

CITY OF ALBUQUERQUE

Planning Department
Alan Varela, Director



Mayor Timothy M. Keller

November 1, 2022

Robert Fierro, P.E.
Fierro & Company
6300 Montano Rd. NW
Albuquerque, NM 87120

RE: Albuquerque Ranch Estates, Unit II– Lots 4 & 5
Request for Pad Certification – Accepted
Engineer's Certification Date: 10/17/22
Engineer's Stamp Date: 04/21/22
Hydrology File: E22D002

Dear Mr. Fierro:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your Certification received 10/19/2022 and site visit on 10/28/2022, the above referenced Certification is acceptable for Building Pad Certification for Albuquerque Ranch Estates, Unit II– Lots 4 & 5. Please attach a copy of this approval letter and approved Grading & Drainage Plan with each lot's Building Permit submittal. Please note that submittal to Hydrology for Permanent Release of Occupancy will not be needed.

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



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) _____

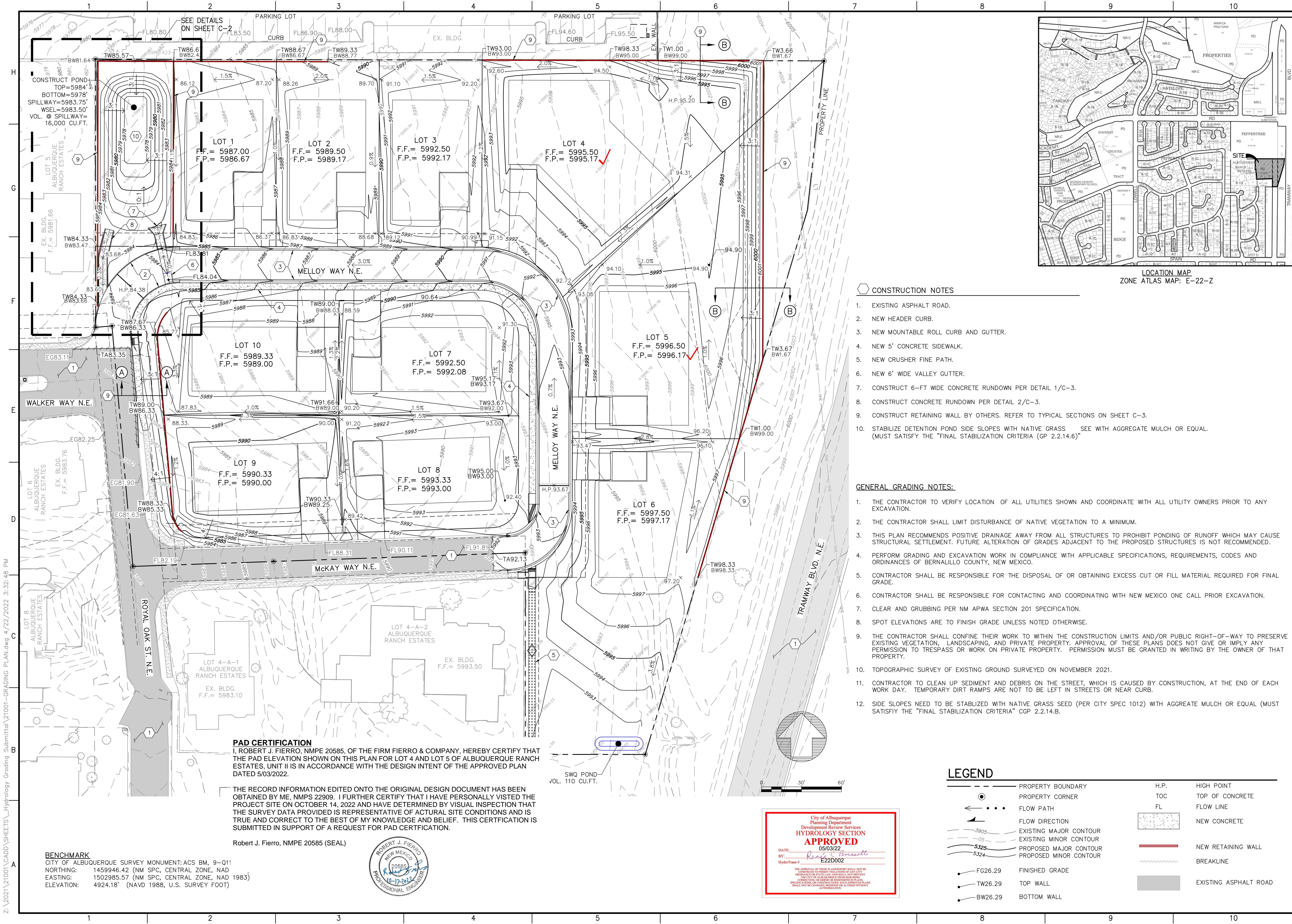
DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

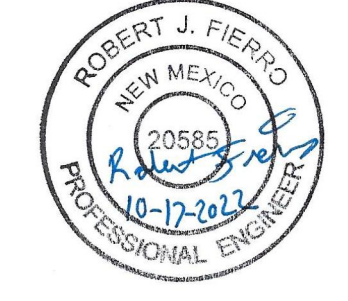
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PAD CERTIFICATION
I, ROBERT J. FIERRO, NMPE 20585, OF THE FIRM FIERRO & COMPANY, HEREBY CERTIFY THAT THE PAD ELEVATION SHOWN ON THIS PLAN FOR LOT 4 AND LOT 5 OF ALBUQUERQUE RANCH ESTATES, UNIT II IS IN ACCORDANCE WITH THE DESIGN INTENT OF THE APPROVED PLAN DATED 5/03/2022.

THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY ME, NMPS 22909. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISTED THE PROJECT SITE ON OCTOBER 14, 2022 AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE SURVEY DATA PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR PAD CERTIFICATION.

