

CONSTRUCTION PLANS FOR MAIN EVENT ENTRANCE & STORM DRAIN IMPROVEMENTS ALBUQUERQUE BERNALILLO COUNTY, NEW MEXICO JUNE 2015

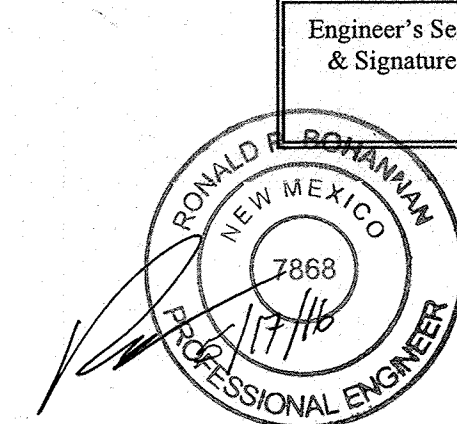


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CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS
I, Ronald R. Bohannon, of the firm of Tierra West LLC, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by me on the as-built construction drawings. This Certification is based on site inspections by me, or personnel under my direction with survey information provided by Brian Martinez, of Cartesian Surveys, Inc., NMPS number 18374.

Engineer's Seal
& Signature



DRB # 1006865

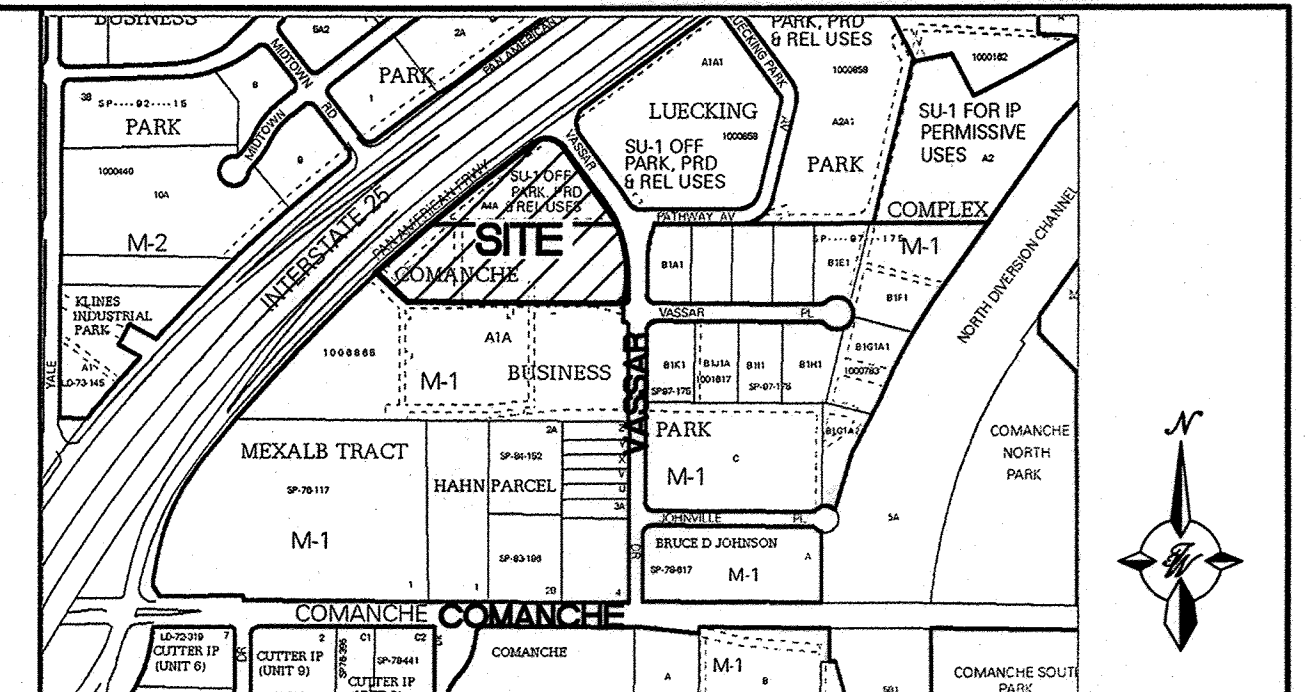
TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NEW MEXICO 87109
505-858-3100
www.tierrawestllc.com

SURVEYOR'S CERTIFICATION

I, BRIAN J. MARTINEZ, A DULY QUALIFIED, REGISTERED, PROFESSIONAL LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THE 'AS-BUILT' INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM FIELD CONSTRUCTION AND 'AS-BUILT' SURVEYS PERFORMED BY ME OR UNDER MY SUPERVISION, THAT THE 'AS-BUILT' INFORMATION SHOWN ON THESE DRAWINGS WAS ADDED BY ME OR UNDER MY SUPERVISION, AND THAT THIS 'AS-BUILT' INFORMATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. CARTESIAN SURVEYS IS NOT RESPONSIBLE FOR ANY OF THE DESIGN CONCEPTS, CALCULATIONS, ENGINEERING, OR INTENT OF THE RECORDED DRAWINGS.

Brian J. Martinez
BRIAN J. MARTINEZ, NMPS 18374

3/22/16 (wv only)



VICINITY MAP G-16-Z
SCALE NONE

NOTICE TO CONTRACTORS

1. 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 (UPDATE #8).
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. ANY WORK AFFECTING AN ARTERIAL ROADWAY REQUIRES 24-HOUR CONSTRUCTION.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR SURVEYOR IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. SEVEN (7) WORKING DAYS PRIOR TO BEGINNING OF CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO CONSTRUCTION COORDINATION DIVISION A DETAILED CONSTRUCTION SCHEDULE. TWO(2) WORKING DAYS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADE PERMIT FROM THE CONST. COORDINATION DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (924-3400) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO STANDARD SPECIFICATIONS.
6. ALL STREET STRIPING ALTERED OR DESTROYED SHALL BE REPLACED WITH PLASTIC REFLECTORIZED PAVEMENT MARKINGS BY THE CONTRACTOR TO LOCATION AS EXISTING OR AS INDICATED BY THIS PLAN SET.
7. 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 ENGINEER 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. ANY PERMANENT SURVEY MONUMENT LOCATED WITHIN 50' OF THIS PROJECT THAT IS NOT SHOWN ON THE PLAN AND IS DESTROYED DURING CONSTRUCTION WILL BE REPLACED AT THE DESIGNER'S EXPENSE.
8. CONTRACTOR SHALL MAINTAIN A GRAFFITI-FREE WORK SITE. CONTRACTOR SHALL PROMPTLY REMOVE ANY AND ALL GRAFFITI FROM EQUIPMENT, WHETHER PERMANENT OR TEMPORARY.
9. FOR STORM DRAIN CONSTRUCTION, RCP PIPE JOINTS SHALL NOT BE GROUTED PRIOR TO FINAL INSPECTION. FINAL INSPECTION WILL DETERMINE JOINTS TO BE GROUTED FOR FINAL ACCEPTANCE OF THE CONSTRUCTION.
10. ALL UTILITY WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH NEW MEXICO UTILITIES, INC. SPECIFICATIONS FOR WATER AND WASTEWATER FACILITIES (MOST RECENT REVISIONS).
11. THE CONTRACTOR SHALL COORDINATE WITH THE WATER AUTHORITY SEVEN (7) DAYS IN ADVANCE OF PERFORMING WORK THAT WILL AFFECT THE PUBLIC WATER OR SANITARY SEWER INFRASTRUCTURE. WORK REQUIRING SHUTOFF OF FACILITIES DESIGNATED AS MASTER PLAN FACILITIES MUST BE COORDINATED WITH THE WATER AUTHORITY 14 DAYS IN ADVANCE OF PERFORMING SUCH WORK. ONLY WATER AUTHORITY CREWS ARE AUTHORIZED TO OPERATE PUBLIC VALVES. SHUTOFF REQUESTS MUST BE MADE ONLINE AT <http://abowua.org/content/view/full/463/779>
12. ALL EXCAVATION, TRENCHING, AND SHORING ACTIVITIES MUST BE CARRIED OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.
13. ELECTRONIC MARKER DEVICES (EMS) WILL BE PLACED ACCORDING TO SECTION 170 OF THE COA STANDARD SPECIFICATIONS.
14. CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRUCTION SIGNING UNTIL PROJECT HAS BEEN ACCEPTED BY THE COA.

