

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

August 24, 2020

Genny Donart, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

**RE: Allaso High Desert
Conceptual Grading & Drainage Plan
Engineer's Stamp Date: No Date
Hydrology File: E22D023**

Dear Ms. Donart:

PO Box 1293

Based upon the information provided in your submittal received 08/03/2020, the Conceptual Grading & Drainage Plan **is not** approved for action by the DRB on Site Plan for Building Permit. The following comments need to be addressed for approval of the above referenced project:

Albuquerque

NM 87103

www.cabq.gov

1. Since this project is adjacent to, or drains into an Albuquerque Metropolitan Arroyo and Flood Control Authority (AMAFCA) facility, approval by AMAFCA will be need prior to Hydrology approval. Please contact Nicole Friedt P.E, CFM (nfriedt@amafca.org or 505-884-2215).
2. This property has a long history of drainage related issues that needs to be included in a Supplemental Drainage Report. Please provide this report which should include the Impact Assessment Study for the Piño Dam and the CLMR approval letter that was already provided.
3. Please provide an engineer's stamp with a signature and date.
4. Please add the word "Conceptual" to the sheets title and add a note stating "Not for Construction".
5. Please provide the FIRM Map and floodplain note with effective date.
6. Please provide a vicinity map showing the location of the site. Typically this is the Zone Atlas. This can be downloaded in pdf format from the City of Albuquerque's website.
7. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

8. Standard review fee of \$300 (for DRB Site) will be required at the time of resubmittal.

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

Sincerely,



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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



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: _____



Federal Emergency Management Agency

Washington, D.C. 20472

March 3, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

IN REPLY REFER TO:

Case No.: 15-06-0805R

The Honorable Richard J. Berry
Mayor, City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Community Name: City of Albuquerque, NM
Community No.: 350002

Dear Mayor Berry:

We are providing our comments with the enclosed Conditional Letter of Map Revision (CLOMR) on a proposed project within your community that, if constructed as proposed, could revise the effective Flood Insurance Rate Map for your community.

If you have any general questions regarding the floodplain management regulations for your community, the National Flood Insurance Program (NFIP), or technical questions regarding this CLOMR, please contact the Director, Mitigation Division of the Federal Emergency Management Agency (FEMA) Regional Office in Denton, Texas, at (940) 898-5127, or the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP). Additional information about the NFIP is available on our Web site at <http://www.fema.gov/nfip>.

Sincerely,

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration

List of Enclosures:

Conditional Letter of Map Revision Comment Document

cc: The Honorable Maggie Hart Stebbins
Chair, Bernalillo County Board of Commissioners

Mr. John Mechenbier
Americus, LLC

Mr. Curtis Cherne, P.E.
Floodplain Manager
City of Albuquerque

Mr. Don R. Briggs, P.E., CFM
Floodplain Administrator
Bernalillo County

Ms. Genevieve L. Donart, P.E.
Isaacson & Arfman, P.A.
Consulting Engineering Associates



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT

COMMUNITY INFORMATION		PROPOSED PROJECT DESCRIPTION	BASIS OF CONDITIONAL REQUEST
COMMUNITY	City of Albuquerque Bernalillo County New Mexico	CULVERT CHANNELIZATION	HYDRAULIC ANALYSIS HYDROLOGIC ANALYSIS UPDATED TOPOGRAPHIC DATA
	COMMUNITY NO.: 350002		
IDENTIFIER	The Foothills	APPROXIMATE LATITUDE AND LONGITUDE: 35.158, -106.498 SOURCE: USGS QUADRANGLE DATUM: NAD 83	
AFFECTED MAP PANELS			
TYPE: FIRM* NO.: 35001C0161G DATE: September 26, 2008		* FIRM - Flood Insurance Rate Map	
TYPE: FIRM* NO.: 35001C0142H DATE: August 16, 2012			

FLOODING SOURCES AND REACH DESCRIPTION

See Page 2 for Additional Flooding Sources

Pino Arroyo – from just downstream of Tramway Boulevard to approximately 1,070 feet downstream of Tramway Boulevard

PROPOSED PROJECT DESCRIPTION

Flooding Source	Proposed Project	Location of Proposed Project
Pino Arroyo	New Culvert	from approximately 1,020 feet downstream of Tramway Boulevard to approximately 520 feet downstream of Tramway Boulevard
	Channelization	from approximately 520 feet downstream of Tramway Boulevard to approximately 290 feet downstream of Tramway Boulevard
	New Culvert	at Tramway Boulevard

