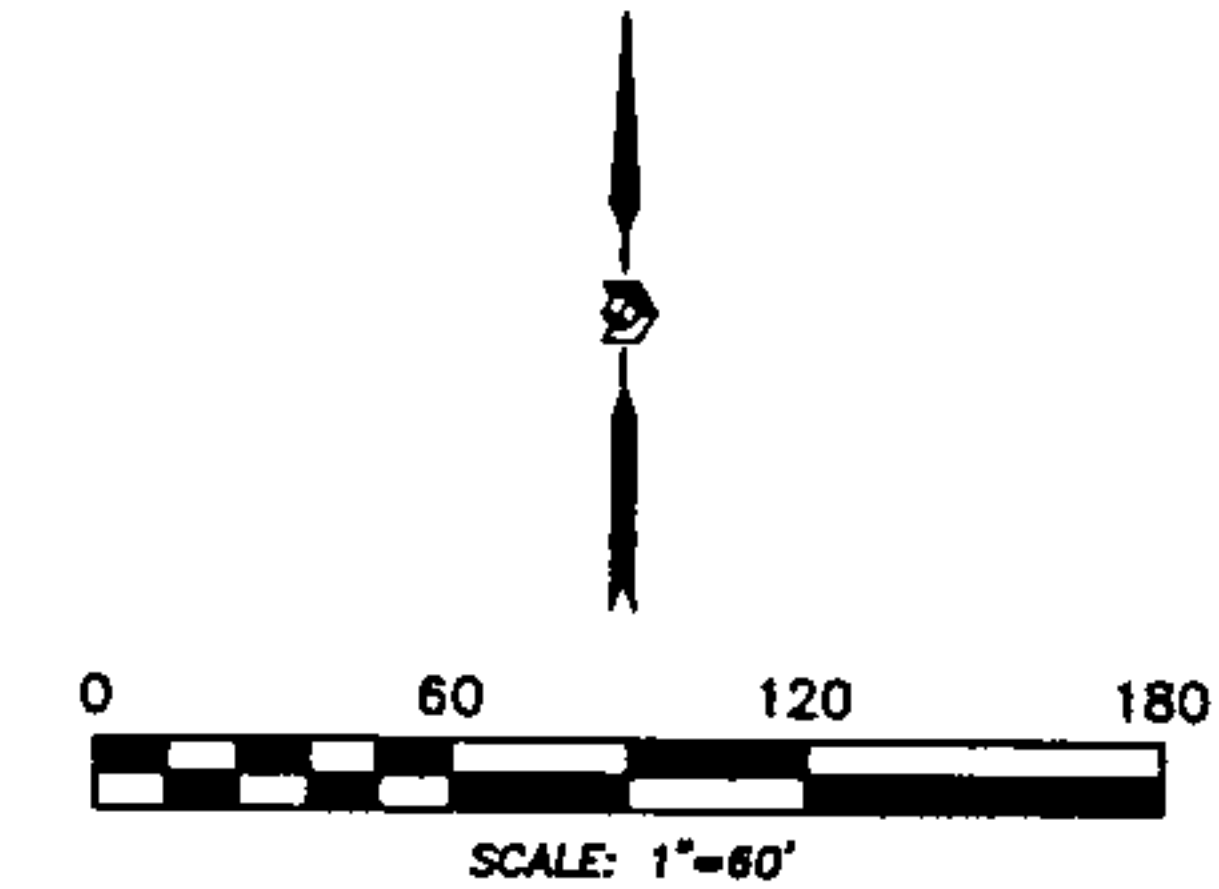


RECORDING STAMP

Subdivision
Tracts A-1-A, A-1-B, A-1-C, A-1-D, A-1-E & A-1-F
Los Pastores Shopping Center
 Elena Gallegos Grant, Projected Section 31, Township 11 North, Range 4 East, N.M.P.M.
 Albuquerque, Bernalillo County, New Mexico
 April 2016

Can approve S.P.S.
 in G.P. submitted.



Legend

N 90°00'00" E	MEASURED BEARING AND DISTANCES
○	RECORD BEARINGS AND DISTANCES
●	FOUND AND USED MONUMENT AS DESIGNATED
●	DESIGNATES NO. 4 REBAR WITH YELLOW PLASTIC CAP "PS 11963" SET THIS SURVEY
▲	FOUND AGRS MONUMENT AS DESIGNATED
⊥	FOUND RIGHT OF WAY T-RAIL AS DESIGNATED

Line Table

LINE	BEARING	DISTANCE
L1	N 89°25'32" W	36.78
	(N 85°36'48" W)	(36.78)
L2	N 45°40'15" E	28.17
	(N 45°18'45" E)	(28.17)
L3	S 10°29'14" W	46.78
	(S 10°34'48" W)	(46.82)
L4	S 89°42'55" E	8.43
	(S 89°32'48" E)	(8.50)
L5	S 10°29'14" W	12.01
L6	S 00°06'33" W	19.49
L7	S 10°29'14" W	34.77
L8	S 89°39'34" W	7.00
	(N 89°31'43" W)	(7.00)
L9	S 89°30'25" E	54.11
L10	N 45°40'15" E	17.00
L11	S 89°39'33" W	0.45
	(S 89°31'44" E)	(0.45)
L12	N 89°25'32" W	2.30
L13	N 89°25'32" W	34.48

Curve Table

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	CHORD LENGTH	CHORD BEARING
C1	27.91	43.45	89°11'33"	39.19	S 48°00'34" W
	(27.91)	(43.88)	(92°03'34")	(38.50)	(S 45°30'16" W)
C2	20.00	12.74	36°29'42"	12.52	S 71°14'55" E

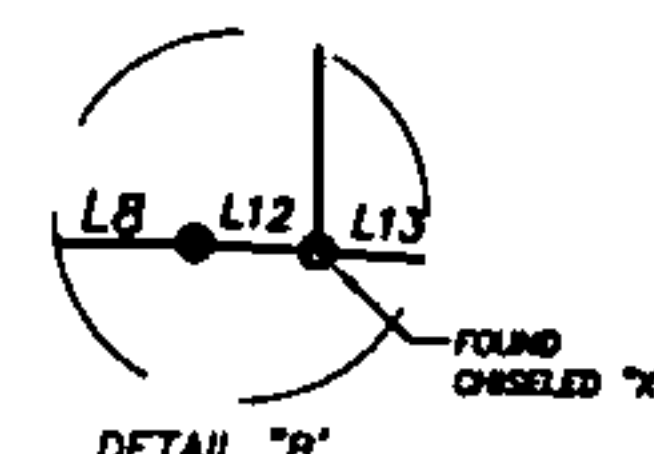
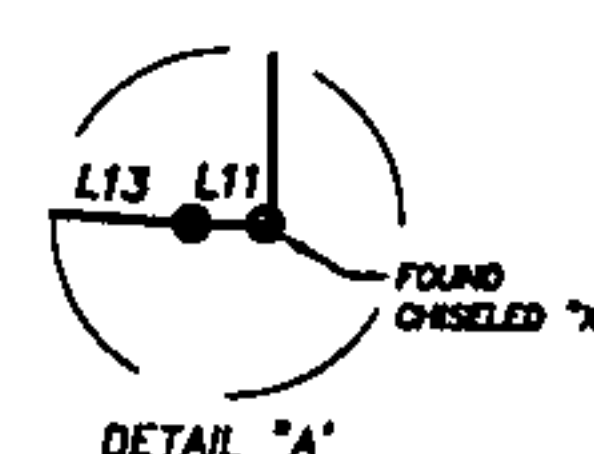
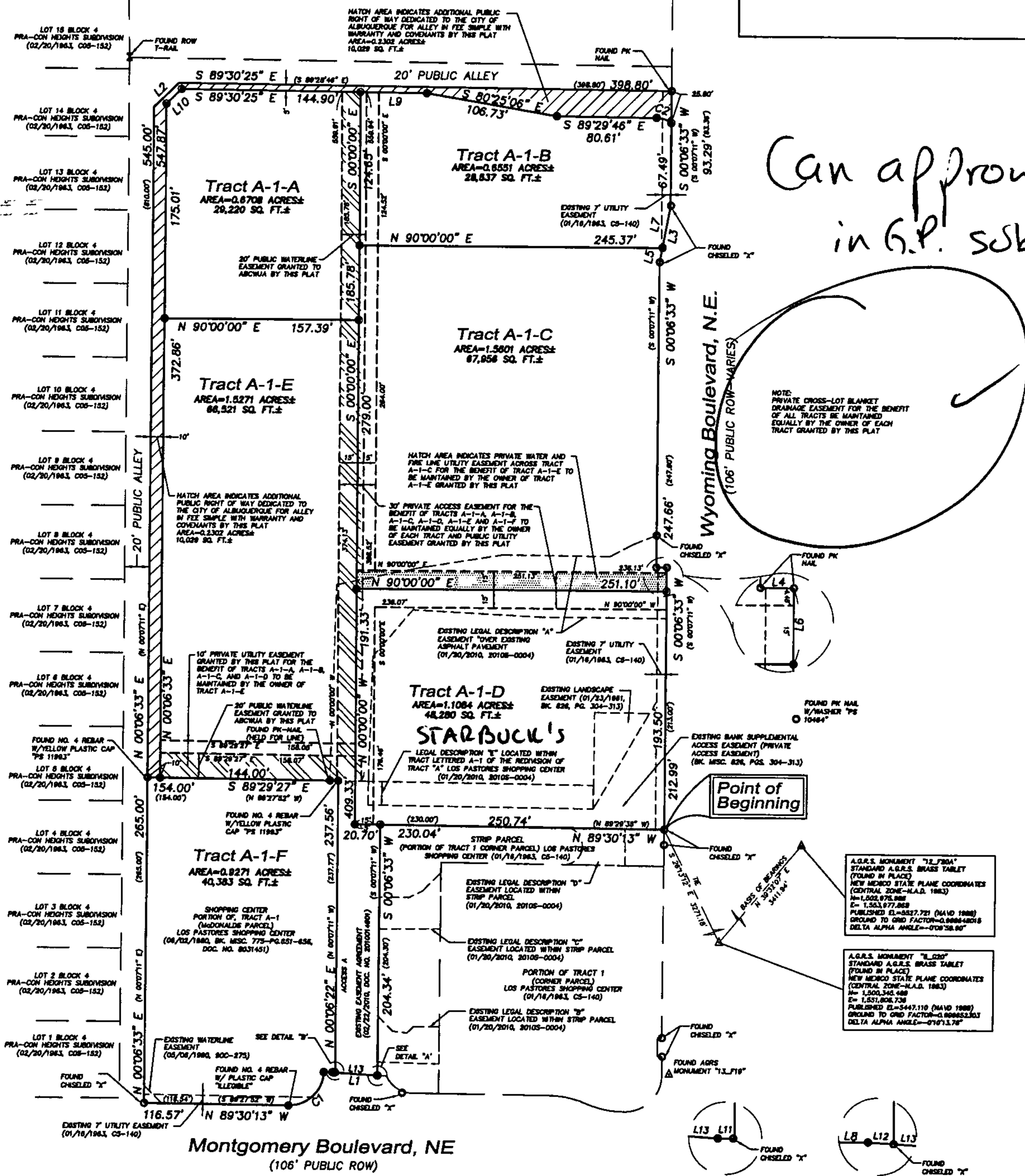
PRECISION SURVEYS, INC.

OFFICE LOCATION:
 5571 Midway Park Place, NE
 Albuquerque, NM 87109
 MAILING ADDRESS:
 PO Box 90636
 Albuquerque, NM 87199

505.856.5700 PHONE
 505.856.7900 FAX

INDEXING INFORMATION FOR COUNTY CLERK
 OWNER W & M CO. A NEW MEXICO GENERAL PARTNERSHIP
 OWNER G & L INVESTMENT CO. A NEW MEXICO CORPORATION
 SECTION 31, TOWNSHIP 11 N, RANGE 4 E
 SUBDIVISION LOS PASTORES SHOPPING CENTER

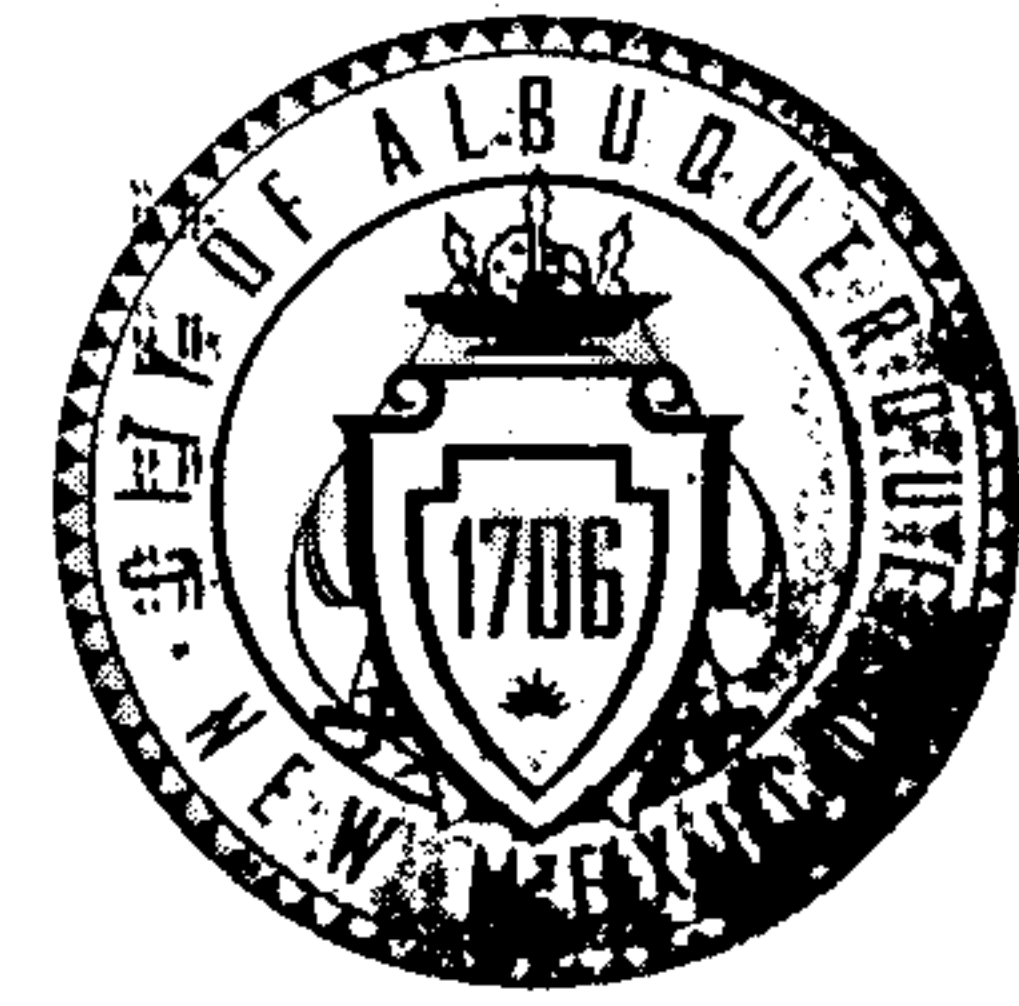
Sheet 3 of 3
 146092P



A.G.R.S. MONUMENT "12.7804"
 STANDARD A.G.R.S. BRASS TABLET
 (FOUND IN PLACE)
 NEW MEXICO STATE PLANE COORDINATES
 (CENTRAL ZONE-N.M.A.D. 1983)
 N=1,500,975.888
 E=1,563,977.868
 PUBLISHED EL.=5527.721 (NAVD 1988)
 GROUND TO GND FACTOR=0.999448016
 DELTA ALPHA ANGLE=-0°08'38.90"

A.G.R.S. MONUMENT "11.020"
 STANDARD A.G.R.S. BRASS TABLET
 (FOUND IN PLACE)
 NEW MEXICO STATE PLANE COORDINATES
 (CENTRAL ZONE-N.M.A.D. 1983)
 N=1,500,945.688
 E=1,531,806.738
 PUBLISHED EL.=5447.110 (NAVD 1988)
 GROUND TO GND FACTOR=0.99952303
 DELTA ALPHA ANGLE=-0°10'13.79"

CITY OF ALBUQUERQUE



February 7, 2017

Richard J. Berry, Mayor

Marck Errichetti, P.E.
Sitewise Design PLLC
219 First Ave. S., Suite 401
Seattle, WA, 98104

RE: Starbucks at 4601 Wyoming Blvd NE
Grading and Drainage Plan
Engineer's Stamp Date 2-1-2017 (File: F19D013C)

Dear Mr. Errichetti:

Based upon the information provided in your submittal received 2-7-2017, the above referenced Grading and Drainage Plan is approved for building permit.

Please attach a copy of this approved plan in the construction sets for Building Permit processing. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

PO Box 1293

If you have any questions, you can contact me at 924-3999.

Albuquerque

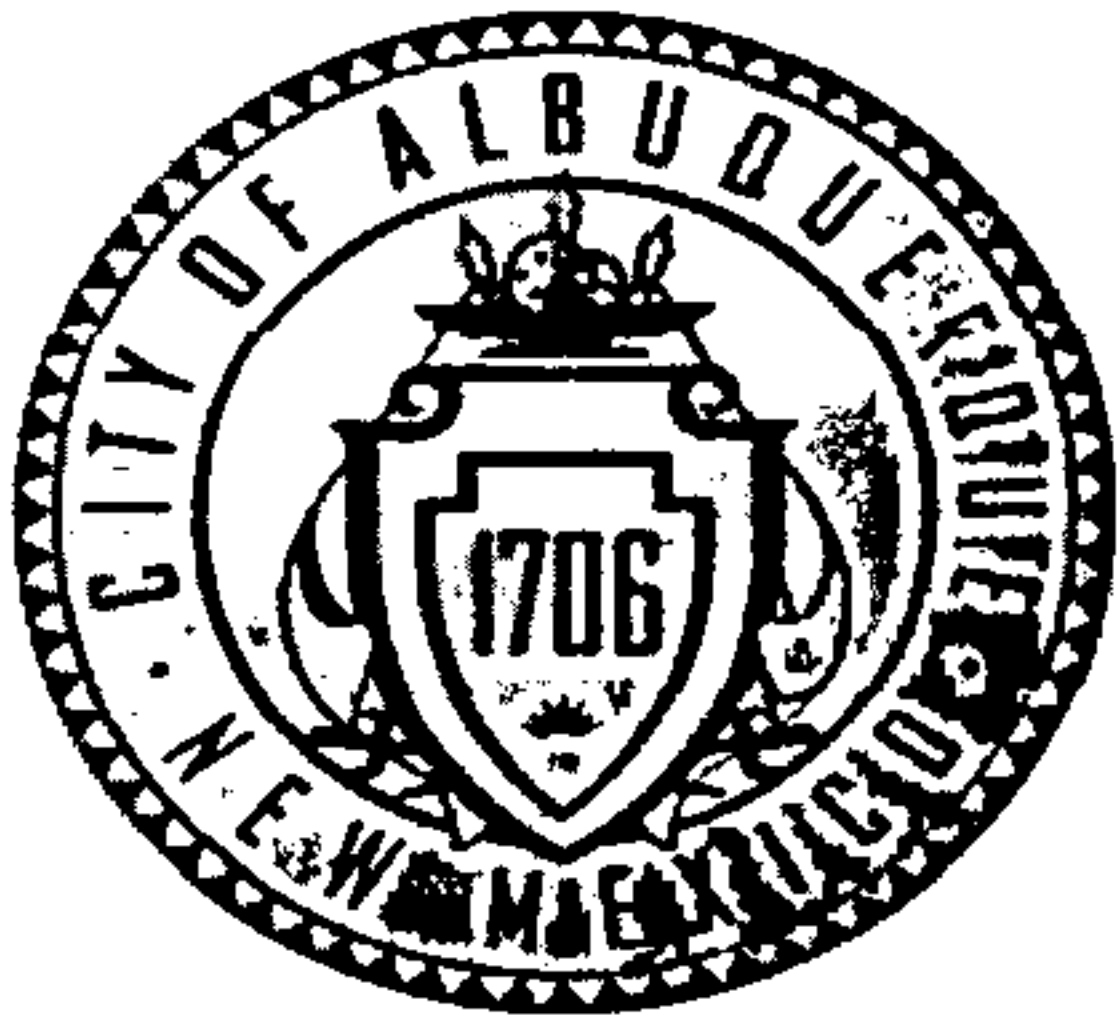
Sincerely,

New Mexico 87103

Shahab Biazar, P.E.
City Engineer, Planning Dept.
Development Review Services

www.cabq.gov

MA/SB



City of Albuquerque

Planning Department
Development & Building Services Division

FAST RAX

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Starbucks at 4601 Wyoming Blvd NE **Building Permit #:** 2016-32291 **City Drainage #:** F19D013C
DRB#: 16DRB-70420 **EPC#:** 16EPC-40040 / project #1010550 **Work Order#:** _____
Legal Description: Lot 1 of Tract A-1, Redivision of TR A (now comprising TRS A1 & A2) Los Pastores Shopping Center EXC SLWY PORT & PORT out to r/w
City Address: 4601 Wyoming Blvd NE Albuquerque, NM 87109

Engineering Firm: Sitewise Design PLLC **Contact:** Marc Errichetti
Address: 219 First Avenue S Suite 401
Phone#: 2064024644 **Fax#:** _____ **E-mail:** marc@sitewisepllc.com

Owner: Starbucks Coffee Company **Contact:** Bruce Beyerly
Address: 6380 S. Fiddlers Green Circle, Ste 450 Greenwood Village, CO 80111
Phone#: (303) 661-7624 **Fax#:** _____ **E-mail:** bbeyerly@starbucks.com

Architect: the design COLLECTIVE **Contact:** James Blissett
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 **Fax#:** _____ **E-mail:** colinb@thed-c.com

Other Contact: the design COLLECTIVE **Contact:** Colin Bott
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 **Fax#:** _____ **E-mail:** colinb@thed-c.com

Check all that Apply:

DEPARTMENT:

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

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION

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

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

☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

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

☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 02/06/2017 By: Danielle Ross danieller@thed-c.com

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____



RECEIVED
2-7-17

the design COLLECTIVE

City of Albuquerque, Planning Department
600 2nd St NW
Albuquerque, NM 87102

February 6, 2017

Regarding:

Project #:BP-2016-32291 (File: F19D013C) Case #: 16DRB-70420 and 16EPC-40040
City Engineer's comments dated January 24, 2017 (attached)

Hydrology:

Refer to revised plans attached and contained within PDF named: *CIVIL009_BP-2016-32291.pdf* uploaded to Drawings folder. Plans were also emailed on February 6, 2017.

