CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services

Richard J. Berry, Mayor

December 12, 2014

Doug Hughes, P.E.
Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

RE: **101.7 The Team Radio**
Drainage Report, Grading and Drainage Plan
Engineer's Stamp Date 11-25-2014 (File: C12D026)

Dear Mr. Hughes:

Based upon the information provided in your submittal received 12-02-14, the above referenced submittal is approved for Site Plan for Building Permit. The following comments must be addressed prior to approval for Building Permit:

1. Approval from NMDOT and the County are required. Emails with Tim Trujillo and Don Briggs will suffice.
2. Various easements, Agreements and Covenants are needed prior to DRC signoff.
3. Show roof discharge locations
4. In order for the pond limits to be clearly delineated (100 yr WSEL) can the spot elevation at the curb cut be raised from 5007.03 to 5007.09?

Since the disturbed area on this site exceeds 1.0 acre, an Erosion and Sediment Control (ESC) Plan, prepared by a NM PE and approved by the City's Stormwater Engineer, will be required for this site, prior to Hydrology approval of a Building Permit or Work Order.

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

Sincerely,

Rita Harmon, P.E.
Senior Engineer, Planning Dept.
Development Review Services

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

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

C12D026_SDBP__Appr.doc

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

PROJECT TITLE: Team Radio ZAP/DRG. FILE C12D026
DRB#: 1002062 EPC#: WORK ORDER#: 702182

LEGAL DESCRIPTION: Parcel 12B Riverview Addition
CITY ADDRESS:

ENGINEERING FIRM: Mark Goodwin & Associates, PA CONTACT: James Hughes, PE
ADDRESS: PO Box 90606 PHONE: 828-2200
CITY, STATE: Albuquerque, NM ZIP CODE: 87199

OWNER: Team Broadcasting, Inc. CONTACT: Scott Grady
ADDRESS: PO BOX 1443 PHONE: 338-1438
CITY, STATE: Corrales, NM ZIP CODE: 87048

ARCHITECT: Rick Bennet Architects CONTACT: Rick Bennet
ADDRESS: 1104 Park Ave PHONE: 242-1859
CITY, STATE: Albuquerque, NM ZIP CODE: 87102

SURVEYOR: Aldrich Land Surveying CONTACT: Tim Aldrich
ADDRESS: PO Box 30701 PHONE: 884-1990
CITY, STATE: Albuquerque,NM ZIP CODE: 87190

CONTRACTOR: N/A CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

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

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
X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY (PERM)
____ CERTIFICATE OF OCCUPANCY (TEMP)
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ WORK ORDER APPROVAL
____ OTHER (Construction Plans Approval)

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

SUBMITTED BY: James D. Hughes, PE DATE: Nov 26, 2014

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:

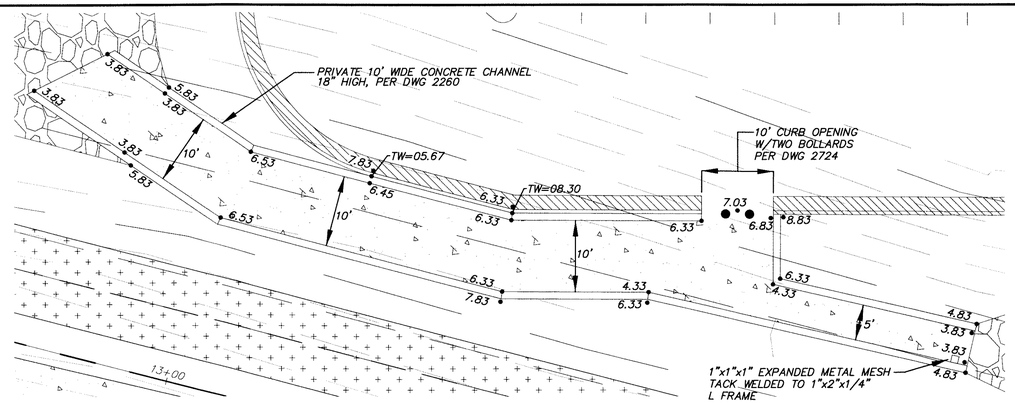
1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.

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.

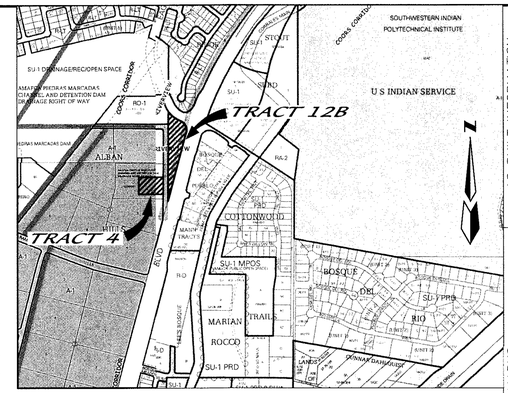
LEGEND

5030	EXIST. CONTOUR (MAJOR)	29.29	NEW SPOT ELEVATIONS
5031	EXIST. CONTOUR (MINOR)	1.0%	NEW FLOW
00.00 x	EXIST. SPOT ELEVATION		NEW SLOPE
TC / FL	EXIST. TOP OF CURB / EXIST. FLOWLINE	09.00 TW / 07.00 BW	NEW TOP WALL/BOTTOM WALL
	EXIST. CURB AND GUTTER	04	NEW CONTOUR (MAJOR)
	EXIST. CONCRETE/SIDEWALK		NEW GRADE HINGE LINE
	EXIST. EDGE OF ASPHALT		NEW BOUNDARY LINE
	EXIST. GUARDRAIL		NEW CENTERLINE
	EXIST. SIGN		NEW EASEMENT
	EXIST. FENCE		NEW STD. 6" CURB & GUTTER
	EXIST. TREE		NEW STD. 8" CURB & GUTTER
W	EXIST. WATER MANHOLE		NEW RETAINING WALL
	EXIST. FIRE HYDRANT		NEW SIDEWALK
	EXIST. WATER VALVE		NEW TYPE VL RIP-RAP
	EXIST. ELECTRIC PEDESTAL/PULL BOX		NEW 12' GRAVEL ROAD FOR STORM DRAIN MAINTENANCE
	EXIST. POWER POLE		NEW 12' WIDE AC TRAIL (3"AC. ON 12" SUBGRADE)
	EXIST. ANCHOR		NEW 3"AC. ON 12" SUBGRADE
	EXIST. DROP INLET	BUS	NEW BUS SHELTER
S	EXIST. SANITARY SEWER MANHOLE		
D	EXIST. STORM DRAIN MANHOLE		
	EXIST. STREET LIGHT POLE		
	EXIST. TRAFFIC SIGNAL		
T	EXIST. TELEPHONE MANHOLE		
CP	EXIST. CONTROL PANEL		



DETAIL OF CONCRETE SPILLWAY

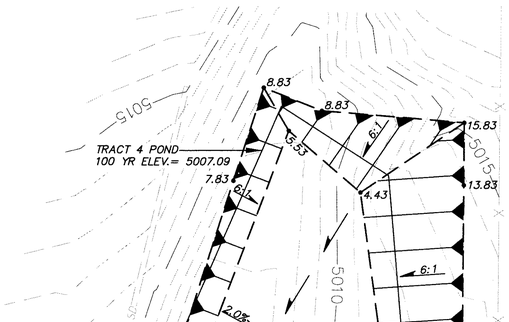
SCALE: 1" = 10'

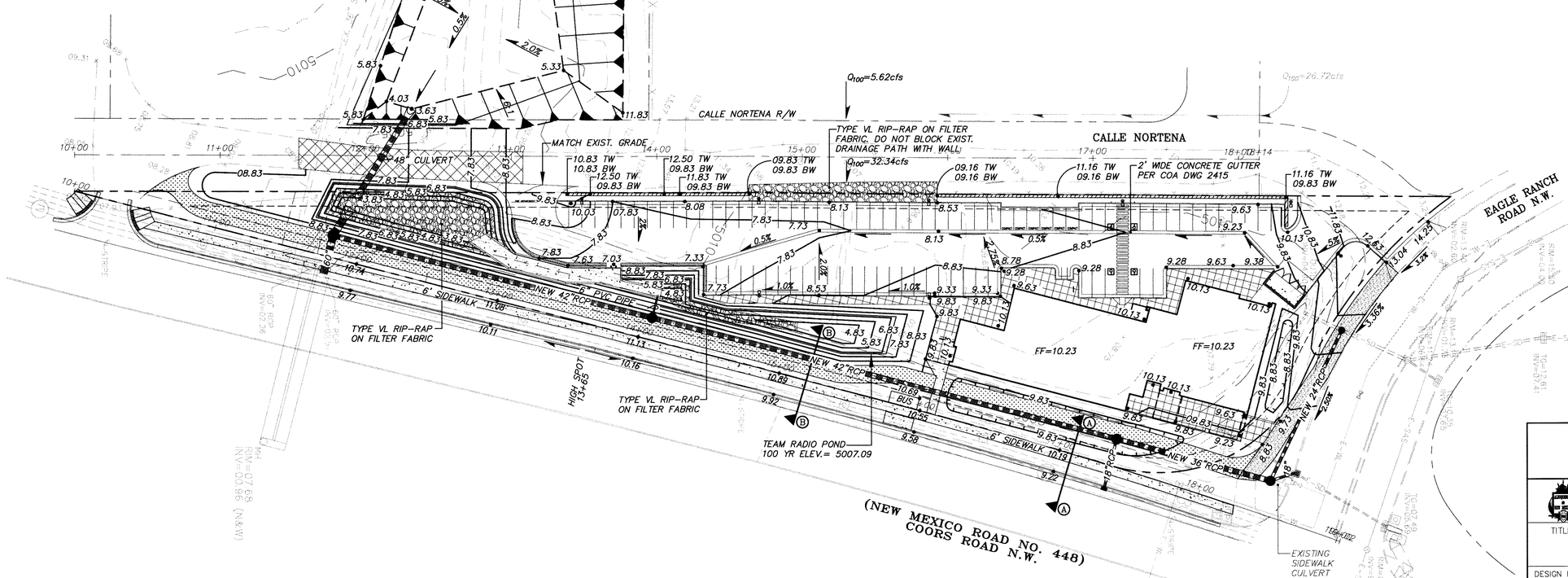


VICINITY MAP ZONE ATLAS C-13/D-13

LEGAL DESCRIPTION

PARCEL 12B RIVER VIEW ADDITION (2.15 ac.) AND TRACT 4 A.M.A.F.C.A. PIEDRAS MERCADAS CHANNEL AND DETENTION DAM RIGHT-OF-WAY (4.23 ac.)





40' 20' 0 40' 80'

SCALE: 1" = 40'

THIS SHEET IS FOR PRIVATE GRADING & DRAINAGE ON PARCEL 12B RIVER VIEW ADDITION IN THE CITY OF ALBUQUERQUE AND ON TRACT 4 OF THE A.M.A.F.C.A. PIEDRAS MERCADAS CHANNEL & DETENTION DAM DRAINAGE RIGHT-OF-WAY IN BERNALILLO COUNTY.

THIS SHEET IS NOT FOR CONSTRUCTION OF PUBLIC INFRASTRUCTURE, EXCEPT THAT IT ESTABLISHES FLOW RATES TO BE USED FOR DESIGN OF THE PUBLIC STORM DRAIN.

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AS BUILT INFORMATION

CONTRACTOR — DATE
WORK STARTED BY
INSPECTOR'S ACCEPTANCE BY — DATE
AGRS VERIFICATION BY — DATE
CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

BENCH MARKS

BENCHMARK – NAVD88
AGRS MONUMENT
"6-D13"
ELEVATION=5009.852
THIS PROJECT IS BASED ON NAD27 AND NAVD88

SURVEY INFORMATION

FIELD NOTES BY — DATE
NO.

ENGINEER'S SEAL

JAMES D. HUBBELL
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
11-25-2014

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	
	DATE		07/14
DESIGNED BY		JDH	
	DATE		07/14
DRAWN BY		ACH	
	DATE		07/14
CHECKED BY		DMG	

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE:

TEAM RADIO GRADING & DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET OF
702182	C-13/D-13	1 2

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Stormwater Management Plan

The peak 100 year stormwater runoff rates from this site will be less than the rate established by the *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) such that the capacity of the downstream double 21" RCPs is not exceeded. The *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) is accepted by AMAFCA and by the City of Albuquerque. When several of the culverts under Coors Blvd. were plugged as part of the construction of the *Bosque Del Pueblo Final Grading &Drainage Plan* (Greiner, 1989), a de facto pond was created on these properties unknown to the owners until recently. The Team Radio development will construct a new improved regional pond in accordance with an AMAFCA Turnkey Agreement date September 26, 2014. Drainage infrastructure west of the Team Radio site will then be maintained by AMAFCA. The new regional pond will cut the peak 100-YR flow rate from the 39.1 acre upstream offsite basins plus the onsite 2 acre basin to about half of the originally planned runoff rate (90 cfs reduced 53.21 cfs).

Upstream Offsite Flows

Drainage from Eagle Ranch Road and from Coors Blvd., Basins 101 and 106 respectively will be conveyed through Parcel 12B in a storm drain to be constructed by the developer and maintained by the City of Albuquerque. It will outfall into an existing 60" culver under Coors Blvd., NMDOT owned and Maintained. The 60" culvert will be extended as part of the construction by the developer.

Offsite flows from Basins 102 and 103 are diverted by a roadside ditch west of Calle Nortena to a sump in Calle Nortena where they flow on the surface over the Calle Nortena roadway and into this site. There they will be joined by the onsite drainage (basin 105) and all will be conveyed on the surface through the parking lot to a concrete rundown that will drain the first flush into the onsite Storm Water Quality pond. The rundown will drain higher flows into the regional detention pond located on both sides of Calle Nortena near the 60" outfall under Coors Blvd. At peak stage the regional detention pond spreads into the top 0.57' of the SWQ pond.

Offsite flows from Basin104 drain into the portion of the regional detention pond located on the AMAFCA right of way Tract 4. That portion of the regional pond is connected to the portion on Parcel 12B by a 48" RCP which is oversized so that head loss through it is negligible and the pond is at the same elevation on both sides.

Hydrology

AHYMO S4 is used for the hydrology calculations as contained in the Appendix of the Drainage Report. Ground cover is based on existing conditions in basin 101, the *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) in basins 102,103, and 104, and ground cover is based on Post development conditions in basins 105 and 106. The input and output results are summarized in the following table.

HYDROLOGY SUMMARY

Description	AHYMO BASIN ID	AREA (Ac)	AREA (Sq mi)	Ground Cover (%) A	B	C	D	Peak 100-YR Flow Q_{100} (cfs) Incru	Total	Peak 10-YR Flow Q_{10} (cfs) Incru	Total	Peak 10-YR Flow Q_{100} (cfs) Incru	Total	SWQ Volume (Ac.Ft.)
Eagle Ranch RD.	101	8.5	0.01328	0.0	0.0	76.0	24.0	30.06	30.06	18.02	18.02	8.89	8.89	0.078
Offsite west	102	10.4	0.01625	50.0	16.6	16.7	16.7	26.72	56.72	12.59	30.61	3.72	12.61	0.067
Offsite west	103	2.2	0.00344	50.0	16.6	16.7	16.7	5.62	62.33	2.65	33.26	0.78	13.39	0.014
Alban/AMAFCA	104	16.7	0.02609	50.0	16.6	16.7	16.7	43.04	105.37	20.28	53.54	6.00	19.39	0.107
Onsite	105	2.0	0.00313	0.0	0.0	20.0	80.0	8.51	113.82	5.53	59.07	3.38	22.77	0.061
Coors Rd	106	1.3	0.00203	0.0	0.0	0.0	100.0	5.83	119.62	3.88	62.85	2.48	25.21	0.050
Discharge from	Pond							53.21		40.41		18.65		

Precipitation values are from DPM Section 22.2, Table A-2, Zone 1. The Pond volume calculations were performed using the conic equation with the following results.

Pond volume Calculations

Outfall Hydraulic Calculations

Elev.	AMAFCA Parcel Area (SF)	AMAFCA Parcel Vol (Ac-	Team Radio Site Area (SF)	Team Radio Site Vol (Ac-	Total On & Off-site Area (SF)	Total On & Off-site Vol (Ac-Ft)	Double 21" RCPs Inlet Control HW/D	Double 21" RCPs Inlet Control Q (cfs)	Double 21" RCPs Outlet H (ft)	Double 21" RCPs Outlet Q (cfs)	60" RCP Inlet Control HW/D	60" RCP Inlet Control Q (cfs)	Outlet Capacity Q (cfs)
5001.0	1,098	0.00	1,867	0.00	2,965	0.00	2.29	46.0	7.7	44.4	0.13	7.0	7.0
5002.0	10,582	0.12	3,635	0.06	14,217	0.18	2.86	54.4	8.7	48.0	0.33	22.0	22.0
5003.0	15,936	0.42	5,635	0.17	21,571	0.59	3.43	63.0	9.7	50.5	0.53	46.0	46.0
5004.0	19,201	0.82	7,985	0.32	27,186	1.14	4.00	68.0	10.7	52.6	0.73	82.0	52.6
5005.0	22,769	1.30	16,700	0.60	39,469	1.90	4.57	75.0	11.7	55.4	0.93	122.0	55.4
5006.0	26,640	1.87	34,740	1.18	61,380	3.05	5.14	80.0	12.7	57.6	1.13	160.0	57.6

The pond discharge is set equal to the smallest of three capacity calculations as summarized in the table above. Inlet control at the 60" RCP on the west side of Coors limits discharge rates at depths of 2' and less while the discharge rate at greater depths is limited by outlet control in the double 21" RCPs. The following table summarizes the pond routing results. The capacity is established by the two nomographs for Concrete Pipe Culverts Flowing Full and for Concrete Pipe Culverts with Inlet Control from the Bureau of Public Roads Jan 1963 as contained in the Appendix of the Drainage Report.

The Team Radio Pond Summary Table

Event Recurance Interval	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Storage Volume	Peak Stage (ft)
2-YR	25.21	18.65	0.14	5001.77
10-YR	62.85	40.41	0.49	5002.77
100-YR	119.62	53.34	1.34	5004.26

Hydraulic Calculations

HGL calculations for the storm drain that parallels Coors Rd between Eagle Ranch Road and the existing 60" RCP under Coors Rd begin at the downstream end with the 100yr pond elevation at the moment when the peak flow rate enters the storm drain at Eagle Ranch Rd. From AHYMO the peak of basin 101 occurs at 1.53 hours when the pond stage is 5003.26. The peak flow rate in the 36" RCP is equal to 35.89cfs, the sum of basins 101 and 106.

Alternatively when the peak stage of the pond occurs, at 1.73 hours, the peak inflow is 52.47cfs which is 44% of the peak flow. At that moment the beginning HGL elevation at the downstream end is 5004.26 and the prorated flow in the 36" pipe is 15.74cfs.

The hydraulic grade line elevation was calculated using WSPGW at each of these two moments of the 100 year storm, peak inflow and peak pond stage, and the higher of the two elevations is shown on the pipe profiles along with the peak flow rate and corresponding velocity. The flow rates in the storm drains in Eagle Ranch Rd. are based on the record drawings for Eagle Ridge Subdivision, City Project # 702181.

The backwater effect of the pond on the 100 year surface drainage from The Team Radio site, including drainage from upstream offsite basins 102 and 103 that drain on the surface through The Team Radio site, was analyzed using HEC-RAS for the moment in the hydrograph where the peak flow rate of 41 cfs occurs, at 1.53 hours, when the pond stage is 5003.26. The analysis determined that the 100-yr elevation at The Team Radio site is 5004.85 which is higher than the peak 100 year pond stage of 5004.26. The lowest parking lot elevation is 5004.20 where the normal 100 year flow depth is 0.82' using Plate 22.3 D-4 for 41cfs at 0.50% slope compared to 0.65' depth backwater from the concrete spillway.

Storm Water Quality Calculations

The required volume is based on a 0.6" precipitation event that produces 0.46" runoff from impervious surfaces only and is shown for each basin in the Hydrology Summary table on page 5. The required volume for The Team Radio site is 0.61 ac-ft. The concrete spillway is designed to drain north into the SWQ pond(s) until the 0.67 ac-ft pond(s) fill up to elevation 5003.70, then it spills south into the detention pond.

Survey

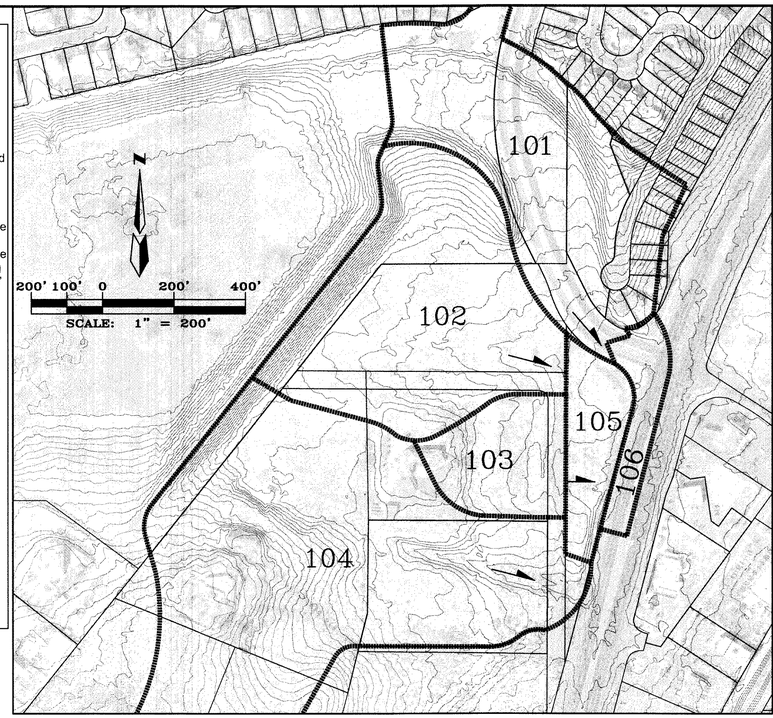
The existing conditions as shown on the plans were surveyed by Aldrich Land Surveying revised 10-27-2014.

Benchmark

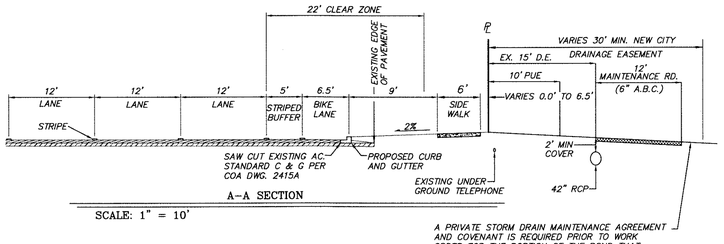
All elevations in these drainage notes are based on NGVD29 ASC Monument "R. Alameda B. No. 2" Elev. = 5058.25. Add 2.83' to the elevations in this report to convert to NAVD 88.

Soils

Earthwork construction is to be in accordance with the Geotechnical Engineering Services Job No. 1-40102, 101.7 The Team Office Building by GeoTest Inc. February 11, 2014.

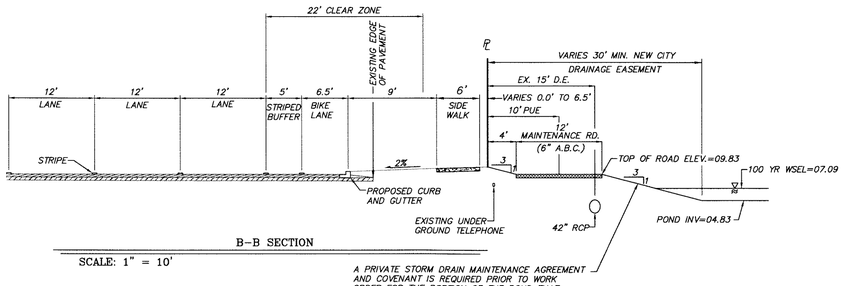


OFFSITE DRAINAGE BASIN BOUNDARIES



A–A SECTION

SCALE: 1" = 10'



B–B SECTION

SCALE: 1" = 10'

THIS SHEET IS FOR PRIVATE GRADING & DRAINAGE ON PARCEL 12B RIVER VIEW ADDITION IN THE CITY OF ALBUQUERQUE AND ON TRACT 4 OF THE A.M.A.F.C.A. PIEDRAS MERCADAS CHANNEL & DETENTION DAM DRAINAGE RIGHT-OF-WAY IN BERNALILLO COUNTY.

