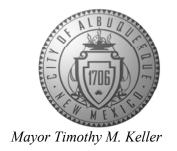
### CITY OF ALBUQUERQUE

Planning Department Alan Varela, Director



July 31, 2024

J. Graeme Means, P.E. High Mesa Consulting Group 6010 B Midway Park Blvd NE Albuquerque, NM 87109

RE: Cibola Loop Multigenerational Center

**Grading & Drainage Plans** 

Engineer's Stamp Date: 06/07/24

**Hydrology File: A13D025** 

Dear Mr. Means:

PO Box 1293

Based upon the information provided in your submittal received 07/24/2024, the Grading & Drainage Plans are approved for Building Permit and Grading Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

Albuquerque

#### PRIOR TO CERTIFICATE OF OCCUPANCY:

NM 87103

1. Engineer's Certification, per the DPM Part 6-14 (F): *Engineer's Certification Checklist For Non-Subdivision* is required.

www.cabq.gov

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 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.

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

Sincerely,

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

Renée C. Brissette

Planning Department



### **City of Albuquerque**

Planning Department
Development & Building Services Division

#### DRAINAGE AND TRANSPORTATION INFORMATION SHEET (DTIS)

Project Title:		Hydrology File #		
Legal Description:				
City Address, UPC, OR Parcel	:			
Applicant/Agent:		Contact:		
		Phone:		
Email:				
Applicant/Owner:		Contact:		
Address:		Phone:		
Email:				
(Please note that a DFT SITE is or	ne that needs Site Plan A	pproval & ADMIN SITE is one that does not need it.)		
TYPE OF DEVELOPMENT:	PLAT (#of lots)	RESIDENCE		
	DFT SITE	ADMIN SITE		
RE-SUBMITTAL: YES	NO			
<b>DEPARTMENT:</b> TRANS	SPORTATION	HYDROLOGY/DRAINAGE		
Check all that annly under Roth	the Type of Submittal	and the Type of Approval Sought:		
TYPE OF SUBMITTAL:	the Type of Submittan	TYPE OF APPROVAL SOUGHT:		
ENGINEER/ARCHITECT CE	ERTIFICATION	BUILDING PERMIT APPROVAL		
PAD CERTIFICATION		CERTIFICATE OF OCCUPANCY		
CONCEPTUAL G&D PLAN		CONCEPTUAL TCL DFT APPROVAL		
GRADING & DRAINAGE PI	LAN	PRELIMINARY PLAT APPROVAL		
DRAINAGE REPORT		FINAL PLAT APPROVAL		
DRAINAGE MASTER PLAN		SITE PLAN FOR BLDG PERMIT DFT		
CLOMR/LOMR		APPROVAL		
TRAFFIC CIRCULATION LA	AYOUT (TCL)	SIA/RELEASE OF FINANCIAL GUARANTEE		
ADMINISTRATIVE		FOUNDATION PERMIT APPROVAL		
TRAFFIC CIRCULATION LA APPROVAL	AYOUT FOR DFT	GRADING PERMIT APPROVAL		
TRAFFIC IMPACT STUDY (	TIS)	SO-19 APPROVAL		
STREET LIGHT LAYOUT		PAVING PERMIT APPROVAL		
OTHER (SPECIFY)		GRADING PAD CERTIFICATION		
, ,		WORK ORDER APPROVAL		
		CLOMR/LOMR		
		OTHER (SPECIFY)		
DATE SUBMITTED:				

### DRAINAGE CALCULATIONS

#### SITE CHARACTERISTICS A. PRECIPITATION ZONE = $P_{100 6 HR} = P_{360} =$ OTAL PROJECT AREA $(A_T) = \vdash$

ND TREATMENTS						
EXIST	ING LAND TREATMEN	PROPOSED	LAND TREATMENT	·		
BASIN 1	398,234			PHASE 1	398,234 <b>SF</b>	·
DASIN I	9.14			FRASEI	9.14 AC	
LAND TREATMENT	AREA (SF/	AC)	%	LAND TREATMENT	AREA (SF/AC)	%
А	349,155	SF	88%	A		
	8.02	AC	8676	Α		
В				В		
و				5		
С	49,079	_	12%	С	338,092 SF	85%
	1.13	AC	1270	<u> </u>	7.76 AC	] 5570
D				D	60,142 SF	15%
D					1.38 AC	7 1370

	1.30	AC	
PROPOSED	LAND TREATMEN	ΙΤ	
PHASE 1 + 2	398,234		
FHASE I + Z	9.14	AC	
LAND TREATMENT	AREA (SF/A	(C)	%
Α			
, ,			
В			
_			
C	262,092		66%
O	6.02		00 70
<u></u>	136,142	SF	34%
J	3.13	AC	J4 /0

### A. EXISTING CONDITION 100 YEAR STORM

a. VOLUME 100-YR, 6-HR			
$\overline{WT_E} = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E_B \cdot A_B + E_C \cdot A_C + E_B \cdot A_C + E_C +$	, .		
$\Rightarrow (0.55 \cdot 8.02) + (0.73 \cdot 0.00)$	+ (0.95 • 1.13) + (2.24 • 0.00)/9	9.14 =	0.60 IN
$V_{100,6 HR} = (E_W/12) \cdot A_T$	$\Rightarrow$ (0.60/12) • 9.14 =	0.4571 AC-FT =	19,910 CF
b. PEAK DISCHARGE 100-YR $Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_C +$	)		

