

AIR QUALITY DETENTION POND

Table AQP - Air Quality Pond

(Plans and as-builts included)

AIR QUALITY POND**Mid-Valley Drainage Management Plan****1 of 2****Hydraulic Assumptions for Orifice Flow and Weir Flow
(8 ft. x 8 ft. Steel Grate Principal Spillway)**SWMM Model Dynamic Routing

An elevation – discharge – storage rating curve is required to simulate a detention pond routing. Basic initial assumptions regarding orifice or weir flow for various outfall structures are required. However, during a model simulation, the hydraulics and hydraulic grade line of the outfall storm drain may limit the discharge from the pond as defined by the rating curve. Therefore, weir flow assuming free un-submerged discharge may be valid for small storms and most of the hydrograph of a larger storm, but could become submerged for some time during a large storm hydrograph and again become un-submerged during the receding hydrograph limb.

Therefore, the flow type is most likely variable and complex, and an assumption is required to develop an initial rating curve, based on what type of flow may be predominant for the given situation and storm return period simulated.

This analysis has assumed that the predominant flow for the 8 ft. x 8 ft. principal spillway is un-submerged weir flow.

Orifice Flow

Storm drain pipes and small water quality pipes (slanted small pipes in concrete walls) are computed with the orifice equation using partial pipe areas for a given water depth until pipe is submerged, then the full pipe area is applied until the maximum pond water depth to obtain the rating curve upper limit. Table ACP attached defines the orifice equation(s), coefficient and presents the computation results.

Weir Flow (Principal Spillway Grate and Top of Pond Embankment)

A weir operates as a function of head on the weir and weir length perpendicular to flow, and for this analysis a free fall discharge is assumed. Velocity after the water fall is therefore not a factor for the free fall assumption. As described previously, an assumption of weir submergence should be considered for the weir free fall assumption to remain valid. Depending on the structure configuration, a submerged weir could act as an orifice.

The vertical concrete wall that supports the 8 ft. x 8 ft. grate will act as the weir crest. Comparison of the top of pond and grate elevations follows:

Top of Pond Elevation	=	4962.66 ft
<u>Top of Grate Elevation</u>	=	<u>4958.36 ft</u>
Difference	=	4.3 ft

Note – Initial 100-yr. storm pond routings indicate maximum depth much less than this difference.

Assuming that the outfall storm drain does not cause hydraulic interference with the principal spillway grate free flow assumption, then three to four feet of water will immediately gravity fall from one side of the concrete wall into the grate far before the water would intersect water falling from the adjacent walls. Some inefficiency of the weir flow would occur at each corner, as the flow from

adjacent walls will intersect during the fall. Therefore, adjustment for weir flow inefficiency due to flow intersection may be simulated through the weir coefficient.

Weir Coefficient

The vertical concrete walls and flat top of walls (1 – foot wide = breadth of weir crest) that hold the 8 ft. x 8-ft. grate are assumed to act as broad crested weirs. The weir coefficient for 1-foot broad and 3 feet of head is 3.32 as presented in Table 5-3 from "Handbook of Hydraulics", Sixth Edition, by Brater & King, 1976. Smith Engineering Company assumed a reduced weir coefficient of 3.0 to account for weir inefficiency as described above. Table ACP attached defines the weir flow equation, coefficient and presents the computation results.

Conclusion – Assume that the principal spillway 8 ft. x 8 ft. grate will act a free fall weir and the grate bar spacing even with some debris, will not affect the weir flow computation.

See Table ACP and as-builts / plans attached for more information.

AIR QUALITY DETENTION POND**DATA and POND ROUTING DATA / COMPUTATIONS**

Pond Annotated Photographs: 5 Pages attached

Elevation-Storage-Discharge: Data table for SWMM model attached

Pond Design Report or Pond Routing Model Available to adopt the Pond Elevation – Area – Discharge Rating Curve Data:

COA stated: Not Available

Pond As-Built Plans Available:

COA stated either: Yes Is Available

Pond Construction Plans Available if no As-Built Plans :

COA stated: Yes Available

***Elevation is datum 1929 NGVD from construction docs - Benchmark "1-K13"**

Conversion Factor from 29 datum to 88 datum = 2.66 feet (attached)

SEC Assumed Elevations for Principal and Emergency Spillways based on:

2007 Lidar Elevations, No

Was Pond Designed as a Surge Pond ? N

Pond Plan and Profile Schematic View Sketch:

Attached Y, Vertical Datum 88, 1 Pages attached

Public: Yes

Pond has Retention ? No

Pond has surface Inflows? Yes

Surface rundown into pond?: No

Pond has how many storm drain inflows? 2 (see plans and schematic attached)

Emergency Spillway:

Actual Emergency Spillway: No (see schematic attached for dimensions)

If No SEC assumed an emergency spillway

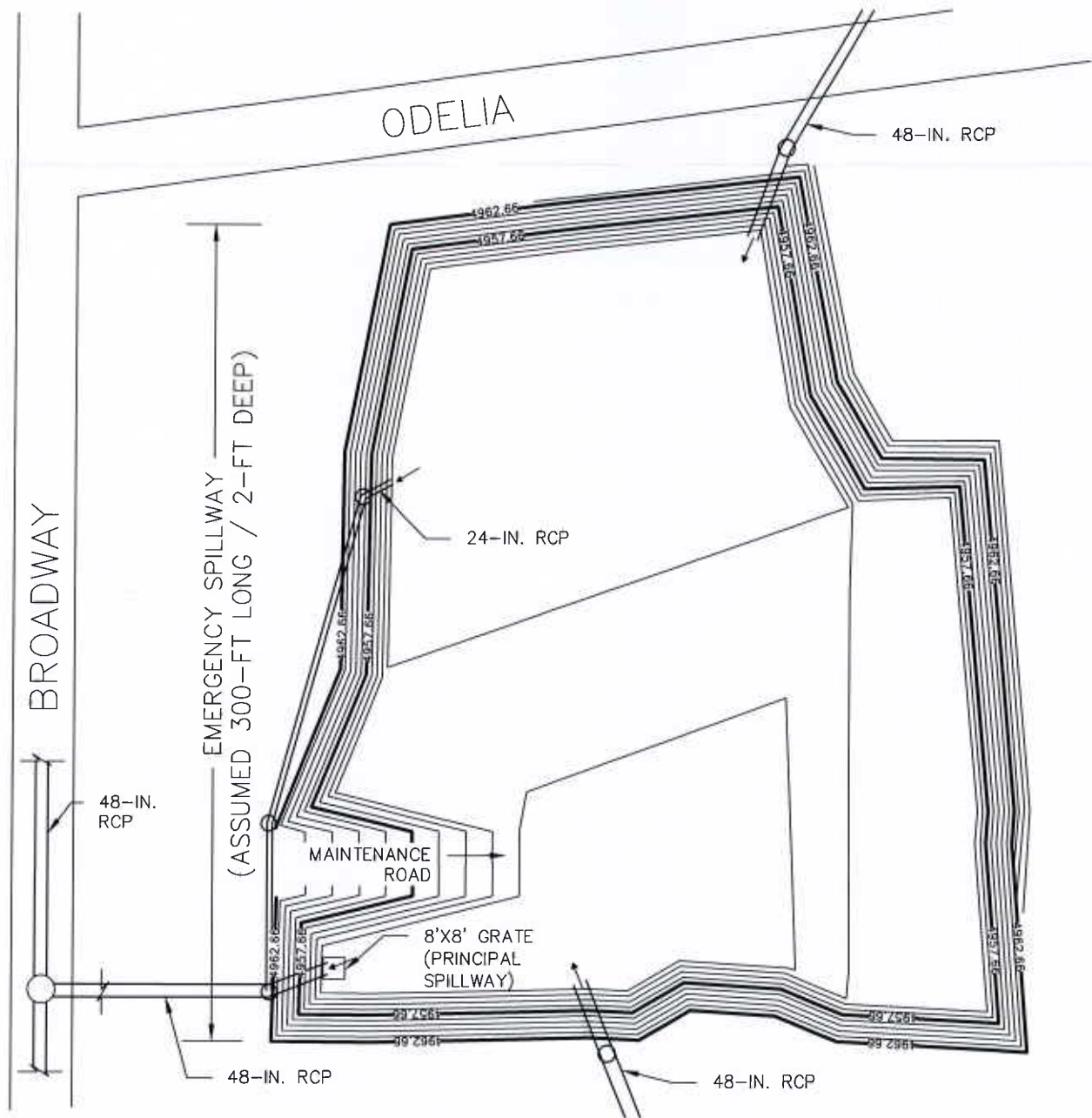
(see schematic attached or Table of Elevation – Storage –Discharge Data for assumed dimensions)

Principal Spillway:

Pipe at invert of pond: Yes (if above invert then there is retention)

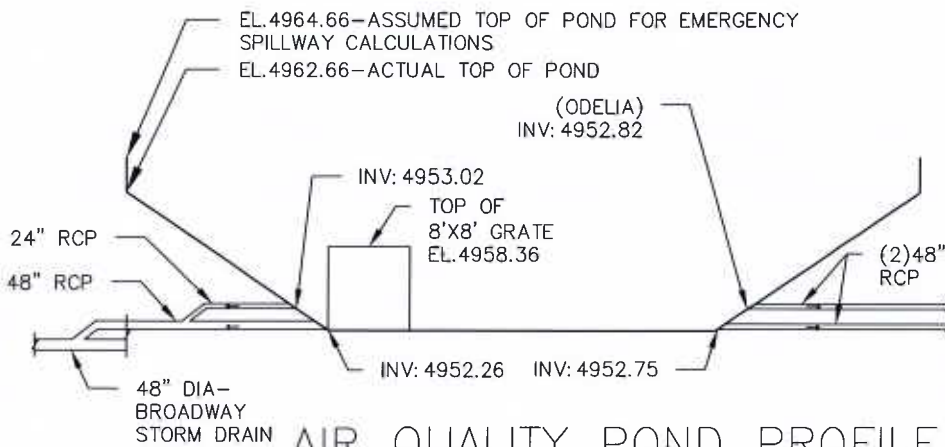
Vertical Riser Pipe or Structure: Yes

See plans and photos



AIR QUALITY POND PLAN

0 40' 80Feet



AIR QUALITY POND PROFILE

NOT TO SCALE



NAVD 88 DATUM

MID-VALLEY DRAINAGE MANAGEMENT PLAN

FOR THE CITY OF ALBUQUERQUE &
ALBUQUERQUE METROPOLITAN ARROYO
FLOOD CONTROL AUTHORITY

August - 2011

SEC PROJECT NO. 110112

AIR QUALITY POND P&P SCHEMATIC FIGURE AQP

TABLE AQP
AIR QUALITY POND revision 2
ELEVATION-STORAGE-DISCHARGE DATA (c)

