

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

December 17, 2020

Scott Eddings, P.E.
Huitt-Zollars
333 Rio Rancho Blvd., Suite 101
Rio Rancho, NM 87124

**RE: Bobby Foster and University Blvd.
Tract A-1-A-5 and Tract A-1-A-4
Grading and Drainage Plan Stamp Date: 9/9/20
Hydrology File: R16D100**

Dear Mr. Eddings:

Based on the submittal received on 11/18/20, the Rough Grading Plan with supporting Drainage Study is approved for Grading Permit.

PO Box 1293

Albuquerque

If you have any questions, please contact me at 924-3986 or earnijo@cabq.gov.

Sincerely,

NM 87103

www.cabq.gov

Ernest Armijo, P.E.
Principal Engineer, Planning Dept.
Development Review Services



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title: _____ **Building Permit #:** _____ **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

Owner: _____ **Contact:** _____

Address: _____

Phone#: _____ **Fax#:** _____ **E-mail:** _____

TYPE OF SUBMITTAL: _____ PLAT (___# OF LOTS) _____ RESIDENCE _____ DRB SITE _____ ADMIN SITE

IS THIS A RESUBMITTAL?: _____ Yes _____ No

DEPARTMENT: _____ TRAFFIC/ TRANSPORTATION _____ HYDROLOGY/ DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

- _____ ENGINEER/ARCHITECT CERTIFICATION
- _____ PAD CERTIFICATION
- _____ CONCEPTUAL G & D PLAN
- _____ GRADING PLAN
- _____ DRAINAGE MASTER PLAN
- _____ DRAINAGE REPORT
- _____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
- _____ ELEVATION CERTIFICATE
- _____ CLOMR/LOMR
- _____ TRAFFIC CIRCULATION LAYOUT (TCL)
- _____ TRAFFIC IMPACT STUDY (TIS)
- _____ OTHER (SPECIFY) _____
- _____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- _____ BUILDING PERMIT APPROVAL
- _____ CERTIFICATE OF OCCUPANCY
- _____ PRELIMINARY PLAT APPROVAL
- _____ SITE PLAN FOR SUB'D APPROVAL
- _____ SITE PLAN FOR BLDG. PERMIT APPROVAL
- _____ FINAL PLAT APPROVAL
- _____ SIA/ RELEASE OF FINANCIAL GUARANTEE
- _____ FOUNDATION PERMIT APPROVAL
- _____ GRADING PERMIT APPROVAL
- _____ SO-19 APPROVAL
- _____ PAVING PERMIT APPROVAL
- _____ GRADING/ PAD CERTIFICATION
- _____ WORK ORDER APPROVAL
- _____ CLOMR/LOMR
- _____ FLOODPLAIN DEVELOPMENT PERMIT
- _____ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

EXISTING DRAINAGE CONDITIONS

THIS SITE IS UNDEVELOPED AND GENERALLY SLOPES FROM NORTHWEST TO SOUTHEAST TOWARDS AN EXISTING PLAYA. SITE IS PART OF THE MESA DEL SOL MASTER DRAINAGE PLAN AND MOST RECENTLY PART OF DRAINAGE REPORT FOR MESA DEL SOL RESIDENTIAL MONTAGE UNIT 3 AND 4 PREPARED BY BOHANNAN HUSTON, INC DATED AUGUST 10, 2020.

FLOOD ZONE

PER THE FEMA MAP NUMBER 35001 C0555H DATED AUGUST 16, 2012 SHOWS THE SITE IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE AREA.

ROUGH DRAINAGE CONDITIONS

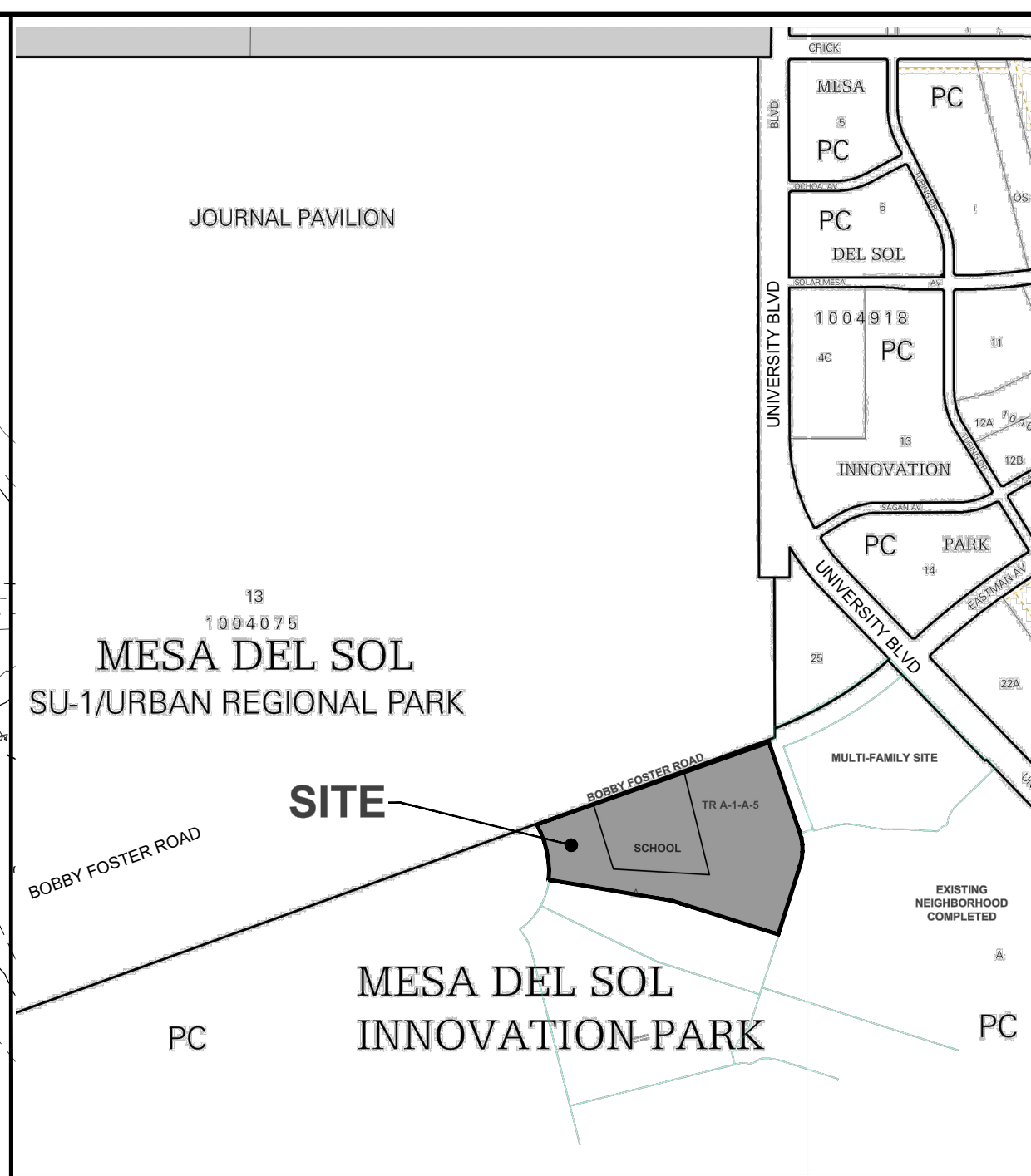
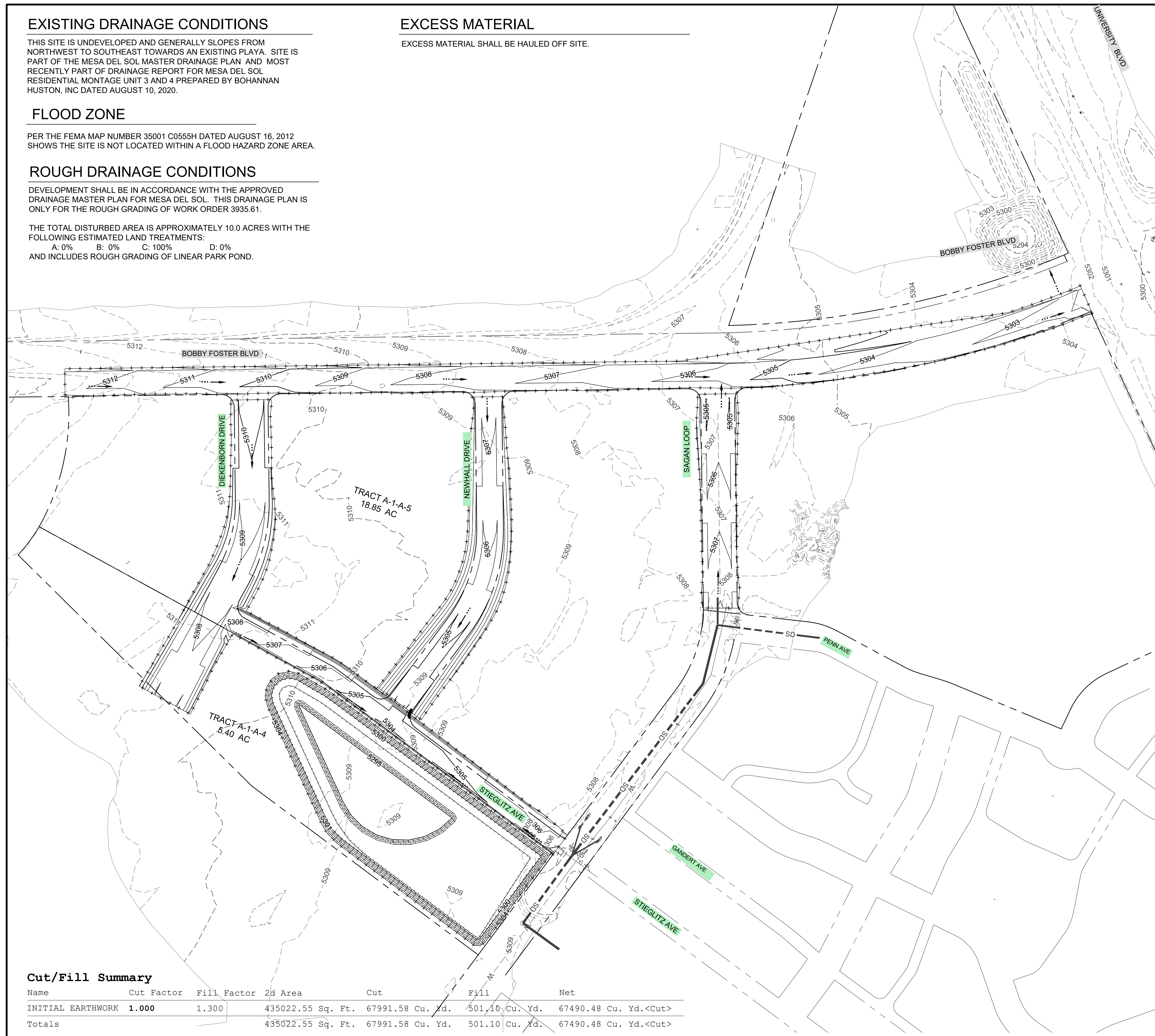
DEVELOPMENT SHALL BE IN ACCORDANCE WITH THE APPROVED DRAINAGE MASTER PLAN FOR MESA DEL SOL. THIS DRAINAGE PLAN IS ONLY FOR THE ROUGH GRADING OF WORK ORDER 3935.61.

