CITY OF ALBUQUERQUE

July 16, 2015

Ron Bohannan, PE
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, NM 87109

RE: **Dreamstyle Warehouse, 1525 Renaissance Center**
Grading and Drainage Plan
Engineer's Stamp Date 7-15-2015 (File: F16-D051A)

Dear Mr. Bohannan:

First flush requirements have been waived for this site as per the City Engineer. Further explanation is provided on grading and drainage plan.

Thank you for addressing recent comments and providing the plat. Based upon the information provided in your submittal received 7-15-15, the above referenced Grading and Drainage Plan cannot be approved for Building Permit until the following comments are addressed:

1) The drainage easement per the provided plat covers surface drainage only. A separate paper easement is required for the underground proposed storm drain that routes flows from off-site. Show the new easement on the grading and drainage plan.

2) On a more minor note, the water block labels need to be revised to point to the new waterblock location near the new entrance. Make sure that both the single D inlet from the previous submittal and the new double D inlet calculations are shown on the newest plan.

If you have any questions, you can contact me at 924-3924.

Sincerely,

Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf Addressee via Email

F16D051A_BP_Grading_Cmmt3

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

RAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Dreamstyle Warehouse City Drainage #: F16D051A

DRB#: EPC#: Work Order#:

Legal Description: TR 9A1B PLAT OF TRS 941A 7 9A1B RENAISSANCE CENTER

City Address: 1525 Renaissance Blvd NE Albuquerque NM 87107

Engineering Firm: Tierra West, LLC Contact:

Address: 5571 Midway Park Place NE Albuquerque NM 87109

Phone#: 505-858-3100 Fax#: 505-858-1118 E-mail:

Owner: Larry Chavez Four Seasons Sunrooms, LLC Contact: Larry Chavez

Address: 7401 Indian School Road NE Albuquerque NM 87110

Phone#: 505-881-3200 Fax#: 505-880-1078 E-mail: lchavez@rbafs.com

Architect: Rick Bennett - Rick Bennett Architects Contact: Rick Bennett

Address: 1104 Park Avenue SW Albuquerque NM 87102

Phone#: 505-350-9811 Fax#: 505-242-6630 E-mail: rick@rba81.com

Surveyor: N/A Contact:

Address:

Phone#: Fax#: E-mail:

Contractor: Franklins Earthmoving Inc. Contact: John Ellis

Address: P.O. Box 30275 Albuquerque NM 87190

Phone#: 505-975-2878 Fax#: 505-883-2604 E-mail: john@franklinsearthmoving.com

TYPE OF SUBMITTAL:

___ DRAINAGE REPORT
___ DRAINAGE PLAN 1st SUBMITTAL
X DRAINAGE PLAN RESUBMITTAL
___ CONCEPTUAL G & D PLAN
___ GRADING PLAN
___ EROSION & SEDIMENT CONTROL PLAN (ESC)
___ ENGINEER'S CERT (HYDROLOGY)
___ CLOMR/LOMR
___ TRAFFIC CIRCULATION LAYOUT (TCL)
___ ENGINEER'S CERT (TCL)
___ ENGINEER'S CERT (DRB SITE PLAN)
___ ENGINEER'S CERT (ESC)
___ SO-19
___ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

___ SIA/FINANCIAL GUARANTEE RELEASE
___ PRELIMINARY PLAT APPROVAL
___ S. DEV. PLAN FOR SUB'D APPROVAL
___ S. DEV. FOR BLDG. PERMIT APPROVAL
___ SECTOR PLAN APPROVAL
___ FINAL PLAT APPROVAL
___ CERTIFICATE OF OCCUPANCY (PERM)
___ CERTIFICATE OF OCCUPANCY (TCL TEMP)
___ FOUNDATION PERMIT APPROVAL
X BUILDING PERMIT APPROVAL
___ GRADING PERMIT APPROVAL
___ PAVING PERMIT APPROVAL
___ WORK ORDER APPROVAL
___ GRADING CERTIFICATION
___ SO-19 APPROVAL
___ ESC PERMIT APPROVAL
___ ESC CERT. ACCEPTANCE
___ OTHER (SPECIFY)

