

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Director



Mayor Timothy M. Keller

September 23, 2025

Bryan Bobrick, P.E.  
Isaacson & Arfman, Inc.  
128 Monroe St. N.E  
Albuquerque, NM 87108

**RE: Kawane Casita**  
**2608 Rio Orilla Ln NW**  
**Grading and Drainage Plans**  
**Engineer's Stamp Date: 09/19/25**  
**Hydrology File: D13D008A**  
**Case # HYDR-2025-00336**

Dear Mr. Bobrick:

Based upon the information provided in your submittal received 09/19/2025, the Grading & Drainage Plan is approved for Building Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter.

PO Box 1293

PRIOR TO CERTIFICATE OF OCCUPANCY:

Albuquerque

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

NM 87103

2. Please provide the executed paper Drainage Covenant (latest revision) printed on one-side only with Exhibit A and a check for \$25.00 made out to "Bernalillo County" for the stormwater quality pond per Article 6-15(C) of the DPM to Hydrology for review at Plaza de Sol. An Application for Covenant in ABQ-PLAN is also required to process the submittal.

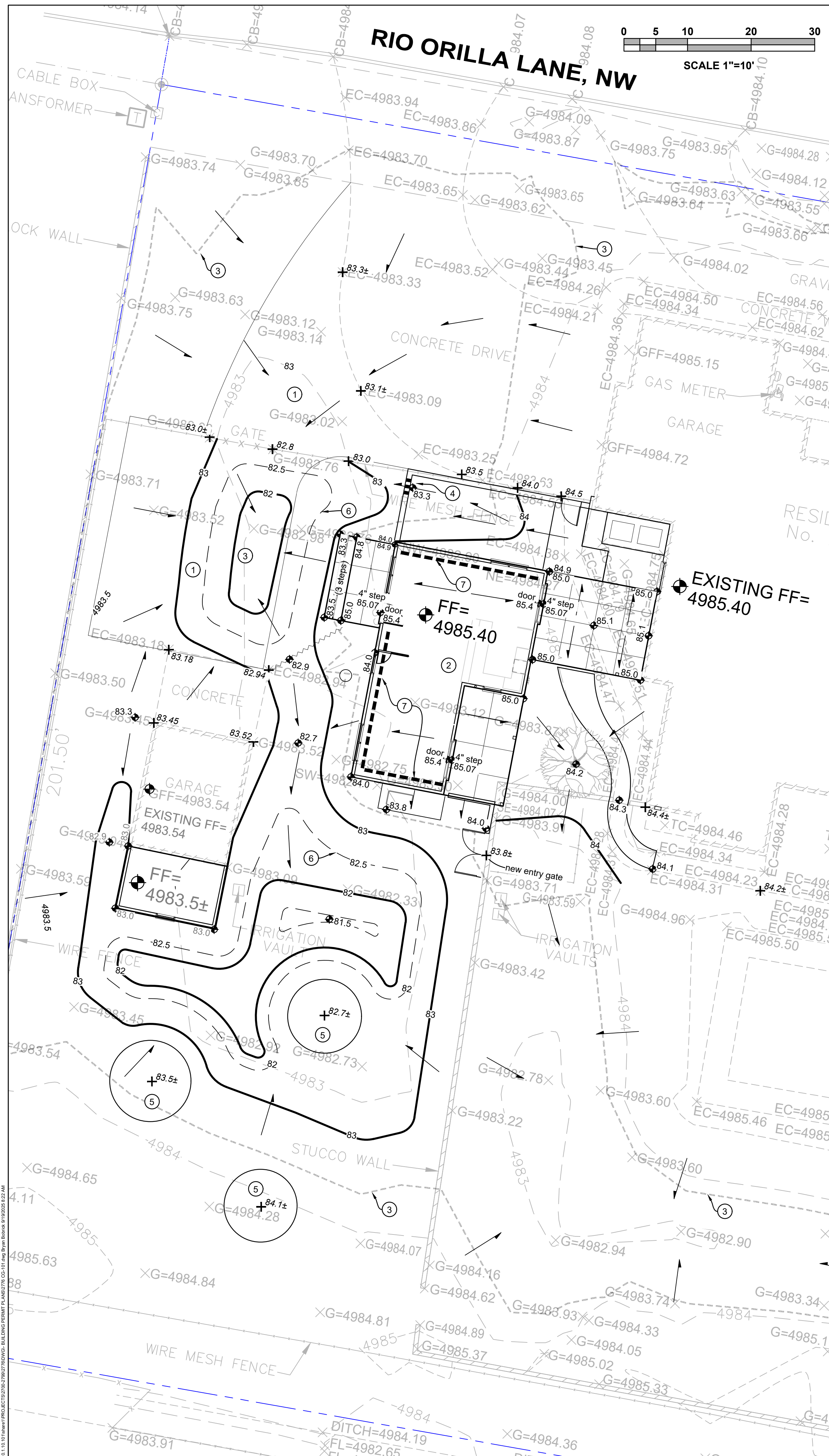
www.cabq.gov

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 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](mailto:jhughes@cabq.gov), 505-924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 505-924-3314 or [amontoya@cabq.gov](mailto:amontoya@cabq.gov).

Sincerely,

Anthony Montoya, Jr., P.E., CFM  
Senior Engineer, Hydrology  
Planning Department, Development Review Services



### LEGEND

- 4984 --- EXISTING CONTOUR
- ×G=4984.22 EXISTING SPOT ELEVATION
- 83 --- PROPOSED 1.0' CONTOUR
- 82.5 --- PROPOSED 0.5' CONTOUR