#### B. PROPOSED CONDITION 100 YEAR STORM - PHASE 1 1 <u>BASIN 1</u>

				A. VOLUME 100-YR, 6-HR
			• A <sub>D</sub> )/A <sub>T</sub>	$WT_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C)$
.14 IN	1.1	.14 =	$(0.95 \cdot 7.76) + (2.24 \cdot 1.38)/9$	$\Rightarrow$ (0.55 • 0.00) + (0.73 • 0
830 CF	37,83	0.8685 AC-FT =	⇒ (1.14/12) • 9.14 =	$V_{100,6 HR} = (E_W/12) \cdot A_T$
-		0.0000 A0-1 1 -	→ (1.14/12) 0.14	V100,6 HR − (□W/12) - △↑

C. PEAK DISCHARGE 100-YR	
$Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$	
$\Rightarrow$ (1.54 • 0.00) + (2.16 • 0.00) + (2.87 • 7.76) + (4.12 • 1.38) =	28.0 CFS

# $W/T_{c} = (F_{A} \cdot A_{A} + F_{D} \cdot A_{D} + F_{O} \cdot A_{O} + F_{D} \cdot A_{D})/A_{T}$

$I_{10Davs} = V_{360} + A_{D}$	* (P <sub>10DAYS</sub> - P <sub>360</sub> ) / 12 in/ft =			
,	959 + 3.13 * (3.900 -2.170) / 12 in/ft =	1.5101	AC-FT =	65,780 CF

## D. COMPARISON 100 YEAR STORM - FULL BUILD OUT

ΔV <sub>100, 6 HR</sub> = 46130 - 19910 =	26,220 CF	(INCREAS
b. PEAK DISCHARGE 100-YR		_
$\Delta Q_{100} = 30.1 - 15.6 =$	14.5 CFS	(INCREAS

#### E. RETENTION POND VOLUME CALCULATIONS

Elevation	Area (SF)	Volume (CF)	Sum (CF)
	` ′	Volume (Cr.)	Suili (Ci )
5,089	8250		
		9740	9740
5,090	11,230		
		12690	22430
5,091	14,150		
		15820	38250
5,092	17,490		
		19180	57430
5,093	20,870		
		22640	80070
5,094	24,410		
,	·		

#### F. CIBOLA LOOP STREET ANALYSIS

CIBOLA LOOP WEST BASIN = 1.6 AC: CONSERVATIELY ASSUME 100% TREATMENT D.  $Q_{100} = 1.6 * 4.12 CFS/ACRE = 6.7 CFS$ 

MAX 100-YEAR STREET FLOW IS 11.6 + 3.2 + 20.6 + 6.7 = 42.1 CFS (CAN BE CONTAINED WITHIN EXISTING TEMPORARY SECTION)

(CAN BE CONTAINED WITHIN EXISTING TEMPORARY SECTION)

CIBOLA LOOP EAST BASIN = 1.7 AC: CONSERVATIELY ASSUME 100% TREATMENT D.

Q100 = 1.7 \* 4.12 CFS/ACRE = 7.0 CFS + 6. MAX 100-YEAR STREET FLOW IS 8.5 CFS FROM NORTH SUB-BASIN + 7.0 = 13.5 CFS

ISTII	STING LAND TREATMENT			PROPOSED	LAND TREATMEN	1T	
	398,234	SF		DUACE 4	398,234	SF	
	9.14	AC		PHASE 1	9.14 AC		
	AREA (SF/	AC)	%	LAND TREATMENT	AREA (SF/A	(C)	%
	349,155	SF	88%	^			
	8.02	AC	0070	A			
				В			
	49,079	SF	12%	С	338,092	SF	85%
	1.13	AC	1270		7.76	AC	7 65%
				D	60,142	SF	150/

	1.38			
PROPOSED LAND TREATMENT				
PHASE 1 + 2	398,234	SF		
FHASE I + Z	9.14	AC		
LAND TREATMENT	AREA (SF/A	(C)	%	
А				
A				
В				
Ь				
С	262,092		66%	
O .	6.02		0070	
D	136,142		34%	
В	3.13	AC	J <del>4</del> /0	

DASIN I		
a. VOLUME 100-YR, 6-HR		
$WT_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E$	<sub>D</sub> • A <sub>D</sub> )/A <sub>T</sub>	
$\Rightarrow$ (0.55 • 8.02) + (0.73 • 0.00)	+ (0.95 • 1.13) + (2.24 • 0.00)/9.14 =	0.60 IN
$V_{100,6 \text{ HR}} = (E_W/12) \cdot A_T$	$\Rightarrow$ (0.60/12) • 9.14 = <b>0.4571 AC-FT =</b>	19,910 CF
b. PEAK DISCHARGE 100-YR		
$Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_C + $	$P_{D} \cdot A_{D}$	
$\Rightarrow (1.54 \cdot 8.02) + (1.54 \cdot 8.02)$	2.16 • 0.00) + (2.87 • 1.13) + (4.12 • 0.00) =	15.6 CFS