THIS SHEET IS NOT FOR CONSTRUCTION OF PUBLIC INFRASTRUCTURE, EXCEPT THAT IT ESTABLISHES FLOW RATES TO BE USED FOR DESIGN OF THE PUBLIC STORM DRAIN.

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AS BUILT INFORMATION
CONTRACTOR DATE
WORK PERFORMED BY
INSPECTOR'S ACCEPTANCE BY DATE
AS-BUILT VERIFICATION BY DATE
DRAWING BY
CHECKED BY DATE

BENCH MARKS
BENCHMARK – NAVD88
AGRS MONUMENT
"6–D13"
ELEVATION=5009.852
THIS PROJECT IS BASED ON NAD27 AND NAVD88

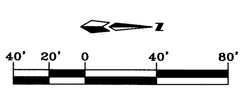
SURVEY INFORMATION
FIELD NOTES BY DATE
NO.

ENGINEER'S SEAL
JAMES D. HUBBELL
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
11-25-2014

RECORDED BY DATE
NO.

REVISIONS
NO. DATE REMARKS BY
DESIGN DATE 07/14
DESIGNED BY JDH
DRAWN BY ACH
CHECKED BY DMG

MICRO–FILM INFORMATION



dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828–2200, FAX (505) 797–9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE:
TEAM RADIO GRADING & DRAINAGE PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO. 702182 | ZONE MAP NO. C-13/D-13 | SHEET 2 OF 2

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

~ 2012 ACEC/NM Award Winner for Engineering Excellence ~
~ 2008 ACEC/NM Award Winner for Engineering Excellence ~

November 25, 2014

Ms. Rita Harmon
Senior Engineer, Planning Dept.
Development Review Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: The Team Radio

The purpose of this letter is to describe the changes that have been made to The Team Radio Plans and Drainage Design Analysis Report since the review comments were received on July 18, 2014, and to discuss how each of those comments have been addressed.

Please feel free to contact me with any questions or concerns.

Sincerely,
MARK GOODWIN & ASSOCIATES, PA

James D. Hughes, PE
Senior Engineer

CC: Scott Grady
Grady Branch, LLC
4131 Barbara Loop SE, Suite 202
Rio Rancho, New Mexico 87124

1. AMAFCA approval is a prerequisite for approval. Per the DRC meeting on July 16, 2014, Lynn stated that AMAFCA did not approve of the pond as shown. They prefer a long pond north of the access road and wanted the road to be able to be usable during the 100-yr flood. The configuration they prefer requires approval from the county commissioner as well. The AMAFCA Board approved a Turnkey agreement with the developer, Grady Branch, LLC, on September 26, 2014 (attached).
2. Various easements, Agreements and Covenants are needed. Provide a plat to better understand the jurisdictions. Plats and an ALTA are included in the DRC Project #702182 (attached). Parcel 12B was created by the Riverview Plat in 1986. Calle Nortena, a county road west of this site was dedicated on the Alban Hills Plat. Some of this construction will take place on two properties owned by autonomous New Mexico State agencies: Tract 4 of the Piedras Marcadas Channel and Detention Dam Right of Way owned by AMAFCA, and Coors Blvd owned by NMDOT. The DRC plans show construction in those adjacent jurisdictions "For Information Only". Separate paper easements will be provided to DRC for the Bus Stop(s) and the City's Storm Drain.
3. The location and access of the Storm Drain needs to be approved by Storm Drain Maintenance or Wilfred Gallegos in DMD. Wilfred approved the storm drain location in an e-mail on July 22, 2014.
4. A number of emails have been sent to Curtis Cherne which I have not reviewed. Instead, any information that would give insight to the drainage scheme or a summary of the correspondence should be included in the report. There are four different jurisdictions as mentioned above. One Drainage Analysis Report has been prepared for approval by all four jurisdictions. Similarly the Grading and Drainage Plan (2 sheets) is for two permits, AMAFCA and COA Building Permit. Three additional plan sets have been prepared for permit of public infrastructure construction; Bernalillo County in Calle Nortena, NMDOT in Coors Blvd and in easements on Parcel 12B, and City of Albuquerque in Eagle Ranch Rd and in easements on Parcel 12B.
5. The Basin map shows contours of an undeveloped condition. The basin map should reflect the existing conditions which would support the land treatment shown. Additionally, any existing drainage paths (streets flow, inlets, Storm Drains) and the corresponding drainage outfall should be indicated in order to understand the bigger picture. The contours are the best available offsite information as downloaded from Bernalillo County's web site. A current ortho-photo has been added to the basin map to better understand land treatments and drainage patterns, and flow arrows indicate the location of flow out of each basins.
6. The report does not clearly describe how offsite are managed. There is some language in the Planning History and the North Coors Drainage Management Plan, but it is not clear how this information ties into this project. Offsite are now clearly described in a new section added to the report titled "Upstream Offsite Flows".
7. It is not clear how on-site flows are managed. The Ponds on the Grading and Drainage Plan are not delineated as such. The ponds are now labled and the limits of ponding are shown.
8. A stand-alone Grading and Drainage Plan was not provided with the report, however, it was included in the City Project set. A standalone G&D Plan is provided this time. It is also shown in the DRC Plans "For Information Only"
9. Provide language on how the first flush will be managed. See SWQ Calculations on page 6.

Team Radio
Drainage Report

Prepared For:

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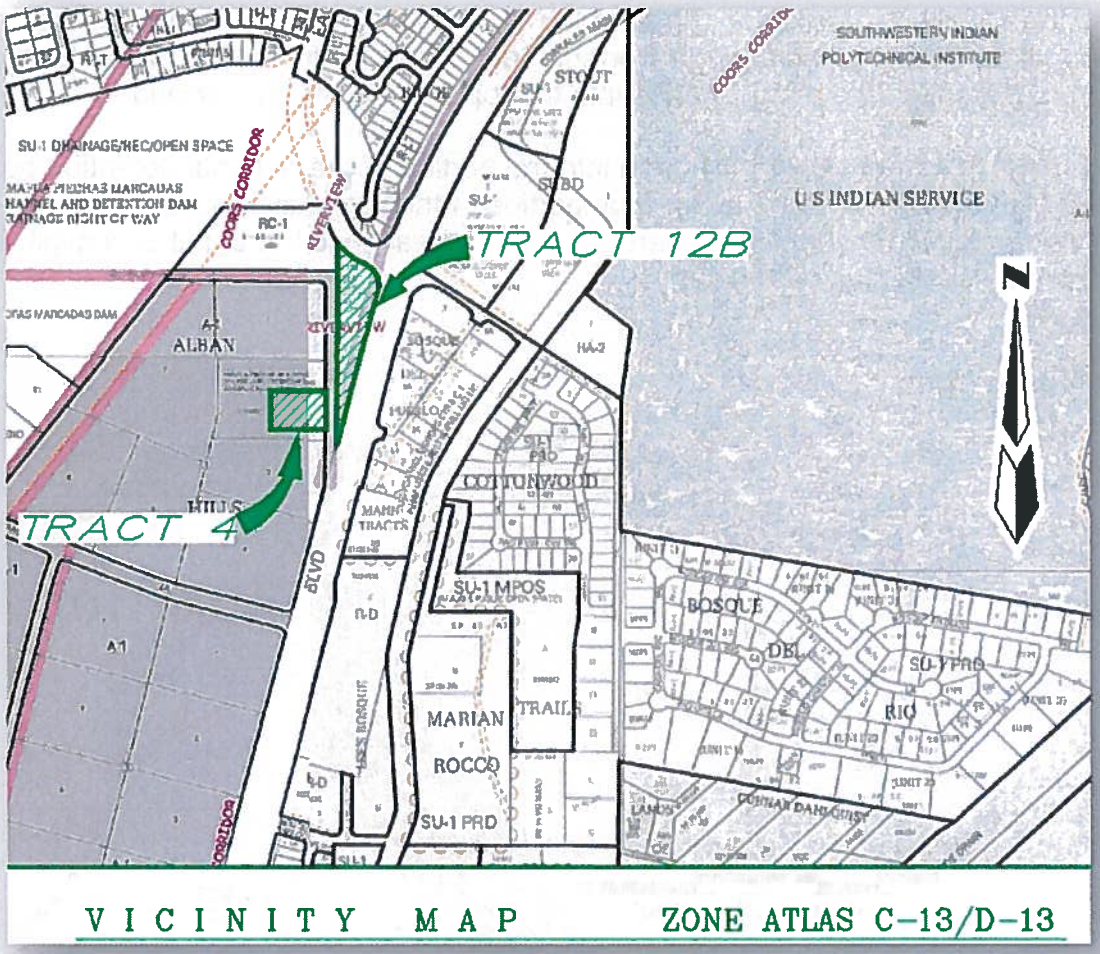
11-25-2014

Contents

Legal Description & Vicinity Map

Parcel 12B Riverview Addition containing 2.1483 acres in the City of Albuquerque and Tract 4 of the Piedras Marcadas Channel and Detention Dam Right of Way containing 4.23 acres in AMAFCA's jurisdiction.



Floodplain

There are not any special Flood Hazard Zones on or near this site as shown on Flood Insurance Rate Map Number 35001c0116G revised September 26, 2008.

Stormwater Management Plan

The peak 100 year stormwater runoff rates from this site will be less than the rate established by the *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) such that the capacity of the downstream double 21" RCPs is not exceeded. The *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) is accepted by AMAFCA and by the City of Albuquerque. When several of the culverts under Coors Blvd. were plugged as part of the construction of the *Bosque Del Pueblo Final Grading &Drainage Plan* (Greiner, 1989), a de facto pond was created on these properties unknown to the owners until recently. The Team Radio development will construct a new improved regional pond in accordance with an AMAFCA Turnkey Agreement date September 26, 2014. Drainage infrastructure west of the Team Radio site will then be maintained by AMAFCA. The new regional pond will cut the peak 100-YR flow rate from the 39.1 acre upstream offsite basins plus the onsite 2 acre basin to about half of the originally planned runoff rate (90 cfs reduced 53.21 cfs).

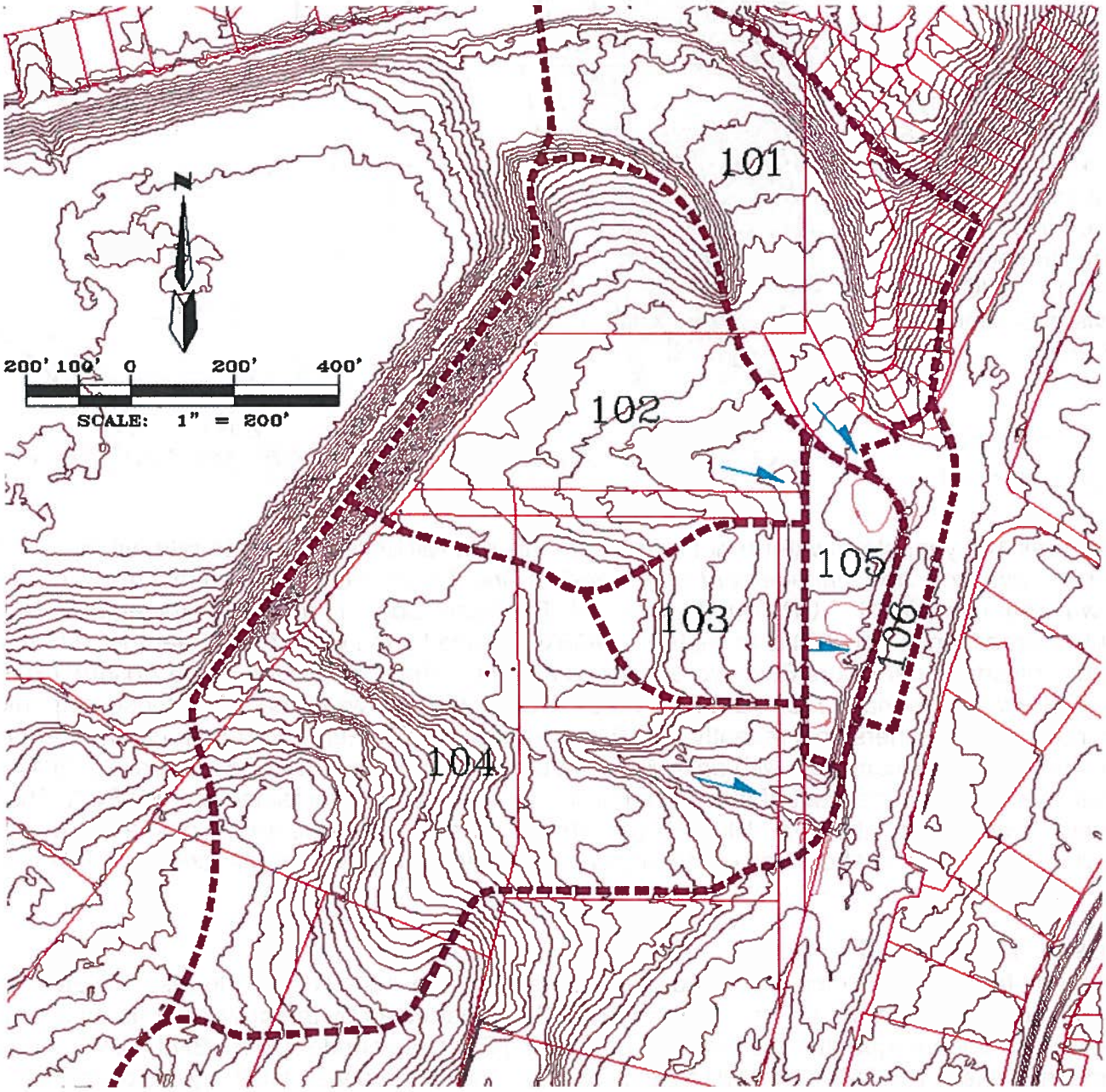
Upstream Offsite Flows

Drainage from Eagle Ranch Road and from Coors Blvd., Basins 101 and 106 respectively will be conveyed through Parcel 12B in a storm drain to be constructed by the developer and maintained by the City of Albuquerque. It will outfall into an existing 60" culver under Coors Blvd., NMDOT owned and Maintained. The 60" culvert will be extended as part of the construction by the developer. Offsite flows from Basins 102 and 103 are diverted by a roadside ditch west of Calle Nortena to a sump in Calle Nortena where they flow on the surface over the Calle Nortena roadway and into this

site. There they will be joined by the onsite drainage (basin 105) and all will be conveyed on the surface through the parking lot to a concrete rundown that will drain the first flush into the onsite Storm Water Quality pond. The rundown will drain higher flows into the regional detention pond located on both sides of Calle Nortena near the 60" outfall under Coors Blvd. At peak stage the regional detention pond spreads into the top 0.57' of the SWQ pond.

Offsite flows from Basin104 drain into the portion of the regional detention pond located on the AMAFCA right of way Tract 4. That portion of the regional pond is connected to the portion on Parcel 12B by a 48" RCP which is oversized so that head loss through it is negligible and the pond is at the same elevation on both sides.

Basin Map



Hydrology

AHYMO S4 is used for the hydrology calculations as contained in the Appendix of the Drainage Report. Ground cover is based on existing conditions in basin 101, the *North Coors Drainage Management Plan – Middle Area* (Smith Feb '97) in basins 102,103, and 104, and ground cover is based on Post development conditions in basins 105 and 106. The input and output results are summarized in the following table.

HYDROLOGY SUMMARY

Description	AHYMO BASIN ID	AREA		Ground Cover (%)				Peak 100-YR Flow Q_{100} (cfs)		Peak 10-YR Flow Q_{100} (cfs)		Peak 10-YR Flow Q_{100} (cfs)		SWQ Volume
		(Ac)	(Sq mi)	A	B	C	D	Incru	Total	Incru	Total	Incru	Total	(Ac.Ft.)
Eagle Ranch RD.	101	8.5	0.01328	0.0	0.0	76.0	24.0	30.06	30.06	18.02	18.02	8.89	8.89	0.078
Offsite west	102	10.4	0.01625	50.0	16.6	16.7	16.7	26.72	56.72	12.59	30.61	3.72	12.61	0.067
Offsite west	103	2.2	0.00344	50.0	16.6	16.7	16.7	5.62	62.33	2.65	33.26	0.78	13.39	0.014
Alban/AMAFCA	104	16.7	0.02609	50.0	16.6	16.7	16.7	43.04	105.37	20.28	53.54	6.00	19.39	0.107
Onsite	105	2.0	0.00313	0.0	0.0	20.0	80.0	8.51	113.82	5.53	59.07	3.38	22.77	0.061
Coors Rd	106	1.3	0.00203	0.0	0.0	0.0	100.0	5.83	119.62	3.88	62.85	2.48	25.21	0.050
Discharge from	Pond							53.21		40.41		18.65		

Precipitation values are from DPM Section 22.2, Table A-2, Zone 1. The Pond volume calculations were performed using the conic equation with the following results.

Pond volume Calculations							Outfall Hydraulic Calculations						
	AMAFCA Parcel		Team Radio Site		Total On & Off-site		Double 21" RCPs				60" RCP		Outlet Capacity
							Inlet Control		Outlet Control		Inlet Control		
Elevation	Area (SF)	Vol (Ac-Ft)	Area (SF)	Vol (Ac-Ft)	Area (SF)	Vol (Ac-Ft)	HW/D	Q (cfs)	H (ft)	Q (cfs)	HW/D	Q (cfs)	Q (cfs)
5001.0	1,098	0.00	1,867	0.00	2,965	0.00	2.29	46.0	7.7	44.4	0.13	7.0	7.0
5002.0	10,582	0.12	3,635	0.06	14,217	0.18	2.86	54.4	8.7	48.0	0.33	22.0	22.0
5003.0	15,936	0.42	5,635	0.17	21,571	0.59	3.43	63.0	9.7	50.5	0.53	46.0	46.0
5004.0	19,201	0.82	7,985	0.32	27,186	1.14	4.00	68.0	10.7	52.6	0.73	82.0	52.6
5005.0	22,769	1.30	16,700	0.60	39,469	1.90	4.57	75.0	11.7	55.4	0.93	122.0	55.4
5006.0	26,640	1.87	34,740	1.18	61,380	3.05	5.14	80.0	12.7	57.6	1.13	160.0	57.6

The pond discharge is set equal to the smallest of three capacity calculations as summarized in the table above. Inlet control at the 60" RCP on the west side of Coors limits discharge rates at depths of 2' and less while the discharge rate at greater depths is limited by outlet control in the double 21" RCPs. The following table summarizes the pond routing results. The capacity is established by the two nomographs for Concrete Pipe Culverts Flowing Full and for Concrete Pipe Culverts with Inlet Control from the Bureau of Public Roads Jan 1963 as contained in the Appendix of the Drainage Report.

The Team Radio Pond Summary Table

Event Recurance Interval	Peak Inflow (cfs)	Peak Outflow (cfs)	Peak Storage Volume	Peak Stage (ft)
2-YR	25.21	18.65	0.14	5001.77
10-YR	62.85	40.41	0.49	5002.77
100-YR	119.62	53.34	1.34	5004.26

Hydraulic Calculations

HGL calculations for the storm drain that parallels Coors Rd between Eagle Ranch Road and the existing 60" RCP under Coors Rd begin at the downstream end with the 100yr pond elevation at the moment when the peak flow rate enters the storm drain at Eagle Ranch Rd. From AHYMO the peak of basin 101 occurs at 1.53 hours when the pond stage is 5003.26. The peak flow rate in the 36" RCP is equal to 35.89cfs, the sum of basins 101 and 106.

Alternatively when the peak stage of the pond occurs, at 1.73 hours, the peak inflow is 52.47cfs which is 44% of the peak flow. At that moment the beginning HGL elevation at the downstream end is 5004.26 and the prorated flow in the 36" pipe is 15.74cfs.

The hydraulic grade line elevation was calculated using WSPGW at each of these two moments of the 100 year storm, peak inflow and peak pond stage, and the higher of the two elevations is shown on the pipe profiles along with the peak flow rate and corresponding velocity. The flow rates in the storm drains in Eagle Ranch Rd. are based on the record drawings for Eagle Ridge Subdivision, City Project # 702181.

The backwater effect of the pond on the 100 year surface drainage from The Team Radio site, including drainage from upstream offsite basins 102 and 103 that drain on the surface through The Team Radio site, was analyzed using HEC-RAS for the moment in the hydrograph where the peak flow rate of 41 cfs occurs, at 1.53 hours, when the pond stage is 5003.26. The analysis determined that the 100-yr elevation at The Team Radio site is 5004.85 which is higher than the peak 100 year pond stage of 5004.26. The lowest parking lot elevation is 5004.20 where the normal 100 year flow depth is 0.82' using Plate 22.3 D-4 for 41cfs at 0.50% slope compared to 0.65' depth backwater from the concrete spillway.

Storm Water Quality Calculations

The required volume is based on a 0.6" precipitation event that produces 0.46" runoff from impervious surfaces only and is shown for each basin in the Hydrology Summary table on page 5. The required volume for The Team Radio site is 0.61 ac-ft. The concrete spillway is designed to drain north into the SWQ pond(s) until the 0.67 ac-ft pond(s) fill up to elevation 5003.70, then it spills south into the detention pond.

Survey

The existing conditions as shown on the plans were surveyed by Aldrich Land Surveying revised October 27, 2014.

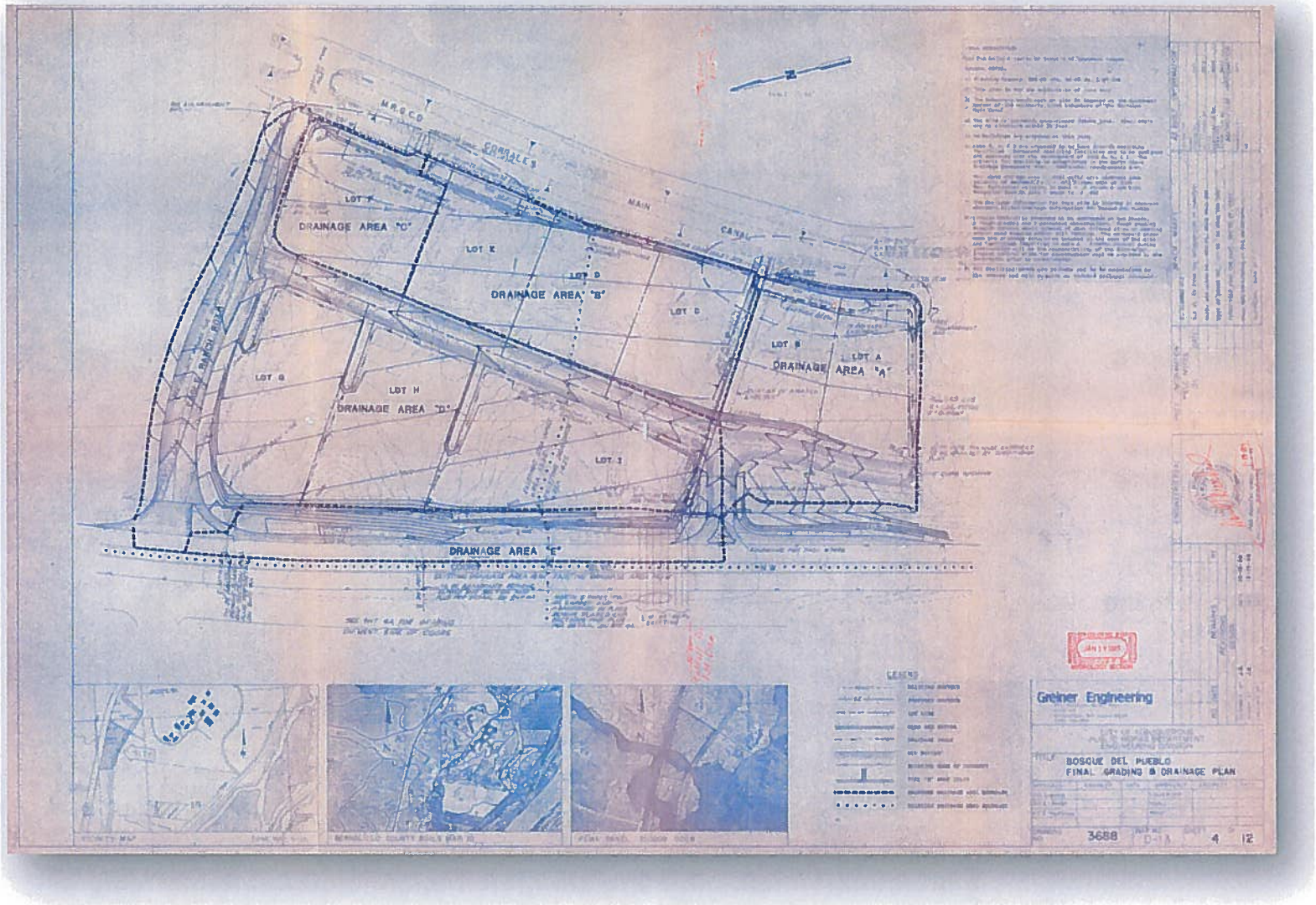
Benchmark

All elevations in this report are based on NGVD29 ASC Monument "R. Alameda B. No. 2" Elev. = 5058.25. Add 2.83' to the elevations in this report to convert to NAVD 88.