1. **City Comment:**

We recommend to use COA modified grate detail include a copy with this plan with your next submittal.

Response:

Grate has been modified as requested and Std. Detail has been added to revised sheet C-0042.

2. **City Comment:**

Show the entire stretch of the 12 inches storm drain to the pond including grades, inverts and other utility crossing. Provide easement document across the adjacent property. Who will maintain the pond?

Response:

Full pipe run is shown on revised plans. Invert information at sewer crossing has been added.

Refer to page 3 of *Los Pastores Recorded Plat.pdf* previously uploaded to Documents folder. Blanket easement box note located near center of page 3 notes: "Private cross-lot blanket drainage easement for the benefit of all tracts be maintained equally by the owner of each tract granted by this plat"

Pond will continue to be maintained by the property owner of Tract A-1-E.

3. **City Comment:**

Clearly show the property line with boundary information.

Response:

Property line info has been added to revised plans.

4. **City Comment:**

Trash enclosure drain must drains to grease trap then to SAS.

Response:

Oil/Grease Separator has been added as requested to revised C-0010 and detail 3/C-0042 sheets.

5. **City Comment:**

Please fix spelling of "COS STD" to "COA STD"

Response:

Corrected on revise d sheets.

6. **City Comment:**

Sheet C 0001 was not printed.

Response:

C-0001 was printed in hard copy, emailed and uploaded to ePlan.

7. **City Comment:**

Erosion and sediment control plan must be approved prior to building permit approval.



RECEIVED
2-7-17

2303 W COMMODORE WAY
SUITE #205
SEATTLE, WA 98199
p 206 282 2730
f 206 282 2739

Response:

See attached Erosion and sediment control Plan approval letter. As needed please coordinate with Curtis Cherne in Stormwater Quality.

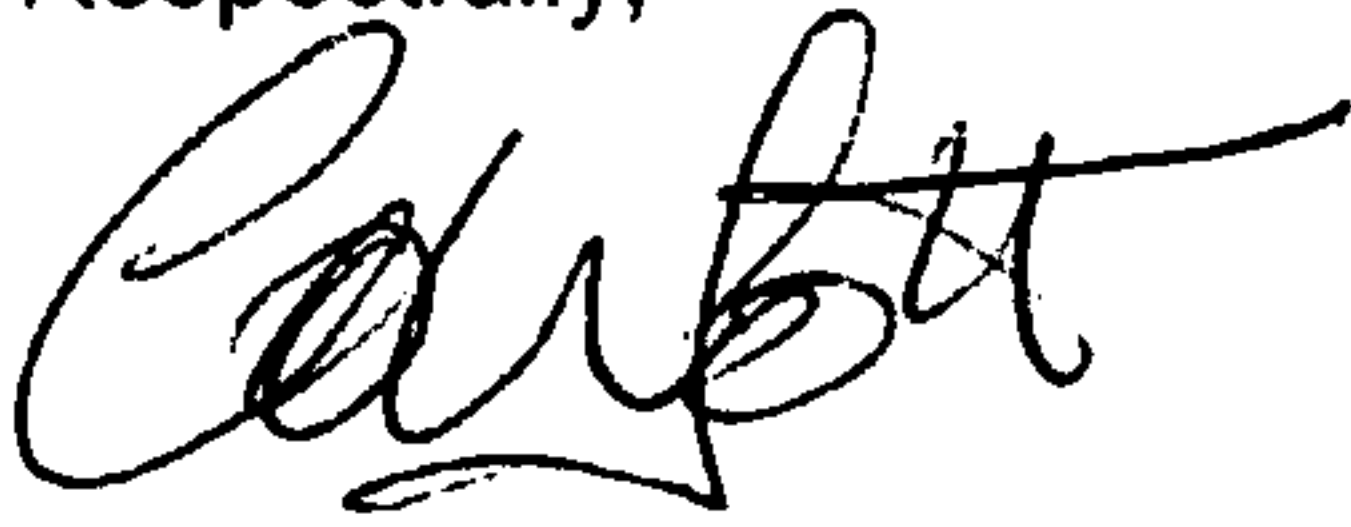
8. City Comment:

Provide inverts for the 4 feet Dia. CMP.

Response:

Inverts are indicated on the callout note for each section of CMP. Refer to revised sheet C-0010.

Respectfully,



Colin Bott, a.r.b.
colinb@thed-c.com

THE DESIGN CENTER
2303 W COMMODORE WAY
SUITE #205
SEATTLE, WA 98199
p 206 282 2730
f 206 282 2739



2303 W COMMODORE WAY
SUITE #205
SEATTLE, WA 98199
p 206 282 2730
f 206 282 2739

Al-Najjar, Marwa G.

From: Danielle Ross <danieller@thed-c.com>
Sent: Thursday, February 02, 2017 11:47 AM
To: Al-Najjar, Marwa G.; Biazar, Shahab
Cc: Marc Errichetti; Colin Bott
Subject: FasTrax - Starbucks at 4601 Wyoming Blvd NE BP-2016-32291 (File: F19D013C)
Attachments: C-0011 - UTIL.PDF; C-0010 - UTIL.PDF; Los Pastores Recorded Plat.pdf; SKM_C554e17012412040.pdf

Dear Mr. Biazar and Mr. Al-Najjar,

In regards to the attached comments for Starbucks at 4601 Wyoming Blvd: before we upload revised plans to ePlan, we wanted to make sure we are addressing all the comments properly.

Regarding comment 2:

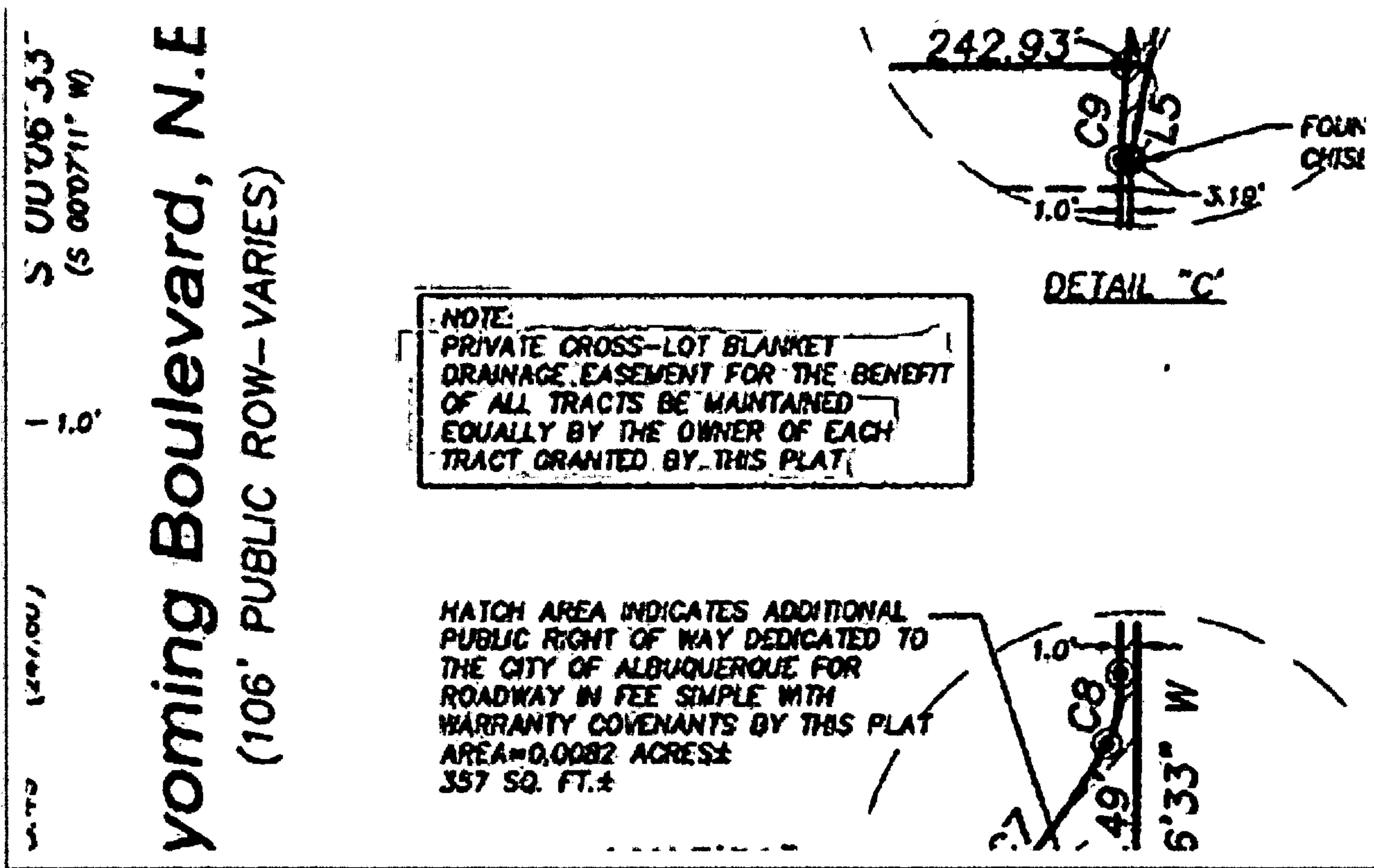
Attached plans show the grades, inverts and other utility crossings. Regarding the easement, the recorded plat with all the easements is in ePlan Documents folder with the name: *Los Pastores Recorded Plat.pdf*. See further below for a screen shot of the blanket easement for underground utilities, which can be found on page 3 or recorded plat. Will this easement suffice for easement document requested in comment 2?

As for who will maintain the pond: per Tierra West (landlord's civil) - the private pond will be maintained by the property owner of Tract A-1-E, as has historically been the case. Is this enough information to fulfill comment 2?

Regarding comment 6:

Please clarify why C-0001 was not printed? This sheet was included in ePlan pdf and hard copy issued to Hydrology.

Blanket easement screenshot from recorded plat shown below:



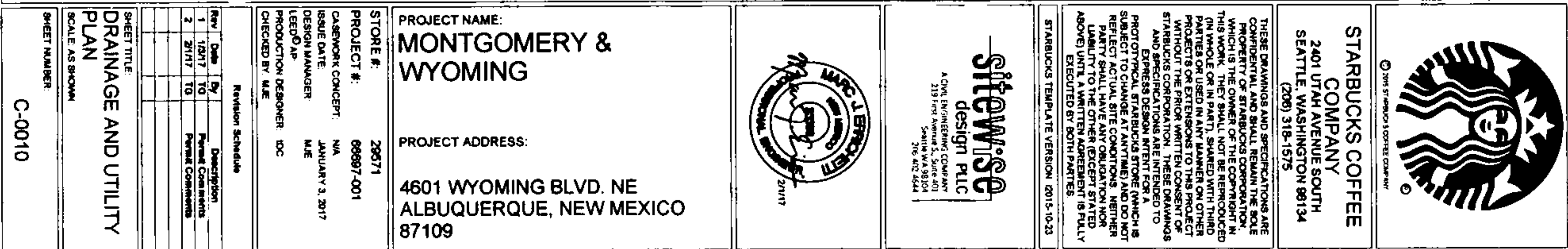
Thanks,

danielle ROSS
design manager

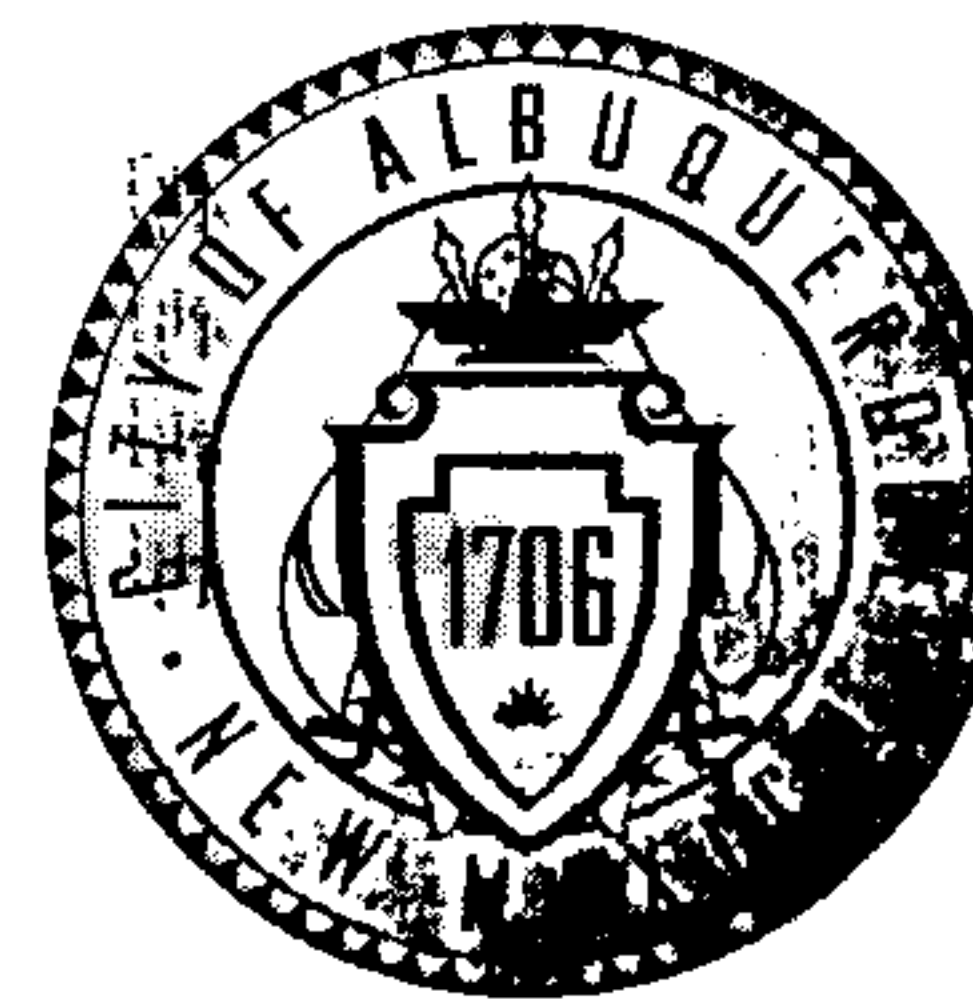
the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e



CITY OF ALBUQUERQUE



January 24, 2017

Richard J. Berry, Mayor

Marck Errichetti, P.E.
Sitewise Design PLLC
219 First Ave. S., Suite 401
Seattle, WA, 98104

RE: Starbucks at 4601 Wyoming Blvd NE
Grading and Drainage Plan
Engineer's Stamp Date 1-9-2017 (File: F19D013C)

Dear Mr. Errichetti:

Based upon the information provided in your submittal received 1-9-2017, the above referenced Grading and Drainage Plan cannot be approved for building permit until the following comments are addressed:

- ✓ 1. We recommend to use COA modified grate detail (see attached) include a copy with this plan with your next submittal.
- ✓ 2. Show the entire stretch of the 12 inches storm drain to the pond including grades, inverts and other utility crossing. Provide easement document across the adjacent property. Who will maintain the pond?
- ✓ 3. Clearly show the property line with boundary information.
4. Trash enclosure drain must drains to a grease trap then to SAS.
- ✓ 5. Please fix spelling of "COS STD" to "COA STD".
- ✓ 6. Sheet C 0001 was not printed.
7. Erosion and sediment control plan must be approved prior to building permit approval.
8. Provide inverts for the 4 feet Dia. CMP. ?

PO Box 1293

Albuquerque

New Mexico 87103

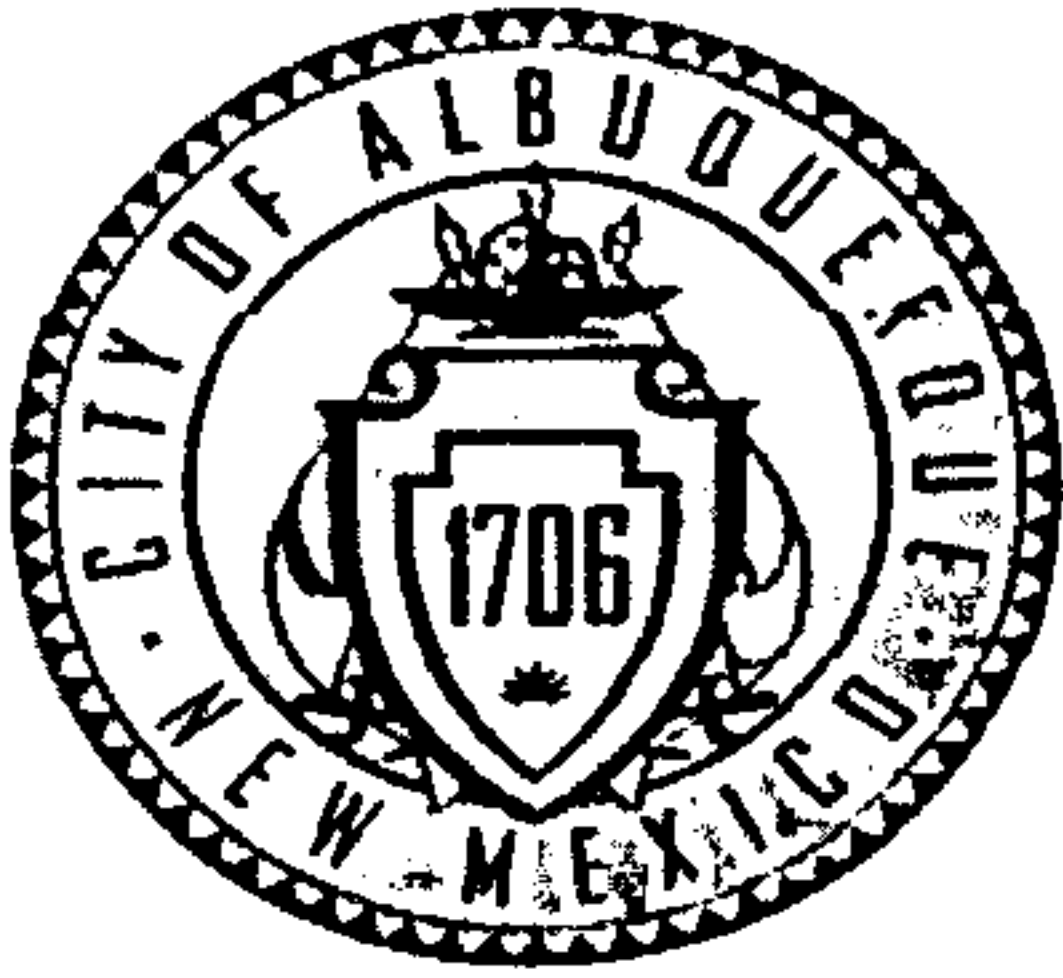
www.cabq.gov

If you have any questions, you can contact me at 924-3999.