THE TOTAL DISTURBED AREA IS APPROXIMATELY 10.0 ACRES WITH THE FOLLOWING ESTIMATED LAND TREATMENTS:

A: 0% B: 0% C: 100% D: 0%
AND INCLUDES ROUGH GRADING OF LINEAR PARK POND.

EXCESS MATERIAL

EXCESS MATERIAL SHALL BE HAULED OFF SITE.



VICINITY MAP
ZONE ATLAS MAPS
R-15-Z, R-16-Z

LEGEND

- - - - - 5050 EXISTING (INDEX) CONTOUR
- - - - - 5251 EXISTING (INTERMEDIATE) CONTOUR
- - - - - 5040 PROPOSED (INDEX) CONTOUR
- - - - - 5041 PROPOSED (INTERMEDIATE) CONTOUR
- FLOW DIRECTION
- + + + + GRADING LIMITS

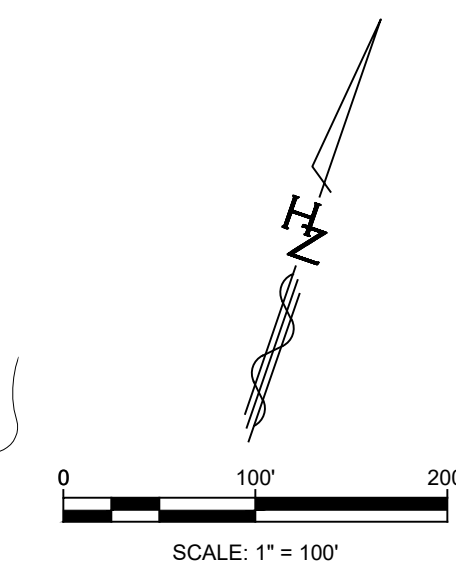
GENERAL NOTES

1. PROJECT INCLUDES ROUGH GRADING FOR FUTURE CITY WORK ORDER 3935.81.
2. THE STORM WATER POLLUTION PREVENTION PLAN SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION PROJECT.
3. CONTRACTOR SHALL COMPLY WITH CITY, STATE, AND FEDERAL REQUIREMENTS FOR GRADING IN EXCESS OF 1 ACRE.



Cut/Fill Summary

Name	Cut Factor	Fill Factor	2d Area	Cut	Fill	Net
INITIAL EARTHWORK	1.000	1.300	435022.55 Sq. Ft.	67991.58 Cu. Yd.	501.10 Cu. Yd.	67490.48 Cu. Yd.<Cut>
Totals			435022.55 Sq. Ft.	67991.58 Cu. Yd.	501.10 Cu. Yd.	67490.48 Cu. Yd.<Cut>

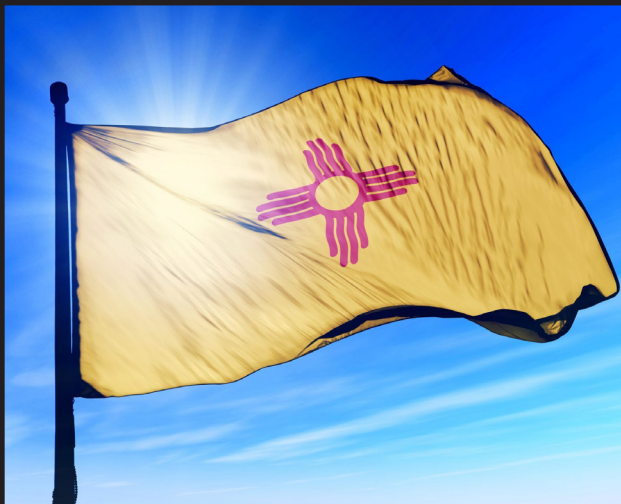


AS BUILT INFORMATION		DATE	DATE	DATE	DATE	DATE	DATE
CONTRACTOR	STARTED BY	INSPECTOR'S	INSPECTOR'S	INSPECTOR'S	INSPECTOR'S	INSPECTOR'S	INSPECTOR'S
NO.	BY	NO.	BY	NO.	BY	NO.	BY
SURVEY INFORMATION		FIELD NOTES		BENCH MARKS		MICRO-FILM INFORMATION	
NO.	BY	NO.	BY	NO.	BY	NO.	BY
ENGINEER'S SEAL		REGISTERED PROFESSIONAL ENGINEER		REGISTERED PROFESSIONAL ENGINEER		REGISTERED PROFESSIONAL ENGINEER	
NO.	DATE	REMARKS	BY	NO.	DATE	REMARKS	BY
DESIGNED BY: JLM		DATE: November 13, 2020		DRAWN BY: LRT		DATE: November 13, 2020	
DWG NAME: ROUGH GRADING PLAN.dwg		PROJECT #: R312703.01		CHECKED BY: SAE		DATE: November 13, 2020	
Designed By: HUITT-ZOLLARS Huitt-Zollars, Inc. Albuquerque 6501 Americas Pkwy NE, Suite 550 Albuquerque, New Mexico 87110 Phone (505) 883-8114 Fax (505) 883-5022				SC³ INTERNATIONAL 4020 Vasar Drive NE Suite I TITLE: ROUGH GRADING PLAN			
Design Review Committee		City Engineer		Mo./Day/Yr.		Mo./Day/Yr.	
City Project No. 3935.81		Zone Map No. R-15-Z, R-16-Z		Sheet 1		Of 1	

Plotted: 11/17/2020 7:28:21 PM, By: Edwings, Scott
 H:\proj\R312703.01\Drawings\1107\CADD & BIM\10.1 AutoCAD\Sheet\Sheet\ROUGH GRADING PLAN.dwg
 User: Edwings, Scott 11/17/2020 7:28:21 PM, 10:10:10

DRAINAGE STUDY FOR BOBBY FOSTER ROAD AND UNIVERSITY BLVD.

PREPARED FOR:



Project Location:

**Bobby Foster Road and
University Boulevard
Albuquerque, New Mexico**

November 2020



PREPARED BY:

HUITT-ZOLLARS

**333 RIO RANCHO DRIVE NE, SUITE 101
RIO RANCHO, NM 87124
505.892.5141; FAX 505.892.3259**

WWW.HUITT-ZOLLARS.COM



**BOBBY FOSTER ROAD AND UNIVERSITY BOULEVARD
DRAINAGE STUDY**

**CITY OF ALBUQUERQUE
PROJECT NO. 3935.81**

PREPARED FOR:



PREPARED BY:

HUITT-ZOLIARS
333 RIO RANCHO BLVD., SUITE 101
RIO RANCHO, NEW MEXICO 87124

NOVEMBER 2020

HZI Project No. R312703.01



Bobby Foster Road and University Boulevard Drainage Study

I, Nina Leung-Villa, 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.





Introduction.....	1
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APPENDICES

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INTRODUCTION

This drainage report addresses the proposed infrastructure required to convey the storm water runoff from proposed developments located southwest of the Bobby Foster Road and University Boulevard intersection. Existing and proposed conditions have been analyzed to determine infrastructure requirements for the proposed developments.

FLOOD HAZARD ZONE

The proposed site does not lie within a flood zone as shown on Flood Insurance Rate Map Number 35001C0555H, dated August 16, 2012. See Appendix A for the FEMA Flood Insurance Rate Map.

RELATED REPORTS

This report references the Drainage Report for Mesa del Sol Residential Montage Unit 1 and 2 by Bohannon Huston, Inc., dated January 14, 2011. That report provided analysis for this project site and the surrounding area. All hydrology calculations were completed for the 100-year, 6-hour storm. This drainage study will modify portions of the hydrology AHYMO model from the Montage Unit 1 and 2 report due to updated land uses.

This report also references the Drainage Report for Mesa del Sol Residential Montage Unit 3 and 4 by Bohannon Huston, Inc., dated August 10, 2020. That report resulting in upsizing of Pond 2A which is an outfall for this project site.

JURISDICTIONS OF PUBLIC AGENCIES

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.

METHODOLOGY

This drainage report follows procedures outlined in the Development Process Manual, by City of Albuquerque (DPM). This report will utilize AHYMO for hydrology modeling to match modeling from the Montage Unit 1 and 2 report. See Appendix B for the AHYMO input and output files. The precipitation data has been updated according to NOAA Atlas Point Precipitation Frequency Estimates (Appendix B).

EXISTING CONDITIONS

The project site is currently undeveloped and generally slopes from northwest to southeast towards an existing playa. A portion of Bobby Foster Road drains toward the project site. University Boulevard drains south towards the playa. Refer to the Basin Map in Appendix D for existing and proposed flow patterns.

A series of retention ponds exists at the western boundary of the project site to capture flows from the west. A series of detention ponds exists within the project site to capture developed flows from an existing residential subdivision and the proposed developments of this project.



PROPOSED CONDITIONS

The project site is proposed for a mixture of commercial and residential developments. Please refer to the Basin Map in Appendix D for basin characteristics including area, type of development, and peak flow amounts. The naming convention for basins and general flow direction follows the basins as established with the Montage Unit 1 and 2 "Future Developed Conditions" Basin Map. As previously studied in recent drainage reports, the site has multiple ponding facilities which will provide the outfall for this site.

Basin S is proposed to be a single-family residential development which will drain west towards an existing retention pond that is sized to accept developed runoff from Basin S.

Basin Y-2 is proposed to be a multi-family residential development which will drain towards existing detention Pond 2B. Pond 2B is sized to accept developed runoff from Basin Y-2.

Refer to the table below for a flowrate comparison of Basin S and Basin Y-2. Because the proposed flowrate from these basins do not exceed the allowable flowrate, the existing retention pond and Pond 2B are not required to be revised with this drainage study.

Basin ID	Allowable Q per <u>Montage Unit 1 and 2</u> (CFS)	Actual Q (CFS)
S	34.0	29.9
Y-2	8.9	8.6

Basins Park, T, U, V, W-1, W-2, and W-3 will drain towards Pond 1. Pond 1 is proposed as a detention pond that outfalls to Pond 2A. Pond 1 was designed with the Montage Unit 1 and 2 report and has been analyzed with the updated land uses presented with this project site. The original design of Pond 1 is sufficient for this proposed project and it will be constructed accordingly. For a hydrologic summary of Pond 1, refer to Appendix C. Hydrologic data was obtained from AHYMO results in Appendix B. Refer to the construction plans for this project for a detailed design of Pond 1.

Basins J, X, Bobby Foster, and Y-1 will drain towards Pond 2A. Pond 2A is an existing detention pond that outfalls to Pond 2B. Pond 2A was upsized with the Montage Unit 3 and 4 report and has been analyzed with the updated land uses presented with this project site. The revised design of Pond 2A is sufficient for this proposed project. For a hydrologic summary of Pond 2A, refer to Appendix C. Hydrologic data was obtained from AHYMO results in Appendix B. Refer to the Montage Unit 4 construction plans for a detailed design of Pond 2A.

A hydraulic analysis of the proposed storm drain system for each unit of development will occur with each development. Each unit of development will drain towards their outfalls via surface street flow and/or underground storm drain pipes.



