CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

November 18, 2016

Glenn S. Broughton, P.E.
Bohannan Huston
7601 Jefferson NE, Suite 100
Albuquerque, NM, 87109

RE: Presbyterian Hospital
Grading & Drainage Plan
File:K15D005F
Revised Plan Dated 11-17-2016

Dear Mr. Broughton:

Based upon the information provided in your submittal received 11-18-2016, the above-referenced is approved for ESC Grading Permit. The conditions outlined in the previous approval no longer apply.

Prior to any grading on the site, an ESC Grading Permit must be approved, which is contingent on having an approved ESC Plan. We understand a plan has been submitted to the Stormwater Quality Engineer.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

Orig: Drainage file

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Presbyterian Hospital Main Drive Entry Relocation Building Permit #: _____ City Drainage #: _____

DRB#: 1000575 EPC#: _____ Work Order#: _____

Legal Description: Tracts 1 thru 9 Presbyterian Hospital Main Campus

City Address: 1100 Central Ave. SE Albuquerque, NM 87102

Engineering Firm: Bohannan Huston, Inc. Contact: Glenn Broughton

Address: 7500 Jefferson St NE Courtyard 1 Albuquerque, NM 87109

Phone#: (505) 823-1000 Fax#: (505) 798-7988 E-mail: gbrought@bhinc.com

Owner: Presbyterian Healthcare Services Contact: Jim Jeppson

Address: 1100 Central Ave. SE Albuquerque, NM 87102

Phone#: (505) 841-1234 Fax#: _____ E-mail: JJeppson@phs.org

Architect: Dekker Perich Sabatini Contact: Ted Kostranchuk

Address: 7601 Jefferson NE, Albuquerque, NM 87102

Phone#: (505) 761-9700 Fax#: _____ E-mail: TedK@dpsdesign.org

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
- x 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
- ____ BUILDING PERMIT APPROVAL
- ____ GRADING PERMIT APPROVAL
- X PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ GRADING CERTIFICATION

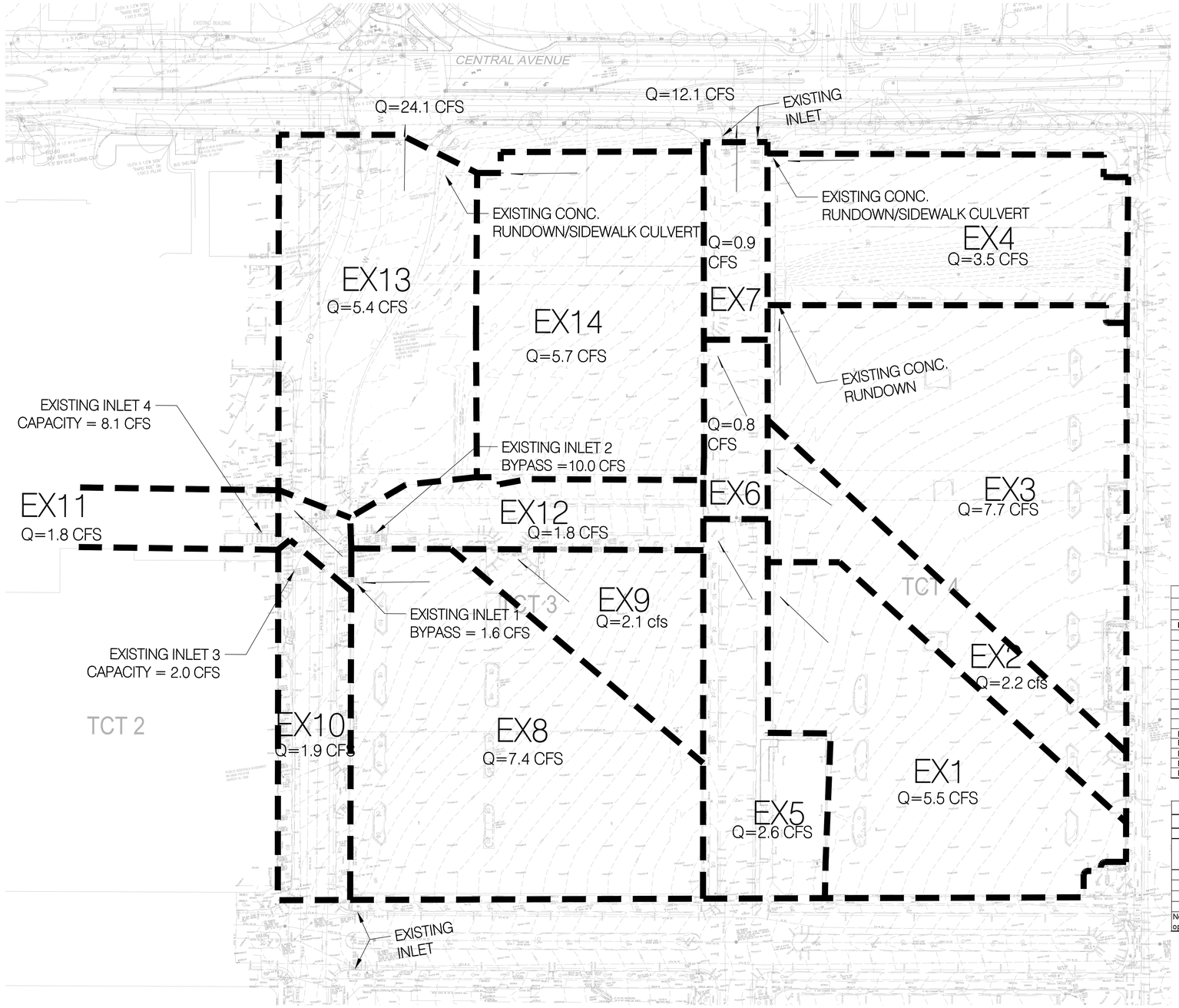
- ____ SO-19 APPROVAL
- ____ ESC PERMIT APPROVAL
- ____ ESC CERT. ACCEPTANCE
- ____ OTHER (SPECIFY)

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

DATE SUBMITTED: November 18, 2016 By: Glenn Broughton

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



I. INTRODUCTION

THE PURPOSE OF THIS SUBMITTAL IS TO PROVIDE A DRAINAGE MANAGEMENT PLAN AND GRADING PLAN FOR STREET AND PARKING LOT MODIFICATIONS AT THE DOWNTOWN PRESBYTERIAN HOSPITAL LOCATED AT THE SOUTHEAST CORNER OF CENTRAL AVENUE AND OAK STREET S.E. LEGAL DESCRIPTION OF THE SITE IS: TRACTS 1 THRU 9 OF PRESBYTERIAN HOSPITAL – MAIN CAMPUS PHASE ONE.

II. EXISTING HYDROLOGIC CONDITIONS

THE SITE IS CURRENTLY DEVELOPED WITH LANDSCAPING AND PARKING LOTS AND IS BROKEN UP INTO 13 EXISTING BASINS. EXISTING BASINS 1 THROUGH 4 ARE LOCATED EAST OF SPRUCE STREET AND DRAIN INTO SPRUCE. SPRUCE STREET WAS BROKEN UP INTO THREE BASINS. THESE BASINS COMBINE WITH THE BASINS EAST OF SPRUCE AND DRAIN INTO THE PRESBYTERIAN HOSPITAL SITE THROUGH EXISTING DRIVEWAYS OR FREE DISCHARGE INTO CENTRAL. EXISTING BASINS 8, 9, 10, 11 AND 12 DRAIN TO EXISTING STORM DRAIN INLETS. THESE INLETS CONNECT TO AN EXISTING 66" RCP STORM DRAIN IN CEDAR. RUNOFF IN EXCESS OF THE INLETS CAPACITY OVERFLOW INTO CEDAR ALONG WITH BASINS 13 AND 14 AND FREE DISCHARGE INTO CENTRAL. CAPACITY AND BYPASS FLOWS ARE SHOWN ON THE EXISTING CONDITIONS DRAINAGE MANAGEMENT PLAN.

THE CALCULATED PEAK RUNOFF FROM THE PRESBYTERIAN SITE WHICH FLOWS INTO CENTRAL AT CEDAR IS 24.1 CFS. THE CALCULATED PEAK FLOW WHICH FLOWS INTO CENTRAL AT SPRUCE IS 12.1 CFS.

THE HYDROLOGIC ANALYSIS FOR THIS SITE IS BASED ON THE 100-YR, 6-HR STORM EVENT IN ACCORDANCE WITH CHAPTER 22.2 OF THE CITY OF ALBUQUERQUE DEVELOPMENT PROCESS MANUAL. SEE THE EXISTING CONDTIONS BASIN TABLE FOR LAND TREATMENTS AND CALUCALTED RUNOFF PEAK FLOW RATES.

III. PROPOSED HYDROLOGIC CONDITIONS

THE PURPOSE OF THIS DRAINAGE MANAGEMENT PLAN IS TO PROVIDE A DRAINAGE ANALYSIS WHICH RELFECTS THE PROPOSED SITE TO MODIFICATIONS. THE SITE MODIFICATIONS INCLUDE VACATION OF CEDAR RIGHT OF WAY BETWEEN SILVER AND CENTRAL, REMOVAL OF CEDAR IMPROVEMENTS, WIDENING SPRUCE AND RECONFIGURATION OF PARKING AREAS AND SITE CIRCULATION. THE DRAINAGE PATTERNS OR LAND TREATMENTS ARE NOT SIGNIFCANTLY ALTERED WITH THE PROPOSED SITE MODIFICATIONS. THE MOST SIGNIFCANT CHANGE WITH THIS PROJECT IS THAT NEW ONSITE PRIVATE STORM DRAIN AND INLETS ARE PROPOSED TO INTERCEPT RUNOFF AND CONVEY DRAINAGE TO THE PUBLIC STORM DRAIN SYSTEM. THE RUNOFF WHICH FREE DISCHARGES TO CENTRAL IS SIGNIFICANTLY REDUCED WITH THE PROPOSED IMPROVEMENTS.

