CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

April 1, 2020

Ronald Bohannan, P.E.
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM, 87109

RE: U-Haul
2217 4TH St. NW
Grading & Drainage Plan
Engineer's Stamp Date: 01/28/20
Hydrology File: H14D110

Dear Mr. Bohannan:

Based upon the information provided in your submittal received 03/31/2020, the Grading & Drainage Plan **is not** approved for Building Permit and SO-19 Permit. The following comments need to be addressed for approval of the above referenced project:

1. Please use the latest SO-19 Notes. See attachment.
2. Please update your use of "First Flush". This is an old 1990s term and please update it with "Stormwater Quality" instead.
3. Please provide an emergency spillway for both retention ponds by way of sidewalk culverts.
4. Please provide a cross section of both retention ponds showing the 100 yr – 10 day volume, top of pond, bottom of pond, and the elevation of the emergency spillway (sidewalk culvert).
5. Please add the broad crest weir equation (equation 6.60 in the DPM) for the 2 ft curb cuts and the sidewalk culverts.. A coefficient of 2.7 is typically used for the equation $Q = CLH^{2/3}$.
6. Please reference City of Albuquerque standard detail No. 2236 – Sidewalk Culvert with Steel Plate Top at the sidewalk culvert.
7. Please update the SO-19 Permit Notes. See Attachment.
8. Please show and label the slump pump along with the force main. Also provide the cut sheet for the pump along with the performance curve.

PO Box 1293

Albuquerque

NM 87103

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9. 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, 924-3420) 14 days prior to any earth disturbance.

10. Also as a reminder, please provide a Drainage Covenant for the proposed Stormwater Quality Ponds and retention ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

11. Standard review fee of $150 will be required at the time of resubmittal.

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

Sincerely,

Renée C. Brissette

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

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City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: U-Haul 4th St & I40 Building Permit #: _____ Hydrology File #: H14D110

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

Legal Description: TR C of Alexander Center (EXCL S'LY PORT OUT TO R/W)

City Address: 2217 4th St NW Albuquerque NM

Applicant: Tierra West, LLC Contact: Jonathan Niski

Address: 5571 Midway Park PL NE Albuquerque NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail: jniski@tierrawestll.com

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF DEVELOPMENT: ____ PLAT (# of lots) ____ RESIDENCE ____ DRB SITE X ADMIN SITE

IS THIS A RESUBMITTAL? ____ Yes X No

DEPARTMENT ____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
X DRAINAGE REPORT
____ DRAINAGE MASTER PLAN
____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
____ ELEVATION CERTIFICATE
____ CLOMR/LOMR
____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ STREET LIGHT LAYOUT
____ OTHER (SPECIFY) _____
____ PRE-DESIGN MEETING?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

