

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

October 23, 2017

David Aube, P.E.
Hartman & Majewski Design Group
120 Vassar Dr SE, Suite 100
Albuquerque, NM, 87106

**RE: De Anza
Conceptual Grading and Drainage Plan
Stamp Date: 10/22/17
Hydrology File: K17D106**

Dear Mr. Aube:

Based upon the information provided in your submittal received 10/22/17, the Conceptual Grading and Drainage Plan is approved for action by the DRB on the Final Plat.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

Renée C. Brissette

Renée C. Brissette, P.E. CFM
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2016)

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

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

Legal Description: _____

City Address: _____

Applicant: _____ **Contact:** _____

Address: _____

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

Other Contact: _____ **Contact:** _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

☐ ENGINEER/ARCHITECT CERTIFICATION

☐ CONCEPTUAL G & D PLAN

☐ GRADING PLAN

☐ DRAINAGE MASTER PLAN

☐ DRAINAGE REPORT

☐ 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

☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

I. PURPOSE AND SCOPE

THE PURPOSE OF THIS DRAINAGE PLAN IS TO PRESENT THE EXISTING DRAINAGE CONDITIONS AS WELL AS THE PROPOSED DRAINAGE CONDITIONS OF THE DE ANZA MOTOR LODGE ON CENTRAL AVENUE IN ALBUQUERQUE, NM. THE ZONE ATLAS PAGE FOR THE SITE IS K-17-Z.

II. SITE DESCRIPTION AND HISTORY

THE PROJECT SITE IS LOCATED AT THE NORTHWEST CORNER OF WASHINGTON STREET AND CENTRAL AVENUE.

THE SITE IS CURRENTLY COMPOSED OF ONE 2.3 ACRE LOT WITH AN UNOCCUPIED MOTEL ON THE PROPERTY. THE ORIGINAL DE ANZA MOTOR LODGE AND RESTAURANT WAS BUILT IN 1939, BUT BECAME UNOCCUPIED IN THE 1990S.

III. COMPUTATIONAL PROCEDURES

HYDROLOGIC ANALYSIS WAS PERFORMED UTILIZING THE DESIGN CRITERIA BASED ON SECTION 22.2. HYDROLOGY. OF THE DEVELOPMENT PROCESS MANUAL RELEASED JUNE 1997. TABLES WITHIN SECTION 22.2 WERE USED TO AID IN THE STUDY OF THE SITE HYDROLOGY.

IV. PRECIPITATION

THE STORM EVENT USED FOR THE FOLLOWING CALCULATIONS IS THE 100YR-6HR STORM. THE PROJECT SITE IS LOCATED IN ZONE 2.

V. EXISTING DRAINAGE CONDITIONS (REFER TO CD1)

CURRENTLY THE STORM WATER RUN-OFF DRAINS FROM THE SOUTHERN END OF THE PROPERTY NEAR CENTRAL THROUGH THE PARKING LOT TO THE NORTHERN PART OF THE PROPERTY INTO COPPER AVE (BETWEEN WASHINGTON ST. AND GRACELAND DR.). THE SITE IS CURRENTLY A VERY LOW GRADE SLOPING DOWN TO THE NORTH.

THERE ARE CURRENTLY MOTEL ROOM STRUCTURES THAT LINE THE WEST, NORTH AND EAST SIDES OF THE PROPERTY. A MAJORITY OF THESE MOTEL ROOMS WILL BE DEMOLISHED PRIOR TO THE PROPOSED RESIDENTIAL DEVELOPMENT.

THREE BUILDINGS WILL BE RETAINED AS PART OF THE REDEVELOPMENT, THEY ARE AS FOLLOWS: THE BASEMENT UNDERNEATH ONE OF THE BUILDINGS, THE 6 MOTEL ROOM BUILDING NEAR WASHINGTON AND CENTRAL, AND THE TURQUOISE CAFE.

