

CITY OF ALBUQUERQUE



October 28, 2016

Richard J. Berry, Mayor

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

**RE: State Employees Federal Credit Union
Grading and Drainage Plan
Engineer's Stamp Date 10-19-16 (File: F16D001)**

Dear Mr. Soule:

Based upon the information provided in your submittal received 10-21-16 (Drainage Report dated 9-15-16), the above-referenced plan is approved for Site Plan for Building Permit. It is also approved for Building Permit with the following conditions:

1. The comments from AMAFCA regarding the outfall from the pond into and within their property will be approved through a turnkey agreement. The constructed improvements will need to be approved prior to approval for Occupancy.
2. An approved ESC Plan is secured prior to construction.

An approved ESC Grading Permit is required prior to construction. It will not be approved without an approved ESC Plan.

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 924-3986.

Sincerely,

Abiel Carrillo, P.E.
Principal Engineer, Planning Dept.
Development Review Services
Orig: Drainage file

Carrillo, Abiel X.

From: Carrillo, Abiel X.
Sent: Friday, October 28, 2016 4:24 PM
To: 'Mazur, Lynn'; David Soule
Subject: RE: Credit Union Project by NDC

I'll make it a condition of the City's certificate of occupancy to have the turnkey agreement completed and the improvements accepted by AMAFCA to get you going on the Building Permit.

Abiel Carrillo, PE, CFM

Principal Engineer - Hydrology
Planning Department
Development Review Services Division
City of Albuquerque
505-924-3986
acarrillo@cabq.gov
600 2nd Street NW
Albuquerque, NM 87102

From: Mazur, Lynn [<mailto:lmazur@amafca.org>]
Sent: Thursday, October 27, 2016 5:10 PM
To: David Soule
Cc: Carrillo, Abiel X.
Subject: RE: Credit Union Project by NDC

Yes, we have done that before with a note on the plans that no work will occur in the AMAFCA easement before the agreement is signed. I will put the agreement on the November 17 Board meeting agenda.

**Albuquerque Metropolitan Arroyo
Flood Control Authority**

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
2600 Prospect Ave NE
Albuquerque, NM 87107
Office: (505) 884-2215
Mobile: (505) 362-1273

The unauthorized disclosure or interception of e-mail is a federal crime. See 18 U.S.C. § 2517(4). This e-mail is intended only for the use of those to whom it is addressed and may contain information which is privileged, confidential and exempt from disclosures under the law. If you have received this e-mail in error, do not distribute or copy it. Return it immediately with attachments, if any, and notify me by telephone at (505) 884-2215.

From: David Soule [<mailto:david@riograndeengineering.com>]
Sent: Thursday, October 27, 2016 5:06 PM
To: Mazur, Lynn <lmazur@amafca.org>
Cc: 'Abiel X. Carrillo' <acarrillo@cabq.gov>
Subject: RE: Credit Union Project by NDC

Lynn, thank you, i will talk to the client and get his direction. It sounds like the turnkey agreement will take a while to implement. We were hoping to go to construction very soon. Is there a way to get the plans to an acceptable format and be allowed to go to construction and have the turn key approved prior to a certification of occupancy?
David soule

From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Thursday, October 27, 2016 4:51 PM
To: David Soule
Cc: Abiel X. Carrillo
Subject: RE: Credit Union Project by NDC

I spoke to Jerry Lovato about what AMAFCA would accept in its easement. The manhole and RCP pipe penetration to the Montgomery side channel is the preferred option. But if that is cost prohibitive, we will accept a riprap rundown that will connect to the top of channel. The flowline of the riprap swale will have to connect to the top of channel, so you will have to provide a gently sloped berm to build up the sides of the swale. See attached modified rundown detail for riprap that will replace the dumped riprap detail that I sent previously. Remember that it must be traversable by AMAFCA maintenance vehicles. The riprap rundown in the 15-foot AMAFCA easement will be maintained by AMAFCA upon approval of a turnkey agreement by the Board of Directors. Please provide a detail and calculations showing the swale capacity for the pond outflow.

