

CITY OF ALBUQUERQUE



June 2, 2015

Graeme Means, PE
High Mesa Consulting Group, Inc.
6010-B Midway Park Blvd. NE
Albuquerque, NM 87109

RE: Aztec Elementary School, 2611 Eubank Blvd. NE
Grading and Drainage Plan
Engineer's Stamp Date 5-01-2015 (File: H20-D033)

Dear Mr. Means:

Based upon the information provided in your submittal received 5-05-15, the above referenced Grading and Drainage Plan cannot be approved for Building Permit until the following comments are addressed:

PO Box 1293

Albuquerque

- 1) Provide the AHYMO input and output files and inlet capacity calculations.
- 2) Show roof drain locations on the grading plan.

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

New Mexico 87103

www.cabq.gov

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: AZTEC SPECIAL EDUCATION FACILITY Building Permit #: _____ City Drainage #: H20 D033
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: TRACTS E AND F, LANDS OF BOARD OF EDUCATION, AZTEC ELEM. SCHOOL
City Address: 2611 EUBANK BLVD NE, ALBUQUERQUE NM 87110

Engineering Firm: High Mesa Consulting Group Contact: Graeme Means #13676
Address: 6010-B Midway Park Blvd NE, Albuquerque NM 87109
Phone#: 505-345-4250 Fax#: 505-345-4254 E-mail: gmeans@highmesacg.com

Owner: Albuquerque Public Schools Contact: Annelle Darby
Address: 915 Oak Street SE, 87106
Phone#: 848-8829 Fax#: _____ E-mail: annelle.darby@aps.edu

Architect: Westwork Architects Contact: Mark DePree
Address: PO Box 10921, Albuquerque NM 87184
Phone#: 884-5252 Fax#: 884-5255 E-mail: westwork@swcp.com

Surveyor: High Mesa Consulting Group Contact: Chuck Cala NMPS#11184
Address: 6010-B Midway Park Blvd NE, Albuquerque NM 87109
Phone#: 505-345-4250 Fax#: 505-345-4254 E-mail: ccala@highmesacg.com

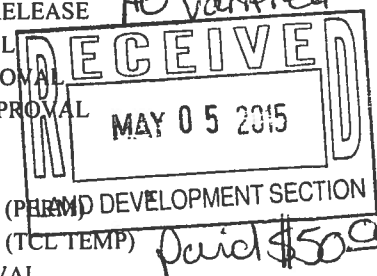
Contractor: To be selected Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT (DMP)
☒ 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 TEMP)
☐ 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 (DMP) _____



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

DATE SUBMITTED: 05-05-2015 By: Justin Schara

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:

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

DRAINAGE PLAN

I. INTRODUCTION AND EXECUTIVE SUMMARY

THIS PROJECT, LOCATED IN THE NORTHEAST HEIGHTS OF THE ALBUQUERQUE METROPOLITAN AREA, REPRESENTS A MODIFICATION TO AN EXISTING APS SITE WITHIN AN INFILL AREA. THE PROPOSED DEVELOPMENT IS COMPRISED OF THE CONSTRUCTION OF A NEW PERMANENT BUILDING TO REPLACE EXISTING CLASSROOM BUILDINGS AND OLDER PERMANENT BUILDINGS. THE PROPOSED DEVELOPMENT WILL BE LOCATED AT THE CENTRAL AND SOUTHWEST PORTIONS OF THE CAMPUS. THE PROPOSED IMPROVEMENTS REFERENCED HEREIN ARE THE FIRST PHASE OF A MULTI-PHASE PROJECT THAT WILL ULTIMATELY ELIMINATE THE EXISTING PERMANENT BUILDINGS AND INCLUDE A NEW PAVED PARKING LOT; THE REMOVAL OF THE EXISTING PERMANENT BUILDINGS AND NEW PARKING LOT CONSTRUCTION WILL BE BY SEPARATE SUBMITTAL.

THE DRAINAGE CONCEPT FOR THIS PROJECT WILL BE THE CONTINUED DISCHARGE OF DEVELOPED RUNOFF TO AN EXISTING ONSITE DETENTION POND AT THE SOUTHWEST CORNER OF THE COMPLEX SITE, WITH CONTROLLED DISCHARGE TO AN EXISTING DOWNSTREAM DRAINAGE EASEMENT.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE AZTEC COMPLEX IS LOCATED AT THE SOUTHWEST CORNER OF THE INTERSECTION OF EUBANK BLVD NE AND LEXINGTON AVENUE NE. THE CURRENT LEGAL DESCRIPTION IS TRACTS E, AZTEC ELEMENTARY SCHOOL. AS SHOWN BY PANEL 356 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE. PRIOR SITE DEVELOPMENT HAS ESTABLISHED A PRECEDENT FOR ONSITE DETENTION PONDING. INASMUCH AS THIS IS A REDEVELOPMENT PROJECT OF AN EXISTING FULLY DEVELOPED SITE, THE EXISTING DRAINAGE PATTERNS AND CONCEPTS SHALL BE MAINTAINED.

III. BACKGROUND DOCUMENTS

THE PREPARATION OF THIS PLAN RELIED UPON THE FOLLOWING DOCUMENTS:

- DRAINAGE SUBMITTAL FOR SIERRA ALTERNATIVE SCHOOL PREPARED BY WILSON & COMPANY, NMPE 1955, DATED 8-12-98. THIS REFERENCED PLAN ESTABLISHED THE CONCEPT FOR THE ONSITE DETENTION OF STORM WATER RUNOFF WITH CONTROLLED DISCHARGE VIA 18" STORM DRAIN OUTLET OF 7.67 CFS TO A DOWNSTREAM DRAINAGE EASEMENT.
- GRADING AND DRAINAGE PLAN FOR DIAGNOSTICIAN CONSULTATION AT AZTEC COMPLEX, PREPARED BY HIGH MESA CONSULTING GROUP, NMPE 8547, DATED 08-28-2010 AND CERTIFIED 12-30-2010. THIS 2010 SUBMITTAL INCLUDED THE RENOVATION OF AN EXISTING PORTABLE CLASSROOM PARK TO SERVE DIAGNOSTICIANS; THESE PORTABLE CLASSROOMS WILL BE REMOVED AND REPLACED WITH PERMANENT BUILDING AS PART OF THE DEVELOPMENT OF THE SITE.
- TOPOGRAPHIC SURVEY PREPARED BY HIGH MESA CONSULTING GROUP, NMPS 11184, DATED 11-18-2013. THIS REFERENCED SURVEY PROVIDES THE BASIS FOR THE EXISTING CONDITIONS OF THE PROJECT SITE.

IV. EXISTING CONDITIONS

THE PROJECT SITE PRESENTLY CONSISTS OF SEVERAL EXISTING PERMANENT AND PORTABLE CLASSROOM BUILDINGS. THE SITE IS SERVED BY TWO ASPHALT PAVED PARKING LOTS AT THE NORTHWEST AND NORTHEAST CORNERS OF THE SITE. THE DRAINAGE PATTERN FOR THE SITE ESTABLISHED BY PREVIOUS SUBMITTALS IS SHEETFLOW FROM NORTHEAST TO SOUTHWEST WITH DISCHARGE TO AN EXISTING DETENTION POND LOCATED AT THE SOUTHWEST CORNER OF THE SITE, AND CONTROLLED DISCHARGE FROM THE POND TO AN EXISTING DOWNSTREAM DRAINAGE EASEMENT.

THERE ARE NO APPARENT OFFSITE FLOWS IMPACTING THIS SITE. LEXINGTON AVE NE AND EUBANK BLVD NE, FULLY DEVELOPED CITY STREETS, LIE TO THE NORTH AND EAST WITH FLOWS APPARENTLY CONFINED TO THE CONSTRUCTED STREETS. EXISTING RESIDENTIAL LOTS TO THE SOUTH AND WEST ARE TOPOGRAPHICALLY LOWER AND APPEAR TO DISCHARGE DEVELOPED RUNOFF TO THE FRONTING CITY STREETS.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF A NEW PERMANENT BUILDING AND PAVED ACCESS AND PARKING IMPROVEMENTS TO REPLACE EXISTING PERMANENT BUILDINGS AND PORTABLE CLASSROOM BUILDINGS. THE DEVELOPED CONDITIONS DEPICTED HEREIN ARE PART OF A MULTI-PHASE PROJECT, WHEREIN THE PORTABLE CLASSROOM BUILDINGS WILL BE REMOVED PRIOR TO CONSTRUCTION OF THE NEW BUILDING, AND REMOVAL OF THE EXISTING PERMANENT BUILDINGS WILL OCCUR IN A FUTURE PHASE BY SEPARATE SUBMITTAL. RUNOFF FROM THE SITE WILL CONTINUE TO GENERALLY SHEETFLOW FROM EAST TO WEST AND NEW PRIVATE STORM DRAIN IMPROVEMENTS WILL BE CONSTRUCTED TO COLLECT AND CONVEY RUNOFF DIRECTLY TO THE ONSITE PRIVATE DETENTION POND AT THE SOUTHWEST CORNER OF THE SITE. THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR DECREASE IN PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE SITE.