Sincerely,

Shahab Biazar, P.E.
City Engineer, Planning Dept.
Development Review Services

MA/SB



FASTRAX

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Starbucks at 4601 Wyoming Blvd NE Building Permit #: 2016-32291 City Drainage #: F19D013C
DRB#: 16DRB-70420 EPC#: 16EPC-40040 / project #1010550 Work Order#: _____
Legal Description: Lot 1 of Tract A-1, Redivision of TR A (now comprising TRS A1 & A2) Los Pastores Shopping Center EXC SLWY PORT & PORT out to r/w
City Address: 4601 Wyoming Blvd NE Albuquerque, NM 87109

Engineering Firm: Sitewise Design PLLC Contact: Marc Errichetti
Address: 219 First Avenue S Suite 401
Phone#: 2064024644 Fax#: _____ E-mail: marc@sitewisepllc.com
Owner: Starbucks Coffee Company Contact: Dallas Palmer
Address: 2401 Utah Avenue S Seattle, WA 98134
Phone#: 3035135484 Fax#: _____ E-mail: dpalmer@starbucks.com
Architect: the design COLLECTIVE Contact: James Blissett
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 Fax#: _____ E-mail: colinb@thed-c.com
Other Contact: the design COLLECTIVE Contact: Colin Bott
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 Fax#: _____ E-mail: colinb@thed-c.com

Check all that Apply:

DEPARTMENT:

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

TYPE OF SUBMITTAL:

☐ ENGINEER/ ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: 01/03/2017 By: Danielle Ross danieller@thed-c.com

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ PRELIMINARY PLAT APPROVAL
☒ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____



COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

1114;
1114;
1114;
1114;

Danielle Ross

From: Carrillo, Abiel X. <acarrillo@cabq.gov>
Sent: Thursday, December 22, 2016 10:39 AM
To: Danielle Ross
Cc: Marc Errichetti; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Yes, that works, I will save this email in the DRB file for future reference.

Thanks,

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: Danielle Ross [mailto:danieller@thed-c.com]
Sent: Thursday, December 22, 2016 10:12 AM
To: Carrillo, Abiel X.
Cc: Marc Errichetti; Colin Bott
Subject: FW: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Abiel,

Please see email below from Tierra West. Will this satisfy the correspondence from landlord requirement?

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Joel Hernandez [mailto:JDHernandez@tierrawestllc.com]
Sent: Thursday, December 22, 2016 7:24 AM
To: Danielle Ross; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Thank you for confirming the southerly alignment of the pipe can be incorporated into the design per the attached markup. This alignment, which parallels the proposed private sanitary sewer alignment, will ensure a building is not inadvertently built over the drain pipe.

Abiel:

This update will satisfy the landlord's requirement for coordination of this facility.

Thank you,

Joel Hernandez, PE
Tierra West, LLC
(505) 858-3100 ext 216

From: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Wednesday, December 21, 2016 5:08 PM
To: Joel Hernandez; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Joel,

This change can be made and incorporated into the design. Please send email confirming the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.
Looking for something I can send to Abiel Carrillo showing we are coordinated.

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Joel Hernandez [<mailto:JDHernandez@tierrawestllc.com>]
Sent: Wednesday, December 21, 2016 9:05 AM
To: Danielle Ross; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Since a specific user has not been established for the lot to the west, it would be preferable to align the outfall pile along the southerly portion of the lot in order to minimize potential future conflicts. Please see the markup in green on the attached PDF. Please let us know if you can incorporate this onto your design.

Thank you,

Joel Hernandez, PE
Tierra West, LLC
(505) 858-3100 ext 216

From: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Tuesday, December 20, 2016 5:55 PM
To: Ron Bohannon; Joel Hernandez
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Ron and Joel,

We need your help with one more item. Per Abiel Carrillo's email below, he would like an email confirming the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

Refer to attached and email chain below for reference.

PDF attached shows the line extension to pond for landlord review.

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Carrillo, Abiel X. [<mailto:acarrillo@cabq.gov>]
Sent: Tuesday, December 20, 2016 1:09 PM
To: Marc Errichetti
Cc: Danielle Ross; Cory Brown; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Sounds good,

That would address my comments. For the alignment, if you can just include correspondence (email is fine) from the landlord specifying that the alignment will be ok.

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: Marc Errichetti [mailto:marc@sitewisepllc.com]
Sent: Tuesday, December 20, 2016 1:34 PM
To: Carrillo, Abiel X.
Cc: Danielle Ross; Cory Brown; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Hello Abel – Was talking with the contractor and wanted to follow up on your comment2 below. With regards to erosion, the Contractor can construct a rock outfall pad at the discharge point to the pond. I'm expecting that is what you are referring to with that portion of the comment, but please confirm.

With regards to the alignment, we will follow up with the landlord to ensure that the pipe alignment will not conflict with any buildings or structures they have planned.

Marc Errichetti PE, LEED AP
marc@sitewisepllc.com

Sitewise Design PLLC
219 First Ave. S., Suite 401
Seattle WA 98104
206 402 4644

From: Danielle Ross [mailto:danieller@thed-c.com]
Sent: Tuesday, December 06, 2016 2:55 PM
To: Marc Errichetti <marc@sitewisepllc.com>
Cc: Colin Bott <colinb@thed-c.com>
Subject: Fwd: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

See below.

danielle ROSS
the design COLLECTIVE

Begin forwarded message:

From: "Carrillo, Abiel X." <acarrillo@cabq.gov>
Date: December 6, 2016 at 1:47:36 PM MST
To: Danielle Ross <danieller@thed-c.com>
Subject: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Based on information provided in your submittal dated (no date), received 11-29-2016, the above-referenced Grading and Drainage Plan is approved for Site Plan for Building Permit. You can expect an approval from Hydrology/City Engineer at tomorrow's hearing.

For Building Permit, we will need the following items addressed:

1. The submittal for Building Permit approval needs to be stamped and dated.
2. Clarify how the contractor will build the storm drain outfall to the detention pond. At a minimum, the outfall needs to feature erosion control to minimize the potential of sediment transport to the alley. We recommend that the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

If you have any question about how to re-submit, you can contact Stanice Elliott at 505-924-3982.

Any other question just let me know.

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

If this email is spam, report it to www.OnlyMyEmail.com

If this email is spam, report it to www.OnlyMyEmail.com

Carrillo, Abiel X.

From: Carrillo, Abiel X.
Sent: Thursday, December 22, 2016 11:48 AM
To: 'Danielle Ross'; Marc Errichetti
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle, Mark,

Thanks for the follow ups on my comments below. Just so you are clear on how to secure the Building Permit approval, what we will need now will be a resubmittal made through the same process that you did for the original submittal. Just make sure to have the civil portion of the plans stamped and dated.

Per previous correspondence, Item 2 of my comments below is addressed. If you can just show or note on the plans any details you might need for erosion control and end section.

Any question on submitting the plans you can contact Stanice Elliott at 505 924 3982.

Thanks,

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: Carrillo, Abiel X.
Sent: Tuesday, December 06, 2016 1:48 PM
To: 'Danielle Ross'
Subject: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Based on information provided in your submittal dated (no date), received 11-29-2016, the above-referenced Grading and Drainage Plan is approved for Site Plan for Building Permit. You can expect an approval from Hydrology/City Engineer at tomorrow's hearing.

For Building Permit, we will need the following items addressed:

1. The submittal for Building Permit approval needs to be stamped and dated.
2. Clarify how the contractor will build the storm drain outfall to the detention pond. At a minimum, the outfall needs to feature erosion control to minimize the potential of sediment transport to the alley. We recommend that the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

If you have any question about how to re-submit, you can contact Stanice Elliott at 505-924-3982.

Any other question just let me know.

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

Carrillo, Abiel X.

From: Carrillo, Abiel X.
Sent: Thursday, December 22, 2016 11:39 AM
To: 'Danielle Ross'
Cc: Marc Errichetti; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Yes, that works, I will save this email in the DRB file for future reference.

Thanks,

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: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Thursday, December 22, 2016 10:12 AM
To: Carrillo, Abiel X.
Cc: Marc Errichetti; Colin Bott
Subject: FW: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Abiel,

Please see email below from Tierra West. Will this satisfy the correspondence from landlord requirement?

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Joel Hernandez [<mailto:JDHernandez@tierrawestllc.com>]
Sent: Thursday, December 22, 2016 7:24 AM
To: Danielle Ross; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Thank you for confirming the southerly alignment of the pipe can be incorporated into the design per the attached markup. This alignment, which parallels the proposed private sanitary sewer alignment, will ensure a building is not inadvertently built over the drain pipe.

Abiel:

This update will satisfy the landlord's requirement for coordination of this facility.

Thank you,

Joel Hernandez, PE
Tierra West, LLC
(505) 858-3100 ext 216

From: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Wednesday, December 21, 2016 5:08 PM
To: Joel Hernandez; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Joel,

This change can be made and incorporated into the design. Please send email confirming the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.
Looking for something I can send to Abiel Carrillo showing we are coordinated.

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Joel Hernandez [<mailto:JDHernandez@tierrawestllc.com>]
Sent: Wednesday, December 21, 2016 9:05 AM
To: Danielle Ross; Ron Bohannon
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Since a specific user has not been established for the lot to the west, it would be preferable to align the outfall pile along the southerly portion of the lot in order to minimize potential future conflicts. Please see the markup in green on the attached PDF. Please let us know if you can incorporate this onto your design.

Thank you,

Joel Hernandez, PE
Tierra West, LLC
(505) 858-3100 ext 216

16
16
16
16

From: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Tuesday, December 20, 2016 5:55 PM
To: Ron Bohannon; Joel Hernandez
Cc: Cory Brown; Colin Bott; Marc Errichetti; Dallas Palmer
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Ron and Joel,

We need your help with one more item. Per Abiel Carrillo's email below, he would like an email confirming the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

Refer to attached and email chain below for reference.

PDF attached shows the line extension to pond for landlord review.

Thanks,

danielle ROSS
design manager

the design COLLECTIVE
2303 West Commodore Way | suite 205
Seattle WA, 98199

www.theD-C.com

206 282 2730 p | 206 282 2739 f | danieller@thed-c.com e

From: Carrillo, Abiel X. [<mailto:acarrillo@cabq.gov>]
Sent: Tuesday, December 20, 2016 1:09 PM
To: Marc Errichetti
Cc: Danielle Ross; Cory Brown; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Sounds good,

That would address my comments. For the alignment, if you can just include correspondence (email is fine) from the landlord specifying that the alignment will be ok.

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: Marc Errichetti [<mailto:marc@sitewisepllc.com>]
Sent: Tuesday, December 20, 2016 1:34 PM
To: Carrillo, Abiel X.
Cc: Danielle Ross; Cory Brown; Colin Bott
Subject: RE: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Hello Abel – Was talking with the contractor and wanted to follow up on your comment2 below. With regards to erosion, the Contractor can construct a rock outfall pad at the discharge point to the pond. I'm expecting that is what you are referring to with that portion of the comment, but please confirm.

With regards to the alignment, we will follow up with the landlord to ensure that the pipe alignment will not conflict with any buildings or structures they have planned.

Marc Errichetti PE, LEED AP
marc@sitewisepllc.com

Sitewise Design PLLC
219 First Ave. S., Suite 401
Seattle WA 98104
206 402 4644

From: Danielle Ross [<mailto:danieller@thed-c.com>]
Sent: Tuesday, December 06, 2016 2:55 PM
To: Marc Errichetti <marc@sitewisepllc.com>
Cc: Colin Bott <colinb@thed-c.com>
Subject: Fwd: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

See below.

danielle ROSS
the design COLLECTIVE

Begin forwarded message:

From: "Carrillo, Abiel X." <acarrillo@cabq.gov>
Date: December 6, 2016 at 1:47:36 PM MST
To: Danielle Ross <danieller@thed-c.com>
Subject: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Based on information provided in your submittal dated (no date), received 11-29-2016, the above-referenced Grading and Drainage Plan is approved for Site Plan for Building Permit. You can expect an approval from Hydrology/City Engineer at tomorrow's hearing.

For Building Permit, we will need the following items addressed:

1. The submittal for Building Permit approval needs to be stamped and dated.
2. Clarify how the contractor will build the storm drain outfall to the detention pond. At a minimum, the outfall needs to feature erosion control to minimize the potential of sediment transport to the alley. We recommend that the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

If you have any question about how to re-submit, you can contact Stanice Elliott at 505-924-3982.

Any other question just let me know.

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

If this email is spam, report it to www.OnlyMyEmail.com

If this email is spam, report it to www.OnlyMyEmail.com

Carrillo, Abiel X.

From: Carrillo, Abiel X.
Sent: Tuesday, December 06, 2016 1:48 PM
To: 'Danielle Ross'
Subject: Starbucks @ Los Pastores - DRB 1010550 - F19D013C

Danielle,

Based on information provided in your submittal dated (no date), received 11-29-2016, the above-referenced Grading and Drainage Plan is approved for Site Plan for Building Permit. You can expect an approval from Hydrology/City Engineer at tomorrow's hearing.

For Building Permit, we will need the following items addressed:

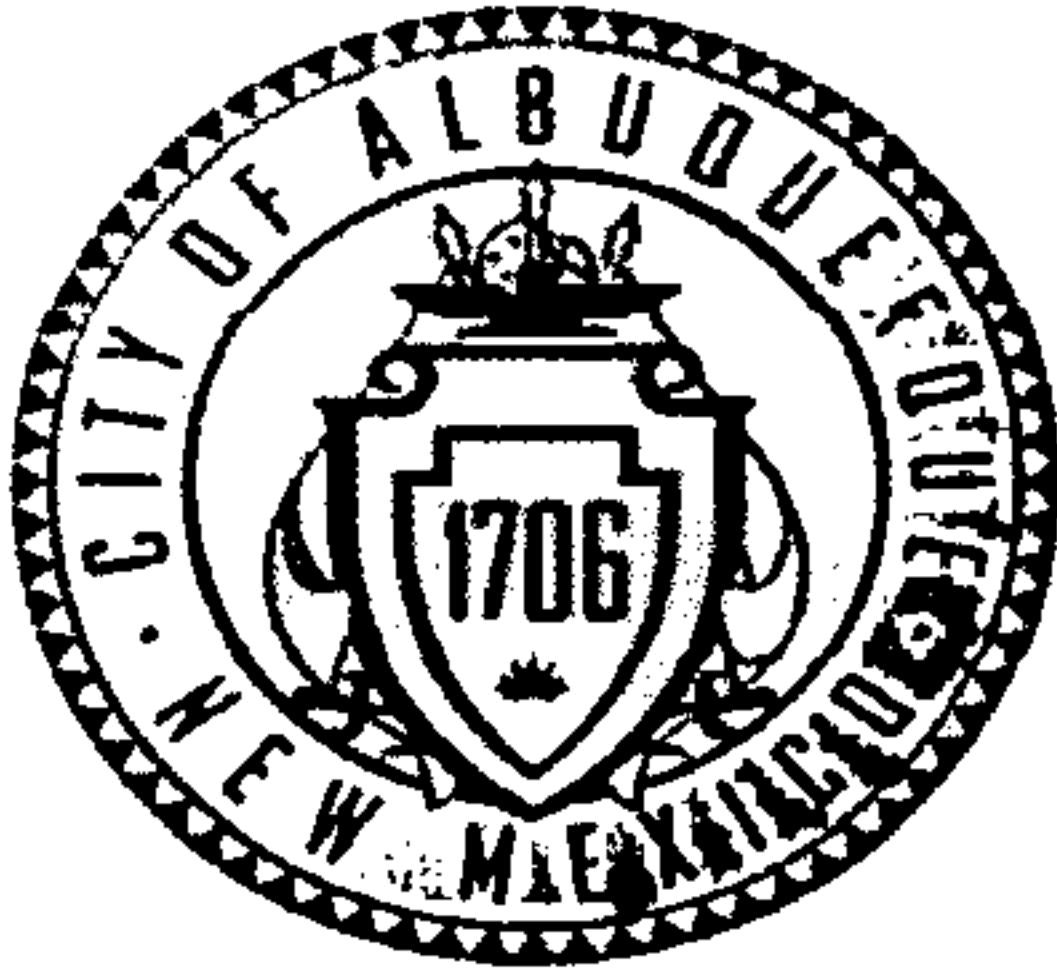
1. The submittal for Building Permit approval needs to be stamped and dated.
2. Clarify how the contractor will build the storm drain outfall to the detention pond. At a minimum, the outfall needs to feature erosion control to minimize the potential of sediment transport to the alley. We recommend that the alignment of the outfall is coordinated so as to not be inadvertently placed under a future building or structure.

If you have any question about how to re-submit, you can contact Stanice Elliott at 505-924-3982.

Any other question just let me know.

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

FAST RAX

Project Title: Starbucks at 4601 Wyoming Blvd NE Building Permit #: 2016-32291 City Drainage #: F19D013C
DRB#: to be determined EPC#: 16EPC-40040 / project #1010550 Work Order#:
Legal Description: Lot 1 of Tract A-1, Redivision of TR A (now comprising TRS A1 & A2) Los Pastores Shopping Center EXC SLWY PORT & PORT out to r/w
City Address: 4601 Wyoming Blvd NE Albuquerque, NM 87109

Engineering Firm: Sitewise Design PLLC Contact: Marc Errichetti
Address: 219 First Avenue S Suite 401
Phone#: 2064024644 Fax#: E-mail: marc@sitewisepllc.com

Owner: Starbucks Coffee Company Contact: Dallas Palmer
Address: 2401 Utah Avenue S Seattle, WA 98134
Phone#: 3035135484 Fax#: E-mail: dpalmer@starbucks.com

Architect: the design COLLECTIVE Contact: James Blissett
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 Fax#: E-mail: colinb@thed-c.com

Other Contact: the design COLLECTIVE Contact: Colin Bott
Address: 2303 West Commodore Way Seattle, WA 98199
Phone#: 2062822730 Fax#: E-mail: colinb@thed-c.com

Check all that Apply:

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

TYPE OF SUBMITTAL:
☐ ENGINEER/ ARCHITECT CERTIFICATION

☐ CONCEPTUAL G & D PLAN

☒ GRADING PLAN

☐ DRAINAGE MASTER PLAN

☐ DRAINAGE REPORT

☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)

☐ TRAFFIC IMPACT STUDY (TIS)

☐ EROSION & SEDIMENT CONTROL PLAN (ESC)

☒ OTHER (SPECIFY) for reference: Drainage Management Plan

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

Already have
a copy, didn't save

DATE SUBMITTED: 11/21/2016

By: Danielle Ross danieller@thed-c.com

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY

☐ PRELIMINARY PLAT APPROVAL

☐ SITE PLAN FOR SUB'D APPROVAL

☒ SITE PLAN FOR BLDG. PERMIT APPROVAL

☐ FINAL PLAT APPROVAL

☐ SIA/ RELEASE OF FINANCIAL GUARANTEE

☐ FOUNDATION PERMIT APPROVAL

☐ GRADING PERMIT APPROVAL

☐ SO-19 APPROVAL

☐ PAVING PERMIT APPROVAL

☐ GRADING/ PAD CERTIFICATION

☐ WORK ORDER APPROVAL

☐ CLOMR/LOMR

☐ PRE-DESIGN MEETING

☐ OTHER (SPECIFY)

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

CITY OF ALBUQUERQUE



June 10, 2016

Richard J. Berry, Mayor

Joel D. Hernandez, P.E.
Tierra West, LLC
5571 Midway Park Pl, NE
Albuquerque, NM, 87109

**RE: Los Pastores Shopping Center
Grading and Drainage Plan & Report
Engineer's Stamp Date 5/1/16 (File: F19D013C)**

Dear Mr. Hernandez:

Based upon the information provided in your submittal received 5-3-2016, the above-referenced plan is approved for ESC Grading Permit. The submittal was previously reviewed and is approved for Site Plan for Subdivision (DRB 6/1/16, #1010550).