THE 6 MOTEL ROOM BUILDINGS AND TURQUOISE CAFE ROOFS DRAIN TOWARD THE SURROUNDING STREETS AND WILL NOT BE CONSIDERED IN THE COMPUTATION OF THE FIRST FLUSH REQUIREMENTS.

FOR A 100YR-6HR STORM EVENT THE MAIN PORTION OF THE SITE DRAINS OUT THROUGH AN ASPHALT RUNDOWN IN TO COPPER. THIS BASIN (EX 1) GENERATES A PEAK RUNOFF OF 6.77 CFS. THE SMALLER BASINS FOR THE 6 MOTEL ROOMS (EX 2) AND TURQUOISE CAFE (EX 3) GENERATE PEAK RUNOFF RATES OF 0.30 CFS AND 0.15 CFS RESPECTIVELY. THE MOTEL ROOM THAT SURROUND THE MOTOR COURT DRAIN TOWARD THE PUBLIC STREETS. EXISTING BASIN EX 4 GENERATES A PEAK RUNOFF OF 0.82 CFS AND EX5 IS 1.12 CFS.

ALL EXCESS RUNOFF FROM THE SITE FLOW TOWARD COPPER AND GRACELAND. FOR THE PURPOSE OF THIS DRAINAGE STUDY AN ADDITIONAL ANALYSIS POINT IS CONSIDERED AT THAT CORNER. THE COMBINE SITE RUNOFF AT THAT LOCATION IS 9.16 CFS.

VI. PROPOSED DRAINAGE CONDITIONS (REFER TO CD2)

THIS PROJECT IS PROPOSING TO RE-CONSTRUCT THE DE ANZA MOTOR LODGE AND RESTAURANT INTO THREE PARTS. THE NORTHERN SECTION OF THE PROPERTY WILL BE COMPRISED OF RESIDENTIAL STRUCTURES. THE TURQUOISE CAFE AND BUILDING NEAR WASHINGTON WILL BE RECONSTRUCTED TO MATCH THE HISTORIC CHARACTER AND WILL BE USED AS OFFICES.

THE TWO BUILDINGS TO REMAIN THAT DRAIN DIRECTLY INTO THE PUBLIC STREETS WILL REMAIN AS DESCRIBED IN THE EXISTING CONDITIONS. THESE SMALLER BASINS FOR THE 6 MOTEL ROOMS (PRO 2) AND TURQUOISE CAFE (PRO 3) GENERATE PEAK RUNOFF RATES OF 0.30 CFS AND 0.15 CFS RESPECTIVELY THAT MATCH THE HISTORIC DISCHARGE RATES AND OUTFALL LOCATIONS.

THE MAIN PORTION OF THE SITE (BASIN PRO 1) WILL REMAIN FLOWING NORTH TO COPPER AVENUE. THE PEAK DISCHARGE INTO COPPER WILL BE 8.50 CFS. THE NEW PEAK DISCHARGE OF 8.50 IS A 0.21 CFS REDUCTION FROM THE EXISTING SITE CONDITION OF 8.71 (IF THE FORMER MOTEL ROOM WOULD HAVE DRAINED INWARD TOWARD THE MOTOR COURT). ONCE AGAIN USING THE ANALYSIS POINT AT COPPER AND GRACELAND THE TOTAL FLOWRATE LEAVING THE SITE IN THE PEAK RUNOFF CONDITION PRIOR TO MSSSS PONDING WOULD BE 8.95 CFS.

THIS IS MENTIONED BECAUSE TO COMPLY WITH THE MSSS PERMIT REQUIREMENTS THE NEW ROOFS ARE BEING DESIGNED TO DRAIN THE EXCESS RUNOFF TOWARD THE CORE OF THE SITE AS OPPOSED TO THE SURROUNDING STREETS. THIS ALLOWS THE RUNOFF TO BE ROUTED THROUGH STORM WATER RETENTION BASINS TO MANAGE AND RETAIN THE FIRST FLUSH VOLUME.