SUMMARY OF IMPACTS TO FLOOD HAZARD DATA

Flooding Source	Effective Flooding	Proposed Flooding	Increases	Decreases
Pino Arroyo	Zone AO	Zone AE	Yes	None
	Zone AO	Zone X (unshaded)	Yes	None
	No BFEs*	BFEs	Yes	None

* BFEs - Base (1-percent-annual-chance) Flood Elevations

COMMENT

This document provides the Federal Emergency Management Agency's (FEMA's) comment regarding a request for a CLOMR for the project described above. This document is not a final determination; it only provides our comment on the proposed project in relation to the flood hazard information shown on the effective National Flood Insurance Program (NFIP) map. We reviewed the submitted data and the data used to prepare the effective flood hazard information for your community and determined that the proposed project meets the minimum floodplain management criteria of the NFIP. Your community is responsible for approving all floodplain development and for ensuring that all permits required by Federal or State/Commonwealth law have been received. State/Commonwealth, county, and community officials, based on their knowledge of local conditions and in the interest of safety, may set higher standards for construction in the Special Flood Hazard Area (SFHA), the area subject to inundation by the base flood. If the State/Commonwealth, county, or community has adopted more restrictive or comprehensive floodplain management criteria, these criteria take precedence over the minimum NFIP criteria.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION

To determine the changes in flood hazards that will be caused by the proposed project, we compared the hydraulic modeling reflecting the proposed project (referred to as the proposed conditions model) to the hydraulic modeling used to prepare the Flood Insurance Study (FIS) (referred to as the effective model). If the effective model does not provide enough detail to evaluate the effects of the proposed project, an existing conditions model must be developed to provide this detail. This existing conditions model is then compared to the effective model and the proposed conditions model to differentiate the increases or decreases in flood hazards caused by more detailed modeling from the increases or decreases in flood hazards that will be caused by the proposed project.

The table below shows the changes in the BFEs:

BFE Comparison Table

Flooding Source: Pino Arroyo		BFE Change (feet)	Location of maximum change
Proposed vs.	Maximum increase	0.5	just downstream of Tramway Boulevard
Existing	Maximum decrease	7.7	approximately 630 feet downstream of Tramway Boulevard

NFIP regulations Subparagraph 60.3(b)(7) requires communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained. This provision is incorporated into your community's existing floodplain management ordinances; therefore, responsibility for maintenance of the altered or relocated watercourse, including any related appurtenances such as bridges, culverts, and other drainage structures, rests with your community. We may request that your community submit a description and schedule of maintenance activities necessary to ensure this requirement.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional Information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency

Washington, D.C. 20472

CONDITIONAL LETTER OF MAP REVISION COMMENT DOCUMENT (CONTINUED)

COMMUNITY INFORMATION (CONTINUED)

DATA REQUIRED FOR FOLLOW-UP LOMR (continued)

• FEMA's fee schedule for reviewing and processing requests for conditional and final modifications to published flood information and maps may be accessed at <https://www.fema.gov/forms-documents-and-software/flood-map-related-fees>. The fee at the time of the map revision submittal must be received before we can begin processing the request. Payment of this fee can be made through a check or money order, made payable in U.S. funds to the National Flood Insurance Program, or by credit card (Visa or MasterCard only). Please either forward the payment, along with the revision application, to the following address:

LOMC Clearinghouse
Attention: LOMR Manager
847 South Pickett Street
Alexandria, Virginia 22304-4605

or submit the LOMR using the LOMC portal at <https://hazards.fema.gov/femaportal/onlinelomc/signin>.

After receiving appropriate documentation to show that the project has been completed, FEMA will initiate a revision to the FIRM and FIS report. Because the flood hazard information (i.e., base flood elevations, base flood depths, SFHAs, zone designations) will change as a result of the project, a 90-day appeal period will be initiated for the revision, during which community officials and interested persons may appeal the revised flood hazard information based on scientific or technical data.

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



Federal Emergency Management Agency
Washington, D.C. 20472

**CONDITIONAL LETTER OF MAP REVISION
COMMENT DOCUMENT (CONTINUED)**

COMMUNITY INFORMATION (CONTINUED)

COMMUNITY REMINDERS

We have designated a Consultation Coordination Officer (CCO) to assist your community. The CCO will be the primary liaison between your community and FEMA. For information regarding your CCO, please contact:

Ms. Sandy Keefe
Director, Mitigation Division
Federal Emergency Management Agency, Region VI
Federal Regional Center, Room 206
800 North Loop 288
Denton, TX 76209
(940) 898-5127

This comment is based on the flood data presently available. If you have any questions about this document, please contact the FEMA Map Information eXchange (FMIX) toll free at 1-877-336-2627 (1-877-FEMA MAP) or by letter addressed to the LOMC Clearinghouse, 847 South Pickett Street, Alexandria, VA 22304. Additional information about the NFIP is available on the FEMA Web site at <http://www.fema.gov/nfip>.