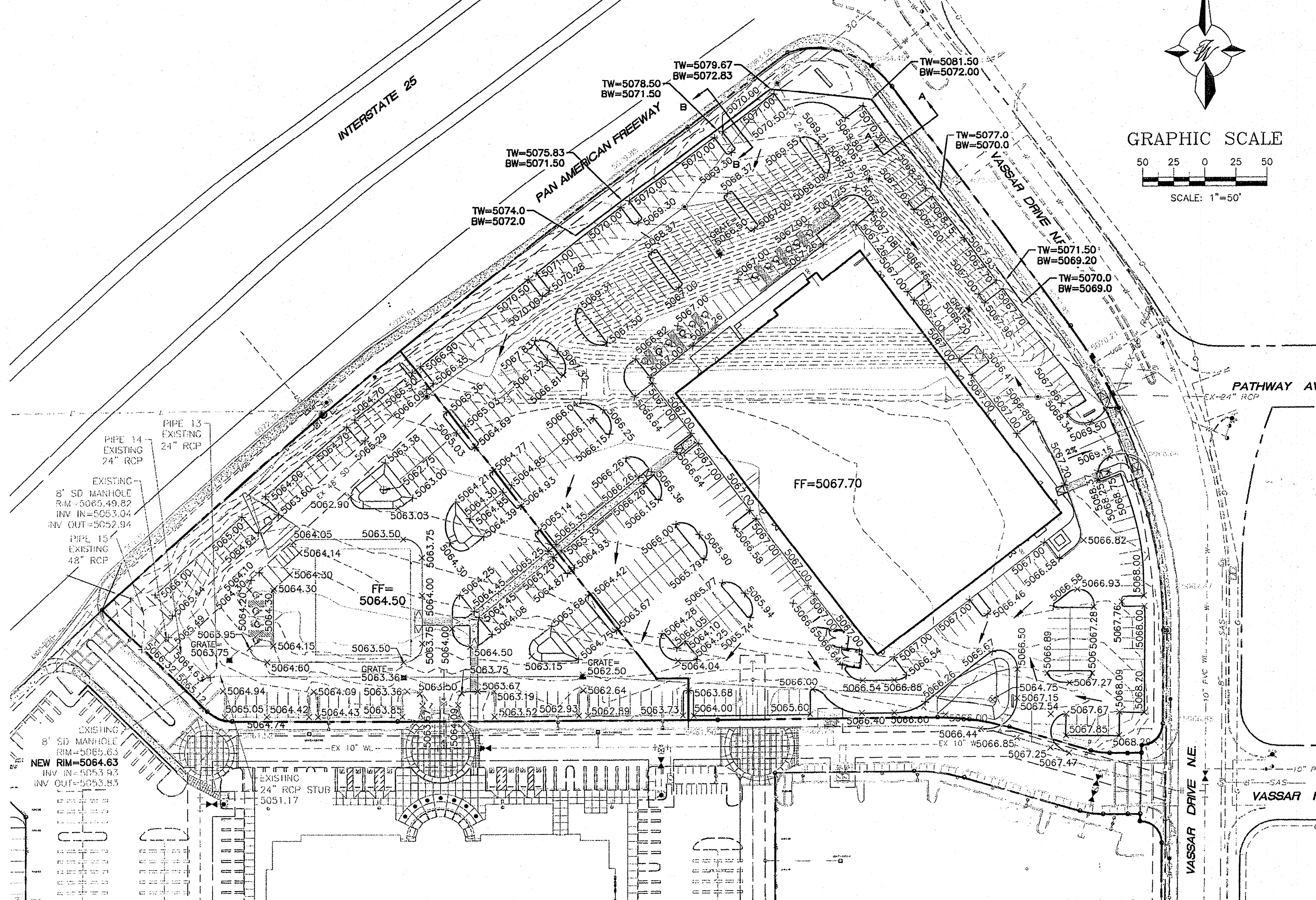
THE FOLLOWING NOTES ALSO APPLY WHEN CHECKED

- ☒ ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- ☒ BACKFILL COMPACTION SHALL BE ACCORDING TO SPECIFIED STREET USE.
- ☐ TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE PROJECT ENGINEER.
- ☒ SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- ☐ IF CURB IS DEPRESSURED 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.

REV	SHEETS	CITY ENGINEER	DATE	USER DEPT.	DATE	USER DEPT.	DATE
ENGINEERS STAMP & SIGNATURE		APPROVALS		ENGINEER	DATE	*****	
		DRC Chairman		<i>[Signature]</i>	9-04-15	APPROVED FOR CONSTRUCTION	
		Transportation		<i>[Signature]</i>	7-10-15		
		Water/Wastewater		<i>[Signature]</i>	6-24-15		
		Hydrology		<i>[Signature]</i>	9-3-15		
		AMAFCA					
		Constr. Mngmt.					
		Constr. Coord.					
CITY PROJECT NO.		733182		SHEET		OF	
RONALD R. BOHANNAN P.E. #7868				1		8	

NOTE

ALL SPOT ELEVATIONS ARE AT FLOWLINE UNLESS OTHERWISE SPECIFIED.

