

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

July 24, 2020

Gilbert Aldaz, P.E.
Applied Engineering & Surveying, Inc.
1605 Blair Drive NE
Albuquerque, NM, 87112

RE: 1717 Archuleta Dr. NE
Grading and Drainage Plan
Engineer's Stamp Date: 07/21/20
Hydrology File: J23D021

Dear Mr. Aldaz:

PO Box 1293

Based upon the information provided in your submittal received 07/22/20, the Grading and Drainage Plan is approved for Building Permit and Grading Permit.

Albuquerque

Once the grading is complete, a pad certification will be required prior to release of 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 and the pad certification approval letter.

NM 87103

Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

www.cabq.gov

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: 1717 ARCHULETA RESIDENCE **Building Permit #:** BP-2020-28420 **Hydrology File #:** _____

DRB#: _____ **EPC#:** _____ **Work Order#:** _____

Legal Description: LOT 16, BLOCK 3, REBONITO SUBDIVISION

City Address: 1717 ARCHULETA DRIVE NE

Applicant: APPLIED ENGINEERING AND SURVEYING, INC. **Contact:** GILBERT ALDAZ

Address: 1605 BLAIR DRIVE NE, ALBUQUERQUE, NEW MEXICO, 87112

Phone#: 505-480-8125 **Fax#:** _____ **E-mail:** galdaz47@yahoo.com

Owner: GILBERT ALDAZ **Contact:** GILBERT ALDAZ

Address: 1605 BLAIR DRIVE NE, ALBUQUERQUE, NEW MEXICO, 87112

Phone#: 505-480-8125 **Fax#:** _____ **E-mail:** galdaz47@yahoo.com

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:

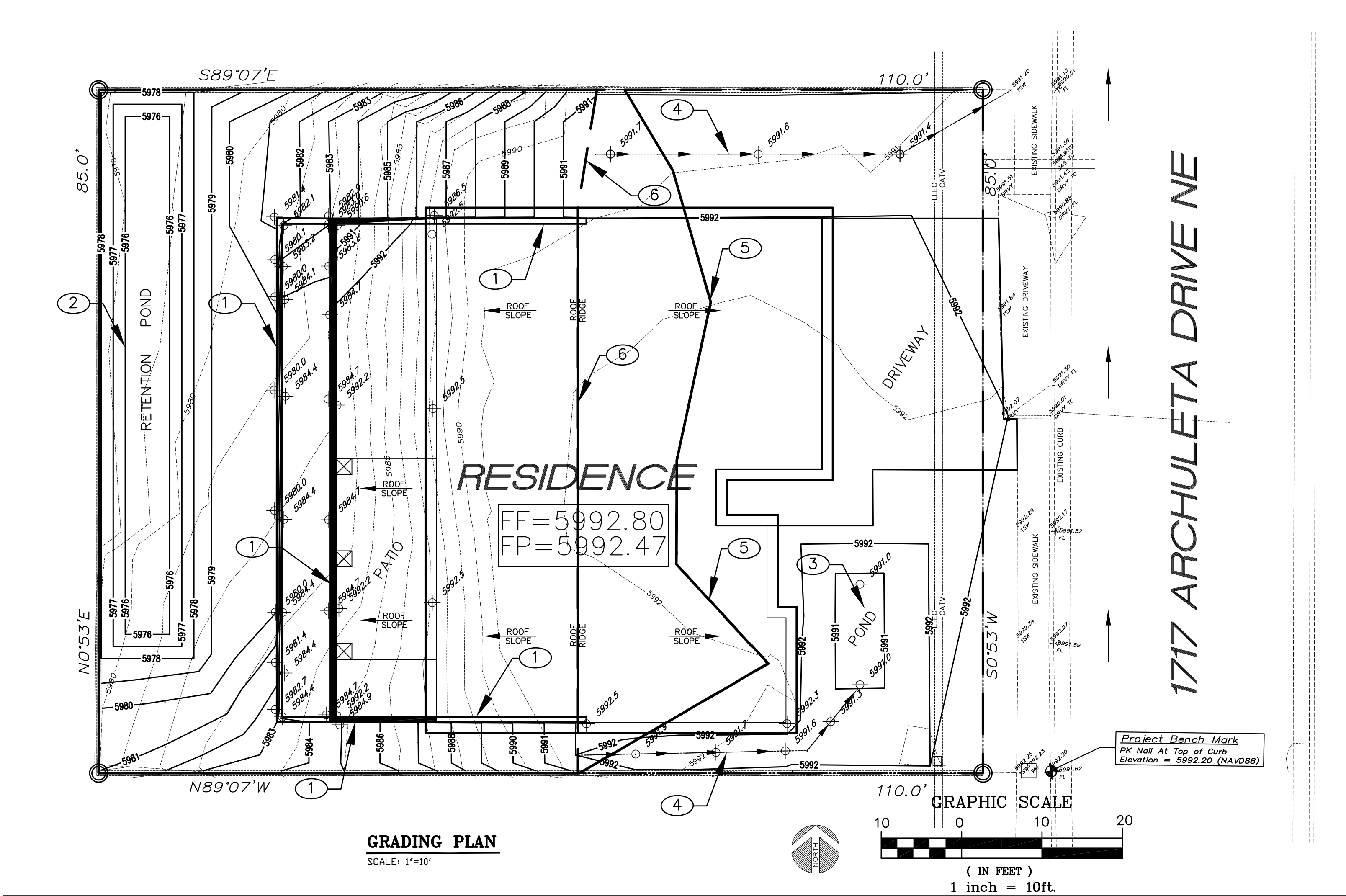
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE PLAN FOR SUB'D APPROVAL
- ☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ GRADING/ PAD CERTIFICATION
- ☐ WORK ORDER APPROVAL
- ☐ CLOMR/LOMR
- ☐ FLOODPLAIN DEVELOPMENT PERMIT
- ☐ OTHER (SPECIFY) _____