# VOLUME 100 VD CUD

$WT_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E_C)$ $\Rightarrow (0.55 \cdot 0.00) + (0.73 \cdot$	<del>-</del>	9.14 =	1.14 IN
$V_{100,6 HR} = (E_W/12) \cdot A_T$	⇒ (1.14/12) • 9.14 =	0.8685 AC-FT =	37,830 CF
B. VOLUME 100-YR, 10-DAY	•		

$V_{10Days} = V_{360} + A_D * (P_{10DAYS} - P_{360}) / 12 in/ft =$ $\Rightarrow 0.8685 + 1.38 * (3.900 - 2.170) / 12 in/ft =$	1.0674	AC-FT =	46,500 CF
C. PEAK DISCHARGE 100-YR			

	$Q_{100} - Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$	
	$\Rightarrow$ (1.54 • 0.00) + (2.16 • 0.00) + (2.87 • 7.76) + (4.12 • 1.38) =	28.0 CFS
PF	ROPOSED CONDITION 100 YEAR STORM - FULL BUILD OUT	
1	BASIN 1	
	A. VOLUME 100-YR, 6-HR	

$\forall VI_E = (E_A \cdot A_A + E_B \cdot A_B + E_C \cdot A_C + E_D \cdot A_D)/A_T$ $\Rightarrow (0.55 \cdot 0.00) + (0.73 \cdot 0.00) + (0.95 \cdot 6.02) + (2.24 \cdot 3.13)/9.14 =$			1.39 IN
$V_{100,6 \text{ HR}} = (E_W/12) \cdot A_T$	⇒ (1.39/12) • 9.14 =	1.0590 AC-FT =	46,130 CF
B. VOLUME 100-YR, 10-DAY			

⇒1.059 + 3.13 * (3.900 -2.170) / 12 in/ft =	1.5101	AC-FT =	65,780 CF
C. PEAK DISCHARGE 100-YR			
$Q_{100} = Q_A \cdot A_A + Q_B \cdot A_B + Q_C \cdot A_C + Q_D \cdot A_D$			
$\Rightarrow$ (1.54 • 0.00) + (2.16 • 0.00) + (2.87 • 6.02	) + (4.12 • 3	.13) =	30.1 CFS

# a. VOLUME 100-YR, 6-HR

<u>'                                     </u>	(1110112102)		HYDROLOGY SECTION
FS	(INCREASE)		APPROVED
	,		DATE: 07/31/24
			BY: Renée C. Brissette
			HydroTrans# A13D025
			THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM REQUIRING CORRECTION, OR ERROR OR DIMENSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION.
			ADDDOMAL OF CDADING & DDAINAGE DLANGO CHA

(2) YEARS AFTER THE APPROAL DATE BY THE CITY IF N DING PERMIT HAS BEEN PULLED ON THE DEVELOPME

DRAINAGE PLAN

INTRODUCTION AND EXECUTIVE SUMMARY THIS SITE IS LOCATED IN NORTHWEST ALBUQUERQUE, NORTH OF ELLISON DRIVE NW. THIS DRAINAGE AND GRADING PLAN HAS BEEN PREPARED TO SUPPORT BUILDING PERMIT APPROVAL FOR THE SITE WORK AND BUILDING CONSTRUCTION FOR THE PROPOSED CITY OF ALBUQUERQUE MULTI-GENERATIONAL CENTER, AS WELL AS SUPPORT A FUTURE WORK ORDER TO WIDEN THE STREET FRONTAGE. THIS PLAN IS A FOLLOW-UP SUBMITTAL TO THE 2024 CONCEPTUAL DRAINAGE AND ROUGH GRADING PLAN APPROVED IN APRIL, 2024

II. PROJECT DESCRIPTION THE EXISTING LEGAL DESCRIPTION IS TRACT A-2, CIBOLA LOOP SUBDIVISION, FILED 2/14/2017 (2017C-17, DOC. # 2017013734). THE SITE IS ZONED MX-L. THE SITE IS CURRENTLY UNDEVELOPED. AS INDICATED BY PANEL 108 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, REVISED 09/26/2008, THE SITE NOT ENCUMBERED BY, NOR DOES IT DIRECTLY DISCHARGE TO ANY MAPPED FLOOD HAZARD ZONES.

III. BACKGROUND DOCUMENTS & RESEARCH THE PREPARATION OF THIS PLAN RELIED UPON REVIEW OF CITY OF HYDROLOGY FILES A13-D011, A13-D012, A13-D011B, A13-D002, A13-D003, AND A-13D004 THAT ALL FRONT CIBOLA LOOP NW AS WELL AS THE RECORD INFRASTRUCTURE PLANS FOR CPNS 6069.81, 5752.81, AND 3727.90 AS DESCRIBED BY THE FOLLOWING: 1. EARLY WORK PACKAGE FOR CIBOLA LOOP MULTIGENERATIONAL CENTER, DATED 03-25-2024 BY HIGH MESA, A BOWMAN COMPANY (A13-D011). THESE PLANS ESTABLISHED THE DRAINAGE CONCEPT FOR THE NEW