THE EXCESS RUNOFF VOLUME OF THE REDEVELOPED SITE IS .31 AC-FT.

SEVERAL ONSITE RETAINING PONDS WILL BE USED TO HOLD THE FIRST FLUSH REQUIREMENT OF 2,055 CUBIC FEET. THE LARGEST HOLDING POND WILL BE UNDERGROUND IN THE NORTHERN MOST SECTION OF PARKING LOT. NEAR COPPER AVE. THESE PONDS WILL BE SIZED TO CONTAIN THE WATER QUALITY VOLUME TO COMPLY WITH THE EPA, CITY OF ALBUQUERQUE, AND MSSS PERMIT REQUIREMENTS. ON SITE PONDING FOR RESTRICT OF EXCESS RUNOFF IS NOT REQUIRED ON SITE AS THE PROPOSED CONDITIONS WILL CONTAIN LESS IMPERVIOUS AREA THAN THE CURRENT CONDITIONS.

POND C (284 CU-FT) WILL RETAIN WATER FROM THE SOUTHERN MOST PART OF THE SITE (APPROX. 19,520 SF). THE EXCESS FLOWS THAT EXCESS THE RETENTION PONDING VOLUME WILL OVERTOP A WATER BLOCK AND THEN CONTINUE TO FLOW WEST TOWARD A VALLEY GUTTER AND THEN NORTH MERGING WITH FLOW FROM THE WESTERN PART OF THE SITE. WATER THAT FALLS ON THE WESTERN PORTION (APPROX. 34,704 SF) OF THE PROPERTY WILL FLOW IN A VALLEY GUTTER TO POND A (736 CU-FT). THE EASTERN PORTION (APPROX. 31,120 SF) OF THE PROPERTY WILL DRAIN TO POND B (604 CU-FT).

IF THE STORM RUNOFF EXCEEDS POND B CAPACITY IT WILL FLOW FROM AN OPENING ON THE WESTERN CURB AND INTO A CONCRETE VALLEY GUTTER TO POND A. IF POND A REACHES CAPACITY, WATER WILL LEAVE THROUGH A SIDEWALK CULVERT AND INTO COPPER AVENUE.

THE FINAL OUTFLOW FROM THE SITE AFTER THE MSSSS PONDING AREAS (THAT TOTAL 1624CF EXCEEDING THE REQUIRED 1571 CF FOR A REDEVELOPMENT SITE REQUIRING 0.26' OF RETENTION FOR THE IMPERVIOUS SURFACES) WILL BE LESS THAN THE HISTORIC RATE. WHILE THE DISCHARGE POINTS TO THE STREET DO NOT MATCH EXACTLY TO THE HISTORIC, THE WATER IS CONTAINED WITHIN THE PROJECT SITE AND THEREFORE REDUCING THE FLOWS IN THE SURROUNDING STREETS UNTIL THE SINGLE DISCHARGE POINT ENTERS COPPER AVENUE. WITH THE ALREADY APPROVED DRG PLANS THAT ADD PARALLEL PARKING AND A VALLEY GUTTER ON COPPER THE DRAINAGE CAPACITY OF THAT STREET HALF SECTION HAS BEEN INCREASED FROM THE HISTORIC AND SHOULD NOT BE AFFECTED BY THE MORE CONCENTRATED FLOWS FROM THE SITE.

VII. CONCLUSIONS

THE EXISTING SITE DID NOT CONTAIN ANY ON-SITE PONDING FACILITIES. THE PROPOSED DEVELOPMENT WILL CONTAIN LESS IMPERVIOUS AREA, AND WILL CONTAIN THREE (3) SURFACE PONDS AND ONE (1) BELOW GROUND WATER RETENTION BASIN FOR THE MANAGEMENT OF THE MSSSS STORM RUNOFF REQUIREMENTS. THE PEAK RUNOFF RATE WITHOUT THE RETAINED WATER IS LESS THAN THE HISTORIC RATES. DISCHARGE POINTS FROM THE SITE ARE SLIGHTLY DIFFERENT BUT THE EXCESS RUNOFF FROM THE SITE WAS ANALYZED AT A COMMON POINT AT COPPER AND GRACELAND TO ENSURE THAT CAPACITIES OF DOWNSTREAM SYSTEMS WOULD NOT BE AFFECTED BY THE PROPOSED DEVELOPMENT. THE FLOW RATE AT THIS ANALYSIS POINT IS LESS THAN HISTORIC.