DATE SUBMITTED: 07-21-20 **By:** *Gilbert Aldaz*

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____



EXECUTIVE SUMMARY AND INTRODUCTION:
THE PROPOSED RESIDENTIAL LOT IS LOCATED AT 1717 ARCHULETA DRIVE NE. THE PLAN IS TO CONSTRUCT A 2700SF RESIDENCE ON ONE OF A ONLY FEW REMAINING EXISTING LOTS THAT WERE NEARLY BUILT OUT IN THE 1990S IN THE EAST FOOTHILLS. THE LOCATION IS EAST OF TRAMWAY AND NORTH OF INDIAN SCHOOL ROAD. THE EXISTING TOPOGRAPHY ON THIS SITE DROPS TO THE WEST ABOUT 12 FEET FROM THE STREET TOP OF CURB TO THE REAR PROPERTY LINE. THE PLAN IS TO PROVIDE A RETENTION POND FOR ABOUT 1/2 OF THE WESTERN PORTION OF THE LOT AND THE REMAINING 1/2 IS TO FREE DISCHARGE TO THE STREET, IN ORDER TO ACCOMPLISH THIS A SERIES OF RETAINING WALLS WILL NEED TO BE CONSTRUCTED AS PART OF THIS PROJECT. ALONG ARCHULETA DRIVE, ALMOST ALL OF THE EXISTING RESIDENCES ON THE WESTSIDE OF THE STREET FOLLOW THIS DRAINAGE CONCEPT. IT IS THE PROPOSAL OF THIS PLAN TO FOLLOW THE SAME DRAINAGE CONCEPT. THE INTENT OF THIS DRAINAGE PLAN IS TO SECURE BUILDING PERMIT APPROVAL.

PROJECT DESCRIPTION:
THE LEGAL DESCRIPTION FOR THE PROPOSED RESIDENCE IS LOCATED IN LOT 16, REBONITO SUBDIVISION AND IS EAST OF TRAMWAY AND NORTH OF INDIAN SCHOOL ROAD, ALBUQUERQUE (SEE ATTACHED VICINITY MAP). THE PROJECT IS LOCATED IN ZONE ATLAS PAGE J-23 AND IS IN FLOOD HAZARD ZONE "X". AREA OF MINIMAL FLOOD HAZARD PER MAP 35001C0376G (SEE ATTACHED FLOOD MAP).