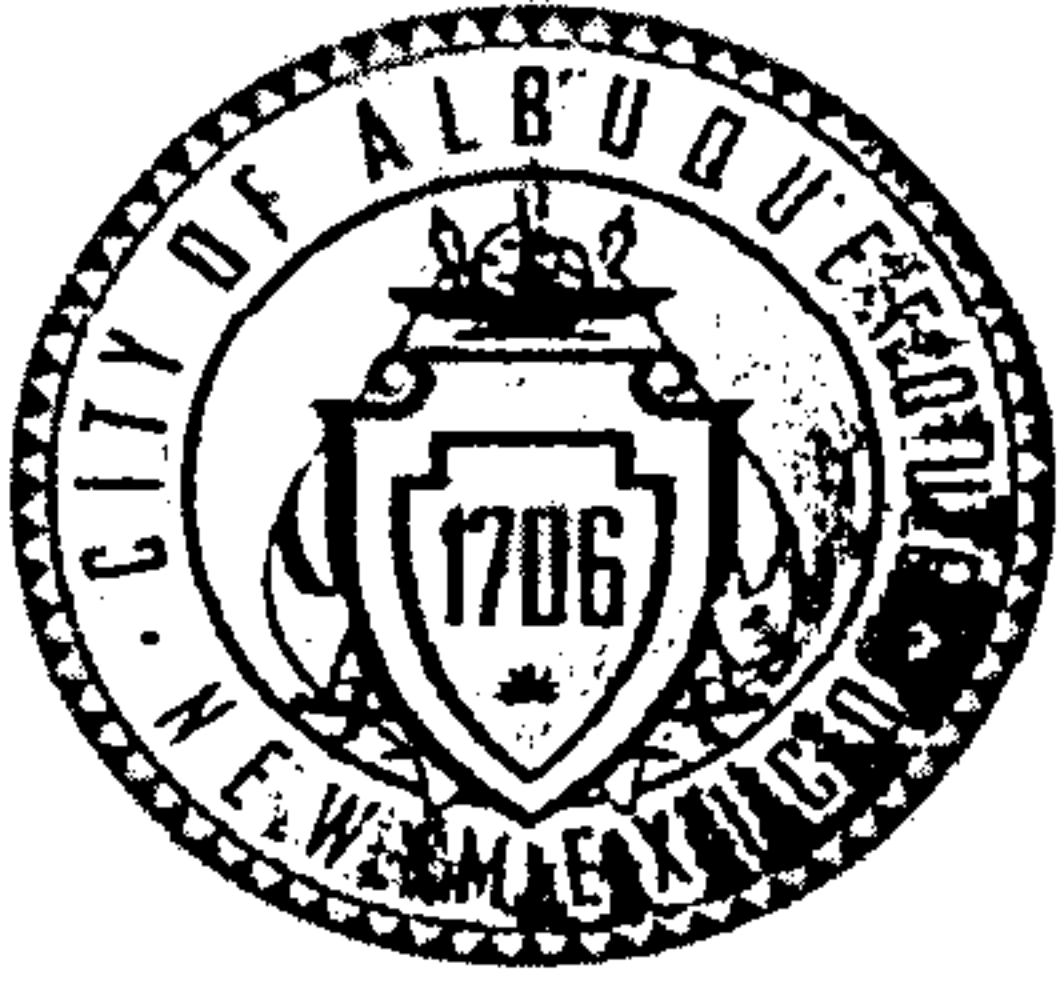
We understand that the Erosion and Sediment Control Plan is about to be submitted. Be aware that the ESC Grading Permit will not be approved until the ESC Plan is approved by the Stormwater Quality Engineer.

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

Sincerely,

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

Orig: Drainage file
CC: Curtis Cherne



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

111
111
111
111

Project Title: Los Pastores Shopping Center (NWC Montgomery & Wyoming) Building Permit #: _____ City Drainage #: FM0013C
DRB#: _____ EPC#: 15EPC-40032 Work Order#: _____
Legal Description: Tract A-1 Redivision of TR A (Now Comprising TRS A1 & A2) Los Pastores Shopping Center
City Address: NWC Montgomery & Wyoming

Engineering Firm: Tierra West, LLC Contact: Joel Hernandez, PE
Address: 5571 Midway Park Place, NE
Phone#: 505.858.3100 Fax#: 505.858.1118 E-mail: joeldhernandez@tierrawestllc.com

Owner: W&M Company Contact: Bill Gunther
Address: 8220 La Mirada Rd. NE, Suite 300
Phone#: 505.296.4146 Fax#: 505.296.0907 E-mail: billg5469@aol.com

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

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

Check all that Apply:

DEPARTMENT:

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

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☒ DRAINAGE REPORT
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
☐ PRELIMINARY PLAT APPROVAL
☒ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☒ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____



IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: 5/1/2016 By: Joel Hernandez

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

11/11/16
11/11/16
11/11/16
11/11/16

DRAINAGE MANAGEMENT PLAN

For

Los Pastores Shopping Center

NWC Wyoming and Montgomery
Albuquerque, New Mexico

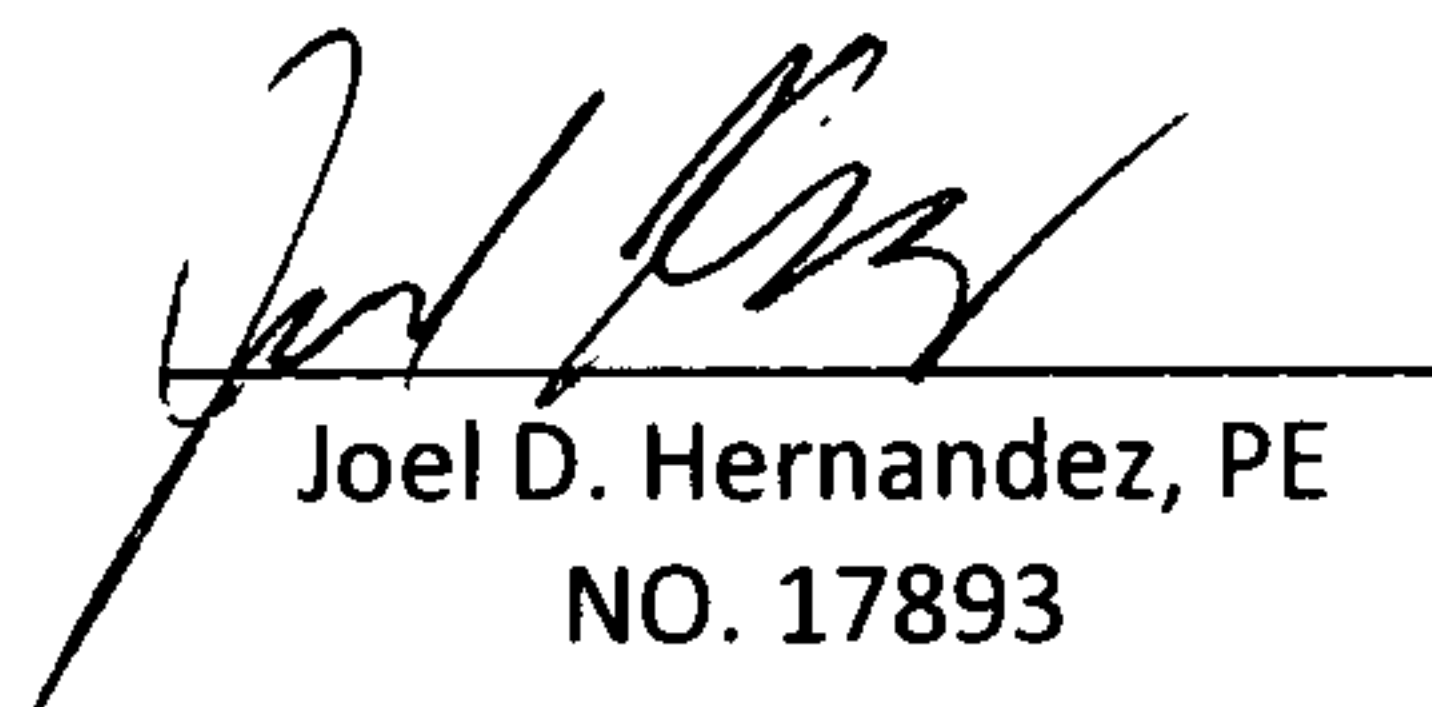
Prepared by:

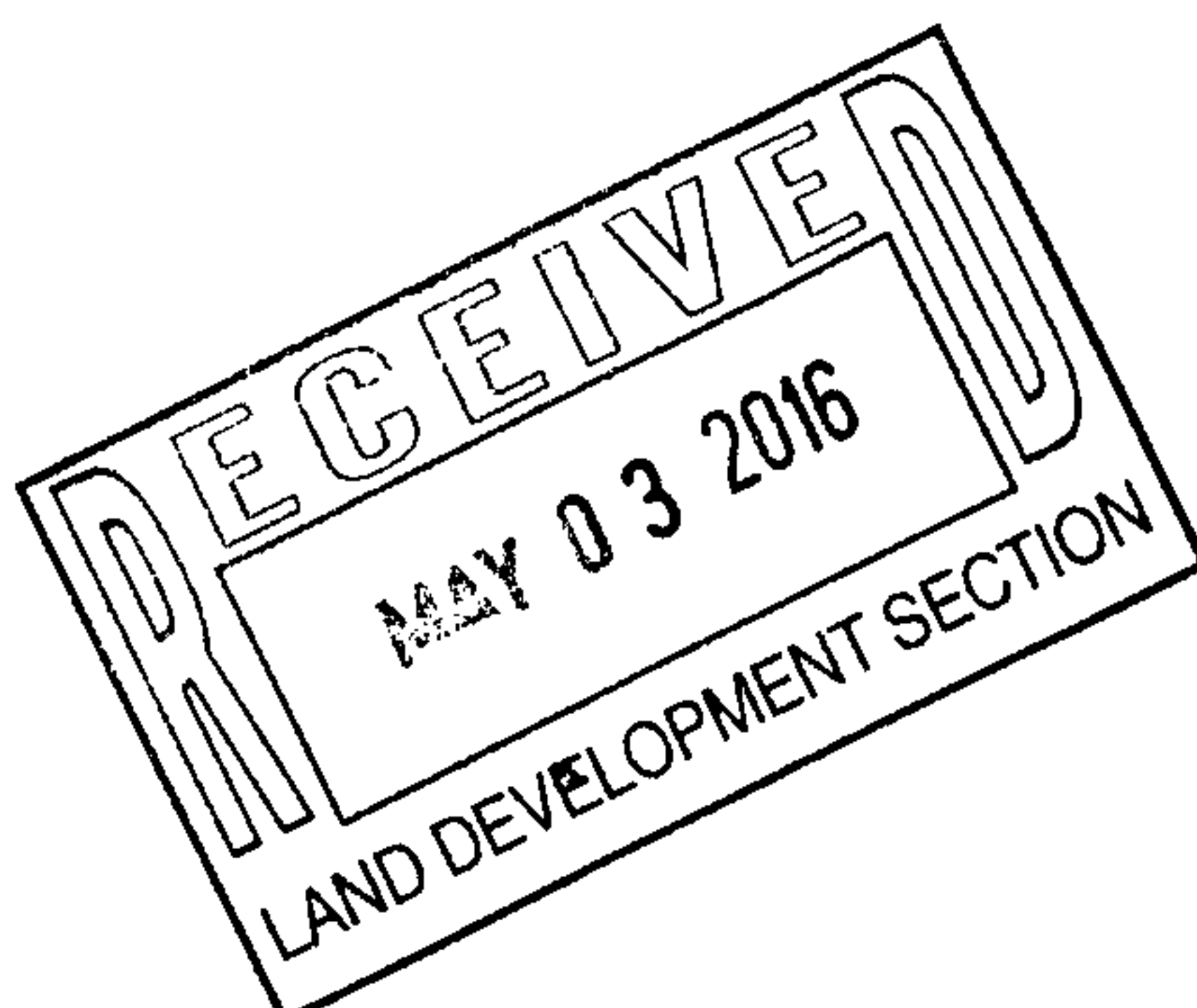
Tierra West, LLC
5571 Midway Park Place NE
Albuquerque, New Mexico 87109

May, 2016

I certify that this report was prepared under my supervision, and I am a registered Professional Engineer
in the State of New Mexico in good standing.




Joel D. Hernandez, PE
NO. 17893



TW Job No. 2014052

TABLE OF CONTENTS

Introduction 1

Vicinity Map 1

FIRMap 2

Pre-Developed Condition..... 2

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Hydrologic Analysis APPENDIX A

Hydraulic Analysis (StormCAD) APPENDIX B

Pond Volume Calculations APPENDIX C

Map Pockets

Grading and Drainage Plan Map Pocket

DRAINAGE MANAGEMENT PLAN

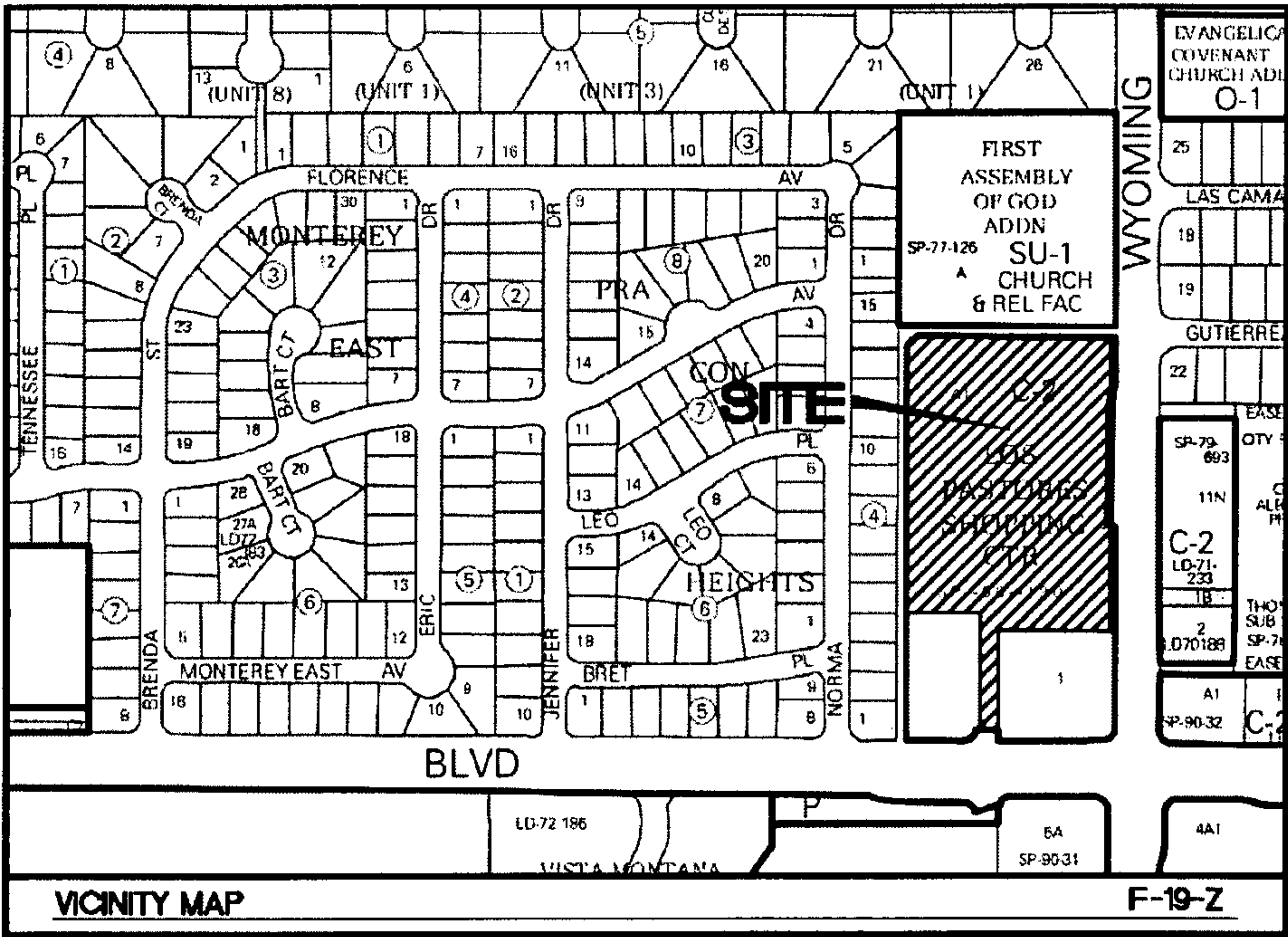
Introduction

The purpose of this submittal is to provide a Drainage Management Plan for Development Review Board (DRB) approval, and for rough grading approval of the Los Pastores Shopping Center. The overall project consists of a 6.45-acre site, most of which is undeveloped, with the exception of the McDonald’s lease parcel. The development will consist of five new tracts/pad sites within a shopping center, along with associated parking, amenity areas, and landscaped areas. The existing McDonald’s lease parcel will be platted as a separate tract, however, no changes or improvements are proposed within that property. A Site Development Plan for Building Permit for each individual pad site will require subsequent approval by EPC along with grading and drainage approval in general conformance with the drainage scheme outlined in this report.

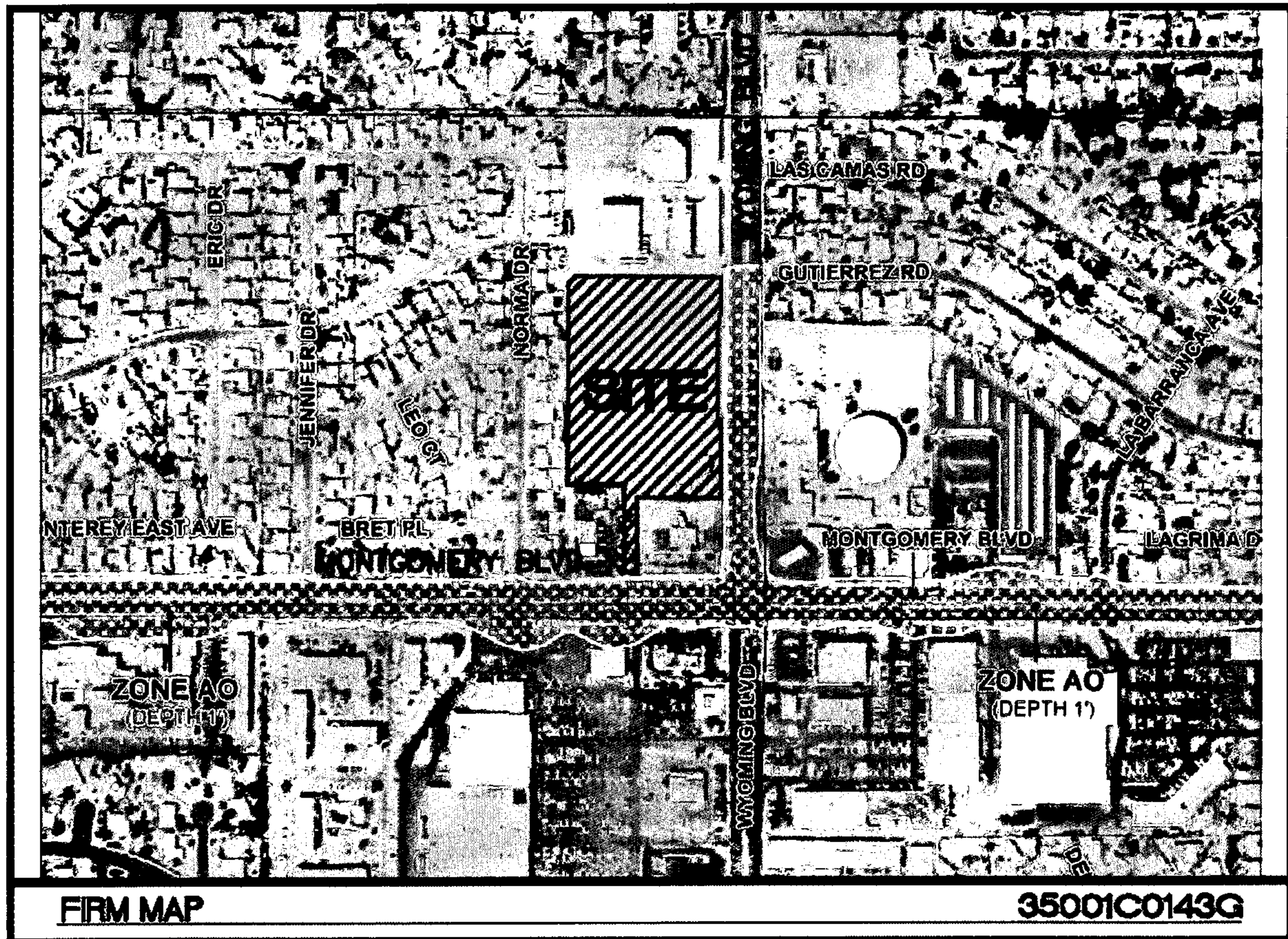
As shown in the vicinity map below, site is located on the northwest corner of Montgomery Boulevard NE and Wyoming Boulevard NE and encompasses Tract A-1, Redivision of Tract “A”, Los Pastores Shopping Center. A portion of Tract 1 (corner parcel containing a Wells Fargo Bank building), is not a port of this request. The property is bound on the north by an adjacent unpaved public alley and an existing church; on the east by Wyoming Boulevard; on the south by Montgomery Boulevard and an existing Wells Fargo Bank; and on the west by an adjacent unpaved public alley and a residential subdivision.

The site lies within Precipitation Zone 3 according to Section 22.2 of the DPM. As shown in the FEMA Flood Map 35001C0143G on page 2, the site lies outside any flood hazard zone.

