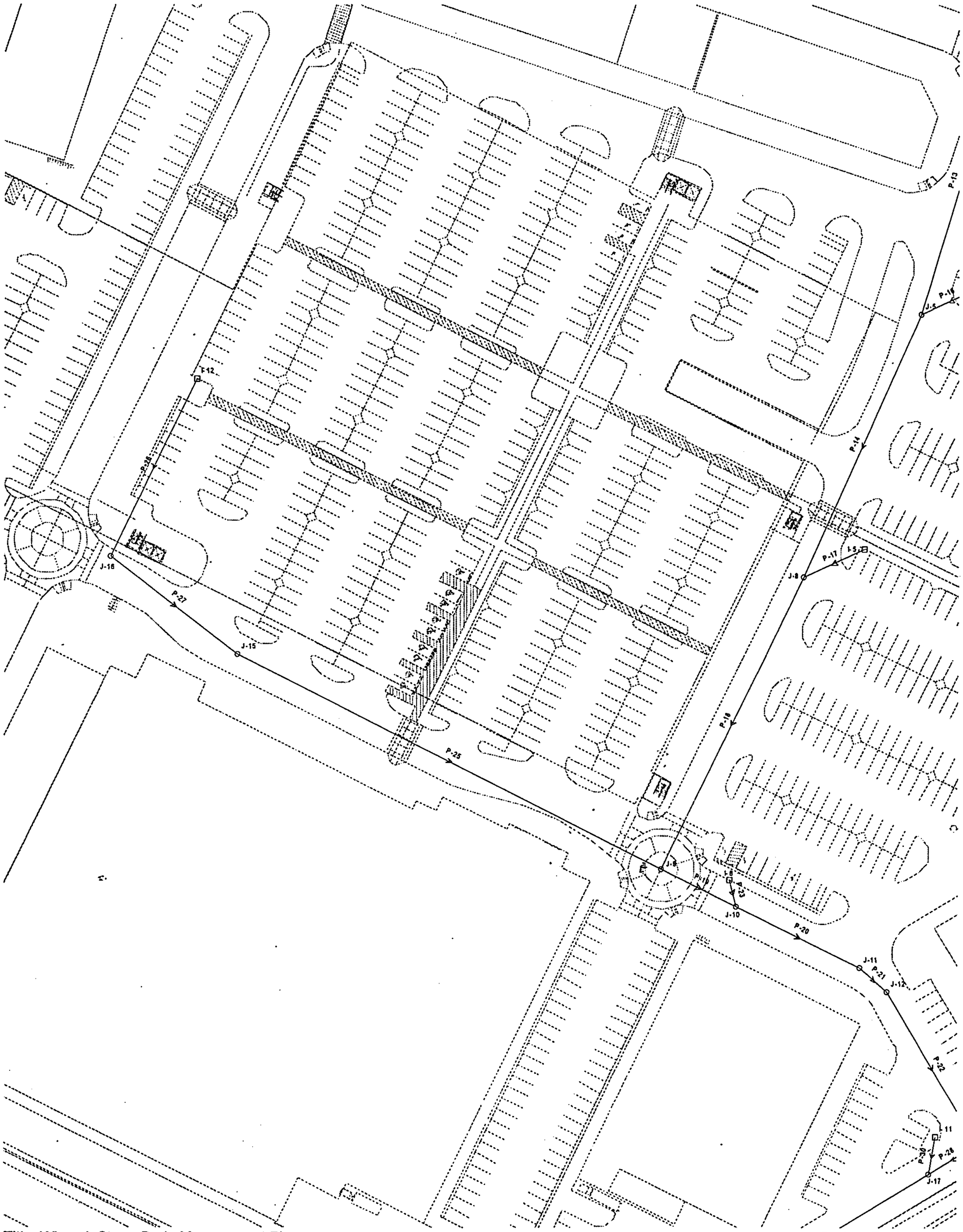
Descrip	Angle	coeff	K
Junc3	33.31	0.0033	**0.11**
Inlet10	20.73	0.0033	**0.07**
Junc15	11.07	0.0033	**0.04**
Junc16	78.51	0.0033	**0.26**
Junc11	13.65	0.0033	**0.05**
Junc12	19.14	0.0033	**0.06**
Junc7	89.96	0.0033	**0.30**
Junc6	48.57	0.0033	**0.16**
		0.0033	**0.00**

Scenario: Base



D-2

Scenario: Base



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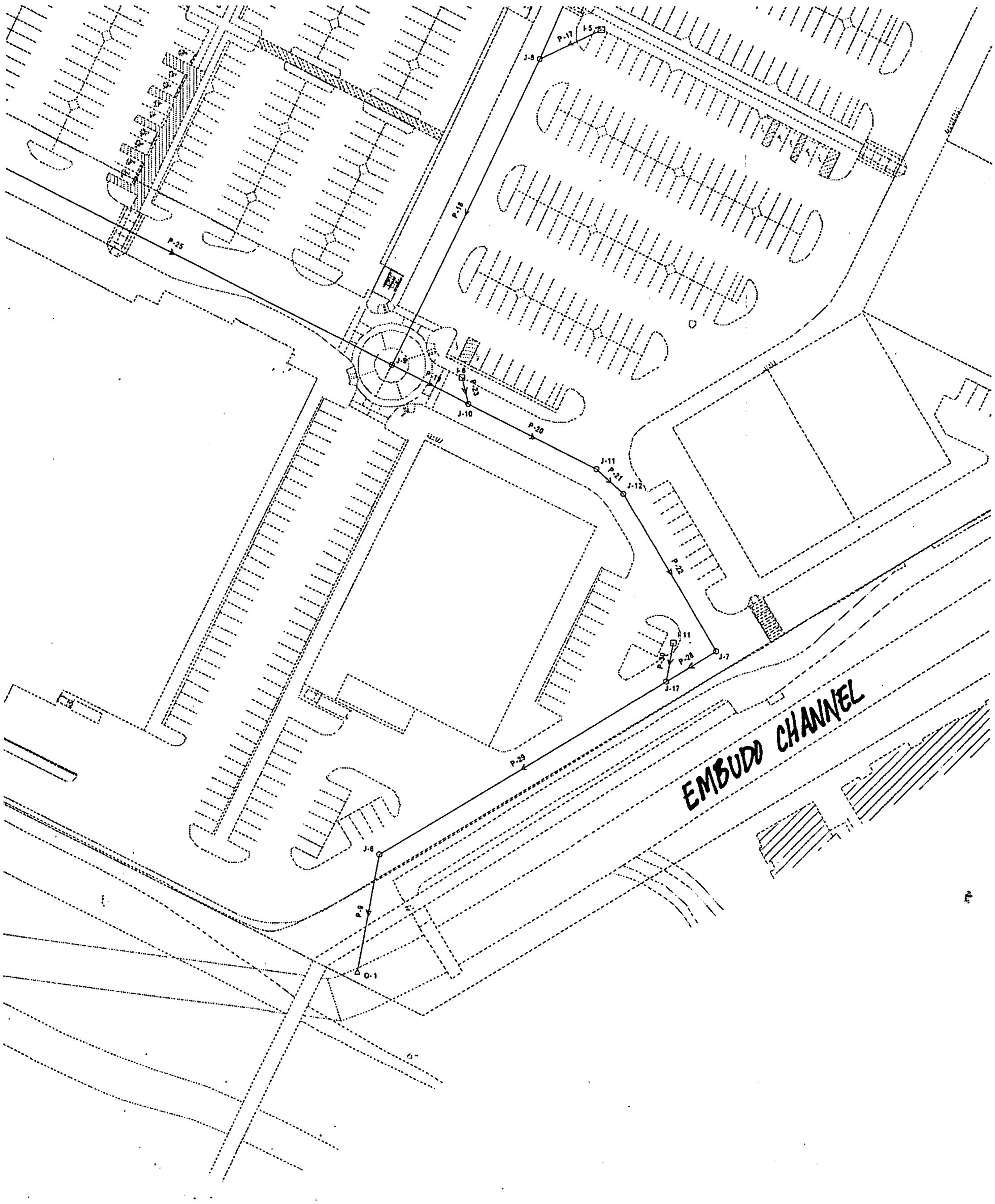
D-3

Scenario: Base



Scenario: Base

Pipe Report

Label	Upstream Node	Downstream Node	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-9	J-6	O-1	161.41	86.00	0.004651	54 inch	0.013	134.11	5,282.40	5,282.00	5,296.98	5,292.00	10.08	5.50	5,286.58	5,285.71
P-4	I-1	J-14	58.38	106.00	0.055660	48 inch	0.013	338.87	5,294.00	5,288.10	5,299.00	5,296.50	1.00	4.40	5,296.30	5,295.02
P-5	J-14	J-13	88.91	82.00	0.001829	54 inch	0.013	84.10	5,288.00	5,287.85	5,296.50	5,295.20	4.00	2.85	5,294.64	5,294.47
P-6	J-13	J-4	88.91	78.00	0.001923	54 inch	0.013	86.23	5,287.75	5,287.60	5,295.20	5,294.27	2.95	2.17	5,294.43	5,294.27
P-10	I-7	J-3	0.18	87.00	0.010345	12 inch	0.013	3.62	5,290.00	5,289.10	5,292.21	5,296.87	1.21	6.77	5,294.28	5,294.27
P-11	J-3	J-4	0.18	176.00	0.005114	12 inch	0.013	2.55	5,289.00	5,288.10	5,296.87	5,294.27	6.87	5.17	5,294.27	5,294.27
P-12	I-2	J-14	30.53	91.00	0.022527	24 inch	0.013	33.95	5,290.15	5,288.10	5,296.98	5,296.50	4.83	6.40	5,296.68	5,295.02
P-13	J-4	J-5	89.09	201.00	0.001990	54 inch	0.013	87.72	5,287.50	5,287.10	5,294.27	5,293.45	2.27	1.85	5,293.86	5,293.45
P-14	J-5	J-8	106.92	212.00	0.001887	54 inch	0.013	85.41	5,287.00	5,286.60	5,293.45	5,295.00	1.95	3.90	5,295.12	5,294.50
P-15	I-9	I-10	13.96	46.00	0.041304	18 inch	0.013	21.35	5,290.50	5,288.60	5,295.23	5,294.09	3.23	3.99	5,294.60	5,293.78
P-16	I-10	J-5	17.83	48.00	0.018750	24 inch	0.013	30.98	5,288.50	5,287.60	5,294.09	5,293.45	3.59	3.85	5,293.75	5,293.45
P-17	I-5	J-8	4.59	50.00	0.058000	18 inch	0.013	25.30	5,290.00	5,287.10	5,295.42	5,295.00	3.92	6.40	5,294.59	5,294.50
P-18	J-8	J-9	111.51	240.00	0.002708	54 inch	0.013	102.33	5,286.50	5,285.85	5,295.00	5,297.16	4.00	6.81	5,294.30	5,293.52
P-19	J-9	J-10	141.85	62.00	0.004839	54 inch	0.013	136.78	5,285.75	5,285.45	5,297.16	5,297.05	6.91	7.10	5,291.42	5,291.10
P-20	J-10	J-11	143.02	104.00	0.004808	54 inch	0.013	136.34	5,285.35	5,284.85	5,297.05	5,298.29	7.20	8.94	5,291.06	5,290.51
P-21	J-11	J-12	143.02	27.00	0.005556	54 inch	0.013	146.57	5,284.75	5,284.60	5,298.29	5,298.57	9.04	9.47	5,290.45	5,290.31
P-22	J-12	J-7	143.02	131.00	0.006870	54 inch	0.013	162.99	5,284.50	5,283.60	5,298.57	5,299.62	9.57	11.52	5,290.23	5,289.54
P-23	I-8	J-10	1.17	20.00	0.025000	18 inch	0.013	16.61	5,286.50	5,286.00	5,296.95	5,297.05	8.95	9.55	5,291.10	5,291.10
P-25	J-15	J-9	30.34	356.00	0.008848	30 inch	0.013	38.58	5,289.00	5,285.85	5,296.32	5,297.16	4.82	8.81	5,295.47	5,293.52
P-26	I-12	J-16	30.34	146.00	0.010274	30 inch	0.013	41.57	5,291.60	5,290.10	5,296.81	5,296.30	2.71	3.70	5,297.10	5,296.30
P-27	J-16	J-15	30.34	119.00	0.007563	30 inch	0.013	35.67	5,290.00	5,289.10	5,296.30	5,296.32	3.80	4.72	5,296.15	5,295.50
P-28	J-7	J-17	143.02	42.00	0.009524	54 inch	0.013	191.90	5,283.50	5,283.10	5,299.62	5,299.18	11.62	11.58	5,289.16	5,288.94
P-29	J-17	J-6	161.41	242.00	0.002066	54 inch	0.013	89.38	5,283.00	5,282.50	5,299.18	5,296.98	11.68	9.98	5,288.50	5,286.85
P-30	I-11	J-17	18.39	28.00	0.067857	18 inch	0.013	27.36	5,285.00	5,283.10	5,300.00	5,299.18	13.50	14.58	5,289.80	5,288.94

Storm Drain System #2 Headloss Calculations

Description	Q1	V1	Q2	V2	X1	X3	Q3	V3	A1	A2	dia1	dia2	Q4	x4	A3	A4	D3	D4
JUNCTION 4	9.32	10	37.28	6.41	12.22	73.08	18.64	5.93	3.140	9.616	24	42	9.32	45.7	3.140	1.766	24	18
JUNCTION 6	37.28	5.27	64.61	9.14	12.11	90.28	23.33	7.43	9.616	9.616	42	42	4	37.6	3.140	1.766	24	18
JUNCTION 7	5.53	3.13	23.33	7.43	0.84	44.63	8.9	12.37	1.766	7.065	18	36	8.9	46.3	1.766	1.766	18	18
JUNCTION 14	64.61	9.14	76.47	21.57	0.02	33.61	5.93	12.04	9.616	9.616	42	42	5.93	33.8	1.766	1.766	18	18
JUNCTION 21	76.47	21.57	84.42	11.94	0.25	62.9	7.95	4.5	9.616	9.616	42	42			1.766	0.000	18	
JUNCTION 20	3.58	2.03	7.95	4.5	0.02	45.13	4.37	2.47	1.766	1.766	18	18			1.766	0.000	18	
JUNCTION 15	84.42	11.94	96.28	13.62	4.57	27.41	5.93	20.47	9.616	9.616	42	42	5.93	38.6	1.766	1.766	18	18

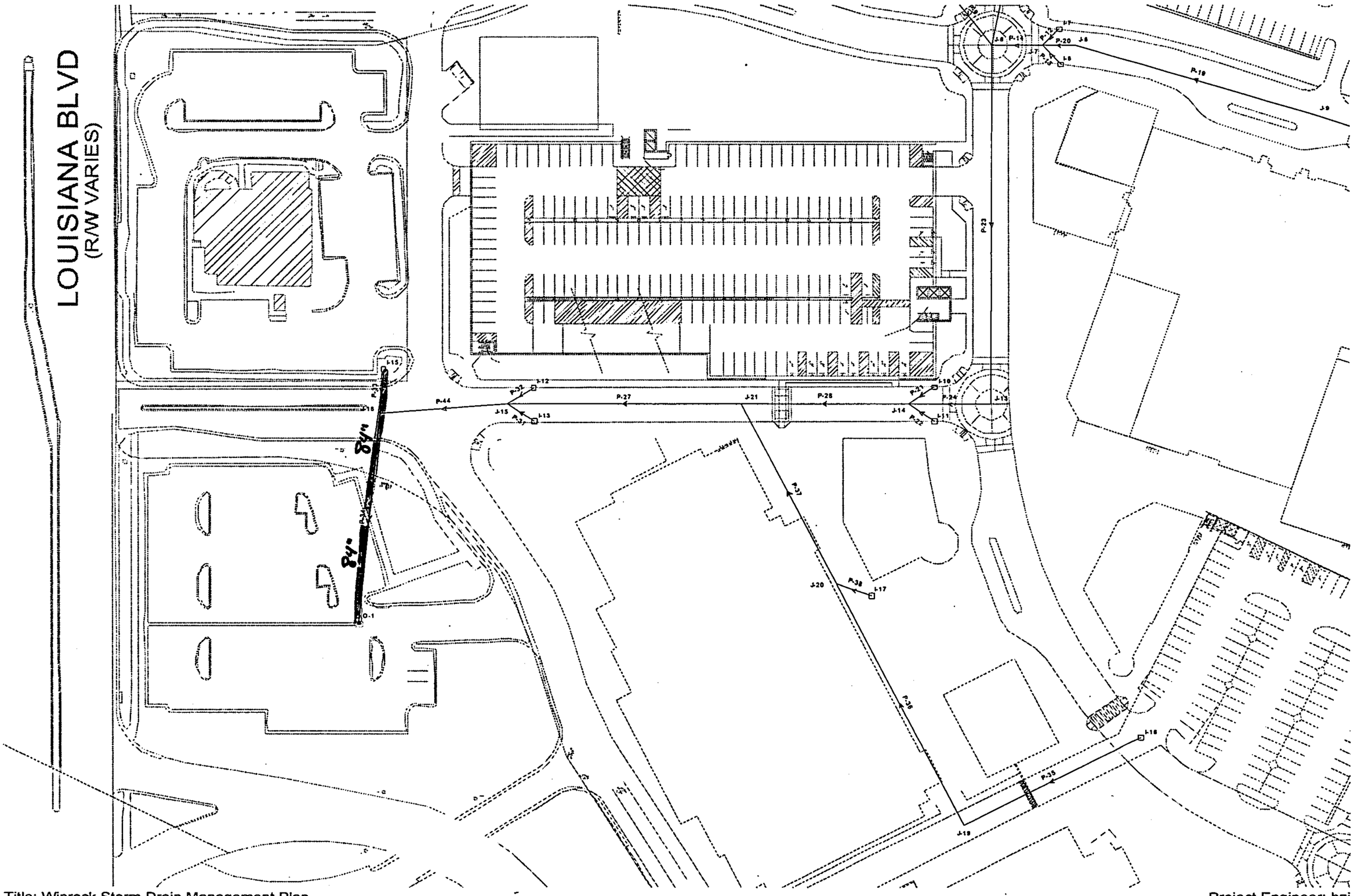
EQUATION FROM MODERN SEWER DESIGN, THIRD EDITION, 1995

	Headloss, FT	# PIPES
Junc4	1.91	4
Junc6	0.95	4
Junc7	1.70	3
Junc14	0.51	4
Junc21	0.38	3
Junc20	0.37	3
Junc15	0.67	4

CALCULATED K VALUES

Descrip	Angle	coeff	K
Inlet19	0.11	0.0033	**0.00**
Inlet20	49.91	0.0033	**0.16**
Junc5	12.94	0.0033	**0.04**
Junc8	16.92	0.0033	**0.06**
Junc9	2.65	0.0033	**0.01**
Junc10	23.51	0.0033	**0.08**
Junc11	64.49	0.0033	**0.21**
Junc12	75.22	0.0033	**0.25**
Junc13	90.15	0.0033	**0.30**
Junc19	90.21	0.0033	**0.30**

Scenario: Base



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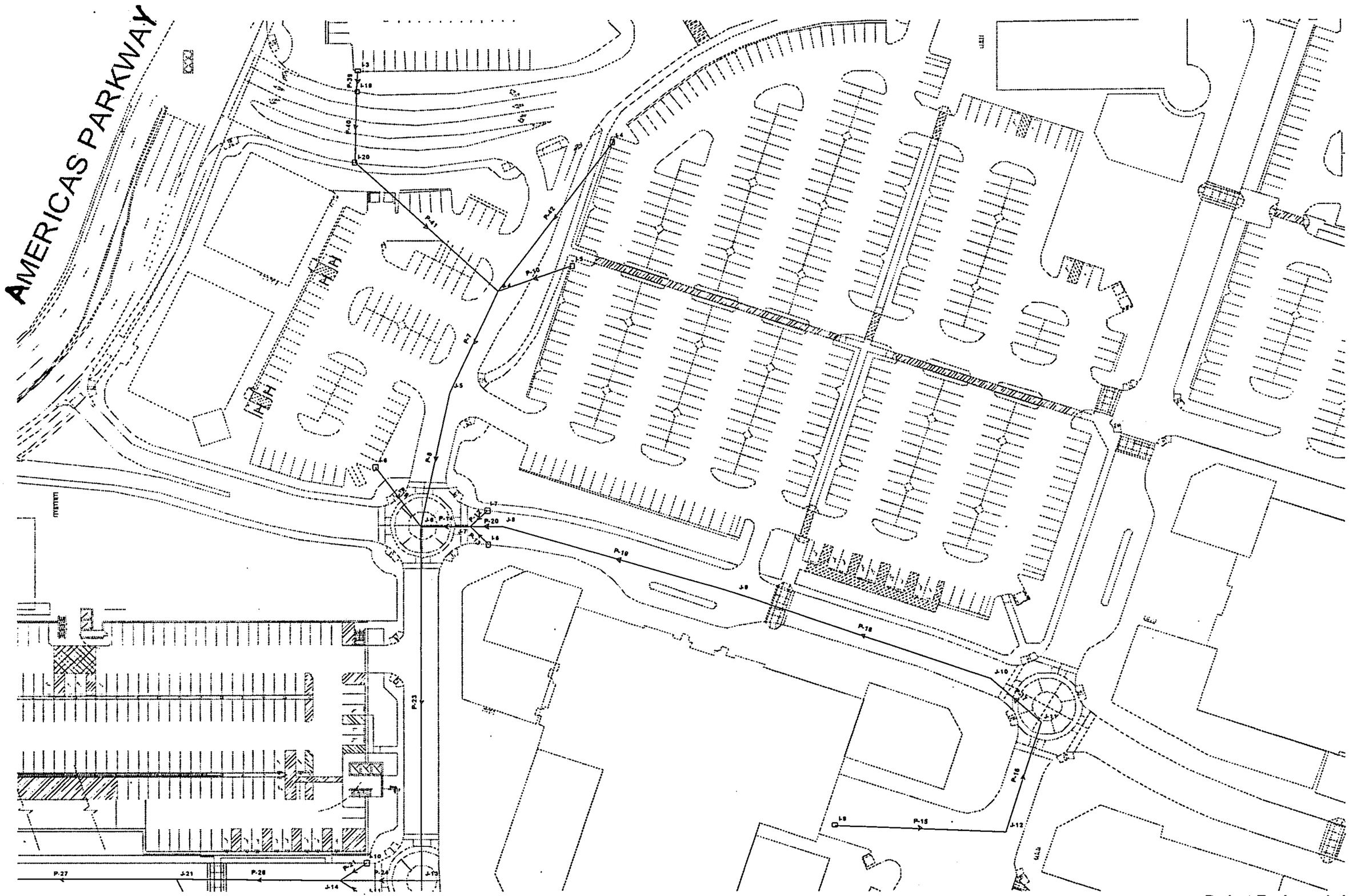
Page 1 of 1

E-2

Scenario: Base



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Project Engineer: hzi
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E-3

