

Richard J. Berry, Mayor

June 2, 2017

Glenn Broughton Bohannan Huston, Inc. 7500 Jefferson St NE Albuquerque, NM 87109

RE: Smiles for Kids Dental Office - Phase 2

Conceptual Grading and Drainage Plan

Stamp Date: 6/1/17

Hydrology File: C12D055

Dear Mr. Broughton:

Based upon the information provided in your re-submittal received 6/1/2017, the Conceptual Grading and Drainage Plan **is not** approved for Site Plan for Building Permit. The following comments need to be addressed for approval of the above referenced project:

PO Box 1293

1. Please place a note "Not for Construction" on C001, C002, and C100.

Albuquerque

2. On Sheet C001. Under the Fist Flush Calculations, the volume provided shows 1310 CF and the labeled volume of the pond is 1240 CF. Please correct whichever one is incorrect.

New Mexico 87103

3. On Sheet C100. It appears that the proposed bike lane should continue to the corner of Eagle Ranch and Nunzio. This would mean that the pond will have to be shifted over a little bit and the valley cutter across Nunzio Avenue will have to be replaced to reflect the new bike lane. Please get the bike lane layout approved by transportation before resubmitting. Also please do not forget to place the valley gutter on the infrastructure list.

www.cabq.gov

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

Sincerely,

Renee C. Brissett

Reneé C. Brissette, P.E. Senior Engineer, Hydrology Planning Department

# Bohannan A Huston

June 1, 2017

Ms. Renee C. Brissette, PE Senior Engineer, Hydrology City of Albuquerque Planning Department

Albuquerque, NM 87103

Re: Tract 10-A-1 (Smile for kids Phase 2) / Hydrology File C12D055

Dear Ms. Brissette:

600 2nd Street NW

Enclosed for your review and comment is a re-submittal of the Tract 10-A-1 (Smiles for Kids Phase 2). Please see the responses to your comments dated May 8, 2017 below: Note that the comment response number corresponds to the number on your review letter. A copy of the review letter is attached for reference.

- Tract G has been removed from the drainage management plan. Note that the
  undeveloped lot currently drains onto Tract 10-A-1. This is not accounted for in this
  Drainage Management Plan. When this tract is developed, drainage will be
  conveyed north across Tract F as required by the Fountain Hills Drainage Report.
- A drainage easement will be provided on Tract 10-A-1 for the benefit of Tract H.
  The easement will be recorded prior to final sign off of the Site Plan for Building
  Permit.
- Legal description has been added.
- 4. The flood plain note is included in the first paragraph of existing conditions narrative.
- The project bench mark has been added to the plan. This is based on NAD\_83 and NAVD88.
- The applicable drainage report for this tract has been revised.
- 7. The land treatments for Basin 2 have been revised to match the land treatments on the approved DMP for Tract H.
- 8. Q100 for Basin 4 has been added to the DMP. Note that this basin ID has been revised to Basin 3.
- The reference to Nunzio 60' R/W has been deleted. The recording information for the access easement has been added to the sheet.
- The weir capacity calculation has been added. See Sidewalk Culvert Capacity Table.
- 11. The private storm drains are all designed for gravity flow. A storm drain pipe table have been added to demonstrate that the storm drain pipes are adequately sized.
- 12. Top of curb and flow line elevations have been added.
- 13. Top of curb and flow line elevations have been added.

Engineering A

Courtyard I

7500 Jefferson St. NE Albuquerque, NM 87109-4335

toll free: 800.877.5332

www.bhinc.com voice: 505.823.1000 facsimile: 505.798.7988 Ms. Renee C. Brissette, P.E. City of Albuquerque June 1, 2017 Page 2

- 14. The Phase 1 storm drain sump pump discharge line connection has been added. This discharge line will connect to a new inlet on Tract H.
- 15. The Phase 2 storm drain sump pump discharge line connection has been added. This discharge line will connect to the Phase 1 line and new inlet on Tract H.
- 16. The cross sections along Nunzio and Eagle Ranch have been added.
- The paved asphalt trail along Nunzio and concrete sidewalk along Eagle Ranch have been added.
- 18. The sidewalk adjacent to Tract H were financially guaranteed by the Fountain Hills project. Construction of those sidewalks are the responsibility of the Fountain Hills Developer.
- 19. We have discussed this with Transportation. The conceptual pond design has been modified based on widening of Eagle Ranch for a right turn lane and bike lane.
- 20. Sheet C-002, Eagle Ranch Capacity Calculations have been added to the submittal package.

