

# CITY OF ALBUQUERQUE

*Planning Department*

Suzanne Lubar, Director



Richard J. Berry, Mayor

February 5, 2014

Mark Goodwin, P.E.  
Mark Goodwin and Associates  
P.O. Box 90606  
Albuquerque, NM 87199

**Re: Stormwater Entering Juan Tabo Hills Subdivision Unit 2 and Unit 1 at the West End of Raton Avenue, City Project Number 756183**

Dear Mr. Goodwin,

Hydrology has received drainage complaints, July of 2011 and September of 2013, concerning stormwater bypassing the storm drainage cattle guard inlet built at the west end of Raton Ave, Exhibit 1. The inlet was built with City Project Number 756183, Juan Tabo Hills Subdivision, Unit 1. I have included the pertinent record drawing sheets for reference, Exhibit 2. The cattle guard inlet was designed to protect Juan Tabo Hills Unit 1 and Unit 2 from the offsite flows from Four Hills. The stormwater is eroding the emergency access road and the Homeowner Association (HOA) open space area, Exhibit 3. This is due to the stormwater bypassing the inlet. The HOA is paying to maintain the erosion concern.

Hydrology was working with Gregory Krenik of your office in the summer of 2011 to determine a solution to the drainage problem. I have included the e-mail correspondence for reference, Exhibit 4. Please refer to them for details.


It appears a portion of the drainage from Raton Avenue bypasses the cattle guard inlet. Per the approved drainage report, 198 cfs is flowing in Raton Avenue. It also appears that the inlet was designed without a clogging factor. The Development Process Manual recommends a 15% clogging factor for Type "C" inlets when there is not a Type "A" inlet upstream, which there is not.

Per a site visit September 26, 2013 the inlet was mostly clean, with some debris on the cattle guard inlet grate near the north side of the street. It appears that the stormwater is at too high of a velocity to be captured by one inlet. Mr. Krenik also indicated in his e-mail dated August 5, 2011, the street is not level and the stormwater stays to the north side. A similar cattle guard inlet was built at the end of Arriba Avenue. It seems to be functioning properly. Per the approved drainage report, 30 cfs is flowing in Arriba Avenue.

The City requests that Mark Goodwin and Associates correct the drainage problem at the end of Raton Avenue. Please contact our City Hydrologist, Curtis Cherne, to schedule a meeting to discuss.

If you have any questions, please contact me at the phone number or email address listed below.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bryan Wolfe', with a stylized, flowing script.