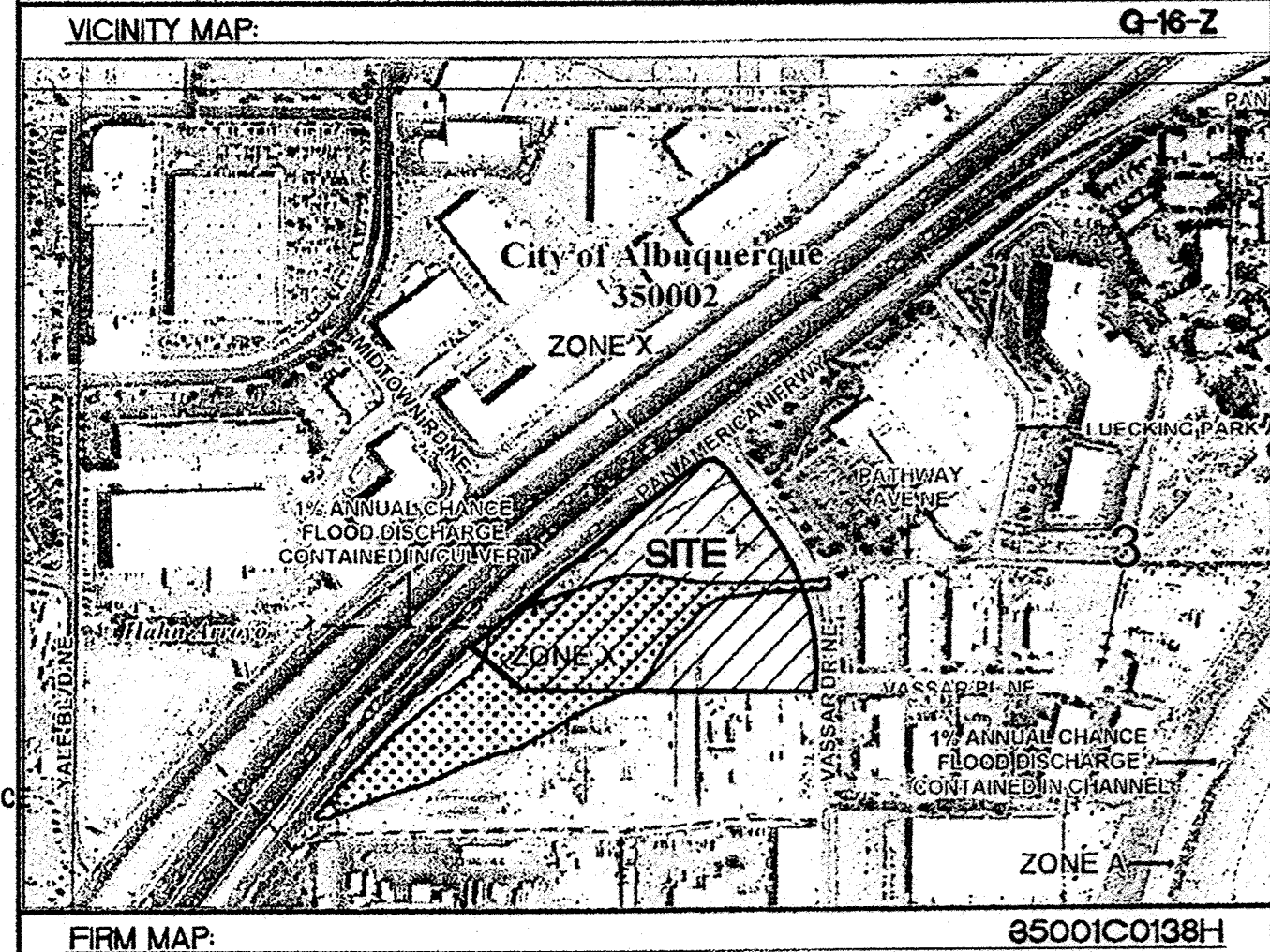
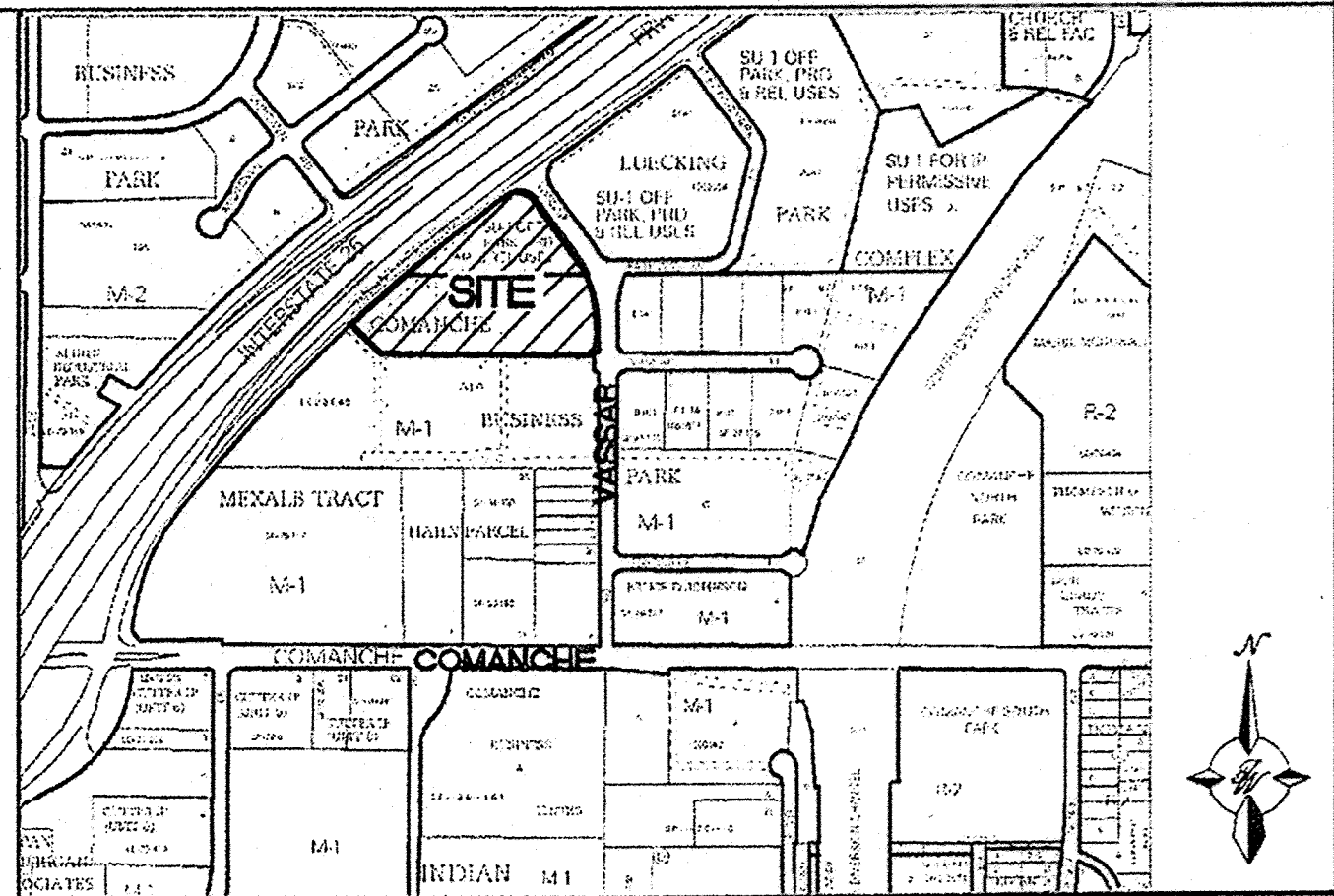


LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- SCREEN WALL
- RETAINING WALL
- 5010 — CONTOUR MAJOR
- 5011 — CONTOUR MINOR
- x 5048.25 SPOT ELEVATION
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE
- 5010 — EXISTING CONTOUR MAJOR
- 5011 — EXISTING CONTOUR MINOR
- x 5048.25 EXISTING SPOT ELEVATION

EROSION CONTROL NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.



PROPOSED SITE DRAINAGE

THIS SITE WILL BE DEVELOPED WITH AN ENTERTAINMENT/RESTAURANT BUILDING ON THE PAD ALONG VASSAR DRIVE AND A FUTURE RESTAURANT PAD SITE ALONG THE PAN AMERICAN FREEWAY. THE TEMPORARY RETENTION POND WILL BE ELIMINATED AND THE EXISTING 42-INCH PUBLIC STORM SEWER WILL BE REROUTED AND CONNECTED TO AN EXISTING 48-INCH PUBLIC STORM SEWER CONSTRUCTED WITH THE CARPENTERS TRAINING CENTER DEVELOPMENT (G16/D145). THE SITE WILL UTILIZE LOW IMPACT DEVELOPMENT (LID) WHERE POSSIBLE ALLOWING SURFACE STORM WATER TO FLOW THROUGH LANDSCAPED AREAS PRIOR TO DISCHARGING TO THE STORM SEWER. THERE ARE SEVEN PROPOSED BASINS AS SHOWN ON THE PROPOSED BASIN MAP ON SHEET C6.

BASIN A CONSISTS OF THE BUILDING WITH ALL OF THE ROOF DRAINAGE FLOWING TO THE BACK OF THE BUILDING AND CONVEYED TO THE PARKING LOT VIA EXTERNAL ROOF DRAINS. THESE FLOWS ALONG WITH THE PARKING LOT FLOWS WILL DRAIN TO A LANDSCAPED PONDING AREA WITH A STAND PIPE WHICH TRASH AND SEDIMENT CAN BE CAPTURED PRIOR TO THE STORM WATER ENTERING A STORM SEWER SYSTEM. THIS BASIN WILL GENERATE A 100-YEAR PEAK FLOW OF 8.62 CFS.

BASIN B CONSISTS OF THE SOUTHWEST PARKING LOT WHERE SURFACE STORM WATER WILL BE ROUTED THROUGH LANDSCAPING PRIOR TO DISCHARGING TO A DROP INLET AT A 100-YEAR PEAK FLOW OF 5.11 CFS.

BASIN C CONSISTS OF A PART OF THE FUTURE RESTAURANT PAD. THIS BASIN WILL GENERATE A DEVELOPED 100-YEAR PEAK FLOW OF 1.54 CFS AND WILL DISCHARGE INTO A DROP INLET.

BASIN D CONSISTS OF A PORTION OF THE FUTURE RESTAURANT PAD AND WILL GENERATE A DEVELOPED 100-YEAR PEAK FLOW OF 1.46 CFS WHICH DISCHARGES INTO A DROP INLET.

