CITY OF ALBUQUERQUE

Timothy M. Keller, Mayor

January 19, 2018

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

RE: De Anza
Grading Plan and Drainage Master Plan
Stamp Date: 12/13/17
Hydrology File: K17D106

Dear Mr. Aube:

PO Box 1293

Based upon the information provided in your resubmittal received 01/05/2018, the Grading Plan is approved for Building Permit.

Albuquerque

Please attach a copy of this approved plan in the construction sets for Building Permit processing. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required

NM 87103

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

www.cabq.gov

Sincerely,

Renée C Brissette

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

Orig: Drainage File

TREASURY DIVISION DAILY DEPOSIT

Transmittals for:
PROJECTS Only

Payment In-Lieu for Storm Water Quality Volume Requirement

CASH COUNT	AMOUNT	ACCOUNT NUMBER	FUND NUMBER	BUSINESS UNIT	PROJECT ID	ACTIVITY ID	AMOUNT
TOTAL CHECKS	$ 12,574.40	461615	305	PCDMD	24_MS4	7547210	$ 12,574.40
TOTAL AMOUNT						TOTAL DEPOSIT	**$12,574.40**

Hydrology#: K17D106 Name: De Anza

Payment In-Lieu For Storm Water Quality Volume Requirement

Address/Legal Description: 4301 Central Ave NE / Block 4 Mesa Grande Addition

DEPARTMENT NAME: Planning Department/Development Review Services, Hydrology

PREPARED BY Renee Brissette PHONE 924-3995

BUSINESS DATE 1/11/18

DUAL VERIFICATION OF DEPOSIT Renée Brissette
EMPLOYEE SIGNATURE

AND BY _____
EMPLOYEE SIGNATURE

RECEIVED
JAN 20 2018
LAND DEVELOPMENT SECTION

REMITTER: _____

AMOUNT: _____

BANK: _____

CHECK #: _____ DATE ON CHECK: _____

The Payment-in-Lieu can be paid at the Plaza del Sol Treasury, 600 2nd St. NW. **Bring three copies of this invoice to the Treasury** and provide a copy of the receipt to Hydrology, Suite 201, 600 2nd St. NW, or e-mail with the Hydrology submittal to PLNDRS@cabq.gov.

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 MSSSS 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 WOULD ALLOW 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 WERE INITIALLY DESIGNED TO HOLD THE FIRST FLUSH REQUIREMENT OF 2,055 CUBIC FEET (REDEVELOPMENT SITE REQUIRING 0.26" OF RETENTION FOR THE IMPERVIOUS SURFACES). THE OWNER FOR THE PROJECT WOULD PREFER TO PAY IN LIEU OF PONDING.

ON SITE PONDING TO RESTRICT EXCESS RUNOFF IS NOT REQUIRED AS THE PROPOSED CONDITIONS WILL CONTAIN LESS IMPERVIOUS AREA THAN THE CURRENT CONDITIONS.
A MAJORITY OF THE STORM RUNOFF WATER WILL LEAVE THROUGH A SIDEWALK CULVERT AND INTO COPPER AVENUE.

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 DRC 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 BE ALLOWED FREE DISCHARGE OF STORM RUNOFF INTO THE SURROUNDING STREETS. THE OWNER OF THE PROJECT WILL BE CREATING AN AGREEMENT TO PAY THE CITY TO ELIMINATE THE ON SITE 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.

A PAYMENT FOR THE FEE IN LIEU FOR THE REQUIRED FIRST FLUSH VOLUMES WILL BE MADE INSTEAD OF BUILDING THE FIRST FLUSH PONDS.

Drainage Summary

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

Site Location

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

Existing summary

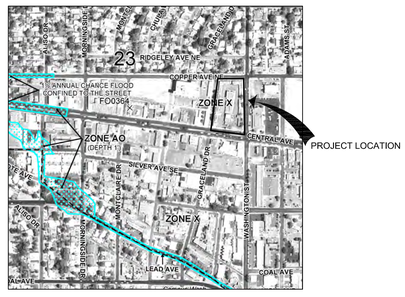
Basin Name	Ex 1	Ex 2	Ex 3	Ex 4	Ex 5
Area (sf)	66131	3062	1394	7990	11223
Area (acres)	1.52	0.07	0.03	0.18	0.26
%A Land treatment	0	0	0	0	0
%B Land treatment	10	15	0	10	15
%C Land treatment	0	0	0	0	0
%D Land treatment	90	85	100	90	85
Soil Treatment (acres)					
Area "A"	0.00	0.00	0.00	0.00	0.00
Area "B"	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 Voulme (cf) 1571.8
First Flush Acre Feet 0.0361

