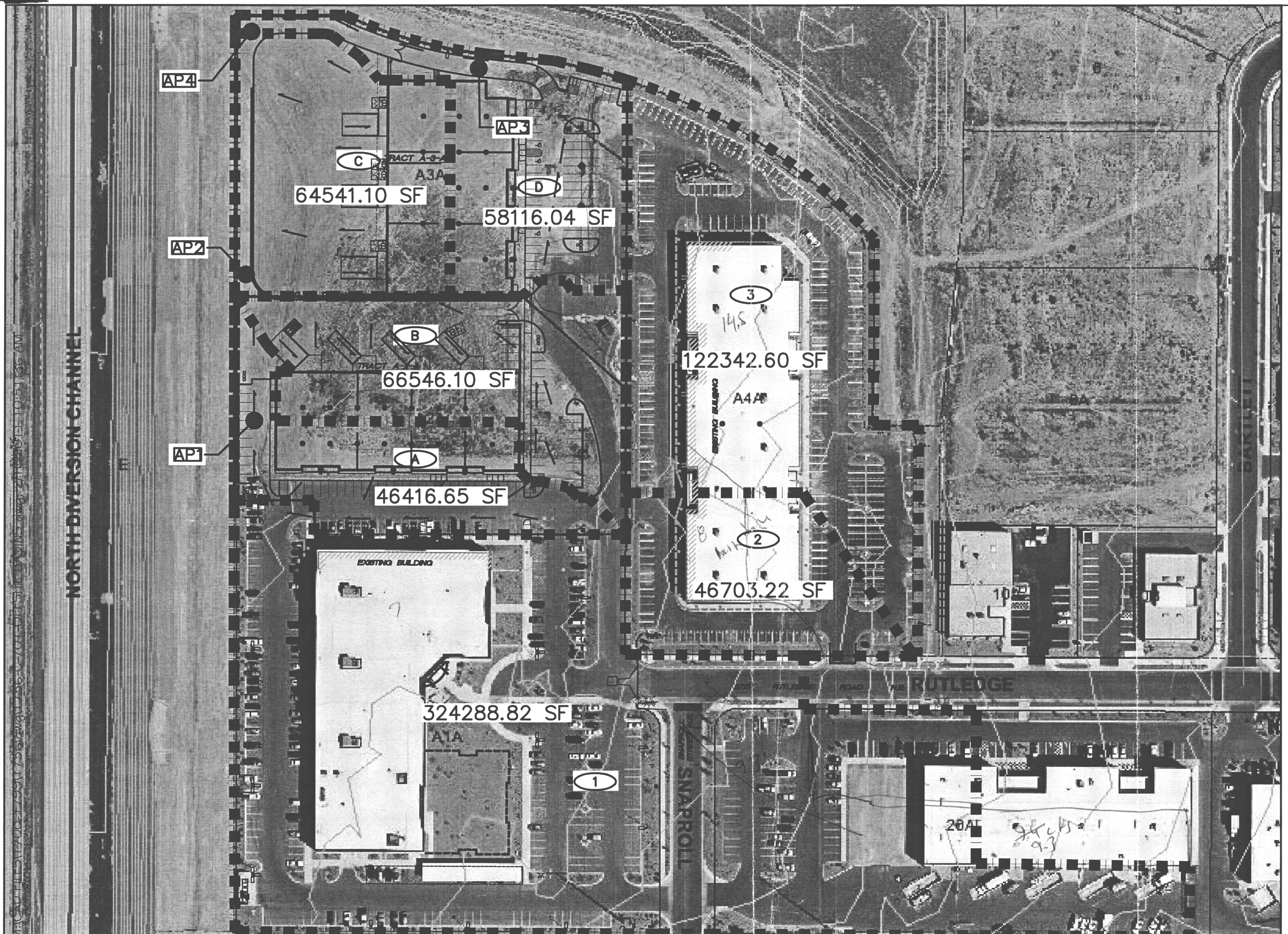


BRUNACINI BUILDING

BRUNACINI

OFFSITE BASIN EXHIBIT

0 50 100 200 300

SCALE 1"=100'

CITY OF ALBUQUERQUE

April 19, 2011

Genny Donart, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Brunacini Journal Center Tracts A-2-A and A-3-A
Preliminary Grading and Drainage Plan
Engineer's Stamp dated –no stamp- (D17/D003AA7)

Dear Ms Donart,

Based upon the information provided in your submittal received 2/10/11, the above referenced plan cannot be approved for Site Development for Building Permit action by the DRB until the following comment is addressed:

- Hydrology wanted to close out this submittal, since it has been more than two months and it is evident that a different plan will be submitted due to the storm water treatment pond.

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

Sincerely,

Curtis A. Cherne, P.E.
Principal Engineer, Planning Dept.
Development and Building Services

C: file

write letter

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

CITY OF ALBUQUERQUE

March 23, 2010

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Tracts A2 and A3 Brunacini Journal Center Preliminary Grading and Drainage Plan

Engineer's Stamp dated 3-1-10 (D17/D003AA7)

Dear Mr. Arfman,

Based upon the information provided in your submittal received 3-1-10, the above referenced plan is approved for Site Development for Building Permit action by the DRB. The concrete rundown to the North Diversion Channel side inlet is required to be on an Infrastructure List.

As discussed, additional information will be required on your submittal for Building Permit.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne

Curtis A. Cherne, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: file
Brad Bingham

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Brunacini Journal Center ZONE MAP/DRG. FILE D-17 /D003AA7
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACTS A-2-A AND A-3-A, JOURNAL CENTER, PHASE 2, UNIT 2, ALBUQUERQUE, NM
CITY ADDRESS: 9721 RUTLEDGE ST. NE

ENGINEERING FIRM: ISSACSON & ARFMAN, PA CONTACT: FRED C. ARFMAN
ADDRESS: 128 MONROE NE PHONE: 268-8828
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

OWNER: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: CLAUDIO VIGIL ARCHITECTS CONTACT: EDWARD AVILA
ADDRESS: 1801 RIO GRANDE BLVD. NW PHONE: 842-1113
CITY, STATE: Albuquerque, NM ZIP CODE: _____

SURVEYING FIRM: SURV-TEK CONSULTING SURVEYORS LICENSED SURVEYOR: RUSS P. HUGG
ADDRESS: 9384 VALLEY VIEW DR. NW PHONE: 897-3366
CITY, STATE: Albuquerque, NM ZIP CODE: 87114

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

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
__X__ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
__X__ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

RECEIVED
MAR 1 2010
HYDROLOGY SECTION

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

#100.00

SUBMITTED BY: ISAACSON & ARFMAN: Fred Arfman DATE: March 1, 2010

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

Dave Fernandez, Chairman
Richard D. Brown, Vice Chairman
Bruce M. Thomson, Secretary-Treasurer
Tim Eichenberg, Assistant Secretary-Treasurer
Daniel F. Lyon, Director

Jerry M. Lovato, P.E.
Executive Engineer

Albuquerque
Metropolitan
Arroyo
Flood
Control
Authority
2600 Prospect N.E., Albuquerque, NM 87107
Phone: (505) 884-2215 Fax: (505) 884-0214
Website: www.amaf.org

February 4, 2011

Ms. Genny Donart, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

By E-mail

Re: Journal Center Office Building, Tracts A2 & A3, ZAP D-17
Preliminary Plan Review

Dear Ms. Donart:

I reviewed the plan with respect to the water quality pond and outfall connection to the North Diversion Channel (NDC). Attached is the detail layout sheet with my mark-ups. I am not ready to approve the preliminary layout; I will need to see the site plan to determine the site drainage pattern. On the detail sheet, it appears that only the loading dock area and the internal access road drain to the water quality pond. The intent of the water quality treatment is to take the first flush rainfall over the entire site through the pond.

I discussed the status of the Essayons Boulevard project with the AMAFCA Executive Engineer, Jerry Lovato. The project is a few years out and has not been approved by the AMAFCA Board of Directors or the U.S. Army Corps of Engineers. Therefore, we will require a concrete rundown connection to the existing NDC rundown structure as you have shown on the plan. We will also require it to extend to the south to capture the flow in the existing side inlet channel.

As mentioned previously, a Turnkey Agreement will be required for the work within the NDC right-of-way. I will prepare the document and present it to the AMAFCA Board of Directors for consideration. We don't have to have the final approved plan before it is presented to the Board, but I would like the preliminary plan in approved form.

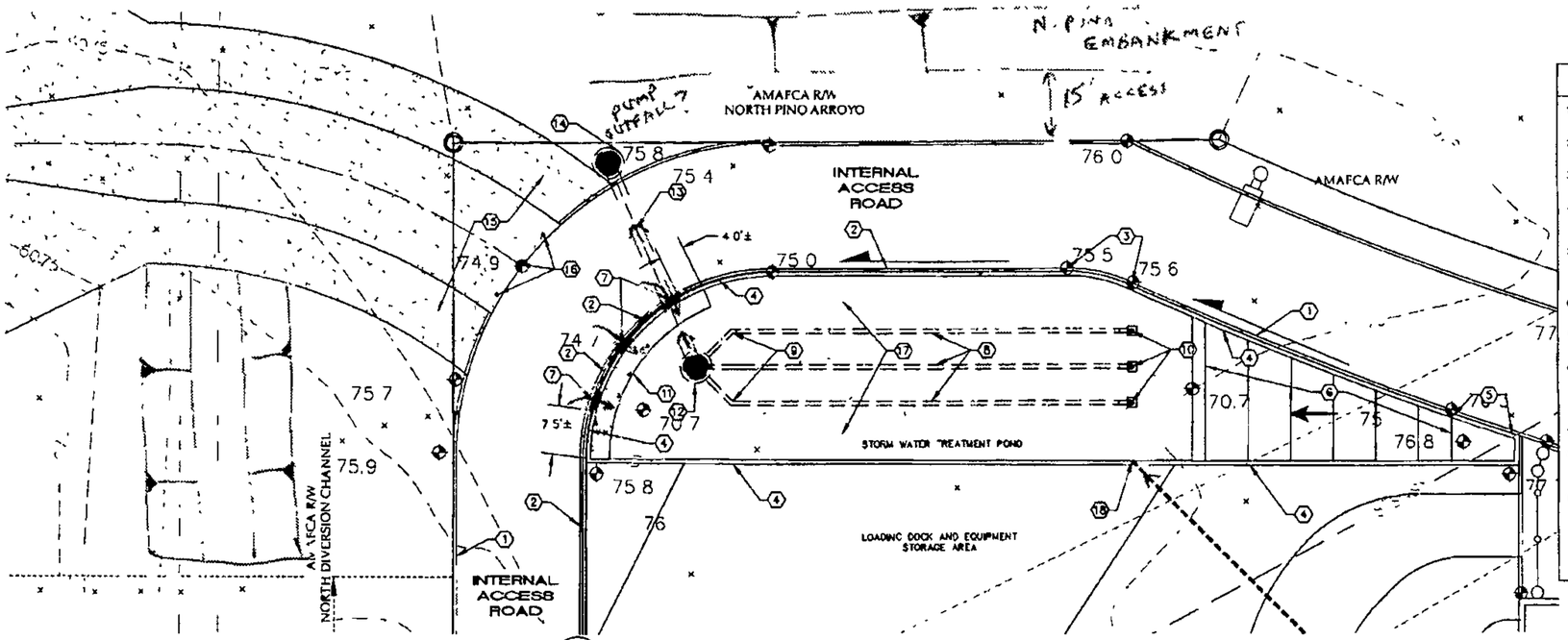
Another issue I would like to reiterate is the new FEMA requirement to have a 15-foot clear access at the toe of slope of our drainage facilities. We have the North Pino confluence embankment directly north of the internal access road. Let me know when the site right-of-way is staked so I can check that distance. We may have to request an access easement on the site access road. This can be done with a paper document.

If you have any questions, please call me at 884-2215.