Soils

Earthwork construction is to be in accordance with the Geotechnical Engineering Services Job No. 1-40102, 101.7 The Team Office Building by GeoTest Inc. February 11, 2014.

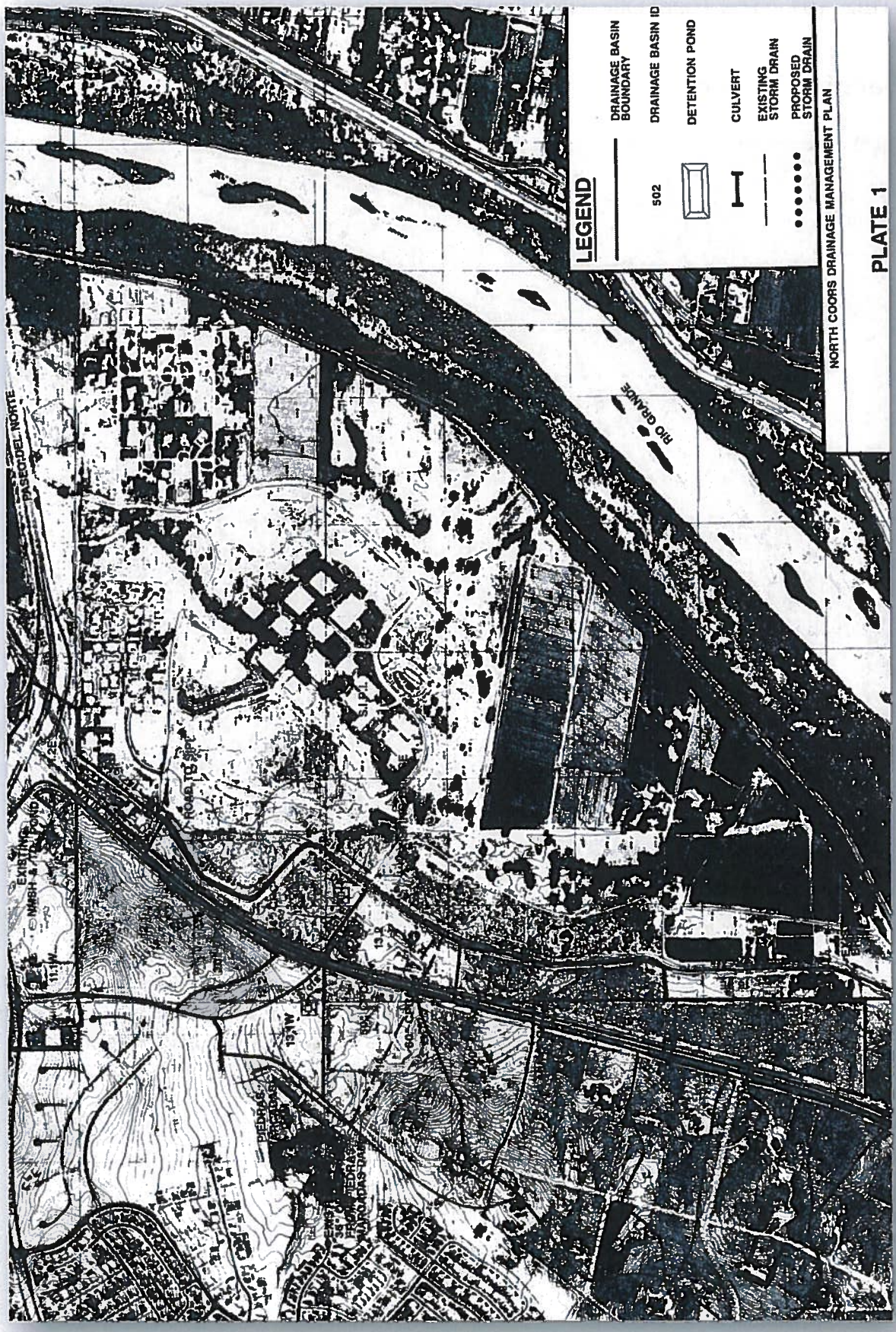
Planning History



The Piedras Marcadas Dam was constructed in 1984. Then the *Bosque Del Pueblo Final Grading &Drainage Plan* (Greiner, 1989) shows the plugging of several storm drain culverts under Coors leaving only the two existing 60" RCPs to drain this 41 acre basin, and that plan also shows the two 21" RCPs that were constructed through the downstream property thus limiting the discharge to the Corrales Main Canal to about 45 cfs. Because that is the maximum amount of flow that will fit through the two 21" pipes without overtopping Coors at the north end of this site and Calle Nortena at the south end of this site.

North Coors Drainage Management Plan

Then the *North Coors Drainage Management Plan Middle Area* (Smith, 1997) shows the following 100 Year discharge rates for the same 41 acre basin that drains through the existing two 60"/21" culverts but it planned for the flows to cross Coors Blvd. at three different locations, including 2 culverts to the north that were plugged.



Summary of North Coors DMP, 1997

Basin ID	Area (Sq Mi)	Area (Ac)	100 Yr Flow Rate (cfs)	Discharge per acre (cfs/ac)	Allowable Discharge
12.2W	0.00691	4.42	15.2	3.44	15
13.1W	0.01020	6.53	20.67	3.17	8
14.1W	0.05117	32.75	66.95	2.04	67
Total	**0.06828**	**43.70**	**102.82**		**90**

Appendix

AHYMO 100 YR Input

```
                                2014-10-17 100 yr final
START                   0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
*S                      THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED
CONDITIONS
LOCATION                ALBUQUERQUE
RAINFALL                TYPE=1  RAIN QUARTER=0.0  RAIN ONE=1.87
                        RAIN SIX=2.22       RAIN DAY=2.66       DT=.01
COMPUTE NM HYD          ID=1 HYD=101 DA=0.0133 SQ MI
                        PER A=0 B=0 C=76 D=24
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=1 CODE=1
COMPUTE NM HYD          ID=2 HYD=102 DA=0.0162 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=2 CODE=1
COMPUTE NM HYD          ID=3 HYD=103 DA=0.0034 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=3 CODE=1
COMPUTE NM HYD          ID=4 HYD=104 DA=0.0261 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=4 CODE=1
COMPUTE NM HYD          ID=5 HYD=105 DA=0.0031 SQ MI
                        PER A=0 B=0 C=20 D=80
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=5 CODE=1
COMPUTE NM HYD          ID=6 HYD=106 DA=0.0020 SQ MI
                        PER A=0 B=0 C=0 D=100
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=6 CODE=1
ADD HYD                 ID=7 HYD=200 IDS= 1 & 2
ADD HYD                 ID=8 HYD=201 IDS= 7 & 3
ADD HYD                 ID=9 HYD=202 IDS= 8 & 4
ADD HYD                 ID=10 HYD=203 IDS= 9 & 5
ADD HYD                 ID=11 HYD=204 IDS= 10 & 6
PRINT HYD               ID=11 CODE=1
ROUTE RESERVOIR         ID=12 HYD=305 INFLOW ID=11  CODE=5
                        OUTFLOW (CFS)          STORAGE (AC FT)    ELEV (FT)
                        0                      0.00               5000
                        7                      0.01               5001
                        22                     0.18               5002
                        46                     0.59               5003
                        52.6                   1.14               5004
                        55.4                   1.90               5005
                        57.6                   3.05               5006
PRINT HYD               ID=12 CODE=1
FINISH
```

←(s16.67h8.5v0T←&18D
AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.01a, Rel: 01a RUN DATE (MON/DAY/YR) =10/17/2014
INPUT FILE = C:\Users\doug\Desktop\2014-10-17 100 yr final.txt USER NO.= AHYMO_Temp_User:20122010

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= 0.00
*S	THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED CONDITIONS									
LOCATION	ALBUQUERQUE									
RAINFALL TYPE= 1 NOAA 14										RAIN6= 2.220
COMPUTE NM HYD	101.00	-	1	0.01330	30.06	0.923	1.30184	1.530	3.531	PER IMP= 24.00
COMPUTE NM HYD	102.00	-	2	0.01620	26.72	0.833	0.96382	1.540	2.578	PER IMP= 16.70
COMPUTE NM HYD	103.00	-	3	0.00340	5.62	0.175	0.96382	1.540	2.584	PER IMP= 16.70
COMPUTE NM HYD	104.00	-	4	0.02610	43.04	1.342	0.96382	1.540	2.577	PER IMP= 16.70
COMPUTE NM HYD	105.00	-	5	0.00310	8.51	0.297	1.79603	1.530	4.289	PER IMP= 80.00
COMPUTE NM HYD	106.00	-	6	0.00200	5.83	0.210	1.97253	1.520	4.557	PER IMP= 100.00
ADD HYD	200.00	1& 2	7	0.02950	56.72	1.756	1.11619	1.530	3.004	
ADD HYD	201.00	7& 3	8	0.03290	62.33	1.931	1.10044	1.530	2.960	
ADD HYD	202.00	8& 4	9	0.05900	105.37	3.273	1.04000	1.540	2.790	
ADD HYD	203.00	9& 5	10	0.06210	113.82	3.569	1.07773	1.540	2.864	
ADD HYD	204.00	10& 6	11	0.06410	119.62	3.780	1.10565	1.530	2.916	
ROUTE RESERVOIR	305.00	11	12	0.06410	53.34	3.780	1.10565	1.730	1.300	AC-FT= 1.341
FINISH										

←(s0p10h4099T←&16D

AHYMO 100-YR Summary

←(s16.67h8.5v0T←&18D

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 10/17/2014
START TIME (HR:MIN:SEC) = 16:45:39 USER NO.= AHYMO_Temp_User:20122010
INPUT FILE = C:\Users\doug\Desktop\2014-10-17 100 yr final.txt

START 0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*S THE TEAM OFFICE BUILDING 100-YR, 6-HR DEVELOPED CONDITIONS
LOCATION ALBUQUERQUE
City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.

Land Treatment	Initial Abstr.(in)	Unif. Infilt.(in/hour)
A	0.65	1.67
B	0.50	1.25
C	0.35	0.83
D	0.10	0.04

RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.87
RAIN SIX=2.22 RAIN DAY=2.66 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.010000 HOURS END TIME = 6.000000 HOURS

0.0000	0.0005	0.0009	0.0014	0.0019	0.0023	0.0028
0.0033	0.0037	0.0042	0.0048	0.0053	0.0058	0.0063
0.0068	0.0073	0.0079	0.0084	0.0090	0.0096	0.0101
0.0107	0.0113	0.0119	0.0125	0.0130	0.0137	0.0144
0.0150	0.0157	0.0163	0.0170	0.0177	0.0183	0.0195
0.0209	0.0223	0.0238	0.0252	0.0266	0.0280	0.0294
0.0309	0.0325	0.0341	0.0357	0.0373	0.0389	0.0405
0.0421	0.0437	0.0454	0.0472	0.0489	0.0507	0.0524
0.0542	0.0559	0.0577	0.0595	0.0613	0.0631	0.0650
0.0668	0.0686	0.0705	0.0723	0.0742	0.0761	0.0780
0.0799	0.0819	0.0838	0.0857	0.0876	0.0896	0.0917
0.0939	0.0960	0.0982	0.1004	0.1025	0.1047	0.1068
0.1092	0.1116	0.1141	0.1165	0.1190	0.1214	0.1239
0.1263	0.1298	0.1352	0.1406	0.1460	0.1514	0.1568
0.1622	0.1676	0.1730	0.1803	0.1875	0.1948	0.2020
0.2093	0.2165	0.2238	0.2310	0.2402	0.2503	0.2605
0.2706	0.2807	0.2909	0.3010	0.3112	0.3230	0.3382
0.3534	0.3687	0.3839	0.3991	0.4144	0.4296	0.4448
0.4711	0.4974	0.5237	0.5499	0.5762	0.6025	0.6288
0.6551	0.7105	0.7805	0.8506	0.9206	0.9906	1.0606
1.1307	1.2007	1.2603	1.2991	1.3379	1.3767	1.4156
1.4544	1.4932	1.5320	1.5708	1.5903	1.6098	1.6293
1.6488	1.6683	1.6878	1.7073	1.7268	1.7415	1.7538
1.7661	1.7784	1.7907	1.8029	1.8152	1.8275	1.8385
1.8471	1.8556	1.8641	1.8726	1.8811	1.8896	1.8982
1.9067	1.9129	1.9191	1.9254	1.9316	1.9378	1.9441
1.9503	1.9565	1.9618	1.9665	1.9712	1.9759	1.9806
1.9854	1.9901	1.9948	1.9987	2.0010	2.0033	2.0056

AHYMO 100-YR Output

2.0079	2.0102	2.0125	2.0148	2.0171	2.0191	2.0211
2.0232	2.0252	2.0272	2.0293	2.0313	2.0333	2.0351
2.0368	2.0385	2.0401	2.0418	2.0435	2.0452	2.0468
2.0484	2.0500	2.0515	2.0530	2.0546	2.0561	2.0576
2.0592	2.0607	2.0622	2.0637	2.0651	2.0666	2.0681
2.0696	2.0710	2.0725	2.0735	2.0742	2.0749	2.0756
2.0763	2.0770	2.0777	2.0784	2.0791	2.0798	2.0805
2.0812	2.0819	2.0826	2.0833	2.0839	2.0846	2.0853
2.0859	2.0865	2.0872	2.0878	2.0885	2.0891	2.0897
2.0904	2.0910	2.0916	2.0922	2.0928	2.0934	2.0941
2.0947	2.0953	2.0959	2.0965	2.0971	2.0977	2.0983
2.0989	2.0995	2.1001	2.1006	2.1012	2.1018	2.1023
2.1029	2.1035	2.1040	2.1046	2.1051	2.1057	2.1062
2.1068	2.1073	2.1079	2.1084	2.1090	2.1095	2.1100
2.1106	2.1111	2.1116	2.1122	2.1127	2.1132	2.1138
2.1143	2.1148	2.1153	2.1158	2.1163	2.1168	2.1173
2.1178	2.1183	2.1188	2.1193	2.1198	2.1202	2.1207
2.1212	2.1217	2.1222	2.1227	2.1232	2.1236	2.1241
2.1246	2.1251	2.1256	2.1260	2.1265	2.1269	2.1274
2.1279	2.1283	2.1288	2.1292	2.1297	2.1301	2.1306
2.1310	2.1315	2.1319	2.1324	2.1328	2.1332	2.1337
2.1341	2.1346	2.1350	2.1354	2.1359	2.1363	2.1367
2.1372	2.1376	2.1380	2.1385	2.1389	2.1393	2.1397
2.1402	2.1406	2.1410	2.1414	2.1418	2.1423	2.1427
2.1431	2.1435	2.1439	2.1443	2.1447	2.1452	2.1456
2.1460	2.1464	2.1468	2.1472	2.1476	2.1480	2.1484
2.1488	2.1492	2.1496	2.1500	2.1504	2.1508	2.1512
2.1516	2.1520	2.1524	2.1528	2.1532	2.1535	2.1539
2.1543	2.1547	2.1551	2.1555	2.1559	2.1562	2.1566
2.1570	2.1574	2.1578	2.1582	2.1585	2.1589	2.1593
2.1597	2.1600	2.1604	2.1608	2.1612	2.1615	2.1619
2.1623	2.1626	2.1630	2.1634	2.1637	2.1641	2.1645
2.1648	2.1652	2.1656	2.1659	2.1663	2.1666	2.1670
2.1674	2.1677	2.1681	2.1684	2.1688	2.1691	2.1695
2.1699	2.1702	2.1706	2.1709	2.1713	2.1716	2.1720
2.1723	2.1727	2.1730	2.1733	2.1737	2.1740	2.1744
2.1747	2.1751	2.1754	2.1757	2.1761	2.1764	2.1768
2.1771	2.1774	2.1778	2.1781	2.1784	2.1788	2.1791
2.1794	2.1798	2.1801	2.1804	2.1808	2.1811	2.1814
2.1818	2.1821	2.1824	2.1827	2.1831	2.1834	2.1837
2.1840	2.1844	2.1847	2.1850	2.1853	2.1856	2.1860
2.1863	2.1866	2.1869	2.1872	2.1876	2.1879	2.1882
2.1885	2.1888	2.1891	2.1894	2.1898	2.1901	2.1904
2.1907	2.1910	2.1913	2.1916	2.1919	2.1922	2.1926
2.1929	2.1932	2.1935	2.1938	2.1941	2.1944	2.1947
2.1950	2.1953	2.1956	2.1959	2.1962	2.1965	2.1968
2.1971	2.1974	2.1977	2.1980	2.1983	2.1986	2.1989
2.1992	2.1995	2.1998	2.2001	2.2004	2.2007	2.2009
2.2012	2.2015	2.2018	2.2021	2.2024	2.2027	2.2030
2.2033	2.2036	2.2038	2.2041	2.2044	2.2047	2.2050
2.2053	2.2056	2.2058	2.2061	2.2064	2.2067	2.2070

```
                2.2073  2.2075  2.2078  2.2081  2.2084  2.2087  2.2089
                2.2092  2.2095  2.2098  2.2101  2.2103  2.2106  2.2109
                2.2112  2.2114  2.2117  2.2120  2.2123  2.2125  2.2128
                2.2131  2.2133  2.2136  2.2139  2.2142  2.2144  2.2147
                2.2150  2.2152  2.2155  2.2158  2.2160  2.2163  2.2166
                2.2168  2.2171  2.2174  2.2176  2.2179  2.2182  2.2184
                2.2187  2.2189  2.2192  2.2195  2.2197  2.2200

COMPUTE NM HYD       ID=1 HYD=101 DA=0.0133 SQ MI
                     PER A=0 B=0 C=76 D=24
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   12.599    CFS   UNIT VOLUME =   0.9990       B =   526.28      P60 = 1.8700
     AREA =     0.003192 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.105893HR    TP =  0.133333HR    K/TP RATIO =  0.794199     SHAPE CONSTANT, N =  4.514592
     UNIT PEAK =   29.425    CFS   UNIT VOLUME =   0.9995       B =   388.14      P60 = 1.8700
     AREA =     0.010108 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =     1.30184 INCHES     =       0.9234 ACRE-FEET
    PEAK DISCHARGE RATE =      30.06 CFS  AT   1.530 HOURS   BASIN AREA =  0.0133 SQ. MI.


COMPUTE NM HYD       ID=2 HYD=102 DA=0.0162 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   10.678    CFS   UNIT VOLUME =   0.9988       B =   526.28      P60 = 1.8700
     AREA =     0.002705 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.145614HR    TP =  0.133333HR    K/TP RATIO =  1.092107     SHAPE CONSTANT, N =  3.235735
     UNIT PEAK =   30.415    CFS   UNIT VOLUME =   0.9995       B =   300.52      P60 = 1.8700
     AREA =     0.013495 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=2 CODE=1

                                  PARTIAL HYDROGRAPH   102.00
```

```
    RUNOFF VOLUME =      0.96382 INCHES      =        0.8327 ACRE-FEET
    PEAK DISCHARGE RATE =      26.72 CFS  AT    1.540 HOURS    BASIN AREA =  0.0162 SQ. MI.


COMPUTE NM HYD        ID=3 HYD=103 DA=0.0034 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.2412    CFS   UNIT VOLUME =   0.9945       B =   526.28      P60 = 1.8700
     AREA =     0.000568 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.145614HR    TP =  0.133333HR    K/TP RATIO =  1.092107     SHAPE CONSTANT, N =  3.235735
     UNIT PEAK =   6.3834    CFS   UNIT VOLUME =   0.9977       B =   300.52      P60 = 1.8700
     AREA =     0.002832 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=3 CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =      0.96382 INCHES      =        0.1748 ACRE-FEET
    PEAK DISCHARGE RATE =       5.62 CFS  AT    1.540 HOURS    BASIN AREA =  0.0034 SQ. MI.


COMPUTE NM HYD        ID=4 HYD=104 DA=0.0261 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   17.204    CFS   UNIT VOLUME =   0.9993       B =   526.28      P60 = 1.8700
     AREA =     0.004359 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.145614HR    TP =  0.133333HR    K/TP RATIO =  1.092107     SHAPE CONSTANT, N =  3.235735
     UNIT PEAK =   49.002    CFS   UNIT VOLUME =   0.9997       B =   300.52      P60 = 1.8700
     AREA =     0.021741 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=4 CODE=1

                                  PARTIAL HYDROGRAPH   104.00
```

```
    RUNOFF VOLUME =      0.96382 INCHES      =        1.3416 ACRE-FEET
    PEAK DISCHARGE RATE =       43.04 CFS  AT    1.540 HOURS    BASIN AREA =  0.0261 SQ. MI.


COMPUTE NM HYD        ID=5 HYD=105 DA=0.0031 SQ MI
                      PER A=0 B=0 C=20 D=80
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   9.7887    CFS   UNIT VOLUME =   0.9987       B =   526.28       P60 = 1.8700
     AREA =     0.002480 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.105893HR    TP =  0.133333HR    K/TP RATIO =  0.794199     SHAPE CONSTANT, N =  4.514592
     UNIT PEAK =   1.8048    CFS   UNIT VOLUME =   0.9924       B =   388.14       P60 = 1.8700
     AREA =     0.000620 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=5 CODE=1

                                  PARTIAL HYDROGRAPH   105.00


    RUNOFF VOLUME =      1.79603 INCHES      =        0.2969 ACRE-FEET
    PEAK DISCHARGE RATE =        8.51 CFS  AT    1.530 HOURS    BASIN AREA =  0.0031 SQ. MI.


COMPUTE NM HYD        ID=6 HYD=106 DA=0.0020 SQ MI
                      PER A=0 B=0 C=0 D=100
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   7.8942    CFS   UNIT VOLUME =   0.9984       B =   526.28       P60 = 1.8700
     AREA =     0.002000 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=6 CODE=1

                                  PARTIAL HYDROGRAPH   106.00


    RUNOFF VOLUME =      1.97253 INCHES      =        0.2104 ACRE-FEET
    PEAK DISCHARGE RATE =        5.83 CFS  AT    1.520 HOURS    BASIN AREA =  0.0020 SQ. MI.


ADD HYD               ID=7 HYD=200 IDS= 1 & 2
```

```
ADD HYD              ID=8 HYD=201 IDS= 7 & 3
ADD HYD              ID=9 HYD=202 IDS= 8 & 4
ADD HYD              ID=10 HYD=203 IDS= 9 & 5
ADD HYD              ID=11 HYD=204 IDS= 10 & 6
PRINT HYD            ID=11 CODE=1
```

