

CITY OF ALBUQUERQUE



March 2, 2016

Richard J. Berry, Mayor

Vincent P. Carrica, P.E.
Tierra West, LLC
5571 Midway Park Pl, NE
Albuquerque, NM, 87109

**RE: Independence Square
Grading and Drainage Plan
Engineer's Stamp Date 2-15-16 (File: E17D076)**

Dear Mr. Carrica:

Based upon the information provided in your submittal received 2-16-16, the above-referenced plan is approved for Site Plan for Building Permit and Preliminary Plat. The plan can also be followed to complete a "Rough Grading" of the site.

The Grading and Drainage Plan is not approved for Grading (and installation of storm drain improvements), until the following items are addressed:

1. The first flush exhibit needs to be clarified to correspond with the calculation worksheet. The sum of the ponding capacities should be checked.
2. The outlet into the detention pond is not shown or detailed in the storm drain plan or profile.
3. An ESC Plan is approved by the City's Storm Water Quality Engineer for the purpose of full Grading.
4. The license agreement with AMAFCA needs to be approved by their Board.
 - a. All details required by AMAFCA regarding the opening into the channel need to be shown on the Grading Plan.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

Cc: Lynn Mazur, AMAFCA

Orig: Drainage File



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Independence Square (Jefferson and Osuna) Building Permit #: _____ City Drainage #: E170076
DRB#: _____ EPC#: 1005517 Work Order#: _____
Legal Description: LT 2-A-1 & 2-A-2 of Tract B Plat of Lots 2-A-1 & 2-A-2
City Address: 6701 JEFFERSON ST.
Engineering Firm: Tierra West, LLC Contact: Vince Carrica
Address: 5571 Midway Park Place NE Albuquerque NM 87109
Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: vcarrica@tierrawestllc.com
Owner: Argus Jefferson Partners, LLC Contact: Jeff Jesionowski
Address: 4700 Montgomery Blvd NE Suite 200
Phone#: 505-855-7602 Fax#: 505-837-0633 E-mail: jeff@amcdevelopment.net
Architect: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____
Other Contact: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

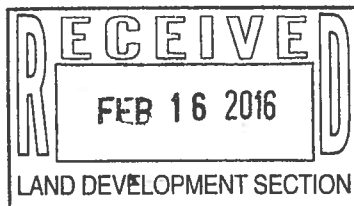
Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERT
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☒ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____



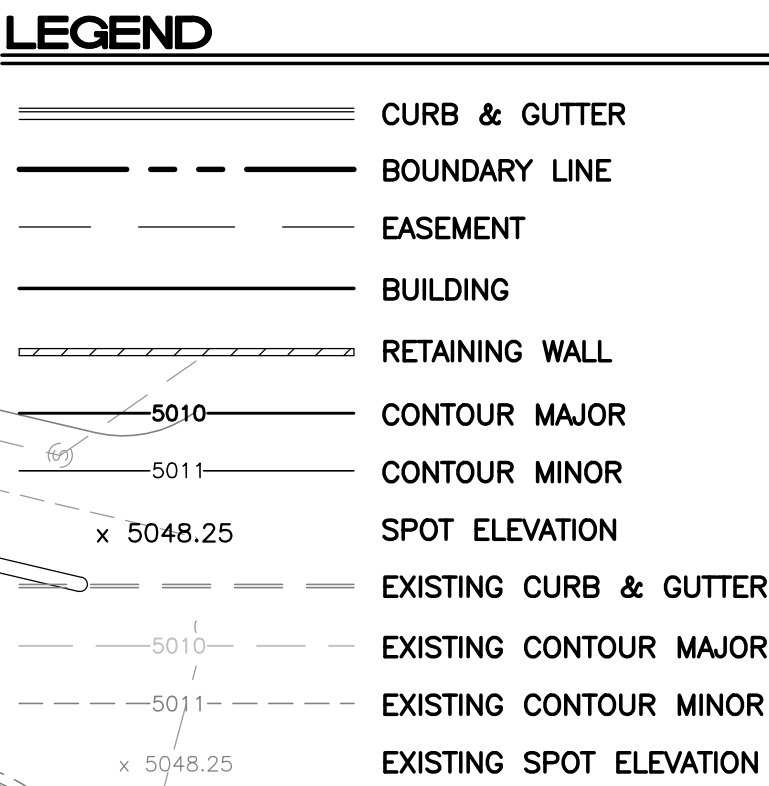
CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☒ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☒ SITE PLAN FOR BLDG. PERMIT APPROVAL SPBP
☐ 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
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

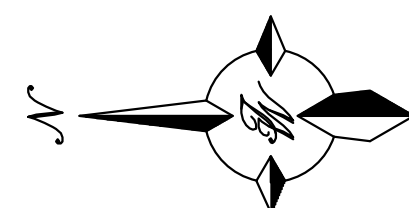
IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 2/15/16 By: Vince Carrica

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____



150' R/W.