BACKGROUND DOCUMENTS:
IN 1986 A SPECIAL ASSESSMENT DISTRICT "SAD 207" WAS CREATED FOR REBONITO SUBDIVISION WHICH RESULTED IN THE INSTALLATION OF STORM SEWER, WATER AND SEWER LINES AND ROADWAY AND SIDEWALK. THE LOT OWNER AT THAT TIME PAID A PRO-RATA COST FOR THE INSTALLATION OF THIS INFRASTRUCTURE WHICH INCLUDED STORM DRAIN IMPROVEMENTS FOR ADDRESSING RUNOFF FROM THIS SUBDIVISION.

EXISTING CONDITIONS:
AS SHOWN PER THE GRADING PLAN THE EXISTING TOPOGRAPHY HAS ABOUT ALMOST HALF OF THE WEST SIDE OF THE LOT SITE DRAINING TO THE REAR OF THE LOT AND PONDING IN THIS AREA AND THE REMAINING EAST HALF DRAINING TOWARDS ARCHULETA DRIVE NE. THE TOTAL LOT AREA = 9,350SF (0.21 AC). THE SOILS CONSIST OF DECOMPOSED GRANITE WITH NATURAL GRASS VEGETATION.

PROPOSED CONDITIONS:
AS SHOWN BY THE GRADING PLAN PREPARED FOR THIS SITE, THE INTENT IS TO DRAIN ABOUT 1500SF OF ROOF AREA TO THE REAR YARD AND PROVIDE A RETENTION POND TO HANDLE THIS IMPERVIOUS FLOW AND THE REMAINING 1200SF OF ROOF AREA ALONG WITH 700SF OF CONCRETE DRIVEWAY TO ARCHULETA DRIVE NE. A SMALL DESILTING POND WILL BE PROVIDED IN THE FRONT YARD TO ACCEPT SOME OF THE ROOF DRAINAGE PRIOR TO ENTERING ARCHULETA DRIVE. THE PLAN IS TO ALSO PROVIDE LANDSCAPING TO THE FRONT YARD AND REAR YARD TO MINIMIZE DISCHARGE SEE THE BELOW CALCULATIONS FOR THE IMPACTS PER THIS DEVELOPMENT.