DEVELOPED SITE AND WERE APPROVED BY COA HYDROLOGY FOR DFT SITE PLAN APPROVAL AND GRADING PERMIT ON 04-01-2024. 2. CONCEPTUAL DRAINAGE PLANS FOR CIBOLA LOOP SUBDIVISION DATED 4/02/2008 AND 9/09/2016 BY MARK GOODWIN & ASSOCIATES (A13-D011). THESE PLANS ESTABLISHED THE OVERALL DRAINAGE CONCEPT AND SUPPORTED SITE PLAN FOR SUBDIVISION AND BULK LAND PLATTING FOR A-1 THROUGH A-4. PURSUANT TO THESE PLANS THE OVERALL SUBDIVISION SITE IS DIVED INTO TWO SUB-BASINS (NORTH AND SOUTH) THAT HAVE DISCHARGE RESTRICTIONS OF 0.65 CFS/ACRE WITH THE NORTH BASIN DISCHARGING TO CIBOLA LOOP NORTHWEST AND THE SOUTH BASIN DISCHARGING TO A PUBLIC DETENTION/SURGE POND LOCATED ON

3. MASTER DRAINAGE REPORT FOR TRES PLACITAS DATED 12/31/1998 BY ISAACSON & ARFMAN (A13-D012). THIS REPORT ADDRESSED AND SUPPORTED THE GRADING AND DRAINAGE, PLATTING, AND STREET AND DRAINAGE INFRASTRUCTURE FOR THE TRES PLACITAS SUBDIVISION ON THE WEST SIDE OF CIBOLA LOOP. A PORTION OF CIBOLA LOOP NW AND THE DOWNSTREAM DRAINAGE INFRASTRUCTURE ON CIBOLA LOOP (WEST) WAS CONSTRUCTED PURSUANT TO THIS PLAN WITH CPN 6069.81. 4. CONCEPTUAL DRAINAGE PLAN FOR TRACT B-1, CIBOLA LOOP SUBDIVISION DATED 2/28/2023 BY ISAACSON & ARFMAN (A13-D011B). THIS PLAN FOR TRACT B-1 WAS APPROVED FOR PRELIMINARY/FINAL PLAT AND

PRESENTS AND CONFORMS TO AND REINFORCES THE SAME ESTABLISHED CONCEPTS, ALLOWABLE DISCHARGES, AND BASINS FROM A13-D011 AND A13-D012. 5. GRADING PLAN AND DRAINAGE REPORT FOR VISTA DEL PARQUE SUBDIVISION DATED 8/07/1997 BY BOHANNAN-HUSTON (A13-D002). THIS REPORT ADDRESSED AND SUPPORTED THE GRADING AND DRAINAGE, PLATTING, AND STREET AND DRAINAGE INFRASTRUCTURE FOR THE VISTA DEL PARQUE SUBDIVISION ON THE NORTH SIDE OF CIBOLA LOOP. A PORTION OF CIBOLA LOOP NW AND THE DOWNSTREAM DRAINAGE INFRASTRUCTURE ON CIBOLA LOOP (EAST) WAS CONSTRUCTED PURSUANT TO THIS PLAN WITH CPN 5752.81. 6. GRADING PLAN FOR SEVEN BAR APARTMENTS DATED 2/07/1996 BY BURY+PITTMAN (A13/D003) AND GRADING PLAN FOR CORRALES POINTE APARTMENTS, NMPE 7322, DATED 12/17/1985 (A13/D003A). THESE

7. DESIGN PLANS FOR ELLISON DRIVE PREPARED BY BOHANNAN-HUSTON FOR THE CITY OF ALBUQUERQUE, AS-BUILTS DATED 2/17/1997 (CPN 3727.90). THESE PLANS CONSTRUCTED STORM DRAINAGE IMPROVEMENTS IN ELLISON DRIVE THAT INCLUDE THE OUTFALL FROM, AND A 24" STORM DRAIN EXTENSION UP CIBOLA LOOP (EAST) ALONG WITH 4 STORM INLETS IN CIBOLA LOOP (EAST).

GRADING PLANS WERE FOR THE CONSTRUCTION OF APARTMENT COMPLEXES ON THE NORTHEAST AND WEST SIDES OF CIBOLA LOOP (WEST). AS SHOWN BY BOTH PLANS, THEY DRAIN TO THE WEST AND NOT TO

IV. EXISTING CONDITIONS THE SITE IS CURRENTLY UNDEVELOPED. TRACT A-2 GENERALLY SLOPES FROM NORTHWEST TO THE SOUTH AND SOUTHEAST ONTO TRACTS A-1 AND A-3 AT APPROXIMATELY 3%, BOTH ALSO OWNED BY THE CITY AND PURSUANT TO THE EXISTING CROSS-LOT AND RECIPROCAL DRAINAGE EASEMENT CREATED BY PREVIOUS PLATTING. THERE IS A STEEP (25%) SLOPE AT THE NORTHERN EDGE OF THE SITE UP TO CIBOLA LOOP NW. CIBOLA LOOP NW IS A 60 FT RIGHT-OF-WAY THAT HAS STANDARD CURB AND GUTTER, SIDEWALK, AND A HALF-WIDTH OF PERMANENT PAVEMENT ON THE OUTSIDE (OPPOSITE SIDE FROM TRACT A-2) SIDE OF THE STREET. THE NEAR SIDE DOES NOT HAVE FULL WIDTH PAVING, CURB AND GUTTER, OR A SIDEWALK. THE NEAR SIDE DOES HAVE AN EXTRUDED CURB ON THE EDGE OF THE TEMPORARY PAVEMENT ON THE TRACT A-2 SIDE OF THE CENTERLINE. THERE IS A HIGH POINT IN CIBOLA LOP NW LOCATED ON THE NORTHERMOST POINT NEAR LUNA PARK STREET NW, AND STREET RUNOFF FLOWS EAST AND WEST FROM THIS POINT. AS SHOWN BY THE CALCULATIONS FROM THE 1998 AND 2023 ISAACSON & ARFMAN PLANS AND REPORTS (REFERENCES 2 AND 3). OFFSITE FLOWS IN THE AMOUNTS OF 11.6 CFS, 3.2 CFS, AND 20.6 CFS DRAIN TO CIBOLA LOOP (WEST) FROM THE UNDEVELOPED ARE AT THE NORTHWEST, THE PARK, AND A PORTION OF THE TRES PLACITAS SUBDIVISION AT CUBA ROAD NW. THESE FLOWS, PLUS RUNOFF FROM THE CIBOLA LOOP ROW CONSERVATIVELY CALCULATED TO