Drainage Summary

Project: De Anza
Project Number: 2500
Date: 10/05/17
By: Dave A

Site Location

Precipitation Zone 2 Per Table A-1 COA DPM Section 22.2

Existing summary

Basin Name	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5
Area (sf)	66131	3062	1394	7990	11223
Area (acres)	1.52	0.07	0.03	0.18	0.26
%A Land treatment	0	0	0	0	0
%B Land treatment	10	15	0	10	15
%C Land treatment	0	0	0	0	0
%D Land treatment	90	85	100	90	85

Soil Treatment (acres)

Area "A"	0.00	0.00	0.00	0.00	0.00
Area "B"	0.15	0.01	0.00	0.02	0.04
Area "C"	0.00	0.00	0.00	0.00	0.00
Area "D"	1.37	0.06	0.03	0.17	0.22

Excess Runoff (acre-feet)

100yr. 6hr.	0.2513	0.0112	0.0057	0.0304	0.0412
10yr. 6hr.	0.1561	0.0069	0.0036	0.0189	0.0254
2yr. 6hr.	0.0902	0.0040	0.0021	0.0109	0.0145
100yr. 24hr.	0.2968	0.0132	0.0067	0.0359	0.0485

Peak Discharge (cfs)

100 yr.	6.77	0.30	0.15	0.82	1.12
10yr.	4.43	0.20	0.10	0.54	0.72
2yr.	2.55	0.11	0.06	0.31	0.41

Proposed summary

Basin Name	Pro A	Pro B	Pro B
Area (sf)	85344	3062	1394
Area (acres)	1.96	0.070	0.032
%A Land treatment	0	0	0
%B Land treatment	15	15	0
%C Land treatment	0	0	0
%D Land treatment	85	85	100

Soil Treatment (acres)

Area "A"	0.00	0.00	0.00
Area "B"	0.29	0.01	0.00
Area "C"	0.00	0.00	0.00
Area "D"	1.67	0.06	0.03

Excess Runoff (acre-feet)

100yr. 6hr.	0.3133	0.0112	0.0057
10yr. 6hr.	0.1928	0.0069	0.0036
2yr. 6hr.	0.1101	0.0040	0.0021
100yr. 24hr.	0.3688	0.0132	0.0067

Peak Discharge (cfs)

