CITY OF ALBUQUERQUE

May 5, 2015

Verlyn Miller, PE
Miller Engineering Construction
3500 Comanche NE Building F
Albuquerque, NM 87107

RE: **St. Peter and Paul Church, 5800 Ouray Road NW**
Grading and Drainage Plan
Engineer's Stamp Date 4-16-2015 (File: H11-D062)

Dear Mr. Miller:

Based upon the information provided in your submittal received 4-17-15, the above referenced plan is approved for DRB action on the Site Development Plan for Building Permit, and it is also approved for Building Permit. Please attach a copy of this approved plan in the construction sets when submitting for a building permit.

Prior to Certificate of Occupancy release, Engineer Certification per the DPM Checklist will be required.

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

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

Jeanne Wolfenbarger, P.E.
Senior Engineer, Planning Dept.
Development Review Services

Orig: Drainage file
c.pdf via Email: Recipient, Monica Ortiz

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(Rev. 01/06)

PROJECT TITLE: STS. PETER AND PAUL CHURCH   ZONE MAP DRG. FILE #: H-11-Z
DRB#: ______ EPC#: ______ WORK ORDER#: ______

LEGAL DESCRIPTION: PORTION OF TRACT 360 UNIT 8 (336D186P2167) ZONE SU-1
CITY ADDRESS: 5800 OURAY N.W., ALBUQUERQUE, NM

ENGINEERING FIRM: MILLER ENGINEERING CONS.   CONTACT: VERLYN MILLER
ADDRESS: 3500 COMANCHE NE BLDG. F   PHONE: 505-888-7500
CITY, STATE: ALB., NM 87107   ZIP CODE: 87107

OWNER: THE SOCIETY OF SAINT PIUS X   CONTACT: FR. PATRICK RUTLEDGE
ADDRESS: 2331 MAIDEN GRASS RD. N.W.   PHONE: 816-753-0073
CITY, STATE: ALB, NM   ZIP CODE: 87120

ARCHITECT: ORCUTT WINSLOW   CONTACT: TIM SCOLARO
ADDRESS: 3003 N. CENTRAL AVE. 16TH FLOOR   PHONE: 602-257-1764
CITY, STATE: PHOENIX, AZ   ZIP CODE: 85012

SURVEYOR: ______   CONTACT: ______
ADDRESS: ______   PHONE: ______
CITY, STATE: ______   ZIP CODE: ______

PROFESSIONAL LICENSED SURVEYOR SIGNATURE   LICENSE NO.   DATE

CONTRACTOR: ______   CONTACT: ______
ADDRESS: ______   PHONE: ______
CITY, STATE: ______   ZIP CODE: ______

TYPE OF SUBMITTAL:
- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1st SUBMITTAL
- X DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL G & D PLAN
- ____ GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERT (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT
- ____ ENGINEER/ARCHITECT CERT (TCL)
- ____ ENGINEER/ARCHITECT (DRB SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL 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
- ____ FOUNDATION PERMIT APPROVAL
- X BUILDING PERMIT APPROVAL
- ____ CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TEMP)
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ____ YES
- ____ NO
- ____ COPY PROVIDED

SUBMITTED BY: JOHN JACQUEZ   DATE: 4/16/15

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 define 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.

MILLER ENGINEERING CONSULTANTS
Engineers • Planners

April 15, 2015

City of Albuquerque
Planning Department
Development and Building Services
P.O. Box 1293
Albuquerque, NM 87103

Attn: *<u>Jean Wolfenbarger, P.E.</u>, Senior Engineer, Planning Dept.*

RE: St. Peter and Paul Church, 5800 Ouray Road NW
Grading and Drainage Plan
Engineers Stamp Date 3-20-2015 (File: H11-D062)

Dear Ms. Wolfenbarger:

This letter is in response to your comments by letter dated April 14, 2015. All of your comments have been addressed as follows:

1. Highlight site on vicinity map, and show Basin A-1 and B-1 boundaries. In the Drainage Narrative, explain Basin A-1's ultimate discharge to the southwest corner of the property if this is the case.

    Please see sheet c-100 for highlighted vicinity map. Please see sheet C-101 for the drainage basin boundaries. Please see c-100 under the conclusion for the description of Basin A-1 ultimate discharge to SW corner of property.

2. In discussion of off-site flows, also mention any impact of on-site drainage to the property to the west and east or lack there-of. Provide more existing spot elevations along the western and eastern boundaries of the site.

    Please see c-100 under the off-site flows for impact of onsite flows to offsite properties. Please see c-101 for additional existing spot elevations.

3. For the new 12" pipe tie-in to the existing inlet at the southwest corner of the site, provide a downstream invert elevation and show the invert elevation of this existing inlet to ensure positive flow to the storm drain in Miami Road. Show and label existing storm drain in Miami Road and the tie to the existing storm drain in Miami Road.

    Please see sheet C-101, for the information on the onsite existing storm drain inlet and the location of the offsite storm drain system.

4. Label curb cuts where needed in low spots within the newly paved areas. It looks like a curb cut needs to be called out where Keyed Note 13 calls out a riprap rundown from the parking lot.

Please see Sheet C-101 for the curb cut call out.

5. Keyed Note 17 for the storm drain is not called out on the plan view.
   Please see Sheet C-101 for the key note call out.

6. Is the top of grate elevation meant to be called out as 5100.70 on Keyed Note 16? If so, call it out, and double check on pipe cover since with the listed pipe invert elevation, it appears that the pipe cover is less than a foot.
   Please see Sheet C-101 and C-102 for revised elevations.

7. Show capacities, discharge flows, and pipe slopes for all proposed on-site storm drain pipes. Show capacity of new on-site inlet. For any proposed curb cuts, also provide capacity calculations.
   Please see attached hydraulic calculations for the capacity calculations.

8. For the proposed pond, label complete pond volume and WSEL Elevation.
   Please see Sheet C-101 for additional pond information.

If you have any questions or need any additional information, please feel free to contact our office.

MILLER ENGINEERING CONSULTANTS, INC.

Verlyn A. Miller, P.E.
President

VAM:vam
Enclosures

cc: File

Worksheet for Grate Inlet In Sag - 3

Project Description		
Flow Element:	Grate Inlet In Sag	
Solve For:	Spread	
Input Data		
Discharge:	6.69	ft^3/s
Gutter Width:	20.00	ft
Gutter Cross Slope:	0.04	ft/ft
Road Cross Slope:	0.04	ft/ft
Grate Width:	6.00	ft
Grate Length:	2.00	ft
Local Depression:	1.00	in
Local Depression Width:	6.00	ft
Grate Type:	P-50 mm (P-1-7/8")	
Clogging:	50.00	%
Results		
Spread:	14.98	ft
Depth:	0.52 < 0.9' ∴ O.K.	ft
Gutter Depression:	0.00	ft
Total Depression:	0.08	ft
Open Grate Area:	5.40	ft^2
Active Grate Weir Length:	8.00	ft

Culvert Calculator Report
12" SD PIPE ON ST PETER PAUL

Solve For: Discharge

Culvert Summary

Allowable HW Elevation	5,101.60 ft	Headwater Depth/Height	3.32
Computed Headwater Eleva	5,101.60 ft	Discharge	3.71 cfs
Inlet Control HW Elev.	5,099.84 ft	Tailwater Elevation	5,097.50 ft
Outlet Control HW Elev.	5,101.60 ft	Control Type	Outlet Control

x 2 = 7.42cfs > 6.69 cfs
∴ o.k.

Grades

Upstream Invert	5,098.28 ft	Downstream Invert	5,097.00 ft
Length	292.00 ft	Constructed Slope	0.004384 ft/ft

Hydraulic Profile

Profile	CompositeM2PressureProfile	Depth, Downstream	0.82 ft
Slope Type	Mild	Normal Depth	N/A ft
Flow Regime	Subcritical	Critical Depth	0.82 ft
Velocity Downstream	5.38 ft/s	Critical Slope	0.010827 ft/ft

Section

Section Shape	Circular	Mannings Coefficient	0.013
Section Material	Concrete	Span	1.00 ft
Section Size	12 inch	Rise	1.00 ft
Number Sections	1		

Outlet Control Properties

Outlet Control HW Elev.	5,101.60 ft	Upstream Velocity Head	0.35 ft
Ke	0.50	Entrance Loss	0.17 ft

Inlet Control Properties

Inlet Control HW Elev.	5,099.84 ft	Flow Control	Submerged
Inlet Type	Square edge w/headwall	Area Full	0.8 ft²
K	0.00980	HDS 5 Chart	1
M	2.00000	HDS 5 Scale	1
C	0.03980	Equation Form	1
Y	0.67000		

Worksheet for Broad Crested Weir - 1

Project Description		
Flow Element:	Broad Crested Weir (CURB CUT - KEY NOTE 26)	
Solve For:	Discharge	
Input Data		
Headwater Elevation:	100.80	ft
Crest Elevation:	100.30	ft
Tailwater Elevation:	100.50	ft
Crest Surface Type:	Paved	
Crest Breadth:	2.00	ft
Crest Length:	3.00	ft
Results		
Discharge:	3.26	ft^3/s
Headwater Height Above Crest:	0.50	ft
Tailwater Height Above Crest:	0.20	ft
Weir Coefficient:	3.08	US
Submergence Factor:	1.00	
Adjusted Weir Coefficient:	3.08	US
Flow Area:	1.50	ft^2
Velocity:	2.18	ft/s
Wetted Perimeter:	4.00	ft
Top Width:	3.00	ft

AREA DRAINING TO CURB CUT (KN 26)
IS 210 x 200 = 42000 SF = 0.96 AC
WHICH IS 32% of BASIN B-1. 32%
OF Q_{100} = 6.75 cfs = 2.13 cfs < 3.26 cfs

∴ OK

Worksheet for Copy of Broad Crested Weir - 1

Project Description		
Flow Element:	Broad Crested Weir	(CURB CUT-KEY NOTE 15)
Solve For:	Discharge	
Input Data		
Headwater Elevation:	100.29	ft
Crest Elevation:	99.79	ft
Tailwater Elevation:	100.00	ft
Crest Surface Type:	Paved	
Crest Breadth:	2.00	ft
Crest Length:	3.50	ft
Results		
Discharge:	3.81	ft^3/s
Headwater Height Above Crest:	0.50	ft
Tailwater Height Above Crest:	0.21	ft
Weir Coefficient:	3.08	US
Submergence Factor:	1.00	
Adjusted Weir Coefficient:	3.08	US
Flow Area:	1.75	ft^2
Velocity:	2.18	ft/s
Wetted Perimeter:	4.50	ft
Top Width:	3.50	ft

AREA DRAINING TO CURB CUT (KN 15)
IS 37' X 270' = 9990SF = 0.23AC
WHICH IS 8% OF BASIN B-1. 8%
of Q_{100} = 6.75 cfs = 0.51 cfs < 3.81 cfs
∴ OK

From:	John Jacquez
To:	Wolfenbarger, Jeanne
Cc:	Verlyn Miller
Subject:	RE: H11-D062 (St. Peter and Paul Church)
Date:	Monday, May 04, 2015 3:59:03 PM

Jeanne,

The total volume to the pond is Basin B-1 = 0.249 AF (from our drainage calculations) and A-1 = 16437 cf = 0.38 AF (from Drainage Master Plan by Kevin Georges and Associates, engineers stamp dated July 25, 2000). Thus the total volume = 0.626 AF. This volume is contained at an elevation of approximately 5098.50 based on the pond rating table shown on sheet C-100.

Thanks for your assistance on this project and look forward to working with you on future projects.

Thanks John

Best Regards,
John Jacquez
Project Manager
Miller Engineering Consultants
3500 Comanche NE, Bldg. F
Albuquerque, NM 87107
Phone: 505-888-7500
Fax: 505-888-3800

-----Original Message-----
From: John Jacquez
Sent: Tuesday, April 14, 2015 6:19 PM
To: 'Wolfenbarger, Jeanne'
Cc: 'Verlynn Miller'
Subject: RE: H11-D062 (St. Peter and Paul Church)

Thanks Jeanne.

Best Regards,
John Jacquez
Project Manager
Miller Engineering Consultants
3500 Comanche NE, Bldg. F
Albuquerque, NM 87107
Phone: 505-888-7500
Fax: 505-888-3800

-----Original Message-----
From: Wolfenbarger, Jeanne [mailto:jwolfenbarger@cabq.gov]
Sent: Tuesday, April 14, 2015 4:18 PM
To: John Jacquez
Subject: H11-D062 (St. Peter and Paul Church)

John,

See attached comment letter for grading and drainage.