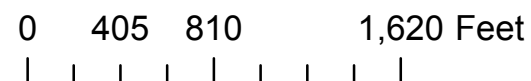
Bryan Wolfe, P.E.  
City Engineer

Phone: (505) 924-3999  
Email: bwolfe@cabq.gov

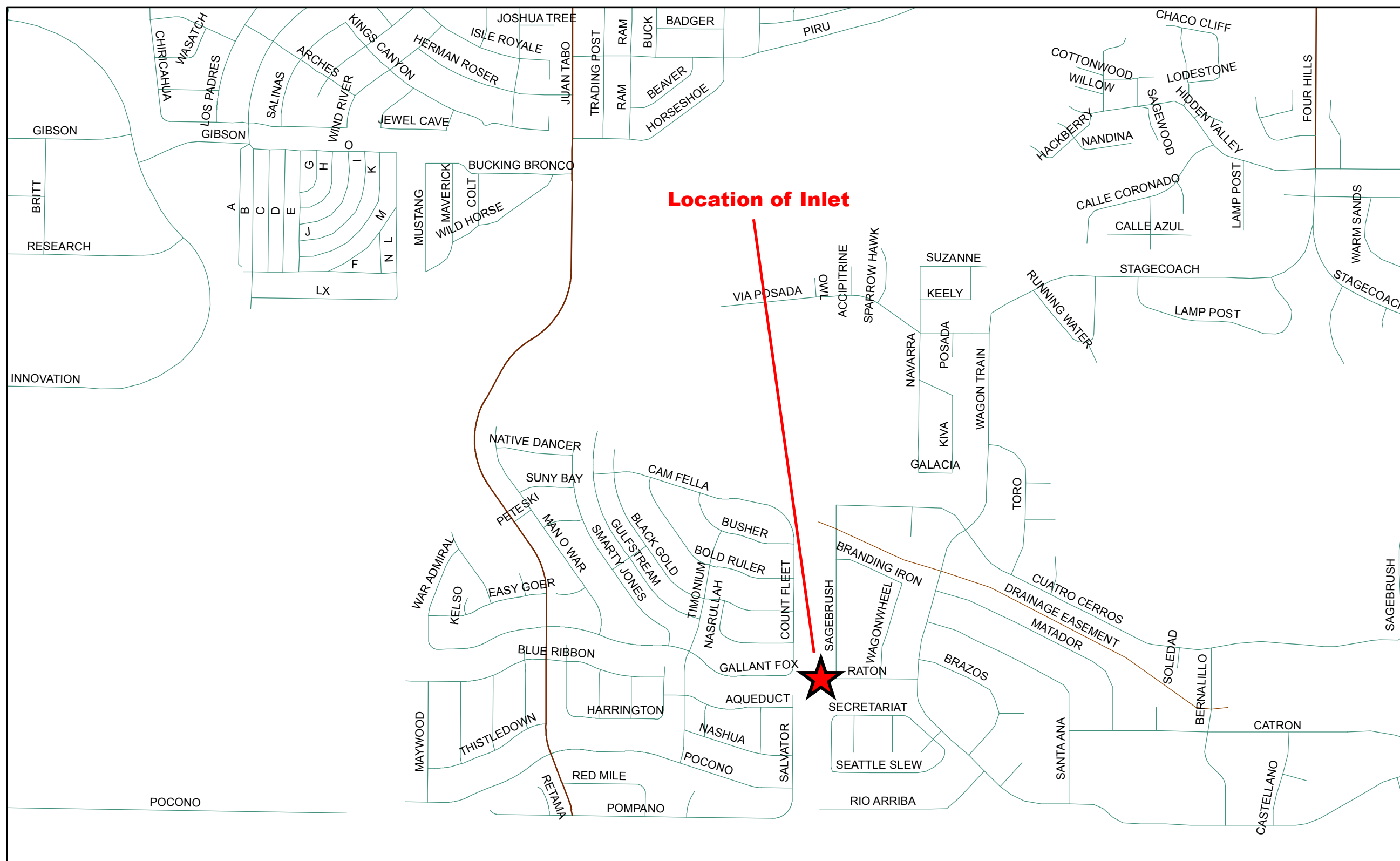
Enclosures: Exhibit 1, Site Location  
Exhibit 2, Pertinent Sheets from Record Drawings  
Exhibit 3, Emergency Access Road Erosion Picture  
Exhibit 4, Correspondence

cc: Curtis Cherne, City Hydrologist  
Matthew Conrad, Associate Director, Planning Department

File: \\dmdview\Hydrology\M\M21\M21D015



## Location of Inlet



2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	6	-	7	5	6	1	,	8	3	-	2	0	10

[illegible]

VICINITY MAP ZONE ATLAS M-21/N-21  
GENERAL NOTES SCALE: NONE

## GENERAL NOTES

## NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
2. ALL WORK DETAILLED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #7.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. FIVE (5) WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE.
6. TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADE PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION COORDINATION ENGINEER (924-3400) PRIOR TO OCCUPANCY AN INTERSECTION. REFER TO SECTION 9.1 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
6. ALL WORK AFFECTING ALTERED ROADWAYS REQUIRES TWENTY-FOUR HOUR CONSTRUCTION.
7. ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKING BY CONTRACTOR TO THE SAME LOCATION AS WAS EXISTING, OR AS INDICATED BY THIS PLAN SET.
8. CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE CITY SURVEYOR MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE CITY SURVEYOR AND SHALL NOTIFY THE CITY SURVEYOR AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DESTROYED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE CITY SURVEYOR. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATIONS OF THE PAVEMENT OF ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT TO COVER THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.
9. CONTRACTOR SHALL RECORD DATA ON ALL UTILITY LINES AND ACCESSORIES AS REQUIRED BY THE CITY OF ALBUQUERQUE FOR THE PREPARATION OF "AS CONSTRUCTED" DRAWINGS. CONTRACTOR SHALL NOT COVER UTILITY LINES AND ACCESSORIES UNTIL ALL DATA HAVE BEEN RECORDED.
10. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, INCLUDING PERMANENT OR TEMPORARY.
11. CONTRACTOR SHALL COORDINATE WITH THE CITY OF ALBUQUERQUE WATER SYSTEMS DIVISION (857-8200) SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT EXISTING PUBLIC WATER OR SEWER UTILITIES. EXISTING VALVES TO BE OPERATED BY CITY PERSONNEL ONLY. CONTRACTOR SHALL CONTACT THE WATER SYSTEMS DIVISION SEVEN (7) WORKING DAYS PRIOR TO NEEDING VALVES TURNED ON OR OFF.
12. FOR STORM DRAIN CONSTRUCTION, RCP JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL INSPECTION. FINAL INSPECTION WILL DETERMINE JOINTS TO BE GROUTED FOR FINAL EXPOSURE OF THE CONSTRUCTION.
13. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.850, SUBPART F.
14. ELECTRONIC MARKER DISKS (EMD) WILL BE PLACED ACCORDING TO SECTION 170 OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #7.

THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☒ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- ☒ BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- ☐ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER.
- ☒ SIDEWALK AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☐ IF CURB IS DEPRESSIONED FOR A DRIVEPAD, THE DRIVEPAD SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF CURB AND GUTTER.
- ☒ ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.

## INDEX TO DRAWINGS

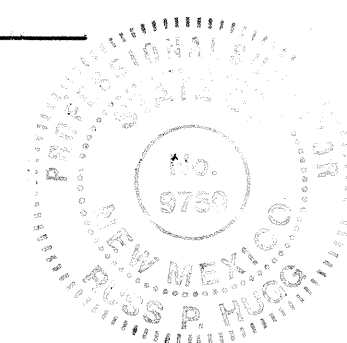
SHEET NO.	SHEET
1	TITLE SHEET
2-3 (20 SHEETS)*	PLAT (Unit 1, Unit 1A, Unit 1B)
4-16	GRADING PLANS
17A-17B	MASTER PAVING PLAN
18-47	PAVING IMPROVEMENTS
48-49	MASTER UTILITY PLAN
50-76	UTILITY IMPROVEMENTS
77-83	STORMDRAIN IMPROVEMENTS

\* Numbered 2 (#/#)

**SURVEYORS CERTIFICATION**

I, Russ P. Hugg, New Mexico Professional Surveyor Number 9750, hereby certify that the as-built information shown hereon is the result of an actual field survey performed by me or under my direct supervision and that the same is true and correct to the best of my knowledge and belief;

Russ P. Hugg  
NMPS No. 9750  
9:17: , 2007



RECORD DRAWING  
CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, Gregory J. Krenik, NMPE # 11929, of the firm Mark Goodwin & Associates, PA, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision, and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been maintained as noted by me on the as-built construction drawings. This Certification is based on site inspections by me or my designee under my direction, and survey information provided by Russ P. Hugg, NMPS number 9750.

I, Gregory J. Krenik, certify that this electronic version is identical to the original reproducible APPROVED FOR CONSTRUCTION drawings signed by me on 11/22/2006.

This set of drawings is accepted for RECORD purposes by \_\_\_\_\_ on \_\_\_\_\_, 2007.

THE SUBJECT PROPERTY IS LOCATED NEAR A FORMER LANDFILL. DUE TO THE SUBJECT PROPERTY BEING NEAR A FORMER LANDFILL CERTAIN PRECAUTIONARY MEASURES MAY NEED TO BE TAKEN TO ENSURE THE HEALTH AND SAFETY OF THE PUBLIC. RECOMMENDATIONS MADE BY A PROFESSIONAL ENGINEER WITH EXPERTISE IN LANDFILLS AND LANDFILL GAS ISSUES (AS REQUIRED BY THE MOST CURRENT VERSION OF THE INTERIM GUIDELINES FOR DEVELOPMENT WITHIN CITY DESIGNATED LANDFILL BUFFER ZONES) SHALL BE CONSULTED PRIOR TO DEVELOPMENT OF THE SITE.

 INTERA INC. FOR AEPD  
CITY OF ALBUQUERQUE ENVIRONMENTAL HEALTH DEPT.

DRB NO.