A CAPACITY ANALYSIS OF THE EXISTING AND PROPOSED INLETS WAS PERFORMED AS WELL AS PIPE CAPACITY FOR NEW STORM DRAINS. ANALYSIS OF THE EXISTING STORM DRAIN SYSTEM IS NOT IN THE SCOPE OF THIS DRAINAGE MANAGEMENT PLAN. CAPACITY OF THE RUNDOWN WHICH CONVEYS RUNAGE FROM BASIN PB2 TO PB3 WAS ALSO PERFORMED. THE THROAT OPENING AND CHANNEL HAVE ADEQUATE CAPACITY. THE SERIES OF SIDEWALK CULVERTS THAT DISCHARGE INTO BASIN PB3 ARE SLIGHTLY UNDER CAPACITY. DURING STORMS WHICH APPROACH THE 100 YEAR EVENT RUNOFF WILL OVERTOP THE SIDEWALK AND DRAIN TO THE INLET IN BASIN PB3 AS INTENDED. SEE THE PROPOSED CONDITIONS DRAINAGE MANAGEMENT PLANS FOR DRAINAGE BASINS, LAND TREATMENTS, INLET AND STORM DRAIN CAPACITY CALCULATIONS.

IV. STORM WATER QUALITY

THE EXISTING SITE IS FULLY DEVELOPED AND THE MAJORITY OF THE SITE WILL NOT BE DISTURBED WITH THE PROPOSED SITE MODIFICATIONS. THERE WILL BE NEW PAVING ASSOCIATED WITH REVISED SITE CIRCULATION AND PARKING MODIFICATIONS. AREAS WHICH WILL BE PAVED WITH THIS PROJECT WILL BE REQUIRED TO COMPLY WITH THE CITY ORDINANCE.

FIRST FLUSH VOLUME REQUIREMENTS ARE BASED ON AN EXCESS PRECIPITATION DEPTH OF 0.34". THE REQUIRED RETENTION VOLUME WAS CALCULATED BY DRAINAGE BASIN AND WAS BASED ON NEW PAVEMENT AREAS ONLY.

WATER HARVESTING HAS BEEN INCORPORATED INTO THE GRADING AND DRAINAGE DESIGN. 12" WIDE CURB OPENINGS HAVE BEEN PROVIDED ON THE UPSTREAM SIDE OF LANDSCAPE ISLANDS. THESE OPENINGS WILL DIVERT STORM WATER FROM THE PARKING LOT INTO THE LANDSCAPE ISLANDS.

THE AREA AVAILABLE FOR WATER HARVESTING WITHIN THE SITE IS VERY LIMITED. TWO UNDERGROUND RETENTION PONDS ARE PROPOSED ON THE SITE. THESE UNDERGROUND RETENTION PONDS WILL BE PLACED WITHIN LANDSCAPE AREA. THE LANDSCAPE AREAS HAVE STEEP SLOPES AND SURFACE PONDING IS NOT PRACTICAL. STORM WATER WILL BE CONVEYED TO THE UNDERGROUND RETENTION PONDS THROUGH NEW STORM DRAIN INLETS. ONCE THE RETENTION PONDS HAVE REACHED CAPACITY, STORM WATER WILL BE DIVERTED TO THE MAIN STORM DRAIN COLLECTION SYSTEM.

THE LARGEST BASIN WITH NEW PARKING IS BASIN 14. DUE TO GRADES ON THE SITE A RETAINING WALL IS REQUIRED ON THE LOWER PORTION OF THIS BASIN (NORTH AND WEST SIDES). USE OF UNDERGROUND RETENTION PONDS IN THE VICINITY OF RETAINING WALLS COULD COMPROMISE THE STRUCTURAL INTEGRITY OF THE WALLS. FOR THIS DRAINAGE AREA, A WATER QUALITY MANHOLE IS PROPOSED. IN THIS APPLICATION A STORMCEPTOR STC-900 HAS BEEN SPECIFIED. THIS PRODUCT IS DESIGNED TO REMOVE SEDIMENT AND POLUTANTS.

THE REQUIRED VOLUME AND ACTUAL RETAINED VOLUME ARE SHOWN ON THE 'FIRST FLUSH' CALCULATION TABLE ON THE PROPOSED DRAINAGE MANAGEMENT PLAN. FLOWS IN EXCESS OF THE AVAILABLE CAPACITY WILL BYPASS THE LANDSCAPE ISLANDS AN D UNDERGROUND RETENTION PONDS AND WILL BE INTERCEPTED BY THE DOWNSTREAM STORM DRAIN SYSTEM. THE WATER QUALITY MEASURES PROPOSED FOR THIS PROJECT MEET THE INTENT OF THE DRAINAGE ORDINANCE TO THE MAXIMUM EXTENT TECHNICALY FEASIBLE GIVEN THE STEEP SLOPES AND EXISTING SITE CONSTRAINTS.

VI. CONCLUSION

THIS DRAINAGE MANAGEMENT PLAN PROVIDES FOR GRADING AND DRAINAGE ELEMENTS WHICH ARE CAPABLE OF SAFELY PASSING THE 100-YR STORM IN ACCORDANCE WITH CITY REQUIREMENTS AND ARE IN CONFORMANCE WITH THE DPM CHAPTER 22.2 DESIGN CRITERIA. WITH THIS SUBMITTAL WE ARE REQUESTING GRADING AND DRAINAGE PLAN APPROVAL FOR GRADING AND PAVING PERMIT.

DOWNTOWN PRESBYTERIAN HOSPITAL

Existing Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 2

Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages A	B	C	D	Q(100) (cfs/ac.)	Q(100) (CFS)	WT E (inches)	V(100-24hr)) CF
EX 1	51698	1.19	0.0%	0.0%	3.0%	97.0%	4.65	*5.5*	*2.09*	*10677*
EX 2	20633	0.47	0.0%	0.0%	4.0%	96.0%	4.64	*2.2*	*2.08*	*4237*
EX 3	72402	1.66	0.0%	0.0%	3.0%	97.0%	4.65	*7.7*	*2.09*	*14953*
EX 4	39063	0.90	0.0%	0.0%	49.0%	51.0%	3.94	*3.5*	*1.63*	*5986*
EX 5	24843	0.57	0.0%	0.0%	5.0%	95.0%	4.62	*2.6*	*2.07*	*5073*
EX 6	8262	0.19	0.0%	0.0%	16.0%	84.0%	4.45	*0.8*	*1.96*	*1582*
EX 7	9084	0.21	0.0%	0.0%	13.0%	87.0%	4.50	*0.9*	*1.99*	*1771*
EX 8	69553	1.60	0.0%	0.0%	4.0%	96.0%	4.64	*7.4*	*2.08*	*14284*
EX 9	19313	0.44	0.0%	0.0%	3.0%	97.0%	4.65	*2.1*	*2.09*	*3989*
EX 10	17664	0.41	0.0%	0.0%	3.0%	97.0%	4.65	*1.9*	*2.09*	*3648*
EX 11	17424	0.40	0.0%	0.0%	5.0%	95.0%	4.62	*1.8*	*2.07*	*3558*
EX 12	16797.8	0.39	0.0%	0.0%	6.0%	94.0%	4.61	*1.8*	*2.06*	*3411*
EX 13	50748.6	1.17	0.0%	0.0%	5.0%	95.0%	4.62	*5.4*	*2.07*	*10363*
EX 14	53135.2	1.22	0.0%	0.0%	3.0%	97.0%	4.65	*5.7*	*2.09*	*10974*

DOWNTOWN PRESBYTERIAN HOSPITAL

INLET TABLE

INLET #	CONTRIBUTING BASIN	INLET TYPE	TOP OF GRATE	ACTUAL FLOW CFS	AVAIL HEAD FT	CAPACITY CFS	Grate Calculation
EX IN-1	PB8	1-A-SGL	5081.25	7.4	N/A	5.8	Cont Grade
EX IN-2	PB1, PB5, PB9, PB12	1-A-SGL	5079.90	12.0	0.2	2.0	Sump
EX IN-3	PB10	1-A-SGL	5079.00	1.9	0.2	2.0	Sump
EX IN-4	IN1 & IN3 OVERFLOW	1-A-SGL	5078.28	3.4	0.5	8.1	Sump

Note the inlet capacity includes a 50% clogging factor for inlets in sump condition. Additional capacity for throat opening in curb inlets is not included in capacity calculations.

N

40 20 0 40

SCALE: 1"=40'

Bohannan Huston
www.bhinc.com 800.877.5332

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ARCHITECTURE / DESIGN / INSPIRATION

DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

ARCHITECT

ENGINEEF

GLENN S. BROUGHTON NEW MEXICO 14171 REGISTERED PROFESSIONAL ENGINEER

PROJECT

PRESBYTERIAN HOSPITAL
MAIN DRIVE ENTRY RELOCATION
1100 Central Ave. SE
Albuquerque, NM 87106

100% CONSTRUCTION DOCUMENTS

THE WORK INCLUDED HEREIN IS NOT NECESSARILY ALL INCLUSIVE. OFFICIAL BID DOCUMENTS INCLUDING ALL ADDENDA PREVAILS.