Luis Rodriguez, P.E., Chief
Engineering Management Branch
Federal Insurance and Mitigation Administration



DRAINAGE DESCRIPTION

PROPERTY: THIS SITE IS AN UNDEVELOPED R-MH PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP E-22. THE SITE IS BOUND TO THE EAST BY TRAMWAY BLVD, TO THE WEST BY THE PINO ARROYO, TO THE NORTH BY SAN ANTONIO DR AND TO THE SOUTH BY AN APARTMENT COMPLEX. THE PINO ARROYO CROSSES THE SITE FROM EAST TO WEST, AND PORTIONS OF THIS PROPERTY ARE WITHIN THE PINO DAM POOL. THIS SITE IS LOWER IN ELEVATION THAN SAN ANTONIO, TRAMWAY BLVD, AND THE APARTMENT COMPLEX BY AS MUCH AS 20 FEET. IT SLOPES DOWN AT APPROXIMATELY 4% FROM EAST TO WEST.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE RESIDENTIAL APARTMENT BUILDINGS WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING, LANDSCAPING, CLUBHOUSE, AND FITNESS CENTER.

LEGAL: LOT 1, THE FOOTHILLS, ALBUQUERQUE, NM

BENCHMARK:
Albuquerque Control Survey Monument "5-D22"
New Mexico State Plane Coordinates
(Central Zone - NAD 83)
North= 1,514,036.991 feet
East= 1,563,586.296 feet
Elevation= 5917.306 (NAVD 88)
Delta Alpha= -00°08'52.92"
Ground To Grid Factor= 0.999627580

OFF-SITE FLOW: FLOWS FROM THE PINO ARROYO ENTER THE SITE FROM A BOX CULVERT UNDER TRAMWAY BLVD. A STORM DRAIN FROM THE WEST SIDE OF TRAMWAY BLVD DISCHARGES TO THE PINO ARROYO EAST OF THE SITE. ANOTHER STORM DRAIN UNDER TRAMWAY BLVD DISCHARGES ACROSS THE SITE ON THE SOUTH SIDE, AND MERGES WITH THE PINO ARROYO UPSTREAM OF THE EXISTING CONCRETE RUNDOWN INTO THE PINO DAM. THERE ARE ALSO MINOR OFF-SITE DRAINAGE FROM PERIMETER SLOPES TO THE EAST AND NORTH THAT ENTER THIS PROPERTY.

FLOOD HAZARD: PER FIRM PANELS 35001C0161G DATED 09/26/2008 & 35001C0142H DATED 08/16/2012, THE SITE IS LOCATED WITHIN FLOODZONE DESIGNATIONS ZONE AO (DEPTHS 1' & 3') AND ZONE AE (EL 6019 FEET). NOTE THAT THE FLOODPLAINS DO NOT MATCH EXISTING CONDITIONS, RATHER THEY REFLECT CONDITIONS PRIOR TO THE CONSTRUCTION OF TRAMWAY BLVD. NMDOT DID NOT APPLY FOR A LOMR AFTER CONSTRUCTION.

AN APPROVED CLOMR (FEMA NO. 15-06-0805R) DATED 03/03/2016 ADDRESSES THE DIFFERENCE BETWEEN THE FLOODPLAINS AND EXISTING CONDITIONS, AND HOW THESE FLOODPLAINS MAY BE REMOVED UPON COMPLETION OF PUBLIC DRAINAGE IMPROVEMENTS..

DRAINAGE PLAN CONCEPT:
OFFSITE FLOWS FROM THE PINO ARROYO AND OTHER DRAINS FROM TRAMWAY BLVD WILL BE ADDRESSED PER THE APPROVED CLOMR, WITH A BOX CULVERT THAT WILL DIRECT THE FLOWS UNDER THE SITE. THE PUBLIC DRAINAGE INFRASTRUCTURE HAS ALREADY BEEN HEARD BY THE AMAFCA BOARD OF DIRECTORS, AND A TURNKEY AGREEMENT AND FINAL PLANS ARE IN PROCESS.