grey box means must input data																			
Contour Elevation NGVD 1929	Contour Elevation NAVD 1988	Depth SWMM	Contour Area SWMM	Incremental Volume	Incremental Volume	Cumulative Volume	A			A			Riser Discharge (8x8' grate)	Outfall Pipe Principal Discharge (48" RCP)	Principal Spillway Box Discharge	Outfall Pipe Discharge (24" RCP)	Emergency Spillway Discharge	Total Discharge (Riser Discharge + 24" RCP + Emergency Spillway) SWMM	Comment
							Riser Discharge (1st row of orifices)	Riser Discharge (2nd row of orifices)	Riser Discharge (8x8' grate)	Outfall Pipe Principal Discharge (48" RCP)	Principal Spillway Box Discharge	Outfall Pipe Discharge (24" RCP)							
				Principal Spillway Orifice Diameter (inches)			Number of Orifices												
(ft)	(ft)			(sq ft)	(cu ft)	(ac-ft)	(ac-ft)	(cfs)	(cfs)	(cfs)	(cfs)	(a)	(e)	(cfs)	(cfs)	(a)	(b)	(cfs)	
4949.6	4952.26	0	0	0	0.0000	0.0000	0.0000	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	Pond bottom, 48" SD pipe invert, invert of first row of orifices (12 total)
4950.36	4953.02	0.76	9423	3581	0.0822	0.0822	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
4951	4953.66	1.4	18846	9046	0.2077	0.2699	12.6	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	24" RCP SD pipe invert
4952	4954.66	2.4	45088	31967	0.7339	1.0237	23.5	0.0	0.0	0.0	0.0	0.0	22.0	12.6	3.3	0.0	0.0	15.9	
4952.6	4955.26	3.0	50289	28613	0.5569	1.6806	28.1	0.0	0.0	0.0	0.0	0.0	57.8	23.5	16.7	0.0	0.0	40.3	
4953	4955.66	3.4	55489	21155	0.4857	2.1663	30.8	0.0	0.0	0.0	0.0	0.0	83.0	28.1	22.3	0.0	0.0	50.4	
4954	4956.66	4.4	57941	56715	1.3020	3.4683	36.6	12.6	0.0	0.0	0.0	0.0	99.6	30.8	24.2	0.0	0.0	55.0	Invert of second row of orifices (12 total)
4955	4957.66	5.4	60383	59162	1.3582	4.8264	41.7	23.5	0.0	0.0	0.0	0.0	125.0	49.2	28.4	0.0	0.0	77.6	
4955.70	4958.36	6.1	61601	42694	0.9801	5.8066	44.9	28.8	0.0	0.0	0.0	0.0	138.5	65.2	32.1	0.0	0.0	97.3	
4956	4958.66	6.4	62819	18663	0.4284	6.2350	46.2	30.8	15.8	0.0	0.0	0.0	147.2	73.7	34.4	0.0	0.0	108.1	Top of 8x8' outlet grate (Principal Spillway)
4957	4959.66	7.4	65265	64042	1.4702	7.7052	50.3	36.6	142.3	162.1	162.1	38.4	162.1	162.1	38.4	0.0	0.0	128.1	
4958	4960.66	8.4	67717	66491	1.5264	9.2316	54.0	41.7	334.9	172.7	172.7	41.2	172.7	172.7	41.2	0.0	0.0	200.5	
4959	4961.66	9.4	70160	68939	1.5826	10.8142	57.6	46.2	575.5	182.7	182.7	43.8	182.7	182.7	43.8	0.0	0.0	213.9	
4960	4962.66	10.4	72561	71361	1.6382	12.4524	60.9	50.3	856.0	192.2	192.2	46.3	192.2	192.2	46.3	0.0	0.0	226.5	Emergency spillway invert elevation (f)
Total Volume (ft³) =				542429															
Total Volume (ac-ft) =				12.45															

(a) Office flows were obtained from the use of Equation 4-10 and Table 4-3 from "Handbook of Hydraulics, Sixth Edition, by Brater & King, 1976."

$$Q = C a \sqrt{2gh}$$

$$C = 0.591$$

$$g = 32.2 \text{ ft/sec}^2$$

$$a = \text{area (sq ft)}$$

$$h = \text{head (ft)}$$

$$a = \pi D^2 / 4$$

$$(\text{full area formula})$$

$$a = \frac{1}{2} r^2 \left[2 \cos^{-1} \left(\frac{r-d}{r} \right) \frac{\pi}{180} - \sin \left[2 \cos^{-1} \left(\frac{r-d}{r} \right) \frac{\pi}{180} \right] \right]$$

$$(\text{partial area formula})$$

$$\text{Principal Spillway Orifice radius } r \text{ in feet (D)} = 1.0$$

$$\text{Principal Spillway Orifice radius } r \text{ in feet (E)} = 2.0$$

$$= \text{depth of water in the pipe in feet}$$

Emergency Spillway flows were computed based on the following data used in the weir equation

$$Q = CLH^a \quad C = \text{discharge coefficient, } L = \text{spillway length perp. To flow in ft, } H = \text{head (ft)}$$

$$C = 3$$

$$L = 300$$

$$L = 32$$

$$8 \times 8' \text{ grate}$$

Data Source : As-Built and plans provided by City of Albuquerque included in Appendix 2.66

(d) NGVD 1929 to NAVD 1988

Conversion Factor =

(e) The two rows of orifices with the 8 x 8" grate (A), will govern discharge until the 48-inch pipe becomes fully submerged, when sum of A's is greater than 54-inch pipe capacity then 54-inch pipe capacity governs discharge

(f) Length assumed along top of pond and elevations extended above emergency spillway to allow for rating curve to function if flow spills over top

VERTICAL DATUM CONVERSION -
NGVD 1929 to NAVD 1988

Benchmark "1-K13"

Std. Acs Brass Tablet Stamped "1-K13"
Set In Top Of A Concrete Post, Approx. 0.2-Ft Below Turf,
The Station Is Then 0.7-Ft West Of The West Curb On 8th Street,
And Is Approx. 225' South Of Stover Ave.
Elevation = 4944.03-Ft.

Questions Concerning the VERTCON process may be mailed to NGS:

Latitude: 35 04 44.0

Longitude: 106 39 27.0

NGVD Height: 4950.0 FT

Datum Shift (NAVD 88 minus NGVD 29): 2.664 feet

Converted to NAVD 88 height: 4952.664 feet

Conversion Data From:

http://www.ngs.noaa.gov/cgi-bin/VERTCON/vert_con2.prl



(1) East side of Air Quality Pond



(2) Northeast Corner of Air Quality Pond



(3) Northeast corner inlet structure



(4) South side inlet structure



(5) South side inlet structure (2)



(6) West side outlet structure



(7) West side principal outlet structure



(8) West side principal outlet structure (2)



(9) West side principal outlet structure (3)



(10) West side ramp

NMDOT 8th ST. and I-40

RETENTION / DETENTION POND

Table 8P – NMDOT 8th St. & I-40 Retention / Detention Pond

NOTE – This pond not modeled with a detention pond routing

NMDOT RETENTION / DETENTION POND at 8th St. and I-40 East Bound Frontage Road (d)

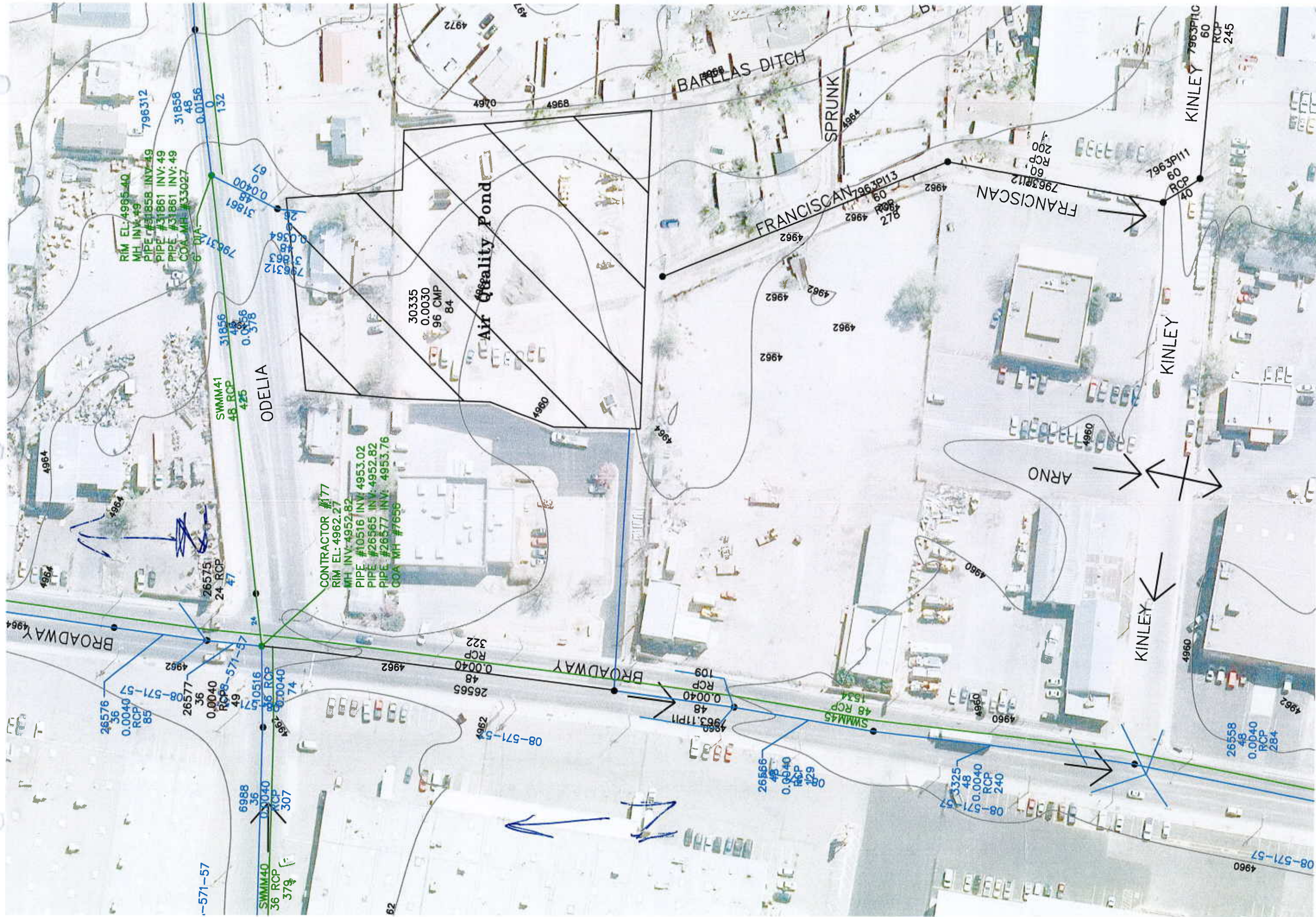
Impevious Typical depression assume is 0.1 in. therefore