RECEIVED
JUL 15 2015
LAND DEVELOPMENT SECTION
RECEIVED
JUL 14 2015
LAND DEVELOPMENT SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED: ___ Yes ___ No ___ Copy Provided

DATE SUBMITTED: 07/15/2015 By: Jonathan Niski

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the followin

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

TIERRA WEST, LLC

5571 Midway Park Place NE Albuquerque, NM 87109
(505) 858-3100 Fax (505) 858-1118 1-800-245-3102
tierrawestllc.com

July 14, 2015

Ms. Jeanne Wolfenbarger, PE
Planning Department- Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

RE: DREAMSTYLE WAREHOUSE
1525 RENAISSANCE CENTER
GRADING AND DRAINAGE PLAN (F16-D051A)

Dear Ms. Wolfenbarger:

Please find the following responses, addressing your comments dated 06-23-15, listed below:

1. The first flush from the new building site must be retained. The off-site pond ("Pond 5") that is currently proposed to handle first flush does not meet the requirements because it is discharging the first flush at a controlled rate in lieu of retaining it. In addition to options mentioned from the last letter, another option may be to locate the pond just northeast of the new building within the area where the paved parking is shown and relocate the paved parking elsewhere. Along with the proposed change, state how first flush is to be managed on the grading and drainage plan in along with labeled required volumes.
   This subject was discussed as it pertains to the soil conditions in the Renaissance Center and it was decided that this area would not be subject to the first flush requirements due to collapsible soils. We have added a statement specific to the Renaissance Center to the Grading Plan stating why this requirement should not be enforced on this project.

Prior to obtaining Building Permit, address the following items:

1. Provide plat for Tract 9A that may show a private easement for the proposed storm drain that routes off-site flows through site. If one is not already provided, a paper easement is required.
   The plat is enclosed and shows a blanket drainage easement already exists for the site. The easement covers the pipe/pond as well as surface drainage.

2. In order to control the flow to allowable discharge of 0.66 cfs to the street, revise grades at the entrance.
   The grades around the entrance were revised and the total discharge to the street is 0.66 cfs, which matches the allowable discharge amount.

3. The Type "D" drop inlet upstream of Pipe 3 does not show the capacity to handle the amount of flow listed for Pipe 3. Label curb along the west edge and other parking areas if applicable, and have a general note stating that the listed elevations are at the flowline as