Scenario: Base

Pipe Report

Label	Upstream Node	Downstream Node	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-33	I-15	J-18	469.00	39.00	0.000000	84 inch	0.013	0.00	5,265.63	5,265.63	5,279.23	5,280.26	6.60	7.63	5,273.89	5,273.68
P-34	J-18	O-1	565.28	182.00	0.000000	84 inch	0.013	0.00	5,265.63	5,265.63	5,280.26	5,281.89	7.63	9.26	5,273.68	5,271.77
P-21	I-10	J-14	5.93	27.00	0.062963	18 inch	0.013	26.36	5,280.00	5,278.30	5,291.10	5,290.87	9.60	11.07	5,281.53	5,281.45
P-22	I-11	J-14	5.93	27.00	0.062963	18 inch	0.013	26.36	5,280.00	5,278.30	5,291.10	5,290.87	9.60	11.07	5,281.53	5,281.45
P-7	J-4	J-5	37.28	98.00	0.003571	42 inch	0.013	60.12	5,282.45	5,282.10	5,292.24	5,292.81	6.29	7.21	5,284.44	5,284.00
P-8	J-5	J-6	37.28	120.00	0.013750	42 inch	0.013	117.97	5,282.00	5,280.35	5,292.81	5,293.45	7.31	9.60	5,283.90	5,283.88
P-9	I-6	J-6	4.00	65.00	0.102308	18 inch	0.013	33.60	5,287.00	5,280.35	5,293.50	5,293.45	5.00	11.60	5,287.77	5,283.88
P-10	I-5	J-4	9.32	67.00	0.066418	18 inch	0.013	27.07	5,287.00	5,282.55	5,292.93	5,292.24	4.43	8.19	5,288.18	5,286.35
P-12	I-7	J-7	8.90	20.00	0.050000	18 inch	0.013	23.49	5,287.00	5,286.00	5,293.62	5,293.70	5.12	6.20	5,288.15	5,286.75
P-13	I-8	J-7	8.90	22.00	0.045455	18 inch	0.013	22.39	5,287.00	5,286.00	5,293.92	5,293.70	5.42	6.20	5,288.15	5,286.76
P-14	J-7	J-6	23.33	43.00	0.015116	36 inch	0.013	82.00	5,281.00	5,280.35	5,293.70	5,293.45	9.70	10.10	5,283.93	5,283.88
P-15	I-9	J-12	5.53	147.00	0.016327	18 inch	0.013	13.42	5,290.50	5,288.10	5,294.92	5,295.29	2.92	5.69	5,291.41	5,288.77
P-16	J-12	J-11	5.53	100.00	0.014000	18 inch	0.013	12.43	5,288.00	5,286.60	5,295.29	5,296.60	5.79	8.50	5,288.91	5,287.30
P-17	J-11	J-10	5.53	57.00	0.011404	18 inch	0.013	11.22	5,286.50	5,285.85	5,296.60	5,296.50	8.60	9.15	5,287.41	5,286.87
P-18	J-10	J-9	5.53	232.00	0.009267	18 inch	0.013	10.11	5,285.75	5,283.60	5,296.50	5,295.00	9.25	9.90	5,286.85	5,286.30
P-19	J-9	J-8	5.53	210.00	0.009048	18 inch	0.013	9.99	5,283.50	5,281.60	5,295.00	5,293.84	10.00	10.74	5,286.30	5,285.72
P-20	J-8	J-7	5.53	27.00	0.014815	18 inch	0.013	12.78	5,281.50	5,281.10	5,293.84	5,293.70	10.84	11.10	5,285.71	5,285.63
P-23	J-6	J-13	64.61	311.00	0.004823	42 inch	0.013	69.87	5,280.25	5,278.75	5,293.45	5,292.32	9.70	10.07	5,282.93	5,281.90
P-24	J-13	J-14	64.61	70.00	0.005000	42 inch	0.013	71.14	5,278.65	5,278.30	5,292.32	5,290.87	10.17	9.07	5,281.64	5,281.45
P-26	J-14	J-21	76.47	141.00	0.052128	42 inch	0.013	229.69	5,278.20	5,270.85	5,290.87	5,287.42	9.17	13.07	5,280.94	5,277.13
P-27	J-21	J-15	84.42	198.00	0.005051	42 inch	0.013	71.50	5,270.75	5,269.75	5,287.42	5,282.59	13.17	9.34	5,276.75	5,275.35
P-31	I-13	J-15	5.93	27.00	0.268519	18 inch	0.013	54.43	5,277.00	5,269.75	5,282.90	5,282.59	4.40	11.34	5,277.94	5,275.35
P-32	I-12	J-15	5.93	26.00	0.278846	18 inch	0.013	55.47	5,277.00	5,269.75	5,282.90	5,282.59	4.40	11.34	5,277.94	5,275.35
P-35	I-16	J-19	3.58	166.00	0.015060	18 inch	0.013	12.89	5,278.00	5,275.50	5,282.00	5,283.46	2.50	6.46	5,278.90	5,278.80
P-36	J-19	J-20	3.58	235.00	0.014043	18 inch	0.013	12.45	5,275.40	5,272.10	5,283.46	5,289.00	6.56	15.40	5,278.78	5,278.51
P-37	J-20	J-21	7.95	176.00	0.006534	18 inch	0.013	8.49	5,272.00	5,270.85	5,289.00	5,287.42	15.50	15.07	5,278.14	5,277.13
P-38	I-17	J-20	4.37	31.00	0.093548	18 inch	0.013	32.13	5,275.00	5,272.10	5,289.67	5,289.00	13.17	15.40	5,278.56	5,278.51
P-39	I-3	I-19	7.06	18.00	0.005556	18 inch	0.013	7.83	5,284.00	5,283.90	5,288.30	5,288.15	2.80	2.75	5,287.86	5,287.78
P-40	I-19	I-20	12.85	62.00	0.005645	24 inch	0.013	17.00	5,283.80	5,283.45	5,288.15	5,288.15	2.35	2.70	5,287.78	5,287.58
P-41	I-20	J-4	18.64	167.00	0.004790	24 inch	0.013	15.66	5,283.35	5,282.55	5,288.15	5,292.24	2.80	7.69	5,287.49	5,286.35
P-42	I-4	J-4	9.32	163.00	0.027301	24 inch	0.013	37.38	5,287.00	5,282.55	5,292.95	5,292.24	3.95	7.69	5,288.09	5,286.35
P-44	J-15	J-18	96.28	109.00	0.004771	42 inch	0.013	69.49	5,269.65	5,269.13	5,282.59	5,280.26	9.44	7.63	5,274.68	5,273.68

Storm Drain System #3 Headloss Calculations

Description	Q1	V1	Q2	V2	X1	X3	Q3	V3	A1	A2	dia1	dia2	Q4	x4	A3	A4	D3	D4
JUNCTION 4	13	7.36	18	5.73	31.85	104.75	5	2.83	1.766	4.906	18	30			1.766	0.000	18	
JUNCTION 5	18	5.73	44	8.96	18.1	84.27	13	7.36	4.906	7.065	30	36	13	95.2	1.766	1.766	18	18
									0.000	0.000					0.000	0.000		
									0.000	0.000					0.000	0.000		
									0.000	0.000					0.000	0.000		
									0.000	0.000					0.000	0.000		
									0.000	0.000					0.000	0.000		

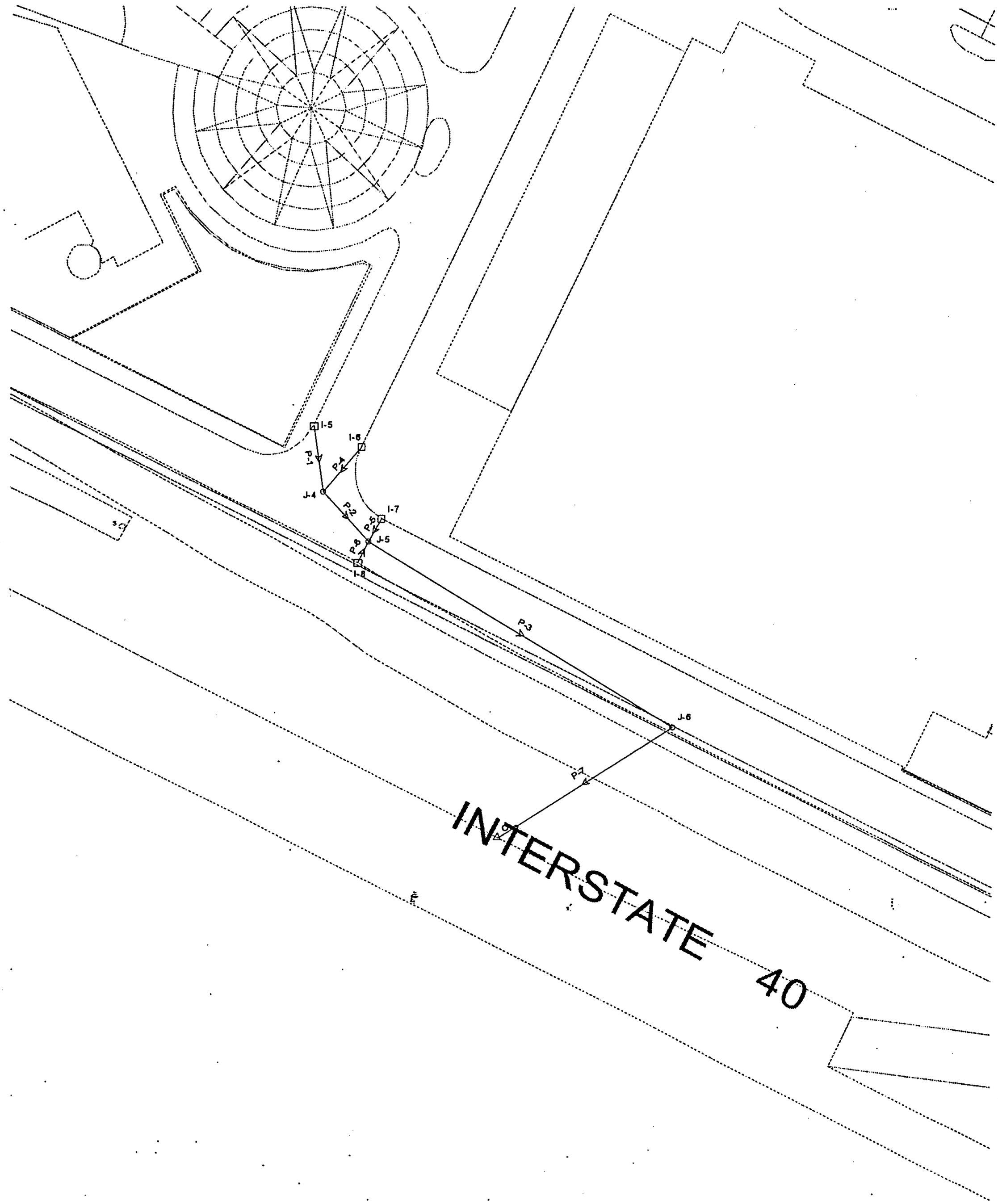
EQUATION FROM MODERN SEWER DESIGN, THIRD EDITION, 1995

	Headloss, FT	# PIPES
Junc4	0.89	3
Junc5	1.54	4

CALCULATED K VALUES

Descrip	Angle	coeff	K
Junc6	117.4	0.0033	**0.39**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**
		0.0033	**0.00**

Scenario: Base



F-2

Scenario: Base

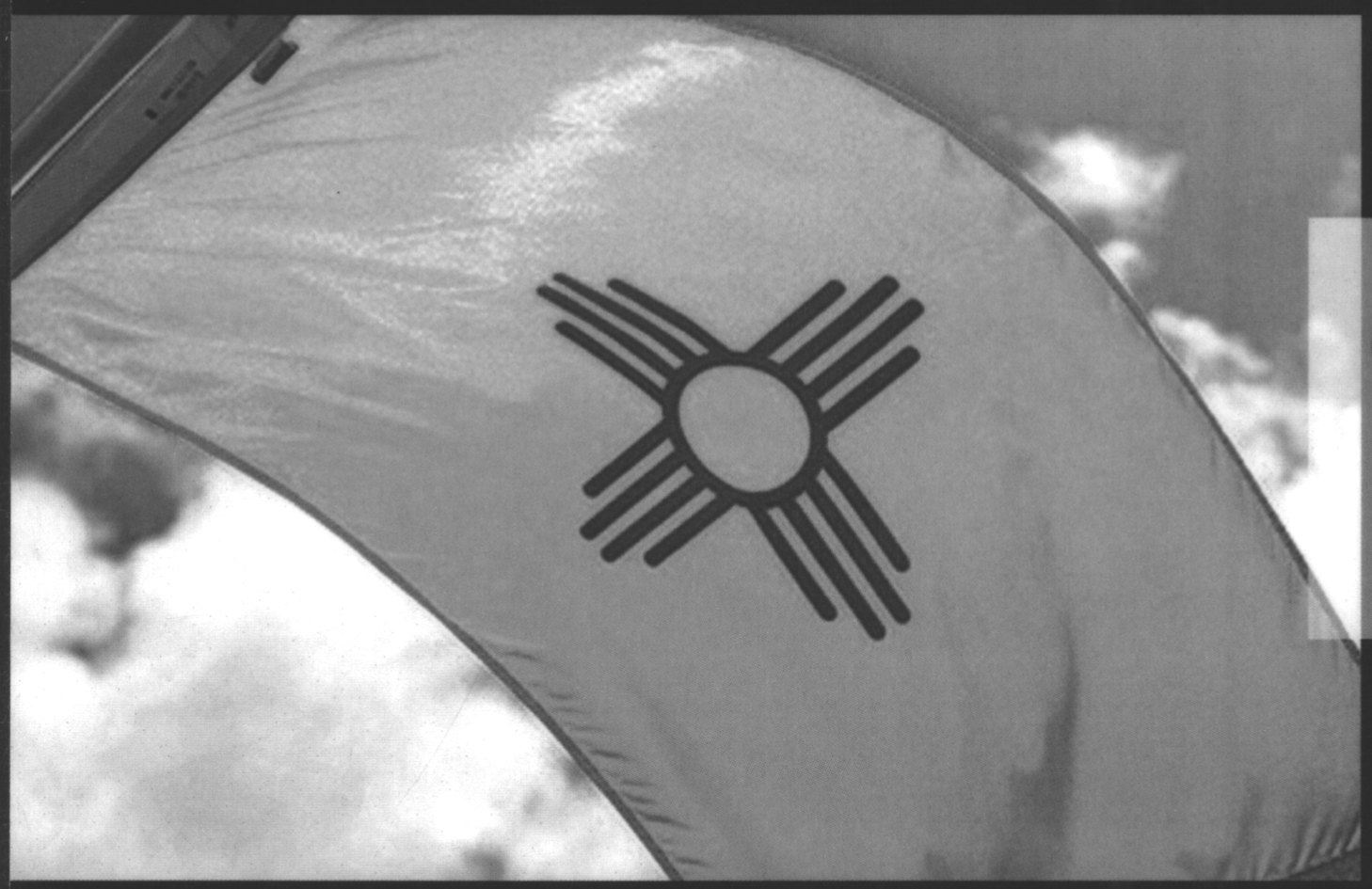
Pipe Report

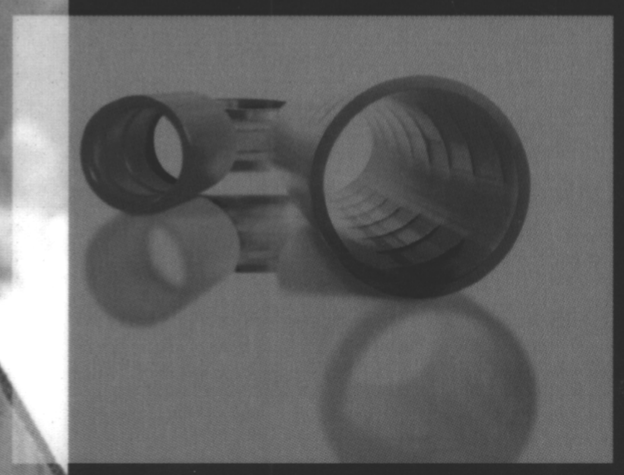
Label	Upstream Node	Downstream Node	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-1	I-5	J-4	13.00	38.00	0.010526	18 inch	0.013	10.78	5,286.50	5,286.10	5,290.75	5,290.67	2.75	3.07	5,290.72	5,290.33
P-2	J-4	J-5	18.00	38.00	0.023684	30 inch	0.013	63.12	5,286.00	5,285.10	5,290.67	5,290.79	2.17	3.19	5,289.44	5,289.36
P-3	J-5	J-6	44.00	205.00	0.002829	36 inch	0.013	35.48	5,285.00	5,284.42	5,290.79	5,291.62	2.79	4.20	5,287.82	5,286.72
P-4	I-6	J-4	5.00	34.00	0.011765	18 inch	0.013	11.39	5,286.50	5,286.10	5,290.75	5,290.67	2.75	3.07	5,290.39	5,290.33
P-5	I-7	J-5	13.00	15.00	0.026667	18 inch	0.013	17.15	5,285.50	5,285.10	5,290.94	5,290.79	3.94	4.19	5,289.59	5,289.36
P-6	I-8	J-5	13.00	13.00	0.030769	18 inch	0.013	18.42	5,285.50	5,285.10	5,290.94	5,290.79	3.94	4.19	5,289.59	5,289.36
P-7	J-6	O-2	44.00	119.00	0.008319	42 inch	0.013	91.76	5,284.32	5,283.33	5,291.62	5,286.83	3.80	0.00	5,286.39	5,285.06

PHASE 1 AMENDMENT TO THE FINAL DRAINAGE STUDY FOR:
WINROCK REDEVELOPMENT

Prepared For

WINROCK PARTNERS, LLC





Project Location

Winrock Redevelopment Area
Zone Atlas J-19-Z

MARCH 2011

Prepared By

HUITT-ZOLLARS

ENGINEERING ARCHITECTURE CONSTRUCTION MANAGEMENT SURVEY

333 Rio Rancho Blvd. NE Suite 101, Rio Rancho NM 87124
(505) 892-5141, Fax (505) 892-3259
www.huitt-zollars.com

Phase 1 Amendment to the Final Drainage Study for Winrock Redevelopment

APPROVALS

City of Albuquerque

Curtis Cherne, PE

Date

RECEIVED
SEP 7 2011
HYDROLOGY SECTION

I, Jarrod D. Likar being first duly sworn, upon my oath state that I am a registered professional engineer, qualified in Civil engineering, and that the accompanying report was prepared by me or under my supervision and is true and correct to the best of my knowledge and belief.

9-7-11

Registered Professional Engineer

JARROD D. LIKAR
NEW MEXICO
16910
LICENSED PROFESSIONAL ENGINEER

HUITT-ZOLLARS

HUITT-ZOLLARS, INC. • 333 Rio Rancho Drive NE • Suite 101 • Rio Rancho, NM 87124-1450 • 505.892.5141 phone • 505.892.3259 fax • huitt-zollars.com

Memorandum

DATE: March 1, 2011

TO: Curtis Cherne, PE (City of Albuquerque)

FROM: Jarrod Likar, PE

SUBJECT: Phase 1 Amendment to the Final Drainage Study for Winrock Redevelopment

---

There is planned redevelopment of the existing Winrock Mall which is to be named the Winrock Town Center. The Winrock Town Center requires an amendment to the Final Drainage Study for Winrock Redevelopment because the site plan is being revised from the original Winrock redevelopment. This amendment only discusses the areas affected by Phase 1 of the Winrock Town Center which is located in the east corner of the site. Phase 1 includes a Movie Theatre, Plaza area, 3 new buildings (not including the theatre) and parking improvements. Drainage Basin lines, hydrologic model and the storm drain alignments and sizes have been revised.

The basin map, AHYMO output (Appendix B) and StormCAD output (Appendix D) that have been revised are attached. Also attached are new calculations for the storm drain inlets which are shown in Appendix G.

Basins 108 (roof), 111(roof), 112(roof), 113(plaza) and 114(roof) discharge into the proposed water feature located in the middle of the plaza. The storm drain starting at AP1.E is proposed to take emergency overflow from the water feature. The size of the storm drain is calculated using the 100-yr flow of the Basins listed above.

The existing storm drain that conveys the flow from Basin 502 is undersized. The analysis of the 502.I inlet shows that any over flow will discharge to the west and outside of the Phase 1 boundary. This inlet is unchanged with the Phase 1 improvements.

Revised Table 5 below is revised from the original Table 5 in the Final Drainage Study for Winrock Redevelopment and shows the discharge rate is within 10% for the Amendment. This existing 42" RCP discharges into the Embudo Channel section within the I-40 corridor (See Basin Map for location).

Revised Table 5 – Runoff Comparison at 42" RCP

Hydrograph ID #	Basin Area (Mi^2)	100-Yr Peak Discharge (Ft^3/s)
T.36 (Original)	0.0143	44.30
AP5.C (Amendment)	0.0442	135.60

New Table 7 below is an additional Table to compare runoff at a proposed discharge point into the Embudo Channel. As shown in the table the discharge rate for the Amendment is well below that of the original report. The proposed tie in to the Embudo Channel is a 36" RCP and the location is shown on the Basin Map.

New Table 7– Runoff Comparison at AP1.K

Hydrograph ID #	Basin Area (Mi^2)	100-Yr Peak Discharge (Ft^3/s)
EMBU.6 (Original)	0.0572	161.42
AP1.J (Amendment)	0.0155	45.90

As shown in Table 8 the Phase 1 redevelopment of the Winrock Mall will not increase the discharge rate to the downstream infrastructure.

New Table 8– Runoff Comparison total flow off-site into Embudo Channel

Hydrograph ID #	Basin Area (Mi^2)	100-Yr Peak Discharge (Ft^3/s)
Total Flow into Embudo (Original)	0.0720	205.72
Total Flow into Embudo (Amendment)	0.0600	181.50

Winrock Town Center
100-Year 24-Hour Duration Storm-Developed
AHYMO Summary File

```
_(s16.67h8.5v0T_&l8D
   AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                    - VERSION:  1997.02c      RUN DATE (MON/DAY/YR) =02/28/2011
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                              FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =   1
                  HYDROGRAPH   ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
   COMMAND       IDENTIFICATION  NO.  NO.    (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE     NOTATION

   *S Winrock Mall Renovation - Existing Drainage Analysis
   *S Data File: windev7.dat
   *S Compute 100-Year Flow
   *S Use 24 Hour Storm
   *S THIS STUDY IS TO DETERMINE THE FLOWS FOR STORMDRAIN CAPACITY
   *S
   START                                                                                                  TIME=       .00
   *S*****************************************************************************
   *S USE COA DPM ZONE 3 RAINFALL
   *S*****************************************************************************
   RAINFALL  TYPE= 1                                                                                      RAIN6=    2.600
   *S*****************************************************************************
   *S*****************************************************************************
   *S******************** TOTAL FLOW ENTERING EMBUDO CHANNEL ************************
   *S******************** AT ANALYSIS POINT 1L ***************************************
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 101a
   COMPUTE NM HYD        101a.D   -    1        .01014        30.54       1.197      2.21380    1.500    4.706 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S DIVIDE 101a.D
   *S ID=2 IS INTO INLET
   *S ID=25 IS BYPASSING INLET TO INLET AP.1A
   DIVIDE HYD      101a.TO.INLE    1    2        .01014        30.54       1.197      2.21377    1.500    4.706
                   101a.BYPASS.  and   25        .00000          .00        .000       .00000    -.050     .000
   *S-----------------------------------------------------------------
   *S COMPUTE BASIN 106b (surface flow to landscape inlet)
   COMPUTE NM HYD        106b.D   -    3        .00080         1.54        .046      1.08861    1.500    3.011 PER IMP=    .00
   *S-----------------------------------------------------------------------------
   *S ADD 106b.D  AND 101a.D
   ADD HYD                AP1.G  2& 3  11        .01094        32.08       1.244      2.13148    1.500    4.582
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 109
   COMPUTE NM HYD         109.D   -    1        .00025          .78        .030      2.28568    1.500    4.899 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 110a
   COMPUTE NM HYD        110a.D   -    2        .00016          .50        .020      2.28568    1.500    4.915 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD 109.D AND 110a.D
   ADD HYD               AP1.Hb  1& 2   1        .00041         1.29        .050      2.28465    1.500    4.905
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 110b
   COMPUTE NM HYD        110b.D   -    2        .00016          .50        .020      2.28568    1.500    4.915 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD AP1.Hb AND 110b.D
   ADD HYD               AP1.Hc  1& 2   1        .00057         1.79        .069      2.28461    1.500    4.908
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 110c
   COMPUTE NM HYD        110c.D   -    2        .00005          .16        .006      2.28568    1.500    5.148 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD AP1.Hc AND 110c.D
   ADD HYD               AP1.Hd  1& 2   1        .00062         1.96        .076      2.28442    1.500    4.927
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 110d
   COMPUTE NM HYD        110d.D   -    2        .00020          .63        .024      2.28569    1.500    4.899 PER IMP=  95.00
   *S-----------------------------------------------------------------------------
   *S ADD AP1.Hc AND 110d.D
   ADD HYD               AP1.He  1& 2   1        .00082         2.58        .100      2.28442    1.500    4.920
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 107 (surface flow to sump inlet at AP1.H, 100% capture)
   COMPUTE NM HYD         107.D   -    2        .00295         8.90        .348      2.21380    1.500    4.713 PER IMP=  90.00
   *S-----------------------------------------------------------------------------
   *S ADD AP1.Hd AND 107.D
   ADD HYD                AP1.H  1& 2   1        .00377        11.48        .448      2.22909    1.500    4.758
   *S-----------------------------------------------------------------------------
   *S ADD AP1.H AND AP1.G
   ADD HYD               AP1.Ja  1&11   1        .01471        43.56       1.692      2.15650    1.500    4.627
   *S-----------------------------------------------------------------------------
   *S COMPUTE BASIN 110e
   COMPUTE NM HYD        110e.D   -    2        .00075         2.33        .091      2.28569    1.500    4.858 PER IMP=  95.00
   *S-----------------------------------------------------------------------------

                              FROM  TO                    PEAK        RUNOFF                TIME TO    CFS      PAGE =   2
                  HYDROGRAPH   ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
   COMMAND       IDENTIFICATION  NO.  NO.    (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE     NOTATION

   *S ADD AP1.Ja AND 110e.D
   ADD HYD                AP1.J  1& 2   1        .01546        45.89       1.783      2.16275    1.500    4.638
   *S*****************************************************************************
   *S*****************************************************************************
   *S*****************************************************************************
   *S*****************************************************************************
   *S*****************************************************************************
   *S*****************************************************************************
   *S-----------------------------------------------------------------------------
   *S-----------------------------------------------------------------------------
   *S-----------------------------------------------------------------------------
```