You can either have the hooded pipe outlet from the pond or the riprap rundown with debris screen. That is up to the owner. If you use the riprap, it must extend to the edge of the AMAFCA-maintained riprap.

**Albuquerque Metropolitan Arroyo
Flood Control Authority**

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
2600 Prospect Ave NE
Albuquerque, NM 87107
Office: (505) 884-2215
Mobile: (505) 362-1273

The unauthorized disclosure or interception of e-mail is a federal crime. See 18 U.S.C. § 2517(4). This e-mail is intended only for the use of those to whom it is addressed and may contain information which is privileged, confidential and exempt from disclosures under the law. If you have received this e-mail in error, do not distribute or copy it. Return it immediately with attachments, if any, and notify me by telephone at (505) 884-2215.

From: Mazur, Lynn
Sent: Thursday, October 27, 2016 12:45 PM
To: 'David Soule' <david@riograndeengineering.com>
Subject: RE: Credit Union Project by NDC

David,

Before you revise the plan, I want to make sure Jerry will accept the riprap rundown option. Be aware that even the riprap will require a turnkey agreement with AMAFCA, but there is no fee involved – only time.

**Albuquerque Metropolitan Arroyo
Flood Control Authority**

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
2600 Prospect Ave NE
Albuquerque, NM 87107
Office: (505) 884-2215
Mobile: (505) 362-1273

The unauthorized disclosure or interception of e-mail is a federal crime. See 18 U.S.C. § 2517(4). This e-mail is intended only for the use of those to whom it is addressed and may contain information which is privileged, confidential and exempt from disclosures under the law. If you have received this e-mail in error, do not distribute or copy it. Return it immediately with attachments, if any, and notify me by telephone at (505) 884-2215.

From: David Soule [mailto:david@riograndeengineering.com]
Sent: Thursday, October 27, 2016 10:28 AM
To: Mazur, Lynn <lmazur@amafca.org>
Cc: 'Abiel X. Carrillo' <acarrillo@cabq.gov>
Subject: RE: Credit Union Project by NDC

Lynn, thank you, i think i misunderstood the preferred alternate. I will revise and resubmit. Thanks for letting me know about the phones. i corrected my office and i think you may have called john osburne. My cell is 321.9099. thanks again David

From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Thursday, October 27, 2016 9:15 AM
To: David Soule
Cc: Abiel X. Carrillo
Subject: Credit Union Project by NDC

David,

I'm chuckling to myself as I write this because I just tried calling you. Your cell phone message sounded like it was for John Osburne, and your office number wanted an extension and wouldn't give it when I followed the directions. Anyway, thought you should know.

On the revised plan, I don't know what you mean by daylighting the pipe to the concrete side channel. A pipe penetration could be expensive, especially since AMAFCA has a new practice of taking maintenance of private storm drain outfalls into our facilities. This would require a RCP pipe and manhole at the easement line since we won't maintain it from the pond. See attached mark-up. It will also require a turnkey agreement approved by the AMAFCA Board. This would not hold up grading, but the owner is proceeding with some risk.

If the grades work, another option may be to let the pipe outfall to a riprap swale. Attached is a detail from the Valero gas station at Broadway and Rio Bravo. The riprap connects to a concrete rundown.

**Albuquerque Metropolitan Arroyo
Flood Control Authority**

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
2600 Prospect Ave NE
Albuquerque, NM 87107
Office: (505) 884-2215
Mobile: (505) 362-1273

The unauthorized disclosure or interception of e-mail is a federal crime. See 18 U.S.C. § 2517(4). This e-mail is intended only for the use of those to whom it is addressed and may contain information which is privileged, confidential and exempt from disclosures under the law. If you have received this e-mail in error, do not distribute or copy it. Return it immediately with attachments, if any, and notify me by telephone at (505) 884-2215.