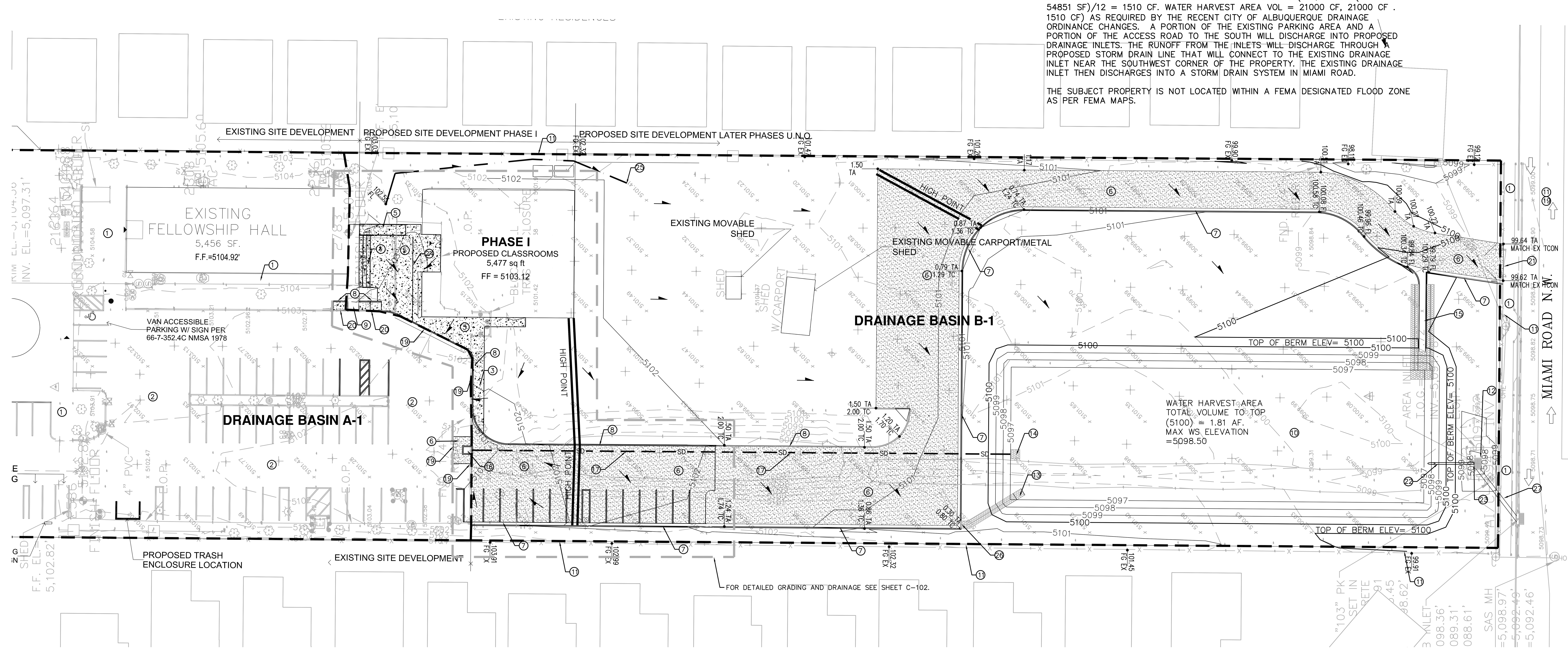
Jeanne

GRADING AND DRAINAGE NARRITIVE

THE EXISTING PROPERTY HAS AN EXISTING CHURCH AND EXISTING FELLOWSHIP HALL WITH ASSOCIATED CONCRETE AND ASPHALT PARKING LOT ON THE NORTHERN PORTION OF THE PROPERTY. THESE EXISTING BUILDING ARE ACCESSED ON THE NORTH FROM OURAY ROAD. THE PROPOSED IMPROVEMENTS ARE LOCATED SOUTH OF THE EXISTING FELLOWSHIP HALL AND PARKING AREA. THE LAND IS GENERALLY FLAT AND SLOPES FROM THE NORTH TO THE SOUTH. THERE IS AN EXISTING POND JUST SOUTH OF THE EXISTING PARKING AREA AND JUST EAST OF THE WESTERN PROPERTY LINE. THERE IS AN EXISTING DRAINAGE CHANNEL THAT IS JUST SOUTH OF THE EXISTING POND. THE CHANNEL RUNS PARALLEL TO THE WEST PROPERTY LINE AND DISCHARGING INTO THE EXISTING DROP INLET AT THE SOUTHWEST CORNER OF THE PROPERTY NORTH OF MIAMI RD. BOUNDING THE PROPERTY ON THE WEST AND EAST SIDE IS RESIDENTIAL HOUSING. ON THE NORTH SIDE THE PROPERTY IS BOUNDED BY OURAY ROAD. ON THE SOUTH SIDE THE PROPERTY IS BOUNDED BY MIAMI ROAD.

THE PROPOSED GRADING IMPROVEMENTS WILL INCLUDE STANDARD CURB AND GUTTER, WITH CURB CUTS AND RUNDOWNS ALLOWING STORMWATER INTO A PROPOSED WATER HARVESTING AREA. THIS WATER HARVESTING AREAS WILL BE USED TO MANAGE THE 90TH PERCENTILE STORM EVENTS (REQD VOL= (0.33 IN. * 54851 SF)/12 = 1510 CF. WATER HARVEST AREA VOL = 21000 CF, 21000 CF . 1510 CF) AS REQUIRED BY THE RECENT CITY OF ALBUQUERQUE DRAINAGE ORDINANCE CHANGES. A PORTION OF THE EXISTING PARKING AREA AND A PORTION OF THE ACCESS ROAD TO THE SOUTH WILL DISCHARGE INTO PROPOSED DRAINAGE INLETS. THE RUNOFF FROM THE INLETS WILL DISCHARGE THROUGH A PROPOSED STORM DRAIN LINE THAT WILL CONNECT TO THE EXISTING DRAINAGE INLET NEAR THE SOUTHWEST CORNER OF THE PROPERTY. THE EXISTING DRAINAGE INLET THEN DISCHARGES INTO A STORM DRAIN SYSTEM IN MIAMI ROAD.

THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD ZONE AS PER FEMA MAPS.



LEGEND:

38.00 FG	PROPOSED SPOT ELEVATIONS (FINISHED GRADE)	GB	GRADE BREAK
MATCH (95.19)	MATCH EXISTING ELEVATIONS		SWALE
TCON	TOP OF CONCRETE	SD	STORM DRAIN LINE
FL	FLOW LINE, CURB		
INV	INVERT		
FG	FINISH GRADE	5895	PROPOSED MAJOR CONTOUR
			PROPOSED MINOR CONTOUR
TW	TOP OF WALL	5895	EXISTING MAJOR CONTOUR
TC	TOP OF CURB		EXISTING MINOR CONTOUR
TG	TOP OF GRATE		
	PROPOSED DRAIN BASIN		
	PROPOSED MANHOLE		
	FLOW ARROW		

KEYED NOTES:

1. EXISTING CONCRETE SIDEWALK/FLATWORK TO REMAIN.
2. EXISTING ASPHALT SURFACE TO REMAIN.
3. NEW CONCRETE FLATWORK. SEE ARCHITECTURAL PLANS FOR DETAILS.
4. NEW CONCRETE STAIRS. SEE ARCHITECTURAL PLANS FOR DETAILS.
5. NEW TYPE A HANDICAP RAMP WITH PEDESTRIAN HAND RAIL (MAX GRADE 12:1). SEE ARCHITECTURAL PLANS FOR DETAILS.
6. NEW HOT MIX ASPHALT SURFACE. SEE SHEET C-500 FOR SECTION.
7. NEW CONCRETE CURB AND GUTTER. SEE SHEET C-500 FOR DETAIL.
8. NEW CONCRETE HEAD CURB. SEE SHEET C-500 FOR DETAIL.
9. NEW HANDICAP RAMP, SEE SHEET C-500 FOR DETAIL.
10. NEW WATER HARVEST AREA. (PONDING REQUIRED TO MANAGE 90 PERCENTILE STORM EVENTS). SEE SHEET C-500 FOR DETAIL. VOL AT BOTTOM OF NEW 12" OUTFLOW PIPE=0.192 AF=8364 CF.
11. APPROXIMATE LOCATION OF PROPERTY LINE
12. EXISTING STORM DRAIN DROP INLET TO REMAIN. INV(OUT)=91.78 TG=97.72
13. NEW CLASS B LOOSE RIP RAP RUNDOWN. SEE SHEET C-500 FOR DETAIL.
14. NEW CLASS B LOOSE RIP RAP PAD. SEE SHEET C-500 FOR DETAIL.
15. NEW CONRETE AND RIP RAP RUNDOWN. SEE SHEET C-500 FOR DETAIL.
16. NEW TYPE DOUBLE D STORM DRAIN DROP INLET. TOP OF GRATE = 5100.70, INV = 5098.28. AS PER COA STD DWG. 2206.
17. NEW 2 – 12" STORM DRAIN PIPE. INV(IN) = 5098.28 INV(OUT) = 5097.00
18. NEW TRASH ENCLOSURE. SEE ARCHITECTURAL PLANS FOR DETAILS.
19. SAWCUT EXISTING HOT MIX ASPHALT SURFACE TO CLEAN STRAIGHT EDGE AS NECESSARY TO INSTALL NEW HEADER CURB OR NEW HOT MIX ASPHALT. STITCH CUTS ARE NOT ALLOWED.
20. SAWCUT EXISTING HEADER CURB, MATCH TOP OF CONCRETE SIDEWALK ELEVATION WITH EXISTING TOP OF ASPHALT ELEVATION.
21. MATCH TOP OF NEW HOT MIX ASPHALT SURFACE WITH EXISTING TOP OF CONCRETE SIDEWALK ELEVATION.
22. NEW 12" STORM DRAIN PIPE INV(IN) = 97.50, INV(OUT) = 94.50
23. CONNECT NEW 12" STORM DRAIN PIPE TO EXISTING STORM DRAIN INLET. GROUT AROUND NEW STORM DRAIN PIPE.
24. NEW CONCRETE SWALE.
25. NEW EARTHENED SWALE. GRADE SWALE TO DRAIN TO NORTH SIDE OF PROPOSED CLASSROOMS. SEE DETAIL SHEET C-500.
26. NEW 3' WIDE CURB CUT.
27. EXISTING 24" RCP CONNECTING TO BACK OF EXISTING CURB INLET.

NORTH

30 15 0 30 45 60

SCALE: 1"=30'
CONTOUR INTERVAL = 1'

A1 OVERALL GRADING AND DRAINAGE PLAN
SCALE: 1" = 20'

MILLER ENGINEERING CONSULTANTS
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Society of St Pius X
Sts. Peter & Paul Church School
5800 OURAY RD NW, ALBUQUERQUE, NM 87120