Winrock Town Center
100-Year 24-Hour Duration Storm-Developed
AHYMO Summary File

```
*S COMPUTE BASIN 102 (surface flow to sump inlet at AP1.A, 100% capture)
COMPUTE NM HYD         102.D   -     1        .00253         7.63        .299      2.21380    1.500    4.715 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 102.D AND 101a.BYPASS.INLET
ADD HYD               AP1.Aa  1&25   1        .00253         7.63        .299      2.21368    1.500    4.715
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 103 (surface flow to sump inlet in Dock, 100% capture)
COMPUTE NM HYD         103.D   -     2        .00014          .45        .018      2.35757    1.500    5.038 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD AP1.Aa AND 103.D
ADD HYD               AP1.Aa  1& 2   1        .00267         8.09        .316      2.22114    1.500    4.732
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 104 (roof drains directly to storm drain)
COMPUTE NM HYD         104.D   -     2        .00198         6.26        .249      2.35756    1.500    4.944 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 104.D AND AP1.Aa
ADD HYD                AP1.A  1& 2   1        .00465        14.35        .565      2.27917    1.500    4.822
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 106a (surface flows to sump inlet at AP1.B)
COMPUTE NM HYD        106a.D   -     2        .00301         9.08        .355      2.21380    1.500    4.712 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 101b (surface flows to sump inlet at AP1.B)
COMPUTE NM HYD        101b.D   -     3        .00992        29.88       1.171      2.21380    1.500    4.706 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD BYPASS FROM INLET 101b.D TO 106a.D (TOTAL SURFACE FLOW TO INLETS AT AP1.B
ADD HYD               AP1.Ba  2& 3   2        .01293        38.96       1.527      2.21376    1.500    4.708
*S-----------------------------------------------------------------------------
*S ADD AP1.A AND AP1.Ba
ADD HYD                AP1.B  1& 2   1        .01758        53.31       2.092      2.23106    1.500    4.738
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 106c (surface flows to sump inlet at AP1.C)
COMPUTE NM HYD        106c.D   -     2        .00041         1.25        .048      2.21380    1.500    4.777 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 111 (roof drains to water feature)
COMPUTE NM HYD         111.D   -     3        .00030          .96        .038      2.35757    1.500    4.987 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 106c.D AND 111.D
ADD HYD               AP1.Ca  2& 3   2        .00071         2.21        .086      2.27379    1.500    4.866
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 112 (roof drains to water feature)
COMPUTE NM HYD         112.D   -     3        .00023          .74        .029      2.35757    1.500    5.000 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD AP1.Ca AND 112.D
ADD HYD                AP1.C  2& 3   2        .00094         2.95        .115      2.29405    1.500    4.899
*S-----------------------------------------------------------------------------
*S ADD AP1.C AND AP1.B
ADD HYD                AP1.D  1& 2  13        .01852        56.25       2.207      2.23426    1.500    4.746
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 105 (roof drains to water feature)
COMPUTE NM HYD         105.D   -     1        .00206         6.52        .259      2.35757    1.500    4.944 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 113 (plaza drains to water feature or via surface flow to inlet
COMPUTE NM HYD         113.D   -     2        .00209         6.47        .255      2.28568    1.500    4.834 PER IMP=  95.00
*S-----------------------------------------------------------------------------
*S ADD 105.D AND 113.D
ADD HYD               AP1.Ea  1& 2   1        .00415        12.98        .514      2.32124    1.500    4.888
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 114 (roof drains to water feature)
COMPUTE NM HYD         114.D   -     2        .00103         3.26        .130      2.35756    1.500    4.950 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD AP1.Ea AND 114.D
```

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
										PAGE = 3
ADD HYD	AP1.Eb	1& 2	1	.00518	16.25	.643	2.32841	1.500	4.901	

```
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 108 (roof drains to water feature or via surface flow to inlet)
COMPUTE NM HYD         108.D   -     2        .00255         8.07        .321      2.35757    1.500    4.943 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD AP1.Eb AND 108.D
ADD HYD                AP1.E  1& 2   1        .00773        24.31        .964      2.33799    1.500    4.914
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 115a (surface flow to sump drop inlet)
COMPUTE NM HYD        115a.D   -     2        .00316         9.53        .373      2.21380    1.500    4.712 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD AP1.E AND 115a.D
ADD HYD               AP1.Fa  1& 2   1        .01089        33.84       1.337      2.30193    1.500    4.856
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 115b (surface flow to sump drop inlet)
COMPUTE NM HYD        115b.D   -     2        .00014          .43        .017      2.21380    1.500    4.831 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD AP1.D AND 115b.D
ADD HYD               AP1.Fb 13& 2   2        .01866        56.69       2.223      2.23409    1.500    4.747
*S-----------------------------------------------------------------------------
*S ADD AP1.Fa  AND AP1.Fb
ADD HYD                AP1.F  1& 2  14        .02955        90.53       3.560      2.25909    1.500    4.787
*S-----------------------------------------------------------------------------
*S*****************************************************************************
*S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL ************************
*S******************* AT ANALYSIS POINT 5B **************************************
*S*****************************************************************************
*S COMPUTE BASIN 503 (roof drains directly into storm drain)
```

Winrock Town Center
100-Year 24-Hour Duration Storm-Developed
AHYMO Summary File

```
COMPUTE NM HYD          503.D   -     1        .00337        10.66        .424      2.35757    1.500    4.942 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD 503.D  AND AP1.F
ADD HYD                 AP5.A  1&14   1        .03292       101.19       3.984      2.26916    1.500    4.803
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 502 (roof drains directly into storm drain)
COMPUTE NM HYD          502.D   -     2        .00305         9.65        .383      2.35757    1.500    4.942 PER IMP= 100.00
*S-----------------------------------------------------------------------------
*S ADD AP5.A AND 502.D
ADD HYD                 AP5.B  1& 2   1        .03597       110.83       4.368      2.27665    1.500    4.814
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 501 (surface flow to sump drop inlet)
COMPUTE NM HYD          501.D   -     2        .00822        24.76        .971      2.21380    1.500    4.707 PER IMP=  90.00
*S-----------------------------------------------------------------------------
*S ADD 501.D AND AP5.B
ADD HYD                 AP5.C  1& 2  50        .04419       135.59       5.338      2.26495    1.500    4.794
*S-----------------------------------------------------------------------------
FINISH
_(s0p10h4099T_&16D__
```

Winrock Town Center
100-Year 24-Hour Duration Storm-Developed
AHYMO Output File

```
_(s16.67h8.5v0T_&l8D

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             START TIME (HR:MIN:SEC) = 10:48:46     USER NO.= AHYMO-I-9702a01000150-SH
             INPUT FILE = G:\Proj\17093301\DRN_ST~1\AHYMO\WINDEV.dat


    *S Winrock Mall Renovation - Existing Drainage Analysis
    *S Data File: windev7.dat
    *S Compute 100-Year Flow
    *S Use 24 Hour Storm
    *S THIS STUDY IS TO DETERMINE THE FLOWS FOR STORMDRAIN CAPACITY
    *S
    START                   TIME=0.0   CODE 0     LINES -6

    *S*****************************************************************************
    *S USE COA DPM ZONE 3 RAINFALL
    *S*****************************************************************************
    RAINFALL                TYPE=-1 RAIN QUARTER=0.0 RAIN ONE=2.14
                                    RAIN SIX=2.60 RAIN DAY=3.10 DT=0.050


                   COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                   DT =     .050000 HOURS       END TIME =     6.000000 HOURS
    *S*****************************************************************************
    *S*****************************************************************************
    *S******************** TOTAL FLOW ENTERING EMBUDO CHANNEL ************************
    *S******************** AT ANALYSIS POINT 1L ***************************************
    *S-----------------------------------------------------------------------------
    *S COMPUTE BASIN 101a
    COMPUTE NM HYD          ID=1  HYD NO=101a.D DA=0.01014 SQ MI
                            PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                            MASS RAINFALL=-1

         K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
         UNIT PEAK =   36.111    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1400
         AREA =      .009126 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


         K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
         UNIT PEAK =   2.4538    CFS   UNIT VOLUME =    .9953       B =   321.84      P60 = 2.1400
         AREA =      .001014 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    PRINT HYD               ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 101a.D


        RUNOFF VOLUME =     2.21380 INCHES     =       1.1972 ACRE-FEET
        PEAK DISCHARGE RATE =      30.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0101 SQ. MI.


    *S-----------------------------------------------------------------------------
    *S DIVIDE 101a.D
    *S ID=2 IS INTO INLET
    *S ID=25 IS BYPASSING INLET TO INLET AP.1A
    DIVIDE HYD                ID=1 Q=31 ID I=2 HYD =101a.TO.INLET
                                            ID II=25 HYD =101a.BYPASS.INLET
    *S-----------------------------------------------------------------
    *S COMPUTE BASIN 106b (surface flow to landscape inlet)
    COMPUTE NM HYD          ID=3  HYD NO=106b.D DA=0.00080 SQ MI
                            PER A=0.00 PER B=50 PER C=50 PER D=0 TP=-.133
                            MASS RAINFALL=-1

         K =   .121011HR    TP =   .133000HR    K/TP RATIO =   .909858     SHAPE CONSTANT, N =  3.892621
         UNIT PEAK =   2.0929    CFS   UNIT VOLUME =    .9949       B =   347.95      P60 = 2.1400
         AREA =      .000800 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
         RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    PRINT HYD               ID=3   CODE=1

                                        HYDROGRAPH FROM AREA 106b.D


        RUNOFF VOLUME =     1.08861 INCHES     =        .0464 ACRE-FEET
        PEAK DISCHARGE RATE =       1.54 CFS  AT   1.500 HOURS   BASIN AREA =   .0008 SQ. MI.


    *S-----------------------------------------------------------------------------
    *S ADD 106b.D  AND 101a.D
    ADD HYD                 ID=11 HYD=AP1.G IDi=2 IDii=3
    PRINT HYD               ID=11 CODE=10

                                        HYDROGRAPH FROM AREA AP1.G

         TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
          HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
          .000       .0          1.500     32.1          3.000       .5          4.500       .2          6.000       .3
          .500       .0          2.000      7.5          3.500       .3          5.000       .2          6.500       .0
```

```
    1.000        .4          2.500       1.1          4.000        .3          5.500        .3          7.000        .0

   RUNOFF VOLUME =     2.13148 INCHES     =       1.2436 ACRE-FEET
   PEAK DISCHARGE RATE =      32.08 CFS  AT   1.500 HOURS   BASIN AREA =   .0109 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 109
COMPUTE NM HYD          ID=1  HYD NO=109.D DA=0.00025 SQ MI
                        PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                        MASS RAINFALL=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   .93978    CFS   UNIT VOLUME =    .9866       B =   526.28      P60 = 2.1400
    AREA =      .000238 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


    K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
    UNIT PEAK =   .30249E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
    AREA =      .000013 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=1   CODE=1

                                    HYDROGRAPH FROM AREA 109.D

   RUNOFF VOLUME =     2.28568 INCHES     =        .0305 ACRE-FEET
   PEAK DISCHARGE RATE =        .78 CFS  AT   1.500 HOURS   BASIN AREA =   .0003 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 110a
COMPUTE NM HYD          ID=2  HYD NO=110a.D DA=0.00016 SQ MI
                        PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                        MASS RAINFALL=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   .60146    CFS   UNIT VOLUME =    .9834       B =   526.28      P60 = 2.1400
    AREA =      .000152 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


    K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
    UNIT PEAK =   .19359E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
    AREA =      .000008 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=2   CODE=1

                                    HYDROGRAPH FROM AREA 110a.D


   RUNOFF VOLUME =     2.28568 INCHES     =        .0195 ACRE-FEET
   PEAK DISCHARGE RATE =        .50 CFS  AT   1.500 HOURS   BASIN AREA =   .0002 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 109.D AND 110a.D
ADD HYD                 ID=1 HYD=AP1.Hb IDi=1 IDii=2
PRINT HYD               ID=1 CODE=10

                                    HYDROGRAPH FROM AREA AP1.Hb

    TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
     HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
    .000       .0          1.500      1.3          3.000       .0          4.500       .0          6.000       .0
    .500       .0          2.000       .3          3.500       .0          5.000       .0
   1.000       .0          2.500       .0          4.000       .0          5.500       .0

   RUNOFF VOLUME =     2.28465 INCHES     =        .0500 ACRE-FEET
   PEAK DISCHARGE RATE =       1.29 CFS  AT   1.500 HOURS   BASIN AREA =   .0004 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 110b
COMPUTE NM HYD          ID=2  HYD NO=110b.D DA=0.00016 SQ MI
                        PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                        MASS RAINFALL=-1

    K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
    UNIT PEAK =   .60146    CFS   UNIT VOLUME =    .9834       B =   526.28      P60 = 2.1400
    AREA =      .000152 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
    RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


    K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
    UNIT PEAK =   .19359E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
    AREA =      .000008 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
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     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 110b.D


    RUNOFF VOLUME =     2.28568 INCHES     =        .0195 ACRE-FEET
    PEAK DISCHARGE RATE =        .50 CFS  AT   1.500 HOURS   BASIN AREA =   .0002 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Hb AND 110b.D
ADD HYD                ID=1 HYD=AP1.Hc IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                        HYDROGRAPH FROM AREA AP1.Hc

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500       1.8         3.000        .0         4.500        .0         6.000        .0
      .500        .0         2.000        .4         3.500        .0         5.000        .0
     1.000        .0         2.500        .1         4.000        .0         5.500        .0

    RUNOFF VOLUME =     2.28461 INCHES     =        .0695 ACRE-FEET
    PEAK DISCHARGE RATE =       1.79 CFS  AT   1.500 HOURS   BASIN AREA =   .0006 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 110c
COMPUTE NM HYD           ID=2  HYD NO=110c.D DA=0.00005 SQ MI
                         PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .18796    CFS   UNIT VOLUME =    .9364       B =   526.28      P60 = 2.1400
     AREA =      .000048 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .60497E-02CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
     AREA =      .000003 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 110c.D


    RUNOFF VOLUME =     2.28568 INCHES     =        .0061 ACRE-FEET
    PEAK DISCHARGE RATE =        .16 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Hc AND 110c.D
ADD HYD                ID=1 HYD=AP1.Hd IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                        HYDROGRAPH FROM AREA AP1.Hd

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500       2.0         3.000        .0         4.500        .0         6.000        .0
      .500        .0         2.000        .5         3.500        .0         5.000        .0
     1.000        .0         2.500        .1         4.000        .0         5.500        .0

    RUNOFF VOLUME =     2.28442 INCHES     =        .0755 ACRE-FEET
    PEAK DISCHARGE RATE =       1.96 CFS  AT   1.500 HOURS   BASIN AREA =   .0006 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 110d
COMPUTE NM HYD           ID=2  HYD NO=110d.D DA=0.00020 SQ MI
                         PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .75182    CFS   UNIT VOLUME =    .9866       B =   526.28      P60 = 2.1400
     AREA =      .000190 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .24199E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
     AREA =      .000010 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1
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                                HYDROGRAPH FROM AREA 110d.D

   RUNOFF VOLUME =      2.28569 INCHES     =        .0244 ACRE-FEET
   PEAK DISCHARGE RATE =        .63 CFS  AT   1.500 HOURS   BASIN AREA =   .0002 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Hc AND 110d.D
ADD HYD                ID=1 HYD=AP1.He IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                HYDROGRAPH FROM AREA AP1.He

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500      2.6          3.000       .0          4.500       .0          6.000       .0
      .500       .0          2.000       .6          3.500       .0          5.000       .0
     1.000       .0          2.500       .1          4.000       .0          5.500       .0

   RUNOFF VOLUME =      2.28442 INCHES     =        .0999 ACRE-FEET
   PEAK DISCHARGE RATE =       2.58 CFS  AT   1.500 HOURS   BASIN AREA =   .0008 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 107 (surface flow to sump inlet at AP1.H, 100% capture)
COMPUTE NM HYD         ID=2  HYD NO=107.D DA=0.00295 SQ MI
                       PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                       MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   10.506    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 2.1400
     AREA =      .002655 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .71387    CFS   UNIT VOLUME =    .9813       B =   321.84      P60 = 2.1400
     AREA =      .000295 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=2   CODE=1

                                HYDROGRAPH FROM AREA 107.D


   RUNOFF VOLUME =      2.21380 INCHES     =        .3483 ACRE-FEET
   PEAK DISCHARGE RATE =       8.90 CFS  AT   1.500 HOURS   BASIN AREA =   .0030 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Hd AND 107.D
ADD HYD                ID=1 HYD=AP1.H IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                HYDROGRAPH FROM AREA AP1.H

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     11.5          3.000       .2          4.500       .1          6.000       .1
      .500       .0          2.000      2.8          3.500       .1          5.000       .1          6.500       .0
     1.000       .2          2.500       .4          4.000       .1          5.500       .1

   RUNOFF VOLUME =      2.22909 INCHES     =        .4482 ACRE-FEET
   PEAK DISCHARGE RATE =      11.48 CFS  AT   1.500 HOURS   BASIN AREA =   .0038 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.H AND AP1.G
ADD HYD                ID=1 HYD=AP1.Ja IDi=1 IDii=11
PRINT HYD              ID=1 CODE=10

                                HYDROGRAPH FROM AREA AP1.Ja

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     43.6          3.000       .6          4.500       .3          6.000       .4
      .500       .0          2.000     10.3          3.500       .4          5.000       .3          6.500       .0
     1.000       .6          2.500      1.5          4.000       .4          5.500       .3          7.000       .0

   RUNOFF VOLUME =      2.15650 INCHES     =       1.6918 ACRE-FEET
   PEAK DISCHARGE RATE =      43.56 CFS  AT   1.500 HOURS   BASIN AREA =   .0147 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 110e
COMPUTE NM HYD         ID=2  HYD NO=110e.D DA=0.00075 SQ MI
                       PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                       MASS RAINFALL=-1
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```
K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   2.8193    CFS   UNIT VOLUME =    .9952       B =   526.28      P60 = 2.1400
AREA =       .000713 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
UNIT PEAK =   .90746E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
AREA =       .000038 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 110e.D


   RUNOFF VOLUME =     2.28569 INCHES     =        .0914 ACRE-FEET
   PEAK DISCHARGE RATE =       2.33 CFS  AT   1.500 HOURS   BASIN AREA =   .0008 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD AP1.Ja AND 110e.D
ADD HYD                ID=1 HYD=AP1.J IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.J

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     45.9          3.000       .6          4.500       .4          6.000       .4
      .500       .0          2.000     10.9          3.500       .4          5.000       .4          6.500       .0
     1.000       .6          2.500      1.6          4.000       .4          5.500       .4          7.000       .0

   RUNOFF VOLUME =     2.16275 INCHES     =       1.7832 ACRE-FEET
   PEAK DISCHARGE RATE =      45.89 CFS  AT   1.500 HOURS   BASIN AREA =   .0155 SQ. MI.

*S*****************************************************************************
*S*****************************************************************************
*S*****************************************************************************
*S*****************************************************************************
*S*****************************************************************************
*S*****************************************************************************
*S-----------------------------------------------------------------------------
*S-----------------------------------------------------------------------------
*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 102 (surface flow to sump inlet at AP1.A, 100% capture)
COMPUTE NM HYD         ID=1  HYD NO=102.D DA=0.00253 SQ MI
                       PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                       MASS RAINFALL=-1

K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   9.0100    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.1400
AREA =       .002277 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
UNIT PEAK =   .61223    CFS   UNIT VOLUME =    .9787       B =   321.84      P60 = 2.1400
AREA =       .000253 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=1   CODE=1

                                   HYDROGRAPH FROM AREA 102.D


   RUNOFF VOLUME =     2.21380 INCHES     =        .2987 ACRE-FEET
   PEAK DISCHARGE RATE =       7.63 CFS  AT   1.500 HOURS   BASIN AREA =   .0025 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 102.D AND 101a.BYPASS.INLET
ADD HYD                ID=1 HYD=AP1.Aa IDi=1 IDii=25
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.Aa

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500      7.6          3.000       .1          4.500       .1          6.000       .1
      .500       .0          2.000      1.8          3.500       .1          5.000       .1          6.500       .0
     1.000       .1          2.500       .3          4.000       .1          5.500       .1

   RUNOFF VOLUME =     2.21368 INCHES     =        .2987 ACRE-FEET
   PEAK DISCHARGE RATE =       7.63 CFS  AT   1.500 HOURS   BASIN AREA =   .0025 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 103 (surface flow to sump inlet in Dock, 100% capture)
COMPUTE NM HYD         ID=2  HYD NO=103.D DA=0.00014 SQ MI
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                    PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                    MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .55397    CFS   UNIT VOLUME =    .9793       B =   526.28      P60 = 2.1400
     AREA =      .000140 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 103.D


    RUNOFF VOLUME =     2.35757 INCHES     =        .0176 ACRE-FEET
    PEAK DISCHARGE RATE =        .45 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Aa AND 103.D
ADD HYD                ID=1 HYD=AP1.Aa IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.Aa

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0          1.500      8.1          3.000       .1          4.500       .1          6.000       .1
      .500       .0          2.000      2.0          3.500       .1          5.000       .1          6.500       .0
     1.000       .1          2.500       .3          4.000       .1          5.500       .1

    RUNOFF VOLUME =     2.22114 INCHES     =        .3163 ACRE-FEET
    PEAK DISCHARGE RATE =       8.09 CFS  AT   1.500 HOURS   BASIN AREA =   .0027 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 104 (roof drains directly to storm drain)
COMPUTE NM HYD          ID=2  HYD NO=104.D DA=0.00198 SQ MI
                        PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   7.8348    CFS   UNIT VOLUME =    .9979       B =   526.28      P60 = 2.1400
     AREA =      .001980 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 104.D


    RUNOFF VOLUME =     2.35756 INCHES     =        .2490 ACRE-FEET
    PEAK DISCHARGE RATE =       6.26 CFS  AT   1.500 HOURS   BASIN AREA =   .0020 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD 104.D AND AP1.Aa
ADD HYD                ID=1 HYD=AP1.A IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.A

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0          1.500     14.4          3.000       .2          4.500       .1          6.000       .1
      .500       .0          2.000      3.5          3.500       .1          5.000       .1          6.500       .0
     1.000       .2          2.500       .5          4.000       .1          5.500       .1

    RUNOFF VOLUME =     2.27917 INCHES     =        .5652 ACRE-FEET
    PEAK DISCHARGE RATE =      14.35 CFS  AT   1.500 HOURS   BASIN AREA =   .0047 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 106a (surface flows to sump inlet at AP1.B)
COMPUTE NM HYD          ID=2  HYD NO=106a.D DA=0.00301 SQ MI
                        PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   10.719    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 2.1400
     AREA =      .002709 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .72839    CFS   UNIT VOLUME =    .9836       B =   321.84      P60 = 2.1400
     AREA =      .000301 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=2   CODE=1
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                                   HYDROGRAPH FROM AREA 106a.D

    RUNOFF VOLUME =      2.21380 INCHES      =         .3554 ACRE-FEET
    PEAK DISCHARGE RATE =        9.08 CFS  AT   1.500 HOURS   BASIN AREA =   .0030 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 101b (surface flows to sump inlet at AP1.B)
COMPUTE NM HYD           ID=3  HYD NO=101b.D DA=0.00992 SQ MI
                         PER A=0.00 PER B=10.00 PER C=0.00 PER D=90.00 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   35.328    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1400
     AREA =       .008928 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   2.4005    CFS   UNIT VOLUME =    .9953       B =   321.84      P60 = 2.1400
     AREA =       .000992 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=3   CODE=1

                                   HYDROGRAPH FROM AREA 101b.D

    RUNOFF VOLUME =      2.21380 INCHES      =        1.1712 ACRE-FEET
    PEAK DISCHARGE RATE =       29.88 CFS  AT   1.500 HOURS   BASIN AREA =   .0099 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD BYPASS FROM INLET 101b.D TO 106a.D (TOTAL SURFACE FLOW TO INLETS AT AP1.B
ADD HYD                  ID=2 HYD=AP1.Ba IDi=2 IDii=3
PRINT HYD                ID=2 CODE=10

                                   HYDROGRAPH FROM AREA AP1.Ba

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     39.0          3.000       .6          4.500       .3          6.000       .3
      .500       .0          2.000      9.4          3.500       .4          5.000       .3          6.500       .0
     1.000       .5          2.500      1.4          4.000       .3          5.500       .3          7.000       .0

    RUNOFF VOLUME =      2.21376 INCHES      =        1.5266 ACRE-FEET
    PEAK DISCHARGE RATE =       38.96 CFS  AT   1.500 HOURS   BASIN AREA =   .0129 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.A AND AP1.Ba
ADD HYD                  ID=1 HYD=AP1.B IDi=1 IDii=2
PRINT HYD                ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.B

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     53.3          3.000       .8          4.500       .4          6.000       .5
      .500       .0          2.000     12.9          3.500       .5          5.000       .4          6.500       .0
     1.000       .7          2.500      1.9          4.000       .5          5.500       .4          7.000       .0

    RUNOFF VOLUME =      2.23106 INCHES      =        2.0918 ACRE-FEET
    PEAK DISCHARGE RATE =       53.31 CFS  AT   1.500 HOURS   BASIN AREA =   .0176 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 106c (surface flows to sump inlet at AP1.C)
COMPUTE NM HYD           ID=2  HYD NO=106c.D DA=0.00041 SQ MI
                         PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                         MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   1.4601    CFS   UNIT VOLUME =    .9912       B =   526.28      P60 = 2.1400
     AREA =       .000369 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =   .99215E-01CFS   UNIT VOLUME =    .8729       B =   321.84      P60 = 2.1400
     AREA =       .000041 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD                ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 106c.D

    RUNOFF VOLUME =      2.21380 INCHES      =         .0484 ACRE-FEET
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    PEAK DISCHARGE RATE =      1.25 CFS  AT   1.500 HOURS   BASIN AREA =   .0004 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 111 (roof drains to water feature)
COMPUTE NM HYD          ID=3  HYD NO=111.D DA=0.00030 SQ MI
                        PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   1.1871    CFS   UNIT VOLUME =    .9892       B =   526.28      P60 = 2.1400
     AREA =      .000300 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=3   CODE=1

                                        HYDROGRAPH FROM AREA 111.D


    RUNOFF VOLUME =     2.35757 INCHES     =        .0377 ACRE-FEET
    PEAK DISCHARGE RATE =        .96 CFS  AT   1.500 HOURS   BASIN AREA =   .0003 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD 106c.D AND 111.D
ADD HYD               ID=2 HYD=AP1.Ca IDi=2 IDii=3
PRINT HYD             ID=2 CODE=10

                                        HYDROGRAPH FROM AREA AP1.Ca

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500       2.2         3.000        .0         4.500        .0         6.000        .0
      .500        .0         2.000        .5         3.500        .0         5.000        .0
     1.000        .0         2.500        .1         4.000        .0         5.500        .0

    RUNOFF VOLUME =     2.27379 INCHES     =        .0861 ACRE-FEET
    PEAK DISCHARGE RATE =       2.21 CFS  AT   1.500 HOURS   BASIN AREA =   .0007 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 112 (roof drains to water feature)
COMPUTE NM HYD          ID=3  HYD NO=112.D DA=0.00023 SQ MI
                        PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                        MASS RAINFALL=-1

     K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .91010    CFS   UNIT VOLUME =    .9866       B =   526.28      P60 = 2.1400
     AREA =      .000230 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD               ID=3   CODE=1

                                        HYDROGRAPH FROM AREA 112.D


    RUNOFF VOLUME =     2.35757 INCHES     =        .0289 ACRE-FEET
    PEAK DISCHARGE RATE =        .74 CFS  AT   1.500 HOURS   BASIN AREA =   .0002 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Ca AND 112.D
ADD HYD               ID=2 HYD=AP1.C IDi=2 IDii=3
PRINT HYD             ID=2 CODE=10

                                        HYDROGRAPH FROM AREA AP1.C

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500       2.9         3.000        .0         4.500        .0         6.000        .0
      .500        .0         2.000        .7         3.500        .0         5.000        .0
     1.000        .0         2.500        .1         4.000        .0         5.500        .0

    RUNOFF VOLUME =     2.29405 INCHES     =        .1150 ACRE-FEET
    PEAK DISCHARGE RATE =       2.95 CFS  AT   1.500 HOURS   BASIN AREA =   .0009 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.C AND AP1.B
ADD HYD               ID=13 HYD=AP1.D IDi=1 IDii=2
PRINT HYD             ID=13 CODE=10

                                        HYDROGRAPH FROM AREA AP1.D

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         1.500      56.3         3.000        .8         4.500        .5         6.000        .5
      .500        .0         2.000      13.6         3.500        .6         5.000        .5         6.500        .0
     1.000        .8         2.500       2.0         4.000        .5         5.500        .5         7.000        .0
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    RUNOFF VOLUME =      2.23426 INCHES      =        2.2068 ACRE-FEET
    PEAK DISCHARGE RATE =       56.25 CFS  AT   1.500 HOURS   BASIN AREA =    .0185 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 105 (roof drains to water feature)
COMPUTE NM HYD           ID=1  HYD NO=105.D DA=0.00206 SQ MI
                         PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                         MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    8.1513    CFS   UNIT VOLUME =     .9979       B =   526.28      P60 = 2.1400
     AREA =       .002060 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 105.D


    RUNOFF VOLUME =      2.35757 INCHES      =         .2590 ACRE-FEET
    PEAK DISCHARGE RATE =        6.52 CFS  AT   1.500 HOURS   BASIN AREA =    .0021 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 113 (plaza drains to water feature or via surface flow to inlet
COMPUTE NM HYD           ID=2  HYD NO=113.D DA=0.00209 SQ MI
                         PER A=0.00 PER B=5 PER C=0 PER D=95 TP=-.133
                         MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    7.8565    CFS   UNIT VOLUME =     .9979       B =   526.28      P60 = 2.1400
     AREA =       .001986 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


     K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .25288    CFS   UNIT VOLUME =     .9476       B =   321.84      P60 = 2.1400
     AREA =       .000105 SQ MI    IA =     .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 113.D


    RUNOFF VOLUME =      2.28568 INCHES      =         .2548 ACRE-FEET
    PEAK DISCHARGE RATE =        6.47 CFS  AT   1.500 HOURS   BASIN AREA =    .0021 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 105.D AND 113.D
ADD HYD                 ID=1 HYD=AP1.Ea IDi=1 IDii=2
PRINT HYD               ID=1 CODE=10

                                        HYDROGRAPH FROM AREA AP1.Ea

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     13.0          3.000       .2          4.500       .1          6.000       .1
      .500       .0          2.000      3.2          3.500       .1          5.000       .1          6.500       .0
     1.000       .2          2.500       .5          4.000       .1          5.500       .1

    RUNOFF VOLUME =      2.32124 INCHES      =         .5138 ACRE-FEET
    PEAK DISCHARGE RATE =       12.98 CFS  AT   1.500 HOURS   BASIN AREA =    .0042 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 114 (roof drains to water feature)
COMPUTE NM HYD           ID=2  HYD NO=114.D DA=0.00103 SQ MI
                         PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                         MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    4.0757    CFS   UNIT VOLUME =     .9966       B =   526.28      P60 = 2.1400
     AREA =       .001030 SQ MI    IA =     .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD                ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 114.D


    RUNOFF VOLUME =      2.35756 INCHES      =         .1295 ACRE-FEET
    PEAK DISCHARGE RATE =        3.26 CFS  AT   1.500 HOURS   BASIN AREA =    .0010 SQ. MI.


*S-----------------------------------------------------------------------------
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*S ADD AP1.Ea AND 114.D
ADD HYD                ID=1 HYD=AP1.Eb IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.Eb

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
     .000        .0          1.500     16.2          3.000       .2          4.500       .1          6.000       .1
     .500        .0          2.000      4.0          3.500       .2          5.000       .1          6.500       .0
    1.000        .2          2.500       .6          4.000       .1          5.500       .1

    RUNOFF VOLUME =      2.32841 INCHES      =        .6433 ACRE-FEET
    PEAK DISCHARGE RATE =      16.25 CFS  AT   1.500 HOURS   BASIN AREA =   .0052 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 108 (roof drains to water feature or via surface flow to inlet)
COMPUTE NM HYD          ID=2  HYD NO=108.D DA=0.00255 SQ MI
                        PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   10.090    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 2.1400
     AREA =       .002550 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000
PRINT HYD               ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 108.D


    RUNOFF VOLUME =      2.35757 INCHES      =        .3206 ACRE-FEET
    PEAK DISCHARGE RATE =       8.07 CFS  AT   1.500 HOURS   BASIN AREA =   .0026 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.Eb AND 108.D
ADD HYD                ID=1 HYD=AP1.E IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.E

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
     .000        .0          1.500     24.3          3.000       .4          4.500       .2          6.000       .2
     .500        .0          2.000      6.0          3.500       .3          5.000       .2          6.500       .0
    1.000        .4          2.500       .9          4.000       .2          5.500       .2

    RUNOFF VOLUME =      2.33799 INCHES      =        .9639 ACRE-FEET
    PEAK DISCHARGE RATE =      24.31 CFS  AT   1.500 HOURS   BASIN AREA =   .0077 SQ. MI.


*S--------------------------------------------------------------------------
*S COMPUTE BASIN 115a (surface flow to sump drop inlet)
COMPUTE NM HYD          ID=2  HYD NO=115a.D DA=0.00316 SQ MI
                        PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.254    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 2.1400
     AREA =       .002844 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

     K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .76468    CFS   UNIT VOLUME =    .9836       B =   321.84      P60 = 2.1400
     AREA =       .000316 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD               ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 115a.D


    RUNOFF VOLUME =      2.21380 INCHES      =        .3731 ACRE-FEET
    PEAK DISCHARGE RATE =       9.53 CFS  AT   1.500 HOURS   BASIN AREA =   .0032 SQ. MI.


*S--------------------------------------------------------------------------
*S ADD AP1.E AND 115a.D
ADD HYD                ID=1 HYD=AP1.Fa IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP1.Fa

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
     .000        .0          1.500     33.8          3.000       .5          4.500       .3          6.000       .3
     .500        .0          2.000      8.3          3.500       .3          5.000       .3          6.500       .0
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     1.000        .5          2.500       1.2          4.000        .3          5.500        .3

    RUNOFF VOLUME =      2.30193 INCHES      =       1.3370 ACRE-FEET
    PEAK DISCHARGE RATE =       33.84 CFS  AT   1.500 HOURS   BASIN AREA =   .0109 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 115b (surface flow to sump drop inlet)
COMPUTE NM HYD          ID=2  HYD NO=115b.D DA=0.00014 SQ MI
                        PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =    .49858    CFS   UNIT VOLUME =     .9793       B =   526.28      P60 = 2.1400
     AREA =       .000126 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000


     K =    .133355HR    TP =    .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
     UNIT PEAK =    .33878E-01CFS   UNIT VOLUME =     .8729       B =   321.84      P60 = 2.1400
     AREA =       .000014 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD               ID=2   CODE=1

                                    HYDROGRAPH FROM AREA 115b.D


    RUNOFF VOLUME =      2.21380 INCHES      =        .0165 ACRE-FEET
    PEAK DISCHARGE RATE =        .43 CFS  AT   1.500 HOURS   BASIN AREA =   .0001 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD AP1.D AND 115b.D
ADD HYD                 ID=2 HYD=AP1.Fb IDi=13 IDii=2
PRINT HYD               ID=2 CODE=10

                                    HYDROGRAPH FROM AREA AP1.Fb

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     56.7          3.000       .8          4.500       .5          6.000       .5
      .500       .0          2.000     13.7          3.500       .6          5.000       .5          6.500       .0
     1.000       .8          2.500      2.0          4.000       .5          5.500       .5          7.000       .0

    RUNOFF VOLUME =      2.23409 INCHES      =       2.2234 ACRE-FEET
    PEAK DISCHARGE RATE =       56.69 CFS  AT   1.500 HOURS   BASIN AREA =   .0187 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD AP1.Fa  AND AP1.Fb
ADD HYD                 ID=14 HYD=AP1.F IDi=1 IDii=2
PRINT HYD               ID=14 CODE=10

                                    HYDROGRAPH FROM AREA AP1.F

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
      .000       .0          1.500     90.5          3.000      1.3          4.500       .7          6.000       .8
      .500       .0          2.000     22.1          3.500       .9          5.000       .7          6.500       .0
     1.000      1.3          2.500      3.2          4.000       .8          5.500       .8          7.000       .0

    RUNOFF VOLUME =      2.25909 INCHES      =       3.5603 ACRE-FEET
    PEAK DISCHARGE RATE =       90.53 CFS  AT   1.500 HOURS   BASIN AREA =   .0296 SQ. MI.


*S-----------------------------------------------------------------------------

*S****************************************************************************

*S******************* TOTAL FLOW ENTERING EMBUDO CHANNEL ***********************

*S******************* AT ANALYSIS POINT 5B *************************************

*S****************************************************************************
*S COMPUTE BASIN 503 (roof drains directly into storm drain)
COMPUTE NM HYD          ID=1  HYD NO=503.D DA=0.00337 SQ MI
                        PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                        MASS RAINFALL=-1

     K =    .072485HR    TP =    .133000HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   13.335    CFS   UNIT VOLUME =     .9983       B =   526.28      P60 = 2.1400
     AREA =       .003370 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .050000

PRINT HYD               ID=1   CODE=1

                                    HYDROGRAPH FROM AREA 503.D
```

