

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

June 19, 2017

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

RE: Smiles for Kids Dental Office – Phase 2
Conceptual Grading and Drainage Plan
Stamp Date: 6/16/17
Hydrology File: C12D055

Dear Mr. Broughton:

PO Box 1293

Based upon the information provided in your resubmittal received 6/16/2017, the Conceptual Grading and Drainage Plan is approved for Site Plan for Building Permit.

Albuquerque

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

Sincerely,

New Mexico 87103

Renee C. Brissette

www.cabq.gov

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: _____ **Building Permit #:** _____ **City Drainage #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: _____
City Address: _____

Engineering Firm: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

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

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

Other Contact: _____ **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Check all that Apply:

DEPARTMENT:

____ HYDROLOGY/ DRAINAGE
____ TRAFFIC/ TRANSPORTATION
____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

____ ENGINEER/ ARCHITECT CERTIFICATION

____ CONCEPTUAL G & D PLAN
____ GRADING PLAN
____ DRAINAGE MASTER PLAN
____ DRAINAGE REPORT
____ CLOMR/LOMR

____ TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ 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

____ PRE-DESIGN MEETING
____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ____ Yes ____ No

DATE SUBMITTED: _____ By: _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: ____

June 16, 2017

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

Ms. Renee C. Brissette, PE
Senior Engineer, Hydrology
City of Albuquerque
Planning Department
600 2nd Street NW
Albuquerque, NM 87103

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

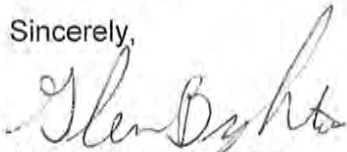
Dear Ms. Brissette:

Enclosed for your review and comment is a re-submittal of the Tract 10-A-1 (Smiles for Kids Phase 2). The grading plan has been revised to incorporate an accessible connection from the site to the public sidewalk. This grading revision did not impact the drainage management plan calculations; however, the background has been updated to show the sidewalk connection to Nunzio. A copy of the drainage management plan and updated infrastructure list is included in the submittal.

An erosion and sediment control plan will be prepared and submitted in conjunction with the hydrology submittal for building permit approval.

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

Engineering ▲

Spatial Data ▲

Advanced Technologies ▲

Date Submitted: _____
Date Site Plan Approved: _____
Date Preliminary Plat Approved: _____
Date Preliminary Plat Expires: _____