We are requesting Hydrology approval in support of Site Plan for Building Permit approval. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,

Glenn Broughton, PE Senior Project Manager

Community Development and Planning

GSB/jcm Enclosures



Richard J. Berry, Mayor

May 8, 2017

Gleen Broughton Bohannan Huston, Inc. 7500 Jefferson St NE Albuquerque, NM 87109

RE: Smiles for Kids Dental Office - Phase 2

Conceptual Grading and Drainage Plan

Stamp Date: 4/26/17 Hydrology File: C12D055

Dear Mr. Broughton:

Based upon the information provided in your submittal received 4/26/2017, the Conceptual Grading and Drainage Plan is not approved for Site Plan for Building Permit. The following comments need to be addressed for approval of the above referenced project:

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New Mexico 87103

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- According to "Fountain Hills DMP", Tract G is not supposed to drain thru Tract H
  and Lots 10A-1 to Eagle Ranch Road so the increased flow from Tract G will not
  be allowed at Eagle Ranch Road. The flow from Tract G was not anticipated in the
  "North Coors DMP Revision" and again it was not anticipated in the "Grandma's
  Pond" drainage design.
- Please provide a Private Facility Drainage Covenant and Reservation of Private
  Drainage Easement. This covenant and easement should be between Lot 10A-1
  and Tracts G & H and please add a note of the recorded covenant and easement on
  either Sheet C001 or C100.
- 3. On Sheet C001. Please provide the legal description of the property.
- 4. On Sheet C001. Please provide the flood plain note.
- On Sheet C001. Please provide the benchmark information.
- 6. On Sheet C001. Under Existing Conditions, the drainage study for Fountain Hills is referenced. Even though Lots 10A-1 and Tract H are shown in the study, these lots are not in the same watershed basin as Fountain Hills. Please reference the drainage study which these sites are part of the watershed, "Proposed Tract 2B Detention Pond (North Coors DMP Revision) by Smith Engineering, 2003 (AMAFCA #353.04.05). The Allowable discharge for from the site is 4.094 cfs/ac.



Richard J. Berry, Mayor

- On Sheet C001. Under Proposed Ultimate Development Conditions, for Basin 2
  please verify that the area shown on the Phase 1 Site Plan listed as future building
  was included as land treatment D. Correct calculation if needed.
- On Sheet C001. Please show the Q<sub>100</sub> for Basin 4 to be discharge on to Nunzion Avenue.
- On Sheet C001. Please remove Nunzio Avenue (60' R.O.W.) from the drive to Smiles for Kids. Please then label this as a private drive with an access agreement for Lot 10-A-1 and Tract H.
- On Sheet C001. Please provide the weir calculation for the 2 foot sideway culverts with the total Q for the four culverts.
- 11. On Sheet C001. Please provide HGL Calculations for the 18-inch pipe system.
- 12. On Sheet C100. Please provide the existing TC & FL at the corners of the Phase 1 parking lot in a 70 foot radius around the proposed inlet. I would like to insure the drainage pattern for the proposed inlet.
- 13. On Sheet C100. Along the existing access drive, please provide the existing TC & FL at the proposed curb return for the parking lot entrances.
- 14. On Sheet C100. There is an existing inlet for the Phase 1 underground parking. This inlet has a sump pump and a pvc discharge pipe that goes into the existing concrete rundown. See photo below. The Phase 2 plan does not show that there is a connection to the proposed storm sewer system. Please provide the connection.

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- 15. On Sheet C100. The Phase 2 underground parking has a proposed inlet without a connection to the proposed storm sewer system. Please provide the connection.
- 16. On Sheet C100. Please provide two cross sections of the proposed retention pond. One along Eagle Ranch Road and the other at the proposed sidewalk culverts on Nunzio Avenue.
- 17. On Sheet C100. Lot 10 A-1 and Tracts G & H are not included in the Fountain Hill financial deferment of the sidewalks. Therefore please show the sidewalk along Nuzio Avenue and Eagle Ranch Road.
- 18. Phase 1 plans showed a proposed sidewalk along Eagle Ranch Road and Paseo del Norte. However, the sidewalks were never built. Please include the sidewalks in Phase 2.
- 19. Please note that according to the 2040 Metropolitan Transportation Plan, Eagle Ranch Road may be widened for a bike lane. Please check with Transportation and anticipate this in the pond design.
- 20. Please show the capacity calculations on Eagle Ranch Road right below the pond's outfall for the 10 year and 100 year storm event.

Albuquerque

PO Box 1293

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

New Mexico 87103

Sincerely,

www.cabq.gov

Reneé C. Brissette, P.E. Senior Engineer, Hydrology Planning Department

Rence C. Bressett

Current DRC	
Project No.	

Fla		

#### INFRASTRUCTURE LIST

Date Submitted: Date Site Plan Approved:

Date Preliminary Plat Approved: Date Preliminary Plat Expires: DRB Project No.

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

SMILE FOR KIDS

LOT 10-A-1

(TRACT ALBUQUERQUE WES UNIT 1)

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the isting and related financial guarantees. All sections in the instancial parantees are provided in the infrastructure in the instancial guarantees. All such revisions not be deleted for more may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the Issing will be incorporated administratively. In addition, any unforeseen items which arise during construction which which are necessary to emprovide the project and which parameters.