Winrock Town Center
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AHYMO Output File

```
RUNOFF VOLUME =      2.35757 INCHES      =         .4237 ACRE-FEET
PEAK DISCHARGE RATE =       10.66 CFS  AT   1.500 HOURS   BASIN AREA =   .0034 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 503.D  AND AP1.F
ADD HYD                ID=1 HYD=AP5.A IDi=1 IDii=14
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP5.A

  TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
   .000       .0          1.500     101.2          3.000      1.5          4.500       .8          6.000       .9
   .500       .0          2.000      24.7          3.500      1.0          5.000       .8          6.500       .0
  1.000      1.4          2.500       3.6          4.000       .9          5.500       .9          7.000       .0

RUNOFF VOLUME =      2.26916 INCHES      =       3.9840 ACRE-FEET
PEAK DISCHARGE RATE =      101.19 CFS  AT   1.500 HOURS   BASIN AREA =   .0329 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 502 (roof drains directly into storm drain)
COMPUTE NM HYD         ID=2  HYD NO=502.D DA=0.00305 SQ MI
                       PER A=0.00 PER B=0 PER C=0 PER D=100 TP=-.133
                       MASS RAINFALL=-1

K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   12.069    CFS   UNIT VOLUME =    .9983       B =   526.28      P60 = 2.1400
AREA =      .003050 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 502.D


RUNOFF VOLUME =      2.35757 INCHES      =         .3835 ACRE-FEET
PEAK DISCHARGE RATE =        9.65 CFS  AT   1.500 HOURS   BASIN AREA =   .0031 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD AP5.A AND 502.D
ADD HYD                ID=1 HYD=AP5.B IDi=1 IDii=2
PRINT HYD              ID=1 CODE=10

                                   HYDROGRAPH FROM AREA AP5.B

  TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
   HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS            HRS      CFS
   .000       .0          1.500     110.8          3.000      1.6          4.500       .9          6.000      1.0
   .500       .0          2.000      27.1          3.500      1.1          5.000       .9          6.500       .0
  1.000      1.6          2.500       3.9          4.000      1.0          5.500       .9          7.000       .0

RUNOFF VOLUME =      2.27665 INCHES      =       4.3675 ACRE-FEET
PEAK DISCHARGE RATE =      110.83 CFS  AT   1.500 HOURS   BASIN AREA =   .0360 SQ. MI.


*S-----------------------------------------------------------------------------
*S COMPUTE BASIN 501 (surface flow to sump drop inlet)
COMPUTE NM HYD         ID=2  HYD NO=501.D DA=0.00822 SQ MI
                       PER A=0.00 PER B=10 PER C=0 PER D=90 TP=-.133
                       MASS RAINFALL=-1

K =   .072485HR    TP =   .133000HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
UNIT PEAK =   29.274    CFS   UNIT VOLUME =    .9987       B =   526.28      P60 = 2.1400
AREA =      .007398 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


K =   .133355HR    TP =   .133000HR    K/TP RATIO =  1.002670     SHAPE CONSTANT, N =  3.520804
UNIT PEAK =   1.9891    CFS   UNIT VOLUME =    .9946       B =   321.84      P60 = 2.1400
AREA =      .000822 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

PRINT HYD              ID=2   CODE=1

                                   HYDROGRAPH FROM AREA 501.D


RUNOFF VOLUME =      2.21380 INCHES      =         .9705 ACRE-FEET
PEAK DISCHARGE RATE =       24.76 CFS  AT   1.500 HOURS   BASIN AREA =   .0082 SQ. MI.


*S-----------------------------------------------------------------------------
*S ADD 501.D AND AP5.B
ADD HYD                ID=50 HYD=AP5.C IDi=1 IDii=2
PRINT HYD              ID=50 CODE=10
```

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HYDROGRAPH FROM AREA AP5.C

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.500	135.6	3.000	2.0	4.500	1.1	6.000	1.2
.500	.0	2.000	33.1	3.500	1.4	5.000	1.1	6.500	.1
1.000	1.9	2.500	4.8	4.000	1.2	5.500	1.1	7.000	.0

RUNOFF VOLUME = 2.26495 INCHES = 5.3380 ACRE-FEET
PEAK DISCHARGE RATE = 135.59 CFS AT 1.500 HOURS BASIN AREA = .0442 SQ. MI.

```
*S-----------------------------------------------------------------------
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 10:48:46
_(s0p10h4099T_&16D__
```

Appendix D

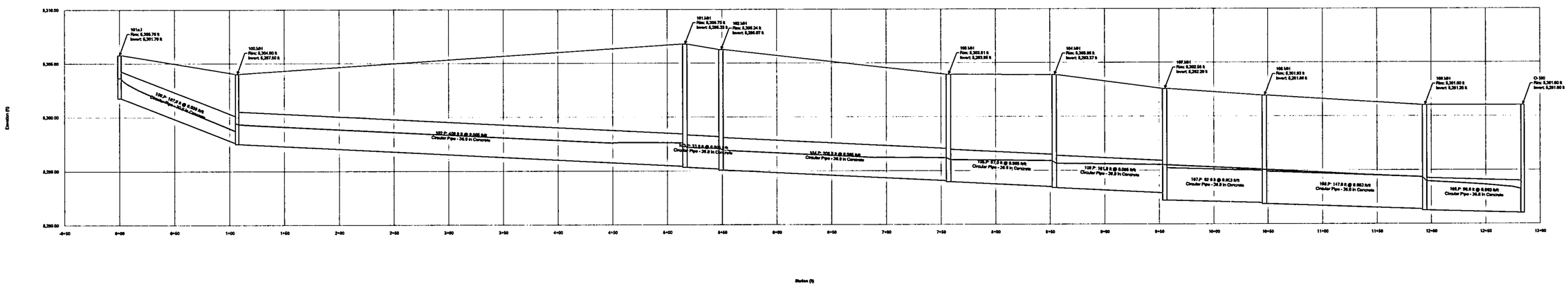
Conduit FlexTable: DOT Report (STORM.stc)

Label	-Ground - Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Invert- Upstream Downstream (ft)	Velocity (Average) (ft/s)	Flow (ft^3/s)	Length (Scaled) (ft)	Slope (ft/ft)	Conduit Description
100.P	5,305.76	5,303.64	5,301.76	15.33	30.54	106.7	0.039	Circular Pipe - 30.0 in
	5,304.00	5,299.53	5,297.50			106.7		
101.P	5,303.86	5,299.41	5,298.66	6.85	1.54	26.6	0.043	Circular Pipe - 24.0 in
	5,304.00	5,299.43	5,297.50			26.6		
102.P	5,304.00	5,299.34	5,297.50	7.21	32.08	409.1	0.005	Circular Pipe - 36.0 in
	5,306.75	5,297.59	5,295.33			409.1		
103.P	5,306.75	5,297.17	5,295.33	7.09	32.08	33.3	0.005	Circular Pipe - 36.0 in
	5,306.24	5,297.09	5,295.07			33.3		
104.P	5,306.24	5,296.91	5,295.07	7.12	32.08	208.1	0.005	Circular Pipe - 36.0 in
	5,303.91	5,296.17	5,293.95			208.1		
105.P	5,303.91	5,295.98	5,293.95	7.15	32.08	97.1	0.005	Circular Pipe - 36.0 in
	5,303.86	5,295.89	5,293.37			97.1		
106.P	5,303.86	5,295.63	5,293.37	7.09	32.08	100.7	0.005	Circular Pipe - 36.0 in
	5,302.55	5,295.51	5,292.20			100.7		
107.P	5,302.55	5,295.46	5,292.20	6.16	43.55	92.0	0.003	Circular Pipe - 36.0 in
	5,301.93	5,295.07	5,291.86			92.0		
108.P	5,301.93	5,295.02	5,291.86	6.49	45.88	147.1	0.003	Circular Pipe - 36.0 in
	5,301.00	5,294.33	5,291.25			147.1		
109.P	5,301.00	5,293.94	5,291.25	6.49	45.88	89.8	0.003	Circular Pipe - 36.0 in
	5,301.00	5,293.21	5,291.00			89.8		
110.P	5,299.00	5,296.18	5,295.00	2.78	0.78	56.8	0.005	Circular Pipe - 18.0 in
	5,300.80	5,296.18	5,294.60			56.8		
111.P	5,300.80	5,296.18	5,294.60	0.44	0.78	48.7	0.005	Circular Pipe - 18.0 in
	5,299.00	5,296.17	5,294.25			48.7		
112.P	5,299.00	5,296.17	5,294.25	0.72	1.28	85.4	0.005	Circular Pipe - 18.0 in
	5,300.00	5,296.16	5,293.70			85.4		
113.P	5,300.00	5,296.15	5,293.70	1.01	1.78	72.0	0.005	Circular Pipe - 18.0 in
	5,298.67	5,296.13	5,293.23			72.0		
114.P	5,298.67	5,296.12	5,293.23	1.10	1.94	23.6	0.005	Circular Pipe - 18.0 in
	5,299.45	5,296.12	5,293.00			23.6		
115.P	5,299.45	5,296.10	5,293.00	1.10	1.94	49.6	0.005	Circular Pipe - 18.0 in
	5,300.99	5,296.09	5,292.64			49.6		
116.P	5,300.99	5,296.08	5,292.64	1.45	2.57	43.0	0.005	Circular Pipe - 18.0 in
	5,302.28	5,296.05	5,292.32			43.0		
117.P	5,302.28	5,295.93	5,292.32	3.65	11.47	10.4	0.002	Circular Pipe - 24.0 in
	5,302.55	5,295.91	5,292.20			10.4		
118.P	5,295.55	5,295.06	5,292.55	1.32	2.33	42.5	0.014	Circular Pipe - 18.0 in
	5,301.93	5,295.04	5,291.86			42.5		
120.P	5,295.55	5,295.61	5,292.25	4.57	14.35	102.1	0.002	Circular Pipe - 24.0 in
	5,296.40	5,295.20	5,291.65			102.1		
121.P	5,296.40	5,294.86	5,291.65	4.57	14.35	209.8	0.006	Circular Pipe - 24.0 in
	5,294.87	5,294.02	5,289.37			209.8		
122.P	5,294.59	5,294.72	5,291.00	12.40	38.96	20.7	0.025	Circular Pipe - 24.0 in
	5,294.87	5,294.10	5,289.37			20.7		
123.P	5,294.87	5,293.90	5,289.37	4.24	53.31	64.1	0.003	Circular Pipe - 48.0 in

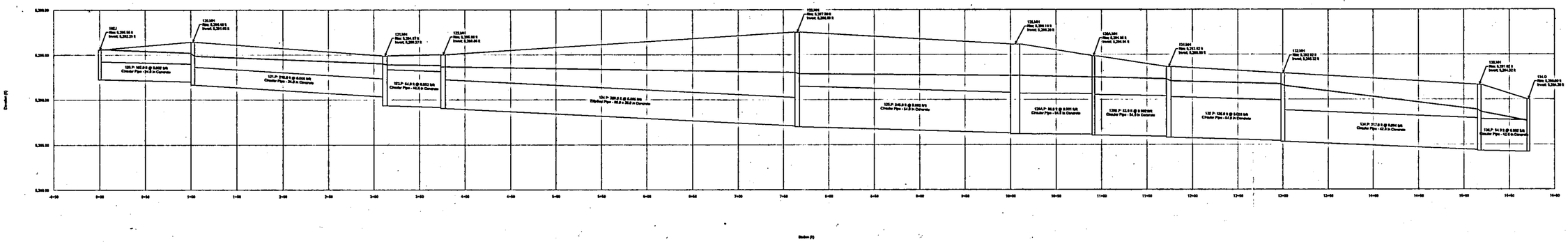
Conduit FlexTable: DOT Report (STORM.stc)

Label	-Ground - Upstream Downstream (ft)	-HGL- Upstream Downstream (ft)	-Invert- Upstream Downstream (ft)	Velocity (Average) (ft/s)	Flow (ft³/s)	Length (Scaled) (ft)	Slope (ft/ft)	Conduit Description
	5,295.00	5,293.82	5,289.06			64.1		
124.P	5,295.00	5,293.67	5,289.06	4.18	56.26	389.3	0.005	Elliptical Pipe - 60.0 x 38.0 in
	5,297.50	5,293.02	5,286.99			389.3		
124.P	5,294.77	5,293.78	5,289.50	1.67	2.95	128.3	0.003	Circular Pipe - 18.0 in
	5,295.00	5,293.68	5,289.06			128.3		
125.P	5,298.11	5,294.24	5,294.00	3.16	0.43	16.2	0.012	Circular Pipe - 18.0 in
	5,297.50	5,294.00	5,286.99			16.2		
125.P	5,297.50	5,292.87	5,286.99	3.56	56.69	239.9	0.003	Circular Pipe - 54.0 in
	5,296.16	5,292.67	5,286.20			239.9		
126.P	5,294.50	5,294.37	5,290.50	4.95	24.31	90.5	0.010	Circular Pipe - 30.0 in
	5,295.50	5,294.05	5,289.50			90.5		
127.P	5,295.50	5,293.88	5,289.50	4.95	24.31	103.0	0.010	Circular Pipe - 30.0 in
	5,294.23	5,293.52	5,288.40			103.0		
128.P	5,294.23	5,293.37	5,288.40	6.89	33.84	102.5	0.021	Circular Pipe - 30.0 in
	5,296.16	5,292.67	5,286.20			102.5		
129A.P	5,296.16	5,292.67	5,286.20	5.69	90.53	86.2	0.001	Circular Pipe - 54.0 in
	5,294.85	5,292.49	5,286.04			86.2		
129B.P	5,294.85	5,292.49	5,286.04	6.36	101.19	83.5	0.002	Circular Pipe - 54.0 in
	5,293.62	5,292.27	5,285.80			83.5		
130.P	5,294.82	5,298.37	5,293.52	13.57	10.66	32.2	0.221	Circular Pipe - 12.0 in
	5,295.50	5,295.50	5,286.44			32.2		
131.P	5,295.50	5,295.71	5,286.44	13.57	10.66	36.0	0.011	Circular Pipe - 12.0 in
	5,294.85	5,292.49	5,286.04			36.0		
132.P	5,293.62	5,292.04	5,285.80	6.36	101.19	125.6	0.003	Circular Pipe - 54.0 in
	5,292.92	5,291.70	5,285.32			125.6		
133.P	5,290.75	5,320.21	5,288.35	12.29	9.65	371.7	0.003	Circular Pipe - 12.0 in
	5,292.92	5,292.92	5,285.32			371.7		
134.P	5,292.92	5,291.52	5,285.32	11.52	110.84	216.7	0.004	Circular Pipe - 42.0 in
	5,291.62	5,288.88	5,284.32			216.7		
135.P	5,290.24	5,291.74	5,287.04	14.01	24.76	47.2	0.056	Circular Pipe - 18.0 in
	5,291.62	5,289.13	5,284.32			47.2		
136.P	5,291.62	5,288.62	5,284.32	14.09	135.60	54.3	0.002	Circular Pipe - 42.0 in
	5,290.00	5,287.54	5,284.20			54.3		