Robert J. Fierro, NMPE 20585 (SEAL)

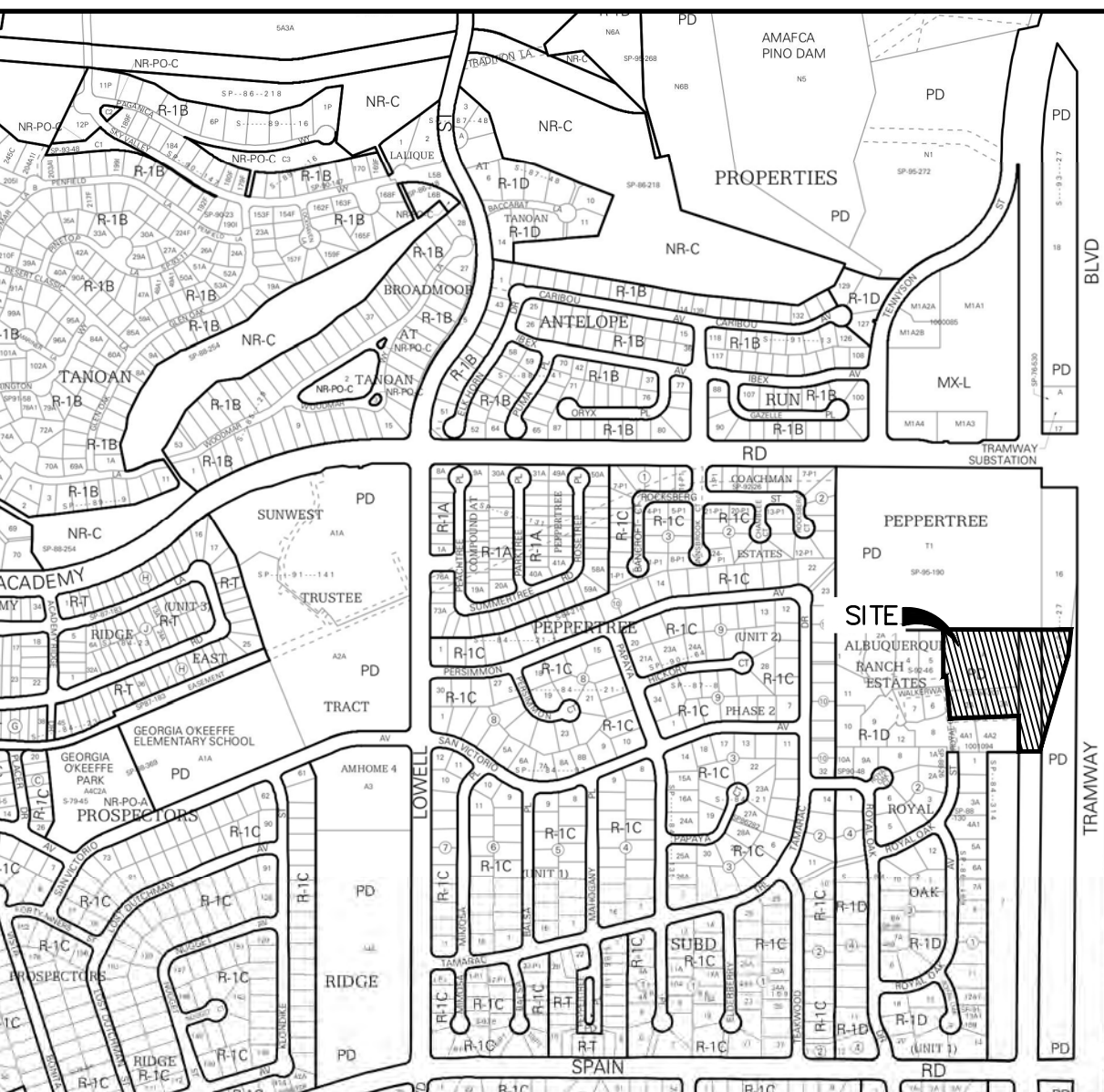


BENCHMARK
CITY OF ALBUQUERQUE SURVEY MONUMENT: ACS BM, 9-Q11
NORTHING: 1459946.42 (NM SPC, CENTRAL ZONE, NAD
EASTING: 1502985.57 (NM SPC, CENTRAL ZONE, NAD 1983)
ELEVATION: 4924.18' (NAVD 1988, U.S. SURVEY FOOT)



- CONSTRUCTION NOTES**
- EXISTING ASPHALT ROAD.
 - NEW HEADER CURB.
 - NEW MOUNTABLE ROLL CURB AND GUTTER.
 - NEW 5' CONCRETE SIDEWALK.
 - NEW CRUSHER FINE PATH.
 - NEW 6' WIDE VALLEY GUTTER.
 - CONSTRUCT 6'-FT WIDE CONCRETE RUNDOWN PER DETAIL 1/C-3.
 - CONSTRUCT CONCRETE RUNDOWN PER DETAIL 2/C-3.
 - CONSTRUCT RETAINING WALL BY OTHERS. REFER TO TYPICAL SECTIONS ON SHEET C-3.
 - STABILIZE DETENTION POND SIDE SLOPES WITH NATIVE GRASS SEE WITH AGGREGATE MULCH OR EQUAL. (MUST SATISFY THE "FINAL STABILIZATION CRITERIA (GP 2.2.14.6)"
- GENERAL GRADING NOTES:**
- THE CONTRACTOR TO VERIFY LOCATION OF ALL UTILITIES SHOWN AND COORDINATE WITH ALL UTILITY OWNERS PRIOR TO ANY EXCAVATION.
 - THE CONTRACTOR SHALL LIMIT DISTURBANCE OF NATIVE VEGETATION TO A MINIMUM.
 - THIS PLAN RECOMMENDS POSITIVE DRAINAGE AWAY FROM ALL STRUCTURES TO PROHIBIT PONDING OF RUNOFF WHICH MAY CAUSE STRUCTURAL SETTLEMENT. FUTURE ALTERATION OF GRADES ADJACENT TO THE PROPOSED STRUCTURES IS NOT RECOMMENDED.
 - PERFORM GRADING AND EXCAVATION WORK IN COMPLIANCE WITH APPLICABLE SPECIFICATIONS, REQUIREMENTS, CODES AND ORDINANCES OF BERNALILLO COUNTY, NEW MEXICO.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR THE DISPOSAL OF OR OBTAINING EXCESS CUT OR FILL MATERIAL REQUIRED FOR FINAL GRADE.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING AND COORDINATING WITH NEW MEXICO ONE CALL PRIOR EXCAVATION.
 - CLEAR AND GRUBBING PER NM APWA SECTION 201 SPECIFICATION.
 - SPOT ELEVATIONS ARE TO FINISH GRADE UNLESS NOTED OTHERWISE.
 - THE CONTRACTOR SHALL CONFINE THEIR WORK TO WITHIN THE CONSTRUCTION LIMITS AND/OR PUBLIC RIGHT-OF-WAY TO PRESERVE EXISTING VEGETATION, LANDSCAPING, AND PRIVATE PROPERTY. APPROVAL OF THESE PLANS DOES NOT GIVE OR IMPLY ANY PERMISSION TO TRESPASS OR WORK ON PRIVATE PROPERTY. PERMISSION MUST BE GRANTED IN WRITING BY THE OWNER OF THAT PROPERTY.
 - TOPOGRAPHIC SURVEY OF EXISTING GROUND SURVEYED ON NOVEMBER 2021.
 - CONTRACTOR TO CLEAN UP SEDIMENT AND DEBRIS ON THE STREET, WHICH IS CAUSED BY CONSTRUCTION, AT THE END OF EACH WORK DAY. TEMPORARY DIRT RAMPS ARE NOT TO BE LEFT IN STREETS OR NEAR CURB.
 - SIDE SLOPES NEED TO BE STABILIZED WITH NATIVE GRASS SEED (PER CITY SPEC 1012) WITH AGGREGATE MULCH OR EQUAL (MUST SATISFY THE "FINAL STABILIZATION CRITERIA" CGP 2.2.14.B.