	COA DRC Project #	Size	Type of Improvement	Location	From	То	Private Inspector	City	City Cn Engine
quence #	Project #	PUBLIC ROADW	AY IMPROVEMENTS - OFFSITE PH	ASE 2 (DEFFERED)			mspector	inspector	Enqine
		12'-14'	ARTERIAL PAVEMENT W/ PCC CURB & GUTTER 6' WIDE PCC SIDEWALK ON THE WESTSIDE	EAGLE RANCH ROAD	NUNZIO AVENUE	SOUTH BOUNDARY	1		
		10	ASPHALT TRAIL	NUNZIO AVENUE	WEST BOUNDARY	EAGLE RANCH NW ROAD			-
****	AGENT/OWNER	 ××××××××××	XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	NAMES OF STREET	000000000000000000000000000000000000000		×××××××××××××××××××××××××××××××××××××××	xxxxxxxxxx	(XXXXX
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### **LEGEND**

——— — PROPERTY LINE PROPOSED SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE TW=TOP OF WALL, BW=BOTTOM OF WALL EX=EXISTING, TG=TOP OF GRADE S=2.0% PROPOSED DIRECTION OF FLOW

WATER BLOCK **//////** PROPOSED RETAINING WALL PROPOSED INTER CONTOURS

PROPOSED CURB & GUTTER

P:\20170393\CDP\Plans\General\20170393 Proposed DMP.dwg

Thu, 1-Jun-2017 - 8:58:am, Plotted by: BORTEGA

PROPOSED STORM DRAIN LINE

PASEO DEL NORTE N.W. (156' ROW)

# STORM DRAIN PIPE TABLE

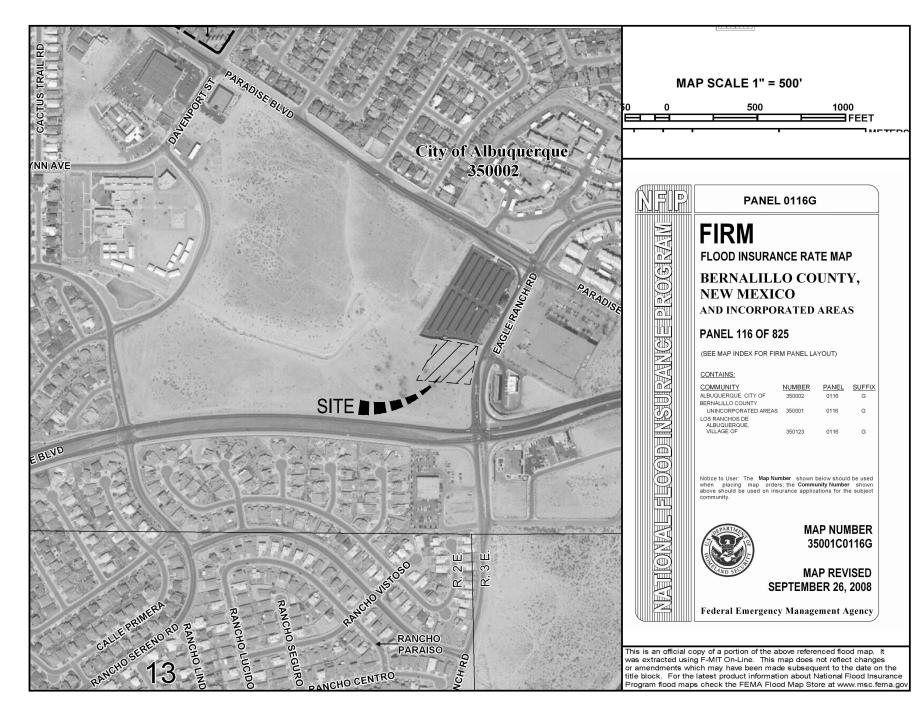
SIDEWALK CULVERT CAPACITY TABLE									
WEIR # Contributing Basins & Flows   Required   Weir Height   Weir   Weir   Weir   Capacity									
SDWK-1	BASIN 1 & 2	6.20	0.67	6.00	9.00				
Weir Coeffici	ent = 2.65 - *								

ACTUAL PIPE INVERT INVERT Contributing Size | Slope | Capacity\* | FLOW | LENGTH | IN PIPE# Basins OUT cfs cfs & Pipes STORM DRAIN PIPE BASIN 1 12 | 2.00% | 50 3.7 10.0 5084.80 | 5084.60 BASIN 2 12 | 2.00% | 50 2.5 200.0 5088.60 | 5084.60 | 18 | 4.87% | 23.2 BASINS 1 & 2 6.2 104.8 5084.60 5079.50

Smiles for Kids Dental Office Phase 2

CAPACITY IS BASED ON GRAVITY FLOW, USING MANNING'S EQUATION WITH n=0.013

			Sn	niles for	Kids De	ental Off	fice Phas	se 2							
		Prop	osed Ult	timate De	evelopme	ent Cond	itions Ba	sin Data	Table						
This ta	ble is based	on the DPM	Section 22.2	, Zone:	1								"FIRST FLUSH" CA	LCULATIONS	
Basin	Area	Area	Lan	d Treatme	nt Percenta	ages	<b>Q</b> (100yr)	<b>Q</b> (100yr-6hr)	WT E	<b>V</b> (100yr-6hr)	<b>V</b> (100yr-10day)	Impervious Area	Precipitation	Required	Volume
ID	(SQ. FT)	(AC.)	Α	В	С	D	(cfs/ac.)	(CFS)	(inches)	(CF)	CF	(SF)	Depth (IN)	Volume (CF)	Provided (CF)
Propo	osed														
1	41083	0.94	0.0%	0.0%	28.0%	72.0%	3.95	3.7	1.70	5805	9429	29580	0.34	838	1310
2	26589	0.61	0.0%	0.0%	17.0%	83.0%	4.12	2.5	1.80	3996	6699	*N/A		N/A	N/A
3	5209	0.12	0.0%	0.0%	27.0%	73.0%	3.97	0.5	1.71	740	1206	3803	0.34	108	0
TOTAL	72881	1.67						6.7			17334	*Tract H Previou	usly Developed	946	1310



# FEMA FIRM MAP # 35001C0116G

LEGAL DESCRIPTION: LOT 10-A-1 ALBUQUERQUE WEST UNIT 1

PROVIDE A DRAINAGE MANAGEMENT PLAN FOR THE DEVELOPMENT OF SMILES FOR KIDS DENTIST OFFICE PHASE 2 AND REQUEST SITE DEVELOPMENT PLAN FOR BUILDING PERMIT APPROVAL.