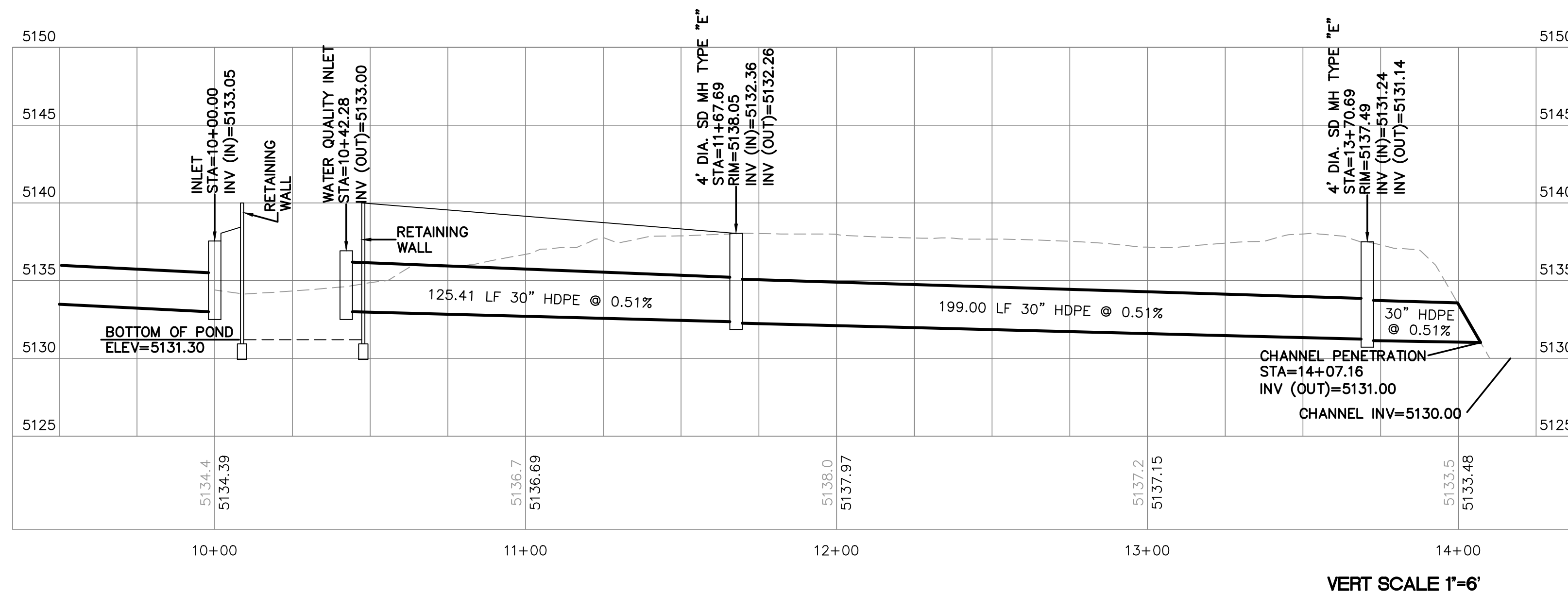
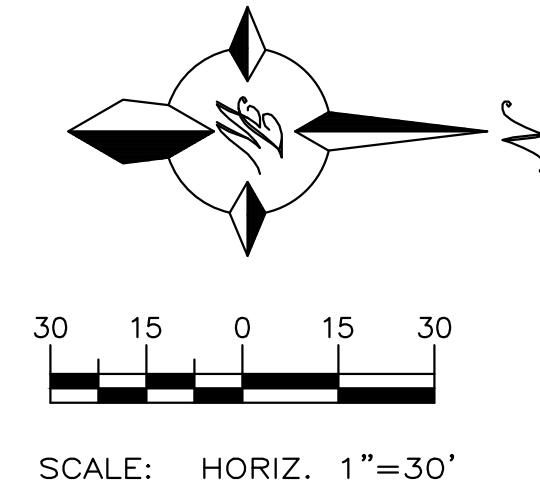
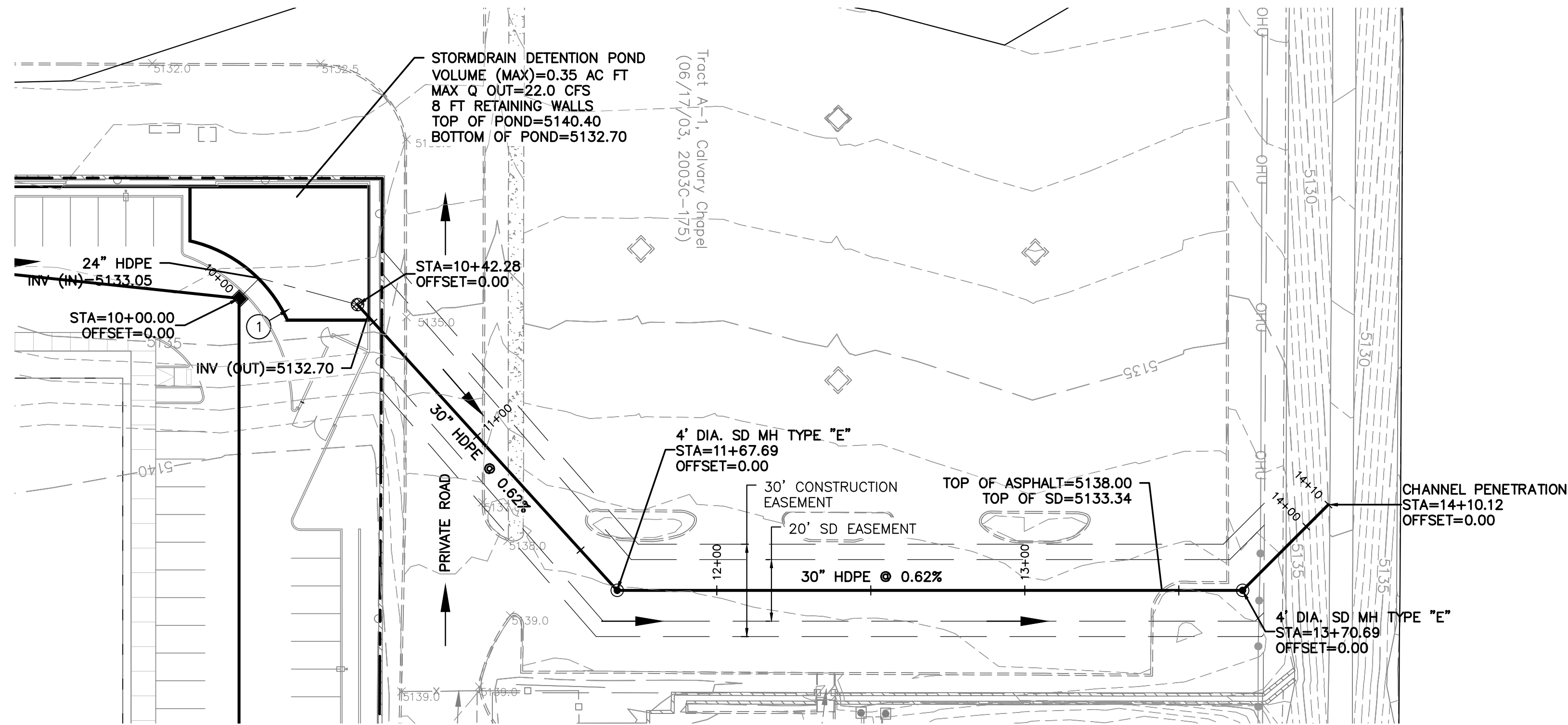


(IN FEET)
1 inch = 40 ft.

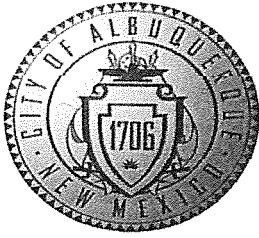
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

40 0 20

ENGINEER'S SEAL	6701 JEFFERSON ST ALBUQUERQUE, NM	DRAWN BY pm
	GRADING AND DRAINAGE PLAN	DATE 2-15-16
		DRAWING 2014065-GR
	 TERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrowestllc.com	SHEET # GR-1
VINCENT P CARRICA P.E. #16212		JOB # 2014065



ENGINEER'S SEAL	6701 JEFFERSON ST ALBUQUERQUE, NM	DRAWN BY pm
	GRADING AND DRAINAGE PLAN	DATE 2-15-16
	 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrowestllc.com	DRAWING 2014065-GR
		SHEET # GR-2
VINCENT P CARRICA P.E. #16212		JOB # 2014065



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Independence Square (Jefferson and Osuna) Building Permit #: _____ City Drainage #: E172076

DRB#: _____ EPC#: 1005517 Work Order#: _____

Legal Description: LT 2-A-1 & 2-A-2 of Tract B Plat of Lots 2-A-1 & 2-A-2

City Address: 6701 JEFFERSON ST.

Engineering Firm: Tierra West, LLC Contact: Vince Carrica

Address: 5571 Midway Park Place NE Albuquerque NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: vcarrica@tierrawestllc.com

Owner: Argus Jefferson Partners, LLC Contact: Jeff Jesionowski

Address: 4700 Montgomery Blvd NE Suite 200

Phone#: 505-855-7602 Fax#: 505-837-0633 E-mail: jeff@amcdevelopment.net

Architect: _____ Contact: _____

Address: _____

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

Other Contact: _____ Contact: _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

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☐ CONCEPTUAL G & D PLAN
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☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 4/28/2016 2/15/16 By: Vince Carrica [Signature]

CHECK 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
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☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

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CITY OF ALBUQUERQUE



February 10, 2016

Ronald R. Bohannon
Tierra West, LLC
5571 Midway Park Pl, NE
Albuquerque, NM, 87109

Richard J. Berry, Mayor

**RE: Independence Square (Jefferson/Osuna)
Conceptual Grading and Drainage Plan and Drainage Report
Engineer's Stamp Date 1-29-2016 (File: E17D076)**

Dear Mr. Bohannon:

Based upon the information provided in your submittal received 1-29-2016, the above-referenced plan is approved conceptually for Site Plan for Subdivision. The following comments, however, will need to be addressed prior to approval for platting action (we understand DRB will upgrade the Minor PP/FP to a Major PP/FP):

1. The Drainage Plan anticipates conveying flows through storm drain lines across lot lines to the detention pond on Lot 4. These facilities will need private drainage easements. It is also unclear if surface drainage easements are needed over the access easements as well, (basin limits are not at the lot lines).