BASIN E CONSISTS OF A PARKING LOT WHERE THE TEMPORARY RETENTION POND IS BEING RECLAIMED. AN EXISTING 42-INCH PUBLIC STORM SEWER (93.4 CFS) ENTERS THIS BASIN FROM THE WEST AND WILL BE REALIGNED TO THE NORTH TO INTERCEPT AN EXISTING PUBLIC 24-INCH STORM SEWER (24.5 CFS) THAT ENTERS THE SITE FROM THE NORTH. THIS BASIN WILL GENERATE A 100-YEAR PEAK FLOW OF 3.45 CFS AND DISCHARGE TO A DROP INLET CONNECTED TO THE 42-INCH STORM SEWER.

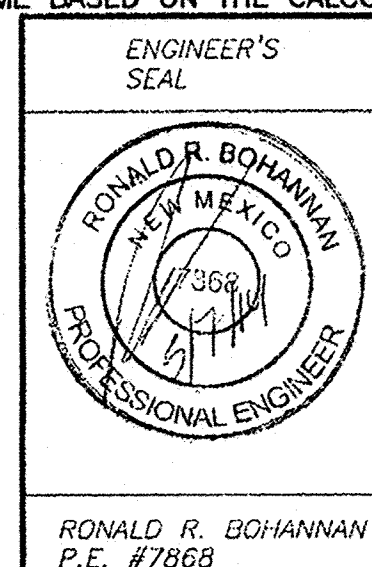
BASIN F CONSISTS OF A PARKING LOT GENERATING A 100-YEAR PEAK FLOW OF 3.44 CFS WHICH DISCHARGES TO A DROP INLET.

BASIN G CONSISTS OF A PARKING LOT AND THE REMAINING PORTION OF THE FUTURE RESTAURANT PAD. THE REALIGNED 42-INCH PUBLIC STORM SEWER WILL BE CONNECTED TO AN EXISTING 48-INCH PUBLIC STORM SEWER THAT WAS DESIGNED TO CONTAIN ALL OF THE DEVELOPED FLOW FROM THIS PROPERTY AS WELL AS FROM THE PATHWAY OFFICE PARK. THIS BASIN GENERATES A 100-YEAR PEAK FLOW OF 6.25 CFS.

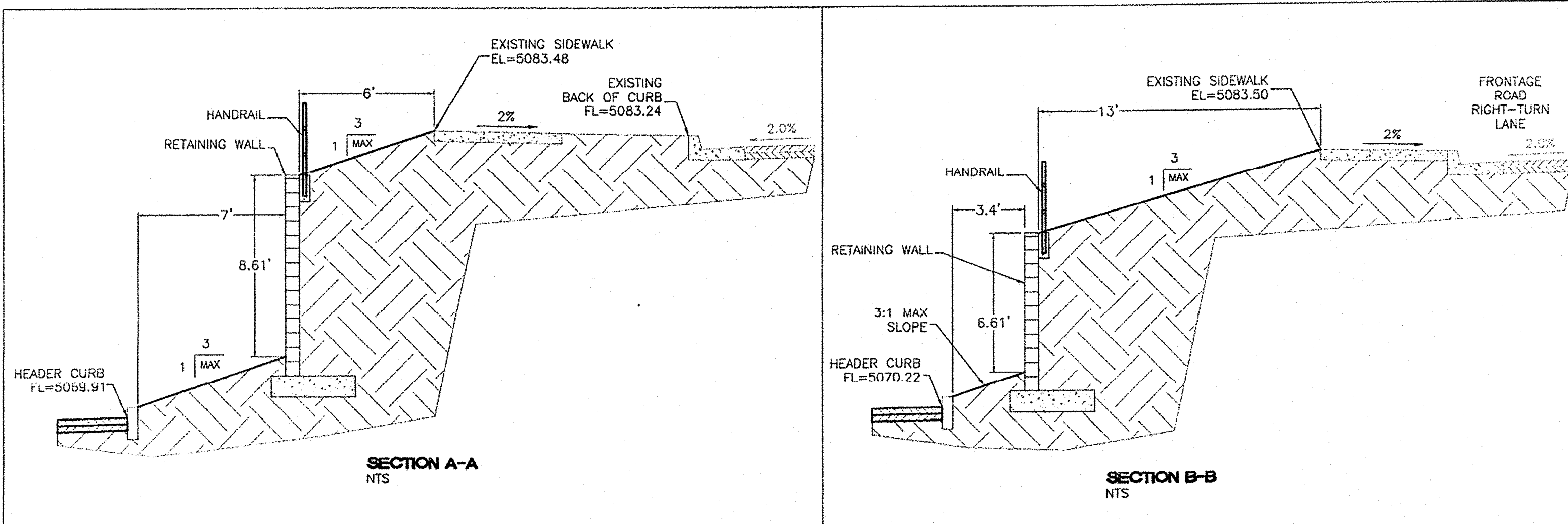
ALL OF THE STORM SEWER CONSTRUCTED WITH THIS PROJECT WILL BE CONNECTED TO AN EXISTING 48-INCH STORM SEWER CONSTRUCTED WITH THE CARPENTERS TRAINING CENTER PROJECT. THE PREVIOUSLY APPROVED DRAINAGE REPORT FOR CARPENTERS CENTER ESTIMATED A TOTAL DEVELOPED DISCHARGE THROUGH THAT PIPE OF 159.55 CFS. THIS PROJECT WILL GENERATE A TOTAL DEVELOPED 100-YEAR FLOW OF 29.88 CFS AND COMBINED WITH THE 117.9 CFS FROM THE PATHWAY OFFICE PARK DEVELOPMENT WILL DISCHARGE A 100-YEAR FLOW OF 147.79 CFS WHICH IS LESS THAN THE 159.55 CFS PREVIOUSLY APPROVED. THE PROPOSED STORM SEWER WAS ANALYZED USING STORMCAD AND A PROFILE IS PROVIDED ON SHEET C6. AS SHOWN IN THAT PROFILE THE HGL FOR THE SYSTEM STAYS WELL WITHIN THE STORM SEWER.

IN ORDER TO MEET THE FIRST FLUSH REQUIREMENTS STORM WATER WILL BE ROUTED THROUGH LANDSCAPED AREAS WHERE POSSIBLE. THERE ARE SMALL RETENTION PONDS LOCATED IN BASINS A, B AND G TO RETAIN THE REQUIRED VOLUME BASED ON THE CALCULATIONS SHOWN SHEET C6.

FOR
REFERENCE
ONLY



MAIN EVENT		DRAWN BY
PAN AM FREEWAY AND VASSAR AV.		BJF
DATE		05/06/15
GRADING PLAN		SHEET #
TERRA WEST LLC		C5
5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierwestllc.com		JOB # 2015015



EXISTING SITE DRAINAGE

THE 6.82 ACRE SITE IS LOCATED AT THE SOUTHEAST CORNER OF PAN AMERICAN FREEWAY AND VASSAR DRIVE NE. THE SITE IS BOUNDED ON THE NORTH AND WEST BY PAN AMERICAN FREEWAY, ON THE EAST BY VASSAR DRIVE NE AND ON THE SOUTH BY AN INDUSTRIAL/MANUFACTURING DEVELOPMENT.