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 1.10565 INCHES = 3.7798 ACRE-FEET
PEAK DISCHARGE RATE = 119.62 CFS AT 1.530 HOURS BASIN AREA = 0.0641 SQ. MI.

```
ROUTE RESERVOIR      ID=12 HYD=305 INFLOW ID=11  CODE=5
```

OUTFLOW (CFS)	STORAGE (AC FT)	ELEV (FT)
0	0.00	5000
7	0.01	5001
22	0.18	5002
46	0.59	5003
52.6	1.14	5004
55.4	1.90	5005
57.6	3.05	5006

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

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5000.00	0.000	0.00
0.05	0.00	5000.00	0.000	0.00
0.10	0.00	5000.00	0.000	0.00
0.15	0.00	5000.00	0.000	0.00
0.20	0.00	5000.00	0.000	0.00
0.25	0.00	5000.00	0.000	0.00
0.30	0.00	5000.00	0.000	0.00
0.35	0.00	5000.00	0.000	0.00
0.40	0.00	5000.00	0.000	0.00
0.45	0.00	5000.00	0.000	0.00
0.50	0.00	5000.00	0.000	0.00
0.55	0.00	5000.00	0.000	0.00
0.60	0.00	5000.00	0.000	0.00
0.65	0.00	5000.00	0.000	0.00
0.70	0.00	5000.00	0.000	0.00
0.75	0.00	5000.00	0.000	0.00
0.80	0.00	5000.00	0.000	0.00
0.85	0.02	5000.00	0.000	0.01
0.90	0.31	5000.03	0.000	0.19
0.95	0.90	5000.10	0.001	0.69
1.00	1.62	5000.19	0.002	1.35
1.05	2.68	5000.33	0.003	2.31

1.10	3.86	5000.49	0.005	3.46
1.15	5.00	5000.66	0.007	4.60
1.20	6.32	5000.84	0.008	5.85
1.25	8.18	5001.01	0.011	7.08
1.30	11.46	5001.06	0.020	7.90
1.35	18.93	5001.20	0.044	10.02
1.40	41.00	5001.59	0.110	15.79
1.45	81.48	5002.22	0.271	27.33
1.50	113.28	5002.87	0.537	42.92
1.55	118.64	5003.44	0.832	48.90
1.60	103.94	5003.90	1.087	51.96
1.65	82.35	5004.15	1.255	53.02
1.70	61.99	5004.25	1.332	53.31
1.75	46.12	5004.25	1.334	53.31
1.80	34.44	5004.18	1.279	53.11
1.85	26.21	5004.06	1.184	52.76
1.90	20.62	5003.86	1.064	51.69
1.95	16.89	5003.62	0.931	50.09
2.00	14.11	5003.37	0.791	48.41
2.05	11.73	5003.10	0.648	46.69
2.10	9.81	5002.80	0.508	41.17
2.15	8.37	5002.51	0.390	34.27
2.20	7.23	5002.27	0.292	28.57
2.25	6.29	5002.08	0.212	23.88
2.30	5.51	5001.81	0.147	19.09
2.35	4.86	5001.52	0.099	14.83
2.40	4.29	5001.31	0.063	11.69
2.45	3.67	5001.16	0.036	9.33
2.50	3.07	5001.03	0.016	7.50
2.55	2.60	5000.47	0.005	3.29
2.60	2.24	5000.34	0.003	2.39
2.65	1.95	5000.29	0.003	2.05
2.70	1.70	5000.25	0.003	1.79
2.75	1.49	5000.22	0.002	1.56

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
2.80	1.31	5000.20	0.002	1.37
2.85	1.15	5000.17	0.002	1.20
2.90	1.01	5000.15	0.002	1.06
2.95	0.89	5000.13	0.001	0.93
3.00	0.79	5000.12	0.001	0.83
3.05	0.71	5000.11	0.001	0.74
3.10	0.63	5000.09	0.001	0.66
3.15	0.56	5000.08	0.001	0.59
3.20	0.50	5000.07	0.001	0.52
3.25	0.45	5000.07	0.001	0.47
3.30	0.41	5000.06	0.001	0.43
3.35	0.37	5000.06	0.001	0.39
3.40	0.34	5000.05	0.001	0.35

3.45	0.31	5000.05	0.000	0.32
3.50	0.28	5000.04	0.000	0.29
3.55	0.26	5000.04	0.000	0.27
3.60	0.24	5000.04	0.000	0.25
3.65	0.22	5000.03	0.000	0.23
3.70	0.20	5000.03	0.000	0.21
3.75	0.19	5000.03	0.000	0.19
3.80	0.18	5000.03	0.000	0.18
3.85	0.17	5000.02	0.000	0.18
3.90	0.17	5000.02	0.000	0.17
3.95	0.16	5000.02	0.000	0.16
4.00	0.16	5000.02	0.000	0.16
4.05	0.15	5000.02	0.000	0.15
4.10	0.15	5000.02	0.000	0.15
4.15	0.15	5000.02	0.000	0.15
4.20	0.15	5000.02	0.000	0.15
4.25	0.14	5000.02	0.000	0.14
4.30	0.14	5000.02	0.000	0.14
4.35	0.14	5000.02	0.000	0.14
4.40	0.14	5000.02	0.000	0.14
4.45	0.14	5000.02	0.000	0.14
4.50	0.14	5000.02	0.000	0.14
4.55	0.14	5000.02	0.000	0.14
4.60	0.14	5000.02	0.000	0.14
4.65	0.14	5000.02	0.000	0.14
4.70	0.14	5000.02	0.000	0.14
4.75	0.15	5000.02	0.000	0.14
4.80	0.15	5000.02	0.000	0.15
4.85	0.15	5000.02	0.000	0.15
4.90	0.15	5000.02	0.000	0.15
4.95	0.16	5000.02	0.000	0.16
5.00	0.16	5000.02	0.000	0.16
5.05	0.16	5000.02	0.000	0.16
5.10	0.17	5000.02	0.000	0.17
5.15	0.17	5000.02	0.000	0.17
5.20	0.18	5000.02	0.000	0.18
5.25	0.18	5000.03	0.000	0.18
5.30	0.18	5000.03	0.000	0.18
5.35	0.19	5000.03	0.000	0.19
5.40	0.19	5000.03	0.000	0.19
5.45	0.19	5000.03	0.000	0.19
5.50	0.20	5000.03	0.000	0.20
5.55	0.20	5000.03	0.000	0.20

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	0.21	5000.03	0.000	0.21
5.65	0.21	5000.03	0.000	0.21
5.70	0.22	5000.03	0.000	0.21
5.75	0.22	5000.03	0.000	0.22

```
      5.80        0.22    5000.03       0.000       0.22
      5.85        0.23    5000.03       0.000       0.23
      5.90        0.23    5000.03       0.000       0.23
      5.95        0.24    5000.03       0.000       0.24
      6.00        0.24    5000.03       0.000       0.24
      6.05        0.24    5000.03       0.000       0.24
      6.10        0.21    5000.03       0.000       0.22
      6.15        0.13    5000.02       0.000       0.16
      6.20        0.08    5000.01       0.000       0.10
      6.25        0.05    5000.01       0.000       0.06
      6.30        0.03    5000.01       0.000       0.04
      6.35        0.03    5000.00       0.000       0.03
      6.40        0.02    5000.00       0.000       0.02
      6.45        0.02    5000.00       0.000       0.02
      6.50        0.01    5000.00       0.000       0.01
      6.55        0.01    5000.00       0.000       0.01
      6.60        0.01    5000.00       0.000       0.01
      6.65        0.01    5000.00       0.000       0.01
      6.70        0.00    5000.00       0.000       0.00
 PEAK DISCHARGE =       53.339 CFS - PEAK OCCURS AT HOUR    1.73
 MAXIMUM WATER SURFACE ELEVATION =     5004.264
 MAXIMUM STORAGE =        1.3407 AC-FT      INCREMENTAL TIME=    0.010000HRS

PRINT HYD            ID=12 CODE=1

                                        HYDROGRAPH FROM AREA   305.00


    RUNOFF VOLUME =     1.10565 INCHES     =       3.7798 ACRE-FEET
    PEAK DISCHARGE RATE =      53.34 CFS  AT   1.730 HOURS   BASIN AREA =  0.0641 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 16:45:39
←(s0p10h4099T←&16D
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AHYMO 10 YR Input

```
                                2014-10-17 10 yr final
START                   0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
*S                      THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS
LOCATION                ALBUQUERQUE
RAINFALL                TYPE=1  RAIN QUARTER=0.0  RAIN ONE=1.25
                        RAIN SIX=1.47      RAIN DAY=1.77      DT=.01
COMPUTE NM HYD          ID=1 HYD=101 DA=0.0133 SQ MI
                        PER A=0 B=0 C=76 D=24
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=1 CODE=1
COMPUTE NM HYD          ID=2 HYD=102 DA=0.0162 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=2 CODE=1
COMPUTE NM HYD          ID=3 HYD=103 DA=0.0034 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=3 CODE=1
COMPUTE NM HYD          ID=4 HYD=104 DA=0.0261 SQ MI
                        PER A=50 B=16.6 C=16.7 D=16.7
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=4 CODE=1
COMPUTE NM HYD          ID=5 HYD=105 DA=0.0031 SQ MI
                        PER A=0 B=0 C=20 D=80
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=5 CODE=1
COMPUTE NM HYD          ID=6 HYD=106 DA=0.0020 SQ MI
                        PER A=0 B=0 C=0 D=100
                        TP=0.133333 HRS RAIN=-1
PRINT HYD               ID=6 CODE=1
ADD HYD                 ID=7 HYD=200 IDS= 1 & 2
ADD HYD                 ID=8 HYD=201 IDS= 7 & 3
ADD HYD                 ID=9 HYD=202 IDS= 8 & 4
ADD HYD                 ID=10 HYD=203 IDS= 9 & 5
ADD HYD                 ID=11 HYD=204 IDS= 10 & 6
PRINT HYD               ID=11 CODE=1
ROUTE RESERVOIR         ID=12 HYD=305 INFLOW ID=11  CODE=5
                        OUTFLOW (CFS)          STORAGE (AC FT)    ELEV (FT)
                        0                      0.00               5000
                        7                      0.01               5001
                        22                     0.18               5002
                        46                     0.59               5003
                        52.6                   1.14               5004
                        55.4                   1.90               5005
                        57.6                   3.05               5006

PRINT HYD               ID=12 CODE=1
FINISH
```

←(s16.67h8.5v0T←&18D

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.01a, Rel: 01a RUN DATE (MON/DAY/YR) =10/17/2014

INPUT FILE = C:\Users\doug\Desktop\2014-10-17 10 yr final.txt USER NO.= AHYMO_Temp_User:20122010

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION
START										TIME= 0.00
*S	THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS									
LOCATION	ALBUQUERQUE									
RAINFALL TYPE= 1 NOAA 14										RAIN6= 1.470
COMPUTE NM HYD	101.00	-	1	0.01330	18.02	0.509	0.71827	1.530	2.117	PER IMP= 24.00
COMPUTE NM HYD	102.00	-	2	0.01620	12.59	0.384	0.44449	1.540	1.214	PER IMP= 16.70
COMPUTE NM HYD	103.00	-	3	0.00340	2.65	0.081	0.44449	1.540	1.218	PER IMP= 16.70
COMPUTE NM HYD	104.00	-	4	0.02610	20.28	0.619	0.44449	1.540	1.214	PER IMP= 16.70
COMPUTE NM HYD	105.00	-	5	0.00310	5.53	0.182	1.10139	1.530	2.789	PER IMP= 80.00
COMPUTE NM HYD	106.00	-	6	0.00200	3.88	0.132	1.23822	1.520	3.028	PER IMP= 100.00
ADD HYD	200.00	1& 2	7	0.02950	30.59	0.893	0.56790	1.540	1.620	
ADD HYD	201.00	7& 3	8	0.03290	33.24	0.974	0.55514	1.540	1.579	
ADD HYD	202.00	8& 4	9	0.05900	53.52	1.593	0.50618	1.540	1.417	
ADD HYD	203.00	9& 5	10	0.06210	59.01	1.775	0.53589	1.540	1.485	
ADD HYD	204.00	10& 6	11	0.06410	62.85	1.907	0.55780	1.540	1.532	
ROUTE RESERVOIR	305.00	11	12	0.06410	40.41	1.907	0.55780	1.660	0.985	AC-FT= 0.494
FINISH										

←(s0p10h4099T←&16D

AHYMO 10-YR Summary

←(s16.67h8.5v0T←&l8D

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 10/17/2014
START TIME (HR:MIN:SEC) = 16:55:48 USER NO.= AHYMO_Temp_User:20122010
INPUT FILE = C:\Users\doug\Desktop\2014-10-17 10 yr final.txt

START 0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*S THE TEAM OFFICE BUILDING 10-YR, 6-HR DEVELOPED CONDITIONS
LOCATION ALBUQUERQUE
City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.

Land Treatment	Initial Abstr.(in)	Unif. Infilt.(in/hour)
A	0.65	1.67
B	0.50	1.25
C	0.35	0.83
D	0.10	0.04

RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=1.25
RAIN SIX=1.47 RAIN DAY=1.77 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.010000 HOURS END TIME = 6.000000 HOURS

0.0000	0.0003	0.0006	0.0009	0.0012	0.0015	0.0018
0.0021	0.0023	0.0027	0.0030	0.0033	0.0036	0.0040
0.0043	0.0046	0.0049	0.0053	0.0056	0.0060	0.0064
0.0067	0.0071	0.0075	0.0078	0.0082	0.0086	0.0090
0.0094	0.0099	0.0103	0.0107	0.0111	0.0115	0.0123
0.0132	0.0140	0.0149	0.0158	0.0167	0.0176	0.0185
0.0194	0.0204	0.0214	0.0224	0.0234	0.0244	0.0254
0.0264	0.0274	0.0285	0.0296	0.0307	0.0318	0.0329
0.0340	0.0351	0.0362	0.0374	0.0385	0.0397	0.0408
0.0420	0.0431	0.0443	0.0454	0.0466	0.0478	0.0490
0.0502	0.0514	0.0526	0.0539	0.0551	0.0563	0.0576
0.0590	0.0604	0.0617	0.0631	0.0644	0.0658	0.0671
0.0686	0.0702	0.0717	0.0732	0.0748	0.0763	0.0779
0.0794	0.0817	0.0853	0.0889	0.0925	0.0961	0.0997
0.1033	0.1070	0.1106	0.1154	0.1203	0.1251	0.1299
0.1348	0.1396	0.1445	0.1493	0.1555	0.1622	0.1690
0.1758	0.1826	0.1894	0.1961	0.2029	0.2108	0.2210
0.2312	0.2414	0.2515	0.2617	0.2719	0.2821	0.2922
0.3098	0.3274	0.3450	0.3625	0.3801	0.3977	0.4152
0.4328	0.4699	0.5167	0.5635	0.6103	0.6571	0.7039
0.7507	0.7975	0.8374	0.8633	0.8893	0.9152	0.9411
0.9671	0.9930	1.0190	1.0449	1.0580	1.0710	1.0840
1.0971	1.1101	1.1231	1.1362	1.1492	1.1590	1.1673
1.1755	1.1837	1.1919	1.2001	1.2083	1.2165	1.2239
1.2296	1.2353	1.2410	1.2467	1.2524	1.2580	1.2637
1.2694	1.2736	1.2778	1.2819	1.2861	1.2903	1.2944
1.2986	1.3028	1.3063	1.3094	1.3126	1.3157	1.3189
1.3220	1.3252	1.3284	1.3309	1.3324	1.3338	1.3353

AHYMO 10 YR Output

1.3367	1.3382	1.3396	1.3410	1.3425	1.3438	1.3450
1.3463	1.3476	1.3489	1.3502	1.3514	1.3527	1.3539
1.3549	1.3559	1.3570	1.3580	1.3591	1.3601	1.3612
1.3622	1.3632	1.3641	1.3651	1.3661	1.3670	1.3680
1.3689	1.3699	1.3708	1.3718	1.3727	1.3736	1.3745
1.3755	1.3764	1.3773	1.3779	1.3784	1.3788	1.3793
1.3797	1.3801	1.3806	1.3810	1.3815	1.3819	1.3823
1.3828	1.3832	1.3836	1.3841	1.3845	1.3849	1.3853
1.3857	1.3861	1.3865	1.3869	1.3873	1.3877	1.3882
1.3885	1.3889	1.3893	1.3897	1.3901	1.3905	1.3909
1.3913	1.3917	1.3920	1.3924	1.3928	1.3932	1.3935
1.3939	1.3943	1.3947	1.3950	1.3954	1.3957	1.3961
1.3964	1.3968	1.3971	1.3975	1.3978	1.3982	1.3985
1.3989	1.3992	1.3996	1.3999	1.4003	1.4006	1.4009
1.4013	1.4016	1.4019	1.4023	1.4026	1.4029	1.4033
1.4036	1.4039	1.4042	1.4045	1.4049	1.4052	1.4055
1.4058	1.4061	1.4064	1.4067	1.4070	1.4073	1.4077
1.4080	1.4083	1.4086	1.4089	1.4092	1.4095	1.4098
1.4101	1.4104	1.4107	1.4110	1.4113	1.4116	1.4118
1.4121	1.4124	1.4127	1.4130	1.4133	1.4136	1.4138
1.4141	1.4144	1.4147	1.4150	1.4152	1.4155	1.4158
1.4161	1.4163	1.4166	1.4169	1.4172	1.4174	1.4177
1.4180	1.4183	1.4185	1.4188	1.4191	1.4193	1.4196
1.4199	1.4201	1.4204	1.4207	1.4209	1.4212	1.4214
1.4217	1.4220	1.4222	1.4225	1.4227	1.4230	1.4233
1.4235	1.4238	1.4240	1.4243	1.4245	1.4248	1.4250
1.4253	1.4255	1.4258	1.4261	1.4263	1.4266	1.4268
1.4270	1.4273	1.4275	1.4278	1.4280	1.4283	1.4285
1.4288	1.4290	1.4293	1.4295	1.4297	1.4300	1.4302
1.4305	1.4307	1.4309	1.4312	1.4314	1.4316	1.4319
1.4321	1.4324	1.4326	1.4328	1.4331	1.4333	1.4335
1.4338	1.4340	1.4342	1.4345	1.4347	1.4349	1.4351
1.4354	1.4356	1.4358	1.4361	1.4363	1.4365	1.4367
1.4370	1.4372	1.4374	1.4376	1.4379	1.4381	1.4383
1.4385	1.4387	1.4390	1.4392	1.4394	1.4396	1.4398
1.4401	1.4403	1.4405	1.4407	1.4409	1.4411	1.4414
1.4416	1.4418	1.4420	1.4422	1.4424	1.4426	1.4429
1.4431	1.4433	1.4435	1.4437	1.4439	1.4441	1.4443
1.4445	1.4448	1.4450	1.4452	1.4454	1.4456	1.4458
1.4460	1.4462	1.4464	1.4466	1.4468	1.4470	1.4472
1.4474	1.4476	1.4478	1.4480	1.4482	1.4484	1.4486
1.4488	1.4490	1.4492	1.4494	1.4496	1.4498	1.4500
1.4502	1.4504	1.4506	1.4508	1.4510	1.4512	1.4514
1.4516	1.4518	1.4520	1.4522	1.4524	1.4526	1.4528
1.4530	1.4532	1.4534	1.4535	1.4537	1.4539	1.4541
1.4543	1.4545	1.4547	1.4549	1.4551	1.4553	1.4554
1.4556	1.4558	1.4560	1.4562	1.4564	1.4566	1.4568
1.4569	1.4571	1.4573	1.4575	1.4577	1.4579	1.4580
1.4582	1.4584	1.4586	1.4588	1.4590	1.4591	1.4593
1.4595	1.4597	1.4599	1.4600	1.4602	1.4604	1.4606
1.4608	1.4609	1.4611	1.4613	1.4615	1.4617	1.4618

```
                1.4620  1.4622  1.4624  1.4625  1.4627  1.4629  1.4631
                1.4632  1.4634  1.4636  1.4638  1.4639  1.4641  1.4643
                1.4645  1.4646  1.4648  1.4650  1.4651  1.4653  1.4655
                1.4657  1.4658  1.4660  1.4662  1.4663  1.4665  1.4667
                1.4668  1.4670  1.4672  1.4673  1.4675  1.4677  1.4678
                1.4680  1.4682  1.4683  1.4685  1.4687  1.4688  1.4690
                1.4692  1.4693  1.4695  1.4697  1.4698  1.4700

COMPUTE NM HYD       ID=1 HYD=101 DA=0.0133 SQ MI
                     PER A=0 B=0 C=76 D=24
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   12.599    CFS   UNIT VOLUME =   0.9990       B =   526.28      P60 = 1.2500
     AREA =     0.003192 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.108042HR    TP =  0.133333HR    K/TP RATIO =  0.810320     SHAPE CONSTANT, N =  4.414318
     UNIT PEAK =   28.953    CFS   UNIT VOLUME =   0.9995       B =   381.91      P60 = 1.2500
     AREA =     0.010108 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =     0.71827 INCHES      =       0.5095 ACRE-FEET
    PEAK DISCHARGE RATE =      18.02 CFS  AT   1.530 HOURS   BASIN AREA =  0.0133 SQ. MI.


COMPUTE NM HYD       ID=2 HYD=102 DA=0.0162 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   10.678    CFS   UNIT VOLUME =   0.9988       B =   526.28      P60 = 1.2500
     AREA =     0.002705 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.157603HR    TP =  0.133333HR    K/TP RATIO =  1.182028     SHAPE CONSTANT, N =  3.002506
     UNIT PEAK =   28.544    CFS   UNIT VOLUME =   0.9995       B =   282.03      P60 = 1.2500
     AREA =     0.013495 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=2 CODE=1

                                  PARTIAL HYDROGRAPH   102.00
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```
    RUNOFF VOLUME =      0.44449 INCHES      =        0.3840 ACRE-FEET
    PEAK DISCHARGE RATE =       12.59 CFS  AT    1.540 HOURS    BASIN AREA =  0.0162 SQ. MI.


COMPUTE NM HYD        ID=3 HYD=103 DA=0.0034 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.2412    CFS   UNIT VOLUME =   0.9945       B =   526.28      P60 = 1.2500
     AREA =     0.000568 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.157603HR    TP =  0.133333HR    K/TP RATIO =  1.182028     SHAPE CONSTANT, N =  3.002506
     UNIT PEAK =   5.9908    CFS   UNIT VOLUME =   0.9975       B =   282.03      P60 = 1.2500
     AREA =     0.002832 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=3 CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =      0.44449 INCHES      =        0.0806 ACRE-FEET
    PEAK DISCHARGE RATE =       2.65 CFS  AT    1.540 HOURS    BASIN AREA =  0.0034 SQ. MI.


COMPUTE NM HYD        ID=4 HYD=104 DA=0.0261 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   17.204    CFS   UNIT VOLUME =   0.9993       B =   526.28      P60 = 1.2500
     AREA =     0.004359 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.157603HR    TP =  0.133333HR    K/TP RATIO =  1.182028     SHAPE CONSTANT, N =  3.002506
     UNIT PEAK =   45.988    CFS   UNIT VOLUME =   0.9997       B =   282.03      P60 = 1.2500
     AREA =     0.021741 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=4 CODE=1

                                  PARTIAL HYDROGRAPH   104.00
```

```
    RUNOFF VOLUME =      0.44449 INCHES      =        0.6187 ACRE-FEET
    PEAK DISCHARGE RATE =      20.28 CFS  AT    1.540 HOURS    BASIN AREA =  0.0261 SQ. MI.


