

CITY OF ALBUQUERQUE



June 15, 2015

Reza Afaghpour, PE
through SBS Construction and Engineering, LLC
10209 Snowflake Court NW
Albuquerque, NM 87114

**RE: Starbucks and Burger King, Tract 338-B, 1000 Rio Grande Blvd. SE
Grading and Drainage Plan
Engineer's Stamp Date 5-16-2015 (File: H13-D021)**

Dear Mr. Afaghpour:

Based upon the information provided in your submittal received 5-18-15, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

- 1) If the curb cut at the accessway is allowing discharge from Pond D, label the swale from this pond to the 61.65 elevation, delineating a clear path for stormwater to spill from the pond.
- 2) Provide a small section of riprap downstream of the curb cut within the swale at the north boundary of the site (Elevation 62.15) where flow is being collected from the north building in order to prevent site erosion near the property boundary.
- 3) Text for "Irrigation Pipe not to be Disturbed" is cut off on the right side of the plan view.
- 4) The 92.75 elevation shown within the parking lot at the corner of one of the handicapped parking spaces is in error. I think it was meant to put "62.75"?
- 5) Provide a grease trap to collect storm drainage from the trash dumpster area.
- 6) Make sure that the write-up matches what is shown on the plan view. The write-up is still referencing 6" pipes instead of 12" pipes, and it is still showing that inlets are collecting flow where there are none.

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: 1000 AND 1010 RIO GRANDE BLVD., NW Building Permit #: _____ City Drainage #: H13-D021
 DRB#: _____ EPC#: _____ Work Order#: _____
 Legal Description: TRACT 338-B, MRGCD MAP 35 TBK TRACTS 338-B-1 AND 338-B-2
 City Address: 1000 (STARBUCKS)AND 1010 (BURGER KING) RIO GRANDE, NW

Engineering Firm: SBS CONSTRUCTION AND ENGINEERING, LLC Contact: SHAWN BIAZAR
 Address: 10209 SNOWFLAKE CT., NW, ALBUQUERQUE, NM 87114
 Phone#: 505-804-5013 Fax#: 505-897-4996 E-mail: AECLLC@AOL.COM

Owner: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

Architect: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

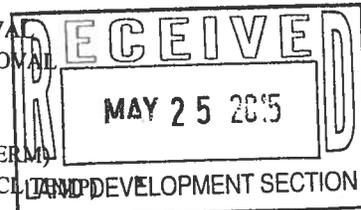
Contractor: _____ Contact: _____
 Address: _____
 Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- DRAINAGE REPORT
- DRAINAGE PLAN 1st SUBMITTAL
- 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)
- FOUNDATION PERMIT APPROVAL
- 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)



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided
 DATE SUBMITTED: 05/18/2015 By: SHAWN BIAZAR

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 following:

- Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
- Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
- Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
- 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

CONTAINING 60,306.32 S.F. (1.3844 ACRE)
 ZONING: C-2

Location
Tract 338-B, M.R.G.C.D Map 35 contains +/- 1.3844 acre and is located at 1000 Rio Grande Boulevard. See attached portion of the Vicinity Map for exact location.

Purpose
The purpose of this drainage report is to present a grading and drainage solution to replace existing improvements with this new building.

Existing Drainage Conditions
The site was an existing service station. The portion to the east is undeveloped. Portion of the site fall with a Flood Plain Zone AH, FIRM Map No. 35001C0331H (elevation 4961). The existing grades are more than 1' above Flood Plain Elevation, and this existing elevation after the existing asphalt and concrete has been removed from the site. The site historically (gas station) drained to Rio Grande Boulevard and Aspen Avenue.

Proposed Conditions and On-Site Drainage Management Plan
The finished floor of the building are going to be 2' above the flood plain elevation. The site drain to a series of inlets and then will overflow through a curb opening at the entrance from Rio Grande Boulevard. Ponds A and B will overflow to Pond C. Pond C, D and E are connected via 6" SD pipe and will function as one big pond. The total pond volume provided is 5,795.18 CF and the 1/2 inch ponding volume required for the valley is 2,512.76 CF. Since the site at its current elevation is higher than the floodplain elevation, the proposed development will not be encroaching into the existing floodplain volume. But for sake of conservancy a total area of 3,000.00 sf will be raised approximately 6" (a total volume of 1,500.00 cf). Furthermore, the total volume required can be (2,512.76 + 1,500.00) 4,012.76 cf which is less than 5,795.18 cf (volume provided).

