

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

December 23, 2024

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. N.E
Albuquerque, NM 87108

**RE: Albuquerque RV & Boat Storage
2201 Vista Oriente St. NW
6th Revised Grading and Drainage Plans
Engineer's Stamp Date: 12/20/24
Hydrology File: H10D030**

Dear Mr. Arfman:

Based upon the information provided in your submittal received 12/20/2024, the Sixth Revised Grading & Drainage Plans are approved for Building Permit and for action by the Development Facilitation Team (DFT) for Site Plan 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

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, 505-924-3420) 14 days prior to any earth disturbance.

www.cabq.gov

If you have any questions, please contact me at 505-924-3362 or richardmartinez@cabq.gov.

Sincerely,

Richard Martinez, P.E.
Senior Engineer, Hydrology
Planning Department



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Project Title: Albuquerque RV & Boat Storage **Building Permit #** _____ **Hydrology File #** H09D030
DRB# _____ **EPC#** _____
Legal Description: Tract 1, Ladera Business Park, Unit 2 **City Address OR Parcel** 2201 Vista Oriente Street NW - Albuquerque, NM 87129
Applicant/Agent: Isaacson & Arfman **Contact:** Fred C. Arfman or Bryan J. Bobrick
Address: 128 Monroe Street NE - Albuquerque, NM 87108 **Phone:** (505) 268-8828
Email: freda@iacivil.com bryanb@iacivil.com

Applicant/Owner: Ladera Enterprises, LLC **Contact:** _____
Address: _____ **Phone:** _____
Email: _____

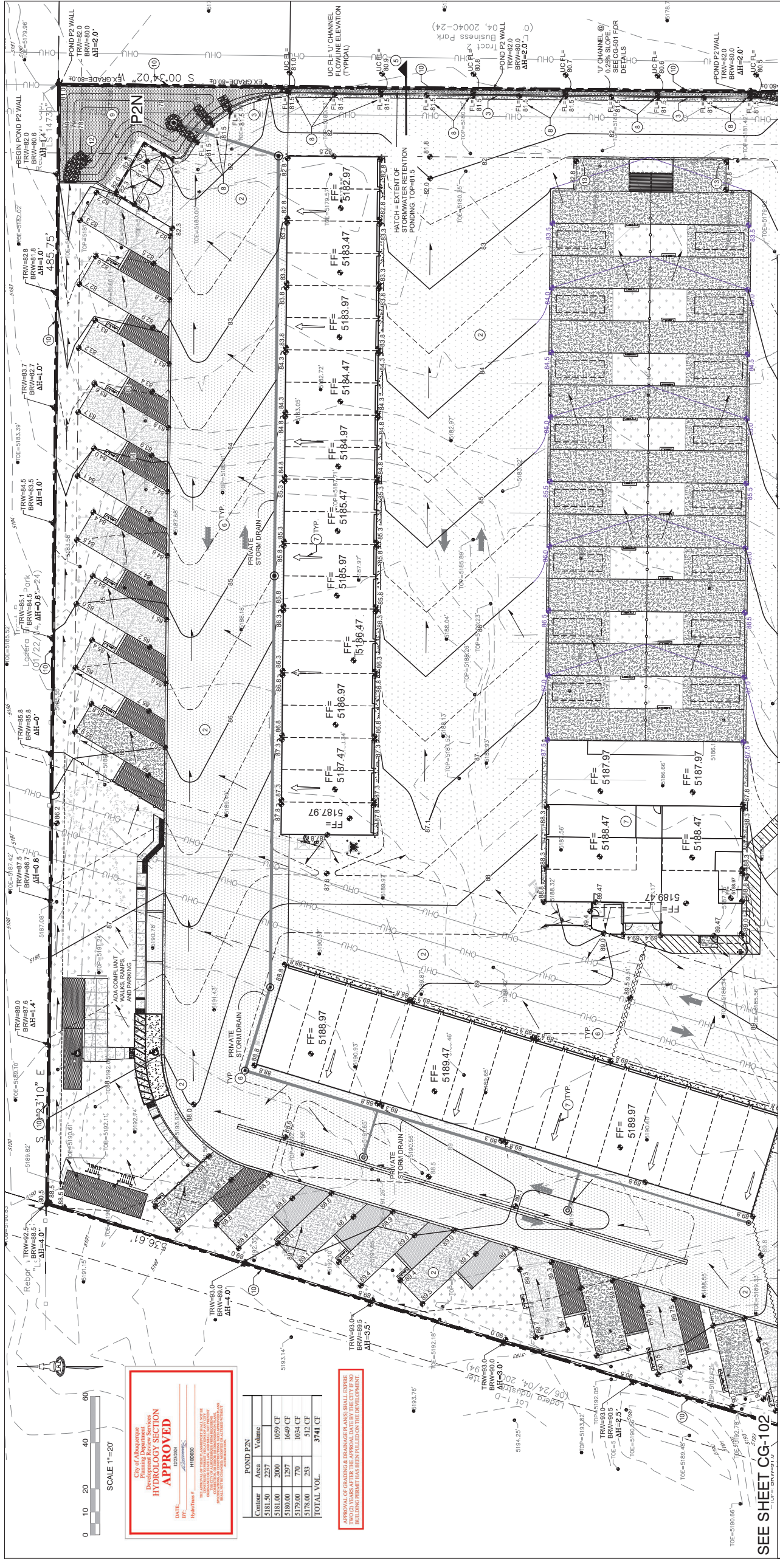
TYPE OF DEVELOPMENT: PLAT (#of lots) RESIDENCE DRB SITE ADMIN SITE: _____
RE-SUBMITTAL: YES NO