REVISIONS

1 ASI-1 VE MODIFICATIONS

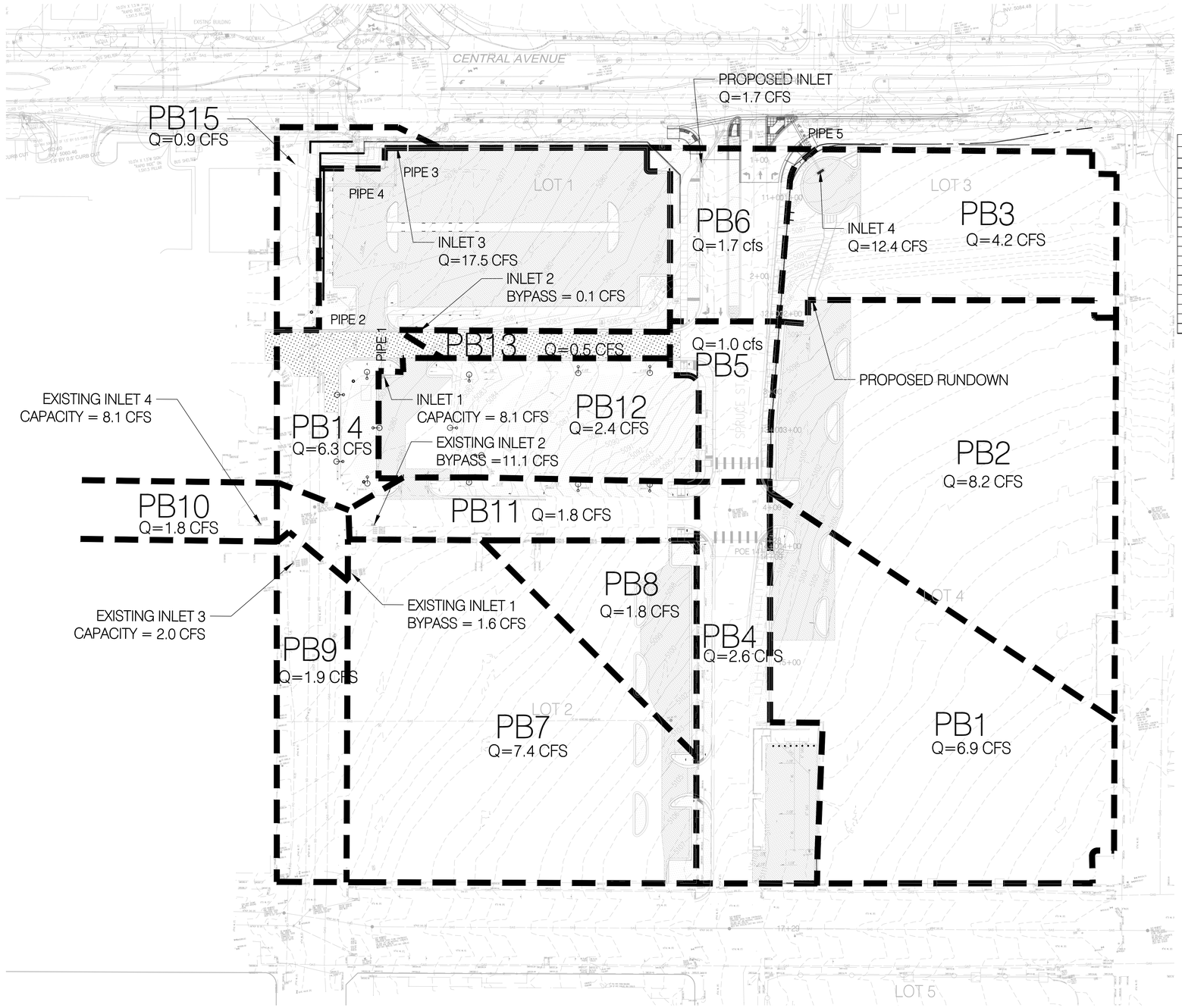
DRAWN BY	BO
REVIEWED BY	GSB
DATE	10/24/2016
PROJECT NO.	15-0125.001

DRAWING NAME

EXISTING CONDITIONS DRAINAGE MANAGEMENT PLAN

SHEET NO.

OF



DOWNTOWN PRESBYTERIAN HOSPITAL										
Proposed Conditions Basin Data Table										
This table is based on the DPM Section 22.2, Zone: 2										
Basin	Area	Area	Land Treatment Percentages				Q(100)	Q(100)	WT E	$V_{(100\text{-}24hr)}$
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(inches)	CF
PB1	64156	1.47	0.0%	0.0%	2.0%	98.0%	4.67	*6.9*	*2.10*	*13324*
PB2	76576	1.76	0.0%	0.0%	2.0%	98.0%	4.67	*8.2*	*2.10*	*15904*
PB3	39063	0.90	0.0%	0.0%	2.0%	98.0%	4.67	*4.2*	*2.10*	*8113*
PB4	24843	0.57	0.0%	0.0%	5.0%	95.0%	4.62	*2.6*	*2.07*	*5073*
PB5	10193	0.23	0.0%	0.0%	17.0%	83.0%	4.43	*1.0*	*1.95*	*1940*
PB6	15964	0.37	0.0%	0.0%	9.0%	91.0%	4.56	*1.7*	*2.03*	*3186*
PB7	69449	1.59	0.0%	0.0%	2.0%	98.0%	4.67	*7.4*	*2.10*	*14423*
PB8	16932	0.39	0.0%	0.0%	3.0%	97.0%	4.65	*1.8*	*2.09*	*3497*
PB9	17664	0.41	0.0%	0.0%	3.0%	97.0%	4.65	*1.9*	*2.09*	*3648*
PB10	17424	0.40	0.0%	0.0%	5.0%	95.0%	4.62	*1.8*	*2.07*	*3558*
PB11	16797	0.39	0.0%	0.0%	6.0%	94.0%	4.61	*1.8*	*2.06*	*3411*
PB12	28065	0.64	0.0%	0.0%	60.0%	40.0%	3.76	*2.4*	*1.53*	*3943*
PB13	4783	0.11	0.0%	0.0%	0.0%	100.0%	4.70	*0.5*	*2.12*	*1004*
PB14	59546.1	1.37	0.0%	0.0%	7.0%	93.0%	4.59	*6.3*	*2.05*	*12022*
PB15	8707.6	0.20	0.0%	0.0%	3.0%	97.0%	4.65	*0.9*	*2.09*	*1798*

DOWNTOWN PRESBYTERIAN HOSPITAL						
INLET TABLE						
INLET #	CONTRIBUTING BASIN	INLET TYPE	ACTUAL FLOW CFS	AVAIL HEAD FT	CAPACITY CFS	Grate Calculation
EX IN-1	PB7	1-A-SGL	7.4	N/A	5.8	Cont Grade
EX IN-2	PB1, PB4, PB8, PB11	1-A-SGL	13.1	0.2	2.0	Sump
EX IN-3	PB9	1-A-SGL	1.9	0.2	2.0	Sump
EX IN-4	IN1 & IN3 OVERFLOW	1-A-SGL	1.8	0.5	8.1	Sump
IN-1	PB12	1-A-SGL	2.4	0.5	8.1	Sump
IN-2	PB5 PB13	1-A-SGL	1.5	N/A	1.4	Cont Grade
* IN-3	PB14, EX IN2 OVERFLOW, IN2 OVERFLOW	1-A-DBL GRATE AND WING	17.5	0.5	18.8	Sump
* IN-4	PB3 PB4	1-D-DBL GRATE	12.4	0.7	21.1	Sump
* Existing inlet constructed with the phase 1 building or reconstructed with this project.						
Note the inlet capacity includes a 25% clogging factor for inlets in sump condition.						
Additional capacity for throat opening in curb inlets is not included in capacity calculations.						