1004073


APPROVED AS RECORD DRAWINGS

DESIGN REVIEW SECTION  
CITY CONSTRUCTION ENGINEER  
DATE: \_\_\_\_\_

**CAUTION:**

NOTE THAT ALL EXISTING UTILITIES MAY NOT BE SHOWN. ALL EXISTING SERVICE CONNECTIONS ARE NOT SHOWN. ANY EXISTING UTILITIES THAT ARE SHOWN ARE APPROXIMATE LOCATION ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL THE UTILITY OWNERS AND TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS.

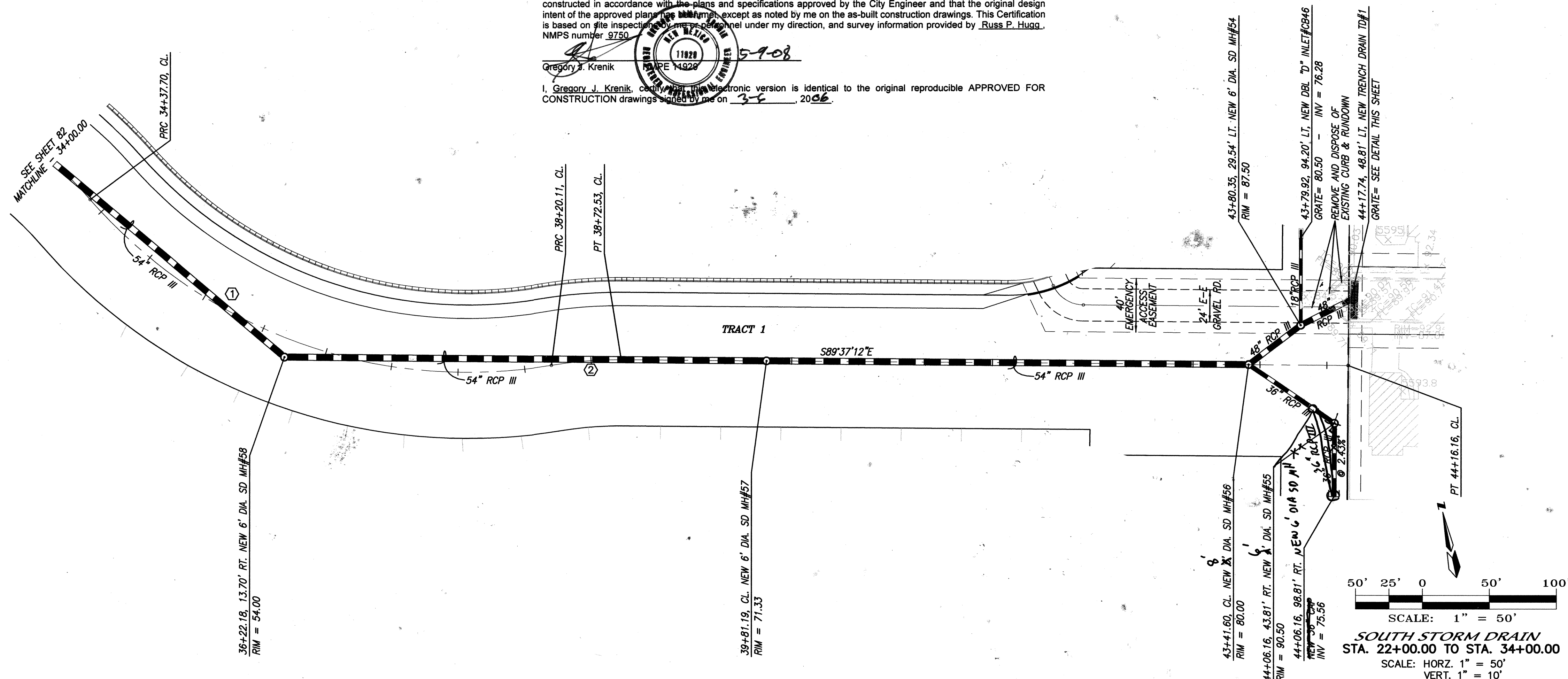
**dmg** D. MARK GOODWIN & ASSOCIATES, P.A.  
CONSULTING ENGINEERS  
P. O. BOX 90606  
ALBUQUERQUE, NEW MEXICO 87199  
(505) 828-2200, FAX (505) 797-9539

REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT	DATE	
ENGINEERS STAMP & SIGNATURE		APPROVALS	ENGINEER		DATE	*****		
		DRC CHAIRMAN	<i>[Signature]</i>		3-27-06	APPROVED FOR CONSTRUCTION		
		TRANSPORTATION	<i>[Signature]</i>		3/14/06			
		WATER/WASTEWATER	<i>[Signature]</i>		3/16/06			
		HYDROLOGY	<i>[Signature]</i>		3/16/06			
		CIP						
		CONSTR. MNGMT.						
		CONSTR. COORD.	<i>[Signature]</i>		3-24-06	CITY ENGINEER DATE		
CITY PROJECT/NO.					SHEET OF			
756183					1 83			

SCANNED BY  
PLANNINGRECORD DRAWING  
CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, Gregory J. Kranik, NMPE 11929, of the firm Mark Goodwin & Associates, P.A., a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision, and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been followed, except as noted by me on the as-built construction drawings. This Certification is based on site inspection and survey information provided by Russ P. Hugg, NMPS number 9750.

Gregory J. Kranik  
11929  
5-9-08  
I, Gregory J. Kranik, certify that this electronic version is identical to the original reproducible APPROVED FOR CONSTRUCTION drawings signed by me on 5-9-08, 2008.

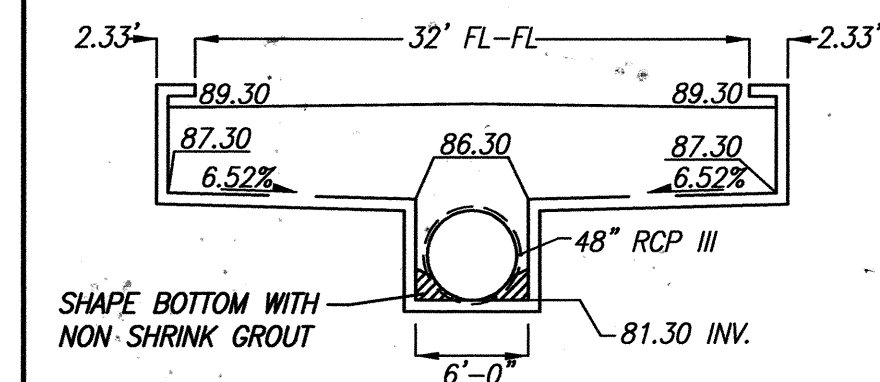
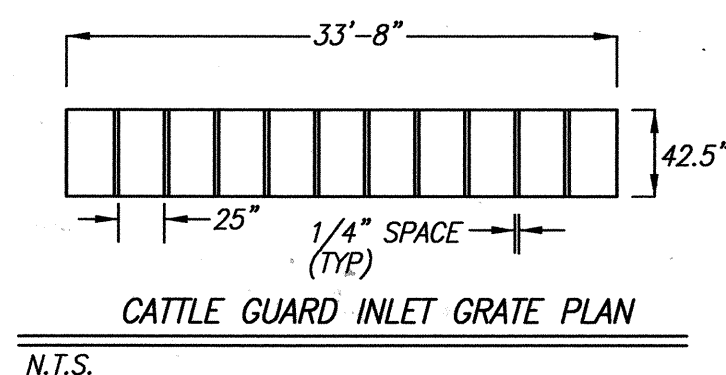