BE 6.7 CFS BASED UPON THE FULL WIDTH OF 60 FEET BEING LAND TREATMENT D COMBINE TO A PEAK 100-YEAR CUMULATIVE FLOW OF 42.1 CFS THAT DRAINS TO THE SOUTH TO A SAG CONDITION JUST SOUTH OF MILL ROAD NW WHERE THERE ARE TWO TYPE "A" DOUBLE WING INLETS THAT HAVE A COMBINED INLET CAPACITY OF 69 CFS PER REFERENCE 2, (AP-20). AS SHOWN BY THE STREET SECTION HYDRAULICS HEREON, THIS RUNOFF CAN BE CARRIED WITHIN THE EXISTING PARTIAL STREET SECTION AT THE WORST CASE (DOWNSTREAM AND FLATTEST) LOCATION. THE VISTA DEL PARQUE SUBDIVISION NEAR THE HIGH POINT AT THE NORTHERNMOST POINT IN CIBOLA LOOP DRAINS TO AN INTERNAL STORM DRAIN SYSTEM AND DOES NOT INTRODUCE STREET FLOW. AS SHOWN BY THE GRADING AND DRAINAGE PLAN AND REPORT, AND BY THE INFRASTRUCTURE PLANS (REFERENCE 4 AND CPN 5752.81) THE SUBDIVISION DRAINS TO AN EXISTING DETENTION POINT THAT HAS CONTROLLED OUTFALL TO A 24" STORM DRAIN IN CIBOLA LOOP (EAST) THAT DRAINS SOUTH TOWARDS ELLISON AND CONNECTS TO THE 24" STUB THAT WAS EXTENDED BY CPN 3727.90, REFERENCE 6 WHERE THERE ARE A SINGLE GRATE AND A

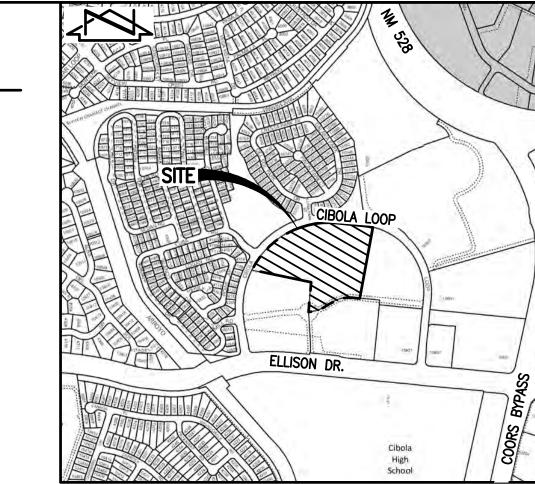
DOUBLE GRATE INLET ON EACH SIDE (4 TOTAL STRUCTURES / 6 GRATES) PRIOR TO THE ELLISON INTERSECTION. THE SEVEN BAR AND CORRALES POINTE APARTMENTS ON THE NORTHEAST AND EAST SIDE OF CIBOLA LOOP (EAST) DRAIN TO THE WEST AND DO NOT DRAIN TO CIBOLA LOOP. AS SUCH, THE TOTAL FLOW IN CIBOLA LOOP AT THE WORST—CASE LOCATION (JUST UPSTREAM OF THE INLETS AND AT THE SOUTHEAST CORNER OF TRACT A-3 WILL BE THE ALLOWABLE DISCHARGE FROM THE NORTH SUB-BASIN (8.5 CFS) AND THE CIBOLA LOOP (EAST) ROW CONSERVATIVELY ESTIMATED AS BEING 7.0 CFS ASSUMING LAND TREATMENT D FOR THE 60 FT WIDTH FOR A TOTAL OF 13.5 CFS. AS DEMONSTRATED FOR THE WEST SIDE, THE EXISTING HALF SECTION OF STREET CAN CARRY IN EXCESS OF 40 CFS BELOW CURB HEIGHT. DEVELOPED CONDITIONS