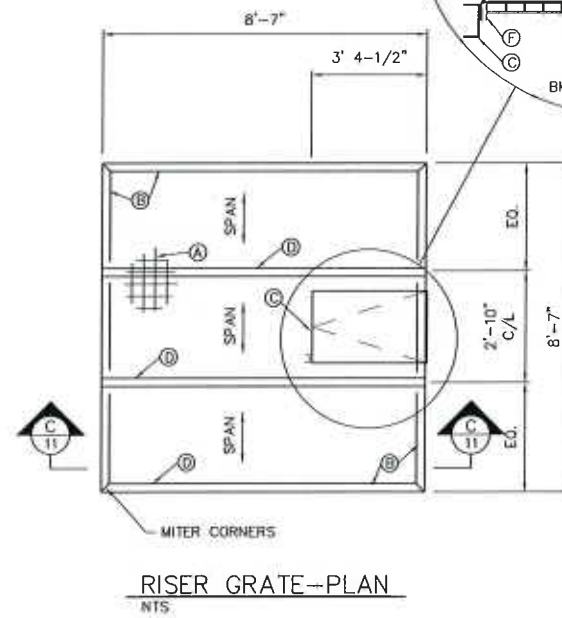
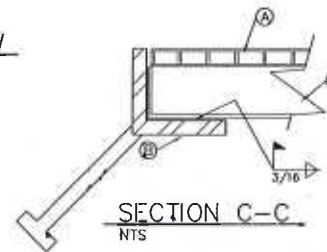
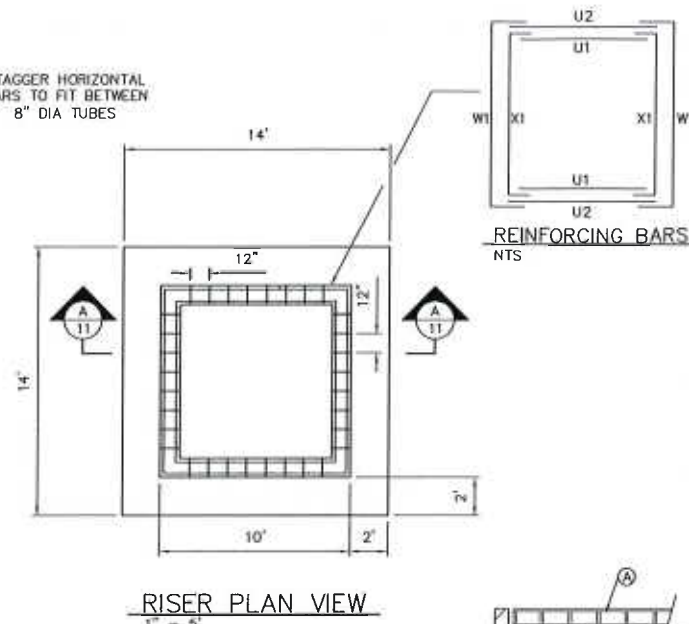
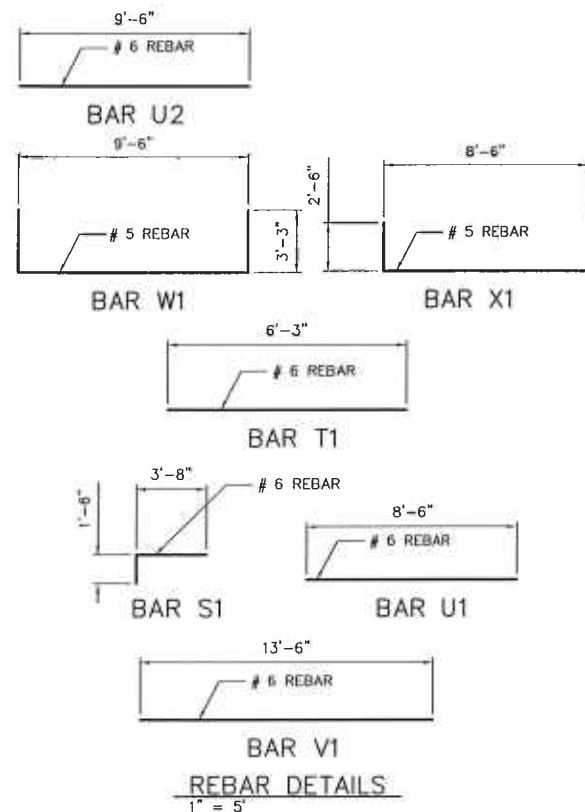
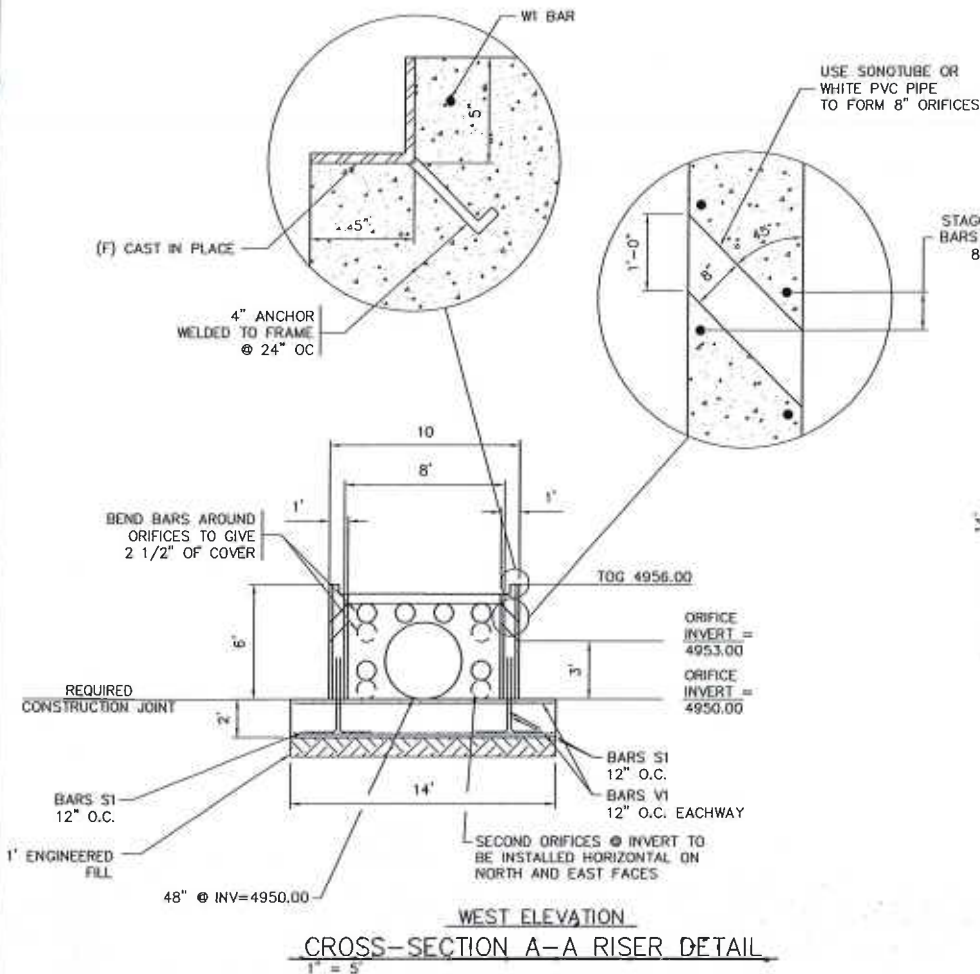
1.43 inches

Area - Elevation Data obtained from contours on the drainage basin map (generated from Lidar)



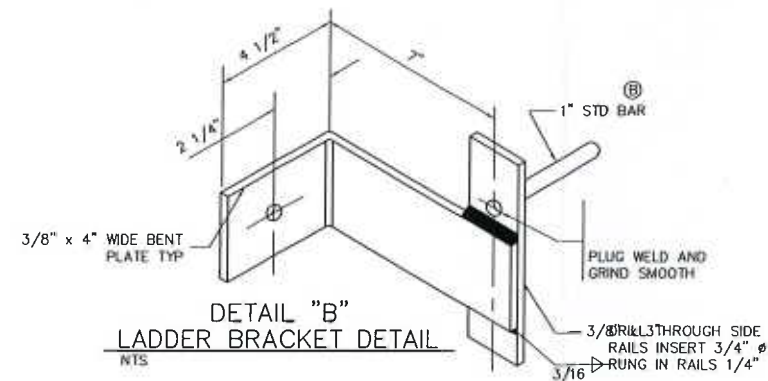
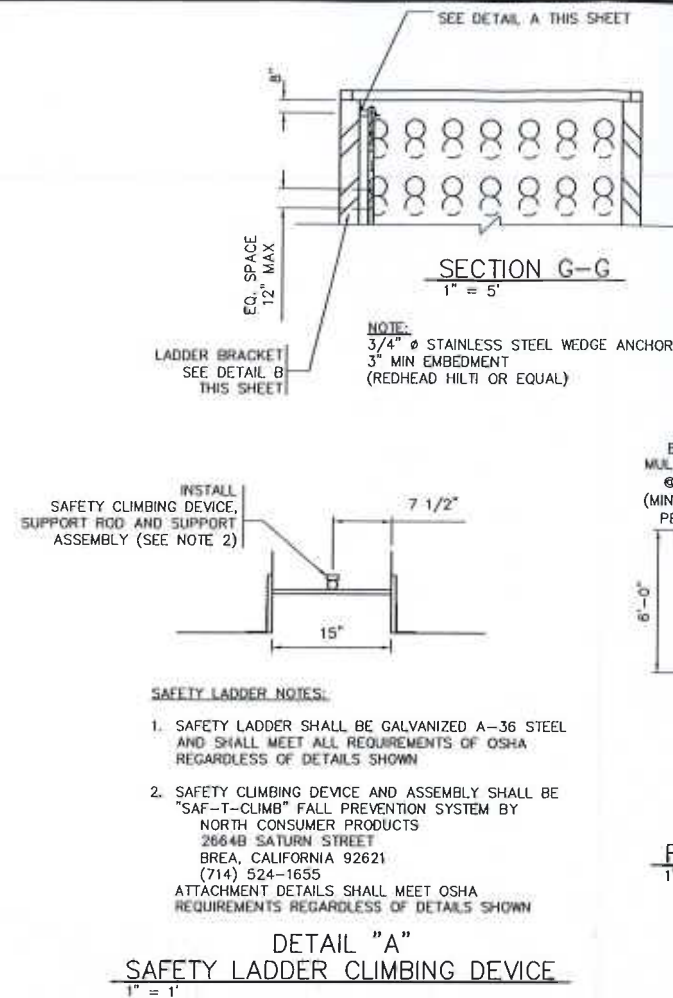
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KEYED NOTES:

- (A) GRATING - STEEL, TYPE W-38-4 W/ 1 1/2" x 1/16" BEARING BARS, SPAN AS SHOWN
- (B) L6 x 3 1/2 x 5/16 LLV EDGE BEARING ANGLE, CLIP LONG LEG TO 5 1/2" LENGTH
- (C) HATCH SUPPORT CHANNEL - C4 x 5.4
- (D) GRATING SUPPORT BEAM - W4 x 13
- (E) GRATING HATCH - STEEL, TYPE W-38-4 W/ 1 1/2" x 3/16" BEARING BARS, SPAN AS SHOWN, W/ BANDING AT ENDS
- (F) HEAVY DUTY WELDABLE BARREL HINGE

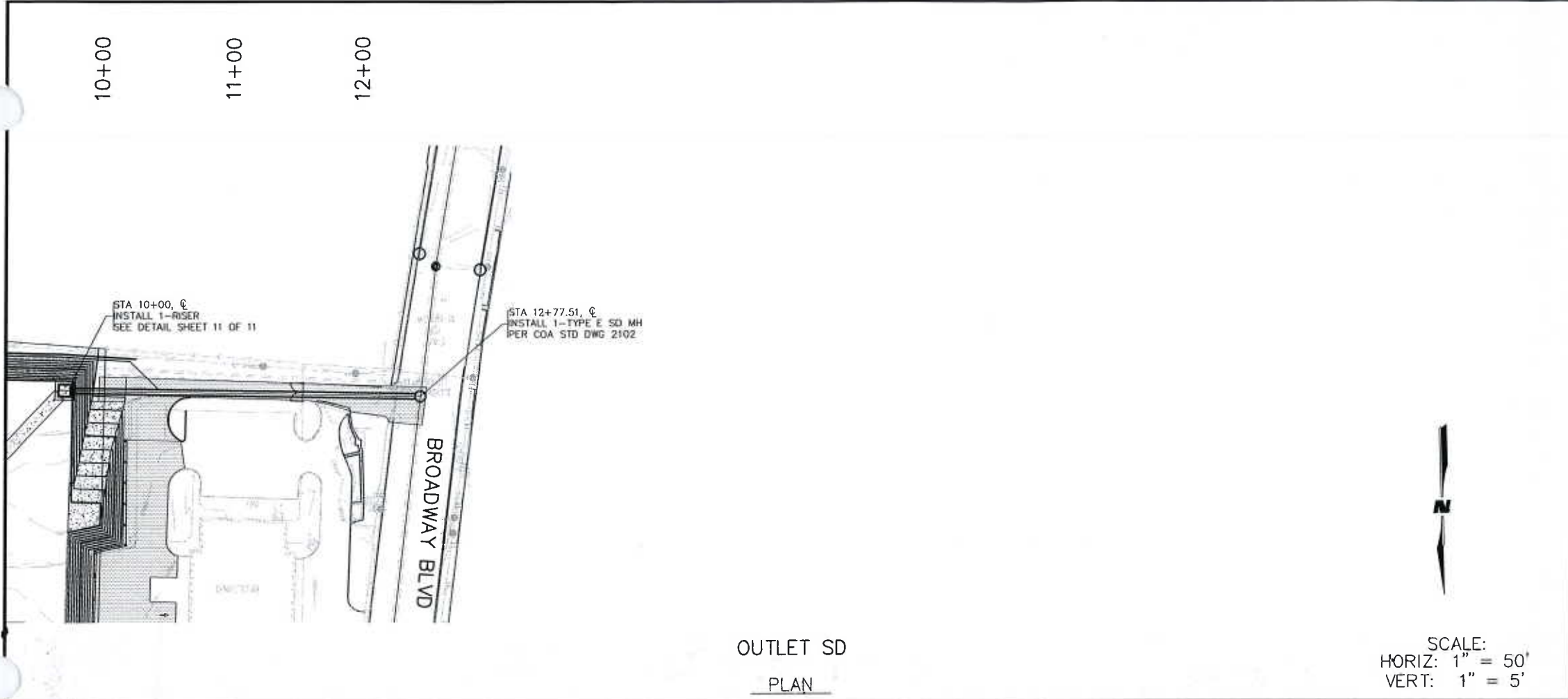
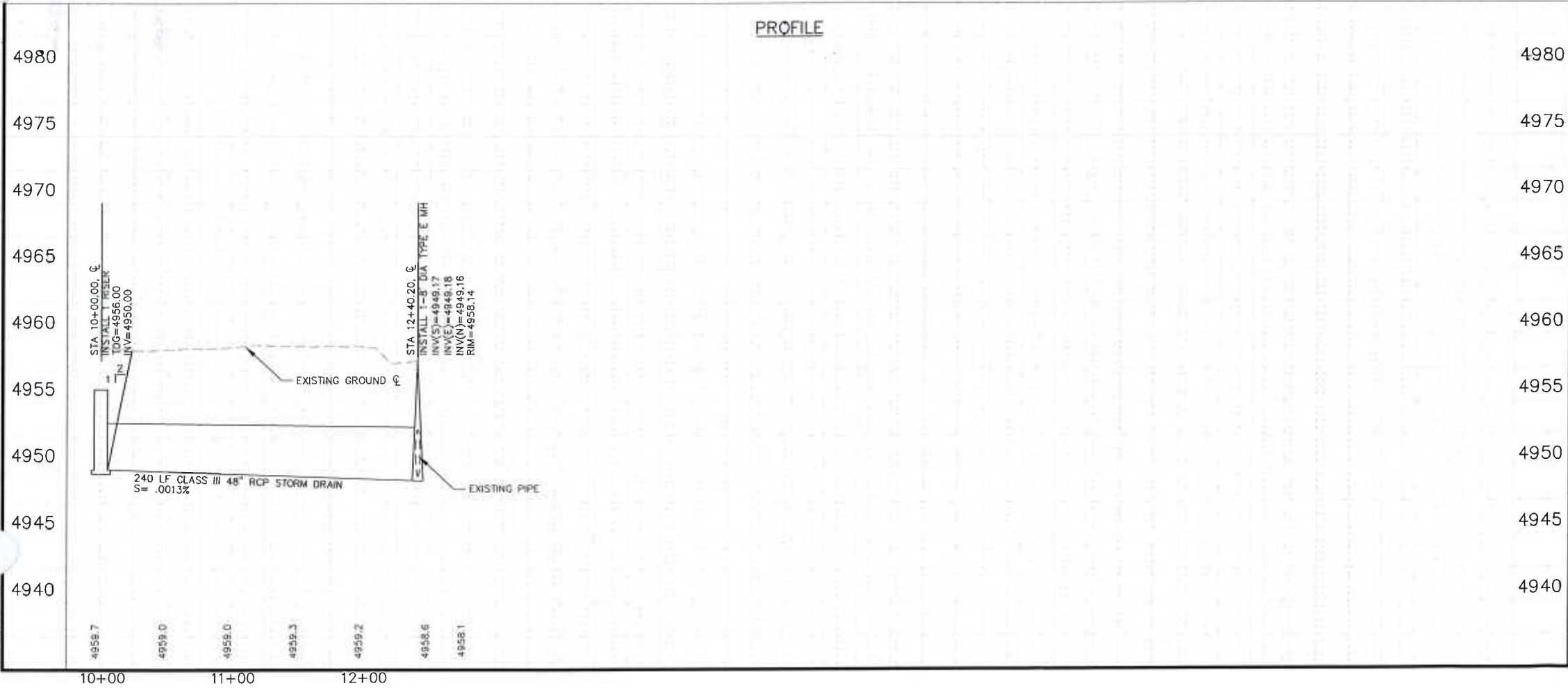


