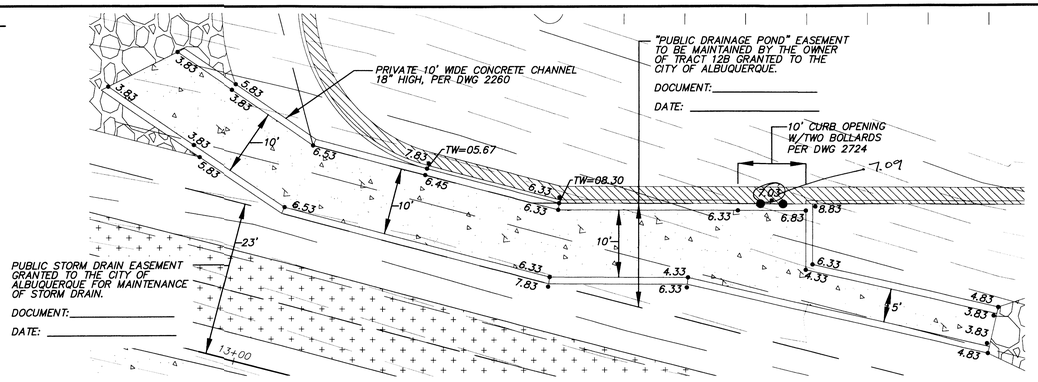
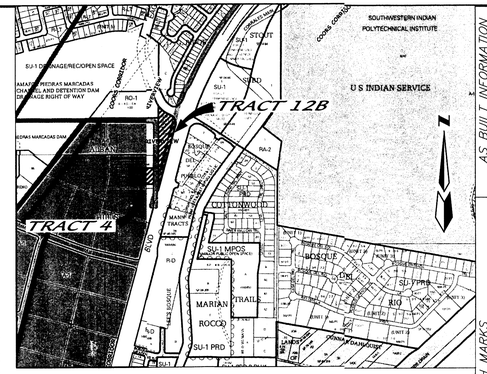
LEGEND

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		

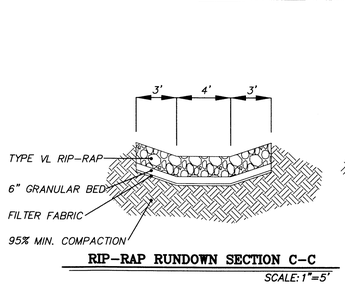


DETAIL OF CONCRETE SPILLWAY

SCALE: 1" = 10'

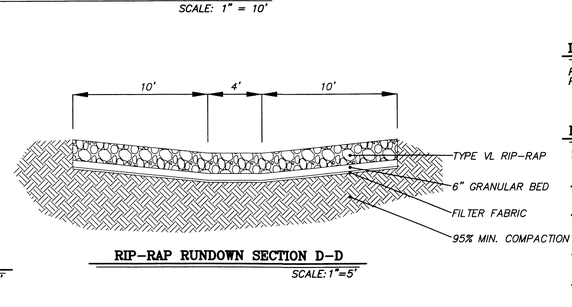


VICINITY MAP ZONE ATLAS C-13/D-13



RIP-RAP RUNDOWN SECTION C-C

SCALE: 1"=5'

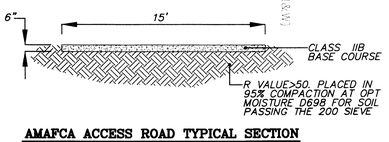


RIP-RAP RUNDOWN SECTION D-D

SCALE: 1"=5'

40' 20' 0 40' 80'

SCALE: 1" = 40'



AMAFCA ACCESS ROAD TYPICAL SECTION

SCALE: 1"=5'

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.)

NOTES FOR WORK IN AMAFCA R/W OR EASEMENT

1. AMAFCA FIELD ENGINEER SHALL BE NOTIFIED 48 HOURS PRIOR TO ANY WORK WITHIN THE AMAFCA R/W AT 884-2215.
2. NO WORK WILL BE PERFORMED IN THE AMAFCA R/W BETWEEN MAY 15 AND OCTOBER 15 WITHOUT THE PERMISSION FROM AMAFCA.
3. ALL SUBGRADE, BACKFILL AND EMBANKMENT SHALL BE COMPACTED TO 95% (MODIFIED PROCTOR) WITHIN THE AMAFCA R/W. TESTING REPORTS SHALL BE PROVIDED TO AMAFCA FIELD ENGINEER.
4. AMAFCA FIELD ENGINEER WILL BE NOTIFIED 48 HOURS PRIOR TO FINAL INSPECTION OF ANY FACILITIES WITHIN THE AMAFCA R/W.
5. ALL DISTURBED GROUND AREAS SHALL BE REVEGETATED IN ACCORDANCE WITH CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, SECTION 1012 NATIVE GRASS SEEDING, AS CURRENTLY UPDATED.
6. ANY EXISTING SURVEY CONTROL MONUMENTS THAT ARE MOVED OR DESTROYED AS A RESULT OF THE CONSTRUCTION SHALL BE REPLACED BY A REGISTERED SURVEYOR AT THE OWNER'S EXPENSE.
7. OWNER'S CONTRACTOR SHALL PROVIDE LIABILITY INSURANCE NAMING AMAFCA AS ADDIOTIONAL INSURED IN THE AMOUNT OF $2,000,000.00. PROOF OF INSURANCE SHALL BE PROVIDED TO AMAFCA PRIOR TO CONSTRUCTION.

APPROVED FOR CONSTRUCTION WITHIN AMAFCA RIGHT OF WAY/EASEMENT

SIGNATURE DATE

RECEIVED FEB 10 2015 LAND DEVELOPMENT SECTION

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 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	4

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.

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, Last saved by: Chris, 11/21/14

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, 2/9/2015 2:07:42 PM, KEP 7100 Local.pc3, CHRIS

SURVEY INFORMATION

NO.	DATE	FIELD NOTES BY

ENGINEER'S SEAL

JAMES D. HANKINS 10074 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER

2-9-2015

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

AS BUILT INFORMATION

CONTRACTOR	
WORK STARTED ON	DATE
ACCEPTANCE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE
RECORDED BY	DATE

VERTICAL BENCH MARKS — MICRO-FILM INFORMATION

SURVEY MON. "7-D13 2004" "MRGCD BM" 5007.11, 6-D13" (CENTRAL ZONE - NAD 83) ELEV.= 5009.85 FT. NAVD 1988.

HORIZONTAL

SURVEY MON. "7-D13 2004" STATE PLANE COORD. (CENTRAL ZONE - NAD 83) NORTH= 1519011.818 EAST= 1513720.018 GRID FACTOR= 0.999682692

RECORDED BY NO.

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. If the 48" RCP fails, emergency overflow will cross Calle Nortena on the surface and flow non-erosively into The Team pond.

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_{100} (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 minimum time of concentration was used for all basins because they have short steep reach lengths. The hydrographs were then conservatively added together without routing because routing is not effective with such short reach lengths. 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 Inlet Control		Double 21" RCPs Outlet Control		60" RCP Inlet Control		Outlet Capacity
Elev	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 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

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. Friction losses in the 60" culvert upstream of the 21" were determined to be negligible using Chart 9 in the appendix.

For the purposes of the AHYMO pond routing the AMAFCA Tract 4 Pond and the Team Radio Pond were added together into one pond volume based on the assumption that the 48" RCP that cross connects them would have negligible head loss. It was assumed that at any given moment in the routing the elevation is the same in both the AMAFCA and The Team ponds. To check this assumption the head loss was determined for a prorated percentage of the 100-YR peak flow from Basin 104. Since the peak flow out of the pond (53.34 cfs) is 44% of the peak flow into the pond (119.62 cfs), the flow in the 48" pipe is estimated to be about 19.19 cfs by applying the 44% proration to the Basin 104 peak 100-Yr flow rate (43.04cfs). Chart 9 in the appendix shows less than 0.1' of head loss for the 48" RCP at that flow rate. So the assumption that the two ponds are at the same elevation, plus or minus 0.1', seems reasonable. The 48" culvert between the two ponds might have been a lot smaller, but it was oversized to make this assumption valid.

Hydraulic Calculations

Two different HGLs were calculated for the storm drain that parallels Coors Rd. at two different moments, one at the moment when the peak flow rate enters the pond (1.53hr for all basins) and one for the moment when the peak stage occurs in the pond (1.73hr).

From AHYMO the peak flow rate of basin 101 occurs at 1.53 hours when the pond stage is 5003.26. The peak flow rate in the 42" 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 total inflow is 52.47cfs (from all basins 101 thru 106) which is 44% of the peak inflow. At that moment the beginning HGL elevation at the downstream end is 5004.26 and the prorated flow in the 42" 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, 103, and 105 (26.72 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 through the deep part of the pond next to the 60" pipe is nearly level from one end to the other at elevation 5003.26. At the 10' wide concrete rundown the water surface rises sharply to 0.81' depth at the crest and the water surface rises another 0.34 ' between the crest and the curb opening in The Team Radio parking lot where the depth is 0.60' on the parking lot. The 100-year normal depth in the parking lot at 0.5% slope is 0.82' according to Plate 22.3 D-4 in the Appendix. Since the curb height is 0.67' a 1.0' high berm was added behind the curb to prevent the parking lot drainage from eroding the slope between the SWQ pond bottom and the parking lot.

Storm Water Quality Calculations

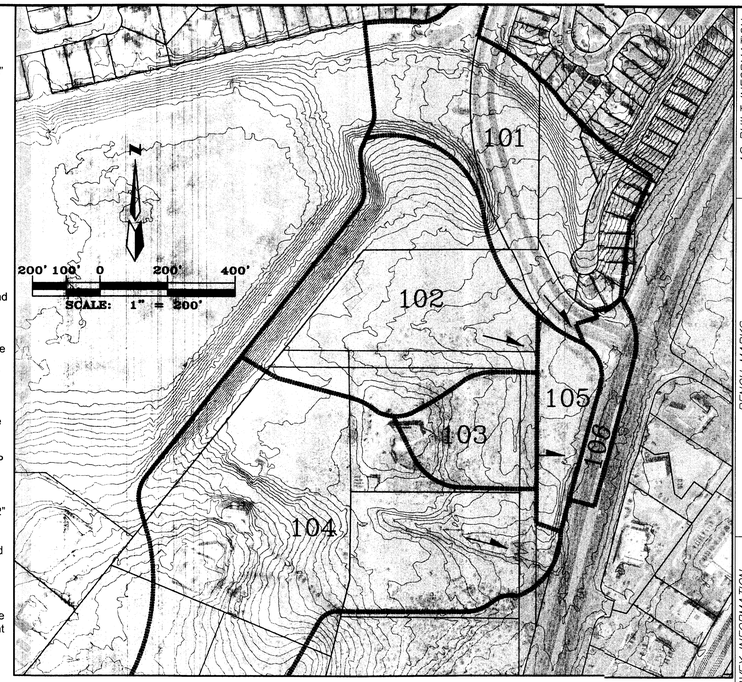
The required volume is based on a 0.6" precipitation event that produces 0.46" runoff from impervious surfaces only and is shown for each basin in the Hydrology Summary table on page 5. The required volume for The Team Radio site is 0.061 ac-ft. The concrete spillway is designed to drain north into the SWQ pond(s) until the 0.067 ac-ft pond(s) fill up to elevation 5003.70, then it spills south into the detention pond.

Survey

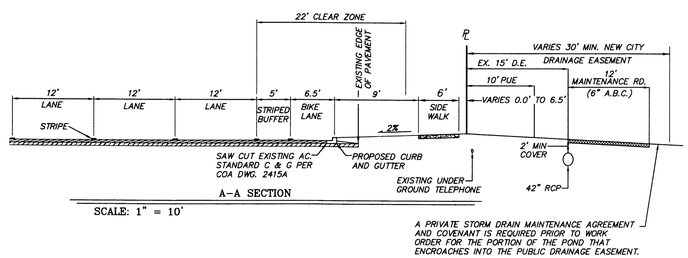
The existing conditions as shown on the plans were surveyed by Aldrich Land Surveying revised October 27, 2014.

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.

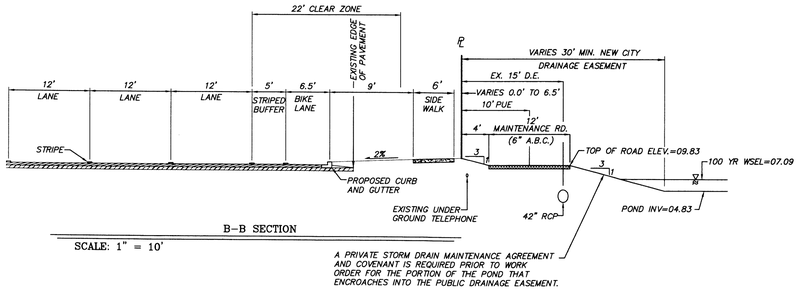


OFFSITE DRAINAGE BASIN BOUNDARIES



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.