100 yr.	8.50	0.30	0.15
10yr.	5.51	0.20	0.10
2yr.	3.12	0.11	0.06

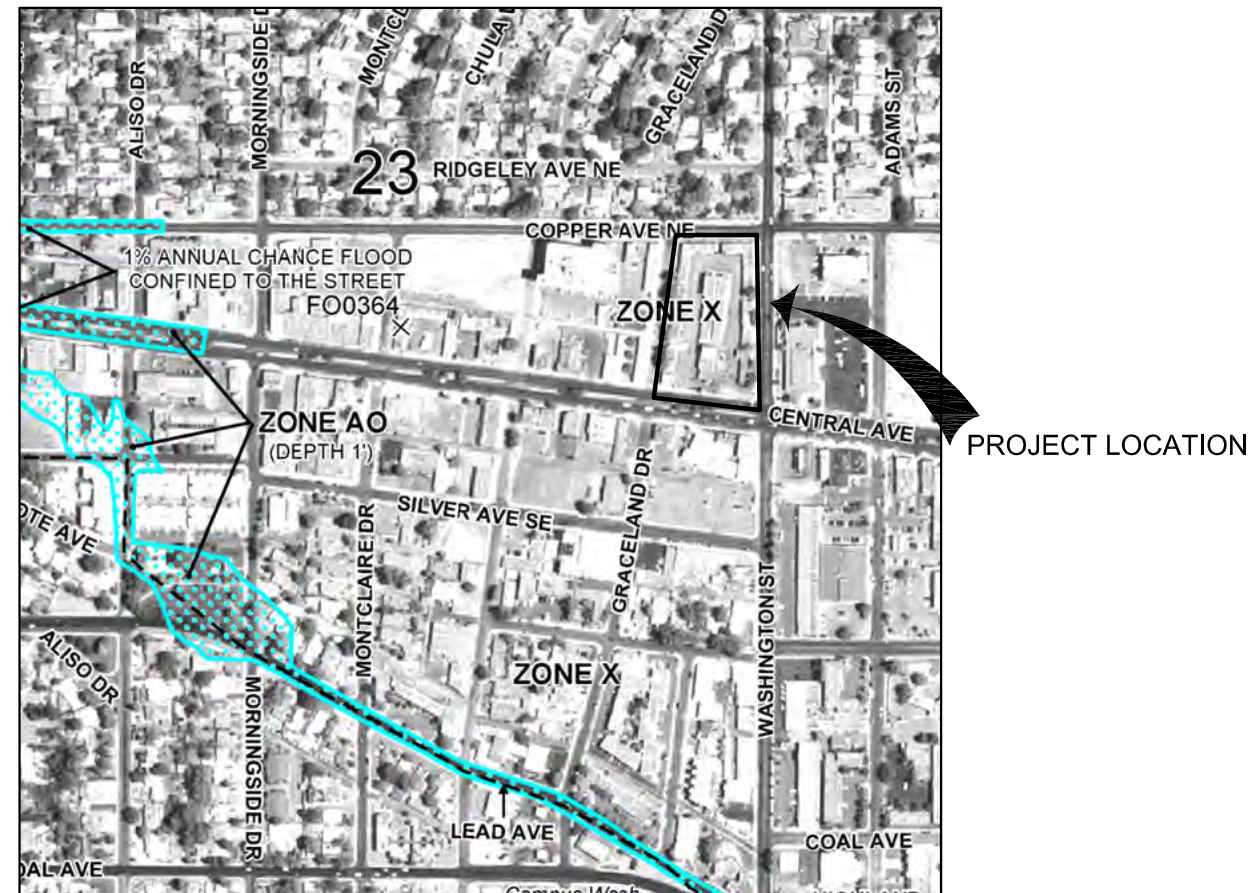
First Flush Ponding Volume (cf)

First Flush Acre Feet	1571.8	0.0361
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K-17-Z ZONE ATLAS PAGE