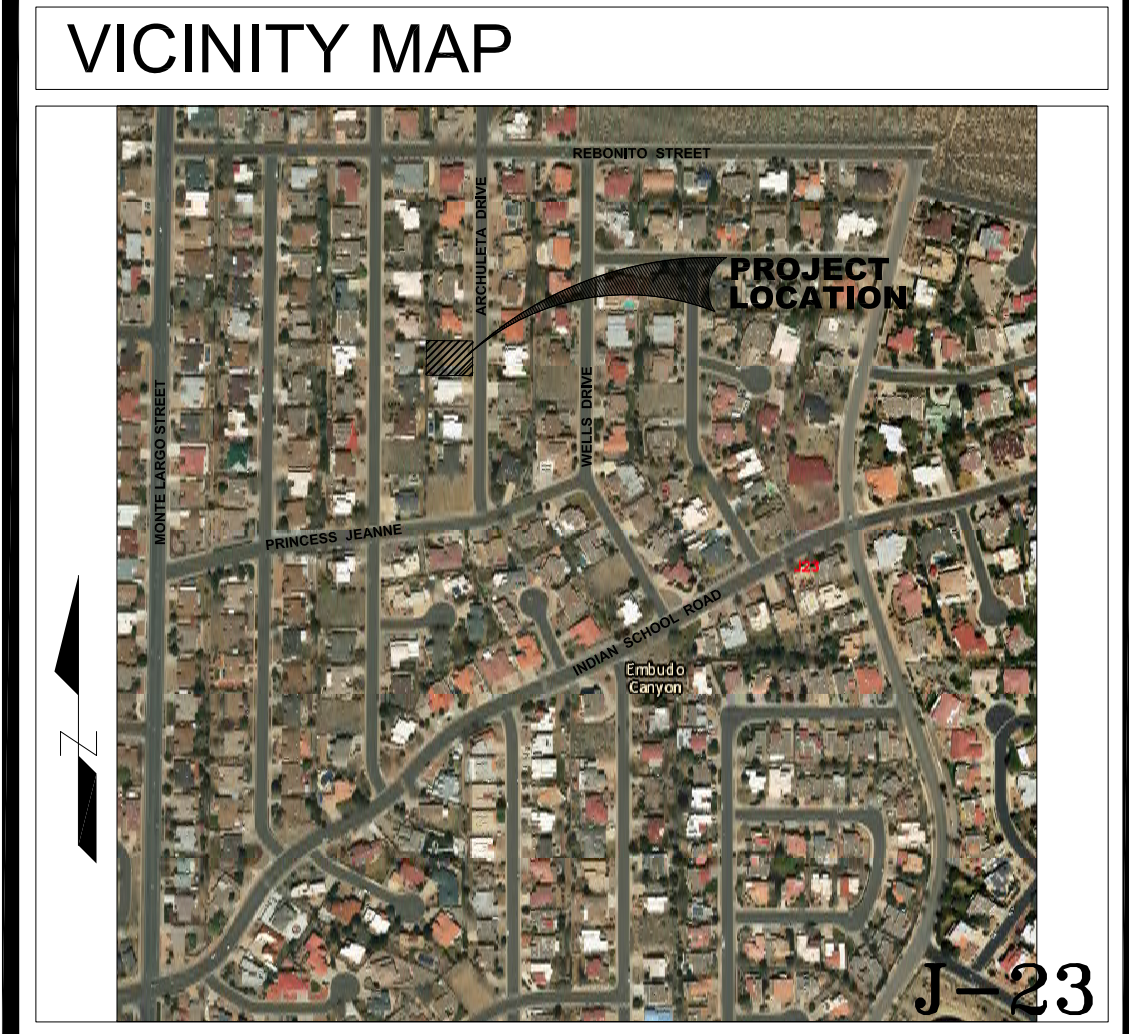
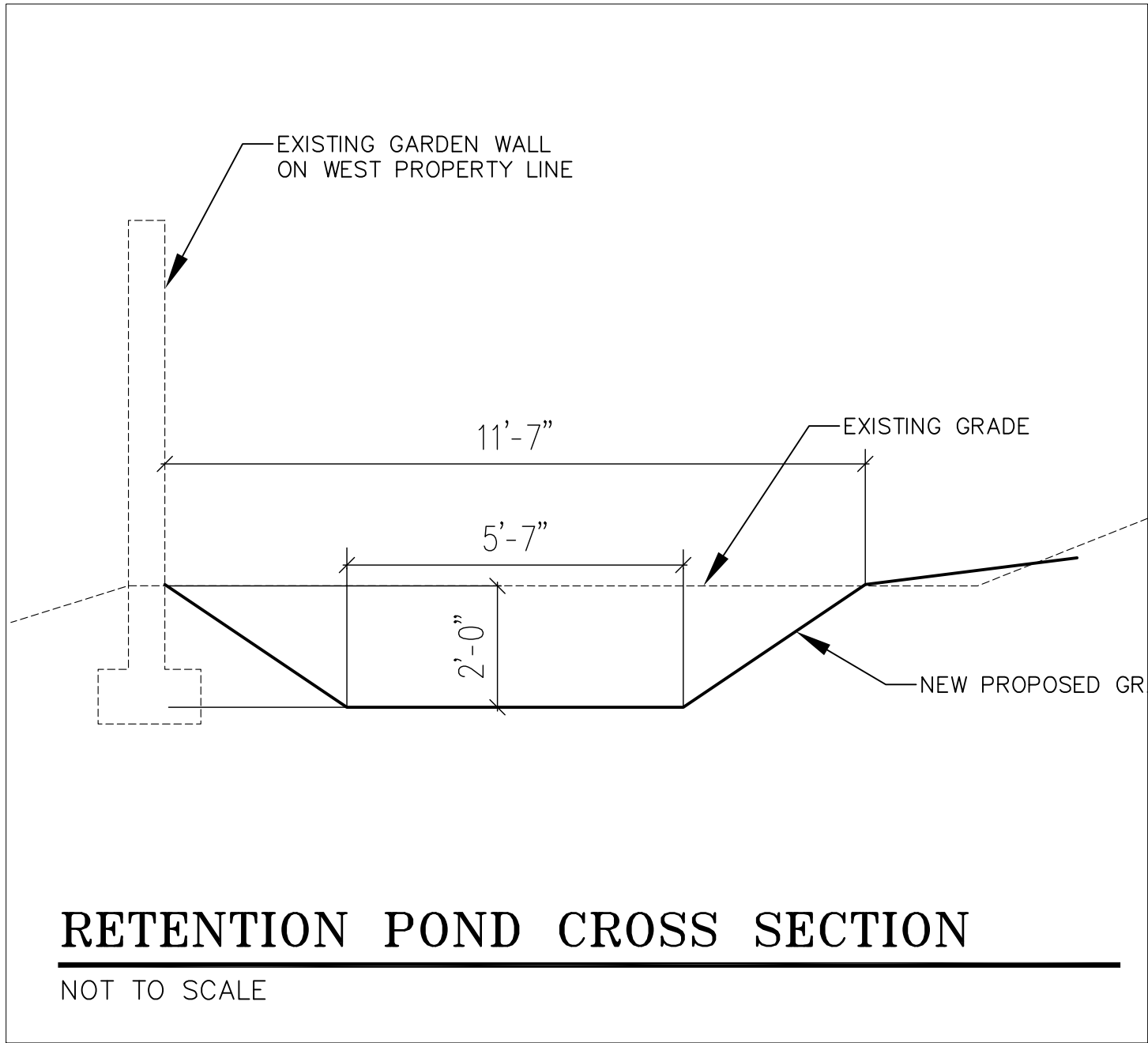
DRAINAGE CALCULATIONS:
1. PRECIPITATION ZONE = 4
2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
6-HOUR = 2.64 INCHES
24-HOUR = 3.60 INCHES
10 DAY = 6.27 INCHES
3. PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 4, TABLE 6.8:
Q = 2.09 CFS/ACRE SOIL UNCOMPACTED "A"
Q = 2.73 CFS/ACRE LANDSCAPED "B"
Q = 3.41 CFS/AC COMPACTED SOIL "C"
Q = 4.78 CFS/ACRE IMPERVIOUS AREA "D"
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES

4. EXCESS PRECIPITATION, E (INCHES), FOR 100-YEAR, 6 HOUR STORM, ZONE 4, TABLE 6.7:
E = 0.76 INCHES SOIL UNCOMPACTED "A"
E = 0.95 INCHES LANDSCAPED "B"
E = 1.20 INCHES COMPACTED SOIL "C"
E = 3.34 INCHES IMPERVIOUS AREA "D"

5. EXISTING CONDITIONS
TOTAL AREA = 9,350SF = 0.21 ACRES
DRAINAGE BASIN TO REAR YARD AREA = 6,224SF = 0.14 AC
TREATMENT AREA (ACRES)
A 0.14
B 0
C 0
D 0
Q (EXISTING-6HR) = (2.09 X 0.14) = 0.29 CFS (6HR) TO REAR YARD
V (EXISTING-6HR) = (0.29 X 0.14) / (72) = 0.009 AC-FT = 38ACFT EXISTING FLOW INTO REAR YARD
DRAINAGE BASIN TO FRONT YARD AREA INTO ARCHULETA DRIVE = 3,126SF = 0.07 AC
TREATMENT AREA (ACRES)
A 0.07
B 0
C 0
D 0
Q (EXISTING-6HR) = (2.09 X 0.07) = 0.14 CFS (6HR) EXISTING FLOW INTO ARCHULETA DRIVE
V (EXISTING-6HR) = (0.14 X 0.07) / (72) = 0.004 AC-FT = 19ACFT EXISTING VOLUME INTO ARCHULETA DRIVE