THE EXISTING RETENTION POND WILL BE REGRADED TO INCREASE PONDING CAPACITY. IN ADDITION, THE BOTTOM OF THE POND WILL BE LOWERED BELOW THE EXISTING STORM DRAIN OUTLET, RESULTING IN A RETENTION CAPACITY OF 29,460 CF. AS A RESULT, THE 2 YEAR, 24 HOUR DEVELOPED RUNOFF (20,870 CF) GENERATED BY THE SITE WILL BE RETAINED ONSITE, WHICH WILL ALSO MEET THE CONDITION OF MANAGING AND CONTROLLING THE FIRST FLUSH OF DEVELOPED RUNOFF DUE TO THE NEW IMPERVIOUS AREAS, AS WELL AS LEED REQUIREMENTS FOR STORMWATER QUANTITY AND QUALITY. THE EXISTING 18" STORM DRAIN OUTLET PIPE WILL NOT BE MODIFIED, AND WILL CONTINUE TO CONTROL DISCHARGE TO THE DOWNSTREAM DRAINAGE EASEMENT. AS DETERMINED BY AHYMO RESERVOIR ROUTING, THE 100-YEAR RELEASE RATE WILL BE 2.2 CFS WHICH IS MUCH LESS THAN THE PREVIOUSLY APPROVED 7.67 CFS RATE ESTABLISHED IN THE 1998 DRAINAGE PLAN REFERENCED ABOVE.

THERE WILL CONTINUE TO BE NO APPARENT OFFSITE FLOWS IMPACTING THE SITE AS A RESULT OF THESE DEVELOPED CONDITIONS.

VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING AND PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 2.) THE LIMIT AND CHARACTER OF THE EXISTING AND PROPOSED IMPROVEMENTS, AND 3.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED GRADING WILL DIRECT DEVELOPED RUNOFF TO THE EXISTING ONSITE PRIVATE DETENTION POND.

VII. CALCULATIONS

THE CALCULATIONS CONTAINED HEREON ANALYZE THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR AND THE 2-YEAR, 24-HOUR RAINFALL EVENTS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS DEMONSTRATED BY THESE CALCULATIONS, THE PROPOSED DEVELOPMENT WILL RESULT IN A MINOR DECREASE IN THE DEVELOPED RUNOFF GENERATED BY THE AZTEC COMPLEX SITE. IN ADDITION THE AVERAGE END AREA METHOD WAS USED TO QUANTIFY THE CAPACITY OF THE REGRADED PRIVATE DETENTION POND, AND MANNING'S EQUATION WAS USED TO CALCULATE THE CAPACITY OF THE PROPOSED PRIVATE STORM DRAIN SYSTEM. AHYMO CALCULATIONS ROUTING THE SITE RUNOFF THROUGH THE DETENTION POND WERE RUN TO DEMONSTRATE THAT THE A PEAK DISCHARGE OF 2.2 CFS WILL DISCHARGE THROUGH THE EXISTING 18" STORM DRAIN OUTLET DURING A 100-YEAR STORM EVENT, WELL BELOW THE 7.67 CFS ALLOWABLE DISCHARGE RATE ESTABLISHED BY PRIOR SUBMITTAL.

VIII. CONCLUSIONS

THE FOLLOWING CONCLUSIONS HAVE BEEN ESTABLISHED AS A RESULT OF THE EVALUATIONS CONTAINED HEREIN:

- THE PROPOSED IMPROVEMENTS ARE CONSISTENT WITH THE CONCEPT FOR DETENTION PONDING ESTABLISHED BY PRIOR SUBMITTALS
- THE PROPOSED IMPROVEMENTS WILL RESULT IN A MINOR DECREASE IN DEVELOPED PEAK DISCHARGE AND VOLUME OF RUNOFF GENERATED BY THE SITE
- THE REGRADED POND WILL RETAIN THE 2-YEAR, 24 HOUR RAINFALL EVENT, THEREFORE THE CONDITION OF MANAGING AND CONTROLLING THE FIRST FLUSH OF DEVELOPED RUNOFF FROM NEW IMPERVIOUS AREAS WILL BE MET
- THE EXISTING 18" STORM DRAIN OUTLET FOR THE SITE WILL NOT BE MODIFIED BY THE SITE DEVELOPMENT, MAINTAINING THE CONTROLLED DISCHARGE FROM THE SITE TO THE DOWNSTREAM DRAINAGE EASEMENT.

STORM DRAIN HYDRAULICS					
PIPE ID	Mannings Coefficient	Slope (ft/ft)	Diameter (in)	Maximum Discharge (cfs)	Full (cfs)
A	0.013	0.0234	24	37.2	34.6
B	0.013	0.0200	24	34.4	32.0
C	0.013	0.0105	24	24.9	23.2
D	0.013	0.0112	30	46.7	43.4
E	0.013	0.0054	30	32.4	30.1
F	0.013	0.0142	30	52.6	48.9
G	0.013	0.0142	12	4.6	4.3
H	0.013	0.0085	30	40.7	37.8
I	0.013	0.0111	30	46.5	43.2

POND VOLUME by ELEVATION				
ELEV FT	AREA SF	VOL CF	Σ VOL CF	Σ VOL AC-FT
81.20	12070	0	0	0.00
82.00	21490	13420	13420	0.31
82.70	24350	16040	29460	0.68
83.00	25870	7530	36990	0.85
84.00	30500	23180	60170	1.38
85.00	37300	33900	94070	2.16

CALCULATIONS

I. SITE CHARACTERISTICS

A. PRECIPITATION ZONE =	3
B. P _{100, 6 HR} = P ₃₆₀ =	2.6 IN
P _{2, 24 HR} = P ₁₄₀₂ =	1.3 IN
C. TOTAL PROJECT AREA (A _T) =	442,510 SF
	10.16 AC

D. LAND TREATMENTS

TREATMENT	AREA (SF/AC)	%
A		
B	22,250 SF	5
C	217,890 SF	49
D	202,370 SF	46
	4.65 AC	

TREATMENT	AREA (SF/AC)	%
A		
B	123,506 SF	28
C	123,506 SF	28
D	195,498 SF	44
	4.49 AC	

II. HYDROLOGY

A. EXISTING CONDITION 100 YEAR

1. 100-YR STORM	
a. VOLUME 100-YR, 6-HR	
E _W = (E _A A _A + E _B A _B + E _C A _C + E _D A _D)/A _T	
E _W = (0.66*0.00) + (0.92*0.51) + (1.29*5.00) + (2.36*4.65)/10.16 =	1.76 IN
V _{100, 6 HR} = (E _W /12)*A _T = (1.76/12)/10.16 =	1.4899 AC-FT = 64,900 CF

b. VOLUME 100-YR, 24-HR	
V _{100, 24 HR} = V _{6 HR} + A _D *(P _{24 HR} - P _{6 HR})/12 in/ft	
= 1.4899 + 4.65*(1.02 - 0.60)/12 in/ft =	1.6835 AC-FT = 73,330 CF

c. PEAK DISCHARGE	
Q _p = Q _{pA} A _A + Q _{pB} A _B + Q _{pC} A _C + Q _{pD} A _D	
Q _p = (1.87 * 0.00) + (2.60 * 0.51) + (3.45 * 5.00) + (5.02 * 4.65) =	41.9 CFS

2. 2-YR STORM	
a. VOLUME	
E _W = (E _A A _A + E _B A _B + E _C A _C + E _D A _D)/A _T	
E _W = (0.00*0.00) + (0.06*0.51) + (0.20*5.00) + (0.89*4.65)/10.16 =	0.51 IN
V _{2, 6 HR} = (E _W /12)*A _T = (0.51/12)/10.16 =	0.4317 AC-FT = 18,810 CF

b. VOLUME 2-YR, 24-HR	
V _{2, 24 HR} = V _{2, 6 HR} + A _D *(P _{24 HR} - P _{6 HR})/12 in/ft	
= 0.4317 + 4.65*(1.35 - 0.13)/12 in/ft =	0.5158 AC-FT = 22,470 CF

c. PEAK DISCHARGE	
Q _p = Q _{pA} A _A + Q _{pB} A _B + Q _{pC} A _C + Q _{pD} A _D	
Q _p = (0.00 * 0.00) + (0.21 * 0.51) + (0.78 * 5.00) + (2.04 * 4.65) =	13.5 CFS

B. DEVELOPED CONDITION

1. 100-YR STORM	
a. VOLUME	
E _W = (E _A A _A + E _B A _B + E _C A _C + E _D A _D)/A _T	
E _W = (0.66*0.00) + (0.92*2.84) + (1.29*2.84) + (2.36*4.49)/10.16 =	1.66 IN
V _{100, 6 HR} = (E _W /12)*A _T = (1.66/12)/10.16 =	1.4053 AC-FT = 61,210 CF

b. VOLUME 100-YR, 24-HR	
V _{100, 24 HR} = V _{6 HR} + A _D *(P _{24 HR} - P _{6 HR})/12 in/ft	
= 1.41 + 4.49*(1.35 - 0.26)/12 in/ft =	1.5923 AC-FT = 69,360 CF

c. PEAK DISCHARGE	
Q _p = Q _{pA} A _A + Q _{pB} A _B + Q _{pC} A _C + Q _{pD} A _D	
Q _p = (0.00 * 0.00) + (2.60 * 2.84) + (3.45 * 2.84) + (5.02 * 4.49) =	39.7 CFS

2. 2-YR STORM	
a. VOLUME	
E _W = (E _A A _A + E _B A _B + E _C A _C + E _D A _D)/A _T	
E _W = (0.00*0.00) + (0.06*2.84) + (0.20*2.84) + (0.89*4.49)/10.16 =	0.47 IN
V _{2, 6 HR} = (E _W /12)*A _T = (0.47/12)/10.16 =	0.3979 AC-FT = 17,330 CF

b. VOLUME 2-YR, 24-HR	
V _{2, 24 HR} = V _{2, 6 HR} + A _D *(P _{24 HR} - P _{6 HR})/12 in/ft	
= 0.40 + 4.49*(1.35 - 0.13)/12 in/ft =	0.4790 AC-FT = 20,870 CF

c. PEAK DISCHARGE	
Q _p = Q _{pA} A _A + Q _{pB} A _B + Q _{pC} A _C + Q _{pD} A _D	
Q _p = (0.00 * 0.00) + (0.21 * 2.84) + (0.78 * 2.84) + (2.04 * 4.49) =	12.0 CFS