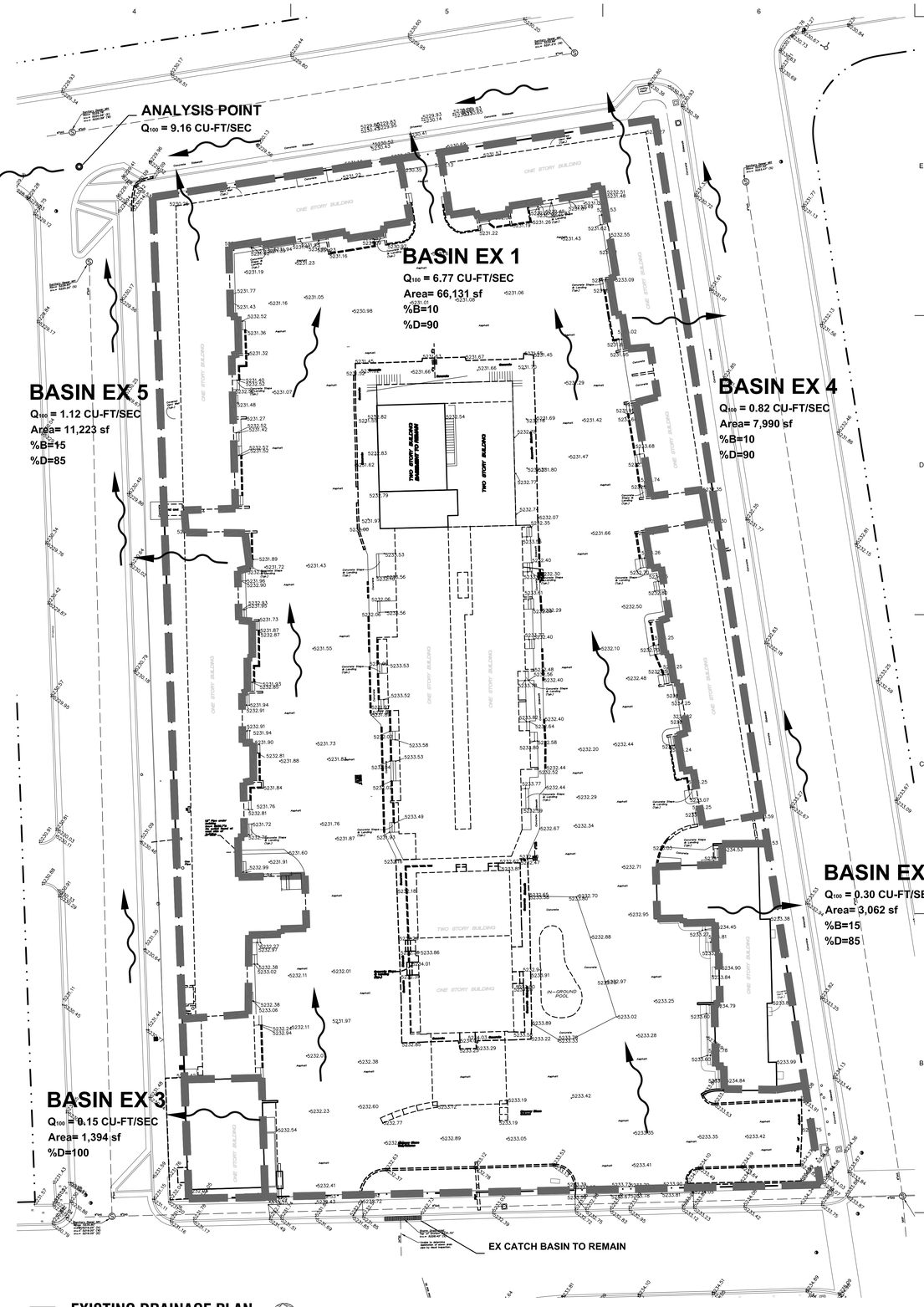
B2 K-17-Z ZONE ATLAS PAGE
SCALE: NOT TO SCALE



A2 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.



A4 EXISTING DRAINAGE PLAN
SCALE: 1" = 20'-0"

GENERAL NOTES

1. *Bearings are New Mexico State Plane Grid Bearings (Central Zone – NAD83) originated at the Albuquerque Control Survey Monument "5–K17A".*
2. *Distances are ground.*
3. *Distances along curved lines are arc lengths.*
4. *Record Plat or Deed bearings and distances, where they differ from those established by this field survey, are shown in parentheses ( ).*
5. *All corners found in place and held were tagged with a brass disk stamped "HUGG L.S. 9750" unless otherwise indicated hereon.*
6. *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.*
7. *Vertical Datum is based upon the Albuquerque Control Survey Benchmark "5–K17A", Elevation = 5222.211 (NAVD 1988)*

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Albuquerque New Mexico 87106
T 505 242 6880 • F 505 242 6881