DEPARTMENT: TRANSPORTATION HYDROLOGY/DRAINAGE
 Check all that apply:

- TYPE OF SUBMITTAL:**
- ENGINEER/ARCHITECT CERTIFICATION
 - PAD CERTIFICATION
 - CONCEPTUAL G&D PLAN
 - GRADING PLAN
 - DRAINAGE REPORT
 - DRAINAGE MASTER PLAN
 - FLOOD PLAN DEVELOPMENT PERMIT APP.
 - ELEVATION CERTIFICATE
 - CLOMR/LOMR
 - TRAFFIC CIRCULATION LAYOUT (TCL) ADMINISTRATIVE
 - TRAFFIC CIRCULATION LAYOUT FOR DRB APPROVAL
 - TRAFFIC IMPACT STUDY (TIS)
 - STREET LIGHT LAYOUT
 - OTHER (SPECIFY)
 - PRE-DESIGN MEETING?

- TYPE OF APPROVAL/ACCEPTANCE SOUGHT:**
- BUILDING PERMIT APPROVAL
 - CERTIFICATE OF OCCUPANCY
 - CONCEPTUAL TCL DRB 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
 - GRADING PERMIT APPROVAL
 - SO-19 APPROVAL
 - PAVING PERMIT APPROVAL
 - GRADING PAD CERTIFICATION
 - WORK ORDER APPROVAL
 - CLOMR/LOMR
 - FLOOD PLAN DEVELOPMENT PERMIT
 - OTHER (SPECIFY) _____

DATE SUBMITTED: 12/20/2024



City of Albuquerque
Development Review Services
HYDROLOGY SECTION
APPROVED
DATE: 12/20/24
BY: [Signature]

POND P2N	
Contour	Volume
5181.50	2257
5180.00	2000
5179.00	1297
5178.00	770
5177.00	253
TOTAL VOL. 3741 CF	

REVISION OF GRADING AND DRAINAGE SHALL BE MADE WITHIN TWO (2) YEARS AFTER THE APPROVAL DATE BY THE CITY AND A BUILDING PERMIT HAS BEEN ISSUED FOR THE DEVELOPMENT.



SCALE 1"=20'

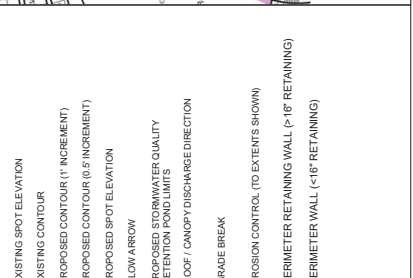
S.O.19 : NOTICE TO CONTRACTORS

- PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY
- Build sidewalk culvert per COA STD DWG 2236.
 - Contact Storm Drain Maintenance at (505) 857-8033 to schedule a meeting prior to forming.
 - An excavation permit will be required before beginning any work within City Right-of-Way.
 - All work on this project shall be performed in accordance with applicable state and local laws, rules and regulations concerning construction safety and health.
 - Two working days prior to any excavation, the contractor must contact **New Mexico Call, dial "811"** for (505) 260-1590 for the location of existing utilities.
 - Prior to construction, the contractor shall excavate and verify the locations of all structures and/or utilities that exist. The contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
 - Backfill compaction shall be according to traffic/street use.
 - Maintenance of the facility shall be the responsibility of the owner of the property being served.
 - Work on arterial streets may be required on a 24-hour basis.
 - Contractor must contact Storm Drain Maintenance at (505) 857-8033 to schedule a construction inspection. For excavating and barricading inspections, contact Construction Coordination at (505) 924-3416.