Vicinity Map



FEMA FIRMap



Pre-Developed Conditions

A leased parcel on the southwest portion of the site is developed with a McDonald's Restaurant and parking facilities, while the remaining portion of the property remain undeveloped with the exception of access driveways connecting access from Wyoming Blvd. The site appears to have been previously graded with a moderate to steep slopes on the east, a small slope on the west adjacent to the alley, and a shallow (<3 foot deep) detention/retention pond (existing pond) north of the McDonald's restaurant.

Surface runoff from the site generally flows from the northeast corner of the site toward the existing pond on the southwest portion of the undeveloped area which, in turn, outflows into the unpaved public alley (AP#1 Q=28.2 CFS) draining by surface flow onto Montgomery Boulevard. Offsite flows draining onto the site are limited to surface runoff from the undeveloped alley adjacent to the church on the north as well as from the northerly portion of the existing Wells Fargo Bank building which surface flows over the McDonald's parking lot and drains through a curb cut into the existing pond. No offsite flows drain onto the site from Wyoming Boulevard as they are contained in the roadway curb and gutter and conveyed into an existing public storm drain system.

Post-Developed Conditions

The drainage intent is to maintain drainage patterns and peak discharge rates matching historic, pre-development flows, which at Analysis Point (AP) #1 is 28.2 CFS. To accomplish this, the existing drainage pond will be enlarged and maintained in the same location until such time the pad develops, which will require the pond to be re-analyzed and reconfigured, if necessary. The grading and drainage scheme proposes to provide rough-graded pads within each proposed lot that will enable individual development of each lot, provided individual, privately maintained ponds or underground drainage storage structures are built with the development of each lot so as to not exceed pre-development peak flow rates. Paving improvements for the adjacent public alley and internal private access drives can also be constructed with this proposed grading and drainage scheme without exceeding historic flows. As designed, the post-developed flow rate at AP#1 would be 28.1 CFS as a result of the detention pond reconstruction.

Per the attached grading and drainage plan and as indicated on the Post-Developed Conditions Basin Map, the majority of site (except for the alley corresponding to Basin PR-2) will be routed through the proposed detention basin along with the existing flows from Basins EX-3 and EX-4 over which no changes are proposed. The detention pond is designed to retain the "first-flush" within the bottom foot of storage, then release flow through a triple-pipe culvert until the pond water elevation reaches the crest elevation (5421.0) of the concrete spillway. The concrete spillway is also designed as an emergency overflow capable of conveying the full 100-year storm (without accounting for pond attenuation), should the pipe culvert become clogged.

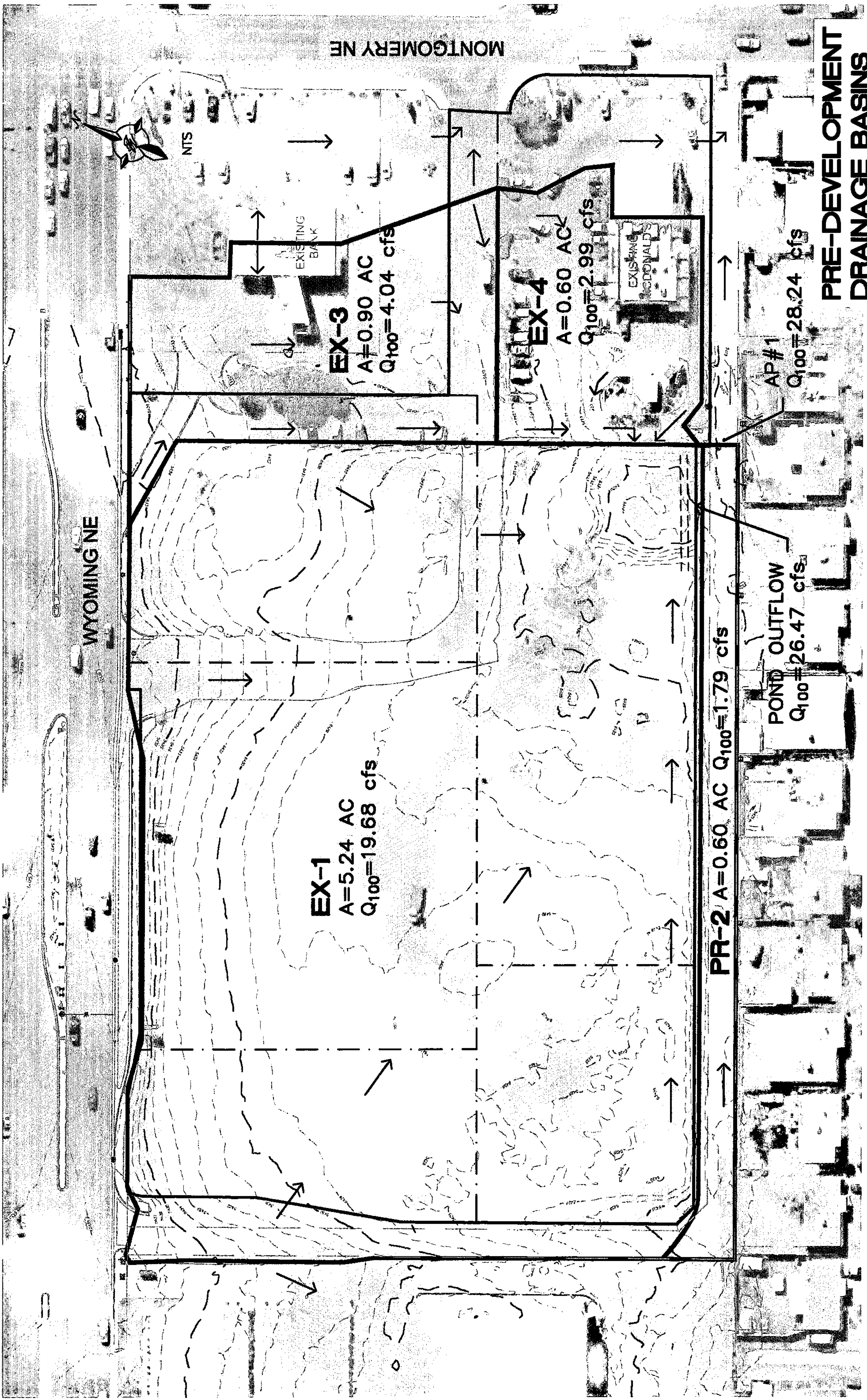
Refer to Appendix B (AHYMO Analysis) for pond sizing calculations.

First-Flush Water Quality Considerations

The pavement anticipated to be constructed in the rough grading phase would require a first-flush retention volume of 3,063 cubic-feet, all of which can be retained within the bottom foot of the detention pond which has a capacity of 3,762 cubic-feet as indicated in the Pond Volume Calculation sheet included in the Appendix. This volume is exclusive and separate from the detention volume calculations, as required by the Ordinance.

Conclusion

This Drainage Management Plan provides for grading and drainage elements which are capable of safely conveying the 100-Yr, 6-Hr storm and which meet City requirements. Furthermore, the plan as identified above will not negatively impact the current downstream conditions at Wyoming Boulevard. With this submittal, we request Drainage Report approval for both the Site Development Plan for Subdivision and for Rough Grading approval.



EX-1
A=5.24 AC
Q₁₀₀=19.68 cfs

EX-3
A=0.90 AC
Q₁₀₀=4.04 cfs

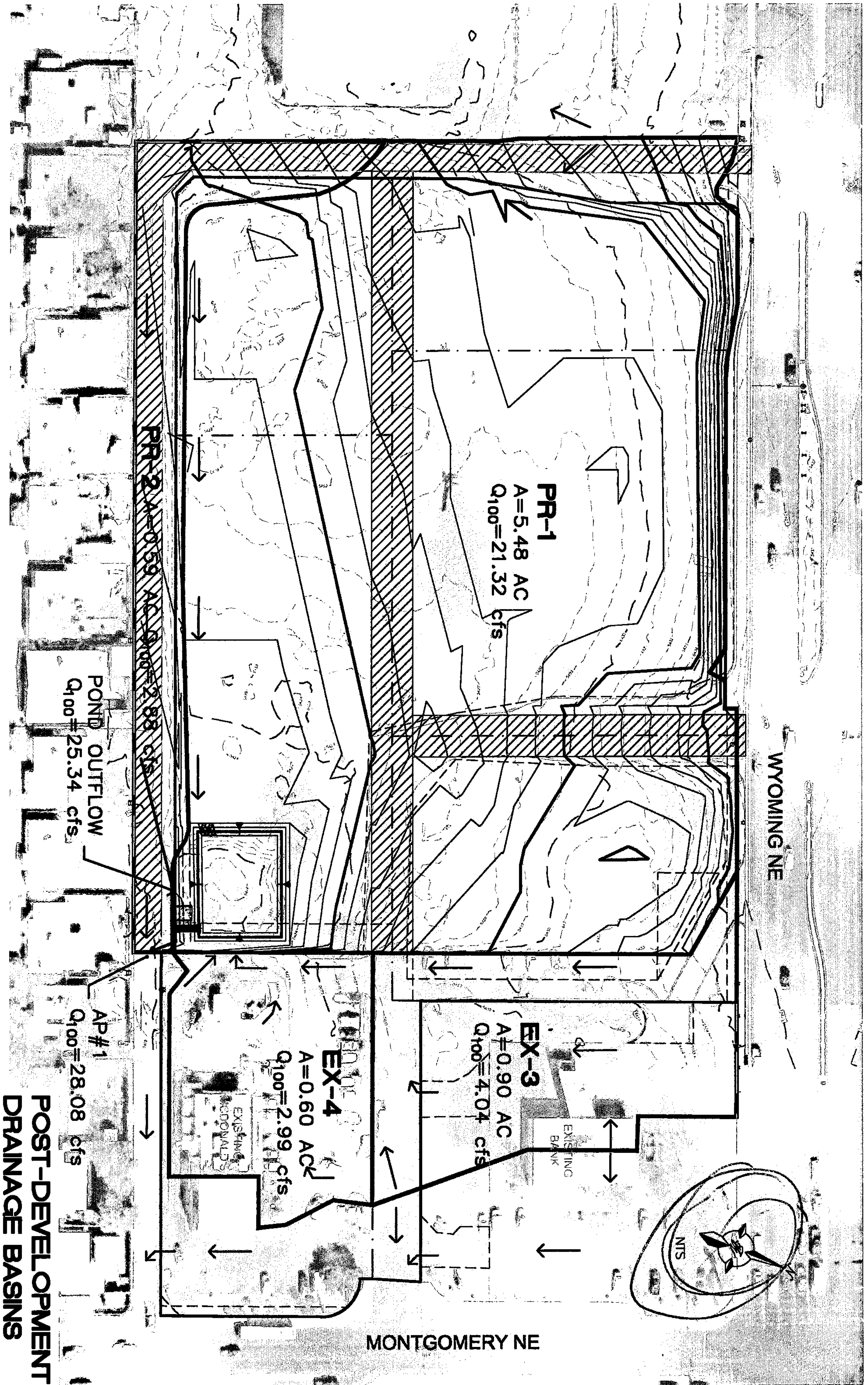
EX-4
A=0.60 AC
Q₁₀₀=2.99 cfs

PR-2 A=0.60 AC Q₁₀₀=1.79 cfs

POND OUTFLOW
Q₁₀₀=26.47 cfs

AP#1
Q₁₀₀=28.24 cfs

**PRE-DEVELOPMENT
DRAINAGE BASINS**



APPENDIX A

HYDROLOGY

Wyoming-Montgomery exist

```
*****
*                               Los Pastores SC @ Wyoming& Mont, ABQ,NM                               *
*****
* 100-YEAR, 24-HR STORM (UNDER EXIST CONDITIONS) W/ routing *
*****
*
START                TIME=0.0
*
*
RAINFALL              TYPE=2 RAIN QUARTER=0.0 IN
                     RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                     RAIN DAY=3.10 IN DT=0.05 HR
*DEVELOPED CONDITIONS
*
*BASIN EX-1
*
COMPUTE NM HYD        ID=1 HYD NO=100.1 AREA=0.00818 SQ MI
                     PER A=0.00 PER B=0.0 PER C=94.0 PER D=6.00
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=1 CODE=1
*
*
*BASIN EX-2
*
COMPUTE NM HYD        ID=2 HYD NO=100.2 AREA=0.00094 SQ MI
                     PER A=0.00 PER B=100.0 PER C=0.0 PER D=0.00
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=2 CODE=1
*
*
*BASIN EX-3
*
COMPUTE NM HYD        ID=3 HYD NO=100.3 AREA=0.00141 SQ MI
                     PER A=0.00 PER B=31.0 PER C=00.0 PER D=69.00
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=3 CODE=1
*
*
*BASIN EX-4
*
COMPUTE NM HYD        ID=4 HYD NO=100.4 AREA=0.00093 SQ MI
                     PER A=0.00 PER B=6.00 PER C=00.0 PER D=94.0
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=4 CODE=1
*
*
*COMBINE EX-1, EX-3, AND EX-4
```