DRB Project No. _____

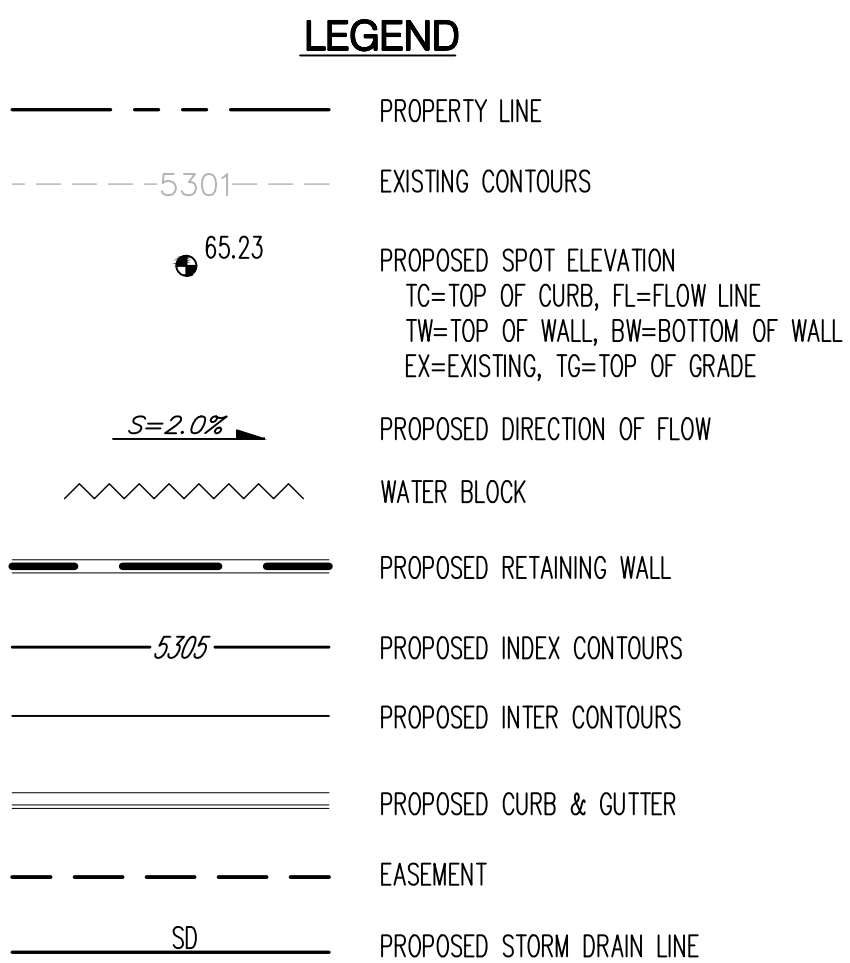
INFRASTRUCTURE LIST

SMILE FOR KIDS
LOT 10-A-1
(TRACT ALBUQUERQUE WEST UNIT 1)

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Crst Engineer
<u>PUBLIC ROADWAY IMPROVEMENTS - OFFSITE PHASE 2 (DEFERRED)</u>									
		12'-14'	ARTERIAL PAVEMENT W/ PCC CURB & GUTTER 6" WIDE PCC SIDEWALK ON THE WESTSIDE	EAGLE RANCH ROAD	NUNZIO AVENUE	SOUTH BOUNDARY	<u> / </u>	<u> / </u>	<u> / </u>
			NECESSARY PAVEMENT & CONCRETE VALLEY GUTTER INTERSECTION IMPROVEMENTS	EAGLE RANCH ROAD	NUNZIO AVENUE	INTERSECTION	<u> / </u>	<u> / </u>	<u> / </u>
		3-24"	WIDE SIDEWALK CULVERTS	NUNZIO	EAGLE RANCH ROAD	INTERSECTION	<u> / </u>	<u> / </u>	<u> / </u>
		10'	ASPHALT TRAIL	NUNZIO AVENUE	WEST BOUNDARY	EAGLE RANCH NW ROAD	<u> / </u>	<u> / </u>	<u> / </u>

AGENT/OWNER	COMMITTEE REVIEW BOARD MEMBER APPROVALS
-------------	---

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT/OWNER



SIDEWALK CULVERT CAPACITY TABLE					
WEIR #	Contributing Basins & Flows	Required Flow	Weir Height (FT)	Weir Length (FT)	Weir Capacity*
SDWK-1	BASIN 1 & 2	6.20	0.67	6.00	9.00