C. COMPARISON 100 YEAR

1. 100-YR STORM	
a. VOLUME 100-YR, 6-HR	
ΔV _{100, 6 HR} =	61210 - 64900 = -3,690 CF (DECREASE)
b. VOLUME 100-YR, 24-HR	
ΔV _{100, 24 HR} =	69360 - 73330 = -3,970 CF (DECREASE)
c. PEAK DISCHARGE	
ΔQ ₁₀₀ =	39.7 - 41.9 = -2.2 CFS (DECREASE)

2. 2-YR STORM	
a. VOLUME 2-YR, 6-HR	
ΔV _{2, 6 HR} =	17330 - 18810 = -1,480 CF (DECREASE)
b. VOLUME 2-YR, 24-HR	
ΔV _{2, 24 HR} =	20870 - 22470 = -1,600 CF (DECREASE)
c. PEAK DISCHARGE	
ΔQ ₂ =	12.0 - 13.5 = -1.5 CFS (DECREASE)

CONSTRUCTION NOTES:

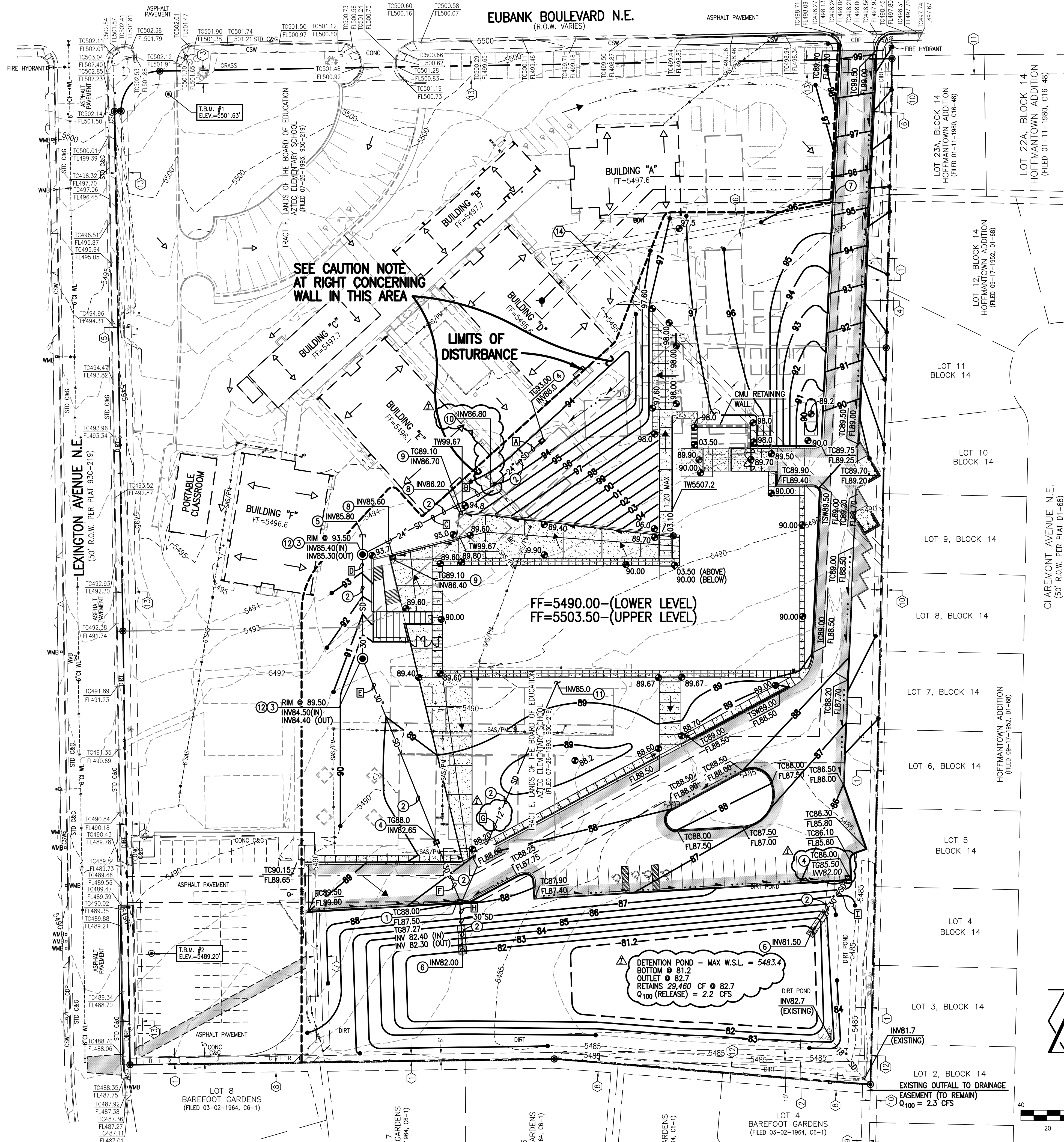
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE NEW MEXICO STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1987, PUBLISHED BY THE NEW MEXICO CHAPTER AMERICAN PUBLIC WORKS ASSOCIATION. (REVISED 12/06)
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (NM 811) FOR DESIGNATION (LINE-SPOTTING) OF EXISTING PUBLIC UTILITIES AND EXISTING PRIVATE UTILITIES OWNED AND OPERATED BY ALBUQUERQUE PUBLIC SCHOOLS.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
- IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREFOR. THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.
- THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLANS.

EROSION CONTROL MEASURES:

- THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
- THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
- CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY PREPARE A SWPPP, AND FILE A NOTICE OF INTENT (N.O.I.) ON BEHALF OF THEMSELVES AND THE OWNER WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.

LEGEND

ACD	AIR CONDITIONER DRAIN	OHM	OVERHEAD UTILITY MAST	INV	INVERT
AP	AIR CONDITIONER	PB	CONCRETE WHEEL STOP	TA	TOP OF ASPHALT PAVEMENT
AS	ASPHALT	PE	PAINTED PARKING LOT ISLAND	TC	TOP OF CURB
ASPH	ASPHALT SLOPE	PLT	PLANTER	TG	TOP OF GRATE
BBG	BASKETBALL GOAL	PS	PAINTED PARKING STRIPE	+ 488.70	EXISTING SPOT ELEVATION
BOH	BUILDING OVERHANG	PT	PICNIC TABLE	85.00	PROPOSED SPOT ELEVATION
BOH	BOLLARD	RD	ROOF DRAIN	...	EXISTING FLOWLINE
BWP	BRICK PLANTER WALL	ROW	ROW OF CONCRETE	...	PROPOSED FLOWLINE
BR	BRICK RACK	RRT	WHEEL STOPS	5495	EXISTING CONTOUR
BW	BRICK WALL	SAS	LANDSCAPING RAILROAD TIES	95	PROPOSED CONTOUR
C&G	CURB AND GUTTER	SAS/PM	SANITARY SEWER	▲	EXISTING DIRECTION OF FLOW
C/PM	COMMUNICATION LINE BY PAINT MARK	SB	SANITARY SEWER LINE BY PAINT MARK	▲	PROPOSED DIRECTION OF FLOW
CAM	SECURITY CAMERA	SD	STORM DRAIN	▲	RIGHT OF WAY LINE
CAP	IRON PIPE, CAPPED	SDI	STORM DRAIN INLET	—	PUBLIC EASEMENT LINE
CC	CONCRETE CURB	SDP	SERVICE DROP POLE	—	PROPOSED STORM DRAIN
CCAB	COMMUNICATION CABINET	SH	ASPHALT SPEED HUMP	—	PROPOSED INFILTRATION PIT
CD	CONCRETE DRIVE PAD	SH	ASPHALT SPEED HUMP	—	PROPOSED STORM INLET
CF	LANDSCAPING CRUSHER FINES	STD	STANDARD	—	PROPOSED STORM DRAIN MANHOLE
CI	CAST IRON PIPE	SW	CONCRETE SIDEWALK	—	EXISTING STORM DRAIN MANHOLE
CLD	CENTERLINE DOUBLE DOOR	SWC	SIDEWALK CULVERT	—	EXISTING FIRE HYDRANT
CLF	CHAIN LINK FENCE	TA	TOP OF ASPHALT	—	PROPOSED FIRE HYDRANT
CMH	COMMUNICATION MANHOLE	TC	TOP OF CURB	—	FIRE DEPARTMENT CONNECTION
CMR	CONCRETE MOW STRIP	TCO	TOP OF CONCRETE	—	EXISTING SAS MANHOLE
CMS	CONCRETE BLOCK WALL	TG	TOP OF GRATE	—	PROPOSED SAS MANHOLE
CND	ELECTRIC CONDUIT	TRN	ELECTRIC TRANSFORMER	—	EXISTING VALVE BOX
CO	CLEANOUT	TS	TRAFFIC SIGN	—	EXISTING DOUBLE CLEANOUT
CONC	CONCRETE	TW	TOP OF WALL	—	PROPOSED DOUBLE CLEANOUT
CP	CONCRETE PIPE	TYP	TYPICAL	—	EXISTING SINGLE CLEANOUT
CPW	CONCRETE PLANTER WALL	VCP	VENTRIFIED CLAY PIPE	—	PROPOSED SINGLE CLEANOUT
CR	CONCRETE RAMP	VP	VENT PIPE	—	EXISTING WATER SERVICE
CS	CONCRETE STEP	W/PM	WATER LINE BY PAINT MARK	—	PROPOSED WATER SERVICE
CSW	CONCRETE SIDEWALK	WCR	CONCRETE WHEELCHAIR RAMP	—	EXISTING WATER LINE
CVC	CONCRETE TRASH CAN	WDF	WOOD STEPS	—	PROPOSED WATER LINE
CY	COVERED CONCRETE	WF	WATER FAUCET	—	EXISTING SANITARY SEWER LINE
CW	COVERED CONCRETE	WHB	WATER HOT BOX	—	PROPOSED SANITARY SEWER LINE
DCO	DOUBLE CLEANOUT	WLN	WOOD LANDING	—	EXISTING FIRE LINE
DGT	DOUBLE GATE	WLP	WOOD LIGHT POLE	—	PROPOSED FIRE LINE
DGP	DOUBLE PIPE GATE	WMB	WOOD METER BOX	—	EXISTING POST INDICATOR VALVE
E/PM	ELECTRIC LINE BY PAINT MARK	WPP	WOOD POWER POLE	—	PROPOSED POST INDICATOR VALVE
EA	EDGE OF ASPHALT	WPP/SL	WOOD POWER POLE WITH STREET LIGHT	—	HIGH POINT / DIVIDE
EBB	ELECTRIC BREAKER BOX	WS	WOOD SHED	—	
EM	ELECTRIC METER	WV	WATER VALVE BOX	—	
EP	ELECTRIC PANEL	*	PAINTED UTILITY MARKER	—	
EPB	ELECTRIC PULLBOX	0.5"	TREE TRUNK DIAMETER	—	
EXH	BUILDING EXHAUST UNIT	DECIDUOUS TREE		—	
FL	FIRE HYDRANT	SMALL DECIDUOUS TREE		—	
FP	FLAG POLE	CONIFEROUS TREE		—	
G/PM	GUY WIRE BY PAINT MARK	SMALL GROUP OF TREES		—	
GLR	GAS LINE TO ROOF	SHRUB		—	
GM	GAS METER	SMALL SHRUB		—	
GPR	GAS PRESSURE RELIEF VALVE	HANDICAPPED PARKING SPACE		—	
GRV	GRAVEL			—	
GS	GAS SERVICE			—	
GTS	GATE STOP POST			—	
GVB	GAS VALVE BOX			—	
HCP	HANDICAPPED PARKING SIGN			—	
HDPE	HIGH-DENSITY POLYETHYLENE			—	



