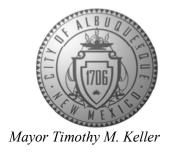
CITY OF ALBUQUERQUE

Planning Department Brennon Williams, Director



August 26, 2020

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

RE: 13804 Haines Ave. NE

Grading and Drainage Plan Engineer's Stamp Date: 08/11/20

Hydrology File: J23D027

Dear Mr. Aldaz:

Based upon the information provided in your submittal received 08/11/20, the Grading and Drainage Plan is approved for Building Permit, Foundation Permit and Grading Permit.

Dramage Flam is approved for Bunding Fernit, Foundation Fernit and Grading Fernit.

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.

Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer

Certification per the DPM checklist will be required.

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

Sincerely,

Albuquerque

NM 87103

www.cabq.gov

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

Renée C. Brissette

Planning Department



COA STAFF:

City of Albuquerque

Planning Department Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

Project Title:	Building F	ermit #: Hydrology File #:
DRB#:	EPC#:	Work Order#:
Legal Description:		
City Address:		
Applicant:		Contact:
Address:		
		E-mail:
Owner:		Contact:
Address:		
		E-mail:
	T (
TYPE OF SUBMITTAL: PLA	T (# OF LOTS)	RESIDENCE DRB SITE ADMIN SITE
IS THIS A RESUBMITTAL?:	Yes	No
DEPARTMENT: TRAFFIC/ T	RANSPORTATION	HYDROLOGY/ DRAINAGE
Check all that Apply:		
Check an that Appry.		TYPE OF APPROVAL/ACCEPTANCE SOUGHT:
TYPE OF SUBMITTAL:		BUILDING PERMIT APPROVAL
ENGINEER/ARCHITECT CERTIFICATION		CERTIFICATE OF OCCUPANCY
PAD CERTIFICATION		PRELIMINARY PLAT APPROVAL
CONCEPTUAL G & D PLAN		SITE PLAN FOR SUB'D APPROVAL
GRADING PLAN		SITE PLAN FOR BLDG. PERMIT APPROVAL
DRAINAGE MASTER PLAN		FINAL PLAT APPROVAL
DRAINAGE REPORT		SIA/ RELEASE OF FINANCIAL GUARANTEE
FLOODPLAIN DEVELOPMENT PERMIT APPLIC		FOUNDATION PERMIT APPROVAL
ELEVATION CERTIFICATE		GRADING PERMIT APPROVAL
CLOMR/LOMR		SO-19 APPROVAL
TRAFFIC CIRCULATION LAYOUT (TCL)		PAVING PERMIT APPROVAL
TRAFFIC IMPACT STUDY (TIS)		GRADING/PAD CERTIFICATION
OTHER (SPECIFY)		WORK ORDER APPROVAL
PRE-DESIGN MEETING?		CLOMR/LOMR
		FLOODPLAIN DEVELOPMENT PERMIT
		OTHER (SPECIFY)
		OTHER (SLECIFT)
DATE SURMITTED:	R_{W^*}	
DATE SUBMITTED.		

ELECTRONIC SUBMITTAL RECEIVED:___

FEE PAID:____

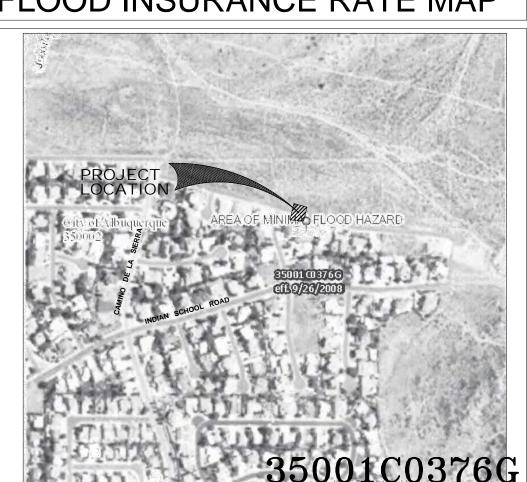
13804 HAINES AVENUE NE TEMP. BENCH MARK, SCRIBE ON CURB-ELEV = 6102.396 GARAGE FP=6112.5 GRAPHIC SCALE (IN FEET) GRADING PLAN 1 inch = 10 ft.