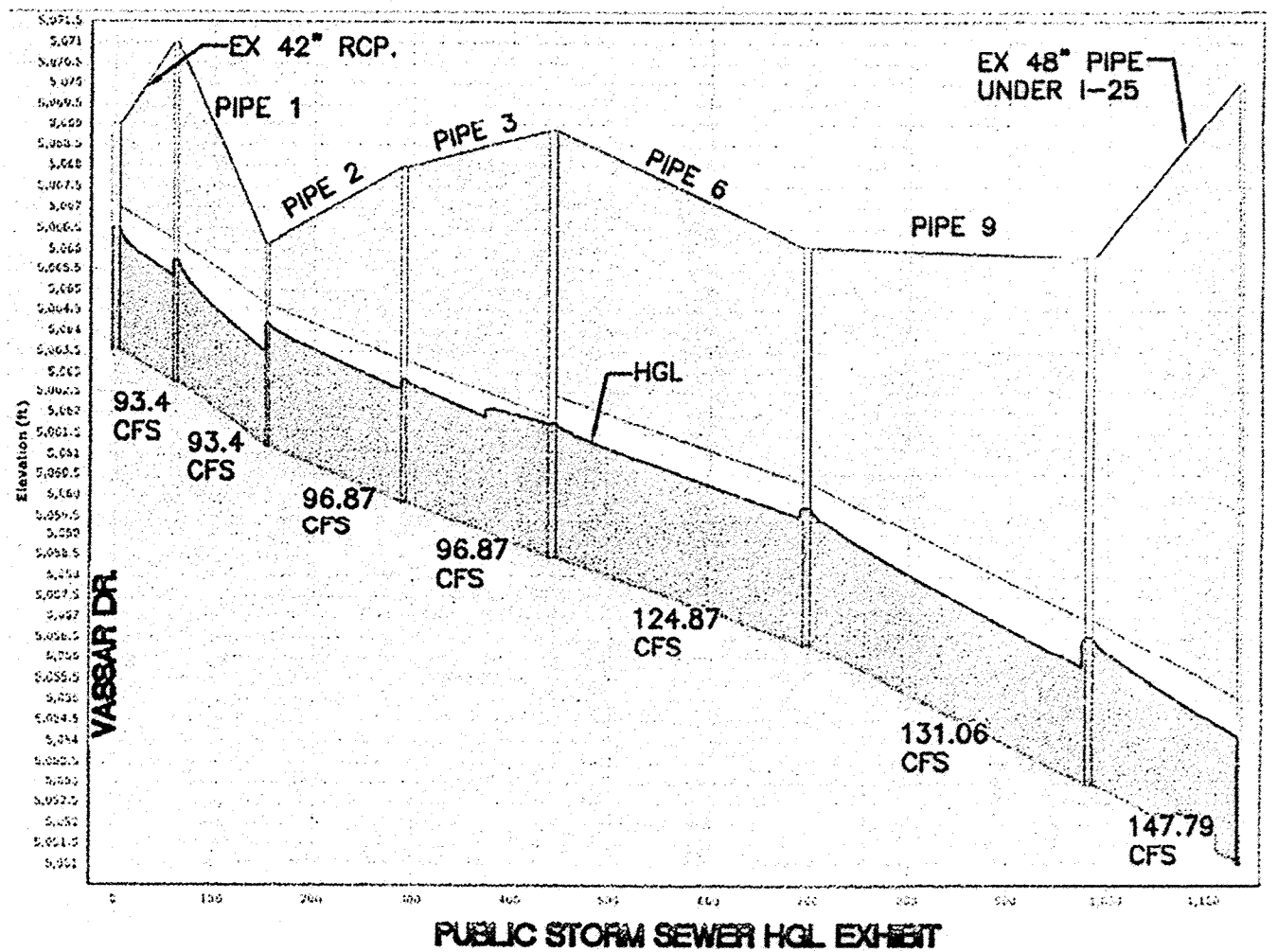
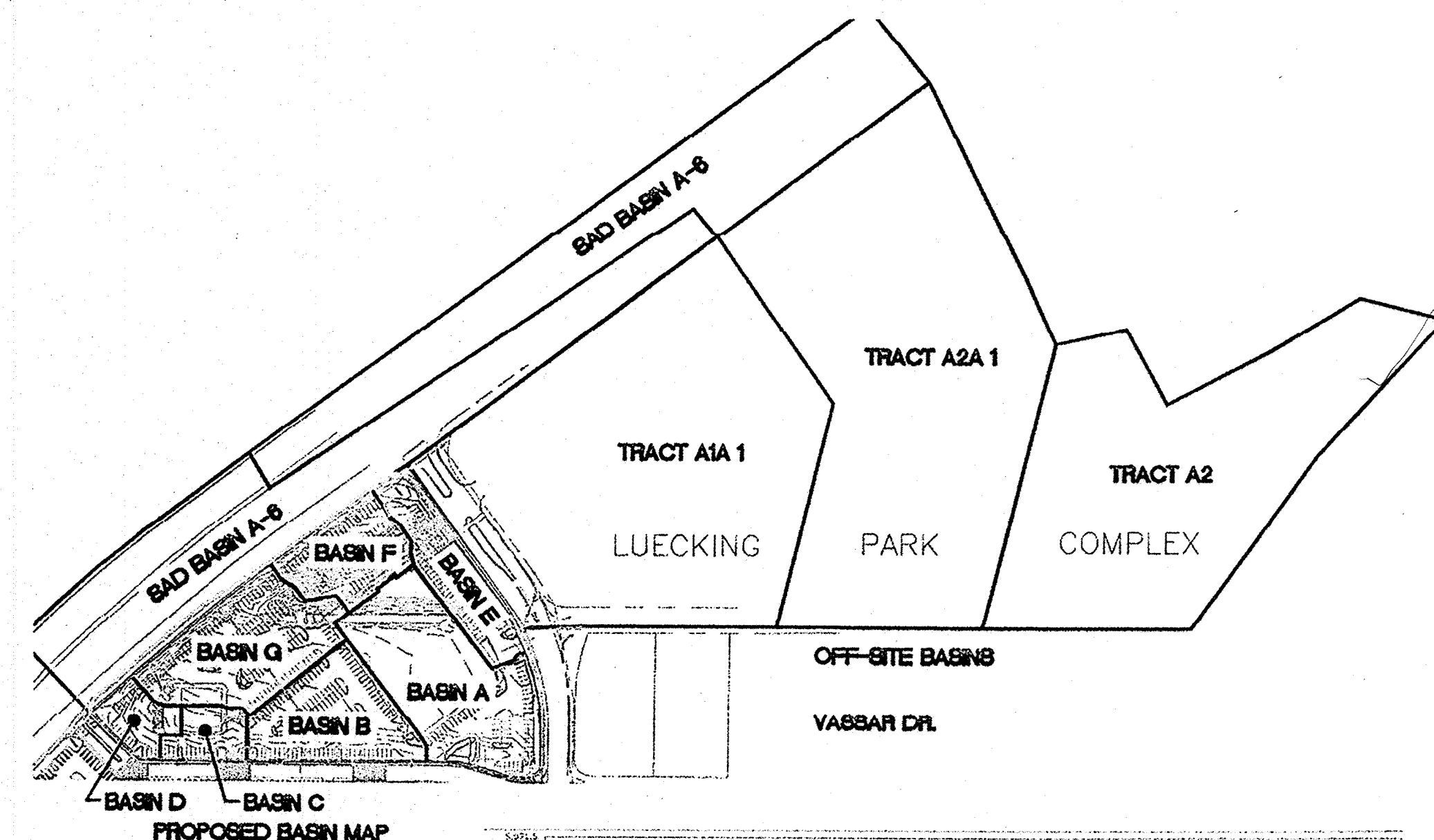
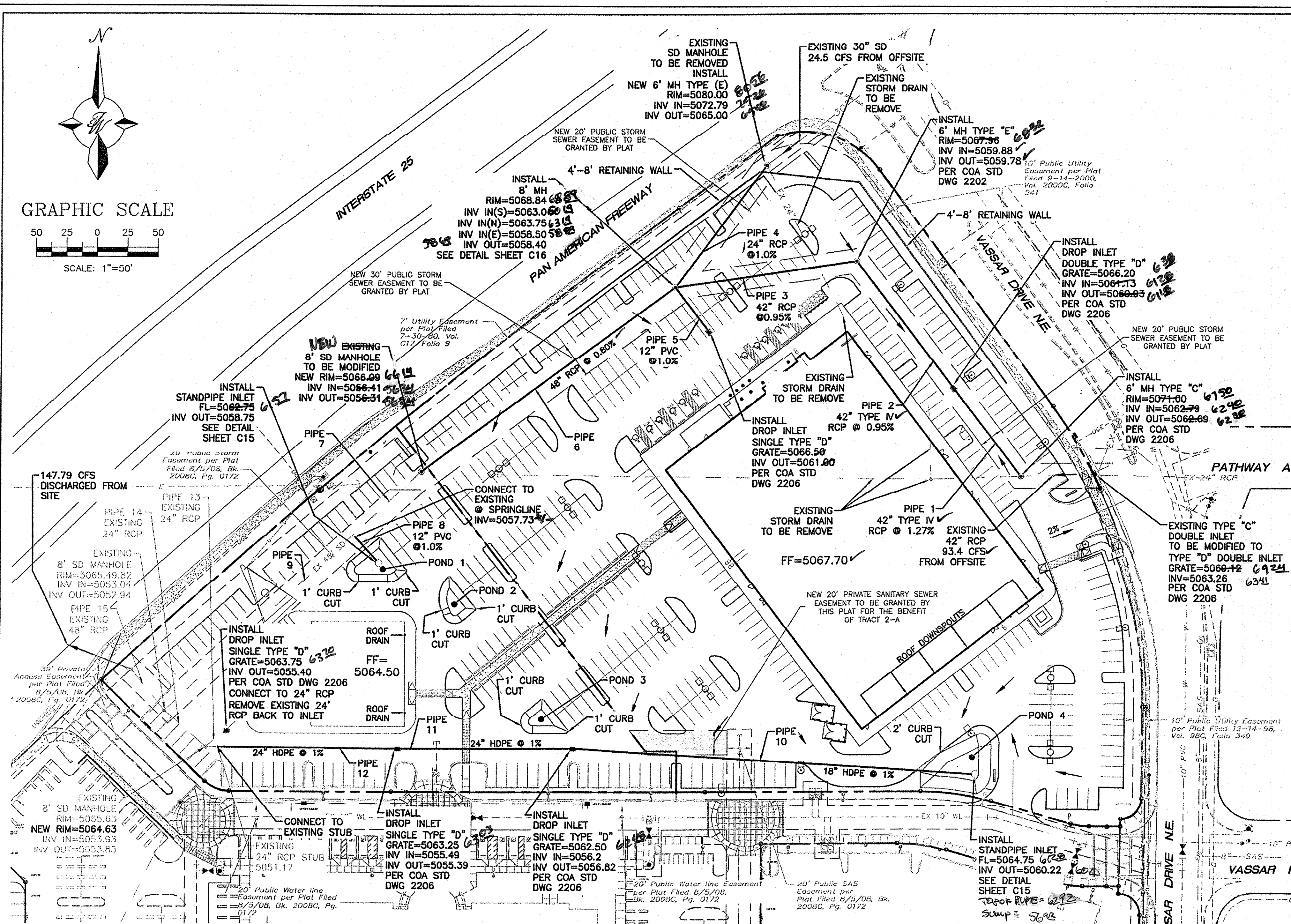
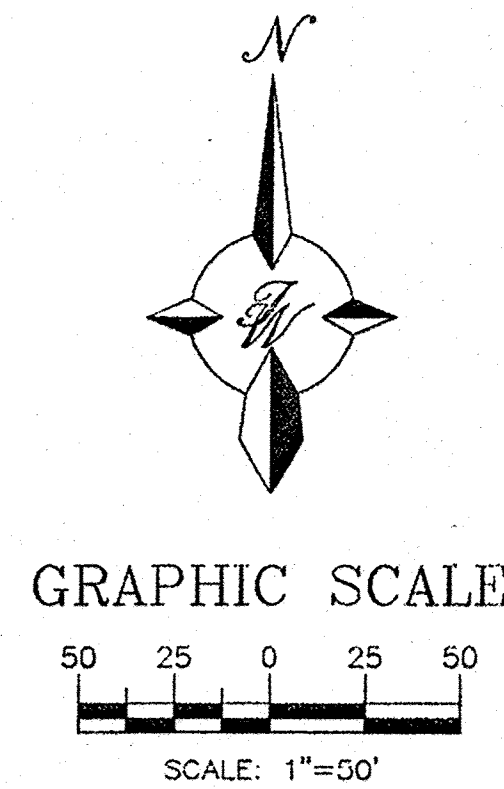
THE SITE IS CURRENTLY VACANT WITH ONE THIRD OF THE PROPERTY BEING A TEMPORARY RETENTION POND FOR THE PATHWAY OFFICE PARK (G16/D114) AND THE REMAINING TWO THIRDS DRAINING FROM EAST TO WEST TO A TEMPORARY DESILTING POND AND STORM SEWER INLET WHERE THE WATER IS THEN CONVEYED BY STORM SEWER AND OPEN CHANNEL TO THE GRIEGOS POND THAT WAS CONSTRUCTED WITH SAD 216.