EASEMENT KEYED NOTES

EASEMENTS

- 5' UTILITY EASEMENT GRANTED BY PLAT C5-45 TO REMAIN
- 10' UTILITY EASEMENT GRANTED BY PLAT C5-45 TO BE VACATED
- 10' PNM AND M&T EASEMENT GRANTED BY DOCUMENT EXECUTED 03-01-1957 TO BE VACATED
- 20' PUBLIC WATER LINE EASEMENT GRANTED BY PLAT 93C-219 TO BE VACATED
- 5' PUBLIC ROADWAY EASEMENT GRANTED BY PLAT 93C-219 TO BE VACATED
- 10' PNM AND WEST COMMUNICATIONS, INC. EASEMENT GRANTED BY DOCUMENT EXECUTED 07-26-1995 TO BE VACATED
- 10' PNM EASEMENT GRANTED BY DOCUMENT FILED 06-30-2011, DOC. #2011060938 TO BE VACATED

EASEMENTS - OFFSITE

- 5' UTILITY EASEMENT GRANTED BY PLAT C6-1
- 6' DRAINAGE AND UTILITY EASEMENT GRANTED BY PLAT C6-1
- 5' UTILITY EASEMENT GRANTED BY PLAT D1-68
- 15' UTILITY EASEMENT GRANTED BY PLAT B20-18

NEW EASEMENTS

- 5' PUBLIC UTILITY EASEMENT TO BE GRANTED BY FORTHCOMING PLATTING ACTION
- 10' PUBLIC UTILITY EASEMENT TO BE GRANTED BY FORTHCOMING PLATTING ACTION
- ABCWUA WATER LINE EASEMENT TO BE GRANTED BY FORTHCOMING PLATTING ACTION
- PNM EASEMENT TO BE GRANTED BY FORTHCOMING PLATTING ACTION

DOCUMENTARY EASEMENT

NON-SPECIFIC EASEMENT FOR RIGHT-OF-WAY FOR COMMUNICATIONS GRANTED BY DOCUMENT FILED 08-05-1937, BOOK 152, PAGE 133 TO BE VACATED

CAUTION:

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LEGEND

- PROPOSED CONCRETE
- PROPOSED ASPHALT PAVING
- STORM DRAIN IDENTIFICATION (SEE SHEET C-001 FOR HYDRAULICS)

KEYED NOTES

- CONSTRUCT TYPE "C" INLET PER STD DWG 2205, SHEET CG-501
- INSTALL HDPE STORM DRAIN (ADS N-12), SIZE AS NOTED.
- CONSTRUCT 4" DIAMETER STORM DRAIN MANHOLE PER STD DWG 2101, SHEET CG-502
- CONSTRUCT TYPE "D" INLET PER STD DWG 2206, SHEET CG-501
- INSTALL 10 LF 24" HDPE STUB TO EAST WITH PLUG
- CONSTRUCT POND OUTLET WITH 6"x6" COBBLE SPLASH PAD SHEET CG-501
- CONSTRUCT 2 FT CURB OPENING FOR RUNOFF FROM PAVEMENT TO FLOW TO NEW DRIVE. INV @ FL95.50
- INSTALL 24"x24"x18" HDPE TEE, EXTEND 18" HDPE TO INLET
- CONSTRUCT 24"x24" STORM INLET PER TYPICAL SECTION, SHEET CG-501
- INSTALL HDPE BEND
- CONNECT TO BUILDING ROOF DRAIN
- PROVIDE VENTED LID PER STD DWG 2110, SHEET CG-502

SURVEY NOTE

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02	9/04/14	50% CONSTRUCTION DOCUMENT REVIEW
03	2/17/15	95% CONSTRUCTION DOCUMENT REVIEW
04	4/15/15	100% C.O.A. PERMIT DOCUMENTS
I	5/1/15	ADDENDUM 1

PROJECT NO: 2014.037.1

CAD DWG FILE:

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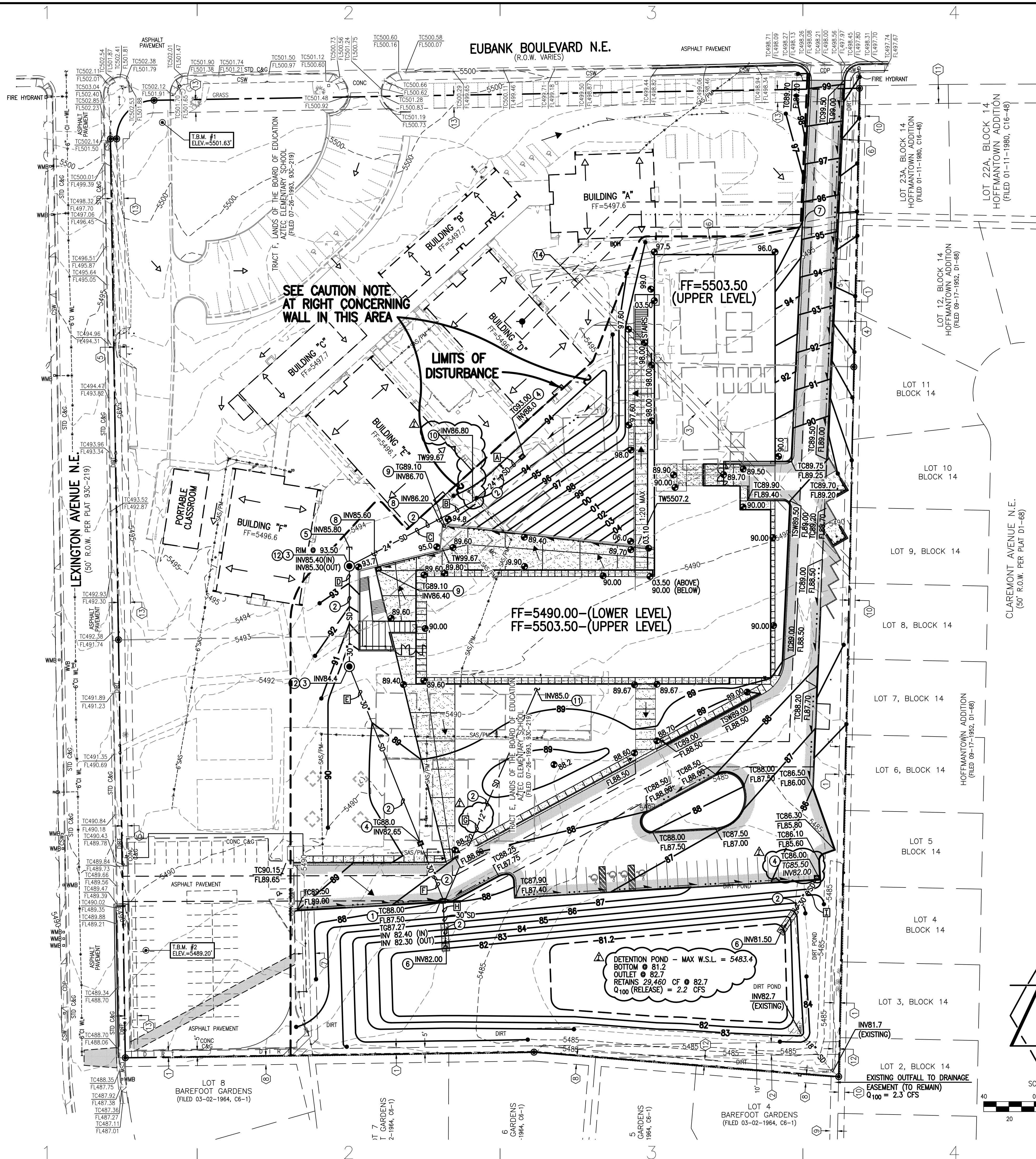
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SHEET TITLE