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, Last saved by: Chris, 11/21/14

40' 20' 0 40' 80'

SCALE: 1" = 40'

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY DATE
WORK ACCEPTED BY DATE
VERIFICATION BY DATE
DRAWINGS BY DATE
CONVERTED BY DATE
MICRO–FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
VERTICAL
SURVEY MON. "MRGCD BM 5007.11, 6–D13" STATE PLANE COORD. (CENTRAL ZONE – NAD 83) NORTH= 1519011.818 EAST= 1513720.018 ELEV.= 5008.85 FT. NAVD 1988. GRID FACTOR= 0.999682692

HORIZONTAL
SURVEY MON. "7–D13 2004" STATE PLANE COORD. (CENTRAL ZONE – NAD 83)

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

ENGINEER'S SEAL
JAMES D. HUGHES 10524 REGISTERED PROFESSIONAL ENGINEER NEW MEXICO
2-9-2015

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

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

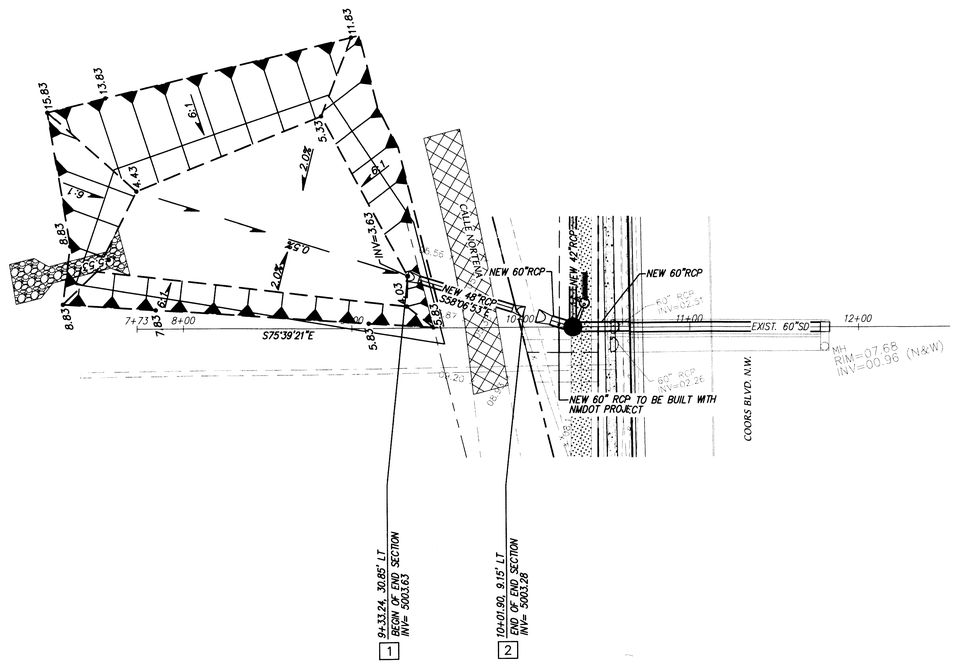
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

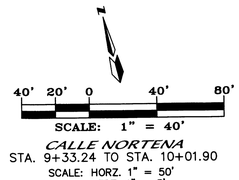
TITLE:
TEAM RADIO GRADING & DRAINAGE PLAN

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

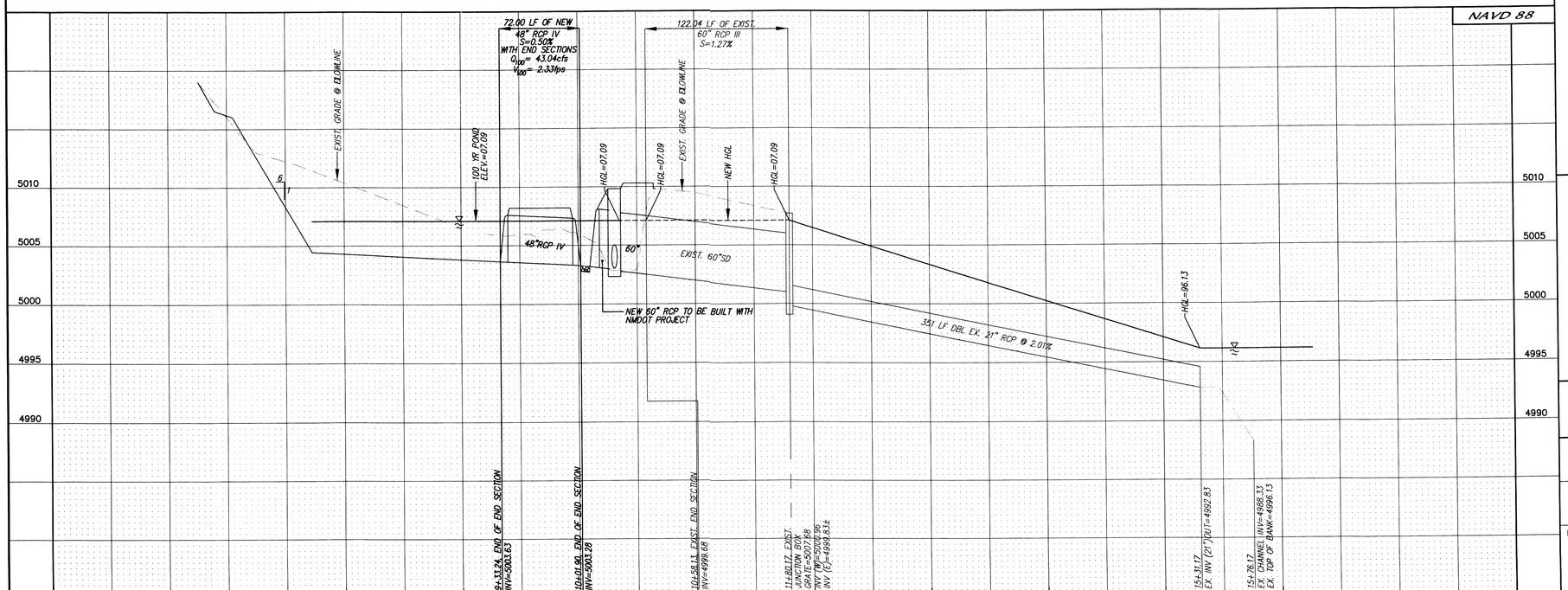
CITY PROJECT NO. 702182 | ZONE MAP NO. C-13/D-13 | SHEET 2 OF 4

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, 2/9/2015 2:11:51 PM, KIP 7100 Local.pc3, CHRIS





CALLE NORTENA
STA. 9+33.24 TO STA. 10+01.90
SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



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NOTES

1. ALL STATIONING IS BASED ON CENTERLINE OF STORMDRAIN.

STATE PLANE DATA – BERNALILLO COUNTY PLANS

1 NORTHERN= 1518383.5388
EASTERN= 37.186.7224

2 NORTHERN= 1518345.5068
EASTERN= 373247.8580

AS BUILT INFORMATION

BENCH MARKS

VERTICAL
SURVEY MON. "MRGCD BM"
5007.11, 6-D13"
STATE PLANE COORD.
(CENTRAL ZONE – NAD 83)
ELEV= 5009.85 FT. NAVD 1988.

HORIZONTAL
SURVEY MON. "7-D13 2004"
STATE PLANE COORD.
(CENTRAL ZONE – NAD 83)
NORTH= 1519011.818
EAST= 1513720.018
GRID FACTOR= 0.999682692

CONTRACTOR
WORK STARTED BY: DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

JAMES D. MUGGLES
11574
REGISTERED PROFESSIONAL ENGINEER
NEW MEXICO
2-9-2015

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY JDH DATE 11/14
DRAWN BY ACH DATE 11/14
CHECKED BY DMG DATE 11/14

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

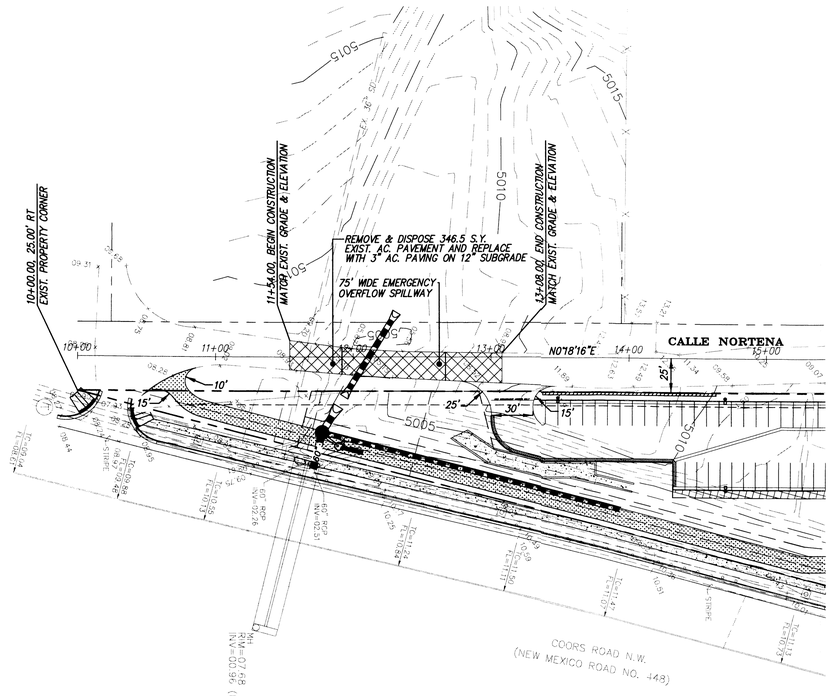
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

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 3 OF 4

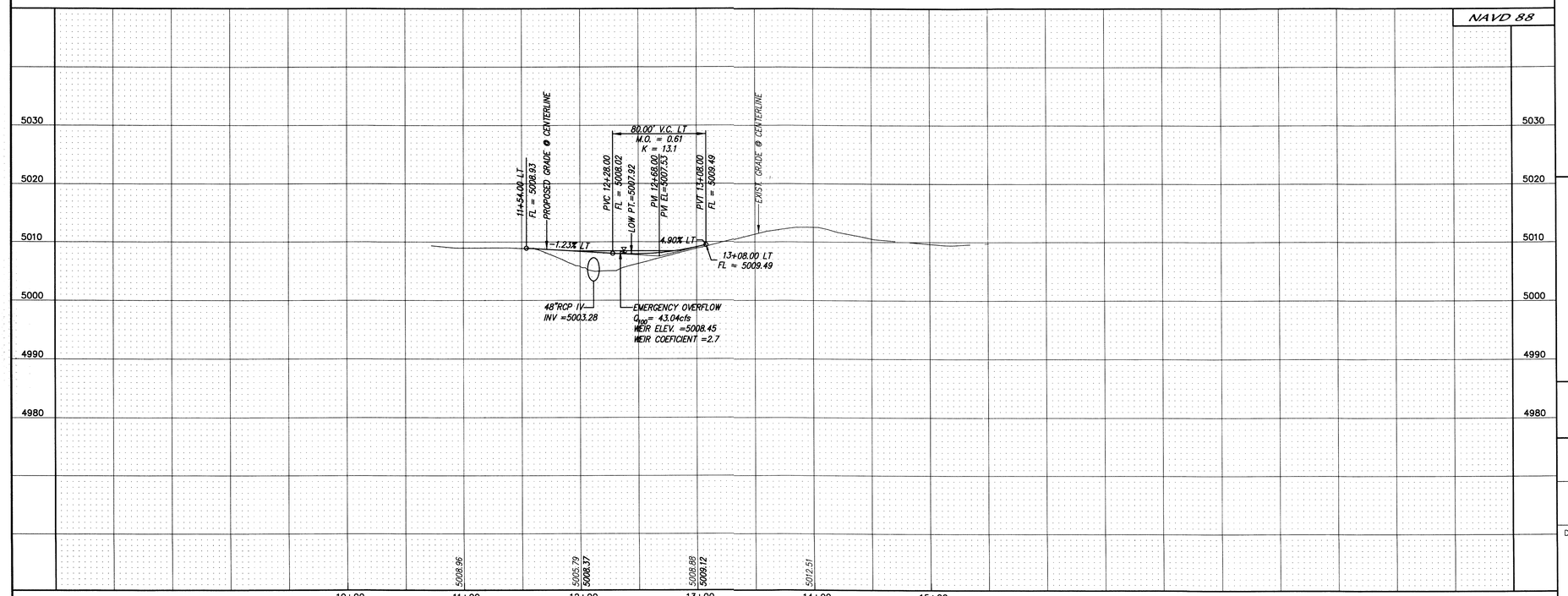
F:\A10\JOBS\A10024 Grady's Radio Station\PLANS\UTILITIES\NMDOT\A10024-UTILITY-STORM-NMDOT.dwg, 2/9/2015 2:09:41 PM, KIP 7100 local (temporary).pc3, CMBS



50' 25' 0 50' 100'

SCALE: 1" = 50'

CALLE NORTENA
STA. 11+54.00 TO STA. 13+08.00
SCALE: HORZ. 1" = 50'
VERT. 1" = 10'



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F:\A10J0BS\A10024 Grady's Radio Station\PLANS\Bernalillo County standards\A10024_BC-Title.dwg, 2/9/2015 2:16:43 PM, KIP 7100 Local.pc3, CHRIS

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

HORIZONTAL
SURVEY MON. "Y-D13 2004"
STATE PLANE COORD.
(CENTRAL ZONE – NAD 83)
NORTH= 1519011.818
EAST= 1513720.018
GRID FACTOR= 0.999682692

BENCH MARKS
VERTICAL
SURVEY MON. "MRGGD BM
5007.11, 6-D13"
STATE PLANE COORD.
(CENTRAL ZONE – NAD 83)
ELEV.= 5009.85 FT. NAVD 1988.

AS BUILT INFORMATION

CONTRACTOR

WORK STAKED BY	DATE
WAS WORK DONE ACCEPTABLE BY	DATE
FIELD VERIFICATION BY	DATE
DRAWINGS CORRECTED BY	DATE

MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

ENGINEER'S SEAL

JAMES D. NUGENT
NEW MEXICO
14974
REGISTERED PROFESSIONAL ENGINEER
2-9-2015

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY JDH DATE 11/14
DRAWN BY ACH DATE 11/14
CHECKED BY DMG DATE 11/14

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	4	4

C12D026

CONSTRUCTION PLANS

FOR

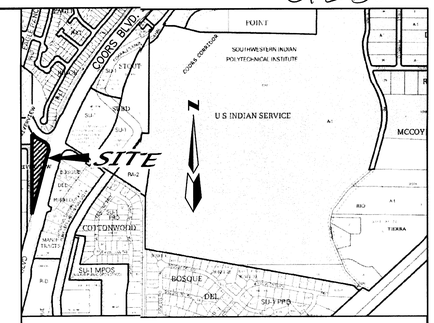
NEW MEXICO DEPARTMENT OF TRANSPORTATION

PAVING & UTILITY IMPROVEMENTS

COORS BOULEVARD, N.W.

TEAM RADIO

BERNALILLO COUNTY, NEW MEXICO



VICINITY MAP — ZONE ATLAS # P-10-Z

SCALE: NONE

INDEX TO DRAWINGS

SHEET NO.	SHEET
1	COVER SHEET
2	PAVING IMPROVEMENTS
3	UTILITY IMPROVEMENTS
4–5	NMDOT TRAFFIC CONTROL NOTES

NOTICE TO CONTRACTORS

1. A DRIVEWAY PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE N.M.D.O.T RIGHT-OF-WAY.
2. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.
3. 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.
4. ALL WORK AFFECTING ARTERIAL ROADWAYS REQUIRES TWENTY-FOUR HOUR CONSTRUCTION.
5. 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.
6. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
7. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.
8. 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.