PORTIONS OF THE SITE WILL BE REMOVED FROM THE DAM POOL BY FILL WITH MINIMUM FINISHED FLOOR ELEVATIONS OF 5995.0. THE FINAL WATER SURFACE ELEVATION OF DAM POOL WILL BE WITHIN THE DAM'S APPROVED STAGE-STORAGE CURVE. THE PORTIONS OF THE SITE THAT REMAIN IN THE POOL WILL BE CONTAINED WITHIN A DRAINAGE EASEMENT DEDICATED TO AMAFCA. AMAFCA HAS REQUESTED A MAINTENANCE ROAD ALONG THE TOP OF THE DAM, WHICH IS SHOWN IN THIS GRADING CONCEPT. AT LEAST 2' OF COVER OVER THE BOX CULVERT WILL BE MAINTAINED BY THE GRADING PLAN.

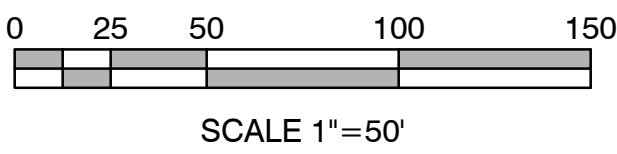
THIS SITE WILL DRAIN TO THE PINO ARROYO BOX CULVERT VIA A PRIVATE STORM DRAIN SYSTEM THEN IMMEDIATELY TO THE PINO DAM. RETAINING WALLS AROUND THE PERIMETER OF THE SITE AS NEEDED WILL ADDRESS ELEVATION DIFFERENCES.

MINOR OFFSITE FLOWS FROM THE ADJOINING SLOPES WILL BE CARRIED THROUGH THE SITE TO THE ARROYO.

WATER QUALITY WILL BE ADDRESSED WITHIN THE RETENTION VOLUME OF THE PINO DAM PER COMMUNICATIONS WITH AMAFCA.

ENGINEER: GENEVIEVE L. DONART NMPE 15088
ISAACSON & ARFMAN, PA
128 MONROE NE 87108
505-268-6828

SURVEYOR: RUSS P. HUGG: NMPS NO. 9750
SURV-TEK, INC
9384 VALLEY VIEW DRIVE, NW 87114
505-897-3366



- 6030 — EXISTING CONTOUR
- 6029.4 — EXISTING SPOT ELEVATION
- 65 — PROPOSED 1.0' CONTOUR
- 65.5 --- PROPOSED 0.5' CONTOUR
- ◆ 65.4 ◆ PROPOSED SPOT ELEVATION
- FLOW DIRECTION
- FF = 4966.00 FINISH FLOOR ELEVATION
- =====○===== EXISTING STORM DRAIN / MANHOLE
- PROPOSED STORM DRAIN / INLET

ALLASO
HIGH DESERT

SWC TENNYSON STREET AND SAN ANTONIO DR.
Albuquerque, New Mexico



WorldHQ@ORBArch.com



Contractor must verify all dimensions at project before proceeding with this work.

Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are Instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

© ORB Architecture, LLC 2015

REVISIONS

△	
△	
△	
△	
△	

EPC SUBMITTAL

DATE: JULY 28, 2020 ORB # 19-209

CONCEPTUAL GRADING
& DRAINAGE PLAN

CG-101

FILE: M:\PROJECTS\2300-2399\2336\DWG\BUILDING PERMIT\2336 CG-101.dwg USER: Genny DATE: Jul 29 2020 TIME: 05:22 pm



BASIN MAP

SCALE: 1"=100'

CALCULATIONS

CALCULATIONS: ALLASO HIGH DESERT :									
Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993									
100-YEAR, 6-HOUR CALCULATIONS									
AREA OF SITE:		699322.4776		SF	=	16.05	ACRE		
		100-year, 6-hour							
HISTORIC FLOWS:		DEVELOPED FLOWS:				EXCESS PRECIP:			
		Treatment SF	%			Treatment SF	%	Precip. Zone	4
Area A	=	559458	80%	Area A	=	0	0%	E _A	= 0.80
Area B	=	0	0%	Area B	=	83919	12%	E _B	= 1.08
Area C	=	134969	19%	Area C	=	148956	21%	E _C	= 1.46
Area D	=	4895	1%	Area D	=	466448	67%	E _D	= 2.64
Total Area	=	699322	100%	Total Area	=	699322	100%		
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)									
Weighted E =		$\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$							
Historic E	=	0.94	in.	Developed E	=	2.20	in.		
On-Site Volume of Runoff: $V_{360} = E^* A / 12$									
Historic V_{360}	=	54795	CF	Developed V_{360}	=	128294	CF		
On-Site Peak Discharge Rate: $Q_p = Q_{pA} A_A + Q_{pB} A_B + Q_{pC} A_C + Q_{pD} A_D / 43.560$									
For Precipitation Zone 4									
		Q_{pA}	= 2.20			Q_{pC}	= 3.73		
		Q_{pB}	= 2.92			Q_{pD}	= 5.25		
Historic Q_p	=	40.4	CFS	Developed Q_p	=	74.6	CFS		