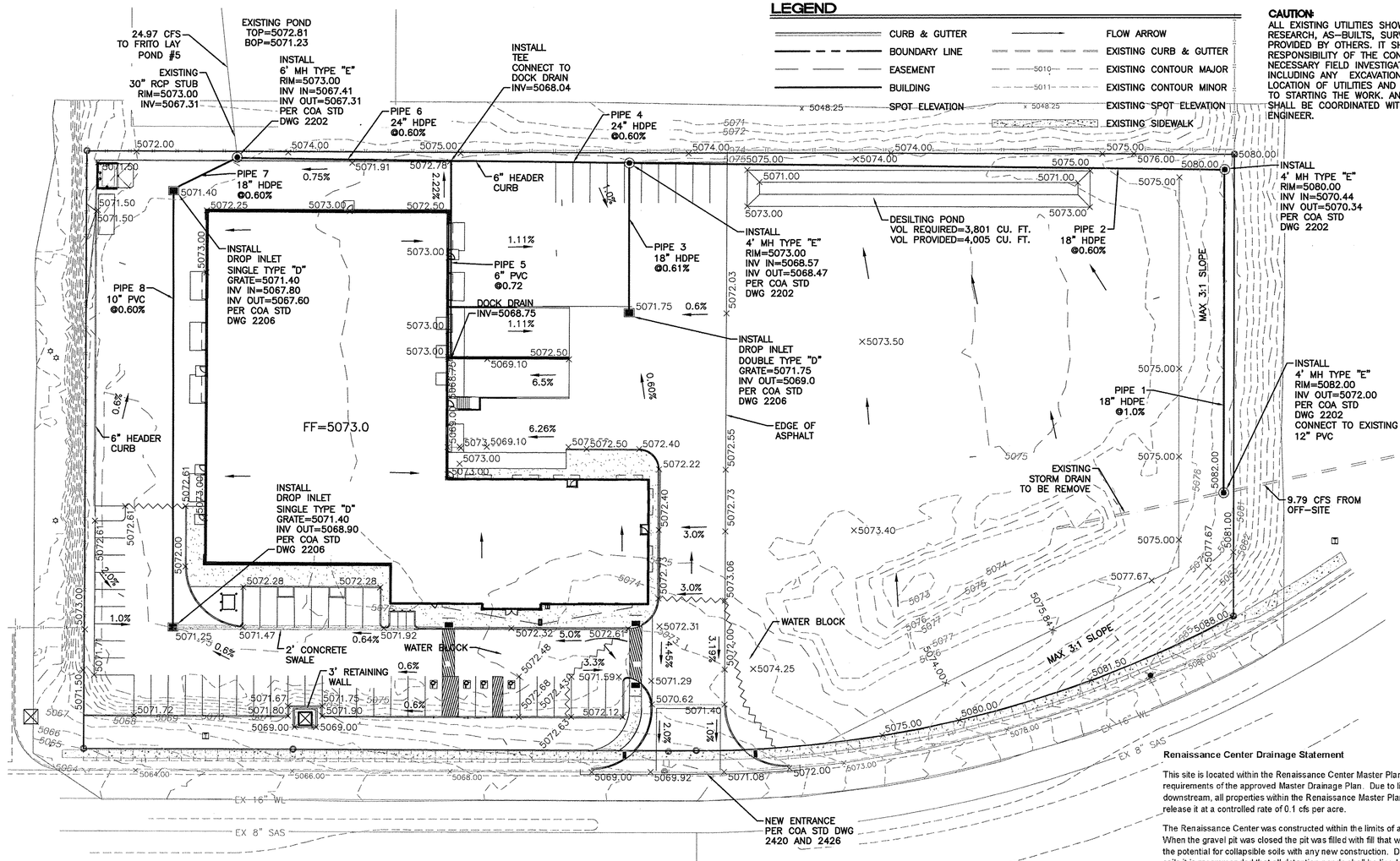
applicable. (There is a discrepancy between the spot elevation of 5071 -40 and the grate elevation of 5071.25 near the northwest corner of the new building where the 5071.25 elevation appears to provide sufficient head to capture the required flow.)

4. **The curb is not called out on the plans as 6-inch header curb. The drop inlet was changed to a double inlet, which has capacity to handle the flows, and the call out for the other drop inlet was changed to match the spot elevation given at that location.**

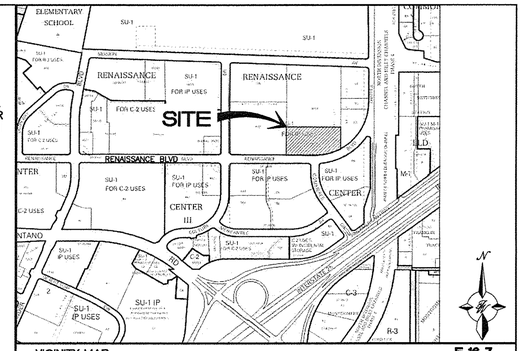
If you have any questions or need additional information regarding this matter, please do not hesitate to contact me.

Sincerely,

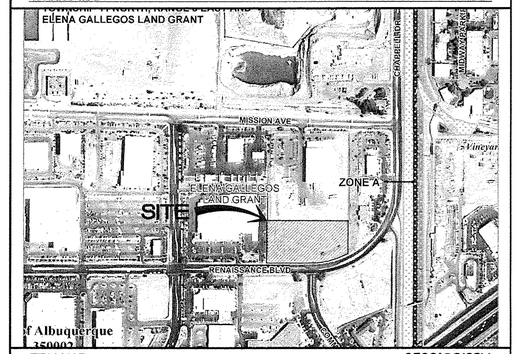
Jonathan D. Niski, PE
JN: 2015009
JN/dc



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.