APPROVAL: NEW MEXICO DEPARTMENT OF TRANSPORTATION DATE:

NEW MEXICO DEPARTMENT OF TRANSPORTATION

ENGINEERS STAMP & SIGNATURE

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

SHEET 1 OF 5

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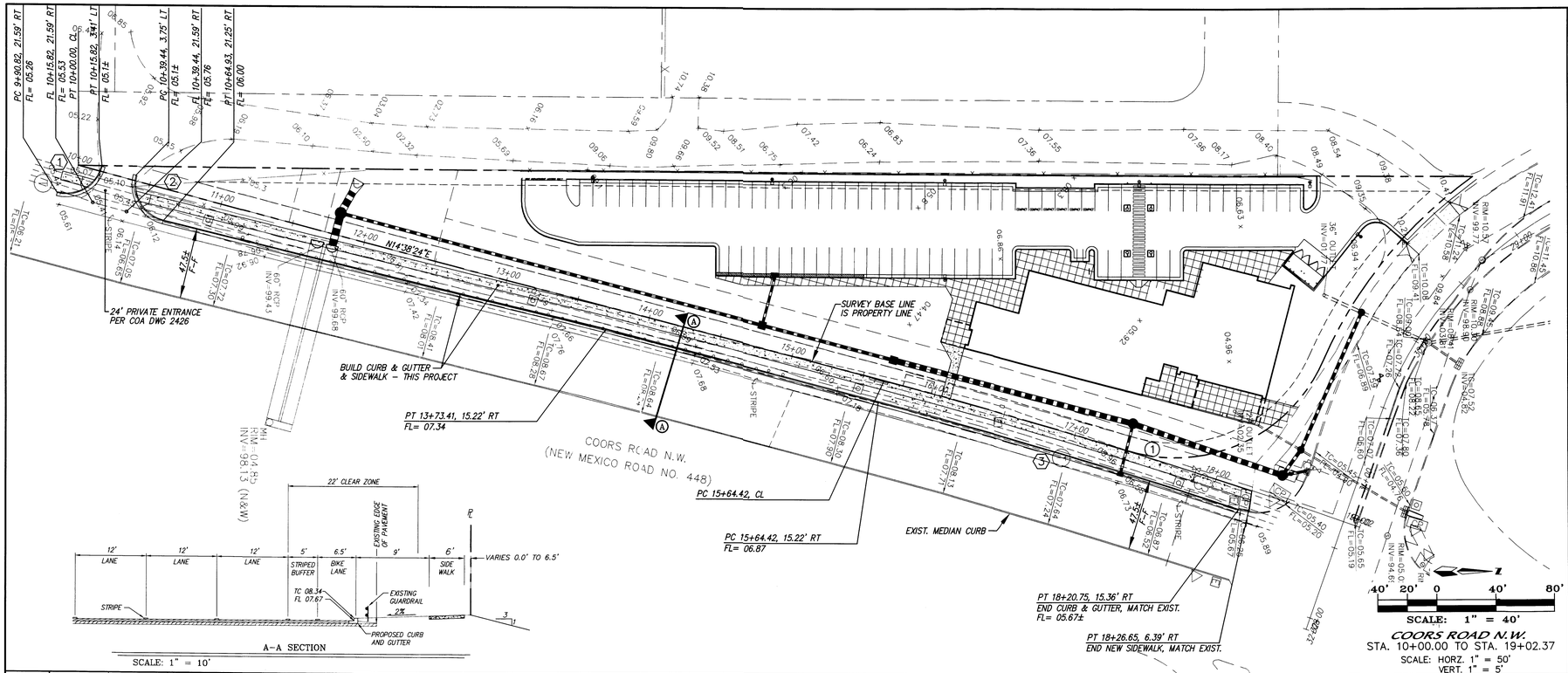

NOTES

1. ALL STATIONING IS BASED ON SURVEY BASELINE, (RIGHT-OF-WAY) AND 10+00.00 IS AT SOUTH CORNER OF THIS SITE.

CURVE DATA – DESCRIBES FLOWLINE

①	②	③
Δ=89°59'55"	Δ=91°07'16"	Δ=3°48'15"
L=39.27	L=39.76	L=255.36
R=25.00	R=25.00	R=3846.13
Tan=25.00	Tan=25.49	Tan=127.73

CURVE DATA – DESCRIBES SURVEY BASELINE ALINGMENT

①
Δ=4°48'33"
L=337.85
R=4026.36
Tan=169.07

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

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

SURVEY INFORMATION
FIELD NOTES
NO. | BY | DATE

BENCH MARKS
BENCHMARK - NA1029
ACS MONUMENT
"R. ALAMEDA, B. NO. 2"
ELEVATION=5068.25

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY | DATE
INSPECTORS ACCEPTANCE BY | DATE
AS BUILT FIELD VERIFICATION BY | DATE
DRAWINGS CORRECTED BY | DATE
MICRO-FILM INFORMATION
RECORDED BY | DATE | NO.

ENGINEER'S SEAL

REVISIONS
NO. | DATE | REMARKS | BY

DESIGNED BY JDH 06/14
DRAWN BY ACH 06/14
CHECKED BY DMG 06/14

NEW MEXICO DEPARTMENT OF TRANSPORTATION

TITLE:
TEAM RADIO
PAVING IMPROVEMENTS

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

NMDOT

ZONE MAP NO. C-13/D-13

SHEET 2 OF 5

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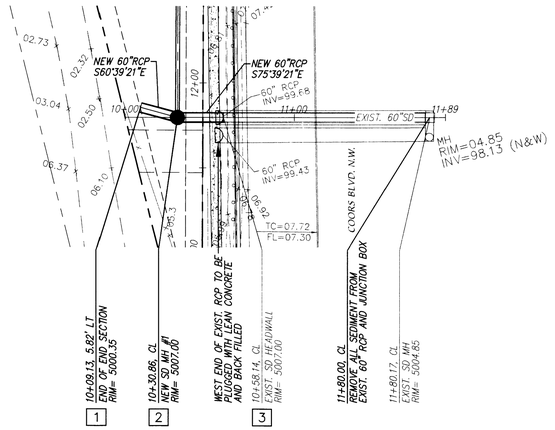
F:\A10JOBS\A10024 Grady's Radio Station\PLANS\PAVING\A10024-PAVING-PP1.dwg, 7/8/2014 9:10:43 AM, PDF Complete, CHRIS

NOTES

1. ALL STATIONING IS BASED ON CENTERLINE OF STORMDRAIN.



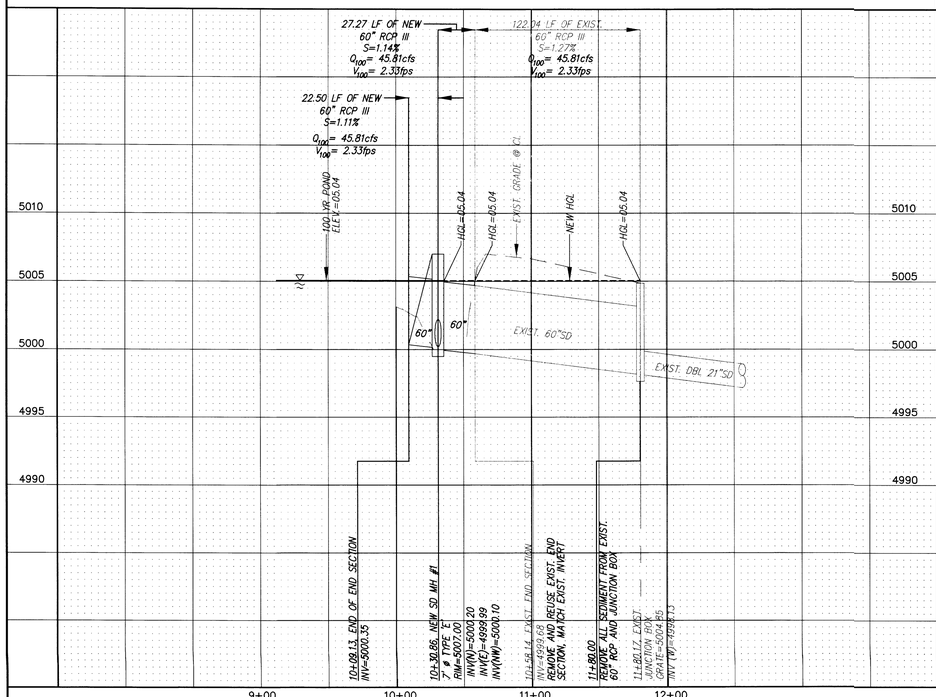
40' 20' 0 40' 80'

SCALE: 1" = 40'

STORMDRAIN #1

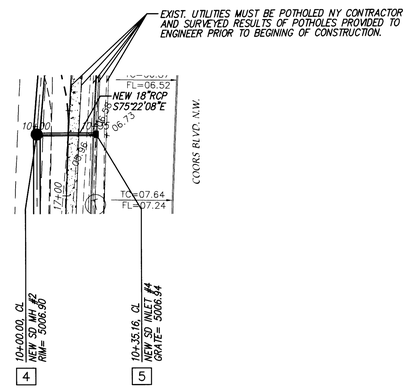
STA. 10+00.00 TO STA. 11+80.17

SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



NOTES

1. ALL STATIONING IS BASED ON CENTERLINE OF STORMDRAIN.



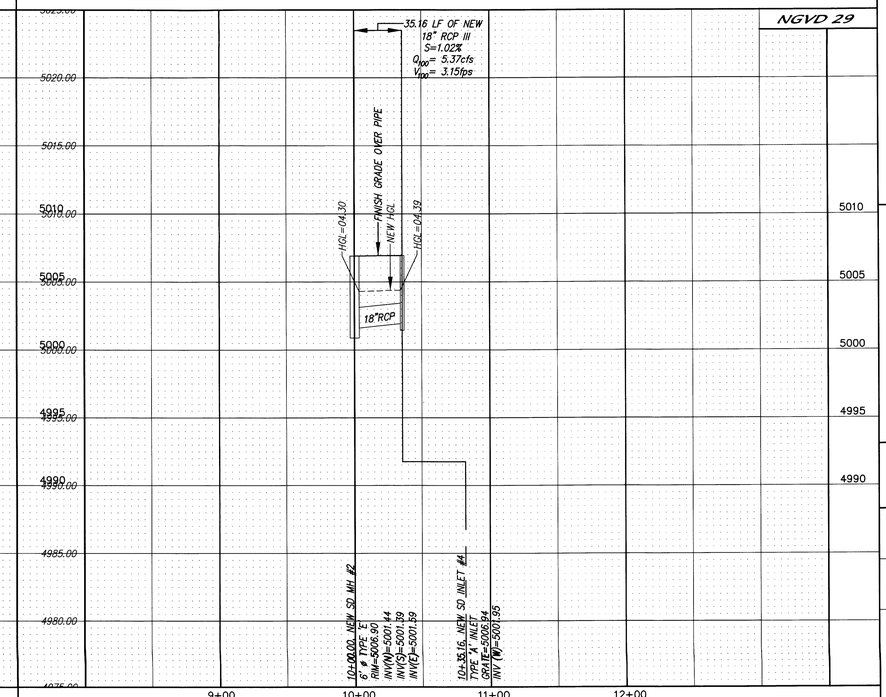
40' 20' 0 40' 80'

SCALE: 1" = 40'

STORMDRAIN #3

STA. 10+00.00 TO STA. 10+35.16

SCALE: HORZ. 1" = 50'
VERT. 1" = 5'



STATE PLANE DATA

1 NORTHERN= 1518340.4893
EASTERN= 373254.0350

2 NORTHERN= 1518329.4630
EASTERN= 373273.6480

3 NORTHERN= 1518322.7060
EASTERN= 373300.0720

4 NORTHERN= 1518867.8931
EASTERN= 373414.2994

5 NORTHERN= 1518859.0113
EASTERN= 373448.3214

AS BUILT INFORMATION

CONTRACTOR — DATE
WORK STAKED BY — DATE
INSPECTOR'S ACCEPTANCE BY — DATE
FIELD VERIFICATION BY — DATE
DRAWING CORRECTED BY — DATE

MICRO-FILM INFORMATION

RECORDED BY — DATE
NO.

BENCH MARKS

BENCHMARK – NAD29
ACS MONUMENT
"R. ALAMEDA B. NO. 2"
ELEVATION=5058.25

SURVEY INFORMATION

FIELD NOTES

NO.	BY	DATE

CERTIFICATE OF SUBSTANTIAL COMPLIANCE

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	JDH
		DESIGNED BY	JDH
		DRAWN BY	ACH
		CHECKED BY	DMG
		DATE	06/14
		DATE	06/14
		DATE	06/14

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

NEW MEXICO DEPARTMENT OF TRANSPORTATION

TITLE:

TEAM RADIO
COORS ROAD UTILITY IMPROVEMENTS

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

NMDOT

ZONE MAP NO. C-13/D-13

SHEET 3 OF 5

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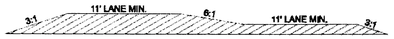
Traffic Control Notes

1. The Contractor TCP firm **MUST** adhere to the dates and times listed on the TCP permit plan. Failure to do so will result in the permit **being revoked.**
2. The NMDOT reserves the right to make any changes and or modifications to the approved Traffic Control Permit.
3. The Contractor TCP firm shall adhere to all the requirements listed in the latest edition of the Manual on Uniform Traffic Control Devices (MUTCD) as well as the latest edition of AASHTO Roadside Design Guide.
4. In the areas of pavement operations or other activities within the traveled way and adjacent to the existing traveled lane, the contractor shall assure that no pavement drop-offs are left exposed during non-working hours. The contractor shall initiate corrective means as per "the New Mexico Department of Transportation Pavement Drop-off Guideline" to achieve a minimum 6:1 slope between traveled lanes and a minimum 3:1 slope adjacent to the existing traveled lane with two 11foot driving lanes as shown in the detail below.