- ◆ 83.0 PROPOSED SPOT ELEVATION
- FLOW DIRECTION
- FF = 4985.4 FINISH FLOOR ELEVATION

**CALCULATIONS: Kawane Casita : Sept. 15, 2025**  
Based on City of Albuquerque DMP, Article 6-2 Hydrology dated June 26, 2020

**100-YEAR, 6-HOUR CALCULATIONS**

AREA CALCULATED: 49,446 SF = 1.14 ACRE

**HISTORIC FLOWS:**

Treatment	SF	%	Area A	Area B	Area C	Area D	Total Area
	0	0.00%	29668	4104	15674	49446	49446

**DEVELOPED FLOWS:**

Treatment	SF	%	Area A	Area B	Area C	Area D	Total Area
	0	0.00%	28085	4104	17257	49446	49446

**EXCESS PRECIP:**

Zone	EA	EB	EC	ED
1	0.55	0.73	0.95	2.24

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)  
Weighted E =  $\frac{EA \cdot A_A + EB \cdot A_B + EC \cdot A_C + ED \cdot A_D}{A_A + A_B + A_C + A_D}$   
Historic E = 1.23 in. Developed E = 1.28 in.

On-Site Volume of Runoff: V<sub>360</sub> = E \* A / 12  
Historic V<sub>360</sub> = 5056 CF Developed V<sub>360</sub> = 5255 CF

On-Site Peak Discharge Rate: Q<sub>p</sub> = Q<sub>pA</sub>A<sub>A</sub> + Q<sub>pB</sub>A<sub>B</sub> + Q<sub>pC</sub>A<sub>C</sub> + Q<sub>pD</sub>A<sub>D</sub> / 43,560  
For Precipitation Zone 1  
Q<sub>pA</sub> = 1.54 Q<sub>pC</sub> = 2.87  
Q<sub>pB</sub> = 2.16 Q<sub>pD</sub> = 4.12  
Historic Q<sub>p</sub> = 3.2 CFS Developed Q<sub>p</sub> = 3.3 CFS

**100-year 10-day Storm Volume**

Category	Value
V <sub>360</sub> (from previous calculation)	5255
Area Treatment D (SF)	17257
Zone	1

For 100-year 10 Day Storms:  
V<sub>10day</sub> = V<sub>360</sub> + (A<sub>D</sub> \* (P<sub>10day</sub> - P<sub>360</sub>) / 12" per foot)

Contour	Volume	% of 100-year 10 day storm
4,983.5	4,578 CF	63.8
4,983.6	6,485 CF	90.4
4,983.7	8,391 CF	116.9