### **EXISTING CONDITIONS:**

LOT 10-A-1 OF ALBUQUERQUE WEST UNIT 1 IS A 1.06 ACRE SITE THAT IS CURRENTLY UNDEVELOPED. THE SITE SLOPES TO THE NORTH / NORTHEAST WHERE THE RUNOFF FREE DISCHARGES INTO EAGLE RANCH RD AND NUNZIO AVE. THIS SITE IS NOT WITHIN A DEFINED FLOOD ZONE AS SHOWN ON FIRM MAP NUMBER 35001C0116G

BASED ON THE DRAINAGE STUDY FOR PROPOSED TRACT 2B DETENTION POND (NORTH COORS DMP REVISION PREPARED BY SMITH ENGINEERING, 2003) (AMAFCA #353.04.05), THE ALLOWABLE PEAK DISCHARGE FROM THE SITE IS APPROXIMATELY 4.09 CFS/AC.

### METHODOLOGY:

THE HYDROLOGIC ANALYSIS PROVIDED WITH THIS DRAINAGE MANAGEMENT PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 22.2 OF THE DPM. THE SITE IS LOCATED WEST OF THE RIO GRANDE WITHIN PRECIPITATION ZONE 1. LAND TREATMENT PERCENTAGES WERE CALCULATED BASED ON THE ACTUAL CONDITIONS IN EACH ONSITE BASIN AND ARE SUMMARIZED IN THE "PROPOSED BASIN DATA TABLE" (THIS SHEET).

## PROPOSED CONDITIONS:

THIS DRAINAGE MANAGEMENT PLAN WAS DEVELOPED BASED ON A FULLY DEVELOPED SITE. IT WAS DETERMINED THAT THE MAXIMUM ALLOWABLE PEAK DISCHARGE FROM THE SITE IS APPROXIMATELY 4.09 CFS/AC (AS MENTIONED ABOVE). THIS DMP INCLUDES OFFSITE DRAINAGE FROM TRACT H OF FOUNTAIN HILLS PLAZA. TRACT H IS CURRENTLY DEVELOPED WITH A SMILES FOR KIDS DENTAL CLINIC. THE DRAINAGE MANAGEMENT PLAN FOR THIS DEVELOPMENT ALLOWS FREE DISCHARGE TO EAGLE RANCH ROAD. THE EXISTING SMILES FOR KIDS DEVELOPMENT INCLUDED PARKING BELOW THE BUILDING. THE ACCESS RAMP TO THE GARAGE IS ON THE NORTH SIDE OF THE SITE. WITH THE DEVELOPMENT OF LOT 10-A-1 THE EXISTING RAMP WILL BE SHARED TO PROVIDE ACCESS TO PARKING BELOW THE NEW DENTAL CLINIC BUILDING. THE NEW ACCESS RAMP REQUIRES THAT A PORTION OF THE DRAINAGE FROM TRACT H (NOTED AS BASIN B1, C12/D054) BE DIVERTED NORTH AND CONVEYED THROUGH LOT 10-A-1 VIA A STORM DRAIN.

THE DEVELOPMENT OF TRACT H REQUIRED THE CONSTRUCTION OF AN ACCESS ROAD. THIS IS A SHARED ACCESS FOR TRACT F, G AND H OF FOUNTAIN HILLS AND LOT 10-A-1. A WATER BLOCK WAS CONSTRUCTED AT THE NORTH PROPERTY LINE OF TRACT H TO CONVEY DRAINAGE EAST TO EAGLE RANCH.

THE ULTIMATE OUTFALL LOCATION FOR TRACT H AND LOT 10-A-1 WILL BE NUNZIO AVE NEAR THE INTERSECTION WITH EAGLE RANCH ROAD. THE STORM DRAIN WILL OUTFALL INTO A SMALL RETENTION POND SIZED TO MEET THE FIRST FLUSH VOLUME REQUIREMENTS FOR LOT 10-A-1. A SPILLWAY WILL BE INCORPORATED INTO THE POND DESIGN TO ALLOW RUNOFF BEYOND THE "FIRST FLUSH" STORM TO FREE DISCHARGE INTO NUNZIO AVE. TOTAL PEAK DISCHARGE INTO NUNZIO AVE IS APPROXIMATELY 6.2 CFS FROM THE TWO TRACTS DESCRIBED IN THIS DMP.