5. The Contractor TCP firm will be required to cover up all conflicting signs within or in advance of the work zone.
6. In covering up any conflicting signs, the contractor is to use an approved method of covering existing signing so as not to damage distort the sign sheeting or markings. The Contractor/TCP firm shall not place tape directly to the face of the sign. Failure to adhere to this requirement will result in the Contractor TCP firm being required to replace the sign at no cost to the NMDOT.
7. The Contractor/TCP firm shall not place a lane drop taper along a horizontal curve. The lane drop taper shall be placed in advance of the horizontal curve so that it is visible to all oncoming traffic.
8. On crest vertical curves, the Contractor/TCP firm shall place lane drops in advance or at the beginning of the curve to enhance visibility of the lane drop to oncoming traffic.
9. The Contractor TCP firm **SHALL** contact the District Three Public Information Officer (PIO), at least 48 hours before any work listed in the TCP is performed, to confirm the actual start dates of the construction. The PIO will then publish the upcoming work in the District Three Traffic Report. The District Three Public Information Officer, Mr. Phil Gallegos, can be reached at (505) 798-6645 (direct office), (505) 220-4153 (mobile) or (505) 798-6600 (main office).
10. All traffic devices shall be kept clean throughout the duration of the project. Any sign that is tagged by graffiti shall be cleaned (as long as it does not affect the reflective sheeting) within 24 hours or removed and replaced.
11. "BUMP", "LOOSE GRAVEL", "LANE DROP-OFF SIGN" sign placement: The contractor shall place W8-1-48 signs ("BUMP" – B/FO), W8-7-48 signs ("LOOSE GRAVEL" – B/FO) and or W8-9a-48 signs ("SHOULDER DROP-OFFS" – B/FO) in advance of bridge approaches or other locations during cold milling and overlay operations as needed or as directed by the project manager. See standard drawing 702-01-13 for sign details
12. Placement of the sequential arrow shall be at or near the beginning of the lane closure taper. In areas of insufficient pavement width, the sequential arrow may be placed within the taper, but not to exceed ⅓ the taper length. In all cases, the sequential arrow shall be placed behind the channelization devices. Shoulder shall be closed in advance of the margining taper to direct vehicular traffic to remain within the traveled way.
13. All construction signing on the interstate and on high speed (greater or equal to 45 MPH) multilane divided facilities shall be double indicated.
14. All signs that are part of work zone that is in place for more than **3 days** shall be placed on **posts**. If there are physical restrictions at the site that prohibit the sign from being placed on posts, the contractor shall notify the NMDOT traffic section and obtain a waiver.
15. All temporary traffic control signs, posts and bases installed with the construction project shall be **removed** by the contractor at the completion of the project. Removal shall consist of extraction of the bases from the ground and NOT hammered into the ground. This work shall be incidental to the completion of the project.
16. Covering existing white and yellow stripes with black paint, as a method of stripe removal, is **strictly prohibited**. Water blasting is the only approved method of existing stripe removal within District Three.
17. The following reflectivity material shall be used on all construction signing placed on NMDOT roadways.

SIGN	SIGN CODE	COLOR	LETTER SHEETING	BACKGROUND SHEETING
APPROACH SIGNS	W20-1,2,3,4,5,7	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
CHEVRONS	W1-8	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
CURVES	W1-2	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
REVERSE CURVE	W1-4	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
MERGE	W4-1	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
NO PASSING ZONE	W14-3	BLK FLUORESCENT ORANGE	--------	TYPE VIII OR IX
FLAGGER PADDLE	--------	BLK FLUORESCENT ORANGE on Side 1with RED on Side 2	--------	TYPE VIII OR IX
ALL DRUMS	--------	WHITE FLUORESCENT ORANGE	-------	TYPE VIII OR IX
All Other Const Signs	--------	BLK FLUORESCENT ORANGE	-------	TYPE VIII OR IX

18. All warning and regulatory signs shall meet the following size requirements:
    a. Interstate: Warning sign 48"x48" Regulatory 48"x60"
    b. Non-Interstate: Warning sign 36"x36" Regulatory 36"x42"
19. All temporary wall barrier end sections, within the clear zone, have to be protected with an approved crash cushion attenuator (approved based on the design speed (not posted speed/reduced speed) of the road and the corresponding manufacturer's recommendation).
20. When flaring the leading end of a Temporary Wall Barrier (TWB) within a construction work zone, the flare rate shall be done in accordance with the rates shown in the table below:

Roadway Speed Limit	Minimum Taper/ Flare Rate	Desirable Taper/ Flare Rate
Less than 45 MPH	8:1	18:1
Between 45 MPH and 55 MPH	10:1	24:1
Greater than 55 MPH	15:1	30:1

21. When temporary wall barrier (steel or concrete) is placed in a construction work zone, a 5' clear area is strongly recommended between the Temporary Wall Barrier (TWB) and the work zone to accommodate barrier deflection. When a 5' clear area is not attainable, consideration shall be given to anchoring the TWB to the pavement surface. (See NMDOT Standard Drawing 606-20-1/5 thru 5/5 dated 3/01/2007).
22. The crash cushion attenuators shall be designed as per the District Traffic Engineer's recommendations. The District may elect to either utilize the posted design speed or the 85th% speed in the layout of the crash cushion attenuators within the work zone.
23. If any of the signs and/or traffic control devices, on the project TCP, are being used overnight the following minimum reflectivity standards shall be required:

New MUTCD Table 2A-3. Minimum Maintained Retroreflectivity Levels [a]

SIGN COLOR	SHEETING TYPE (ASTM D4956-04) Beaded Sheeting I	Beaded Sheeting II	Beaded Sheeting III	Prismatic Sheeting III, IV, VI, VII, VIII, IX, X	ADDITIONAL CRITERIA
White on Green	W_r: $G_r \geq 7$ W_r: $G_r \geq 7$	W_r: $G_r \geq 15$	W_r: $G_r \geq 25$ $W \geq 120$: $G_r \geq 15$	$W \geq 250$: $G_r \geq 25$	Overhead Ground-mounted
Black on Yellow or Black on Orange	Y_r: O* Y_r: O*	$Y \geq 50$: $Q \geq 50$ $Y \geq 75$: $Q \geq 75$			2 2
White on Red	$W \geq 30$: $R_r \geq$				4
Black on White	$W \geq 50$				—

a The minimum maintained retroreflectivity levels shown in this table are in units of cd/lx/m² measured at an observation angle of 0.2° and an entrance angle of -4.0°.
2 For text and line symbol signs measuring at least 1,200 mm (48 in) and for all sizes of bold symbol signs
4 For text and line symbol signs measuring less than 1,200 mm (48 in)
R Minimum Sign Contrast Ratio ≥ 3:1 (white retroreflectivity : red retroreflectivity)
* This sheeting type should not be used for this color for this application.

BOLD SYMBOL SIGNS

- W1-1, -2 – Turn and Curve
- W1-3, -4 – Reverse Turn and Curve
- W1-5 – Winding Road
- W1-6, -7 – Large Arrow
- W1-8 – Chevron
- W1-10 – Intersection in Curve
- W1-11 – 270 Degree Loop
- W2-1 – Cross Road
- W2-2, -3 – Side Road
- W2-4, -5 – T and Y Intersection
- W2-6 – Circular Intersection
- W3-1 – Stop Ahead
- W3-2 – Yield Ahead
- W3-3 – Signal Ahead
- W4-1 – Merge
- W4-2 – Lane Ends
- W4-3 – Added Lane
- W4-6 – Entering Roadway Added Lane
- W6-1, -2 – Divided Highway Begins and Ends
- W6-3 – Two-Way Traffic
- W10-1, -2, -3, -4, -11, -12 – Highway-Railroad Advance Warning
- W11-2 – Pedestrian Crossing
- W11-3 – Deer Crossing
- W11-4 – Cattle Crossing
- W11-5 – Farm Equipment
- W11-6 – Snowmobile Crossing
- W11-7 – Equestrian Crossing
- W11-8 – Train Station
- W11-10 – Truck Crossing
- W12-1 – Double Arrow
- W16-7p, -9p, -7P – Pointing Arrow Plaques
- W20-7a – Flagger
- W21-1a – Worker

FINE SYMBOL SIGNS – Symbol Signs Not Listed As Bold Symbol Signs

SPECIAL CASES

- W1-1 – Stop Ahead: Red retroreflectivity ≥ 7
- W1-2 – Yield Ahead: Red retroreflectivity ≥ 7; White retroreflectivity ≥ 35
- W3-3 – Signal Ahead: Red retroreflectivity ≥ 7; Green retroreflectivity ≥ 7
- W3-5 – Speed Reduction: White retroreflectivity ≥ 50
- For non-diamond-shaped signs such W14-3 (No Passing Zone), W4-3p (Two Lanes Traffic, Does Not Stop), or W13-1, -2, -3, -5 (Speed Advisory Plaques), the largest sign dimension is to determine proper minimum retroreflectivity level.

24. All devices that are placed within the NMDOT R/W shall adhere to section 702 - Traffic Control Devices For Construction – in the latest edition of the NMDOT Specification book
25. All stationary objects within clear zone shall be properly shielded and outlined with drums mounted with Type "A" warning lights. Use of vertically mounted retro-reflective material in lieu of a Type A warning light is **strictly** prohibited.
26. Use of Type I or II barricades for approach tapers on rural/urban Interstate or secondary roadways is **strictly** prohibited.
27. Any equipment, materials, or vehicles stored within Right –of-way (ROW) shall be outside of clear zone (based on existing posted speed).
28. Any equipment, material or vehicle stored within clear zone shall be properly shielded.
29. Materials, work activities, equipment, and vehicles shall not be stored within the established buffer space of the project work zone.
30. All construction equipment, vehicles and materials shall remain behind traffic control devices.
31. All traffic control device types, quantities and spacing shall not deviate from the approved Traffic Control Plan. Exact location of device spacing shall be field verified to account for existing roadway features which may obstruct placement and/or view of devices. Any changes to the traffic control plan must be approved by the District Traffic Engineer or his/her designee.
32. The following Taper lengths, buffer zone, and spacing of devices requirements shall be adhered to:

Operating Speed (MPH)	Merging (L) & Shifting Taper (1/2L) Length (FT.) [a] Formula [a]	11' lane Merge	11' lane Shift	12' lane Merge	12' lane Shift	13' lane Merge	13' lane Shift	Shoulder Taper (FT.) [c] 1/2 L A'	B'	C'	D'	Transition Area/ Catering Zone [b] (2L), (FT.)	Buffer Space or Distance [c] to Flagger Station	Maximum Spacing of Devices (FT.) [d] Taper	Tangent
20		73	35	75	40	80	40	9	13	18	22	160	115	20	40
25	L=WS²/60	105	55	115	60	125	65	14	21	28	35	250	155	25	50
30		150	75	165	85	180	90	20	30	40	50	360	200	30	60
35		205	105	225	115	245	125	27	41	54	68	490	250	35	70
40		268	135	295	150	320	160	36	53	71	89	640	305	40	80
45		495	250	540	270	585	295	60	90	120	150	1080	360	45	90
50		550	275	600	300	650	325	67	100	133	167	1200	425	50	100
55	L=WS	605	305	660	330	715	360	73	110	147	183	1320	495	55	110
60		660	330	720	360	780	390	80	120	160	200	1440	570	60	120
65		715	360	780	390	845	425	87	130	173	217	1560	645	65	130
70		770	385	840	420	910	455	93	140	187	233	1680	730	70	140
75		825	415	900	450	975	490	100	150	200	250	1800	820	75	150
80		880	440	960	480	1040	520	107	160	213	267	1920	820	80	160

a From 2009 MUTCD Section 6C-06 Table 6C-3 and Table 6C-4 (page 557)
b From 2009 MUTCD Figure 6H-37 (page 707)
c From 2009 MUTCD Section 6C-06 Table 6C-2 (page 555)
d From 2009 MUTCD Section 6F-63 (page 604)

33. The contractor or the traffic Control Subcontractor Shall provide a Traffic Control Supervisor on site during working hours for response within 1 hour to traffic control issues/concerns.
34. Work Zone Interim Markings:
    a. The contractor shall place reflectorized painted markings on each lane line on each intermediate lift of surfacing or milled surface at the end of day's surfacing or milling operation. These markings shall be placed in accordance with the details shown in Figure 1 or Figure 1a on this sheet. In the event the painted markings cannot be placed as described above, the contractor shall, with the approval of the project manager, place marking tape or temporary reflective raised pavement markers in accordance with the details shown in Figure 1 or Figure 1a shown in these notes or as directed by the project manager. Payment for marking tape or temporary pavement markings will be paid for under the unit price of reflectorized painted markings, unless otherwise specified. The contractor will be responsible for maintaining the Temporary tabs/raised pavement markers when requested by the project manager and /or the District Traffic Engineer and/or their designees. Maintenance of the tabs will be considered incidental to the completion of the project.
    b. The contractor shall place removable marking tape or temporary reflective raised pavement markers after placement of the final lift of surfacing if permanent markings are not placed during the same working day. These markings shall be placed in accordance with the details shown in Figure 1 or Figure 1a shown in these notes or as directed by the project manager.
    c. On roadways with severe curvature, broken-line interim markings with half-cycle lengths and a minimum of 2 foot stripes or a group of two temporary reflective pavement markings spaced 2 feet apart may be used where passing is allowed. Interim edge lines or channelization lines for delineation may be used as needed or as directed by the project manager. Passing/no passing zone signing to supplement interim markings for delineation may be used as needed or as directed by the project manager. All interim markings shall be in accordance with the current edition of the MUTCD.
    d. Shoulder and gore area delineation will be required on each intermediate lift of surfacing or milled surface at the end of the day's pavement operation. Payment for marking tape or temporary pavement markings will be paid for under the unit price of reflectorized painted markings, unless otherwise specified. Contractor may substitute edge line pavement marking with traffic devices such as drums and/or vertical panels.

FIGURE 1
SHORT TERM WORK ZONE INTERIM MARKINGS
(IN PLACE FOR LESS THAN 14 CALENDAR DAYS)
(MINIMUM OF 2 COATS OR AS DIRECTED BY THE PROJECT MANAGER)

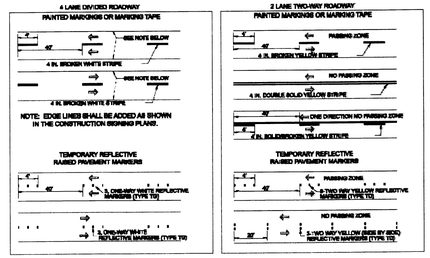
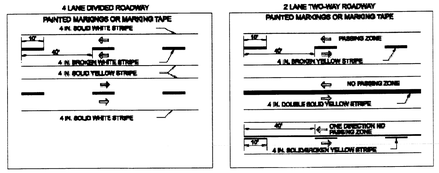


FIGURE 1A
STANDARD WORK ZONE INTERIM MARKINGS
(IN PLACE FOR 14 CALENDAR DAYS OR MORE)
(MINIMUM OF 2 COATS OR AS DIRECTED BY THE PROJECT MANAGER)



35. Traffic Control Work Zone shall comply with requirements of FHWA 23 CFR 630 Subpart K for traffic control devices.
36. Contractor is required to comply with requirements of FHWA CFR 630 Subpart J which shall include an Incident Management Plan to be utilized for the entire duration of the project. The Incident Management Plan shall contain a method to address traffic flow through the work zone during incidents. The Incident Management Plan must be reviewed and approved by the District Traffic Engineer. The plan shall contain the following as a minimum:
    1. Contacts for the contractor, local enforcement, safety agencies, municipal agencies, public information officer and NMDOT
    2. Steps to be followed during incidents
    3. Method of recording and reporting incidents
37. Due to impacts of regional events in the metropolitan area, the NMDOT District 3 Traffic Section, as part of the project traffic control permitting process, may impose additional restrictions (time of work, lane closure, complete suspension, etc.) other than those identified in the plans during regional events, such as but not limited to Balloon Fiesta and NM State Fair.