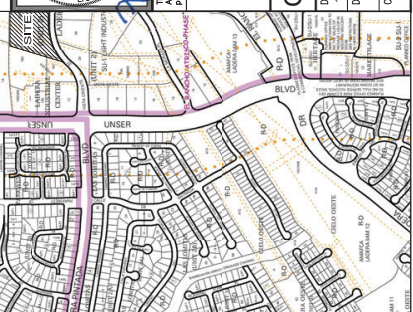
KEYED NOTES

- KEYED NOTES ARE REFERENCED ON SHEETS CG-101 AND CG-102. NOT ALL NOTES ARE USED ON EACH SHEET.
- CONSTRUCT ENTRANCE DRIVES, CONCRETE VALLEY GUTTER, PUBLIC SIDEWALK, AND ADA COMPLIANT RAMPS PER COA STD. INFORMATION.
- CONSTRUCT NEW PAVINGS AT LOCATIONS SHOWN. SEE CG-101 FOR ADDITIONAL INFORMATION FOR MATERIAL, EXTENTS, JOINTS, AND PAVING SECTIONS.
- CONSTRUCT 6" HIGH CURB, HEADER OR MEDIAN CURB AND GUTTER - OWNER'S OPTION. NOTE: ENGINEER RECOMMENDS MEDIAN CURB AND GUTTER FOR CONCENTRATED FLOWPATHS.
- CONSTRUCT 2' WIDE CONC. ALLEY GUTTER. SEE CG-501 FOR SECTION.
- DESIGN CONTOURS ARE SHOWN DASHED WHERE NECESSARY TO CLARIFY GRADING CONCEPT.
- BUILDING AND OVERHEAD CANOPY ROOF DISCHARGE DIRECTION. SPASHPAD FOR CONCENTRATED ROOF DISCHARGE TO ASPHALT PAVEMENT. SEE BUILDING PLANS FOR SPECIFIC ROOF DISCHARGE INFORMATION.
- PROVIDE 2' WIDE OPENING(S) IN CURB TO PASS FLOW. INSTALL 4'X4'X8" DEEP ROCK EROSION PROTECTION AT CURB OPENINGS.

LEGEND



VICINITY MAP



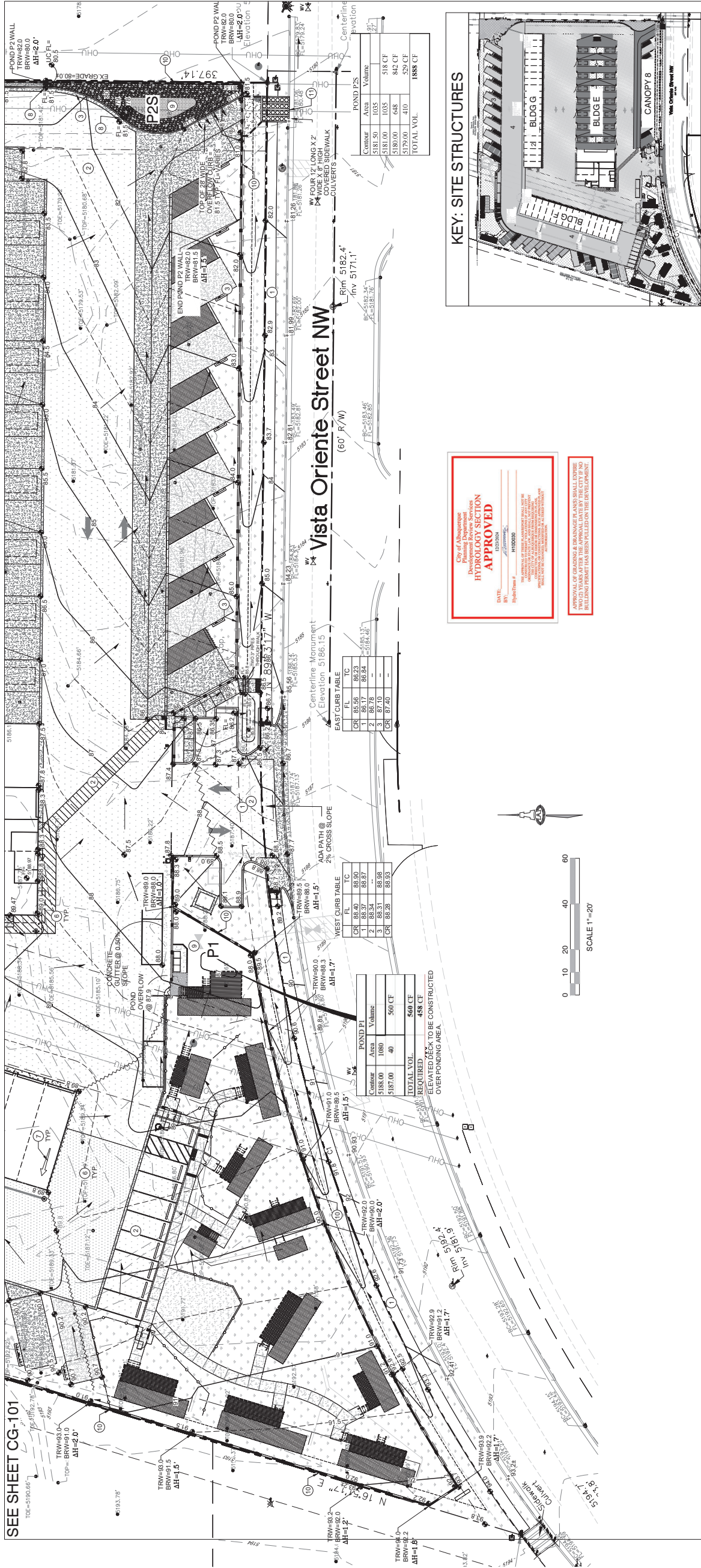
ISAACSON & ARMAN, P.A.
Consulting Engineering Associates
123 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph: 505-268-6828 isaacsonandarmans.com