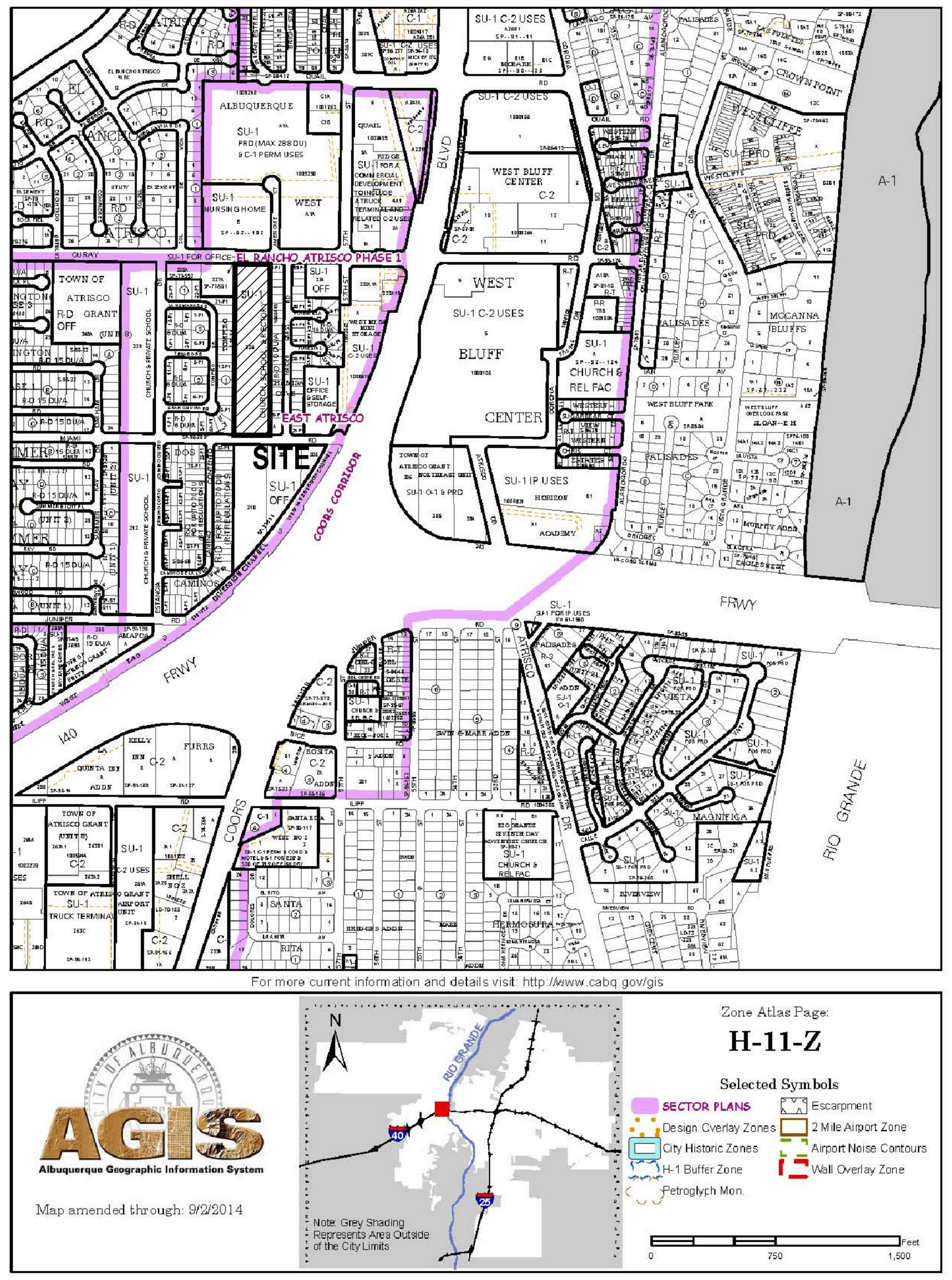
CLIENT CONTACT
Steve O'Dell 816-733-2573 t
11485 N. Farley Rd. 816-753-3560 f
Platte City, MO 64079 sodell@sspx.org

PROJECT NO.	DATE OF ISSUE
2014_003	4.16.2015
REVISION NO.	DATE
BP Submittal	3.20.2015
address hydro comments	4.16.2015
PROJECT TEAM	DRAWN BY
Scolaro	KR

PROJECT PHASE
BUILDING PERMIT

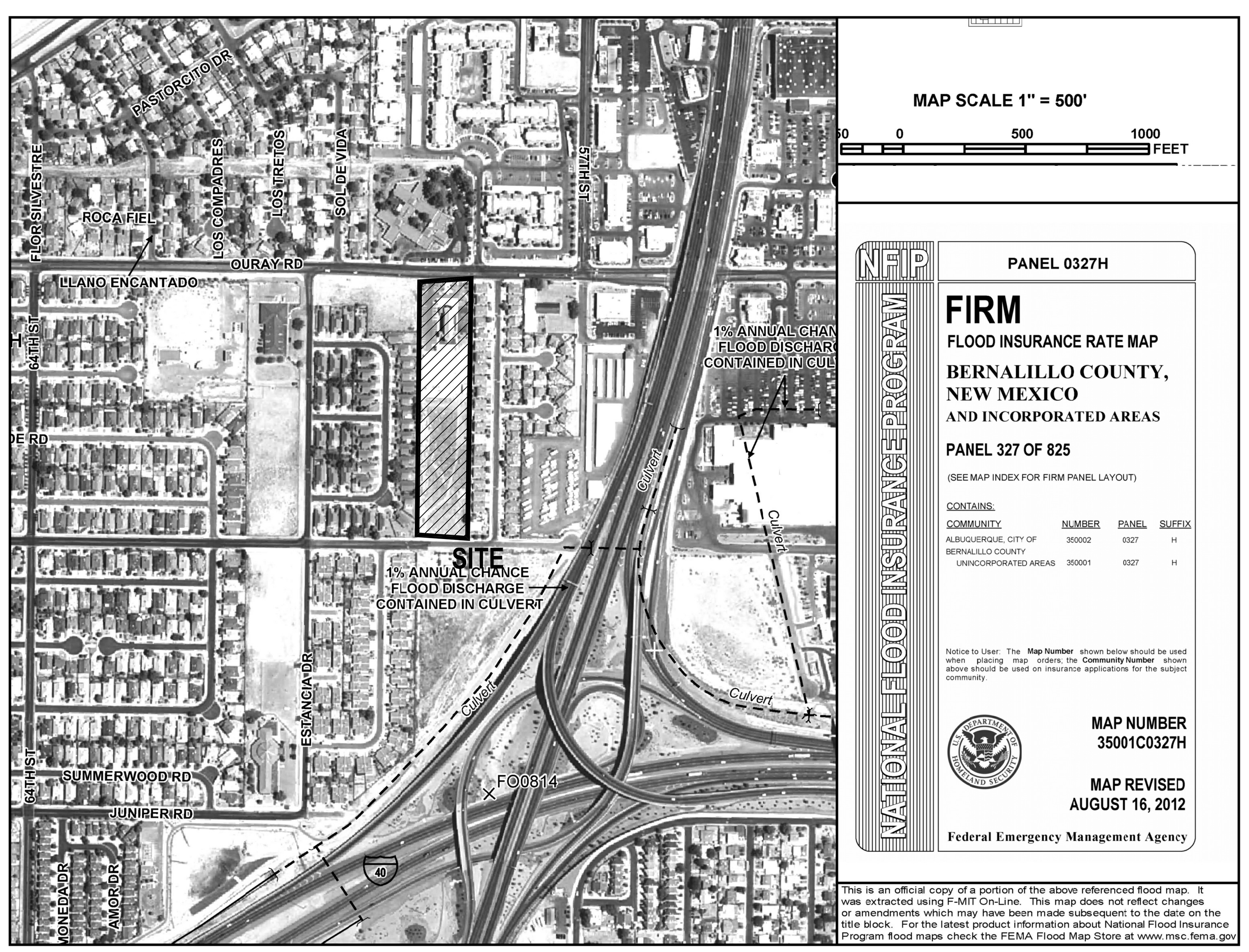
SHEET CONTENTS
OVERALL GRADING AND DRAINAGE PLAN

SHEET NO.
C-101



C1 **VICINITY MAP**

ZONE ATLAS MAP H-11-Z



A1 **FLOOD ZONE MAP**

FLOOD ZONE MAP: 35001C0327H

SITE LOCATION

STS. PETER & PAUL IS LOCATED AT 5800 OURAY RD N.W.. IN ALBUQUERQUE, NM. THE CHURCH BOUNDARY ON THE NORTH SIDE IS BOUNDED BY OURAY ROAD, ON THE SOUTH IS BOUNDED BY MIAMI ROAD AND THERE ARE EXISTING RESIDENTIAL DEVELOPMENTS ON THE EAST AND WEST SIDES.

EXISTING ON SITE CONDITIONS

THE NORTHERN 2 ACRES OF THE SITE IS DEVELOPED WITH AN EXISTING CHURCH, ASPHALT PARKING, SIDEWALK AND A FELLOWSHIP HALL. THERE ARE SOME EXISTING UTILITY LINES THAT SERVE THE EXISTING DEVELOPED PORTION OF THE SITE. THE REMAINING 3 ACRES IS UNDEVELOPED WITH A DRAINAGE CHANNEL AND AN EXISTING WATER HARVEST AREA. THE DEVELOPED PORTION OF THE SITE DRAINS INTO AN EXISTING WATER HARVEST AREA ALONG THE WEST SIDE OF THE SITE. FROM THE WATER HARVEST AREA THE STORMWATER RUNOFF DRAINS THROUGH AN EXISTING DRAINAGE CHANNEL TO AN EXISTING STORM DRAIN INLET LOCATED NEAR THE SOUTHWEST CORNER OF THE SITE. THE UNDEVELOPED PORTION OF THE SITE DRAINS IN A SOUTHERLY DIRECTION VIA SURFACE FLOW AND EVENTUALLY DISCHARGES INTO THE STORM DRAIN INLET AT THE SOUTHWEST CORNER OF THE SITE. THE SITE IS ACCESSED (PRIMARY) FROM OURAY ROAD ON THE NORTH SIDE OF THE SITE. THERE IS A SECONDARY UNIMPROVED ACCESS FROM MIAMI ROAD ON THE SOUTH SIDE OF THE SITE. A MASTER GRADING AND DRAINAGE PLAN (H11-D062) FOR STS PETER AND PAUL TRADITIONAL CATHOLIC CHURCH BY MARVIN R. KORTUM DATED 7-25-2000 WAS APPROVED IN 2001. THE REPORT DEFINES DRAINAGE BASINS, WHICH ARE IDENTIFIED AS BASIN A-1 (DEVELOPED PORTION) AND B-1 (UNDEVELOPED PORTION). THE DRAINAGE DATA ON THIS PAGE SUMMARIZES THE EXISTING PEAK DISCHARGE AND RUNOFF VOLUME FOR BASIN B-1.

PROPOSED CONDITIONS

THE PROPOSED DEVELOPMENT OF THE SITE WILL CONSIST OF ONE BUILDING (CLASSROOMS), ASSOCIATED CONCRETE FLATWORK, SIDEWALKS, STAIRS, ASPHALT PARKING AREA, CURB AND GUTTER, AND LANDSCAPING. THE IMPROVEMENTS ARE ALL LOCATED IN EXISTING DRAINAGE BASIN B-1. THE MAJORITY OF THE STORM WATER FLOW GENERATED FROM THE DEVELOPMENT OF THIS SITE WILL BE DRAINED VIA SURFACE FLOW ALONG NEW CURB AND GUTTER AND DISCHARGED INTO THE NEW WATER HARVEST AREA LOCATED ALONG THE WEST PROPERTY LINE. A PORTION OF EXISTING BASIN A IS BEING CAPTURED BY A NEW STORM DRAIN INLET THAT CONVEYS FLOWS INTO THE NEW WATER HARVEST AREA. EXISTING DRAINAGE F THE DRAINAGE DATA ON THIS PAGE SUMMARIZES THE PEAK DISCHARGE AND RUNOFF VOLUME FOR BASIN B-1.

OFFSITE FLOWS

THERE ARE NO SIGNIFICANT OFFSITE FLOWS THAT DRAIN ONTO THE SITE. THE ONSITE BASINS FLOWS DO NOT IMPACT THE PROPERTIES TO THE EAST AND WEST.

CONCLUSION

RUNOFF VOLUME AND FLOW RATE INCREASED AS A RESULT OF CHANGES IN LAND TREATMENTS FOR BASIN B-1 BY 0.108 ACRE FEET AND THE PEAK FLOW RATE HAS INCREASED BY 2.82 CFS.

ACCORDING TO THE APPROVED MASTER GRADING AND DRAINAGE PLAN (H11/D062) FOR STS PETER AND PAUL TRADITIONAL CATHOLIC CHURCH BY MARVIN R. KORTUM DATED 7-25-2000 BASIN A-1 HAS AN DISCHARGE OF 6.69 CFS FOR ALL THE EXISTING IMPROVEMENTS ON THE SITE. BASIN A-1 DISCHARGES INTO THE NEW TYPE D DOUBLE STORM DRAIN INLET WHICH THEN DISCHARGES INTO THE NEW WATER HARVEST AREA. THE REPORT ALSO GENERATED AN ALLOWABLE DISCHARGE FOR BASIN B-1 OF 12.24 CFS (ASSUMED IMPERVIOUS AREA OF 85%), THEREFORE THE TOTAL ALLOWABLE DISCHARGE FIR THE SITE UNDER FULLY DEVELOPED CONDITIONS IS 18.93 CFS. WITH THE PROPOSED IMPROVEMENTS AS OUTLINED IN THE PLAN, A PEAK DISCHARGE FOR BASIN B-1 OF 6.75 CFS WILL BE GENERATED FOR THE 100 YEAR, 24 HOUR EVENT, ADDING THE EXISTING FLOW FROM BASIN A-1 (6.69 CFS+6.75 CFS) THE TOTAL FLOW GENERATED FOR THE SITE IS 13.44 CFS. THIS IS LESS THAN THE ALLOWABLE DISCHARGE OF 18.93 CFS.