7,743 of required



- ### KEYED NOTES
- PERVIOUS DRIVE (COMPACTED BASE COURSE) AT ELEVATIONS SHOWN.
  - PROPOSED STRUCTURE. INSTALL PRECAST CONCRETE OR 8" DEEP (4" AVG. DIAMETER) ANGULAR ROCK SPLASHPAD OVER PERMANENT EROSION CONTROL MATERIAL AT CONCENTRATED DISCHARGE LOCATIONS.
  - WATER SURFACE ELEVATION 4983.73 REPRESENTS LIMITS OF ONSITE STORMWATER RETENTION TO ACCOMMODATE THE 100-YEAR 10-DAY STORM EVENT. SEE INSERT FOR FULL LIMITS OF PONDING.
  - TURNOFF CMU BLOCK OR INSTALL TWO 6" DIA. PIPES THROUGH WALL AT FLOWLINE ELEVATION SHOWN. NOTE: PRIVATE YARD GRADING IS SHOWN FOR CONCEPTUAL PURPOSES ONLY TO INDICATE GENERAL DRAINAGE PATH.
  - PROTECT EXISTING TREE WHERE CONDITIONS ALLOW.
  - 0.5' CONTOURS TO CLARIFY POND GRADING.
  - BUILDING EXTENDED STEMWALL REQUIRED TO ACHIEVE GRADES SHOWN. SEE ARCHITECTURAL / STRUCTURAL PLANS.

### IMPERVIOUS AREA

THE EXISTING IMPERVIOUS AREA CONSISTS OF THE RESIDENCE, MAIN DRIVEWAY, WALK, PATIOS, AND POOL DECK

AREA 'D' EXISTING = 8,743 SF

THE PROPOSED IMPERVIOUS AREA CONSISTS OF THE MAJORITY OF EXISTING (LESS DEMOLITION OF WALKWAY) + THE NEW CASITA, WALK, PATIOS, AND GARAGE ADDITION.