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: SECU MONTGOMERY Building Permit #: _____ City Drainage #: FILED 001

DRB#: _____ EPG#: _____ Work Order#: _____

Legal Description: TRACT G2A1 MONTGOMERY COMPLEX

City Address: 3521 MONTGOMERY BLVD NE

Engineering Firm: RIO GRANDE ENGINEERING Contact: DAVID SOULE

Address: PO BOX 93924, ALBUQUERQUE, NM 87199

Phone#: 505.321.9099 Fax#: 505.872.0999 E-mail: DAVID@RIOGRANDEENGINEERING.COM

Owner: SECU Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Architect: LORN TRYK Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

- ☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

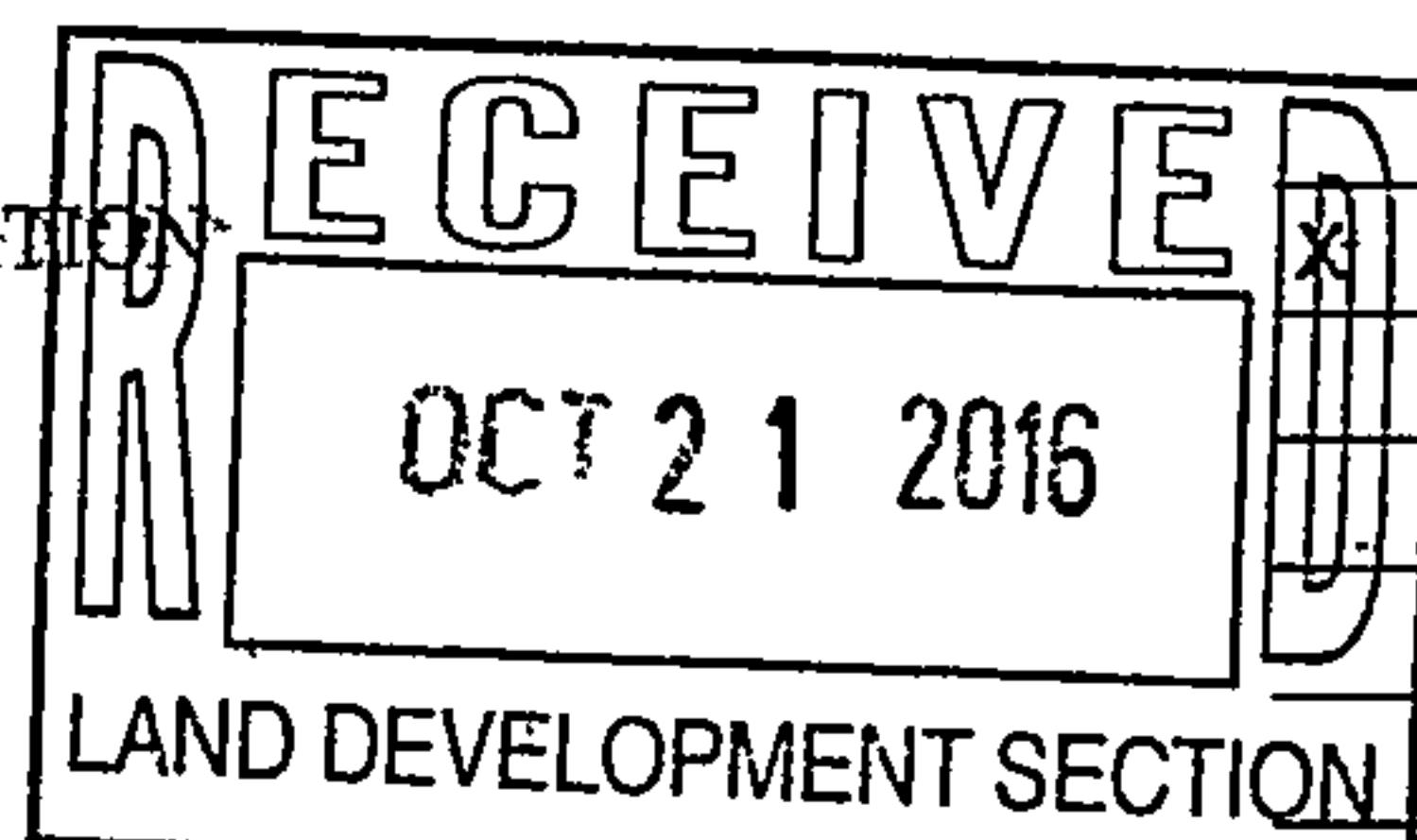
- ☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR