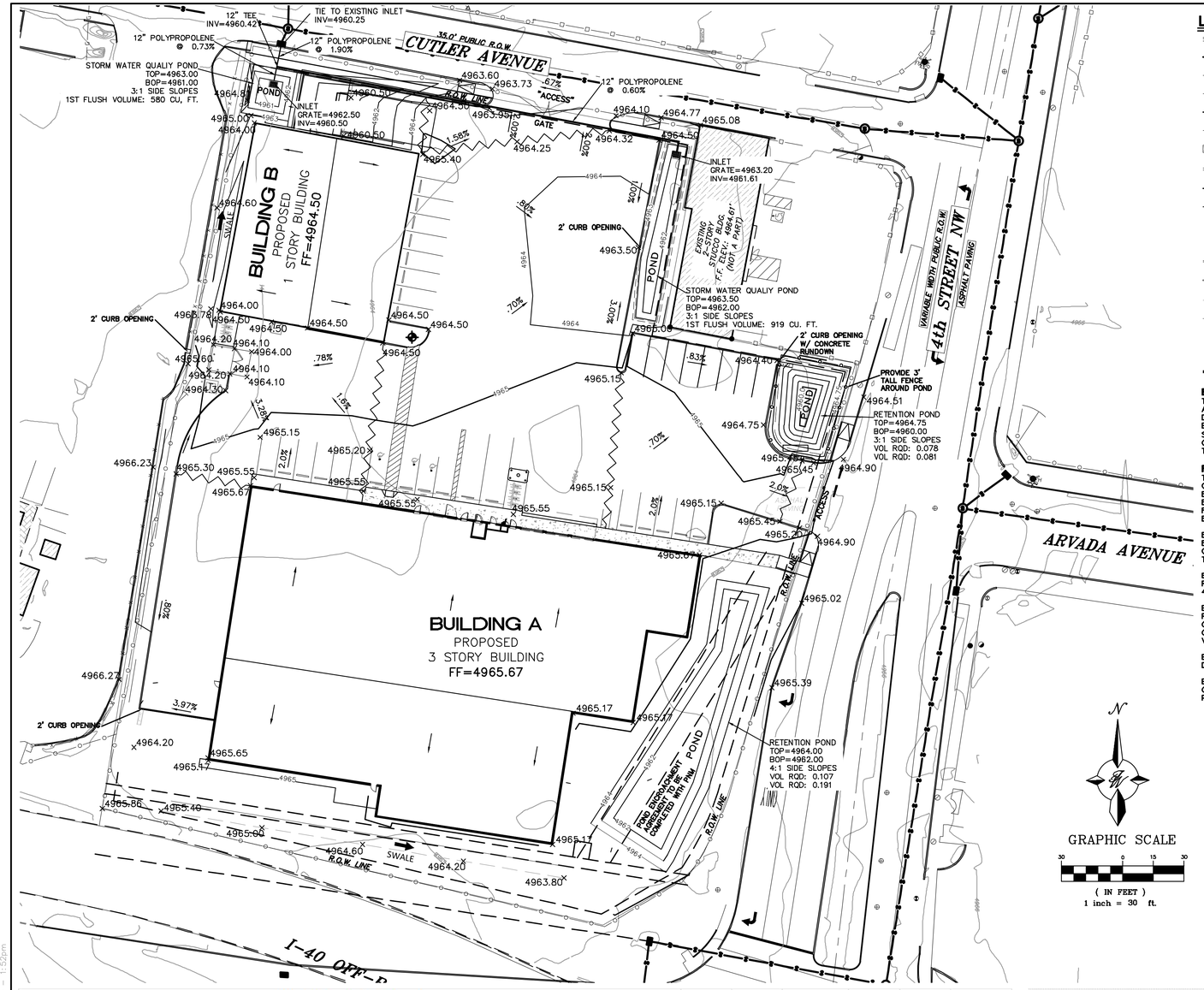
____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

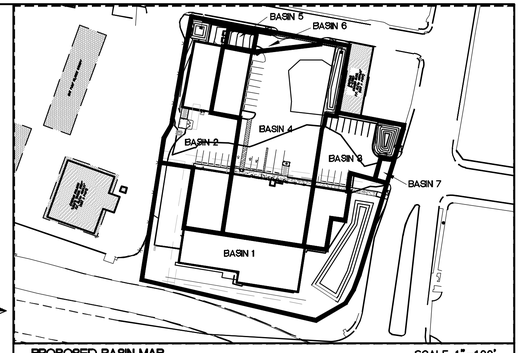
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 3/31/2020 By: Jonathan Niski

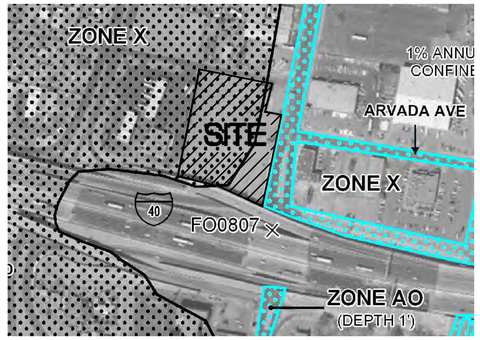
COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____





PROPOSED BASIN MAP SCALE 1"=100'



FIRM MAP: (EFFECTIVE DATE 9-26-2008) 35001C0332G

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- 5010 — CONTOUR MAJOR
- 5011 — CONTOUR MINOR
- x 5048.25 — SPOT ELEVATION (FLOWLINE)
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 — EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- x 5048.25 — EXISTING SPOT ELEVATION
- EXISTING LIGHT STANDARD
- PHASE LINE

EXISTING DRAINAGE CONDITION:

THE SITE IS AN EXISTING UNDEVELOPED 2.5 ACRE LOT. THE SITE DRAINS FROM SOUTH TO NORTH AND THE SURFACE RUNOFF IS DISCHARGED INTO CUTLER AVE. WHERE IT IS CAPTURED BY AN EXISTING DROP INLET NEAR THE NORTHWEST CORNER OF THE SITE. THERE IS NO OFFSITE RUNOFF THAT ENTERS THE SITE. THE SITE MAY HAVE BEEN USED AS A GRAVEL PARKING LOT IN THE PAST. AS SUCH THE EXISTING LAND TREATMENT WAS CONSIDERED COMPACT GRAVEL WITH TREATMENT "C" GENERATING A RUNOFF OF 7.93 CFS. A PORTION OF THE SITE IS LOCATED IN SHADED ZONE X WITH THE REST IN ZONE X.

PROPOSED DRAINAGE CONDITION:

THE SITE WAS DIVIDED UP INTO SEVEN BASINS AS SHOWN ON THE BASIN MAP ON THIS SHEET. BASIN ONE CONSISTS OF THE BACK HALF OF THE LARGE BUILDING AND THE REAR LANDSCAPED AREA. THIS BASIN WILL DRAIN FROM WEST TO EAST IN A SWALE TO A RETENTION POND LOCATED BETWEEN THE BUILDING AND 4TH STREET. THE POND IS SIZED FOR THE 100YR, 10 DAY STORM AND IS ONLY 2 FEET DEEP. THAT POND IS LOCATED IN AN EXISTING OVERHEAD POWERLINE EASEMENT FOR WHICH AN ENCROACHMENT AGREEMENT WILL BE EXECUTED WITH PNM.

BASIN 2 CONTAINS THE WESTERN PORTION OF THE SITE AND THE BACK HALF OF THE SMALL BUILDING. THE RUNOFF WILL FLOW IN A SWALE BEHIND THE SMALL BUILDING TO A STORM WATER QUALITY POND LOCATED AT THE NORTHWEST CORNER OF THE SITE. THE POND IS SIZED TO HOLD THE FIRST FLUSH VOLUME BEFORE DISCHARGING 1.86 CFS INTO A DROP INLET.

BASIN 3 CONTAINS THE EASTERN PARKING LOT AND A SMALL PORTION OF THE LARGE BUILDING. THE RUNOFF WILL SURFACE FLOW TO A RETENTION POND SIZED FOR THE 100YR, 10 DAY STORM AND IS 4 FEET DEEP. THIS POND WILL BE SURROUNDED BY A FENCE TO KEEP PEDESTRIANS OUT.

BASIN 4 CONTAINS MOST OF THE PARKING LOT AND THE FRONT PORTION OF BOTH BUILDINGS. THE RUNOFF WILL SURFACE FLOW TO A STORM WATER QUALITY POND LOCATED IN THE NORTHEAST CORNER OF THE SITE. THE POND IS SIZED TO HOLD THE FIRST FLUSH VOLUME PRIOR TO DISCHARGING 3.90 CFS INTO A DROP INLET. THE STORM WATER FROM BASINS 2, 3 AND 4 WILL DISCHARGE 5.76 CFS VIA STROM SEWER TO THE EXISTING DROP INLET IN CUTLER AVE.

BASIN 5 CONSISTS OF A LOADING DOCK THAT WILL DRAIN TO A SUMP PUMP. THE SUMP PUMP WILL DISCHARGE THE STORM WATER INTO THE STORM WATER QUALITY POND BEHIND THE LOADING DOCK.

BASINS 6 AND 7 CONSIST OF THE ENTRANCE WATER BLOCKS AND WILL DISCHARGE A TOTAL OF .25 CFS TO CUTLER AVE AND 4TH STREET. THE TOTAL STORM WATER DISCHARGED FROM THE PROPOSED PROJECT IS 7.42 CFS WHICH IS BELOW THE EXISTING DISCHARGE OF 7.93.

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.
8. PRIOR TO WORK WITHIN THE INTERSTATE 40 RIGHT-OF-WAY, A NMDOT PERMIT WILL BE REQUIRED.