LEGEND	
	PROPERTY BOUNDARY
	PROPERTY CORNER
	FLOW PATH
	FLOW DIRECTION
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	FG26.29 FINISHED GRADE
	TW26.29 TOP WALL
	BW26.29 BOTTOM WALL
	H.P. HIGH POINT
	TOC TOP OF CONCRETE
	FL FLOW LINE
	NEW CONCRETE
	NEW RETAINING WALL
	BREAKLINE
	EXISTING ASPHALT ROAD



Fierro & Company
ENGINEERING | SURVEYING
3201 4th STREET NW
ALBUQUERQUE, NM 87107
PH (505) 352-8930
www.fierrocompany.com

**ALBUQUERQUE RANCH ESTATES
UNIT II
ALBUQUERQUE, NM**

PROJECT NAME

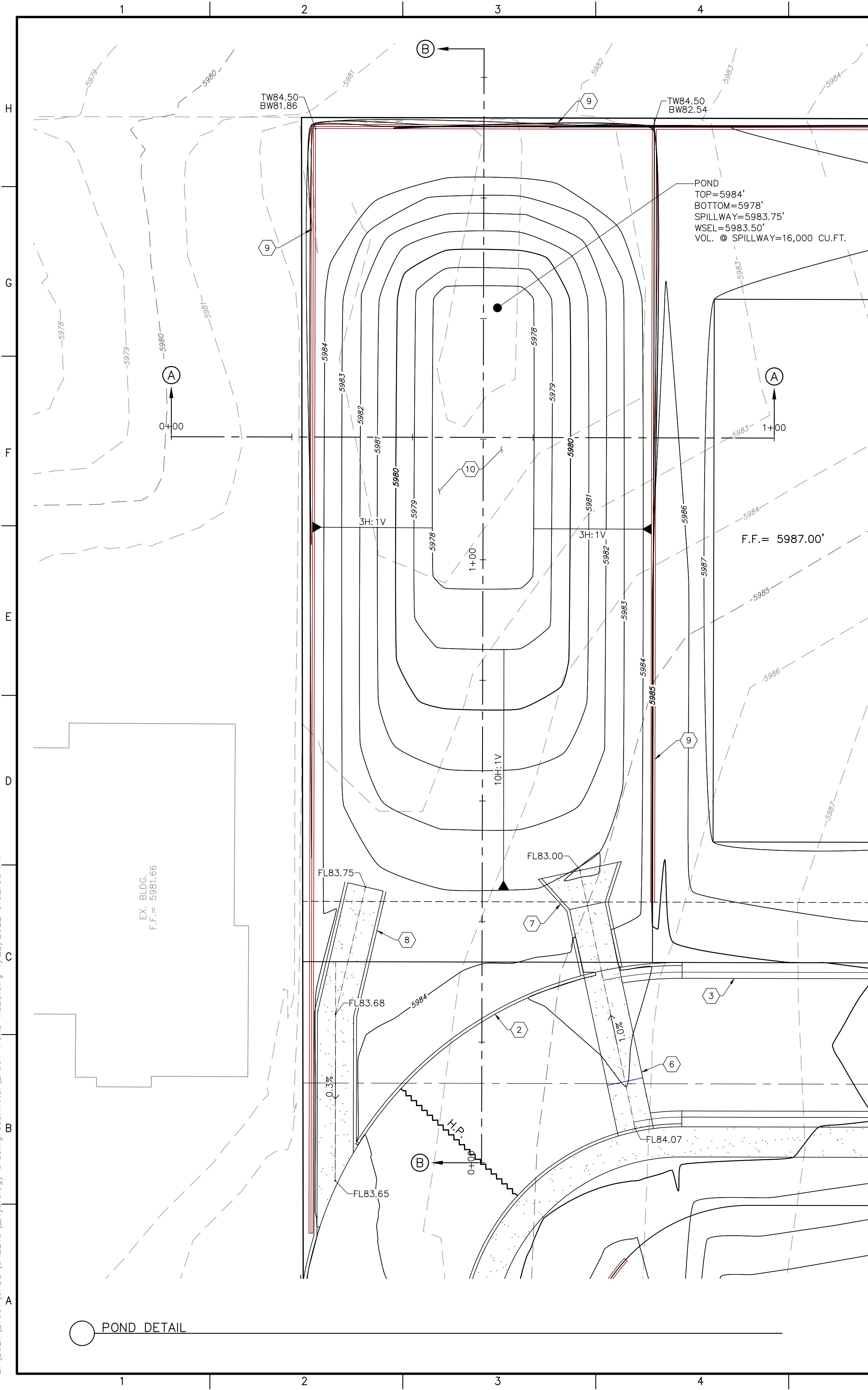
NO.	DESCRIPTION	DATE	REV.	BY

PROJECT NO: 21001
DESIGNED BY: RJF
DRAWN BY: JB
CHECKED BY: RJF
DATE: APRIL 2022
SHEET TITLE

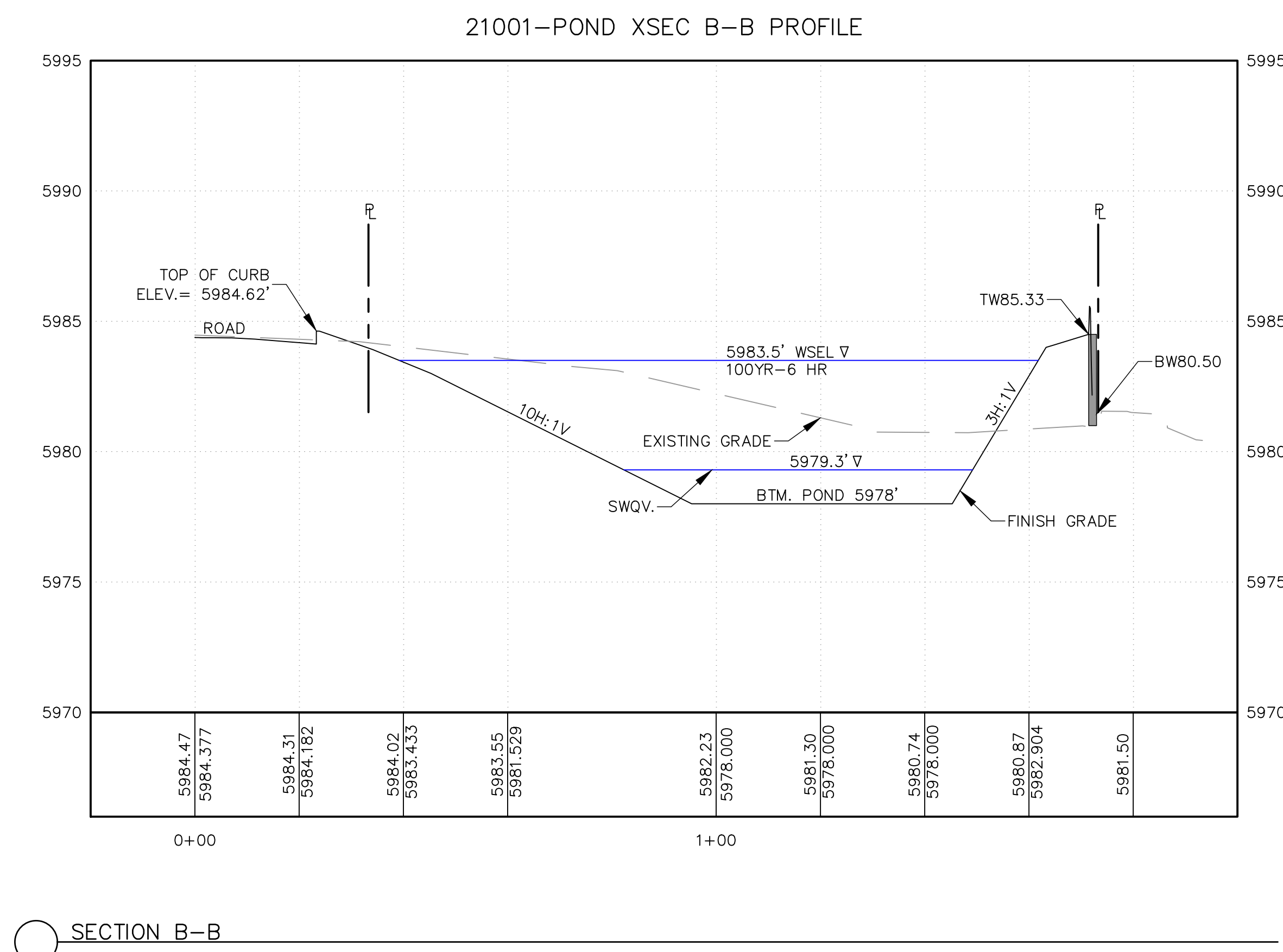
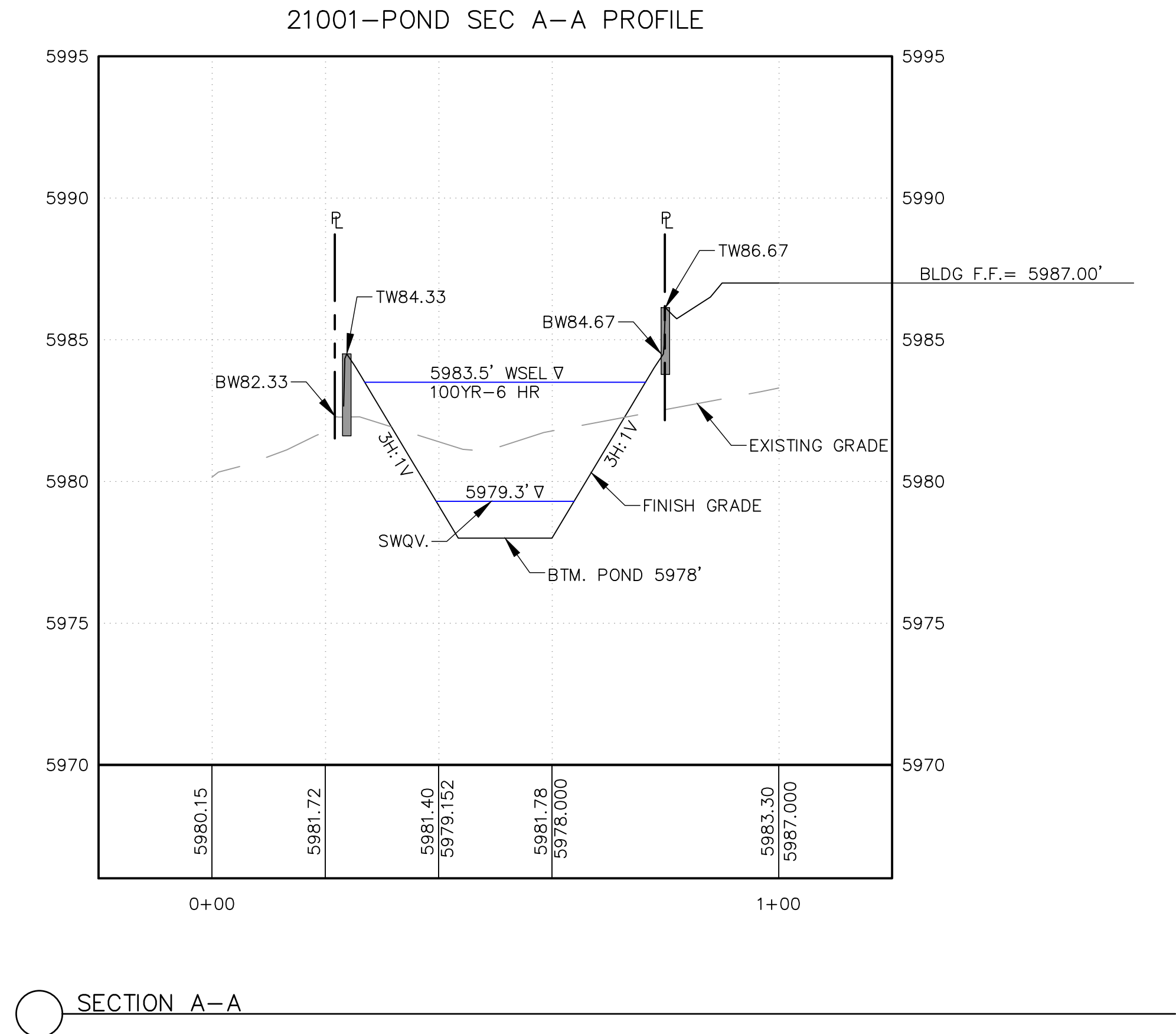
GRADING PLAN