THERE ARE OFF-SITE FLOWS ENTERING THE POND FROM THE PATHWAY OFFICE PARK DEVELOPMENT AS WELL AS MINIMAL FLOWS FROM THE PAN AMERICAN FREEWAY. THIS SITE IS LOCATED IN A SHADED "X" ZONE AS SHOWN ON FIRM MAP #3500100138H.

BASED ON THE APPROVED DRAINAGE REPORT FOR THE CARPENTERS TRAINING CENTER (G16/D145) THIS PROJECT MAY DISCHARGE A TOTAL OF 159.55 CFS WHICH TAKES INTO ACCOUNT ALL OF THE STORM WATER ENTERING THE TEMPORARY RETENTION POND AS WELL AS FLOWS FROM INTERSTATE 25. PLEASE SEE THE BASIN MAP ON SHEET C6 FOR ALL OF THE BASINS DRAINING THROUGH THE PIPE UNDER INTERSTATE 25. THE INFORMATION PERTAINING TO THE AMOUNT OF DISCHARGE ALLOWED FROM THIS PARCEL IS DETAILED ON PAGE 12 OF THE CARPENTERS TRAINING CENTER REPORT. ALL OF THE FLOWS WILL PASS THROUGH AN EXISTING 48" RCP UNDER INTERSTATE 25 WHICH HAS A CAPACITY FOR 181 CFS. THIS PIPE DAYLIGHTS INTO A PONDING AREA WEST OF THE INTERSTATE AND EVENTUALLY DRAINS INTO THE GRIEGOS POND.

THE TEMPORARY RETENTION POND RECEIVES 24.5 CFS FROM A STORM SEWER THAT RUNS ALONG INTERSTATE 25 AND ANOTHER 93.4 CFS FROM THE STORM SEWER IN VASSAR DRIVE. ONCE A CONNECTION IS MADE BETWEEN THOSE STORM SEWERS AND THE ONE UNDER INTERSTATE 25 THE POND MAY BE RECLAIMED FOR DEVELOPMENT.

THE CARPENTERS TRAINING CENTER REPORT SHOWS A HIGHER FLOW RATE (159.55 CFS) THAN THE SAD 216 REPORT (101 CFS) DUE TO USING THE RAW BASIN DRAINAGE NUMBERS WITHOUT ROUTING THEM ALONG WITH A CHANGE IN THE PERCENTAGE OF LAND TREATMENTS FROM 15% "A", 15% "B", 70% "D" TO 20% "B" AND 80% "D". THE INCREASE IN FLOW PROVIDES A MORE CONSERVATIVE FLOW AMOUNT TO ENSURE ALL OF THE DOWNSTREAM DRAINAGE FACILITIES HAVE CAPACITY FOR THE UPLAND FLOWS AS IDENTIFIED IN SAD 216. THE CHANGE IN LAND TREATMENT NUMBERS DID INCREASE THE VOLUME GENERATED FROM THIS AREA AND THAT IS CAPTURED IN A PONDING AREA BETWEEN INTERSTATE 25 AND YALE BOULEVARD AS DISCUSSED ON PAGE 12 OF THE CARPENTERS TRAINING CENTER DRAINAGE REPORT.