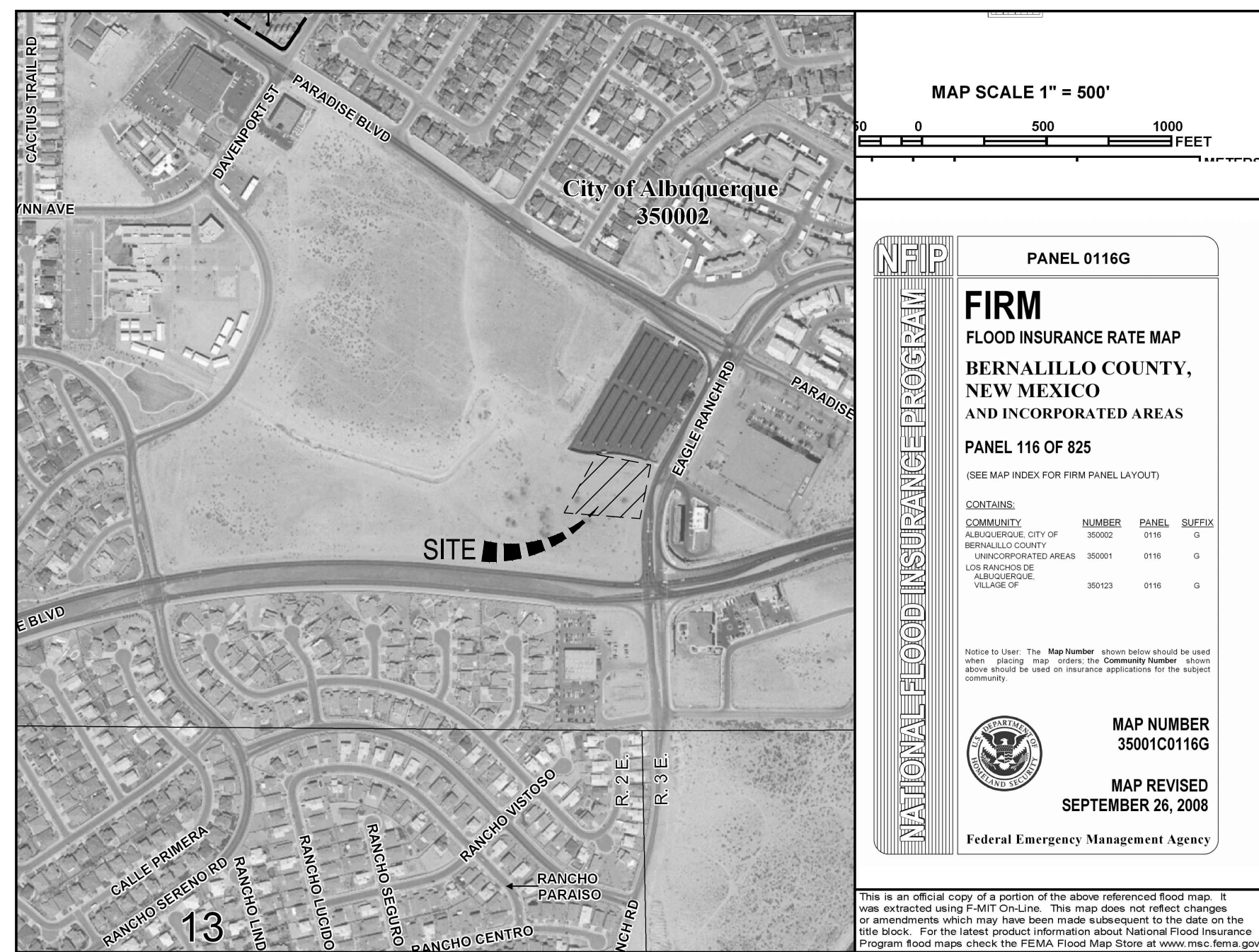
Weir Coefficient = 2.65 - *

Smiles for Kids Dental Office Phase 2																		
Proposed Ultimate Development Conditions Basin Data Table																		
This table is based on the DPM Section 22.2, Zone: 1											"FIRST FLUSH" CALCULATIONS							
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (cfs/ac.)	Q(100yr-6hr) (CFS)	WT E (inches)	V(100yr-6hr) (CF)	V(100yr-10day) CF	Impervious Area (SF)	Precipitation Depth (IN)	Required Volume (CF)	Volume Provided (CF)			
Proposed																		
1	41083	0.94	0.0%	0.0%	28.0%	72.0%	3.95	3.7	1.70	5805	9429	29580	0.34	838	1030			
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 Previously Developed		946	1030			

Smiles for Kids Dental Office Phase 2								
STORM DRAIN PIPE TABLE								
PIPE #	Contributing Basins & Pipes	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs	PIPE LENGTH ft	INVERT IN	INVERT OUT
STORM DRAIN PIPE								
P1	BASIN 1	12	2.00%	5.0	3.7	10.0	5084.60	5084.60
P2	BASIN 2	12	2.00%	5.0	2.5	200.0	5088.60	5084.60
P3	BASINS 1 & 2	16	4.87%	23.2	6.2	104.5	5084.60	5079.50

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

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



FEMA FIRM MAP # 35001C0116G

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

INTRODUCTION:

THE 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 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 (THIS SHEET).

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 4.0 CFS/AC (AS MENTIONED ABOVE). THIS DMP INCLUDES OFFSITE DRAINAGE FROM TRACT H OF FOUNTAIN HILLS PLAZA. TRACT H IS CURRENTLY DEVELOPED WITH 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.