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

☐ OTHER (SPECIFY) _____



- ☒ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 10/21/16 By: DAVID SOULE

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

October 21, 2016

Abiel Carrillo, PE, CFM
Principal Engineer - Hydrology
Planning Department
Development Review Services Division
City of Albuquerque

Lynn M. Mazur, P.E., C.F.M.
~~Development Review Engineer~~
Albuquerque Metropolitan Arroyo
Flood Control Authority
2600 Prospect Ave NE
Albuquerque, NM 87107

RE: Revised grading Plan for building Permit
Lot G2A1 Montgomery Complex

Dear Mr. Carrillo and Ms Mazur:

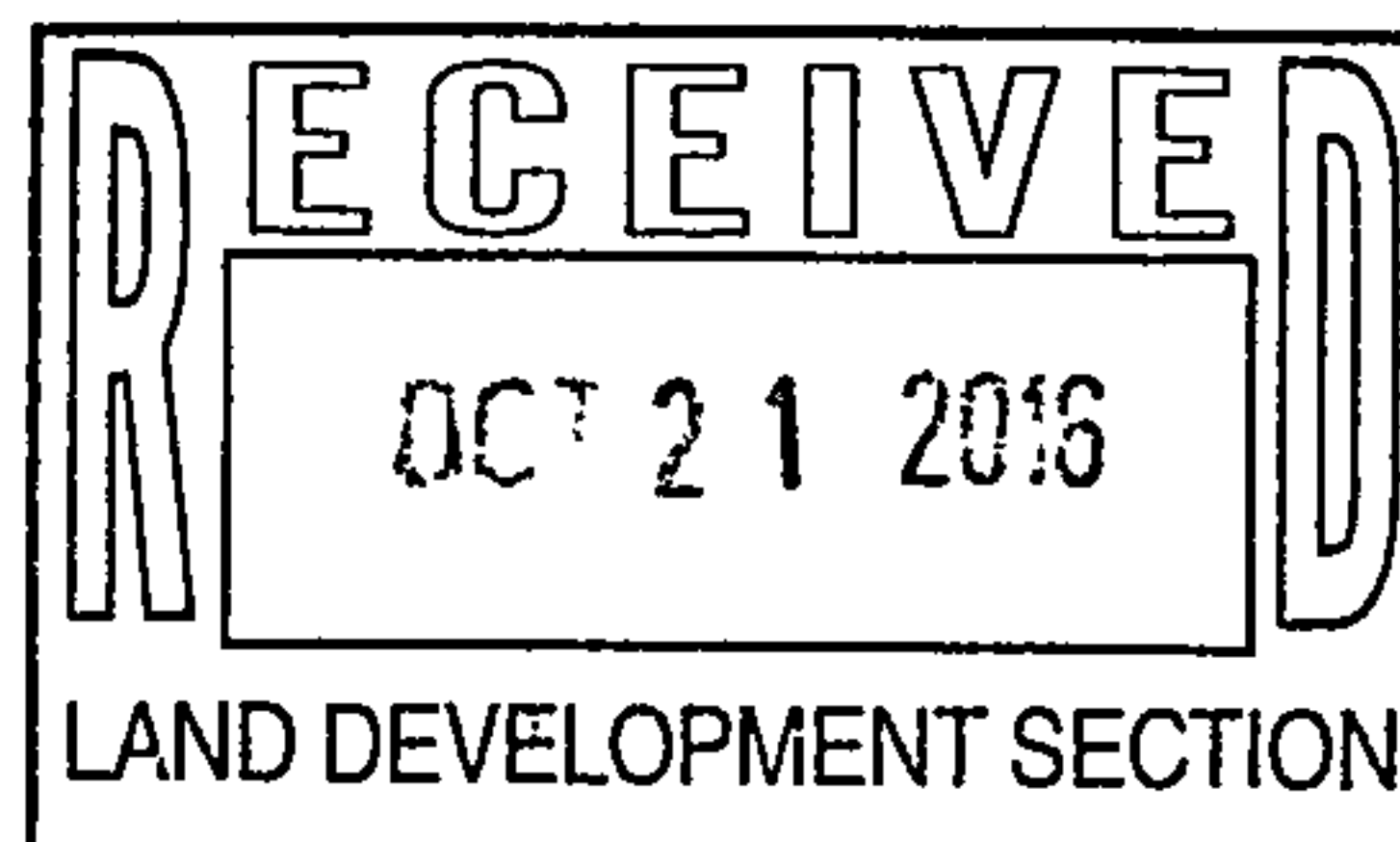
Rio Grande Engineering has revised the enclosed grading plan to incorporate AMAFCA comments regarding access to the channel as well as the nature of the out fall. We have included an outfall structure preferred by the city. The outfall has been designed to allow for 1824 cubic feet of water quality storage, which exceeds the 1,097 cfs (38,700x.34/12) required.