PO Box 1293

2. Clarify the outlet of the detention pond. It appears that the masterplan of the existing church site anticipates accepting offsite flows as described in the Report. However, is the landscaping strip designed to accept a point discharge from this site?

Albuquerque

The Building Permit for the first phase will be expected to contain additional analysis for the detention pond, pipe capacities, etc, to be reviewed with a future submittal. However, note the following items that should also be addressed, that were noticed in this submittal:

New Mexico 87103

1. The first flush volume required calculation appears to be low (5.99 acres impervious times 0.34" $\approx$ 7392 CF). Clarify the amount of first flush that volume will be needed to be retained on each lot; the report mentions that a portion of the volume will be retained on site, and the rest in the detention pond.

www.cabq.gov

2. As mentioned above, the detention pond will need to be detailed and analyzed to show how it decreases the peak discharge as stated in the Report.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

DRAINAGE REPORT

For

**6701 Jefferson St.
ALBUQUERQUE, NEW MEXICO**

Prepared by

Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

Prepared for

Argus Jefferson Partners, LLC
Albuquerque, NM

February 15, 2016

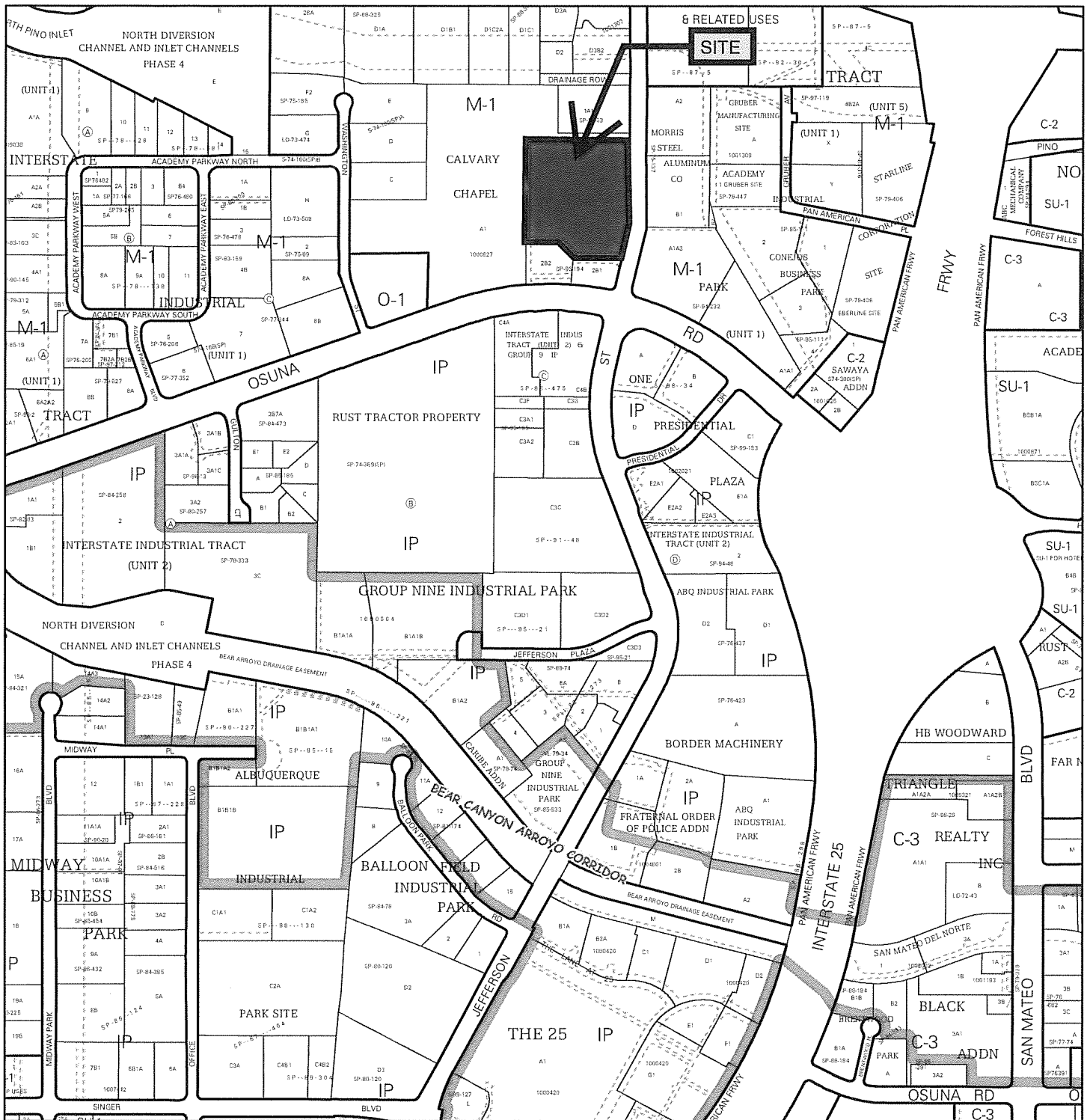


VINCENT P. CARRICA, PE #16212

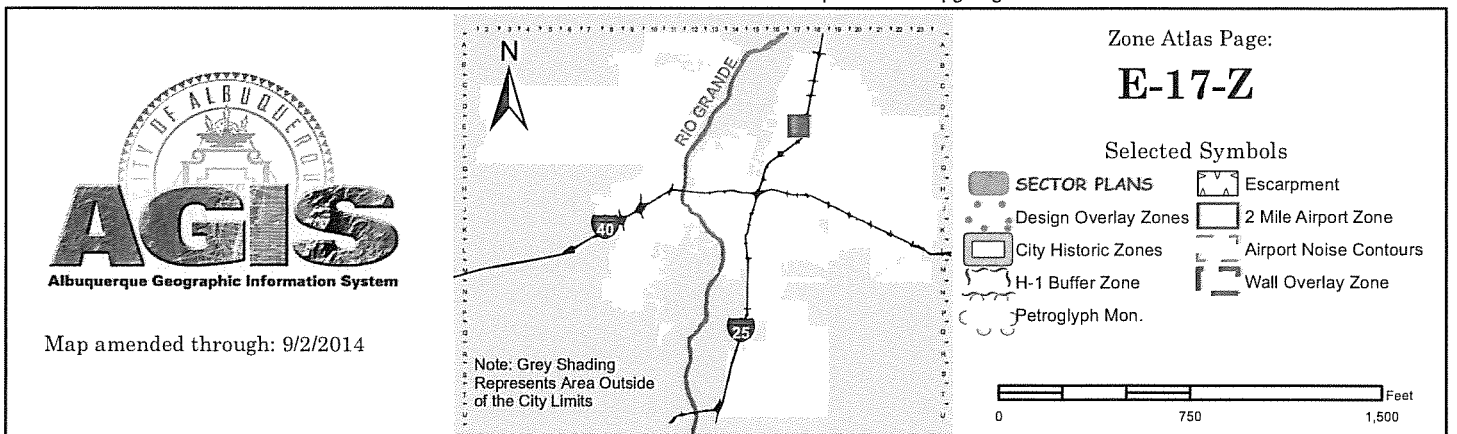


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GRADING AND DRAINAGE PLAN	MAP POCKET



For more current information and details visit: <http://www.cabq.gov/gis>



LOCATION

The proposed commercial development is located near the northwest quadrant of the Jefferson and Osuna intersection is comprised of approximately 7.14 acres zoned M-1, Manufacturing in Albuquerque, NM.

This report represents a drainage management and grading plan for approval by the City of Albuquerque, for grading and Building Permit submittal.