2278 CG-101 NOMAD.dwg Dec 20,2024
12-20-2024

ABQ RV & BOAT STORAGE
LADERA ENTERPRISES LLC

DATE: 12-20-24
DRAWN BY: BJB
CHECKED BY: FCA

GRADING & DRAINAGE PLAN 1 OF 2
CG-101
SH. OF



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
123 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph: 505-268-6828 isaacsonandarfman.com

2778 CG-101 NOMAD.dwg Dec 20, 2024
12-20-2024

ABQ RV & BOAT STORAGE
LADERA ENTERPRISES LLC

GRADING & DRAINAGE PLAN 2 OF 2

Date: 12-20-24
Drawn By: B-B
Ck By: B-B
Job No.: 22726
CG-102
Sh. of: 91

PROJECT DATA

PROPERTY: THE SITE IS A 5.22 ACRE UNDEVELOPED PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP H-89. THE SITE IS BOUND TO THE LADERA CHANNEL TO THE WEST AND EAST BY UNDEVELOPED LAND, AND TO THE SOUTH BY VISTA ORIENTE ST. NW.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE SELF STORAGE BUILDINGS AND OUTDOOR RV STORAGE WITH ASSOCIATED ASPHALT PAVED ACCESS, PARKING AND LANDSCAPING.

PROPERTY ADDRESS: 2201 VISTA ORIENTE ST. NW, ALBUQUERQUE, BERNALILLO CNTY, NM.

LEGAL: TRACT 1, LADERA BUSINESS PARK, UNIT 2, CITY OF ALBUQUERQUE, BERNALILLO CNTY, NM.

RECORDING: BRASS CAP STAMPED 25 MAR 1989 ON THE WEST MESA UNRESERVED POWER LINES DRAWING NEMBY 0.2 IN THE NORTH OF LADERA DR. NW, 11 FT. WEST OF THE CENTERLINE OF UNSER BLVD. IN THE MIDDLE OF A SET OF POWERPOLES.

OFF-SITE FLOW: NO OFF-SITE DRAINAGE IMPACTS THIS PROPERTY.

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP #50010329A, THE SITE IS LOCATED WITHIN FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

DRAINAGE FOR THIS TRACT WAS INCLUDED IN THE LADERA BUSINESS PARK MASTER DRAINAGE REPORT (MDR) BY MARK GOODWIN & ASSOCIATES DATED 11-2-02. PER THE MDR, THIS PROPERTY (DESIGNATED AS BASIN P-1) IS PERMITTED FREE DISCHARGE.

ENGINEER: FRED C. ARFMAN, NMP# 7322 - ISAACSON & ARFMAN, P.A.
128 MONROE NE 87108 - (505) 268-8828

SURVEYOR: WILL POTTER, JR., NMP# NO. 14271 - CARTESIAN SURVEY'S INC
P.O. BOX 4414 RIO RANCHO, NM 87174 - (505) 891-0244

KEYED NOTES

9. CONSTRUCT STORMWATER QUALITY RETENTION POND AT ELEVATIONS AND VOLUMES SHOWN. ALL STORMWATER QUALITY IMPROVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ENGINEERS CERTIFICATION PROCEDURE. PONDS WHICH DO NOT PROVIDE THE REQUIRED VOLUME WILL BE CORRECTED AT CONTRACTOR'S EXPENSE.