Wyoming-Montgomery exist

```
*
ADD HYD          ID=50 HYD NO=100.21 ID=1 ID=3
ADD HYD          ID=50 HYD NO=100.21 ID=50 ID=4
*
PRINT HYD        ID=50 CODE=1
**
*ROUTE BASINS EX-1, EX-3, AND EX-4 THROUGH EXIST DETENTION POND
ROUTE RESERVOIR  ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24
                  OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                  0.0100          0.0          19.00
                  0.0100          0.0573        20.00
                  0.1000          0.0914        20.50
                  28.570          0.1366        21.00
*
*
PRINT HYD        ID=55 CODE=1
*
*
*COMBINE POND OUTFLOW WITH EX-2 FOR TOTAL AT AP#1
*
ADD HYD          ID=58 HYD NO=100.22 ID=2 ID=55
*
PRINT HYD        ID=58 CODE=1
*
*
FINISH
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AHYMO

AHYMO PROGRAM (AHYMO-S4)

- Version: S4.01a - Rel: 01a

RUN DATE (MON/DAY/YR) = 04/28/2016

START TIME (HR:MIN:SEC) = 15:11:09

USER NO. =

TierraWest-SiteA99368577

INPUT FILE = C:\Users\Joel\Desktop\AHYMO IN\Wyoming-Montgomery
exist.txt

* Los Pastores SC @ Wyoming& Mont, ABQ,NM *

* 100-YEAR, 24-HR STORM (UNDER EXIST CONDITIONS) W/ routing *

*

START TIME=0.0

*

*

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
RAIN ONE=2.14 IN RAIN SIX=2.60 IN
RAIN DAY=3.10 IN DT=0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE
AREAS (NM & AZ) - D1

DT = 0.050000 HOURS END TIME = 24.000002 HOURS

0.0000	0.0031	0.0062	0.0096	0.0133	0.0171	0.0214
0.0274	0.0368	0.0470	0.0575	0.0690	0.0807	0.0927
0.1052	0.1178	0.1320	0.1467	0.1627	0.1887	0.2196
0.2611	0.3081	0.3661	0.4435	0.5307	0.6811	0.9149
1.3155	1.5971	1.8192	1.9308	2.0287	2.0989	2.1549
2.2036	2.2393	2.2720	2.2991	2.3181	2.3331	2.3464
2.3590	2.3700	2.3804	2.3905	2.4002	2.4083	2.4129
2.4175	2.4219	2.4261	2.4303	2.4343	2.4383	2.4422
2.4459	2.4495	2.4531	2.4566	2.4601	2.4634	2.4667
2.4699	2.4731	2.4762	2.4792	2.4822	2.4851	2.4880
2.4909	2.4937	2.4965	2.4992	2.5019	2.5046	2.5072
2.5098	2.5124	2.5149	2.5175	2.5200	2.5224	2.5249
2.5273	2.5296	2.5320	2.5343	2.5366	2.5389	2.5412
2.5434	2.5456	2.5478	2.5500	2.5521	2.5542	2.5564
2.5584	2.5605	2.5626	2.5646	2.5666	2.5686	2.5706
2.5725	2.5745	2.5764	2.5783	2.5802	2.5821	2.5839
2.5858	2.5876	2.5894	2.5912	2.5930	2.5948	2.5965
2.5983	2.6000	2.6017	2.6035	2.6052	2.6069	2.6086
2.6104	2.6121	2.6138	2.6155	2.6172	2.6190	2.6207
2.6224	2.6241	2.6258	2.6275	2.6292	2.6309	2.6326
2.6343	2.6360	2.6377	2.6394	2.6411	2.6428	2.6445
2.6461	2.6478	2.6495	2.6512	2.6529	2.6545	2.6562
2.6579	2.6595	2.6612	2.6629	2.6645	2.6662	2.6679
2.6695	2.6712	2.6728	2.6745	2.6761	2.6778	2.6794

AHYMO						
2.6811	2.6827	2.6844	2.6860	2.6876	2.6893	2.6909
2.6925	2.6942	2.6958	2.6974	2.6990	2.7007	2.7023
2.7039	2.7055	2.7071	2.7087	2.7104	2.7120	2.7136
2.7152	2.7168	2.7184	2.7200	2.7216	2.7232	2.7248
2.7264	2.7279	2.7295	2.7311	2.7327	2.7343	2.7359
2.7374	2.7390	2.7406	2.7422	2.7437	2.7453	2.7469
2.7484	2.7500	2.7516	2.7531	2.7547	2.7562	2.7578
2.7593	2.7609	2.7624	2.7640	2.7655	2.7671	2.7686
2.7701	2.7717	2.7732	2.7747	2.7763	2.7778	2.7793
2.7808	2.7824	2.7839	2.7854	2.7869	2.7884	2.7899
2.7915	2.7930	2.7945	2.7960	2.7975	2.7990	2.8005
2.8020	2.8035	2.8050	2.8065	2.8079	2.8094	2.8109
2.8124	2.8139	2.8154	2.8168	2.8183	2.8198	2.8213
2.8227	2.8242	2.8257	2.8271	2.8286	2.8301	2.8315
2.8330	2.8344	2.8359	2.8373	2.8388	2.8402	2.8417
2.8431	2.8446	2.8460	2.8474	2.8489	2.8503	2.8517
2.8532	2.8546	2.8560	2.8574	2.8589	2.8603	2.8617
2.8631	2.8645	2.8659	2.8674	2.8688	2.8702	2.8716
2.8730	2.8744	2.8758	2.8772	2.8786	2.8800	2.8813
2.8827	2.8841	2.8855	2.8869	2.8883	2.8897	2.8910
2.8924	2.8938	2.8952	2.8965	2.8979	2.8993	2.9006
2.9020	2.9033	2.9047	2.9061	2.9074	2.9088	2.9101
2.9115	2.9128	2.9141	2.9155	2.9168	2.9182	2.9195
2.9208	2.9222	2.9235	2.9248	2.9262	2.9275	2.9288
2.9301	2.9314	2.9328	2.9341	2.9354	2.9367	2.9380
2.9393	2.9406	2.9419	2.9432	2.9445	2.9458	2.9471
2.9484	2.9497	2.9510	2.9523	2.9536	2.9549	2.9561
2.9574	2.9587	2.9600	2.9612	2.9625	2.9638	2.9651
2.9663	2.9676	2.9689	2.9701	2.9714	2.9726	2.9739
2.9751	2.9764	2.9776	2.9789	2.9801	2.9814	2.9826
2.9839	2.9851	2.9863	2.9876	2.9888	2.9900	2.9912
2.9925	2.9937	2.9949	2.9961	2.9974	2.9986	2.9998
3.0010	3.0022	3.0034	3.0046	3.0058	3.0070	3.0082
3.0094	3.0106	3.0118	3.0130	3.0142	3.0154	3.0166
3.0178	3.0189	3.0201	3.0213	3.0225	3.0237	3.0248
3.0260	3.0272	3.0283	3.0295	3.0307	3.0318	3.0330
3.0341	3.0353	3.0364	3.0376	3.0387	3.0399	3.0410
3.0422	3.0433	3.0445	3.0456	3.0467	3.0479	3.0490
3.0501	3.0513	3.0524	3.0535	3.0546	3.0558	3.0569
3.0580	3.0591	3.0602	3.0613	3.0624	3.0635	3.0646
3.0658	3.0669	3.0680	3.0690	3.0701	3.0712	3.0723
3.0734	3.0745	3.0756	3.0767	3.0777	3.0788	3.0799
3.0810	3.0821	3.0831	3.0842	3.0853	3.0863	3.0874
3.0885	3.0895	3.0906	3.0916	3.0927	3.0937	3.0948
3.0958	3.0969	3.0979	3.0990	3.1000		

*DEVELOPED CONDITIONS

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AHYMO

*BASIN EX-1

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COMPUTE NM HYD ID=1 HYD NO=100.1 AREA=0.00818 SQ MI
PER A=0.00 PER B=0.0 PER C=94.0 PER D=6.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 1.9377 CFS UNIT VOLUME = 0.9941 B = 526.28
P60 = 2.1400
AREA = 0.000491 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.108912HR TP = 0.133300HR K/TP RATIO = 0.817047 SHAPE
CONSTANT, N = 4.373953
UNIT PEAK = 21.884 CFS UNIT VOLUME = 1.001 B = 379.38
P60 = 2.1400
AREA = 0.007689 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.43442 INCHES = 0.6258 ACRE-FEET
PEAK DISCHARGE RATE = 19.68 CFS AT 1.500 HOURS BASIN AREA =
0.0082 SQ. MI.

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*BASIN EX-2

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COMPUTE NM HYD ID=2 HYD NO=100.2 AREA=0.00094 SQ MI
PER A=0.00 PER B=100.0 PER C=0.0 PER D=0.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.133656HR TP = 0.133300HR K/TP RATIO = 1.002670 SHAPE
CONSTANT, N = 3.520654
UNIT PEAK = 2.2695 CFS UNIT VOLUME = 0.9952 B = 321.84
P60 = 2.1400

AHYMO
AREA = 0.000940 SQ MI IA = 0.50000 INCHES INF = 1.25000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 1.07690 INCHES = 0.0540 ACRE-Feet
PEAK DISCHARGE RATE = 1.79 CFS AT 1.500 HOURS BASIN AREA =
0.0009 SQ. MI.

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*
*BASIN EX-3
*

COMPUTE NM HYD ID=3 HYD NO=100.3 AREA=0.00141 SQ MI
PER A=0.00 PER B=31.0 PER C=00.0 PER D=69.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 3.8411 CFS UNIT VOLUME = 0.9966 B = 526.28
P60 = 2.1400
AREA = 0.000973 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.133656HR TP = 0.133300HR K/TP RATIO = 1.002670 SHAPE
CONSTANT, N = 3.520654
UNIT PEAK = 1.0553 CFS UNIT VOLUME = 0.9889 B = 321.84
P60 = 2.1400
AREA = 0.000437 SQ MI IA = 0.50000 INCHES INF = 1.25000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 100.30

AHYMO
RUNOFF VOLUME = 2.30020 INCHES = 0.1730 ACRE-FEET
PEAK DISCHARGE RATE = 4.04 CFS AT 1.500 HOURS BASIN AREA =
0.0014 SQ. MI.

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*BASIN EX-4

*

COMPUTE NM HYD ID=4 HYD NO=100.4 AREA=0.00093 SQ MI
PER A=0.00 PER B=6.00 PER C=00.0 PER D=94.0
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 3.4514 CFS UNIT VOLUME = 0.9959 B = 526.28
P60 = 2.1400
AREA = 0.000874 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.133656HR TP = 0.133300HR K/TP RATIO = 1.002670 SHAPE
CONSTANT, N = 3.520654
UNIT PEAK = 0.13472 CFS UNIT VOLUME = 0.9008 B = 321.84
P60 = 2.1400
AREA = 0.000056 SQ MI IA = 0.50000 INCHES INF = 1.25000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.40

RUNOFF VOLUME = 2.74343 INCHES = 0.1361 ACRE-FEET
PEAK DISCHARGE RATE = 2.99 CFS AT 1.500 HOURS BASIN AREA =
0.0009 SQ. MI.

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*COMBINE EX-1, EX-3, AND EX-4

AHYMO

*

ADD HYD ID=50 HYD NO=100.21 ID=1 ID=3

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=4

*

PRINT HYD ID=50 CODE=1

PARTIAL HYDROGRAPH 100.21

RUNOFF VOLUME = 1.66611 INCHES = 0.9348 ACRE-Feet
 PEAK DISCHARGE RATE = 26.71 CFS AT 1.500 HOURS BASIN AREA =
 0.0105 SQ. MI.

**

*ROUTE BASINS EX-1, EX-3, AND EX-4 THROUGH EXIST DETENTION POND
 ROUTE RESERVOIR ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24

OUTFLOW (CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0100	0.0	19.00
0.0100	0.0573	20.00
0.1000	0.0914	20.50
28.570	0.1366	21.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	-Infinity	-Infinity	0.00
1.20	1.56	20.00	0.057	0.01
2.40	0.80	20.51	0.093	0.85
3.60	0.04	20.48	0.090	0.10
4.80	0.04	20.41	0.085	0.08
6.00	0.05	20.36	0.082	0.07
7.20	0.05	20.33	0.080	0.07
8.40	0.05	20.30	0.078	0.06
9.60	0.05	20.28	0.077	0.06
10.80	0.05	20.27	0.076	0.06
12.00	0.05	20.25	0.074	0.06
13.20	0.04	20.24	0.074	0.05
14.40	0.04	20.23	0.073	0.05

			AHYMO	
15.60	0.04	20.22	0.072	0.05
16.80	0.04	20.21	0.071	0.05
18.00	0.04	20.20	0.071	0.05
19.20	0.04	20.19	0.070	0.04
20.40	0.04	20.18	0.069	0.04
21.60	0.03	20.17	0.069	0.04
22.80	0.03	20.16	0.068	0.04
24.00	0.03	20.15	0.068	0.04
25.20	0.00	20.11	0.065	0.03
26.40	0.00	20.07	0.062	0.02
27.60	0.00	20.04	0.060	0.02
28.80	0.00	20.02	0.059	0.01
30.00	0.00	20.00	0.057	0.01
31.20	0.00	20.00	0.057	0.01
32.40	0.00	20.00	0.057	0.01
33.60	0.00	20.00	0.057	0.01
34.80	0.00	20.00	0.057	0.01
36.00	0.00	20.00	0.057	0.01
37.20	0.00	20.00	0.057	0.01
38.40	0.00	20.00	0.057	0.01
39.60	0.00	20.00	0.057	0.01
40.80	0.00	20.00	0.057	0.01
42.00	0.00	20.00	0.057	0.01
43.20	0.00	20.00	0.057	0.01
44.40	0.00	20.00	0.057	0.01
45.60	0.00	20.00	0.057	0.01
46.80	0.00	20.00	0.057	0.01
48.00	0.00	20.00	0.057	0.01
49.20	0.00	20.00	0.057	0.01
50.40	0.00	20.00	0.057	0.01
51.60	0.00	20.00	0.057	0.01
52.80	0.00	20.00	0.057	0.01
54.00	0.00	20.00	0.057	0.01
55.20	0.00	20.00	0.057	0.01
56.40	0.00	20.00	0.057	0.01
57.60	0.00	20.00	0.057	0.01
58.80	0.00	20.00	0.057	0.01
60.00	0.00	20.00	0.057	0.01
61.20	0.00	20.00	0.057	0.01
62.40	0.00	20.00	0.057	0.01
63.60	0.00	20.00	0.057	0.01
64.80	0.00	20.00	0.057	0.01
66.00	0.00	20.00	0.057	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
67.20	0.00	20.00	0.057	0.01

			AHYMO	
68.40	0.00	20.00	0.057	0.01
69.60	0.00	20.00	0.057	0.01
70.80	0.00	20.00	0.057	0.01
72.00	0.00	20.00	0.057	0.01
73.20	0.00	20.00	0.057	0.01
74.40	0.00	20.00	0.057	0.01
75.60	0.00	20.00	0.057	0.01
76.80	0.00	20.00	0.057	0.01
78.00	0.00	20.00	0.057	0.01
79.20	0.00	20.00	0.057	0.01
80.40	0.00	20.00	0.057	0.01
81.60	0.00	20.00	0.057	0.01
82.80	0.00	20.00	0.057	0.01
84.00	0.00	20.00	0.057	0.01
85.20	0.00	20.00	0.057	0.01
86.40	0.00	20.00	0.057	0.01
87.60	0.00	20.00	0.057	0.01
88.80	0.00	20.00	0.057	0.01
90.00	0.00	20.00	0.057	0.01
91.20	0.00	20.00	0.057	0.01
92.40	0.00	20.00	0.057	0.01
93.60	0.00	20.00	0.057	0.01
94.80	0.00	20.00	0.057	0.01
96.00	0.00	20.00	0.057	0.01
97.20	0.00	20.00	0.057	0.01
98.40	0.00	20.00	0.057	0.01
99.60	0.00	20.00	0.057	0.01
100.80	0.00	20.00	0.057	0.01
102.00	0.00	20.00	0.057	0.01
103.20	0.00	20.00	0.057	0.01
104.40	0.00	20.00	0.057	0.01
105.60	0.00	20.00	0.057	0.01
106.80	0.00	20.00	0.057	0.01
108.00	0.00	20.00	0.057	0.01
109.20	0.00	20.00	0.057	0.01
110.40	0.00	20.00	0.057	0.01
111.60	0.00	20.00	0.057	0.01
112.80	0.00	20.00	0.057	0.01
114.00	0.00	20.00	0.057	0.01
115.20	0.00	20.00	0.057	0.01
116.40	0.00	20.00	0.057	0.01
117.60	0.00	20.00	0.057	0.01
118.80	0.00	20.00	0.057	0.01
120.00	0.00	20.00	0.057	0.01
121.20	0.00	20.00	0.057	0.01
122.40	0.00	20.00	0.057	0.01
123.60	0.00	20.00	0.057	0.01
124.80	0.00	20.00	0.057	0.01

			AHYMO	
126.00	0.00	20.00	0.057	0.01
127.20	0.00	20.00	0.057	0.01
128.40	0.00	20.00	0.057	0.01
129.60	0.00	20.00	0.057	0.01
130.80	0.00	20.00	0.057	0.01
132.00	0.00	20.00	0.057	0.01
133.20	0.00	20.00	0.057	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
134.40	0.00	20.00	0.057	0.01
135.60	0.00	20.00	0.057	0.01
136.80	0.00	20.00	0.057	0.01
138.00	0.00	20.00	0.057	0.01
139.20	0.00	20.00	0.057	0.01
140.40	0.00	20.00	0.057	0.01
141.60	0.00	20.00	0.057	0.01
142.80	0.00	20.00	0.057	0.01
144.00	0.00	20.00	0.057	0.01
145.20	0.00	20.00	0.057	0.01
146.40	0.00	20.00	0.057	0.01
147.60	0.00	20.00	0.057	0.01
148.80	0.00	20.00	0.057	0.01
150.00	0.00	20.00	0.057	0.01
151.20	0.00	20.00	0.057	0.01
152.40	0.00	20.00	0.057	0.01
153.60	0.00	20.00	0.057	0.01
154.80	0.00	20.00	0.057	0.01
156.00	0.00	20.00	0.057	0.01
157.20	0.00	20.00	0.057	0.01
158.40	0.00	20.00	0.057	0.01
159.60	0.00	20.00	0.057	0.01
160.80	0.00	20.00	0.057	0.01
162.00	0.00	20.00	0.057	0.01
163.20	0.00	20.00	0.057	0.01
164.40	0.00	20.00	0.057	0.01
165.60	0.00	20.00	0.057	0.01
166.80	0.00	20.00	0.057	0.01
168.00	0.00	20.00	0.057	0.01
169.20	0.00	20.00	0.057	0.01
170.40	0.00	20.00	0.057	0.01
171.60	0.00	20.00	0.057	0.01
172.80	0.00	20.00	0.057	0.01
174.00	0.00	20.00	0.057	0.01
175.20	0.00	20.00	0.057	0.01
176.40	0.00	20.00	0.057	0.01
177.60	0.00	20.00	0.057	0.01

			AHYMO	
178.80	0.00	20.00	0.057	0.01
180.00	0.00	20.00	0.057	0.01
181.20	0.00	20.00	0.057	0.01
182.40	0.00	20.00	0.057	0.01
183.60	0.00	20.00	0.057	0.01
184.80	0.00	20.00	0.057	0.01
186.00	0.00	20.00	0.057	0.01
187.20	0.00	20.00	0.057	0.01
188.40	0.00	20.00	0.057	0.01
189.60	0.00	20.00	0.057	0.01
190.80	0.00	20.00	0.057	0.01
192.00	0.00	20.00	0.057	0.01
193.20	0.00	20.00	0.057	0.01
194.40	0.00	20.00	0.057	0.01
195.60	0.00	20.00	0.057	0.01
196.80	0.00	20.00	0.057	0.01
198.00	0.00	20.00	0.057	0.01
199.20	0.00	20.00	0.057	0.01

PEAK DISCHARGE = 26.469 CFS - PEAK OCCURS AT HOUR 1.55
 MAXIMUM WATER SURFACE ELEVATION = 20.963
 MAXIMUM STORAGE = 0.1333 AC-FT INCREMENTAL TIME= 0.050000HRS

*
*

PRINT HYD ID=55 CODE=1

PARTIAL HYDROGRAPH 200.10

RUNOFF VOLUME = 1.81503 INCHES = 1.0183 ACRE-FEET
 PEAK DISCHARGE RATE = 26.47 CFS AT 1.550 HOURS BASIN AREA =
 0.0105 SQ. MI.

*
*

*COMBINE POND OUTFLOW WITH EX-2 FOR TOTAL AT AP#1

*

ADD HYD ID=58 HYD NO=100.22 ID=2 ID=55

*

PRINT HYD ID=58 CODE=1

PARTIAL HYDROGRAPH 100.22

RUNOFF VOLUME = 1.75447 INCHES = 1.0723 ACRE-FEET

PEAK DISCHARGE RATE = 28.24 CFS AT 1.550 HOURS BASIN AREA =
0.0115 SQ. MI.

EXISTQ/ATAP#1

*
*

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 15:11:09

Wyoming-Montgomery proposed

```
*****
*                               Los Pastores SC @ Wyoming& Mont, ABQ,NM                               *
*****
* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) W/ routing *
*****
*
START                TIME=0.0
*
*
RAINFALL              TYPE=2 RAIN QUARTER=0.0 IN
                     RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                     RAIN DAY=3.10 IN DT=0.05 HR
*DEVELOPED CONDITIONS
*
*BASIN PR-1
*
COMPUTE NM HYD        ID=1 HYD NO=100.1 AREA=0.00856 SQ MI
                     PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=1 CODE=1
*
*
*BASIN PR-2
*
COMPUTE NM HYD        ID=2 HYD NO=100.2 AREA=0.00092 SQ MI
                     PER A=0.00 PER B=0.0 PER C=19.0 PER D=81.00
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=2 CODE=1
*
*
*BASIN EX-3
*
COMPUTE NM HYD        ID=3 HYD NO=100.3 AREA=0.00141 SQ MI
                     PER A=0.00 PER B=31.0 PER C=00.0 PER D=69.00
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=3 CODE=1
*
*
*BASIN EX-4
*
COMPUTE NM HYD        ID=4 HYD NO=100.4 AREA=0.00093 SQ MI
                     PER A=0.00 PER B=6.00 PER C=00.0 PER D=94.0
                     TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=4 CODE=1
*
*
*COMBINE PR-1, EX-3, AND EX-4
```

Wyoming-Montgomery proposed

```

*
ADD HYD          ID=50 HYD NO=100.21 ID=1 ID=3
ADD HYD          ID=50 HYD NO=100.21 ID=50 ID=4
*
PRINT HYD        ID=50 CODE=1
**
*ROUTE BASINS PR-1, EX-3, AND EX-4 THROUGH PROPOSED DETENTION POND
ROUTE RESERVOIR  ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24
                  OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)
                  0.0100          0.0          19.50
                  0.4800          0.0497        20.00
                  4.8300          0.1041        20.50
                  6.6200          0.1634        21.00
                  20.820         0.2278        21.50
                  43.130         0.2974        22.00