DRAINAGE BASIN DESIGNATION

The drainage basins for proposed conditions are as indicated on the BASIN MAP included in this report. The site, for proposed redeveloped conditions, is broken into fourteen onsite drainage basins and three offsite drainage basins.

EXISTING DRAINAGE CONDITIONS

The site was previously developed with a warehouse facility located in the center of the site. The Warehouse and associated improvements have since been demolished and the site currently sits vacant. Under previously developed and under current conditions runoff from the northern 2/3 of the site (Basin #1 and #4) free discharges via surface flow to the church parking lot immediately adjacent to the site on the west side and ultimately drains to the South Pino Arroyo. Runoff from the southern portion of the site (Basin 2) free discharges via sheet flows to the adjacent commercial property (Basin #3) and ultimately both basins #2 and #3 flow to Osuna. No onsite ponding is provided under existing conditions. Jefferson Street (Basin #5) also flows south to Osuna under existing conditions.

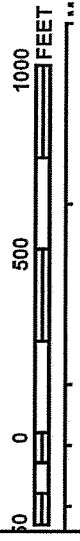
FIRM MAP

The site is not located in a designated Flood Hazard Zone per FEMA – (Firm Map 35001C0136G – See Attached Map).



35° 35' 37" 106° 35' 37"

MAP SCALE 1" = 500'



NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0136G

FIRM

FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO
AND INCORPORATED AREAS

PANEL 136 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0136	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0136	G
LOS RANCHOS DE ALBUQUERQUE, VILLAGE OF	350123	0136	G

Notice to User: The Map Number shown below should be used when placing map orders. The Community Number shown should be used on insurance applications for the subject community.



MAP NUMBER
35001C0136G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

DESIGN-CRITERIA

The drainage plan presented in this report was prepared in accordance with the City of Albuquerque Drainage Ordinances and Chapter 22 of the Development Process Manual DPM. The hydrological analysis is based on the 100-year frequency, 6-hour duration storm, as Represented in Section 22, Part A, Hydrology, of the Development Process Manual. The plan will also include retention of the first flush in on-site landscaped areas and drainage pond bottom.

Rainfall intensities per this report are as follows:

FREQ	ZONE	P60	P360	P1440
100YR	2	2.01	2.35	2.75

DEVELOPED-DRAINAGE CONDITIONS

The site is proposed to be subdivided into four lots with the western most lot developed initially along with grading of rough building pads in the remaining three lots that front Jefferson. No offsite drainage enters the site and the existing drainage patterns will be essentially maintained for runoff from the site onto the adjacent tracts to the west and south where it will be conveyed via a proposed storm drain to the South Pino Arroyo and via surface flow to Osuna Rd, respectively.

The drainage report titled "Revised Grading/Paving Plan for Calvary Chapel Parking Lot & Access Road (E17-D35E) dated 6/14/94 outlined the flows to be accepted from the subject property as well as the commercial property to the south of the subject site. On sheet 2 of 3 under OFFSITE FLOW, the report allows for 22.04 CFS from offsite area No. 1 and 15.86 CFS from offsite area No. 3. These flow rates were calculated based on ultimate developed conditions for the offsite basins as explained in plan verbiage. Offsite area No. 1 is the norther 2/3 of the subject property. Offsite area No 3 is the south 1/3 of the subject property along with the commercial properties immediately to the south, between the subject property and Osuna.

Onsite landscape areas will be used for first flush ponding volumes as well as a depressed area in the proposed detention pond to be located in the northwest corner of

Tract A-1, Calvary Chapel
(09/17/03, 2003C-105)

Tract 1-A-1-B, Enclave Tract
(03/30/94, 94C-105)

BASIN #4
0.192 ACRES
Q100=0.88 CFS

BASIN #5
1.615 ACRES
Q100=7.21 CFS

CALVARY CHAPEL
PARKING LOT

BASIN #1
5.339 ACRES
Q100=5.07 CFS

BASIN #2
1.820 ACRES
Q100=1.73 CFS

BASIN #3
1.997 ACRES
Q100=5.84 CFS

CALVARY CHAPEL
PARKING LOT

Tract 2-B-1
Tract B, Enclave Tract
(09/17/03, 93C-308)

Lot 2-B-1
Tract B, Enclave Tract
(09/17/03, 93C-308)

Osuna Road, N.E.
(150' R/W)

Jefferson Street, N.E.
(66' R/W)

EXISTING DRAINAGE BASINS

Tract A-1, Calvary Chapel
(05/17/03, 2003C-175)

Tract 1-A-1-B, Envirsa Tract
(03/20/94, 94C-105)

BASIN #15
0.190 ACRES
Q100=0.86 CFS

BASIN #1
0.054 ACRES
Q100=0.12 CFS

CALVARY CHAPEL
PARKING LOT

BASIN #2
0.694 ACRES
Q100=3.10 CFS

BASIN #3
0.694 ACRES
Q100=3.10 CFS

BASIN #13
0.478 ACRES
Q100=2.10 CFS

BASIN #5
0.300 ACRES
Q100=1.38 CFS

BASIN #4
0.711 ACRES
Q100=3.18 CFS

BASIN #6
0.370 ACRES
Q100=1.71 CFS

BASIN #9
0.821 ACRES
Q100=3.67 CFS

BASIN #7
0.542 ACRES
Q100=2.42 CFS

BASIN #8
1.054 ACRES
Q100=4.71 CFS

BASIN #14
0.355 ACRES
Q100=1.58 CFS

BASIN #10
0.897 ACRES
Q100=3.11 CFS

BASIN #11
0.600 ACRES
Q100=2.68 CFS

CALVARY CHAPEL
PARKING LOT

Q ALLOWABLE=6.94 CFS
Q100=6.66 CFS

BASIN #12
0.184 ACRES
Q100=0.87 CFS

OFFSITE BASIN
1.897 ACRES
Q100=8.92 CFS

Tract 2-B-2
Tract B, Envirsa Tract
(05/01/95, 95C-308)

Tract 2-B-1
Tract B, Envirsa Tract
(05/01/95, 95C-308)

Osuna Road, N.E.
(150' R/W)

Q ALLOWABLE=15.86 CFS
Q100=15.58 CFS

DEVELOPED BASINS

Jefferson Street, N.E.
(66' R/W)

BASIN #16
1.615 ACRES
Q100=7.21 CFS

Draw Field

A Portion of Parcel 2

A Portion of Tract 2

the property. See attached first flush volume exhibit. The detention pond is required to control the flows from the site to not exceed the 22.04 cfs outlined in the report for the Calvary Chapel Parking Lot drainage report. The flows from the subject property will match or will be less than the allowable flows (15.86 cfs) to the south. Flows from the offsite roadway improvements will be only slightly larger than existing conditions with the drainage patterns being maintained. The minor increase in runoff for the 100 year design storm will not impact the overall area drainage.

Refer to enclosed Weighted E computation spreadsheet for existing and developed conditions and AHYMO proposed drainage routed through a proposed drainage pond.

SUMMARY

The proposed grading and drainage plan for the proposed redevelopment of the previously developed and now vacant site provides the grading and drainage elements which are capable of safely passing the 100-year storm and meeting COA DPM requirements. The runoff from the site will be controlled to be at or below allowed flow rates as outlined in the Revised Grading/Paving Plan for Calvary Chapel Parking Lot & Access Road (E17-D35E) dated 6/14/94, and onsite retention of the first flush runoff volumes will be provided.

