CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

May 9, 2016

Robert Maze
Desert Sky Designs
3400 Alvarado Drive NE
Albuquerque, NM, 87110

RE: 1424 Caballero Drive SE
Grading and Drainage Exhibit
Stamp Date 8-4-2016 (File:M23D008A)

Dear Mr. Maze:

Based upon the information provided in your submittal received, the above referenced Grading and Drainage Exhibit is approved for Building Permit.

Based on the exhibit, we understand that a small pond is planned at the southern corner of the lot. This pond appears to only capture a portion of the additional runoff generated by the site, and it is unclear if the peak discharge is mitigated. However, based on the proposed retaining wall elevation and the swale shown, the remaining runoff appears to be directed to the street. Please contact me if this is not the case.

Please also ensure that this concept is maintained through construction. If this general condition is not possible during construction, a submittal will be needed to show how the discharge will be handled without increasing the historical overflow into the adjacent property.

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

Sincerely,

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

Orig: Drainage file

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 1/2016)

Project Title: Sanchez Res. Building Permit #: 201690762 Hydrology File #: M23D008A

~~DRB#:~~ _____ ~~EPC#:~~ _____ Work Order#: _____

Legal Description: Lot 50, Blk 17-A Four Hills 9th

City Address: 1424 Caballero

Applicant: Joe A. Sanchez Contact: 505 293 7246

Address: 1705 Sopalo Drse, Albu. NM 87123

Phone#: 505 293 7246 Fax#: _____ E-mail: _____

Other Contact: Robert Maze Contact: _____

Address: _____

Phone#: 505 884 3304 Fax#: _____ E-mail: bob@desert-sky-designs.com

Check all that Apply:

DEPARTMENT:

___ HYDROLOGY/ DRAINAGE
___ TRAFFIC/ TRANSPORTATION
___ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

___ AS-BUILT CERTIFICATION

X CONCEPTUAL G & D PLAN EXHIBIT
___ GRADING PLAN
___ DRAINAGE MASTER PLAN
___ DRAINAGE REPORT
___ CLOMR/LOMR

___ TRAFFIC CIRCULATION LAYOUT (TCL)
___ TRAFFIC IMPACT STUDY (TIS)
___ NEIGHBORHOOD IMPACT ASSESMENT (NIA)

___ EROSION & SEDIMENT CONTROL PLAN (ESC) N/A
___ OTHER (SPECIFY) _____

RECEIVED
MAY 04 2016
LAND DEVELOPMENT SECTION

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
___ CERTIFICATE OF OCCUPANCY
___ GRADING/ESC PERMIT APPROVAL

___ 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
___ SO-19 APPROVAL
___ PAVING PERMIT APPROVAL
___ GRADING/ PAD CERTIFICATION
___ WORK ORDER APPROVAL
___ CLOMR/LOMR