*
*
PRINT HYD        ID=55 CODE=1
*
*
*COMBINE POND OUTFLOW WITH EX-2 FOR TOTAL AT AP#1
*
ADD HYD          ID=58 HYD NO=100.22 ID=2 ID=55
*
PRINT HYD        ID=58 CODE=1
*
*
FINISH

```

AHYMO

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
 RUN DATE (MON/DAY/YR) = 04/28/2016
 START TIME (HR:MIN:SEC) = 14:44:31 USER NO.=
 TierraWest-SiteA99368577
 INPUT FILE = C:\Users\Joel\Desktop\AHYMO IN\Wyoming-Montgomery
 proposed.txt

 * Los Pastores SC @ Wyoming& Mont, ABQ,NM *

 * 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) W/ routing *

*

START TIME=0.0

*

*

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
 RAIN ONE=2.14 IN RAIN SIX=2.60 IN
 RAIN DAY=3.10 IN DT=0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE
 AREAS (NM & AZ) - D1

DT =	0.050000 HOURS	END TIME =	24.000002 HOURS
0.0000	0.0031	0.0062	0.0096
0.0133	0.0171	0.0214	0.0274
0.0368	0.0470	0.0575	0.0690
0.0807	0.0927	0.1052	0.1178
0.1320	0.1467	0.1627	0.1887
0.2196	0.2611	0.3081	0.3661
0.4435	0.5307	0.6811	0.9149
1.3155	1.5971	1.8192	1.9308
2.0287	2.0989	2.1549	2.2036
2.2393	2.2720	2.2991	2.3181
2.3331	2.3464	2.3590	2.3700
2.3804	2.3905	2.4002	2.4083
2.4129	2.4175	2.4219	2.4261
2.4303	2.4343	2.4383	2.4422
2.4459	2.4495	2.4531	2.4566
2.4601	2.4634	2.4667	2.4699
2.4731	2.4762	2.4792	2.4822
2.4851	2.4880	2.4909	2.4937
2.4965	2.4992	2.5019	2.5046
2.5072	2.5098	2.5124	2.5149
2.5175	2.5200	2.5224	2.5249
2.5273	2.5296	2.5320	2.5343
2.5366	2.5389	2.5412	2.5434
2.5456	2.5478	2.5500	2.5521
2.5542	2.5564	2.5584	2.5605
2.5626	2.5646	2.5666	2.5686
2.5706	2.5725	2.5745	2.5764
2.5783	2.5802	2.5821	2.5839
2.5858	2.5876	2.5894	2.5912
2.5930	2.5948	2.5965	2.5983
2.6000	2.6017	2.6035	2.6052
2.6069	2.6086	2.6104	2.6121
2.6138	2.6155	2.6172	2.6190
2.6207	2.6224	2.6241	2.6258
2.6275	2.6292	2.6309	2.6326
2.6343	2.6360	2.6377	2.6394
2.6411	2.6428	2.6445	2.6461
2.6478	2.6495	2.6512	2.6529
2.6545	2.6562	2.6579	2.6595
2.6612	2.6629	2.6645	2.6662
2.6679	2.6695	2.6712	2.6728
2.6745	2.6761	2.6778	2.6794

AHYMO						
2.6811	2.6827	2.6844	2.6860	2.6876	2.6893	2.6909
2.6925	2.6942	2.6958	2.6974	2.6990	2.7007	2.7023
2.7039	2.7055	2.7071	2.7087	2.7104	2.7120	2.7136
2.7152	2.7168	2.7184	2.7200	2.7216	2.7232	2.7248
2.7264	2.7279	2.7295	2.7311	2.7327	2.7343	2.7359
2.7374	2.7390	2.7406	2.7422	2.7437	2.7453	2.7469
2.7484	2.7500	2.7516	2.7531	2.7547	2.7562	2.7578
2.7593	2.7609	2.7624	2.7640	2.7655	2.7671	2.7686
2.7701	2.7717	2.7732	2.7747	2.7763	2.7778	2.7793
2.7808	2.7824	2.7839	2.7854	2.7869	2.7884	2.7899
2.7915	2.7930	2.7945	2.7960	2.7975	2.7990	2.8005
2.8020	2.8035	2.8050	2.8065	2.8079	2.8094	2.8109
2.8124	2.8139	2.8154	2.8168	2.8183	2.8198	2.8213
2.8227	2.8242	2.8257	2.8271	2.8286	2.8301	2.8315
2.8330	2.8344	2.8359	2.8373	2.8388	2.8402	2.8417
2.8431	2.8446	2.8460	2.8474	2.8489	2.8503	2.8517
2.8532	2.8546	2.8560	2.8574	2.8589	2.8603	2.8617
2.8631	2.8645	2.8659	2.8674	2.8688	2.8702	2.8716
2.8730	2.8744	2.8758	2.8772	2.8786	2.8800	2.8813
2.8827	2.8841	2.8855	2.8869	2.8883	2.8897	2.8910
2.8924	2.8938	2.8952	2.8965	2.8979	2.8993	2.9006
2.9020	2.9033	2.9047	2.9061	2.9074	2.9088	2.9101
2.9115	2.9128	2.9141	2.9155	2.9168	2.9182	2.9195
2.9208	2.9222	2.9235	2.9248	2.9262	2.9275	2.9288
2.9301	2.9314	2.9328	2.9341	2.9354	2.9367	2.9380
2.9393	2.9406	2.9419	2.9432	2.9445	2.9458	2.9471
2.9484	2.9497	2.9510	2.9523	2.9536	2.9549	2.9561
2.9574	2.9587	2.9600	2.9612	2.9625	2.9638	2.9651
2.9663	2.9676	2.9689	2.9701	2.9714	2.9726	2.9739
2.9751	2.9764	2.9776	2.9789	2.9801	2.9814	2.9826
2.9839	2.9851	2.9863	2.9876	2.9888	2.9900	2.9912
2.9925	2.9937	2.9949	2.9961	2.9974	2.9986	2.9998
3.0010	3.0022	3.0034	3.0046	3.0058	3.0070	3.0082
3.0094	3.0106	3.0118	3.0130	3.0142	3.0154	3.0166
3.0178	3.0189	3.0201	3.0213	3.0225	3.0237	3.0248
3.0260	3.0272	3.0283	3.0295	3.0307	3.0318	3.0330
3.0341	3.0353	3.0364	3.0376	3.0387	3.0399	3.0410
3.0422	3.0433	3.0445	3.0456	3.0467	3.0479	3.0490
3.0501	3.0513	3.0524	3.0535	3.0546	3.0558	3.0569
3.0580	3.0591	3.0602	3.0613	3.0624	3.0635	3.0646
3.0658	3.0669	3.0680	3.0690	3.0701	3.0712	3.0723
3.0734	3.0745	3.0756	3.0767	3.0777	3.0788	3.0799
3.0810	3.0821	3.0831	3.0842	3.0853	3.0863	3.0874
3.0885	3.0895	3.0906	3.0916	3.0927	3.0937	3.0948
3.0958	3.0969	3.0979	3.0990	3.1000		

*DEVELOPED CONDITIONS

*

AHYMO

*BASIN PR-1

*

COMPUTE NM HYD ID=1 HYD NO=100.1 AREA=0.00856 SQ MI
PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 5.0693 CFS UNIT VOLUME = 0.9971 B = 526.28
P60 = 2.1400
AREA = 0.001284 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.108912HR TP = 0.133300HR K/TP RATIO = 0.817047 SHAPE
CONSTANT, N = 4.373953
UNIT PEAK = 20.708 CFS UNIT VOLUME = 1.001 B = 379.38
P60 = 2.1400
AREA = 0.007276 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.56994 INCHES = 0.7167 ACRE-FEET
PEAK DISCHARGE RATE = 21.32 CFS AT 1.500 HOURS BASIN AREA =
0.0086 SQ. MI.

*

*

*BASIN PR-2

*

COMPUTE NM HYD ID=2 HYD NO=100.2 AREA=0.00092 SQ MI
PER A=0.00 PER B=0.0 PER C=19.0 PER D=81.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 2.9421 CFS UNIT VOLUME = 0.9951 B = 526.28
P60 = 2.1400

AHYMO
AREA = 0.000745 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.108912HR TP = 0.133300HR K/TP RATIO = 0.817047 SHAPE
CONSTANT, N = 4.373953
UNIT PEAK = 0.49749 CFS UNIT VOLUME = 0.9770 B = 379.38
P60 = 2.1400
AREA = 0.000175 SQ MI IA = 0.35000 INCHES INF = 0.83000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 2.56372 INCHES = 0.1258 ACRE-FEET
PEAK DISCHARGE RATE = 2.88 CFS AT 1.500 HOURS BASIN AREA =
0.0009 SQ. MI.

*
*
*BASIN EX-3
*

COMPUTE NM HYD ID=3 HYD NO=100.3 AREA=0.00141 SQ MI
PER A=0.00 PER B=31.0 PER C=00.0 PER D=69.00
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 3.8411 CFS UNIT VOLUME = 0.9966 B = 526.28
P60 = 2.1400
AREA = 0.000973 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.133656HR TP = 0.133300HR K/TP RATIO = 1.002670 SHAPE
CONSTANT, N = 3.520654
UNIT PEAK = 1.0553 CFS UNIT VOLUME = 0.9889 B = 321.84
P60 = 2.1400

AHYMO
AREA = 0.000437 SQ MI IA = 0.50000 INCHES INF = 1.25000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 100.30

RUNOFF VOLUME = 2.30020 INCHES = 0.1730 ACRE-FEET
PEAK DISCHARGE RATE = 4.04 CFS AT 1.500 HOURS BASIN AREA =
0.0014 SQ. MI.

*

*

*BASIN EX-4

*

COMPUTE NM HYD ID=4 HYD NO=100.4 AREA=0.00093 SQ MI
PER A=0.00 PER B=6.00 PER C=00.0 PER D=94.0
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 3.4514 CFS UNIT VOLUME = 0.9959 B = 526.28
P60 = 2.1400
AREA = 0.000874 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.133656HR TP = 0.133300HR K/TP RATIO = 1.002670 SHAPE
CONSTANT, N = 3.520654
UNIT PEAK = 0.13472 CFS UNIT VOLUME = 0.9008 B = 321.84
P60 = 2.1400
AREA = 0.000056 SQ MI IA = 0.50000 INCHES INF = 1.25000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.40

AHYMO

RUNOFF VOLUME = 2.74343 INCHES = 0.1361 ACRE-FEET
 PEAK DISCHARGE RATE = 2.99 CFS AT 1.500 HOURS BASIN AREA =
 0.0009 SQ. MI.

*
*
*

*COMBINE PR-1, EX-3, AND EX-4

*

ADD HYD ID=50 HYD NO=100.21 ID=1 ID=3

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=4

*

PRINT HYD ID=50 CODE=1

PARTIAL HYDROGRAPH 100.21

RUNOFF VOLUME = 1.76445 INCHES = 1.0257 ACRE-FEET
 PEAK DISCHARGE RATE = 28.35 CFS AT 1.500 HOURS BASIN AREA =
 0.0109 SQ. MI.

**

*ROUTE BASINS PR-1, EX-3, AND EX-4 THROUGH PROPOSED DETENTION POND

ROUTE RESERVOIR ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24

OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)

0.0100	0.0	19.50
0.4800	0.0497	20.00
4.8300	0.1041	20.50
6.6200	0.1634	21.00
20.820	0.2278	21.50
43.130	0.2974	22.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

AHYMO

0.00	0.00	19.49	-0.001	0.00
1.20	1.96	19.73	0.023	0.22
2.40	0.89	20.16	0.067	1.88
3.60	0.05	19.81	0.031	0.30
4.80	0.05	19.65	0.015	0.15
6.00	0.07	19.59	0.009	0.10
7.20	0.07	19.57	0.007	0.08
8.40	0.07	19.57	0.007	0.07
9.60	0.06	19.56	0.006	0.07
10.80	0.06	19.56	0.006	0.07
12.00	0.06	19.56	0.006	0.06
13.20	0.06	19.55	0.005	0.06
14.40	0.06	19.55	0.005	0.06
15.60	0.06	19.55	0.005	0.06
16.80	0.05	19.55	0.005	0.06
18.00	0.05	19.55	0.005	0.05
19.20	0.05	19.54	0.004	0.05
20.40	0.05	19.54	0.004	0.05
21.60	0.05	19.54	0.004	0.05
22.80	0.04	19.54	0.004	0.05
24.00	0.04	19.54	0.004	0.04
25.20	0.00	19.51	0.001	0.02
26.40	0.00	19.50	0.000	0.01
27.60	0.00	19.50	0.000	0.01
28.80	0.00	19.50	0.000	0.01
30.00	0.00	19.50	0.000	0.01
31.20	0.00	19.50	0.000	0.01
32.40	0.00	19.50	0.000	0.01
33.60	0.00	19.50	0.000	0.01
34.80	0.00	19.50	0.000	0.01
36.00	0.00	19.50	0.000	0.01
37.20	0.00	19.50	0.000	0.01
38.40	0.00	19.50	0.000	0.01
39.60	0.00	19.50	0.000	0.01
40.80	0.00	19.50	0.000	0.01
42.00	0.00	19.50	0.000	0.01
43.20	0.00	19.50	0.000	0.01
44.40	0.00	19.50	0.000	0.01
45.60	0.00	19.50	0.000	0.01
46.80	0.00	19.50	0.000	0.01
48.00	0.00	19.50	0.000	0.01
49.20	0.00	19.50	0.000	0.01
50.40	0.00	19.50	0.000	0.01
51.60	0.00	19.50	0.000	0.01
52.80	0.00	19.50	0.000	0.01
54.00	0.00	19.50	0.000	0.01
55.20	0.00	19.50	0.000	0.01

			AHYMO	
56.40	0.00	19.50	0.000	0.01
57.60	0.00	19.50	0.000	0.01
58.80	0.00	19.50	0.000	0.01
60.00	0.00	19.50	0.000	0.01
61.20	0.00	19.50	0.000	0.01
62.40	0.00	19.50	0.000	0.01
63.60	0.00	19.50	0.000	0.01
64.80	0.00	19.50	0.000	0.01
66.00	0.00	19.50	0.000	0.01
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
67.20	0.00	19.50	0.000	0.01
68.40	0.00	19.50	0.000	0.01
69.60	0.00	19.50	0.000	0.01
70.80	0.00	19.50	0.000	0.01
72.00	0.00	19.50	0.000	0.01
73.20	0.00	19.50	0.000	0.01
74.40	0.00	19.50	0.000	0.01
75.60	0.00	19.50	0.000	0.01
76.80	0.00	19.50	0.000	0.01
78.00	0.00	19.50	0.000	0.01
79.20	0.00	19.50	0.000	0.01
80.40	0.00	19.50	0.000	0.01
81.60	0.00	19.50	0.000	0.01
82.80	0.00	19.50	0.000	0.01
84.00	0.00	19.50	0.000	0.01
85.20	0.00	19.50	0.000	0.01
86.40	0.00	19.50	0.000	0.01
87.60	0.00	19.50	0.000	0.01
88.80	0.00	19.50	0.000	0.01
90.00	0.00	19.50	0.000	0.01
91.20	0.00	19.50	0.000	0.01
92.40	0.00	19.50	0.000	0.01
93.60	0.00	19.50	0.000	0.01
94.80	0.00	19.50	0.000	0.01
96.00	0.00	19.50	0.000	0.01
97.20	0.00	19.50	0.000	0.01
98.40	0.00	19.50	0.000	0.01
99.60	0.00	19.50	0.000	0.01
100.80	0.00	19.50	0.000	0.01
102.00	0.00	19.50	0.000	0.01
103.20	0.00	19.50	0.000	0.01
104.40	0.00	19.50	0.000	0.01
105.60	0.00	19.50	0.000	0.01
106.80	0.00	19.50	0.000	0.01
108.00	0.00	19.50	0.000	0.01

			AHYMO	
109.20	0.00	19.50	0.000	0.01
110.40	0.00	19.50	0.000	0.01
111.60	0.00	19.50	0.000	0.01
112.80	0.00	19.50	0.000	0.01
114.00	0.00	19.50	0.000	0.01
115.20	0.00	19.50	0.000	0.01
116.40	0.00	19.50	0.000	0.01
117.60	0.00	19.50	0.000	0.01
118.80	0.00	19.50	0.000	0.01
120.00	0.00	19.50	0.000	0.01
121.20	0.00	19.50	0.000	0.01
122.40	0.00	19.50	0.000	0.01
123.60	0.00	19.50	0.000	0.01
124.80	0.00	19.50	0.000	0.01
126.00	0.00	19.50	0.000	0.01
127.20	0.00	19.50	0.000	0.01
128.40	0.00	19.50	0.000	0.01
129.60	0.00	19.50	0.000	0.01
130.80	0.00	19.50	0.000	0.01
132.00	0.00	19.50	0.000	0.01
133.20	0.00	19.50	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
134.40	0.00	19.50	0.000	0.01
135.60	0.00	19.50	0.000	0.01
136.80	0.00	19.50	0.000	0.01
138.00	0.00	19.50	0.000	0.01
139.20	0.00	19.50	0.000	0.01
140.40	0.00	19.50	0.000	0.01
141.60	0.00	19.50	0.000	0.01
142.80	0.00	19.50	0.000	0.01
144.00	0.00	19.50	0.000	0.01
145.20	0.00	19.50	0.000	0.01
146.40	0.00	19.50	0.000	0.01
147.60	0.00	19.50	0.000	0.01
148.80	0.00	19.50	0.000	0.01
150.00	0.00	19.50	0.000	0.01
151.20	0.00	19.50	0.000	0.01
152.40	0.00	19.50	0.000	0.01
153.60	0.00	19.50	0.000	0.01
154.80	0.00	19.50	0.000	0.01
156.00	0.00	19.50	0.000	0.01
157.20	0.00	19.50	0.000	0.01
158.40	0.00	19.50	0.000	0.01
159.60	0.00	19.50	0.000	0.01
160.80	0.00	19.50	0.000	0.01

			AHYMO	
162.00	0.00	19.50	0.000	0.01
163.20	0.00	19.50	0.000	0.01
164.40	0.00	19.50	0.000	0.01
165.60	0.00	19.50	0.000	0.01
166.80	0.00	19.50	0.000	0.01
168.00	0.00	19.50	0.000	0.01
169.20	0.00	19.50	0.000	0.01
170.40	0.00	19.50	0.000	0.01
171.60	0.00	19.50	0.000	0.01
172.80	0.00	19.50	0.000	0.01
174.00	0.00	19.50	0.000	0.01
175.20	0.00	19.50	0.000	0.01
176.40	0.00	19.50	0.000	0.01
177.60	0.00	19.50	0.000	0.01
178.80	0.00	19.50	0.000	0.01
180.00	0.00	19.50	0.000	0.01
181.20	0.00	19.50	0.000	0.01
182.40	0.00	19.50	0.000	0.01
183.60	0.00	19.50	0.000	0.01
184.80	0.00	19.50	0.000	0.01
186.00	0.00	19.50	0.000	0.01
187.20	0.00	19.50	0.000	0.01
188.40	0.00	19.50	0.000	0.01
189.60	0.00	19.50	0.000	0.01
190.80	0.00	19.50	0.000	0.01
192.00	0.00	19.50	0.000	0.01
193.20	0.00	19.50	0.000	0.01
194.40	0.00	19.50	0.000	0.01
195.60	0.00	19.50	0.000	0.01
196.80	0.00	19.50	0.000	0.01
198.00	0.00	19.50	0.000	0.01
199.20	0.00	19.50	0.000	0.01

PEAK DISCHARGE = 25.343 CFS - PEAK OCCURS AT HOUR 1.55
 MAXIMUM WATER SURFACE ELEVATION = 21.601 **<22.0, THEREFORE OK**
 MAXIMUM STORAGE = 0.2419 AC-FT INCREMENTAL TIME= 0.050000HRS

*
*

PRINT HYD ID=55 CODE=1

PARTIAL HYDROGRAPH 200.10

RUNOFF VOLUME = 2.01257 INCHES = 1.1700 ACRE-FEET
 PEAK DISCHARGE RATE = 25.34 CFS AT 1.550 HOURS BASIN AREA =
 0.0109 SQ. MI.

AHYMO

*

*

*COMBINE POND OUTFLOW WITH EX-2 FOR TOTAL AT AP#1

*

ADD HYD ID=58 HYD NO=100.22 ID=2 ID=55

*

PRINT HYD ID=58 CODE=1

PARTIAL HYDROGRAPH 100.22

RUNOFF VOLUME = 2.05543 INCHES = 1.2957 ACRE-FEET
PEAK DISCHARGE RATE = 28.08 CFS AT 1.550 HOURS BASIN AREA =
0.0118 SQ. MI.

QIPOST<QIPRE AT AP#1

*

*

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 14:44:31

APPENDIX B

HYDRAULICS

Worksheet for Broad Crested Weir - Existing Pond

Project Description

Solve For Discharge

Input Data

Headwater Elevation	5421.00	ft
Crest Elevation	5420.50	ft
Tailwater Elevation	5420.00	ft
Crest Surface Type	Gravel	
Crest Breadth	5.00	ft
Crest Length	30.00	ft

Results

Discharge	28.57	ft³/s
Headwater Height Above Crest	0.50	ft
Tailwater Height Above Crest	-0.50	ft
Weir Coefficient	2.69	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	2.69	US
Flow Area	15.00	ft²
Velocity	1.90	ft/s
Wetted Perimeter	31.00	ft
Top Width	30.00	ft

Worksheet for V-Notch Weir - Stage-Q @El=5420.0 (PipeX3)

Project Description

Solve For

Discharge

Input Data

Headwater Elevation	5420.00	ft
Crest Elevation	5419.67	ft
Tailwater Elevation	5419.50	ft
Coefficient of Discharge	0.60	
Angle	90.00	degrees

Results

Discharge	0.16	ft ³ /s
Headwater Height Above Crest	0.33	ft
Tailwater Height Above Crest	-0.17	ft
Flow Area	0.11	ft ²
Velocity	1.47	ft/s
Wetted Perimeter	0.93	ft
Top Width	0.66	ft

Worksheet for Broad Crested Weir - Stage-Q 5421.5

Project Description

Solve For Discharge

Input Data

Headwater Elevation	5421.50	ft
Crest Elevation	5421.00	ft
Tailwater Elevation	5419.00	ft
Crest Surface Type	Paved	
Crest Breadth	5.00	ft