STORMWATER QUALITY

As part of compliance with the stormwater quality program implemented by the City of Albuquerque in cooperation with the EPA, the existing and proposed detention and retention ponds will serve as a dual use stormwater quality management and flood control device. With the utilization of the ponds, the stormwater released within the project limits will be effectively treated.

CONCLUSION

This report provides a conceptual design and analysis of proposed improvements to safely manage stormwater generated within the project site. In addition to stormwater management, this project will integrate techniques to improve stormwater quality. For a detailed design, please refer to the construction plans to be completed in conjunction with this drainage study.

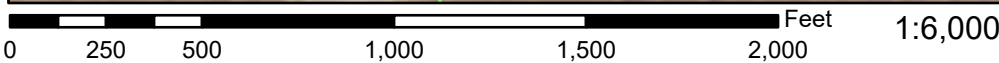
National Flood Hazard Layer FIRMette



106°37'41"W 34°59'36"N



USGS The National Map: Orthoimagery. Data refreshed October, 2020.



106°37'4"W 34°59'7"N

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| OTHER FEATURES | | Levee, Dike, or Floodwall |
| | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| MAP PANELS | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **10/19/2020 at 5:51 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



NOAA Atlas 14, Volume 1, Version 5
 Location name: Albuquerque, New Mexico,
 USA*

Latitude: 34.9913°, Longitude: -106.6213°
 Elevation: 5302.6 ft**

* source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeriels](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.179 (0.155-0.207)	0.232 (0.200-0.268)	0.310 (0.267-0.358)	0.370 (0.318-0.426)	0.453 (0.387-0.520)	0.516 (0.439-0.593)	0.583 (0.493-0.670)	0.654 (0.548-0.750)	0.748 (0.621-0.860)	0.823 (0.679-0.946)
10-min	0.272 (0.236-0.315)	0.352 (0.304-0.408)	0.472 (0.406-0.545)	0.563 (0.484-0.648)	0.689 (0.589-0.791)	0.786 (0.668-0.903)	0.888 (0.750-1.02)	0.995 (0.833-1.14)	1.14 (0.945-1.31)	1.25 (1.03-1.44)
15-min	0.338 (0.293-0.390)	0.437 (0.377-0.506)	0.585 (0.503-0.675)	0.698 (0.599-0.803)	0.854 (0.730-0.981)	0.974 (0.829-1.12)	1.10 (0.929-1.26)	1.23 (1.03-1.41)	1.41 (1.17-1.62)	1.55 (1.28-1.79)
30-min	0.455 (0.394-0.525)	0.589 (0.508-0.681)	0.787 (0.678-0.909)	0.940 (0.807-1.08)	1.15 (0.983-1.32)	1.31 (1.12-1.51)	1.48 (1.25-1.70)	1.66 (1.39-1.90)	1.90 (1.58-2.19)	2.09 (1.72-2.40)
60-min	0.563 (0.488-0.650)	0.729 (0.629-0.842)	0.974 (0.839-1.13)	1.16 (0.999-1.34)	1.42 (1.22-1.64)	1.62 (1.38-1.86)	1.83 (1.55-2.11)	2.06 (1.72-2.36)	2.35 (1.95-2.70)	2.59 (2.13-2.98)
2-hr	0.640 (0.553-0.753)	0.819 (0.705-0.964)	1.08 (0.930-1.27)	1.29 (1.11-1.51)	1.58 (1.34-1.84)	1.82 (1.53-2.11)	2.06 (1.73-2.40)	2.32 (1.93-2.69)	2.68 (2.20-3.11)	2.97 (2.42-3.45)
3-hr	0.678 (0.591-0.794)	0.862 (0.749-1.01)	1.13 (0.980-1.32)	1.34 (1.16-1.56)	1.63 (1.40-1.90)	1.87 (1.59-2.16)	2.12 (1.79-2.45)	2.38 (2.00-2.76)	2.75 (2.28-3.18)	3.05 (2.50-3.53)
6-hr	0.788 (0.688-0.915)	0.991 (0.868-1.15)	1.27 (1.12-1.48)	1.50 (1.31-1.73)	1.80 (1.56-2.08)	2.04 (1.76-2.35)	2.29 (1.96-2.64)	2.55 (2.17-2.93)	2.91 (2.45-3.35)	3.20 (2.67-3.69)
12-hr	0.875 (0.771-0.994)	1.10 (0.973-1.25)	1.39 (1.23-1.58)	1.62 (1.42-1.84)	1.93 (1.69-2.19)	2.17 (1.89-2.45)	2.42 (2.09-2.73)	2.67 (2.29-3.02)	3.01 (2.56-3.42)	3.29 (2.77-3.74)
24-hr	0.985 (0.879-1.11)	1.23 (1.10-1.39)	1.54 (1.37-1.74)	1.79 (1.59-2.01)	2.12 (1.88-2.38)	2.37 (2.09-2.66)	2.63 (2.32-2.95)	2.90 (2.54-3.24)	3.25 (2.83-3.65)	3.53 (3.06-3.96)
2-day	1.05 (0.938-1.17)	1.31 (1.18-1.46)	1.63 (1.46-1.82)	1.88 (1.69-2.09)	2.22 (1.98-2.47)	2.48 (2.21-2.76)	2.75 (2.44-3.05)	3.02 (2.67-3.35)	3.38 (2.97-3.76)	3.65 (3.20-4.07)
3-day	1.13 (1.03-1.24)	1.41 (1.28-1.55)	1.74 (1.58-1.91)	2.00 (1.82-2.19)	2.34 (2.13-2.57)	2.61 (2.36-2.86)	2.88 (2.60-3.15)	3.15 (2.83-3.45)	3.50 (3.14-3.84)	3.77 (3.37-4.14)
4-day	1.22 (1.12-1.32)	1.51 (1.39-1.64)	1.84 (1.70-2.00)	2.11 (1.95-2.28)	2.47 (2.27-2.67)	2.74 (2.52-2.96)	3.01 (2.76-3.25)	3.27 (2.99-3.54)	3.63 (3.31-3.92)	3.89 (3.54-4.22)
7-day	1.40 (1.30-1.52)	1.74 (1.61-1.88)	2.11 (1.95-2.28)	2.40 (2.22-2.59)	2.78 (2.57-2.99)	3.07 (2.83-3.30)	3.35 (3.08-3.60)	3.61 (3.33-3.89)	3.96 (3.64-4.26)	4.21 (3.85-4.54)
10-day	1.54 (1.43-1.67)	1.92 (1.77-2.07)	2.34 (2.17-2.52)	2.67 (2.48-2.87)	3.11 (2.88-3.34)	3.43 (3.17-3.69)	3.76 (3.47-4.03)	4.08 (3.75-4.38)	4.49 (4.12-4.83)	4.80 (4.38-5.16)
20-day	1.96 (1.81-2.12)	2.43 (2.25-2.63)	2.95 (2.73-3.18)	3.34 (3.10-3.59)	3.84 (3.55-4.12)	4.19 (3.88-4.50)	4.54 (4.19-4.87)	4.86 (4.48-5.21)	5.27 (4.85-5.65)	5.55 (5.11-5.96)
30-day	2.34 (2.17-2.52)	2.90 (2.69-3.12)	3.49 (3.24-3.74)	3.92 (3.64-4.20)	4.46 (4.13-4.77)	4.85 (4.48-5.18)	5.21 (4.82-5.57)	5.55 (5.12-5.93)	5.95 (5.49-6.36)	6.23 (5.74-6.66)
45-day	2.84 (2.64-3.04)	3.51 (3.27-3.76)	4.18 (3.90-4.47)	4.65 (4.34-4.97)	5.22 (4.88-5.58)	5.61 (5.24-5.99)	5.96 (5.57-6.35)	6.27 (5.85-6.67)	6.60 (6.17-7.02)	6.79 (6.37-7.22)
60-day	3.28 (3.06-3.53)	4.06 (3.78-4.36)	4.84 (4.51-5.18)	5.39 (5.03-5.77)	6.05 (5.64-6.47)	6.50 (6.07-6.95)	6.91 (6.45-7.39)	7.28 (6.79-7.78)	7.68 (7.18-8.21)	7.94 (7.43-8.48)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

START TIME=0.0 CODE=0 LINES=0

*S MESA DEL SOL OCTOBER 2020 HZI NO. R312703.01

*S-----

*S-----

*S 100 - YEAR RAINFALL -----

RAINFALL TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.83
RAIN SIX= 2.29 RAIN DAY=2.63 DT=0.0

*S-----

*S-----

*S-----THE FOLLOWING BASIN DRAINS WEST INTO EXISTING RETENTION POND-----

*S-----

*S-----

*S BASIN S

COMPUTE NM HYD ID=5 HYD NO=BASIN.S DA=0.0128 SQ MI
PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=5 CODE=1

*S-----

*S-----

*S-----THE FOLLOWING BASINS DRAIN INTO POND 1-----

*S-----

*S-----

*S BASIN PARK

COMPUTE NM HYD ID=10 HYD NO=PARK DA=0.0038 SQ MI
PER A=0.0 PER B=46.0 PER C=47.0 PER D=7.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=10 CODE=1

*S-----

*S BASIN T

COMPUTE NM HYD ID=20 HYD NO=BASIN.T DA=0.0234 SQ MI
PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=20 CODE=1

*S-----

*S BASIN U

COMPUTE NM HYD ID=30 HYD NO=BASIN.U DA=0.0066 SQ MI
PER A=0.0 PER B=28.0 PER C=28.0 PER D=44.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=30 CODE=1

*S-----

*S BASIN V

COMPUTE NM HYD ID=40 HYD NO=BASIN.V DA=0.0322 SQ MI
PER A=0.0 PER B=29.0 PER C=29.0 PER D=42.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=40 CODE=1

*S-----

*S BASIN W-1

COMPUTE NM HYD ID=50 HYD NO=BASIN.W1 DA=0.0048 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=50 CODE=1

*S-----

*S BASIN W-2

COMPUTE NM HYD ID=60 HYD NO=BASIN.W2 DA=0.0092 SQ MI
PER A=0.0 PER B=25.0 PER C=25.0 PER D=50.0
TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=60 CODE=1