Calculations
City of Albuquerque, Development Process Manual, Section 22.2, Hydrology Section, was used for runoff calculations. See this plan for AHYMO input and Summary output files.

POND A VOLUME CALCULATION (SAMPLE CALCULATION)

BOTTOM AREA = 134.14 SF, TOP AREA = 469.61 SF, DEPTH = 1.0'
VOLUME PROVIDED = (134.14 + 469.61)/2 X 1 = 301.88 CF

POND A: TOP=62.20 (469.61 SF), BOTTOM=61.20 (134.14 SF), VOLUME=301.88 CF

POND B: TOP=62.20 (679.72), BOTTOM=61.20 (327.91 SF), VOLUME=503.82 CF

POND C: TOP=61.80 (1,849.13 SF), BOTTOM=59.80 (698.42 SF), VOLUME=2547.55 CF

POND D: TOP=61.80 (2,041.85 SF), MIDDLE= 60.80 (789.02 SF), BOTTOM=59.80 (267.16 SF), VOLUME=1943.53 CF

POND E: TOP=61.80 (489.53 SF), BOTTOM=59.80 (8.87 SF), VOLUME=498.40 CF

TOTAL POND VOLUME PROVIDED = POND A + B + C + D + E
= 301.88 + 503.82 + 2547.55 + 1943.53 + 498.40 = 5,795.18 CF

PONDING REQUIREMENT CALCULATION

TOTAL PONDING VOLUME REQUIRED = VOL. PROPOSED CONDITIONS - VOL. EXISTING CONDITIONS
= 0.053 - 0.023 = 0.03 AC-FT = 1,306.80 CF

TOTAL PONDING VOLUME REQUIRED (VALLEY):
0.5 INCHES X AREA = (0.5/12 x 60,306.32) = 2,512.76 CF

TOTAL PONDING VOLUME REQUIRED (90TH PERCENTILE/FIRST FLUSH):
0.34 INCHES X IMPERVIOUS AREA = (0.34/12 x 48,245.06) = 1,366.94 CF

PIPE CAPACITY CALCULATION USING ORIFICE EQUATION

Q = CA√2GH = 0.60 x 0.785√2 x 32.2 x 2.5 = 5.98 cfs
PIPE SIZE = 12", AREA = 3.14 x (12/24)² = 0.875 sf
H = 2.0'

CURB OPENING CAPACITY CALCULATION USING WEIR EQUATION

Q = CLH²³/² = 3.10 x 2 x 0.5²³/² = 3.91 cfs
L = 2', H = 0.50'