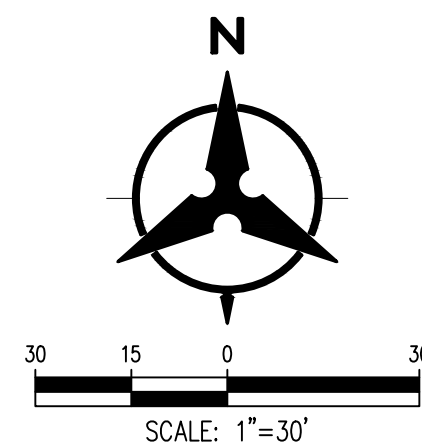
RETENTION AREAS WITHIN LOT 10-A-1 WILL BE INCORPORATED INTO THE LANDSCAPE AREAS WHERE POSSIBLE. THE FIRST FLUSH CALCULATIONS FOR THE OVERALL DEVELOPMENT AREA ARE BELOW. SEE "FIRST FLUSH CALCULATIONS" (THIS SHEET)

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

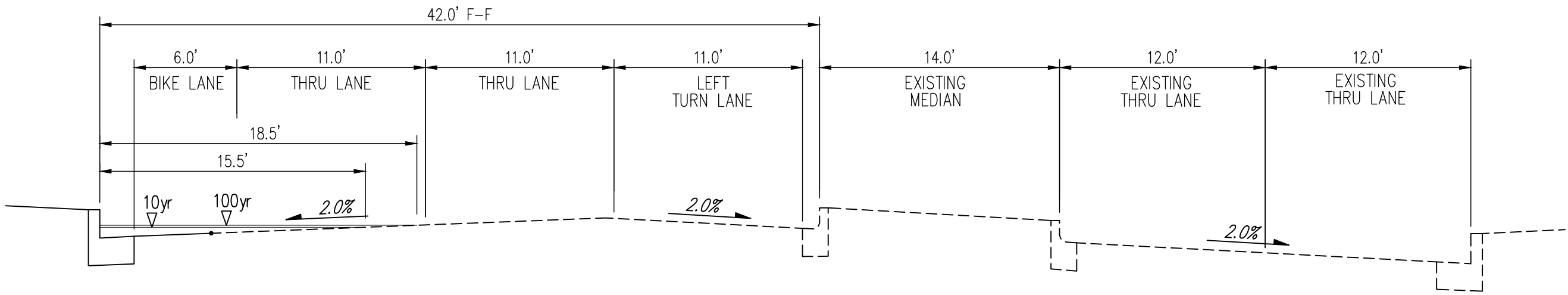
1. STORM DRAIN INLET.
2. STORM DRAIN PIPE. SEE PLAN FOR SIZE & SLOPE.
3. RETENTION POND.
4. CONCRETE SPILLWAY WITH 3-24" WIDE SIDEWALK CULVERTS



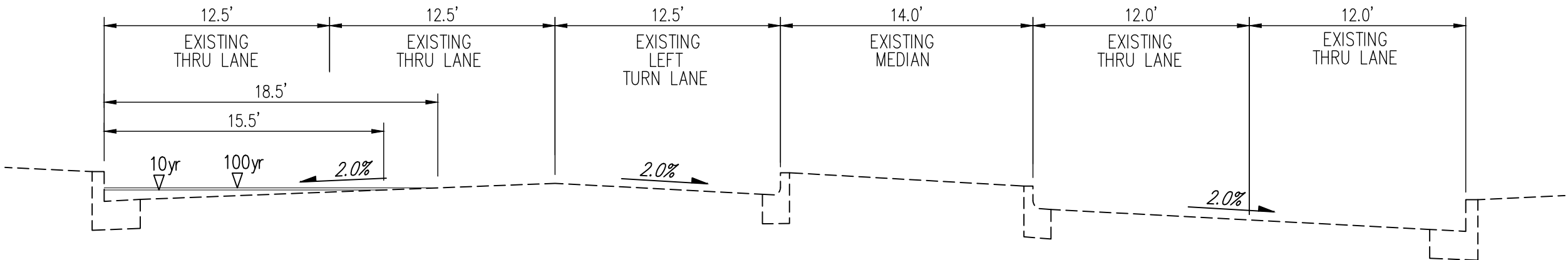
NOT FOR
CONSTRUCTION



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: 1													
Basin	Area	Area	Land Treatment Percentages				Q(100yr)	Q(100yr-6hr)	WT E	V(100yr-6hr)	V(100yr-10day)	Q(10yr)	Q(10yr-6hr)
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	(CF)	CF	(cfs/ac.)	(CFS)
Proposed													
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



SECTION A - EAGLE RANCH ROAD - EXISTING CROSS SECTION
NTS

INTRODUCTION:

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 CAPCTY 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.