*S-----

*S BASIN W-3

COMPUTE NM HYD ID=70 HYD NO=BASIN.W3 DA=0.0128 SQ MI
PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
TP=-.1333 HR MASSRAIN=-1

```

PRINT HYD          ID=70   CODE=1
*S-----
*S ADD BASINS PARK, T, U, V, AND W
ADD HYD            ID=75 HYD=SUM IDi=10 IDii=20
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=30
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=40
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=50
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=60
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=70
PRINT HYD          ID=75 CODE=1
*S-----
*S ROUTE BASINS THROUGH POND 1 (ASSUMES 48" OUTLET PIPE)
ROUTE RESERVOIR   ID=80 HYD=POND.1 INFLOW=75 CODE=20
                  OUTFLOW   STORAGE   ELEV
                  0.001     0.01      5295
                  0.002     0.25      5296
                  0.003     0.54      5297
                  0.004     0.92      5298
                  0.005     1.42      5299
                  0.006     1.97      5300
                  45.1      2.63      5301
                  45.2      3.43      5302
                  45.3      4.84      5303
                  45.4      6.12      5304
PRINT HYD          ID=80 CODE=20
*S-----
*S-----THE FOLLOWING BASINS DRAIN INTO POND 2A-----
*S-----
*S-----
*S BASIN J
COMPUTE NM HYD    ID=10 HYD NO=BASIN.J DA=0.0192 SQ MI
                  PER A=0.0 PER B=27.0 PER C=27.0 PER D=46.0
                  TP=-.1333 HR MASSRAIN=-1
PRINT HYD          ID=10   CODE=1
*S-----
*S BASIN X
COMPUTE NM HYD    ID=20 HYD NO=BASIN.X DA=0.0080 SQ MI
                  PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
                  TP=-.1333 HR MASSRAIN=-1
PRINT HYD          ID=20   CODE=1
*S-----
*S BASIN BOBBY FOSTER
COMPUTE NM HYD    ID=30 HYD NO=BASIN.BF DA=0.0094 SQ MI
                  PER A=0.0 PER B=22.0 PER C=0.0 PER D=78.0
                  TP=-.1333 HR MASSRAIN=-1
PRINT HYD          ID=30   CODE=1
*S-----
*S BASIN Y-1
COMPUTE NM HYD    ID=40 HYD NO=BASIN.Y1 DA=0.0080 SQ MI
                  PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
                  TP=-.1333 HR MASSRAIN=-1
PRINT HYD          ID=40   CODE=1
*S-----
*S ADD BASINS J, X, BOBBY FOSTER, Y-1, AND POND 1 OUTFLOW
ADD HYD            ID=75 HYD=SUM IDi=10 IDii=20
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=30
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=40
ADD HYD            ID=75 HYD=SUM IDi=75 IDii=80
PRINT HYD          ID=75 CODE=1
*S-----
*S ROUTE BASINS THROUGH POND 2A (ASSUMES 18" OUTLET PIPE)
ROUTE RESERVOIR   ID=80 HYD=POND.2A INFLOW=75 CODE=20

```

OUTFLOW	STORAGE	ELEV
0.01	0.01	5294
0.02	0.61	5295
0.03	1.47	5296
4.25	2.56	5297
9.51	3.91	5298
12.76	5.59	5299
15.33	7.65	5300

PRINT HYD ID=80 CODE=20

*S-----
 *S-----
 *S-----THE FOLLOWING BASIN DRAINS INTO EXISTING POND 2B-----
 *S-----
 *S-----

*S BASIN Y-2
 COMPUTE NM HYD ID=5 HYD NO=BASIN.Y2 DA=0.0034 SQ MI
 PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
 TP=-.1333 HR MASSRAIN=-1

PRINT HYD ID=5 CODE=1

*S-----
 FINISH

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/02/2020
START TIME (HR:MIN:SEC) = 16:44:06 USER NO.= HuittZollSingleA57330653
INPUT FILE = C:\Users\nvilla\Desktop\MDS INPUT.txt

START TIME=0.0 CODE=0 LINES=0

*S MESA DEL SOL OCTOBER 2020 HZI NO. R312703.01

*S-----

*S-----

*S 100 - YEAR RAINFALL -----

RAINFALL TYPE=-1 RAIN QUAR=0.0 RAIN ONE= 1.83
RAIN SIX= 2.29 RAIN DAY=2.63 DT=0.0

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.005000 HOURS END TIME = 6.000000 HOURS

*S-----

*S-----

*S-----THE FOLLOWING BASIN DRAINS WEST INTO EXISTING RETENTION POND-----

*S-----

*S-----

*S BASIN S

COMPUTE NM HYD ID=5 HYD NO=BASIN.S DA=0.0128 SQ MI
PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 26.278 CFS UNIT VOLUME = 0.9995 B = 526.28 P60 = 1.8300
AREA = 0.006656 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 16.333 CFS UNIT VOLUME = 0.9991 B = 354.36 P60 = 1.8300
AREA = 0.006144 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA BASIN.S

RUNOFF VOLUME = 1.51227 INCHES = 1.0324 ACRE-FEET
PEAK DISCHARGE RATE = 29.90 CFS AT 1.530 HOURS BASIN AREA = 0.0128 SQ. MI.

*S-----

*S-----

*S-----THE FOLLOWING BASINS DRAIN INTO POND 1-----

*S-----

*S-----

*S BASIN PARK

COMPUTE NM HYD ID=10 HYD NO=PARK DA=0.0038 SQ MI
PER A=0.0 PER B=46.0 PER C=47.0 PER D=7.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.0502 CFS UNIT VOLUME = 0.9875 B = 526.28 P60 = 1.8300
AREA = 0.000266 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118414HR TP = 0.133300HR K/TP RATIO = 0.888330 SHAPE CONSTANT, N = 3.992884
UNIT PEAK = 9.4037 CFS UNIT VOLUME = 0.9985 B = 354.70 P60 = 1.8300
AREA = 0.003534 SQ MI IA = 0.42419 INCHES INF = 1.03774 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA PARK

RUNOFF VOLUME = 1.02127 INCHES = 0.2070 ACRE-FEET
PEAK DISCHARGE RATE = 7.07 CFS AT 1.540 HOURS BASIN AREA = 0.0038 SQ. MI.

*S-----

*S BASIN T

COMPUTE NM HYD ID=20 HYD NO=BASIN.T DA=0.0234 SQ MI
PER A=0.0 PER B=24.0 PER C=24.0 PER D=52.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 48.040 CFS UNIT VOLUME = 0.9997 B = 526.28 P60 = 1.8300
AREA = 0.012168 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 29.859 CFS UNIT VOLUME = 0.9995 B = 354.36 P60 = 1.8300
AREA = 0.011232 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA BASIN.T

RUNOFF VOLUME = 1.51227 INCHES = 1.8873 ACRE-FEET
PEAK DISCHARGE RATE = 54.65 CFS AT 1.530 HOURS BASIN AREA = 0.0234 SQ. MI.

*S-----

*S BASIN U

COMPUTE NM HYD ID=30 HYD NO=BASIN.U DA=0.0066 SQ MI
PER A=0.0 PER B=28.0 PER C=28.0 PER D=44.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 11.465 CFS UNIT VOLUME = 0.9989 B = 526.28 P60 = 1.8300
AREA = 0.002904 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 9.8253 CFS UNIT VOLUME = 0.9985 B = 354.36 P60 = 1.8300
AREA = 0.003696 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA BASIN.U

RUNOFF VOLUME = 1.42477 INCHES = 0.5015 ACRE-FEET
PEAK DISCHARGE RATE = 14.86 CFS AT 1.530 HOURS BASIN AREA = 0.0066 SQ. MI.

*S-----

*S BASIN V

COMPUTE NM HYD ID=40 HYD NO=BASIN.V DA=0.0322 SQ MI
PER A=0.0 PER B=29.0 PER C=29.0 PER D=42.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 53.393 CFS UNIT VOLUME = 0.9998 B = 526.28 P60 = 1.8300
AREA = 0.013524 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797

UNIT PEAK = 49.648 CFS UNIT VOLUME = 0.9997 B = 354.36 P60 = 1.8300
AREA = 0.018676 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=40 CODE=1

HYDROGRAPH FROM AREA BASIN.V

RUNOFF VOLUME = 1.40290 INCHES = 2.4092 ACRE-FEET
PEAK DISCHARGE RATE = 71.72 CFS AT 1.535 HOURS BASIN AREA = 0.0322 SQ. MI.

*S-----

*S BASIN W-1

COMPUTE NM HYD ID=50 HYD NO=BASIN.W1 DA=0.0048 SQ MI
PER A=0.0 PER B=5.0 PER C=5.0 PER D=90.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 17.056 CFS UNIT VOLUME = 0.9993 B = 526.28 P60 = 1.8300
AREA = 0.004320 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 1.2760 CFS UNIT VOLUME = 0.9887 B = 354.36 P60 = 1.8300
AREA = 0.000480 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=50 CODE=1

HYDROGRAPH FROM AREA BASIN.W1

RUNOFF VOLUME = 1.92788 INCHES = 0.4935 ACRE-FEET
PEAK DISCHARGE RATE = 13.20 CFS AT 1.530 HOURS BASIN AREA = 0.0048 SQ. MI.

*S-----

*S BASIN W-2

COMPUTE NM HYD ID=60 HYD NO=BASIN.W2 DA=0.0092 SQ MI
PER A=0.0 PER B=25.0 PER C=25.0 PER D=50.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 18.161 CFS UNIT VOLUME = 0.9993 B = 526.28 P60 = 1.8300
AREA = 0.004600 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 12.228 CFS UNIT VOLUME = 0.9988 B = 354.36 P60 = 1.8300
AREA = 0.004600 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=60 CODE=1

HYDROGRAPH FROM AREA BASIN.W2

RUNOFF VOLUME = 1.49040 INCHES = 0.7313 ACRE-FEET
PEAK DISCHARGE RATE = 21.30 CFS AT 1.530 HOURS BASIN AREA = 0.0092 SQ. MI.

*S-----

*S BASIN W-3

COMPUTE NM HYD ID=70 HYD NO=BASIN.W3 DA=0.0128 SQ MI
PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 35.375 CFS UNIT VOLUME = 0.9997 B = 526.28 P60 = 1.8300
 AREA = 0.008960 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
 UNIT PEAK = 10.208 CFS UNIT VOLUME = 0.9986 B = 354.36 P60 = 1.8300
 AREA = 0.003840 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=70 CODE=1

HYDROGRAPH FROM AREA BASIN.W3

RUNOFF VOLUME = 1.70914 INCHES = 1.1668 ACRE-FEET
 PEAK DISCHARGE RATE = 32.39 CFS AT 1.530 HOURS BASIN AREA = 0.0128 SQ. MI.

*S-----
 *S ADD BASINS PARK, T, U, V, AND W
 ADD HYD ID=75 HYD=SUM IDi=10 IDii=20
 ADD HYD ID=75 HYD=SUM IDi=75 IDii=30
 ADD HYD ID=75 HYD=SUM IDi=75 IDii=40
 ADD HYD ID=75 HYD=SUM IDi=75 IDii=50
 ADD HYD ID=75 HYD=SUM IDi=75 IDii=60
 ADD HYD ID=75 HYD=SUM IDi=75 IDii=70
 PRINT HYD ID=75 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.49445 INCHES = 7.3965 ACRE-FEET
 PEAK DISCHARGE RATE = 215.17 CFS AT 1.530 HOURS BASIN AREA = 0.0928 SQ. MI.