DOWNTOWN PRESBYTERIAN HOSPITAL						
STORM DRAIN PIPE TABLE						
PIPE #	Contributing Basins & Pipes	Size in.	Slope	Capacity* cfs	ACTUAL FLOW cfs	PIPE LENGTH ft
STORM DRAIN PIPE						
P1	PB12	18	1.00%	10.5	2.4	37.0
P2	P1 PB5 PB13	18	20.07%	47.1	4.0	78.0
P3	PB14, EX IN2 OVERFLOW, IN1 OVERFLOW, IN2 OVERFLOW	18	3.00%	18.2	17.5	110.0
P4	PB14, EX IN2 OVERFLOW, IN1 OVERFLOW, IN2	18	6.80%	27.4	12.4	110.0
P5	PB3 PB4	18	2.00%	14.9	6.8	52.0
*CAPACITY IS BASED ON GRAVIT FLOW, USING MANNING'S EQUATION WITH n=0.013						

DOWNTOWN PRESBYTERIAN HOSPITAL								
FIRST FLUSH VOLUME CALCULATION								
Basin	Area	Area	Land Treatment Percentages				FIRST FLUSH RQD. VOL.	FIRST FLUSH VOL. PROVIDED
ID	(SQ. FT)	(AC.)	A	B	C	D	(CF)	(CF)
PB1	6151	0.14	0.0%	0.0%	22.4%	77.6%	*135*	*120*
PB2	9607	0.22	0.0%	0.0%	12.0%	88.0%	*240*	*180*
PB3	1915	0.04	0.0%	0.0%	0.0%	100.0%	*54*	*0*
PB4	5200	0.12	0.0%	0.0%	0.0%	100.0%	*147*	*0*
PB5	215	0.00	0.0%	0.0%	0.0%	100.0%	*6*	*LANDSCAPE SWALE IN R/W*
PB6	0	0.00	0.0%	0.0%	0.0%	100.0%	*0*	*LANDSCAPE SWALE IN R/W*
PB7	2282	0.05	0.0%	0.0%	0.0%	100.0%	*65*	*120*
PB8	5048	0.12	0.0%	0.0%	0.0%	100.0%	*143*	*120*
PB9	0	0.00	0.0%	0.0%	0.0%	100.0%	*0*	*0*
PB10	0	0.00	0.0%	0.0%	4.5%	95.5%	*0*	*0*
PB11	531	0.01	0.0%	0.0%	0.0%	100.0%	*15*	*0*
PB12	2782	0.06	0.0%	0.0%	0.0%	100.0%	*79*	*325*
PB13	4783	0.11	0.0%	0.0%	0.0%	100.0%	*136*	*325*
PB14	41064	0.94	0.0%	0.0%	5.4%	94.6%	*1101*	*WATER QUALITY MH*
PB15	0	0.00	0.0%	0.0%	0.0%	100.0%	*0*	*0*
						TOTAL	*2120*	*1190*

Broad Crested Rectanular Weir:

Eqn: Q = Cw*L*h^(3/2)

Channel Coordinates - Offset and Elevation		
Point #	Offset	Elevation
1	0	0.5
2	0	0
3	9	0
4	9	0.5

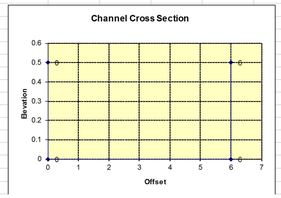
L	9.0000	ft.
h	0.5000	ft.
Cw	2.7	
Q=	8.591	

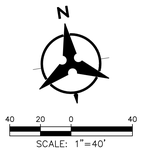
Mannings Analysis for Open Chanel:

Manning's Eqn: Q = 1.49/n x AR^2/3 x S^1/2

Channel Coordinates - Offset and Elevation		
Point #	Offset	Elevation
1	0	0.5
2	0	0
3	6	0
4	6	0.5

A	3.0000	sq. ft
WP	7.0000	ft.
R	0.42857143	ft.
Slope	1.0000%	
n	0.013	
Q=	19.545	
V=	6.52	





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ARCHITECTURE / DESIGN / INSPIRATION

DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

ARCHITECT

ENGINEEP

GLENN S. BROUGHTON NEW MEXICO 14171 REGISTERED PROFESSIONAL ENGINEER

PROJECT

PRESBYTERIAN HOSPITAL
MAIN DRIVE ENTRY RELOCATION
1100 Central Ave. SE
Albuquerque, NM 87106

100% CONSTRUCTION DOCUMENTS

THE WORK INCLUDED HEREIN IS NOT NECESSARILY ALL INCLUSIVE. OFFICIAL BID DOCUMENTS INCLUDING ALL ADDENDA PREVAILS.

REVISIONS
1 ASI-1 VE MODIFICATIONS
2
3
4
5
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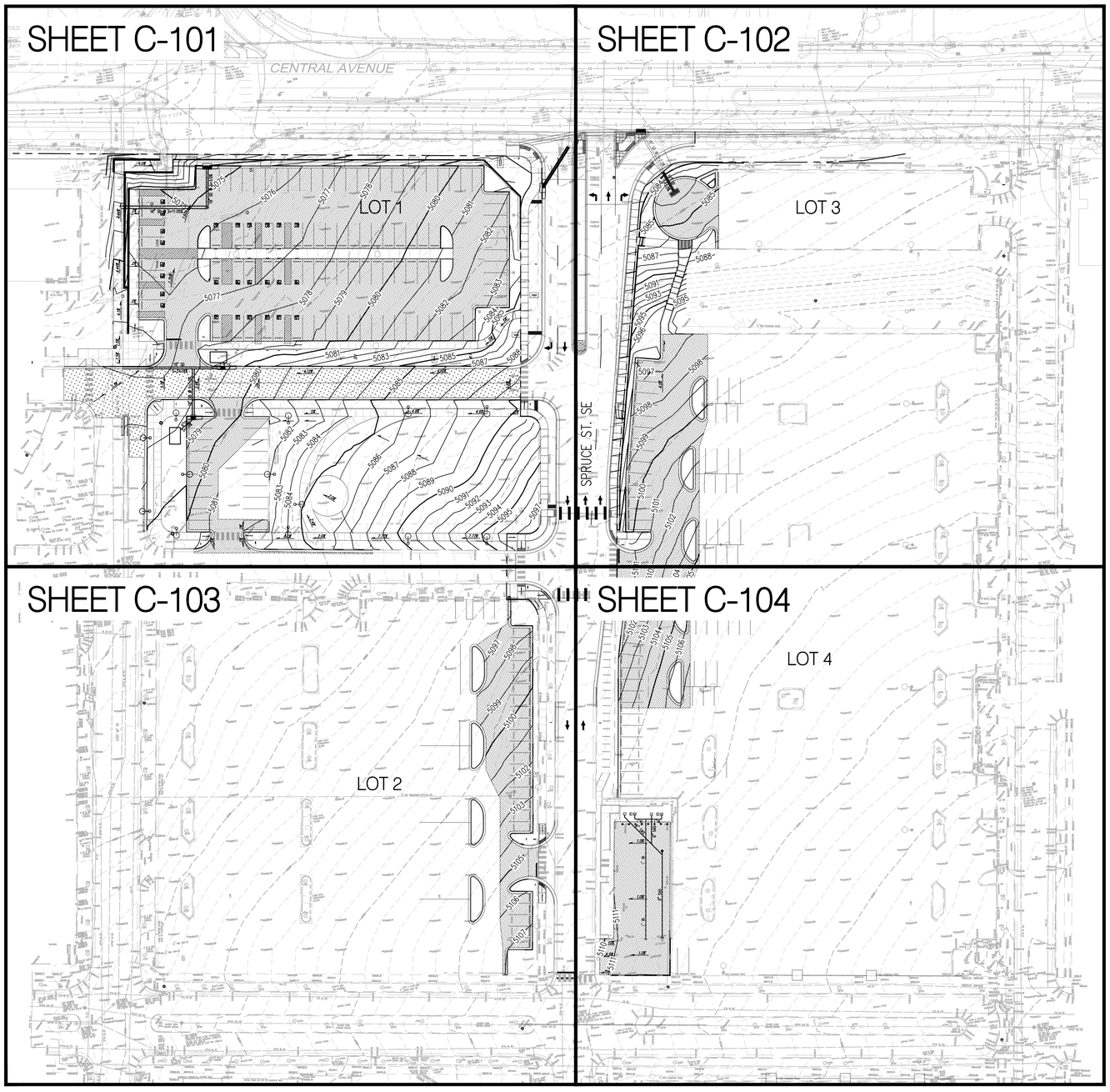
DRAWN BY	BO
REVIEWED BY	GSB
DATE	10/24/2016
PROJECT NO.	15-0125.001
DRAWING NAME	

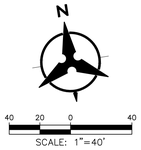
PROPOSED CONDITIONS DRAINAGE MANAGEMENT PLAN

SHEET NO.

OF

Bohannan Huston
www.bhinc.com 800.877.5332





GENERAL NOTES

1. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE PUBLIC WORKS STANDARDS SHALL APPLY.

2. THE CONTRACTOR SHALL ABIDE BY ALL LOCAL, STATE, AND FEDERAL LAWS, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA REQUIREMENTS WITH RESPECT TO STORM WATER DISCHARGE.

3. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL POTENTIAL OBSTRUCTIONS INCLUDING ALL UNDERGROUND UTILITIES. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION OBSERVER OR ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

4. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL CONTACT LINE LOCATING SERVICE FOR LOCATION OF EXISTING UTILITIES.

5. ALL ELECTRICAL, TELEPHONE, CABLE TV, GAS AND OTHER UTILITY LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION, SHALL BE COORDINATED WITH THAT UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS. NO ADDITIONAL COMPENSATION WILL BE ALLOWED FOR DELAYS OR INCONVENIENCES CAUSED BY UTILITY COMPANY WORK CREWS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE HIS ACTIVITIES TO ALLOW UTILITY CREWS TO PERFORM THEIR REQUIRED WORK.

6. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITY LINES WITHIN THE CONSTRUCTION AREA. ANY DAMAGE TO EXISTING FACILITIES CAUSED BY CONSTRUCTION ACTIVITY SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE AND APPROVED BY THE CONSTRUCTION OBSERVER.

7. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT PROPERTIES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.

8. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.

9. THE CONTRACTOR SHALL OBTAIN ALL THE NECESSARY PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION (I.E., BARRICADING, TOPSOIL DISTURBANCE, EXCAVATION PERMITS, EPA STORM WATER PERMITS, ETC.).

10. ALL PROPERTY CORNERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL PROPERTY CORNERS MUST BE RESET BY A REGISTERED LAND SURVEYOR.