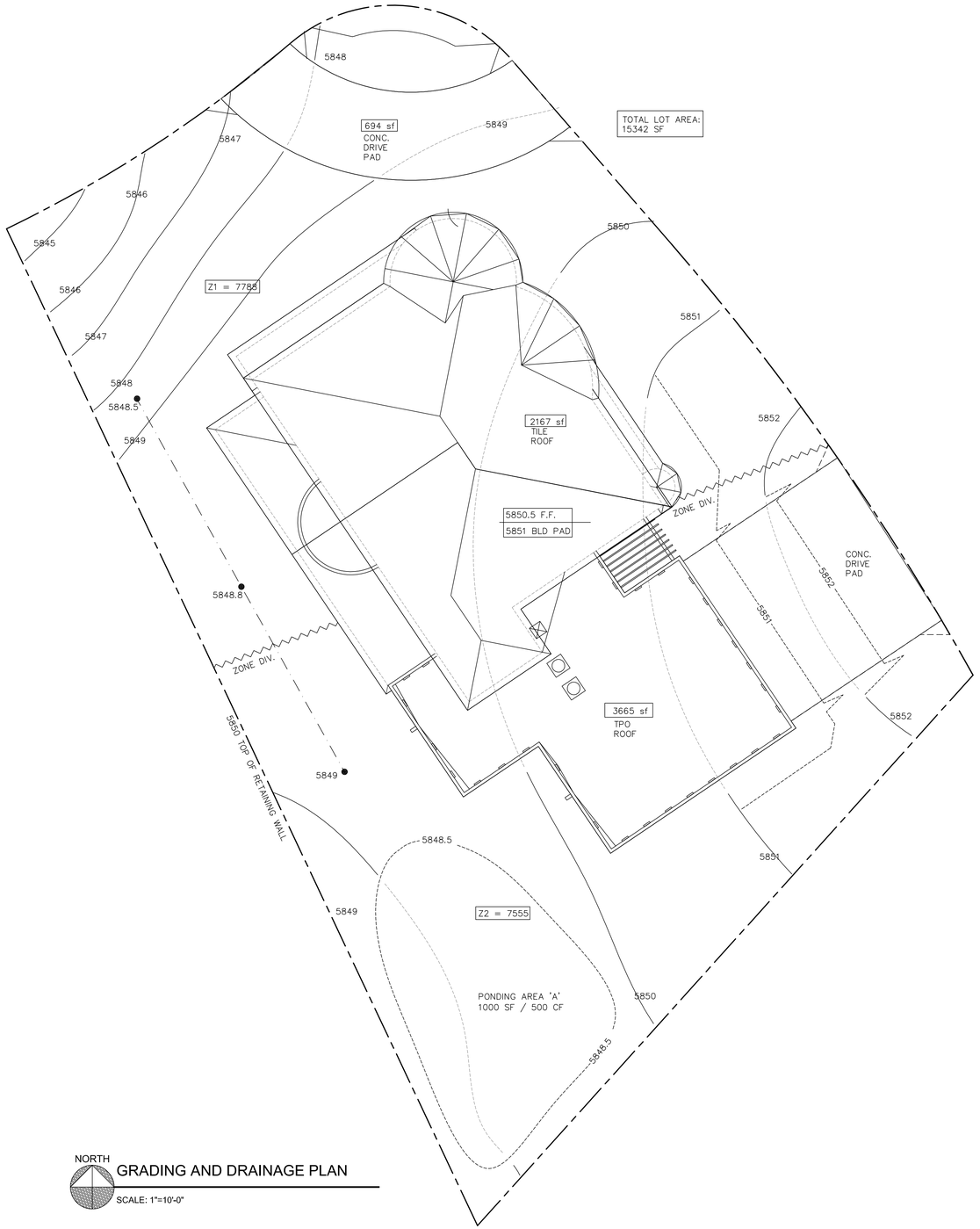
___ **PRE-DESIGN MEETING?**

___ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ___ Yes X No

DATE SUBMITTED: May 4th 2016 By: Robert Maze

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____ FEE RECEIVED: ____



NORTH

GRADING AND DRAINAGE PLAN

SCALE: 1"=10'-0"

TABLE A–4. LAND TREATMENTS

Treatment	Land Condition
A	*Soil uncompacted by human activity with 0 to 10 percent slopes. Native grasses, weeds and shrubs in typical densities with minimal disturbance to grading, ground cover and infiltration capacity.*
B	*Irrigated lawns, parks and golf courses with 0 to 10 percent slopes. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes greater than 10 percent and less than 20 percent.*
C	*Soil compacted by human activity. Minimal vegetation. Unpaved parking, roads, trails. Most vacant lots. Gravel or rock on plastic (desert landscaping). Irrigated lawns and parks with slopes greater than 10 percent. Native grasses, weeds and shrubs, and soil uncompacted by human activity with slopes at 20 percent or greater. Native grass, weed and shrub areas with clay or clay loam soils and other soils of very low permeability as classified by SCS Hydrologic Soil Group D.*
D	*Impervious areas, pavement and roofs.*

The principal design storm is the 100–year 6–hour event defined by the NOAA Atlas 2, Precipitation–Frequency Atlas of the Western United States, Vol. IV – New Mexico. Assume an AMC II condition (a normally dry watershed). For design of retention or detention ponds, storms of 24–hour or longer duration many be required. The 24–hour event is defined by the NOAA Atlas 2. The 4–day and 10–day events can be obtained using the procedures in S.C.S. TSC Technical Note–Hydrology, PO–6 (Rev. 2). The 100–year 60–minute depth is computed by the following formula from Table 11 of NOAA Atlas 2:

(a–1)

P 60 = 0.494 + 0.755 (P360 * P360 / P1440)*

Project is located in Zone 3:

TABLE A–2. DEPTH (INCHES) AT 100–YEAR STORM

Zone	P60	P360	P1440	P4days	P10days
3	2.14	2.60	3.10	3.95	4.90

P 60 = 0.494 + 0.755 (2.60 * 2.60 / 3.10)*

P 60 = 2.14 inches

TABLE A–8. EXCESS PRECIPITATION, E (INCHES) – 6 HOUR STORM

Zone			3
Treatment	100–YR. [2–YR., 10–YR.]	A	0.66 [0.00, 0.19]
		B	0.92 [0.06, 0.36]
		C	1.29 [0.20, 0.62]
		D	2.36 [0.89, 1.50]

UPC:
102305523411330279

Address:
1424 CABALLERO DR SE ALBUQUERQUE NM 87123

Legal Description:
LOT 50 BLOCK 17–A
AMENDED REPLAT OF FOUR HILLS VILLAGE
NINETEENTH INSTALLMENT

To determine the volume of runoff,
1) Determine the area in each treatment, AA, AB, AC, AD

	zone 1 ex.	zone 1 prop.	zone 2 ex.	zone 2 prop.	total proposed	ratios
A	7788	0	7555	1000	1000	7%
B		0		0	0	
C		4927		2890	7817	50%
D		2861		3665	6526	43%
total (sf)	7788		7555		15343	

2) Compute the weighted excess precipitation, E

$$\text{Weighted } E = \frac{EAAA + EBAB + ECAC + EDAD}{AA + AB + AC + AD} \qquad (a–5)$$

	zone 1 ex.	zone 1 prop.	zone 2 ex.	zone 2 prop.
A x 0.66	5141		4986	660
B x 0.92				
C x 1.29		6356		3728
D x 2.36		6752		8649
total (inxsf)	5141	13108	4986	13027
E (in)	.66	1.68	.66	1.72

3) Multiply the weighted E by the watershed area.
V 360 (as volume) = weighted E (AA + AB + AC + AD) (a–6)*

	zone 1 ex.	zone 1 prop.	zone 2 ex.	zone 2 prop.
V 360 (CF)	428	1090	416	1083

For ponds which hold water for longer than 6 hours, longer duration storms are required to establish runoff volumes. Since the additional precipitation is assumed to occur over a long period, the additional volume is based on the runoff from the impervious areas only.
For 24–hour storms:
*V 1440 = V360 + AD * (P1440 – P360) / 12 in/ft (a–7)*

*V 1440 = V360 + AD * (0.4 in) / 12 in/ft*

	zone 1 ex.	zone 1 prop.	zone 2 ex.	zone 2 prop.	proposed totals
D		2861		3665	
V 360 (CF)	428	1090	416	1083	
ADDED	—	95	—	122	
V 1440 (CF)	428	1185	416	1205	2390
Added		757		789	1546
PONDING (CF)				500	500

TOTAL NET ADDED: 500 CF

METHODOLOGY:
ASSUMPTION FOR EXISTING SITE IS 100 PERCENT VACANT (UNDISTURBED). SITE HAS EXISTING GRADES OF 0% TO 10%. ZONE 2 DRAINAGE SHALL BE COLLECTED AND PARTIALLY PONDED ON SITE IN RETENTION POND. POND INDICATED ON SITE PLAN SHALL BE GRADED TO 18" BELOW TOP OF RETAINING WALL AT THE WESTERN PROPERTY LINE. OUTFLOW SHALL BE GRADED TO 12" BELOW TOP OF RETAINING AT HIGHEST POINT. PONDING AREAS ARE TREATED AS TYPE 'A' – FLAT AND UNCOMPACTED

CONCLUSIONS:
OUR PROPOSED PONDING CAPACITY OF 500 CF WILL RETAIN 60% THE TOTAL RUNOFF FOR ZONE 2. THE REMAINING 300 CF FOR ZONE 2 WILL BE DIRECTED TO THE STREET. RUNOFF AT THE WESTERN PROPERTY LINE WILL BE DIRECTED AWAY FROM THE RETAINING WALL.

DESERT SKY DESIGNS
3400 Alvarado Dr NE
Albuquerque, NM
87110
884-3304
desert-sky-designs.com

Sanchez Residence

1424 CABALLERO DR SE - ALBUQUERQUE NM 87123

NEW CONSTRUCTION

GRADING AND DRAINAGE

STATE OF NEW MEXICO
ROBERT MAZE
No. 4107
5/4/2016
REGISTERED ARCHITECT

S1

5/4/2016