Sincerely,
AMAFCA

Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer

Cc: Curtis Cherne, City Hydrology

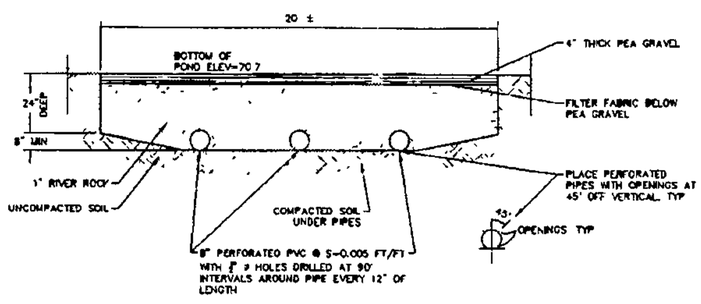


A STORM WATER TREATMENT POND
PLAN VIEW
SCALE 1"=10

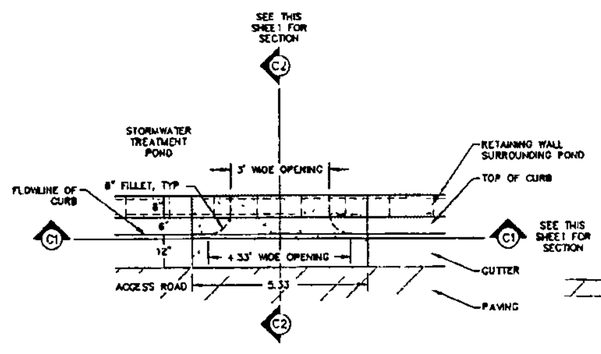
KEYED NOTES ()

1. 6" HIGH CURB & GUTTER PER DETAIL ON SHEET CG-50X.
2. 12" HIGH CURB & GUTTER PER DETAIL ON SHEET CG-50X.
3. TRANSITION FROM 12" HIGH TO 6" HIGH CURB OVER 10 LF
4. RETAINING WALL WITH CHAIN LINK FENCE ON TOP PER DETAIL C2 ON THIS SHEET
5. 8 WIDE GATE IN CHAIN LINK FENCE FOR MAINTENANCE ACCESS PER COA STD DWG #2252
6. DIRT RAMP FOR MAINTENANCE ACCESS 6:1 MAX SLOPE
7. C[illegible] OPENINGS PER DETAILS C, C1 & C2 ON THIS SHEET
8. 3 - 60 LF PERFORATED PIPES AS PART OF UNDERDRAIN SYSTEM PER DETAIL B ON THIS SHEET WATER IN POND INFILTRATES INTO UNDERDRAIN
9. 6" 45 BEND
10. 4" CLEANOUT WITH ACCESS LID IN CONCRETE PAD PER DETAILS B1 & B2 ON THIS SHEET
11. 4" THICK, X WIDE CONCRETE SPLASH PAD AT BASE OF RETAINING WALL.
12. 6 DIA TYPE 'C' MANHOLE PER COA STD DWG #XXXX
    RIM ELEV = 70.7
    INV (6" PIPES)=67.83
    INV (12 PIPE)=67.50
13. 35 LF 12" ADS N-12 HDPE PIPE @ 1% SLOPE
    INV (SE)=67.50
    INV (NW)=67.15
14. SUMP PUMP PER DETAIL ON SHEET CG-50X
15. CONCRETE RUNDOWN TO BE BUILT PER PUBLIC IMPROVEMENT PLANS (N.I.C.)
    (CPN #XXXXXX)
16. 3 BOLLARDS CENTERED IN RUNDOWN TO BE BUILT PER PUBLIC IMPROVEMENT PLANS (N.I.C.)
    (CPN #XXXXXX)
17. GRAVEL BED FOR PERFORATED INFILTRATION PIPES PER DETAIL B ON THIS SHEET
18. XX" PIPE FROM LOADING DOCK DRAINS PENETRATION THROUGH WALL AT INV=XXX

WIDE ENOUGH? ANY TRAJECTORY?

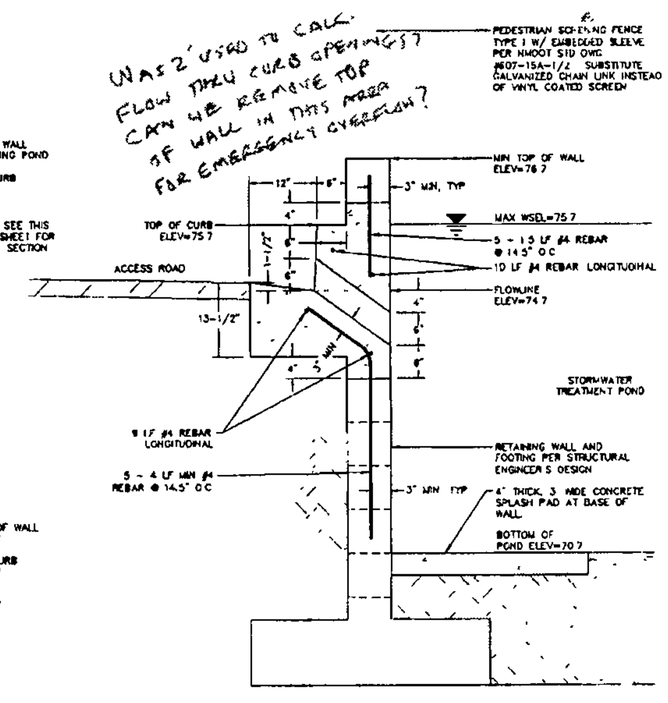


B PERFORATED PIPE UNDERDRAIN SYSTEM
NTS

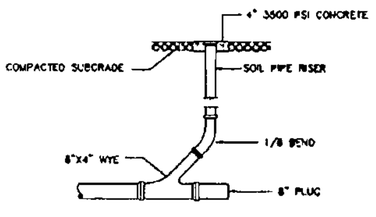


C POND INLET CURB OPENINGS
PLAN VIEW
SCALE 1"=2

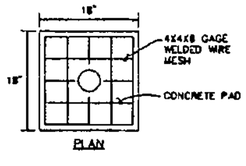
WAS 2' USED TO CALC. FLOW THRU CURB OPENINGS? CAN WE REMOVE TOP OF WALL IN THIS AREA FOR EMERGENCY OVERFLOW?



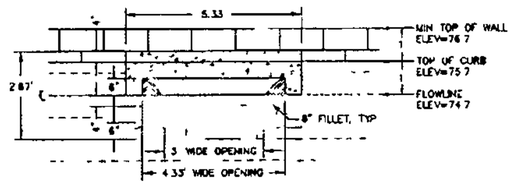
C2 POND INLET CURB OPENINGS
SIDE VIEW
SCALE 1"=1



B1 4" SINGLE CLEANOUT
NTS



B2 CONCRETE PAD FOR CLEANOUT
NTS



C1 POND INLET CURB OPENINGS
FRONT VIEW
SCALE 1"=2

CLAUDIO VIGIL ARCHITECTS

1801 Rio Grande Boulevard N.W.
Albuquerque, New Mexico
Phone (505) 842-1113
Fax (505) 842-1330

OWNERSHIP OF INSTRUMENTS OF SERVICE
All design concepts details specifications plans, computer files field data, notes and other documents and instruments prepared by Ambyste P.C. D.B.A. Claudio Vigil Architects as instruments of service shall remain the property of Ambyste P.C., Claudio Vigil Architects, P.C. Architect shall retain all common law statutory and other reserved rights, including the copyright thereto

CONSULTANTS

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque New Mexico 87108
Ph. 505-268 3826 Fax 505-268 2832

PROFESSIONAL SEAL

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER

BRUNACINI JOURNAL CENTER
OFFICE BUILDING
TRACTS A2 & A3
9721 RUTLEDGE STREET, N.E.
ALBUQUERQUE, NEW MEXICO

MARK	DATE	DESCRIPTION

PROJECT NUMBER	49175
DRAWING FILE	
DRAWN BY	BJB
CHECK BY	FCA
COPYRIGHT	CLAUDIO VIGIL ARCHITECTS 2009
DATE	FEBRUARY 26 2010

SHEET TITLE

SHEET NUMBER

mtg w/ Amafca 2-28

Amafca is willing to do the maintnance if the property owner fails to do so.

N

maintain pump if need is

provide justification for ~~pump~~ pump

Spoke to Gary 2-28-11

told her I need a public drainage easement and a Drainage Covenant prior to site plan approval AND we want a gravity solution. most likely pipe

other sm jun than pipe

CALCULATIONS: Brumacini Journal Center : 0/2/10/11

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 235604 SF = 5.4

100-year, 6-hour

HISTORIC FLOWS:

		Treatment SF	%
Area A	=	0	0%
Area B	=	0	0%
Area C	=	235604	100%
Area D	=	0	0%
Total Area	=	235604	100%

DEVELOPED FLOWS:

		Treatment SF	%
Area A	=	0	0%
Area B	=	11780	5%
Area C	=	23560	10%
Area D	=	200263	85%
Total Area	=	235604	100%

EXCESS PRECIP:

Precip. Zone 2

$E_A = 0.53$

$E_B = 0.78$

$E_C = 1.13$

$E_D = 2.12$

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

Weighted E = $\frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$

Historic E	=	1.13 in.	Developed E	=	1.95 in.

On-Site Volume of Runoff: V360 = E*A / 12

Historic V_{360}	=	22186 CF	Developed V_{360}	=	38364 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D / 43{,}560$

For Precipitation Zone 2

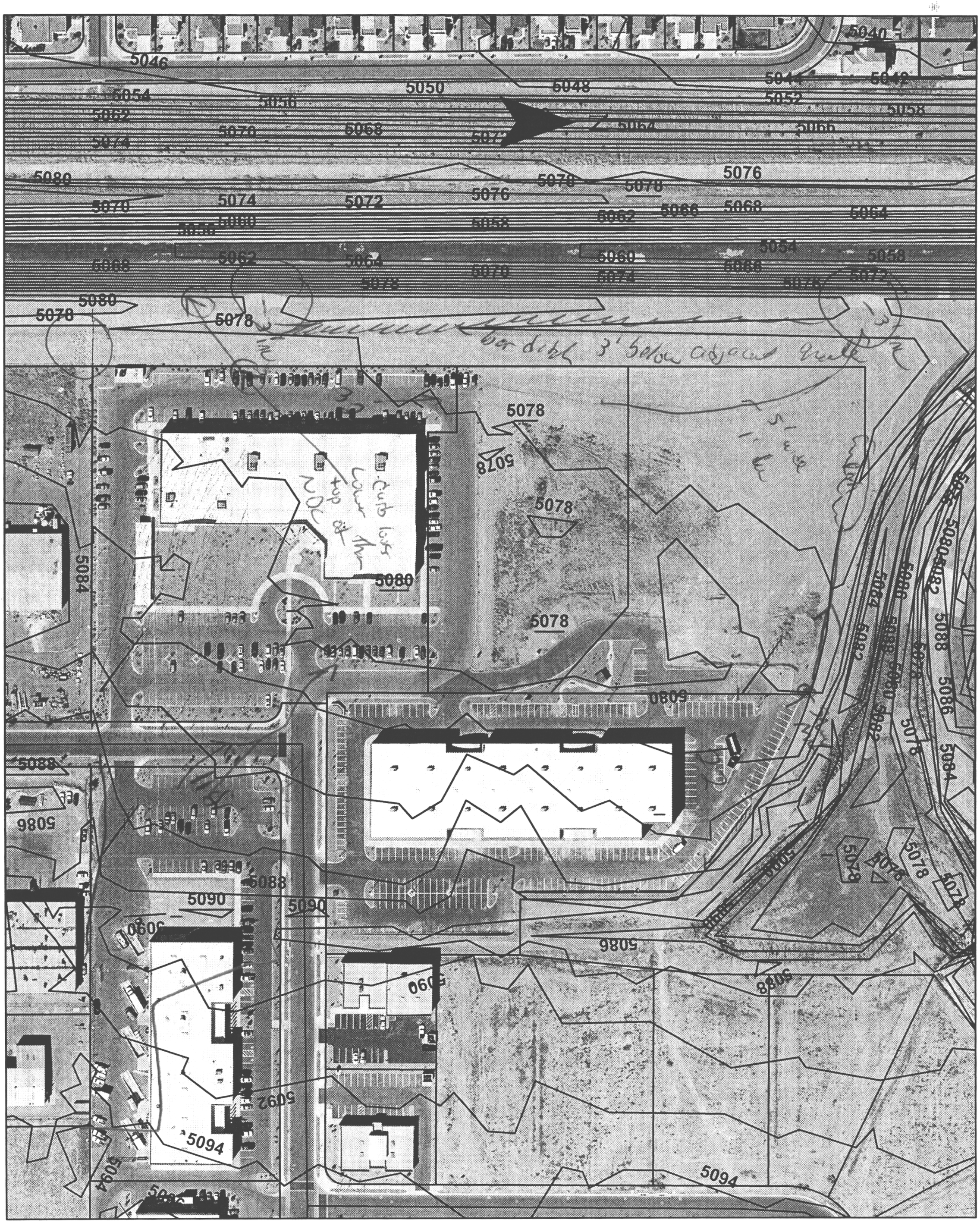
Q_{pA} = 1.56 Q_{pC} = 3.14

Q_{pB} = 2.28 Q_{pD} = 4.70

Historic Q_p	=	17.0 CFS	Developed Q_p	=	23.9 CFS

The overall site consists of 5.40872359963269 acre(s) located in Zone 2 which is designated as properties D. The 100-year, 6-hour historic discharge is 17 cfs. The proposed developed discharge is 23.9 cfs.