COMPUTE NM HYD       ID=5 HYD=105 DA=0.0031 SQ MI
                     PER A=0 B=0 C=20 D=80
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   9.7887    CFS   UNIT VOLUME =   0.9987       B =   526.28      P60 = 1.2500
     AREA =     0.002480 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.108042HR    TP =  0.133333HR    K/TP RATIO =  0.810320     SHAPE CONSTANT, N =  4.414318
     UNIT PEAK =   1.7759    CFS   UNIT VOLUME =   0.9922       B =   381.91      P60 = 1.2500
     AREA =     0.000620 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=5 CODE=1

                                  PARTIAL HYDROGRAPH   105.00


    RUNOFF VOLUME =      1.10139 INCHES      =        0.1821 ACRE-FEET
    PEAK DISCHARGE RATE =       5.53 CFS  AT    1.530 HOURS    BASIN AREA =  0.0031 SQ. MI.


COMPUTE NM HYD       ID=6 HYD=106 DA=0.0020 SQ MI
                     PER A=0 B=0 C=0 D=100
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   7.8942    CFS   UNIT VOLUME =   0.9984       B =   526.28      P60 = 1.2500
     AREA =     0.002000 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=6 CODE=1

                                  PARTIAL HYDROGRAPH   106.00


    RUNOFF VOLUME =      1.23822 INCHES      =        0.1321 ACRE-FEET
    PEAK DISCHARGE RATE =       3.88 CFS  AT    1.520 HOURS    BASIN AREA =  0.0020 SQ. MI.


ADD HYD              ID=7 HYD=200 IDS= 1 & 2
```

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ADD HYD              ID=8 HYD=201 IDS= 7 & 3
ADD HYD              ID=9 HYD=202 IDS= 8 & 4
ADD HYD              ID=10 HYD=203 IDS= 9 & 5
ADD HYD              ID=11 HYD=204 IDS= 10 & 6
PRINT HYD            ID=11 CODE=1

                                PARTIAL HYDROGRAPH   204.00


    RUNOFF VOLUME =     0.55780 INCHES     =       1.9069 ACRE-FEET
    PEAK DISCHARGE RATE =      62.85 CFS  AT   1.540 HOURS   BASIN AREA =  0.0641 SQ. MI.


ROUTE RESERVOIR      ID=12 HYD=305 INFLOW ID=11  CODE=5
                     OUTFLOW (CFS)         STORAGE (AC FT)   ELEV (FT)
                     0                     0.00              5000
                     7                     0.01              5001
                     22                    0.18              5002
                     46                    0.59              5003
                     52.6                  1.14              5004
                     55.4                  1.90              5005
                     57.6                  3.05              5006

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

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

     0.00        0.00    5000.00       0.000       0.00
     0.05        0.00    5000.00       0.000       0.00
     0.10        0.00    5000.00       0.000       0.00
     0.15        0.00    5000.00       0.000       0.00
     0.20        0.00    5000.00       0.000       0.00
     0.25        0.00    5000.00       0.000       0.00
     0.30        0.00    5000.00       0.000       0.00
     0.35        0.00    5000.00       0.000       0.00
     0.40        0.00    5000.00       0.000       0.00
     0.45        0.00    5000.00       0.000       0.00
     0.50        0.00    5000.00       0.000       0.00
     0.55        0.00    5000.00       0.000       0.00
     0.60        0.00    5000.00       0.000       0.00
     0.65        0.00    5000.00       0.000       0.00
     0.70        0.00    5000.00       0.000       0.00
     0.75        0.00    5000.00       0.000       0.00
     0.80        0.00    5000.00       0.000       0.00
     0.85        0.00    5000.00       0.000       0.00
     0.90        0.00    5000.00       0.000       0.00
     0.95        0.00    5000.00       0.000       0.00
     1.00        0.00    5000.00       0.000       0.00
     1.05        0.25    5000.02       0.000       0.13
```

1.10	1.27	5000.13	0.001	0.89
1.15	2.56	5000.30	0.003	2.12
1.20	3.76	5000.48	0.005	3.35
1.25	5.00	5000.65	0.007	4.55
1.30	6.54	5000.86	0.009	5.99
1.35	9.27	5001.02	0.013	7.23
1.40	17.73	5001.13	0.032	8.92
1.45	39.48	5001.53	0.100	14.92
1.50	58.51	5002.11	0.224	24.58
1.55	62.44	5002.44	0.361	32.58
1.60	54.37	5002.68	0.457	38.23
1.65	42.37	5002.77	0.494	40.37
1.70	31.48	5002.73	0.480	39.54
1.75	23.41	5002.62	0.434	36.86
1.80	17.75	5002.47	0.373	33.30
1.85	13.83	5002.31	0.308	29.50
1.90	10.98	5002.16	0.245	25.80
1.95	8.98	5002.02	0.186	22.38
2.00	7.48	5001.75	0.137	18.17
2.05	6.14	5001.51	0.097	14.69
2.10	5.04	5001.33	0.065	11.89
2.15	4.24	5001.18	0.040	9.66
2.20	3.62	5001.06	0.020	7.90
2.25	3.12	5000.63	0.006	4.44
2.30	2.71	5000.42	0.004	2.91
2.35	2.38	5000.36	0.004	2.49
2.40	2.08	5000.31	0.003	2.18
2.45	1.75	5000.27	0.003	1.87
2.50	1.42	5000.22	0.002	1.53
2.55	1.17	5000.18	0.002	1.26
2.60	0.99	5000.15	0.001	1.05
2.65	0.84	5000.13	0.001	0.89
2.70	0.72	5000.11	0.001	0.76
2.75	0.62	5000.09	0.001	0.65

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
2.80	0.53	5000.08	0.001	0.56
2.85	0.46	5000.07	0.001	0.48
2.90	0.40	5000.06	0.001	0.42
2.95	0.35	5000.05	0.001	0.36
3.00	0.31	5000.05	0.000	0.32
3.05	0.27	5000.04	0.000	0.28
3.10	0.24	5000.04	0.000	0.25
3.15	0.21	5000.03	0.000	0.22
3.20	0.19	5000.03	0.000	0.19
3.25	0.17	5000.02	0.000	0.17
3.30	0.15	5000.02	0.000	0.15
3.35	0.13	5000.02	0.000	0.14
3.40	0.12	5000.02	0.000	0.12

3.45	0.10	5000.02	0.000	0.11
3.50	0.09	5000.01	0.000	0.10
3.55	0.08	5000.01	0.000	0.09
3.60	0.07	5000.01	0.000	0.08
3.65	0.06	5000.01	0.000	0.07
3.70	0.06	5000.01	0.000	0.06
3.75	0.05	5000.01	0.000	0.05
3.80	0.04	5000.01	0.000	0.05
3.85	0.04	5000.01	0.000	0.04
3.90	0.04	5000.01	0.000	0.04
3.95	0.03	5000.00	0.000	0.03
4.00	0.03	5000.00	0.000	0.03
4.05	0.03	5000.00	0.000	0.03
4.10	0.03	5000.00	0.000	0.03
4.15	0.03	5000.00	0.000	0.03
4.20	0.03	5000.00	0.000	0.03
4.25	0.03	5000.00	0.000	0.03
4.30	0.03	5000.00	0.000	0.03
4.35	0.03	5000.00	0.000	0.03
4.40	0.03	5000.00	0.000	0.03
4.45	0.03	5000.00	0.000	0.03
4.50	0.03	5000.00	0.000	0.03
4.55	0.02	5000.00	0.000	0.02
4.60	0.02	5000.00	0.000	0.02
4.65	0.02	5000.00	0.000	0.02
4.70	0.02	5000.00	0.000	0.02
4.75	0.03	5000.00	0.000	0.03
4.80	0.03	5000.00	0.000	0.03
4.85	0.03	5000.00	0.000	0.03
4.90	0.03	5000.00	0.000	0.03
4.95	0.04	5000.01	0.000	0.04
5.00	0.04	5000.01	0.000	0.04
5.05	0.05	5000.01	0.000	0.05
5.10	0.06	5000.01	0.000	0.05
5.15	0.06	5000.01	0.000	0.06
5.20	0.06	5000.01	0.000	0.06
5.25	0.07	5000.01	0.000	0.07
5.30	0.07	5000.01	0.000	0.07
5.35	0.08	5000.01	0.000	0.08
5.40	0.08	5000.01	0.000	0.08
5.45	0.09	5000.01	0.000	0.08
5.50	0.09	5000.01	0.000	0.09
5.55	0.10	5000.01	0.000	0.09

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	0.10	5000.01	0.000	0.10
5.65	0.11	5000.02	0.000	0.11
5.70	0.11	5000.02	0.000	0.11
5.75	0.12	5000.02	0.000	0.12

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      5.80       0.12    5000.02       0.000       0.12
      5.85       0.13    5000.02       0.000       0.13
      5.90       0.13    5000.02       0.000       0.13
      5.95       0.14    5000.02       0.000       0.13
      6.00       0.14    5000.02       0.000       0.14
      6.05       0.15    5000.02       0.000       0.15
      6.10       0.13    5000.02       0.000       0.14
      6.15       0.08    5000.01       0.000       0.10
      6.20       0.05    5000.01       0.000       0.06
      6.25       0.03    5000.00       0.000       0.03
      6.30       0.02    5000.00       0.000       0.02
      6.35       0.01    5000.00       0.000       0.02
      6.40       0.01    5000.00       0.000       0.01
      6.45       0.01    5000.00       0.000       0.01
      6.50       0.01    5000.00       0.000       0.01
      6.55       0.00    5000.00       0.000       0.01
      6.60       0.00    5000.00       0.000       0.00
 PEAK DISCHARGE =       40.408 CFS - PEAK OCCURS AT HOUR    1.66
 MAXIMUM WATER SURFACE ELEVATION =     5002.767
 MAXIMUM STORAGE =        0.4945 AC-FT      INCREMENTAL TIME=    0.010000HRS

PRINT HYD            ID=12 CODE=1

                                        HYDROGRAPH FROM AREA   305.00


    RUNOFF VOLUME =     0.55780 INCHES     =       1.9069 ACRE-FEET
    PEAK DISCHARGE RATE =      40.41 CFS  AT   1.660 HOURS   BASIN AREA =  0.0641 SQ. MI.



FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 16:55:48
←(s0p10h4099T←&l6D
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AHYMO 2YR Input

2014-10-17 2 yr final

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START                0.0 HRS  PUNCH CODE=0  PRINT LINES=-6
*S                   THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS
LOCATION             ALBUQUERQUE
RAINFALL             TYPE=1  RAIN QUARTER=0.0  RAIN ONE=0.81
                     RAIN SIX=0.95      RAIN DAY=1.15      DT=.01
COMPUTE NM HYD       ID=1 HYD=101 DA=0.0133 SQ MI
                     PER A=0 B=0 C=76 D=24
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=1 CODE=1
COMPUTE NM HYD       ID=2 HYD=102 DA=0.0162 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=2 CODE=1
COMPUTE NM HYD       ID=3 HYD=103 DA=0.0034 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=3 CODE=1
COMPUTE NM HYD       ID=4 HYD=104 DA=0.0261 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=4 CODE=1
COMPUTE NM HYD       ID=5 HYD=105 DA=0.0031 SQ MI
                     PER A=0 B=0 C=20 D=80
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=5 CODE=1
COMPUTE NM HYD       ID=6 HYD=106 DA=0.0020 SQ MI
                     PER A=0 B=0 C=0 D=100
                     TP=0.133333 HRS RAIN=-1
PRINT HYD            ID=6 CODE=1
ADD HYD              ID=7 HYD=200 IDS= 1 & 2
ADD HYD              ID=8 HYD=201 IDS= 7 & 3
ADD HYD              ID=9 HYD=202 IDS= 8 & 4
ADD HYD              ID=10 HYD=203 IDS= 9 & 5
ADD HYD              ID=11 HYD=204 IDS= 10 & 6
PRINT HYD            ID=11 CODE=1
ROUTE RESERVOIR      ID=12 HYD=305 INFLOW ID=11  CODE=5
                     OUTFLOW (CFS)          STORAGE (AC FT)    ELEV (FT)
                     0                      0.00               5000
                     7                      0.01               5001
                     22                     0.18               5002
                     46                     0.59               5003
                     52.6                   1.14               5004
                     55.4                   1.90               5005
                     57.6                   3.05               5006

PRINT HYD            ID=12 CODE=1
FINISH
```

←(s16.67h8.5v0T←&l8D

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4) - Ver. S4.01a, Rel: 01a RUN DATE (MON/DAY/YR) =10/17/2014

INPUT FILE = C:\Users\doug\Desktop\2014-10-17 2 yr final.txt USER NO.= AHYMO_Temp_User:20122010

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
START										TIME=	0.00
*S	THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS										
LOCATION		ALBUQUERQUE									
RAINFALL TYPE= 1 NOAA 14										RAIN6=	0.950
COMPUTE NM HYD	101.00	-	1	0.01330	8.89	0.239	0.33685	1.540	1.044	PER IMP=	24.00
COMPUTE NM HYD	102.00	-	2	0.01620	3.72	0.121	0.13993	1.540	0.359	PER IMP=	16.70
COMPUTE NM HYD	103.00	-	3	0.00340	0.78	0.025	0.13993	1.540	0.361	PER IMP=	16.70
COMPUTE NM HYD	104.00	-	4	0.02610	6.00	0.195	0.13993	1.540	0.359	PER IMP=	16.70
COMPUTE NM HYD	105.00	-	5	0.00310	3.38	0.106	0.63910	1.530	1.703	PER IMP=	80.00
COMPUTE NM HYD	106.00	-	6	0.00200	2.48	0.080	0.74705	1.520	1.940	PER IMP=	100.00
ADD HYD	200.00	1& 2	7	0.02950	12.61	0.360	0.22869	1.540	0.668		
ADD HYD	201.00	7& 3	8	0.03290	13.40	0.385	0.21951	1.540	0.636		
ADD HYD	202.00	8& 4	9	0.05900	19.39	0.580	0.18430	1.540	0.514		
ADD HYD	203.00	9& 5	10	0.06210	22.75	0.686	0.20700	1.540	0.572		
ADD HYD	204.00	10& 6	11	0.06410	25.21	0.765	0.22385	1.540	0.615		
ROUTE RESERVOIR	305.00	11	12	0.06410	18.65	0.765	0.22385	1.630	0.455	AC-FT=	0.142
FINISH											

←(s0p10h4099T←&l6D

AHYMO 2-YR Summary

←(s16.67h8.5v0T←&18D

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 10/17/2014
START TIME (HR:MIN:SEC) = 16:58:35 USER NO.= AHYMO_Temp_User:20122010
INPUT FILE = C:\Users\doug\Desktop\2014-10-17 2 yr final.txt

START 0.0 HRS PUNCH CODE=0 PRINT LINES=-6
*S THE TEAM OFFICE BUILDING 2-YR, 6-HR DEVELOPED CONDITIONS
LOCATION ALBUQUERQUE
City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.

Land Treatment	Initial Abstr.(in)	Unif. Infilt.(in/hour)
A	0.65	1.67
B	0.50	1.25
C	0.35	0.83
D	0.10	0.04

RAINFALL TYPE=1 RAIN QUARTER=0.0 RAIN ONE=0.81
RAIN SIX=0.95 RAIN DAY=1.15 DT=.01

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.010000 HOURS END TIME = 6.000000 HOURS

0.0000	0.0002	0.0004	0.0006	0.0007	0.0009	0.0011
0.0013	0.0015	0.0017	0.0019	0.0021	0.0023	0.0025
0.0027	0.0029	0.0031	0.0034	0.0036	0.0038	0.0041
0.0043	0.0045	0.0048	0.0050	0.0052	0.0055	0.0057
0.0060	0.0063	0.0065	0.0068	0.0071	0.0073	0.0078
0.0084	0.0089	0.0095	0.0101	0.0106	0.0112	0.0118
0.0124	0.0130	0.0136	0.0143	0.0149	0.0155	0.0162
0.0168	0.0175	0.0182	0.0189	0.0196	0.0203	0.0210
0.0216	0.0223	0.0230	0.0238	0.0245	0.0252	0.0260
0.0267	0.0274	0.0282	0.0289	0.0296	0.0304	0.0312
0.0320	0.0327	0.0335	0.0343	0.0350	0.0358	0.0367
0.0375	0.0384	0.0393	0.0401	0.0410	0.0419	0.0427
0.0437	0.0446	0.0456	0.0466	0.0476	0.0486	0.0496
0.0505	0.0520	0.0543	0.0567	0.0590	0.0614	0.0637
0.0660	0.0684	0.0707	0.0739	0.0770	0.0801	0.0833
0.0864	0.0896	0.0927	0.0958	0.0998	0.1042	0.1086
0.1130	0.1174	0.1218	0.1262	0.1306	0.1357	0.1423
0.1489	0.1555	0.1621	0.1687	0.1753	0.1819	0.1884
0.1998	0.2112	0.2226	0.2340	0.2454	0.2568	0.2681
0.2795	0.3035	0.3339	0.3642	0.3945	0.4249	0.4552
0.4855	0.5159	0.5417	0.5585	0.5753	0.5921	0.6089
0.6257	0.6426	0.6594	0.6762	0.6846	0.6931	0.7015
0.7100	0.7184	0.7269	0.7353	0.7438	0.7501	0.7554
0.7608	0.7661	0.7714	0.7767	0.7821	0.7874	0.7921
0.7958	0.7995	0.8032	0.8069	0.8106	0.8143	0.8180
0.8217	0.8244	0.8271	0.8298	0.8325	0.8352	0.8379
0.8406	0.8433	0.8455	0.8476	0.8496	0.8517	0.8537
0.8557	0.8578	0.8598	0.8615	0.8624	0.8633	0.8643

AHYMO 2 yr Output

0.8652	0.8661	0.8670	0.8679	0.8689	0.8697	0.8705
0.8713	0.8721	0.8729	0.8738	0.8746	0.8754	0.8761
0.8768	0.8774	0.8781	0.8788	0.8794	0.8801	0.8808
0.8814	0.8820	0.8826	0.8832	0.8839	0.8845	0.8851
0.8857	0.8863	0.8869	0.8875	0.8881	0.8887	0.8892
0.8898	0.8904	0.8910	0.8914	0.8917	0.8920	0.8923
0.8925	0.8928	0.8931	0.8934	0.8937	0.8940	0.8942
0.8945	0.8948	0.8950	0.8953	0.8956	0.8959	0.8961
0.8964	0.8966	0.8969	0.8972	0.8974	0.8977	0.8979
0.8982	0.8984	0.8987	0.8989	0.8992	0.8994	0.8997
0.8999	0.9001	0.9004	0.9006	0.9009	0.9011	0.9013
0.9016	0.9018	0.9021	0.9023	0.9025	0.9027	0.9030
0.9032	0.9034	0.9036	0.9039	0.9041	0.9043	0.9045
0.9047	0.9050	0.9052	0.9054	0.9056	0.9058	0.9061
0.9063	0.9065	0.9067	0.9069	0.9071	0.9073	0.9075
0.9077	0.9079	0.9081	0.9083	0.9086	0.9088	0.9090
0.9092	0.9094	0.9095	0.9097	0.9099	0.9101	0.9103
0.9105	0.9107	0.9109	0.9111	0.9113	0.9115	0.9117
0.9119	0.9121	0.9123	0.9125	0.9126	0.9128	0.9130
0.9132	0.9134	0.9135	0.9137	0.9139	0.9141	0.9143
0.9145	0.9146	0.9148	0.9150	0.9152	0.9153	0.9155
0.9157	0.9159	0.9160	0.9162	0.9164	0.9166	0.9167
0.9169	0.9171	0.9173	0.9174	0.9176	0.9178	0.9179
0.9181	0.9183	0.9184	0.9186	0.9188	0.9189	0.9191
0.9193	0.9194	0.9196	0.9198	0.9199	0.9201	0.9203
0.9204	0.9206	0.9208	0.9209	0.9211	0.9212	0.9214
0.9216	0.9217	0.9219	0.9220	0.9222	0.9224	0.9225
0.9227	0.9228	0.9230	0.9231	0.9233	0.9235	0.9236
0.9238	0.9239	0.9241	0.9242	0.9244	0.9245	0.9247
0.9248	0.9250	0.9252	0.9253	0.9255	0.9256	0.9258
0.9259	0.9261	0.9262	0.9264	0.9265	0.9267	0.9268
0.9269	0.9271	0.9272	0.9274	0.9275	0.9277	0.9278
0.9280	0.9281	0.9283	0.9284	0.9286	0.9287	0.9288
0.9290	0.9291	0.9293	0.9294	0.9296	0.9297	0.9298
0.9300	0.9301	0.9303	0.9304	0.9305	0.9307	0.9308
0.9310	0.9311	0.9312	0.9314	0.9315	0.9316	0.9318
0.9319	0.9321	0.9322	0.9323	0.9325	0.9326	0.9327
0.9329	0.9330	0.9331	0.9333	0.9334	0.9335	0.9337
0.9338	0.9339	0.9341	0.9342	0.9343	0.9345	0.9346
0.9347	0.9349	0.9350	0.9351	0.9353	0.9354	0.9355
0.9356	0.9358	0.9359	0.9360	0.9362	0.9363	0.9364
0.9365	0.9367	0.9368	0.9369	0.9370	0.9372	0.9373
0.9374	0.9376	0.9377	0.9378	0.9379	0.9381	0.9382
0.9383	0.9384	0.9386	0.9387	0.9388	0.9389	0.9390
0.9392	0.9393	0.9394	0.9395	0.9397	0.9398	0.9399
0.9400	0.9401	0.9403	0.9404	0.9405	0.9406	0.9407
0.9409	0.9410	0.9411	0.9412	0.9413	0.9415	0.9416
0.9417	0.9418	0.9419	0.9420	0.9422	0.9423	0.9424
0.9425	0.9426	0.9427	0.9429	0.9430	0.9431	0.9432
0.9433	0.9434	0.9436	0.9437	0.9438	0.9439	0.9440
0.9441	0.9442	0.9444	0.9445	0.9446	0.9447	0.9448

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                0.9449  0.9450  0.9451  0.9453  0.9454  0.9455  0.9456
                0.9457  0.9458  0.9459  0.9460  0.9461  0.9463  0.9464
                0.9465  0.9466  0.9467  0.9468  0.9469  0.9470  0.9471
                0.9472  0.9473  0.9475  0.9476  0.9477  0.9478  0.9479
                0.9480  0.9481  0.9482  0.9483  0.9484  0.9485  0.9486
                0.9487  0.9488  0.9489  0.9491  0.9492  0.9493  0.9494
                0.9495  0.9496  0.9497  0.9498  0.9499  0.9500

COMPUTE NM HYD       ID=1 HYD=101 DA=0.0133 SQ MI
                     PER A=0 B=0 C=76 D=24
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   12.599    CFS   UNIT VOLUME =   0.9990       B =   526.28      P60 = .81000
     AREA =     0.003192 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.112435HR    TP =  0.133333HR    K/TP RATIO =  0.843267     SHAPE CONSTANT, N =  4.224349
     UNIT PEAK =   28.039    CFS   UNIT VOLUME =   0.9995       B =   369.86      P60 = .81000
     AREA =     0.010108 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=1 CODE=1

                                  PARTIAL HYDROGRAPH   101.00


    RUNOFF VOLUME =     0.33685 INCHES     =       0.2389 ACRE-FEET
    PEAK DISCHARGE RATE =       8.89 CFS  AT   1.540 HOURS   BASIN AREA =  0.0133 SQ. MI.


COMPUTE NM HYD       ID=2 HYD=102 DA=0.0162 SQ MI
                     PER A=50 B=16.6 C=16.7 D=16.7
                     TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   10.678    CFS   UNIT VOLUME =   0.9988       B =   526.28      P60 = .81000
     AREA =     0.002705 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.160412HR    TP =  0.133333HR    K/TP RATIO =  1.203095     SHAPE CONSTANT, N =  2.954084
     UNIT PEAK =   28.143    CFS   UNIT VOLUME =   0.9995       B =   278.06      P60 = .81000
     AREA =     0.013495 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD            ID=2 CODE=1

                                  PARTIAL HYDROGRAPH   102.00
```

```
    RUNOFF VOLUME =      0.13993 INCHES      =        0.1209 ACRE-FEET
    PEAK DISCHARGE RATE =        3.72 CFS  AT    1.540 HOURS    BASIN AREA =  0.0162 SQ. MI.


COMPUTE NM HYD        ID=3 HYD=103 DA=0.0034 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.2412    CFS   UNIT VOLUME =   0.9945       B =   526.28       P60 = .81000
     AREA =     0.000568 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.160412HR    TP =  0.133333HR    K/TP RATIO =  1.203095     SHAPE CONSTANT, N =  2.954084
     UNIT PEAK =   5.9065    CFS   UNIT VOLUME =   0.9974       B =   278.06       P60 = .81000
     AREA =     0.002832 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=3 CODE=1

                                  PARTIAL HYDROGRAPH   103.00


    RUNOFF VOLUME =      0.13993 INCHES      =        0.0254 ACRE-FEET
    PEAK DISCHARGE RATE =        0.78 CFS  AT    1.540 HOURS    BASIN AREA =  0.0034 SQ. MI.


COMPUTE NM HYD        ID=4 HYD=104 DA=0.0261 SQ MI
                      PER A=50 B=16.6 C=16.7 D=16.7
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   17.204    CFS   UNIT VOLUME =   0.9993       B =   526.28       P60 = .81000
     AREA =     0.004359 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.160412HR    TP =  0.133333HR    K/TP RATIO =  1.203095     SHAPE CONSTANT, N =  2.954084
     UNIT PEAK =   45.341    CFS   UNIT VOLUME =   0.9997       B =   278.06       P60 = .81000
     AREA =     0.021741 SQ MI    IA =   0.55996 INCHES    INF =   1.41790 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=4 CODE=1

                                  PARTIAL HYDROGRAPH   104.00
```

```
    RUNOFF VOLUME =      0.13993 INCHES      =        0.1948 ACRE-FEET
    PEAK DISCHARGE RATE =        6.00 CFS  AT    1.540 HOURS    BASIN AREA =  0.0261 SQ. MI.


COMPUTE NM HYD        ID=5 HYD=105 DA=0.0031 SQ MI
                      PER A=0 B=0 C=20 D=80
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   9.7887    CFS   UNIT VOLUME =   0.9987       B =   526.28      P60 = .81000
     AREA =     0.002480 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.112435HR    TP =  0.133333HR    K/TP RATIO =  0.843267     SHAPE CONSTANT, N =  4.224349
     UNIT PEAK =   1.7199    CFS   UNIT VOLUME =   0.9917       B =   369.86      P60 = .81000
     AREA =     0.000620 SQ MI    IA =   0.35000 INCHES    INF =   0.83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=5 CODE=1

                                  PARTIAL HYDROGRAPH   105.00


    RUNOFF VOLUME =      0.63910 INCHES      =        0.1057 ACRE-FEET
    PEAK DISCHARGE RATE =        3.38 CFS  AT    1.530 HOURS    BASIN AREA =  0.0031 SQ. MI.


COMPUTE NM HYD        ID=6 HYD=106 DA=0.0020 SQ MI
                      PER A=0 B=0 C=0 D=100
                      TP=0.133333 HRS RAIN=-1

     K =  0.072666HR    TP =  0.133333HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   7.8942    CFS   UNIT VOLUME =   0.9984       B =   526.28      P60 = .81000
     AREA =     0.002000 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

PRINT HYD             ID=6 CODE=1

                                  PARTIAL HYDROGRAPH   106.00


    RUNOFF VOLUME =      0.74705 INCHES      =        0.0797 ACRE-FEET
    PEAK DISCHARGE RATE =        2.48 CFS  AT    1.520 HOURS    BASIN AREA =  0.0020 SQ. MI.


ADD HYD               ID=7 HYD=200 IDS= 1 & 2
```

```
ADD HYD              ID=8 HYD=201 IDS= 7 & 3
ADD HYD              ID=9 HYD=202 IDS= 8 & 4
ADD HYD              ID=10 HYD=203 IDS= 9 & 5
ADD HYD              ID=11 HYD=204 IDS= 10 & 6
PRINT HYD            ID=11 CODE=1
```