Should you have any questions regarding this matter, please do not hesitate to call me.

Sincerely,

David Soule, PE
RIO GRANDE ENGINEERING
PO Box 93924
ALBUQUERQUE, NM 87199
321-9099

Enclosures



DRAINAGE REPORT

For

STATE EMPLOYEE FEDERAL CREDIT UNION

3521 MONTGOMERY BLVD NE

Albuquerque, New Mexico

Prepared by

Rio Grande Engineering
PO Box 93924
Albuquerque, New Mexico 87199

SEPTEMBER 2016



David Soule P.E. No. 14522

TABLE OF CONTENTS

Purpose	3
Introduction.....	3
Existing Conditions.....	3
Exhibit A-Vicinity Map	4
Proposed Conditions	5
Summary	5

Appendix

Site Hydrology	A
Hydraulic calculations.....	B

Map

Site Grading and Drainage Plan

PURPOSE

The purpose of this report is to provide the Drainage Management Plan for the development of a 1.55 acre bank site located at 3521 Montgomery NE. This plan was prepared in accordance with the City of Albuquerque design regulations, utilizing the City of Albuquerque's Development Process Manual drainage guidelines. This report will demonstrate that the grading does not adversely affect the surrounding properties, nor the upstream or downstream facilities.

INTRODUCTION

The subject of this report, as shown on the Exhibit A, is a 1.55 acre parcel of land located on the north side of Montgomery between Interstate 25 and Carlisle Northeast. The legal description of this site is tract G2A1 Montgomery Complex. As shown on FIRM map35013C0138H, the entire site is located within Flood Zone X. The site has been graded in the past. Due to the grading and an existing concrete valley gutter, the site is not impacted by upland flow. The site is directly adjacent to the AMAFCA's north diversion channel. The site is surrounded by fully developed sites on all sides. The site currently free discharges as sheet flow to an existing side inlet of the channel. The development of the site will allow the site to free discharge to the existing inlet and retain the first flush water quality volume onsite.

EXISTING CONDITIONS

The site is currently disturbed yet undeveloped and is not impacted by upland flows. The site is located in flood zone x. The site currently discharged flow from east to west, where it enter into a earthen swale which is collected by and existing side inlet rundown at the north diversion channel All downstream improvements are in place and maintained by AMAFCA.