6.9 A


5046
5050
5048
5040
5042
5044
5052
5054
5056
5058
5064
5066
5074
5076
5068
5080
5078
5076
5074
5072
5076
5062
5066
5068
5064
5054
5060
5058
5052
5080
5078
5078
5078
5078
5078
5080
5084
5088
5086
5088
5090
5090
5086
5088
5090
5092
5094
5094
5094

Cherne, Curtis

From: Mazur, Lynn [lmazur@amafca.org]
Sent: Wednesday, February 23, 2011 9:14 AM
To: Genny Donart
Cc: Cherne, Curtis
Subject: RE: Brunacini at Journal Center

Genny,
See my responses below.

From: Genny Donart [gennyd@iacivil.com]
Sent: Monday, February 07, 2011 2:58 PM
To: Mazur, Lynn
Cc: 'Curtis Cherne'
Subject: RE: Brunacini at Journal Center

Hi Lynn,

Thanks for the letter and markups.
In response to your comments on 02/04/11:

"I will need to see the site plan to determine the site drainage pattern."

· I apologize, I should have included the full site plan with my earlier email. I've included it as an attachment this time.

O.K. Seeing the entire plan answered my question.

"On the detail sheet, it appears that only the loading dock area and the internal access road drain to the water quality pond. The intent of the water quality treatment is to take the first flush rainfall over the entire site through the pond."

· While you are correct that the treatment pond collects all its water from the loading docks and access road, what you couldn't see on that detail sheet is that the access road collects all the offsite water from the east and south. The pond is set up to treat storm water from the entire area.

O.K.

"The [Essayons Boulevard] project is a few years out and has not been approved by the AMAFCA Board of Directors or the U.S. Army Corps of Engineers. Therefore, we will require a concrete rundown connection to the existing NDC rundown structure as you have shown on the plan."

· Thanks for the information about the Essayons Blvd project. My plan was to make that rundown shotcrete to help keep skateboarders off of it and to reduce costs. I mis-labeled it in the notes. Does that create any difficulties?

Shotcrete is acceptable.

"We will also require it to extend to the south to capture the flow in the existing side inlet channel."

· When you say we need to extend the rundown to the south, how far does that extension need to go? Will a dip extending 5' to 10' to the south in the side of the channel be sufficient?

10 feet will be sufficient.

"a Turnkey Agreement will be required for the work within the NDC right-of-way."

· I'll make sure the owner is informed about the turnkey agreement.

Let me know by next week, if possible, if he will be ready to be on the March 24 Board meeting agenda.

"Another issue I would like to reiterate is the new FEMA requirement to have a 15-foot clear access a the toe of slope of our drainage facilities."

· The existing topo from the surveyor shows spots at least 20' north of the North Pino right-of-way line that indicate a flat area at least 20' wide. (Please see attached.) We don't show where the slope begins, but since it's flat that far out, we should be OK for the 15' access requirement to be within the AMAFCA R/W. Please let me know if this information is sufficient.

It looks like it will be sufficient room. I see there are rebar R/W markers, so I will go out and check soon.

Genny Donart, P.E.
[cid:image001.jpg@01CBC6BF.13CF3170]Design Engineer
Isaacson & Arfman, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505)268-8828
Fax: (505)268-2632
Email: gennyd@iacivil.com<mailto:gennyd@iacivil.com>

From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Friday, February 04, 2011 1:09 PM
To: Genny Donart
Cc: Curtis Cherne
Subject: Brunacini at Journal Center

Attached are my review letter and mark-ups.

Albuquerque Metropolitan Arroyo
Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

Cherne, Curtis

From: Mazur, Lynn [lmazur@amafca.org]
Sent: Monday, May 03, 2010 11:23 AM
To: Bingham, Brad L.; Genny Donart
Cc: Cherne, Curtis
Subject: Brunacini Office Warehouse

Re: DRB Project # 1008265 – Brunacini Office Warehouse at Journal Center, Ph. 2

AMAFCA asks for deferral of this item until certain issues are worked out with the owner. Generally speaking they are:

1. Since all the flow from the original Tract A, approx. 67 cfs from the entire 16 acres, will discharge to the one rundown to the North Diversion Channel (NDC), we need a retention pond in the northwest corner to hold and treat the ¼" rainfall for water quality. We have crudely worked out a detail for a holding pond with a subdrain and inverted pipe spillway. This will involve rerouting the perimeter road on Tract A3A.

2. AMAFCA will need a Turnkey Agreement for the site channel connection to the NDC rundown that will be within the AMAFCA right-of-way. The agreement will need to be approved by the Board of Directors.

3. There is a new FEMA requirement for 15-foot access at the toe of levees. We need to determine how much room we have at the toe of the North Pino Inlet levee. We may need additional easement on Tract A3A.

Genny, I will send you a sketch of the pond we are thinking about unless you come up with another option.

Albuquerque Metropolitan Arroyo
Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

Cherne, Curtis

From: Mazur, Lynn [lmazur@amafca.org]
Sent: Wednesday, March 09, 2011 8:01 AM
To: Genny Donart; Cherne, Curtis
Cc: 'Angelo Brunacini'; 'Edward Avila'; 'fred c arfman'
Subject: RE: Brunacini Journal Center - gravity discharge of pond

The AMAFCA engineers also discussed the directional bore and concluded that it is not a good policy. We are concerned with future piping (water draining down along the bored pipe) and water collecting behind the North Diversion Channel (NDC). We know that there is currently about a 2" gap between the NDC and finished grade so that parts of the channel are "floating" in this area.

Albuquerque Metropolitan Arroyo
Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

From: Genny Donart [mailto:gennyd@iacivil.com]
Sent: Tuesday, March 08, 2011 5:16 PM
To: Mazur, Lynn; Curtis Cherne
Cc: 'Angelo Brunacini'; 'Edward Avila'; 'fred c arfman'
Subject: Brunacini Journal Center - gravity discharge of pond

Hi Lynn & Curtis,

Regarding AMAFCA and the City's request to gravity discharge the pond on the Brunacini site:

I've pulled up some as-builts of the San-Juan Chama water transmission line that's in between the site and the channel. (See attached.) What I found out was that the 72" San-Juan Chama has approx 5' of bury in that area. (aka the bottom of pipe is 11' deep.) ABCWUA apparently STRONGLY discourages going under the pipe and any kind of boring near the pipe. (I get that. I don't want to be anywhere near responsible for breaking that thing.)

I also found out that between the site and the San-Juan Chama line there is an old 12" C.I. waterline that parallels it that has approx 4' bury, AND an old 12" VCP sanitary sewer that's about 10' deep.

Since the bottom of the pond is about 4' below the existing ground, and the discharge pipes would need to be another2' min. below that (6' deep), I don't see how I can gravity discharge this pond.

I'm sorry, but I think I'm going to have to keep the pump.

Genny Donart, P.E.

Design Engineer
Isaacson & Arfman, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505)268-8828
Fax: (505)268-2632
Email: gennyd@iacivil.com

Cherne, Curtis

To: Genny Donart; 'Mazur, Lynn'

Cc: Dourte, Richard H.

Subject: RE: Brunacini Journal Center - gravity discharge of pond

Genny,

AMAFCA has asked the City to enter into a Drainage Covenant for the pond, meaning that AMAFCA or the City would have to maintain the pond in case the property owner fails to do so. We do not want to enter into an agreement if a pump is involved.
It seems to discharge at 0.33 cfs (output of pump) would require a small diamater storm drain. If it can't be squeezed between the two water lines, it could be run over the 12" water line. Of course this means the pond would most likely be not as deep. The invert of this drain could also be higher than the bottom of the pond. Removing some rock form the pond would provide additional volume, allowoing you to raise the Bottom of Pond elevation.

Curtis

From: Genny Donart [mailto:gennyd@iacivil.com]
Sent: Tuesday, March 08, 2011 5:16 PM
To: 'Mazur, Lynn'; Cherne, Curtis
Cc: 'Angelo Brunacini'; 'Edward Avila'; 'fred c arfman'
Subject: Brunacini Journal Center - gravity discharge of pond

Hi Lynn & Curtis,

Regarding AMAFCA and the City's request to gravity discharge the pond on the Brunacini site:

I've pulled up some as-builts of the San-Juan Chama water transmission line that's in between the site and the channel. (See attached.) What I found out was that the 72" San-Juan Chama has approx 5' of bury in that area. (aka the bottom of pipe is 11' deep.) ABCWUA apparently STRONGLY discourages going under the pipe and any kind of boring near the pipe. (I get that. I don't want to be anywhere near responsible for breaking that thing.)

I also found out that between the site and the San-Juan Chama line there is an old 12" C.I. waterline that parallels it that has approx 4' bury, AND an old 12" VCP sanitary sewer that's about 10' deep.
Since the bottom of the pond is about 4' below the existing ground, and the discharge pipes would need to be another2' min. below that (6' deep), I don't see how I can gravity discharge this pond.

I'm sorry, but I think I'm going to have to keep the pump.

Genny Donart, P.E.

Design Engineer
Isaacson & Arfman, P.A.
Consulting Engineering Associates

Cherne, Curtis

From: Dourte, Richard H.
Sent: Friday, February 25, 2011 4:11 PM
To: 'Mazur, Lynn'; Cherne, Curtis
Cc: Lovato, Jerry
Subject: RE: Brunacini at Journal Center

Lynn,

Since this drainage facility will involve public storm water and a drainage covenant that will include City participation if this facility fails. We will need to have the engineer redesign because of the incorporation of a pump and the high likelihood of this being a high maintenance system.

Thanks for your time.

Richard

-----Original Message-----
From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Friday, February 25, 2011 1:24 PM
To: Dourte, Richard H.; Cherne, Curtis
Cc: Lovato, Jerry
Subject: RE: Brunacini at Journal Center

Some clarification. The water quality pond will be onsite and will be the responsibility of the owner. I thought the City obtained maintenance covenants for onsite, private drainage facilities. If a detention pond silted in, overflowed and caused erosion on AMAFCA's property, couldn't the City require the owner to clean it out? I see this as a similar situation.

From: Dourte, Richard H. [RDourte@cabq.gov]
Sent: Friday, February 25, 2011 2:01 PM
To: Mazur, Lynn; Cherne, Curtis
Cc: Lovato, Jerry
Subject: RE: Brunacini at Journal Center

Lynn,

Has this been done before?? I do not have a means to enforce such a regulation.

Richard

-----Original Message-----
From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Friday, February 25, 2011 9:07 AM
To: Cherne, Curtis ; Dourte, Richard H.
Cc: Lovato, Jerry
Subject: RE: Brunacini at Journal Center

I forgot to mention that it is paragraph 2.4.

From: Mazur, Lynn
Sent: Friday, February 25, 2011 10:00 AM
To: Cherne, Curtis ; Richard Dourte
Cc: Lovato, Jerry
Subject: RE: Brunacini at Journal Center

Yes, I can approve for Site Plan. I will request that the Turnkey Agreement be put on the March Board meeting agenda. I will need to follow up with Richard to make sure he is O.K. with including a paragraph in the agreement that the City will enforce the maintenance

covenant for the onsite water quality pond if AMAFCA staff finds that it is not functioning.

Richard, Attached is an example of similar agreements we have done with the County on recent projects. The City is not a party to the agreement. We just mention the enforcement of the maintenance covenant.