LIST OF INCIDENTALS – No Additional Payment Associated

	LIST OF INCIDENTALS for Temporary Traffic Control
A.	MAINTENANCE OF TEMPORARY PAVEMENT MARKINGS FOR PROJECT DURATION

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY: DATE
INSPECTOR'S ACCEPTANCE BY DATE
FINAL INSPECTION BY DATE
VERIFICATION BY DATE
CORRECTIONS COMPLETED BY DATE
RECORDED BY DATE

BENCH MARKS
BENCHMARK – MA1039
ACS MONUMENT
"R. ALAMEDA B. NO. 2"
ELEVATION=5058.25

SURVEY INFORMATION
FIELD NOTES
NO. BY DATE

MICRO–FILM INFORMATION
NO.

ENGINEER'S SEAL

NO.	REMARKS / REVISIONS	BY	DATE
	DESIGN	JDH	06/14
	DESIGNED BY	JDH	06/14
	DRAWN BY	ACH	06/14
	CHECKED BY	DMG	06/14

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

NEW MEXICO DEPARTMENT OF TRANSPORTATION

TITLE: TEAM RADIO
NMDOT TRAFFIC CONTROL NOTES

LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

ABCWUA PROJECT NO. #
ZONE MAP NO. C-13/D-13
SHEET 4 OF 5

F:\A10JOBS\A10024 Grady's Radio Station\PLANS\UTILITIES\NMDOT\A10024-UTILITY-STORM-NMDOT.dwg, Last saved by: Chris, 6/25/14

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PERMANENT SIGNING & STRIPING NOTES

1. ALL REGULATORY, WARNING, SPECIAL, AND GUIDE SIGNS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS. LEGEND AND BACKGROUND TO BE SAME SHEETING TYPE.

SIGN	SIGN CODE	COLOR	LEGEND SHEETING	BACKGROUND SHEETING
STOP	R1-1	WHITE/RED	TYPE VIII OR IX	TYPE VIII OR IX
YIELD	R1-2	WHITE/RED	TYPE VIII OR IX	TYPE VIII OR IX
DO NOT ENTER	R5-1	WHITE/RED	TYPE VIII OR IX	TYPE VIII OR IX
WRONG WAY	R5-1a	WHITE/RED	TYPE VIII OR IX	TYPE VIII OR IX
SCHOOL BUS STOP	S3-1	BLK/FLUORESCENT YELLOW GREEN	TYPE VIII OR IX	TYPE VIII OR IX
SCHOOL BUS CROSSING	S1-1	BLK/FLUORESCENT YELLOW GREEN	TYPE VIII OR IX	TYPE VIII OR IX
PEDESTRIAN CROSSING	W11-2	BLK/FLUORESCENT YELLOW GREEN	TYPE VIII OR IX	TYPE VIII OR IX
BIKE XING	W11-1	BLK/FLUORESCENT YELLOW GREEN	TYPE VIII OR IX	TYPE VIII OR IX
ALL SCHOOL/PED/BIKE SUPPLEMENTAL PLAQUES		BLK/FLUORESCENT YELLOW GREEN (WHEREVER BLK/YELLOW IS SPECIFIED AS COLOR IN MUTCD)	TYPE VIII OR IX	TYPE VIII OR IX
ALL OTHER WARNING SIGNS & SUPPLEMENTAL PLAQUES		BLK/FLUORESCENT YELLOW (WHEREVER BLK/YELLOW IS SPECIFIED AS COLOR IN MUTCD)	TYPE VIII OR IX	TYPE VIII OR IX
GUIDE & DESTINATION SIGNS INCLUDE EXTRUDED & NON-EXTRUDED (OVERHEAD & GROUND MOUNTED)	ALL	WHITE/GREEN (EXCEPT WHERE SPECIFIED IN THE MUTCD)	TYPE VIII OR IX	TYPE VIII OR IX
E-CODE SIGNS	E 11-1, 1a, 1b, 1c	BLK/FLUORESCENT YELLOW	TYPE VIII OR IX	TYPE VIII OR IX
RECREATIONAL & CULTURAL INTERESTS	ALL	WHITE/BROWN	TYPE VIII OR IX	TYPE VIII OR IX
GENERAL SERVICE	ALL	WHITE/BLUE	TYPE VIII OR IX	TYPE VIII OR IX
SPECIFIC SERVICE	ALL	WHITE/BLUE	TYPE VIII OR IX	TYPE VIII OR IX
ALL OTHER PERMANENT SIGNS		BLACK/WHITE (EXCEPT WHERE SPECIFIED OTHERWISE IN THE MUTCD)	TYPE VIII OR IX	TYPE VIII OR IX

Rev. March 2012

PERMANENT SIGNING & STRIPING NOTES (PAGE 2 OF 3)

2. ONLY 0.125 INCHES THICK ALUMINUM PANEL SIGNS ARE PERMITTED FOR WARNING AND REGULATORY SIGNS.
3. ANTI GRAFFITI COATING, WITH UV INHIBITOR, SHALL BE APPLIED ON ALL REGULATORY, WARNING, GUIDE, AND SPECIAL SIGNS.
4. QUANTITIES MAY VARY AS FIELD CONDITIONS DICTATE. THE CONTRACTOR WILL BE PAID FOR ACTUAL QUANTITIES USED.
5. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH N.M. STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION (LATEST EDITION) AND ANY APPLICABLE SPECIAL PROVISION AND/OR SUPPLEMENTAL SPECIFICATION. ALSO THE DEVICES SHALL COMPLY WITH CURRENT EDITION, WITH REVISIONS, OF THE MUTCD.
6. EACH SIGN FACE SHOWN ON PLANS SHALL MEET THE SPECIFICATIONS IN THE STANDARD HIGHWAY SIGNS MANUAL (CURRENT EDITION) FOR PROPER ARRANGEMENT, SPACING OF LETTERS, LETTER HEIGHT, SYMBOLS AND BORDERS FOR THE SPECIFIED SIZE AND MESSAGE AS SHOWN ON PLANS. ALL SPECIAL SIGN FACE DETAILS SHALL BE SUBMITTED TO THE NMDOT FOR REVIEW AND APPROVAL.
7. POST LENGTHS ARE BASED ON A MINIMUM OF 5 FT FOR RURAL ROADWAY SECTIONS TO A MINIMUM OF 7 FT FOR URBAN AND INTERSTATE ROADWAY SECTIONS. THE LENGTHS ARE MEASURED FROM THE BOTTOM OF THE SIGN TO NEAR EDGE OF THE DRIVING LANE.
8. ALL SIGNING HARDWARE, INCLUDING, BUT NOT LIMITED TO, BRACKETS, BANDING, BUCKLES, FASTENERS, SCREWS, AND WASHERS, ETC. ARE CONSIDERED INCIDENTAL TO SIGN INSTALLATION. THEREFORE, NO PAYMENT WILL BE MADE.
9. THREE 4 LB/FT SIGN POST INSTALLATION APPROVED ONLY IF THE SPAN BETWEEN THE OUTER POSTS EXCEEDS 84" (SIGN WIDTH OF 96" OR GREATER).
10. 3'- 6" BASE POSTS ARE REQUIRED FOR ALL SMALL SIGN POSTS. SEE STANDARD DRAWING 701-02-1/3 FOR DETAILS. BASE POSTS SHALL BE 2.5" X 2.5" SQUARE.
11. SIGN POSTS SHALL BE 2.25"X2.25" SQUARE TUBING OR AS APPROVED BY THE PROJECT MANAGER, THE DISTRICT TRAFFIC ENGINEER OR HIS/HER DESIGNEE.
12. THE LATERAL CLEARANCE OF SIGNS SHALL BE NO CLOSER THAN THE 6 FT FROM THE EDGE OF SHOULDER OR 12 FT FROM THE EDGE OF TRAVELED WAY FOR RURAL AREAS AND NO CLOSER THAN 2 FT FROM FACE OF CURB FOR URBAN AREAS
13. CONTRACTOR SHALL FIELD VERIFY ALL SIGNING, TEXT, AND LOCATIONS PRIOR TO FABRICATION AND INSTALLATION. NEW SIGN LOCATIONS SHALL BE APPROVED BY THE PROJECT MANAGER OR THE DISTRICT TRAFFIC ENGINEER.

Rev. March 2012

PERMANENT SIGNING & STRIPING NOTES (PAGE 3 OF 3)

14. HOT THERMOPLASTIC PAVEMENT MARKING SHALL BE USED ON ALL STRIPING (LONG LINES, LEGENDS, SYMBOLS, ETC.). THE THERMOPLASTIC PAVEMENT MARKING SHALL BE APPLIED AT A THICKNESS OF 90 MIL. THE APPROVED THERMOPLASTIC MARKING APPLICATION METHOD SHALL BE EITHER GRAVITY EXTRUSION OR RIBBON APPLICATION.
15. THE CONTRACTOR SHALL MARK ALL LOCATIONS IN THE FIELD IN WHICH PAVEMENT MARKINGS, SUCH AS LEGENDS, ARROWS, CROSSWALKS, STOP BARS, ETC, ARE TO BE PLACED. THIS PAVEMENT MARKING LAYOUT SHALL BE CONSIDERED INCIDENTAL. THE CONTRACTOR SHALL OBTAIN CONCURRENCE FROM THE DISTRICT TRAFFIC ENGINEER (OR HIS/HER DESIGNEE) BEFORE THE FINAL MARKINGS ARE APPLIED.
16. WATER BLASTING IS THE ONLY APPROVED METHOD OF EXISTING STRIPE REMOVAL WITHIN DISTRICT THREE. THE USE OF BLACK PAINT AS A METHOD OF REMOVING OR COVERING EXISTING STRIPING IS STRICTLY PROHIBITED. WHEN WATER BLASTING ON OPEN GRADED FRICTION COURSE (OGFC) OR ON THE FINAL LIFT OF THE EXISTING PAVEMENT, THE CONTRACTOR SHALL APPLY A SEAL TO THE WATER BLASTED AREA AND SEAL SHALL BE INCIDENTAL TO REMOVAL OF PAVEMENT STRIPE.

LIST OF INCIDENTALS (NO ADDITIONAL PAYMENT ASSOCIATED):

	LIST OF INCIDENTALS for Permanent Striping and Signing
A.	ALL SIGNING HARDWARE, INCLUDING, BUT NOT LIMITED TO, BRACKETS, BANDING, BUCKLES, FASTENERS, SCREWS, WASHERS, ETC.
B.	PAVEMENT MARKING LAYOUT
C.	SEAL APPLIED TO PAVEMENT AFTER STRIPE REMOVAL

Rev. March 2012

TRAFFIC CONTROL PLAN The Contractor shall be required to submit and obtain approval of a Traffic Control Permit prior to commencing any construction activities on the project. The Contractor shall submit the permit to the Project Manager for review and approval by the District Three Traffic Engineer. Along with the permit, the contract will be required to submit a Traffic Control Plan that will reflect and coordinate the contractor's proposed construction phasing. These plans will have to be prepared and seals by a New Mexico Registered Professional Engineer. The plans shall be reviewed and approved by the District Three Traffic Engineer. The NMDOT's District Traffic Section reserves the right to make any changes to the traffic control plan to address site specific items that were not shown on the plans. The NMDOT also reserves the right to add devices and/or signs to the approved plan if it is determined by the traffic engineer that the sign and/or devices would be required to address safety concerns within or in advance of the work zone. Any changes to the plans which result in additional signs and/or devices will be considered incidental to the completion of the project and no measurement or payment shall be made.

The NMDOT's District Three Traffic Section will reserve the right to change the hours in which the contractor can work on the road. Those hours will be approved when the permit is issued. For bidding purposes, the contractor shall bid the project with the following criteria:

1. Lane Closures during the day: 9:00 AM to 3:30 PM
2. Night time lane closures 9:00 PM to 3:30 AM

The hours above supersede any hours listed in the traffic control plans.

The Traffic Control Permit along with the Traffic Control Plans shall be submitted to the NMDOT at least 10 working days prior to the Pre-Construction Meeting. The Traffic Control Plans shall be submitted on an 11X17 sheets. No hand drafted Traffic Control Plans will be accepted.

A copy of the Traffic Control Permit may be obtained at the District Three Office.

ADJACENT PROJECT COORDINATION The Contractor shall coordinate with adjacent roadway improvements in the vicinity of the project plans.

PUBLIC AWARENESS Through the life of this project, the Contractor shall be responsible to keep the project manager and the District Three Public Relations contact, Phil Gallegos, informed of any lane closures that will restrict the existing traffic flow. All information regarding construction activities that affect traffic shall be provided to Mr. Gallegos (505) 841-2764 office, (505) 841-2790 fax, or Phillip.R.Gallegos@state.nm.us.

NMDOT District Three
Construction and Material Requirements for Developer Built Improvements within NMDOT Rights-of-Way

The following requirements are to provide information on NMDOT construction requirements for private parties, developers, and local governments that are building property improvements that require a driveway permit application in accordance with **18.31.6 NMAC, *State Highway Access Management Requirements***, and for off-system improvements required to mitigate impacts to the state highway system. It is the applicant's responsibility to ensure a contractor is hired that can construct the proposed improvements in accordance with the NMDOT specifications and standard drawings.

SPECIFICATIONS
The applicant shall comply with the requirements of the NMDOT's Standard Specifications for Highway and Bridge Construction (Current Edition), Standard Drawings, and any revisions provided by the District Traffic Engineer. The current specifications have an issue date of August 2007 and can be accessed at http://www.nmshtd.state.nm.us/main.asp?secid=11183.

Listed below are the most likely Sections to which the applicant may need to reference.

203 – Excavation, Borrow, and Embankment
207 – Subgrade Preparation
304 – Base Course (Non-QC/QA)[1]
401 – Pavement Smoothness Measurement[2]
402 – Bituminous Materials, Hydrated Lime, and Liquid Anti-Stripping Agents[3]
404 – Open-Graded Friction Course (Non-QC/QA)[4]
407 – Tack Coat
408 – Prime Coat
414 – Cold Milling
416 – Minor Paving[5]
422 – Plant-Mix Bituminous Pavement (Superpave Non-QC/QA)[6]
451 – Portland Cement Concrete Pavement
455 – Diamond-Grinding and Grooving of PCCP
570 – Pipe Culverts
606 – Metal and Concrete Wall Barrier
608 – Sidewalks, Drive Pads, and Concrete Median Pavement
609 – Curb and Gutter
610 – Cattle Guards
623 – Drop Inlets

[1] *Type I only; Maximum 50% Recycled Asphalt Pavement (RAP)*
[2] *At a minimum, straightedging will be applied to all surface and friction course material and removal and replacement or any necessary corrective work methods will be determined by the Department*
[3] *The Department will require certified test reports per Subsection 402.21. PG binders and aggregate gradation may require adjustment from that shown in approved mix design to account for stopped or slow speed traffic.*
[4] *Type I only*
[5] *4500 tons or less at the Department's discretion*

In addition, all sections of Division 700 – Traffic Control Devices shall apply, especially to driveway permits for commercial improvements.