SCALE: NOT TO SCALE

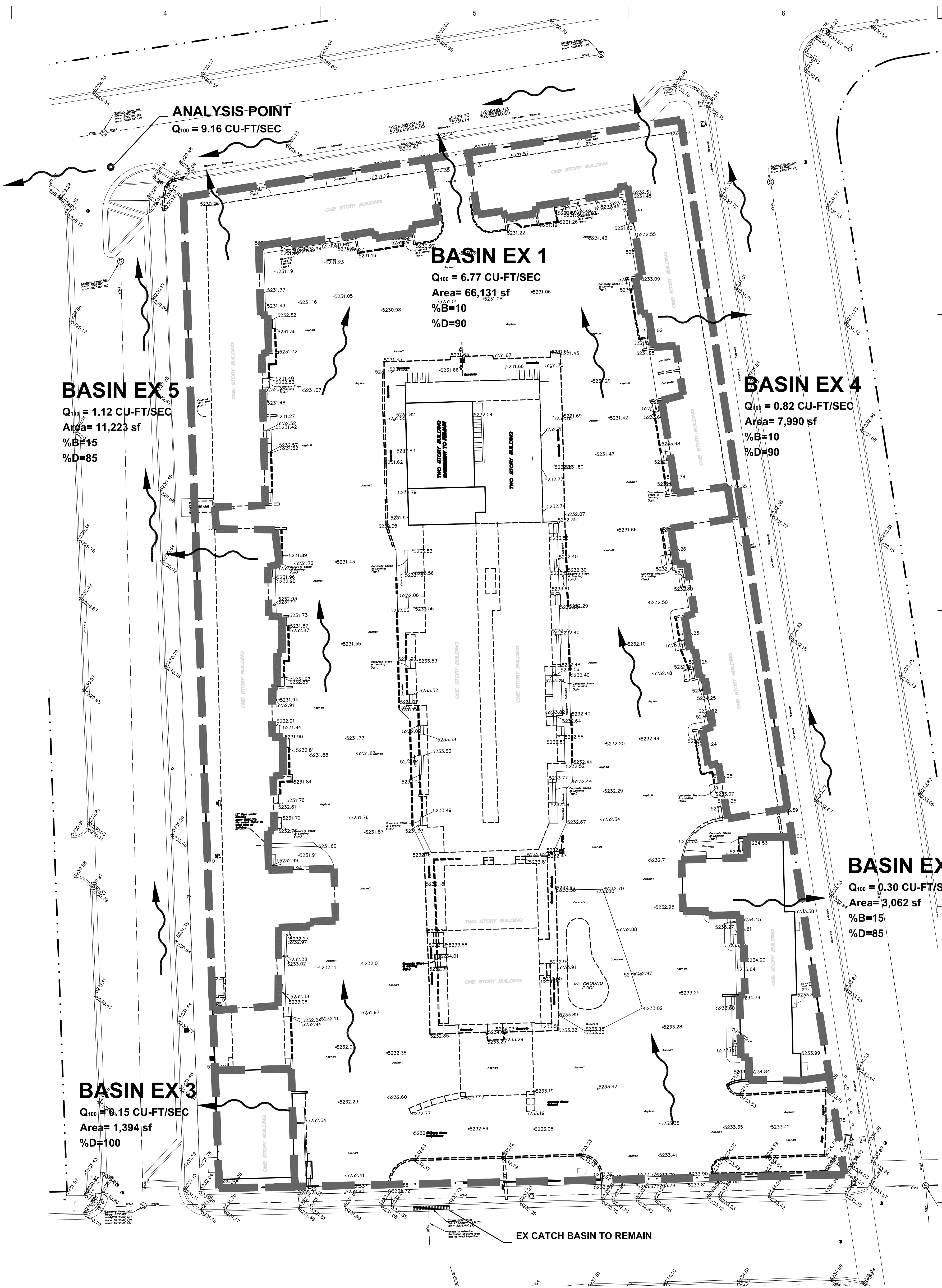


FEMA FLOOD MAP

SCALE: NOT TO SCALE

FLOOD ZONE DETERMINATION

The subject properties appear to lie mostly within "ZONE X" (areas determined to be outside 0.2 % annual chance flood plain), with "ZONE A" (No base Flood Elevations determined) shown in Copper Avenue at the northerly boundary and Central Avenue at the southerly boundary as shown on National Flood Insurance Program Flood Insurance Rate Map Number 35001C0353G, Map Revised September 26, 2008.