From: Cherne, Curtis [CCherne@cabq.gov]
Sent: Thursday, February 24, 2011 6:28 PM
To: Mazur, Lynn
Subject: RE: Brunacini at Journal Center

Lynn,
I read the e-mail. I don't want to approve the plan for Site Plan for Building Permit until AMAFCA is satisfied that the project can be built. Overall the concept and pond size are acceptable for me to approve it for Site Plan. I have some comments to be addressed at Building Permit. Are you OK for Site Plan approval?

Curtis

-----Original Message-----
From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Wednesday, February 23, 2011 9:14 AM
To: Genny Donart
Cc: Cherne, Curtis
Subject: RE: Brunacini at Journal Center

Genny,
See my responses below.

From: Genny Donart [gennyd@iacivil.com]
Sent: Monday, February 07, 2011 2:58 PM
To: Mazur, Lynn
Cc: 'Curtis Cherne'
Subject: RE: Brunacini at Journal Center

Hi Lynn,

Thanks for the letter and markups.
In response to your comments on 02/04/11:

"I will need to see the site plan to determine the site drainage pattern."

* I apologize, I should have included the full site plan with my earlier email. I've included it as an attachment this time.

O.K. Seeing the entire plan answered my question.

"On the detail sheet, it appears that only the loading dock area and the internal access road drain to the water quality pond. The intent of the water quality treatment is to take the first flush rainfall over the entire site through the pond."

* While you are correct that the treatment pond collects all its water from the loading docks and access road, what you couldn't see on that detail sheet is that the access road collects all the offsite water from the east and south. The pond is set up to treat storm water from the entire area.

O.K.

"The [Essayons Boulevard] project is a few years out and has not been approved by the AMAFCA Board of Directors or the U.S. Army Corps of Engineers. Therefore, we will require a concrete rundown connection to the existing NDC rundown structure as you have shown on the plan."

* Thanks for the information about the Essayons Blvd project. My plan was to make that rundown shotcrete to help keep skateboarders off of it and to reduce costs. I mis-labeled it in the notes. Does that create any difficulties?

Shotcrete is acceptable.

"We will also require it to extend to the south to capture the flow in the existing side inlet channel."

* When you say we need to extend the rundown to the south, how far does that extension need to go? Will a dip extending 5' to 10' to the south in the side of the channel be sufficient?

10 feet will be sufficient.

"a Turnkey Agreement will be required for the work within the NDC right-of-way."

* I'll make sure the owner is informed about the turnkey agreement.

Let me know by next week, if possible, if he will be ready to be on the March 24 Board meeting agenda.

"Another issue I would like to reiterate is the new FEMA requirement to have a 15-foot clear access a the toe of slope of our drainage facilities."

* The existing topo from the surveyor shows spots at least 20' north of the North Pino right-of-way line that indicate a flat area at least 20' wide. (Please see attached.) We don't show where the slope begins, but since it's flat that far out, we should be OK for the 15' access requirement to be within the AMAFCA R/W. Please let me know if this information is sufficient.

It looks like it will be sufficient room. I see there are rebar R/W markers, so I will go out and check soon.

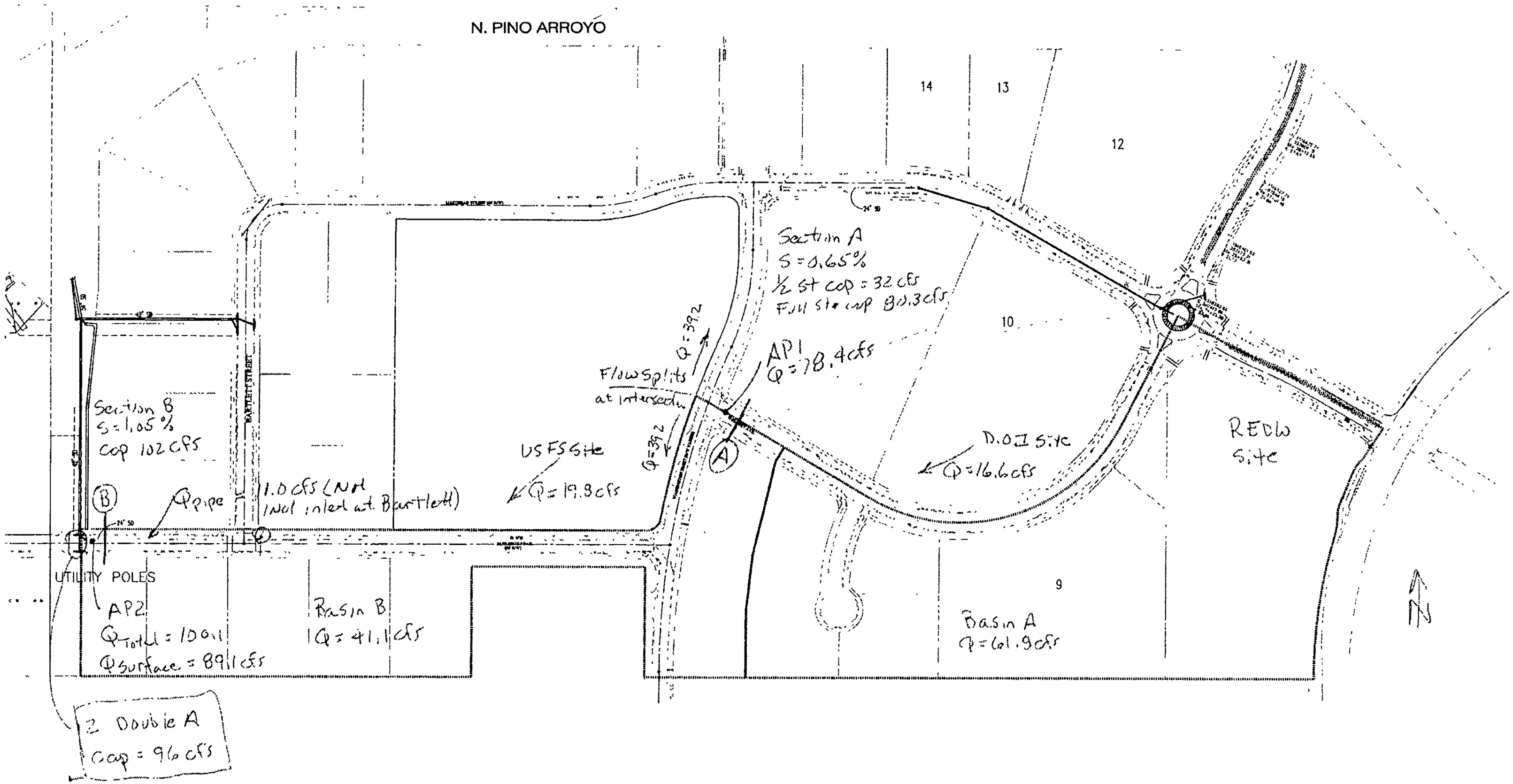
Genny Donart, P.E.
[cid:image001.jpg@01CBC6BF.13CF3170]Design Engineer
Isaacson & Arfman, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505)268-8828
Fax: (505)268-2632
Email: gennyd@iacivil.com<mailto:gennyd@iacivil.com>

From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Friday, February 04, 2011 1:09 PM
To: Genny Donart
Cc: Curtis Cherne
Subject: Brunacini at Journal Center

Attached are my review letter and mark-ups.

Albuquerque Metropolitan Arroyo
Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

Exhibit L
Current
in place



DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Brunacini Journal Center ZONE MAP/DRG. FILE D-17/D003-AA7
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACTS A-2-A AND A-3-A, JOURNAL CENTER, PHASE 2, UNIT 2, ALBUQUERQUE, NM
CITY ADDRESS: 9721 RUTLEDGE ST. NE

ENGINEERING FIRM: ISSACSON & ARFMAN, PA CONTACT: ~~FRED C. ARFMAN~~ Genny Donart
ADDRESS: 128 MONROE NE PHONE: 268-8828
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

OWNER: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

ARCHITECT: CLAUDIO VIGIL ARCHITECTS CONTACT: EDWARD AVILA
ADDRESS: 1801 RIO GRANDE BLVD. NW PHONE: 842-1113
CITY, STATE: Albuquerque, NM ZIP CODE: _____

SURVEYING FIRM: SURV-TEK CONSULTING SURVEYORS LICENSED SURVEYOR: RUSS P. HUGG
ADDRESS: 9384 VALLEY VIEW DR. NW PHONE: 897-3366
CITY, STATE: Albuquerque, NM ZIP CODE: 87114

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

TYPE OF SUBMITTAL:
_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
__X__ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER/ARCHITECT CERT (TCL)
_____ ENGINEER/ARCHITECT CERT (DRB S.P.)
_____ ENGINEER/ARCHITECT CERT (AA)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:
_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
__X__ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
_____ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY (PERM)
_____ CERTIFICATE OF OCCUPANCY (TEMP)
_____ GRADING PERMIT APPROVAL
_____ PAVING PERMIT APPROVAL
_____ WORK ORDER APPROVAL
_____ OTHER (SPECIFY)

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

FEB 10 2011
LOGY

SUBMITTED BY: ISAACSON & ARFMAN: ~~Fred Arfman~~ Genny Donart DATE: March 1, 2010

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope to the proposed development define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.

Cherne, Curtis

From: Genny Donart [gennyd@iacivil.com]
Sent: Monday, February 07, 2011 1:58 PM
To: 'Mazur, Lynn'
Cc: Cherne, Curtis
Subject: RE: Brunacini at Journal Center
Attachments: 1765 Brunacini at North Pino.pdf; 1756 CG-101-SDP.pdf

Hi Lynn,

Thanks for the letter and markups.
In response to your comments on 02/04/11:

"I will need to see the site plan to determine the site drainage pattern."

- **I apologize, I should have included the full site plan with my earlier email. I've included it as an attachment this time.**

"On the detail sheet, it appears that only the loading dock area and the internal access road drain to the water quality pond. The intent of the water quality treatment is to take the first flush rainfall over the entire site through the pond."

- **While you are correct that the treatment pond collects all its water from the loading docks and access road, what you couldn't see on that detail sheet is that the access road collects all the offsite water from the east and south. The pond is set up to treat storm water from the entire area.**

"The [Essayons Boulevard] project is a few years out and has not been approved by the AMAFCA Board of Directors or the U.S. Army Corps of Engineers. Therefore, we will require a concrete rundown connection to the existing NDC rundown structure as you have shown on the plan."

- **Thanks for the information about the Essayons Blvd project. My plan was to make that rundown shotcrete to help keep skateboarders off of it and to reduce costs. I mis-labeled it in the notes. Does that create any difficulties?**

"We will also require it to extend to the south to capture the flow in the existing side inlet channel."

- **When you say we need to extend the rundown to the south, how far does that extension need to go? Will a dip extending 5' to 10' to the south in the side of the channel be sufficient?**

"a Turnkey Agreement will be required for the work within the NDC right-of-way."

- **I'll make sure the owner is informed about the turnkey agreement.**

"Another issue I would like to reiterate is the new FEMA requirement to have a 15-foot clear access a the toe of slope of our drainage facilities."

- **The existing topo from the surveyor shows spots at least 20' north of the North Pino right-of-way line that indicate a flat area at least 20' wide. (Please see attached.) We don't show where the slope begins, but since it's flat that far out, we should be OK for the 15' access requirement to be within the AMAFCA R/W. Please let me know if this information is sufficient.**

Genny Donart, P.E.

Design Engineer
Isaacson & Arfman, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505)268-8828
Fax: (505)268-2632
Email: gennyd@iacivil.com

From: Mazur, Lynn [mailto:lmazur@amafca.org]
Sent: Friday, February 04, 2011 1:09 PM
To: Genny Donart
Cc: Curtis Cherne
Subject: Brunacini at Journal Center

Attached are my review letter and mark-ups.

Albuquerque Metropolitan Arroyo Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

Cherne, Curtis

From: Mazur, Lynn [lmazur@amafca.org]
Sent: Tuesday, March 23, 2010 10:31 AM
To: Cherne, Curtis
Subject: RE: Tract A-2-A and A-3-A Brunacini Journal Center

A water quality feature similar to the one on the Brunacini @ Journal Center plans, dated August 2004, will be required on the final plans. I gave Isaacson & Arfman a copy of it when we met earlier this year. There may be some slight modifications to the detail. AMAFCA can provide a detail of the outlet drain from the water quality sump.