THE PROPOSED GRADING IMPROVEMENTS WILL INCLUDE STANDARD CURB AND GUTTER, RUNDOWNS, DRAIN PIPE AND CONCRETE SWALES ALLOWING STORMWATER INTO PROPOSED WATER HARVESTING AREA. THIS WATER HARVESTING AREAS WILL BE USED TO MANAGE THE 90TH PERCENTILE STORM EVENTS AS REQUIRED BY THE RECENT CITY OF ALBUQUERQUE DRAINAGE ORDINANCE CHANGES. (REQD VOL= (0.33 IN. * 31985 SF)/12 = 880 CF. WATER HARVEST AREA TO THE BOTTOM OF THE 12" OUTFLOW PIPE IS 0.192 AF = 8364 CF, WHICH IS NEARLY 10 TIMES THE REQUIRED VOLUME. THE WATER HARVEST AREA IS SUBSTANCIALLY LARGER THAN IT NEEDS TO BE, THIS IS BECAUSE THE OWNERS ARE PLANNING ON UTILIZING THE WATER HARVEST AREA FOR A PLAYING FIELD.

GENERAL NOTES:

1. EXISTING TOPOGRAPHIC DATA SHOWN ON THESE PLANS WAS PROVIDED BY JEFF MORTENSEN AND ASSOCIATES. MILLER ENGINEERING CONSULTANTS HAS UNDERTAKEN NO FIELD VERIFICATION OF THIS INFORMATION.
2. PROJECT BENCHMARK IS A TERRA LAND SURVEYS CONTROL MONUMENT CP 103 BEING A SET PK NAIL IN CONCRETE. ELEVATION = 5,098.62 FEET (NAVD 88 VERTICAL DATUM)
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES DURING THE CONSTRUCTION PHASE.
4. CONTRACTOR SHALL OBTAIN A GRADING PERMIT FROM THE CITY OF ALBUQUERQUE, PRIOR TO ANY GRADING OR CONSTRUCTION.
5. TWO WORKING DAYS PRIOR TO ANY EXCAVATION CONTRACTOR MUST CONTACT LINE LOCATING SERVICE 260-1990 FOR LOCATION OF EXISTING UTILITIES.
6. ALL EMBANKMENTS SHALL BE PLACED AND COMPACTED IN LIFTS OF MAXIMUM OF 8". THE EMBANKMENTS SHALL BE WETTED AND COMPACTED TO 95% OPTIMUM DENSITY PER ASTM D1557 AND 95% UNDER ALL STRUCTURES INCLUDING DRIVEWAYS AND PARKING LOTS.
7. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER(S) OF THE PROPERTY SERVED.
8. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF ALL UTILITIES PRIOR TO CONSTRUCTION.
9. THE SUBJECT PROPERTY IS LOCATED WITHIN ZONE X. DESIGNATING AREAS DETERMINED TO BE OUTSIDE THE 100-YEAR FLOOD PLANE ACCORDING TO THE FLOOD INSURANCE RATE MAP, ALBUQUERQUE, NEW MEXICO AND UNINCORPORATED AREAS PER MAP NO 35001C 0327H.
10. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE STORM DRAINAGE REGULATIONS. ALL WORK PERFORMED SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF ALBUQUERQUE "GRADING AND DRAINAGE DESIGN REQUIREMENTS AND POLICIES FOR LAND DEVELOPMENT."
11. THE OWNER, CONTRACTOR AND/OR BUILDER SHALL COMPLY WITH ALL APPROPRIATE LOCAL, STATE AND FEDERAL REGULATIONS AND REQUIREMENTS.
12. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE AND REASONABLE MEASURES TO PREVENT SEDIMENT OR POLLUTANT LADEN STORM WATER FROM EXITING THE SITE DURING CONSTRUCTION. STORMWATER MAY BE DISCHARGED IN A MANNER, WHICH COMPLIES WITH THE APPROVED GRADING AND DRAINAGE PLAN.
13. THE CONTRACTOR SHALL TAKE ALL APPROPRIATE MEASURES TO PREVENT THE MOVEMENT OF CONSTRUCTION RELATED SEDIMENT, DUST, MUD, POLLUTANTS, DEBRIS, WASTE, ETC FROM THE SITE BY WIND, STORM FLOW OR ANY OTHER METHOD EXCLUDING THE INTENTIONAL, LEGAL TRANSPORTATION OF SAME IN A MANNER ACCEPTABLE BY THE CITY.
14. THE CONTRACTOR SHALL NOT DISTURB AREAS OUTSIDE THE AREAS SHOWN AS "SLOPE LIMITS" ON THE GRADING AND DRAINAGE PLAN.
15. AS OF MARCH 10, 2003, THE USEPA REQUIRES NPDES PERMIT COVERAGE FOR STORM WATER DISCHARGES FROM CONSTRUCTION PROJECTS (COMMON PLANS OF DEVELOPMENT) THAT WILL RESULT IN THE DISTURBANCE (OR RE-DISTURBANCE) OF ONE OR MORE ACRES, INCLUDING EXPANSIONS OF TOTAL LAND AREA. THE DEVELOPER SHOULD BE MADE AWARE THAT THE USEPA REQUIRES THAT ALL "OPERATORS" (SEE FEDERAL REGISTER/VOL. 63, NO. 128 / MONDAY, JULY 6, 1999 PG 36509) OBTAIN NPDES PERMIT COVERAGE FOR CONSTRUCTION PROJECTS. GENERALLY THIS MEANS THAT AT LEAST TWO PARTIES WILL REQUIRE PERMIT COVERAGE. THE OWNER/DEVELOPER OF THIS CONSTRUCTION PROJECT WHO HAS OPERATIONAL CONTROL OVER THE PROJECT SPECIFICATIONS, THE GENERAL CONTRACTOR WHO HAS DAY-TO-DAY OPERATIONAL CONTROL OF THOSE ACTIVITIES AT THE SITE, WHICH ARE NECESSARY TO ENSURE COMPLIANCE WITH THE STORM WATER POLLUTION PLAN AND OTHER CONDITIONS, AND POSSIBLY OTHER "OPERATORS" THAT WILL REQUIRE APPROPRIATE NPDES PERMIT COVERAGE FOR THIS PROJECT.
16. THE CONTRACTOR SHALL SUBMIT A SEED MIX DESIGN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO STARTING THE SEEDING ON THE PROJECT. THE SEED MIX DESIGN SHALL BE A SEED MIX RECOMMENDED BY THE NRCS FIELD OFFICE REPRESENTATIVE THAT IS APPROPRIATE FOR THE PROJECT LOCATION. ALL DISTURBED AREAS WITH SLOPES LESS THAN 3:1 SHALL RECEIVE CLASS "A" SEEDING. ALL DISTURBED AREAS WITH SLOPES EQUAL TO OR GREATER THAN 3:1 SHALL RECEIVE STEEP SLOPE SEEDING. THE STEEP SLOPE SEEDING SHALL CONSIST OF SEEDING IN CONJUNCTION WITH A 100% COCONUT FIBER BLEND EROSION BLANKET (NORTH AMERICAN GREEN C125) OR APPROVED EQUAL. ALL MATERIALS, EQUIPMENT AND LABOR ASSOCIATED WITH THE PROPER CONSTRUCTION OF THE STEEP SLOPE SEEDING WILL BE CONSIDERED INCIDENTAL AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS MATERIAL OR WORK. THE COCONUT FIBER EROSION BLANKET AND ASSOCIATED SEEDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE PROJECT ENGINEER PRIOR TO CONSTRUCTION.
17. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY SPOT ELEVATIONS ON THE GRADING AND DRAINAGE PLAN WHICH APPEAR TO BE AMBIGUOUS OR DO NOT MEET THE INTENT OF THE GRADING AND DRAINAGE PLAN.
18. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DOES NOT MEET ADA ACCESSIBILITY REQUIREMENTS. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%, ALL SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5.0%, AND ALL RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 15:1.
19. ALL SIDEWALKS AND CONCRETE FLATWORK SHALL HAVE A MINIMUM OF 0.5% SLOPE. CONTRACTOR SHALL CONTACT PROJECT ENGINEER IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DO NOT MEET THIS REQUIREMENT.
20. THE CONTRACTOR SHALL SUBMIT MATERIAL SUBMITTALS, CUT SHEETS AND SHOP DRAWINGS FOR ALL CIVIL RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION.
21. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS AND ABCWUA FOR ALL UTILITIES. (UPDATE 8, AMENDMENT 1)
22. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY CONFLICTS BETWEEN EXISTING OR PROPOSED UTILITIES ON THIS PROJECT PRIOR TO CONSTRUCTION.
23. ALL EXISTING MANHOLES, VALVES AND METERS SHALL BE ADJUSTED TO NEW FINISH GRADE.

GRADING AND DRAINAGE NARRATIVE

THE EXISTING PROPERTY HAS AN EXISTING CHURCH AND EXISTING FELLOWSHIP HALL WITH ASSOCIATED CONCRETE AND ASPHALT PARKING LOT ON THE NORTHERN PORTION OF THE PROPERTY. THESE EXISTING BUILDING ARE ACCESSED ON THE NORTH FROM OURAY ROAD. THE PROPOSED IMPROVEMENTS ARE LOCATED SOUTH OF THE EXISTING FELLOWSHIP HALL AND PARKING AREA. THE LAND IS GENERALLY FLAT AND SLOPES FROM THE NORTH TO THE SOUTH. THERE IS AN EXISTING POND JUST SOUTH OF THE EXISTING PARKING AREA JUST EAST OF THE WESTERN PROPERTY LINE. THERE IS AN EXISTING DRAINAGE CHANNEL THAT IS JUST SOUTH OF THE EXISTING POND. THE CHANNEL RUNS PARALLEL TO THE WEST PROPERTY LINE AND DISCHARGING INTO THE EXISTING DROP INLET AT THE SOUTHWEST CORNER OF THE PROPERTY NORTH OF MIAMI RD. BOUNDING THE PROPERTY ON THE WEST AND EAST SIDE IS RESIDENTIAL HOUSING. ON THE NORTH SIDE THE PROPERTY IS BOUNDED BY OURAY ROAD. ON THE SOUTH SIDE THE PROPERTY IS BOUNDED BY MIAMI ROAD.

THE PROPOSED GRADING IMPROVEMENTS WILL INCLUDE STANDARD CURB AND GUTTER, WITH CURB CUTS AND RUNDOWNS ALLOWING STORMWATER INTO A PROPOSED WATER HARVESTING AREA. THIS WATER HARVESTING AREAS WILL BE USED TO MANAGE THE 90TH PERCENTILE STORM EVENTS AS REQUIRED BY THE RECENT CITY OF ALBUQUERQUE DRAINAGE ORDINANCE CHANGES.(REQD VOL= (0.33 IN. * 31985 SF)/12 = 880 CF. WATER HARVEST AREA TO THE BOTTOM OF THE 12" OUTFLOW PIPE IS 0.192 AF = 8364 CF, WHICH IS NEARLY 10 TIMES THE REQUIRED VOLUME. THE WATER HARVEST AREA IS SUBSTANCIALLY LARGER THAN IT NEEDS TO BE, THIS IS BECAUSE THE OWNERS ARE PLANNING ON UTILIZING THE WATER HARVEST AREA FOR A PLAYING FIELD. A PORTION OF THE EXISTING PARKING AREA AND A PORTION OF THE ACCESS ROAD TO THE SOUTH WILL DISCHARGE INTO PROPOSED DRAINAGE INLETS. THE RUNOFF FROM THE INLETS WILL DISCHARGE THROUGH A PROPOSED STORM DRAIN LINE THAT WILL CONNECT TO THE EXISTING DRAINAGE INLET NEAR THE SOUTHWEST CORNER OF THE PROPERTY. THE EXISTING DRAINAGE INLET THEN DISCHARGES INTO A STORM DRAIN SYSTEM IN MIAMI ROAD.

THE SUBJECT PROPERTY IS NOT LOCATED WITHIN A FEMA DESIGNATED FLOOD ZONE AS PER FEMA MAPS.