*S-----
 *S ROUTE BASINS THROUGH POND 1 (ASSUMES 48" OUTLET PIPE)
 ROUTE RESERVOIR ID=80 HYD=POND.1 INFLOW=75 CODE=20
 OUTFLOW STORAGE ELEV
 0.001 0.01 5295
 0.002 0.25 5296
 0.003 0.54 5297
 0.004 0.92 5298
 0.005 1.42 5299
 0.006 1.97 5300
 45.1 2.63 5301
 45.2 3.43 5302
 45.3 4.84 5303
 45.4 6.12 5304

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5294.00	-0.230	0.00
0.10	0.00	5295.00	0.010	0.00
0.20	0.00	5295.00	0.010	0.00
0.30	0.00	5295.00	0.010	0.00
0.40	0.00	5295.00	0.010	0.00
0.50	0.00	5295.00	0.010	0.00
0.60	0.00	5295.00	0.010	0.00
0.70	0.00	5295.00	0.010	0.00
0.80	1.76	5295.02	0.014	0.00
0.90	5.16	5295.14	0.044	0.00
1.00	7.40	5295.35	0.095	0.00
1.10	12.33	5295.69	0.175	0.00
1.20	19.05	5296.18	0.303	0.00

1.30	32.58	5296.88	0.505	0.00
1.40	82.99	5298.03	0.937	0.00
1.50	205.15	5300.26	2.145	11.93
1.60	184.10	5302.06	3.521	45.21
1.70	109.45	5302.65	4.351	45.27
1.80	63.39	5302.88	4.670	45.29
1.90	40.81	5302.91	4.715	45.29
2.00	28.56	5302.85	4.624	45.28
2.10	19.98	5302.72	4.448	45.27
2.20	14.79	5302.56	4.216	45.26
2.30	11.30	5302.37	3.949	45.24
2.40	8.98	5302.16	3.658	45.22
2.50	6.02	5301.90	3.347	45.19
2.60	4.15	5301.48	3.015	45.15
2.70	3.17	5301.05	2.672	45.11
2.80	2.50	5300.63	2.387	28.52
2.90	2.00	5300.38	2.221	17.17
3.00	1.63	5300.23	2.124	10.53
3.10	1.36	5300.15	2.067	6.63
3.20	1.16	5300.10	2.033	4.30
3.30	1.03	5300.06	2.013	2.91
3.40	0.93	5300.05	2.000	2.08
3.50	0.83	5300.03	1.993	1.56
3.60	0.78	5300.03	1.988	1.23
3.70	0.75	5300.02	1.985	1.03
3.80	0.74	5300.02	1.983	0.91
3.90	0.72	5300.02	1.982	0.83
4.00	0.71	5300.02	1.981	0.78
4.10	0.71	5300.02	1.981	0.75
4.20	0.71	5300.02	1.981	0.73
4.30	0.72	5300.02	1.981	0.73
4.40	0.72	5300.02	1.981	0.72
4.50	0.74	5300.02	1.981	0.73
4.60	0.75	5300.02	1.981	0.73
4.70	0.76	5300.02	1.981	0.74
4.80	0.77	5300.02	1.981	0.75
4.90	0.78	5300.02	1.981	0.76
5.00	0.80	5300.02	1.981	0.78
5.10	0.82	5300.02	1.981	0.79
5.20	0.83	5300.02	1.982	0.80
5.30	0.86	5300.02	1.982	0.82
5.40	0.87	5300.02	1.982	0.84
5.50	0.89	5300.02	1.982	0.86

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	0.91	5300.02	1.983	0.88
5.70	0.93	5300.02	1.983	0.90
5.80	0.95	5300.02	1.983	0.92
5.90	0.98	5300.02	1.984	0.94
6.00	1.00	5300.02	1.984	0.96
6.10	0.86	5300.02	1.984	0.97
6.20	0.33	5300.02	1.981	0.79
6.30	0.14	5300.01	1.978	0.53
6.40	0.09	5300.01	1.975	0.35
6.50	0.05	5300.00	1.973	0.23
6.60	0.03	5300.00	1.972	0.15
6.70	0.02	5300.00	1.971	0.10
6.80	0.01	5300.00	1.971	0.06
6.90	0.01	5300.00	1.970	0.04
7.00	0.00	5300.00	1.970	0.02
7.10	0.00	5300.00	1.970	0.01
7.20	0.00	5300.00	1.970	0.01
7.30	0.00	5300.00	1.970	0.01
7.40	0.00	5300.00	1.970	0.01
7.50	0.00	5300.00	1.970	0.01
7.60	0.00	5300.00	1.970	0.01
7.70	0.00	5300.00	1.970	0.01
7.80	0.00	5300.00	1.970	0.01
7.90	0.00	5300.00	1.970	0.01
8.00	0.00	5300.00	1.970	0.01
8.10	0.00	5300.00	1.970	0.01

8.20	0.00	5300.00	1.970	0.01
8.30	0.00	5300.00	1.969	0.01
8.40	0.00	5300.00	1.969	0.01
8.50	0.00	5300.00	1.969	0.01
8.60	0.00	5300.00	1.969	0.01
8.70	0.00	5300.00	1.969	0.01
8.80	0.00	5300.00	1.969	0.01
8.90	0.00	5300.00	1.969	0.01
9.00	0.00	5300.00	1.969	0.01
9.10	0.00	5300.00	1.969	0.01
9.20	0.00	5300.00	1.969	0.01
9.30	0.00	5300.00	1.969	0.01
9.40	0.00	5300.00	1.969	0.01
9.50	0.00	5300.00	1.969	0.01
9.60	0.00	5300.00	1.969	0.01
9.70	0.00	5300.00	1.969	0.01
9.80	0.00	5300.00	1.969	0.01
9.90	0.00	5300.00	1.969	0.01
10.00	0.00	5300.00	1.969	0.01
10.10	0.00	5300.00	1.969	0.01
10.20	0.00	5300.00	1.969	0.01
10.30	0.00	5300.00	1.969	0.01
10.40	0.00	5300.00	1.968	0.01
10.50	0.00	5300.00	1.968	0.01
10.60	0.00	5300.00	1.968	0.01
10.70	0.00	5300.00	1.968	0.01
10.80	0.00	5300.00	1.968	0.01
10.90	0.00	5300.00	1.968	0.01
11.00	0.00	5300.00	1.968	0.01
11.10	0.00	5300.00	1.968	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

11.20	0.00	5300.00	1.968	0.01
11.30	0.00	5300.00	1.968	0.01
11.40	0.00	5300.00	1.968	0.01
11.50	0.00	5300.00	1.968	0.01
11.60	0.00	5300.00	1.968	0.01
11.70	0.00	5300.00	1.968	0.01
11.80	0.00	5300.00	1.968	0.01
11.90	0.00	5300.00	1.968	0.01
12.00	0.00	5300.00	1.968	0.01
12.10	0.00	5300.00	1.968	0.01
12.20	0.00	5300.00	1.968	0.01
12.30	0.00	5300.00	1.968	0.01
12.40	0.00	5300.00	1.968	0.01
12.50	0.00	5300.00	1.967	0.01
12.60	0.00	5300.00	1.967	0.01
12.70	0.00	5300.00	1.967	0.01
12.80	0.00	5300.00	1.967	0.01
12.90	0.00	5300.00	1.967	0.01
13.00	0.00	5300.00	1.967	0.01
13.10	0.00	5299.99	1.967	0.01
13.20	0.00	5299.99	1.967	0.01
13.30	0.00	5299.99	1.967	0.01
13.40	0.00	5299.99	1.967	0.01
13.50	0.00	5299.99	1.967	0.01
13.60	0.00	5299.99	1.967	0.01
13.70	0.00	5299.99	1.967	0.01
13.80	0.00	5299.99	1.967	0.01
13.90	0.00	5299.99	1.967	0.01
14.00	0.00	5299.99	1.967	0.01
14.10	0.00	5299.99	1.967	0.01
14.20	0.00	5299.99	1.967	0.01
14.30	0.00	5299.99	1.967	0.01
14.40	0.00	5299.99	1.967	0.01
14.50	0.00	5299.99	1.966	0.01
14.60	0.00	5299.99	1.966	0.01
14.70	0.00	5299.99	1.966	0.01
14.80	0.00	5299.99	1.966	0.01
14.90	0.00	5299.99	1.966	0.01
15.00	0.00	5299.99	1.966	0.01

15.10	0.00	5299.99	1.966	0.01
15.20	0.00	5299.99	1.966	0.01
15.30	0.00	5299.99	1.966	0.01
15.40	0.00	5299.99	1.966	0.01
15.50	0.00	5299.99	1.966	0.01
15.60	0.00	5299.99	1.966	0.01
15.70	0.00	5299.99	1.966	0.01
15.80	0.00	5299.99	1.966	0.01
15.90	0.00	5299.99	1.966	0.01
16.00	0.00	5299.99	1.966	0.01
16.10	0.00	5299.99	1.966	0.01
16.20	0.00	5299.99	1.966	0.01
16.30	0.00	5299.99	1.966	0.01
16.40	0.00	5299.99	1.966	0.01
16.50	0.00	5299.99	1.966	0.01
16.60	0.00	5299.99	1.965	0.01
16.70	0.00	5299.99	1.965	0.01

TIME INFLOW ELEV VOLUME OUTFLOW
(HRS) (CFS) (FEET) (AC-FT) (CFS)

16.80	0.00	5299.99	1.965	0.01
16.90	0.00	5299.99	1.965	0.01
17.00	0.00	5299.99	1.965	0.01
17.10	0.00	5299.99	1.965	0.01
17.20	0.00	5299.99	1.965	0.01
17.30	0.00	5299.99	1.965	0.01
17.40	0.00	5299.99	1.965	0.01
17.50	0.00	5299.99	1.965	0.01
17.60	0.00	5299.99	1.965	0.01
17.70	0.00	5299.99	1.965	0.01
17.80	0.00	5299.99	1.965	0.01
17.90	0.00	5299.99	1.965	0.01
18.00	0.00	5299.99	1.965	0.01
18.10	0.00	5299.99	1.965	0.01
18.20	0.00	5299.99	1.965	0.01
18.30	0.00	5299.99	1.965	0.01
18.40	0.00	5299.99	1.965	0.01
18.50	0.00	5299.99	1.965	0.01
18.60	0.00	5299.99	1.965	0.01
18.70	0.00	5299.99	1.964	0.01
18.80	0.00	5299.99	1.964	0.01
18.90	0.00	5299.99	1.964	0.01
19.00	0.00	5299.99	1.964	0.01
19.10	0.00	5299.99	1.964	0.01
19.20	0.00	5299.99	1.964	0.01
19.30	0.00	5299.99	1.964	0.01
19.40	0.00	5299.99	1.964	0.01
19.50	0.00	5299.99	1.964	0.01
19.60	0.00	5299.99	1.964	0.01
19.70	0.00	5299.99	1.964	0.01
19.80	0.00	5299.99	1.964	0.01
19.90	0.00	5299.99	1.964	0.01

PEAK DISCHARGE = 45.292 CFS - PEAK OCCURS AT HOUR 1.88
MAXIMUM WATER SURFACE ELEVATION = 5302.915
MAXIMUM STORAGE = 4.7204 AC-FT INCREMENTAL TIME= 0.005000HRS

PRINT HYD ID=80 CODE=20

HYDROGRAPH FROM AREA POND.1

TIME	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	CFS	HRS	CFS	HRS	CFS
	HRS							
	0.000	0.0	4.000	0.8	8.000	0.0	12.000	0.0
16.000	0.100	0.0	4.100	0.8	8.100	0.0	12.100	0.0
16.100	0.200	0.0	4.200	0.7	8.200	0.0	12.200	0.0
16.200	0.300	0.0	4.300	0.7	8.300	0.0	12.300	0.0
16.300								