Jefferson & Osuna Commercial

Weighted E Method

2/12/2016

Zone #2

Existing Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year		
				%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
1	232588.00	5.339	0.00834	0%	0	100%	5.339	0%	0	0%	0.000	0.780	0.347	12.17
2	79276.00	1.820	0.00284	0%	0	100%	1.820	0%	0	0%	0.000	0.780	0.118	4.15
3	86989.00	1.997	0.00312	0%	0	0%	0.000	15%	0.299549	85%	1.697	1.972	0.328	8.92
4	8352.00	0.192	0.00030	0%	0	0%	0.000	15%	0.02876	85%	0.163	1.972	0.032	0.86
5	70370.00	1.615	0.00252	0%	0	0%	0.000	20%	0.323095	80%	1.292	1.922	0.259	7.09
Total	477575.00	10.964	0.01713										1.084	33.19

Equations:

Weighted E = $Ea \cdot Aa + Eb \cdot Ab + Ec \cdot Ac + Ed \cdot Ad$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Qa \cdot Aa + Qb \cdot Ab + Qc \cdot Ac + Qd \cdot Ad$

Weighted E Method

Zone #2

Developed Basins

Basin	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		100-Year		
				%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
ON-SITE														
1	2346.00	0.054	0.00008	0%	0	100%	0.054	0%	0	0%	0.000	0.780	0.004	0.12
2	30235.00	0.694	0.00108	0%	0	0%	0.000	15%	0.104115	85%	0.590	1.972	0.114	3.10
3	12477.00	0.286	0.00045	0%	0	0%	0.000	25%	0.071608	75%	0.215	1.873	0.045	1.23
4	30987.00	0.711	0.00111	0%	0	0%	0.000	15%	0.106705	85%	0.605	1.972	0.117	3.18
5	13050.00	0.300	0.00047	0%	0	0%	0.000	7%	0.020971	93%	0.279	2.051	0.051	1.38
6	16131.00	0.370	0.00058	0%	0	0%	0.000	5%	0.018516	95%	0.352	2.071	0.064	1.71
7	23611.00	0.542	0.00085	0%	0	0%	0.000	15%	0.081305	85%	0.461	1.972	0.089	2.42
8	45911.00	1.054	0.00165	0%	0	0%	0.000	15%	0.158096	85%	0.896	1.972	0.173	4.71
9	35751.00	0.821	0.00128	0%	0	0%	0.000	15%	0.123111	85%	0.698	1.972	0.135	3.67
10	30363.00	0.697	0.00109	0%	0	0%	0.000	15%	0.104556	85%	0.592	1.972	0.115	3.11
11	26143.00	0.600	0.00094	0%	0	0%	0.000	20%	0.120032	80%	0.480	1.922	0.096	2.63
12	8029.00	0.184	0.00029	0%	0	0%	0.000	15%	0.027648	85%	0.157	1.972	0.030	0.82
13	20822.00	0.478	0.00075	0%	0	0%	0.000	20%	0.095601	80%	0.382	1.922	0.077	2.10
14	15469.00	0.355	0.00055	0%	0	0%	0.000	20%	0.071024	80%	0.284	1.922	0.057	1.56
Total	311325.00	7.147	0.01117								5.990		1.166	31.74
OFF-SITE														
15	8352.00	0.192	0.00030	0%	0	0%	0.000	15%	0.02876	85%	0.163	1.972	0.032	0.86
16	70370.00	1.615	0.00252	0%	0	0%	0.000	10%	0.161547	90%	1.454	2.021	0.272	7.34
Total	701372.00	16.101	0.02516								1.617		0.304	8.20

Equations:

Weighted E = $Ea \cdot Aa + Eb \cdot Ab + Ec \cdot Ac + Ed \cdot Ad$ / (Total Area)

Volume = Weighted D * Total Area

Flow = $Qa \cdot Aa + Qb \cdot Ab + Qc \cdot Ac + Qd \cdot Ad$

First Flush Volume = 7393 cubic feet

VOLUME CALCULATIONS

OSUNA & JEFFERSON COMMERCIAL

Ab - Bottom Of The Pond Surface Area

At - Top Of The Pond Surface Area

D - Water Depth

Dt - Total Pond Depth

C - Change In Surface Area / Water Depth

$$\text{Volume} = \text{Ab} * \text{D} + 0.5 * \text{C} * \text{D}^2$$

$$\text{C} = (\text{At} - \text{Ab}) / \text{Dt}$$

$$\text{Ab} = 1,970.00 \text{ @ Elev.} = 33$$

$$\text{At} = 1,970.00 \text{ @ Overflow Elev.} = 38.9$$

$$\text{Dt} = 5.90$$

$$\text{C} = 0.00$$

$$\text{B Elev.} = 33.00$$

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q (CFS)
33.00	0	0	0.000
34.00	1.00	0.0452	8.790
35.00	2.00	0.0904	15.127
36.00	3.00	0.1357	21.392
37.00	4.00	0.1809	26.200
38.00	5.00	0.2261	30.253
38.90	5.90	0.2668	33.484

Orifice Equation

$$Q = \text{CA} \sqrt{2gH}$$

$$\text{C} = 0.6$$

$$\text{Diameter (in)} = 24$$

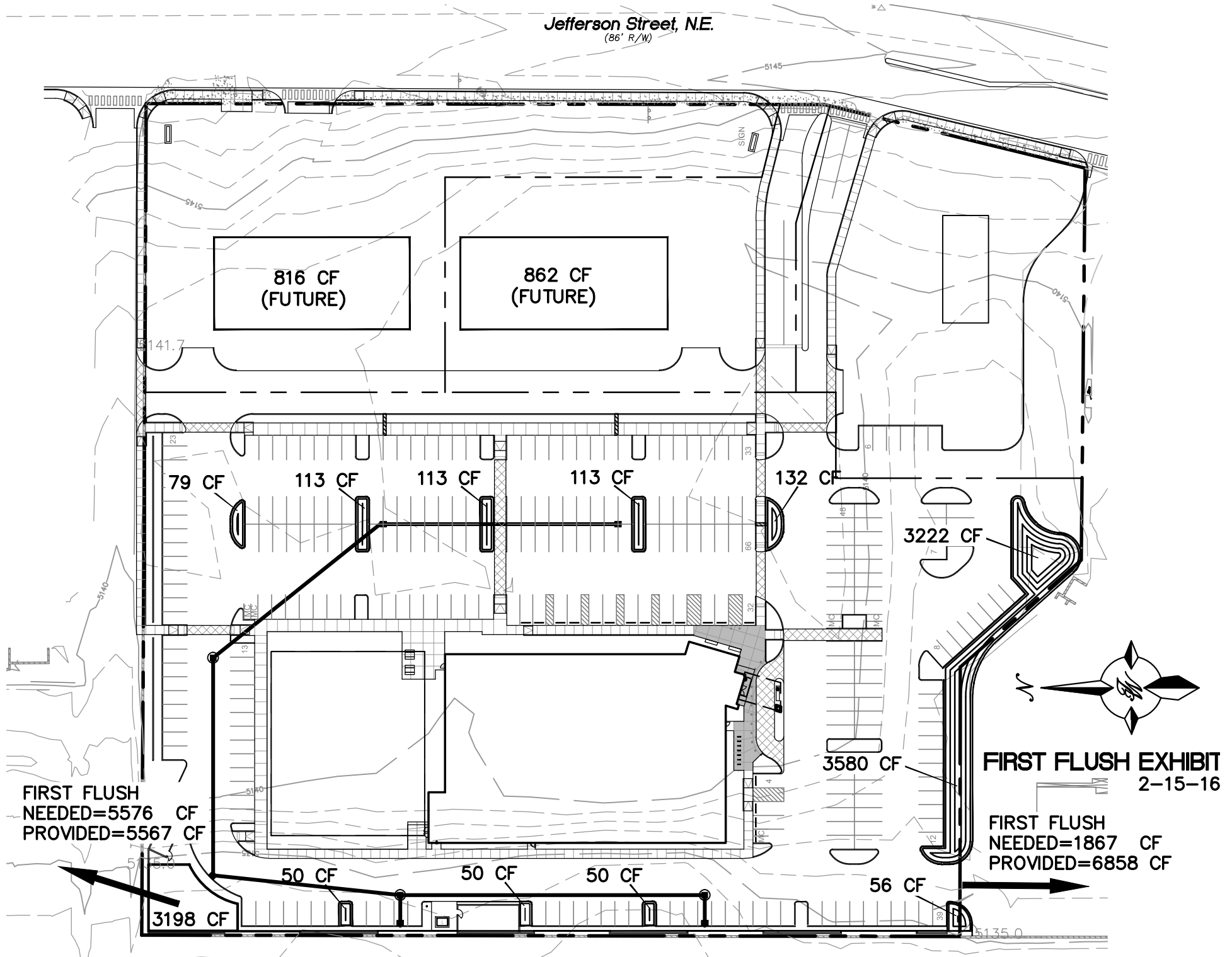
$$\text{Area (ft}^2\text{)} = 3.14159265$$