10. CONSTRUCT PERIMETER RETAINING/PRIVACY WALLS TO ACHIEVE GRADE DIFFERENCE SHOWN. SEE ARCHITECTURAL FOR DETAILS. ETC. NO STRUCTURE OR FOOTINGS MAY BE CONSTRUCTED ON ADJACENT PROPERTIES WITHOUT ADJACENT PROPERTY OWNER PERMISSION.

TRV-HIGH SIDE GRADE * 6" OR AS NOTED

TRV-LOW SIDE GRADE OR AS NOTED

11. SEE CG-102 FOR ENLARGED PLAN OF OUTFALL TO VISTA ORIENTE STREET NW.

12. SEE CG-501 FOR ROCK EROSION PROTECTION DETAIL.

13. COORDINATE GRADE TRANSITION WITH OWNER, TYPICAL.

LEGEND

- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- PROPOSED CONTOUR (1' INCREMENT)
- PROPOSED CONTOUR (0.5' INCREMENT)
- PROPOSED SPOT ELEVATION
- FLOW ARROW
- PROPOSED STORMWATER QUALITY RETENTION POND UNITS
- ROOF / CANOPY DISCHARGE DIRECTION
- GRADE BREAK
- EROSION CONTROL (TO EXTENTS SHOWN)
- PERIMETER RETAINING WALL 1'-6" RETAINING)
- PERIMETER WALL (<16" RETAINING)

KEYED NOTES (CONTINUED):

1. CONSTRUCT ENTRANCE DRIVES, CONCRETE VALLEY GUTTER, PUBLIC SIDEWALK, AND ADA COMPLIANT RAMPS PER COA STD. SPECIFICATIONS. SEE CG-101 FOR ADDITIONAL INFORMATION.

2. CONSTRUCT NEW PAVING AT ELEVATIONS SHOWN. SEE CG-101 FOR ADDITIONAL INFORMATION FOR MATERIAL, EXTENTS, JOINTS, AND PAVING SECTIONS.

3. CONSTRUCT 6" HIGH CURB (HEADER OR MEDIAN CURB AND GUTTER - OWNERS OPTION). NOTE: ENGINEER RECOMMENDS MEDIAN CURB AND GUTTER FOR CONCENTRATED FLOWPATHS.

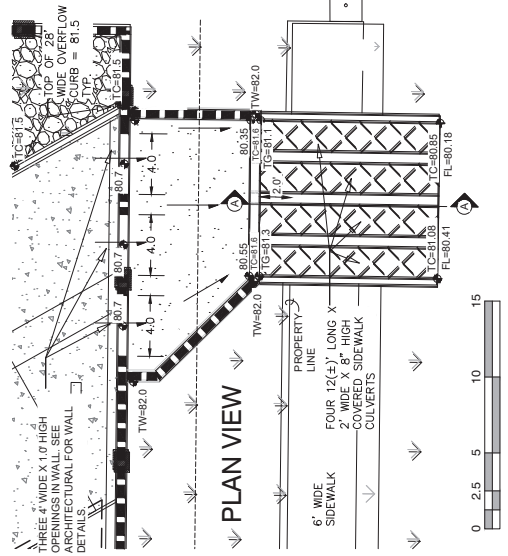
4. CONSTRUCT 2 WIDE CONC. ALLEY GUTTER. SEE CG-501 FOR SECTION.

5. SEE CG-501 FOR SECTION THROUGH EAST PROPERTY LINE.

6. 0.5' DESIGN CONTOURS ARE SHOWN DASHED WHERE NECESSARY TO CLARIFY GRADING CONCEPT.

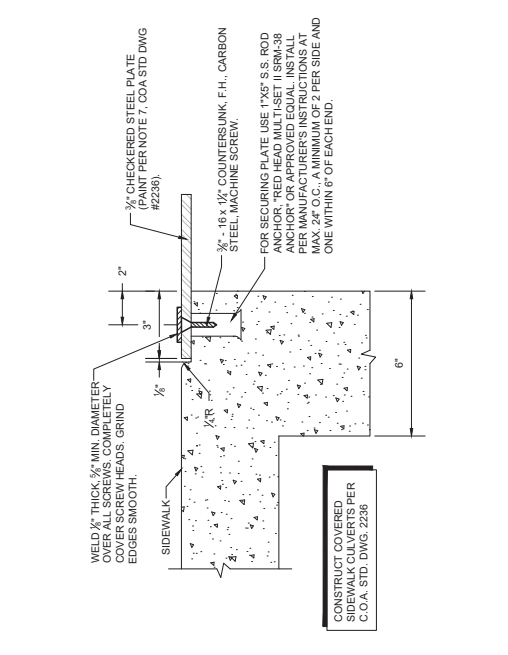
7. BUILDING AND OVERHEAD CANOPY ROOF DISCHARGE DIRECTION SHALL BE SHOWN. SEE CG-101 FOR CONCENTRATED ROOF DISCHARGE TO ASPHALT PAVEMENT. SEE BUILDING PLANS FOR SPECIFIC ROOF DISCHARGE INFORMATION.