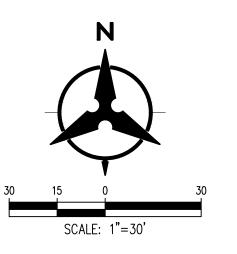
RETENTION AREAS WITHIN LOT 10-A-1 WILL BE INCORPORATED INTO THE LANDSCAPE AREAS WHERE POSSIBLE. THE FIRST FLUSH CALCULATIONS FOR THE OVERALL DEVELOPMENT AREA ARE BELOW. SEE "FIRST FLUSH CALCULATIONS" (THIS SHEET)

### CONCLUSION:

THE PEAK DISCHARGE FROM THE SITE IS 3.7 CFS WHICH IS LESS THAN THE ALLOWABLE PEAK DISCHARGE RATE, THEREFORE WE ARE IN CONFORMANCE WITH CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS AND REQUEST SITE DEVELOPMENT PLAN FOR BUILDING PERMIT APPROVAL.

### KEYED NOTES

- 1. STORM DRAIN INLET.
- 2. STORM DRAIN PIPE. SEE PLAN FOR SIZE & SLOPE.
- 3. RETENTION POND.
- 4. CONCRETE SPILLWAY WITH 3-24" WIDE SIDEWALK CULVERTS.



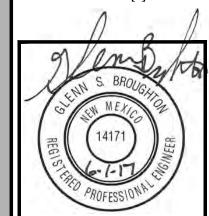


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Mullen Heller

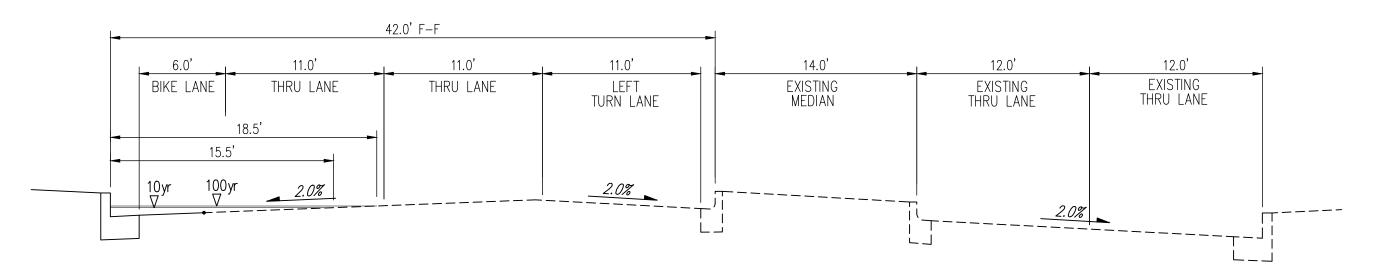
Architecture P.C. 924 Park Avenue SW

Suite B Albuquerque 87102 505 268 4144[p] 505 268 4244 [f]



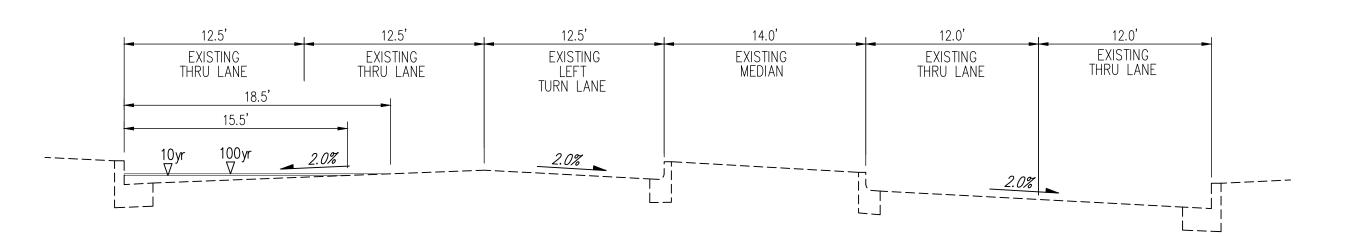


	Smiles for Kids Dental Office Phase 2 - Offsite Drainage Basin												
	Proposed Ultimate Development Conditions Basin Data Table												
This table is based on the DPM Section 22.2, Zone:													
Basin	Area	Area	Lan	d Treatmer	nt Percenta	iges	<b>Q</b> (100yr)	<b>Q</b> (100yr-6hr)	WT E	<b>V</b> (100yr-6hr)	<b>V</b> (100yr-10day)	<b>Q</b> (10yr)	<b>Q</b> (10yr-6hr)
ID	(SQ. FT)	(AC.)	Α	В	С	D	(cfs/ac.)	(CFS)	(inches)	(CF)	CF	(cfs/ac.)	(CFS)
Prop	osed												
1	180627	4.15	0.0%	0.0%	27.0%	73.0%	3.97	16.4	1.71	25670	41823	2.51	10.42
TOTAL	180627	4.15						16.4			41823		



SECTION A - EAGLE RANCH ROAD - PROPOSED CROSS SECTION

NTS



THE SMILES FOR KIDS PHASE 2 PROJECT IS LOCATED ON THE SOUTHWEST CORNER AT THE INTERSECTION OF NUNZIO AVE NW AND EAGLE RANCH RD. THE PURPOSE OF THIS SUBMITTAL IS TO ANALYZE THE CAPCITY OF EAGLE RANCH ROAD IMMEDIATELY DOWNSTREAM OF THE PROJECT. THIS ANALYSIS IS BEING PERFORMED IN SUPPORT OF SITE DEVELOPMENT PLAN FOR BUILDING PERMIT APPROVAL.