PARTIAL HYDROGRAPH 204.00

RUNOFF VOLUME = 0.22385 INCHES = 0.7652 ACRE-FEET
PEAK DISCHARGE RATE = 25.21 CFS AT 1.540 HOURS BASIN AREA = 0.0641 SQ. MI.

```
ROUTE RESERVOIR      ID=12 HYD=305 INFLOW ID=11  CODE=5
                     OUTFLOW (CFS)        STORAGE (AC FT)   ELEV (FT)
                     0                    0.00              5000
                     7                    0.01              5001
                     22                   0.18              5002
                     46                   0.59              5003
                     52.6                 1.14              5004
                     55.4                 1.90              5005
                     57.6                 3.05              5006
```

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

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5000.00	0.000	0.00
0.05	0.00	5000.00	0.000	0.00
0.10	0.00	5000.00	0.000	0.00
0.15	0.00	5000.00	0.000	0.00
0.20	0.00	5000.00	0.000	0.00
0.25	0.00	5000.00	0.000	0.00
0.30	0.00	5000.00	0.000	0.00
0.35	0.00	5000.00	0.000	0.00
0.40	0.00	5000.00	0.000	0.00
0.45	0.00	5000.00	0.000	0.00
0.50	0.00	5000.00	0.000	0.00
0.55	0.00	5000.00	0.000	0.00
0.60	0.00	5000.00	0.000	0.00
0.65	0.00	5000.00	0.000	0.00
0.70	0.00	5000.00	0.000	0.00
0.75	0.00	5000.00	0.000	0.00
0.80	0.00	5000.00	0.000	0.00
0.85	0.00	5000.00	0.000	0.00
0.90	0.00	5000.00	0.000	0.00
0.95	0.00	5000.00	0.000	0.00
1.00	0.00	5000.00	0.000	0.00
1.05	0.00	5000.00	0.000	0.00

1.10	0.00	5000.00	0.000	0.00
1.15	0.09	5000.01	0.000	0.04
1.20	0.87	5000.08	0.001	0.55
1.25	2.22	5000.25	0.002	1.74
1.30	3.66	5000.45	0.005	3.16
1.35	5.37	5000.68	0.007	4.74
1.40	8.32	5001.00	0.010	7.02
1.45	15.78	5001.10	0.027	8.51
1.50	23.42	5001.34	0.068	12.08
1.55	25.04	5001.60	0.112	15.96
1.60	21.69	5001.75	0.138	18.28
1.65	16.77	5001.77	0.141	18.53
1.70	12.47	5001.68	0.126	17.26
1.75	9.46	5001.55	0.104	15.28
1.80	7.36	5001.41	0.080	13.15
1.85	5.91	5001.28	0.057	11.13
1.90	4.85	5001.16	0.037	9.36
1.95	4.02	5001.06	0.020	7.84
2.00	3.30	5000.67	0.007	4.66
2.05	2.59	5000.41	0.004	2.89
2.10	2.01	5000.31	0.003	2.20
2.15	1.61	5000.25	0.002	1.74
2.20	1.31	5000.20	0.002	1.41
2.25	1.09	5000.17	0.002	1.16
2.30	0.91	5000.14	0.001	0.97
2.35	0.76	5000.12	0.001	0.81
2.40	0.64	5000.10	0.001	0.68
2.45	0.51	5000.08	0.001	0.56
2.50	0.39	5000.06	0.001	0.43
2.55	0.30	5000.05	0.000	0.33
2.60	0.24	5000.04	0.000	0.26
2.65	0.20	5000.03	0.000	0.21
2.70	0.16	5000.02	0.000	0.17
2.75	0.13	5000.02	0.000	0.14

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
2.80	0.10	5000.02	0.000	0.11
2.85	0.08	5000.01	0.000	0.09
2.90	0.07	5000.01	0.000	0.07
2.95	0.06	5000.01	0.000	0.06
3.00	0.05	5000.01	0.000	0.05
3.05	0.04	5000.01	0.000	0.04
3.10	0.03	5000.00	0.000	0.04
3.15	0.03	5000.00	0.000	0.03
3.20	0.02	5000.00	0.000	0.03
3.25	0.02	5000.00	0.000	0.02
3.30	0.02	5000.00	0.000	0.02
3.35	0.02	5000.00	0.000	0.02
3.40	0.01	5000.00	0.000	0.01

```
      3.45       0.01    5000.00       0.000       0.01
      3.50       0.01    5000.00       0.000       0.01
      3.55       0.01    5000.00       0.000       0.01
      3.60       0.01    5000.00       0.000       0.01
      3.65       0.01    5000.00       0.000       0.01
      3.70       0.01    5000.00       0.000       0.01
      3.75       0.00    5000.00       0.000       0.00
 PEAK DISCHARGE =       18.652 CFS - PEAK OCCURS AT HOUR    1.63
 MAXIMUM WATER SURFACE ELEVATION =     5001.777
 MAXIMUM STORAGE =        0.1421 AC-FT      INCREMENTAL TIME=    0.010000HRS

PRINT HYD            ID=12 CODE=1

                                        HYDROGRAPH FROM AREA   305.00


    RUNOFF VOLUME =     0.22385 INCHES     =       0.7652 ACRE-FEET
    PEAK DISCHARGE RATE =      18.65 CFS  AT   1.630 HOURS   BASIN AREA =  0.0641 SQ. MI.


FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 16:58:35
←(s0p10h4099T←&l6D
```

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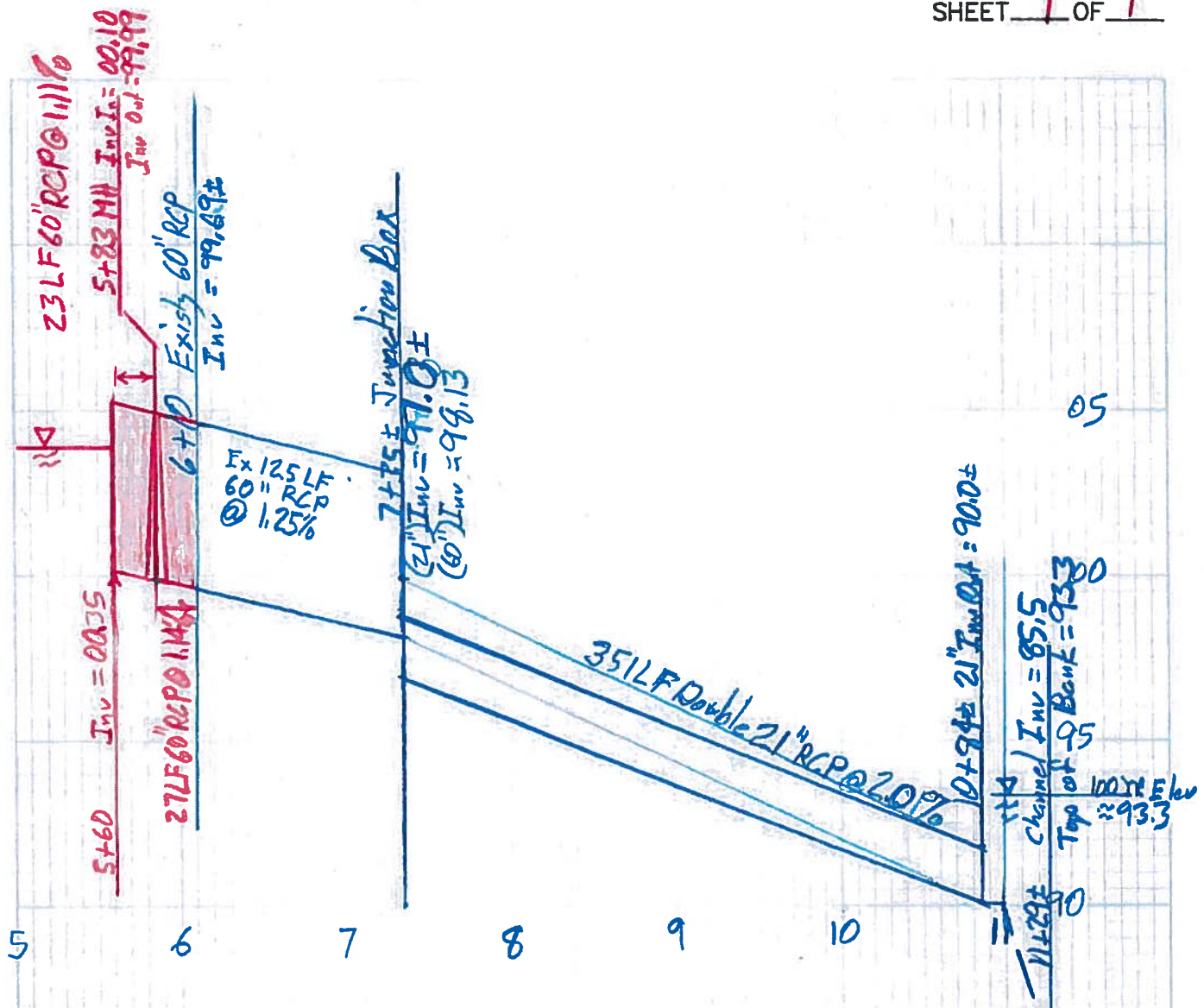
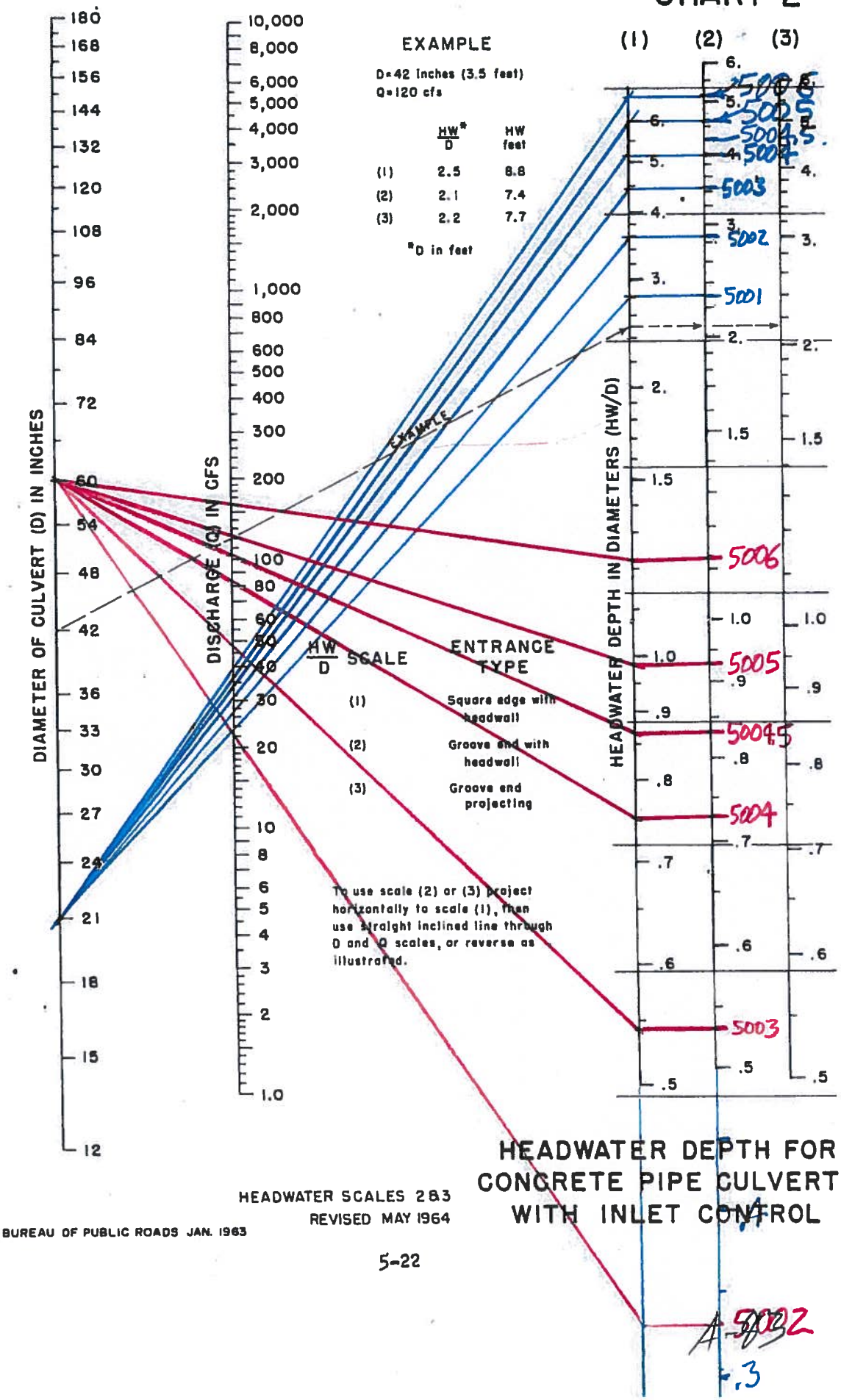
(505) 828-2200 FAX 797-9539

PROJECT Team Radio
SUBJECT Outfall Pipe
BY Doug H. DATE 10-8-2014
CHECKED DATE
SHEET 1 OF 1



Stationing and Vertical Datum, Per Piedras Morcadas (NGVD 1929) Principle Spillway Outlet Pipe Extension Record Drawings obtained from AMAFCA dated Oct 1, 1986. Similarly the "The Bosque Del Pueblo Final Grading & Drainage Plan" Dated 1-18-1989 Add 2.7' to convert elevations to the 1988 datum.

CHART 2

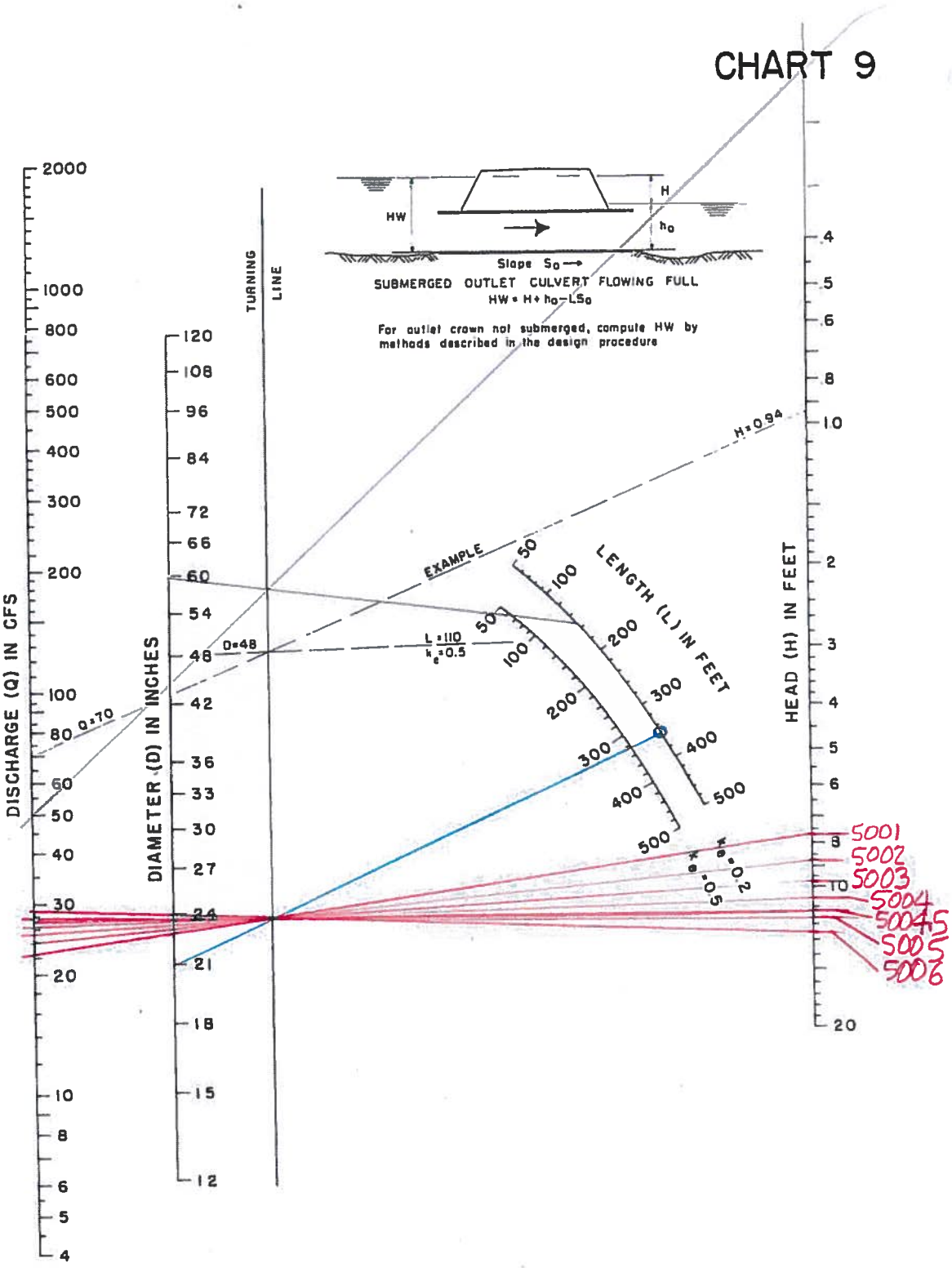


HEADWATER SCALES 2&3
REVISED MAY 1964

BUREAU OF PUBLIC ROADS JAN. 1963

HEADWATER DEPTH FOR CONCRETE PIPE CULVERTS WITH INLET CONTROL

CHART 9



HEAD FOR CONCRETE PIPE CULVERTS FLOWING FULL n = 0.012

BUREAU OF PUBLIC ROADS JAN 1963

A-84

The Team Radio

100 Year Postdeveloped conditions (Peak pond stage with 44% of peak flo

w October 20, 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1179.620	5000.200	4.060	5004.260	15.78	1.64	.04	5004.30	.00	1.21	.00	3.500	.000	.00	1 .0
240.380	.0021					.0002	.06	4.06	.00	1.42	.013	.00	.00	PIPE
1420.000	5000.700	3.621	5004.321	15.78	1.64	.04	5004.36	.00	1.21	.00	3.500	.000	.00	1 .0
61.545	.0022					.0002	.02	3.62	.00	1.39	.013	.00	.00	PIPE
1481.545	5000.836	3.500	5004.336	15.78	1.64	.04	5004.38	.00	1.21	.00	3.500	.000	.00	1 .0
161.491	.0022					.0002	.04	3.50	.00	1.39	.013	.00	.00	PIPE
1643.036	5001.192	3.175	5004.368	15.78	1.72	.05	5004.41	.00	1.21	2.03	3.500	.000	.00	1 .0
89.344	.0022					.0002	.02	3.18	.14	1.39	.013	.00	.00	PIPE
1732.380	5001.390	2.993	5004.383	15.78	1.80	.05	5004.43	.00	1.21	2.46	3.500	.000	.00	1 .0
JUNCT STR	.0083					.0003	.00	2.99	.17		.013	.00	.00	PIPE
1738.380	5001.440	2.959	5004.399	13.22	1.88	.05	5004.45	.00	1.16	.69	3.000	.000	.00	1 .0
100.310	.0022					.0003	.04	2.96	.10	1.36	.013	.00	.00	PIPE
1838.690	5001.660	2.771	5004.431	13.22	1.94	.06	5004.49	.04	1.16	1.59	3.000	.000	.00	1 .0
JUNCT STR	.0083					.0006	.00	2.81	.17		.013	.00	.00	PIPE
1844.690	5001.710	2.672	5004.382	6.69	2.13	.07	5004.45	.00	.92	.00	2.000	.000	.00	1 .0
74.951	.0102					.0009	.06	2.67	.00	.74	.013	.00	.00	PIPE
1919.641	5002.471	2.000	5004.471	6.69	2.13	.07	5004.54	.00	.92	.00	2.000	.000	.00	1 .0
19.039	.0102					.0008	.02	2.00	.00	.74	.013	.00	.00	PIPE