16.400	0.400	0.0	4.400	0.7	8.400	0.0	12.400	0.0
	0.0							
16.500	0.500	0.0	4.500	0.7	8.500	0.0	12.500	0.0
	0.0							
16.600	0.600	0.0	4.600	0.7	8.600	0.0	12.600	0.0
	0.0							
16.700	0.700	0.0	4.700	0.7	8.700	0.0	12.700	0.0
	0.0							
16.800	0.800	0.0	4.800	0.8	8.800	0.0	12.800	0.0
	0.0							
16.900	0.900	0.0	4.900	0.8	8.900	0.0	12.900	0.0
	0.0							
17.000	1.000	0.0	5.000	0.8	9.000	0.0	13.000	0.0
	0.0							
17.100	1.100	0.0	5.100	0.8	9.100	0.0	13.100	0.0
	0.0							
17.200	1.200	0.0	5.200	0.8	9.200	0.0	13.200	0.0
	0.0							
17.300	1.300	0.0	5.300	0.8	9.300	0.0	13.300	0.0
	0.0							
17.400	1.400	0.0	5.400	0.8	9.400	0.0	13.400	0.0
	0.0							
17.500	1.500	11.9	5.500	0.9	9.500	0.0	13.500	0.0
	0.0							
17.600	1.600	45.2	5.600	0.9	9.600	0.0	13.600	0.0
	0.0							
17.700	1.700	45.3	5.700	0.9	9.700	0.0	13.700	0.0
	0.0							
17.800	1.800	45.3	5.800	0.9	9.800	0.0	13.800	0.0
	0.0							
17.900	1.900	45.3	5.900	0.9	9.900	0.0	13.900	0.0
	0.0							
18.000	2.000	45.3	6.000	1.0	10.000	0.0	14.000	0.0
	0.0							
18.100	2.100	45.3	6.100	1.0	10.100	0.0	14.100	0.0
	0.0							
18.200	2.200	45.3	6.200	0.8	10.200	0.0	14.200	0.0
	0.0							
18.300	2.300	45.2	6.300	0.5	10.300	0.0	14.300	0.0
	0.0							
18.400	2.400	45.2	6.400	0.4	10.400	0.0	14.400	0.0
	0.0							
18.500	2.500	45.2	6.500	0.2	10.500	0.0	14.500	0.0
	0.0							
18.600	2.600	45.1	6.600	0.1	10.600	0.0	14.600	0.0
	0.0							
18.700	2.700	45.1	6.700	0.1	10.700	0.0	14.700	0.0
	0.0							
18.800	2.800	28.5	6.800	0.1	10.800	0.0	14.800	0.0
	0.0							
18.900	2.900	17.2	6.900	0.0	10.900	0.0	14.900	0.0
	0.0							
19.000	3.000	10.5	7.000	0.0	11.000	0.0	15.000	0.0
	0.0							
19.100	3.100	6.6	7.100	0.0	11.100	0.0	15.100	0.0
	0.0							
19.200	3.200	4.3	7.200	0.0	11.200	0.0	15.200	0.0
	0.0							
19.300	3.300	2.9	7.300	0.0	11.300	0.0	15.300	0.0
	0.0							
19.400	3.400	2.1	7.400	0.0	11.400	0.0	15.400	0.0
	0.0							
19.500	3.500	1.6	7.500	0.0	11.500	0.0	15.500	0.0
	0.0							
19.600	3.600	1.2	7.600	0.0	11.600	0.0	15.600	0.0
	0.0							
19.700	3.700	1.0	7.700	0.0	11.700	0.0	15.700	0.0
	0.0							
19.800	3.800	0.9	7.800	0.0	11.800	0.0	15.800	0.0
	0.0							
19.900	3.900	0.8	7.900	0.0	11.900	0.0	15.900	0.0
	0.0							

RUNOFF VOLUME = 1.09971 INCHES = 5.4428 ACRE-FEET
PEAK DISCHARGE RATE = 45.29 CFS AT 1.875 HOURS BASIN AREA = 0.0928 SQ. MI.

*S-----
*S-----
*S-----THE FOLLOWING BASINS DRAIN INTO POND 2A-----
*S-----
*S-----

*S BASIN J

COMPUTE NM HYD ID=10 HYD NO=BASIN.J DA=0.0192 SQ MI
PER A=0.0 PER B=27.0 PER C=27.0 PER D=46.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 34.869 CFS UNIT VOLUME = 0.9996 B = 526.28 P60 = 1.8300
AREA = 0.008832 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 27.562 CFS UNIT VOLUME = 0.9995 B = 354.36 P60 = 1.8300
AREA = 0.010368 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=10 CODE=1

HYDROGRAPH FROM AREA BASIN.J

RUNOFF VOLUME = 1.44665 INCHES = 1.4814 ACRE-FEET
PEAK DISCHARGE RATE = 43.60 CFS AT 1.530 HOURS BASIN AREA = 0.0192 SQ. MI.

*S-----

*S BASIN X

COMPUTE NM HYD ID=20 HYD NO=BASIN.X DA=0.0080 SQ MI
PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 22.109 CFS UNIT VOLUME = 0.9994 B = 526.28 P60 = 1.8300
AREA = 0.005600 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 6.3801 CFS UNIT VOLUME = 0.9977 B = 354.36 P60 = 1.8300
AREA = 0.002400 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA BASIN.X

RUNOFF VOLUME = 1.70914 INCHES = 0.7292 ACRE-FEET
PEAK DISCHARGE RATE = 20.25 CFS AT 1.530 HOURS BASIN AREA = 0.0080 SQ. MI.

*S-----

*S BASIN BOBBY FOSTER

COMPUTE NM HYD ID=30 HYD NO=BASIN.BF DA=0.0094 SQ MI
PER A=0.0 PER B=22.0 PER C=0.0 PER D=78.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 28.947 CFS UNIT VOLUME = 0.9996 B = 526.28 P60 = 1.8300
AREA = 0.007332 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.131696HR TP = 0.133300HR K/TP RATIO = 0.987965 SHAPE CONSTANT, N = 3.573747
UNIT PEAK = 5.0525 CFS UNIT VOLUME = 0.9971 B = 325.68 P60 = 1.8300
AREA = 0.002068 SQ MI IA = 0.50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA BASIN.BF

RUNOFF VOLUME = 1.77231 INCHES = 0.8885 ACRE-FEET
PEAK DISCHARGE RATE = 24.16 CFS AT 1.530 HOURS BASIN AREA = 0.0094 SQ. MI.

*S-----

*S BASIN Y-1

COMPUTE NM HYD ID=40 HYD NO=BASIN.Y1 DA=0.0080 SQ MI
PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 22.109 CFS UNIT VOLUME = 0.9994 B = 526.28 P60 = 1.8300
AREA = 0.005600 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 6.3801 CFS UNIT VOLUME = 0.9977 B = 354.36 P60 = 1.8300
AREA = 0.002400 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=40 CODE=1

HYDROGRAPH FROM AREA BASIN.Y1

RUNOFF VOLUME = 1.70914 INCHES = 0.7292 ACRE-FEET
PEAK DISCHARGE RATE = 20.25 CFS AT 1.530 HOURS BASIN AREA = 0.0080 SQ. MI.

*S-----

*S ADD BASINS J, X, BOBBY FOSTER, Y-1, AND POND 1 OUTFLOW

ADD HYD ID=75 HYD=SUM IDi=10 IDii=20
ADD HYD ID=75 HYD=SUM IDi=75 IDii=30
ADD HYD ID=75 HYD=SUM IDi=75 IDii=40
ADD HYD ID=75 HYD=SUM IDi=75 IDii=80
PRINT HYD ID=75 CODE=1

HYDROGRAPH FROM AREA SUM

RUNOFF VOLUME = 1.26518 INCHES = 9.2712 ACRE-FEET
PEAK DISCHARGE RATE = 153.27 CFS AT 1.535 HOURS BASIN AREA = 0.1374 SQ. MI.

*S-----

*S ROUTE BASINS THROUGH POND 2A (ASSUMES 18" OUTLET PIPE)

ROUTE RESERVOIR ID=80 HYD=POND.2A INFLOW=75 CODE=20

OUTFLOW	STORAGE	ELEV
0.01	0.01	5294
0.02	0.61	5295
0.03	1.47	5296
4.25	2.56	5297
9.51	3.91	5298
12.76	5.59	5299
15.33	7.65	5300

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5293.00	-0.590	0.00
0.10	0.00	5294.00	0.010	0.01
0.20	0.00	5294.00	0.010	0.01
0.30	0.00	5294.00	0.010	0.01
0.40	0.00	5294.00	0.010	0.01
0.50	0.00	5294.00	0.010	0.01
0.60	0.00	5294.00	0.010	0.01
0.70	0.00	5294.00	0.010	0.01
0.80	1.03	5294.00	0.012	0.01
0.90	3.02	5294.03	0.029	0.01
1.00	4.33	5294.08	0.059	0.01
1.10	7.22	5294.16	0.106	0.01
1.20	11.15	5294.28	0.181	0.01
1.30	18.49	5294.48	0.298	0.01
1.40	42.83	5294.87	0.530	0.02
1.50	115.42	5295.63	1.149	0.03
1.60	137.32	5296.79	2.326	3.34
1.70	100.24	5297.52	3.258	6.97
1.80	78.05	5298.00	3.916	9.52
1.90	66.85	5298.31	4.427	10.51
2.00	60.44	5298.57	4.861	11.35
2.10	55.81	5298.79	5.243	12.09
2.20	53.05	5299.00	5.589	12.76
2.30	51.21	5299.16	5.913	13.16
2.40	49.99	5299.31	6.220	13.55
2.50	48.35	5299.45	6.513	13.91
2.60	47.31	5299.58	6.792	14.26
2.70	46.76	5299.71	7.061	14.59
2.80	29.83	5299.81	7.259	14.84
2.90	18.22	5299.84	7.330	14.93
3.00	11.39	5299.84	7.327	14.93
3.10	7.36	5299.82	7.279	14.87
3.20	4.93	5299.78	7.207	14.78
3.30	3.47	5299.74	7.119	14.67
3.40	2.58	5299.70	7.023	14.55
3.50	2.02	5299.65	6.923	14.42
3.60	1.68	5299.60	6.819	14.29
3.70	1.46	5299.55	6.714	14.16
3.80	1.33	5299.49	6.609	14.03
3.90	1.24	5299.44	6.505	13.90
4.00	1.19	5299.39	6.400	13.77
4.10	1.16	5299.34	6.297	13.64
4.20	1.15	5299.29	6.194	13.51
4.30	1.15	5299.24	6.092	13.39
4.40	1.15	5299.19	5.992	13.26
4.50	1.16	5299.15	5.892	13.14
4.60	1.17	5299.10	5.794	13.01
4.70	1.18	5299.05	5.696	12.89
4.80	1.20	5299.00	5.600	12.77
4.90	1.22	5298.95	5.505	12.60
5.00	1.25	5298.89	5.412	12.42
5.10	1.27	5298.84	5.321	12.24
5.20	1.29	5298.79	5.231	12.07
5.30	1.32	5298.73	5.143	11.89
5.40	1.35	5298.68	5.056	11.73
5.50	1.38	5298.63	4.971	11.56
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	1.41	5298.58	4.888	11.40
5.70	1.44	5298.53	4.806	11.24
5.80	1.48	5298.49	4.726	11.09
5.90	1.51	5298.44	4.647	10.94
6.00	1.55	5298.39	4.570	10.79
6.10	1.47	5298.35	4.494	10.64
6.20	0.98	5298.30	4.417	10.49
6.30	0.62	5298.25	4.337	10.34
6.40	0.40	5298.21	4.257	10.18