Albuquerque Metropolitan Arroyo
Flood Control Authority
Lynn M. Mazur, P.E., C.F.M.
Development Review Engineer
Phone: (505) 884-2215
www.amafca.org

From: Cherne, Curtis [mailto:CCherne@cabq.gov]
Sent: Monday, March 22, 2010 1:17 PM
To: Mazur, Lynn
Subject: Tract A-2-A and A-3-A Brunacini Journal Center

Lynn,

Did Fred Arfman give you a plan for these two tracts? Ours is stamp date 3-1-10.

I figure there is about 85 cfs going to the northwest corner at the outfall
Looks OK to me. We will have him include his channel to your side inlet on an IL.

I would like to hear from you before I write Fred a letter.

Curtis

FEBRUARY 10, 2011

SUPPLEMENTAL INFORMATION

FOR

BRUNACINI JOURNAL CENTER OFFICE BUILDING TRACTS A2 & A3

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 Fax. 505-268-2632

RECEIVED
FEB 10 2011
HYDROLOGY SECTION

BASIN NO. AMAFCA INLET AREA — **DESCRIPTION** — Entire basin that drains to inlet

Area of basin flows = 728955 SF = 16.7 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 118698 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 74.0 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. OFFSITE 1 — **DESCRIPTION**

Area of basin flows = 324289 SF = 7.4 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 52805 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 32.9 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. OFFSITE 2 — **DESCRIPTION**

Area of basin flows = 46703 SF = 1.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 7605 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 4.7 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. OFFSITE 3 — **DESCRIPTION**

Area of basin flows = 122343 SF = 2.8 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 19921 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 12.4 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. A — **DESCRIPTION** — South portion of site

Area of basin flows = 46417 SF = 1.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 7558 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 4.7 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. B — **DESCRIPTION** — North Portion of site

Area of basin flows = 66546 SF = 1.5 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 10836 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 6.8 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. C | **DESCRIPTION**

Area of basin flows = 64541 SF = 1.5 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 10509 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 6.6 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. D | **DESCRIPTION**

Area of basin flows = 58116 SF = 1.3 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 9463 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 5.9 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN NO. 1/4" flows | **DESCRIPTION** Backs into calcutations of 1/4" flows. Matches volume of 1/4" x Area.

Area of basin flows = 93264 SF = 2.1 Ac.

The following calculations are based on Treatment areas as shown in table to the right

Sub-basin Weighted Excess Precipitation (see formula above)

Weighted E = 1.95 in.

Sub-basin Volume of Runoff (see formula above)

V_{360} = 15187 CF

Sub-basin Peak Discharge Rate: (see formula above)

Q_P = 9.5 cfs

LAND TREATMENT	
A =	0%
B =	5%
C =	10%
D =	85%

BASIN SUMMARY

Basin No.	Description	Discharge (Q)	AP1	AP2	AP3	AP4	Comments
MAFCA INLET ARE	Entire basin that drains to inlet	74.0					
OFFSITE 1		32.9	32.9	32.9		32.9	
OFFSITE 2		4.7		4.7		4.7	
OFFSITE 3		12.4			12.4	12.4	
A	South portion of site	4.7	4.7	4.7		4.7	
B	North Portion of site	6.8		6.8		6.8	
C		6.6		6.6		6.6	
D		5.9			5.9	5.9	
1/4" flows	lacks into calcutations of 1/4" flows. Matches volume of 1/4" x Are:	9.5					
			AP1	AP2	AP3	OVERALL	
TOTAL DISCHARGE		74.0	37.6	55.7	18.3	74.0	CFS

83.5

AP1

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. Thursday, Feb 10 2011

Brunacini Building Drive Aisle Basin A

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 0.50
N-Value	= 0.017

Calculations

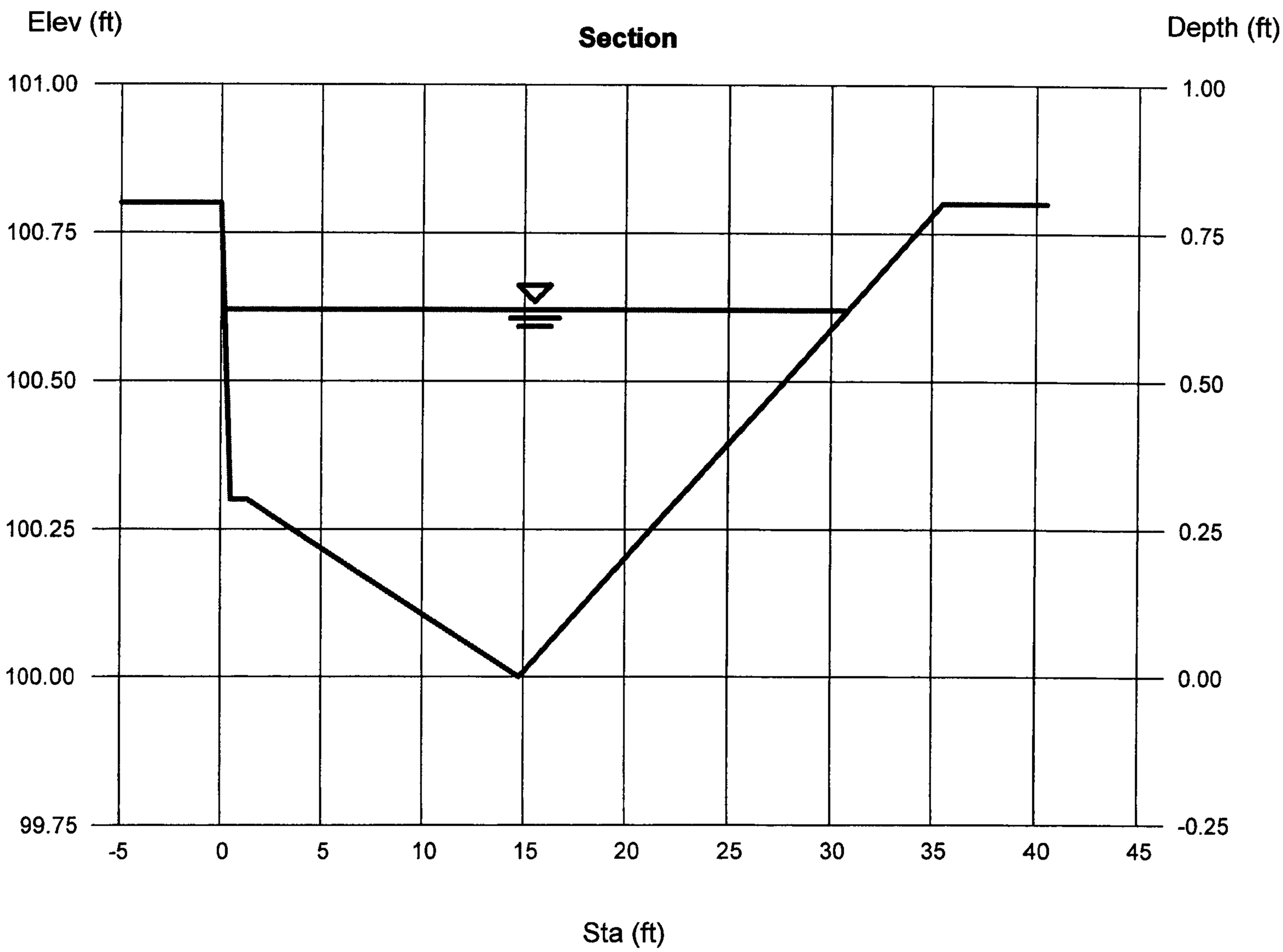
Compute by:	Known Q
Known Q (cfs)	= 37.60

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.80)-(0.50, 100.30, 0.013)-(1.33, 100.30, 0.013)-(14.80, 100.00, 0.017)-(35.50, 100.80, 0.017)

Highlighted

Depth (ft)	= 0.62
Q (cfs)	= 37.60
Area (sqft)	= 11.62
Velocity (ft/s)	= 3.24
Wetted Perim (ft)	= 30.81
Crit Depth, Yc (ft)	= 0.60
Top Width (ft)	= 30.66
EGL (ft)	= 0.78



AP2

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. Thursday, Feb 10 2011

Brunacini Building drive aisle in Basin C

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 0.50
N-Value	= 0.017

Calculations

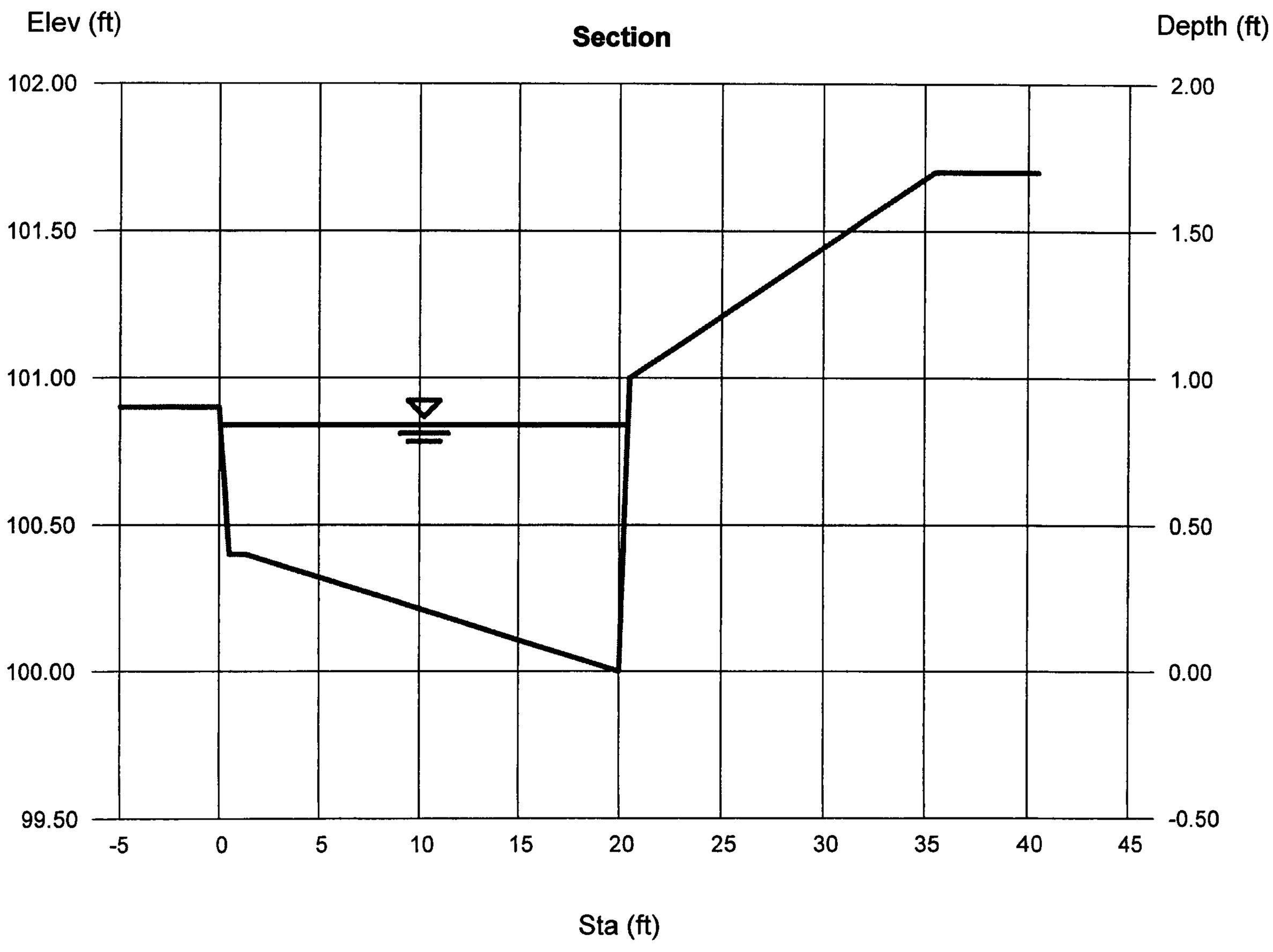
Compute by:	Known Q
Known Q (cfs)	= 55.70

Highlighted

Depth (ft)	= 0.84
Q (cfs)	= 55.70
Area (sqft)	= 12.59
Velocity (ft/s)	= 4.43
Wetted Perim (ft)	= 21.07
Crit Depth, Yc (ft)	= 0.84
Top Width (ft)	= 20.36
EGL (ft)	= 1.14