OVERALL
GRADING PLAN -
BASE BID

CG-100



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CAD DWG FILE:

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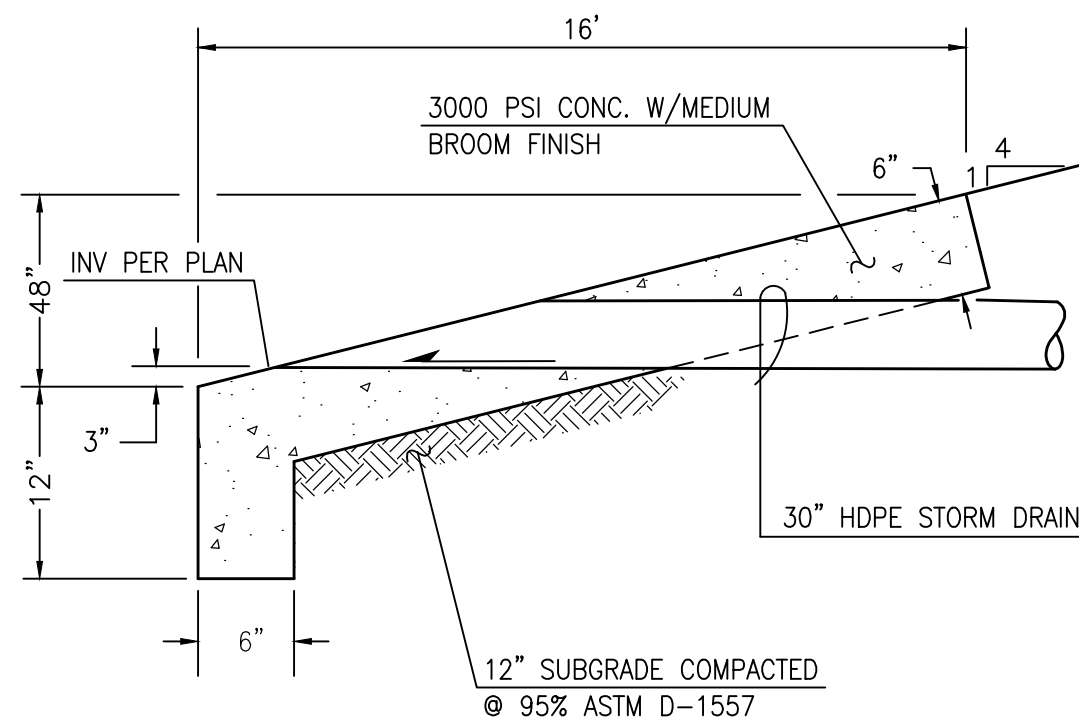