VICINITY MAP: F-16-Z



FIRM MAP: 35001C0138H

NOTICE TO CONTRACTORS

1. 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.
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
3. 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.
4. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

EROSION CONTROL NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

NOTE: UNLESS OTHERWISE NOTED ON THE PLAN, ALL SPOT ELEVATIONS ARE FLOW LINE ELEVATIONS.

Renaissance Center Drainage Statement

This site is located within the Renaissance Center Master Plan area and is subject to the requirements of the approved Master Drainage Plan. Due to limited drainage capacity downstream, all properties within the Renaissance Master Plan must detain storm water and release it at a controlled rate of 0.1 cfs per acre.

The Renaissance Center was constructed within the limits of a gravel pit that is no longer in use. When the gravel pit was closed the pit was filled with fill that was not compacted. This causes the potential for collapsible soils with any new construction. Due to the potential for collapsible soils it is recommended that all detention ponds shall be lined or located away from any structures. Parking lot ponding is encouraged whenever possible not to exceed a depth of eight (8) inches.

Retention ponds shall not be located within the Renaissance Center Master Plan area due to the potential for collapsible soils. For this reason the City of Albuquerque requirement to provide for the retention of the "first flush" flow shall be waived. Since the discharge rate from any detention pond is so minor any trash that enters those ponds will be captured and can be removed from the ponds on a regular basis. The detention ponds within the Renaissance Center drain to a regional pond in the southwest corner of the Master Plan area where the discharge is controlled by a manual valve. Therefore there is no direct discharge to the Rio Grande, thus meeting the intention of the City Drainage Ordinance.

Pipe Capacity

Pipe	D	Slope	Area	R	Q Provided	Q Required	Velocity
	(in)	(%)	(ft^2)		(cfs)	(cfs)	(ft/s)
1	18	0.60	1.77	0.375	10.61	9.79	5.54
2	18	0.60	1.77	0.375	10.61	9.79	5.54
3	18	0.61	1.77	0.375	10.69	10.67	6.04
4	24	0.60	3.14	0.500	22.84	20.46	6.51
5	6	0.72	0.20	0.125	0.62	0.35	1.78
6	24	0.60	3.14	0.500	22.84	20.81	6.62
7	18	0.60	1.77	0.375	10.61	4.68	2.65
8	10	0.60	0.55	0.208	2.21	2.05	3.76

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

A = Area
R = D/4
S = Slope
n = 0.01 HDPE/PVC

EXISTING DRAINAGE CONDITIONS

THIS SITE IS LOCATED IN THE RENAISSANCE CENTER MASTER PLAN AREA AND IS LOCATED AT THE INTERSECTION OF RENAISSANCE CENTER BLVD. AND COMMERCE DR. IT IS BOUNDED ON THE SOUTH BY RENAISSANCE CENTER BLVD, ON THE WEST BY FEDEX, ON THE NORTH BY FRITO LAY AND ON THE EAST BY AN OFFICE COMPLEX AND CONTAINS APPROXIMATELY 3.74 ACRES.

THE SITE CURRENTLY DRAINS TO A TEMPORARY RETENTION POND WITH SOME FLOWS GOING TO THE STREET. THIS SITE WAS INCLUDED IN THE FRITO LAY AND CHAVEZ-GRIEVES DRAINAGE REPORT (F16/D51) APPROVED ON SEPTEMBER 10, 1998 AND WILL CONTINUE TO FOLLOW THAT DRAINAGE SCHEME THAT ALLOWS ALL OF THE DRAINAGE TO FLOW TO FRITO LAY DETENTION POND #5.