*** ZONE 2**

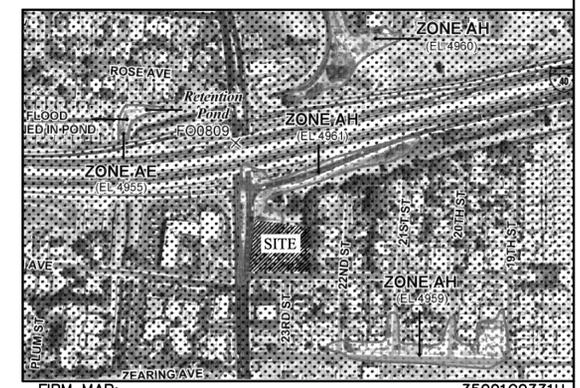
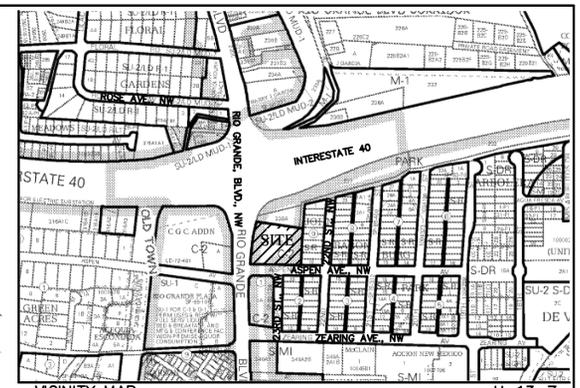
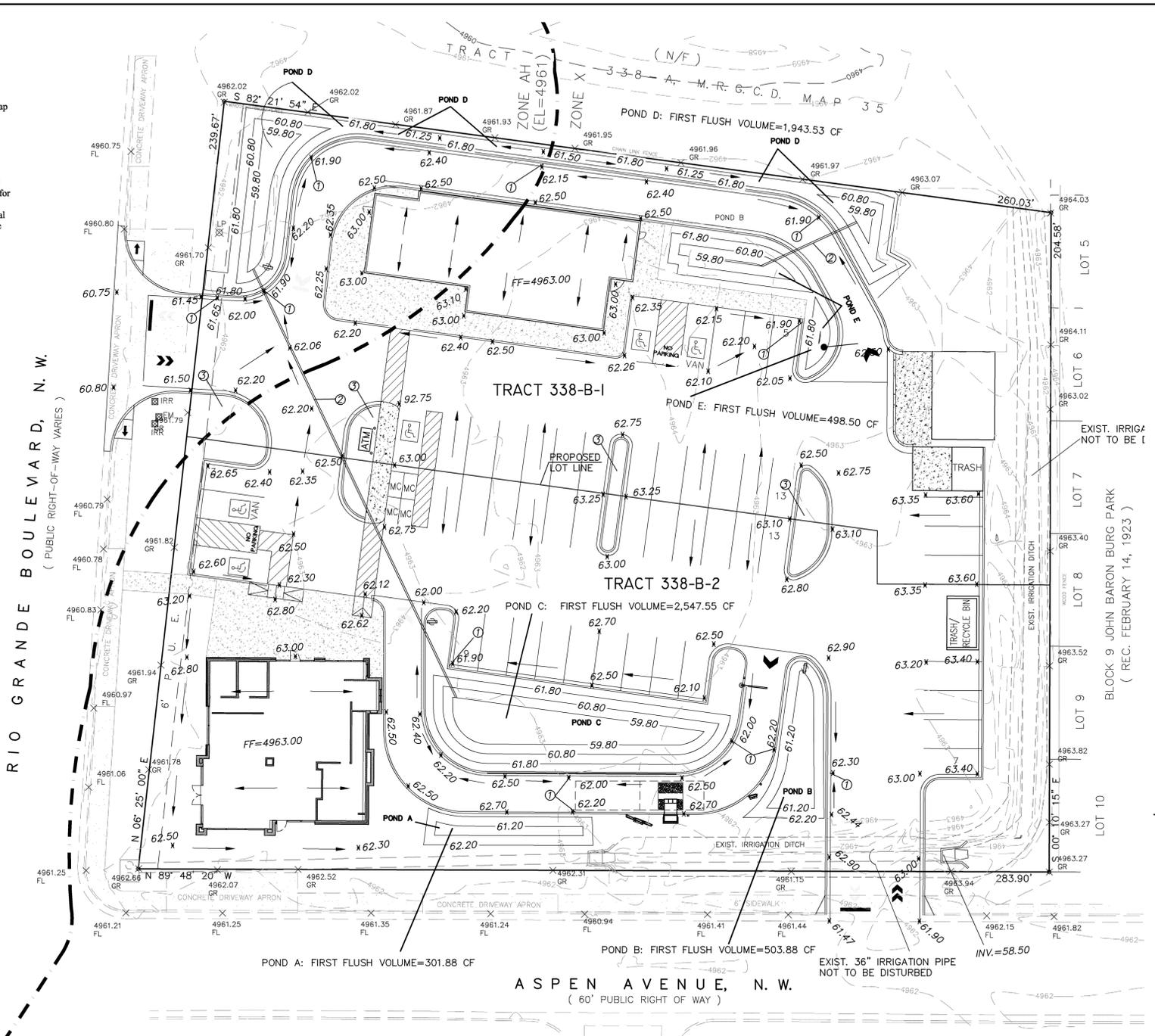
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RAIN ONE=2.01 IN RAIN SIX=2.35 IN
RAIN DAY=2.75 IN DT=0.03333 HR
*** ON-SITE COMPUTE NM HYD**
ID=1 HYD NO=100.0 AREA=0.002163 SQ MI
PER A=20.00 PER B=20.00 PER C=20.00 PER D=40.00
TP=0.1333 HR MASS RAINFALL=-1
6-HR STORM (UNDER EXISTING CONDITIONS)
*** 10-YEAR, 6-HR STORM (UNDER EXISTING CONDITIONS)**
START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.34 IN RAIN SIX=1.57 IN
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*** ON-SITE COMPUTE NM HYD**
ID=1 HYD NO=110.0 AREA=0.002163 SQ MI
PER A=20.00 PER B=20.00 PER C=20.00 PER D=40.00
TP=0.1333 HR MASS RAINFALL=-1
6-HR STORM (UNDER PROPOSED CONDITIONS)
*** 100-YEAR, 6-HR STORM (UNDER PROPOSED CONDITIONS)**
START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=2.01 IN RAIN SIX=2.35 IN
RAIN DAY=2.75 IN DT=0.03333 HR
*** ON-SITE COMPUTE NM HYD**
ID=1 HYD NO=100.1 AREA=0.002163 SQ MI
PER A=0.00 PER B=10.00 PER C=10.00 PER D=80.00
TP=0.1333 HR MASS RAINFALL=-1
6-HR STORM (UNDER PROPOSED CONDITIONS)
*** 10-YEAR, 6-HR STORM (UNDER PROPOSED CONDITIONS)**
START TIME=0.0
RAINFALL TYPE=1 RAIN QUARTER=0.0 IN
RAIN ONE=1.34 IN RAIN SIX=1.57 IN
RAIN DAY=1.83 IN DT=0.03333 HR
*** ON-SITE COMPUTE NM HYD**
ID=1 HYD NO=110.1 AREA=0.002163 SQ MI
PER A=0.00 PER B=10.00 PER C=10.00 PER D=80.00
TP=0.1333 HR MASS RAINFALL=-1