POND RATING TABLE

STS PETER & PAUL CHURCH SCHOOL - PONDS				
Pond Rating Table				
Side Slope	4:1			
Depth	Area		Volume	Cum Volume
(ft)	(sq ft)	(ac)	(ac-ft)	(ac-ft)
5097	16088	0.369	0	0
5097.5	17287	0.397	0.192	0.192
5098	18515	0.425	0.205	0.397
5099	21046	0.483	0.454	0.851
5100	23172	0.532	0.957	1.808

DRAINAGE DATA

Precipitation Zone 1 - 100-year Storm P(360) = 2.20 in P(1440) = 2.66 in

Basin	Basin Area (Ac)	Land Treatment Factors A	B (Acres)	C	D	Ew (in)	V(100-6) (af)	V(100-24) (af)	Q(100) (cfs)
Existing Conditions									
B-1	3.05	3.05	0.00	0.00	0.00	0.44	0.112	0.112	3.93
Total	3.05								3.93
Proposed Conditions									
B-1	3.05	1.58	0.73	0.00	0.74	0.87	0.220	0.249	6.75
Total	3.05								6.75

Precipitation Zone 1 - 10-year Storm P(360) = 1.47 in P(1440) = 1.78 in

Basin	Basin Area (Ac)	Land Treatment Factors A	B (Acres)	C	D	Ew (in)	V(10-6) (af)	V(10-24) (af)	Q(10) (cfs)
Existing Conditions									
B-1	3.05	3.05	0.00	0.00	0.00	0.08	0.020	0.020	0.73
Total	3.05								0.73
Proposed Conditions									
B-1	3.05	1.58	0.73	0.00	0.74	0.39	0.100	0.119	3.07
Total	3.05								3.07

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PROJECT NO.	DATE OF ISSUE
2014_003	3.20.2015
REVISION NO.	DATE
BP Submittal	3.20.2015

PROJECT TEAM	DRAWN BY
Scolaro	KR

PROJECT PHASE
BUILDING PERMIT

SHEET CONTENTS
GRADING AND DRAINAGE REPORT

SHEET NO.
C-100

GENERAL NOTES

1. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185-WELDED STEEL WIRE FABRIC FOR CONCRETE REINFORCEMENT.

2. THE CONTRACTOR SHALL CONFINE HIS OPERATIONS TO THE CONSTRUCTION LIMITS OF THIS PROJECT AND WILL BE RESPONSIBLE FOR ANY PRIVATE AGREEMENTS NECESSARY TO EXECUTE THIS CONTRACT. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGES CAUSED BY HIS EQUIPMENT TO PUBLIC OR PRIVATE PROPERTY.

3. THE CONTRACTOR SHALL HAUL AND DISPOSE OF ALL CONCRETE RUBBLE AND OTHER REMOVALS TO AN ENVIRONMENTALLY SUITABLE LOCATION.

4. THE LOCATION OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO EXCAVATION. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES 48 HOURS BEFORE COMMENCING WORK IN THE AREAS NEAR UNDERGROUND UTILITY LINES. CONTRACTOR SHALL NOT INTERFERE WITH UTILITY LINE OPERATION AND SHALL COORDINATE ALL WORK AFFECTING EXISTING UTILITIES WITH THE APPROPRIATE AUTHORITY FOR EACH UTILITY, AND THE ENGINEER SHALL BE PROMPTLY NOTIFIED OF ANY PROBLEMS OR CONFLICTS ENCOUNTERED.

5. NOT USED.

6. TOPOGRAPHIC DATA, BENCHMARKS, REFERENCE POINTS, P.I.'S, STRUCTURE TIES, AND ALL OTHER MISCELLANEOUS SURVEY INFORMATION WAS OBTAINED FROM PREVIOUS FIELD SURVEYS. IT IS ENTIRELY POSSIBLE THAT THESE POINTS MAY NO LONGER EXIST IN THE FIELD. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO REESTABLISH ANY MISSING BENCH MARKS, REFERENCE POINTS, OR P.I.'S REQUIRED FOR CONSTRUCTION OF THIS PROJECT AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY BETWEEN ADJACENT REFERENCE POINTS, BENCH MARKS, AND P.I.'S PRIOR TO THEIR USE IN CONSTRUCTING THIS PROJECT TO ASSURE THE INTEGRITY OF EACH POINT.

7. CONTRACTOR SHALL COORDINATE SITE ACCESS AND STAGING AREA WITH OWNER/ARCHITECT.

8. THE CONTRACTOR SHALL USE CAUTION AT ALL EXISTING STRUCTURES INCLUDING ALL UNREINFORCED MASONRY WALLS, BUILDINGS, ETC.. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY DAMAGE TO ANY STRUCTURES, DRIVEWAYS, LIGHT FIXTURES, AND WATER METERS, ETC.. AND SHALL REPAIR THE DAMAGES AT HIS OWN EXPENSE.

9. THIS PROJECT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.M.A.P.W.A. (AMERICAN PUBLIC WORKS ASSOCIATION) NEW MEXICO CHAPTER, AND THE SPECIFICATIONS IN THE PROJECT MANUAL UNLESS OTHERWISE STATED.

10. THE CONTRACTOR SHALL DETERMINE AND COMPLY WITH ALL APPROPRIATE LOCAL, STATE AND FEDERAL REGULATIONS AND REQUIREMENTS.

11. WHEN ABUTTING NEW ASPHALT TO EXISTING ASPHALT, SAW CUT EXISTING ASPHALT TO A NEAT STRAIGHT LINE TO MATCH NEW ASPHALT DEPTH.

12. DURING THE CONSTRUCTION OF THIS PROJECT, SOME OVERHEAD AND/OR UNDERGROUND UTILITY ADJUSTMENTS MAY HAVE TO BE ACCOMPLISHED CONCURRENTLY BY THE UTILITY OWNERS (COUNTY AND/OR PRIVATELY OWNED). THE CONTRACTOR SHALL COORDINATE AND ADVISE THE UTILITY OWNERS, ALLOWING ENOUGH TIME SO THAT THE REQUIRED UTILITY ADJUSTMENTS DO NOT IMPEDE THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS, INCONVENIENCE, OR DAMAGE SUSTAINED DUE TO ANY INTERFERENCE FROM SAID UTILITY APPURTENANCES.

13. AS OF MARCH 10, 2003, THE USEPA REQUIRES NPDES PERMIT COVERAGE FOR STORM WATER DISCHARGES FROM CONSTRUCTION PROJECTS (COMMON PLANS OF DEVELOPMENT) THAT WILL RESULT IN THE DISTURBANCE (OR RE-DISTURBANCE) OF ONE OR MORE ACRES, INCLUDING EXPANSIONS OF TOTAL LAND AREA. THE DEVELOPER SHOULD BE MADE AWARE THAT THE USEPA REQUIRES THAT ALL "OPERATORS" (SEE FEDERAL REGISTER/VOL. 63, NO. 128 / MONDAY, JULY 6, 1999 PG 36509) OBTAIN NPDES PERMIT COVERAGE FOR CONSTRUCTION PROJECTS. GENERALLY THIS MEANS THAT AT LEAST TWO PARTIES WILL REQUIRE PERMIT COVERAGE. THE OWNER/DEVELOPER OF THIS CONSTRUCTION PROJECT WHO HAS OPERATIONAL CONTROL OVER THE PROJECT SPECIFICATIONS, THE GENERAL CONTRACTOR WHO HAS DAY-TO-DAY OPERATIONAL CONTROL OF THOSE ACTIVITIES AT THE SITE, WHICH ARE NECESSARY TO ENSURE COMPLIANCE WITH THE STORM WATER POLLUTION PLAN AND OTHER CONDITIONS, AND POSSIBLY OTHER "OPERATORS" THAT WILL REQUIRE APPROPRIATE NPDES PERMIT COVERAGE FOR THIS PROJECT. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR DEVELOPING A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) DOCUMENT FOR THE PROJECT AND PROVIDING, BUILDING, MANAGING AND MAINTAINING ALL BEST MANAGEMENT PRACTICES (BPM'S) AND TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SPECIFIED IN THE SWPPP DOCUMENT.

14. ALL ASPHALT PAVED SURFACES SHALL HAVE A MINIMUM SLOPE OF 1.00%. THE CONTRACTOR SHALL FIELD VERIFY AND NOTIFY THE PROJECT ENGINEER IF ANY ASPHALT PAVED SURFACES SLOPES ARE LESS THAN 1.00% PRIOR TO CONSTRUCTION..

15. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EXISTING ASPHALT PAVING. THERE SHALL BE NO PAVEMENT CUTS, UNLESS PAVEMENT CUTS ARE EXPLICITLY NEEDED. SAWCUT ASPHALT OR CURB AND GUTTER TO A CLEAN, STRAIGHT EDGE. REPLACE SECTIONS AND MATCH TO EXISTING SECTIONS OF ASPHALT, CONCRETE, BASE COURSE, AND/OR SUBGRADE PREPARATION. REMOVE AND REPLACE ANY AREAS OF DISTURBED LANDSCAPING. CONTRACTOR SHALL SUBMIT NEW SECTION TO PROJECT ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION. ANY DAMAGE TO THE ASPHALT DUE TO CONSTRUCTION ACTIVITY WILL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

16. ACCESS TO ALL LOCAL BUSINESSES (INCLUDING ALL DELIVERIES) AND RESIDENCES SHALL BE KEPT OPEN AT ALL TIMES. ANY ACCESS CLOSURE MUST BE SCHEDULED WITH THE PROPERTY OWNERS AT LEAST 48 HOURS IN ADVANCE AND APPROVED BY THE PROJECT ENGINEER

17. ALL ASPHALT PAVEMENT, BASE COURSE AND SUBGRADE PREPARATION THICKNESSES ARE PROVIDED BY THE GEOTECHNICAL REPORT FOR THIS PROJECT. THE CONTRACTOR SHALL ENSURE THAT ALL ASPHALT AND CONCRETE PAVING SECTIONS ARE IN COMPLIANCE WITH THE GEOTECHNICAL REPORT FOR THIS PROJECT. SEE SHEET C-501 FOR ASPHALT AND CONCRETE PAVING SECTIONS, AND GEOTECHNICAL REPORT INFORMATION.

18. NOT USED

19. MAINTENANCE OF DRAINAGE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER(S) OF THE PROPERTY SERVED.

20. PROJECT BENCHMARKS ARE AS SHOWN ON TOPOGRAPHIC SURVEY PROVIDED BY VIGIL AND ASSOCIATES ARCHITECTS AND PREPARED BY TOPOGRAPHIC SURVEY PERFORMED AND COMPILED BY TERRA LAND SURVEYS, LLC. P.O. BOX 2532, CORRALES, NEW MEXICO, MARCH 2014.

21. ALL EXISTING TOPOGRAPHIC DATA SHOWN ON THESE PLANS HAS BEEN OBTAINED FROM A TOPOGRAPHIC SURVEY PROVIDED BY TERRA LAND SURVEYS. MILLER ENGINEERING CONSULTANTS HAS NOT UNDERTAKEN ANY FIELD VERIFICATION OF THIS INFORMATION.

22. THE CONTRACTOR SHALL PROVIDE MATERIAL SUBMITTALS ON ALL CIVIL SITE RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION,

23. DURING THE CONSTRUCTION OF THIS PROJECT, THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY TEMPORARY DRAINAGE MEASURES NECESSARY TO SAFELY CONVEY STORM WATER RUNOFF. ANY DAMAGES TO PUBLIC OR PRIVATE PROPERTY OR IMPROVEMENTS CONSTRUCTED BY THE CONTRACTOR RESULTING FROM STORM WATER FLOWS IN THE PROJECT VICINITY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

24. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2%. THE CONTRACTOR SHALL FIELD VERIFY AND NOTIFY THE PROJECT ENGINEER IF ANY CROSS SLOPES ARE GREATER THAN 2% PRIOR TO CONSTRUCTION.

25. SEE LANDSCAPING PLANS AND SPECIFICATIONS FOR ALL SEEDING REQUIREMENTS.

26. THE CONTRACTOR SHALL DEVELOP THE TRAFFIC CONTROL PLAN AND SHALL PROVIDE AND MAINTAIN ALL TRAFFIC CONTROL DEVICES AND CONSTRUCTION SIGNING IN ACCORDANCE WITH THE "MUTCD" (LATEST EDITION) DURING THE CONSTRUCTION PERIOD (WORKING AND NON-WORKING HOURS). ANY NECESSARY DEVIATION FROM THE "MUTCD" SHALL HAVE PRIOR APPROVAL OF THE PROJECT ENGINEER OR CONSTRUCTION INSPECTOR. THE CONTRACTOR SHALL SUBMIT A COPY OF THE PROPOSED TRAFFIC CONTROL PLAN TO THE PROJECT ENGINEER PRIOR TO CONSTRUCTION. THIS PLAN SHALL SATISFY THE REQUIREMENTS FOR PUBLIC SAFETY AND TRAVELING PUBLIC AS WELL AS THE REQUIREMENTS OF "MUTCD" AND SHALL BE REVISED AS NECESSARY TO MEET THE REQUIREMENTS DURING THE CONSTRUCTION PERIOD. THE SECTIONS OF ROADWAY WHICH ARE OPEN TO TRAFFIC SHALL BE KEPT IN GOOD RIDING CONDITION AND CLEAR OF HAZARDS TO TRAFFIC. THE SAFETY AND COMFORT OF THE TRAVELING PUBLIC AND ACCESS TO RESIDENCES AND OTHER TURNOUTS SHALL BE OF PRIMARY CONSIDERATION.