11. THE CONTRACTOR SHALL PREPARE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN AND OBTAIN APPROVAL OF SUCH PLAN FROM THE CITY OF ALBUQUERQUE, TRAFFIC ENGINEERING DEPARTMENT, PRIOR TO BEGINNING ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

12. ALL BARRICADES AND CONSTRUCTION SIGNING SHALL CONFORM TO APPLICABLE SECTIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), US DEPARTMENT OF TRANSPORTATION, LATEST EDITION.

13. THE CONTRACTOR SHALL MAINTAIN ALL CONSTRUCTION BARRICADES AND SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

14. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO CONFORM WITH EPA REQUIREMENTS, INCLUDING COMPLIANCE WITH NPDES PHASE 2 REQUIREMENTS.

GRADING NOTES

1. EXCEPT AS PROVIDED HEREIN, GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

2. THE COST FOR REQUIRED CONSTRUCTION DUST AND EROSION CONTROL MEASURES SHALL BE INCIDENTAL TO THE PROJECT COST.

3. ALL WORK RELATIVE TO FOUNDATION CONSTRUCTION, SITE PREPARATION, AND PAVEMENT INSTALLATION, AS SHOWN ON THIS PLAN, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "GEOTECHNICAL INVESTIGATION". ALL OTHER WORK SHALL, UNLESS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT, (FIRST PRIORITY) SPECIFICATIONS, AND/OR THE CITY OF ALBUQUERQUE (COA) STANDARD SPECIFICATIONS FOR PUBLIC WORKS (SECOND PRIORITY).

4. EARTH SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL UNLESS SHOWN OTHERWISE.

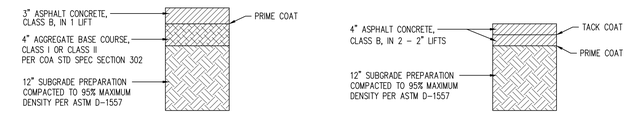
5. IT IS THE INTENT OF THESE PLANS THAT THIS CONTRACTOR SHALL NOT PERFORM ANY WORK OUTSIDE OF THE PROPERTY BOUNDARIES EXCEPT AS REQUIRED BY THIS PLAN.

6. THE CONTRACTOR IS TO ENSURE THAT NO SOIL ERODES FROM THE SITE ONTO ADJACENT PROPERTY OR PUBLIC RIGHT-OF-WAY.

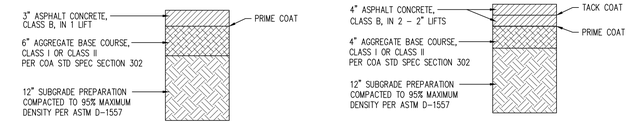
7. A DISPOSAL SITE FOR ANY & ALL EXCESS EXCAVATION MATERIAL, AND UNSUITABLE MATERIAL AND/OR A BORROW SITE CONTAINING ACCEPTABLE FILL MATERIAL SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE OBSERVER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL OR BORROW SITE AND HAUL TO OR FROM SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.

8. PAVING AND ROADWAY GRADES SHALL BE +/- 0.1' FROM PLAN ELEVATIONS. PAD ELEVATION SHALL BE +/- 0.05' FROM BUILDING PLAN ELEVATION.

9. VERIFY ALL ELEVATIONS SHOWN ON PLAN FROM BASIS OF ELEVATION CONTROL STATION PRIOR TO BEGINNING CONSTRUCTION.



1 LIGHT DUTY ASPHALT PAVEMENT SECTION
NTS



2 HEAVY DUTY ASPHALT PAVEMENT SECTION
NTS

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ARCHITECTURE / DESIGN / INSPIRATION

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ENGINEER

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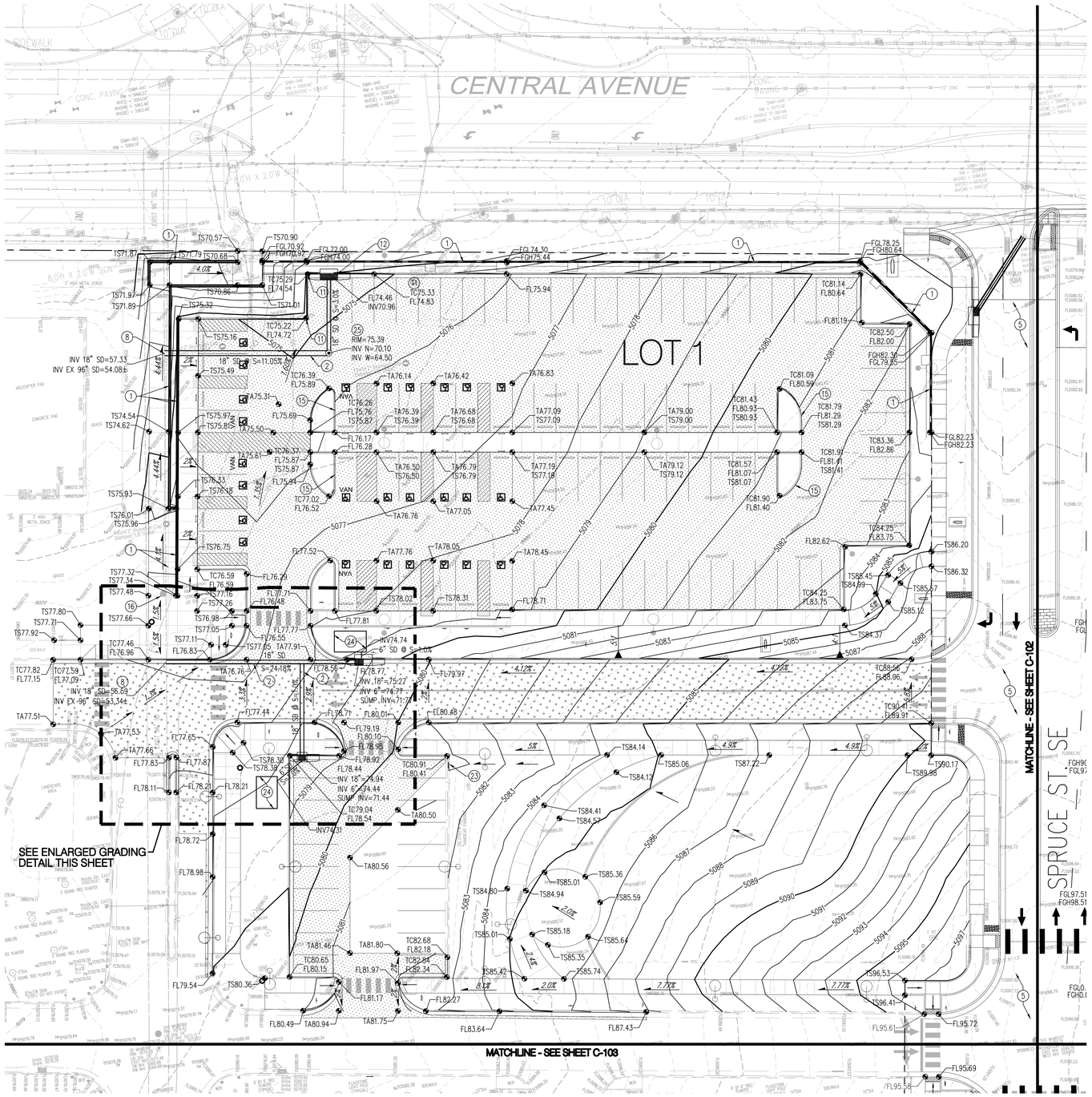
DRAWING NAME

OVERALL GRADING & DRAINAGE PLAN

SHEET NO.

C-100

OF



ENLARGED GRADING DETAIL
1"=10'

LEGEND

- PROPERTY LINE
- EXISTING CONTOURS
- EXISTING GROUND SPOT ELEVATION
- PROPOSED SPOT ELEVATION
  - TC=TOP OF CURB, FL=FLOW LINE
  - TS=TOP OF SIDEWALK, TA=TOP OF ASPHALT
  - EX=EXISTING, FG=FINISHED GRADE
  - TG=TOP OF GRATE, INV=INVERT
  - FGH=FINISHED GRADE HIGH
  - FGL=FINISHED GRADE LOW
- PROPOSED DIRECTION OF FLOW
- WATER BLOCK / RIDGE OR HIGH POINT
- PROPOSED RETAINING WALL
- PROPOSED INDEX CONTOURS
- PROPOSED INTER CONTOURS
- PROPOSED CURB & GUTTER
- PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- NEW LIGHT DUTY ASPHALT PAVEMENT SECTION SEE DETAIL 1/C100
- NEW HEAVY DUTY ASPHALT PAVEMENT SECTION SEE DETAIL 2/C100

SCALE: 1"=20'