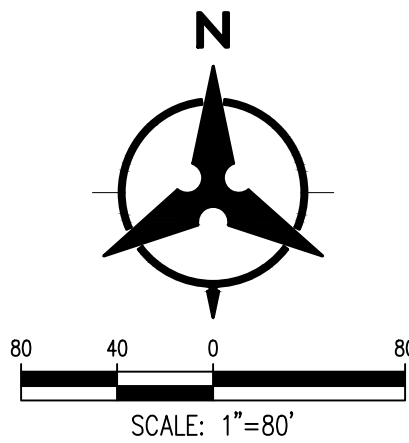
THE CAPACITY OF EAGLE RANCH WAS CALCULATED USING MANNINGS EQUATION. IN THE 10 YEAR STORM THE DEPTH OF FLOW IS 0.4 FEET AND SPREAD IS 18.5 FEET. THE SPREAD IN THE 10 YEAR STORM ENDOROACHES INTO THE SECOND THROUGH LANE BY APPROXIMATELY 4 FEET. THIS TECHNICALLY DOES NOT MEET THE CRITERIA SPECIFIED IN THE 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.

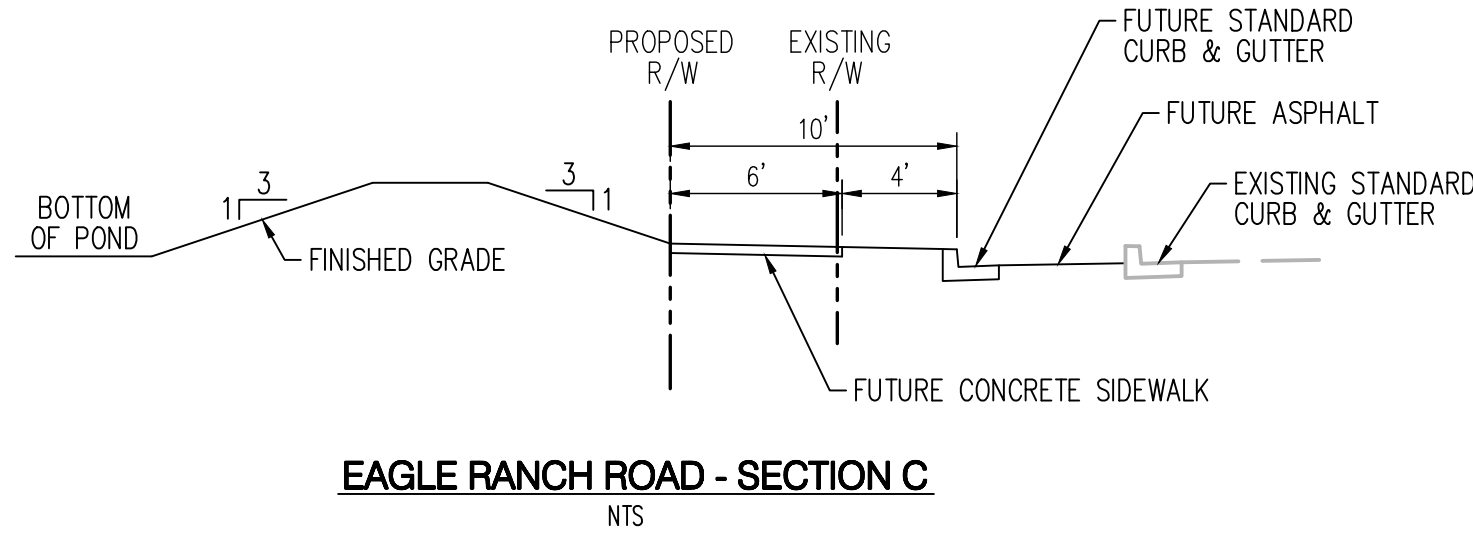
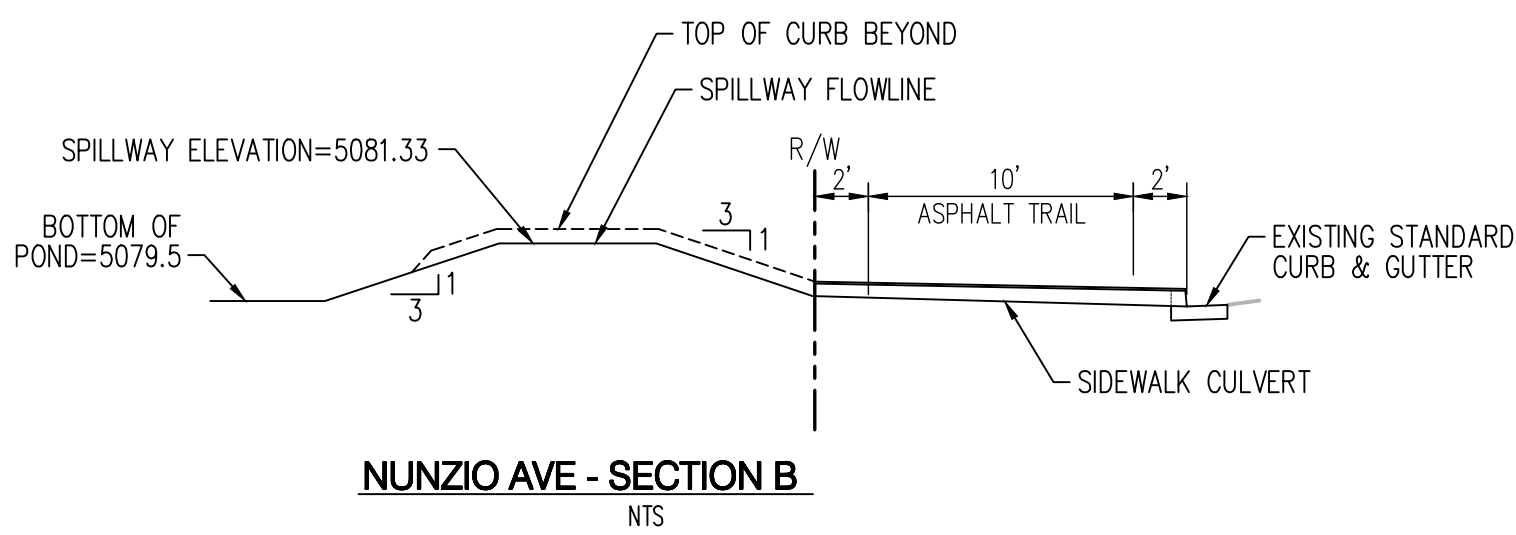
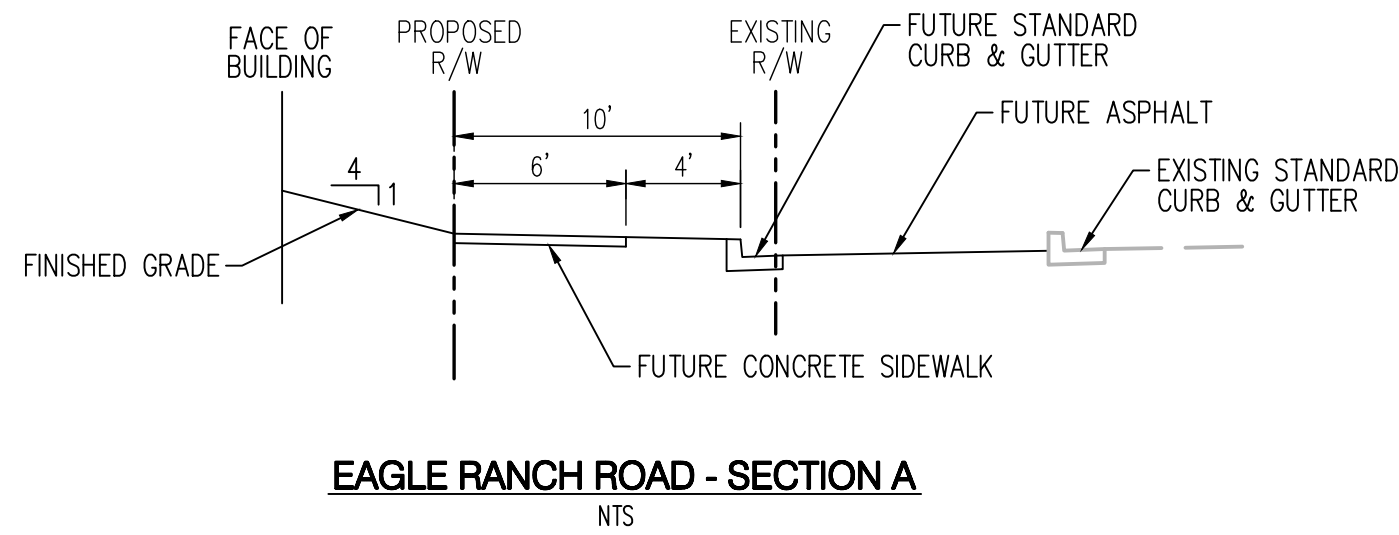
CONCLUSION:

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.

EAGLE RANCH CAPACITY CALCULATION									
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	37.5	0.34							
6	37.5	0.84							
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOP WIDTH	TOTAL		
INC	AREA	RATE	PER	VEL			ENERGY		
(FT)	(FT)	SQ.FT.	(CFS)	(FT)	(FPS)	(FT)	(FT)		
0.02	0.02	0.00	0.0	0.33	0.7	0.3	0.03		
0.04	0.04	0.01	0.0	0.66	1.1	0.6	0.06		
0.06	0.06	0.03	0.0	0.99	1.4	0.9	0.09		
0.08	0.08	0.05	0.1	1.31	1.7	1.2	0.13		
0.1	0.1	0.08	0.2	1.64	2.0	1.5	0.16		
0.12	0.12	0.11	0.2	1.97	2.2	1.8	0.20		
0.14	0.14	0.15	0.3	2.64	2.3	2.5	0.22		
0.16	0.16	0.21	0.5	3.67	2.3	3.5	0.24		
0.18	0.18	0.29	0.7	4.69	2.4	4.5	0.27		
0.2	0.2	0.39	1.0	5.71	2.6	5.5	0.30		
0.22	0.22	0.51	1.4	6.73	2.7	6.5	0.34		
0.24	0.24	0.65	1.9	7.75	2.9	7.5	0.37		
0.26	0.26	0.81	2.5	8.77	3.1	8.5	0.41		
0.28	0.28	0.99	3.3	9.79	3.3	9.5	0.45		
0.3	0.3	1.19	4.2	10.81	3.5	10.5	0.49		
0.32	0.32	1.41	5.2	11.83	3.7	11.5	0.53		
0.34	0.34	1.65	6.4	12.85	3.9	12.5	0.58		
0.36	0.36	1.92	7.5	14.89	3.9	13.5	0.60		
0.38	0.38	2.23	8.8	16.93	4.0	14.5	0.62		
0.4	0.4	2.58	10.4	18.97	4.0	15.5	0.65		
0.42	0.42	2.97	12.3	21.01	4.1	16.5	0.69		
0.44	0.44	3.40	14.5	23.05	4.3	17.5	0.72		
0.46	0.46	3.87	17.0	25.09	4.4	18.5	0.76		
0.48	0.48	4.38	19.8	27.13	4.5	19.5	0.80		
0.5	0.5	4.93	23.0	29.17	4.7	20.5	0.84		
0.52	0.52	5.52	26.6	31.21	4.8	21.5	0.88		
0.54	0.54	6.15	30.5	33.25	5.0	22.5	0.92		
0.56	0.56	6.82	34.8	35.29	5.1	23.5	0.97		
0.58	0.58	7.53	39.5	37.33	5.3	24.5	1.01		
0.6	0.6	8.28	45.4	38.37	5.5	37.5	1.07		
0.62	0.62	9.03	52.5	38.41	5.8	37.5	1.15		
0.64	0.64	9.78	59.9	38.45	6.1	37.5	1.22		
0.66	0.66	10.53	67.7	38.49	6.4	37.5	1.30		