Program Package Serial Number: 1454

WATER SURFACE PROFILE LISTING Date:10-21-2014 Time:10:18: 6

The Team Radio
100 Year Postdeveloped conditions (Peak pond stage with 44% of peak flo
w October 20, 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1938.680	5002.665	1.814	5004.479	6.69	2.23	.08	5004.56	.00	.92	1.16	2.000	.000	.00	1 .0
10.709	.0102					.0008	.01	1.81	.25	.74	.013	.00	.00	PIPE
1949.389	5002.773	1.706	5004.479	6.69	2.34	.09	5004.56	.00	.92	1.42	2.000	.000	.00	1 .0
4.611	.0102					.0008	.00	1.71	.29	.74	.013	.00	.00	PIPE
1954.000	5002.820	1.660	5004.480	6.69	2.40	.09	5004.57	.00	.92	1.50	2.000	.000	.00	1 .0

Program Package Serial Number: 1454

WATER SURFACE PROFILE LISTING

Date:10-21-2014 Time:10:16:42

The Team Radio
100 Year Postdeveloped conditions
October 20, 2014

Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1179.620	5000.200	3.060	5003.260	35.89	4.02	.25	5003.51	.00	1.86	2.32	3.500	.000	.00	1 .0
161.300	.0021					.0012	.19	3.06	.36	2.33	.013	.00	.00	PIPE
1340.920	5000.536	2.893	5003.429	35.89	4.22	.28	5003.71	.00	1.86	2.65	3.500	.000	.00	1 .0
79.080	.0021					.0013	.10	2.89	.42	2.33	.013	.00	.00	PIPE
1420.000	5000.700	2.816	5003.517	35.89	4.33	.29	5003.81	.00	1.86	2.77	3.500	.000	.00	1 .0
128.199	.0022					.0014	.18	2.82	.44	2.28	.013	.00	.00	PIPE
1548.199	5000.983	2.682	5003.666	35.89	4.54	.32	5003.98	.00	1.86	2.96	3.500	.000	.00	1 .0
134.726	.0022					.0015	.21	2.68	.49	2.28	.013	.00	.00	PIPE
1682.924	5001.281	2.560	5003.841	35.89	4.76	.35	5004.19	.00	1.86	3.10	3.500	.000	.00	1 .0
49.456	.0022					.0017	.08	2.56	.54	2.28	.013	.00	.00	PIPE
1732.380	5001.390	2.521	5003.911	35.89	4.84	.36	5004.27	.00	1.86	3.14	3.500	.000	.00	1 .0
JUNCT STR	.0083					.0018	.01	2.52	.55		.013	.00	.00	PIPE
1738.380	5001.440	2.644	5004.084	30.06	4.56	.32	5004.41	.00	1.78	1.94	3.000	.000	.00	1 .0
100.310	.0022					.0018	.18	2.64	.44	2.36	.013	.00	.00	PIPE
1838.690	5001.660	2.600	5004.260	30.06	4.62	.33	5004.59	.31	1.78	2.04	3.000	.000	.00	1 .0
JUNCT STR	.0083					.0032	.02	2.91	.46		.013	.00	.00	PIPE
1844.690	5001.710	2.537	5004.247	15.21	4.84	.36	5004.61	.00	1.41	.00	2.000	.000	.00	1 .0
109.310	.0102					.0045	.49	2.54	.00	1.19	.013	.00	.00	PIPE

The Team Radio
100 Year Postdeveloped conditions
October 20, 2014

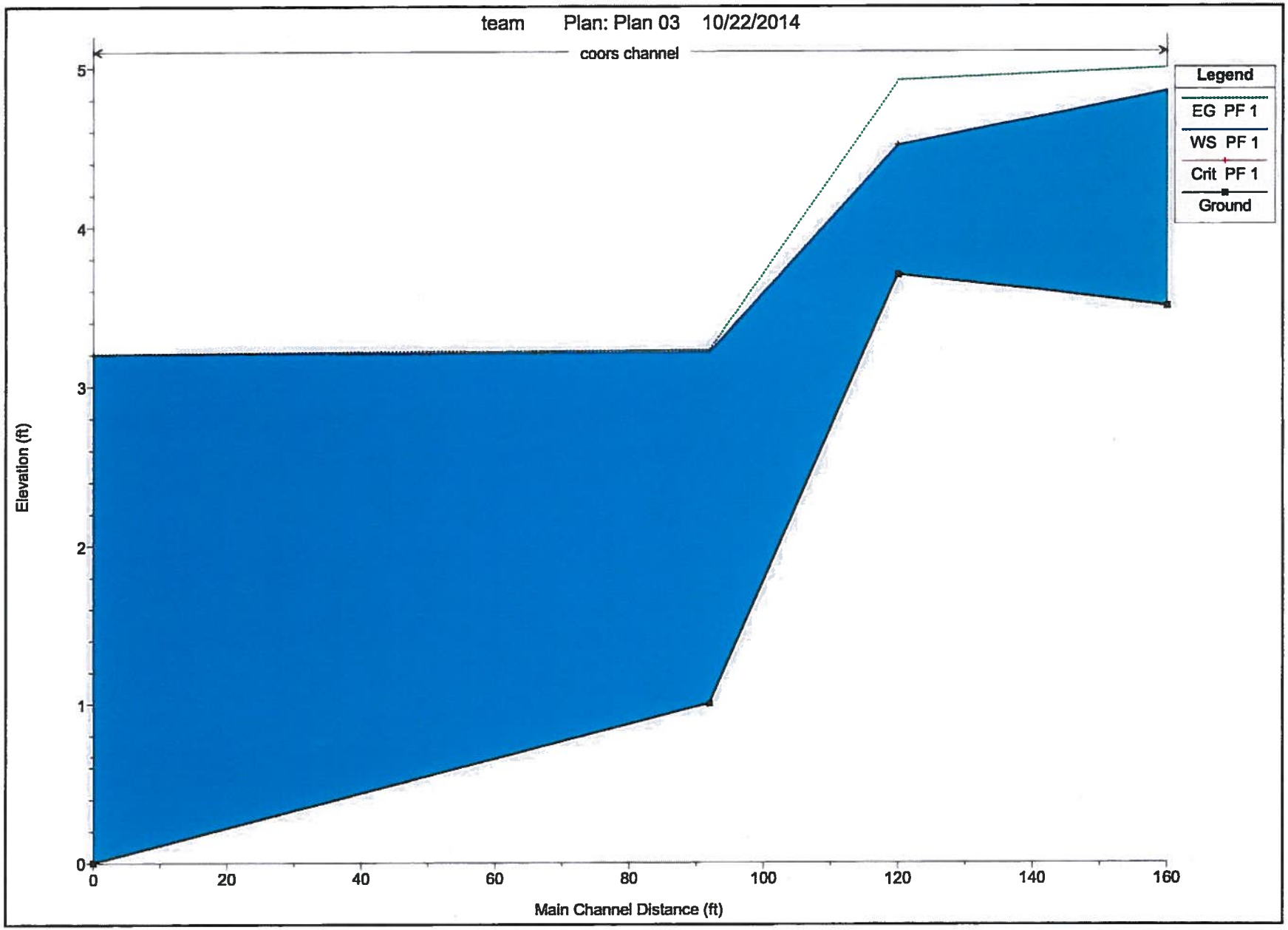
Station	Invert Elev	Depth (FT)	Water Elev	Q (CFS)	Vel (FPS)	Vel Head	Energy Grd.El.	Super Elev	Critical Depth	Flow Top Width	Height/ Dia.-FT	Base Wt or I.D.	ZL	No Wth Prs/Pip
L/Elem	Ch Slope					SF Ave	HF	SE Dpth	Froude N	Norm Dp	"N"	X-Fall	ZR	Type Ch
1954.000	5002.820	2.047	5004.867	15.21	4.84	.36	5005.23	.00	1.41	.00	2.000	.000	.00	1 .0

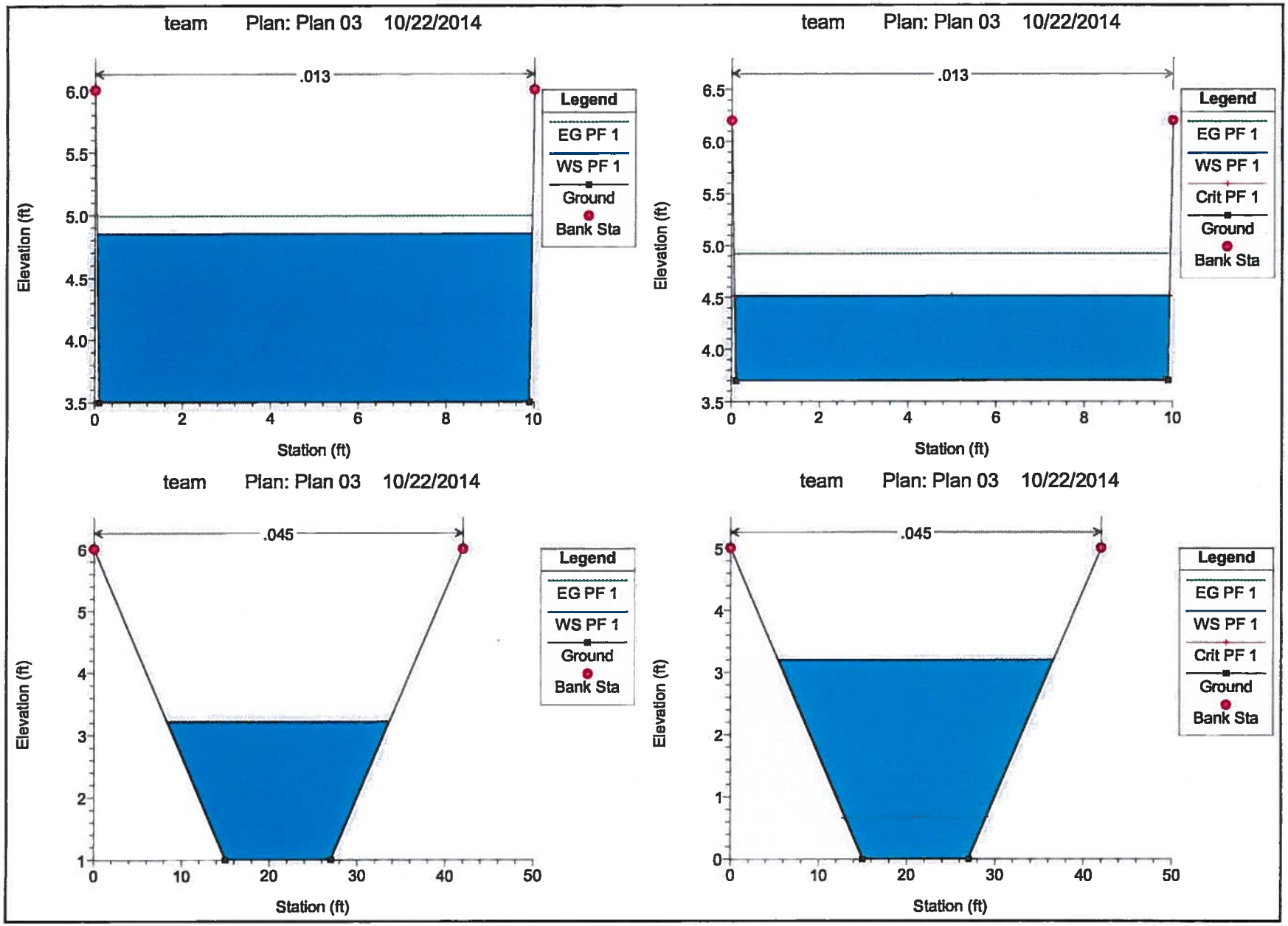
HEC-RAS Plan: Plan 03 River: coors Reach: channel Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
channel	1180	PF 1	41.00	0.00	3.20	0.67	3.21	0.000117	0.59	69.12	31.20	0.07
channel	1272	PF 1	41.00	1.00	3.21		3.23	0.000490	0.99	41.23	25.27	0.14
channel	1300	PF 1	41.00	3.70	4.51	4.51	4.92	0.003251	5.13	7.99	9.86	1.01
channel	1340	PF 1	41.00	3.50	4.85		5.00	0.000668	3.08	13.31	9.91	0.47

HEC-RAS Plan: Plan 03 River: coors Reach: channel Profile: PF 1

Reach	River Sta	Profile	E.G. Elev	W.S. Elev	Vel Head	Frctn Loss	C & E Loss	Q Left	Q Channel	Q Right	Top Width
			(ft)	(ft)	(ft)	(ft)	(ft)	(cfs)	(cfs)	(cfs)	(ft)
channel	1180	PF 1	3.21	3.20	0.01				41.00		31.20
channel	1272	PF 1	3.23	3.21	0.02	0.02	0.00		41.00		25.27
channel	1300	PF 1	4.92	4.51	0.41	0.03	0.12		41.00		9.86
channel	1340	PF 1	5.00	4.85	0.15	0.05	0.03		41.00		9.91


team Plan: Plan 03 10/22/2014
coors channel
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Elevation (ft)
Main Channel Distance (ft)
0
1
2
3
4
5
0
20
40
60
80
100
120
140
160


team Plan: Plan 03 10/22/2014
.013
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
team Plan: Plan 03 10/22/2014
.013
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
team Plan: Plan 03 10/22/2014
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
team Plan: Plan 03 10/22/2014
.045
Elevation (ft)
Station (ft)
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta

Plan: Plan 03 coors channel RS: 1340 Profile: PF 1

E.G. Elev (ft)	5.00	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.15	Wt. n-Val.		0.013	
W.S. Elev (ft)	4.85	Reach Len. (ft)	40.00	40.00	40.00
Crit W.S. (ft)		Flow Area (sq ft)		13.31	
E.G. Slope (ft/ft)	0.000668	Area (sq ft)		13.31	
Q Total (cfs)	41.00	Flow (cfs)		41.00	
Top Width (ft)	9.91	Top Width (ft)		9.91	
Vel Total (ft/s)	3.08	Avg. Vel. (ft/s)		3.08	
Max Chl Dpth (ft)	1.35	Hydr. Depth (ft)		1.34	
Conv. Total (cfs)	1586.1	Conv. (cfs)		1586.1	
Length Wtd. (ft)	40.00	Wetted Per. (ft)		12.50	
Min Ch El (ft)	3.50	Shear (lb/sq ft)		0.04	
Alpha	1.00	Stream Power (lb/ft s)	10.00	0.00	0.00
Frctn Loss (ft)	0.05	Cum Volume (acre-ft)		0.14	
C & E Loss (ft)	0.03	Cum SA (acres)		0.08	

Plan: Plan 03 coors channel RS: 1300 Profile: PF 1

E.G. Elev (ft)	4.92	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.41	Wt. n-Val.		0.013	
W.S. Elev (ft)	4.51	Reach Len. (ft)	28.00	28.00	28.00
Crit W.S. (ft)	4.51	Flow Area (sq ft)		7.99	
E.G. Slope (ft/ft)	0.003251	Area (sq ft)		7.99	
Q Total (cfs)	41.00	Flow (cfs)		41.00	
Top Width (ft)	9.86	Top Width (ft)		9.86	
Vel Total (ft/s)	5.13	Avg. Vel. (ft/s)		5.13	
Max Chl Dpth (ft)	0.81	Hydr. Depth (ft)		0.81	
Conv. Total (cfs)	719.1	Conv. (cfs)		719.1	
Length Wtd. (ft)	28.00	Wetted Per. (ft)		11.43	
Min Ch El (ft)	3.70	Shear (lb/sq ft)		0.14	
Alpha	1.00	Stream Power (lb/ft s)	10.00	0.00	0.00
Frctn Loss (ft)	0.03	Cum Volume (acre-ft)		0.13	
C & E Loss (ft)	0.12	Cum SA (acres)		0.07	

Plan: Plan 03 coors channel RS: 1272 Profile: PF 1

E.G. Elev (ft)	3.23	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.02	Wt. n-Val.		0.045	
W.S. Elev (ft)	3.21	Reach Len. (ft)	92.00	92.00	92.00
Crit W.S. (ft)		Flow Area (sq ft)		41.23	

Plan: Plan 03 coors channel RS: 1272 Profile: PF 1 (Continued)

E.G. Slope (ft/ft)	0.000490	Area (sq ft)		41.23	
Q Total (cfs)	41.00	Flow (cfs)		41.00	
Top Width (ft)	25.27	Top Width (ft)		25.27	
Vel Total (ft/s)	0.99	Avg. Vel. (ft/s)		0.99	
Max Chl Dpth (ft)	2.21	Hydr. Depth (ft)		1.63	
Conv. Total (cfs)	1852.1	Conv. (cfs)		1852.1	
Length Wtd. (ft)	92.00	Wetted Per. (ft)		25.99	
Min Ch El (ft)	1.00	Shear (lb/sq ft)		0.05	
Alpha	1.00	Stream Power (lb/ft s)	42.00	0.00	0.00
Frctn Loss (ft)	0.02	Cum Volume (acre-ft)		0.12	
C & E Loss (ft)	0.00	Cum SA (acres)		0.06	

Plan: Plan 03 coors channel RS: 1180 Profile: PF 1

E.G. Elev (ft)	3.21	Element	Left OB	Channel	Right OB
Vel Head (ft)	0.01	Wt. n-Val.		0.045	
W.S. Elev (ft)	3.20	Reach Len. (ft)			
Crit W.S. (ft)	0.67	Flow Area (sq ft)		69.12	
E.G. Slope (ft/ft)	0.000117	Area (sq ft)		69.12	
Q Total (cfs)	41.00	Flow (cfs)		41.00	
Top Width (ft)	31.20	Top Width (ft)		31.20	
Vel Total (ft/s)	0.59	Avg. Vel. (ft/s)		0.59	
Max Chl Dpth (ft)	3.20	Hydr. Depth (ft)		2.22	
Conv. Total (cfs)	3794.9	Conv. (cfs)		3794.9	
Length Wtd. (ft)		Wetted Per. (ft)		32.24	
Min Ch El (ft)	0.00	Shear (lb/sq ft)		0.02	
Alpha	1.00	Stream Power (lb/ft s)	42.00	0.00	0.00
Frctn Loss (ft)		Cum Volume (acre-ft)			
C & E Loss (ft)		Cum SA (acres)			

STREET CAPACITY

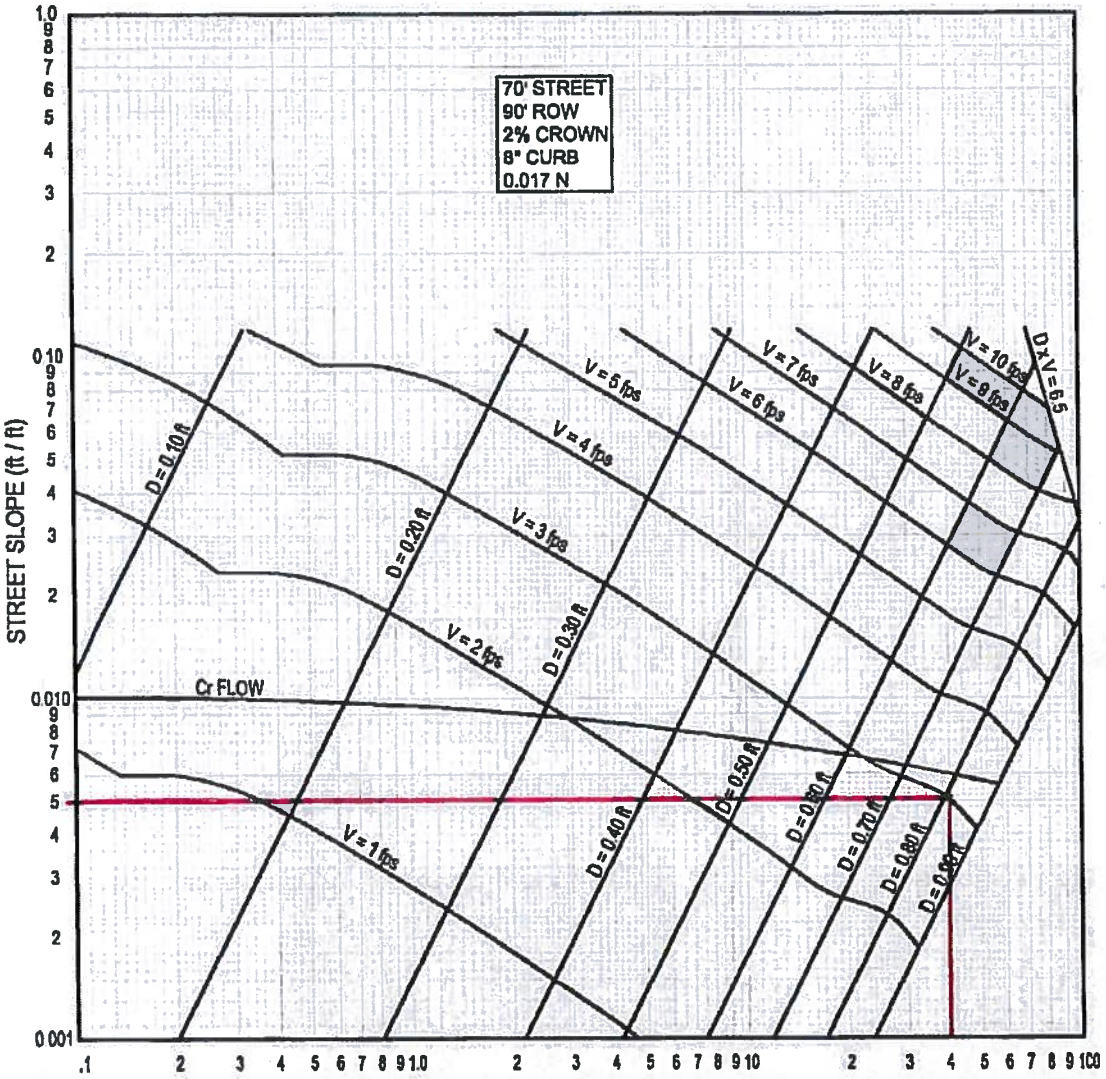


PLATE 22.3 D-4

BERNALILLO COUNTY
PUBLIC WORKS DIVISION
2400 BROADWAY S.E. ALBUQUERQUE, NM 87102

PWD SUBMITTAL
Use for all PWD applications EXCEPT Street Excavation

☑ New Submittal
☐ Resubmittal
☐ Final Signoff

Today's Date: 11-25-14 Case No: _____

Owner

OWNER: Gradys Branch, LLC		PHONE: 338-1438
MAILING ADDRESS PO Box 1443	CITY Corrales	ZIP 87048

AGENT

AGENT/CONTRACTOR Mark Goodwin & Associates			PHONE 828-2200
ADDRESS PO Box 90606		CITY Albuquerque	ZIP 87199
STATE LICENSE No.	EXP. DATE	VOLUME	CLASS
ARCHITECT/ENGINEER	LICENSE NO. 11674		PHONE 828-2200

SITE INFORMATION

SITE ADDRESS DIRECTIONS SW corner of Coors Blvd & Calle Norteña	ZONE ATLAS NO. D-13
LEGAL DESCRIPTION Lot H-12-B, Riverview Subdivision	
	LOT SIZE 2.15 Ac.
EXISTING BUILDING(S) AND USE no	PROPOSED BUILDING(S) no
UPC# 1 1 -- 1 0 1 1 2 -- 1 0 1 6 3 -- 1 5 1 0 1 -- 1 4 1 8 1 -- 1 1 0 4 -- 1 1 4 1	

TYPE OF SUBMITTAL

- ☐ REPLAT
- ☐ MINOR SUBDIVISION
- ☐ MAJOR SUBDIVISION
- ☑ CONSTRUCTION DRAWINGS
- ☑ GRADING & DRAINAGE PLAN
- ☐ AS-CONSTRUCTED GRADING & DRAINAGE PLAN
- ☐ VARIANCE REQUEST
- ☐ LAND DIVISION
- ☐ TRAFFIC IMPACT ANALYSIS/TRAFFIC STUDY
- ☐ INFRASTRUCTURE LIST/DESIGN REVIEW
- ☐ SPECIAL USE PERMIT
- ☐ BARRICADING PERMIT
- ☐ BUILDING PERMIT
- ☐ INSPECTION
- ☐ OTHER (Specify):