6.50	0.26	5298.16	4.176	10.02
6.60	0.17	5298.11	4.096	9.87
6.70	0.11	5298.06	4.016	9.71
6.80	0.07	5298.02	3.937	9.56
6.90	0.04	5297.96	3.859	9.31
7.00	0.02	5297.91	3.784	9.02
7.10	0.01	5297.85	3.711	8.73
7.20	0.01	5297.80	3.640	8.46
7.30	0.01	5297.75	3.571	8.19
7.40	0.01	5297.70	3.504	7.93
7.50	0.01	5297.65	3.440	7.68
7.60	0.01	5297.61	3.377	7.44
7.70	0.01	5297.56	3.317	7.20
7.80	0.01	5297.52	3.259	6.97
7.90	0.01	5297.48	3.202	6.75
8.00	0.01	5297.44	3.147	6.54
8.10	0.01	5297.40	3.094	6.33
8.20	0.01	5297.36	3.042	6.13
8.30	0.01	5297.32	2.993	5.94
8.40	0.01	5297.28	2.944	5.75
8.50	0.01	5297.25	2.898	5.57
8.60	0.01	5297.22	2.853	5.39
8.70	0.01	5297.18	2.809	5.22
8.80	0.01	5297.15	2.766	5.05
8.90	0.01	5297.12	2.725	4.89
9.00	0.01	5297.09	2.686	4.74
9.10	0.01	5297.06	2.647	4.59
9.20	0.01	5297.04	2.610	4.44
9.30	0.01	5297.01	2.574	4.30
9.40	0.01	5296.98	2.539	4.17
9.50	0.01	5296.95	2.505	4.04
9.60	0.01	5296.92	2.472	3.91
9.70	0.01	5296.89	2.440	3.79
9.80	0.01	5296.86	2.410	3.67
9.90	0.01	5296.83	2.380	3.55
10.00	0.01	5296.81	2.351	3.44
10.10	0.01	5296.78	2.323	3.33
10.20	0.01	5296.76	2.296	3.23
10.30	0.01	5296.73	2.270	3.13
10.40	0.01	5296.71	2.244	3.03
10.50	0.01	5296.69	2.220	2.93
10.60	0.01	5296.67	2.196	2.84
10.70	0.01	5296.65	2.173	2.75
10.80	0.01	5296.62	2.151	2.66
10.90	0.01	5296.60	2.129	2.58
11.00	0.01	5296.59	2.108	2.50
11.10	0.01	5296.57	2.088	2.42

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	0.01	5296.55	2.068	2.35
11.30	0.01	5296.53	2.049	2.27
11.40	0.01	5296.51	2.031	2.20
11.50	0.01	5296.50	2.013	2.13
11.60	0.01	5296.48	1.995	2.06
11.70	0.01	5296.47	1.979	2.00
11.80	0.01	5296.45	1.963	1.94
11.90	0.01	5296.44	1.947	1.88
12.00	0.01	5296.42	1.932	1.82
12.10	0.01	5296.41	1.917	1.76
12.20	0.01	5296.40	1.903	1.70
12.30	0.01	5296.38	1.889	1.65
12.40	0.01	5296.37	1.875	1.60
12.50	0.01	5296.36	1.862	1.55
12.60	0.01	5296.35	1.850	1.50
12.70	0.01	5296.34	1.838	1.45
12.80	0.01	5296.33	1.826	1.41
12.90	0.01	5296.32	1.815	1.36
13.00	0.01	5296.31	1.804	1.32
13.10	0.01	5296.30	1.793	1.28
13.20	0.01	5296.29	1.782	1.24
13.30	0.01	5296.28	1.772	1.20

13.40	0.01	5296.27	1.763	1.16
13.50	0.01	5296.26	1.753	1.13
13.60	0.01	5296.25	1.744	1.09
13.70	0.01	5296.24	1.735	1.06
13.80	0.01	5296.24	1.727	1.02
13.90	0.01	5296.23	1.718	0.99
14.00	0.01	5296.22	1.710	0.96
14.10	0.01	5296.21	1.703	0.93
14.20	0.01	5296.21	1.695	0.90
14.30	0.01	5296.20	1.688	0.87
14.40	0.01	5296.19	1.681	0.85
14.50	0.01	5296.19	1.674	0.82
14.60	0.01	5296.18	1.667	0.79
14.70	0.01	5296.18	1.661	0.77
14.80	0.01	5296.17	1.655	0.75
14.90	0.01	5296.16	1.649	0.72
15.00	0.01	5296.16	1.643	0.70
15.10	0.01	5296.15	1.637	0.68
15.20	0.01	5296.15	1.632	0.66
15.30	0.01	5296.14	1.627	0.64
15.40	0.01	5296.14	1.621	0.62
15.50	0.01	5296.13	1.616	0.60
15.60	0.01	5296.13	1.612	0.58
15.70	0.01	5296.13	1.607	0.56
15.80	0.01	5296.12	1.602	0.54
15.90	0.01	5296.12	1.598	0.53
16.00	0.01	5296.11	1.594	0.51
16.10	0.01	5296.11	1.590	0.49
16.20	0.01	5296.11	1.586	0.48
16.30	0.01	5296.10	1.582	0.46
16.40	0.01	5296.10	1.578	0.45
16.50	0.01	5296.10	1.575	0.44
16.60	0.01	5296.09	1.571	0.42
16.70	0.01	5296.09	1.568	0.41

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

16.80	0.01	5296.09	1.565	0.40
16.90	0.01	5296.08	1.561	0.38
17.00	0.01	5296.08	1.558	0.37
17.10	0.01	5296.08	1.555	0.36
17.20	0.01	5296.08	1.552	0.35
17.30	0.01	5296.07	1.550	0.34
17.40	0.01	5296.07	1.547	0.33
17.50	0.01	5296.07	1.544	0.32
17.60	0.01	5296.07	1.542	0.31
17.70	0.01	5296.06	1.539	0.30
17.80	0.01	5296.06	1.537	0.29
17.90	0.01	5296.06	1.535	0.28
18.00	0.01	5296.06	1.532	0.27
18.10	0.01	5296.06	1.530	0.26
18.20	0.01	5296.05	1.528	0.26
18.30	0.01	5296.05	1.526	0.25
18.40	0.01	5296.05	1.524	0.24
18.50	0.01	5296.05	1.522	0.23
18.60	0.01	5296.05	1.520	0.23
18.70	0.01	5296.04	1.519	0.22
18.80	0.01	5296.04	1.517	0.21
18.90	0.01	5296.04	1.515	0.21
19.00	0.01	5296.04	1.514	0.20
19.10	0.01	5296.04	1.512	0.19
19.20	0.01	5296.04	1.511	0.19
19.30	0.01	5296.04	1.509	0.18
19.40	0.01	5296.03	1.508	0.18
19.50	0.01	5296.03	1.506	0.17
19.60	0.01	5296.03	1.505	0.17
19.70	0.01	5296.03	1.504	0.16
19.80	0.01	5296.03	1.502	0.16
19.90	0.01	5296.03	1.501	0.15

PEAK DISCHARGE = 14.938 CFS - PEAK OCCURS AT HOUR 2.94

MAXIMUM WATER SURFACE ELEVATION = 5299.847

MAXIMUM STORAGE = 7.3355 AC-FT INCREMENTAL TIME= 0.005000HRS

HYDROGRAPH FROM AREA POND.2A

TIME	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW
HRS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
16.000	0.000	0.0	4.000	13.8	8.000	6.5	12.000	1.8
16.100	0.100	0.0	4.100	13.6	8.100	6.3	12.100	1.8
16.200	0.200	0.0	4.200	13.5	8.200	6.1	12.200	1.7
16.300	0.300	0.0	4.300	13.4	8.300	5.9	12.300	1.7
16.400	0.400	0.0	4.400	13.3	8.400	5.7	12.400	1.6
16.500	0.500	0.0	4.500	13.1	8.500	5.6	12.500	1.5
16.600	0.600	0.0	4.600	13.0	8.600	5.4	12.600	1.5
16.700	0.700	0.0	4.700	12.9	8.700	5.2	12.700	1.5
16.800	0.800	0.0	4.800	12.8	8.800	5.1	12.800	1.4
16.900	0.900	0.0	4.900	12.6	8.900	4.9	12.900	1.4
17.000	1.000	0.0	5.000	12.4	9.000	4.7	13.000	1.3
17.100	1.100	0.0	5.100	12.2	9.100	4.6	13.100	1.3
17.200	1.200	0.0	5.200	12.1	9.200	4.4	13.200	1.2
17.300	1.300	0.0	5.300	11.9	9.300	4.3	13.300	1.2
17.400	1.400	0.0	5.400	11.7	9.400	4.2	13.400	1.2
17.500	1.500	0.0	5.500	11.6	9.500	4.0	13.500	1.1
17.600	1.600	3.3	5.600	11.4	9.600	3.9	13.600	1.1
17.700	1.700	7.0	5.700	11.2	9.700	3.8	13.700	1.1
17.800	1.800	9.5	5.800	11.1	9.800	3.7	13.800	1.0
17.900	1.900	10.5	5.900	10.9	9.900	3.6	13.900	1.0
18.000	2.000	11.3	6.000	10.8	10.000	3.4	14.000	1.0
18.100	2.100	12.1	6.100	10.6	10.100	3.3	14.100	0.9
18.200	2.200	12.8	6.200	10.5	10.200	3.2	14.200	0.9
18.300	2.300	13.2	6.300	10.3	10.300	3.1	14.300	0.9
18.400	2.400	13.5	6.400	10.2	10.400	3.0	14.400	0.8
18.500	2.500	13.9	6.500	10.0	10.500	2.9	14.500	0.8
18.600	2.600	14.3	6.600	9.9	10.600	2.8	14.600	0.8
18.700	2.700	14.6	6.700	9.7	10.700	2.8	14.700	0.8
18.800	2.800	14.8	6.800	9.6	10.800	2.7	14.800	0.7
18.900	2.900	14.9	6.900	9.3	10.900	2.6	14.900	0.7
19.000	3.000	14.9	7.000	9.0	11.000	2.5	15.000	0.7
19.100	3.100	14.9	7.100	8.7	11.100	2.4	15.100	0.7

19.200	3.200	14.8	7.200	8.5	11.200	2.3	15.200	0.7
	0.2							
19.300	3.300	14.7	7.300	8.2	11.300	2.3	15.300	0.6
	0.2							
19.400	3.400	14.5	7.400	7.9	11.400	2.2	15.400	0.6
	0.2							
19.500	3.500	14.4	7.500	7.7	11.500	2.1	15.500	0.6
	0.2							
19.600	3.600	14.3	7.600	7.4	11.600	2.1	15.600	0.6
	0.2							
19.700	3.700	14.2	7.700	7.2	11.700	2.0	15.700	0.6
	0.2							
19.800	3.800	14.0	7.800	7.0	11.800	1.9	15.800	0.5
	0.2							
19.900	3.900	13.9	7.900	6.8	11.900	1.9	15.900	0.5
	0.2							

RUNOFF VOLUME = 1.06183 INCHES = 7.7811 ACRE-FEET
PEAK DISCHARGE RATE = 14.94 CFS AT 2.940 HOURS BASIN AREA = 0.1374 SQ. MI.