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.90)-(0.50, 100.40, 0.013)-(1.33, 100.40, 0.017)-(20.00, 100.00, 0.017)-(20.50, 101.00, 0.013)-(35.50, 101.70, 0.017)



AP4

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. Thursday, Feb 10 2011

1756 Brunacini Building - Shotcrete Rundown in AMAFCA R/W

Trapezoidal

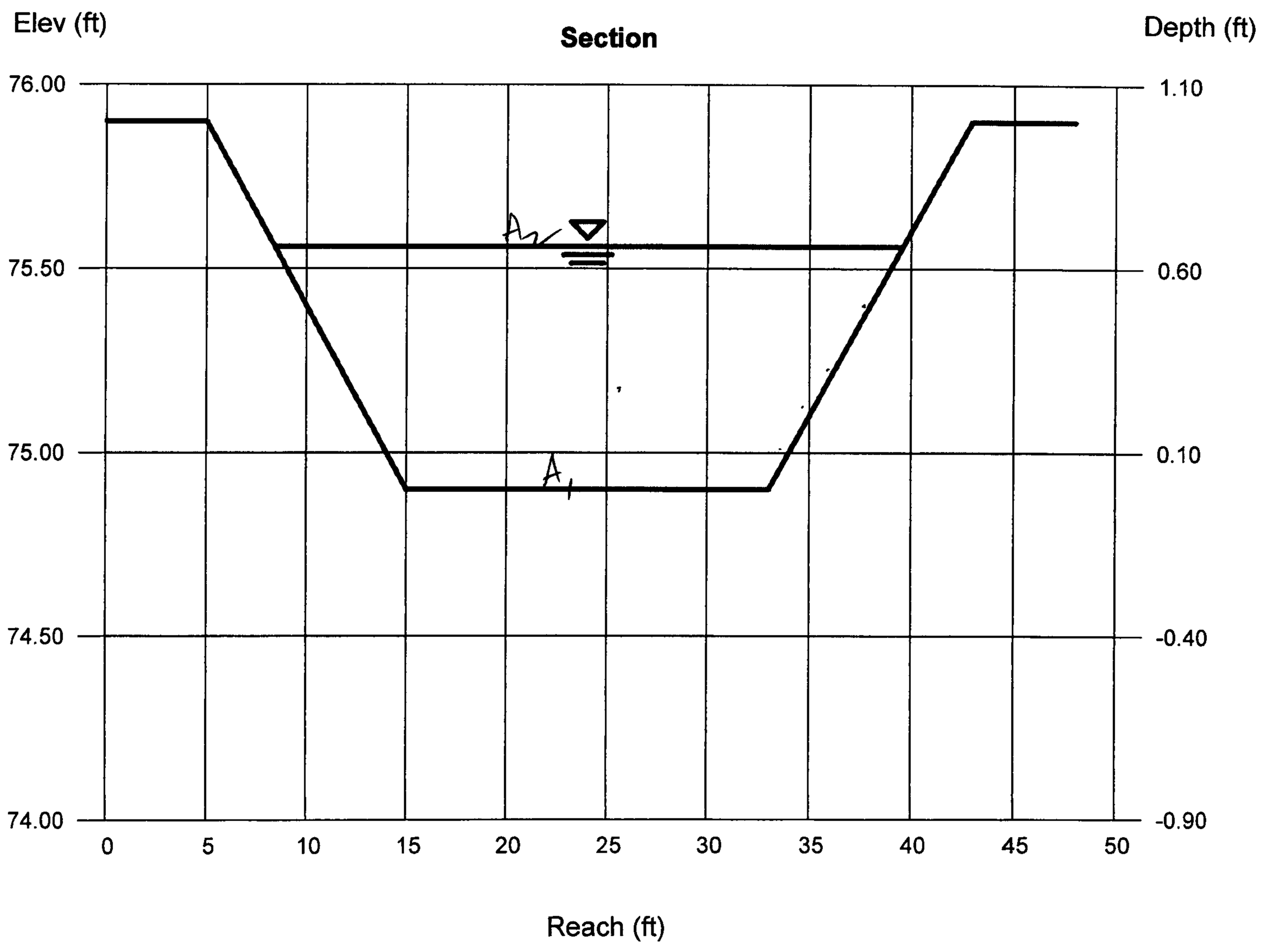
Bottom Width (ft)	= 18.00
Side Slopes (z:1)	= 10.00, 10.00
Total Depth (ft)	= 1.00
Invert Elev (ft)	= 74.90
Slope (%)	= 0.75
N-Value	= 0.018

Calculations

Compute by:	Known Q
Known Q (cfs)	= 74.00

Highlighted

Depth (ft)	= 0.66
Q (cfs)	= 74.00
Area (sqft)	= 16.24
Velocity (ft/s)	= 4.56
Wetted Perim (ft)	= 31.27
Crit Depth, Yc (ft)	= 0.71
Top Width (ft)	= 31.20
EGL (ft)	= 0.98



SEDIMENT CONTROL POND

0.25" OVER TOTAL AREA OF ONSITE AND OFFSITE BASINS

Maximum Pond Volume = 0.25 inches x 728954.53 SF = **15,187** **CF**

TREATMENT POND VOLUME
BRUNACINI JOURNAL CENTER
1/24/2011

ELEV	AREA (SF)	VOLUME (CF)	ADD'L VOL (CF) (1)	SUM VOL (CF)	SUM VOL (Ac-ft)
70.7	2542.874				
		769.6	1,726.0		
71	2587.673			2,495.6	0.057292
		2,656.1	28.3		
72	2724.47			5,180.0	0.118916
		2,783.5	28.3		
73	2842.545			7,991.8	0.183465
		2,892.6	28.3		
74	2942.615			10,912.6	0.250519
		2,984.0	28.3		
75	3025.387			13,924.9	0.319671

NOTES:

(1) Additional volume based on 30% voids in gravel bed, and capacity in perforated pipes, 6' dia manhole, 24" SD and sump for pump. See calcs below.

Gravel bed volume:		
3' deep x 1516.4 sf area x 30% voids =	1,364.8	
Perforated pipes		
8" dia x 60 lf x 3 pipes =	62.8	
6' dia manhole		
3' deep x 6' dia =	84.8	
24" storm drain		
24" dia x 32 lf =	100.5	
6' dia sump for pump at 71.0 elev		
4' deep x 6' dia =	113.1	
	1,726.0	total below bottom of pond
6' dia sump for pump for each addn'l foot of elev		
1' deep x 6' dia =	28.3	

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2008 by Autodesk, Inc. Thursday, Feb 10 2011

1756 Brunacini Building - Stormwater Treatment Pond Inlet Weirs (Divide Width by 3

Rectangular

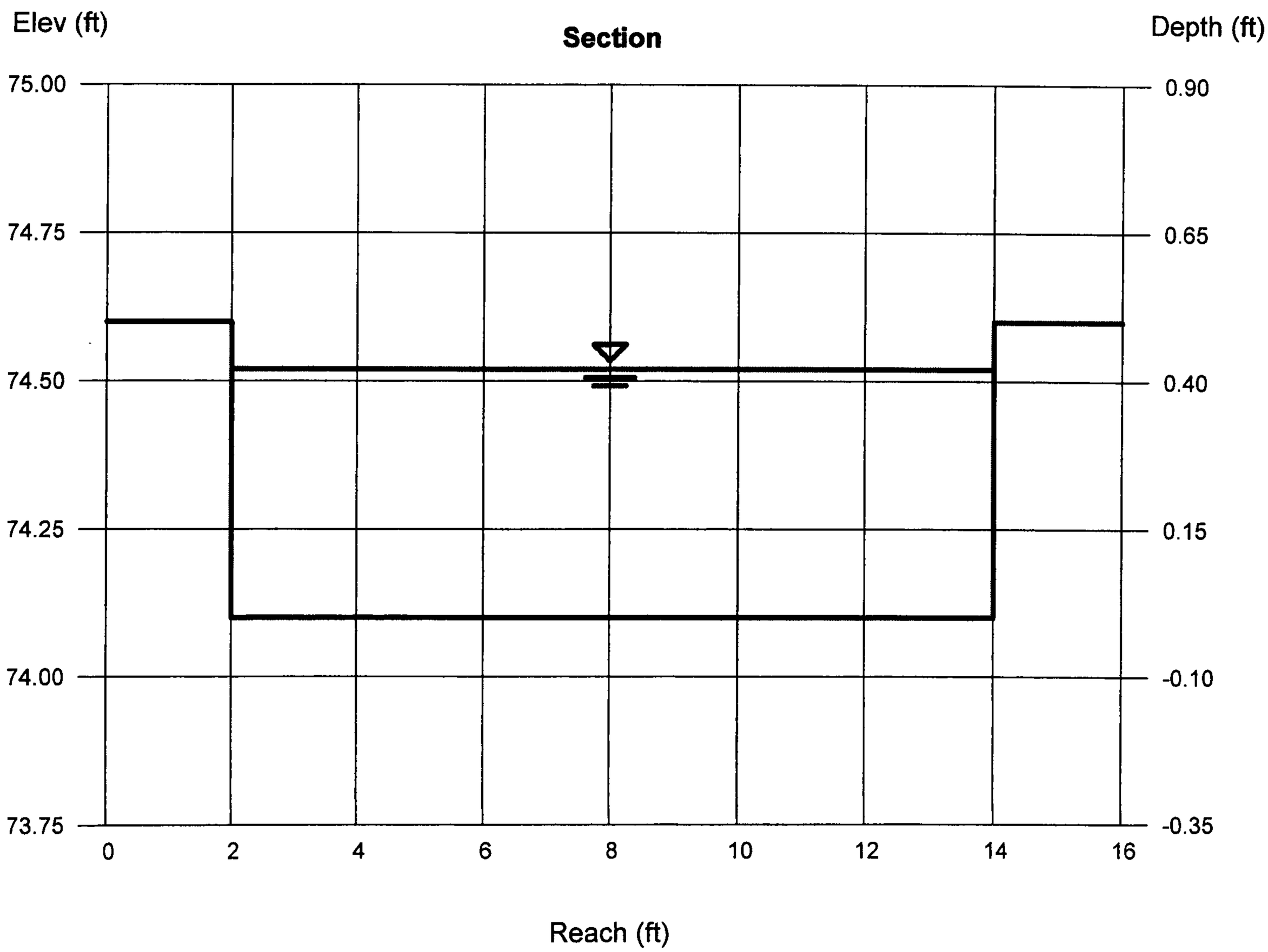
Bottom Width (ft) = 12.00
Total Depth (ft) = 0.50 .7 = 747-74.9
Invert Elev (ft) = 74.10
Slope (%) = 0.10
N-Value = 0.013

Calculations

Compute by: Known Q
Known Q (cfs) = 9.50

Highlighted

Depth (ft) = 0.42
Q (cfs) = 9.500
Area (sqft) = 5.04
Velocity (ft/s) = 1.88
Wetted Perim (ft) = 12.84
Crit Depth, Yc (ft) = 0.27
Top Width (ft) = 12.00
EGL (ft) = 0.48



PERFORATED PIPE CALCULATIONS

(Using Orifice Equation)

Project Name: **Brunacini**
Project #: **1756**

100-year WSEL =	5074.9	ft
Bottom of Gravel Pit ELEV =	5071.9	ft
Maximum discharge (Q_{max}) =	2.5	cfs
Diameter of pipe =	8	in

Orifice Equation: $Q = CA(2gH)^{1/2}$

C = 0.60 (sharp edged hole)

g = 32.2 ft/s^2

HOLE CALCULATIONS

ELEVATION AT CENTER OF HOLE	HOLE DIAMETER (In.)	HOLE AREA (sq. ft.)	# OF HOLES AT THIS LEVEL	H (ft)	Q PER HOLE (cfs)	TOTAL Q AT THIS LEVEL (cfs)
5069.73	0.5	0.001	177	5.17	0.01	*2.64*
5069.44	0.5	0.001	177	5.46	0.02	*2.71*

TOTAL Q WITHOUT CLOGGING = 5.35

TOTAL Q WITH 50% CLOGGING = ***2.68***

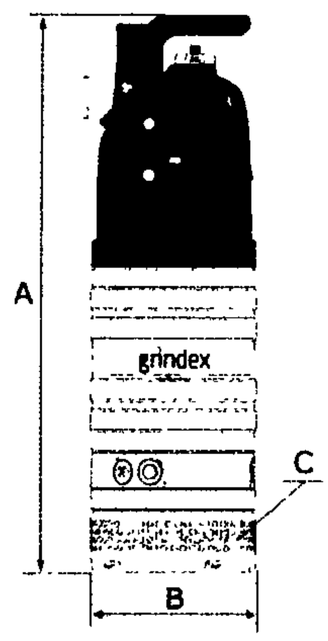
Convert to GPM for pump calcs = ***1201.73***