6. PROPOSED CONDITIONS
TOTAL AREA = 0.21 ACRES
DRAINAGE BASIN TO REAR YARD POND AREA = 5,085SF = 0.12 AC
TYPE "D" TREATMENT = NEW ROOF AREAS (1,500SF) = 0.03 AC PROPOSED
TYPE "B" TREATMENT = LANDSCAPED AREAS 50% X (5,085SF - 1,500SF) = 1,793SF = 0.04 AC
TYPE "C" TREATMENT = REMAINING COMPACTED GRAVEL AND DISTURBED AREAS COMPACTED BY HUMAN ACTIVITY + 50% X (5,085SF - 1,500SF) = 1,793SF = 0.04 AC
TREATMENT AREA (ACRES)
A 0
B 0.04
C 0.04
D 0.03
Q (PROPOSED-6HR) = (2.73 X 0.04) + (3.41 X 0.04) + (4.78 X 0.03) = 0.30 CFS (6HR) PROPOSED ONSITE FLOW INTO REAR RETENTION POND
V (PROPOSED-6HR) = (0.30 X 0.04) + (1.20 X 0.04) + (3.34 X 0.03) / (12) = 0.014 AC-FT = 42ACFT PROPOSED VOLUME INTO REAR RETENTION POND
V (PROPOSED-10DAY) = (V (360) + A (IMP) X (P (10) - P (360)) / (12) = 0.016 AC-FT = 0.016 CFS + 0.03 X (6.27-2.64) / (12) = 1.09 CFS 10 DAY STORM
DRAINAGE BASIN TO ARCHULETA DRIVE = 4,265SF = 0.10 AC
TYPE "D" TREATMENT = NEW ROOF AREAS (1,200SF) + DRIVEWAY (700SF) = 1,900SF = 0.04 AC PROPOSED
TYPE "B" TREATMENT = LANDSCAPED AREAS 50% X (4,265SF - 1,900SF) = 1,182SF = 0.03 AC
TYPE "C" TREATMENT = REMAINING COMPACTED GRAVEL AND DISTURBED AREAS COMPACTED BY HUMAN ACTIVITY + 50% X (4,265SF - 1,900SF) = 1,182SF = 0.03 AC
TREATMENT AREA (ACRES)
A 0
B 0.03
C 0.03
D 0.04
Q (PROPOSED-6HR) = (2.73 X 0.03) + (3.41 X 0.03) + (4.78 X 0.04) = 0.38 CFS (6HR) PROPOSED ONSITE FLOW INTO ARCHULETA DRIVE
V (PROPOSED-6HR) = (0.38 X 0.03) + (1.20 X 0.03) + (3.34 X 0.04) / (12) = 0.016 AC-FT = 71ACFT PROPOSED VOLUME INTO ARCHULETA DRIVE

7. IMPACT OF THIS NEW RESIDENCE ON DOWNSTREAM STORM DRAIN CAPACITY (100-YEAR, 6 HOUR STORM)
Q (EXISTING-6HR) RELEASE RATE FOR SITE = 0.29 CFS + 0.14 CFS = 0.43 CFS
Q (PROPOSED-6HR) RELEASE RATE FOR SITE = 0.38 CFS
Q (DIFFERENCE-6HR) = 0.43 CFS - 0.38 CFS = 0.05 CFS DECREASE TO DOWNSTREAM FLOW
CAPACITY WITH NEW RETENTION POND IN REAR YARD
V (EXISTING-6HR) RUNOFF VOLUME FOR SITE = 38ACFT + 19ACFT = 57ACFT
V (PROPOSED-6HR) RUNOFF VOLUME FOR SITE = 71ACFT
V (DIFFERENCE-6HR) = 57ACFT - 71ACFT = 14ACFT INCREASE TO DOWNSTREAM VOLUME CAPACITY
8. DETERMINE VOLUME PROVIDED FOR RETENTION POND AT REAR YARD
VOLUME REQUIRED TO BE DETAINED = 1.09 CFS PROPOSED 100 YEAR - 10 DAY ONSITE FLOW INTO ONSITE RETENTION POND
PROPOSED RETENTION POND AT REAR YARD:
ELEV. AREA(SI) AVG. AREA(SI) DEPTH(FT) VOLUME(CF-FT)
5976.0 354 463 1.0 463
5977.0 572 690 1.0 690
5978.0 809 1,153CF
PROPOSED RETENTION POND VOLUME PROVIDED = 1,153CF > 1.09 CFS REQUIRED OK