THE SITE DOES ACCEPT OFF-SITE FLOWS (10.52 CFS) FROM THE OFFICE COMPLEX WHICH IS ALSO CONTAINED IN THE TEMPORARY RETENTION POND. NO OTHER OFF-SITE FLOWS ENTER THE SITE. AS SHOWN ON THE FIRM MAP THERE ARE NO FLOOD PLAINS ON THIS PROPERTY.

PROPOSED DRAINAGE CONDITIONS

THIS SITE WILL CONTAIN SEVEN BASINS WITH FIVE OF THE BASINS DRAINING TO AN EXISTING STORM SEWER STUB THAT IS CONNECTED TO FRITO LAY POND #5. THE EXISTING STORM SEWER PIPE FROM THE OFFICE COMPLEX WILL BE INTERCEPTED WITH A NEW STORM SEWER AND ROUTED AROUND THE PERIMETER OF THE SITE AN CONNECT TO THE EXISTING STUB MENTIONED ABOVE.

BASINS 1, 2 AND 4 WILL DRAIN TO AREA INLETS THAT ARE CONNECTED TO THE STORM SEWER. BASIN 3 WILL DRAIN THE TRUCK DOCK AREA THROUGH A STORM DRAIN OPENING ON THE NORTH SIDE OF THE DOCK.

BASINS 5 AND 6 WILL DRAIN TO THE STREET GENERATING 0.66 CFS. THE ORIGINAL FRITO LAY DRAINAGE PLAN ALLOWED FOR 0.66 CFS TO BE DISCHARGED TO THE STREET.

BASIN 7 WILL REMAIN UNDEVELOPED AT THIS TIME AND WILL DRAIN TO A DESILTING POND DESIGNED TO HOLD 4,008 CUBIC FEET OR WATER WHICH IS GREATER THAN THE 3,801 CUBIC FEET REQUIRED. THE POND WILL OVERFLOW TO THE AREA INLET LOCATED IN BASIN 1 NEAR THE TRUCK DOCK AND BE CONVEYED TO FRITO LAY DETENTION POND #5.

THIS SITE WILL DISCHARGE A TOTAL OF 24.89 CFS TO FRITO LAY POND #5 WHICH IS LESS THAN THE 24.97 ALLOWED IN THE APPROVED DRAINAGE PLAN. THAT TOTAL INCLUDES THE 10.52 CFS BEING PASSED THROUGH FROM THE ADJACENT OFFICE COMPLEX.

N

GRAPHIC SCALE
30 15 0 15 30
SCALE: 1"=30'

DESILTING POND CALCULATIONS:

3.08 ACRES OF IMPERVIOUS AREA = 134,165 SQ. FT
134,165 SQ. FT * (0.34"/12) = 3,801 CU. FT = 0.087 AC-FT
OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