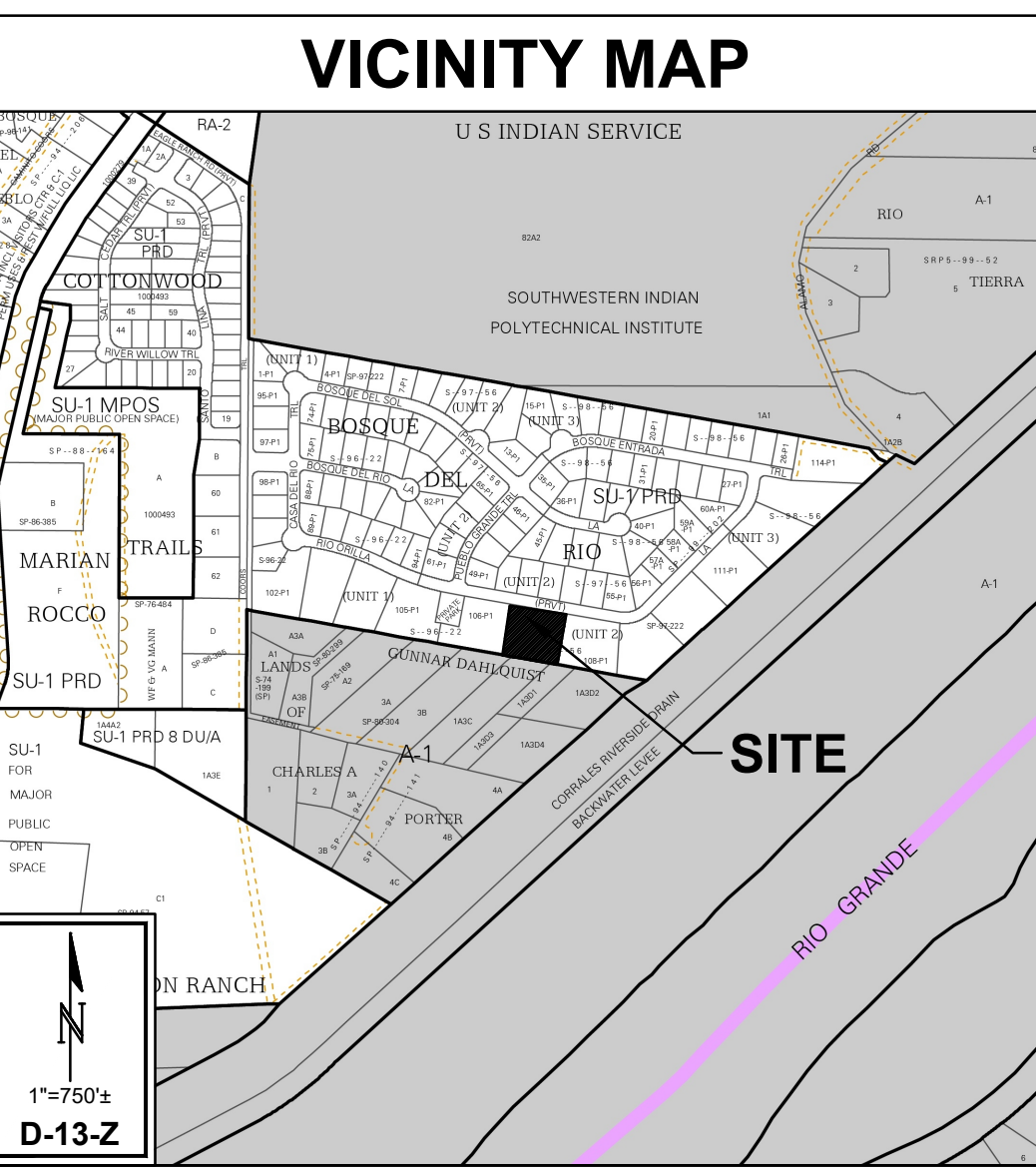
AREA 'D' PROPOSED = 10,122 SF

PER THE APPROVED MASTER DRAINAGE PLAN FOR THIS PROPERTY, THE ADJACENT ROADWAY PAVEMENT (5,060 SF) IS ADDED TO OBTAIN THE REQUIRED 100-YEAR 10-DAY STORM VOLUME TO BE STORED.

TOTAL REQUIRED VOLUME (DEVELOPED CONDITION) = 5,255 CF (100-YR 6-HR) + 2,488 (100-YR 10-DAY IMPERVIOUS AREA VOLUME) = 7,743 CF

SEE STAGE STORAGE CHART FOR POND VOLUME. WATER SURFACE AREA IS CALCULATED BELOW THE 4983.7 ELEVATION.

- ### GENERAL NOTES
- ELECTRONIC FILES: THE ELECTRONIC FILE OF THE GRADING AND DRAINAGE MAY BE PROVIDED TO THE CONTRACTOR FOR VERTICAL CONTROL. DO NOT USE GRADING & DRAINAGE PLAN FOR PROJECT STAKING AS THERE IS NO CERTAINTY THAT IT IS USING THE MOST CURRENT SITE BASE. SITE CONSTRUCTION LAYOUT / STAKING SHALL BE COORDINATED WITH THE ARCHITECT USING THE ARCHITECT PROVIDED SITE PLAN.
  - PROTECTION OF EXISTING UTILITIES: IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT NM811 SYSTEM. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL EXISTING UTILITIES, SERVICES AND STRUCTURES ENCOUNTERED, WHETHER OR NOT THEY ARE INDICATED ON THE PLANS. ANY DAMAGE TO UTILITIES OR STRUCTURES RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED AT HIS/HER EXPENSE.
  - SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT NOTES AND DETAILS (FIRST PRIORITY), AND/OR CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS AND DETAILS FOR PUBLIC WORK (SECOND PRIORITY).
  - GRADING: PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON PROPOSED ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
  - STORMWATER FACILITIES: POND DESIGN PARAMETERS ARE TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY ANY AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED.
  - AS-BUILT SURVEY: FOR ENGINEER'S CERTIFICATION OF SUBSTANTIAL COMPLIANCE, CONTRACTOR SHALL PROVIDE AN AUTOCAD FORMAT AS-BUILT SURVEY PREPARED BY A LICENSED SURVEYOR WHICH INCLUDES:
    - AS-BUILT SPOT ELEVATIONS AT EACH DESIGN SPOT ELEVATION SHOWN ON THE APPROVED GRADING & DRAINAGE PLAN.
    - TOP AND BOTTOM AREAS AND ELEVATIONS AS REQUIRED TO CONFIRM THE VOLUMES OF PONDS.
    - ALL CONSTRUCTION, INCLUDING DRAIN INLETS, PIPES AND PONDS SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN SUBSTANTIAL COMPLIANCE WITH THE APPROVED PLAN IN ORDER TO RECEIVE ENGINEER'S CERTIFICATION.
- EROSION AND SEDIMENT CONTROL: THE CONTRACTOR SHALL BE RESPONSIBLE FOR USING EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs)
- EROSION PROTECTION - SLOPES: TYPICAL EROSION PROTECTION SHALL BE INSTALLED AT 8" TOTAL DEPTH, 4" AVG. DIA. ANGULAR FACED ROCK PLACED OVER ADS 0501T NON-WOVEN GEOTEXTILE (O.E.).
- ADJUST TO FINISH GRADE: ALL WATER VALVE BOXES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE UTILITIES SHALL BE ADJUSTED TO FINISHED GRADE.