## NOTES

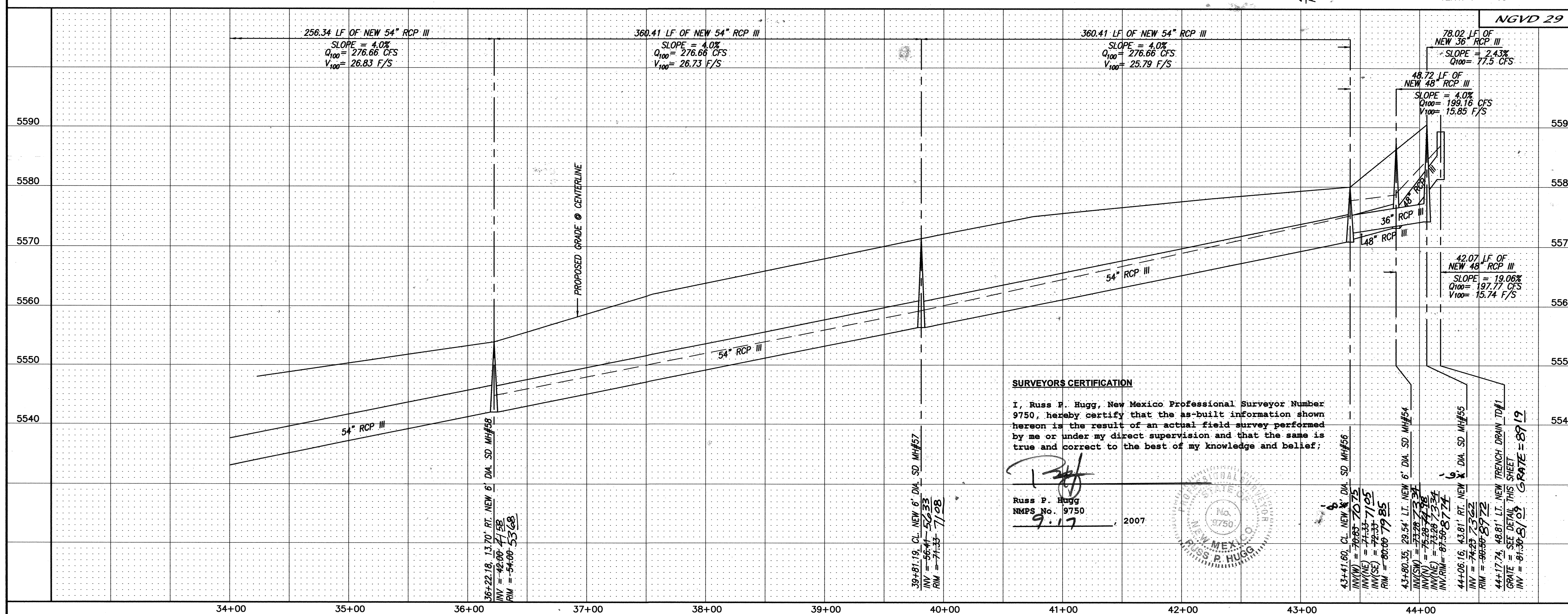
1. ALL STATIONING IS CENTERLINE STATIONING.

## CURVE DATA - DESCRIBES CENTERLINE

①  $\Delta = 58^{\circ}25'41''$   $\Delta = 10^{\circ}00'45''$   
 $R = 375.00'$   $R = 300.00'$   
 $L = 382.41'$   $L = 52.43'$   
 $T = 209.70'$   $T = 26.28'$



CATTLE GUARD INLET (NORTH SIDE)  
 N.T.S. PER COA DWG 2271, 2272 & 2220



## SURVEYORS CERTIFICATION

I, Russ P. Hugg, New Mexico Professional Surveyor Number 9750, hereby certify that the as-built information shown hereon is the result of an actual field survey performed by me or under my direct supervision and that the same is true and correct to the best of my knowledge and belief.

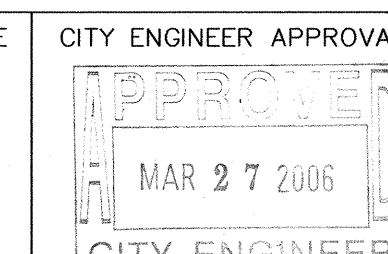
Russ P. Hugg  
 NMPS No. 9750  
 9-17 2007

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: JUAN TABO HILLS - UNIT 1  
 SOUTH STORM DRAIN  
 STORM DRAIN IMPROVEMENTS



MO./DAY/YR.	MO./DAY/YR.

DESIGN REVIEW COMMITTEE

CITY ENGINEER

LAST DESIGN UPDATE

CITY PROJECT NO.

ZONE MAP NO.

SHEET OF

756183

M-21 &amp; M-22

83 83

# EXHIBIT 3



**Cherne, Curtis**

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**From:** Cherne, Curtis  
**Sent:** Friday, August 12, 2011 10:41 AM  
**To:** 'Gregory Krenik'  
**Subject:** RE: Raton Ave Runoff

Greg,

After our lengthy discussion. We agreed that you would submit some calculations to support a fix. We talked about building a sump condition for the cattle guard, installing an inlet(s), and picking up flows in the inlet west of the fence.