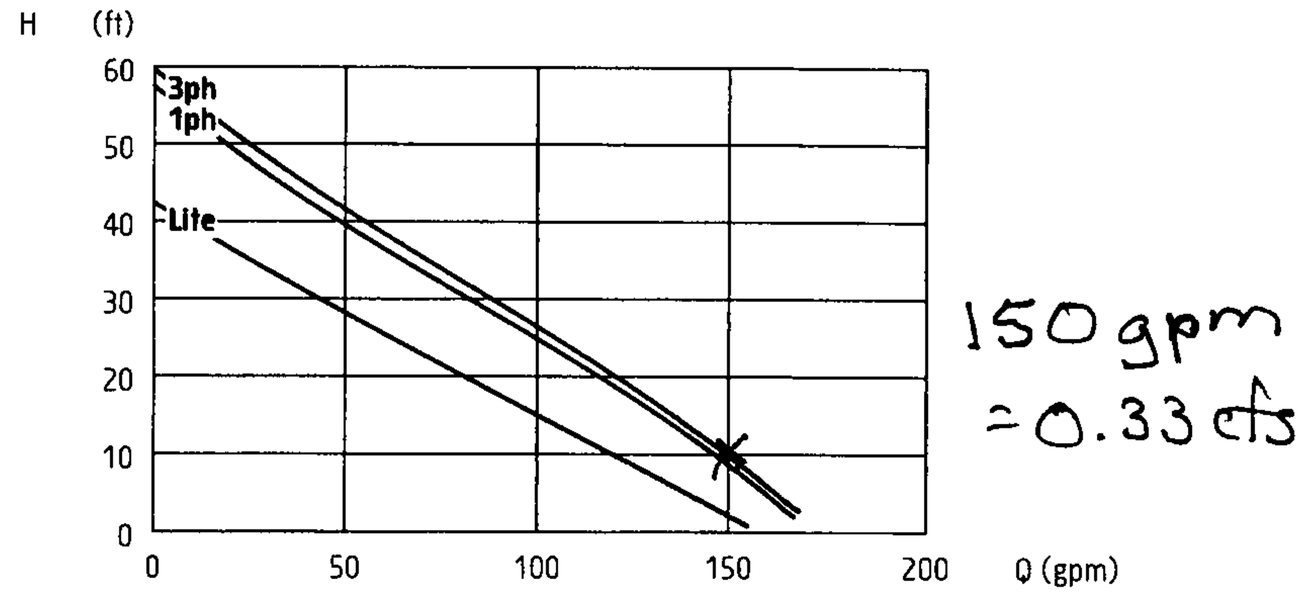
No: PD601171-INT | Revision 7 2009.09 | 60 Hz 8101.171

Minex

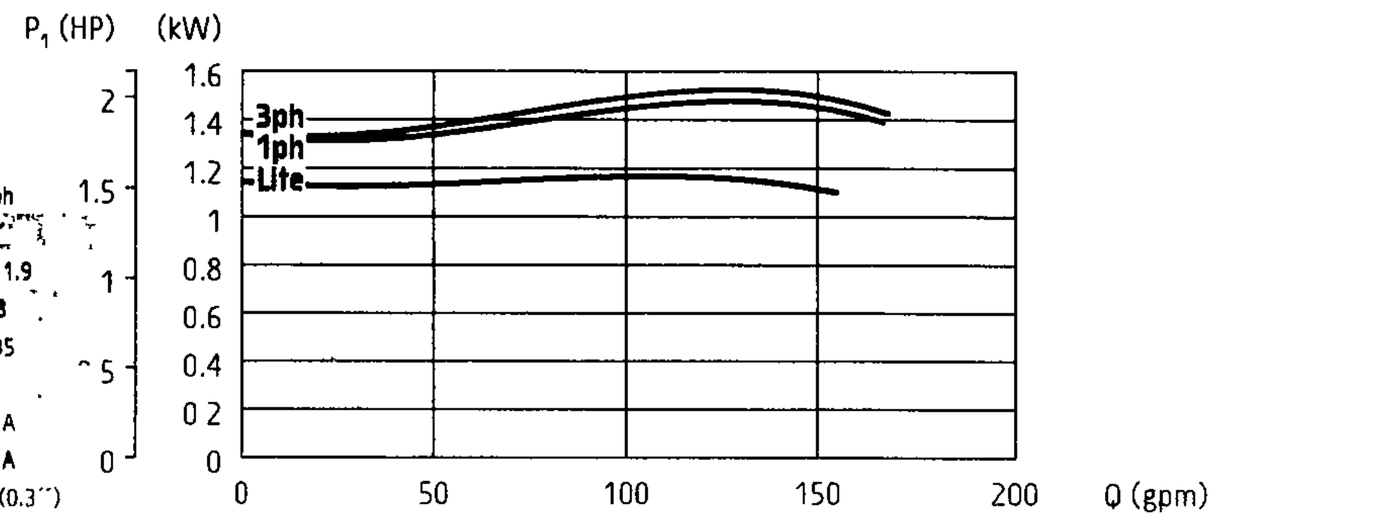
Electrical submersible drainage pump

grindex





150 gpm
≈0.33 cfs



60 Hz	Lite 1-ph	1-ph	3-ph
Discharge connection	2"	2"	2"
Rated power P_2 [kW/HP]	0.97 / 1.3	1.5 / 2	1.4 / 1.9
Max. power consumption P_1 [kW]	1.3	1.8	1.8
Shaft speed [r.p.m.]	3400	3460	3335
Rated current at 115V	11 A	-	-
Rated current at 230V	5.6 A	8.2 A	5.2 A
Rated current at 460V	-	-	2.6 A
Solids passage	7.5 mm (0.3")	7.5 mm (0.3")	7.5 mm (0.3")
Dimensions A / B / C	570 / 195 / 7.5 mm	610 / 195 / 7.5 mm	570 / 195 / 7.5 mm
Dimensions A / B / C	22½ / 7¾ / 0.3"	24 / 7¾ / 0.3"	22½ / 7¾ / 0.3"
Weight	21 kg (47 lbs)	24 kg (54 lbs)	21 kg (47 lbs)

Other voltages on request

ISO 9906/A

Classification
Electrical submersible drainage pump
Protection class: IP 68

Electrical motor
1-phase: Squirrel cage induction motor with start and run capacitor
3-phase: Squirrel cage induction motor
Insulation class: F (IEC 85)

Motor protection
1-phase: Temperature guard with a thermal contact in stator opening temperature 125°C (257°F), air valve
3-phase: Phase sequence control, phase failure guard, temperature guard with thermal contacts in the stator opening temperature 125°C (257°F) (= SMART system), air valve

Cable - SubCab
1-phase: 3G1,5mm², 20 m (66 ft) / 14AWG/3, 53 ft
3-phase: 4G1,5mm², 20 m (66 ft) / 14AWG/4, 53 ft

Limitations
Max. submersion depth: 20 m (66 ft)
Max. liquid temperature: 40 °C (104 °F)
Allowed pH range: 5 - 8
Maximum liquid density: 1100 kg/m³ (68 lbs/ft³)

Shaft seals
Cartridge seal: pre-assembled double mechnical seal running in an oil compartment
Material lower seal: *tungsten carbide - tungsten carbide*
Material upper seal: *tungsten carbide - tungsten carbide*

Bearings
Ball bearings with C3 clearance

Discharge connection
2" hose, ISO-G or NPT

Materials
Casted parts: *Aluminium*
Outer casing: *Stainless steel*
Motor shaft: *Stainless steel*
Impeller: *Hard-Iron™*
Diffusers: *Nitrile rubber*
Screws and nuts: *Stainless steel*
O-rings: *Nitrile rubber*

Accessories
Float switch (max 400 V)
Zinc anodes
Low suction collar
Pump raft

Specifications can be changed without notice

Grindex AB •P.O. Box 7025 •174 07 Sundbyberg •Sweden •Ph: +46 8 606 6600 •Fax: +46 8 745 5328 •marketing@grindex.com •www.grindex.com

POND SIZING

9.5 cfs IN
0.33 cfs OUT

```
AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
     RUN DATE (MON/DAY/YR) = 02/09/2011
     START TIME (HR:MIN:SEC) = 14:29:23     USER NO.= AHYMO-I-9702dIsa-Arfman1
     INPUT FILE = 17561stf.txt

*S*************************************************************************
*S          BRUNACINI
*S          FIRST FLUSH STORM
*S          17561STF.DAT
*S          FEB 09,2011
*S          GENNY DONART
*S          ISAACSON & ARFMAN, P.A.
*S*************************************************************************
*S          HYDROLOGIC MODEL FOR FIRST FLUSH TREATMENT
*S          100-year, 6-hour storm
*S
*S          PRECIPITATION:
*S          P15 =       1.06"
*S          P60 =       1.77"
*S          P360 =      2.37"
*S          P1440 =     2.68"
*S
*S          LAND TREATMENT ASSUMPTIONS:
*S          DEVELOPED AREAS:
*S          DETERMINE THE PERCENT OF IMPERVIOUS AREA (LAND TREATMENT TYPE "D")
*S          FROM SECTION 22.2 OF THE D.P.M. FOR ALBUQUERQUE, VOL. 2, TABLE 5
*S*************************************************************************
START                RAINFALL BEGINS AT 0.0 HRS
RAINFALL             TYPE=1
                     RAIN QUARTER=1.06
                     RAIN ONE=1.77
                     RAIN SIX=2.37
                     RAIN DAY=2.68
                     DT=0.033333 HRS

                COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                DT =    .033333 HOURS       END TIME =     5.999940 HOURS
                   .0000   .0055   .0110   .0167   .0225   .0284   .0345
                   .0406   .0470   .0534   .0600   .0668   .0737   .0808
                   .0881   .0956   .1033   .1113   .1195   .1279   .1366
                   .1456   .1550   .1646   .1747   .1851   .1961   .2075
                   .2194   .2319   .2452   .2501   .2553   .2609   .2729
                   .2998   .3412   .4006   .4818   .5884   .7243   .8935
                  1.1000  1.2911  1.3710  1.4385  1.4986  1.5532  1.6035
                  1.6502  1.6938  1.7347  1.7732  1.8095  1.8438  1.8763
                  1.9071  1.9363  1.9639  1.9902  2.0152  2.0215  2.0276
                  2.0335  2.0392  2.0447  2.0501  2.0553  2.0603  2.0653
                  2.0701  2.0748  2.0794  2.0839  2.0883  2.0926  2.0969
                  2.1010  2.1051  2.1091  2.1131  2.1170  2.1208  2.1246
                  2.1283  2.1320  2.1356  2.1392  2.1427  2.1462  2.1497
                  2.1531  2.1564  2.1597  2.1630  2.1663  2.1695  2.1726
                  2.1758  2.1789  2.1820  2.1850  2.1881  2.1910  2.1940
                  2.1969  2.1999  2.2027  2.2056  2.2084  2.2113  2.2140
                  2.2168  2.2196  2.2223  2.2250  2.2277  2.2303  2.2330
                  2.2356  2.2382  2.2408  2.2433  2.2459  2.2484  2.2509
                  2.2534  2.2559  2.2584  2.2608  2.2633  2.2657  2.2681
                  2.2705  2.2729  2.2752  2.2776  2.2799  2.2822  2.2845
                  2.2868  2.2891  2.2914  2.2937  2.2959  2.2981  2.3004
                  2.3026  2.3048  2.3070  2.3091  2.3113  2.3135  2.3156
                  2.3177  2.3199  2.3220  2.3241  2.3262  2.3283  2.3303
                  2.3324  2.3345  2.3365  2.3385  2.3406  2.3426  2.3446
                  2.3466  2.3486  2.3506  2.3526  2.3545  2.3565  2.3584
                  2.3604  2.3623  2.3643  2.3662  2.3681  2.3700

*  ENTIRE TREATMENT AREA
COMPUTE NM HYD       ID=1  HYD NO=101  AREA=0.02614766 SQ MI
                     PER A=0  PER B=5  PER C=10  PER D=85
                     TP=-0.1333 HR   MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   87.748    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 1.7700
     AREA =      .022226 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033333


     K =   .114076HR    TP =   .133300HR    K/TP RATIO =   .855787     SHAPE CONSTANT, N =  4.156993
     UNIT PEAK =   10.754    CFS   UNIT VOLUME =    .9990       B =   365.50      P60 = 1.7700
     AREA =      .003922 SQ MI    IA =    .40000 INCHES    INF =    .97000 INCHES PER HOUR
```

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 101.00

RUNOFF VOLUME = 1.92881 INCHES = 2.6898 ACRE-FEET
PEAK DISCHARGE RATE = 65.66 CFS AT 1.500 HOURS BASIN AREA = .0261 SQ. MI.