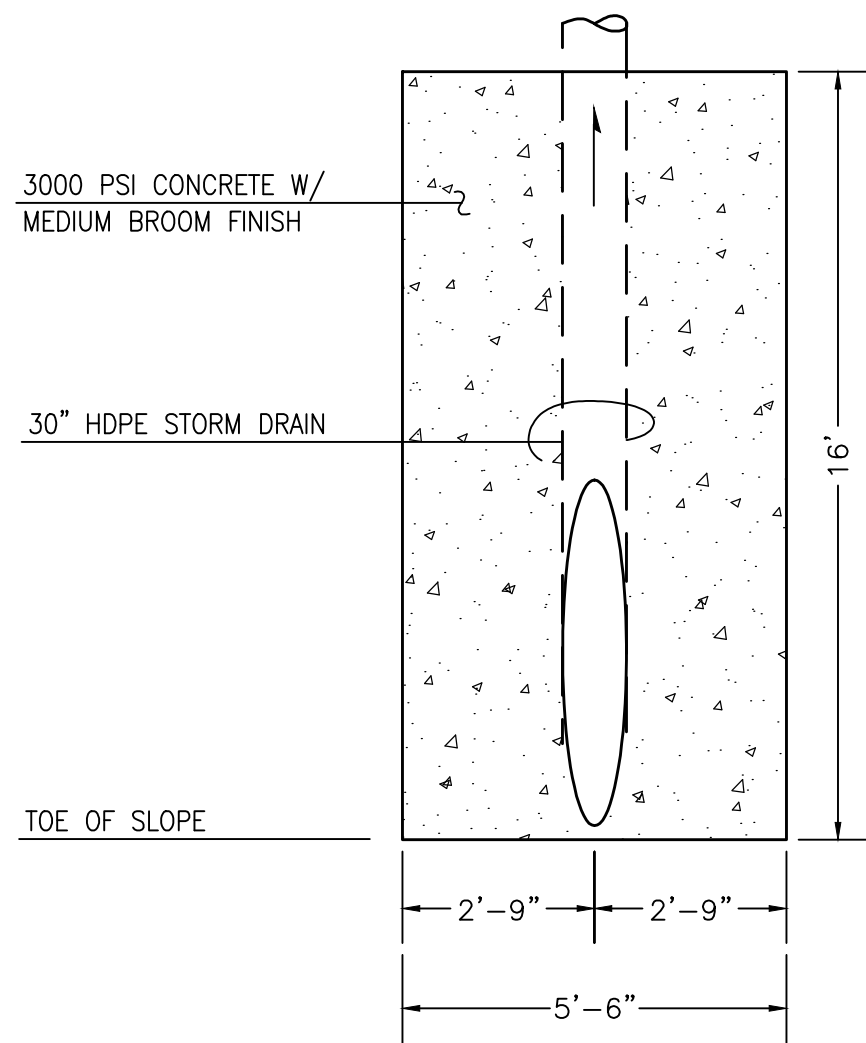
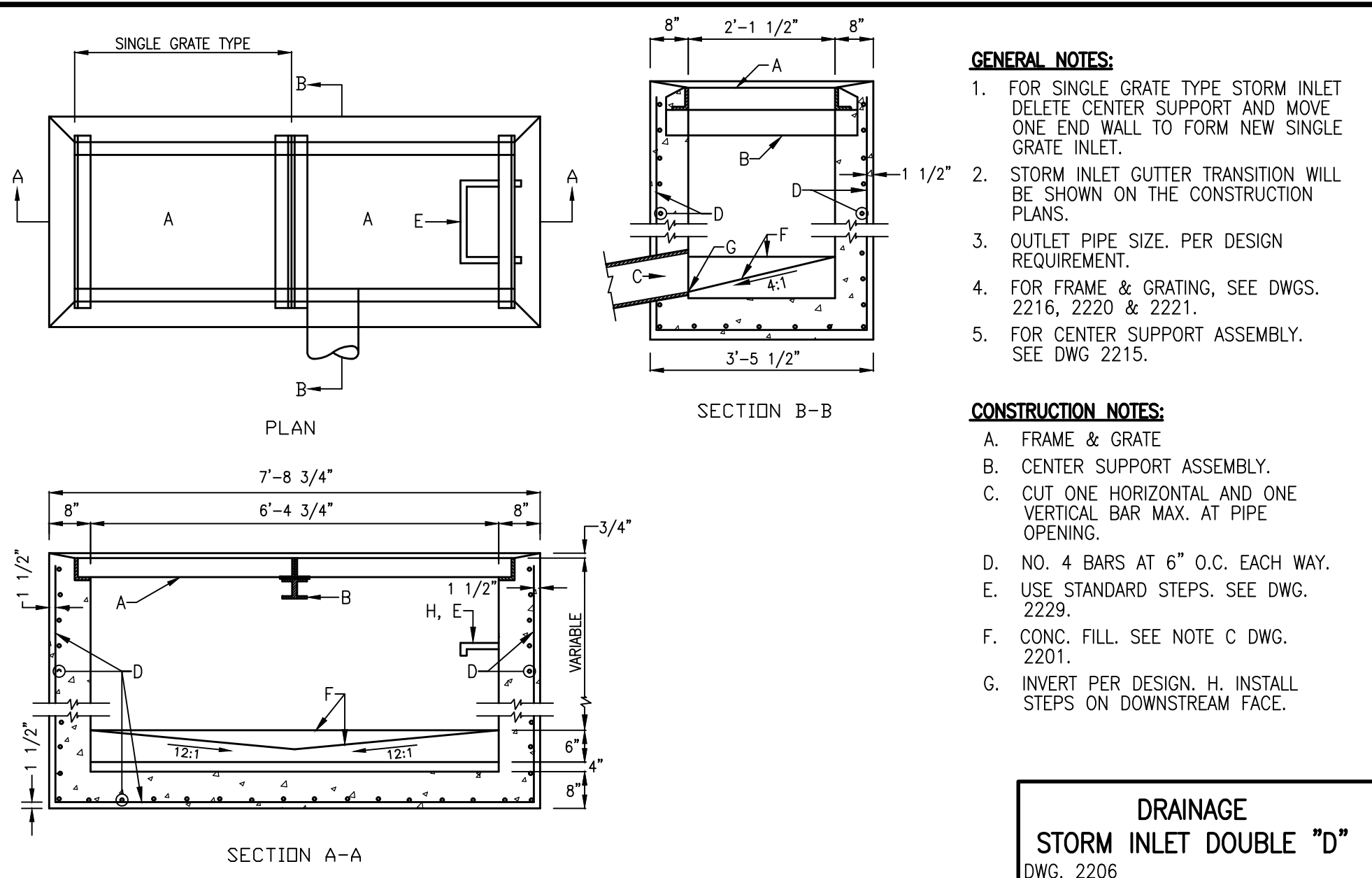
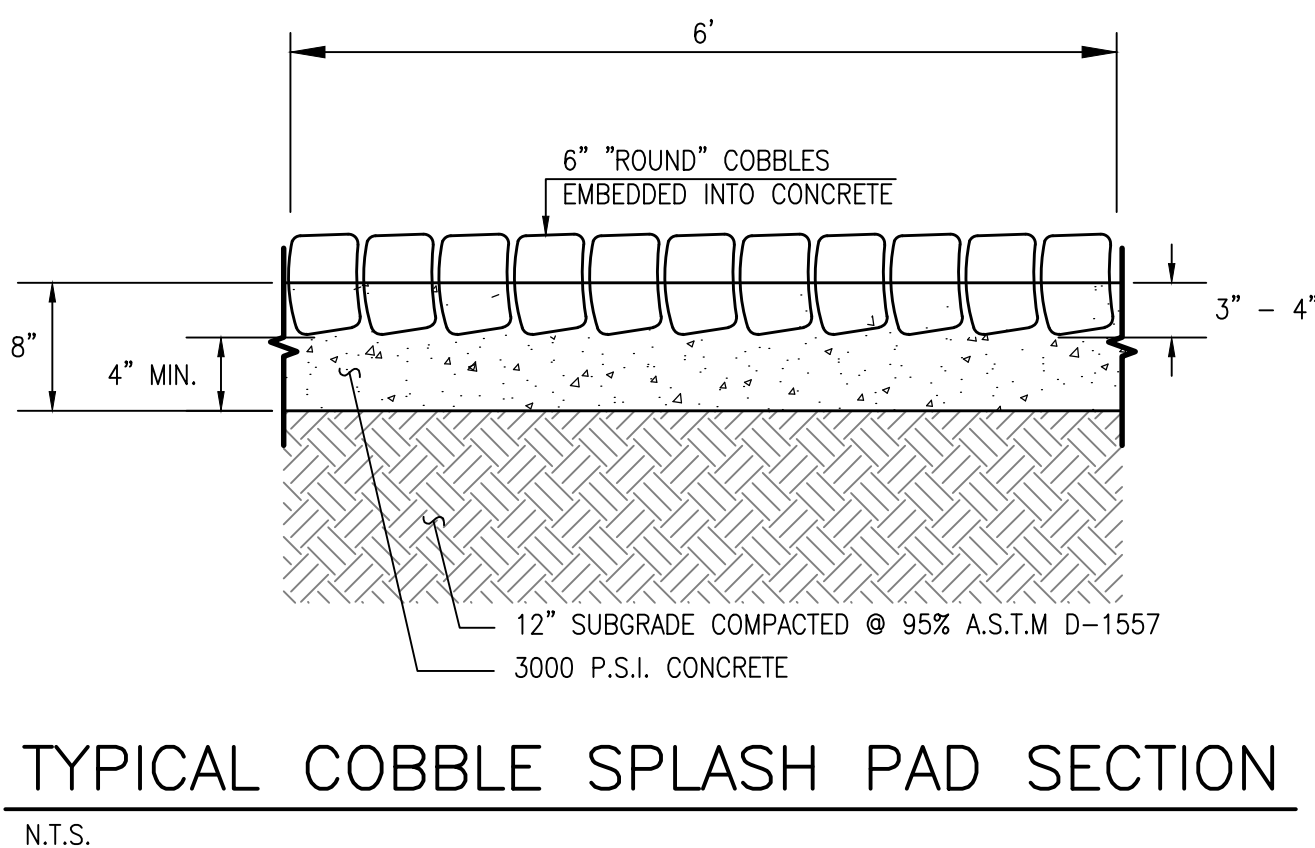
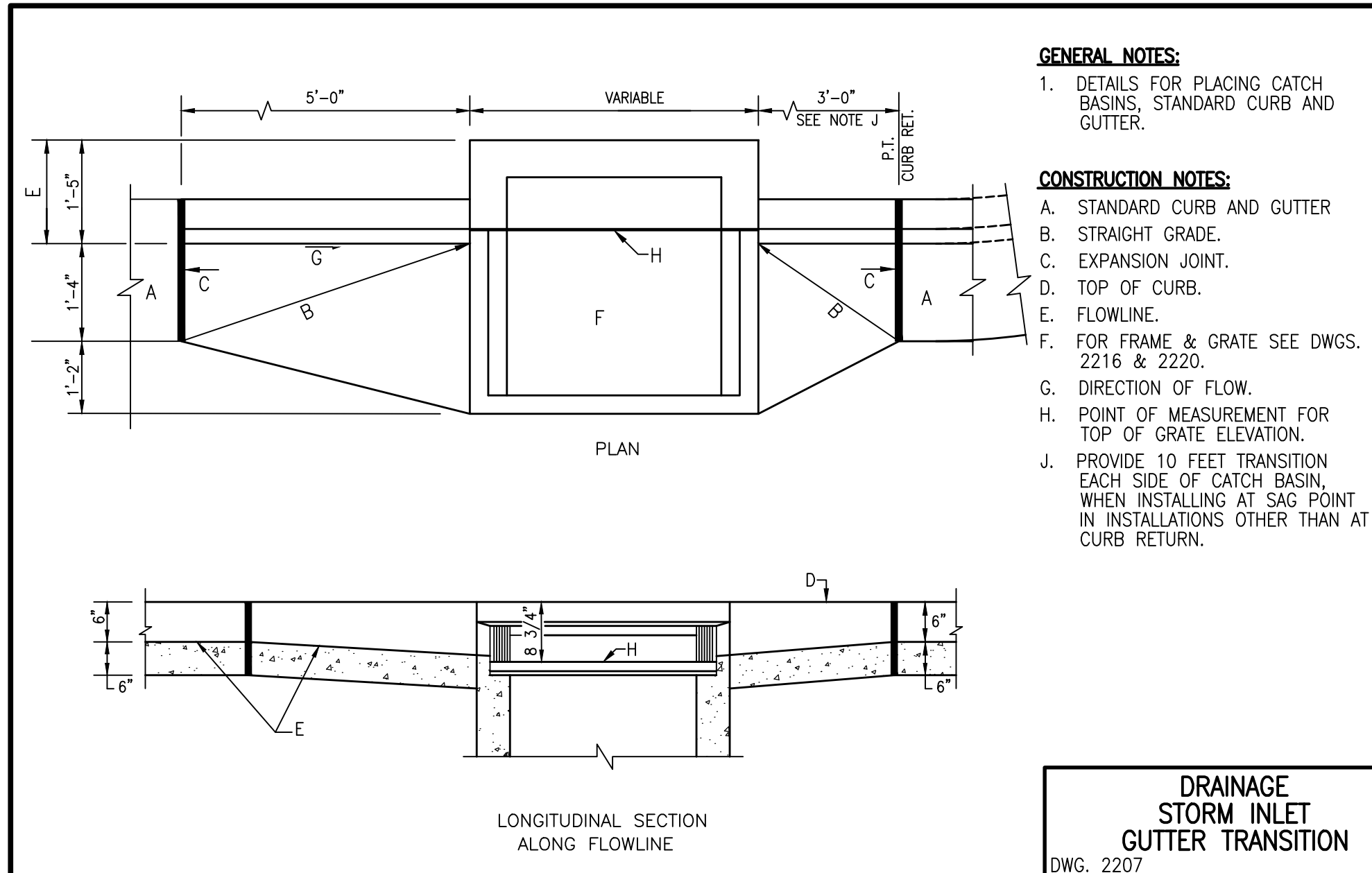
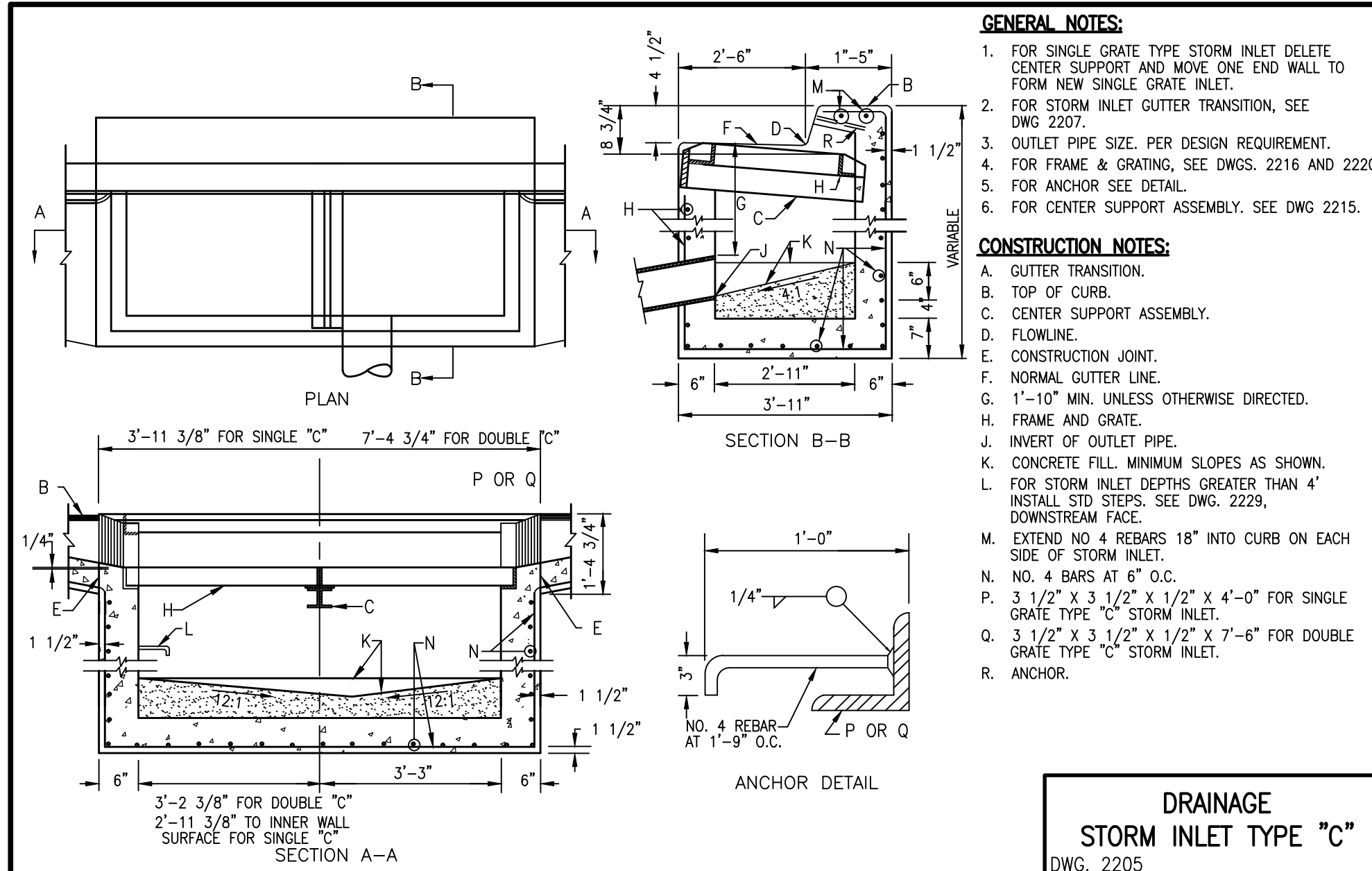
SHEET TITLE