$$g = 32.2$$

$$\text{H (Ft)} = \text{Depth of water above center of orifice}$$

$$\text{Q (CFS)} = \text{Flow}$$

Jefferson Street, N.E.
(86' R/W)



```

                                hymojefferson.txt
*****
*                                JEFFERSON & OSUNA COMMERCIAL                                *
*****
* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) w/ routing *
*****
START                                TIME=0.0
*
*
RAINFALL                                TYPE=2 RAIN QUARTER=0.0 IN
                                         RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                                         RAIN DAY=2.75 IN DT=0.05 HR
*
*
*BASIN 1
*
COMPUTE NM HYD                        ID=1 HYD NO=100.1 AREA=0.00008 SQ MI
                                         PER A=0.00 PER B=100.00 PER C=0.0 PER D=0.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=1 CODE=1
*
*
*BASIN 2
*
COMPUTE NM HYD                        ID=2 HYD NO=100.2 AREA=0.00108 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=2 CODE=1
*
*
*BASIN 3
*
COMPUTE NM HYD                        ID=3 HYD NO=100.3 AREA=0.00045 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=25.0 PER D=75.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=3 CODE=1
*
*
*BASIN 4
*
COMPUTE NM HYD                        ID=4 HYD NO=100.4 AREA=0.00111 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=4 CODE=1
*
*
*BASIN 5
*
COMPUTE NM HYD                        ID=5 HYD NO=100.5 AREA=0.00047 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=7.0 PER D=93.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=5 CODE=1
*
*
*BASIN 6
*
COMPUTE NM HYD                        ID=6 HYD NO=100.6 AREA=0.00058 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=5.0 PER D=95.00
                                         TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                                ID=6 CODE=1
*
*
*BASIN 7
*
COMPUTE NM HYD                        ID=7 HYD NO=100.7 AREA=0.00085 SQ MI
                                         PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
                                         TP=-0.1333 HR MASS RAINFALL=-1

```

```

                                hymojefferson.txt
PRINT HYD                      ID=7  CODE=1
*
*
*BASIN 8
*
COMPUTE NM HYD                 ID=8  HYD NO=100.8 AREA=0.00165 SQ MI
                                PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
                                TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                      ID=8  CODE=1
*
*
*BASIN 9
*
COMPUTE NM HYD                 ID=9  HYD NO=100.9 AREA=0.00128 SQ MI
                                PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
                                TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                      ID=9  CODE=1
*
*
*BASIN 13
*
COMPUTE NM HYD                 ID=13 HYD NO=100.13 AREA=0.00075 SQ MI
                                PER A=0.00 PER B=0.00 PER C=20.0 PER D=80.00
                                TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                      ID=13 CODE=1
*
*
*BASIN 14
*
COMPUTE NM HYD                 ID=14 HYD NO=100.14 AREA=0.00055 SQ MI
                                PER A=0.00 PER B=0.00 PER C=20.0 PER D=80.00
                                TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD                      ID=14 CODE=1
*
*
ADD HYD                        ID=20 HYD NO=100.20 ID=1 ID=2
ADD HYD                        ID=21 HYD NO=100.21 ID=20 ID=3
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=4
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=5
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=6
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=7
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=8
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=9
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=13
ADD HYD                        ID=21 HYD NO=100.21 ID=21 ID=14
*
*
*ROUTE BASIN 1 THRU 9, 13 & 14 THROUGH DETENTION POND
*
*
ROUTE RESERVOIR                ID=55 HYD NO=200.1 INFLOW ID=21 CODE=24
                                OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                                0.0 0.0 33.00
                                8.790 0.0452 34.00
                                15.127 0.0904 35.00
                                21.392 0.1357 36.00
                                26.200 0.1809 37.00
                                30.253 0.2261 38.00
                                33.484 0.2668 38.90
*
PRINT HYD                      ID=55  CODE=1
*
*
FINISH

```

AHYMO.OUT

01a AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel:
 RUN DATE (MON/DAY/YR) = 02/15/2016
 START TIME (HR:MIN:SEC) = 07:15:34 USER NO.=
 AHYMO_Temp_User:20122010
 INPUT FILE = C:\Users\vince.TWLLC\Desktop\hymojefferson.txt

* JEFFERSON & OSUNA COMMERCIAL *

* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) w/ routing *

START TIME=0.0

*

*

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
 RAIN ONE=2.01 IN RAIN SIX=2.35 IN
 RAIN DAY=2.75 IN DT=0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR
 CONVECTIVE AREAS (NM & AZ) - D1
 DT = 0.050000 HOURS END TIME = 24.000002 HOURS

0.0000	0.0023	0.0046	0.0071	0.0099	0.0127	0.0159
0.0203	0.0272	0.0347	0.0424	0.0509	0.0595	0.0684
0.0776	0.0870	0.0974	0.1084	0.1204	0.1437	0.1728
0.2117	0.2559	0.3104	0.3831	0.4649	0.6062	0.8258
1.2021	1.4666	1.6752	1.7800	1.8719	1.9379	1.9905
2.0362	2.0697	2.1005	2.1259	2.1418	2.1530	2.1629
2.1722	2.1803	2.1879	2.1953	2.2025	2.2084	2.2118
2.2152	2.2186	2.2217	2.2247	2.2278	2.2307	2.2336
2.2363	2.2391	2.2417	2.2443	2.2469	2.2494	2.2518
2.2542	2.2565	2.2588	2.2611	2.2633	2.2654	2.2676
2.2697	2.2717	2.2738	2.2758	2.2778	2.2798	2.2817
2.2837	2.2856	2.2874	2.2893	2.2911	2.2930	2.2948
2.2965	2.2983	2.3000	2.3017	2.3034	2.3051	2.3068
2.3084	2.3100	2.3117	2.3133	2.3148	2.3164	2.3180
2.3195	2.3210	2.3225	2.3240	2.3255	2.3269	2.3284
2.3298	2.3313	2.3327	2.3341	2.3355	2.3368	2.3382
2.3396	2.3409	2.3422	2.3436	2.3449	2.3462	2.3474
2.3487	2.3500	2.3513	2.3525	2.3538	2.3551	2.3563
2.3576	2.3589	2.3601	2.3614	2.3627	2.3639	2.3652
2.3665	2.3677	2.3690	2.3702	2.3715	2.3728	2.3740
2.3753	2.3765	2.3778	2.3790	2.3803	2.3815	2.3828
2.3840	2.3853	2.3865	2.3878	2.3890	2.3903	2.3915
2.3927	2.3940	2.3952	2.3965	2.3977	2.3989	2.4002
2.4014	2.4027	2.4039	2.4051	2.4064	2.4076	2.4088
2.4101	2.4113	2.4125	2.4137	2.4150	2.4162	2.4174
2.4186	2.4199	2.4211	2.4223	2.4235	2.4247	2.4260
2.4272	2.4284	2.4296	2.4308	2.4320	2.4333	2.4345
2.4357	2.4369	2.4381	2.4393	2.4405	2.4417	2.4429
2.4441	2.4453	2.4465	2.4478	2.4490	2.4502	2.4514
2.4526	2.4538	2.4550	2.4561	2.4573	2.4585	2.4597
2.4609	2.4621	2.4633	2.4645	2.4657	2.4669	2.4681