DIVIDE HYD ID=1 Q=9.5 CFS ID ONE=2 HYD ONE=102
ID TWO=3 HYD TWO=103

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.92880 INCHES = 1.2578 ACRE-FEET
PEAK DISCHARGE RATE = 9.50 CFS AT 1.300 HOURS BASIN AREA = .0122 SQ. MI.

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.92880 INCHES = 1.4320 ACRE-FEET
PEAK DISCHARGE RATE = 56.16 CFS AT 1.500 HOURS BASIN AREA = .0139 SQ. MI.

* TREATMENT POND WITH SUMP PUMP
ROUTE RESERVOIR ID=10 HYD NO=110 INFLOW ID=2 CODE=5

OUTFLOW(CFS)	STORAGE(AF)	ELEV(FT)
0	0	70.7
0.326	0.057292	71.0
0.328	0.118916	72.0
0.330	0.183465	73.0
0.332	0.250519	74.0
9.5 .332	0.319671	75.0

140028
.33 cfs/sec 2 ft.

* * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	70.70	.000	.00
.17	.00	70.70	.000	.00
.33	.00	70.70	.000	.00
.50	.00	70.70	.000	.00
.67	1.47	70.73	.006	.03
.83	2.94	70.89	.036	.21
1.00	3.88	71.35	.079	.33
1.17	2.89	72.10	.125	.33
1.33	9.50	73.43	.212	.33
1.50	9.50	74.72	.300	6.92
1.67	9.50	74.96	.317	9.09
1.83	9.50	74.99	.319	9.44
2.00	9.50	75.00	.320	9.49
2.17	7.09	74.94	.316	8.97
2.33	3.56	74.52	.287	5.14
2.50	2.38	74.30	.272	3.13
2.67	1.73	74.20	.264	2.12
2.83	1.36	74.14	.260	1.58
3.00	1.13	74.10	.258	1.26
3.17	.98	74.08	.256	1.07
3.33	.89	74.07	.255	.94
3.50	.83	74.06	.255	.86
3.67	.79	74.05	.254	.81
3.83	.77	74.05	.254	.78
4.00	.75	74.05	.254	.76
4.17	.74	74.05	.254	.75
4.33	.74	74.04	.254	.74
4.50	.73	74.04	.254	.73
4.67	.73	74.04	.254	.73
4.83	.74	74.04	.254	.73
5.00	.74	74.04	.254	.74
5.17	.75	74.04	.254	.74
5.33	.76	74.05	.254	.75
5.50	.76	74.05	.254	.76
5.67	.78	74.05	.254	.77

1.5 hrs into storm Pond is full

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.83	.79	74.05	.254	.78
6.00	.81	74.05	.254	.80
6.17	.32	74.03	.253	.60
6.33	.09	73.98	.249	.33
6.50	.04	73.93	.246	.33
6.67	.02	73.86	.241	.33
6.83	.01	73.80	.237	.33
7.00	.00	73.73	.232	.33
7.17	.00	73.66	.228	.33
7.33	.00	73.60	.223	.33
7.50	.00	73.53	.219	.33
7.67	.00	73.46	.214	.33
7.83	.00	73.39	.210	.33
8.00	.00	73.32	.205	.33
8.17	.00	73.26	.201	.33
8.33	.00	73.19	.196	.33
8.50	.00	73.12	.192	.33
8.67	.00	73.05	.187	.33
8.83	.00	72.98	.182	.33
9.00	.00	72.91	.178	.33
9.17	.00	72.84	.173	.33
9.33	.00	72.77	.169	.33
9.50	.00	72.70	.164	.33
9.67	.00	72.63	.160	.33
9.83	.00	72.56	.155	.33
10.00	.00	72.49	.151	.33
10.17	.00	72.42	.146	.33
10.33	.00	72.35	.142	.33
10.50	.00	72.28	.137	.33
10.67	.00	72.21	.133	.33
10.83	.00	72.14	.128	.33
11.00	.00	72.07	.124	.33
11.17	.00	72.00	.119	.33
11.33	.00	71.93	.114	.33

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.50	.00	71.85	.110	.33
11.67	.00	71.78	.105	.33
11.83	.00	71.71	.101	.33
12.00	.00	71.63	.096	.33
12.17	.00	71.56	.092	.33
12.33	.00	71.49	.087	.33
12.50	.00	71.42	.083	.33
12.67	.00	71.34	.078	.33
12.83	.00	71.27	.074	.33
13.00	.00	71.20	.069	.33
13.17	.00	71.12	.065	.33
13.33	.00	71.05	.060	.33
13.50	.00	70.99	.056	.32
13.67	.00	70.97	.052	.29
13.83	.00	70.95	.048	.27
14.00	.00	70.93	.044	.25
14.17	.00	70.91	.041	.23
14.33	.00	70.90	.038	.22
14.50	.00	70.88	.035	.20
14.67	.00	70.87	.032	.18
14.83	.00	70.86	.030	.17
15.00	.00	70.84	.028	.16
15.17	.00	70.83	.026	.15
15.33	.00	70.82	.024	.13
15.50	.00	70.81	.022	.12
15.67	.00	70.81	.020	.11
15.83	.00	70.80	.019	.11
16.00	.00	70.79	.017	.10
16.17	.00	70.78	.016	.09
16.33	.00	70.78	.015	.08
16.50	.00	70.77	.014	.08
16.67	.00	70.77	.013	.07
16.83	.00	70.76	.012	.07
17.00	.00	70.76	.011	.06
17.17	.00	70.75	.010	.06
17.33	.00	70.75	.009	.05
17.50	.00	70.74	.009	.05
17.67	.00	70.74	.008	.04
17.83	.00	70.74	.007	.04
18.00	.00	70.74	.007	.04
18.17	.00	70.73	.006	.04
18.33	.00	70.73	.006	.03
18.50	.00	70.73	.005	.03
18.67	.00	70.73	.005	.03
18.83	.00	70.72	.005	.03
19.00	.00	70.72	.004	.02
19.17	.00	70.72	.004	.02
19.33	.00	70.72	.004	.02
19.50	.00	70.72	.003	.02
19.67	.00	70.72	.003	.02
19.83	.00	70.71	.003	.02

PEAK DISCHARGE = 9.497 CFS - PEAK OCCURS AT HOUR 2.10
MAXIMUM WATER SURFACE ELEVATION = 75.000
MAXIMUM STORAGE = .3196 AC-FT INCREMENTAL TIME= .033333HRS

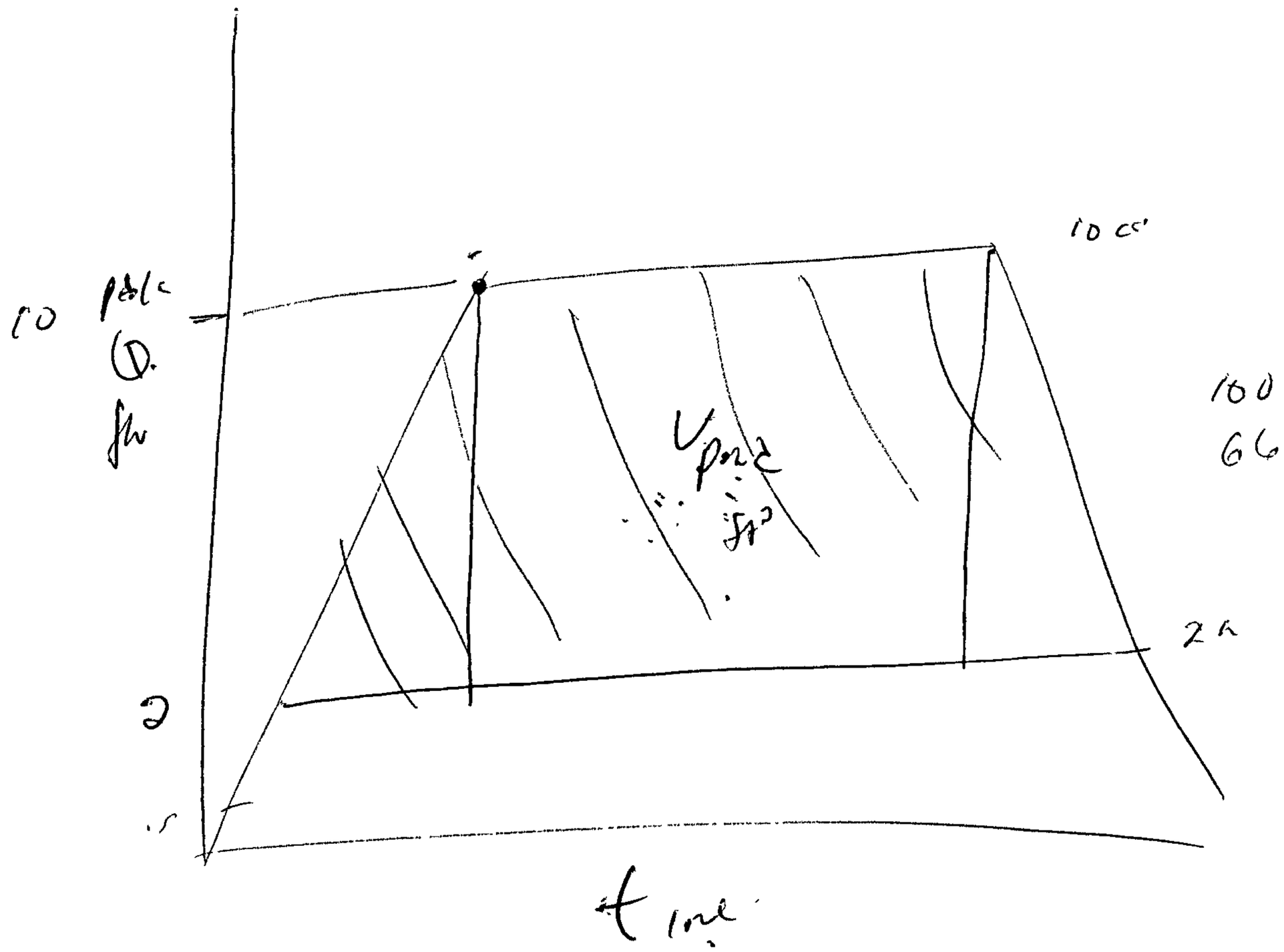
PRINT HYD ID=10 CODE=1

PARTIAL HYDROGRAPH 110.00

RUNOFF VOLUME = 1.92473 INCHES = 1.2552 ACRE-FEET
PEAK DISCHARGE RATE = 9.50 CFS AT 2.100 HOURS BASIN AREA = .0122 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 14:29:23



$V_{pulse\ A} = \frac{2}{3} V_{head\ value}$

Walter or Lynn
to respond to approve
for SPBP

February 22, 2011

Genny Donart, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Brunacini Journal Center Tracts A-2-A and A-3-A
Preliminary Grading and Drainage Plan
Engineer's Stamp dated X-X-XX (D17/D003AA7)

Dear Ms Donart,

Based upon the information provided in your submittal received 2/10/2011, the above referenced plan can not be approved for Site Development for Building Permit action by the DRB until the following comments are addressed.

- We need the plans to be stamped, signed and dated.
- We would like for the valley gutter to be extended to the treatment pond area, or more of a slope in the internal access road.
- I believe that a curb opening in the access road just east of the bend would be much more beneficial in accepting flows from the east parking lots.
- The concrete rundown to the North Diversion Channel side inlet is required to be on an Infrastructure List.

As discussed, additional information will be required on your submittal for Building Permit.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Curtis A. Cherne, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

RR

C: file
Brad Bingham