OVERALL GRADING
(IF BID LOT 4 IS
TAKEN)

CG-101

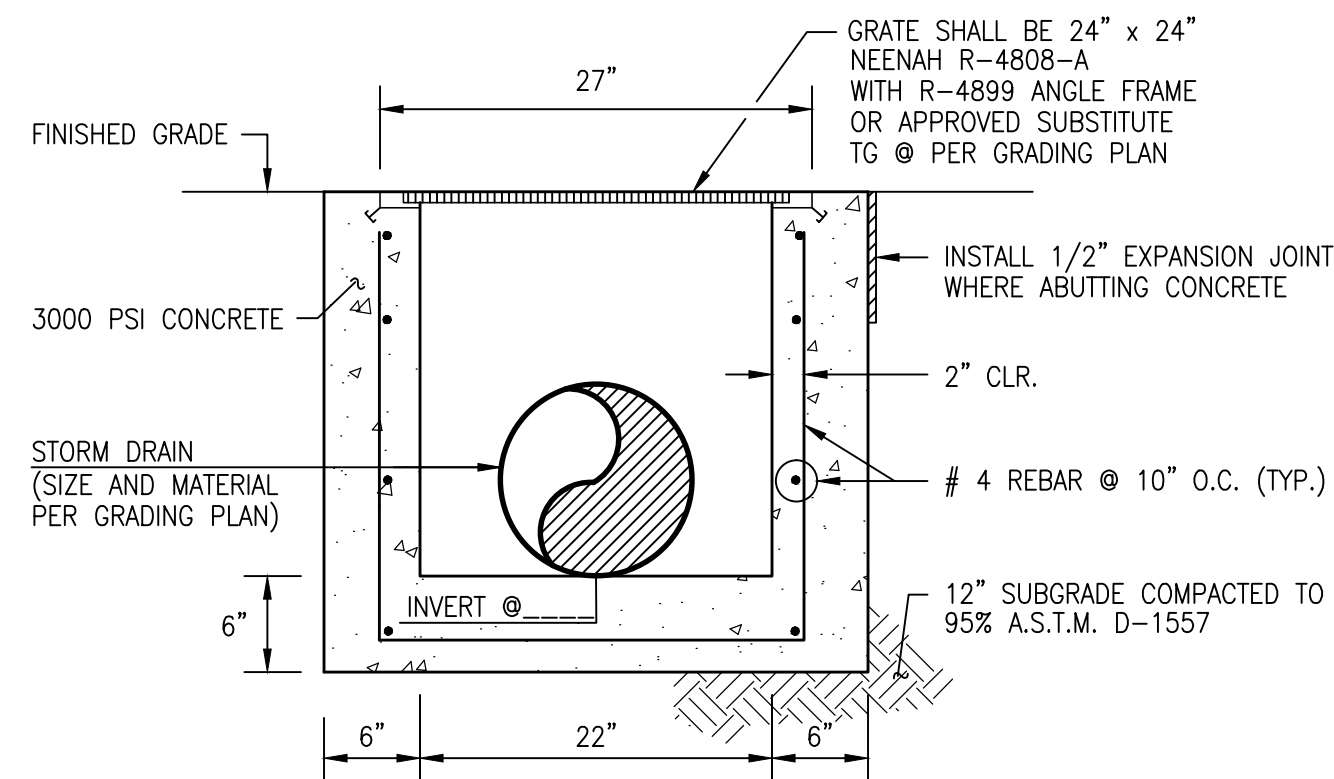
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File Name: 140371_CG-501.DWG Plot Time: 11:25 am



HDPE PIPE CONSTRUCTION NOTES:

- HDPE PIPE AND FITTINGS SHALL MEET THE REQUIREMENTS OF AASHTO M 294 TYPE S FOR HDPE STORM DRAIN SYSTEMS.
- JOINTS SHALL BE WATERTIGHT IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM D3212. THE SPIGOTS SHALL HAVE O-RING GASKETS MEETING THE REQUIREMENTS OF ASTM F 477.
- THE CONTRACTOR'S PROJECT SUPERINTENDENT AND FOREMAN OF THE PIPE-LAYING CREW SHALL SUBMIT TO THE OWNER A CERTIFICATE INDICATING COMPLETION OF AN ON-LINE TRAINING PROGRAM OFFERED BY ADS (ADS-PIPE.COM) OR OTHER MANUFACTURER AS APPROVED BY THE OWNER.
- INSTALLATION SHALL BE IN ACCORDANCE WITH THE PIPE MANUFACTURER'S RECOMMENDATIONS.
- ALL EXCAVATION SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 701 OF THE NMAPWA STANDARD SPECIFICATIONS.
- THE PIPE SHALL BE BEDDED IN A FOUNDATION OF COMPACTED GRANULAR MATERIAL THAT IS FREE OF ORGANIC MATTER, CLAY LUMPS, AND OTHER DELETERIOUS MATTER. THIS MATERIAL SHALL EXTEND A MINIMUM OF 6 INCHES BELOW THE OUTERMOST CORRUGATIONS AND BE USED FOR BACKFILL UP TO A MINIMUM OF 1 FOOT ABOVE THE TOP OF PIPE. UNTIL A MINIMUM COVER OF 1 FOOT IS ATTAINED, ONLY HAND OPERATED TAMPING EQUIPMENT MAY BE USED IN THE TRENCH PRISM OVER THE PIPE.
- CONCRETE STRUCTURE CONNECTIONS FOR HDPE PIPE WILL REQUIRE THE USE OF A WATER STOP THAT MEETS THE PHYSICAL PROPERTIES OF ASTM C923. INSTALLATION SHALL BE PER MANUFACTURER'S SPECIFICATIONS.