SHEET NO: **C-1**

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- CONSTRUCTION NOTES
- EXISTING ASPHALT ROAD.
 - NEW HEADER CURB.
 - NEW MOUNTABLE ROLL CURB AND GUTTER.
 - NEW 5' CONCRETE SIDEWALK.
 - NEW CRUSHER FINE PATH.
 - NEW 6' WIDE VALLEY GUTTER.
 - CONSTRUCT 6-FT WIDE CONCRETE RUNDOWN PER DETAIL 1/C-3.
 - CONSTRUCT CONCRETE RUNDOWN PER DETAIL 2/C-3.
 - CONSTRUCT RETAINING WALL BY OTHERS. REFER TO TYPICAL SECTIONS ON SHEET C-3.
 - STABILIZE DETENTION POND SIDE SLOPES WITH NATIVE GRASS SEE WITH AGGREGATE MULCH OR EQUAL. (MUST SATISFY THE "FINAL STABILIZATION CRITERIA (GP 2.2.14.6)"



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ENGINEER'S SEAL

ALBUQUERQUE RANCH ESTATES
UNIT II
ALBUQUERQUE, NM

PROJECT NAME

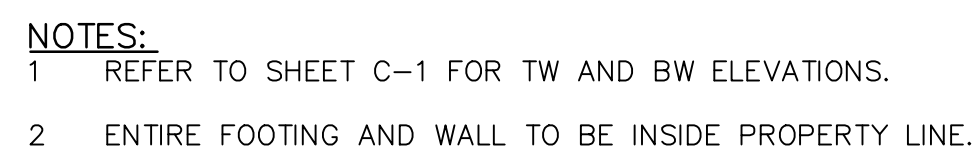
REV.	DATE	DESCRIPTION	BY

PROJECT NO: 21001
DESIGNED BY: R/JF
DRAWN BY: RJS
CHECKED BY: R/JF
DATE: APRIL 2022

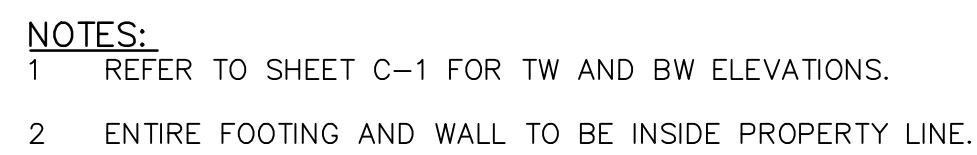
SHEET TITLE

**POND
CROSS SECTION**

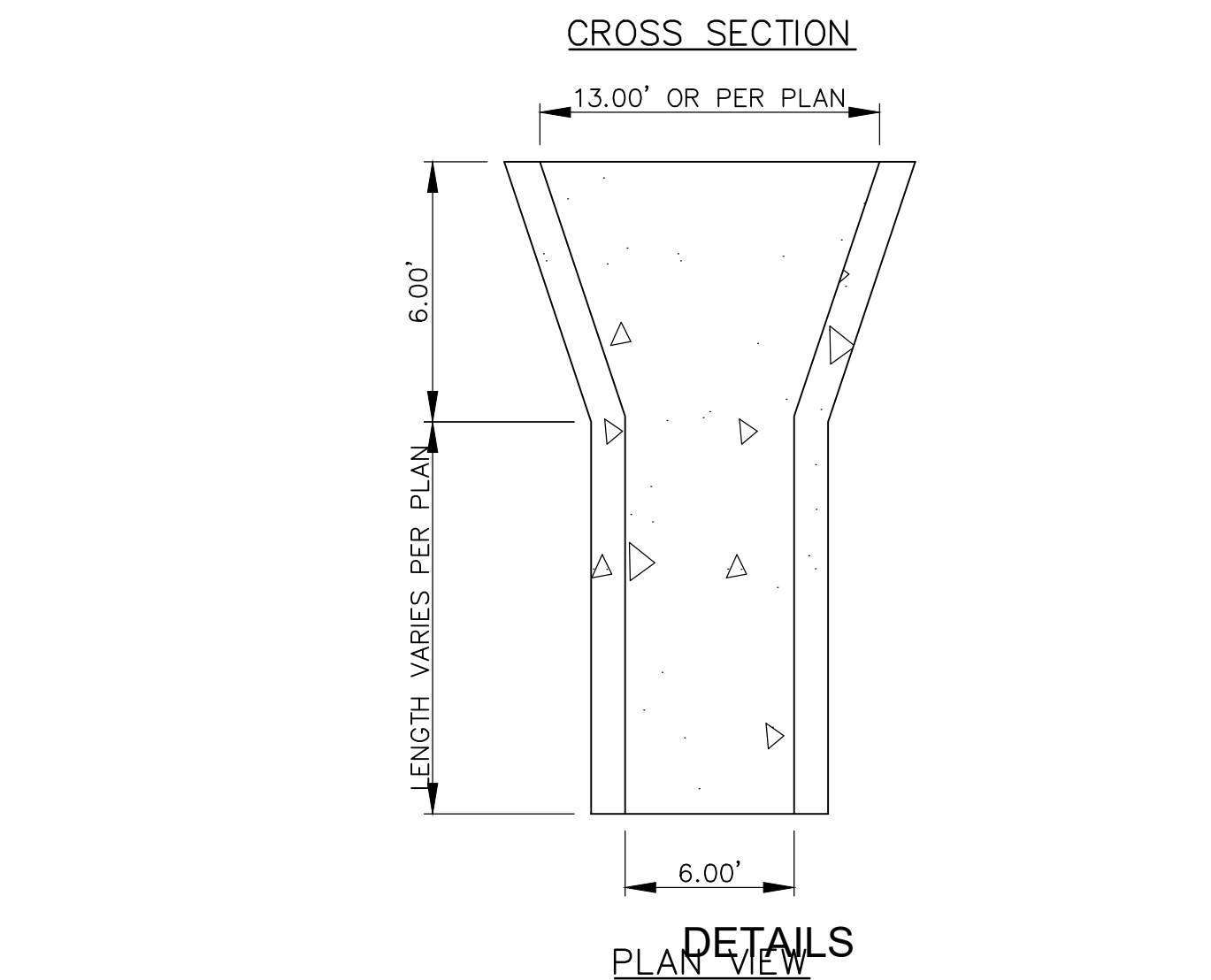
SHEET NO:
C-2



4 SECTION B-B (TYPICAL RETAINING WALL NOMENCLATURE)
SCALE: NTS



3 SECTION A-A (TYPICAL RETAINING WALL NOMENCLATURE)
SCALE: NTS



1 6' WIDE CONCRETE RUNDOWN
SCALE: NTS



ALBUQUERQUE RANCH ESTATES
UNIT II
ALBUQUERQUE, NM

[illegible]