Thanks.

Curtis

---

**From:** Gregory Krenik [mailto:Greg@goodwinengineers.com]  
**Sent:** Tuesday, August 09, 2011 4:43 PM  
**To:** Cherne, Curtis  
**Cc:** Heather Foote; june.wilson@kirtland.af.mil; sarah@hoamco.com; Lopez, Anthony C.; Mark Goodwin  
**Subject:** RE: Raton Ave Runoff

Curtis,

The difference in the  $d$ ,  $A$ ,  $V$  and the  $Q$  is because I was comparing an apple and an orange. They were the difference in the road section from the crowned section and then with the crown removed. The  $d=0.67$  was the top of curb with the crown in place, we always try to verify the street capacity at the top of curb which is what that was. It failed by a lot as you can see. The  $d=0.565$  was what it would be if the crown was removed, that is why they all differ, the existing conditions the COA approved did not work, the crown had to be removed. As we saw at the site, Raton does not have a symmetrical section, it slopes to the north thus loading the north side of the ROW and overflowing the curb.

No help from the COA because they approved the dumping of 198 cfs onto our clients property? Are you sure about that? How about the COA keeping the inlets clear, isn't that street maintenance's job? There might not be a problem if the inlets are clear but we need to actually see it correct?

When you say redo the calcs, you mean obtain asbuilt conditions all the way up Raton to determine how much water is on the northside of the ROW because of the settled road section and rerun the inlet capacity, correct? My calcs that were in the report are good... I just calculated the capacity of Raton's ROW which has a slope of 3.48%... $d = 0.85$ ,  $WP = 51.34$ ,  $A = 21.15$ ,  $V=9.03$  f/s,  $Q = 191.06$  cfs...as you can see, the ROW does not have the

8/12/2011

## EXHIBIT 4, Page2 of 3

capacity for the flows (198 cfs) coming down the street let alone for a street section that loads up one side to make things worse.

Please be more specific in what you mean by a 'solution'. We installed the trench drain; we removed the crown and then removed more of the crown because of this same problem. To see the whole picture, substantial survey work will need to be done up Raton. With this additional information please let me know how you want us to proceed.

Greg

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**From:** Cherne, Curtis [mailto:CCherne@cabq.gov]

**Sent:** Tuesday, August 09, 2011 3:57 PM

**To:** Gregory Krenik

**Subject:** RE: Raton Ave Runoff

Greg,

I agree with the WOW on the 200 cfs.

There seems to be some discontinuity between the calcs for the street with the crown and then without the crown, d, A, V and then the Q that the grate will accept. Also, where does the efficiency number come into play?

If you apply a 50% clog to the grate part of the inlet, this leaves a substantial gap.

I am not sure two A inlets will be enough. May need the inlets and the header curb.

I would like for you to redo the calcs and provide a solution. The improvement will be the responsibility of someone other than the City, except of course, our help with the approval process.

Curtis

---

**From:** Gregory Krenik [mailto:Greg@goodwinengineers.com]

**Sent:** Friday, August 05, 2011 1:22 PM

**To:** Cherne, Curtis

**Subject:** Raton Ave Runoff

Curtis,

I've attached the pages from the JTH Report that concern Raton. It is Basin 6 and the basin size is 53.7706 AC. The Q produced is 197.77 CFS...WOW that's a lot of runoff with no storm drain system! As you can see from Sheet 37 of the calcs the existing runoff was more than the existing street could handle by 73.24 CFS. Then I calced removing the crown and it came up OK. If the street is not level, as is the case, and the water stays to the north side then we will have the issue of it going over the curb, which it is doing. The trench drain is right at its max for incoming flow...can't have any blockage it seems.

Option 1 - install a water block west of the trench drain out of asphalt millings

Option 2 - install a header curb along the north half of Raton and a water block along the south half out of asphalt millings

Option 3 - install two SD inlets to the east of the trench drain and extend the SD up to

## EXHIBIT 4, Page3 of 3

those inlets to reduce the runoff in Raton before it gets to the trench drain.

Let me know what you think.

Greg

**Gregory J. Krenik, PE**

D. Mark Goodwin & Associates

PO Box 90606

Albuquerque, NM 97199

505-828-2200

505-235-9338 cell