#### METHODOLOGY:

THE HYDROLOGIC ANALYSIS PROVIDED WITH THIS DRAINAGE MANAGEMENT PLAN HAS BEEN PREPARED IN ACCORDANCE WITH SECTION 22.2 OF THE DPM. THE SITE IS LOCATED WEST OF THE RIO GRANDE WITHIN PRECIPITATION ZONE 1. LAND TREATMENT PERCENTAGES WERE CALCULATED BASED ON THE DEVELOPED CONDITIONS AS SUMMARIZED IN THE "PROPOSED BASIN DATA TABLE" (THIS SHEET).

#### PROPOSED CONDITIONS:

THE PEAK FLOW RATE CALCULATIONS ARE BASED ON FULLY DEVELOPED CONDITIONS AND APPROVED DRAINAGE REPORTS. PEAK FLOW FOR THE 10 AND 100 YEAR STORMS WERE CALCULATED THE DRAINAGE BASIN INCLUDES THE NORTH LANES OF PASEO DEL NORTE, WEST HALF OF EAGLE RANCH, TRACT H AND LOT 10-A-1. THE MAJORITY OF THE FULLY DEVELOPED FIRST BAPTIST CHURCH SITE DISCHARGES TO A PUBLIC STORM DRAIN IN PASEO DEL NORTE. THE NORTHEASTERN PORTION OF THE SITE (BASIN 2-4) DRAINS NORTHEAST AND ULTIMATELY TO THE DETENTION POND NORTH OF NUNZIO.

THE CAPACITY OF EAGLE RANCH WAS CALCULATED USING MANNINGS EQUATION. IN THE 10 YEAR STORM THE DEPTH OF FLOW IS 0.4 FEET AND SPREAD IS 18.5 FEET. THE SPREAD IN THE 10 YEAR STORM ENCROACHES INTO THE SECOND THROUGH LANE BY APPROXIMATELY 4 FEET. THIS TECHNICALLY DOES NOT MEET THE CRITERIA SPECIFIED IN THE DPM, BUT LEAVES A 6.5 FOOT DRIVING LANE. THE DEPTH OF FLOW IN THE 100 YEAR STORM IS 0.46 FEET AND IS CONTAINED WITHIN THE ROADWAY.

Mullen Heller

Architecture P.C.

924 Park Avenue SW

Albuquerque 87102

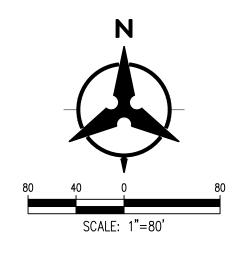
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#### CONCLUSION:

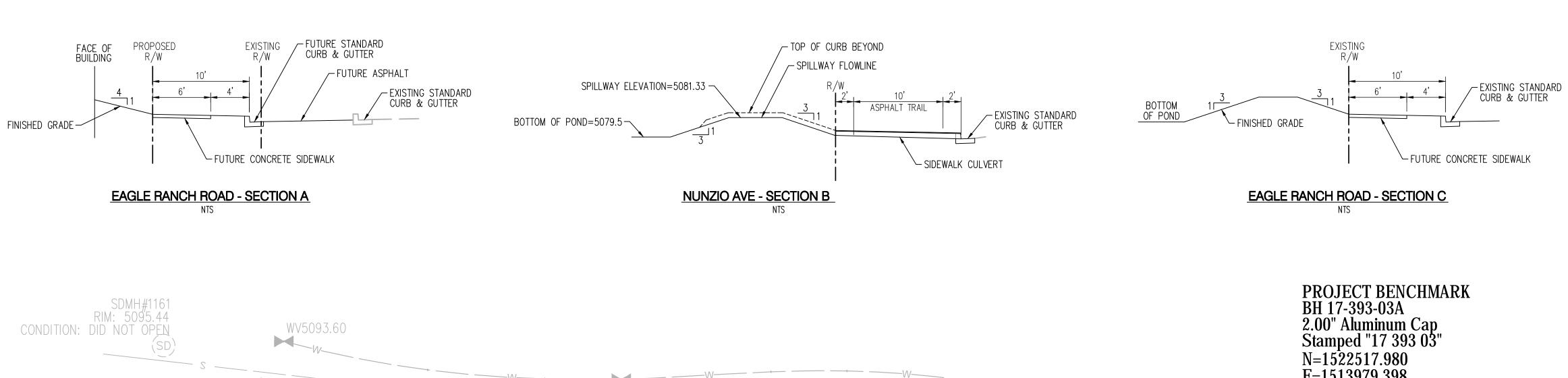
THE PEAK DISCHARGE FROM THE SITE IS 3.7 CFS WHICH IS LESS THAN THE ALLOWABLE PEAK DISCHARGE RATE, THEREFORE WE ARE IN CONFORMANCE WITH CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS AND REQUEST SITE DEVELOPMENT PLAN FOR BUILDING PERMIT APPROVAL.