### PROJECT INFORMATION

PROPERTY: THE SITE IS A FULLY DEVELOPED RESIDENTIAL PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP D-13. THE SITE IS BOUND TO THE EAST, SOUTH, AND WEST BY DEVELOPED RESIDENTIAL PROPERTIES, AND TO THE NORTH BY RIO ORILLA LANE NW.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE A FREE-STANDING CASITA, GARAGE ADDITION (OPTIONAL), WITH ASSOCIATED ACCESS AND LANDSCAPING.

LEGAL: LOT 107-P1 BOSQUE DEL RIO SUBDIVISION ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO

ACREAGE: 1.019 ACRES

ADDRESS: 2608 RIO ORILLA LN NW, ALBUQUERQUE, NM 87120

BENCHMARK: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE STATION No. "6-DT", HAVING AN ELEVATION OF 5009.852, NAVD 1988.

OFF-SITE: NO OFF-SITE DRAINAGE AFFECTS THIS PROPERTY OTHER THAN 5,060 SF OF ADJACENT ROAD MASTER-PLANNED TO BE RETAINED WITHIN THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #35001C01166, EFFECTIVE DATE OF 9/26/2008, THE SITE IS LOCATED WITHIN FLOODZONE 'X' SHADED DEFINED AS AN AREA WITH REDUCED FLOOD RISK DUE TO LEVEE.

DRAINAGE PLAN CONCEPT:  
THIS SITE IS A SINGLE LOT RESIDENTIAL PROPERTY DEVELOPED WITH A FLAT GRADING SCHEME AS FOLLOWS:

- ALL DISCHARGE WILL BE CAPTURED IN ON-SITE STORMWATER RETENTION PONDS SIZED TO RETAIN THE 100-YEAR 10-DAY STORM.
- POND ELEVATION TO BE 1.2' ABOVE THE WATER SURFACE ELEVATION.

THE MAX. WATER SURFACE ELEVATION IS 4983.7 BASED ON 1.2' BELOW THE EXISTING RESIDENCE PAD ELEVATION OF (4985.4 - 0.5' SLAB) 4984.9. THE PROPOSED CASITA FF ELEVATION WILL MATCH THE MAIN BUILDING FF AT 4985.4. FOLLOWING THE PROPOSED REGRADING AND DEVELOPMENT, THE WATER SURFACE ELEVATION WILL BE 4983.6 ±.

NOTE THAT THE EXISTING FREE-STANDING GARAGE FF ELEVATION IS 4983.54 WHICH IS SLIGHTLY BELOW THE WSEL. THE OWNERS HAVE BEEN MADE AWARE OF THIS AND ACCEPT THE POSSIBILITY FOR FLOODING OF THE GARAGE BUILDING DURING THE DESIGN STORM (OR LARGER) EVENT.

**Isaacson & Arfman, Inc.**  
Civil Engineering Consultants  
128 Monroe Street NE  
Albuquerque, NM 87108  
505-266-8828 | www.iaacivil.com

**GENEVEVE L. DONKE**  
NEW MEXICO  
15088  
Professional Engineer  
9/19/25

**KAWANE CASITA**  
2608 RIO ORILLA LN NW,  
ALBUQUERQUE, NM 87120

No	Date	Description

DESIGN DEVELOPMENT  
ISSUE: DESIGN DEVELOPMENT  
PROJECT NUMBER: IA 2776  
FILE:  
DRAWN BY: GJB  
CHECKED BY: BLD  
DATE: -8/19/2025-

**CITY OF ALBUQUERQUE**  
Planning Department  
Development Review Services  
**HYDROLOGY SECTION**  
**APPROVED**  
DATE: 9/23/2025  
BY: [Signature]  
HydroTeam # D13D008A

THE APPROVAL OF THESE PLANS/REPORTS SHALL NOT BE CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT THE CITY OF ALBUQUERQUE FROM MAKING CORRECTIONS FOR ERRORS OR OMISSIONS IN PLANS, SPECIFICATIONS, OR CONSTRUCTION DOCUMENTS, SUCH AS APPROVED PLANS/REPORTS SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT AUTHORIZATION. THE APPROVAL OF THESE PLANS/REPORTS SHALL EXPIRE TWO (2) YEARS AFTER THE APPROVAL DATE IF NO BUILDING PERMIT HAS BEEN PULLED ON THE DEVELOPMENT.

**GRADING & DRAINAGE PLAN**

SHEET NUMBER  
**CG-101**