PROJECT NO:	2100
DESIGNED BY:	RJ
DRAWN BY:	J
CHECKED BY:	RJ
DATE:	APRIL 202

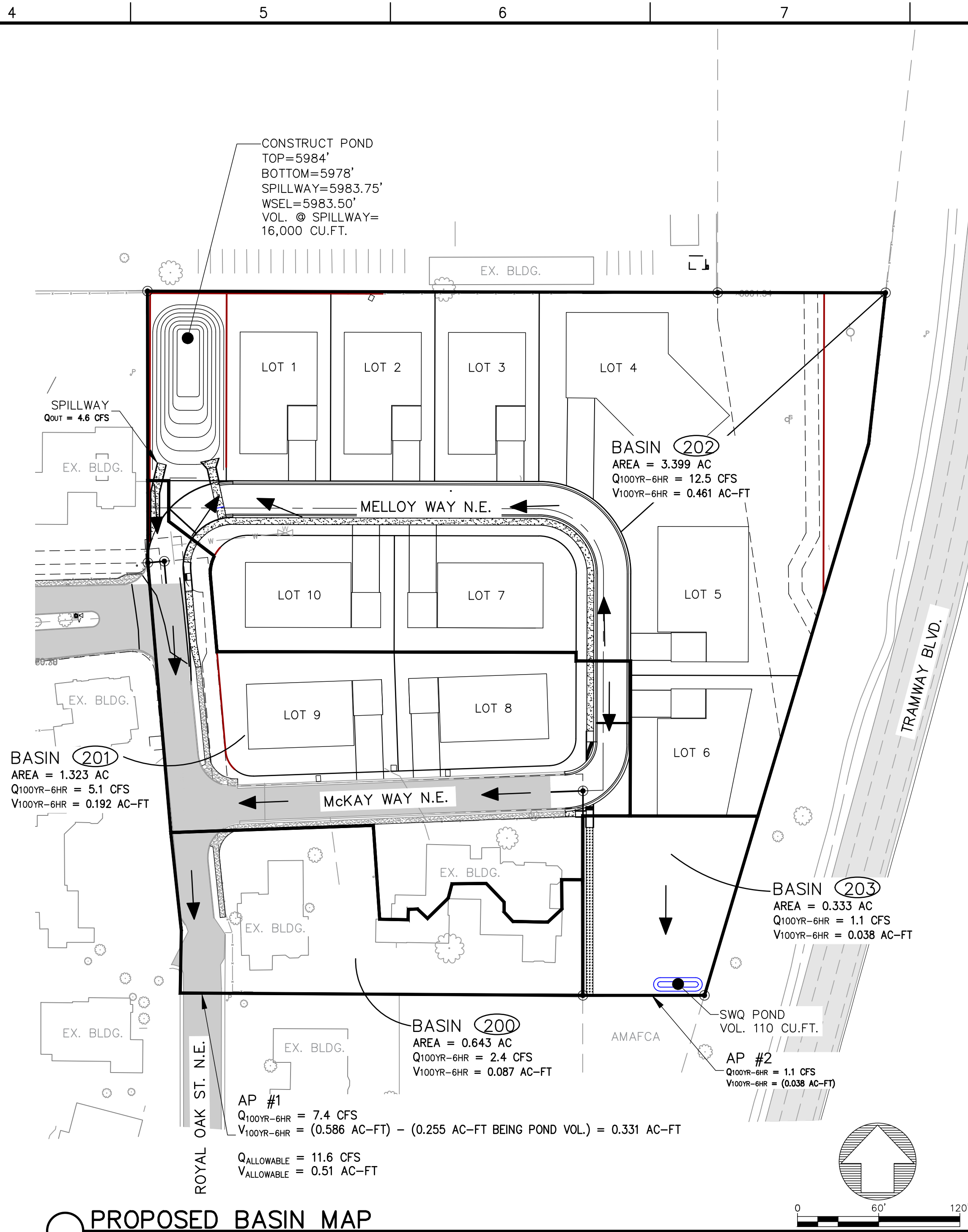
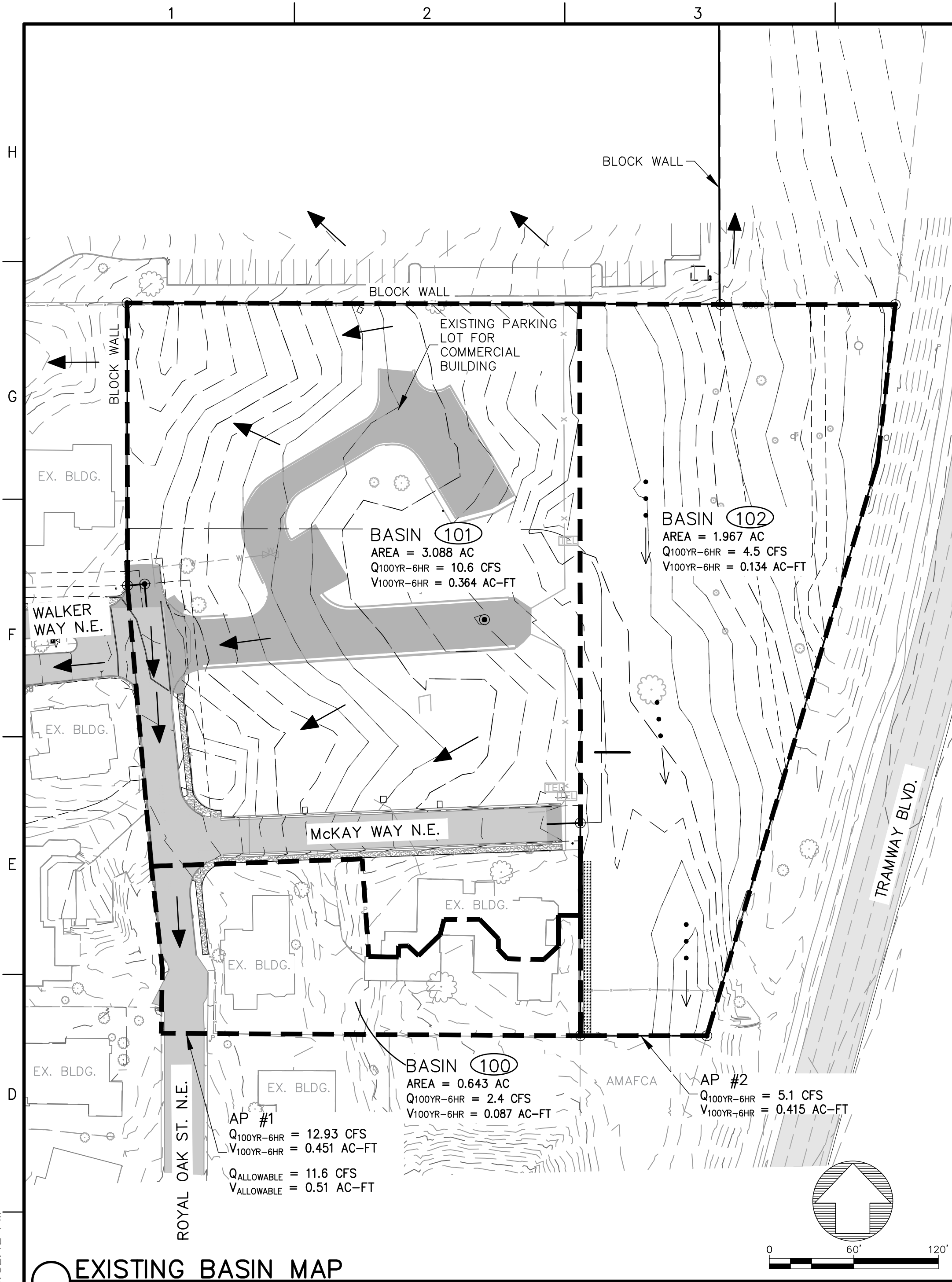
SHEET TITLE

DETAILS

SHEET NO:

C-3

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STORMWATER QUALITY VOLUME POND (BASIN 201):
TOTAL NEW LAND TREATMENT "D" AREA = 37,721 SQ.FT.
WATER QUALITY STORAGE REQUIRED (REDEVELOPMENT)=35,449 SQ.FT.*(0.26")*(1'/12")
=768 CU.FT.

Waiver for Payment-in-lieu is requested for the SWQV from Basin 200.
Payment-in-Lieu amount = 768 cu.ft. * \$6/cu.ft. = \$4,608.00

STORMWATER QUALITY VOLUME POND (BASIN 202):
TOTAL NEW LAND TREATMENT "D" AREA = 74,037 SQ.FT.
WATER QUALITY STORAGE REQUIRED (REDEVELOPMENT) = 74,037 SQ.FT.*(0.26")*(1'/12")=1,604 CU.FT.=0.0368 ac.ft.
Store stormwater quality volume of 1,294 cu.ft. stored in Detention Pond.
SWQP ELEV. = 5960.82'

STORMWATER QUALITY VOLUME POND (BASIN 203):
TOTAL NEW LAND TREATMENT "D" AREA = 5,082 SQ.FT.
WATER QUALITY STORAGE REQUIRED (REDEVELOPMENT)=5,082 SQ.FT.*(0.26")*(1'/12")=110 CU.FT.