In general, the pay factor charts and acceptance limits that are provided in the specifications will be modified for the driveway permit application process and offsite improvements. **It is the applicant's responsibility to obtain any revisions from the District Traffic Engineer prior to soliciting bids for the work to be performed.**

INSPECTION OF ACCESS
This is in accordance to the NMAC 18.31.6.14 (K) – Inspection of Access and also listed in the State Access Management Manual, September 2001 edition. An independent construction inspector shall be employed to ensure that the conditions of the access permit and development approval are met. Inspectors are authorized to enforce the conditions of the permit during construction. The inspector shall oversee and report on all aspects of construction such as, but not limited to, concrete forms, sub-grade testing, base course compaction and material specifications, pavement mix design, gradation, and compaction testing. The permittee may hire a New Mexico registered professional civil engineer to affirm to the best of the engineer's knowledge that the construction is in compliance with the permit and Department specifications.

MATERIALS
Materials that have approved NMDOT mix designs and component material sources must be used for the proposed improvements. The approval status of mix designs and material sources can be obtained from the NMDOT State Materials Bureau or the respective District. Manufactured materials and components must be on the current Approved Products List. The current Approved Products List can be accessed at http://nmshtd.state.nm.us/main.asp?secid=15122

SAMPLING AND TESTING
Material sampling and testing shall be performed by laboratories on the Department's approved list and technicians that are TTCP (Technician Training and Certification Program) registered. A current listing of approved laboratories may be obtained from the NMDOT State Materials Bureau and current registered technicians can be verified with ACNM (Associated Contractors of New Mexico). All test results shall be sealed and signed by a professional engineer licensed to practice in New Mexico. All Testing shall be submitted to the District Three Traffic Engineer when they become available.

Material tests shall be provided at the frequencies noted in the specifications for the material being placed or as determined by the NMDOT. Failure of the applicant to perform the required testing or use testing methods that do not follow approved procedures will cause the driveway permit application or offsite improvements to be subject to rejection as determined by the District Traffic Engineer.

ACCEPTANCE
Acceptance testing will usually be the responsibility of the applicant, but in some cases the Department may perform this function.

For manufactured items the applicant shall submit certificates of compliance for review and approval before inclusion in the proposed improvements.

Upon completion of the proposed improvements the applicant shall submit results of required materials tests to the District Lab Supervisor. Results and test methods will be analyzed to verify compliance with the acceptable limits in the specifications or the modifications noted in this guide.

Determination of which applicant's proposed improvements will be subject to acceptance testing provided by the Department will be done by random methods. However, if in the Department's judgment, the scope and public impact of proposed improvements is significant, the NMDOT reserves the right to arbitrarily choose when to perform full or partial verification testing to assure that the proposed improvements are in compliance with the specifications or any revisions. Applicant's whose proposed improvements will be fully subject to Department acceptance testing will be notified after the applicant's construction schedule and traffic control plan are approved and before the District Traffic Engineer gives the authorization to begin construction.

Acceptance of manufactured materials will be based on valid certificates of compliance from the product manufacturer and submitted by the applicant.

All materials and items that do not meet the acceptance requirements must be removed and replaced before the driveway permit is approved.

CONTACTS

District Three Traffic Engineer	Vacant	(505) 841-2700
District Three Laboratory Supervisor	Leopoldo Gutierrez	(505) 841-2700
State Materials Bureau	Bryce Simons	(505) 827-9811

AS BUILT INFORMATION
CONTRACTOR
WORK STARTED BY DATE
WORK COMPLETED BY DATE
ACCEPTANCE BY DATE
VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY
NO. DATE

BENCH MARKS
BENCHMARK – NM029
ACS MONUMENT
TR. ALAMEDA B. NO. 2"
ELEVATION=5058.25

SURVEY INFORMATION
FIELD NOTES
NO. DATE BY

ENGINEER'S SEAL

NO.	DATE	REMARKS / REVISIONS	BY
		DESIGN	
	06/14	DESIGNED BY	JDH
	06/14	DRAWN BY	ACH
	06/14	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

NEW MEXICO DEPARTMENT OF TRANSPORTATION

TITLE: *TEAM RADIO*
NMDOT TRAFFIC CONTROL NOTES

LAST DESIGN UPDATE | MO./DAY/YR. | MO./DAY/YR.

ABCWUA PROJECT NO. #
ZONE MAP NO. C-13/D-13
SHEET 5 OF 5

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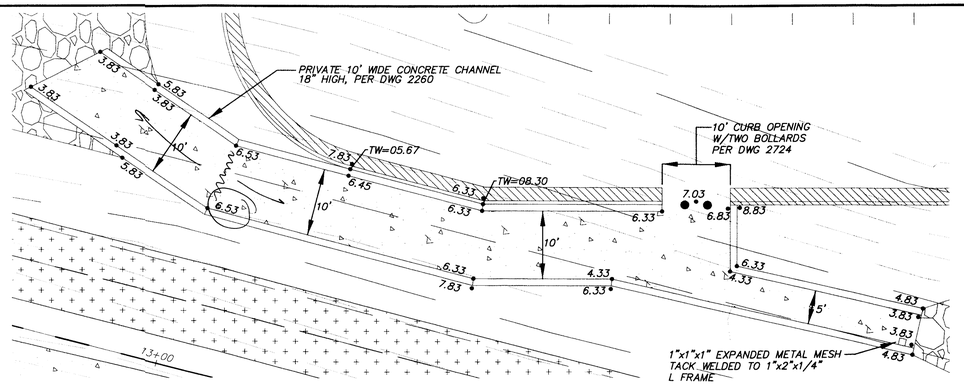
LEGEND

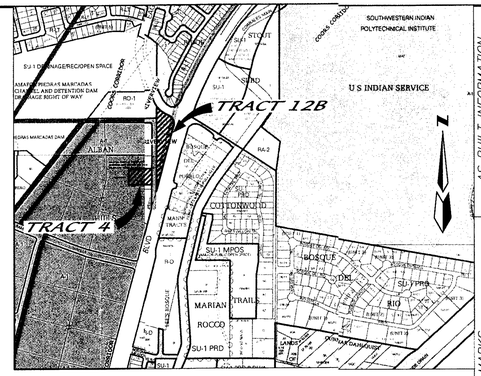
5030	EXIST. CONTOUR (MAJOR)
5031	EXIST. CONTOUR (MINOR)
93.60 X	EXIST. SPOT ELEVATION
TOP FLOW	EXIST. TOP OF CURB / EXIST. FLOWLINE
	EXIST. CURB AND GUTTER
	EXIST. CONCRETE/SIDEWALK
	EXIST. EDGE OF ASPHALT
	EXIST. GUARDRAIL
	EXIST. SIGN
	EXIST. FENCE
	EXIST. TREE
	EXIST. WATER MANHOLE
	EXIST. FIRE HYDRANT
	EXIST. WATER VALVE
	EXIST. ELECTRIC PEDESTAL/PULL BOX
	EXIST. POWER POLE
	EXIST. ANCHOR
	EXIST. DROP INLET
S	EXIST. SANITARY SEWER MANHOLE
D	EXIST. STORM DRAIN MANHOLE
	EXIST. STREET LIGHT POLE
	EXIST. TRAFFIC SIGNAL
T	EXIST. TELEPHONE MANHOLE
	EXIST. CONTROL PANEL

• 29.29	NEW SPOT ELEVATIONS
1.0%	NEW FLOW
	NEW SLOPE
09.00 TW / 07.00 BW	NEW TOP WALL/BOTTOM WALL
04	NEW CONTOUR (MAJOR)
	NEW GRADE HINGE LINE
	NEW BOUNDARY LINE
	NEW CENTERLINE
	NEW EASEMENT
	NEW STD. 6" CURB & GUTTER
	NEW STD. 8" CURB & GUTTER
	NEW RETAINING WALL
	NEW SIDEWALK
	NEW TYPE VL RIP-RAP
	NEW 12' GRAVEL ROAD FOR STORM DRAIN MAINTENANCE
	NEW 12' WIDE AC TRAIL (3"AC. ON 12" SUBGRADE)
	NEW 3"AC. ON 12" SUBGRADE
BUS	NEW BUS SHELTER



DETAIL OF CONCRETE SPILLWAY

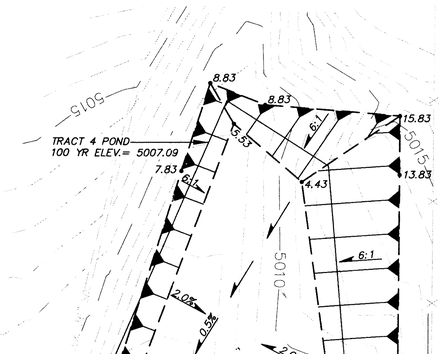
SCALE: 1" = 10'

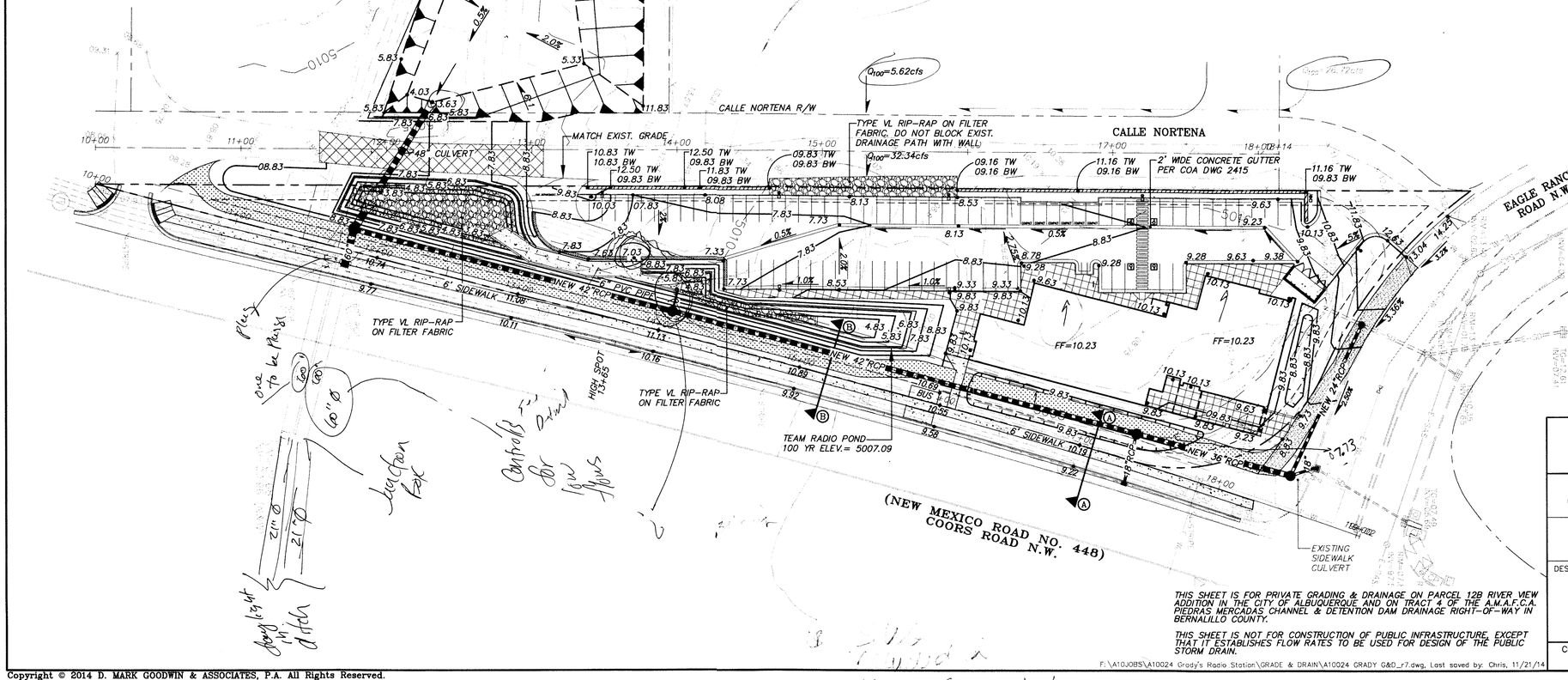


VICINITY MAP ZONE ATLAS C-13/D-13

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.)





RECEIVED
DEC - 2 2014
LAND DEVELOPMENT SECTION

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 — DATE
STAKED BY
ASPECT ANGLE — DATE
AS-BUILTED BY
FIELD VERIFICATION — DATE
DRAWINGS
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

NO.	DATE	FIELD NOTES BY

ENGINEER'S SEAL

JAMES D. HUGHES
NEW MEXICO
14729
REGISTERED PROFESSIONAL ENGINEER
11-25-2014

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

dmg MARK GOODWIN & ASSOCIATES, P.A.
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(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 1 OF 2

F:\A10JOBS\A10024 Grody's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, 11/26/2014 11:12:32 AM, XEP 7100 Local pc3, CHRIS

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_{100} (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

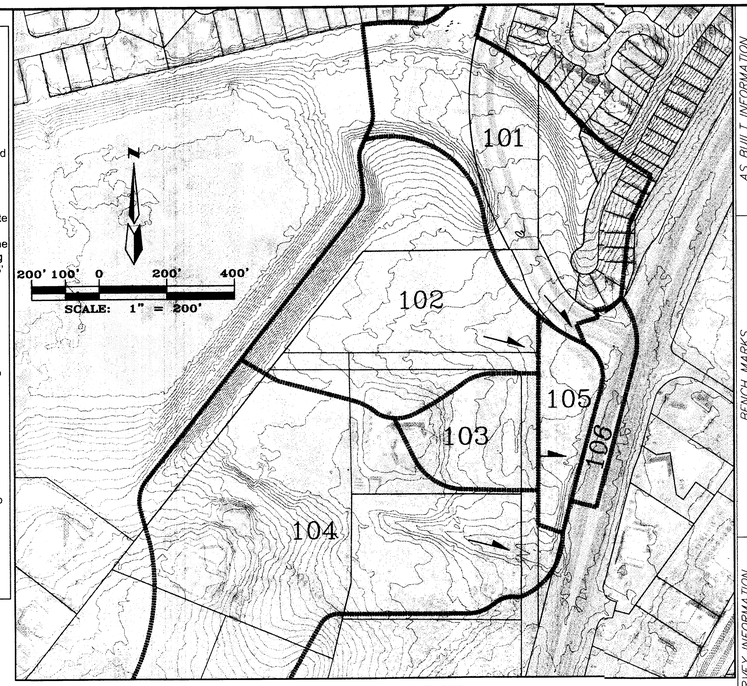
The existing conditions as shown on the plans were surveyed by Aldrich Land Surveying revised 10-27-2014.