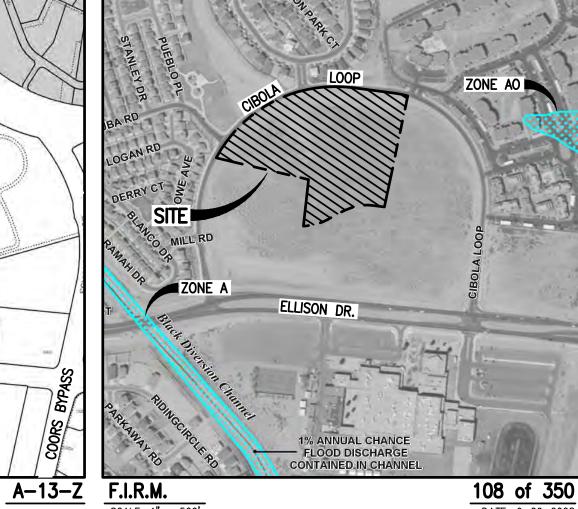
THE PROPOSED OF CONSTRUCTION WILL BE THE FIRST PHASE OF THE CITY MULTI-GENERATION CENTER WITH ASSOCIATED PAVED PARKING AND CIRCULATION, AND SITE LANDSCAPING IMPROVEMENTS. FUTURE PHASES WILL EXPAND UPON THE BUILDING AND SITE WORK, INCLUDING ADDITIONAL PARKING AREAS. THE PAVED AREAS AND BUILDING ROOF DRAINS WILL DRAIN TO AN INTERNAL STORM DRAIN SYSTEM THAT WILL DRAIN TO A NEW TEMPORARY RETENTION POND THAT IS SIZED TO HOLD IN EXCESS OF THE 100-YEAR, 10-DAY RUNOFF FROM THE FUTURE FULLY DEVELOPED CONDITION. UPON DEVELOPMENT OF TRACT A-3 AND A DOWNSTREAM RECEIVING SYSTEM, THIS POND MAY BE REDUCED IN SIZE AND CONVERTED TO A DETENTION POND THAT LIMITS DISCHARGE TO THE ALLOWABLE RATE OF 0.65 CFS PER ACRE PER REFERENCE. IN CONJUNCTION WITH THIS PROJECT. THE OUTSTANDING FULL WIDTH PERMANENT STREET PAVING, CURB AND GUTTER, AND SIDEWALK WILL ALSO BE CONSTRUCTED ON THE NEAR SIDE OF CIBOLA LOOP ACROSS THE PROJECT FRONTAGE. AS DEMONSTRATED BY THE EXISTING PRECEDING EXISTING CONDITIONS NARRATIVE, THE EXISTING PARTIAL SECTIONS OF CIBOLA LOOP ON THE WEST AND EAST SIDES FRONTING TRACTS A-1 AND A-3, RESPECTIVELY, HAVE ADEQUATE STREET AND DOWNSTREAM INFRASTRUCTURE CAPACITY TO CARRY THE RUNOFF GENERATED BY THE EXISTING AND ADDED PAVEMENT WIDTHS. AS SUCH, PERMANENT IMPROVEMENTS SUCH AS STREET WIDENING, STORM DRAIN EXTENSIONS, OR ADDITIONAL INLETS ARE NOT NECESSARY NOR PROPOSED BY THIS PROJECT. TRANSITIONS WITH CURB AND GUTTER WILL BE CONSTRUCTED AT THE TWO DOWNSTREAM ENDS (WEST AND EAST) TO TRANSITION FROM THE SITE FRONTAGE FULL IMPROVEMENTS TO THE DOWNSTREAM HALF-SECTION IMPROVEMENTS.

CALCULATIONS ANALYZING THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100 YEAR, 6-HOUR AND 100-YEAR, 10-DAY RAINFALL EVENTS HAVE BEEN PREPARED FOR THE FULLY DEVELOPED CONDITION. THE DPM PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN DPM 6-2(A) HAS BEEN LISED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED 100% OF THE SITE RUNOFF WILL DRAIN TO A TEMPORARY RETENTION POND, SO STORMWATER QUALITY CALCULATIONS WERE NOT PERFORMED. CIBOLA LOOP HYDRAULIC CAPACITY CALCULATIONS WERE PERFORMED USING CIVIL3D HYDRAFLOW EXPRESS WITH

VII. SUMMARY AND CONCLUSIONS 1. AS A PRIORITY CITY PROJECT, CONSTRUCTION BEGAN IN MAY 2024 WITH ROUGH GRADING IN ADVANCE OF BUILDING PERMIT APPROVAL 2. THIS PLAN IS SUBMITTED TO SUPPORT BUILDING PERMIT APPROVAL. AND TO ALSO SUPPORT A FUTURE WORK ORDER THAT WILL WIDEN THE STREET FRONTAGE.

3. THIS PROJECT WILL CONSTRUCT A TEMPORARY RETENTION POND SIZED TO HOLD IN EXCESS OF THE FULLY DEVELOPED 100—YEAR, 10—DAY STORM. 4. UPON DEVELOPMENT OF TRACT A-3 AND A RECEIVING SYSTEM. THE TEMPORARY RETENTION POND WILL BE ABLE TO BE CONVERTED TO DETENTION TO THE ALLOWABLE RATE OF 0.65 CFS PER ACRE. 5. THIS PROJECT GRADING AND DRAINAGE SCHEME CONFIRMS TO ALL PREVIOUSLY APPROVED AND ESTABLISHED GRADING AND DRAINAGE PLANS, REPORTS, AND INFRASTRUCTURE PLANS APPLICABLE TO THE SITE.