EXISTING DRAINAGE PLAN

SCALE: 1" = 20'-0"

GENERAL NOTES

- Bearings are New Mexico State Plane Grid Bearings (Central Zone - NAD83) originated at the Albuquerque Control Survey Monument "S-K17A".
- Distances are ground.
- Distances along curved lines are arc lengths.
- Record Plot or Deed bearings and distances, where they differ from those established by this field survey, are shown in parentheses ().
- All corners found in place and held were tagged with a brass disk stamped "HUGG L.S. 9750" unless otherwise indicated hereon.
- All corners that were set are either a 5/8" rebar with cap stamped "HUGG L.S. 9750" or a concrete nail with brass disk stamped "HUGG L.S. 9750" unless otherwise indicated hereon.
- Vertical Datum is based upon the Albuquerque Control Survey Benchmark "S-K17A", Elevation = 5222.211 (NAVD 1988)

CONCEPTUAL GRADING AND DRAINAGE PLAN, NOT FOR CONSTRUCTION



THE HARTMAN + MAJEWSKI
DESIGN GROUP
Architects • Engineers • Interior Design
Planners • Urban Designers • LEED®

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CONSULTANT

STAMP



100% CONSTRUCTION
DOCUMENT SUBMITTAL

PROJECT NAME

DE ANZA MOTOR LODGE

4301 CENTRAL AVENUE NE
ALBUQUERQUE, NM 87108

REVISIONS

NO.	DATE	DESCRIPTION

Copyright: Design Group

Drawn by	DAA
Checked by	DAA
Date	OCTOBER 25, 2017
Project number	2500

SHEET TITLE

SITE CONCEPTUAL
DRAINAGE
PLAN

SHEET NUMBER

CD1



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4301 CENTRAL AVENUE NE
ALBUQUERQUE, NM 87108

Broad Crested Weir Calculation

$$Q=Cwb \cdot b \cdot (g)^{1/2} \cdot ((2/3)^{1.5}) \cdot (H^{3/2})$$

	Pond A	Pond B	Pond C
Flow Rate (Q, cfs)=	8.5	2.61	1.87
Height of Water Over Weir (H)	0.5	0.5	0.5
Height of Water Block (Pw)	1.5	1.5	1.5
Weir Block			
Coefficient (Cwb)=	0.56	0.56	0.56
Width (b,ft)=	6	2	2
Height of Weir (H, ft)=	0.54	0.50	0.36

Sidewalk Culvert Calculation

$$Q=k/n \cdot A \cdot R^{2/3} \cdot S^{1/2}$$

Depth of Curb (ft)	0.5
Width of Culvert (ft)	2
Conversion	
Coefficient (k)=	1.486
Manning's Roughness Coefficient (n)=	0.013
Cross Sectional Area of Fluid Flow (A)=	1
Wetted Perimeter (P)=	3
Hydraulic Radius (R)=	0.33
Slope (S)=	0.01
Max Flow Rate (Q)=	5.50
Number of Culverts (#c)	3.00
Max with # of Culverts	16.49

POND	Upper	Lower	Depth	VOLUME(FT³)
A	283	96	1.5	284.25
B	564	241	1.5	603.75
C	669	313	1.5	736.5

BASIN PRO 2

Q₁₀₀ = 0.30 CU-FT/SEC

Area= 3,062 sf

%B=15

%D=85

BASIN PRO 3

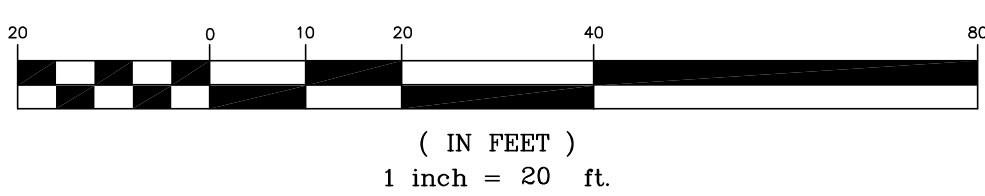
Q₁₀₀ = 0.19 CU-FT/SEC

Area= 1,394 sf

%D=100

GRADING AND DRAINAGE PLAN

SCALE: 1" = 20'-0"



CONCEPTUAL GRADING AND
DRAINAGE PLAN, NOT FOR
CONSTRUCTION

SHEET TITLE

GRADING AND
DRAINAGE
PLAN

SHEET NUMBER

CD2