AHYMO.OUT							
2.4692	2.4704	2.4716	2.4728	2.4740	2.4752	2.4764	
2.4775	2.4787	2.4799	2.4811	2.4822	2.4834	2.4846	
2.4858	2.4869	2.4881	2.4893	2.4905	2.4916	2.4928	
2.4940	2.4951	2.4963	2.4975	2.4986	2.4998	2.5010	
2.5021	2.5033	2.5044	2.5056	2.5068	2.5079	2.5091	
2.5102	2.5114	2.5125	2.5137	2.5148	2.5160	2.5171	
2.5183	2.5194	2.5206	2.5217	2.5229	2.5240	2.5252	
2.5263	2.5274	2.5286	2.5297	2.5309	2.5320	2.5331	
2.5343	2.5354	2.5365	2.5377	2.5388	2.5399	2.5411	
2.5422	2.5433	2.5445	2.5456	2.5467	2.5478	2.5490	
2.5501	2.5512	2.5523	2.5535	2.5546	2.5557	2.5568	
2.5579	2.5590	2.5602	2.5613	2.5624	2.5635	2.5646	
2.5657	2.5668	2.5679	2.5691	2.5702	2.5713	2.5724	
2.5735	2.5746	2.5757	2.5768	2.5779	2.5790	2.5801	
2.5812	2.5823	2.5834	2.5845	2.5856	2.5867	2.5878	
2.5889	2.5899	2.5910	2.5921	2.5932	2.5943	2.5954	
2.5965	2.5976	2.5986	2.5997	2.6008	2.6019	2.6030	
2.6040	2.6051	2.6062	2.6073	2.6084	2.6094	2.6105	
2.6116	2.6126	2.6137	2.6148	2.6159	2.6169	2.6180	
2.6191	2.6201	2.6212	2.6223	2.6233	2.6244	2.6254	
2.6265	2.6276	2.6286	2.6297	2.6307	2.6318	2.6328	
2.6339	2.6350	2.6360	2.6371	2.6381	2.6392	2.6402	
2.6413	2.6423	2.6433	2.6444	2.6454	2.6465	2.6475	
2.6486	2.6496	2.6506	2.6517	2.6527	2.6538	2.6548	
2.6558	2.6569	2.6579	2.6589	2.6600	2.6610	2.6620	
2.6630	2.6641	2.6651	2.6661	2.6672	2.6682	2.6692	
2.6702	2.6712	2.6723	2.6733	2.6743	2.6753	2.6763	
2.6774	2.6784	2.6794	2.6804	2.6814	2.6824	2.6834	
2.6844	2.6854	2.6865	2.6875	2.6885	2.6895	2.6905	
2.6915	2.6925	2.6935	2.6945	2.6955	2.6965	2.6975	
2.6985	2.6995	2.7005	2.7015	2.7025	2.7034	2.7044	
2.7054	2.7064	2.7074	2.7084	2.7094	2.7104	2.7114	
2.7123	2.7133	2.7143	2.7153	2.7163	2.7172	2.7182	
2.7192	2.7202	2.7211	2.7221	2.7231	2.7241	2.7250	
2.7260	2.7270	2.7280	2.7289	2.7299	2.7309	2.7318	
2.7328	2.7338	2.7347	2.7357	2.7366	2.7376	2.7386	
2.7395	2.7405	2.7414	2.7424	2.7433	2.7443	2.7452	
2.7462	2.7472	2.7481	2.7491	2.7500			

*

*

*BASIN 1

*

COMPUTE NM HYD ID=1 HYD NO=100.1 AREA=0.00008 SQ MI
 PER A=0.00 PER B=100.00 PER C=0.0 PER D=0.00
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.132088HR TP = 0.133300HR K/TP RATIO = 0.990905
 SHAPE CONSTANT, N = 3.562974
 UNIT PEAK = 0.19499 CFS UNIT VOLUME = 0.9337 B =
 324.90 P60 = 2.0100
 AREA = 0.000080 SQ MI IA = 0.50000 INCHES INF = 1.25000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=1 CODE=1

AHYMO.OUT
PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 0.95343 INCHES = 0.0041 ACRE-FEET
PEAK DISCHARGE RATE = 0.15 CFS AT 1.500 HOURS BASIN AREA =
0.0001 SQ. MI.

*

*

*BASIN 2

*

COMPUTE NM HYD ID=2 HYD NO=100.2 AREA=0.00108 SQ MI

PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00

TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 3.6243 CFS UNIT VOLUME = 0.9959 B =
526.28 P60 = 2.0100
AREA = 0.000918 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
SHAPE CONSTANT, N = 4.440407
UNIT PEAK = 0.46611 CFS UNIT VOLUME = 0.9738 B =
383.54 P60 = 2.0100
AREA = 0.000162 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 2.31096 INCHES = 0.1331 ACRE-FEET
PEAK DISCHARGE RATE = 3.20 CFS AT 1.500 HOURS BASIN AREA =
0.0011 SQ. MI.

*

*

*BASIN 3

*

COMPUTE NM HYD ID=3 HYD NO=100.3 AREA=0.00045 SQ MI

PER A=0.00 PER B=0.00 PER C=25.0 PER D=75.00

AHYMO.OUT

TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 1.3325 CFS UNIT VOLUME = 0.9911 B =
 526.28 P60 = 2.0100
 AREA = 0.000338 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.32369 CFS UNIT VOLUME = 0.9637 B =
 383.54 P60 = 2.0100
 AREA = 0.000113 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 100.30

RUNOFF VOLUME = 2.18153 INCHES = 0.0524 ACRE-FEET
 PEAK DISCHARGE RATE = 1.30 CFS AT 1.500 HOURS BASIN AREA =
 0.0005 SQ. MI.

*

*

*BASIN 4

*

COMPUTE NM HYD ID=4 HYD NO=100.4 AREA=0.00111 SQ MI

PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00

TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 3.7250 CFS UNIT VOLUME = 0.9966 B =
 526.28 P60 = 2.0100
 AREA = 0.000944 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.47906 CFS UNIT VOLUME = 0.9779 B =
 383.54 P60 = 2.0100
 AREA = 0.000167 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR

AHYMO.OUT
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.40

RUNOFF VOLUME = 2.31097 INCHES = 0.1368 ACRE-Feet
PEAK DISCHARGE RATE = 3.28 CFS AT 1.500 HOURS BASIN AREA =
0.0011 SQ. MI.

*

*

*BASIN 5

*

COMPUTE NM HYD ID=5 HYD NO=100.5 AREA=0.00047 SQ MI
PER A=0.00 PER B=0.00 PER C=7.0 PER D=93.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 1.7257 CFS UNIT VOLUME = 0.9928 B =
526.28 P60 = 2.0100
AREA = 0.000437 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
SHAPE CONSTANT, N = 4.440407
UNIT PEAK = 0.94662E-01CFS UNIT VOLUME = 0.8888 B =
383.54 P60 = 2.0100
AREA = 0.000033 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

PRINT HYD ID=5 CODE=1

PARTIAL HYDROGRAPH 100.50

RUNOFF VOLUME = 2.41451 INCHES = 0.0605 ACRE-Feet
PEAK DISCHARGE RATE = 1.44 CFS AT 1.500 HOURS BASIN AREA =
0.0005 SQ. MI.