8. PROVIDE 2' WIDE OPENINGS IN CURB TO PASS FLOW. INSTALL 4"X4" DEEP ROCK EROSION PROTECTION AT CURB OPENINGS.



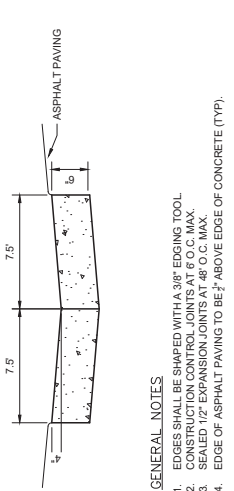
- INSTALL ROCK EROSION PROTECTION INTO (NOT ON TOP) OF CURB. ROCKS SHOULD BE PLACED IN THE RUNOFF CHANNEL AND BE CAPTURED AND CONVEYED PROPERLY.**
- ALL EROSION PROTECTION TO BE 6" DEEP, 4" AVG. DIA. ANGULAR FACED ROCK.
 - PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION
 - ROCK SWALES TO BE 3' WIDE, 6" DEPRESSED

ROCK EROSION PROTECTION
SCALE: N.T.S.

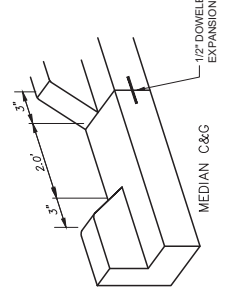


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 - PLACE GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.) BENEATH ALL EROSION PROTECTION
 - ROCK SWALES TO BE 3' WIDE, 6" DEPRESSED

STORMWATER OUTFALL STRUCTURE TO VISTA ORIENTE
SCALE: N.T.S.



CONCRETE ALLEY GUTTER
SCALE: N.T.S.



- GENERAL NOTES**
- EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL

CONCRETE EDUCATION - 2" WIDE CURB OPENING

The cubic equation is used to calculate the flow at the opening of a channel.

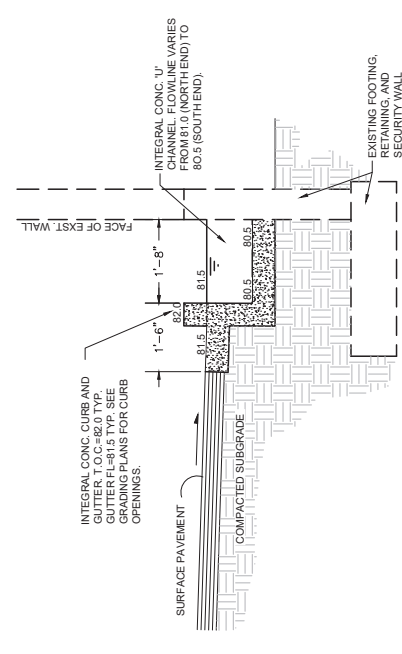
Where $C = C \times A \times (C \times H^3)^{0.5}$

Curb Height	0.3
Opening Area	1.125
A	1.125 sq.ft.
C	32.2 ft/sec ²
H	0.25 ft

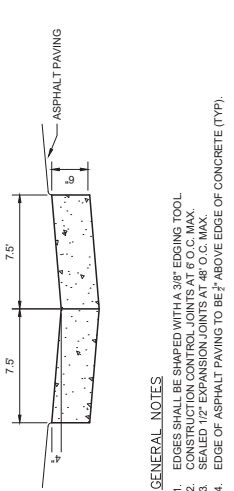
depth of flow at opening from the center of culvert

TYPICAL CURB OPENING
SCALE: N.T.S.

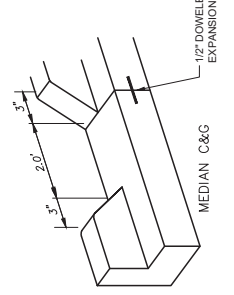
CONSTRUCT ALL PERIMETER RETAINING WALLS TO ACHIEVE GRADE STABILIZATION. PERIMETER WALLS SHALL BE CONSTRUCTED WITH STRUCTURAL WATERPROOFING, REINFORCING, ETC. NO STRUCTURE OR FOOTING MAY BE CONSTRUCTED ON ADJACENT PROPERTIES WITHOUT ADJACENT PROPERTY OWNER PERMISSION.