*S-----
*S-----
*S-----THE FOLLOWING BASIN DRAINS INTO EXISTING POND 2B-----
*S-----
*S-----

*S BASIN Y-2
COMPUTE NM HYD ID=5 HYD NO=BASIN.Y2 DA=0.0034 SQ MI
PER A=0.0 PER B=15.0 PER C=15.0 PER D=70.0
TP=-.1333 HR MASSRAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 9.3964 CFS UNIT VOLUME = 0.9986 B = 526.28 P60 = 1.8300
AREA = 0.002380 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

K = 0.118556HR TP = 0.133300HR K/TP RATIO = 0.889390 SHAPE CONSTANT, N = 3.987797
UNIT PEAK = 2.7115 CFS UNIT VOLUME = 0.9947 B = 354.36 P60 = 1.8300
AREA = 0.001020 SQ MI IA = 0.42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.005000

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA BASIN.Y2

RUNOFF VOLUME = 1.70914 INCHES = 0.3099 ACRE-FEET
PEAK DISCHARGE RATE = 8.62 CFS AT 1.530 HOURS BASIN AREA = 0.0034 SQ. MI.

*S-----
FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:44:06

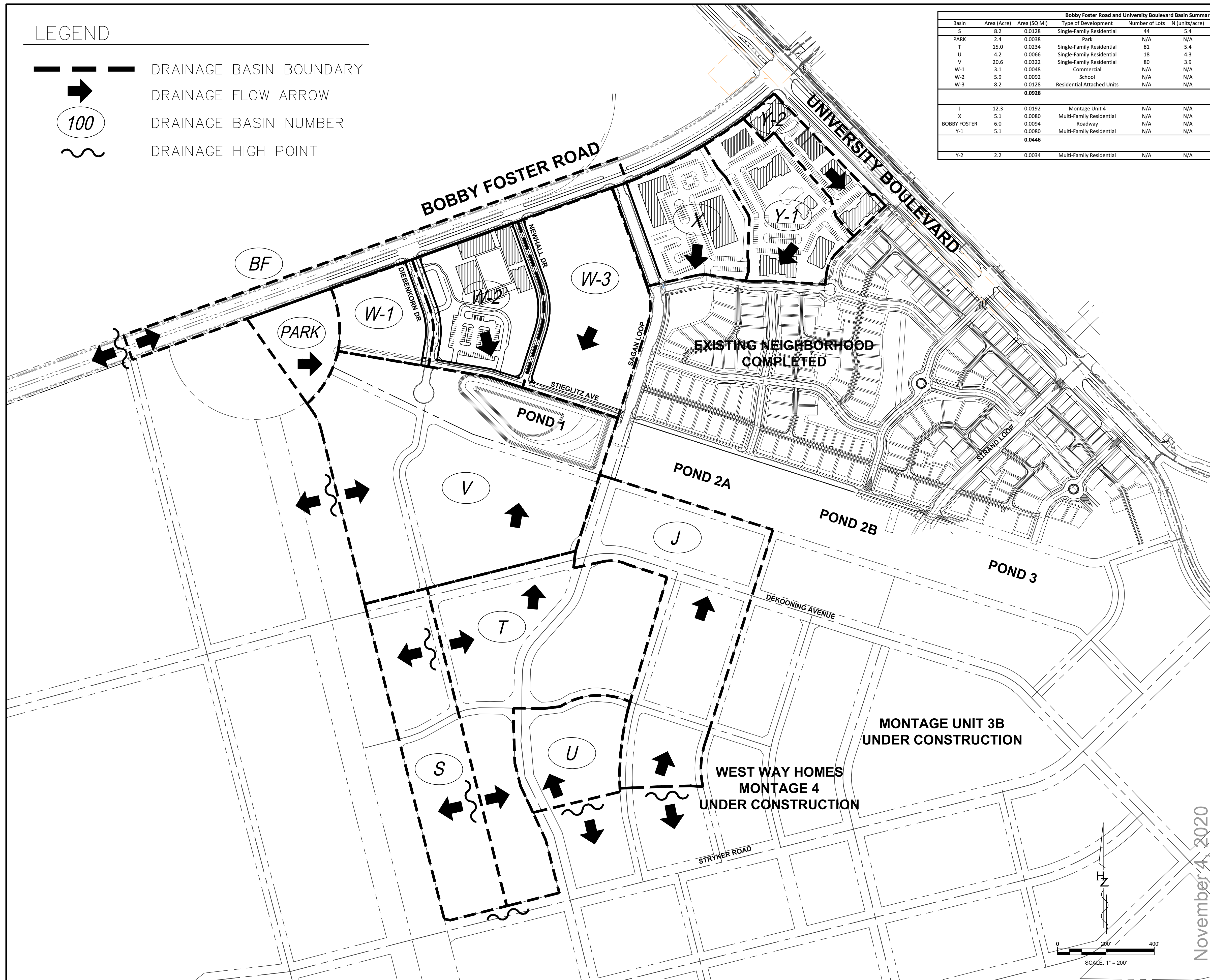
Pond 1 Summary		
Description	Unit	2020 Report Results
Total Drainage Area	SQ MI	0.093
Inflow Time to Peak	Hrs	1.5
Inflow Peak Discharge	CFS	215.2
Inflow Runoff Volume	AC-FT	7.4
Outflow Time to Peak	Hrs	1.9
Outflow Peak Discharge	CFS	45.3
Maximum Storage Volume	AC-FT	4.7
Outflow Runoff Volume	AC-FT	5.4
Maximum Storage Capacity	AC-FT	6.1
Total Reservoir Storage Time	Hrs	7.0
Reservoir Invert Elevation	FT	5295.0
Top of Embankment Elevation	FT	5304.0
Maximum Water Surface Elevation	FT	5302.9
Maximum Water Depth	FT	7.9

Pond 2A Summary		
Description	Unit	2020 Report Results
Total Drainage Area	SQ MI	0.137
Inflow Time to Peak	Hrs	1.5
Inflow Peak Discharge	CFS	153.3
Inflow Runoff Volume	AC-FT	9.3
Outflow Time to Peak	Hrs	2.9
Outflow Peak Discharge	CFS	14.9
Maximum Storage Volume	AC-FT	7.3
Outflow Runoff Volume	AC-FT	7.8
Maximum Storage Capacity	AC-FT	7.7
Total Reservoir Storage Time	Hrs	20.0
Reservoir Invert Elevation	FT	5294.0
Top of Embankment Elevation	FT	5300.0
Maximum Water Surface Elevation	FT	5299.8
Maximum Water Depth	FT	5.8

LEGEND

-  DRAINAGE BASIN BOUNDARY
-  DRAINAGE FLOW ARROW
-  DRAINAGE BASIN NUMBER
-  DRAINAGE HIGH POINT

Bobby Foster Road and University Boulevard Basin Summary - Developed Conditions											
Basin	Area (Acre)	Area (SQ MI)	Type of Development	Number of Lots	N (units/acre)	%A	%B	%C	%D	100-Year V (AC-FT)	100-Year Q (CFS)
S	8.2	0.0128	Single-Family Residential	44	5.4	0	24	24	52	1.03	29.9
PARK	2.4	0.0038	Park	N/A	N/A	0	46	47	7	0.21	7.1
T	15.0	0.0234	Single-Family Residential	81	5.4	0	24	24	52	1.89	54.7
U	4.2	0.0066	Single-Family Residential	18	4.3	0	28	28	44	0.50	14.9
V	20.6	0.0322	Single-Family Residential	80	3.9	0	29	29	42	2.41	71.7
W-1	3.1	0.0048	Commercial	N/A	N/A	0	5	5	90	0.49	13.2
W-2	5.9	0.0092	School	N/A	N/A	0	25	25	50	0.73	21.3
W-3	8.2	0.0128	Residential Attached Units	N/A	N/A	0	15	15	70	1.17	32.4
0.0928										Total Inflow to Pond 1 =	7.40
										Total Outflow from Pond 1 =	5.44
J	12.3	0.0192	Montage Unit 4	N/A	N/A	0	27	27	46	1.48	43.6
X	5.1	0.0080	Multi-Family Residential	N/A	N/A	0	15	15	70	0.73	20.3
BOBBY FOSTER	6.0	0.0094	Roadway	N/A	N/A	0	22	0	78	0.89	24.2
Y-1	5.1	0.0080	Multi-Family Residential	N/A	N/A	0	15	15	70	0.73	20.3
0.0446										Total Inflow to Pond 2A =	9.27
										Total Outflow from Pond 2A =	7.78
											14.9
Y-2	2.2	0.0034	Multi-Family Residential	N/A	N/A	0	15	15	70	0.31	8.6




AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR	DATE	FOUND MONUMENT	DATE	NO.	BY	NO.	DATE
INSPECTOR'S NAME	DATE	STANDARD	DATE				
FIELD RANGE BY	DATE	NEW MEXICO STATE PLANE COORDINATES (CENTRAL ZONE-N.A.D. 1983)	DATE				
CORRECTED BY	DATE	N=1487.524.543	DATE				
MICRO-FILM INFORMATION	DATE	E=1511.214.742	DATE				
RECORDED BY	DATE	ELEV=486.627 (NAVD. 1988)	DATE				
NO.	DATE	GROUND TO GRID FACTOR=0.99865508	DATE				
	DATE	MAPPING ANGLE=0°14'33.77"	DATE				

NO.	DATE	REVISIONS
		DESIGN

DESIGNED BY	DATE	DESIGNED BY	DATE
JLM	November 4, 2020	JLM	November 4, 2020

DRAWN BY	DATE	DRAWN BY	DATE
LRT	November 4, 2020	LRT	November 4, 2020

DWG NAME	CHECKED BY	DATE
MDS BASIN MAP.dwg	SAE	November 4, 2020



Know what's below.
Call before you dig.
TWO WORKING DAYS BEFORE YOU DIG CALL 811 OR 260-1990

Designed By: **HUITT-ZOLIARS**
 Huitt-Zollars, Inc. Albuquerque
 6501 Americas Pkwy NE, Suite 550
 Albuquerque, New Mexico 87110
 Phone (505) 883-8114 Fax (505) 883-5022

SC³ INTERNATIONAL
 4020 Vasar Drive NE Suite I

TITLE: **DEVELOPED CONDITIONS BASIN MAP**
BOBBY FOSTER & UNIVERSITY BLVD

Design Review Committee	City Engineer	Mo./Day/Yr.	Mo./Day/Yr.

City Project No. 3935.81 Zone Map No. R-15-Z, R-16-Z Sheet **EX. 1** Of **1**

Plotted: 11/2/2020 5:39:58 PM. By: Villa, Nina
 P:\99\8312703\01\Drawings\Basin\Basin.dwg
 User: SAE Date: 11/2/2020 5:39:58 PM. Print

November 4, 2020



Our *commitment* is to understand the needs of our clients and to meet those needs by delivering professional services with the highest level of *quality & integrity*.

HUITT-ZOLLARS