WILSON & COMPANY 4800 LANG AVENUE NE ALBUQUERQUE, NEW MEXICO 87109 (505) 348-4000 FAX (505) 348-4072	
CITY OF ALBUQUERQUE DEPARTMENT OF MUNICIPAL DEVELOPMENT STORM DRAIN DIVISION	
TITLE: FLOOD CONTROL ON-CALL CONTRACT POND RISER DETAILS	
Design Review Committee	City Engineer Approval
City Project No. 7963.07	Zone Map No. J-14-Z
Sheet 12	Of 14

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL		REVISIONS		DESIGN		DATE		NO.		MICRO-FILM INFORMATION	
CONTRACTOR	DATE	APPROX. 225' SOUTH OF STOVER	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
INSPECTOR'S	DATE	AVE. OF THE WEST CURB ON	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
FIELD ENGINEER	DATE	EIGHTH STREET, AND IS BELOW	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
PROJECT MANAGER	DATE	TURF. THE STATION IS THEN 0.7 FT	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
DESIGNED BY	DATE	WEST SET IN TOP OF A CONCRETE	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
DRAWN BY	DATE	POST. APPROX. 0.2 FT STD. ACS	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
CHECKED BY	DATE	BRASS TABLET STAMPED "1-K13"	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE
RECORDED BY	DATE	ELEVATION = 4944.03 FT.	DATE	NO.	BY	DATE	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE	NO.	DATE

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OUTLET SD
PLAN

PROFILE

LEGEND

WILSON & COMPANY

2000 THE AMERICAN ROAD S.E.
SUITE 100
RIO RANCHO, NEW MEXICO
87124
(505) 898-8021



CITY OF ALBUQUERQUE
DEPARTMENT MUNICIPAL DEVELOPMENT
STORM DRAIN DIVISION

TITLE: **FLOOD CONTROL ON-CALL CONTRACT**
STORM DRAIN OUTLET PLAN & PROFILE
STA 10+00 TO 12+40.20

Design Review Committee City Engineer Approval

Least Design Update

City Project No. 7963.07

Zone Map No. J-14-Z

Sheet 8 of 14



SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
FIELD NOTES					
NO.	BY	DATE		CONTRACTOR	DATE
				DESIGNED BY	DATE
				SUPERVISOR'S	DATE
				APPROVED BY	DATE
				VERIFICATION BY	DATE
				DRAWN BY	DATE
				CHECKED BY	DATE
				MICRO-FILM INFORMATION	
				RECORDED BY	DATE
				NO.	



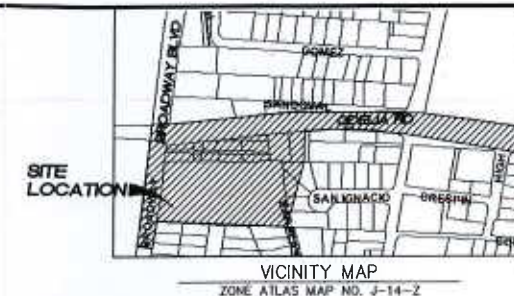
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT



CONSTRUCTION PLANS FOR BROADWAY AND ODELIA AQ POND

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NOTES

ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION, AS AMENDED THROUGH UPDATE 7 INCLUDING AMENDMENT 1.

TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (260-1990) FOR LOCATION OF EXISTING UTILITIES.

FIVE (5) WORKING DAYS PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO (2) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADING PERMIT FROM THE CONSTRUCTION COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION COORDINATION ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS.

CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER 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 ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED 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 COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 4.4 OF THE GENERAL CONDITIONS OF THE STANDARD SPECIFICATIONS UPDATE NO. 7.

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 OR SURVEYOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.

THE CONTRACTOR SHALL COORDINATE THE EXECUTION OF THE WATER VALVE SHUT-OFF PLAN WITH THE WATER SYSTEMS DIVISION (857-8200) SEVEN (7) WORKING DAYS IN ADVANCE OF ANY WORK THAT MAY AFFECT EXISTING PUBLIC WATER UTILITIES.

ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.

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 CONTRACTOR WILL BE RESPONSIBLE FOR DISPOSING OF ALL DEBRIS, INCLUDING, NOT LIMITED TO HAZARDOUS WASTE AT DISPOSAL SITES APPROVED BY GOVERNMENTAL AGENCIES REGULATING THE DISPOSAL OF SUCH MATERIALS.

PERMANENT PAVEMENT STRIPING AND MARKINGS WILL BE PLACED BY THE CONTRACTOR. THE ROAD SHALL NOT BE OPENED TO THE TRAFFIC UNTIL IT IS STRIPED. ALL STRIPING, PAVEMENT MARKINGS INCLUDING CROSSWALKS, ARROWS AND LINE MARKINGS ARE TO BE CONSTRUCTED OF HOT PLASTIC OR COLD PLASTIC IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.

ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY CONTRACTOR TO LOCATION AS EXISTING, OR AS INDICATED BY THIS PLAN SET.

CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY GRAFFITI FROM ALL EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.

CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRUCTION SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE CITY.

ANY WORK AFFECTING AN ARTERIAL ROADWAY REQUIRES TWENTY-FOUR(24) HOUR CONSTRUCTION.

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 REQUIREMENTS.
- ☒ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE ENGINEER.
- ☒ SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURN SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☒ IF CURB IS DEPRESSED 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. RCP PIPE JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL INSPECTION. FINAL INSPECTION WILL DETERMINE JOINTS TO BE GROUTED FOR FINAL ACCEPTANCE OF CONSTRUCTION.

RECORD DRAWING
DATE 8/1/10

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REV	SHEETS	CITY ENGINEER	DATE	USER
ENGINEERS STAMP & SIGNATURE		APPROVALS		
		DRG. Chairman		
		Transportation		
		Water/Wastewater		
		Hydrology		
		Plans		
		Const. Mgmt.		
		Const. Coord.		
		City Project No.	7963.11	1 of 12

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOTIFY THE ALBUQUERQUE TRAFFIC ENGINEERING DIVISION THREE (3) WORKING DAYS IN ADVANCE OF ANY WORK REQUIRED REGARDING ALL EXISTING REGULATORY SIGNS AND SIGNALS THAT NEED TO BE REMOVED, RELOCATED, OR REINSTALLED. CALL 857-8680. REFER TO SECTION 18.4.4 OF THE SPECIFICATIONS.
2. THE CONTRACTOR WILL BE REQUIRED TO CONFINED HIS WORK WITHIN THE CONSTRUCTION LIMITS AND/OR R.O.W. TO PRESERVE EXISTING VEGETATION AND PRIVATE PROPERTY. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAY OPENINGS OR DESIGNATED TRAFFIC LANES.
3. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN A SAFE AND ADEQUATE MEANS OF CHANNELING PEDESTRIAN TRAFFIC AROUND ALL WORK AREAS THROUGHOUT THE CONSTRUCTION PERIOD.
4. A DISPOSAL SITE, COMPLYING WITH ALL CITY ORDINANCES, SHALL BE OBTAINED BY THE CONTRACTOR FOR THE DISPOSAL OF ALL EXCESS EXCAVATION MATERIAL, ASPHALTIC PAVEMENT (EXCEPT MILLED BITUMINOUS CONCRETE PAVEMENT) AND OTHER WASTE MATERIALS. THE CONTRACTOR SHALL NOTIFY THE CITY OF ALBUQUERQUE OF THE LOCATION OF THE DISPOSAL SITE PRIOR TO THE REMOVAL AND ACTUAL DISPOSAL OF THE MATERIAL. ALL COSTS IN OBTAINING A DISPOSAL SITE AND HAUL THERETO SHALL BE CONSIDERED INCIDENTAL TO CONSTRUCTION AND NO DIRECT PAYMENT WILL BE MADE THEREFOR.
5. CONTRACTOR TO CAREFULLY FIELD REVIEW SITE TO ASSESS EXTENT OF TRASH & DEMOLITION REMOVAL. TRASH IS DEFINED AS DEMOLITION TREES, SHRUBS, VEGETATION, ASPHALT, CONCRETE, ABANDONED WET & DRY UTILITIES, MISCELLANEOUS LANDSCAPE, AND CONCRETE CURB & GUTTER TRASH REMOVAL SHALL BE INCLUDED IN BID ITEM "CLEARING & GRUBBING".
6. ALL VALLEY GUTTERS ARE 6' WIDE UNLESS OTHERWISE NOTED.
7. UNLESS OTHERWISE SHOWN, ALL DIMENSIONS ARE TO FACE OF CURB, INCLUDING RADI OF CURB RETURNS.
8. ALL FINISHED GRADES AND PROFILES SHOWN ARE FLOWLINE GRADES, UNLESS OTHERWISE NOTED.
9. CURB AND GUTTER SHOWN AS EXISTING AND NOT TO BE REMOVED UNDER THIS CONTRACT WHICH IS DAMAGED OR DISPLACED BY THE CONTRACTOR SHALL BE REMOVED AND REPLACED PER STD DWG 2415 BY THE CONTRACTOR AT HIS EXPENSE.
10. WHEN REMOVAL OF EXISTING CURB AND GUTTER OR SIDEWALK IS REQUIRED, REMOVE TO NEAREST JOINT.
11. WHEN ABUTTING NEW PAVEMENT TO EXISTING PAVEMENT, SAW CUT EXISTING PAVEMENT IN A STRAIGHT LINE AS REQUIRED TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. PRIOR TO LAYING NEW PAVEMENT, THE EXPOSED EXISTING ASPHALT EDGE SHALL BE CLEAN AND TACK-COATED.
12. WHEELCHAIR RAMPS SHALL BE CONSTRUCTED AT ALL CURB RETURNS CONSTRUCTED WITH THIS PROJECT AT THE LOCATIONS SHOWN ON PLANS, IN ACCORDANCE WITH THE CITY STANDARD DETAILS.
13. ALL WHEELCHAIR RAMP APPROACH SLOPES SHOWN ON STD DWG 2441 SHALL BE INCREASED IN LENGTH TO MAINTAIN 12:1 MAX SLOPE WHEN GRADE IS RISING FROM RAMP. SEE TABLE BELOW.