DAT DAT

PROJECT BENCHMARK #202 (P.B.M.) A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR THE SOUTHWEST CORNER OF THE PROJECT SITE, APPROXIMATELY 136' EAST OF THE STORM DRAIN INLET ON THE EAST SIDE OF WEST CIBOLA LOOP NW AND 233' NORTH OF THE BACK OF CURB ON THE NORTH SIDE OF ELLISON DR NW, AS SHOWN ON SHEET VF-105

MODIFIED GROUND COORDINATES: NORTHING = 1,530,887.18 FEET EASTING = 1,516,155.43 FEET ELEVATION = 5090.57 FEET (NAVD 1988)

VICINITY MAP

### TEMPORARY BENCHMARK #203 (T.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR THE SOUTHWEST CORNER OF THE PROJECT SITE, APPROXIMATELY 200' EAST OF THE STORM DRAIN INLET ON THE EAST SIDE OF WEST CIBOLA LOOP NW AND 200' NORTH OF THE BACK OF CURB ON THE NORTH SIDE OF ELLISON DR NW, AS SHOWN ON SHEET VF-105

MODIFIED GROUND COORDINATES: NORTHING = 1,530,854.64 FEET EASTING = 1,516,222.95 FEET ELEVATION = 5089.64 FEET (NAVD 1988)

TEMPORARY BENCHMARK #204 (T.B.M.)

A #5 REBAR WITH CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR THE NORTH END OF THE PROJECT SITE, APPROXIMATELY 349' SOUTH OF THE BACK OF CURB ON THE SOUTH SIDE OF WEST CIBOLA LOOP NW AND 47' WEST OF A DIRT ROAD RUNNING DOWN THE CENTER OF THE PROJECT SITE, AS SHOWN ON SHEET VF-104

MODIFIED GROUND COORDINATES: NORTHING = 1,531,357.44 FEET EASTING = 1,516,704.85 FEET ELEVATION = 5102.33 FEET (NAVD 1988)

#### TEMPORARY BENCHMARK #206 (T.B.M.)

A #5 REBAR W/CAP STAMPED "HMCG CONTROL NMPS 11184", SET IN DIRT NEAR THE SOUTHEAST CORNER OF THE PROJECT SITE, APPROXIMATELY 66' EAST OF A DIRT ROAD RUNNING DOWN THE CENTER OF THE PROJECT SITE AND 170' NORTH OF THE BACK OF CURB ON THE NORTH SIDE OF ELLISON DR NW, AS SHOWN ON SHEET VF-105

MODIFIED GROUND COORDINATES NORTHING = 1,530,781.43 FEET EASTING = 1,516,671.67 FEET

ELEVATION = 5086.13 FEET (NAVD 1988)

#### LEGAL DESCRIPTION

TRACTS A-1, AND A-2, CIBOLA LOOP SUBDIVISION, ALBUQUERQUE, NEW MEXICO



## CONSULTANTS

CIVIL
High Mesa
a Bowman company
6010-B Midway Park Blvd NE
Albuquerque, NM 87109
p_505.345.4250

**LANDSCAPE Groundwork Studio** 6501 Americas Parkway NE, Suite 350 Albuquerque, NM 87110

p 505.212.9126

p 505.344.4080

STRUCTURAL **Chavez-Grieves Consulting Engineers, Inc.** 4700 Lincoln Road NE. Suite 102 Albuquerque, NM 87109

M/E/P/FP **Bridgers & Paxton** 4600-C Montgomery Blvd NE Albuquerque, NM 87109 p 505.883.4111

LIGHTING **Oldner Lighting** 4645 Greenville Ave. Studio B Dallas, TX 75206 p 310.450.1733

**INTERIORS** Studio M 6501 Americas Parkway NE, Suite 302

p 505.243.9287

PROJECT TITLE:

Albuquerque, NM 87110

06-07-2024

CITY OF ALBUQUERQUE

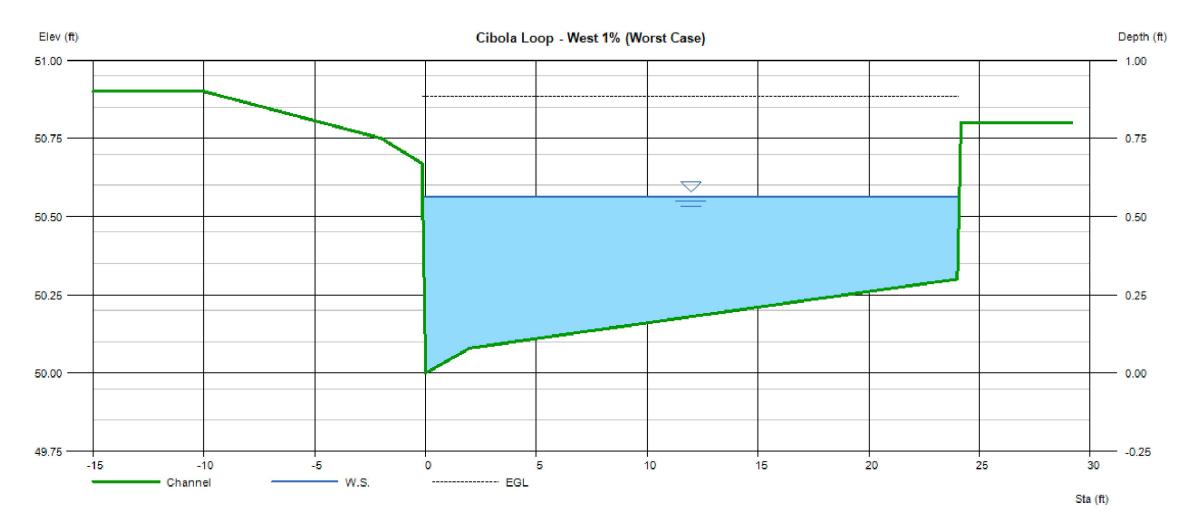
#### COA CIBOLA LOOP MULTIGENERATIONAL CENTER Cibola Loop NW