27. THE CONTRACTOR SHALL FIELD VERIFY LOCATION AND SIZE OF ALL UTILITIES PRIOR TO CONSTRUCTION.

28. ALL STORM DRAIN PIPE, INLETS AND RELATED APPURTENANCES SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS.

29. ALL STORM DRAIN PIPE SHALL BE HIGH-DENSITY POLYETHYLENE (HDPE) WITH WATER TIGHT JOINTS.

30. TOPOGRAPHIC DATA, BENCHMARKS, REFERENCE POINTS, P.I.'S, STRUCTURE TIES, AND ALL OTHER MISCELLANEOUS SURVEY INFORMATION WAS OBTAINED FROM PREVIOUS FIELD SURVEYS. IT IS ENTIRELY POSSIBLE THAT THESE POINTS MAY NO LONGER EXIST IN THE FIELD. IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO RE-ESTABLISH ANY MISSING BENCH MARKS, REFERENCE POINTS, OR P.I.'S REQUIRED FOR CONSTRUCTION OF THIS PROJECT AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL VERIFY BETWEEN ADJACENT REFERENCE POINTS, BENCH MARKS, AND P.I.'S PRIOR TO THEIR USE IN CONSTRUCTING THIS PROJECT TO ASSURE THE INTEGRITY OF EACH POINT.

31. CONTRACTOR SHALL VERIFY ALL PIPE LENGTHS, SLOPES AND LOCATIONS PRIOR TO INSTALLATION WITH THE COUNTY INSPECTOR AND THE PROJECT ENGINEER.

32. CONNECTIONS TO DISSIMILAR PIPING SHALL BE WITH FITTINGS RECOMMENDED BY MANUFACTURERS.

33. THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTAINING EXISTING ASPHALT PAVING. ANY DAMAGE TO THE ASPHALT DUE TO CONSTRUCTION ACTIVITY WILL BE REPAIRED BY THE CONTRACTOR AT OWN EXPENSE.

34. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY SPOT ELEVATIONS ON THE GRADING AND DRAINAGE PLAN WHICH APPEAR TO BE AMBIGUOUS OR DO NOT MEET THE INTENT OF THE GRADING AND DRAINAGE PLAN.

35. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DOES NOT MEET ADA ACCESSIBILITY REQUIREMENTS. ALL SIDEWALKS SHALL HAVE A MAXIMUM CROSS SLOPE OF 2.0%, ALL SIDEWALKS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 5.0%, AND ALL RAMPS SHALL HAVE A MAXIMUM LONGITUDINAL SLOPE OF 15:1.

36. ALL SIDEWALKS AND CONCRETE FLATWORK SHALL HAVE A MINIMUM OF 0.5% SLOPE. CONTRACTOR SHALL CONTACT PROJECT ENGINEER IF THERE ARE SIDEWALKS OR CONCRETE FLATWORK WHICH DO NOT MEET THIS REQUIREMENT.

37. THE CONTRACTOR SHALL SUMBIT MATERIAL SUBMITTALS, CUT SHEETS AND SHOP DRAWINGS FOR ALL CIVIL RELATED ITEMS FOR REVIEW PRIOR TO CONSTRUCTION.

38. CONTRACTOR SHALL ADJUST THE STORM DRAIN LINES FROM THE ROOF DRAINS AS NECESSARY TO AVOID THE NEW FIRE LINE OR ANY OTHER PROPOSED OR EXISTING UTILITIES.

39. THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER FOR CLARIFICATION IF THERE ARE ANY CONFLICTS BETWEEN EXISTING OR PROPOSED UTILITIES ON THIS PROJECT PRIOR TO CONSTRUCTION.

40. THE CONTRACTOR WILL BE RESPONSIBLE FOR HIRING A SUBSURFACE UTILITY ENGINEERING COMPANY TO LOCATE AND DESIGNATE ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. IT WILL BE THE CONTRACTORS RESPONSIBILITY TO INFORM THE ARCHITECT IN WRITING PRIOR TO CONSTRUCTION OF ANY POTENTIAL CONFLICTS BETWEEN EXISTING AND PROPOSED UTILITIES. ONCE NOTIFIED IN WRITING, THE ARCHITECT WILL ISSUE A SKETCH AND/OR DESCRIPTIVE SCOPE OF WORK TO RESOLVE THE UTILITY CONFLICT.

41. THE CONTRACTOR SHALL SUBMIT A SEED MIX DESIGN TO THE OWNER FOR REVIEW AND APPROVAL PRIOR TO STARTING THE SEEDING ON THE PROJECT. THE SEED MIX DESIGN SHALL BE A SEED MIX RECOMMENDED BY NRCS FIELD OFFICE REPRESENTATIVE APPROPRIATE FOR PROJECT LOCATION.

ALL DISTURBED AREAS, NOT ADDRESSED BY ARCHITECTURAL LANDSCAPE PLAN WITH SLOPES OF LESS THAN 3:1 SHALL RECEIVE CLASS "A" SEEDING. ANY SLOPES THAT ARE 3:1 OR STEEPER SLOPES SHALL RECEIVE STEEP SLOPE SEEDING. THE STEEP SLOPE SEEDING SHALL CONSIST OF SEEDING IN CONJUNCTION WITH A 100% COCONUT FIBER BLEND EROSION BLANKET (NORTH AMERICAN GREEN C125) OR APPROVED EQUAL. ALL MATERIALS, EQUIPMENT AND LABOR ASSOCIATED WITH THE PROPER CONSTRUCTION OF THE STEEP SLOPE SEEDING WILL BE CONSIDERED INCIDENTAL AND NO SEPARATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THIS MATERIAL OR WORK. THE COCONUT FIBER EROSION BLANKET AND ASSOCIATED SEEDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND APPROVED BY THE PROJECT ENGINEER PRIOR TO CONSTRUCTION.

CIVIL DRAWING INDEX

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C-102	DETAILED GRADING AND DRAINAGE PLAN
C-103	SITE UTILITY PLAN
C-500	MISCELLANEOUS DETAILS
C-501	MISCELLANEOUS DETAILS

WATER AND SANITARY SEWER UTILITY GENERAL NOTES

A. AT AREAS OF CUTTING AND TRENCHING AT EXISTING ASPHALT SURFACES FOR NEW WORK, THE CONTRACTOR SHALL PATCH AND REPAIR DAMAGED ASPHALT TO MATCH EXISTING ADJACENT SURFACES

B. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF ANY CONFLICT W/ SITE UTILITIES OR FEATURES AND OBTAIN RESOLUTION PRIOR TO PROCEEDING WITH THE WORK

C. CONTRACTOR SHALL COORDINATE SITE ACCESS AND STAGING AREA WITH OWNER/ARCHITECT

D. CONTRACTOR SHALL TAKE PRECAUTIONS AS NECESSARY TO PROTECT FROM DAMAGING EXISTING UTILITY LINES, WALKS, LANDSCAPING, ETC. WHICH WILL REMAIN AS PART OF THE FINAL SYSTEM. CONTRACTOR SHALL REPAIR AND/OR RESTORE THESE ITEMS AS REQUIRED TO PRE-CONSTRUCTION CONDITION

E. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

F. CONTRACTOR SHALL NOTIFY AND COORDINATE WITH THE ABCWUA ON ANY UTILITY CONSTRUCTION AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION.

G. CONTRACTOR SHALL ADHERE TO THE ABCWUA STANDARD DRAWINGS AND SPECIFICATIONS AND THE SPECIFICATIONS IN THE PROJECT MANUAL UNLESS OTHERWISE STATED FOR WATER AND SANITARY SEWER UTILITY WORK.

H. IF THERE IS A CONFLICT BETWEEN PROPOSED SEWER SERVICE AND WATER SERVICE LINES, THE CONTRACTOR SHALL ADJUST THE WATER SERVICES AS NECESSARY TO COMPLETE THE WORK. 10' MINIMUM SEPARATION BETWEEN THE WATER AND SEWER PIPES.

I. THE LOCATIONS OF ALL UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL IDENTIFY, LOCATE AND REMOVE ALL SUPERFLUOUS UTILITIES AND ASSOCIATED CONDUITS AND APPURTENANCES ACCORDING TO THE INDICATIONS OF THIS DRAWING. REFER TO LEGEND AND DRAWING TO INTERPRET EXTENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES 48 HOURS BEFORE COMMENCING WORK IN THE AREAS NEAR UNDERGROUND UTILITY LINES. CONTRACTOR SHALL NOT INTERFERE WITH UTILITY LINE OPERATION AND SHALL COORDINATE ALL WORK AFFECTING EXISTING UTILITIES WITH THE APPROPRIATE AUTHORITY FOR EACH UTILITY, AND THE SCHOOL SHALL BE PROMPTLY NOTIFIED OF ANY PROBLEMS OR CONFLICTS ANTICIPATED OR ENCOUNTERED.

J. DURING THE CONSTRUCTION OF THIS PROJECT, SOME OVERHEAD AND/OR UNDERGROUND UTILITY ADJUSTMENTS MAY HAVE TO BE ACCOMPLISHED CONCURRENTLY BY THE UTILITY OWNERS (CITY AND/OR PRIVATELY OWNED). THE CONTRACTOR SHALL COORDINATE AND ADVISE THE UTILITY OWNERS, ALLOWING ENOUGH TIME SO THAT THE REQUIRED UTILITY ADJUSTMENTS DO NOT IMPEDE THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS, INCONVENIENCE, OR DAMAGE SUSTAINED DUE TO ANY INTERFERENCE FROM SAID UTILITY APPURTENANCES.

K. ALL WATER LINE PIPE SHALL BE C-900 PVC.

L. ALL SANITARY SEWER PIPE SHALL BE SDR-35 PVC.

M. THE CONTRACTOR SHALL COORDINATE WITH THE ABCWUA FOR ALL NEW UTILITY INSTALLATIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSTALL ALL UTILITIES IN ACCORDANCE WITH THE ABCWUA REQUIREMENTS.

N. ALL WATERLINES SHALL BE FLUSHED, DISINFECTED, AND TESTED IN ACCORDANCE WITH THE AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATION. ALL FIRE LINES SHALL BE FLUSHED, DISINFECTED, AND TESTED IN ACCORDANCE WITH THE NFPA CODES AND REGULATIONS.

O. ALL WATERLINE BENDS, TEES, WYES, VALVES, HYDRANTS, AND DEAD ENDS WILL BE MECHANICALLY RESTRAINED.

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2014_003	3.20.2015
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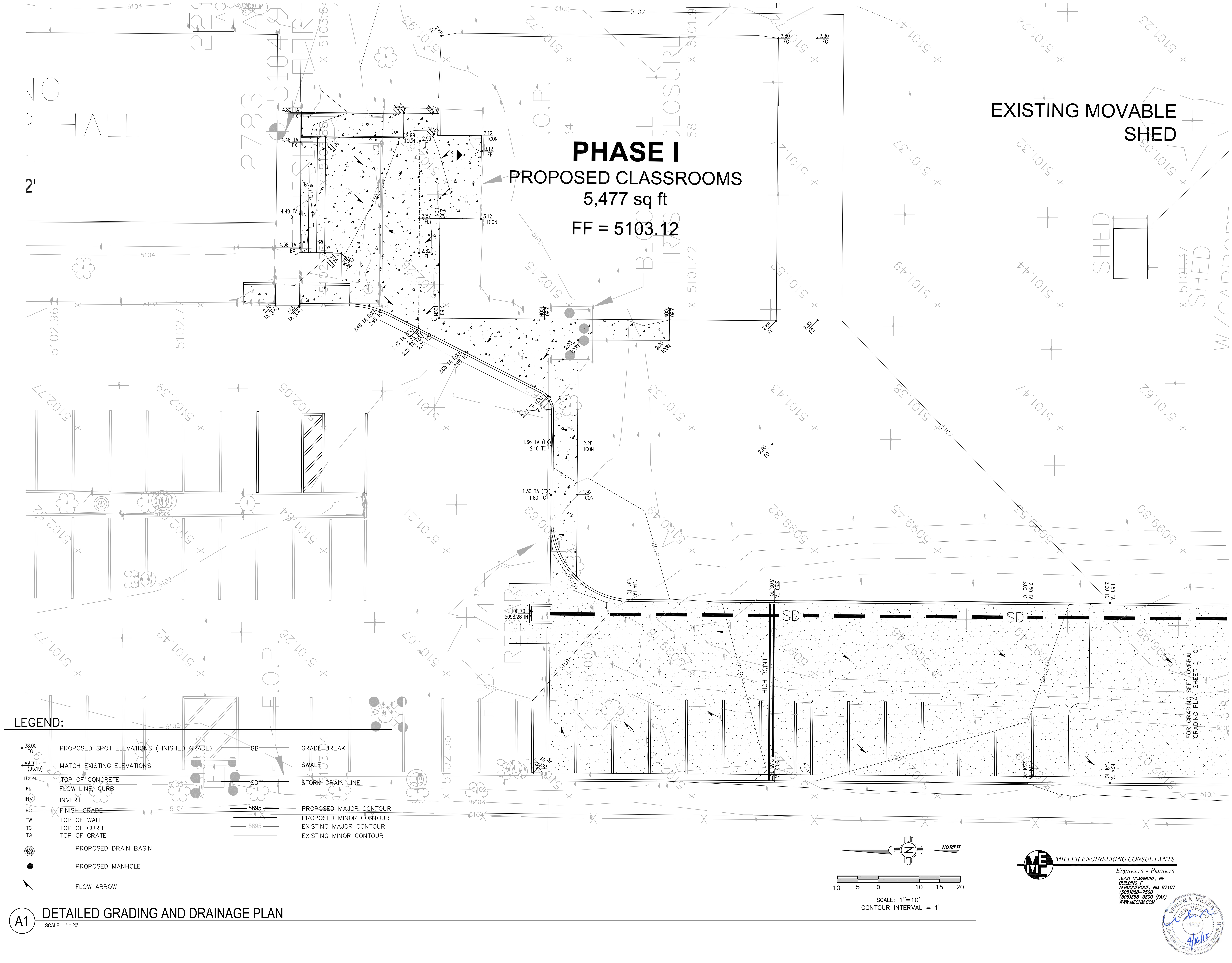
BP Submittal	3.20.2015
PROJECT TEAM	DRAWN BY
Scolaro	KR