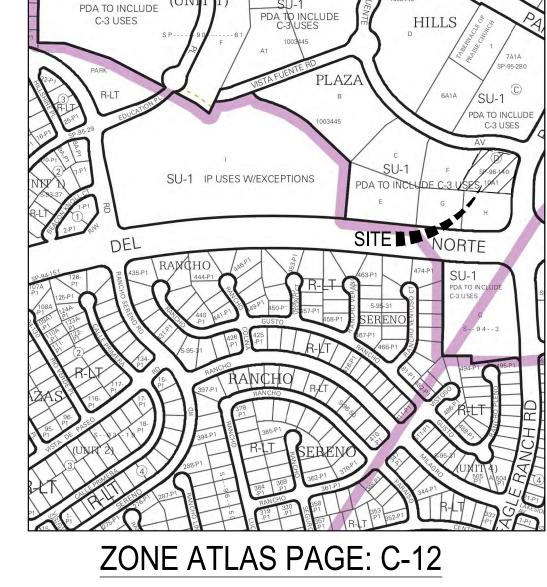
MANNING	'S N=0.016		SLOPE = 2.	7%			
POINT	DIST	ELEV					
1	0	0.67					
2	0	0					
3	2	0.13					
4	25	0.59					
5 6	37.5	0.34					
- 6	37.5	0.84					
WSEL	DEPTH	EL OW	FLOW	WETTED	FLOW	TOP WIDTH	TOTAL
VV3EL	INC	FLOW AREA	FLOW RATE	PER	VEL	TOP WIDIN	TOTAL ENERGY
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)
0.02	0.02	0.00	0.0	0.33	0.7	0.3	0.0
0.02	0.02	0.00	0.0	0.55	1.1	0.5	0.0
0.04	0.04	0.01	0.0	0.99	1.4	0.0	Q.Q
0.08	0.08	0.05	0.1	1.31	1.7	1.2	0.1
0.03	0.00	0.08	0.2	1.64	2.0	1.5	0.1
0.12	0.12	0.00	0.2	1.97	2.2	1.8	0.2
0.14	0.14	0.15	0.3	2.64	2.3	2.5	0.2
0.16	0.16	0.21	0.5	3.67	2.3	3.5	0.2
0.18	0.18	0.29	0.7	4.69	2.4	4.5	0.2
0.2	0.2	0.39	1.0	5.71	2.6	5.5	0.3
0.22	0.22	0.51	1.4	6.73	2.7	6.5	0.3
0.24	0.24	0.65	1.9	7.75	2.9	7.5	0.3
0.26	0.26	0.81	2.5	8.77	3.1	8.5	0.4
0.28	0.28	0.99	3.3	9.79	3.3	9.5	0.4
0.3	0.3	1.19	4.2	10.81	3.5	10.5	0.4
0.32	0.32	1.41	5.2	11.83	3.7	11.5	0.5
0.34	0.34	1.65	6.4	12.85	3.9	12.5	0.5
0.36	0.36	1.92	7.5	14.89	3.9	13.5	0.6
0.38	0.38	2.23	8.8	16.93	4.0	14.5	0.6
0.4	0.4	2.58	10.4	18.97	4.0	15.5	0.€
0.42	0.42	2.97	12.3	21.01	4.1	16.5	0.6
0.44	0.44	3.40	14.5	23.05	4.3	17.5	<b>Ö.</b> 7
0.46	0.46	3.87	17.0	25.09	4.4	18.5	0.7
0.48	0.48	4.38	19.8	27.13	4.5	19.5	0.8
0.5	0.5	4.93	23.0	29.17	4.7	20.5	0.8
0.52	0.52	5.52	26.6	31.21	4.8	21.5	0.8
0.54	0.54	6.15	30.5	33.25	5.0	22.5	0.9
0.56	0.56	6.82	34.8	35.29	5.1	23.5	0.9
0.58	0.58	7.53	39.5	37.33	5.3	24.5	1.0
0.6	0.6	8.28	45.4	38.37	5.5	37.5	1.0
0.62	0.62	9.03	52.5	38.41	5.8	37.5	1,1
0.64	0.64	9.78	59.9	38.45	6.1	37.5	1.2
0.66	0.66	10.53	67.7	38.49	6.4	37.5	1.3







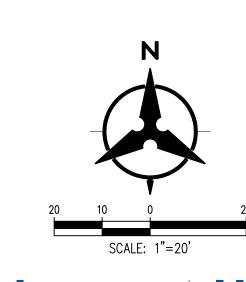




# GRADING KEYNOTES

- 1. PROPOSED RETAINING WALL.
- 3. PROPOSED STORM DRAIN LINE, SEE PLAN FOR SIZE & SLOPE.
- 6. EXISTING SUMP PUMP DISCHARGE LINE. CONNECT TO PHASE 2 SUMP PUMP DISCHARGE LINE.
- 7. PHASE 2 SUMP PUMP DISCHARGE LINE.
- 8. CONNECT SUMP PUMP DISCHARGE LINE TO PROPOSED INLET.
- 9. DRAIN BASIN WITH SOLID COVER.