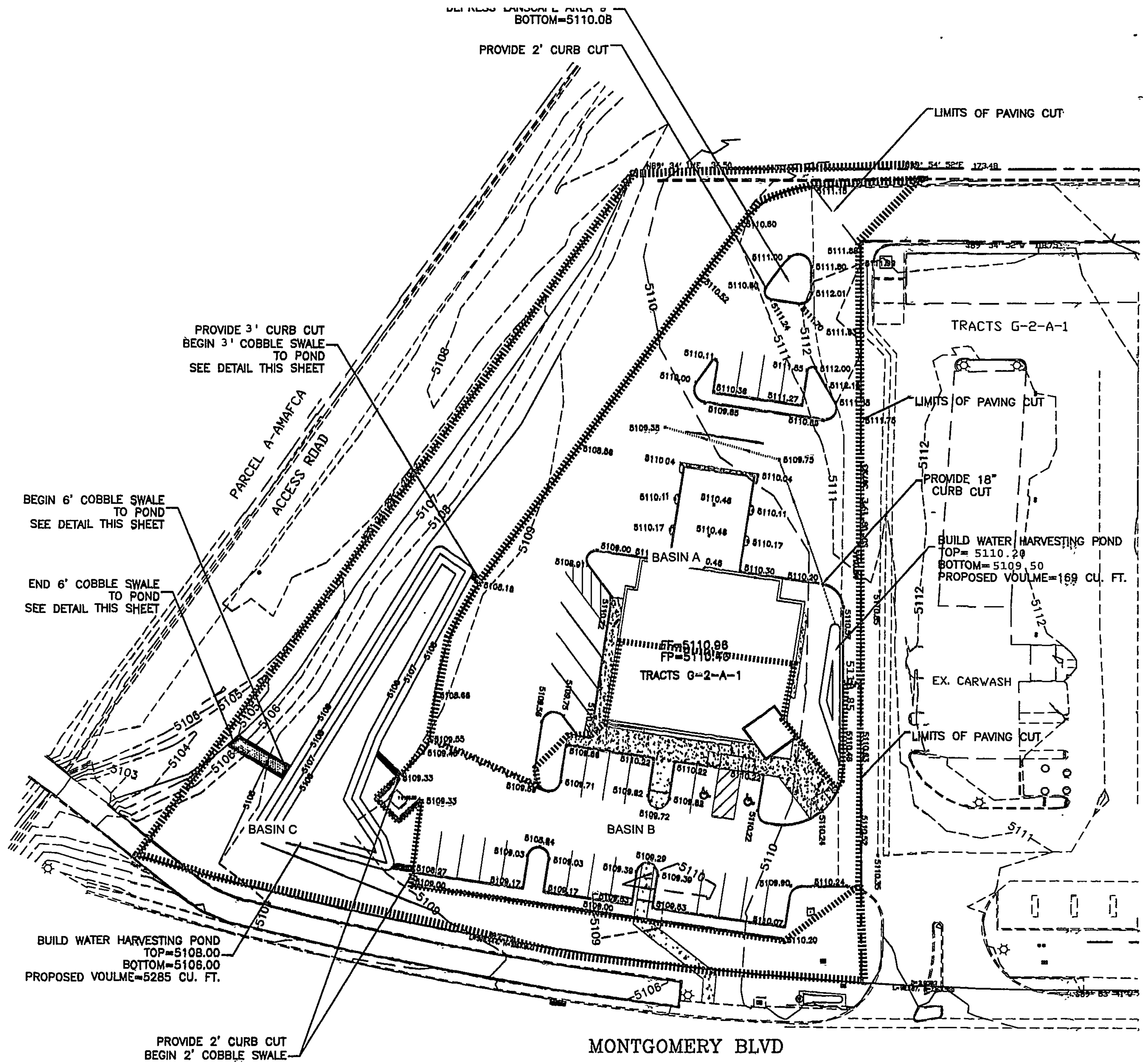
PROPOSED CONDITIONS

The proposed improvements consist of a new bank building and associated parking lot. A drainage sub-basin map and hydraulic spread sheet is included in Appendix A. The proposed development will drain from east to west, passing thru landscape areas and shallow ponds located within the landscape areas before discharging north to the existing earthen swale within the north diversion channel right of way. The entire site will generate 5.7 cfs. The required first flush volume is 1016 cubic feet. Due to the proximity to the AMAFCA's channel, the pond has been increased to 5454 cubic feet and 2' deep. This capture 60% of the entire 100-year, 6-hour event and will allow for percolation and solar irradiation/ evaporation of developed storm water for most storm events. As shown in appendix B, the rundowns and curb openings have been sized to convey the design storm.

SUMMARY AND RECOMMENDATIONS

This project is a development of an in fill lot within a fully developed water shed. This site has been designed to free discharge. The water quality ponds have been enlarged to minimize discharge to the North Diversion channel. The historic discharge point is maintained and the flow enters the NDC via an existing side inlet rundown. The onsite drainage structures have been adequately sized. The development of this site will not negatively impact the upstream nor down stream facilities. Since this site exceed 1 acre, erosion and sediment Control Plan will be required, a NPDES permit will also be required prior to any construction activity.