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APPROVAL	NAME	DATE
INSPECTOR		

FIRST FLUSH MANAGEMENT

WATER QUALITY MEASURES WILL CONSIST OF RETENTION PONDS SIZED TO RETAIN THE FIRST FLUSH VOLUME FROM THE DEVELOPED AREAS. FLOWS WILL BE CONVEYED TO THE PONDS PRIMARILY BY SURFACE DRAINAGE AS WELL AS A PRIVATE STORM DRAIN SYSTEM BETWEEN BUILDINGS "A" AND "B". DRAINAGE VOLUMES IN EXCESS OF THE FIRST FLUSH WILL BE DISCHARGED THROUGH A PROPOSED STORM DRAIN SYSTEM AND INTO THE EXISTING PUBLIC STORM DRAIN WITHIN 4TH STREET.

FIRST FLUSH CALCULATIONS:

BASIN 1: 9847 x .32"/12" = 213 CU.FT.
BASIN 2: 15246 x .32"/12" = 329 CU.FT.
BASIN 3: 10890 x .32"/12" = 237 CU.FT.
BASIN 4: 34848 x .32"/12" = 751 CU.FT.
BASIN 5: 1307 x .32"/12" = 94 CU.FT.
BASIN 6: 1742 x .32"/12" = 38 CU.FT.
BASIN 7: 436 x .32"/12" = 15 CU.FT.
TOTAL FIRST FLUSH VOLUME = 1677 CU.FT.

CAUTION:

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

Weighted E Method

Developed On-Site Basins

Basin	Area	Area	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-Hr			10-Year, 6-Hr			100-Year, 10-Day			1st Flush Volume
	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E	Volume (ac-ft)	Flow cfs	Weighted E	Volume (ac-ft)	Flow cfs	Weighted E	Volume (ac-ft)	Flow cfs	(ft^3)
1	36,471	0.84	0%	0	73%	0.61	0%	0	27%	0.23	1.142	0.080	2.46	0.566	0.040	1.29	1.142	0.107	2.46	213
2	19,484	0.45	0%	0	22%	0.10	0%	0	78%	0.35	1.825	0.068	1.86	1.107	0.041	1.19	1.825	0.111	1.86	329
3	13,027	0.30	0%	0	16%	0.05	0%	0	84%	0.25	1.906	0.047	1.29	1.170	0.029	0.83	1.906	0.078	1.29	237
4	37,672	0.86	0%	0	8%	0.07	0%	0	92%	0.80	2.013	0.145	3.90	1.255	0.090	2.56	2.013	0.243	3.90	751
5	1,106	0.03	0%	0	0%	0.00	0%	0	100%	0.03	2.120	0.004	0.12	1.340	0.003	0.08	2.120	0.008	0.12	24
6	1,739	0.04	0%	0	0%	0.00	0%	0.00	100%	0.04	2.120	0.007	0.19	1.340	0.004	0.13	2.120	0.012	0.19	38
7	600	0.01	0%	0	0%	0.00	0%	0.00	100%	0.01	2.120	0.002	0.06	1.340	0.002	0.04	2.120	0.004	0.06	13
												Total Discharge	6.13							

Undeveloped On-Site Basins

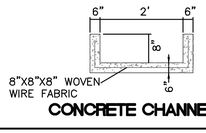
Basin	Area	Area	Treatment A		Treatment B		Treatment C		Treatment D		100-Year, 6-Hr		
	(sf)	(acres)	%	(acres)	%	(acres)	%	(acres)	%	(acres)	Weighted E	Volume (ac-ft)	Flow cfs
1	110,000	2.53	0%	0	0%	0.00	100%	2.525	0%	0.00	1.130	0.238	7.93

Pipe Capacity

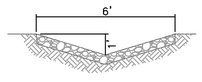
Pipe	D (in)	Slope (%)	Area (ft^2)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	12	0.6	0.79	0.250	3.27	3.90	4.97
2	10	0.73	0.55	0.208	2.22	1.86	3.41
3	12	1.9	0.79	0.250	5.82	5.76	7.33

Manning's Equation:
$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$

A = Area
R = D/4
S = Slope
n = 0.011



CONCRETE CHANNEL



COBBLE SWALE

ENGINEER'S SEAL
RONALD R. BOHANNAN
NEW MEXICO
7868
PROFESSIONAL ENGINEER
01/28/2020
RONALD R. BOHANNAN
P.E. #32784

U-HAUL
4TH AND I-40
GRADING AND DRAINAGE PLAN

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NM 87109
(505) 858-3100
www.tierrawestllc.com

DRAWN BY: RMG
DATE: 01/21/2020
2019070-GR
SHEET # MU-3
JOB # 2019070