LEGEND

- 5980 — NEW FINAL SURFACE GRADE
- 5980 — EXISTING CONTOUR GRADE
- X 05.62% — EXISTING TOP OF CURB ELEVATION
- X 05.62% — EXISTING FLOWLINE ELEVATION

EARTHWORK VOLUME:

- CUT = 105CY
- FILL = 340CY WITH 20% SHRINKAGE INCLUDED

BENCH MARK REFERENCE:
CITY OF ALBUQUERQUE 1-3/4" ALUMINUM DISK, STAMPED "ACS BM, 15-J23", EPOXYED TO TOP OF THE CONCRETE CURB RETURN, SSE QUADRANT OF REBONITO ROAD AND MONTE LARGO DRIVE NE WITH ELEVATION = 5933.785 NAVD88.

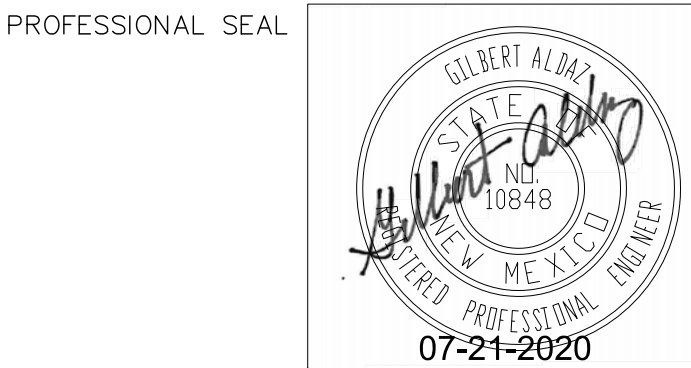
GENERAL NOTES:

- 1. CONSTRUCT NEW RETAINING WALLS, SEE RETAINING WALL DRAWINGS.
- 2. CONSTRUCT RETENTION POND TO GRADES AND CROSS SECTION SHOWN.
- 3. CONSTRUCT DESILTING POND.
- 4. CONSTRUCT SWALE TO DRAIN FLOWS.
- 5. EXISTING DRAINAGE BASIN BOUNDARY FOR REAR YARD AND ARCHULETA DRIVE.
- 6. PROPOSED DRAINAGE BASIN BOUNDARY FOR REAR YARD AND ARCHULETA DRIVE.

EXCAVATION/UTILITY NOTES:

IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THIS DRAWING, THEY ARE SHOWN IN APPROXIMATE MANNER ONLY. UTILITY LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE UTILITY OR PIPELINE COMPANY. THE OWNER, THE SURVEYOR WHO PERFORMED THE TOPOGRAPHIC SURVEY FOR THIS DEVELOPMENT OR BY OTHERS, THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES.

THE ENGINEER HAS UNDERTAKEN NO FIELD VERIFICATION OF THE LOCATION, DEPTH, SIZE OR TYPE OF EXISTING ABOVE AN UNDERGROUND UTILITIES, OR EXISTING PIPELINES. THE ENGINEER MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM HIMSELF OF THE LOCATION OF ANY EXISTING ABOVE AND UNDERGROUND UTILITIES, AND EXISTING PIPELINES, IN AND NEAR THE AREA OF THE WORK, IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY HIS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING ABOVE AND UNDERGROUND UTILITIES, AND EXISTING PIPELINES. THE CONTRACT SHALL COMPLY WITH STATE STATUTES PERTAINING TO THE LOCATION OF THESE LINES IN PLANNING AND CONDUCTING EXCAVATION WORK.



APPLIED ENGINEERING AND SURVEYING, INC.
CIVIL ENGINEERING, LAND PLANNING AND SURVEYING

PROJECT NAME
**RESIDENCE
1717 ARCHULETA STREET
ALBUQUERQUE, NEW MEXICO**

| DATE | DESCRIPTION |
|------|-------------|
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| | |
| | |

PROJECT NUMBER
DRAWN BY
CHECKED BY
ISSUE DATE
FILE NAME: A111 GRADING & DRAINAGE

SHEET NAME
**GRADING AND
DRAINAGE PLAN**
SHEET NUMBER
A-111