NOT FOR
CONSTRUCTION





ZONE ATLAS PAGE: C-12

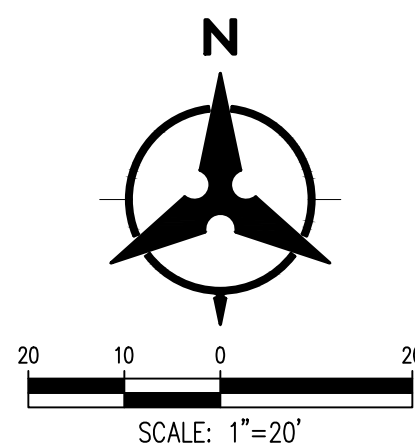
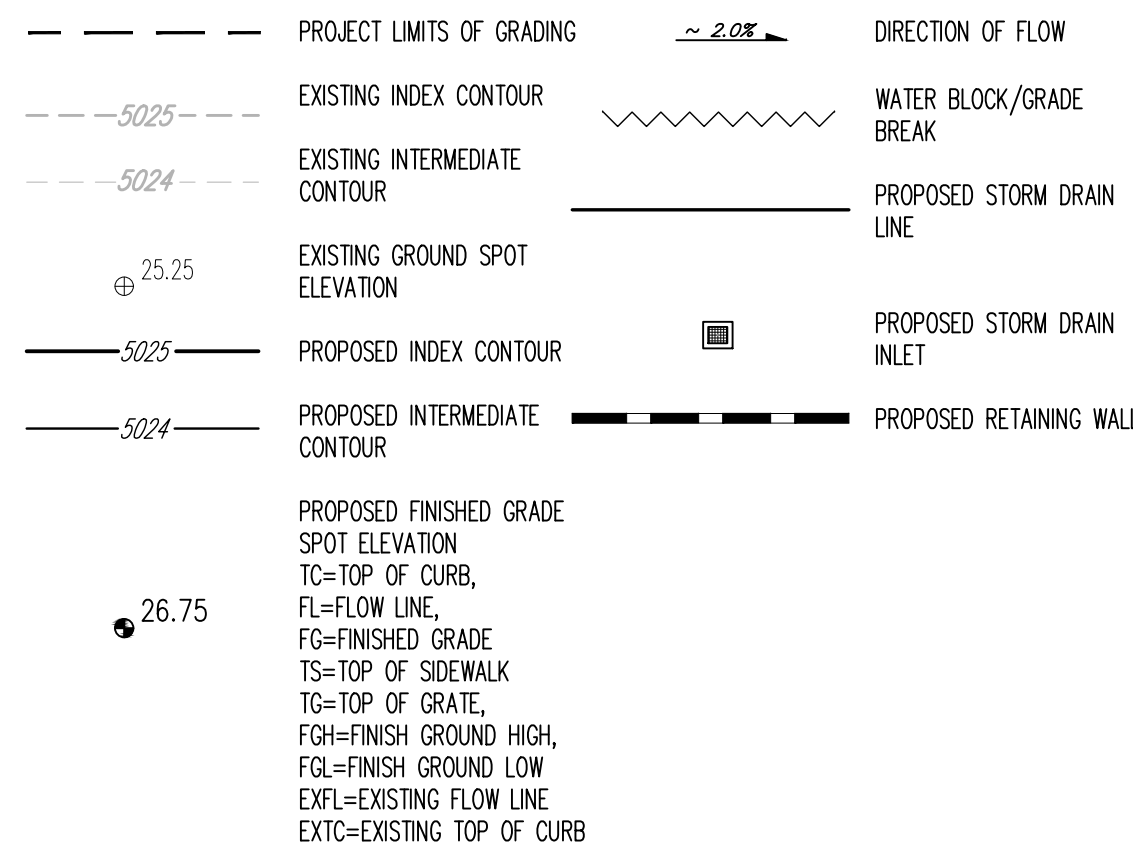
PROJECT BENCHMARK
BH 17-393-03A
2.00" Aluminum Cap
Stamped "17 393 03"
N=1522517.980
E=1513979.398
Z=5078.98

Nozzle Dir: EAST
FH5081.10

GRADING KEYNOTES

1. PROPOSED RETAINING WALL.
2. PROPOSED STORM DRAIN INLET.
3. PROPOSED STORM DRAIN LINE, SEE PLAN FOR SIZE & SLOPE.
4. PROPOSED STORM WATER SUMP PUMP.
5. CONCRETE SPILLWAY WITH 3-24" WIDE SIDEWALK CULVERTS.
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.

GRADING LEGEND



NOT FOR
CONSTRUCTION