Profile Report
Engineering Profile - SYSTEM 100 (STORM.stc)



Profile Report
Engineering Profile - SYSTEM 100-500 (STORM.stc)



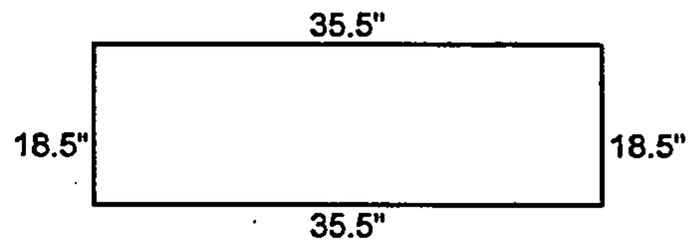
Appendix G

Inlet Worksheet for Inlet 1A (Sump Conditions)

Objective: Analyze an Existing Single Type C Inlet in Sump Condition for a max flow of: 7.63

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=8.75 in (0.73 ft) - Not 6" because standard inlet has 8.75" depression

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Single 'C' = 2*18.5" + 2*35.5" = 9.00 ft
Area of Orifice - Single 'C' = 18.5" x 35.5" = 4.56 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	4.56 sq. ft.	P=	9.0 ft
g =	32.2 ft ^2/sec	H=	0.73 ft
h =	0.73 ft		
Therefore		Therefore	
Q =	18.8 cfs	Q =	20.4 cfs

Weir Equation controls
Single "C" Inlet Grate Capacity @ TBC = 18.8 cfs

4 Calculate Inlet Throat Capacity Using Weir Equation at Design Depth (4.25 in)

Weir Equation	
Q=2.65 x P x H^1/2	
Where	
P=	7.0 ft
H=	0.35 ft
Therefore	
Q =	11.0 cfs

Single "C" Inlet Throat Capacity = 11.0 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **29.7 cfs**
Minus Grate Clogging Factor of 25% **4.69 cfs**

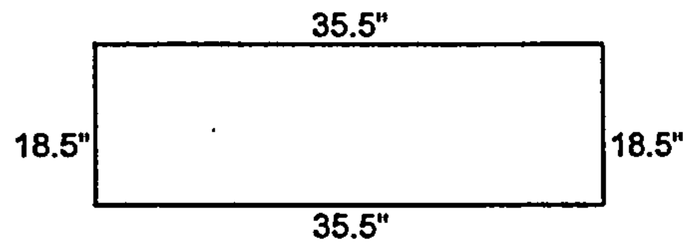
Therefore Capacity of Single C Inlet in Sump Condition = ***25.0 cfs.***

Inlet Worksheet for Inlet 1B (Sump Conditions)

Objective: Design a Double Type C Inlet in Sump Condition for a maximum 100-year flow of: 38.96

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=8.75 in (0.73 ft) - Not 6" because standard inlet has 8.75" depression

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Double 'C' = 2*18.5" + 4*35.5" = 15.00 ft
Area of Orifice - Double 'C' = 2*(18.5" x 35.5") = 9.12 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	9.12 sq. ft.	P=	15.0 ft
g =	32.2 ft ^2/sec	H=	0.73 ft
h =	0.73 ft		
Therefore		Therefore	
Q =	37.5 cfs	Q =	34.0 cfs

Weir Equation controls
Double "C" Inlet Grate Capacity @ TBC = 37.5 cfs

4 Calculate Inlet Throat Capacity Using Weir Equation at Design Depth (4.25 in)

Weir Equation	
Q=2.65 x P x H^1/2	
Where	
P=	7.0 ft
H=	0.35 ft
Therefore	
Q =	11.0 cfs

Double "C" Inlet Throat Capacity = 11.0 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **48.5 cfs**
Minus Grate Clogging Factor of 25% **9.38 cfs**

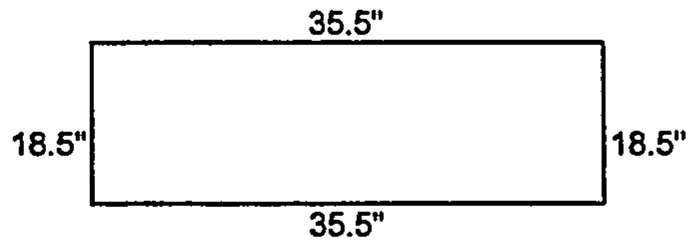
Therefore Capacity of Single C Inlet in Sump Condition = ***39.1 cfs.***

Inlet Worksheet for Inlet 1C (Sump Conditions)

Objective: Design a Single Type C Inlet in Sump Condition for a maximum 100-year flow of: 1.25

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=8.75 in (0.73 ft) - Not 6" because standard inlet has 8.75" depression

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Single 'C' = 2*18.5" + 2*35.5" = 9.00 ft
Area of Orifice - Single 'C' = 18.5" x 35.5" = 4.56 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	4.56 sq. ft.	P=	9.0 ft
g =	32.2 ft ^2/sec	H=	0.73 ft
h =	0.73 ft		
Therefore		Therefore	
Q =	18.8 cfs	Q =	20.4 cfs

Weir Equation controls
Single "C" Inlet Grate Capacity @ TBC = 18.8 cfs

4 Calculate Inlet Throat Capacity Using Weir Equation at Design Depth (4.25 in)

Weir Equation	
Q=2.65 x P x H^1/2	
Where	
P=	7.0 ft
H=	0.35 ft
Therefore	
Q =	11.0 cfs

Single "C" Inlet Throat Capacity = 11.0 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **29.7 cfs**
Minus Grate Clogging Factor of 25% **4.69 cfs**

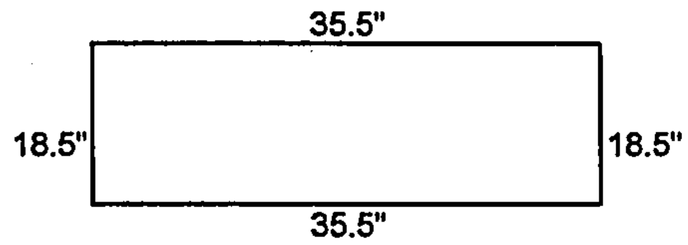
Therefore Capacity of Single C Inlet in Sump Condition = ***25.0 cfs.***

Inlet Worksheet for Inlet 1F (Sump Conditions)

Objective: Design a Single Type D Inlet in Sump Condition for a maximum 100-year flow of: 9.53

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=6in (0.5 ft)

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Single 'D' = 2*18.5" + 2*35.5" = 9.00 ft
Area of Orifice - Single 'D' = 18.5" x 35.5" = 4.56 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	4.56 sq. ft.	P=	9.0 ft
g =	32.2 ft ^2/sec	H=	0.5 ft
h =	0.5 ft		
Therefore		Therefore	
Q =	15.5 cfs	Q =	16.9 cfs

Weir Equation controls
Single "D" Inlet Grate Capacity @ TBC = 15.5 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **15.5 cfs**
Minus Grate Clogging Factor of 25% **3.88 cfs**

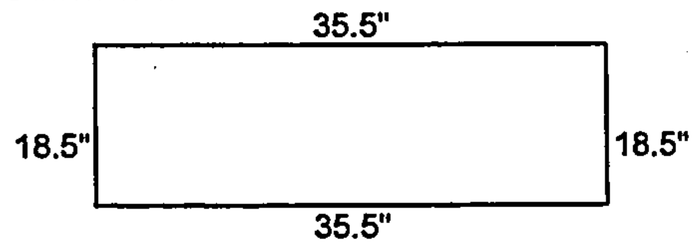
Therefore Capacity of Single D Inlet in Sump Condition = ***11.6 cfs.***

Inlet Worksheet for Inlet 1H (Sump Conditions)

Objective: Design a Single Type C Inlet in Sump Condition for a maximum 100-year flow of: 8.9

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=8.75 in (0.73 ft) - Not 6" because standard inlet has 8.75" depression

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Single 'C' = 2*18.5" + 2*35.5" = 9.00 ft
Area of Orifice - Single 'C' = 18.5" x 35.5" = 4.56 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	4.56 sq. ft.	P=	9.0 ft
g =	32.2 ft ^2/sec	H=	0.73 ft
h =	0.73 ft		
Therefore		Therefore	
Q =	18.8 cfs	Q =	20.4 cfs

Weir Equation controls
Single "C" Inlet Grate Capacity @ TBC = 18.8 cfs

4 Calculate Inlet Throat Capacity Using Weir Equation at Design Depth (4.25 in)

Weir Equation	
Q=2.65 x P x H^1/2	
Where	
P=	7.0 ft
H=	0.35 ft
Therefore	
Q =	11.0 cfs

Single "C" Inlet Throat Capacity = 11.0 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **29.7 cfs**
Minus Grate Clogging Factor of 25% **4.69 cfs**

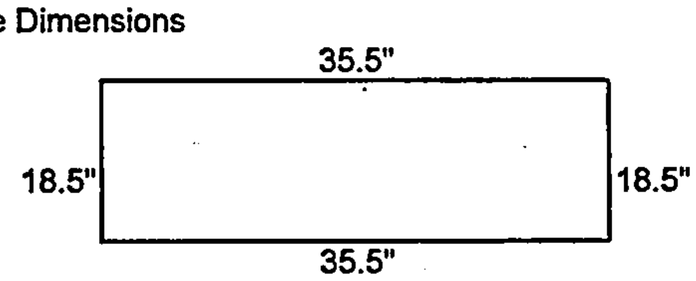
Therefore Capacity of Single C Inlet in Sump Condition = ***25.0 cfs.***

Inlet Worksheet for Inlet 101a (Sump Conditions)

Objective: Design a Triple Type D Inlet in Sump Condition for a maximum 100-year flow of: 30.54
Note: One of the three grates is existing

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=6in (0.5 ft)

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Triple 'D' = 2*18.5" + 6*35.5" = 20.83 ft
Area of Orifice - Triple 'D' = 3*(18.5" x 35.5") = 13.68 sq. ft

3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	13.68 sq. ft.	P=	20.8 ft
g =	32.2 ft ^2/sec	H=	0.5 ft
h =	0.5 ft		
Therefore		Therefore	
Q =	46.6 cfs	Q =	39.0 cfs

Weir Equation controls
Triple "D" Inlet Grate Capacity @ TBC = 46.6 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **46.6 cfs**
Minus Grate Clogging Factor of 25% **11.64 cfs**

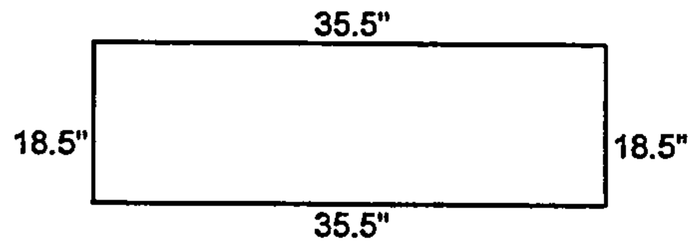
Therefore Capacity of Triple D Inlet in Sump Condition = ***34.9 cfs.***

Inlet Worksheet for Inlet 115b (Sump Conditions)

Objective: Design a Single Type D Inlet in Sump Condition for a maximum 100-year flow of: *0.43*

1 Inlet to collect discharge before overtopping curb.
Standard 6" curb and gutter.
Dmax=6in (0.5 ft)

2 Grate Dimensions



**Net dimensions of open area of a single grate. (Total Area less Area of Bars)

Weir Perimeter - Single 'D' = 2*18.5" + 2*35.5" = 9.00 ft
Area of Orifice - Single 'D' = 18.5" x 35.5" = 4.56 sq. ft

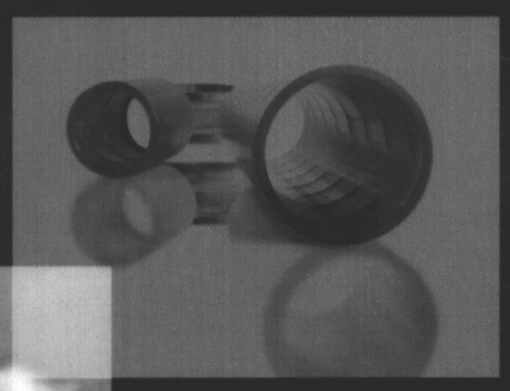
3 Calculate Orifice and Weir Flow into Grate at Design Depth (0.5 ft)

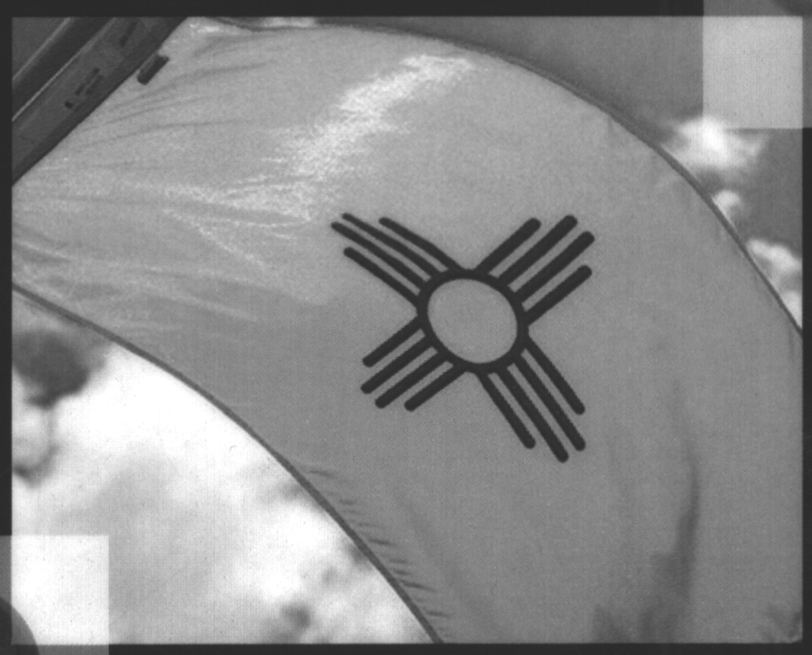
Orifice Equation		Weir Equation	
Q = 0.6 x A x (2 x g x h)^1/2		Q=2.65 x P x H^1/2	
Where		Where	
A =	4.56 sq. ft.	P=	9.0 ft
g =	32.2 ft ^2/sec	H=	0.5 ft
h =	0.5 ft		
Therefore		Therefore	
Q =	15.5 cfs	Q =	16.9 cfs

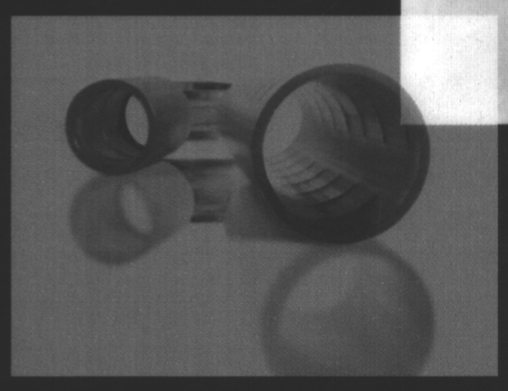
Weir Equation controls
Single "D" Inlet Grate Capacity @ TBC = 15.5 cfs

5 Calculate Inlet Capacity with a grate clogging factor of 25%
Total Capacity **15.5 cfs**
Minus Grate Clogging Factor of 25% **3.88 cfs**

Therefore Capacity of Single D Inlet in Sump Condition = ***11.6 cfs.***







Office Locations

Albuquerque, New Mexico (505) 883-8114

Austin, Texas (512) 231-1119

Dallas, Texas (214) 871-3311

Denton, Texas (214) 871-3311

Denver, Colorado (303) 740-7325

El Paso, Texas (915) 587-4339

Fort Worth, Texas (817) 335-3000

Houston, Texas (281) 496-0066

Irvine, California (714) 734-5100

Ontario, California (909) 390-8400

Phoenix, Arizona (602) 952-9123

Rio Rancho, New Mexico (505) 892-5141

Seattle, Washington (206) 324-5500

Tacoma, Washington (253) 627-9131

Westlake Village, California (805) 418-1802

HUITT-ZOLLARS

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 29, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St. NE Suite #102
Albuquerque, NM 87109

RE: ENGINEER CERTIFICATION FOR WINROCK CENTER 1993 IMPROVEMENTS
(J19-D58) ENGINEER'S CERTIFICATION STATEMENT DATED 10/15/93.

Dear Mr. Padilla:

Based on the information provided on your October 15, 1993 submittal, Engineer Certification for the above referenced site is acceptable.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya, CE
Engineer Associate

BJM/dl/WPHYD/7488

xc: Alan Martinez
File

PUBLIC WORKS DEPARTMENT

Walter H. Nickerson, Jr., P.E.
Assistant Director Public Works

ENGINEERING GROUP

Telephone (505) 768-2500

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

August 17, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St. NE #102
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR A BOOK STORE ADDITION @ WINROCK SHOPPING CENTER (J19-D58) ENGINEER'S STAMP DATED 8/9/93.

Dear Mr. Padilla:

Based on the information provided on your August 10, 1993 submittal, the above referenced site is approved for Building Permit and Grading/Paving.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, when the Engineer Certification for the West End Expansion is prepared, the book store addition can be made part of the Certification.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya, CE
Engineer Associate

BJM/dl/WPHYD/7488

xc: Alan Martinez
File

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 30, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St. NE, Suite 102
Albquerque, NM 87109

RE: REVISED MASTER PLAN FOR WINROCK SHOPPING CENTER (J-19/D58) ENGINEER'S STAMP DATED 7/18/93.

Dear Mr. Padilla:

Based on the information provided on your July 8, 1993 resubmittal, the above referenced site is approved for Master Plan.

Please be advised that any development within the limits of the Master Plan will require site specific submittals for review prior to Building Permit release.

Also, please advise your client that only site specific Engineer Certification for the projects that are underway will be required for Certificate of Occupancy release. The Master Plan issue has been approved with this submittal.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya, CE
Engineer Associate

BJM/ses/WPHYD7874

cc: Alan Martinez
File

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

March 8, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St. NE Suite #102
Albuquerque, NM 87109

RE: REVISED DRAINAGE PLANF OR WINROCK CENTER 1993 IMPROVEMENTS (WINROCK RESTAURANT SITE, DILLARDS WEST PARKING LOT GRADING AND WEST END EXPANSION) (J19-D58) REVISIONS DATED 2/22/93.

Dear Mr. Padilla:

Based on the information provided on your March 5, 1993 resubmittal, the above referenced sites are approved for Grading/Paving and Building Permit.

Please be advised that the Certificate of Occupancy will be withheld until the Engineer's Certification of the proposed improvements and on the approval of the Winrock Master Drainage Plan have been completed.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya, CE
Engineering Assistant

BJM/dl/WPHYD/7488

xc: Alan Martinez
File

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Winrock Shopping Center Master Drainage Plan

ZONE ATLAS/DRAINAGE FILE # J-19 / D58

LEGAL DESCRIPTION: Tract A, Portion of Winrock Shopping Center

CITY ADDRESS: Winrock Center, NE

ENGINEERING FIRM: AVID ENGINEERING, INC. CONTACT: Carlos G. Padilla

ADDRESS: 6100 Seagull Ln., NE, Suite 102, 87109 PHONE: 881-5357

OWNER: Prudential Co. of America Mgr: Terranomics Retail Services CONTACT: J. F. Vigil

ADDRESS: Terranomics: 51 Winrock Center PHONE: 883-6132

ARCHITECT: N/A CONTACT:

ADDRESS: PHONE:

SURVEYOR: Surv-Tek, Inc. CONTACT: Rusty Hugg

ADDRESS: 5643 Paradise Blvd., NW PHONE: 897-3366

CONTRACTOR: None CONTACT:

ADDRESS: PHONE:

PRE-DESIGN MEETING:

X YES

___ NO

___ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. DRB-92-0367

EPC NO. Z-484-2

PROJECT NO.

TYPE OF SUBMITTAL:

X DRAINAGE REPORT

X DRAINAGE PLAN

___ CONCEPTUAL GRADING & DRAIN PLAN

___ GRADING PLAN

___ EROSION CONTROL PLAN

___ ENGINEER'S CERTIFICATION

RECEIVED JUL - 8 1993 HYDROLOGY DIVISION

CHECK TYPE OF APPROVAL SOUGHT:

___ SECTOR PLAN APPROVAL

___ SKETCH PLAT APPROVAL

___ PRELIMINARY PLAT APPROVAL

___ SITE DEVELOPMENT PLAN APPROVAL

___ FINAL PLAT APPROVAL

___ BUILDING PERMIT APPROVAL

___ FOUNDATION PERMIT APPROVAL

___ CERTIFICATE OF OCCUPANCY APPROVAL

___ ROUGH GRADING PERMIT APPROVAL

___ GRADING/PAVING PERMIT APPROVAL

✓ OTHER _____ (SPECIFY)

DATE SUBMITTED: 6-7-93

BY: Carlos Padilla

AVID ENGINEERING, INC.

Civil • Structural • Transportation

July 7, 1993

Mr. Fred Aguirre
Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RECEIVED
JUL - 8 1993
HYDROLOGY DIVISION

RE: WINROCK SHOPPING CENTER MASTER DRAINAGE PLAN RESUBMITTAL

Dear Mr. Aguirre:

This letter accompanies the resubmittal of the Winrock Shopping Center Master Drainage Plan. We met with Fred Aguirre on June 2, 1993. At that time, he made comments and we have responded to them in the resubmittal. As a result of that meeting, we made the following changes to the report.

1. The format of the report was modified, so that the recommendations in the Recommendations section are listed by Phase, according to the Winrock Shopping Center Site Development Plan. The Basin areas included in each Phase are listed in a table on the Plan sheet in the Exhibits section of the report.

2. Roof detention was neglected for future conditions.

3. Existing flow patterns were defined more precisely. The flow patterns are described in the Existing Drainage Conditions section of the report. Specifically, we found that overflow from Area 104.5 will flow into the swale north of I-40, and from there into a median drop inlet that drains to the I-40 Channel. Additional calculations were also included in the Calculations section to quantify that 1) the Macaroni Grill north driveway has capacity to carry the 100-year overflow from upstream, and 2) water will not overtop the north curb in Area 102 during the 100-year storm. Also, calculations for the detention volume in the Dillard's parking lot were included.

4. The Plan sheet in the Exhibits section of the report was updated with the current pipe configuration in the Dillard's West Parking Lot area.

5. The report was rewritten to explain the above changes and to improve readability.

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These responses summarize the changes made to the Plan. If you have any questions or comments, please contact Carlos Padilla or me at AVID. Our phone number is 881-5357.

Sincerely,

James Buckman

James Buckman

JB/cs

AVID ENGINEERING, INC.

Civil • Structural • Transportation

February 10, 1993

RECEIVED
FEB 10 1993
HYDROLOGY DIVISION

Mr. Bernie J. Montoya, C.E.
Hydrology Division
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: DRAINAGE PLAN RESUBMITTAL FOR WINROCK CENTER 1993 IMPROVEMENTS (WINROCK RESTAURANT SITE, DILLARDS WEST PARKING LOT GRADING AND WEST END EXPANSION)

Dear Mr. Montoya:

This letter accompanies the resubmittal of the above referenced project. A copy of the letter with your comments, dated February 4, 1993, is attached. The intent of this letter is to explain how we incorporated your comments into the resubmittal.

In the resubmittal, the comments from your letter were addressed as follows:

Comment No.	Response
1. Sheet 2 of 4:	
1a.	For your convenience, two T.B.M.'s are listed, with their locations shown on sheet 1.
1b.	We have checked the entry conditions of the proposed concrete rundown with the weir equation. Calculations are shown on sheet 2. We have also added some spot elevations to clarify the configuration of the entrance. Note that the rundown will be 1.0' deep at the entrance, then the walls will transition down to the standard 6" depth. This configuration provides a capacity of 5.2 cfs, which is adequate to handle the peak runoff flow of 4.3 cfs for the 100-year storm.

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Comment No.	Response
2. Sheet 3 of 4:	
2a.	Inlet A1 was analyzed in a sump condition with the weir equation. The calculations are shown on sheet 3. The capacity of a type double "D" inlet under these conditions was found to be approximately 82.1 cfs, which is adequate to intercept the peak 27.3 cfs surface flow to the inlet. Please note that the previous submittal showed the peak surface flow incorrectly as 26.9 cfs. The correct peak surface flow to the inlet is 27.3 cfs, a 0.4 cfs difference. This does not affect the results of the calculations.
2b.	This grading plan shows that water will spill into the loading dock area when it reaches the 94.0 elevation at the northeast corner of the ramp. The bottom of the loading dock is depressed approximately 4' below the pad elevation of the new store, and it is flanked by retaining walls on the north, south and west sides, so water can pond in the dock area without flooding the store. This area will be drained by an inlet and a PVC line which connects to the storm drain system as shown on sheet 3.
2c.	The surface flow to inlet A1 was calculated as the sum of the flows from basins C3, R1, and half of the flow from basin R2. The calculation is shown on sheet 3, under the heading, "Calculate capacity of inlet A1 with the weir equation." The flow to inlet A1 was shown incorrectly as 26.9 cfs on the last submittal. This flow should be 27.3 cfs, a difference of 0.4 cfs, which does not affect the results of the calculations.
2d.	Please see Response number 1a. The two T.B.M.'s shown will be able to serve the three areas within the project site.