Albuquerque, NM 87114

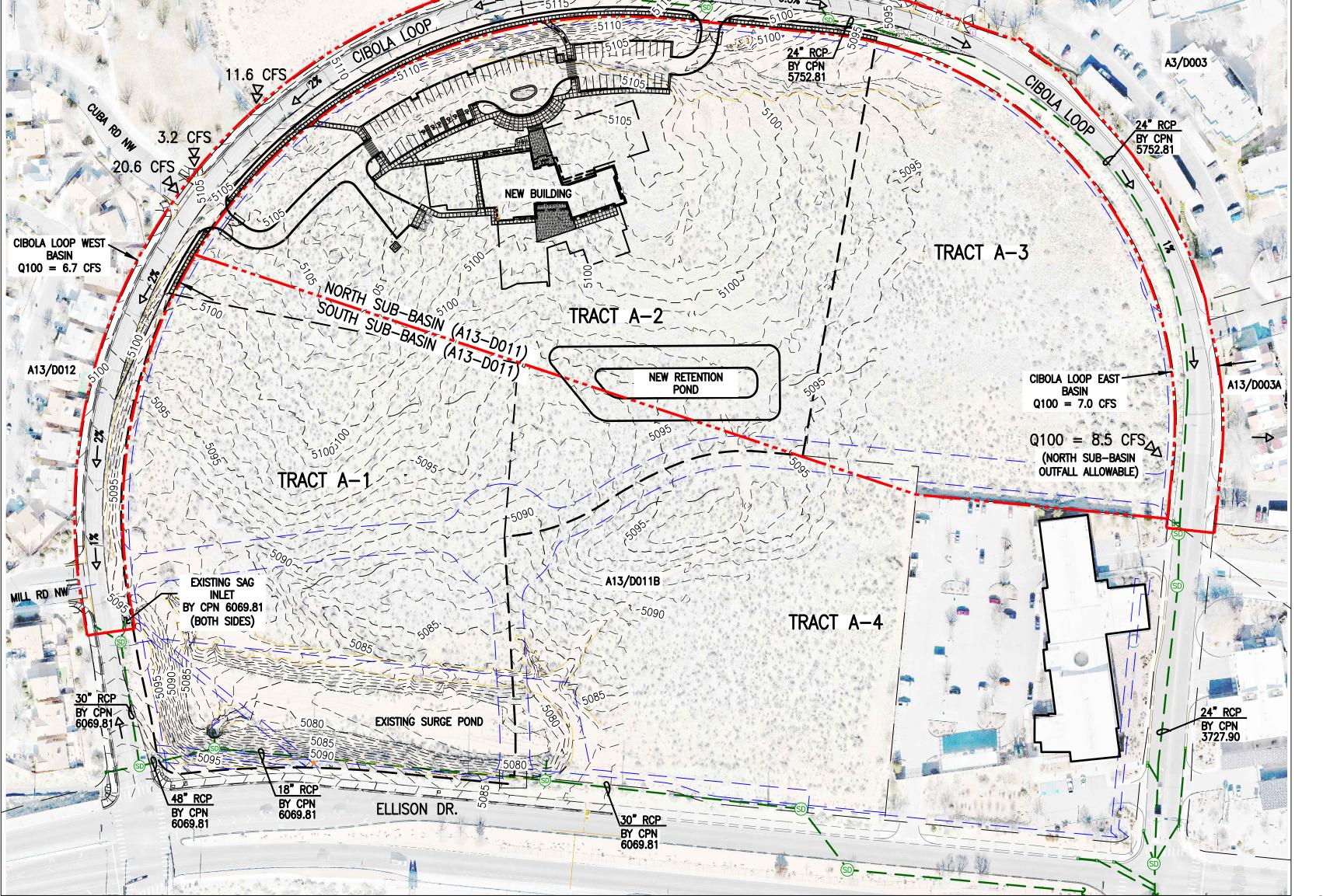
**CONSTRUCTION DOCUMENTS** JUNE 07, 2024

DRAINAGE PLAN AND CALCULATIONS

2024.001.3 esign Review Committee City Engineer Approval HIGH City Project No. DWG. CG-001 P:505.345.4250 highmesacg.com | bowman.com A-13-Z



24.23 24.86



BASIN AND STORM DRAIN MAP

SCALE: 1" = 100'