KEYED NOTES

1. RETAINING WALL, SEE STRUCTURAL PLANS FOR DETAILS.
2. INSTALL STORM DRAIN PIPE. SEE PLAN FOR SIZE & SLOPE.
3. CONSTRUCT 24" WIDE SIDEWALK CULVERT PER COA STD DWG 2236.
4. CONSTRUCT TYPE "A" SINGLE WING, DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
5. ROADWAY & SIDEWALK IMPROVEMENTS WITHIN SPRUCE STREET RIGHT OF WAY TO BE CONSTRUCTED UNDER DITY WORK ORDER, CITY PROJECT NUMBER 707583.
6. INSTALL 6" SDR-35 PVC SANITARY SEWER LINE.
7. INSTALL 1" WATER SERVICE LINE.
8. CONNECT TO EXISTING 96" STORM DRAIN PER DETAIL ON SHEET C-105. INSTALL 1 JOINT OF 18" RCP AT CONNECTION. INSTALL CONCRETE COLLAR AT CONNECTION OF 18" RCP & 18" HDPE PIPE.
9. NOT USED.
10. CONSTRUCT 24" WIDE CONCRETE RIBBON CHANNEL PER COA STD DWG 2236. OMIT CHECKERED STEEL PLATE.
11. CURB HEIGHT VARIES FROM 6" TO 9".
12. CONSTRUCT TYPE "A" DOUBLE WING, DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
13. INSTALL 1" FROST FREE YARD HYDRANT W/AUTO DRIP BALL, ZURN MODEL 21396 OR APPROVED EQUAL.
14. INSTALL 6" SANITARY SEWER CLEAN OUT, SEE DETAIL ON SHEET C-104.
15. CONSTRUCT 12" WIDE CURB OPENING FOR DRAINAGE, SEE DETAIL ON SHEET C-105.
16. ADJUST EXISTING SANITARY SEWER MAN HOLE RIM & COVER TO FINISHED GRADE.
17. INSTALL TYPE "D" DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2206.
18. CONSTRUCT CONCRETE RUNDOWN PER DETAIL 1/C-102.
19. CONSTRUCT FLARED CONCRETE RUNDOWN OPENING PER DETAIL 2/C-102.
20. CONNECT TO EXISTING STORM DRAIN INLET.
21. CONSTRUCT TYPE "A" SINGLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
22. CONSTRUCT TYPE "C" SINGLE GRATE STORM DRAIN INLET PER COA STD DWG 2205.
23. CONSTRUCT 24" WIDE CURB OPENING FOR DRAINAGE.
24. INSTALL 3 – STORMTECH MC-3500 CHAMBERS WITH END CAPS AND ACCESS PORTS PER DETAIL 3/C-105. RETENTION VOLUME 325 C.F. SEE TABLE FOR CHAMBER AND INVERT ELEVATIONS.
25. INSTALL STORMCEPTOR STC-450.
26. INSTALL 18F SNOUT AT 18" OUTLET PIPE.
27. INSTALL 12F SNOUT AT 6" OUTLET PIPE.
28. INSTALL INLET SUMP DRAIN PER DETAIL 4/C-105.
29. CONNECT TO EXISTING SANITARY SEWER SERVICE LINE.
30. CONNECT TO EXISTING WATER SERVICE LINE. CONTRACTOR TO VERIFY EXACT LOCATION.

NOTE: NOT ALL KEYED NOTES MAY APPLY TO THIS SHEET.

ARCHITECTURE / DESIGN / INSPIRATION

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DRAWING NAME

GRADING & DRAINAGE PLAN

SHEET NO.

C-101

OF

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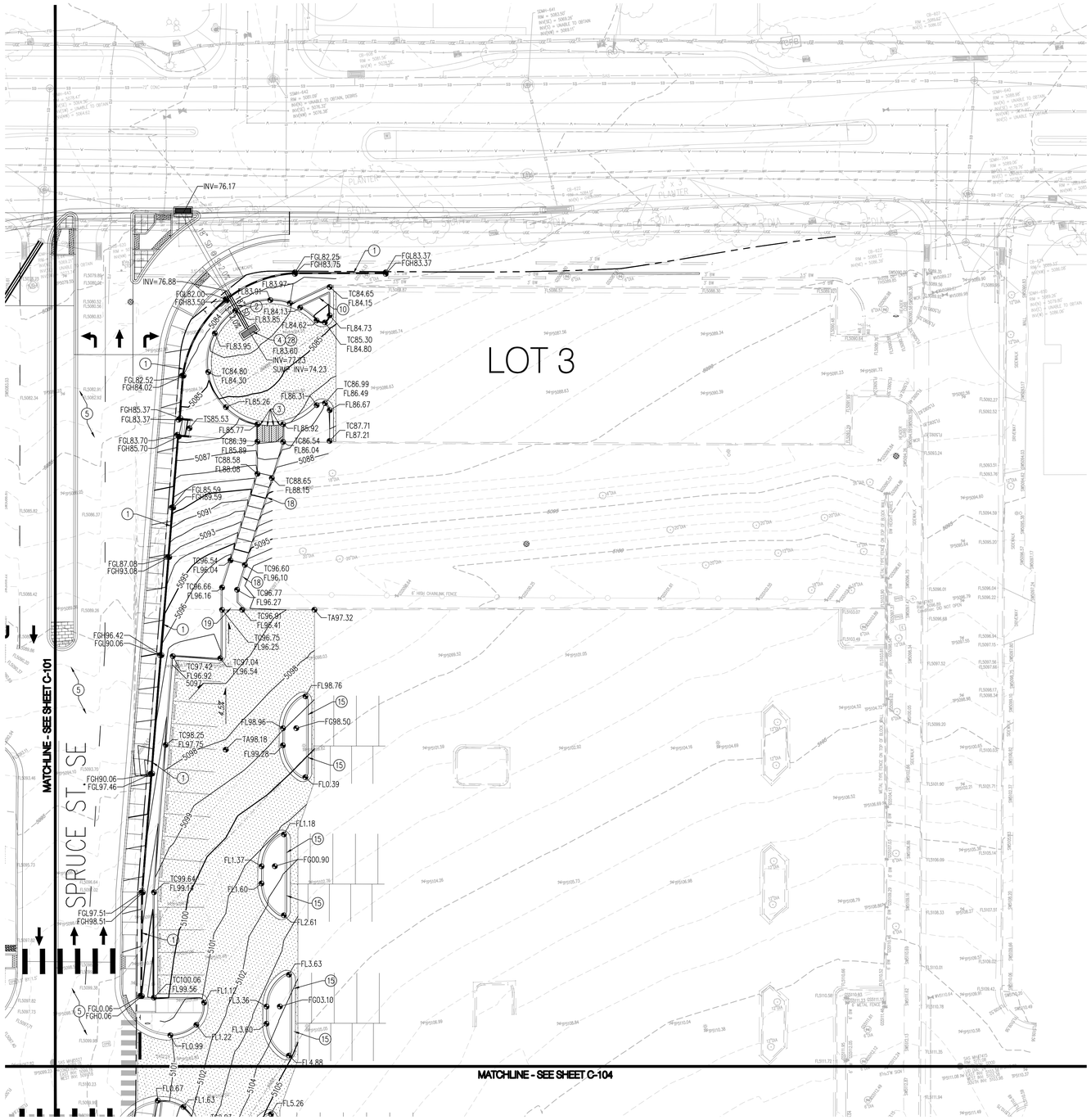

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16. ADJUST EXISTING SANITARY SEWER MAN HOLE RIM & COVER TO FINISHED GRADE.
17. INSTALL TYPE "D" DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2206.
18. CONSTRUCT CONCRETE RUNDOWN PER DETAIL 1/C-102.
19. CONSTRUCT FLARED CONCRETE RUNDOWN OPENING PER DETAIL 2/C-102.
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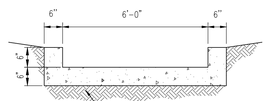

1 CONCRETE RUNDOWN
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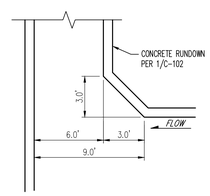

2 FLARED RUNDOWN OPENING
N.T.S.

LEGEND

- PROPERTY LINE
- 5301 EXISTING CONTOURS
- x 5301.15 EXISTING GROUND SPOT ELEVATION
- 65.23 PROPOSED SPOT ELEVATION
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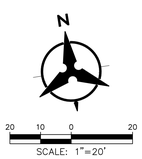

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2		
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DRAWING NAME

GRADING & DRAINAGE PLAN

SHEET NO.