*

*

*BASIN 6

AHYMO.OUT

*

COMPUTE NM HYD ID=6 HYD NO=100.6 AREA=0.00058 SQ MI
 PER A=0.00 PER B=0.00 PER C=5.0 PER D=95.00
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 2.1754 CFS UNIT VOLUME = 0.9941 B =
 526.28 P60 = 2.0100
 AREA = 0.000551 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.83440E-01CFS UNIT VOLUME = 0.8888 B =
 383.54 P60 = 2.0100
 AREA = 0.000029 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 100.60

RUNOFF VOLUME = 2.44040 INCHES = 0.0755 ACRE-Feet
 PEAK DISCHARGE RATE = 1.78 CFS AT 1.500 HOURS BASIN AREA =
 0.0006 SQ. MI.

*

*

*BASIN 7

*

COMPUTE NM HYD ID=7 HYD NO=100.7 AREA=0.00085 SQ MI
 PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 2.8525 CFS UNIT VOLUME = 0.9951 B =
 526.28 P60 = 2.0100
 AREA = 0.000723 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

AHYMO.OUT
 K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.36685 CFS UNIT VOLUME = 0.9691 B =
 383.54 P60 = 2.0100
 AREA = 0.000128 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 100.70

RUNOFF VOLUME = 2.31097 INCHES = 0.1048 ACRE-FEET
 PEAK DISCHARGE RATE = 2.52 CFS AT 1.500 HOURS BASIN AREA =
 0.0009 SQ. MI.

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*BASIN 8

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COMPUTE NM HYD ID=8 HYD NO=100.8 AREA=0.00165 SQ MI
 PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 5.5371 CFS UNIT VOLUME = 0.9971 B =
 526.28 P60 = 2.0100
 AREA = 0.001403 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.71212 CFS UNIT VOLUME = 0.9842 B =
 383.54 P60 = 2.0100
 AREA = 0.000248 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 100.80

RUNOFF VOLUME = 2.31097 INCHES = 0.2034 ACRE-FEET
 PEAK DISCHARGE RATE = 4.88 CFS AT 1.500 HOURS BASIN AREA =
 0.0017 SQ. MI.

AHYMO.OUT

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*BASIN 9

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COMPUTE NM HYD ID=9 HYD NO=100.9 AREA=0.00128 SQ MI
PER A=0.00 PER B=0.00 PER C=15.0 PER D=85.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 4.2955 CFS UNIT VOLUME = 0.9966 B =
526.28 P60 = 2.0100
AREA = 0.001088 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
SHAPE CONSTANT, N = 4.440407
UNIT PEAK = 0.55243 CFS UNIT VOLUME = 0.9779 B =
383.54 P60 = 2.0100
AREA = 0.000192 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = 0.050000

PRINT HYD ID=9 CODE=1

PARTIAL HYDROGRAPH 100.90

RUNOFF VOLUME = 2.31096 INCHES = 0.1578 ACRE-FEET
PEAK DISCHARGE RATE = 3.79 CFS AT 1.500 HOURS BASIN AREA =
0.0013 SQ. MI.

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*BASIN 13

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COMPUTE NM HYD ID=13 HYD NO=100.13 AREA=0.00075 SQ MI
PER A=0.00 PER B=0.00 PER C=20.0 PER D=80.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 2.3688 CFS UNIT VOLUME = 0.9951 B =
526.28 P60 = 2.0100

AREA = 0.000600 SQ MI AHYMO.OUT IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.43159 CFS UNIT VOLUME = 0.9738 B =
 383.54 P60 = 2.0100
 AREA = 0.000150 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=13 CODE=1

PARTIAL HYDROGRAPH 100.13

RUNOFF VOLUME = 2.24625 INCHES = 0.0898 ACRE-FEET
 PEAK DISCHARGE RATE = 2.19 CFS AT 1.500 HOURS BASIN AREA =
 0.0008 SQ. MI.

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*BASIN 14

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COMPUTE NM HYD ID=14 HYD NO=100.14 AREA=0.00055 SQ MI
 PER A=0.00 PER B=0.00 PER C=20.0 PER D=80.00
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000
 SHAPE CONSTANT, N = 7.106428
 UNIT PEAK = 1.7371 CFS UNIT VOLUME = 0.9928 B =
 526.28 P60 = 2.0100
 AREA = 0.000440 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

K = 0.107446HR TP = 0.133300HR K/TP RATIO = 0.806046
 SHAPE CONSTANT, N = 4.440407
 UNIT PEAK = 0.31650 CFS UNIT VOLUME = 0.9637 B =
 383.54 P60 = 2.0100
 AREA = 0.000110 SQ MI IA = 0.35000 INCHES INF = 0.83000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
 DT = 0.050000

PRINT HYD ID=14 CODE=1

PARTIAL HYDROGRAPH 100.14

AHYMO.OUT

RUNOFF VOLUME = 2.24625 INCHES = 0.0659 ACRE-FeET
 PEAK DISCHARGE RATE = 1.61 CFS AT 1.500 HOURS BASIN AREA =
 0.0006 SQ. MI.

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ADD HYD ID=20 HYD NO=100.20 ID=1 ID=2
 ADD HYD ID=21 HYD NO=100.21 ID=20 ID=3
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=4
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=5
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=6
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=7
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=8
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=9
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=13
 ADD HYD ID=21 HYD NO=100.21 ID=21 ID=14

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*ROUTE BASIN 1 THRU 9, 13 & 14 THROUGH DETENTION POND

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ROUTE RESERVOIR ID=55 HYD NO=200.1 INFLOW ID=21 CODE=24
 OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
 0.0 0.0 33.00
 8.790 0.0452 34.00
 15.127 0.0904 35.00
 21.392 0.1357 36.00
 26.200 0.1809 37.00
 30.253 0.2261 38.00
 33.484 0.2668 38.90

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	33.00	0.000	0.00

AHYMO.OUT				
1.20	3.65	33.32	0.014	2.78
2.40	0.77	33.11	0.005	0.98
3.60	0.05	33.01	0.000	0.05
4.80	0.07	33.01	0.000	0.07
6.00	0.12	33.01	0.001	0.11
7.20	0.12	33.01	0.001	0.12
8.40	0.12	33.01	0.001	0.12
9.60	0.12	33.01	0.001	0.12
10.80	0.12	33.01	0.001	0.12
12.00	0.11	33.01	0.001	0.11
13.20	0.11	33.01	0.001	0.11
14.40	0.11	33.01	0.001	0.11
15.60	0.11	33.01	0.001	0.11
16.80	0.10	33.01	0.001	0.10
18.00	0.10	33.01	0.001	0.10
19.20	0.10	33.01	0.001	0.10
20.40	0.10	33.01	0.001	0.10
21.60	0.10	33.01	0.000	0.10
22.80	0.09	33.01	0.000	0.09
24.00	0.09	33.01	0.000	0.09

PEAK DISCHARGE = 21.822 CFS - PEAK OCCURS AT HOUR 1.60
 MAXIMUM WATER SURFACE ELEVATION = 36.089
 MAXIMUM STORAGE = 0.1397 AC-FT INCREMENTAL TIME= 0.050000HRS

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PRINT HYD ID=55 CODE=1

PARTIAL HYDROGRAPH 200.10

RUNOFF VOLUME = 2.29627 INCHES = 1.0838 ACRE-FEET
 PEAK DISCHARGE RATE = 21.82 CFS AT 1.600 HOURS BASIN AREA = 0.0088 SQ. MI.

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FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 07:15:34