RIISING GRADE	RAMP LENGTH
0%	8.1'
0-1%	9.2'
1-2%	10.6'
2-3%	12.6'
3-4%	15.5'

14. CONTRACTOR IS TO EXERCISE DUE CARE TO AVOID DISTURBING ANY EXISTING UTILITIES. IT SHALL BE HIS RESPONSIBILITY TO COORDINATE WITH THE UTILITY COMPANIES IN ORDER TO PREVENT ANY SERVICE DISRUPTION THAT MIGHT RESULT FROM PROJECT CONSTRUCTION. IT SHALL BE HIS RESPONSIBILITY TO PROTECT AND PRESERVE UTILITY EQUIPMENT AFFECTED BY PROJECT CONSTRUCTION. SHOULD HE BREAK AN EXISTING UTILITY LINE DURING CONSTRUCTION ACTIVITIES HE SHALL BE RESPONSIBLE FOR UTILITY REPAIR COSTS.
15. ALL EXISTING UTILITIES SHOWN HEREIN WERE TAKEN FROM RECORD DRAWINGS, POTHOLES, FIELD SURVEYS, C.O.A. SYSTEMS UTILITIES MAPS AND INFORMATION PROVIDED BY THE UTILITY OWNERS AND ARE APPROXIMATE. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THEIR HORIZONTAL AND VERTICAL LOCATIONS AND PROVIDE PROTECTION FOR ALL UTILITIES WITHIN THE CONSTRUCTION AREA.
16. CONTRACTOR SHALL FIELD VERIFY LOCATION AND TYPE OF EXISTING UTILITIES TO BE ADJUSTED OR EXTENDED.
17. MANHOLE RIM ELEVATIONS SHOWN ON THESE PLANS ARE APPROXIMATE AND WILL VARY WITH THE FINISHED PAVEMENT ELEVATIONS.
18. CONTRACTOR TO VERIFY ALL EXISTING FIRE HYDRANT FLANGES, PADS, VALVE BOXES, MANHOLE RIMS AND TOP OF PIPE ELEVATIONS IN THE FIELD. ELEVATIONS SHALL BE ADJUSTED TO COMPLY WITH THE REQUIREMENTS OF STANDARD CITY DETAILS.

19. ELEVATIONS FOR PROPOSED WATERLINE CONNECTIONS TO EXISTING WATERLINES SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD.
20. ALL WATER VALVE BOXES AND SEWER MANHOLES IN THE CONSTRUCTION AREA ARE TO BE ADJUSTED TO FINISH GRADE UNDER THIS CONTRACT, AND WILL BE PAID FOR AT CONTRACT UNIT PRICES.
21. THE CONTRACTOR SHALL NOTIFY THE LOCAL FIRE DEPARTMENT AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF WHEN FIRE HYDRANTS WILL BE TAKEN OUT OF SERVICE AND RETURNED TO SERVICE.
22. ALL WATER SERVICES LISTED AS "DOUBLE" REFER TO DOUBLE METER BOX. A SEPARATE SERVICE LINE TO EACH METER IS REQUIRED. REFERENCE C.O.A. STD. DRAWINGS 2361, 2362.
23. ALL EXISTING GAS VALVE BOXES, GAS MANHOLES, ELECTRICAL MANHOLES, AND TELEPHONE MANHOLES WILL BE ADJUSTED TO GRADE BY OTHERS.
24. WHERE PULL BOXES ABUT BACK OF CURB OR ARE LOCATED IN A CONCRETE PAVED AREA, PROVIDE 3/4" EXPANSION MATERIAL AROUND THE PULL BOX. ALL PULL BOXES TO BE FLUSH WITH SURFACE OF CONCRETE.
25. THE CONTRACTOR SHALL MEET ALL THE REQUIREMENTS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) AS WELL AS LOCAL REGULATIONS.
26. THE CONTRACTOR SHALL COORDINATE WITH PRIVATE UTILITY ENTITIES AS NEEDED FOR RELOCATION AND INSTALLATION OF PRIVATE UTILITIES. ENGINEER HAS NOTIFIED THE PRIVATE UTILITIES OF THIS PROJECT.
27. TEMPORARY EROSION FENCING (OR PERMANENT WALLS OR FENCING) SHALL BE USED TO PROTECT EXISTING RESIDENTIAL PROPERTY, STREETS LANDSCAPING AND THE DRAINAGE SYSTEMS FROM THE DEPOSITION OF ERODED MATERIAL.
28. CONSTRUCTION AREA SHALL BE CONTROLLED TO PREVENT TRESPASS USE BY 4WD'S, ORV'S AND MOTORCYCLES TO MINIMIZE NOISE, DUST, DESTRUCTION OF VEGETATION, WIND AND WATER EROSION.
29. CONTRACTOR SHALL LOCATE EXISTING IRRIGATION LINE(S) AND CUT & CAP SERVICE 5'-0" OUTSIDE OF CONSTRUCTION LIMITS. COST IS INCIDENTAL TO BID ITEM "CLEARING AND GRUBBING".
30. THE CONTRACTOR SHALL MAINTAIN AN UP TO DATE SET OF AS-BUILT PLANS FOR THE PROJECT. THESE PLANS SHALL BE KEPT CURRENT, WITHIN TWO WEEKS AT ALL TIMES AND SHALL BE SUBJECT TO REVIEW BY THE PROJECT ENGINEER FOR ACCURACY AND COMPLETENESS AT LEAST ONCE EVERY 14 CALENDAR DAYS. THE FINAL AS-BUILT PLANS SHALL BE SUBMITTED TO THE PROJECT ENGINEER PRIOR TO FINAL PAYMENT. AS-BUILTS SHALL BE CERTIFIED, SIGNED AND DATED BY THE CONTRACTOR FOR COMPLETENESS AND ACCURACY OF INFORMATION.

UTILITY CONTACTS

COMPANY	PHONE	MOBILE	CONTACT
CITY of ALBUQUERQUE	768-2729		NANCY MUSINSKI
PNM - ELECTRIC	241-3398		ART CHAVEZ
PNM - GAS	241-7771		JOE DUNLOP
QWEST	245-6374		ROSA KNIFFIN
COMCAST	761-6221		ROBERT MARTINEZ

RECORD DRAWING
DATE 8/4/10

WILSON & COMPANY

1900 LANG AVENUE, N.E.
ALBUQUERQUE, NEW MEXICO
87109
(505) 348-4000
FAX (505) 348-4072

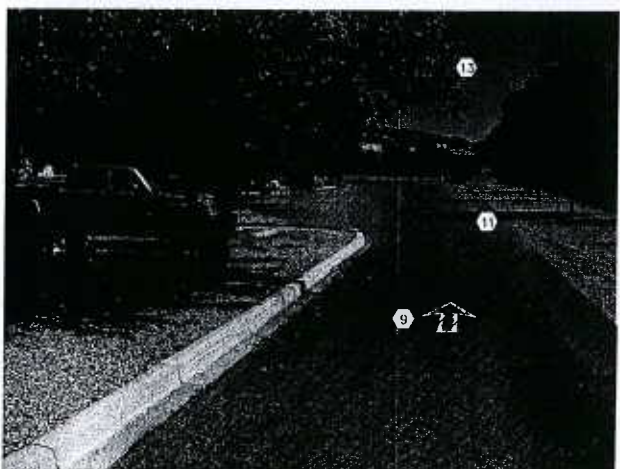
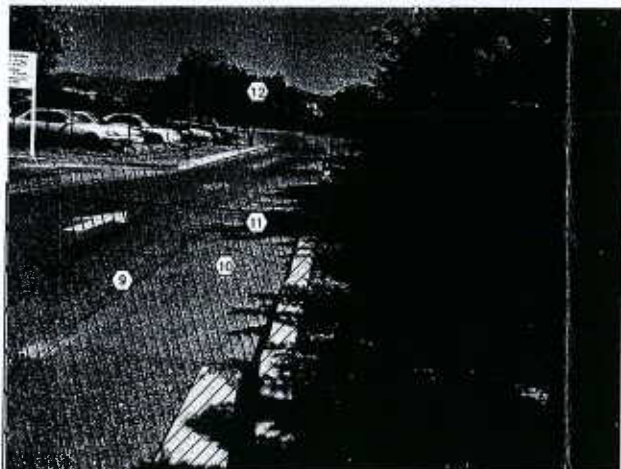
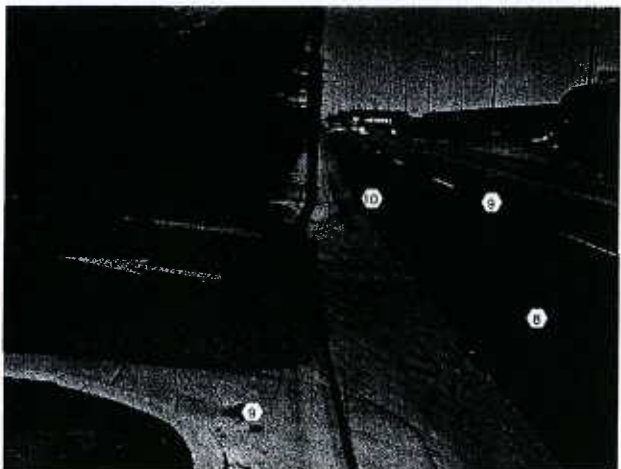
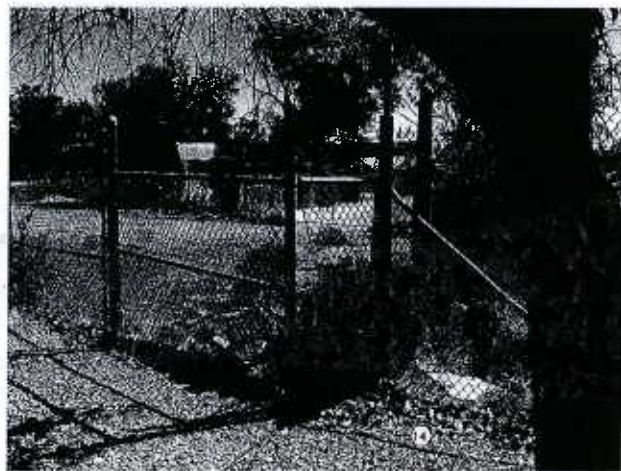


CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DIVISION

TITLE: **FLOOD CONTROL ON-CALL CONTRACT**

GENERAL NOTES

Design Review Committee	City Engineer Approval	As Noted	As Shown
City Project No. 7963.11	Zone Map No. J-14-Z	Sheet 2	of 12