CONSULTANT

STAMP

DAVID A. AUBE — NEW MEXICO — 14224 — REGISTERED PROFESSIONAL ENGINEER
12-15-17

100% CONSTRUCTION DOCUMENT SUMBITTAL

PROJECT NAME

DE ANZA MOTOR LODGE

4301 CENTRAL AVENUE NE
ALBUQUERQUE, NM 87108

REVISIONS

NO.	DATE	DESCRIPTION

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

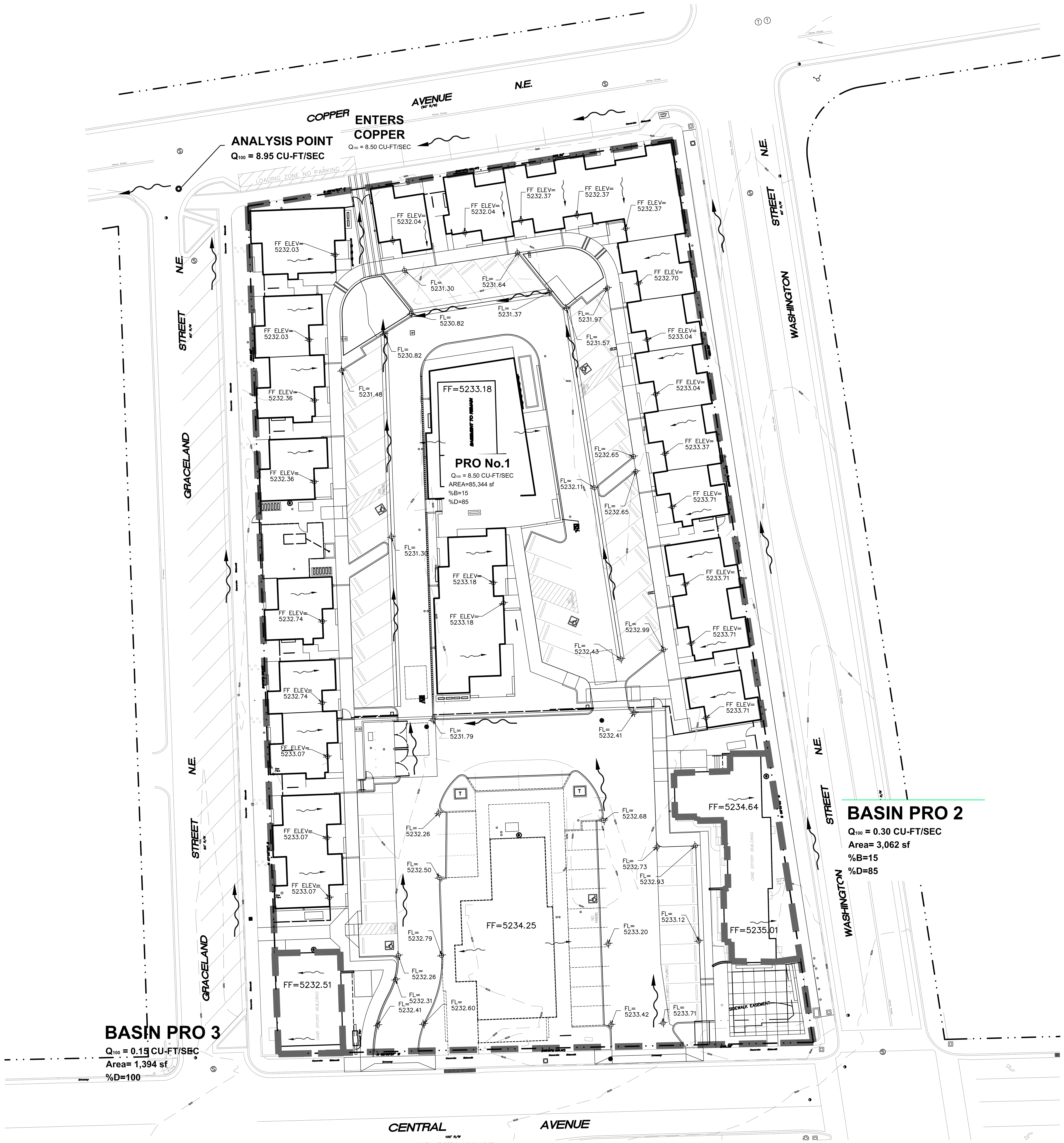
SHEET TITLE

DRAINAGE MANAGEMENT PLAN

SHEET NUMBER

CD1

12/17/2016 5:33:40 PM



A1 **GRADING AND DRAINAGE PLAN**

SCALE: 1" = 20'-0"

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

Broad Crested Weir Calculation

Q=Cwb*b*(g)^1/2*((2/3)^1.5)*(H^3/2)

	Pond A	Pond B	Pond C
Flow Rater (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*A*R^(2/3)*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

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CONSULTANT

STAMP

DAVID A. AUBE · STATE OF NEW MEXICO · 14224 · REGISTERED PROFESSIONAL ENGINEER
12-13-17

100% CONSTRUCTION DOCUMENT SUMBITTAL

PROJECT NAME

DE ANZA MOTOR LODGE

4301 CENTRAL AVENUE NE
ALBUQUERQUE, NM 87108

REVISIONS

NO.	DATE	DESCRIPTION

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

SHEET TITLE

GRADING AND DRAINAGE PLAN

SHEET NUMBER

CD2

12/17/2016 5:33:40 PM