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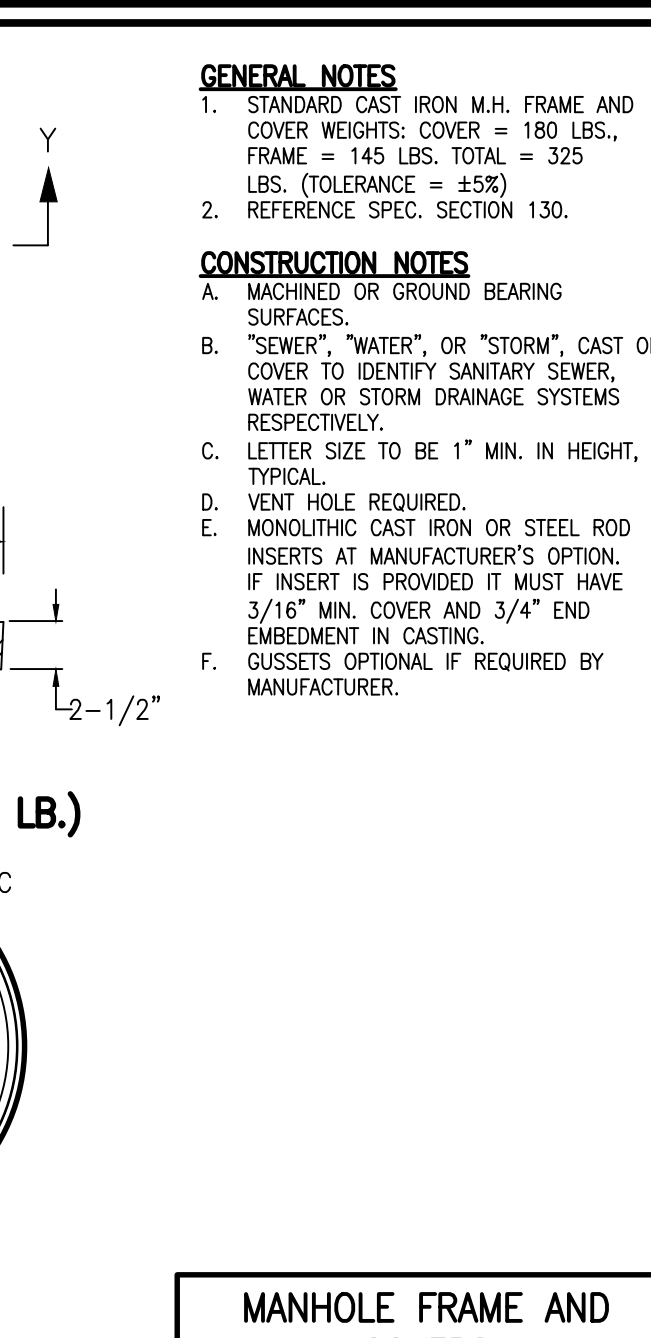
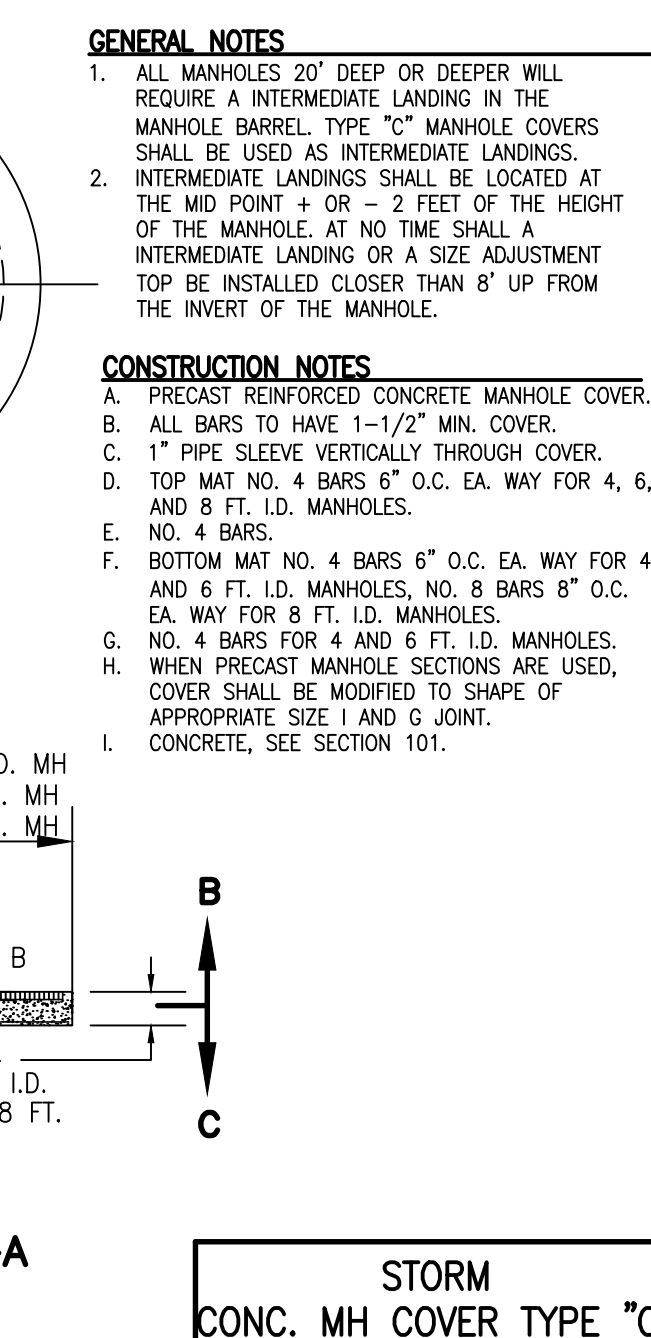
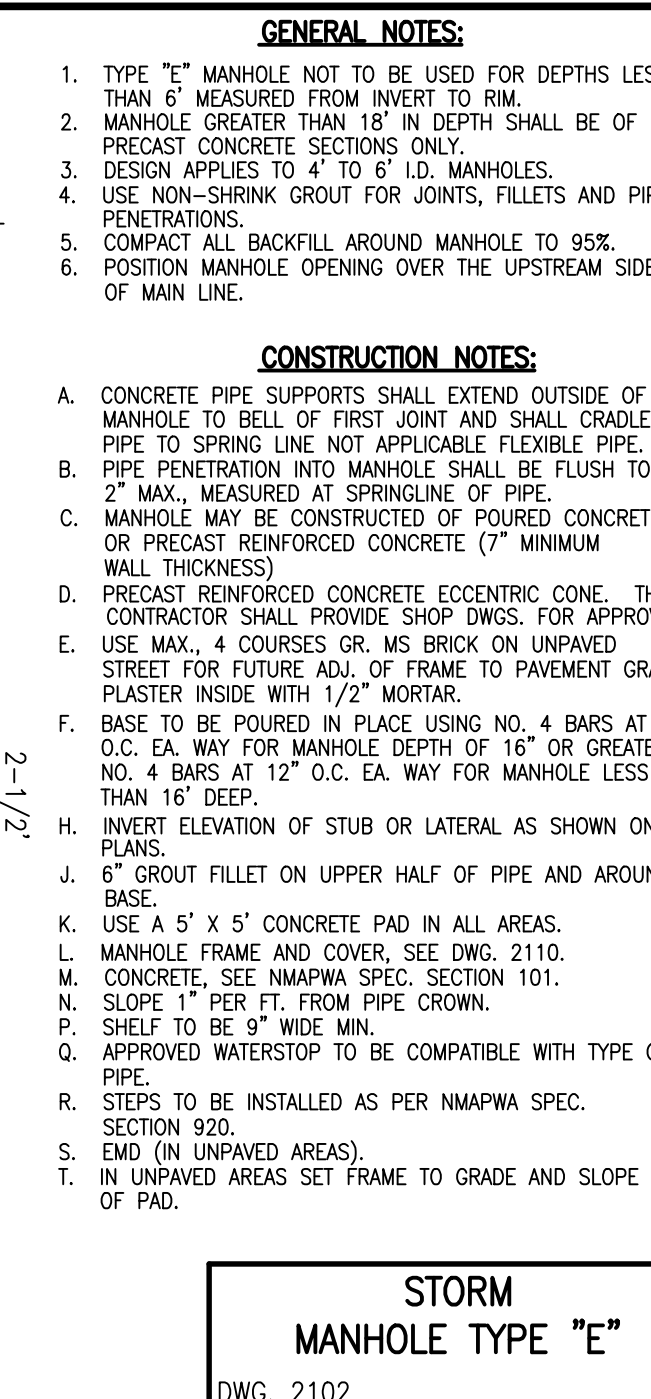
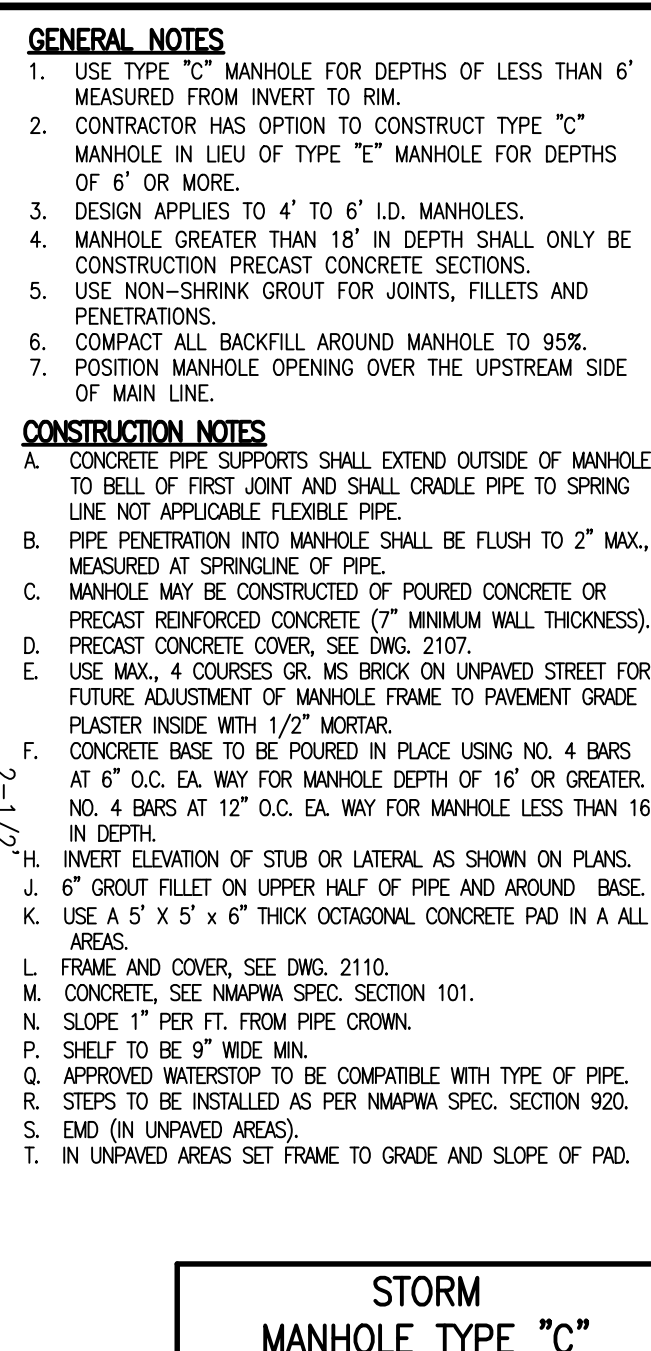
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SHEET TITLE

**GRADING AND
DRAINAGE
SECTIONS AND
DETAILS**

CG-501



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