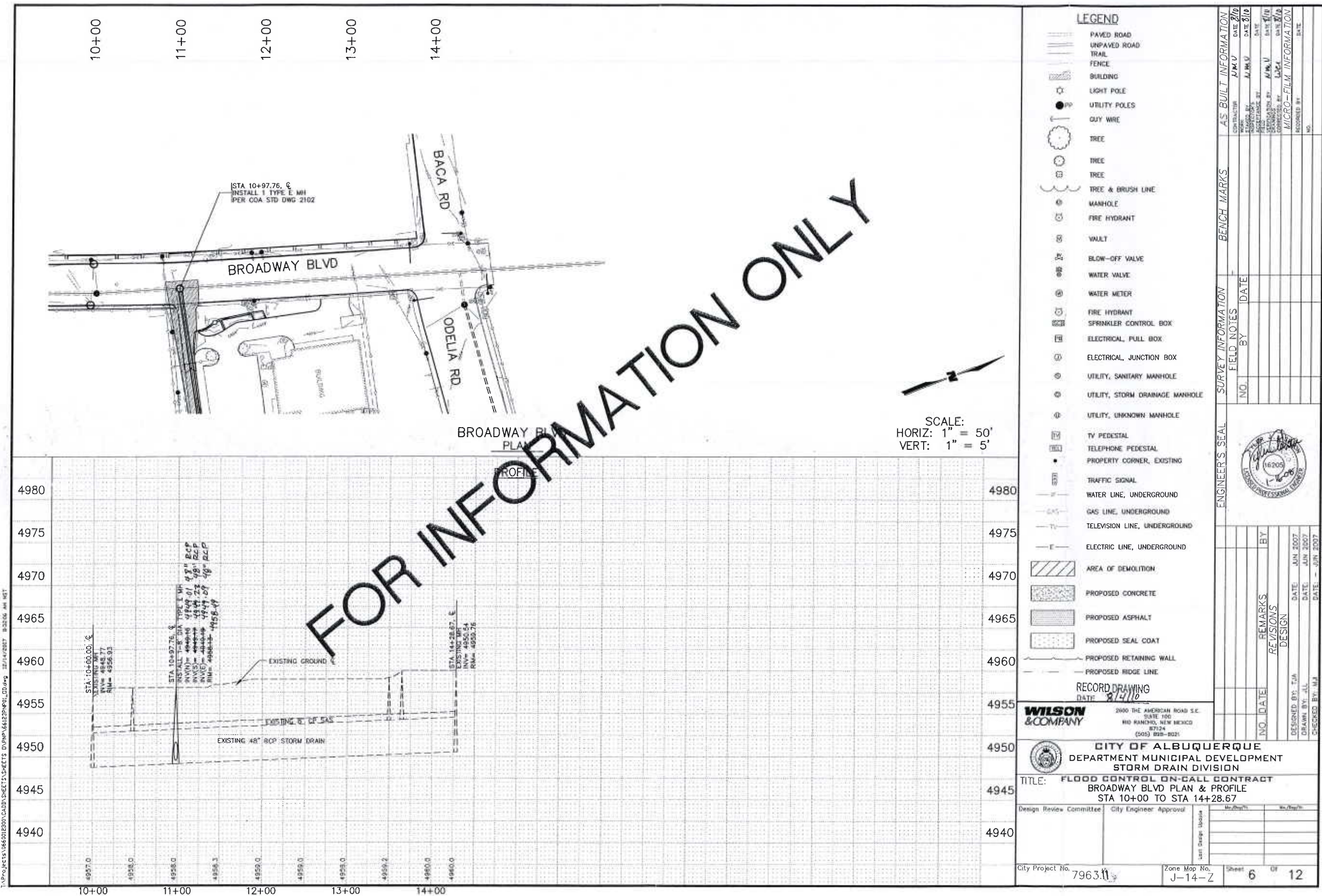


KEYED NOTES

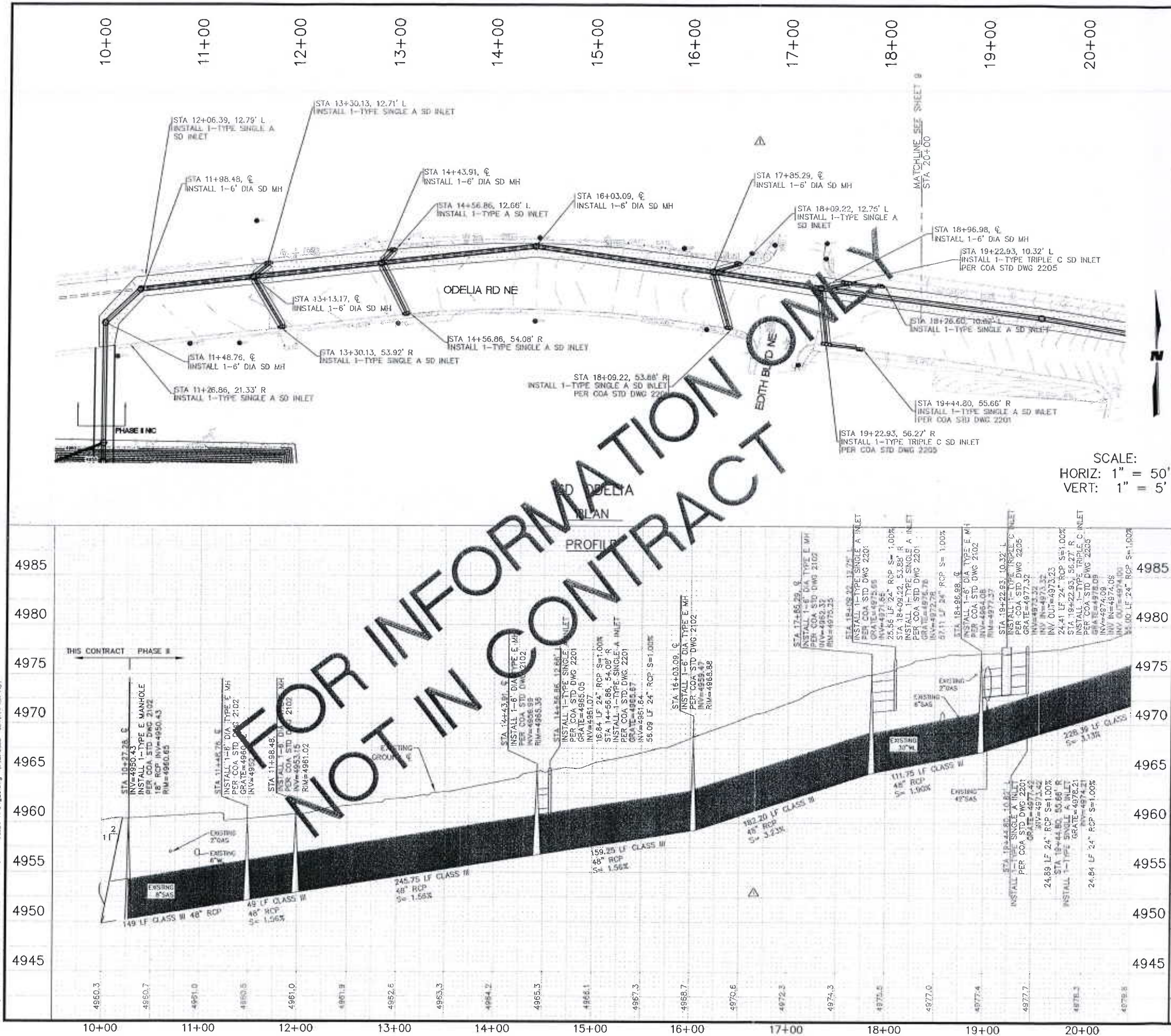
- | | | | |
|----|--|----|---|
| 1 | REMOVE, DISPOSE, AND REPLACE STANDARD CURB & GUTTER PER COA STD DWG 2415 | 13 | REMOVE & DISPOSE EXISTING TREES (TYP) ALL TREES WITHIN THE CONSTRUCTION LIMITS. |
| 2 | REMOVE AND DISPOSE EXISTING CONCRETE PAD | 14 | REPAIR EXISTING CHAIN LINK FENCE. |
| 3 | REMOVE AND SALVAGE EXISTING CHAIN LINK FENCE. RESET AFTER STORM DRAIN CONSTRUCTION AND RELATED SITE WORK INSTALLATION. | 15 | REMOVE & SALVAGE EXISTING PARK BENCH. RELOCATE PER PROJECT MANAGER ON SITE. |
| 4 | REMOVE AND REPLACE EXISTING SIDEWALK | 16 | REMOVE & DISPOSE EXISTING SOO & IRRIGATION SYSTEM. COORDINATE WATER SHUT-OFF AND CAPPING OF LINES. |
| 5 | CONTRACTOR SHALL PROTECT EXISTING PARKING LOT LIGHTING | 17 | CONTRACTOR SHALL PROTECT EXISTING PCC APRON |
| 6 | REMOVE CONCRETE VALLEY GUTTER | 18 | REMOVE, SALVAGE & RESET EXISTING CONCRETE TABLE AFTER STORM DRAIN AND RELATED SITE WORK IS COMPLETE |
| 7 | REMOVE AND DISPOSE EXISTING DROP INLET | 19 | REMOVE AND REPLACE EXISTING UNIDIRECTIONAL ADA RAMPS |
| 8 | REMOVE & DISPOSE EXISTING CONCRETE VALLEY GUTTER TO NEAREST POINT | 20 | REMOVE AND REPLACE STORM DRAIN MANHOLE |
| 9 | SAWCUT, REMOVE, AND DISPOSE EXISTING ASPHALT | 21 | EXISTING 24" STORM DRAIN |
| 10 | REMOVE AND DISPOSE EXISTING CONCRETE CURB & GUTTER | | |
| 11 | RAKE EXISTING GRAVEL BACK AWAY FROM STORM DRAIN TRENCH | | |
| 12 | REMOVE & SALVAGE EXISTING CHAIN LINK FENCE & GATE. RESET AFTER STORM DRAIN AND RELATED SITE WORK COMPLETION | | |

ENGINEER'S SEAL		SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
NO.	DATE	BY	FIELD NOTES	NO.	DATE	CONTRACTOR	DATE
						APPROX. 225 SOUTH OF STOVER AVE. OF THE WEST CURB ON EIGHTH STREET, AND IS BELOW TURF. THE STATION IS THEN 0.7 FT WEST SET IN TOP OF A CONCRETE POST. APPROX. 0.2 FT STD. ACS BRASS TABLET STAMPED "1-K13"	
DESIGNED BY: TJA		DATE: JUN 2007				MICRO-FILM INFORMATION	
DRAWN BY: JLL		DATE: JUN 2007				RECORDED BY: NO.	
CHECKED BY: MJI		DATE: JUN 2007				ELEVATION = 4944.03 FT.	

RECORD DRAWING DATE: 8/4/10		NO. DATE DESIGNED BY: TAA DRAWN BY: JEL CHECKED BY: MJJ	
WILSON & COMPANY 4900 LANS AVENUE NE ALBUQUERQUE, NEW MEXICO 87109 (505) 348-4090 FAX (505) 348-4072			
 CITY OF ALBUQUERQUE DEPARTMENT OF MUNICIPAL DEVELOPMENT STORM DRAIN DIVISION			
TITLE: FLOOD CONTROL ON-CALL CONTRACT DEMOLITION PHOTOS			
Design Review Committee	City Engineer Approval	Mr. [] [] [] [] []	Mr. [] [] [] [] []
City Project No. 7963.11		Zone Map No. J-14-Z	Sheet 4 OF 12



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LEGEND

- PAVED ROAD
- UNPAVED ROAD
- TRAIL
- FENCE
- BUILDING
- LIGHT POLE
- UTILITY POLES
- GUY WIRE
- TREE
- TREE
- TREE & BRUSH LINE
- MANHOLE
- FIRE HYDRANT
- VAULT
- BLOW-OFF VALVE
- WATER VALVE
- WATER METER
- FIRE HYDRANT
- SPRINKLER CONTROL BOX
- ELECTRICAL, PULL BOX
- ELECTRICAL, JUNCTION BOX
- UTILITY, SANITARY MANHOLE
- UTILITY, STORM DRAINAGE MANHOLE
- UTILITY, UNKNOWN MANHOLE
- TV PEDESTAL
- TELEPHONE PEDESTAL
- PROPERTY CORNER, EXISTING
- TRAFFIC SIGNAL
- WATER LINE, UNDERGROUND
- GAS LINE, UNDERGROUND
- TELEVISION LINE, UNDERGROUND
- ELECTRIC LINE, UNDERGROUND
- AREA OF DEMOLITION
- PROPOSED CONCRETE
- PROPOSED ASPHALT
- PROPOSED SEAL COAT
- PROPOSED RETAINING WALL
- PROPOSED RIDGE LINE
- RECORD DRAWING