Pipe Capacity							
Pipe	D (in)	Slope (%)	Area (sq ft)	R	Q Provided (cfs)	Q Required (cfs)	Velocity (ft/s)
1	42	1.27	9.82	0.875	119.69	93.40	9.71
2	42	0.95	9.82	0.875	98.33	96.87	10.07
3	42	0.95	9.82	0.875	98.33	96.87	10.07
4	24	1.25	3.14	0.500	26.36	24.50	7.80
5	12	1.00	0.79	0.250	3.57	3.44	4.38
6	48	0.80	12.57	1.000	128.82	124.81	9.93
7	48	1.17	12.57	1.000	155.79	124.81	9.93
8	12	3.40	0.79	0.250	6.59	6.25	7.96
9	48	1.17	12.57	1.000	155.79	131.06	10.43
10	18	1.00	1.77	0.375	10.53	8.62	4.88
11	24	1.00	3.14	0.500	22.68	13.73	4.37
12	24	1.00	3.14	0.500	22.68	15.27	4.86
13	24	6.97	3.14	0.500	59.89	1.46	0.46
14	24	1.98	3.14	0.500	31.92	16.73	5.33
15	48	2.65	12.57	1.000	234.46	147.79	11.76

Manning's Equation
 $Q = 1.49n \cdot A \cdot R^{2/3} \cdot S^{1/2}$
A = Area
R = D/4
S = Slope
n = 0.013

Weighted E Method

On-Site Basins									
Basin	Area (sq ft)	Area (acres)	Treatment A (%)	Treatment B (%)	Treatment C (%)	Treatment D (%)	Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
A	83,352	1.91	0%	8%	0.15	0%	0.00	92%	1.76
B	49,888	1.15	0%	10%	0.11	0%	0.00	90%	1.03
C	14,756	0.34	0%	6%	0.02	0%	0.00	94%	0.32
D	15,034	0.35	0%	19%	0.07	0%	0.00	81%	0.28
E	36,072	0.83	0%	22%	0.18	0%	0.00	78%	0.65
F	34,539	0.79	0%	15%	0.12	0%	0.00	85%	0.67
G	63,131	1.45	0%	16%	0.23	0%	0.00	84%	1.22

Equations:			
Weighted E = $E_a \cdot A_a + E_b \cdot A_b + E_c \cdot A_c + E_d \cdot A_d$ / (Total Area)			
Volume = Weighted E * Total Area			
Flow = $Q_a \cdot A_a + Q_b \cdot A_b + Q_c \cdot A_c + Q_d \cdot A_d$			

Excess Precipitation, E (inches)			
Zone 2	100-Year	10-Year	
E _a	0.53	0.13	
E _b	0.78	0.28	
E _c	1.13	0.52	
E _d	2.12	1.34	

Peak Discharge (cfs/acre)			
Zone 2	100-Year	10-Year	
Q _a	1.56	0.38	
Q _b	2.68	0.95	
Q _c	3.14	1.71	
Q _d	4.70	3.14	

LEGEND

- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- CENTERLINE
- RIGHT-OF-WAY
- BUILDING
- SIDEWALK
- RETAINING WALL
- FLOW ARROW
- EXISTING CURB & GUTTER
- EXISTING BOUNDARY LINE

EROSION CONTROL NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.

FIRST FLUSH CALCULATIONS

5.93 ACRES OF IMPERVIOUS AREA = 258,311 SQ. FT
258,311 SQ. FT * (0.34"/12") = 7,319 CU. FT = 0.168 AC-FT OF VOLUME REQUIRED TO BE RETAINED ON-SITE.

CAUTION:
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS. PRIOR TO STARTING THE WORK, ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

FOR REFERENCE ONLY

ENGINEER'S SEAL

RONALD R. BOHANNAN
P.E. #7868

MAIN EVENT
PAN AM FREEWAY AND VASSAR AV.