These responses summarize the changes made to the plan following the receipt of the comments you provided in your letter. If you have any questions or further comments, please contact me or Carlos Padilla at AVID. Our phone number is 881-5357.

Sincerely,

James Buckman

James Buckman

RECEIVED FEB 0 8 1993

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 4, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St NE #102
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR WINROCK CENTER 1993 IMPROVEMENTS (WINROCK RESTAURANT SITE, DILLARDS WEST PARKING LOT GRADING & WEST END EXPANSION) (J19-D58) SHEET 2 OF 4 ENGINEER'S STAMP DATED 1/19/93 & SHEET 4 OF 4 ENGINEER'S STAMP DATED 1/22/93.

Dear Mr. padilla:

Based on the information provided on your February 1, 1993 resubmittal, listed you will find certain concerns that will need to be addressed prior to final approval:

1. Sheet 2 of 4:

   a. T.B.M. must be located within the vicinity of the proposed development and must be permanently marked.
   b. Please check the entry conditions of your proposed concrete rundown using the Weir equation.

2. Sheet 3 of 4:

   a. Analyze the inlet (A1) in a sump condition using the Weir equation.
   b. The plan drawing indicates that once the assumed 100-year W.S.E. reaches 95.0 it will spill over into the loading ramp. Please address, you may need a water block.
   c. Please identify how you determined the 26.9 cfs surface flow to Inlet A1.
   d. T.B.M. also must be located within the site being developed. You may want to locate the T.B.M. in an area that will serve all three projects.

3. Sheet 4 of 4: No Comments.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya
Engineering Assistant

BJMdl/WPHYD/7488

xc: File

94028294

93-804

AMENDED EASEMENTS DECLARATION

THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, a body corporate of the State of New Mexico ("UNM"), and THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, a New Jersey corporation ("Prudential") agree and declare:

1. Recitals.

(i) UNM is the owner of certain property in Bernalillo County, New Mexico more particularly described in attached Exhibit A and Exhibit B (the "Entire Premises"). As used in this Amended Easements Declaration (this "Amended Declaration"), "Benefitted Parcels" means the property in Bernalillo County, New Mexico more particularly described in attached Exhibit B and "Burdened Parcel" means the property described in attached Exhibit A. UNM has leased the Entire Premises and other property to Prudential under a Restated and Amended Ground Lease dated November 4, 1986, a Memorandum of which was recorded on July 24, 1987, in Book 514A, Page 602, as document no. 8777631, in the real property records of Bernalillo County, New Mexico, as amended by the First Amendment of and Addendum to Restated and Amended Ground Lease dated April 5, 1988, a memorandum of which was recorded in Book 608A, Page 92, as document no. 8820994, in the real property records of Bernalillo County, New Mexico (as so amended, the "Ground Lease"). UNM and Prudential desire to provide access to the Benefitted Parcels over the roadways and walkways of the Burdened Parcel, as the same may exist from time to time, parking upon the parking areas of the Burdened Parcel, drainage of storm water from the Benefitted Parcels over the Burdened Parcel, and to provide for the provision of utilities to the Benefitted Parcels, as provided in this Amended Declaration.

(ii) The original Easements Declaration (the "Original Declaration"), dated October 14, 1993, was recorded on November 2, 1993, in Book 93-31, Pages 1399 to 1412, as document no. 93123088, in the real property records of Bernalillo County, New Mexico.

(iii) After recording the Original Declaration, the legal descriptions for the Benefitted Parcels contained in Exhibit B to the Original Declaration were modified. These modifications are reflected in the legal descriptions attached hereto as Exhibit B.

(iv) The Amended Declaration is being rerecorded to reflect the modifications contained in the legal descriptions for the Benefitted Parcels in attached Exhibit B and to reflect the addition of reciprocal parking and drainage easements, as stated in paragraph (2)(iii) and (iv) below.

WINROCK

J19-1058

2. Easements. UNM, as the owner of the Burdened Parcel, and Prudential, as the ground lessee of Burdened Parcel, each declare, for the use and benefit of each owner and ground lessee of each Benefitted Parcel and their respective successors and assigns, and their respective tenants, invitees, customers, agents, employees, licensees and guests, a free and unobstructed, nonexclusive, appurtenant easement, right-of-way, license, right and privilege of access, passage and use for the purposes of:

(i) ingress and egress upon, across, through, and over the roadways, driveways, entrance ways, service areas and walkways of the Burdened Parcel, as the same may exist from time to time, for the usual and customary purposes for which roadways, driveways, entrance ways, service areas and walkways commonly are used;

(ii) supplying, installing, using, maintaining, repairing and replacing underground public utilities by lines, pipes, conduits, sewers and drainage lines as the same from time to time may be in, under, across or through the portions of the Burdened Parcel that do not contain structural improvements. The location of the utilities will be subject to the approval of the then owner and ground lessee (if any) of the Burdened Parcel but such approval will not be unreasonably withheld. The then owner or ground lessee (if any) of the Burdened Parcel will have the right to alter the location of the utilities, provided, however, that such owner or ground lessee must bear the full cost of moving the utilities and must make a good faith effort to minimize any disruption of service to the relevant Benefitted Parcel;

(iii) motor vehicle parking upon the portions of the Burdened Parcel designated as parking areas; and

(iv) drainage of storm water from the Benefitted Parcels over the Burdened Parcel.

3. Common Facilities.

A. Responsibility for the maintenance, operation, management and repair of the common facilities on the Burdened Parcel and for the payment of all costs in connection therewith, will, as between the owner and/or ground lessees of the Benefitted Parcels and the owner and/or ground lessees of the Burdened Parcel, be vested in the ground lessees of the Burdened Parcel, or, if there is no ground lessee of the Burdened Parcel, the owner of the Burdened Parcel, their respective successors and assigns, except to the extent that a lease, sublease or other agreement places or delegates that responsibility on or to another party. The responsible party will maintain the common facilities on the Burdened Parcel in good repair and condition at

all times. This paragraph does not impose a duty to maintain any of the common facilities pertaining or belonging to utilities, where the duty does not otherwise exist.

B. Operation and maintenance will include all items necessary to repair, replace and maintain the common facilities in a manner usual and customary for the operation of a first class shopping mall in the Albuquerque, New Mexico area.

C. As used in this Agreement, "common facilities" means and includes all the roadways, driveways, entrance ways, service areas (but not including truck docks), walkways, and all utility lines, conduits, wires, sewers and drainage lines used for utilities, all as the same now exist or may be constructed after the date of this Agreement in, under, across, through or along the Burdened Parcel.

D. The owner or ground lessee of the Burdened Parcel may from time to time temporarily restrict the use of the common facilities in order to prevent the public from obtaining any prescriptive rights to the common facilities, in order to facilitate the maintenance or repair of the common facilities or in order to install, operate or maintain utilities on the Burdened Parcel.

4. Condemnation. In the event of a condemnation proceeding no portion of any award will be attributed to the value of the easements contained in this Agreement and no portion of any such award will be paid to the beneficiary of the easement in respect to the easement.

5. No Dedication. The easements granted in this Agreement are not intended nor will they create any prescriptive rights in the public to the easements conveyed and granted in this Agreement. Nevertheless, UNM and Prudential reserve the right to dedicate or grant to the public rights-of-way, licenses, rights and privileges of access, passage and use on or over any of the Entire Premises as they may determine in their sole discretion.

6. Covenants to Run with Land. This Agreement and the covenants and conditions contained in this Agreement will inure to the benefit of and be binding upon UNM and Prudential and their successors and assigns. The easements, restrictions, benefits and obligations in this Agreement will create benefits and servitudes, which easements will run with and benefit the land.

7. Term. The easements, rights and privileges established by this Agreement will remain in effect until terminated by the written agreement of UNM and Prudential or their respective successors or assigns.

8. Amendment. The easements, rights and privileges established by this Agreement may be amended or modified by an instrument in writing executed by the then owner of not less than 60% of the area of each affected Benefitted Parcel and the then ground lessees, if any, of that area and the then owner of not less than 60% of the area of the Burdened Parcel and the then ground lessees, if any, of that area. Such amendment or modification will be effective when recorded in the real property records of the County Clerk of Bernalillo County, New Mexico. No consent of any sub-ground lessee of any portion of any Benefitted Parcel or the Burdened Parcel will be required in connection with any such amendment or modification.

9. Governing Law. This Agreement is governed by and to be construed in accordance with the law of New Mexico.

10. No Other Changes. Except for the changes to the legal descriptions and the addition of reciprocal parking and drainage easements as indicated above, the Amended Declaration remains the same as the Original Declaration and is in full force and effect.

DATED: February 28, 1994.

THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, a body corporate of the State of New Mexico

Approved as to form:

University Counsel

By

Its David L. McKinney
Vice President for Business & Finance

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, a New Jersey corporation

By

Its VICE PRESIDENT

4868

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on Feb. 11, 1994, by David P. McKinney, as Vice President for Business & Finance of The Regents of the University of New Mexico, a body corporate of the State of New Mexico.

Barbara Rachel
Notary Public

My commission expires:

OFFICIAL SEAL
STATE OF NEW MEXICO
Secretary of State
My Commission Expires 11/3/96

STATE OF TEXAS)
) ss.
COUNTY OF DALLAS)

This instrument was acknowledged before me on February 28, 1994, by J. ALLEN SMITH, as VICE PRESIDENT of The Prudential Insurance Company of America, a New Jersey corporation.

PEGGY L. TAYLOR
MY COMMISSION EXPIRES
October 14, 1997

Peggy L. Taylor
Notary Public

My commission expires:
10/14/97

76076

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1994 MAR -1 PM 4:12

BK 947 PG 4864-4877
JUDY D. WOODWARD
CLERK & RECORDER

LEGAL DESCRIPTION - Proposed Parcel A-1

That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico comprising a portion of Parcel A and all of Parcels C-1 thru C-7, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at Point No. 1, the Northwest corner of Parcel "A-1", Winrock Center, said point designated as Point No. 28, Winrock Center, as shown on the plat of said Winrock Center filed April 21, 1972, a point on the Easterly right of way line of Louisiana Boulevard N.E., whence the New Mexico State Highway Commission Monument "I-40-7" bears S 03° 24′ 33" W, 1048.34 feet distant; Thence,

S 89° 49′ 19" E ,	385.45 feet to Point No. 2, a point of curvature; Thence,
Northeasterly ,	94.33 feet on the arc of a curve to the left (said curve having a radius of 125.00 feet and a chord which bears N 68° 33′ 30" E, 92.11 feet) to Point No. 3, a point of tangency; Thence,
N 46° 55′ 15" E ,	406.74 feet to Point No. 4, a point of curvature; Thence,
Northeasterly ,	170.83 feet on the arc of a curve to the right (said curve having a radius of 230.00 feet and a chord which bears N 68° 12′ 58" E, 166.93 feet) to Point No. 5, a point of tangency; Thence,
N 89° 29′ 39" E ,	45.25 feet to Point No. 6; Thence,
N 00° 09′ 19" E ,	240.83 feet to Point No. 7; Thence,
N 45° 09′ 46" W ,	77.40 feet to Point No. 8, a point on the Southerly right of way line of Indian School Road N.E.; Thence,
N 89° 30′ 22" E ,	623.32 feet along said Southerly right of way line of Indian School Road N.E. to the Northwest corner of Parcel D-1A, Winrock Center Addition as the same is shown and designated on the plat entitled "PARCEL D-1A, WINROCK CENTER ADDITION, (BEING A REPLAT OF PARCEL D-1, WINROCK CENTER

ADDITION), CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on December 27, 1988 in Volume C38, folio 41; Thence,

S 00° 30′ 07" E , 295.78 feet along the Westerly line of said Tract D-1A to the Southwest corner of said Tract D-1A; Thence,

N 89° 29' 53" E ,	1064.54 feet along the Southerly line of said Parcel D-1A and the Southerly line of Parcel E-1, Winrock Center Addition as the same is shown and designated on the plat entitled "PARCELS D-1 AND E-1, WINROCK CENTER ADDITION (BEING A REPLAT OF PARCELS D AND E, WINROCK CENTER ADDITION), CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO" filed in the office of the County Clerk of Bernalillo County, New Mexico on August 26, 1988 in Volume C37, folio 54 to the Southeast corner of said Parcel E-1, a point on the Westerly right of way line of Pennsylvania Avenue N.E.; Thence,
S 01° 08' 08" E ,	30.00 feet along said Westerly right of way line of Pennsylvania Avenue N.E. to Point No. 13; Thence,
S 89° 30' 22" W ,	330.05 feet to Point No. 14, a point of curvature; Thence,
Southwesterly ,	170.09 feet on the arc of a curve to the left (said curve having a radius of 128.84 feet and a chord which bears S 51° 41' 13" W, 158.00 feet) to Point No. 15 and a point of tangency; Thence,
S 13° 51' 58" W ,	427.61 feet to Point No. 16 and a point of curvature; Thence,
Southwesterly ,	189.70 feet on the arc of a curve to the left (said curve having a radius of 486.38 feet and a chord which bears S 02° 41' 32" W, 188.50 feet) to Point No. 17 and a non tangent point on curve; Thence,
S 59° 01' 20" W ,	35.83 feet to Point No. 18; Thence,
S 30° 49' 12" E ,	652.65 feet to Point No. 19; Thence,
S 59° 11' 12" W ,	30.00 feet to Point No. 20; Thence,
S 30° 49' 12" E ,	100.00 feet to Point No. 21; Thence,
S 59° 10' 07" W ,	988.88 feet to Point No. 22, a point on the Northerly right of way line of Interstate Highway No. I-40; Thence Northwesterly along said Northerly right of way line of Interstate Highway No. I-40 on the following seven (7) courses:
N 63° 40' 11" W ,	1022.21 feet to Point No. 23; Thence,
N 32° 16' 41" W ,	414.58 feet to Point No. 24; Thence,

N 17° 15′ 40″ W ,	106.23 feet to Point No. 25, a point of curvature; Thence,
Northwesterly ,	282.37 feet on the arc of a curve to the left (said curve having a radius of 222.30 feet and a chord which bears N 53° 39′ 02″ W, 263.77 feet) to Point No. 26 and a point of tangency; Thence,
S 89° 57′ 36″ W ,	112.90 feet to Point No. 27 and a point of curvature; Thence,

Northwesterly ,	31.42 feet on the arc of a curve to the right (said curve having a radius of 20.00 feet and a chord which bears N 45° 02′ 11" W, 28.28 feet) to Point No. 28 and a point of tangency; Thence,
S 89° 57′ 36" W ,	5.66 feet to Point No. 29, a point on said Easterly right of way line of Louisiana Boulevard N.E.; Thence,
N 00° 02′ 24" W ,	452.75 feet along said Easterly right of way line of Louisiana Boulevard N.E. to Point No. 1, the Northwest corner and point of beginning of the parcel herein described.

EXCEPTING THEREFROM:
That certain parcel of land situated within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico comprising all of Parcel B, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the aforesaid Point No. 23, an angle point on the Southerly line of said Parcel A, Winrock Center Addition whence a point of curvature on the Southerly line of said Parcel B bears N 78° 25′ 13" E, 51.01 feet distant to the True Point of BEGINNING of the parcel herein described; Thence along a line common to said Parcels A and B, Winrock Center Addition for the following Six (6) courses:

Northwesterly ,	65.74 feet on the arc of a curve to the right said curve having a radius of 120.00 feet and a chord which bears N 47° 09′ 36" W, 64.92 feet to a point of tangency; Thence,
N 32° 17′ 36" W ,	195.42 feet to the Southwest corner of said Parcel B; Thence,
N 63° 19′ 04" E ,	296.76 feet to the Northwest corner of said Parcel B; Thence,
S 71° 40′ 56" E ,	309.92 feet to the Northeast corner of said Parcel B; Thence,
S 18° 19′ 04" W ,	403.41 feet to the Southeast corner of said Parcel B; Thence,

N 63° 40' 56" W , 312.32 feet to the point of beginning of the parcel herein described.

Said Parcel B contains 3.6250 acres, more of less.

EXHIBIT A
(Page 3 of 6)

EXCEPTING THEREFROM:
That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Bugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the most Westerly point of the parcel herein described, a point within the interior of said Parcel A whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 48° 12′ 27" W, 1618.93 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 78° 02′ 50" E, 924.63 feet distant; Thence,

N 44° 05′ 23" E , 340.54 feet to a point; Thence,

S 71° 37′ 06" E , 200.00 feet to a point; Thence,

N 18° 23′ 02" E , 50.00 feet to a point; Thence,

S 71° 37′ 14" E , 300.00 feet to a point; Thence,

S 43° 51′ 57" E , 220.38 feet to a point of curvature; Thence,

Southeasterly , 76.15 feet on the arc of a curve to the right (said curve having a radius of 75.00 feet and a chord which bears S 14° 46′ 36" E, 72.92 feet) to a point of tangency; Thence,

S 14° 18′ 26" W , 346.89 feet to the Southeast corner of the parcel herein described; Thence,

N 71° 38′ 58" W , 252.18 feet to a point; Thence,

S 18° 21′ 02" W , 57.70 feet to a point; Thence,

N 71° 38′ 58" W , 132.79 feet to a point; Thence,

S 18° 21′ 02" W , 40.00 feet to a point; Thence,

N 71° 38′ 58" W , 60.00 feet to a point; Thence,

N 18° 21′ 02" E , 40.00 feet to a point; Thence,

N 71° 38′ 58" W , 105.82 feet to a point; Thence,

N 71° 38' 58" W , [illegible] feet to a point; Thence,

S 18° 21' 02" W , 20.00 feet to a point; Thence,

N 71° 38' 58" W , 62.66 feet to a point; Thence,

S 17° 23' 18" W , 64.32 feet to a point; Thence,

N 26° 37' 12" W , 417.17 feet to the point and place of beginning of the parcel herein described.

Said parcel contains 9.6888 acres, more or less.

EXHIBIT A

EXCEPTING THEREFROM:
That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Southwest corner of the parcel herein described, a point within the interior of said Parcel A whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 45° 42′ 01" W, 945.34 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 81° 00′ 14" E, 1452.89 feet distant; Thence,

N 26° 47′ 32" W , 284.39 feet to a point; Thence,

N 59° 22′ 09" E , 136.37 feet to a point; Thence,

S 83° 52′ 00" E , 288.00 feet to a point; Thence,

N 63° 40′ 48" E , 284.42 feet to the Northeast corner of the parcel herein described; Thence,

S 26° 37′ 12" E , 417.17 feet to a point; Thence,

S 17° 23′ 18" W , 97.83 feet to the Southeast corner of the parcel herein described; Thence,

N 71° 50′ 21" W , 121.08 feet to a point; Thence,

S 20° 13′ 46" W , 30.19 feet to a point; Thence,

N 71° 38′ 18" W , 161.69 feet to a point; Thence,

S 18° 21′ 44" W , 128.00 feet to a point; Thence,

N 71° 38′ 16" W , 131.90 feet to a point; Thence,

S 18° 21′ 44" W , 128.00 feet to a point; Thence,

N 71° 38′ 16" W , 97.65 feet to a point; Thence,

S 37° 04′ 06" W , 83.73 feet to a point; Thence,

S 37° 08' 08" W , [illegible] feet to a point; Thence,

S 18° 34' 29" W , 60.94 feet to a point; Thence,

N 71° 57' 34" W , 127.71 feet to the Southwest corner and point of beginning of the parcel herein described.

Said parcel contains 5.7766 acres, more or less.

EXCEPTING THEREFROM:
That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising all of Parcels C-2, C-3, C-4, C-5, C-7 and a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Northeast corner of the parcel herein described, a point on the Southerly right of way line of Indian School Road N.E., said point also being the Northwest corner of Parcel D-1A, Winrock Center Addition as the same is shown and designated on the plat entitled "PARCEL D-1A, WINROCK CENTER ADDITION, (BEING A REPLAT OF PARCEL D-1, WINROCK CENTER ADDITION), CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on December 27, 1988 in Volume C38, folio 41 whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 42° 56′ 26" W, 2349.26 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 31° 33′ 19" E, 976.82 feet distant; Thence,

S 00° 30′ 07" E ,	295.78 feet along the Westerly line of said Parcel D-1A to the Southwest corner of said Parcel D-1A; Thence,
S 89° 34′ 34" W ,	100.03 feet to a point of curvature; Thence,
Southwesterly ,	177.88 feet on the arc of a curve to the left (said curve having a radius of 220.45 feet and a chord which bears S 66° 27′ 36" W, 173.09 feet); Thence,
S 43° 20′ 40" W ,	140.71 feet to the most Southerly corner of the parcel herein described; Thence,
N 26° 37′ 12" W ,	278.54 feet to a point of curvature; Thence,
Northwesterly ,	151.30 feet on the arc of a curve to the right (said curve having a radius of 322.00 feet and a chord which bears N 13° 09′ 31" W, 149.92 feet) to a point of tangency; Thence,
N 00° 18′ 09" E ,	68.58 feet to a point on said Southerly right of way line of Indian School Road N.E. and the Northwest corner of the parcel herein described; Thence,

---,

N 89° 30′ 22" E , 511.30 feet along said Southerly right of way line of Indian School Road N.E. to the Northeast corner and point of beginning of the parcel herein described.

Said parcel contains 3.8468 acres, more or less.

LEGAL DESCRIPTION - Proposed Parcel A-2

That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the most Westerly point of the parcel herein described, a point within the interior of said Parcel A whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 48° 12′ 27" W, 1618.93 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 78° 02′ 50" E, 924.63 feet distant; Thence,

N 44° 05′ 23" E , 340.54 feet to a point; Thence,

S 71° 37′ 06" E , 200.00 feet to a point; Thence,

N 18° 23′ 02" E , 50.00 feet to a point; Thence,

S 71° 37′ 14" E , 300.00 feet to a point; Thence,

S 43° 51′ 57" E , 220.38 feet to a point of curvature; Thence,

Southeasterly , 76.15 feet on the arc of a curve to the right (said curve having a radius of 75.00 feet and a chord which bears S 14° 46′ 36" E, 72.92 feet) to a point of tangency; Thence,

S 14° 18′ 26" W , 346.89 feet to the Southeast corner of the parcel herein described; Thence,

N 71° 38′ 58" W , 252.18 feet to a point; Thence,

S 18° 21′ 02" W , 57.70 feet to a point; Thence,

N 71° 38′ 58" W , 132.79 feet to a point; Thence,

S 18° 21′ 02" W , 40.00 feet to a point; Thence,

N 71° 38′ 58" W , 60.00 feet to a point; Thence,

N 18° 21′ 02" E , 40.00 feet to a point; Thence,

N 71° 38′ 58" W , 105.82 feet to a point; Thence,

S 18° 21′ 02" W , 20.00 feet to a point; Thence,

N 71° 38′ 58" W , 52.66 feet to a point; Thence,

S 17° 23′ 18" W , 64.32 feet to a point; Thence,

N 26° 37′ 12" W , 417.17 feet to the point and place of beginning of the parcel herein described.

Said parcel contains 9.6888 acres, more or less.

EXHIBIT B

LEGAL DESCRIPTION - Proposed Parcel A-3

That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Southwest corner of the parcel herein described, a point within the interior of said Parcel A whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 45° 42′ 01" W, 945.34 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 81° 00′ 14" E, 1452.89 feet distant; Thence,

N 26° 47′ 32" W , 284.39 feet to a point; Thence,

N 59° 22′ 09" E , 136.37 feet to a point; Thence,

S 83° 52′ 00" E , 268.00 feet to a point; Thence,

N 63° 40′ 48" E , 284.42 feet to the Northeast corner of the parcel herein described; Thence,

S 26° 37′ 12" E , 417.17 feet to a point; Thence,

S 17° 23′ 18" W , 97.83 feet to the Southeast corner of the parcel herein described; Thence,

N 71° 30′ 21" W , 121.08 feet to a point; Thence,

S 20° 13′ 46" W , 30.19 feet to a point; Thence,

N 71° 38′ 18" W , 161.69 feet to a point; Thence,

S 18° 21′ 44" W , 128.00 feet to a point; Thence,

N 71° 38′ 16" W , 131.90 feet to a point; Thence,

S 18° 21′ 44" W , 128.00 feet to a point; Thence,

N 71° 38′ 16" W , 97.65 feet to a point; Thence,

S 37° 04′ 06" W , 83.73 feet to a point; Thence,

S 18° 24′ 28" W , 60.04 feet to a point; Thence,

S 18° 21′ 02" W , 20.00 feet to a point; Thence,

N 71° 38′ 58" W , 52.66 feet to a point; Thence,

S 17° 23′ 18" W , 64.32 feet to a point; Thence,

N 26° 37′ 12" W , 417.17 feet to the point and place of beginning of the parcel herein described.

Said parcel contains 9.6888 acres, more or less.