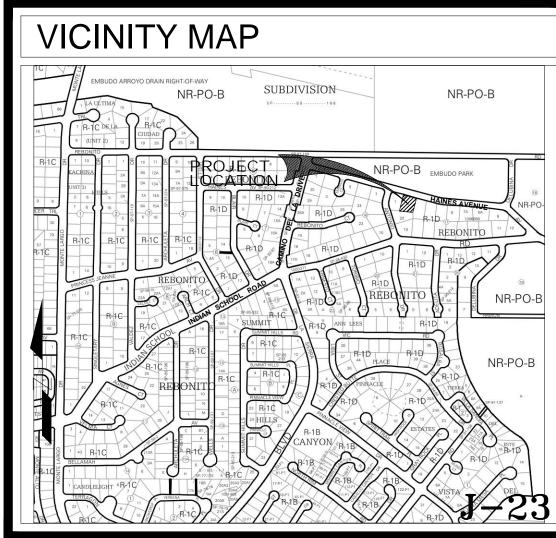
GENERAL NOTES:

- (1) CONSTRUCT NEW 6' HIGH CMU WALL.
- 2 CONSTRUCT NEW 2" HIGH RETAINING WALL..
- 3 CONSTRUCT 8' X 8' DESILTING POND.
- 4) CONSTRUCT 3 FOOT WIDE SWALE WITH +/-4" FRACTURED STONE WITH FILTER FABRIC, 12" THICK, PROVIDE A 6" DEPRESSION ADJACENT TO SIDEWALK.
- (5) CONSTRUCT CONCRETE DRIVEWAY...

- 6 PROPOSED DRAINAGE BASIN BOUNDARY FOR NORTHEAST CORNER THAT DRAINS INTO DESILTING POND
- 7 PROVIDE ONE BLOCK OPENING AT BOTTOM OF NEW WALL TO ALLOW FLOWS TO DRAIN OUT.
- 8 INSTALL ROOF DRAINS WITH CANALES THAT DRAIN ONTO A CONCRETE SPLASH BLOCK.







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

PROFESSIONAL SEAL

PROJECT NAME

DRAINAGE CALCULATIONS

 ${\tt CONSIST\ OF\ A\ ROOF\ AREA\ OF\ APPROXMITELY\ 3.852SF\ ON\ ONE\ OF\ A\ ONLY\ FEW\ REMAINING\ EXISTING\ LOTS\ THAT\ WERE\ NEARLY}$ BUILT OUT IN THE 1990S IN THE EAST FOOTHILLS. THE LOCATION IS EAST OF TRAMWAY AND NORTH OF INDIAN SHOOL ROAD. THE EXISTING TOPOGRAPHY ON THIS SITE DROPS TO THE NORTHWEST CORNER AND IS ABOUT 13 FEET FROM THE NORTHWEST CORNER STREET TOP OF CURB TO THE SOUTHEAST PROPERTY CORNER. THE PLAN IS TO FREE DISCHARGE THE PROPOSED IMPERVIOUS FLOWS TO HAINES AVENUE AS PART OF THIS PROJECT. ALONG HAINES AVENUE, ALL OF THE EXISTING RESIDENCES ON THE SOUTHSIDE OF THIS STREET FOLLOW THIS DRAINAGE CONCEPT, IT IS THE PROPOSAL OF THIS PLAN TO FOLLOW THE SAME DRAINAGE CONCEPT. ON THE NORTH SIDE OF HAINES AVENUE THE AREA IS DESIGNATED CITY OPEN SPACE SO PROBABLY NO DEVELOPMENT IN THE FUTURE FOR THIS AREA. THE INTENT OF THIS DRAINAGE PLAN IS TO SECURE A ROUGH GRADING PERMIT AND A BUILDING PERMIT APPROVAL FOR THE PROPOSED IMPROVEMENTS.