SECTION: EAST STORMWATER QUALITY POND
SCALE: N.T.S.



CONCRETE ALLEY GUTTER
SCALE: N.T.S.



- GENERAL NOTES**
- EDGES NOT SPECIFICALLY DIMENSIONED SHALL BE SHAPED WITH A 3/8" EDGING TOOL

CONCRETE EDUCATION - 2" WIDE CURB OPENING

The cubic equation is used to calculate the flow at the opening of a channel.

Where $C = C \times A \times (C \times H^3)^{0.5}$

Curb Height	0.3
Opening Area	1.125
A	1.125 sq.ft.
C	32.2 ft/sec ²
H	0.25 ft

depth of flow at opening from the center of culvert

TYPICAL CURB OPENING
SCALE: N.T.S.



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph: 505-268-6828 www.isaacson.com

2798 CG-501-ENG Rev. 26.06.2023
12-20-24

ABQ RV & BOAT STORAGE
LADERA ENTERPRISES LLC

Date: 12-20-24
Drawn By: BJB
Checked By: FCA

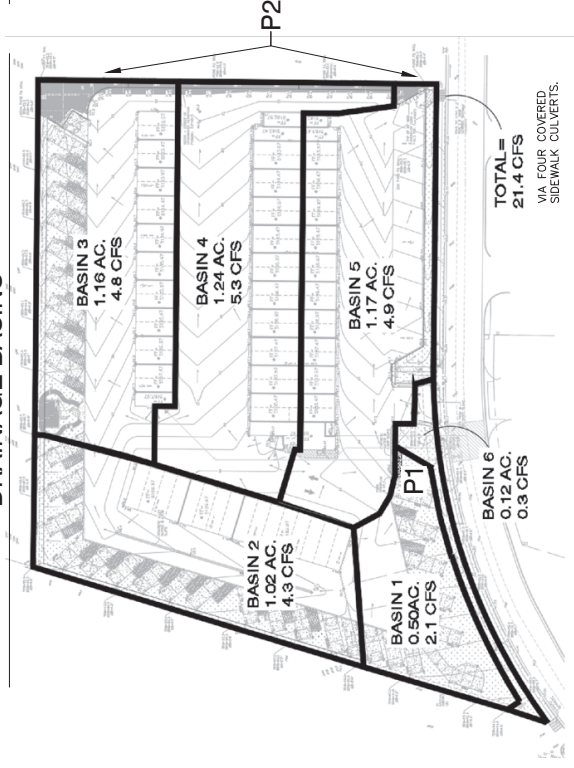
Job No.: 22726
CG-501
Sh. Of: 01



APPROVED
City of Albuquerque Planning Department Hydrology Section
DATE: 12/20/24
BY: [Signature]

APPROVAL OF GRADING & DRAINAGE PLANS SHALL ENFORCE ALL CITY ORDINANCES AND STANDARDS. THE CITY ENGINEER'S REVIEW AND APPROVAL DOES NOT CONSTITUTE A GUARANTEE OF THE ACCURACY OF THE INFORMATION PROVIDED OR THE RESULTS THEREOF. THE ENGINEER'S REVIEW IS LIMITED TO THE INFORMATION PROVIDED AND DOES NOT EXTEND TO THE DESIGN OR CONSTRUCTION OF THE PROJECT.

DRAINAGE BASINS



BASIN CALCULATIONS

BASIN NO.	Area of basin (Ac)	Weighted Excess Precipitation (100-Year, 6-Hour Storm)	On-Site Peak Discharge Rate (CFS)	On-Site Peak Discharge Rate (CFS)	On-Site Peak Discharge Rate (CFS)	On-Site Peak Discharge Rate (CFS)
1	0.50	0.83	0.83	1.29	2.03	2.17
2	1.02	0.83	0.83	1.29	2.03	2.17
3	1.18	0.83	0.83	1.29	2.03	2.17
4	1.24	0.83	0.83	1.29	2.03	2.17
5	1.17	0.83	0.83	1.29	2.03	2.17
6	0.12	0.83	0.83	1.29	2.03	2.17

BASIN 1 DISCHARGES THROUGH P1 TO VISTA ORIENTE STREET. 2.1 CFS REQUIRED.
BASIN 2, 3 AND 4 DISCHARGE THROUGH STORMWATER QUALITY POND P2 BEFORE FREE DISCHARGING TO VISTA ORIENTE STREET. 3.956 CFS REQUIRED.
BASIN 5 AND 6 FREE DISCHARGE TO VISTA ORIENTE STREET. 1.359 CFS REQUIRED.