EXHIBIT B

LEGAL DESCRIPTION - Proposed Parcel C-2A

That certain parcel of land situate within Section 18, Township 10 North, Range 4 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising all of Parcels C-2, C-3, C-4, C-5, C-7 and a portion of Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

BEGINNING at the Northeast corner of the parcel herein described, a point on the Southerly right of way line of Indian School Road N.E., said point also being the Northwest corner of Parcel D-1A, Winrock Center Addition as the same is shown and designated on the plat entitled "PARCEL D-1A, WINROCK CENTER ADDITION, (BEING A REPLAT OF PARCEL D-1, WINROCK CENTER ADDITION), CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on December 27, 1988 in Volume C38, folio 41 whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 42° 56′ 26" W, 2349.26 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 31° 33′ 19" E, 976.82 feet distant; Thence,

S 00° 30′ 07" E ,	295.78 feet along the Westerly line of said Parcel D-1A to the Southwest corner of said Parcel D-1A; Thence,
S 89° 34′ 34" W ,	100.03 feet to a point of curvature; Thence,
Southwesterly ,	177.88 feet on the arc of a curve to the left (said curve having a radius of 220.45 feet and a chord which bears S 66° 27′ 36" W, 173.09 feet); Thence,
S 43° 20′ 40" W ,	140.71 feet to the most Southerly corner of the parcel herein described; Thence,
N 26° 37′ 12" W ,	278.54 feet to a point of curvature; Thence,
Northwesterly ,	151.30 feet on the arc of a curve to the right (said curve having a radius of 322.00 feet and a chord which bears N 13° 09′ 31" W, 149.92 feet) to a point of tangency; Thence,
N 00° 18′ 09" E ,	68.58 feet to a point on said Southerly right of way line of Indian School Road N.E. and the

Northwest corner of the parcel herein described; Thence,

N 89° 30′ 22" E , 511.30 feet along said Southerly right of way line of Indian School Road N.E. to the Northeast corner and point of beginning of the parcel herein described.

Said parcel contains 3.8468 acres, more or less.

93023664 0001435

WATER LINE EASEMENTS

Grant of permanent water line easements, between THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, a corporation of the State of New Mexico, as fee owner ("UNM") and THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, a New Jersey corporation, as ground lessee (together, "Grantor"), whose address is c/o Terranomics Retail Services, L. P., 51 Winrock Center, Albuquerque, New Mexico 87110 and THE CITY OF ALBUQUERQUE, a New Mexico municipal corporation ("City"), whose address if P. O. Box 1293, Albuquerque, New Mexico 87103.

Grantor grants to City exclusive, permanent water line easements ("Easements") in, over, upon and across the real property described and depicted on Exhibits A, B, C, D, E, F and G attached hereto ("Property") for the construction, installation, maintenance, repair, modification, replacement and operation of water lines and related facilities and appurtenances together with the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if City determines that they interfere with the appropriate use of these Easements.

Grantor represents that it is the owner in fee simple of the Property, and that Grantor has good lawful right to convey the Property or any part thereof, however, such conveyance by Grantor is made without warranty as to title of the Property pursuant to Section 13-6-2d NMSA 1978.

The grant and other provisions of these Easements constitute covenants running with the land for the benefit of City and its successors and assigns until terminated.

0001436

These Easements will remain in effect so long as City continues to use the Property for the purposes as provided in this Easement. If City vacates, abandons or ceases to use the Property for the purposes as provided stated in these Easements, then ownership of the Property will automatically and immediately revert to and revest in UNM and the successors or assigns of UNM, subject to the leasehold interest of any ground lease, without any action on the part of UNM or City or the successors or assigns of UNM or City, as fully and completely as if these Easements had never been executed by Grantor, and these Easements will then become void.

DATED:_____

GRANTOR:

REGENTS OF THE UNIVERSITY OF NEW MEXICO, a corporation of the State of New Mexico

Approved as to form:

University Counsel

By_____
David McKinney
Vice President for Business and Finance

THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, a New Jersey corporation

RSH

By_____
Its VICE PRESIDENT

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

93 MAR -9 PM 4: 09

BK 936 PG 1435 1451
JUDY D. WOODWARD
CLERK & RECORDER
DEPUTY

0001437

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me on March 9, 1993, by David McKinney, Vice President for Business and Finance, of the Regents of the University of New Mexico, a corporation of the State of New Mexico, on behalf of the corporation.

OFFICIAL SEAL
ROMY BACA
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 3/14/94

Romy Baca
Notary Public

My commission expires:

STATE OF TEXAS)
) ss.
COUNTY OF DALLAS)

The foregoing instrument was acknowledged before me on MARCH 8, 1993, by WILLIAM E. KONRATH, VICE PRESIDENT of The Prudential Insurance Company of America, a New Jersey corporation, on behalf of the corporation.

MINERVA C. KING
MY COMMISSION EXPIRES
NOVEMBER 14, 1994

Minerva C. King
Notary Public

My commission expires:
NOVEMBER 14, 1994

50136

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Twenty (20') feet in width, being Fifteen (15') feet to the left of and Five (5') feet to the right of the following described centerline:

BEGINNING at the most Northerly point of the easement herein described, a point on the centerline of an existing Ten (10') foot waterline easement as the same is shown and designated on the plat entitled "AMENDED PLAT, SITE WATER DISTRIBUTION SYSTEM, WINROCK CENTER, ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 27, 1960 in Book C5, folio 31, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 35° 16' 45" W, 1805.40 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 61° 15' 01" E, 1219.09 feet distant; Thence,

S 26° 37' 12" E , 24.38 feet to Junction Point 1; Thence,

S 26° 37' 12" E , 167.02 feet to a point; Thence,

S 18° 20' 02" W , 275.72 feet to the terminus of said centerline.

Also an easement Ten (10') feet in width, being Five (5') feet on each side of the following described centerline:

Beginning at Junction Point 1; Thence,

N 63° 22' 48" E , 36.35 feet to the terminus of said centerline.

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

EXHIBIT A

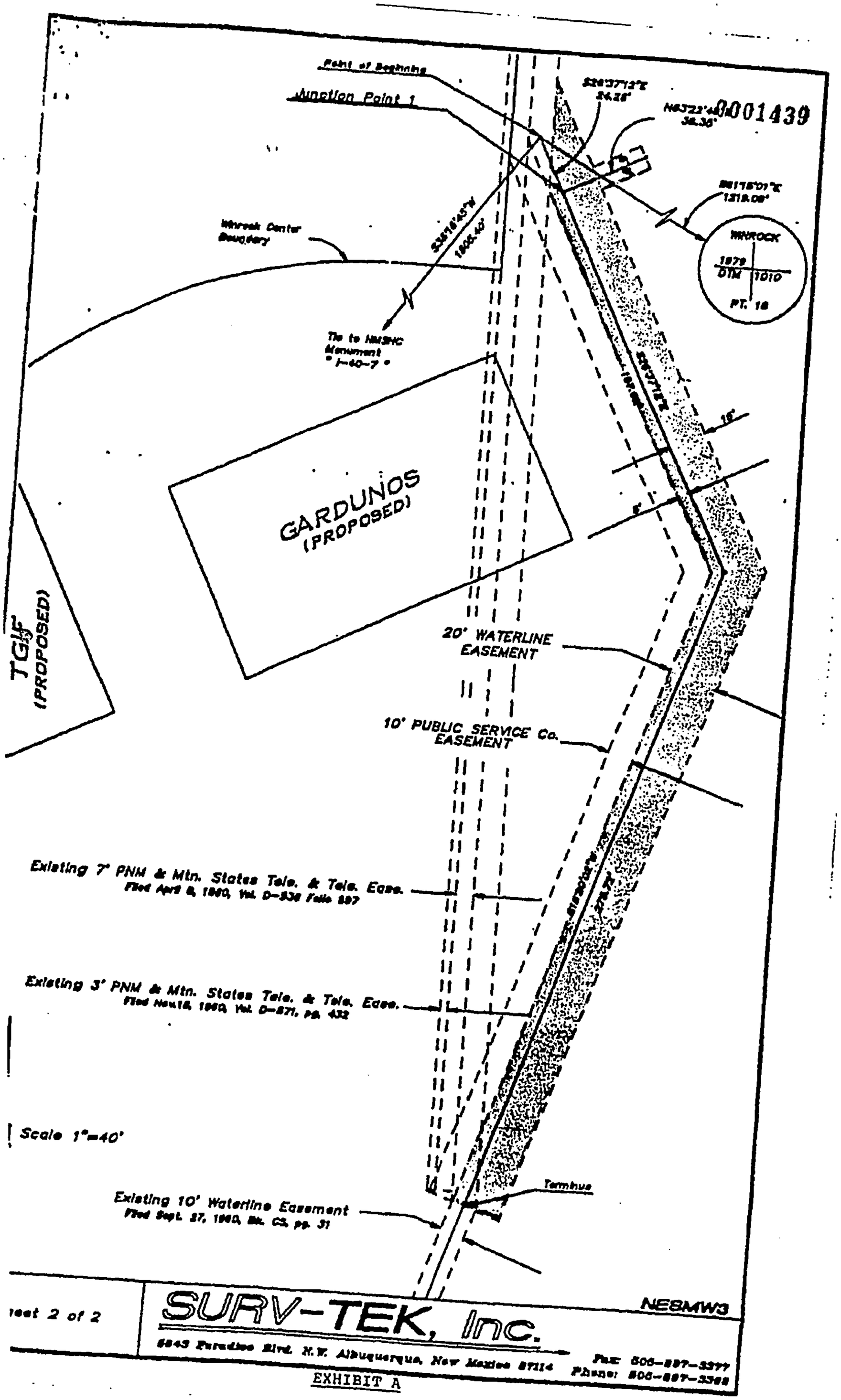

Point of Beginning
Junction Point 1
8001439
Winrock Center Boundary
Tie to NMSHC Monument
GARDUNOS (PROPOSED)
TGIF (PROPOSED)
WINROCK
1879
DIM
1010
PT. 18
20' WATERLINE EASEMENT
10' PUBLIC SERVICE Co. EASEMENT
Existing 7' PNM & Mtn. States Tele. & Tele. Eaes.
Existing 3' PNM & Mtn. States Tele. & Tele. Eaes.
Scale 1"=40'
Terminus
Existing 10' Waterline Easement
Sheet 2 of 2
SURV-TEK, Inc.
NE8MW3
6943 Paradise Blvd. N.W. Albuquerque, New Mexico 87114
Fax: 505-897-3377
Phone: 505-897-3368

EXHIBIT A

0001440

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Ten (10') feet in width, being Five (5') feet on each side of the following described centerline:

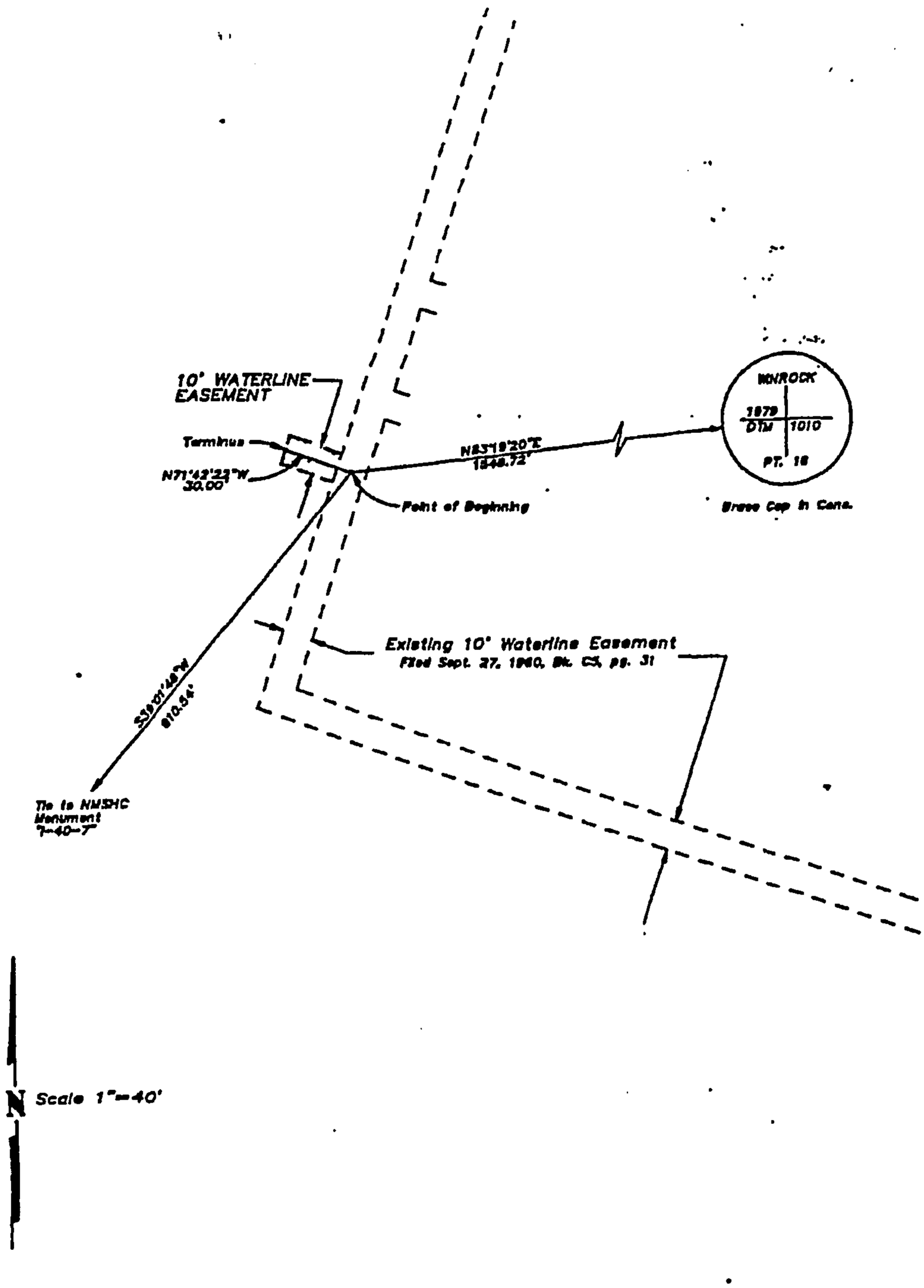
BEGINNING at a point on the centerline of an existing Ten (10') foot waterline easement as the same is designated on the easement document filed in the office of the County Clerk of Bernalillo County, New Mexico on September 27, 1960 in Book C5, page 31, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 39° 01' 46" W, 910.54 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 83° 19' 20" E, 1548.72 feet distant; Thence,

N 71° 42' 22" W , 30.00 feet to the terminus of said centerline.

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

EXHIBIT B

0001441



NE9MW4.DWG

Sheet 2 of 2

SURV-TEK, Inc.

6943 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Fax: 505-897-3377
Phone: 505-897-3366

EXHIBIT B

0001442

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Twenty (20') feet in width, being Ten (10') feet on each side of the following described centerline:

BEGINNING at the most Northwesterly point of the easement herein described, a point on the centerline of an existing Ten (10') foot waterline easement as the same is designated on the easement document filed in the office of the County Clerk of Bernalillo County, New Mexico on September 20, 1965 in Volume D-786, pages 426 thru 429, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 56° 40' 45" W, 1444.93 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 84° 05' 06" E, 909.04 feet distant; Thence,

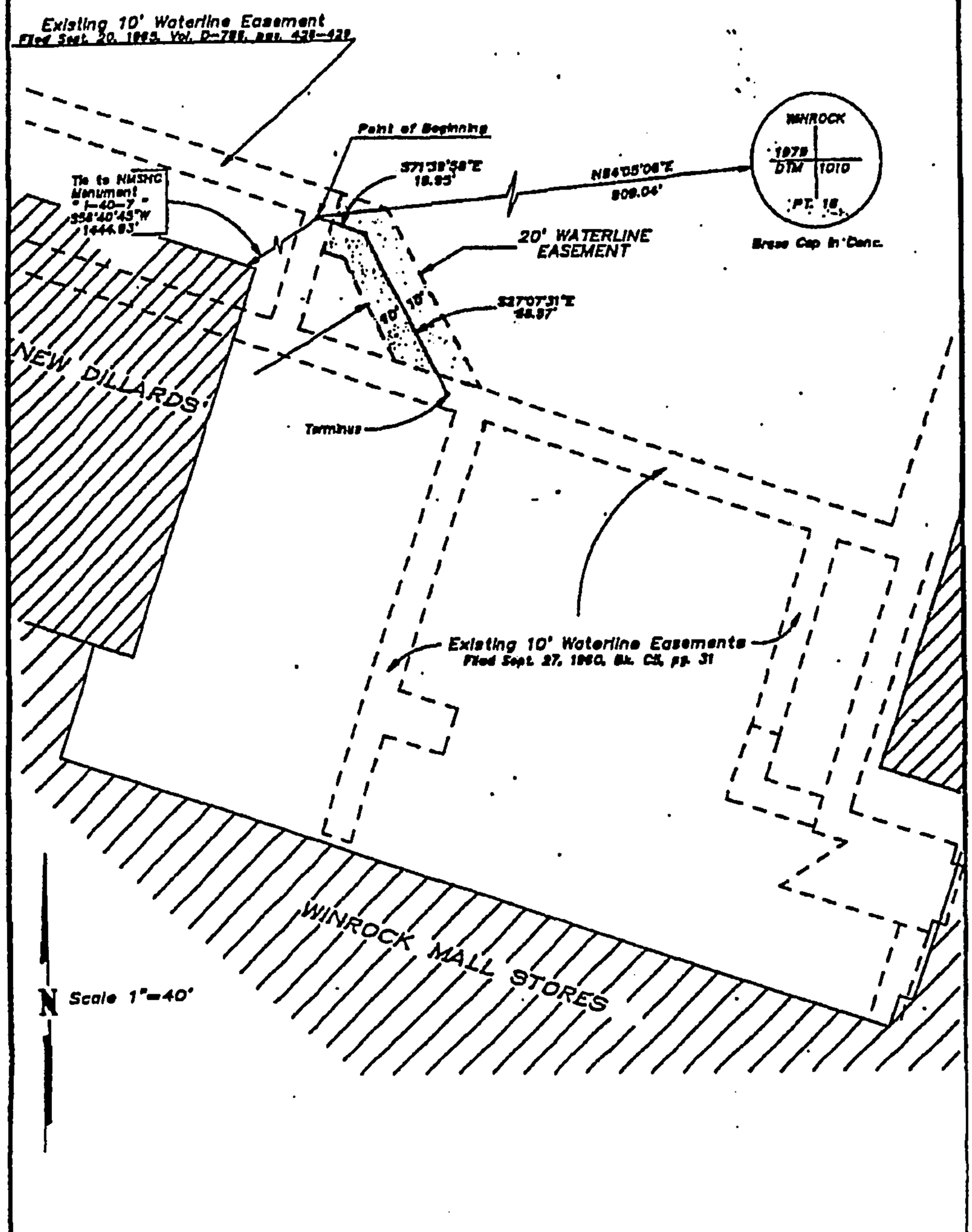
S 71° 39' 58" E , 16.95 feet to a point; Thence,

S 27° 07' 31" E , 58.57 feet to the terminus of said centerline.

EXHIBIT C

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

0001443



NESMW2

Sheet 2 of 2

SURV-TEK, Inc.
5643 Paradise Blvd. N.W. Albuquerque, New Mexico 87114
Fax: 505-897-3377
Phone: 505-897-3366

0001444

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Ten (10') feet in width, being Five (5') feet on each side of the following described centerline:

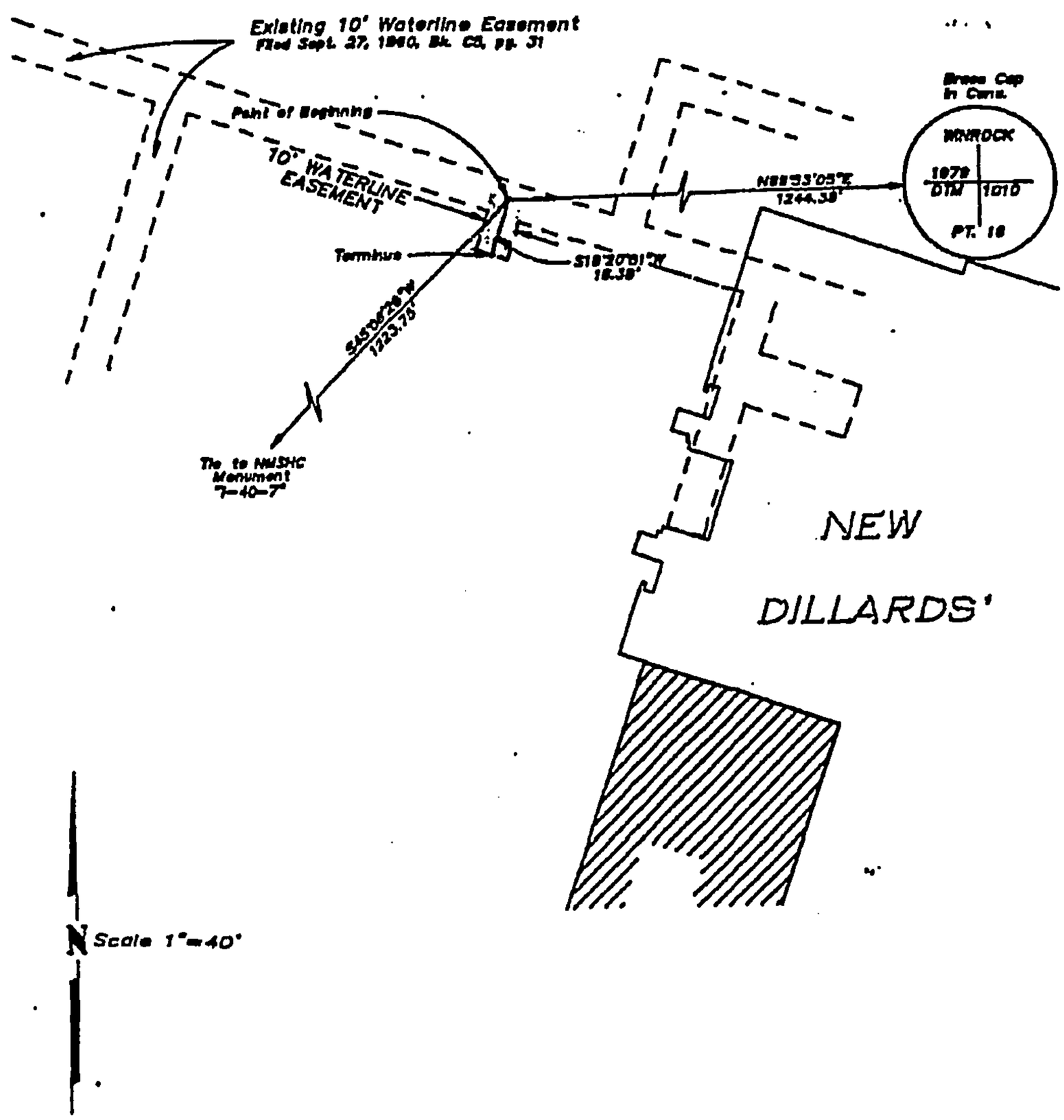
BEGINNING at a point on the centerline of an existing Ten (10') foot waterline easement as the same is shown and designated on the plat entitled "AMENDED PLAT, SITE WATER DISTRIBUTION SYSTEM, WINROCK CENTER, ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 27, 1960 in Book C5, folio 31, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 45° 08' 26" W, 1223.75 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 88° 53' 05" E, 1244.39 feet distant; Thence,

S 18° 20' 01" W , 16.38 feet to the terminus of said centerline.

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

EXHIBIT D

0001445



NESMW5.DWG

Sheet 2 of 2

SURV-TEK, Inc.

5643 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Fax: 505-897-3377
Phone: 505-897-3368

0001446

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Fifteen (15') feet in width, being Seven and one half (7.5') feet on each side of the following described centerline:

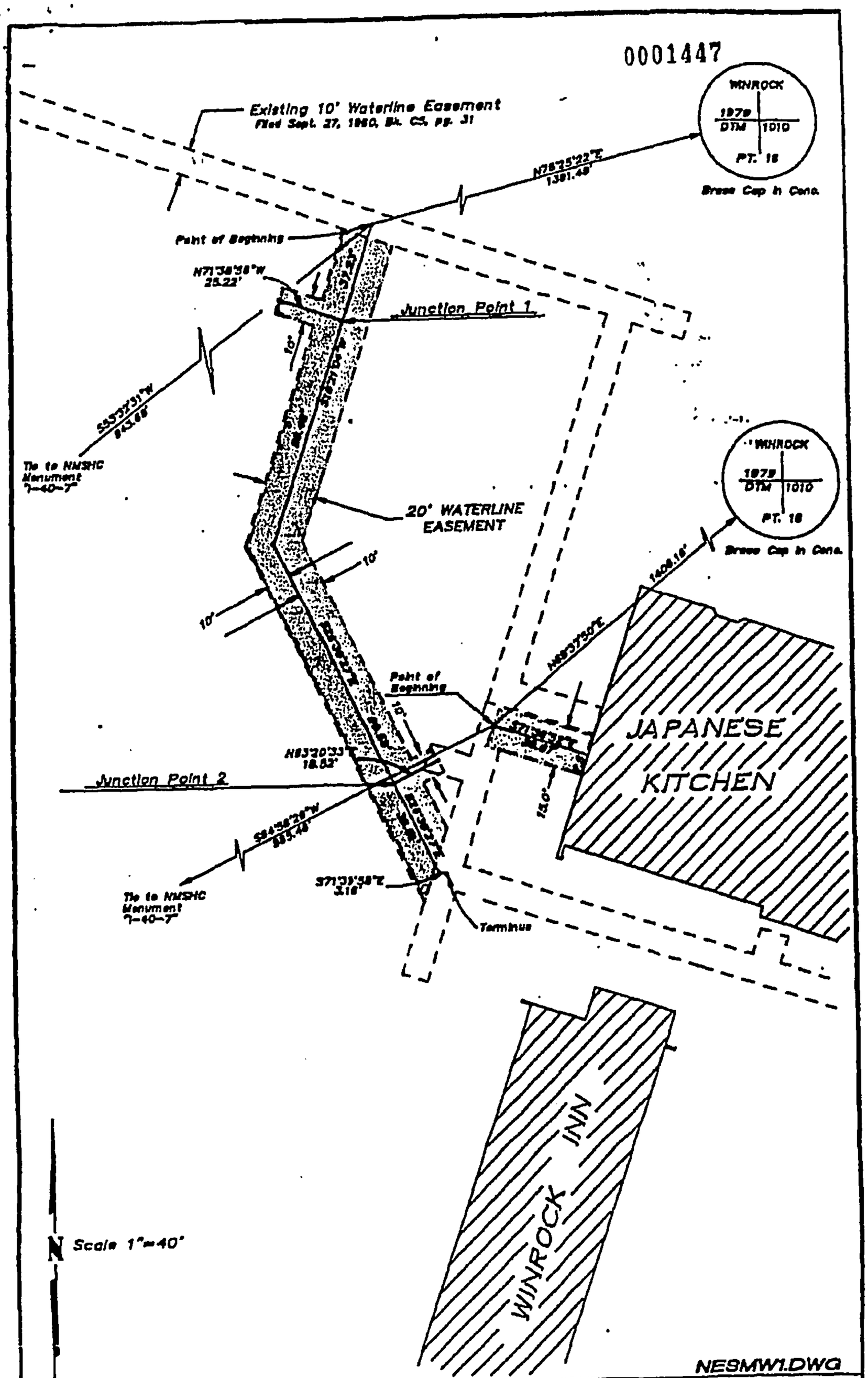
BEGINNING at the most Westerly point of the easement herein described, a point on the centerline of an existing Ten (10') foot waterline easement as the same is designated on the easement document filed in the office of the County Clerk of Bernalillo County, New Mexico on September 27, 1960 in Book C5, page 31, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 64° 56' 26" W, 883.46 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears N 68° 37' 50" E, 1406.16 feet distant; Thence,

S 71° 36' 52" E , 36.87 feet to the terminus of said centerline.