PROPOSED DETENTION POND REQUIRED VOLUME:
TOTAL REQUIRED VOL. = (Basin 200 Vol. + Basin 201 Vol. + Basin 202 Vol.) -
(Basin 100 Vol. + Basin 101 Vol.) + Basin 202 SWQP VOL.
= (0.087 ac.ft. + 0.192 ac.ft. + 0.394 ac.ft.) - (0.087 ac.ft.+0.364 ac.ft.) + 0.0297 ac.ft.)
= 0.2517 ac.ft.
WATER SURFACE ELEVATION = 5984.25'



Introduction
The site is 4.6 acres and located within Albuquerque Ranch Estates near the intersection of Royal Oak Street and McKay Way NE. It is bound north by an apartment complex, East by Tramway Boulevard NE, South by McKay Way, and West by Royal Oak Street NE. A 10 lot subdivision is being proposed. New infrastructure includes a new road, concrete valley gutter, and a detention pond. The purpose of this Grading & Drainage Plan is to 1) provide hydrologic and hydraulic analysis of the existing and proposed condition, 2) satisfy allowable stormwater discharge rates, 3) satisfy the Stormwater Quality Volume requirement, and 4) seek approval for final grading permit.

Methodology
Hydrologic procedures presented in the Hydrology Section of the DMP, Article 6-2(a), approved June 8, 2020 were followed. Precipitation Zone 4 data was used in the hydrologic computations.

Existing Condition
The site discharges runoff to Royal Oak Street and AMAFCA's property which is located south of Basin 102. The site does not receive offsite flows. A business last occupied the site. An existing driveway, parking lot, and a 4,000 sq.ft. building was used by the business, which has now been demolished. A Grading & Drainage Plan for the existing site was approved under Hydrology File E22-D13 dated June 1994. Under this plan, Basin 100 and Basin 101 as shown on this sheet are allowed to drain to Royal Oak Street NE with an allowable discharge rate of 11.6 cfs per said file E22-D13. A portion of Basin 101 drains to a depressed area at the NW corner of the site, then will overflow to Royal Oak Street. Runoff from Basin 102 drains south to a regional pond within AMAFCA's property. Refer to the Existing Basin Map on this sheet for drainage pattern and runoff rates.

Proposed Condition
A 10 lot subdivision is proposed on the 4.6 acre site. Mellow Way is a new road which loops and connects Royal Oak Street NE to McKay Way NE. Drainage improvements include a valley gutter, concrete rundown, detention pond, and a storm water quality pond. Refer to the Proposed Basin Map. As in the existing condition, the site will discharge to the same two locations (Royal Oak Street and AMAFCA's property located south of Basin 203). Building pad sizes vary from 4,000 sq.ft. to 6,000 sq.ft. Below is a summary of the proposed basin drainage patterns.

Basin 200 drainage pattern and flow rates will not change from the existing condition.

Basin 201 and 202 drainage pattern remains the same as under the existing condition. There is an increase of generated runoff due to the increase in impervious area; however, a detention pond will attenuate runoff rates below the allowable by storing more volume than the increase of generated runoff. Said detention pond will also store the SWQV from Basin 202. The pond will outlet runoff through the spillway, which will then drain toward Royal Oak Street. Storing the required Storm Water Quality Volume from Basin 201 will be challenging for the following reasons: 1) a portion of the new road ties into the existing McKay Way and there is not a way to divert the runoff to a pervious area due to the road grade, 2) McKay Way road grade is steep causing steep driveways and slopes that makes it difficult to allow an area to be depressed enough for storing the SWQV. A payment-in-lieu is being requested for the SWQV in this Basin.

Basin 203 will discharge to AMAFCA's facility located south of Basin 203. Basin 203 will be required to store the Storm Water Quality Volume of 110 cu.ft. Runoff discharging to AMAFCA's property is less under the proposed condition.

Conclusion
The proposed development will not increase the peak discharge or runoff volume to the two discharge points (Royal Oak Street and AMAFCA's property). Refer to Analysis Point #1 and #2. The City's drainage criteria has been met. This drainage report seeks COA Hydrology and AMAFCA's approval.

LEGEND

- PROPERTY BOUNDARY
- FLOW PATH
- ROOF FLOW
- SURFACE DRAINAGE
- UTILITY EASEMENT LINE
- FLOWLINE
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING BASIN
- PROPOSED BASIN
- PROPOSED RETAINING WALL

Stage-Storage Table					
Depth (ft)	Pond 1	Area (ac)	Volume (ac-ft)	Cum Volume (ac-ft)	Cum Volume (cu-ft)
5978	824	0.019	0	0.000	0.0
5979	1399	0.032	0.026	0.026	1108.9
5979.3	1614	0.037	0.010	0.036	1559.9
SWQP WSEL = 5979.3'					
5979.3	1614	0.037	0.000	0.000	0.0
5980	2114	0.049	0.030	0.02995	1301.8
5981	2971	0.068	0.058	0.08832	3938.5
5982	3967	0.091	0.080	0.16796	7299.5
5983	5104	0.117	0.104	0.27208	11824.6
5983.5	5743	0.132	0.062	0.33433	14530.1
WSEL For Storing Delta Volume (100-YR, 6-HOUR STORM) of Proposed and Existing					
5984	6382	0.147	0.070	0.40392	17554.4

Weir Calculation Pond Spillway

Equation $6.64 Q = CLH^{3/2}$

Where;

$C=2.7$, $L=6$ -ft, and $H=0.5'$

$Q=2.7*6*0.5^{3/2}=5.7$ CFS

Therefore, pond's spillway has capacity to discharge pond's overflow of 4.6 cfs

WEIR CALCULATION

STORMWATER QUALITY VOL. CALCULATIONS



ENGINEER'S SEAL

ALBUQUERQUE RANCH ESTATES, UNIT II ALBUQUERQUE, NEW MEXICO

PROJECT NAME

REV.	DATE	DESCRIPTION	BY

PROJECT NO: 21001
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DRAWN BY: RJS
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SHEET TITLE

DRAINAGE PLAN

SHEET NO:

Page 1

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Page 1

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ENGINEER'S SEAL



PROJECT NAME

PROJECT NO:	2100
DESIGNED BY:	RJF
DRAWN BY:	RJS
CHECKED BY:	RJF
DATE:	APRIL 2022

SHEET TITLE

DRAINAGE PLAN

SHEET NO:

D-2