Benchmark

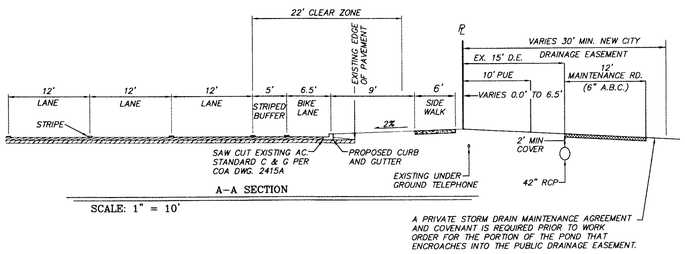
All elevations in these drainage notes are based on NGVD29 ASC Monument "R. Alameda B. No. 2" Elev. = 5058.25. Add 2.83' to the elevations in this report to convert to NAVD 88.

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.

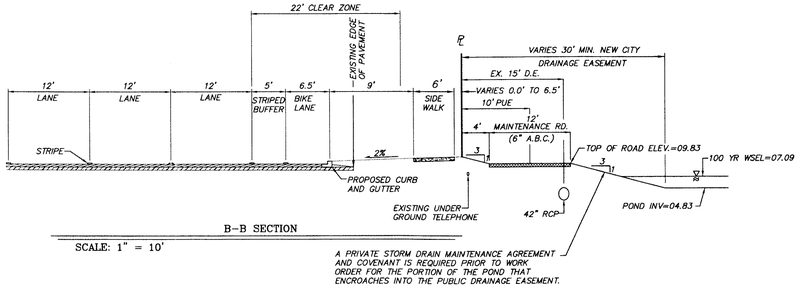


OFFSITE DRAINAGE BASIN BOUNDARIES



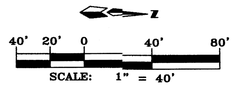
A–A SECTION

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.

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, Last saved by: Chris, 7/01/14

AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY / DATE
ASBUILTS BY / DATE
ACCEPTANCE BY / DATE
VERIFICATION BY / DATE
DRAWINGS CORRECTED BY / DATE

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

SURVEY INFORMATION
RECORDED BY / DATE
NO.

FIELD NOTES
NO. / BY / DATE

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

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

DESIGN 07/14 · DESIGNED BY 07/14 · DRAWN BY 07/14 · CHECKED BY 07/14

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	2	2

F:\A10JOBS\A10024 Grady's Radio Station\GRADE & DRAIN\A10024 GRADY G&D_r7.dwg, 11/26/2014 11:14:06 AM, KIP 7100 Local.pc3, CHRIS

LEGAL DESCRIPTION:
Parcel 12B Riverview Addition containing 2.1483 acres.

HYDROLOGY:
Flows from basin #101 are based on the Eagle Ridge Drainage Report. Flows from basin #102, 103, and 104 are based on DPM Section 22.2 Table A-9 Zone 1 using 16.7% Treatment B,C, and D and 50% Treatment A. (2.19cfs/ac). Basin #106 is all impervious (4.37cfs/ac)

101	8.5ac	29.6cfs
102	10.4ac	22.8cfs
103	2.2ac	4.8cfs
104	16.7ac	36.6cfs
105	2.0ac	4.10cfs*
106	1.3ac	5.7cfs

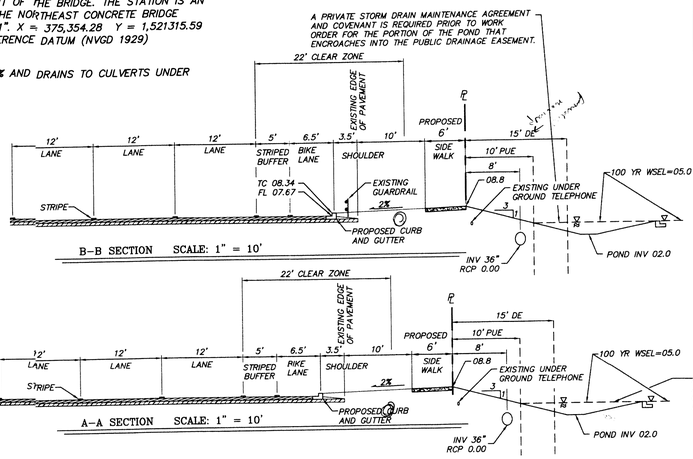
*Allowable discharge (2.05 cfs/ac)

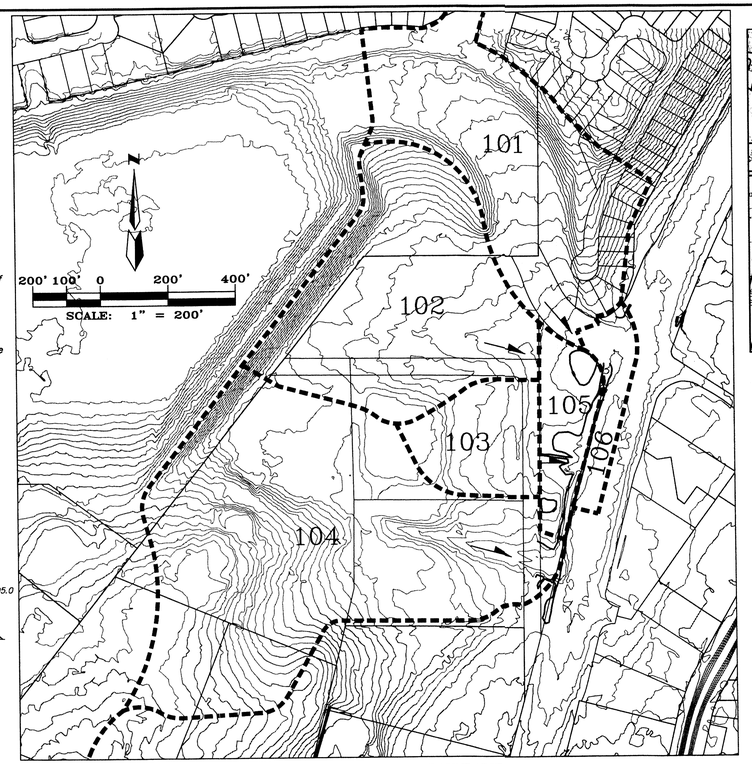
STORM WATER MANAGEMENT PLAN:
A privately constructed and maintained on site detention pond will be provided by this development to limit the peak rate of discharge from this site such that the total runoff generated from this site is equal to or less than what it would be if it were developed at 15% impervious as established by the "north Coors drainage management plan middle area dated Feb. 1997 prepared by smith engineering for A.M,A.F.C.A. That DMP demonstrated adequate downstream capacity for free discharge from basin 14.1 which is a 32.7 acre basin modeled at 15 impervious in that DMP thus 2.05 cfs/acre as the allowed 100 YR. discharge from this site. Off site flows enter this site from the north and from the west, and all of the drainage exits the site thru the existing culverts on the south end of the site.

BENCHMARK:
STATION "11-C13" IS 4,83 MI. WEST ON PASEO del NORTE FROM THE INTERSECTION OF I-25 AND PASEO del NORTE TO COORS ROAD OVERPASS. THE STATION IS IN THE NORTHEAST QUADRANT OF THE BRIDGE. THE STATION IS AN ACS 3 1/4" ALUM. CAP SET FLUSH IN THE NORTHEAST CONCRETE BRIDGE ABUTMENT AND STAMPED "11-C13, 1991". X = 375,354.28 Y = 1,521315.59 (NAD27) Z = 5029.172 VERTICAL REFERENCE DATUM (NVGD 1929)

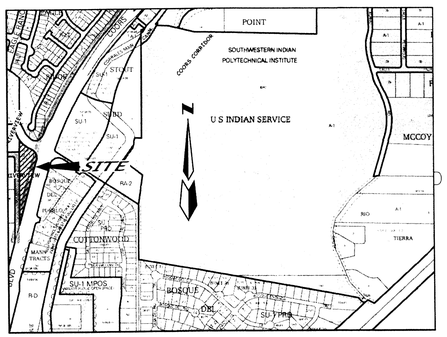
TERRAIN:
SITE SLOPES FROM WEST TO EAST AT 3% AND DRAINS TO CULVERTS UNDER COORS NEAR SOUTH END OF SITE.

1) A final design analysis report and detailed construction plans will be submitted to the NMDOT at the time of Building Permit. The final construction plans will include a note that says "A separate NMDOT permit is required prior to construction in NMDOT right of way".
2) This project does not include any construction in Bernalillo County's right of way west of this site. Any construction there will be detailed on final construction drawings at the time of Building Permit a will be permitted separately by Bernalillo County Public Works Department prior to construction in the Bernalillo County right of way.
3) As stated in note 3 on this Conceptual Grading Plan this site will limit its' onsite storm water discharge to the allowable rate established by the North Coors DMP. Final design analysis will be submitted at the time of Building Permit and will include verification of whether this site falls in Basin 13.1 or 14.1 of that plan.
4) The onsite pond size does' not need to be increased for sediment because this site will not produce any sediment. There won't be any exposed dirt to cause sediment. All onsite development will be either paved or landscaped. If there is any sediment it can not get through the pond anyway.
5) Pond design analysis calculations including pond volume calculations pond construction details will be provided with the construction plans at the time of Building Permit.
6) Final design details will address the stabilization of the outfall at the time of Building Permit.
7) Sidewalk Culvert details will be referenced on the final construction plans at the time of Building Permit.
8) The existing topographic information shown on this Conceptual Grading and Drainage Plan was preformed by Aldrich Land Surveying in 2001 and is on NGVD 1929. The survey will be updated on the final construction plans at the time of Building Permit and will reference NAVD 1988 datum.
9) 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.





OFFSITE DRAINAGE BASIN BOUNDARIES



VICINITY MAP ZONE ATLAS C-13/D-13

A PRIVATE STORM DRAIN MAINTENANCE AGREEMENT AND COVENANT IS REQUIRED PRIOR TO WORK ORDER FOR THE PORTION OF THE POND THAT ENCROACHES INTO THE PUBLIC DRAINAGE EASEMENT.

50' BERNALILLO COUNTY PROPERTY (RIGHT-OF-WAY VACATED IN 1992)

EXIST 50' RIGHT-OF-WAY PER 1960 ALBAN HILLS PLAT.

CALLE NORTENA

EXISTING 50' ACCESS DRAINAGE AND UTILITY EASEMENT PER 1986 RIVERVIEW PLAT.

EAGLE RANCH ROAD N.W.

(NEW MEXICO ROAD NO. 448) COORS ROAD N.W.

RIP RAP PER NMDOT SPECIFICATION

HEADWALL PER 511-03-1/1

NEW 10 LF DOUBLE 60" RCP WITH PIPE CULVERT HEADWALL PER 511-03-1/1

EXISTING HIGHWAY ACCESS EASEMENT. 1985

REMOVE AND DISPOSE EXISTING GUARD RAIL

545 LF 42" RCP @ 0.13%
Q_{100}=35.3cfs
V_{100}=3.8fps
Q_{cap}=36.3cfs

60" RCP INV=98.65

MH RIM=04.85 INV=98.13 (N&W)

EXISTING 15' NMDOT DRAINAGE EASEMENT TO REMAIN NEW COA DRAINAGE EASEMENT TO BE GRANTED PRIOR TO STORM DRAIN WORK ORDER.

105 LF 42" RCP @ 0.30%
Q_{100}=35.3cfs
V_{100}=3.8fps
Q_{cap}=36.3cfs

SDMH RIM=06.9 INV(S)=00.71 INV(N)=00.76

18" RCP Q_{100}=5.7cfs

NEW MAINTENANCE ACCESS ROAD & DRIVE WAY CUT

EXISTING SIDEWALK CULVERT

SDMH RIM=06.3 INV(W)=00.95 INV(S)=00.90 INV(N)=02.00

SAS MH RIM=05.0 INV=94.69 NW&SE

TVMH RIM=05.81

4' MH TYPE C RIM=08.22 24" INV (E)=03.21 24" INV (N)=03.36

SAS MH INV=04.01 (N&SE) RIM=10.62

103 LF 24" SD @ 0.69% Q_{100}=15.21cfs V_{100}=4.8fps Q_{cap}=18.77cfs

EXISTING 10' AC TRAIL TO BE REMOVED AND REPLACE WITH COMBINED TRAIL & MAINTENANCE ACCESS

MH RIM = 05.7 INV(E)=01.00 INV(W)=02.50

TYPE D INLET GRATE = 04.3 INV(W)=02.00 INV(E)=01.00

EXISTING BH

Q_{100}=4.8cfs

Q_{100}=22.8cfs

Q_{100}=27.6cfs

Q_{100}=31.7cfs

Q_{100}=29.6cfs V_{100}=6.0fps

LEGEND
- PROPERTY LINE
- 5005 EXISTING CONTOUR
- 5416 PROPOSED CONTOUR
- 48.00 NEW SPOT ELEVATIONS (FLOWLINE UNLESS OTHERWISE SPECIFIED.)
- NEW FLOW ARROW
- EXISTING GUARD RAIL
- RETAINING / GARDEN WALL MAX HEIGHT 2.67'

40' 20' 0 40' 80'
SCALE: 1" = 40'

NCA
ARCHITECTS - PLANNERS - AIA
1306 RIO GRANDE BLVD NW
ALBUQUERQUE, NM 87104
505-255-6400 505-268-6954 FAX
WWW.NCA-ARCHITECTS.COM

ARCHITECT
STATE OF NEW MEXICO ROBERT CALVANI NO. 1063 REGISTERED ARCHITECT

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

PROJECT TITLE
101.7 THE TEAM OFFICE BUILDING

ALBUQUERQUE NEW MEXICO

JAMES D. HUGHES 10574 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER 5-23-2012

REVISIONS:

MK	DATE	DESCRIPTION

DRAWN BY: CHECKED BY:

PROJECT NUMBER: A1102

DATE: 10/24/2011

SHEET TITLE:
CONCEPTUAL GRADING AND DRAINAGE PLAN

SHEET NO:
3 OF 5

P:\A1\07\09\A10224 Grady's Radio Station\GRADE & DRAIN\A10224 GRADY G&D_r3.dwg, 5/24/2012 10:24:10 AM, stephen

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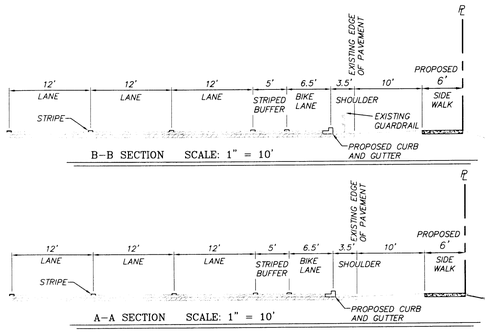
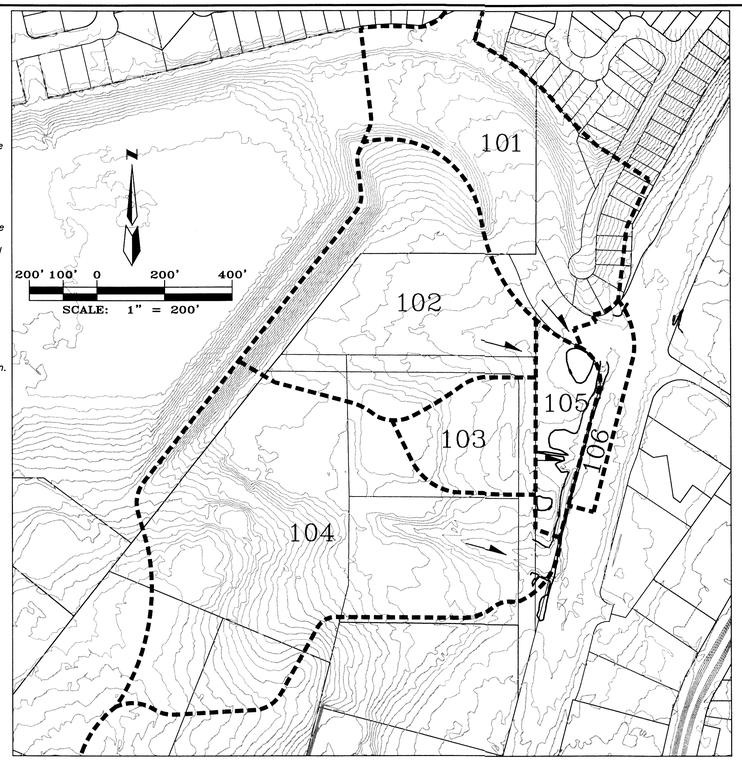
9) There are not any Special Flood Hazard Zones on or near this site as shown on Flood Insurance Rate Map Number 35001C0116G Revised September 26, 2008.

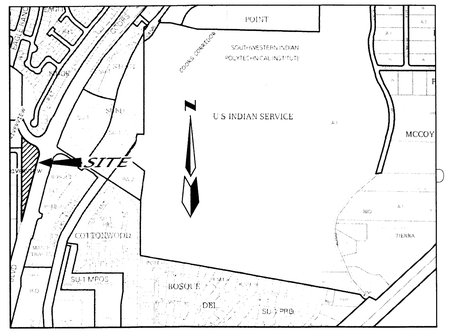


B-B SECTION SCALE: 1" = 10'

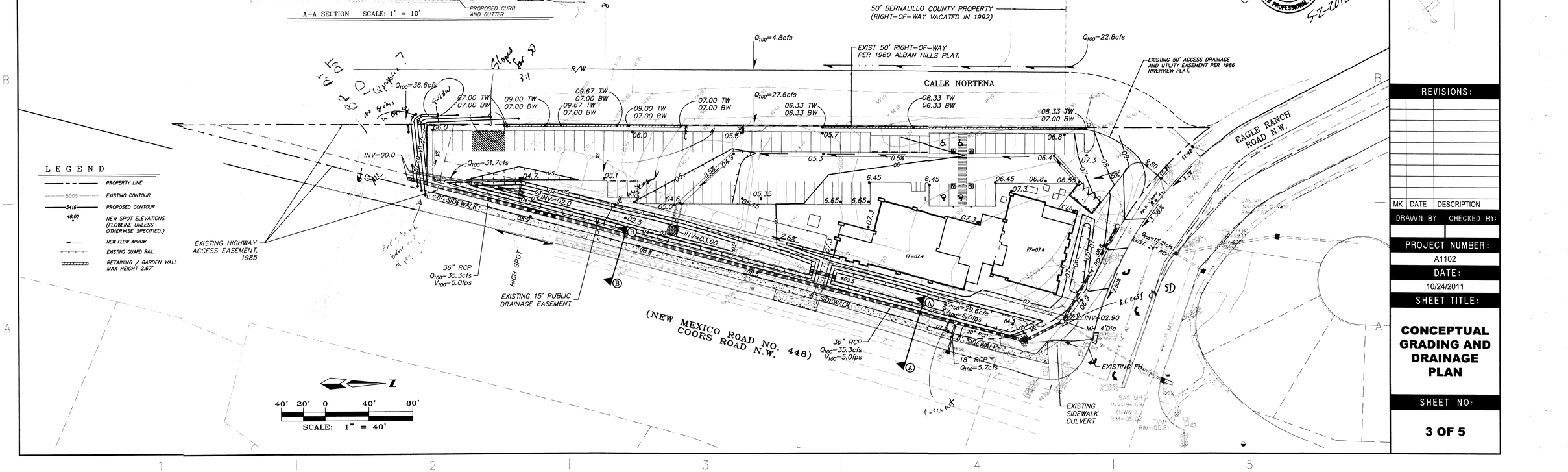
A-A SECTION SCALE: 1" = 10'



OFFSITE DRAINAGE BASIN BOUNDARIES



VICINITY MAP ZONE ATLAS C-13/D-13



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PROJECT TITLE
101.7 THE TEAM OFFICE BUILDING

ALBUQUERQUE NEW MEXICO

JAMES D. HAY 11674 NEW MEXICO REGISTERED PROFESSIONAL ENGINEER
5-2-12

REVISIONS:

MK	DATE	DESCRIPTION

DRAWN BY: CHECKED BY:

PROJECT NUMBER: A1102

DATE: 10/24/2011

SHEET TITLE:
CONCEPTUAL GRADING AND DRAINAGE PLAN

SHEET NO:
3 OF 5

C:\A1102BS\A1024 Grady's Radio Station\GRADE & DRAIN\A1024 GRADY GRD_2.dwg, 4/6/2012 11:14:57 AM, stephen

1. **LEGAL DESCRIPTION:**
Parcel 12B Riverview Addition containing 2.1483 acres.

2. **HYDROLOGY:**
Flows from basin #101 are based on the Eagle Ridge Drainage Report. Flows from basin #102, 103, and 104 are based on DPM Section 22.2 Table A-9 Zone 1 using 16.7% Treatment B,C, and D and 50% Treatment A. (2.19cfs/ac). Basin #106 is all impervious (4.37cfs/ac)

101	8.5ac	29.6cfs
102	10.4ac	22.8cfs
103	2.2ac	4.8cfs
104	16.7ac	36.6cfs
105	2.0ac	4.10cfs*
106	1.3ac	5.7cfs

*Allowable discharge (2.05 cfs/ac)

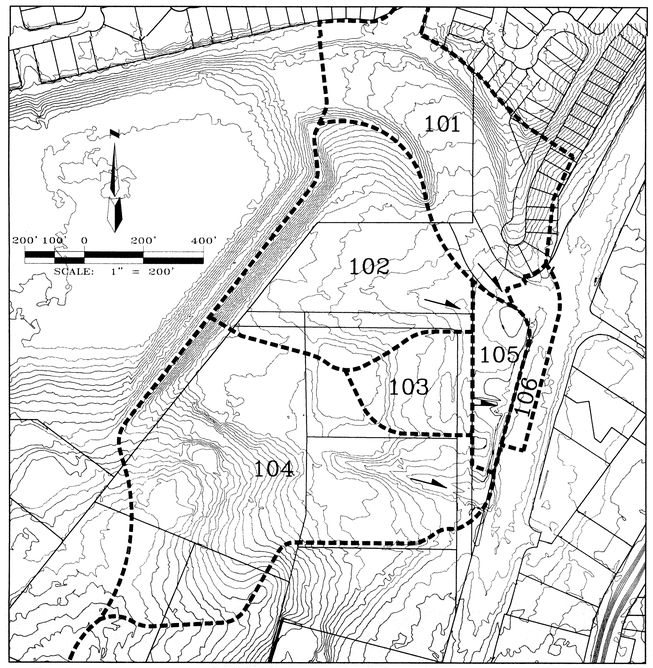
Treatment D, Zone 1
2 ac (4.33 cfs/ac) = 8.7cfs proposed?

3. **STORM WATER MANAGEMENT PLAN:**
A privately constructed and maintained on site detention pond will be provided by this development to limit the peak rate of discharge from this site such that the total runoff generated from this site is equal to or less than what it would be if it were developed at 15% impervious as established by the "north Coors drainage management plan middle area dated Feb. 1997 prepared by smith engineering for A.M.A.F.C.A. That DMP demonstrated adequate downstream capacity for free discharge from basin 14.1 which is a 32.7 acre basin modeled at 15 impervious in that DMP thus 2.05 cfs/acre as the allowed 100 YR. discharge from this site. Off site flows enter this site from the north and from the west, and all of the drainage exits the site thru the existing culverts on the south end of the site.

4. **BENCHMARK:**
STATION "11-C13" IS 4.83 MI. WEST ON PASEO del NORTE FROM THE INTERSECTION OF I-25 AND PASEO del NORTE TO COORS ROAD OVERPASS. THE STATION IS IN THE NORTHEAST QUADRANT OF THE BRIDGE. THE STATION IS AN ACS 3 1/4" ALUM. CAP SET FLUSH IN THE NORTHEAST CONCRETE BRIDGE ABUTMENT AND STAMPED "11-C13, 1991". X = 375,354.28 Y = 1,521315.59 (NAD27) Z = 5029.172 VERTICAL REFERENCE DATUM (NVGD 1929)

NAD 83'

5. **TERRAIN:**
SITE SLOPES FROM WEST TO EAST AT 3% AND DRAINS TO CULVERTS UNDER COORS NEAR SOUTH END OF SITE.



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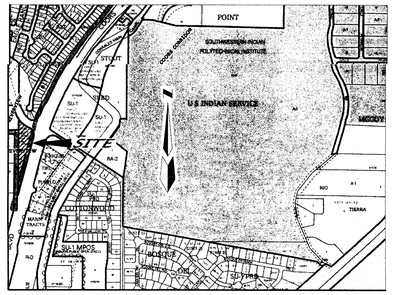

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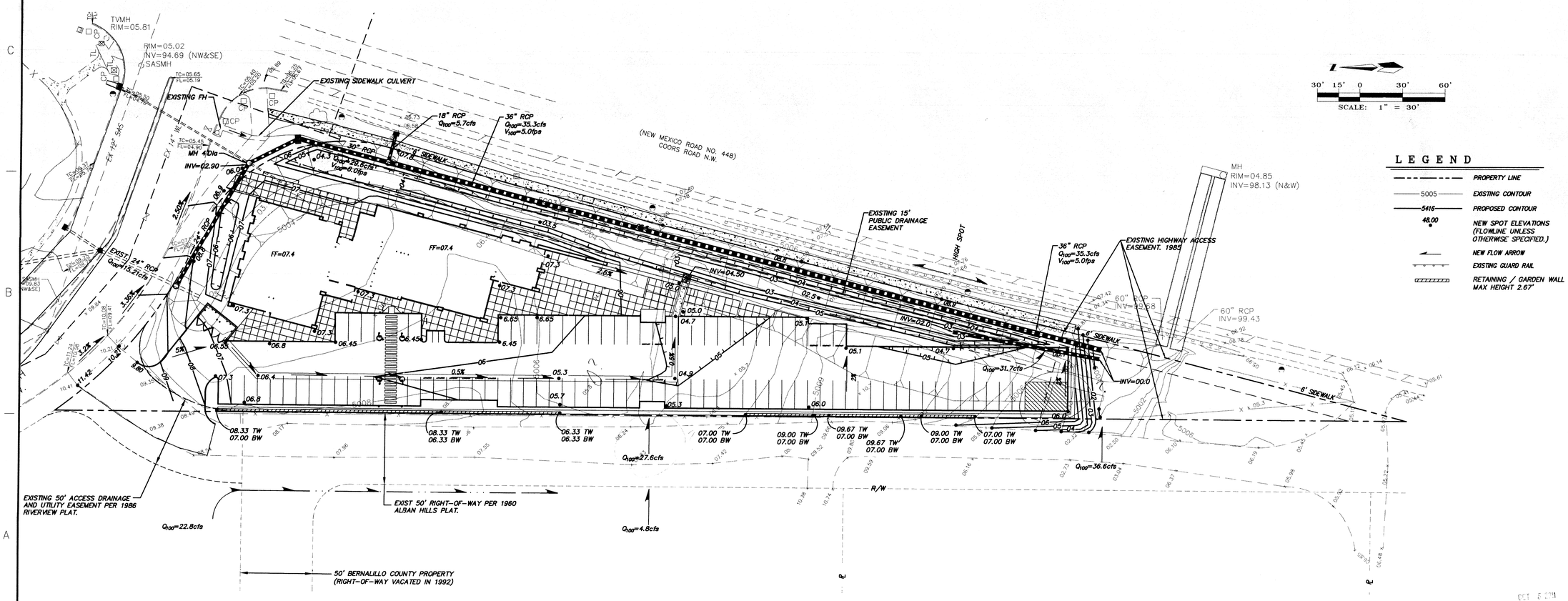

LEGEND

- PROPERTY LINE
- 5005 EXISTING CONTOUR
- 5416 PROPOSED CONTOUR
- 48.00 NEW SPOT ELEVATIONS (FLOWLINE UNLESS OTHERWISE SPECIFIED.)
- NEW FLOW ARROW
- EXISTING GUARD RAIL
- RETAINING / GARDEN WALL MAX HEIGHT 2.67'

OCT 05 2011

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REVISIONS:

MK	DATE	DESCRIPTION

DRAWN BY: CHECKED BY:

PROJECT NUMBER: A1102

DATE: 03.31.11

SHEET TITLE: CONCEPTIONAL GRADING AND DRAINAGE PLAN

SHEET NO: 3 OF 5

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