AS-BUILT INFORMATION

CONTRACTOR	DATE
ALMA U	8/10
DESIGNED BY	DATE
ALMA U	8/10
CHECKED BY	DATE
ALMA U	8/10
RECORDED BY	DATE
ALMA U	8/10

BENCH MARKS

CONTRACTOR	DATE
ALMA U	8/10
DESIGNED BY	DATE
ALMA U	8/10
CHECKED BY	DATE
ALMA U	8/10
RECORDED BY	DATE
ALMA U	8/10

SURVEY INFORMATION

FIELD NOTES	DATE
NO.	
BY	

ENGINEER'S SEAL

16205
1-16-06
ALMA U

REVISIONS

NO.	DATE	REMARKS
1	1/11/08	REVISED GRADING

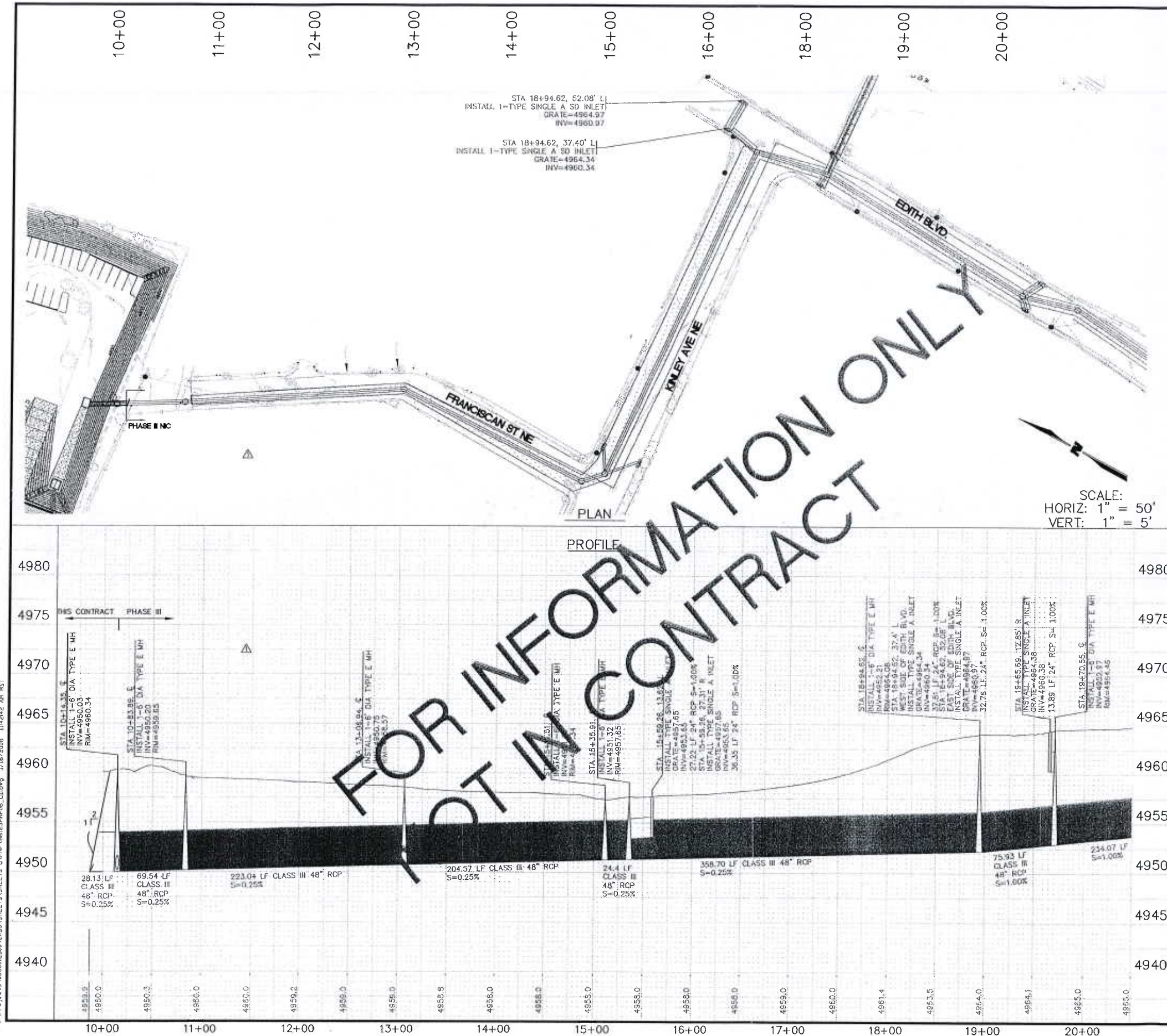
CITY OF ALBUQUERQUE

DEPARTMENT MUNICIPAL DEVELOPMENT
STORM DRAIN DIVISION

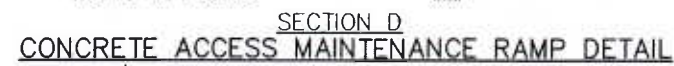
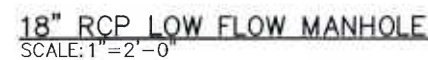
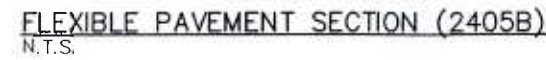
TITLE: FLOOD CONTROL ON-CALL CONTRACT
STORM DRAIN PLAN & PROFILE
STA 10+00 TO 20+00

Design Review Committee: City Engineer Approval

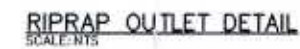
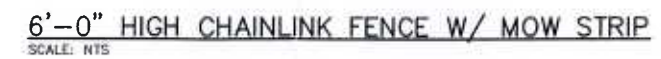
City Project No. 7963.07 Zone Map No. J-14-Z Sheet 8 of 12



LEGEND		AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
PAVED ROAD		CONTRACTOR	N M L U	DATE	8/10	NO.	BY	DATE	8/10
UNPAVED ROAD		DRAWN BY		DATE		NO.	BY	DATE	
TRAIL		CHECKED BY		DATE		NO.	BY	DATE	
FENCE		REVISIONS		DATE		NO.	BY	DATE	
BUILDING		DESIGNED BY		DATE		NO.	BY	DATE	
LIGHT POLE		DRAWN BY		DATE		NO.	BY	DATE	
UTILITY POLES		CHECKED BY		DATE		NO.	BY	DATE	
CITY WIRE		RECORDS		DATE		NO.	BY	DATE	
TREE		MICRO-FILM INFORMATION		DATE		NO.	BY	DATE	
TREE		CONTRACTOR		DATE		NO.	BY	DATE	
TREE		DRAWN BY		DATE		NO.	BY	DATE	
TREE & BRUSH LINE		CHECKED BY		DATE		NO.	BY	DATE	
MANHOLE		REVISIONS		DATE		NO.	BY	DATE	
FIRE HYDRANT		DESIGNED BY		DATE		NO.	BY	DATE	
VAULT		DRAWN BY		DATE		NO.	BY	DATE	
BLOW-OFF VALVE		CHECKED BY		DATE		NO.	BY	DATE	
WATER VALVE		REVISIONS		DATE		NO.	BY	DATE	
WATER METER		DESIGNED BY		DATE		NO.	BY	DATE	
FIRE HYDRANT		DRAWN BY		DATE		NO.	BY	DATE	
SPRINKLER CONTROL BOX		CHECKED BY		DATE		NO.	BY	DATE	
ELECTRICAL, PULL BOX		REVISIONS		DATE		NO.	BY	DATE	
ELECTRICAL, JUNCTION BOX		DESIGNED BY		DATE		NO.	BY	DATE	
UTILITY, SANITARY MANHOLE		DRAWN BY		DATE		NO.	BY	DATE	
UTILITY, STORM DRAINAGE MANHOLE		CHECKED BY		DATE		NO.	BY	DATE	
UTILITY, UNKNOWN MANHOLE		REVISIONS		DATE		NO.	BY	DATE	
TV PEDESTAL		DESIGNED BY		DATE		NO.	BY	DATE	
TELEPHONE PEDESTAL		DRAWN BY		DATE		NO.	BY	DATE	
PROPERTY CORNER, EXISTING		CHECKED BY		DATE		NO.	BY	DATE	
TRAFFIC SIGNAL		REVISIONS		DATE		NO.	BY	DATE	
WATER LINE, UNDERGROUND		DESIGNED BY		DATE		NO.	BY	DATE	
GAS LINE, UNDERGROUND		DRAWN BY		DATE		NO.	BY	DATE	
TELEVISION LINE, UNDERGROUND		CHECKED BY		DATE		NO.	BY	DATE	
ELECTRIC LINE, UNDERGROUND		REVISIONS		DATE		NO.	BY	DATE	
AREA OF DEMOLITION		DESIGNED BY		DATE		NO.	BY	DATE	
PROPOSED CONCRETE		DRAWN BY		DATE		NO.	BY	DATE	

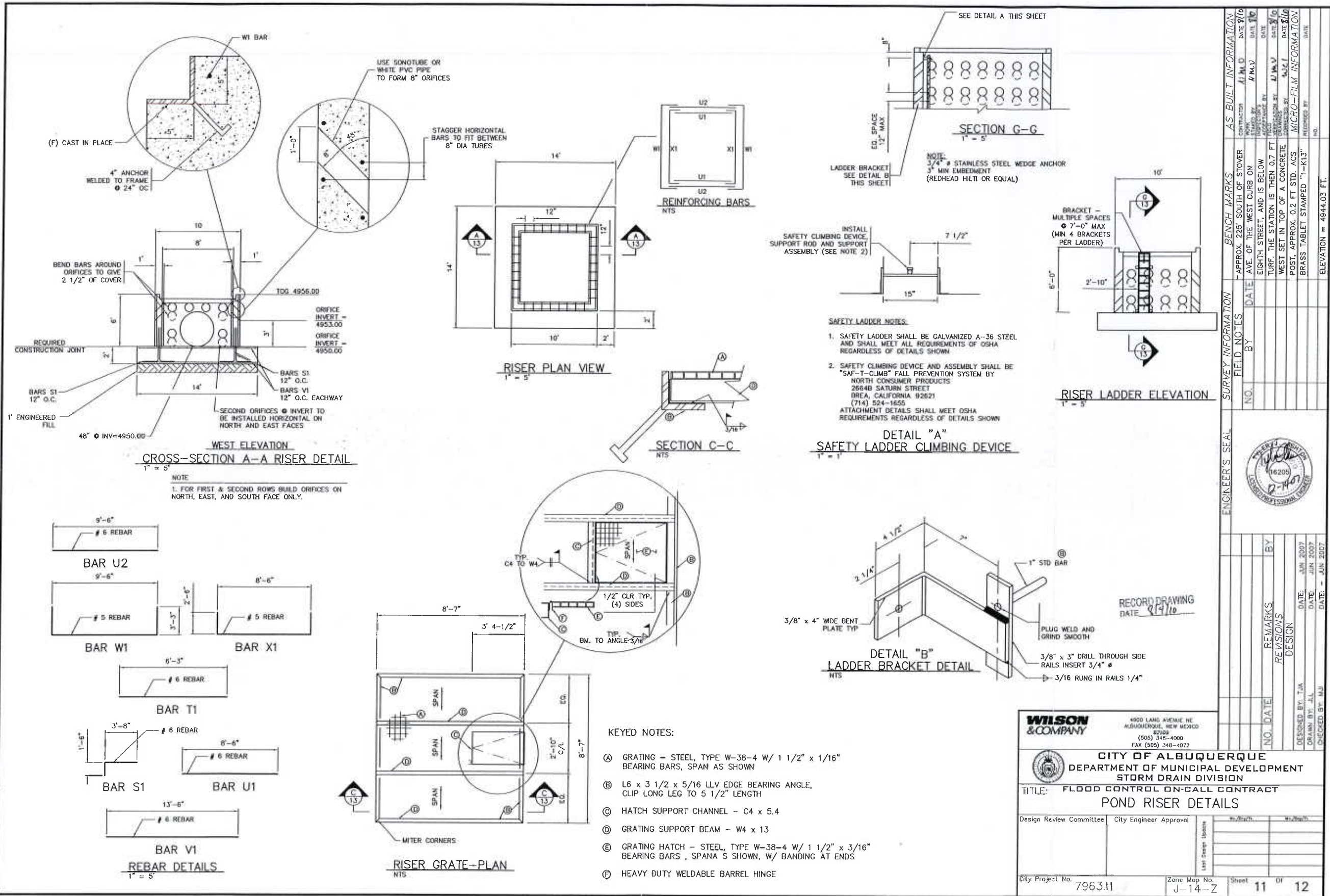


NOTE:
ASPHALT ACCESS ROAD WILL BE INSTALLED AS
PART OF LANDSCAPE TRAIL PLAN
(SEPARATE CONTRACT).