PROJECT DESCRIPTION:
THE LEGAL DESCRIPTION FOR THE PROPOSED RESIDENCE IS LOCATED IN LOT 2, BLOCK 17, 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).

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.

AS SHOWN PER THE GRADING PLAN AND PER THE TOPOGRAPHY FROM A SURVEY PERFORMED ON AUGUST 2ND, 2020 THE LOT CURRENTLY DRAINS TO THE NORTHWEST CORNER FROM THE SOUTHEAST CORNER AND INTO HAINES AVENUE. THE TOTAL LOT AREA OF THIS SITE = 13,465SF (0.31AC). IT APPEARS IMPROVEMENTS AND GRADING WERE PERFORMED ON THIS SITE BASED ON THE ORIGINAL TOPOGRAPHY WHICH IS SHOWN ON THIS DRAWING FROM 2010. IN DISCUSSIONS WITH THE CURRENT LAND DWNER AND REVIEW OF THE ORIGINAL TOPOGRAPHY THAT SHOWS TWO FOOT CONTOURS THE SOUTH HALF OF THE SITE ORIGINALLY DRAINED TO THE SOUTHWEST CORNER AND WAS CAUSING SOME FLOODING TO THE ADJACENT LOT 20. BASED ON THE SURVEY AND THE RECENT SITE VISIT IMPROVEMENTS WERE MADE ALONG THE SOUTH BOUNDARY THAT CREATED A COBBLE SWALE THAT NOW DIVERTS THIS FLOW BACK TO HAINES AVENUE AS SHOWN ON THE PLAN. BASED ON THE ADJACENT LOT OWNER THIS HAS SOLVED THE ORIGINAL DRAINAGE ISSUES OF CROSS LOT DRAINAGE. ALSO, A RETAINING WALL WAS ALSO CONSTRUCTED ON THE NORTH SIDE OF THE PROPERTY AND THE OWNER RECEIVED A GREEN TAG ON JUNE 29, 2017 FROM THE CITY OF ALBUQUERQUE FOR THE CONSTRUCTION. THIS WALL DOES NOT APPEAR TO BE CREATING ANY ADDITIONAL DRAINAGE ISSUES FOR THIS PROPERTY.

AS SHOWN BY THE GRADING PLAN PREPARED FOR THIS SITE, THE INTENT IS TO DRAIN ABOUT 2500SF OF ROOF AREA ALONG WITH 2500SF OF CONCRETE DRIVEWAY OUT THE DRIVEWAY TO THE NORTHWEST CORNER AND INTO HAINES AVENUE. POND WHICH WOULD OVERFLOW OUT AT THE BOTTOM OF 8" X 16" NEW WALL OPENING AND BE DISCHARGED INTO A COBBLE SWALE AND ONTO HAINES AVENUE AT THE NORTHEAST CORNER OF THE SITE.

THE PLAN IS TO ALSO PROVIDE LANDSCAPING TO THE FRONT YARD AND REAR YARD TO MINIMIZE DISCHARGE SEE THE BELOW

SINCE THIS IS AN INFILL SITE WITH DEVELOPMENT ALMOST COMPLETE IN THIS SUBDIVISION AND SINCE ALL EXISTING RESIDENTS FREE DISCHARGE INTO HAINES AVENUE, ALLOWING FREE DISCHARGE FROM THIS SITE INTO THE EXISTING STORM DRAIN IMPROVEMENTS CONSTRUCTED AS PART OF A "SAD 207" IS PROPOSED. THE DRAINAGE FROM THIS SITE WILL FLOW ONTO HAINES AVENUE THEN WEST ON HAINES AVENUE AND WILL FLOW WEST INTO REBONITO ROAD UNTIL IT REACHES THE INTERSECTION OF REBONITO ROAD AND MONTE LARGO DRIVE. THERE IS A SERIES OF 5 EXISTING INLETS DESIGNED TO ACCEPT THIS FLOW. THIS FLOW THEN DRAINS NORTH ABOUT 400 FFET AND DISCHARGES INTO THE EMBUDO ARROYO. THE FREE DISCHARGE FROM THIS SITE SHOULD HAVE MINIMAL FLOOD IMPACTS TO EXISTING DOWNSTREAM CONDITIONS

- DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM 6-HOUR = 2.64 INCHES 24-HOUR = 3.60 INCHES 10 DAY = 6.27 INCHES
- 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
- 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 = 3.34 INCHES IMPERVIOUS AREA 'D" DRAINAGE BASIN TO HAINES AVENUE ENTIRE SITE

E = 1.20 INCHES COMPACTED SOIL "C

Q(EXISTING-6HR) = $(2.09 \times 0.31) = 0.65CFS (6HR)$ TO REAR YARD V(EXISTING-6HR) = $((0.76 \times 0.31) / 12) = 0.020$ AC-FT = 855CF EXISTING FLOW INTO REAR YARD

DRAINAGE BASIN TO NORTHWEST CORNER OF SITE = 13,503SF - 1,855SF(NORTHEAST CORNER ROOF AREA AND FRONT YARD) = 11,648SF = 0.27AC TYPE "D" TREATMENT = NEW ROOF AREAS (2,500SF) + CONCRETE AREA (2,500SF) = 5,000SF = 0.11AC PROPOSED TYPE "B" TREATMENT = LANDSCAPED AREAS 50% X (11.648SF -5000SF) = 3.324SF = 0.08AC TYPE "C" TREATMENT = REMAINING COMPACTED GRAVEL AND DISTURBED AREAS COMPACTED BY HUMAN ACTIVITY =

Q{PROPOSED-6HR} = (2.73 X 0.08) + (3.41 X 0.08) + (4.78 X 0.11)
=1.02CFS (6HR) PROPOSED ONSITE FLOW INTO REAR RETENTION POND
V(PROPOSED-6HR) = { (0.95 X 0.08) + (1.20 X 0.08) + (3.34 X 0.11)}/ 12)
= 0.045AC-FT = 1.758CF PROPOSED VOLUME INTO HAINES AVENUE THROUGH DRIVEWAY.

<u>Orainage Basin to North East Corner</u> = 1,855SF = 0.04aC type "d" treatment = new roof areas {1,200SF} = 0.03aC proposed TYPE "B" TREATMENT = LANDSCAPED AREAS 50% X (1,855SF -1,200SF) = 327SF = 0.007AC TYPE "C" TREATMENT = REMAINING COMPACTED GRAVEL AND DISTURBED AREAS COMPACTED BY HUMAN ACTIVITY = 50% X (1,855SF -1,200SF) = 327SF = 0.007AC

Q(PROPOSED-6HR) = (2.73 X 0.007) + (3.41 X 0.007) + (4.78 X 0.03) = 0.19CFS (6HR) PROPOSED ONSITE FLOW INTO DESILTING POND AND INTO COBBLE SWALE AT THE NORTHEAST CORNER OF PROPERTY

0.01AC-FT = 418CF_PROPOSED ONSITE FLOW INTO DESILTING POND AND INTO COBBLE SWALE AT THE NORTHEAST CORNER OF PROPERTY DESILTING POND VOLUME PROVIDED = 6.7FT X 6.7FT X 1FT DEEP = 45CF < 418CF 100 YEAR VOLUME.