C-102

OF

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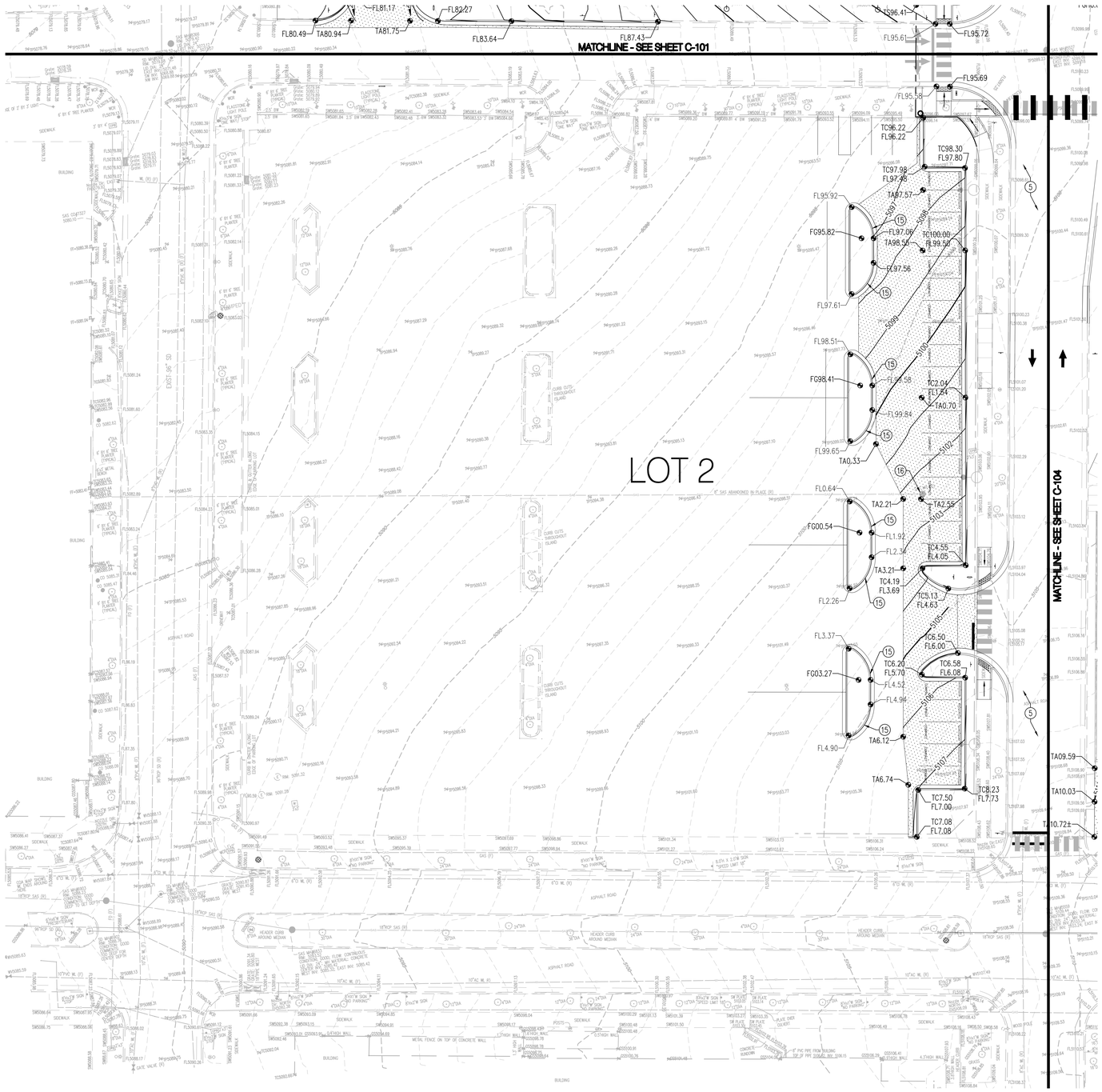

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N

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PROJECT NO.	15-0125.001

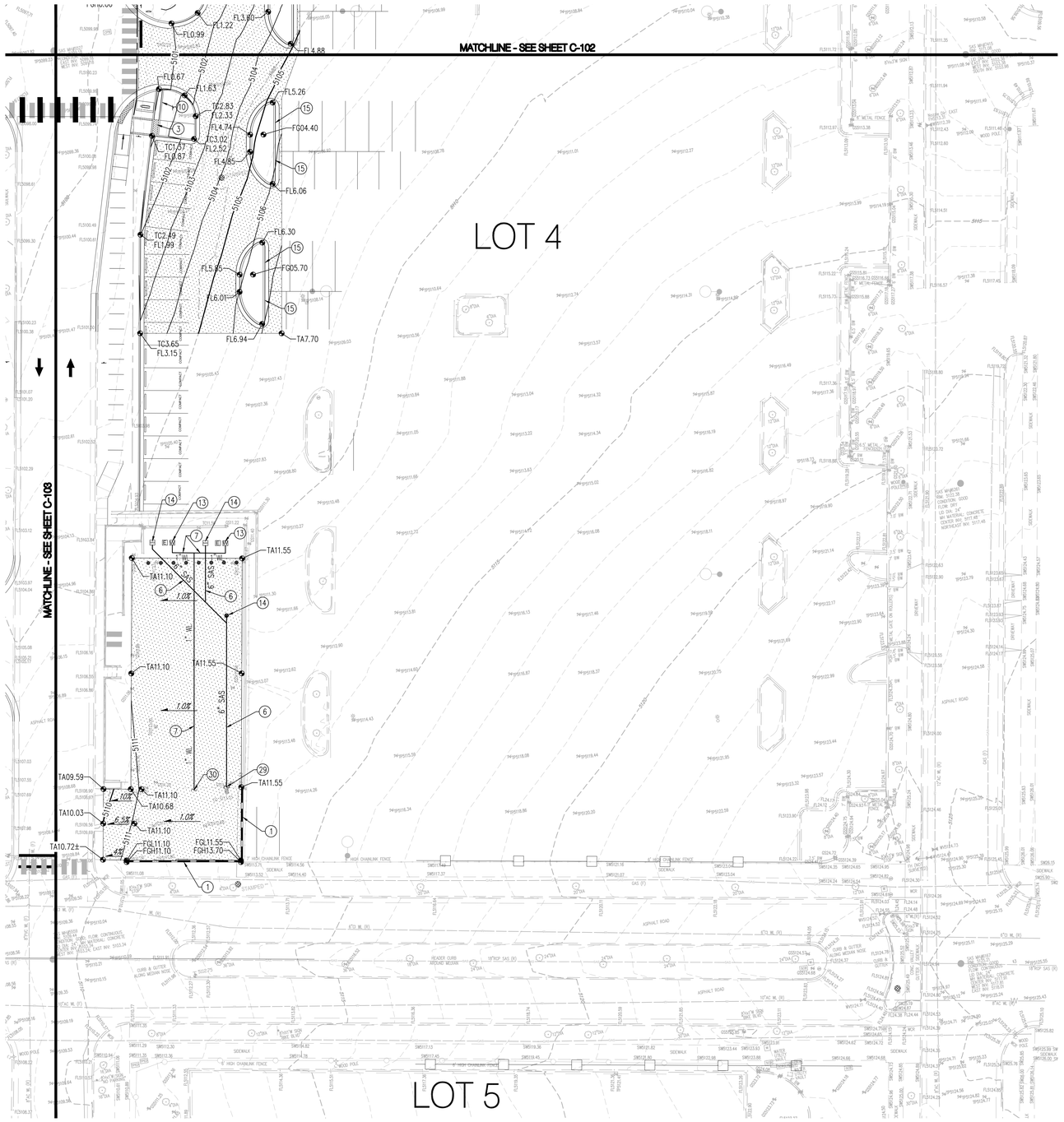
DRAWING NAME

GRADING & DRAINAGE PLAN

SHEET NO.

C-103

OF



KEYED NOTES

1. RETAINING WALL, SEE STRUCTURAL PLANS FOR DETAILS.
2. INSTALL STORM DRAIN PIPE. SEE PLAN FOR SIZE & SLOPE.
3. CONSTRUCT 24" WIDE SIDEWALK CULVERT PER COA STD DWG 2236.
4. CONSTRUCT TYPE "A" SINGLE WING, DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
5. ROADWAY & SIDEWALK IMPROVEMENTS WITHIN SPRUCE STREET RIGHT OF WAY TO BE CONSTRUCTED UNDER DITY WORK ORDER, CITY PROJECT NUMBER 707583.
6. INSTALL 6" SDR-35 PVC SANITARY SEWER LINE.
7. INSTALL 1" WATER SERVICE LINE.
8. CONNECT TO EXISTING 96" STORM DRAIN PER DETAIL ON SHEET C-105. INSTALL 1 JOINT OF 18" RCP AT CONNECTION. INSTALL CONCRETE COLLAR AT CONNECTION OF 18" RCP & 18" HDPE PIPE.
9. NOT USED.
10. CONSTRUCT 24" WIDE CONCRETE RIBBON CHANNEL PER COA STD DWG 2236. OMIT CHECKERED STEEL PLATE.
11. CURB HEIGHT VARIES FROM 6" TO 9".
12. CONSTRUCT TYPE "A" DOUBLE WING, DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
13. INSTALL 1" FROST FREE YARD HYDRANT W/AUTO DRIP BALL, ZURN MODEL 21396 OR APPROVED EQUAL.
14. INSTALL 6" SANITARY SEWER CLEAN OUT, SEE DETAIL ON SHEET C-104.
15. CONSTRUCT 12" WIDE CURB OPENING FOR DRAINAGE, SEE DETAIL ON SHEET C-105.
16. ADJUST EXISTING SANITARY SEWER MAN HOLE RIM & COVER TO FINISHED GRADE.
17. INSTALL TYPE "D" DOUBLE GRATE STORM DRAIN INLET PER COA STD DWG 2206.
18. CONSTRUCT CONCRETE RUNDOWN PER DETAIL 1/C-102.
19. CONSTRUCT FLARED CONCRETE RUNDOWN OPENING PER DETAIL 2/C-102.
20. CONNECT TO EXISTING STORM DRAIN INLET.
21. CONSTRUCT TYPE "A" SINGLE GRATE STORM DRAIN INLET PER COA STD DWG 2201.
22. CONSTRUCT TYPE "C" SINGLE GRATE STORM DRAIN INLET PER COA STD DWG 2205.
23. CONSTRUCT 24" WIDE CURB OPENING FOR DRAINAGE.
24. INSTALL 3 – STORMTECH MC-3500 CHAMBERS WITH END CAPS AND ACCESS PORTS PER DETAIL 3/C-105. RETENTION VOLUME 325 C.F. SEE TABLE FOR CHAMBER AND INVERT ELEVATIONS.
25. INSTALL STORMCEPTOR STC-450.
26. INSTALL 18F SNOUT AT 18" OUTLET PIPE.
27. INSTALL 12F SNOUT AT 6" OUTLET PIPE.
28. INSTALL INLET SUMP DRAIN PER DETAIL 4/C-105.
29. CONNECT TO EXISTING SANITARY SEWER SERVICE LINE.
30. CONNECT TO EXISTING WATER SERVICE LINE. CONTRACTOR TO VERIFY EXACT LOCATION.