[illegible]

	WILSON & COMPANY	1000 NORTH AVENUE NE ALBUQUERQUE, NEW MEXICO 87103 (505) 348-4000 FAX (505) 348-4072	A	I/I	DA	DESIGNED BY DRAWN BY CHECKED BY	
CITY OF ALBUQUERQUE DEPARTMENT OF MUNICIPAL DEVELOPMENT STORM DRAIN DIVISION							
TITLE: FLOOD CONTROL ON-CALL CONTRACT							
DETAILS							
Design Review Committee	City Engineer Approval	 Lined Drawing Unrecorded	Rev. No./By / Dt.		Rev. No./By / Dt.		
City Project No.	Zone Map No.	SHEET	OF				
7963.11	J-- 14-Z	10	12				

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1-3" LIFT SP-III PAVEMENT COURSE
(SECTION 116.336).

TACK COAT AS REQUIRED BY THE ENGINEER.

1-3" LIFT SP-III PAVEMENT COURSE
(SECTION 116.336).

12" SCARIFIED AND
COMPACTED SUBGRADE R-VALUE>50
95% MIN. PER COA SECTION 301

SEE SECTIONS 202.204 AND 301
FOR CUT, FILL, AND SUBGRADE
CONSTRUCTION REQUIREMENTS

48" RCP

18" RCP

INSTALL 18" RCP LOW FLOW MANHOLE

6'-0" DIA. TYPE E MANHOLE

LOW FLOW

48" RCP

18" RCP LOW FLOW MANHOLE

SCALE: 1"=2'-0"

SECTION D
CONCRETE ACCESS MAINTENANCE RAMP DETAIL

SCALE: 1" = 1'

NOTE:
ASPHALT ACCESS ROAD WILL BE INSTALLED AS
PART OF LANDSCAPE TRAIL PLAN
(SEPARATE CONTRACT).

6'-0" HIGH CHAINLINK FENCE W/ MOW STRIP

SCALE: NTS

6'-0"

2:1

2:1

12"

2:1

2:1

NON-WIRE ENCLOSED
TYPE VL RIPRAP
D₅₀ = 4"

MIRAFI 140-N OR
APPROVED EQUAL

6" SUBGRADE PREP
90% COMPACTION
PER COA SECTION 301

RIPRAP RUNDOWN DETAIL

SCALE: NTS

20'-0"

18"

6"

NON-WIRE ENCLOSED
TYPE VL RIPRAP
D₅₀ = 9"

MIRA1 140-N OR
APPROVED EQUAL

90% COMPACTION
PER CMA SECTION 301

RIPRAP OUTLET DETAIL

SCALE: NTS

RECORD DRAWING
DATE 8/9/10

**WILSON
& COMPANY**

4900 LANG AVENUE NE
ALBUQUERQUE, NEW MEXICO
87109
(505) 348-4000
FAX (505) 348-4072



CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DIVISION

TITLE: FLOOD CONTROL ON-CALL CONTRACT

DETAILS

Design Review Committee	City Engineer Approval
-------------------------	------------------------

[illegible][illegible]

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City Project No.	7067-11	Zone M
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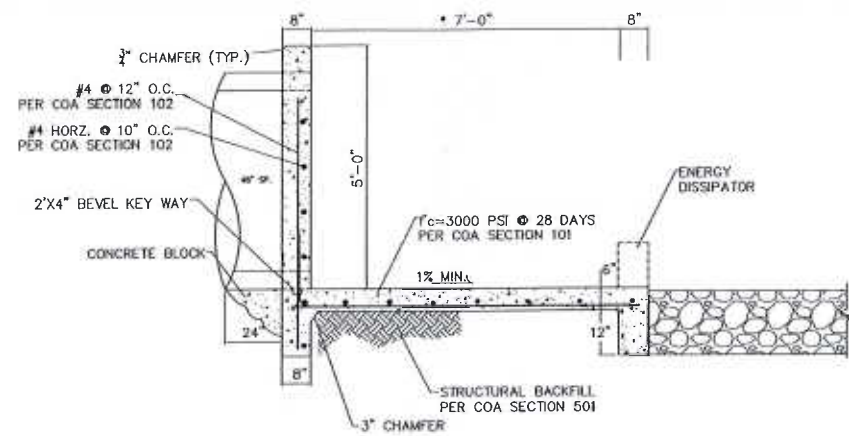
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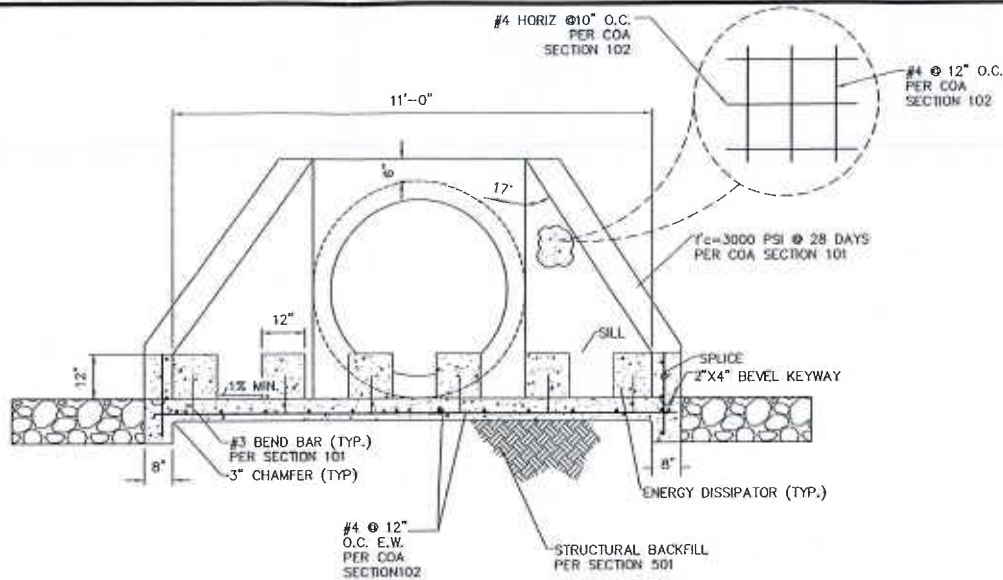
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14-Z	10	12
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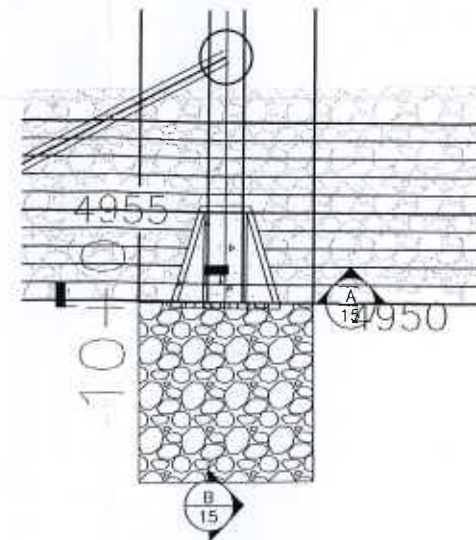
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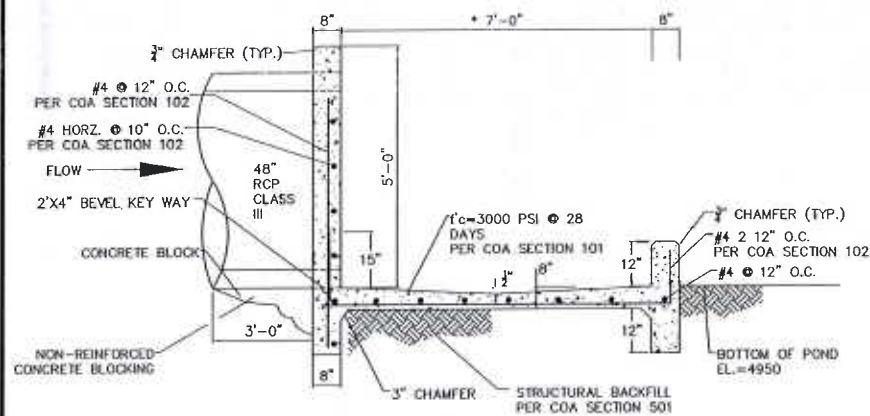
SECTION-B ODELIA STORM DRAIN OUTFALL DETAIL
SCALE: 1" = 2'-0"



SECTION-A ODELIA STORM DRAIN OUTFALL DETAIL
SCALE: 1" = 2'-0"

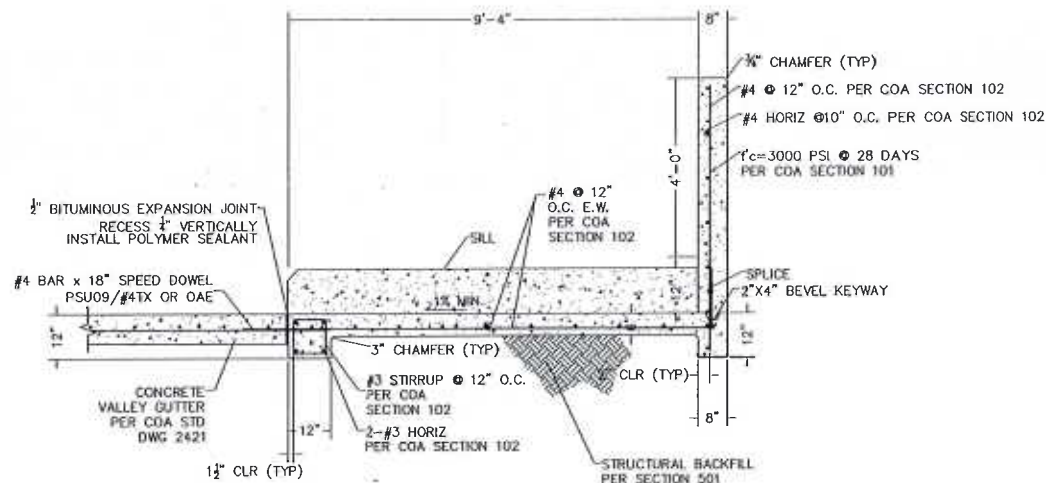


ODELIA STORM DRAIN OUTFALL
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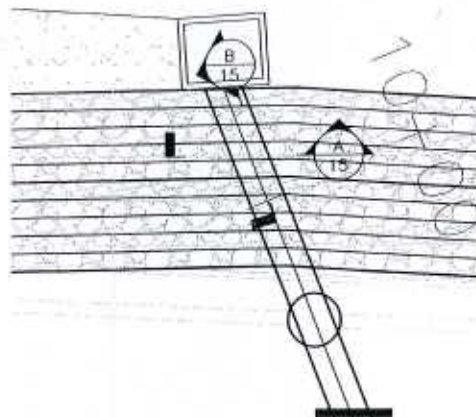


SECTION-B KINLEY STORM DRAIN OUTFALL DETAIL
SCALE: 1" = 2'-0"

* SKEWED DIMENSION MEASURED ALONG CENTERLINE



SECTION-A KINLEY STORM DRAIN OUTFALL DETAIL
SCALE: 1" = 2'-0"



KINLEY STORM DRAIN OUTFALL
SCALE: 1" = 10'-0"

RECORD DRAWING
DATE 8/4/10

WILSON & COMPANY

4500 LANG AVENUE NE
ALBUQUERQUE, NEW MEXICO
87109
(505) 348-4000
FAX (505) 348-4072



CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DIVISION

TITLE: FLOOD CONTROL ON-CALL CONTRACT
OUTFALL DETAILS

Design Review Committee City Engineer Approval

City Project No. 7963.11 Zone Map No. J-14-Z

Sheet 12 of 12