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

EXHIBIT E

0001447



Sheet 2 of 2

SURV-TEK, Inc.

8843 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Fax: 505-897-3377
Phone: 505-897-3368

EXHIBIT F

0001448

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Twenty (20') feet in width, being Ten (10') feet on each side of the following described centerline:

BEGINNING at the most Northerly point of the easement herein described, a point on the centerline of an existing Ten (10') foot waterline easement as the same is shown and designated on the plat entitled "AMENDED PLAT, SITE WATER DISTRIBUTION SYSTEM, WINROCK CENTER, ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 27, 1960 in Book C5, folio 31, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 53° 32' 31" W, 943.68 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 76° 25' 22" E, 1391.49 feet distant; Thence,

S 18° 21' 04" W , 37.23 feet to Junction Point 1; Thence,

S 18° 21' 04" W , 86.48 feet to a point; Thence,

S 26° 39' 27" E , 99.59 feet to Junction Point 2; Thence,

S 26° 39' 27" E , 36.51 feet to a point; Thence,

S 71° 39' 58" E , 3.16 feet to the terminus of said centerline.

Also an easement Ten (10') feet in width, being Five (5') feet on each side of the following described centerline:

Beginning at Junction Point 1; Thence,

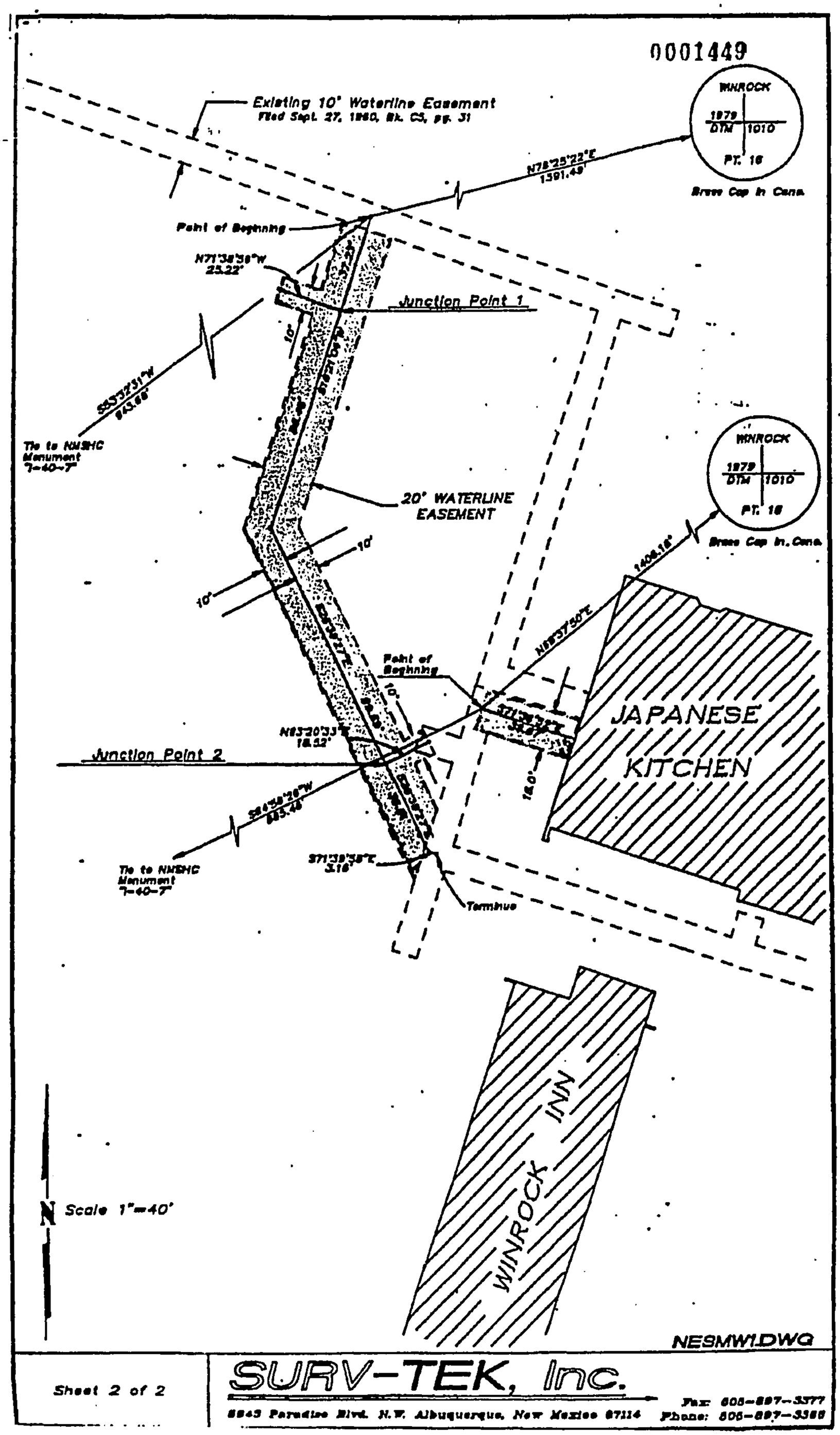
N 71° 38' 56" W , 25.22 feet to the terminus of said centerline.

Beginning at Junction Point 2; Thence,

N 63° 20' 33" E , 18.52 feet to the terminus of said centerline.

EXHIBIT F

EXHIBIT F



Sheet 2 of 2

SURV-TEK, Inc.

8843 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Fax: 505-897-3377
Phone: 505-897-3368

LEGAL DESCRIPTION

An easement lying and being situate within Parcel A, Winrock Center Addition as the same is shown and designated on the plat entitled "REPLAT OF WINROCK CENTER ADDITION WITHIN THE NORTHWEST 1/4, SECTION 18, T 10 N, R 4 E, N.M.P.M., ALBUQUERQUE, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico on September 26, 1979, in Volume D9, folio 184, more particularly described by survey performed by Russ P. Hugg, New Mexico Professional Surveyor Number 9750, using New Mexico State Plane Coordinate System, Central Zone (NAD 27) grid bearings and ground distances as follows:

An easement Ten (10') feet in width, being Five (5') feet on each side of the following described centerline:

BEGINNING at a point on the centerline of an existing Twenty (20') foot waterline easement as the same is designated on the Easement Document filed in the office of the County Clerk of Bernalillo County, New Mexico on July 25, 1972 in Book Misc. 270, pages 203-206, whence (1) the New Mexico State Highway Commission Monument "I-40-7", (a 3-1/2" brass cap found in place) bears S 62° 27' 07" W, 1973.24 feet distant and (2) Angle Point Number 16 as described on said plat of Winrock Center Addition, (a 3-1/2" brass cap stamped "Winrock, DTM 1010, PT. 16, found in place) bears S 86° 01' 13" E, 362.95 feet distant; Thence,

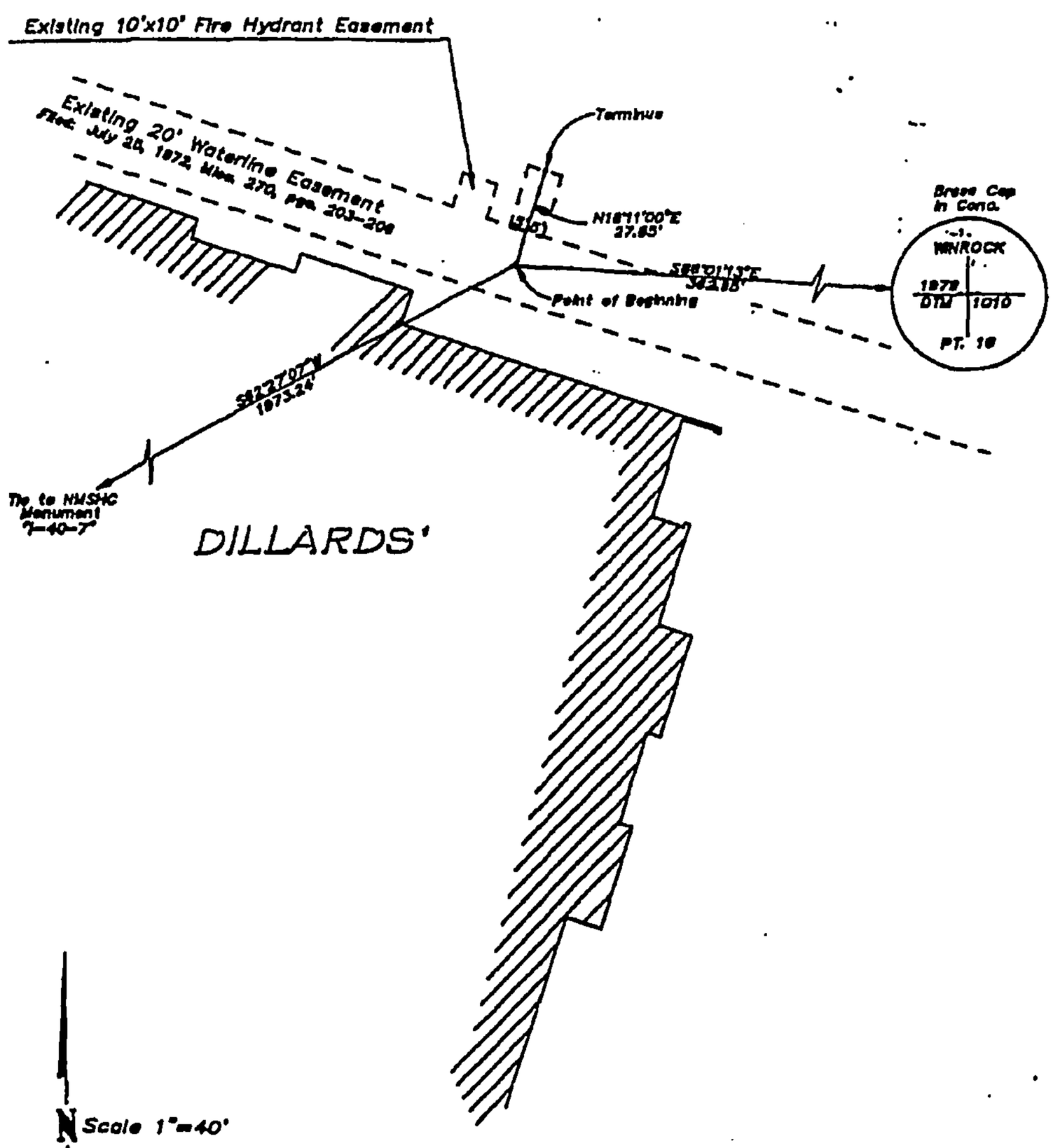
N 18° 11' 00" E , 27.85 feet to the terminus of said centerline.

PROFESSIONAL SURVEYOR
STATE OF
No. 9750
NEW MEXICO
RUSS P. HUGG

EXHIBIT G

EXHIBIT A

0001451



NE9MW6.DWG

Sheet 2 of 2

SURV-TEK, Inc.

5643 Paradise Blvd. N.W. Albuquerque, New Mexico 87114

Fax: 505-897-3377
Phone: 505-897-3366

EXHIBIT G

EXISTING EASEMENTS OF RECORD BEING VACATED

1. WATERLINE EASEMENTS GRANTED TO THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED MARCH 9, 1993, RECORDED IN BOOK 93-6, PAGE 1435, AS DOCUMENT NO. 93023664, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO A2 AND A3 OF PARCEL 4, AND PARCEL 5) (PLOTTED HEREON).

2. WATERLINE EASEMENTS GRANTED TO THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED NOVEMBER 2, 1993, RECORDED IN BOOK 93-31, PAGE 1413, AS DOCUMENT NO. 93123089, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO A3 OF PARCEL 4 AND PARCEL 5) (PLOTTED HEREON)

3. WATERLINE EASEMENTS GRANTED TO THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED SEPTEMBER 1, 1993, RECORDED IN BOOK 93-24, PAGE 3652, AS DOCUMENT NO. 93096984, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO A3 OF PARCEL 4 AND PARCEL 5) (PLOTTED HEREON).

4. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO, FILED AUGUST 4, 1961, RECORDED IN BOOK D 605, PAGE 531, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO A3 OF PARCEL 4 AND PARCEL 5) (PLOTTED HEREON)

5. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND U.S. WEST COMMUNICATIONS, INC., FILED AUGUST 25, 1993, RECORDED IN BOOK 93-23, PAGE 3120, AS DOCUMENT NO. 93093164, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO A3 OF PARCEL 4 AND PARCEL 5) (PLOTTED HEREON).

6. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND U.S. WEST COMMUNICATIONS, INC., FILED MARCH 1, 1994, RECORDED IN BOOK 94-7, PAGE 4859, AS DOCUMENT NO. 94028293, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCEL 5) (PLOTTED HEREON).

7. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND U.S. WEST COMMUNICATIONS, INC., FILED AUGUST 25, 1993, RECORDED IN BOOK 93-23, PAGE 3126, AS DOCUMENT NO. 93093165, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCEL 5) (PLOTTED HEREON).

8. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND U.S. WEST COMMUNICATIONS, INC., FILED NOVEMBER 29, 1993, RECORDED IN BOOK 93-34, PAGE 1098, AS DOCUMENT NO. 93134663, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCEL 5) (PLOTTED HEREON).

9. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED NOVEMBER 18, 1960, RECORDED IN BOOK D 571, PAGE 432, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. AMENDED BY PARTIAL VACATIONS AS SHOWN ON THE RECORDED PLAT, FILED AUGUST 23, 1994, IN PLAT BOOK 94C, FOLIO 281, AND PLAT FILED OCTOBER 28, 1996, IN PLAT BOOK 96C, FOLIO 446. (AS TO PARCELS 2 AND 3 (PLOTTED HEREON).

10. EASEMENTS FOR WATERLINE DISTRIBUTION SYSTEM, AS SHOWN ON RECORDED PLAT, RECORDED IN PLAT BOOK C4, FOLIO 184, (AS TO A2 AND A3 OF PARCEL 4, AND PARCEL 5), IN PLAT BOOK C5, FOLIO 31, (AS TO A2 OF PARCEL 4, AND PARCEL 5) IN PLAT BOOK C8, FOLIO 35C AND IN PLAT BOOK D5, FOLIO 54. (AS TO PARCEL 5) (PLOTTED HEREON)

11. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED APRIL 8, 1960, RECORDED IN BOOK D 536, PAGE 597, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. AMENDED BY PARTIAL VACATIONS AS SHOWN ON THE RECORDED PLAT, FILED AUGUST 23, 1994, IN PLAT BOOK 94C, FOLIO 281, AND PLAT FILED OCTOBER 28, 1996, IN PLAT BOOK 96C, FOLIO 446. (AS TO PARCEL 2 AND 3).

12. RIGHT-OF-WAY EASEMENT GRANTED TO MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED APRIL 8, 1985, RECORDED IN BOOK MISC. 217A, PAGE 375, AS DOCUMENT NO. 8526079, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCEL 3).

13. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED AUGUST 12, 1986, RECORDED IN BOOK MISC. 382A, PAGE 553, AS DOCUMENT NO. 8674791, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCELS 3, TRACTS A2 AND C2A OF PARCEL 4 AND PARCEL 5).

14. RIGHT-OF-WAY EASEMENT GRANTED TO MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED NOVEMBER 29, 1984, RECORDED IN BOOK MISC. 177A, PAGE 788, AS DOCUMENT NO. 8490471, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. (AS TO PARCEL 3).

15. GRANT OF EASEMENT FOR WATER LINES TO THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED JANUARY 2, 1968, RECORDED IN BOOK MISC. 90, PAGE 157; (AS TO PARCELS 1 AND 5); FILED MAY 26, 1972, RECORDED IN BOOK MISC. 262, PAGE 167, (AS TO A2 OF PARCEL 4 AND PARCEL 5); FILED JULY 25, 1972, RECORDED IN BOOK MISC. 270, PAGE 203, (AS TO A2 OF PARCEL 4 AND PARCEL 5), RECORDS OF BERNALILLO COUNTY, NEW MEXICO. AMENDED BY PARTIAL VACATIONS CONTAINED IN QUITCLAIM DEED, FILED FEBRUARY 3, 1967, RECORDED IN BOOK D 822, PAGE 940, AS SHOWN ON THE RECORDED PLAT, FILED AUGUST 23, 1994, IN PLAT BOOK 94C, FOLIO 281, AND PLAT FILED OCTOBER 28, 1996, IN PLAT BOOK 96C, FOLIO 446.

16. EASEMENT GRANTED TO THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED MAY 23, 1989, RECORDED IN BOOK MISC. 751A, PAGE 761, AS DOCUMENT NO. 8946173, REFILED MAY 25, 1989, RECORDED IN BOOK MISC. 752A, PAGE 400, AS DOCUMENT NO. 8946743, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

17. DECLARATION OF EASEMENT, FILED OCTOBER 24, 1969, RECORDED IN BOOK MISC. 154, PAGE 40, AMENDMENT TO DECLARATION OF EASEMENT, FILED JULY 24, 1987, RECORDED IN BOOK MISC. 514A, PAGE 599, AS DOCUMENT NO. 08777630, ASSIGNMENT OF EASEMENTS AND COVENANTS TO THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, A NEW JERSEY CORPORATION, FILED SEPTEMBER 27, 1979, RECORDED IN BOOK MISC. 721, PAGE 171, AS DOCUMENT NO. 7973017, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

18. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED SEPTEMBER 20, 1984, RECORDED IN BOOK MISC. 157A, PAGE 321, AS DOCUMENT NO. 8472494, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

19. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED DECEMBER 23, 1985, RECORDED IN BOOK MISC. 304A, PAGE 554, AS DOCUMENT NO. 858249A, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

20. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED JANUARY 17, 1984, RECORDED IN BOOK MISC. 81A, PAGE 894, AS DOCUMENT NO. 843826, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. PARTIAL VACATION OF SAID EASEMENT, AS SET FORTH IN PLATS RECORDED IN PLAT BOOK 94C, FOLIO 281 AND PLAT BOOK 96C, FOLIO 446.

21. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED JANUARY 30, 1991, RECORDED IN BOOK BCR 91-2, PAGE 3512, AS DOCUMENT NO. 916993, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

22. UNDERGROUND EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED DECEMBER 23, 1985, RECORDED IN BOOK MISC. 304A, PAGE 553, AS DOCUMENT NO. 858248A, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

23. UNDERGROUND WATER LINE EASEMENT AGREEMENT EXECUTED BY AND BETWEEN THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, A BODY CORPORATE OF THE STATE OF NEW MEXICO, THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, A NEW JERSEY CORPORATION AND THE CITY OF ALBUQUERQUE, A MUNICIPAL CORPORATION, FILED MAY 14, 1996, RECORDED IN BOOK 96-13, PAGE 6463, AS DOCUMENT NO. 96054182 RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

24. EASEMENTS RESERVED ACROSS THE INSURED PREMISES, AS SHOWN ON THE RECORDED PLAT, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON OCTOBER 28, 1996, IN PLAT BOOK 95C, FOLIO 446.

25. EASEMENT EXECUTED BY AND BETWEEN THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, A BODY CORPORATE OF THE STATE OF NEW MEXICO, WINROCK

DEVELOPMENT COMPANY, A PARTNERSHIP, TO WINROCK ENTERPRISES, INC., AN ARKANSAS CORPORATION AND J.L. WHITE INVESTMENTS, INC., FILED AUGUST 13, 1962, RECORDED IN BOOK D 654, PAGE 583, RECORDS OF BERNALILLO COUNTY, NEW MEXICO. ASSIGNMENT OF EASEMENTS AND COVENANTS TO THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, A NEW JERSEY CORPORATION, FILED SEPTEMBER 27, 1979, RECORDED IN BOOK MISC. 721, PAGE 171, AS DOCUMENT NO. 7973017, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

26. EASEMENTS RESERVED ACROSS THE INSURED PREMISES, AS SHOWN ON THE RECORDED PLAT, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO, ON AUGUST 26, 1988, IN PLAT BOOK C37, FOLIO 54.

27. EASEMENT GRANTED TO PUBLIC SERVICE COMPANY OF NEW MEXICO AND MOUNTAIN STATES TELEPHONE AND TELEGRAPH COMPANY, FILED DECEMBER 9, 1960, RECORED IN BOOK D 574, PAGE 79, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

28. COMMUNICATIONS EASEMENT EXECUTED BY AND BETWEEN THE REGENTS OF THE UNIVERSITY OF NEW MEXICO, A BODY CORPORATE OF THE STATE OF NEW MEXICO, THE PRUDENTIAL INSURANCE COMPANY OF AMERICA, A NEW JERSEY CORPORATION AND DILLARD DEPARTMENT STORES, INC., A DELAWARE CORPORATION FILED MARCH 8, 1995, RECORDED IN BOOK 95-6, PAGE 2371, AS DOCUMENT NO. 95023422, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 17, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St. NE #102
Albuquerque, NM 87109

RE: REVISED DRAINAGE PLAN FOR WINROCK CENTER 1993 IMPROVEMENTS (WINROCK RESTAURANT SITE, DILLARDS WEST PARKING LOT GRADING AND WEST END EXPANSION) (J19-D58). SHEET 2 OF 4 & 3 OF 4 WITH REVISION DATED 2/10/93 AND SHEET 4 OF 4 ENGINEER'S STAMP DATED 1/22/93.

Dear Mr. Padilla:

Based on the information provided on your February 10, 1993 resubmittal, the above referenced sites are approved for Grading/Paving and Building Permit.

Please be advised that the Certificate of Occupancy will be withheld until the Engineer's Certification of the proposed improvements and on the approval of the Winrock Master Drainage Plan have been completed.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya

Bernie J. Montoya, CE
Engineering Assistant

BJM/dl/WPHYD/7518

xc: Alan Martinez
<File>

Released 30 Day
Temp.

Informed Vicki
then Suzanne to
release 30 Day
TEmp.

10/15/93

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 4, 1993

Carlos Padilla
Avid Engineering
6100 Seagull St NE #102
Albuquerque, NM 87109

RE: DRAINAGE PLAN FOR WINROCK CENTER 1993 IMPROVEMENTS (WINROCK RESTAURANT SITE, DILLARDS WEST PARKING LOT GRADING & WEST END EXPANSION) (J19-D58) SHEET 2 OF 4 ENGINEER'S STAMP DATED 1/19/93 & SHEET 4 OF 4 ENGINEER'S STAMP DATED 1/22/93.

Dear Mr. padilla:

Based on the information provided on your February 1, 1993 resubmittal, listed you will find certain concerns that will need to be addressed prior to final approval:

1. Sheet 2 of 4:

   a. T.B.M. must be located within the vicinity of the proposed development and must be permanently marked.
   b. Please check the entry conditions of your proposed concrete rundown using the Weir equation.

2. Sheet 3 of 4:

   a. Analyze the inlet (A1) in a sump condition using the Weir equation.
   b. The plan drawing indicates that once the assumed 100-year W.S.E. reaches 95.0 it will spill over into the loading ramp. Please address, you may need a water block.
   c. Please identify how you determined the 26.9 cfs surface flow to Inlet A1.
   d. T.B.M. also must be located within the site being developed. You may want to locate the T.B.M. in an area that will serve all three projects.

3. Sheet 4 of 4: No Comments.

If I can be of further assistance, please feel free to contact me at 768-2667.

Sincerely,

Bernie J. Montoya
Engineering Assistant

BJMdl/WPHYD/7488

xc: File