Crest Length	9.80	ft

Results

Discharge	10.42	ft³/s
Headwater Height Above Crest	0.50	ft
Tailwater Height Above Crest	-2.00	ft
Weir Coefficient	3.01	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	3.01	US
Flow Area	4.90	ft²
Velocity	2.13	ft/s
Wetted Perimeter	10.80	ft
Top Width	9.80	ft

Worksheet for Broad Crested Weir - Stage-Q 5422.0

Project Description

Solve For Discharge

Input Data

Headwater Elevation	5422.00	ft
Crest Elevation	5421.00	ft
Tailwater Elevation	5419.00	ft
Crest Surface Type	Paved	
Crest Breadth	5.00	ft
Crest Length	9.80	ft

Results

Discharge	30.04	ft ³ /s
Headwater Height Above Crest	1.00	ft
Tailwater Height Above Crest	-2.00	ft
Weir Coefficient	3.07	US
Submergence Factor	1.00	
Adjusted Weir Coefficient	3.07	US
Flow Area	9.80	ft ²
Velocity	3.07	ft/s
Wetted Perimeter	11.80	ft
Top Width	9.80	ft

Worksheet for Proposed Pond Culvert Pipe Capacity Check (Q/3)

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient 0.010
Channel Slope 0.00500 ft/ft
Diameter 12 in
Discharge 1.46 ft³/s

Results

Normal Depth 0.47 ft
Flow Area 0.36 ft²
Wetted Perimeter 1.51 ft
Hydraulic Radius 0.24 ft
Top Width 1.00 ft
Critical Depth 0.51 ft
Percent Full 46.8 %
Critical Slope 0.00367 ft/ft
Velocity 4.05 ft/s
Velocity Head 0.25 ft
Specific Energy 0.72 ft
Froude Number 1.19
Maximum Discharge 3.52 ft³/s
Discharge Full 3.27 ft³/s
Slope Full 0.00099 ft/ft
Flow Type SuperCritical

GVF Input Data

Downstream Depth 0.00 ft
Length 0.00 ft
Number Of Steps 0

GVF Output Data

Upstream Depth 0.00 ft
Profile Description
Profile Headloss 0.00 ft
Average End Depth Over Rise 0.00 %
Normal Depth Over Rise 46.77 %
Downstream Velocity Infinity ft/s

Worksheet for Alley Street Capacity

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Channel Slope 0.00500 ft/ft
Discharge 2.88 ft³/s
Section Definitions

Station (ft)	Elevation (ft)
--------------	----------------

0+00	100.25
0+05	100.00
0+20	100.80

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 100.25)	(0+20, 100.80)	0.013

Options

Current Roughness Weighted Method Pavlovskii's Method
Open Channel Weighting Method Pavlovskii's Method
Closed Channel Weighting Method Pavlovskii's Method

Results

Normal Depth 0.26 ft
Elevation Range 100.00 to 100.80 ft
Flow Area 1.35 ft²
Wetted Perimeter 9.99 ft
Hydraulic Radius 0.14 ft
Top Width 9.96 ft
Normal Depth 0.26 ft
Critical Depth 0.27 ft
Critical Slope 0.00479 ft/ft
Velocity 2.13 ft/s

Worksheet for Proposed Berm Capacity (Basin PR-1)

Project Description

Friction Method Manning Formula
Solve For Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.00600	ft/ft
Left Side Slope	50.00	ft/ft (H:V)
Right Side Slope	3.00	ft/ft (H:V)
Discharge	21.32	ft³/s

Results

Normal Depth	0.66	ft
Flow Area	11.63	ft²
Wetted Perimeter	35.23	ft
Hydraulic Radius	0.33	ft
Top Width	35.11	ft
Critical Depth	0.53	ft
Critical Slope	0.02056	ft/ft
Velocity	1.83	ft/s
Velocity Head	0.05	ft
Specific Energy	0.71	ft
Froude Number	0.56	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.66	ft
Critical Depth	0.53	ft
Channel Slope	0.00600	ft/ft
Critical Slope	0.02056	ft/ft

APPENDIX C

POND VOLUME CALCULATIONS

LOS PASTORES SHOPPING CENTER

Existing Conditions Basin Data Table

This table is based on the DPM Section 22.2, Zone: 3

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)	V(100) (CF)	Area (sq.mi.)
			A	B	C	D					
EXISTING CONDITIONS											
EX-1	228107	5.24	0.0%	0.0%	94.0%	6.0%	3.54	18.56	1.35	25742	0.00818
EX-2*	26192	0.60	0.0%	0.0%	100.0%	0.0%	3.45	2.07	1.29	2816	0.00094
EX-3	39284	0.90	0.0%	31.0%	0.0%	69.0%	4.27	3.85	1.91	6264	0.00141
EX-4	26012	0.60	0.0%	6.0%	0.0%	94.0%	4.87	2.91	2.27	4928	0.00093
TOTAL		5.24						27.40	1.35	39750	

Existing drainage areas are routed through the existing pond, except for public alley Basin EX-2.

Proposed Conditions Basin Data Table

BASIN	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100) (cfs/ac.)	Q(100) (CFS)	V(100) (inches)	V(100) (CF)	Area (sq.mi.)	1ST FLUSH
			A	B	C	D						
PROPOSED CONDITIONS												
PR-1	238723	5.48	0.0%	0.0%	85.0%	15.0%	3.69	20.20	1.45	28856	0.00856	1015
PR-2	25620	0.59	0.0%	0.0%	19.0%	81.0%	4.72	2.78	2.16	4605	0.00092	588
EX-3	39284	0.90	0.0%	31.0%	0.0%	69.0%	4.27	3.85	1.91	6264	0.00141	768
EX-4	26012	0.60	0.0%	6.0%	0.0%	94.0%	4.87	2.91	2.27	4928	0.00093	693
TOTAL		5.48						29.74	1.45	44653		3063

Existing drainage areas are routed through the existing pond, except for public alley Basin EX-2.

POND VOLUME CALCULATIONS

EXISTING POND VOLUME CALCULATION AND STAGE-DISCHARGE					
ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)	CUMULATIVE VOLUME (ac-ft)	Q out
5419	1575	0	0		0
5420	3106	2341	2341	0.0537	0
5420.5	3462	1642	3983	0.0914	0
5421	4411	1968	5951	0.1366	28.57 *

*SEE WEIR CALCULATION, FLOWMASTER WORKSHEET

PROPOSED VOLUME CALCULATION (FIRST-FLUSH ONLY, BELOW EL=5419.5)			
ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)
5418.5	3390	0	0
5419.5	4133	3762	3762

Volume Provided > Volume Required = 3063 cf, **OK**

PROPOSED POND VOLUME CALCULATION				
ELEVATION (ft)	AREA (sf)	VOLUME (cf)	CUMULATIVE VOLUME (cf)	CUMULATIVE VOLUME (ac-ft)
5419.5	4133	0	0	
5420.0	4531	2166	2166	0.0497
5420.5	4947	2370	4535.5	0.1041
5421.0	5382	2582	7117.75	0.1634
5421.5	5834	2804	9921.75	0.2278
5422.0	6304	3035	12956.25	0.2974

STAGE-DISCHARGE CALCULATIONS

PROPOSED DETENTION POND

STAGE, VOLUME, DISCHARGE

Orifice Elevation: 5420.2

ACTUAL ELEV.	DEPTH (FT)	VOLUME (AC-FT)	Q _{ORIFICE} (CFS)	Q _{ORIFICE} (CFS)	NO. OF BARRELS	Q _{TOTAL} (CFS)
5419.5	0	0	0.0000			
5420.0	-0.16	0.0497	0.0000	0.16	3	0.48*
5420.5	0.34	0.1041	0.0000	1.61	3	4.83*
5421.0	0.84	0.1634	2.2051	0.00	3	6.62**
5421.5	1.34	0.2278	3.4660	10.42	3	20.82***
5422.0	1.84	0.2974	4.3776	30.00	3	43.13***

*WEIR FLOW THROUGH PIPE ONLY

**ORIFICE FLOW THROUGH PIPES ONLY

***ORIFICE FLOW THROUGH PIPES + OVERFLOW WEIR FLOW

Orifice Equation

$$Q = CA \sqrt{2gH}$$

C = 0.6

Diameter (i) 12

Area (ft²)= 0.785

g = 32.2

H (Ft) = Depth of water above center of orifice

Q (CFS)= Flow

CITY OF ALBUQUERQUE



May 31, 2016

Terry O. Brown
PO Box 92051
Albuquerque, NM 87199-2051

Re: Montgomery / Wyoming Restaurants
4607-4661 Wyoming Blvd.
Traffic Impact Study
Engineer's Stamp dated 05-13-16 (F19-D013C)

Dear Mr. Brown,

The subject Traffic Impact Study received on May 17, 2016 has been reviewed and approved by the Transportation Development Section. All comments have been adequately addressed.

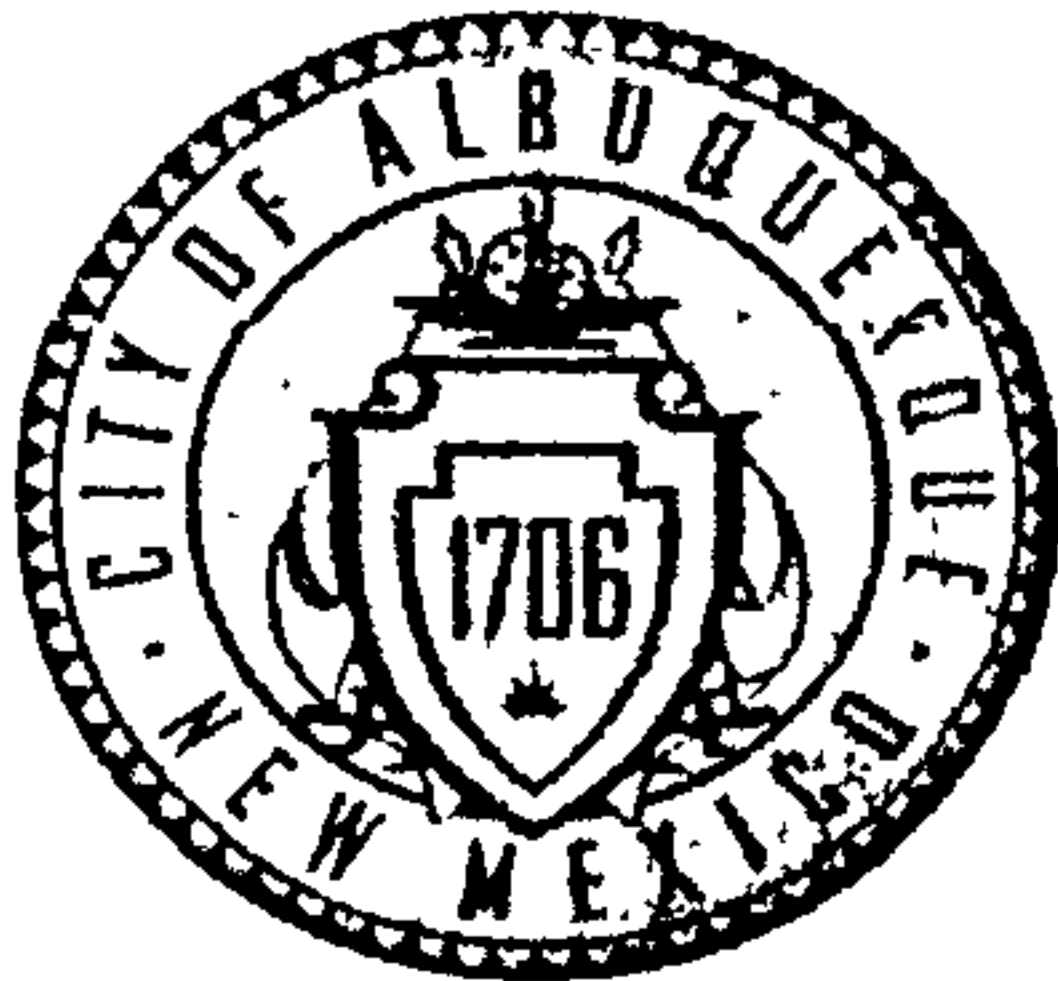
The final Traffic Impact Study shall be valid for a period of three years. Should significant modifications to the approved development proposal occur, the approved study shall be revised to incorporate the changes.

If you have any questions, please feel free to contact me at (505) 924-3991.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

via: email
C: Applicant, File



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Montgomery / Wyoming Restaurants Building Permit #: _____ City Drainage #: F19 D013C
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: Southwest corner of Guiterrez Rd. / Wyoming Blvd.
City Address: Wyoming Blvd. NE

Engineering Firm: Terry O. Brown, P.E. Contact: Terry Brown
Address: PO Box 92051, Albuquerque, NM 87199-2051
Phone#: 505-883-8807 Fax#: N/A E-mail: tobe@swcp.com

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

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

Other Contact: Tierra West, LLC Contact: Ron Bohannon
Address: 5571 Midway Park Pl. NE, Albuquerque, NM 87109
Phone#: 505-858-3100 Fax#: _____ E-mail: rrb@tierrawestllc.com

Check all that Apply:

DEPARTMENT:

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

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

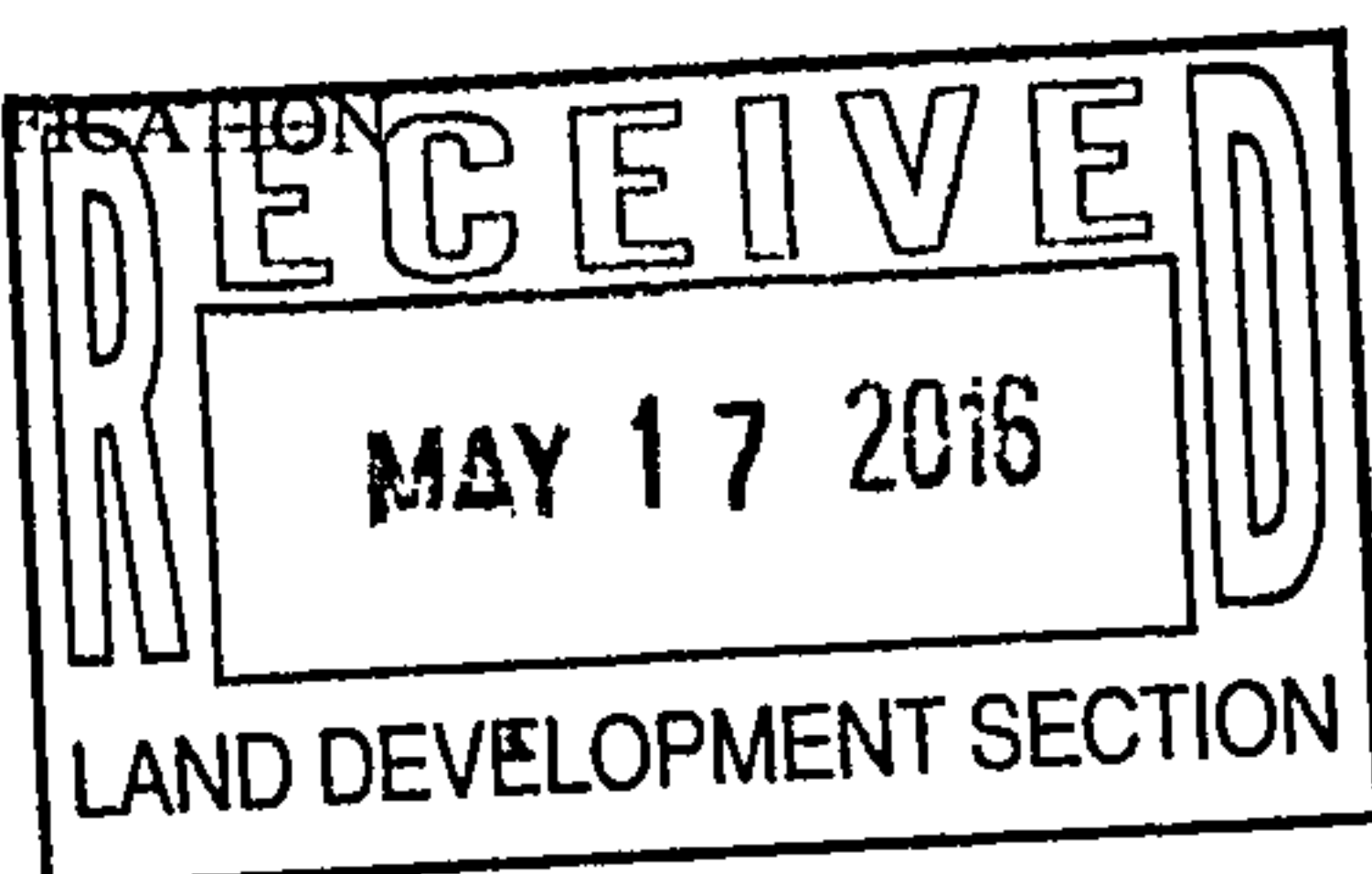
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY

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) _____

*Complete
Corrects
Review for
Racquel*

IS THIS A RESUBMITTAL?: ☒ Yes ☐ No

DATE SUBMITTED: May 17, 2016 By: Terry O. Brown

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

Tuesday, May 17, 2015

Racquel Michel P.E.
City of Albuquerque Planning Department
Transportation Development Section
600 2nd St. NW
Albuquerque, NM 87102

Re: Montgomery / Wyoming Restaurant Project

Dear Racquel :

Attached is a copy of the FINAL Traffic Impact Study for the referenced land development project for your approval. The Study has been revised to address Jeanne Wolfenbarger's comments in her e-mail dated July 21, 2015 as follows:

- Drive way B not Labeled? →
- A. On the site plan on Page A-2, label all improvements including all recommended lanes, label driveways "A" and "B" and Gutierrez. Show any pertinent access easements.

✓ Show all property lines and the property lines surrounding the access out to Montgomery Boulevard. Show the widths of all access points.

RESPONSE: The new site plan shows additional data as requested.

- B. Provide copy of any access agreements. Access agreement with the neighboring church will be required prior to approval with current traffic scheme. → Not signed by General Partner

RESPONSE: The Access Settlement Agreement between the developer and Legacy Church are include on Pages A-89 thru A-95 in the Appendix of the report. P 8. A-90

- C. Check some of the volume discrepancies in the analysis. (A volume of "35" for the southbound left at Wyoming/Montgomery is shown in the volumes on Page A-36, and a volume of "5" is shown for the analysis on Page A-55.) ← Check A-55 volume of 5 not sure

RESPONSE: Volumes have been checked and verified or corrected. if corrected

- ✓ D. On Page 7, for the Table showing levels of service, "Montgomery/Wyoming" is labeled in lieu of the "Montgomery/Pennsylvania" intersection.

RESPONSE: Page 7 has been corrected as requested.

- E. Where was the pass-by trip percentage of 30% derived from? Don't know here to check in TIS. The City had adopted a generic pass-by trip rate of 30% many years ago. The 30% is a far correction or conservatively low rate. This study has been updated to implement a 45% pass-by trip. if this explanation is okay.

F. Due to volumes building up on the north leg of the Wyoming/Montgomery southbound and the inadequacy of the left turn bays, it is requested to investigate moving Driveway "A" to the north, possibly to line up with the driveway across the street into Quarters.

Analyze recommended left turn bay lengths at Driveway "A" in addition to the Wyoming/Montgomery intersection for northbound and southbound traffic.

Driveway "A" has been located as far north as is feasible without jeopardizing the site plan design and internal circulation.

Drive way A does not line up w/ the Quarters drive entrance see A-2
Not sure where this is in TIS?

Page 2 of 2
Racquel Michel P.E.
Tuesday, May 17, 2015

Re: Montgomery / Wyoming Restaurant Project

Racquel, you'll
need to check
this before approval

G. The analysis for the Wyoming/Montgomery intersection on Pages A-50 and A-56 shows a right turn lane for southbound traffic on Wyoming/Montgomery where there is no right turn lane. This would result in a worse level of service for the movement at the intersection and the overall intersection shown on Page 9.

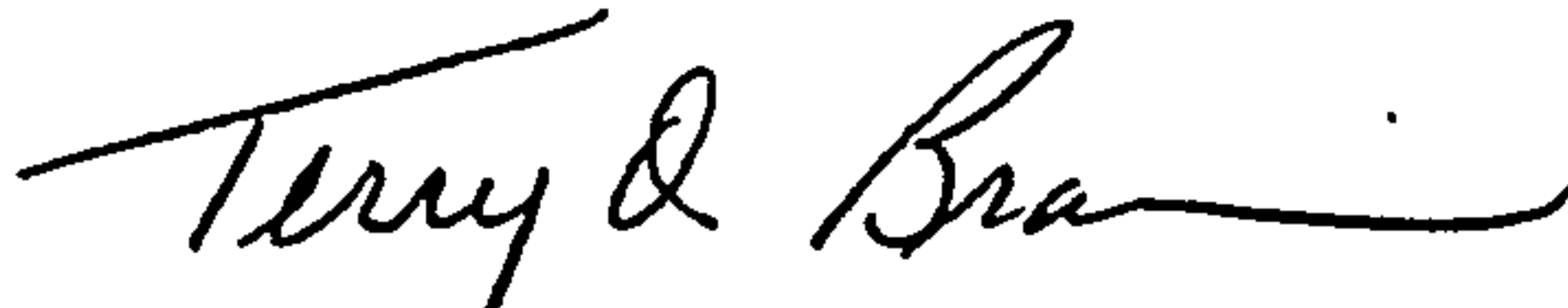
This issue has been corrected. Only the mitigated geometry includes the southbound right turn lane, but it cannot be constructed without additional right-of-way being obtained.

H. In order to improve Levels of Service at the Wyoming/Montgomery intersection, investigate different possibilities. Look at recommending different cycle lengths as one possibility. Another possibility would be to investigate possibility of adding a right turn only lane at the Wyoming/Montgomery intersection for southbound traffic and obtain right-of-way and/or a roadway easement.

This has been done. See page 9. As was implied in the comment, additional right-of-way would be needed, but cannot be obtained at this time.

Please call me if you have questions.

Best Regards,



Terry O. Brown, P.E.

attachments as noted

cc: Ron Bohannon, Tierra West, LLC w/2 copies of report

Terry O. Brown, P.E.

From: Wolfenbarger, Jeanne <jwolfenbarger@cabq.gov>
Sent: Tuesday, July 21, 2015 9:29 AM
To: 'Terry O. Brown'
Cc: Michel, Racquel M.
Subject: Comments on "Wyoming/Montgomery Restaurants" Traffic Impact Study

Terry,

Here are the following comments for the above Traffic Impact Study:

- A. On the site plan on Page A-2, label all improvements including all recommended lanes, label driveways "A" and "B" and Gutierrez. Show any pertinent access easements. Show all property lines and the property lines surrounding the access out to Montgomery Boulevard. Show the widths of all access points.
- B. Provide copy of any access agreements. Access agreement with the neighboring church will be required prior to approval with current traffic scheme.
- C. Check some of the volume discrepancies in the analysis. (A volume of "35" for the southbound left at Wyoming/Montgomery is shown in the volumes on Page A-36, and a volume of "5" is shown for the analysis on Page A-55.)
- D. On Page 7, for the Table showing levels of service, "Montgomery/Wyoming" is labeled in lieu of the "Montgomery/Pennsylvania" intersection.
- E. Where was the pass-by trip percentage of 30% derived from?
- F. Due to volumes building up on the north leg of the Wyoming/Montgomery southbound and the inadequacy of the left turn bays, it is requested to investigate moving Driveway "A" to the north, possibly to line up with the driveway across the street into Quarters. Analyze recommended left turn bay lengths at Driveway "A" in addition to the Wyoming/Montgomery intersection for northbound and southbound traffic.
- G. The analysis for the Wyoming/Montgomery intersection on Pages A-50 and A-56 shows a right turn lane for southbound traffic on Wyoming/Montgomery where there is no right turn lane. This would result in a worse level of service for the movement at the intersection and the overall intersection shown on Page 9.
- H. In order to improve Levels of Service at the Wyoming/Montgomery intersection, investigate different possibilities. Look at recommending different cycle lengths as one possibility. Another possibility would be to investigate possibility of adding a right turn only lane at the Wyoming/Montgomery intersection for southbound traffic and obtain right-of-way and/or a roadway easement.

Jeanne