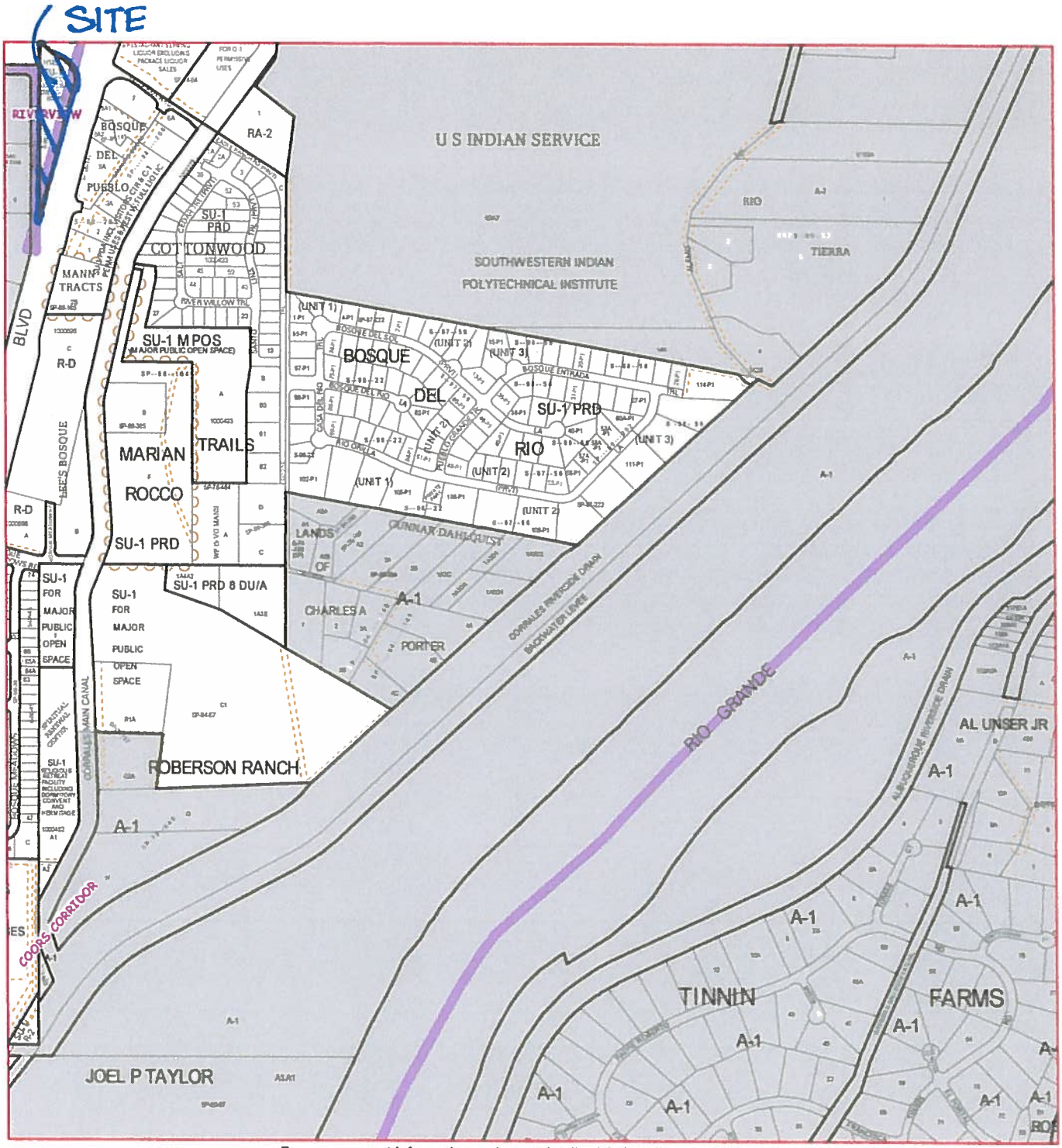
The issuance of a permit or a review or approval of plan specification, computation, and shop drawings, shall not be interpreted to be a permit for, or an approval of any variance or violation y of the provisions of any COUNTY or STATE codes, ordinances, standards, or policies. Nor shall such issuance of a permit or approval of plans, specification, computations, and shop drawing prevent any authorized COUNTY representative or COUNTY inspector form thereafter requiring the correction of errors in said plans, specification, computations, or shop drawings or from stopping construction operations which are being carried on thereunder when in violation of any COUNTY or STATE cores, ordinances, standards, or policies.

☐ OWNER ☑ AGENT ☐ CONTRACTOR

Signature: _____ Date: _____

BERNALILLO COUNTY USE ONLY

C/R's	**Total Fee**	
	Receipt No.	
	Received By:	



For more current information and more details visit: http://www.cabq.gov/gis

Albuquerque Geographic Information System

Map amended through: 2/4/2010

Note: Grey Shading Represents Area Outside of the City Limits

Zone Atlas Page:

D-13-Z

Selected Symbols

- SECTOR PLANS
- Design Overlay Zones
- City Historic Zones
- H-1 Buffer Zone
- Petroglyph Mon.
- Escarpment
- 2 Mile Airport Zone
- Airport Noise Contours
- Wall Overlay Zone

0 750 1,500 Feet

From: Gallegos, Wilfred A.
To: Woodall, Stephen P.; Romo, Phillip
Cc: RVSG7@RAYLEEHOMES.COM; Doug Hughes
Subject: RE: 702182 - Team Office Building
Date: Tuesday, July 22, 2014 2:08:34 PM

Stephen,

The proposed location for the Storm Drain Pipe should be fine…the trench prism appears to be outside of the PUE.

Wilfred Gallegos, PE
Deputy Director
Department of Municipal Development
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103
Phone: (505) 768-3830
Fax: (505) 768-2310

From: Woodall, Stephen P.
Sent: Thursday, July 17, 2014 12:24 PM
To: Romo, Phillip; Gallegos, Wilfred A.
Cc: 'RVSG7@RAYLEEHOMES.COM'; 'Doug@goodwinengineers.com'
Subject: 702182 - Team Office Building

Gentlemen,
Please find attached, plans for the ref project.
During the DRC meeting, the consultant mentioned a previous meeting with the DMD where the city requested approval of storm drain location.

Stephen Woodall
DRC Chairman
924-3993

TURNKEYAGREEMENT FOR TRACT 4 OF PIEDRAS MARCADAS DAM IMPROVEMENTS AS RELATED TO THE TEAM RADIO PROJECT

This Agreement is entered into this 26 day of September, 2014, by and between the Albuquerque Metropolitan Arroyo Flood Control Authority, a political subdivision of the State of New Mexico ("AMAFCA"), and Gradys Branch, LLC, a New Mexico Limited Liability Company ("OWNER"), collectively referred to as the "PARTIES".

RECITALS:

WHEREAS, AMAFCA is the fee simple owner of Tract 4 and OWNER is the fee simple owner of Parcel H-12B, as shown on the plat of A.M.A.F.C.A. Piedras Marcadas Channel and Detention Dam Drainage Right of Way, filed in the Office of the County Clerk of Bernalillo County, New Mexico, in Book 2000C, Page 211, on August 11, 2000; and

WHEREAS, OWNER proposes to construct improvements to develop the property ("Site"), the location of which is shown on Exhibit "A"; and

WHEREAS, the principle spillway of the Piedras Marcadas Dam traverses Tract 4 and crosses Bernalillo County right-of-way for Calle Nortena and the Site through a drainage easement; and

WHEREAS, the Site drainage is governed by the "North Coors Drainage Management Plan – Middle Area" ("DMP"), prepared for AMAFCA and dated February 1997; and

WHEREAS, OWNER's engineer discovered a discrepancy in the DMP, causing OWNER to convey additional storm water flow from public rights-of-way through its Site than set forth in the DMP; and

WHEREAS, the AMAFCA Board of Directors recognizes the burden on OWNER to handle the additional flow and is agreeable to allow a detention pond on Tract 4; and

WHEREAS, OWNER proposes to construct, as part of the work order plans, a ponding area in Tract 4, a forty-eight inch (48") pipe culvert under Calle Norteña to allow water to flow back and forth from the Site to Tract 4, and improvements to Calle Norteña next to the pond, collectively referred to as the "IMPROVEMENTS"; and

WHEREAS, OWNER has requested that AMAFCA assume maintenance of the IMPROVEMENTS that will be constructed by OWNER; and

WHEREAS, AMAFCA is agreeable to assumption of maintenance of the completed IMPROVEMENTS after acceptance by AMAFCA.

NOW THEREFORE, for good and valuable consideration, the receipt of which is hereby acknowledged, the PARTIES agree as follows:

SECTION ONE - OWNER AGREES TO:

1.1. Cause to be designed, with an engineer's seal and signature, and to be constructed the IMPROVEMENTS, at its sole cost and expense, according to approved construction plans. Such work will include excavation of a ponding area in Tract 4, a forty-eight inch (48") pipe culvert under Calle Norteña and improvements to Calle Norteña next to the pond to accommodate the culvert and raise the road above the ten-year water surface elevation, substantially the same as detailed on the plans approved by AMAFCA and as shown on attached Exhibit "B".

1.2. Provide final plans and specifications for construction of the IMPROVEMENTS to AMAFCA for review and approval prior to construction. Construction of the IMPROVEMENTS shall conform to AMAFCA's, City of Albuquerque's and Bernalillo County's specifications and requirements.

1.3. Provide the construction contractor's name, address, a copy of its valid New Mexico contractor's license, and proper classifications to AMAFCA prior to construction.

1.4. Provide for the inspection of construction, including administration, testing, and inspection, or other supervision of construction, by a licensed engineer and testing firm contracted by OWNER, to assure construction is in conformance with the plans and specifications.

1.5. After consultation with and approval by AMAFCA, execute change orders and resolve contract claims relating to design and construction of the IMPROVEMENTS. OWNER shall assume financial commitments resulting from any change order or resolution of a contract claim from construction of said IMPROVEMENTS.

1.6. Reimburse AMAFCA for documented time spent at the job site by its staff or other personnel authorized by AMAFCA for field visits to observe construction progress. This time will be reimbursed at the rate of One Hundred Dollars ($100.00) per hour, not to exceed a total combined amount of Two Thousand Dollars ($2,000.00).

1.7. Cause work to be halted and remedial measures to be taken to AMAFCA's satisfaction should the work be out of compliance with the plans and specifications, and/or standard construction practices.

1.8. Notify AMAFCA's Project Manager by telephone at (505) 884-2215, a minimum of forty-eight (48) hours prior to beginning work on the IMPROVEMENTS and before final inspection.

1.9. Provide copies of all daily construction reports and testing reports to AMAFCA by the end of the work week.

1.10. Provide an engineer's certification to AMAFCA that the IMPROVEMENTS have been constructed in accordance with the approved plans and specifications. Furnish as-built plans of the IMPROVEMENTS within thirty (30) days of final acceptance.

1.11. Warrant, or cause its contractor to warrant, the IMPROVEMENTS to be free of defects in workmanship and materials and adequate for the purposes identified herein for a period of one (1) year after acceptance by AMAFCA.

1.12. Require any and all contractors performing work in connection with the IMPROVEMENTS to obtain a Temporary Construction and Access License from AMAFCA prior to commencement of construction of the IMPROVEMENTS.

1.13. Provide a financial guaranty for the IMPROVEMENTS through Bernalillo County's permitting process, or any other process acceptable to AMAFCA in the event a financial guaranty cannot be secured through the County, and obtain a County work order before commencing construction of the IMPROVEMENTS.

1.14. Provide to AMAFCA an accounting of all costs, including construction, inspection, testing, and engineering, for construction of the IMPROVEMENTS for AMAFCA's use in GASB-34 reporting requirements for public infrastructure.

1.15. Cause a license to be issued from Bernalillo County for long-term maintenance by AMAFCA of the portion of the IMPROVEMENTS in the County's right-of-way.

1.16. Obtain all other required permits to construct the IMPROVEMENTS.

SECTION TWO - AMAFCA AGREES TO:

2.1. Review and, if appropriate, approve the plans and specifications for the IMPROVEMENTS as prepared by OWNER's engineer.

2.2. Provide periodic inspection of the IMPROVEMENTS during the construction period by its staff or authorized representative to assure that construction is in conformance with the plans and specifications. AMAFCA agrees to notify OWNER if it determines that any or all of the IMPROVEMENTS as constructed are not in conformance with the plans and specifications.

2.3. Grant to OWNER's contractor(s) a Temporary Construction Easement for access and construction activities within the Easements.

2.4. Accept the IMPROVEMENTS for continuous maintenance upon satisfactory completion of construction, as determined by AMAFCA, and confirm acceptance of the

same in writing by AMAFCA's Executive Engineer. Under no circumstances shall AMAFCA be obligated to accept for maintenance any or all of the IMPROVEMENTS if it deems that such IMPROVEMENTS have not been satisfactorily constructed, as determined at its sole discretion.

SECTION THREE – THE PARTIES AGREE:

3.1. This Agreement does not relieve OWNER of the requirement to construct or to financially guarantee the construction of related drainage facilities or other improvements that may be required by the City of Albuquerque, Bernalillo County or any other agency for development of the Site.

3.2. OWNER, after consultation with AMAFCA, shall execute change orders and resolve contract claims relating to design and construction of the IMPROVEMENTS. OWNER shall assume financial commitments resulting from any change order or resolution of a contract claim from construction of said projects, unless such change order or claim is the result and effected by actions of AMAFCA in expanding the size or capacity of the IMPROVEMENTS beyond the originally approved design. Notwithstanding anything to the contrary, this Agreement requires OWNER only to construct the drainage improvements shown on Exhibit "B" in accordance with this Agreement and AMAFCA's generally applicable standards.

3.3. All storm drain connections that will discharge to the Tract 4 detention pond will be designed and constructed to City of Albuquerque's and AMAFCA's standards with water quality controls and, as constructed, shall meet all applicable codes.

3.4. Any circumstance which materially affects this Agreement will be promptly and equitably resolved by the PARTIES, and, if necessary, an amendment to this Agreement shall be executed.

3.5. Disputes under the Agreement, which cannot be resolved by the mutual agreement of the PARTIES, will be referred to binding arbitration under the provisions of the New Mexico Uniform Arbitration Act.

3.6. This Agreement may not be assigned by either PARTY without the written consent of the other PARTY, which consent shall not be unreasonably withheld.

3.7. Except as otherwise specifically provided herein, this Agreement shall be governed by and construed and enforced in accordance with the laws of the State of New Mexico.

3.8. All notices with respect to this Agreement shall be in writing and shall be delivered personally, via electronic mail with receipt request, or sent postage prepaid by United States Mail, via certified mail, return receipt requested, to the addresses set forth below or other such addresses as hereafter specified in writing by one PARTY to the other:

AMAFCA	Gradys Branch, LLC
2600 Prospect Ave. NE	4131 Barbara Loop SE, Suite 202
Albuquerque, New Mexico 87107	Rio Rancho, New Mexico 87124
Attn: Executive Engineer	Attn: Scott Grady
Email: JLovato@amafca.org	Email: rvsg7@rayleehomes.com

3.9. This Agreement contains the entire Agreement between the PARTIES hereto, and all prior understandings, oral or written, by the PARTIES hereto with respect to this Agreement are hereby null and void. No variations, modifications, supplements, waivers or changes herein or hereof shall be binding upon any PARTY hereto unless set forth in a document duly executed by or on behalf of such PARTY.

3.10. If any provision of this Agreement, or the application thereof to a person or circumstance, shall be determined to be invalid or unenforceable to any extent, the remainder of the Agreement and the application of such provisions to other persons or circumstances shall not be affected thereby, and such provisions shall be enforced to the greatest extent permitted by law.

3.11. This Agreement shall inure to the benefit of and shall be binding upon the undersigned PARTIES and their respective successors and assigns. Whenever in this Agreement a reference to OWNER is made, such reference shall be deemed to include a reference to successors of OWNER.

3.12. Each individual signing for each of the PARTIES hereunder warrants and represents that he/she is an authorized agent of such PARTY, on whose benefit he/she is executing this Agreement, and is authorized to execute the same.

3.13. Each PARTY agrees to execute such other and further instruments and documents as may be necessary or proper in order to complete the transactions contemplated by this Agreement.

3.14. If construction of the IMPROVEMENTS does not begin within a period of two years after the date of this Agreement, the Agreement shall be null and void.

3.15. In the event of any dispute regarding this Agreement, the prevailing PARTY shall be entitled to reimbursement of its costs and reasonable attorney's fees.

3.16. OWNER shall indemnify and save harmless AMAFCA from all liability from claims for damages arising out of the negligence of OWNER in performing its duties under this Agreement and for all claims arising pursuant to the design or construction of the IMPROVEMENTS. Each PARTY shall defend, indemnify, and hold harmless the other PARTY, its officers and employees, to the extent permitted by law, against all liability, claims, damages, losses or expenses arising out of bodily injury to persons or damage to property caused by, or resulting from, the actions and/or inactions of the indemnifying PARTY's and/or its employees', agents' or subcontractors' own

negligent and/or intentional wrongful acts, omissions or performance or failure to perform its obligations and duties under the terms and conditions of this Agreement. No PARTY is required to indemnify any other PARTY for the negligent or intentional acts, errors or omissions of the other PARTY or their employees or agents. Each PARTY's indemnification obligation to the other PARTY shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for each PARTY, pursuant to laws, regulations, or policies of insurance, provided, however, this save harmless and indemnification clause is subject to the immunities, provisions and limitations of the Tort Claims Act (Section 41-4-1 et seq., N.M.S.A. 1979 comp.) and any amendments thereto. This Agreement to indemnify shall not extend to liability, claims, damages, losses or expenses, including attorney's fees, arising out of: 1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or 2) the giving of or the failure to give directions or instructions by the indemnitee, or the agents or employees of the indemnitee, where the giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property. Nothing herein is intended or can be construed as requiring AMAFCA to assume any liability resulting from the design or construction of the IMPROVEMENTS.

(INTENTIONALLY LEFT BLANK)

Executed the day and year first set out above.

Albuquerque Metropolitan Arroyo Flood Control Authority

By: _____
Ronald D. Brown, Chair
Board of Directors

ATTEST:

By: _____
Bruce M. Thomson, P.E., Secretary-Treasurer

Date: September 25, 2014

ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on September 25, 2014, by Ronald D. Brown as Chair of the Albuquerque Metropolitan Arroyo Flood Control Authority, a political subdivision of the State of New Mexico, on behalf of said political subdivision.

My Commission Expires: 5/7/16

OFFICIAL SEAL
GUYLENE M. HARRIS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 5/7/16

_____
(SEAL)

_____
Notary Public

Gradys Branch, LLC

By: _____
Scott Grady, Managing Member

ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)SS
COUNTY OF BERNALILLO)

This instrument was acknowledged before me on September 26, 2014, by Scott Grady, as Managing Member of Gradys Branch, LLC.

My Commission Expires: 5/7/2016

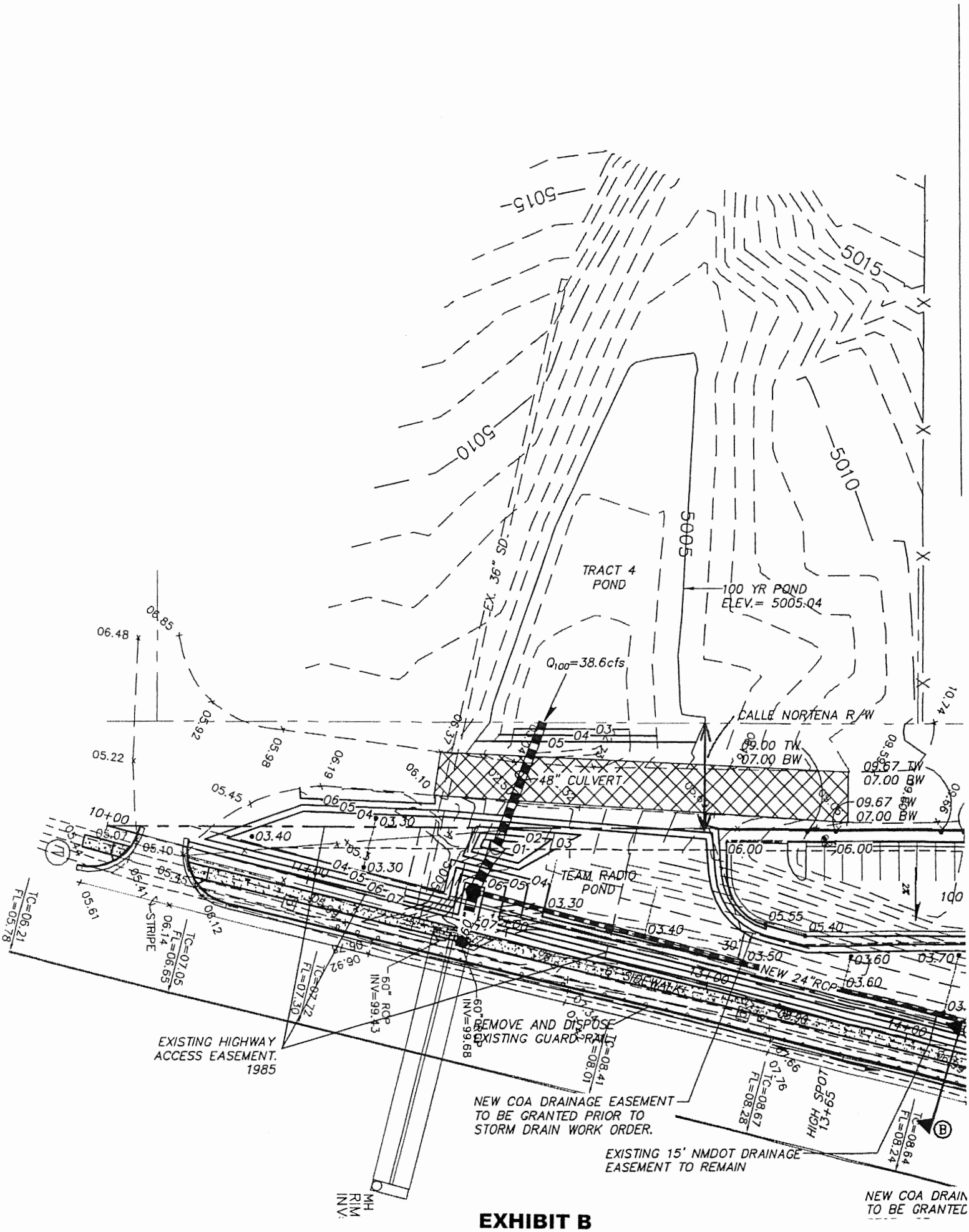
OFFICIAL SEAL
GUYLENE M. HARRIS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires 5/7/2016

(SEAL)

Guylene M. Harris
Notary Public

Location Map

EXHIBIT A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5010
5005
TRACT 4
POND
100 YR POND
ELEV.= 5005.04
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Q_{100}=38.6cfs
48" CULVERT
CALLE NORTENA R/W
09.00 TW
07.00 BW
09.67 TW
07.00 BW
TEAM RADIO
POND
10+00
11+00
12+00
13+00
14+00
NEW 24"RCP
6' SIDEWALK
STRIPE
60" RCP
INV=99.43
60" RCP
INV=99.68
REMOVE AND DISPOSE
EXISTING GUARD RAIL
EXISTING HIGHWAY
ACCESS EASEMENT.
1985
NEW COA DRAINAGE EASEMENT
TO BE GRANTED PRIOR TO
STORM DRAIN WORK ORDER.
EXISTING 15' NMDOT DRAINAGE
EASEMENT TO REMAIN
HIGH SPOT
13+65
NEW COA DRAIN
TO BE GRANTED
MH
RIM
INV:

EXHIBIT B