 $V(PROPOSED-6HR) = {(0.95 \times 0.007) + (1.20 \times 0.007) + (3.34 \times 0.03)}/12) =$

LEGEND

EXISTING TOP OF CURB ELEVATION

EXISTING FLOWLINE ELEVATION

— 5980— NEW FINAL SURFACE GRADE

CUT = 283CY

FILL = 226CY

5980 EXISTING CONTOUR GRADE

EARTHWORK VOLUME:

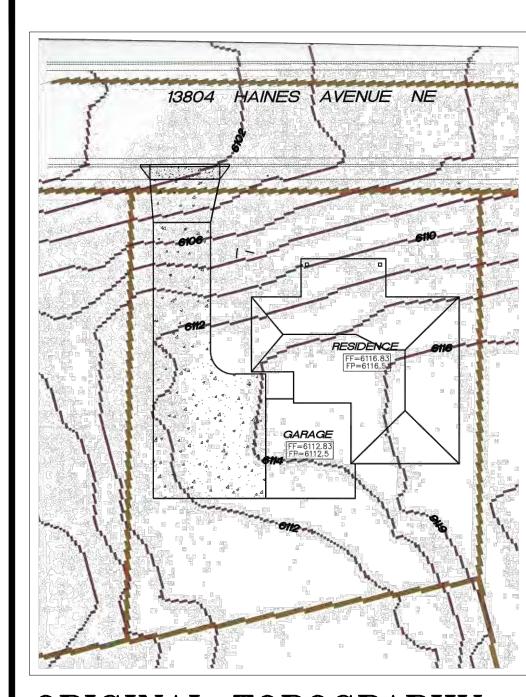
IMPACT OF THIS NEW RESIDENCE ON DOWNSTREAM STORM DRAIN CAPACITY (100-YEAR, 6 HOUR STORM)

Q (EXISTING-6-HR) RELEASE RATE FOR SITE = 0.65CFS

Q (PROPOSED-6-HR) RELEASE RATE FOR SITE = 1.02CFS + 0.19CFS = 1.21CFS

Q (DIFFERENCE-6-HR) = 0.65CFS - 1.21CFS = 0.56CFS INCREASE TO DOWNSTREAM INLETS AND EMBUDO ARROYO

V (EXISTING-6HR) RUNOFF VOLUME FOR SITE = 855CF V (PROPOSED-6HR) RUNOFF VOLUME FOR SITE = 1,958CF + 418CF = 2,376CF V (DIFFERENCE-6HR) = 855CF - 2,376CF = 1,521CF INCREASE TO DOWNSTREAM INLETS AND EMBUDO ARROYO



ORIGINAL TOPOGRAPHY

BENCH MARK REFERENCE: CITY OF ALBUQUERQUE 1-3/4" ALUMINUM DISK, STAMPED "ACS BM, 14-J23", EPOXIED TO TOP OF THE CONCRETE CURB RETURN, SW QUADRANT OF REBONITO ROAD AND CAMINO DEL SIERRA NE

WITH ELEVATION = 6051.357 NAVD88.

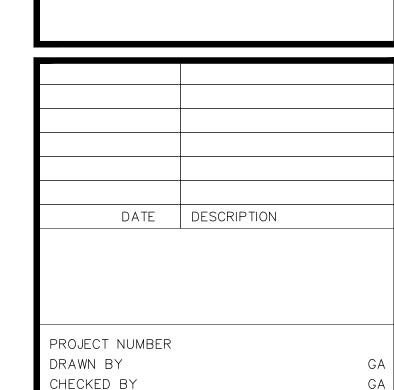
PROVIDED BY THE UTILITY OR PIPELINE COMPANY, THE OWNER, THE SURVEYOR WHO PERFORMED THE TOPOGRAPHIC SURVEY FOR THIS

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 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 LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING ABOVE AND UNDERGROUND UTILITIES, AND EXISTING PIPELINES. THE CONTRACT SHALL COMPLY WITH STATE STATUES PERTAINING TO THE LOCATION OF THESE

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 DEVELOPMENT OR BY OTHERS. THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES.

RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY HIS FAILURE TO LINES IN PLANNING AND CONDUCTING EXCAVATION WORK.



RESIDENCE

13804 HAINES AVENUE

ALBUQUERQUE, NEW MEXICO

SHEET NAME **GRADING AND**

FILE NAME: A103 GRADING & DRAINAGE

08-11-2020

DRAINAGE PLAN

ISSUE DATE

SHEET NUMBER A-103