NOTE: NOT ALL KEYED NOTES MAY APPLY TO THIS SHEET.

LEGEND

- PROPERTY LINE
- 5301 — EXISTING CONTOURS
- X 5301.15 — EXISTING GROUND SPOT ELEVATION
- 65.23 — PROPOSED SPOT ELEVATION
  TC=TOP OF CURB, FL=FLOW LINE
  TS=TOP OF SIDEWALK, TA=TOP OF ASPHALT
  EX=EXISTING, FG=FINISHED GRADE
  TG=TOP OF GRATE, INV=INVERT
  FGH=FINISHED GRADE HIGH
  FGL=FINISHED GRADE LOW
- S=2.0% — PROPOSED DIRECTION OF FLOW
- WATER BLOCK / RIDGE OR HIGH POINT
- PROPOSED RETAINING WALL
- 5305 — PROPOSED INDEX CONTOURS
- PROPOSED INTER CONTOURS
- PROPOSED CURB & GUTTER
- SD — PROPOSED STORM DRAIN LINE
- PROPOSED STORM DRAIN MANHOLE
- PROPOSED STORM DRAIN INLET
- NEW LIGHT DUTY ASPHALT PAVEMENT SECTION SEE DETAIL 1/C100
- NEW HEAVY DUTY ASPHALT PAVEMENT SECTION SEE DETAIL 2/C100

N

20 10 0 20

SCALE: 1"=20'

ARCHITECTURE / DESIGN / INSPIRATION

DEKKER PERICH SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109

505.761.9700 / DPSDESIGN.ORG

ARCHITECT

ENGINEER

GLENN S. BROUGHTON
NEW MEXICO
14171
REGISTERED PROFESSIONAL ENGINEER

PROJECT

PRESBYTERIAN HOSPITAL
MAIN DRIVE ENTRY RELOCATION
1100 Central Ave. SE
Albuquerque, NM 87106

100% CONSTRUCTION DOCUMENTS

THE WORK INCLUDED HEREIN IS NOT NECESSARILY ALL INCLUSIVE. OFFICIAL BID DOCUMENTS INCLUDING ALL ADDENDA PREVAILS.

REVISIONS

1	ASI-1	VE MODIFICATIONS

DRAWN BY	BO
REVIEWED BY	GSB
DATE	10/24/2016
PROJECT NO.	15-0125.001

DRAWING NAME

GRADING & DRAINAGE AND UTILITY PLAN

SHEET NO.

C-104

OF

Bohannan Huston
www.bhinc.com 800.877.5332

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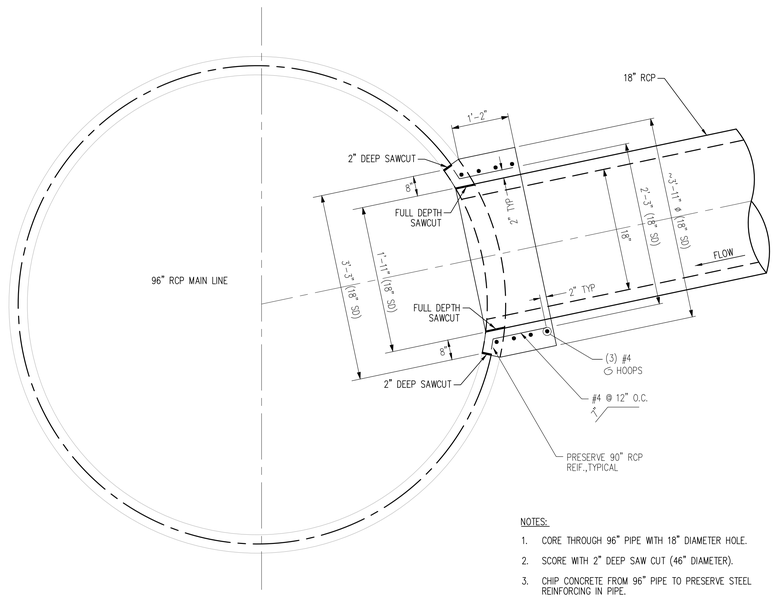
Fri, 18-Nov-2016 - 8:39:am, Plotted by: BORTEGA

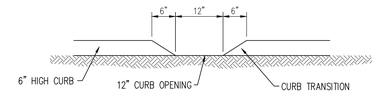


1 **PIPE "COLLAR" CONNECTION DETAIL**
N.T.S.

NOTES:

1. CORE THROUGH 96" PIPE WITH 18" DIAMETER HOLE.
2. SCORE WITH 2" DEEP SAW CUT (46" DIAMETER).
3. CHIP CONCRETE FROM 96" PIPE TO PRESERVE STEEL REINFORCING IN PIPE.
4. PLACE CONTINUOUS HYDROPHYLIC SEAL BETWEEN NEW CONCRETE AND 18" DIAMETER STORM DRAIN.
5. PLACE CONTINUOUS HYDROPHYLIC SEAL BETWEEN NEW CONCRETE AND EXISTING 96" STORM DRAIN.

• CUTS ARE TO BE PERPENDICULAR TO PIPE WALL



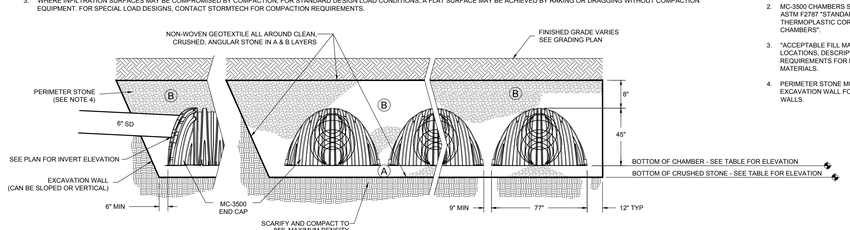
2 **CURB CUT DETAIL**
NTS

INFILTRATOR #	INLET INVERT ELEVATION	BOTTOM OF CHAMBER	BOTTOM OF CRUSHED STONE
1	74.74	72.41	71.66
2	74.31	71.97	71.23

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

	MATERIAL LOCATION	DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO FINISHED GRADE.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE, NOMINAL SIZE DISTRIBUTION BETWEEN 3/4-2 INCH (20-50 mm)	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE [2,3]

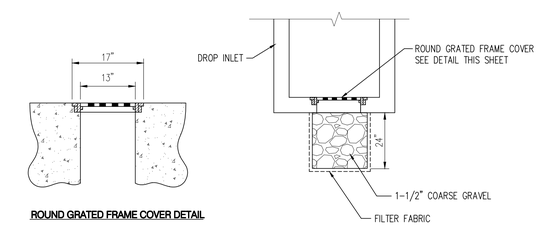
PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR.
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 6" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.



3 **TYPICAL SUBSURFACE INFILTRATION CHAMBER DETAIL**
NTS

NOTES:

1. MC-3500 CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418 "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. "ACCEPTABLE FILL MATERIALS" TABLE ABOVE PROVIDES MATERIAL LOCATIONS, DESCRIPTIONS, GRADATIONS, AND COMPACTION REQUIREMENTS FOR FOUNDATION, EMBEDMENT, AND FILL MATERIALS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.



ROUND GRATED FRAME COVER DETAIL

4 **INLET SUMP DRAIN**
NTS

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Fri, 18-Nov-2016 - 8:44:am, Plotted by: BORTEGA

Bohannan Huston
www.bhinc.com 800.877.5332

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ARCHITECT

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REVISIONS
1 ASI-1 VE MODIFICATIONS

DRAWN BY	BO
REVIEWED BY	GSB
DATE	10/24/2016
PROJECT NO.	15-0125.001

DRAWING NAME
CIVIL DETAILS

SHEET NO.
C-105
OF

CITY OF ALBUQUERQUE

Richard J. Berry, Mayor

November 15, 2016

Glenn S. Broughton, P.E.
Bohannan Huston
7601 Jefferson NE, Suite 100
Albuquerque, NM, 87109

RE: Presbyterian Hospital
Grading & Drainage Plan
Stamp Date: 10-31-2016 (File:K15D005F)

Dear Mr. Broughton:

Based upon the information provided in your submittal received 10-31-2016, the above-referenced is approved for ESC Grading Permit with the following conditions:

1. Consider incorporating a design element to reduce debris from reaching the underground water quality chambers to reduce the maintenance burden/clogging (not a requirement).
2. The improvements on Lots 3 and 4 do not include any water quality elements, except minimal capture in the parking islands. The large inlet upstream of the connection to the City's storm drain needs to be a water quality inlet. This can be accomplished with a hooded outlet or other similar low cost, yet reliable option.
3. Ensure that the Contractor has elevation data to set the bottom of the underground chambers. The final elevations should be included in the as-builts.
4. Provide calculations for the rundown and sidewalk culvert array capacity.

Prior to any grading on the site, an ESC Grading Permit must be processed (see attached), which is contingent on having an approved ESC Plan. Please attach a statement with the Permit that the above-mentioned conditions are acceptable to your client, as well as the calculations for Item 4.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services

Orig: Drainage file

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