TOTAL SITE STORMWATER QUALITY POND VOLUME REQUIRED = 5,872 CF.
TOTAL STORMWATER QUALITY POND VOLUME PROVIDED = 5,990 CF.

OVERALL CALCULATIONS

CALCULATIONS: 2278 - ABQ RV & BOAT STORAGE - May 17, 2019

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1997

AREA OF SITE: 227163 SF = 5.2

PREVIOUS DEVELOPED FLOWS:

Area	Treatment SF	%
Area A	0	0%
Area B	113581.5	50%
Area C	113581.5	50%
Area D	0.0	0%
Total Area	227163	100%

EXCESS PRECIP:

Zone	Excess Precip	%
Zone 1	0	0%
Zone 2	12259	5.3%
Zone 3	12119	5.3%
Zone 4	202865	89.3%
Zone 5	227163	100%

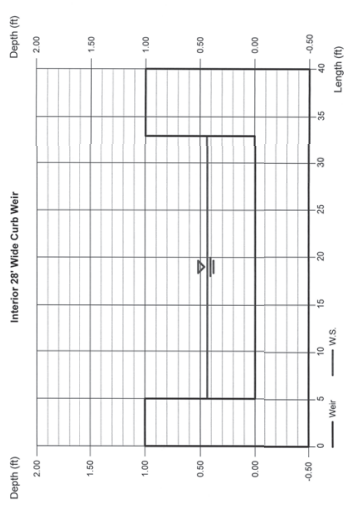
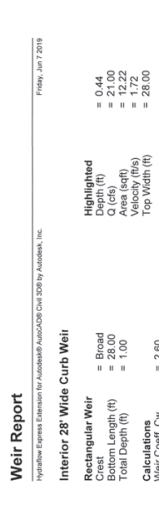
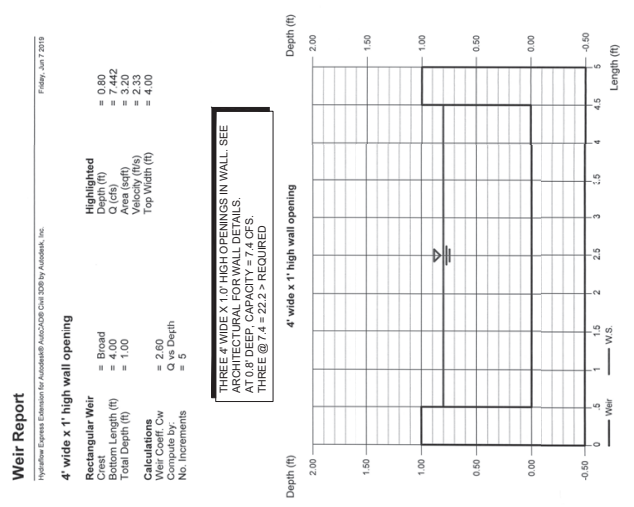
On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm): 1.85 in.

On-Site Volume of Runoff: 15712 CF

On-Site Peak Discharge Rate: 2.03 CFS

On-Site Peak Discharge Rate: 4.37 CFS

WEIR CALCULATIONS



COVERED SIDEWALK CULVERT CALCULATIONS

ORICE EQUATION - SIDEWALK CULVERT

The Orifice Equation is used to calculate the flow at the opening of a Channel.

Where: $Q = C_d A \sqrt{2gH}$

$C_d = 0.6$
 $A = 1.24 \text{ ft}^2$
 $H = 3.2 \text{ ft}$
 $Q = 5.47 \text{ cfs}$

COVERED SIDEWALK CULVERT CAPACITY = 5.5 CFS EACH
FOUR REQUIRED: 4 * 5.5 CFS = 22.0 CFS > REQUIRED



APPROVAL OF GRADING & DRAINAGE PLANS SHALL REQUIRE THE SUBMITTER TO OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF ALBUQUERQUE AND THE STATE OF NEW MEXICO. THIS PERMIT HAS BEEN VALID ON THE DEVELOPMENT.

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
123 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph: 505-268-6828 isaacson@aia.com

2278 CD-501-ENG Dec 20, 2024

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ABQ RV & BOAT STORAGE
LADERA ENTERPRISES LLC

DRAINAGE CALCULATIONS

Date: 12-20-24 Job No.: 2278
Drawn By: B-B
Check By: P-CA
CG-502
SH OF