ENGINEER'S SEAL
RONALD R. BOHANNAN NEW MEXICO 7868 PROFESSIONAL ENGINEER
RONALD R. BOHANNAN P.E. #7868

TRACT 9A
RENAISSANCE CENTER
GRADING AND DRAINAGE PLAN

DRAWN BY: BJF
DATE: 7/13/15
2015009-GRB
SHEET #: D1
JOB #: 2015009

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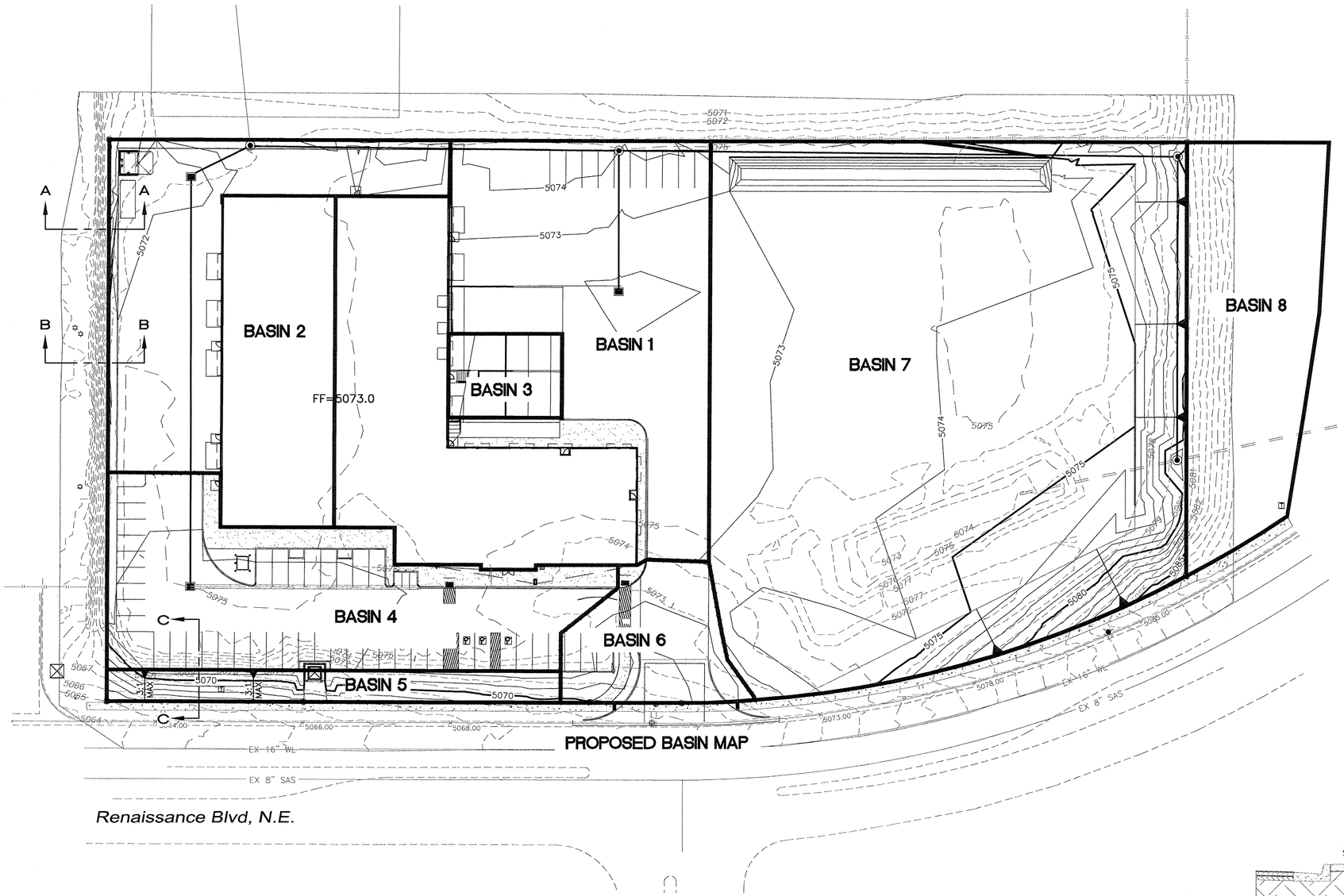
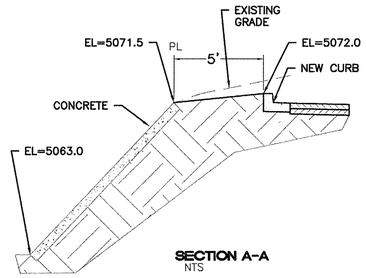
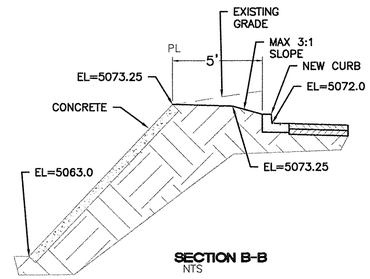
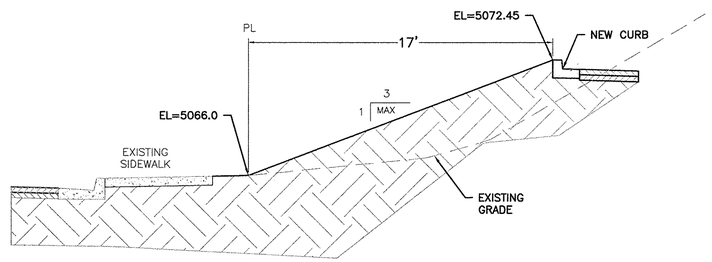