PROJECT PHASE
BUILDING PERMIT

SHEET CONTENTS
GENERAL NOTES AND DRAWING INDEX

SHEET NO.
CG-001

T:\Clients\ST PETER PAUL CHURCH\ACAD\BASE\v1topo.dwg, DETAILEDI gd C-102, 4/17/2015 10:09:22 AM, jjacquez, 1:1



A1 DETAILED GRADING AND DRAINAGE PLAN
SCALE: 1" = 20'

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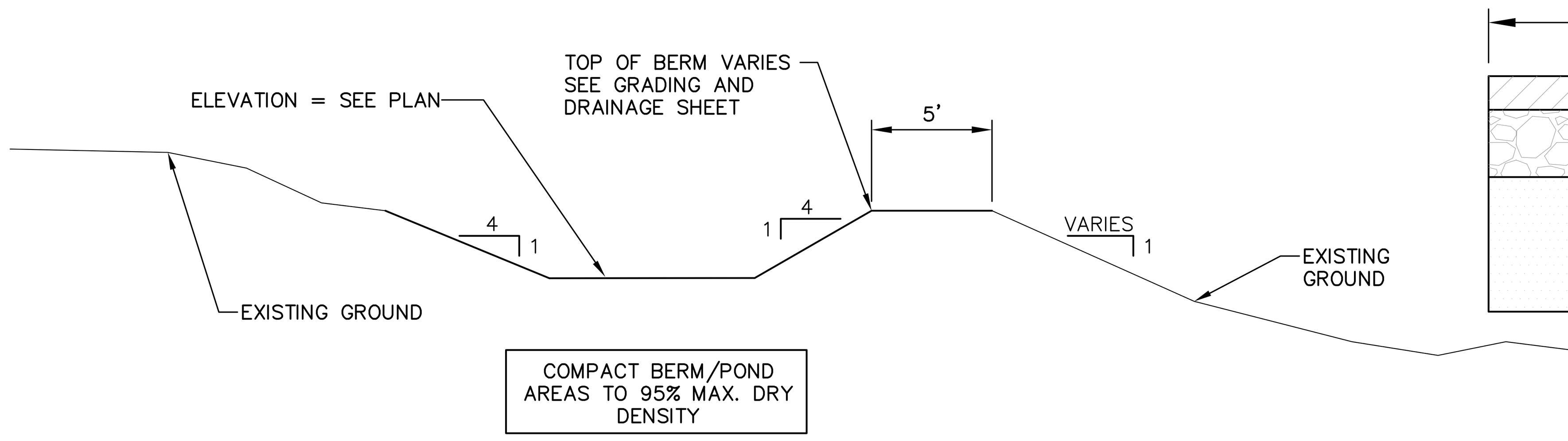
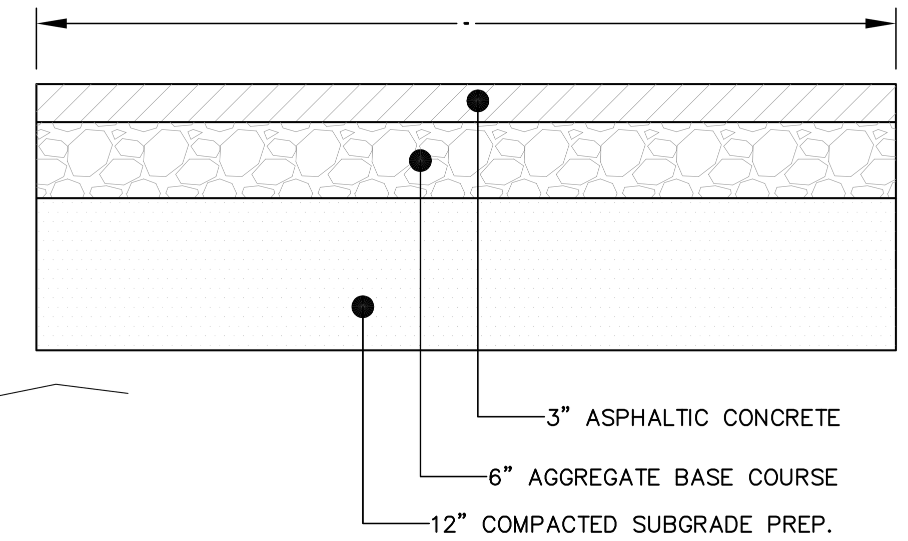
SHEET CONTENTS
DETAILED GRADING AND DRAINAGE PLAN

SHEET NO.
C-102



C1 TYPICAL POND SECTION DETAIL
SCALE: NOT TO SCALE



C1 ASPHALT PAVING DETAIL
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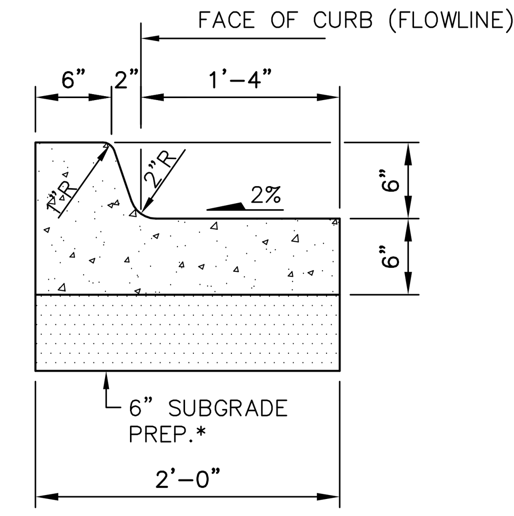
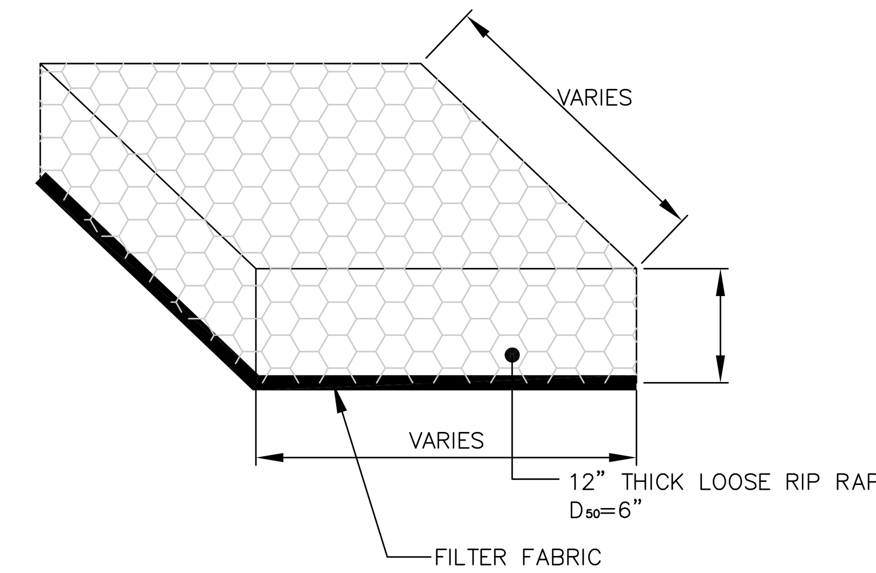


B1 TYPICAL CURB AND GUTTER DETAIL
SCALE: NOT TO SCALE

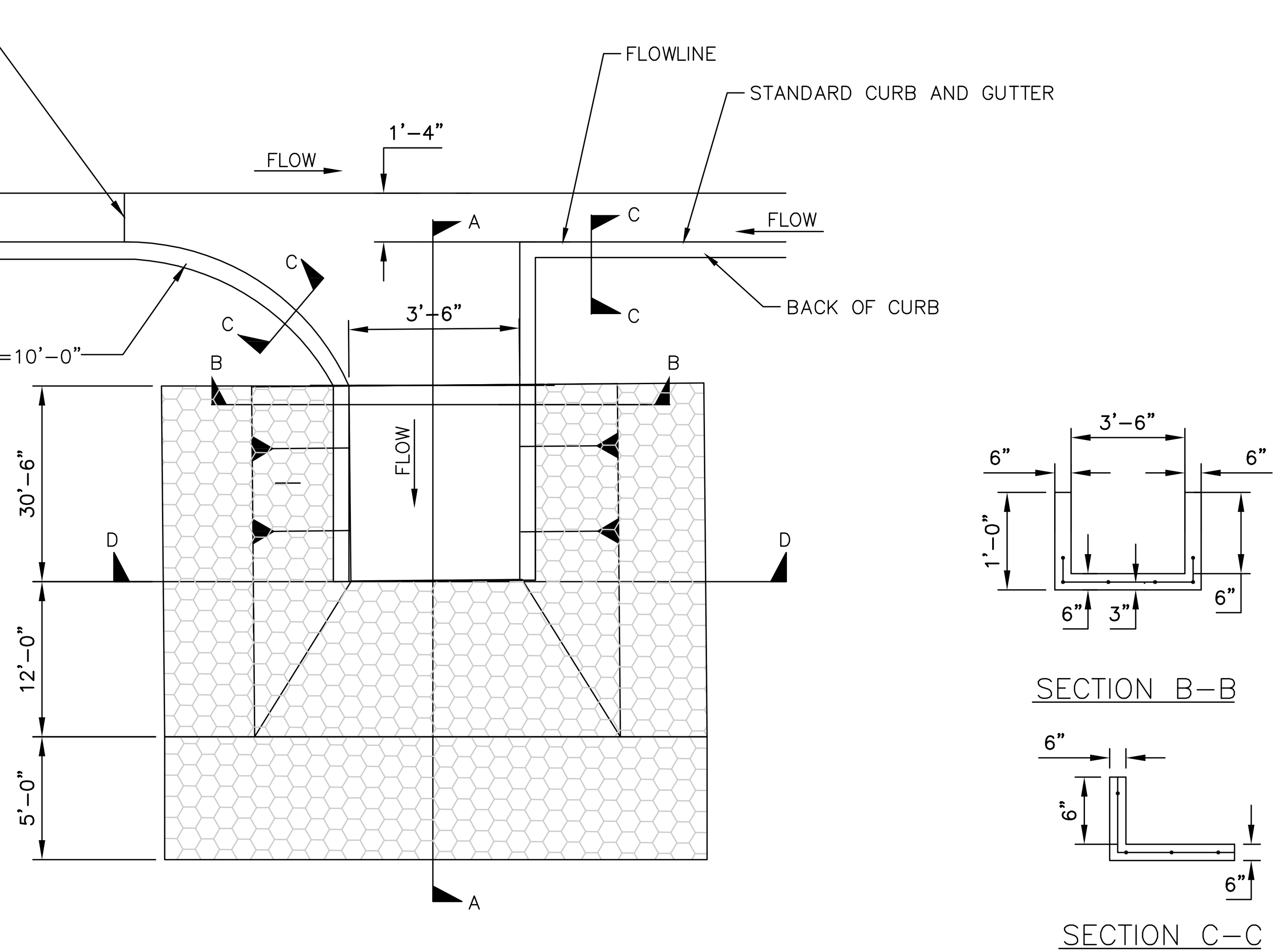
6" SUBGRADE PREP. SHALL BE CONSIDERED INCIDENTAL TO ITEM NO. 609424, CONCRETE BARRIER CURB AND GUTTER TYPE B-6"x24" AND NO SEPERATE MEASUREMENT OR PAYMENT WILL BE MADE FOR THE WORK.