	PROJECT LIMITS OF GRADING	~ 2.0% _	DIRECTION OF FLOW
— — —5025— — —	EXISTING INDEX CONTOUR	<b>\\\\\</b>	WATER BLOCK/GRADE BREAK
<i>5024</i>	EXISTING INTERMEDIATE CONTOUR		PROPOSED STORM DRAIN
⊕ <sup>25.25</sup>	EXISTING GROUND SPOT ELEVATION		LINE
5025	PROPOSED INDEX CONTOUR		PROPOSED STORM DRAIN INLET
5024	PROPOSED INTERMEDIATE CONTOUR		PROPOSED RETAINING WALL
<b>2</b> 6.75	PROPOSED FINISHED GRADE SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE, FG=FINISHED GRADE TS=TOP OF SIDEWALK TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW EXFL=EXISTING FLOW LINE		







C100

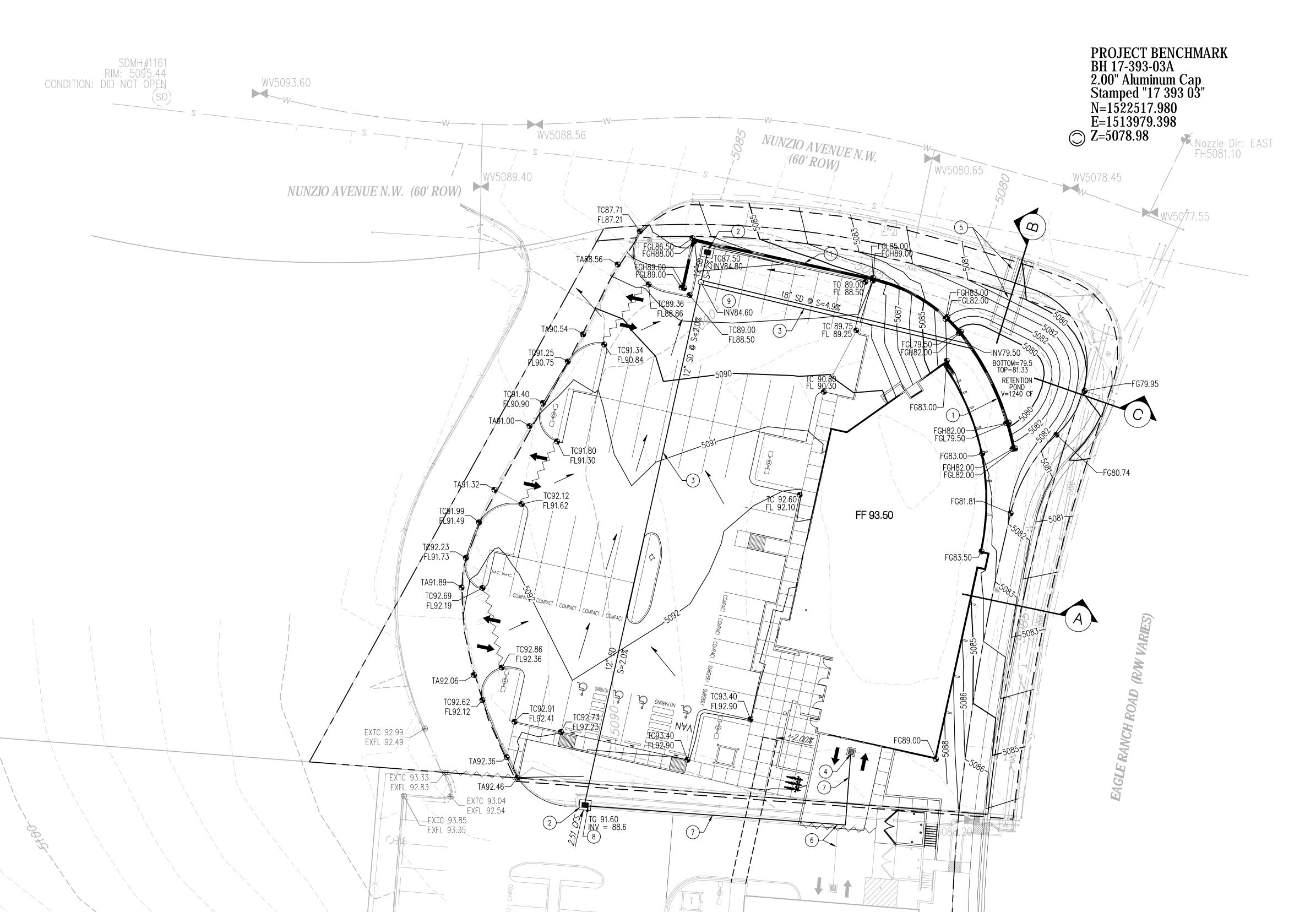
Mullen Heller

Architecture P.C.

924 Park Avenue SW

Albuquerque 87102 505 268 4144[p] 505 268 4244 [f]

Suite B



2. PROPOSED STORM DRAIN INLET.

- 4. PROPOSED STORM WATER SUMP PUMP.
- 5. CONCRETE SPILLWAY WITH 3-24" WIDE SIDEWALK CULVERTS.

	THOUSE STEERING		BINEO HON OF TEOM
— — —5025— — —	EXISTING INDEX CONTOUR	<b>\\\\\</b>	WATER BLOCK/GRADE BREAK
<i></i>	EXISTING INTERMEDIATE CONTOUR		PROPOSED STORM DRAIN
⊕ <sup>25.25</sup>	EXISTING GROUND SPOT ELEVATION		LINE
5025	PROPOSED INDEX CONTOUR		PROPOSED STORM DRAIN INLET
5024	PROPOSED INTERMEDIATE CONTOUR		PROPOSED RETAINING WALL
€ 26.75	PROPOSED FINISHED GRADE SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE, FG=FINISHED GRADE TS=TOP OF SIDEWALK TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW EXFL=EXISTING FLOW LINE EXTC=EXISTING TOP OF CURB		