SECTION A-A
NTS



SECTION B-B
NTS



SECTION C-C
NTS

Weighted E Method

On-Site Basins

Basin	Area (sf)	Area (acres)	Treatment A %	Treatment A (acres)	Treatment B %	Treatment B (acres)	Treatment C %	Treatment C (acres)	Treatment D %	Treatment D (acres)	100-Year Weighted E (ac-ft)	100-Year Volume (ac-ft)	100-Year Flow cfs	10-Year Weighted E (ac-ft)	10-Year Volume (ac-ft)	10-Year Flow cfs
1	41,955	0.96	0%	0	2%	0.02	0%	0.00	98%	0.94	2.093	0.168	4.48	1.319	0.106	2.98
2	28,583	0.66	0%	0	8%	0.05	0%	0.00	92%	0.60	2.013	0.110	2.96	1.255	0.069	1.95
3	3,220	0.07	0%	0	0%	0.00	0%	0.00	100%	0.07	2.120	0.013	0.35	1.340	0.008	0.23
4	19,840	0.46	0%	0	8%	0.04	0%	0.00	92%	0.42	2.013	0.076	2.05	1.255	0.048	1.35
5	3,983	0.09	0%	0	100%	0.09	0%	0.00	0%	0.00	0.780	0.006	0.21	0.280	0.002	0.09
6	4,950	0.11	0%	0	30%	0.03	0%	0.00	70%	0.08	1.718	0.016	0.45	1.022	0.010	0.28
7	67,804	1.56	0%	0	30%	0.47	0%	0.00	70%	1.09	1.718	0.223	6.19	1.022	0.133	3.86
8	14,040	0.32	0%	0	100%	0.32	0%	0.00	0%	0.00	0.780	0.021	0.73	0.280	0.008	0.31
													16.68			

Equations:

Weighted E = Ea*Aa + Eb*Ab + Ec*Ac + Ed*Ad / (Total Area)

Volume = Weighted D * Total Area

Flow = Qa * Aa + Qb * Ab + Qc * Ac + Qd * Ad

Excess Precipitation, E (inches)		
Zone 2	100-Year	10 - Year
E_a	0.53	0.13
E_b	0.78	0.28
E_c	1.13	0.52
E_d	2.12	1.34

Peak Discharge (cfs/acre)		
Zone 2	100-Year	10 - Year
Q_a	1.56	0.38
Q_b	2.28	0.95
Q_c	3.14	1.71
Q_d	4.70	3.14

Capacity of a Double 'D' Storm Drop Inlet

Capacity of the grate:

L = 80" - 3(2"$_{walls}$) - 14(½"$_{middle\ bars}$) - 6"$_{center\ plate}$
= 63"
= 5.25'

W = 25" - 13(¼"$_{middle\ bars}$)
= 18.5"
= 1.54'

Area = 5.25' x 1.54'
= 8.09 ft²

Effective Area = 8.09- 8.09 (0.5 $_{clogging\ factor}$)
= 4.04 ft² at the grate

Orifice Equation

Q = CA sqrt(2gH)
Q = 0.6*4.04*sqrt(2*32.2*0.67)
Q = 15.93 cfs

N

GRAPHIC SCALE
30 15 0 15 30
SCALE: 1"=30'

ENGINEER'S SEAL
RONALD R. BOHANNAN NEW MEXICO 7868 PROFESSIONAL ENGINEER
RONALD R. BOHANNAN P.E. #7868

TRACT 9A
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