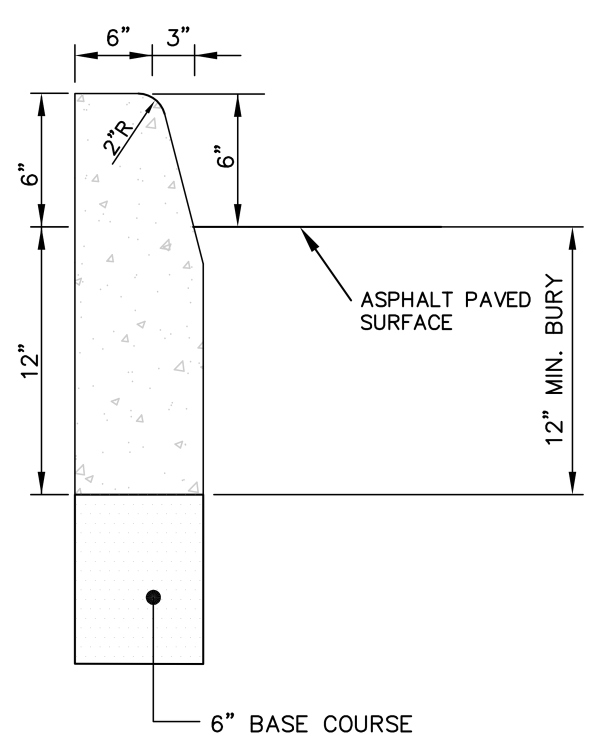


B2 CLASS 'B' RIP RAP PAD DETAIL
SCALE: NOT TO SCALE

SEE PLANS FOR SHAPE AND DIMENSIONS

C1 TYPICAL POND SECTION DETAIL
SCALE: NOT TO SCALE





A1 TYPICAL HEADER CURB DETAIL
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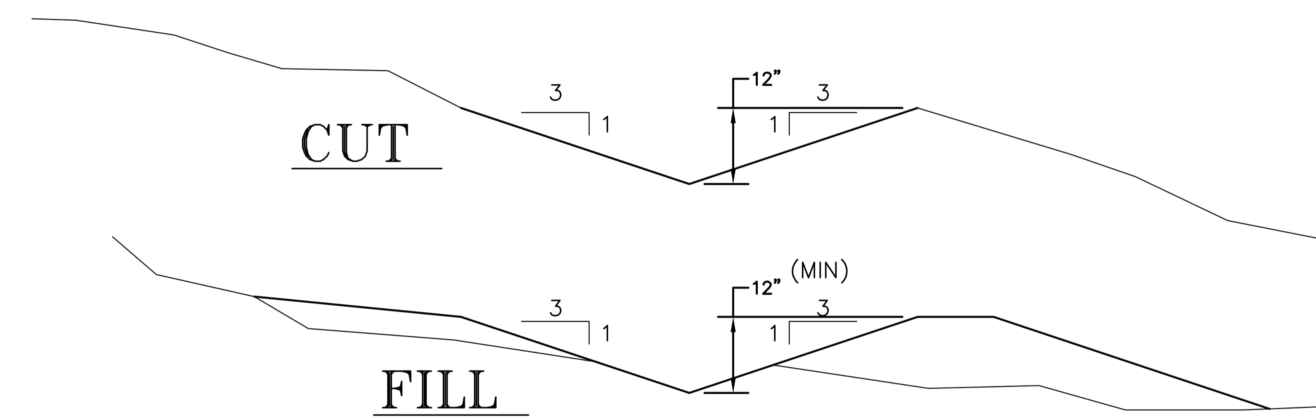
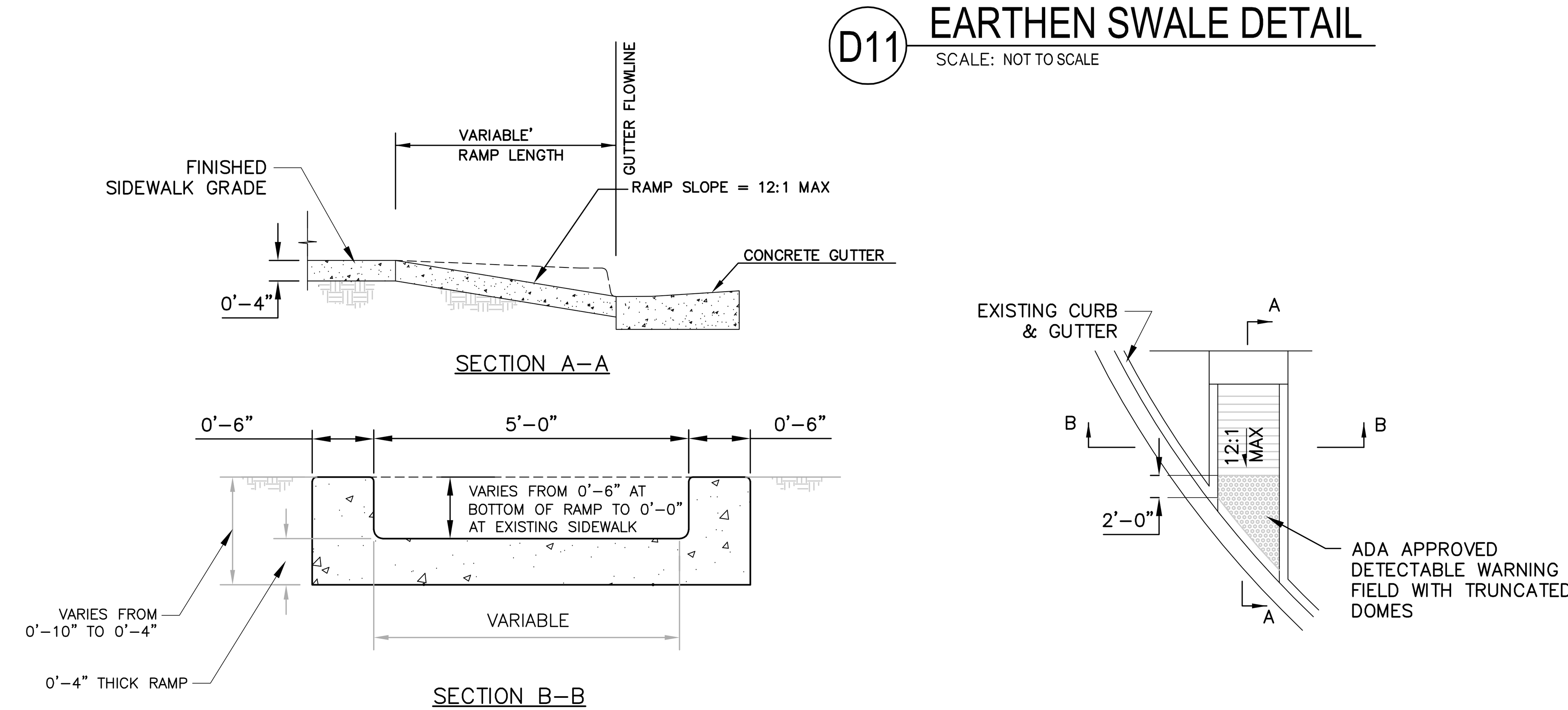
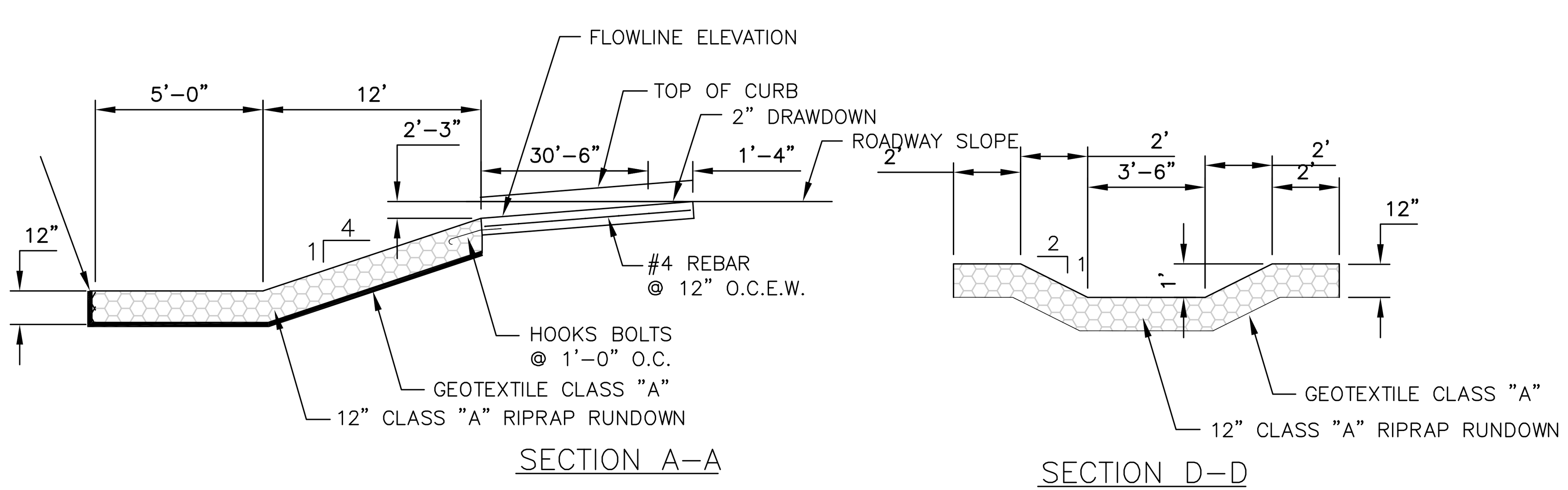


D11 EARTHEN SWALE DETAIL
SCALE: NOT TO SCALE



HANDICAP RAMP DETAIL



B4 CONCRETE RUNDOWN DETAIL
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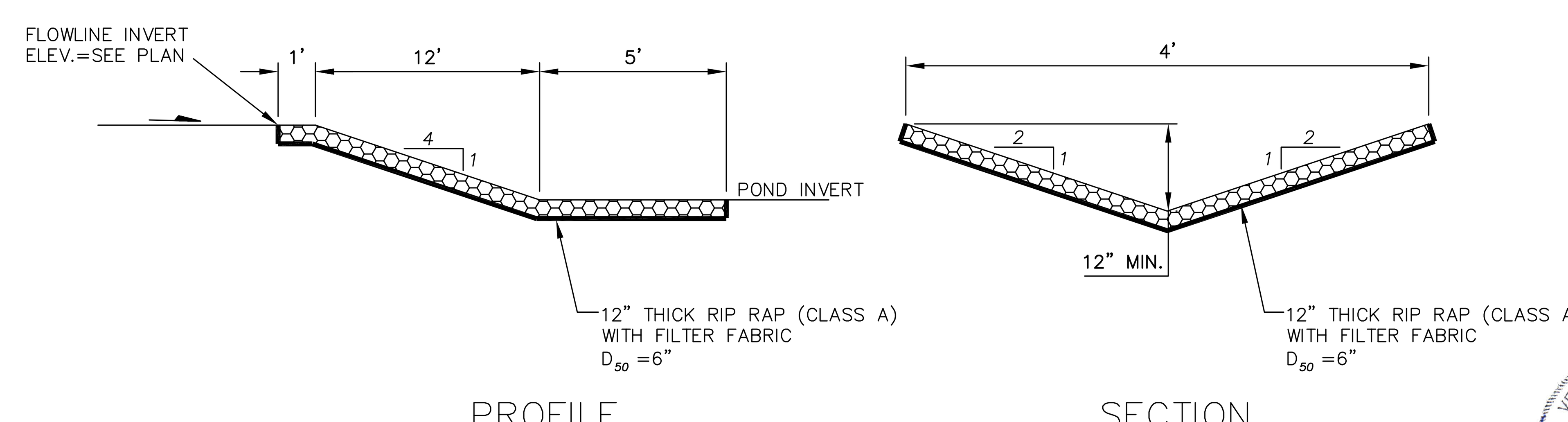

A2 RIP RAP RUNDOWN DETAIL TYPE "A"
SCALE: NOT TO SCALE

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A1 MISCELLANEOUS DETAILS
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SHEET CONTENTS
MISCELLANEOUS DETAILS

SHEET NO.
C-500