FINISH

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - VERSION: 1997.02d RUN DATE (MON/DAY/YR) = 03/26/2015
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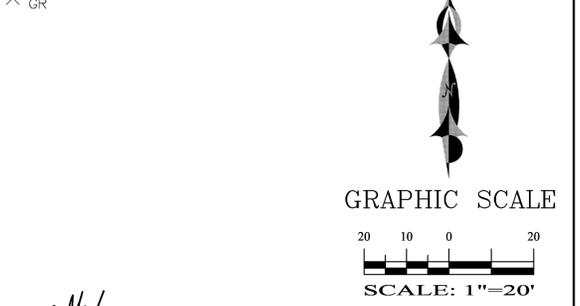
COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE	NOTATION
START RAINFALL	TYPE= 1									TIME=	.00
COMPUTE NM HYD		100.00	-	1	.00216	4.50	.151	1.31307	1.500	3.249 PER IMP=	2.350
START RAINFALL	TYPE= 1									TIME=	.00
COMPUTE NM HYD		110.00	-	1	.00216	2.48	.081	.70203	1.500	1.790 PER IMP=	1.570
START RAINFALL	TYPE= 1									TIME=	.00
COMPUTE NM HYD		100.10	-	1	.00216	5.97	.217	1.87962	1.500	4.311 PER IMP=	2.350
START RAINFALL	TYPE= 1									TIME=	.00
COMPUTE NM HYD		110.10	-	1	.00216	3.80	.132	1.14633	1.500	2.748 PER IMP=	1.570

RIO GRANDE BOULEVARD, N.W.
(PUBLIC RIGHT-OF-WAY VARIES)



LEGAL DESCRIPTION:
TRACT 338-B, M.R.G.C.D MAP 35
CONTAINING 60,306.32 S.F. (1.3844 ACRE)
ZONING: C-2
BENCHMARK 20-J13:
NAVD 88 ELEV.=4960.717

LEGEND
- - - 5100 - - - EXISTING CONTOUR (MAJOR)
- - - 5102 - - - EXISTING CONTOUR (MINOR)
- - - BOUNDARY LINE
- - - FLOODPLAIN BOUNDARY
x 62.40 PROPOSED SPOT ELEVATION
x 4961.87 GR EXISTING SPOT ELEVATION



- NOTES:**
- PROVIDE 24" CURB OPENING
 - 12" SD PIPE, INV. @ BOTH ENDS = 4959.80
 - DEPRESSED LANDSCAPING AREA (6" MIN.)

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

- GENERAL NOTES:**
- CONTOUR INTERVAL IS HALF (1.00) FOOT.
 - ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION 6_G15, HAVING AN ELEVATION OF 4978.419 FEET ABOVE SEA LEVEL.
 - UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
 - THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
 - SLOPES ARE AT 3:1 MAXIMUM.



SBS CONSTRUCTION AND ENGINEERING, LLC

REZA AFAGHPOUR
P.E. #11814
10209 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)804-5013

1000 RIO GRANDE BLVD., NW GRADING AND DRAINAGE PLAN			
DRAWING: 201309-GD.DWG	DRAWN BY: SH-B	DATE: 10-25-2014	SHEET # 1