BASIN NO.	1	DESCRIPTION	North basin
Area of basin flows =	358333 SF	=	8.23 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 2.41 in.		B = 13%	
Sub-basin Volume of Runoff:		C = 2%	
V ₃₆₀ = 72073 CF		D = 85%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 40.4 cfs		8630 CF	
BASIN NO.	2	DESCRIPTION	North basin SE corner
Area of basin flows =	30402 SF	=	0.7 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 2.41 in.		B = 13%	
Sub-basin Volume of Runoff:		C = 2%	
V ₃₆₀ = 6115 CF		D = 85%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 3.4 cfs		732 CF	
BASIN NO.	3	DESCRIPTION	Open channel
Area of basin flows =	6072 SF	=	0.1 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 2.64 in.		B = 0%	
Sub-basin Volume of Runoff:		C = 0%	
V ₃₆₀ = 1336 CF		D = 100%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 0.7 cfs		172 CF	
BASIN NO.	4	DESCRIPTION	SE corner and Parking over arroyo
Area of basin flows =	91408 SF	=	2.1 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 2.41 in.		B = 13%	
Sub-basin Volume of Runoff:		C = 2%	
V ₃₆₀ = 18385 CF		D = 85%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 10.3 cfs		2201 CF	
BASIN NO.	5	DESCRIPTION	SW corner
Area of basin flows =	62964 SF	=	1.4 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 2.41 in.		B = 13%	
Sub-basin Volume of Runoff:		C = 2%	
V ₃₆₀ = 12664 CF		D = 85%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 7.1 cfs		1516 CF	
BASIN NO.	6	DESCRIPTION	Pino Dam Pool
Area of basin flows =	150004 SF	=	3.4 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 1.48 in.		B = 10%	
Sub-basin Volume of Runoff:		C = 85%	
V ₃₆₀ = 18513 CF		D = 5%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 12.8 cfs		213 CF	
BASIN NO.	A	DESCRIPTION	Offsite slope north of site
Area of basin flows =	11770 SF	=	0.3 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 1.38 in.		B = 20%	
Sub-basin Volume of Runoff:		C = 80%	
V ₃₆₀ = 1357 CF		D = 0%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 1.0 cfs		0 CF	
BASIN NO.	B	DESCRIPTION	Offsite Tramway adjacent to site north half
Area of basin flows =	53839 SF	=	1.2 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 1.46 in.		B = 15%	
Sub-basin Volume of Runoff:		C = 80%	
V ₃₆₀ = 6559 CF		D = 5%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 4.6 cfs		76 CF	
BASIN NO.	C	DESCRIPTION	Offsite Tramway adjacent to site south half
Area of basin flows =	43250 SF	=	1.0 Ac.
The following calculations are based on Treatment %'s as shown in table to the right		LAND TREATMENT	
Sub-basin Weighted Excess Precipitation:		A = 0%	
Weighted E = 1.31 in.		B = 45%	
Sub-basin Volume of Runoff:		C = 53%	
V ₃₆₀ = 4731 CF		D = 2%	
Sub-basin Peak Discharge Rate:		FIRST FLUSH VOL.	
Q _p = 3.4 cfs		25 CF	

ALLASO
HIGH DESERT

SWC TENNYSON STREET AND SAN ANTONIO DR.
Albuquerque, New Mexico

Office of Rich Barber
ORB
Architecture, LLC

WorldHQ@ORBArch.com

TITAN
DEVELOPMENT

Contractor must verify all dimensions at project before proceeding with this work.

Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other project, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

© ORB Architecture, LLC 2015

REVISIONS

△
△
△
△
△
△
△

EPC SUBMITTAL

DATE: JULY 28, 2020 ORB # 19-209

CONCEPTUAL GRADING
& DRAINAGE PLAN

CG-102