APPENDIX A
SITE HYDROLOGY



Weighted E Method

SECU-MONTGOMERY

Existing Developed Basins

											100-Year, 6-hr.			10-day
Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs	Volume (ac-ft)
			%	(acres)	%	(acres)	%	(acres)	%	(acres)				
UPLAND (DIVERTED WITH VALLEY GUTTER														
BASIN A	24621	0.565	0%	0	5.0%	0.028	8.0%	0.045	86%	0.486	1.953	0.092	2.49	0.157
BASINB	15616	0.358	0%	0	5.0%	0.018	8.0%	0.029	87%	0.312	1.974	0.059	1.60	0.101
BASIN C	27655	0.635	0%	0	46.0%	0.292	50.0%	0.31744	4%	0.025	1.009	0.053	1.78	0.057
TOTAL	67892.00	1.559	0%	0	21.7%	0.338	25.1%	0.391	53%	0.823	1.573	0.204	5.87	0.314

COMPARISON

Equations:

Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d / (\text{Total Area})$

Volume = Weighted D * Total Area

Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$

Where for 100-year, 6-hour storm (zone 2)

$E_a = 0.53$
 $E_b = 0.78$
 $E_c = 1.13$
 $E_d = 2.12$

$Q_a = 1.56$
 $Q_b = 2.28$
 $Q_c = 3.14$
 $Q_d = 4.7$

FIRST FLUSH REQUIREMENT

1016.208 CUBIC FEET

5454 CUBIC FEET PROVIDED

8899 100-YEAR 6-HOUR VOLUME

Weir calculation

$Q = 2.95 \cdot L \cdot H^{1.5}$

3' OPENING 3.12 CFS

2' OPENING 2.08 CFS

DRAINAGE NARRATIVE

THIS SITE IS AN INFILL SITE DIRECTLY ADJACENT TO THE AMFACA NORTH DIVERSION CHANNEL. THE SITE DOES NOT HAVE UPLAND FLOW DUE TO AN EXISTING VALLEY GUTTER CONSTRUCTED WITH THE ADJACENT CAR WASH. WE ARE PROPOSING FREE DISCHARGE TO AN EXISTING SIDE INLET TO THE NORTH DIVERSION. THE SITE EX THE FIRST FLUSH VOLUME BY A SIGNIFICANT FACTOR TO ALLOW FOR MORE STORAGE TO IMPROVE WATER QUALITY ENTERING THE DIVERSION CHANNEL. THE CURB OPENINGS AND SWALES HAVE BEEN DESIGNED TO CONVEY THE 100-YEAR, 6-HOUR RATES. THE SITE WILL DISCHARGE 5.87 CFS TO THE NORTH DIVERSION CHANNEL.

APPENDIX B

HYDRAULIC CALCULATIONS

swale capacities

	Top Width	Bottom Width	Depth	Area	WP	R	Slope	Q Provided	Q Required	Velocity
	(ft)	(ft)	(ft)	(ft^2)	(ft)		(%)	(cfs)	(cfs)	(ft/s)
6' channle	6	0.25	1	3.13	6.34	0.4930657	1	8.30	5.87	1.88
2' channle	2	0.25	1	1.13	2.91	0.3869255	1	2.54	1.78	1.58
3' channel	3	0.25	1	1.63	3.65	0.4451606	1	4.03	2.49	1.53

Manning's Equation:

$$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$$

A = Area

R = D/4

S = Slope

n = 0.035

swale capacities

	Top Width	Bottom Width	Depth	Area	WP	R	Slope	Q Provided	Q Required	Velocity
	(ft)	(ft)	(ft)	(ft^2)	(ft)		(%)	(cfs)	(cfs)	(ft/s)
6' channel	6	0.25	1	3.13	6.34	0.4930657	1	8.30	5.87	1.88
2' channel	2	0.25	1	1.13	2.91	0.3869255	1	2.54	1.78	1.58
3' channel	3	0.25	1	1.63	3.65	0.4451606	1	4.03	2.49	1.53

Manning's Equation:

$$Q = 1.49/n * A * R^{(2/3)} * S^{(1/2)}$$

A = Area

R = D/4

S = Slope

n = 0.035