DRAINAGE PLAN

5571 MIDWAY PARK PLACE NE
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(505) 858-3100
www.tierrowestllc.com

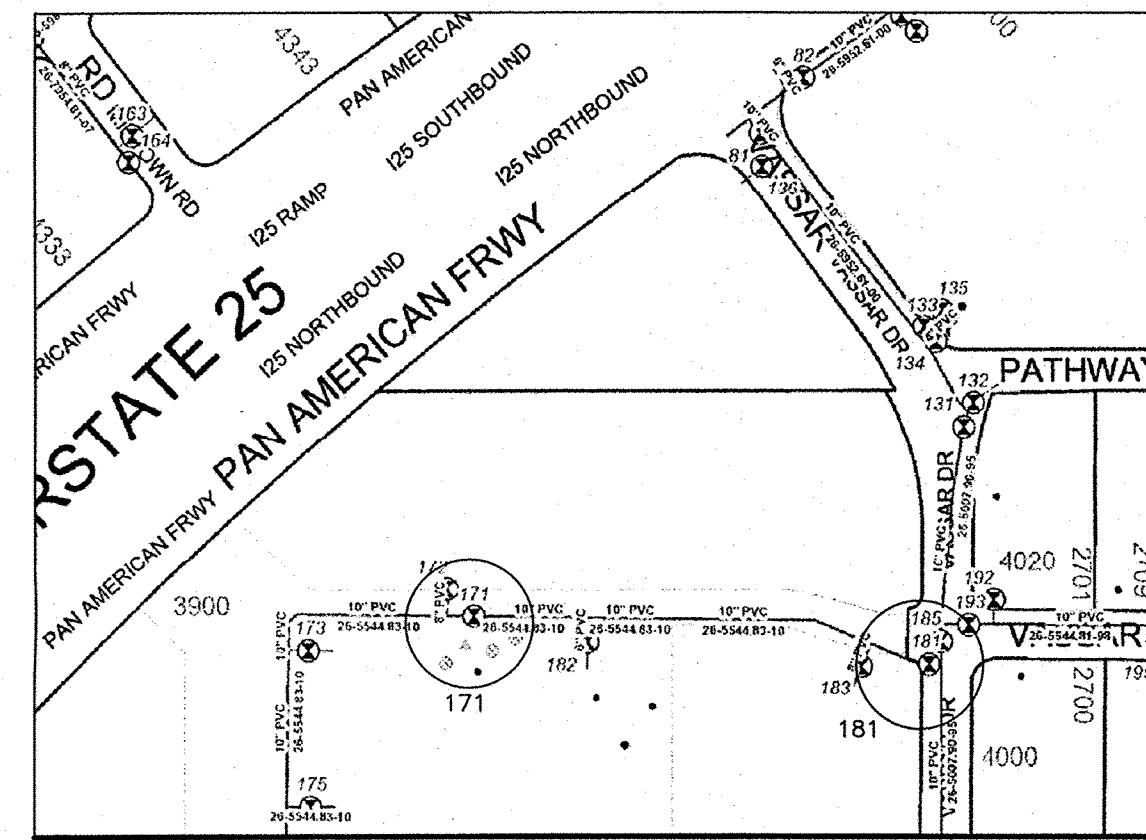
DRAWN BY
BJF

DATE
05/06/15

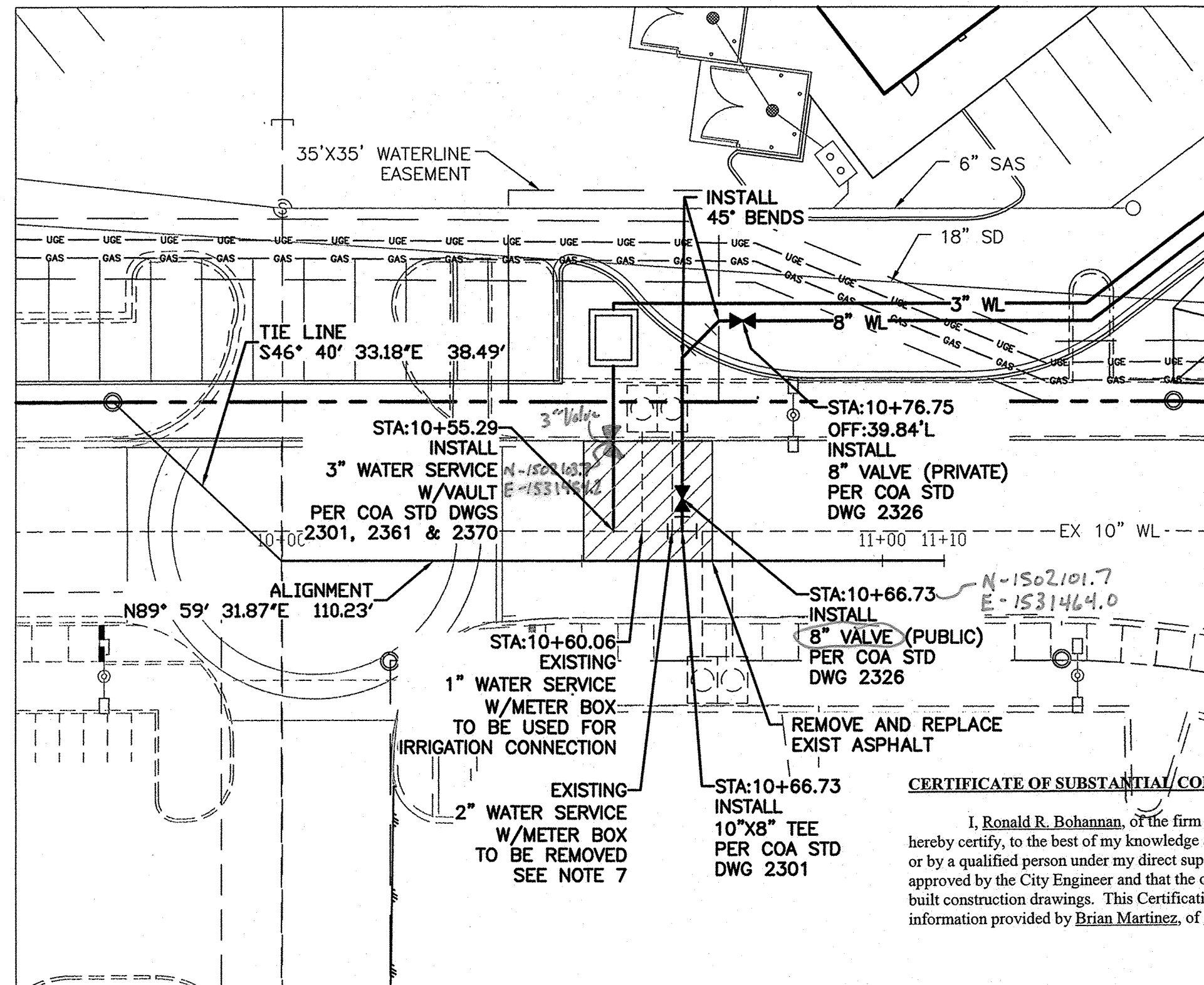
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SHEET #
C6

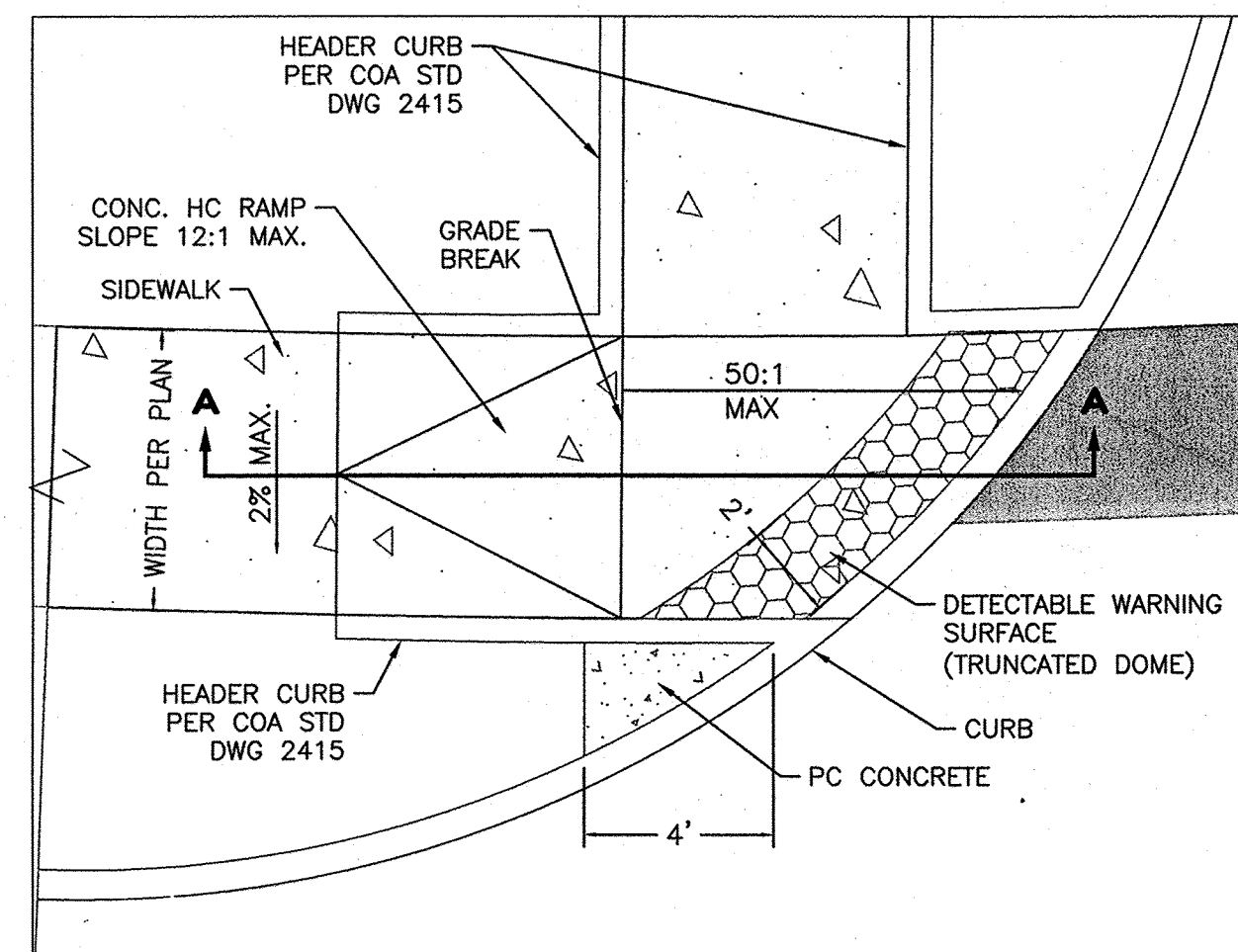
JOB #
2015015



WATER SHUT-OFF PLAN SHUT OFF VALVES # 171 & 181



UTILITY IMPROVEMENTS



SECTION A-A

HC RAMP
SCALE : NTS

Certification
THE CHANGES SHOWN HEREON ARE BASED UPON A FIELD SURVEY CONDUCTED BY ME OR UNDER MY SUPERVISION AND REFLECT THE LOCATIONS (VERTICALLY AND HORIZONTALLY) TO THE BEST OF MY KNOWLEDGE AND BELIEF.

3-8-2015

Curve Table					
Curve #	Length	Radius	Delta	Chord Direction	Chord Length
C2	41.11	25.00	94.21	S65° 41' 48"E	36.63
C1	42.73	25.00	97.93	N18° 14' 08"E	37.71

QUARTER POINTS

C1	FL	ELEV.
1	5069.48	
2	5069.64	
3	5069.67	

QUARTER POINTS

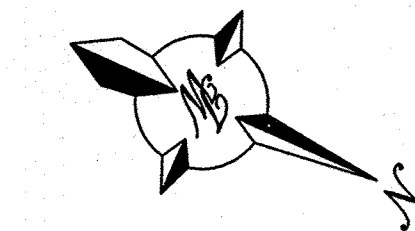
C2	FL	ELEV.
1	5068.97	
2	5068.78	
3	5068.60	

KEYED NOTE:

- (A) 6" CONC. SIDEWALK PER COA. DWG # 2430
- (B) NEW UNIDIRECTIONAL HC RAMP (SEE DETAIL THIS SHEET)
- (C) 6" VALLEY GUTTER PER COA STD DWG 2420
- (D) DROP INLET GRATE PER COA STD DWG 2220-MODIFIED (SEE DETAIL SHEET 7)
- (E) EXISTING 6" CONC. SIDEWALK
- (F) NEW HC RAMP (SEE DETAIL THIS SHEET)

LEGEND

- BOUNDARY LINE
- EASEMENT
- SIDEWALK
- EXISTING CURB & GUTTER
- EXISTING SIDEWALK



SCALE: HORIZ. 1"=20'

NOTICE TO CONTRACTORS

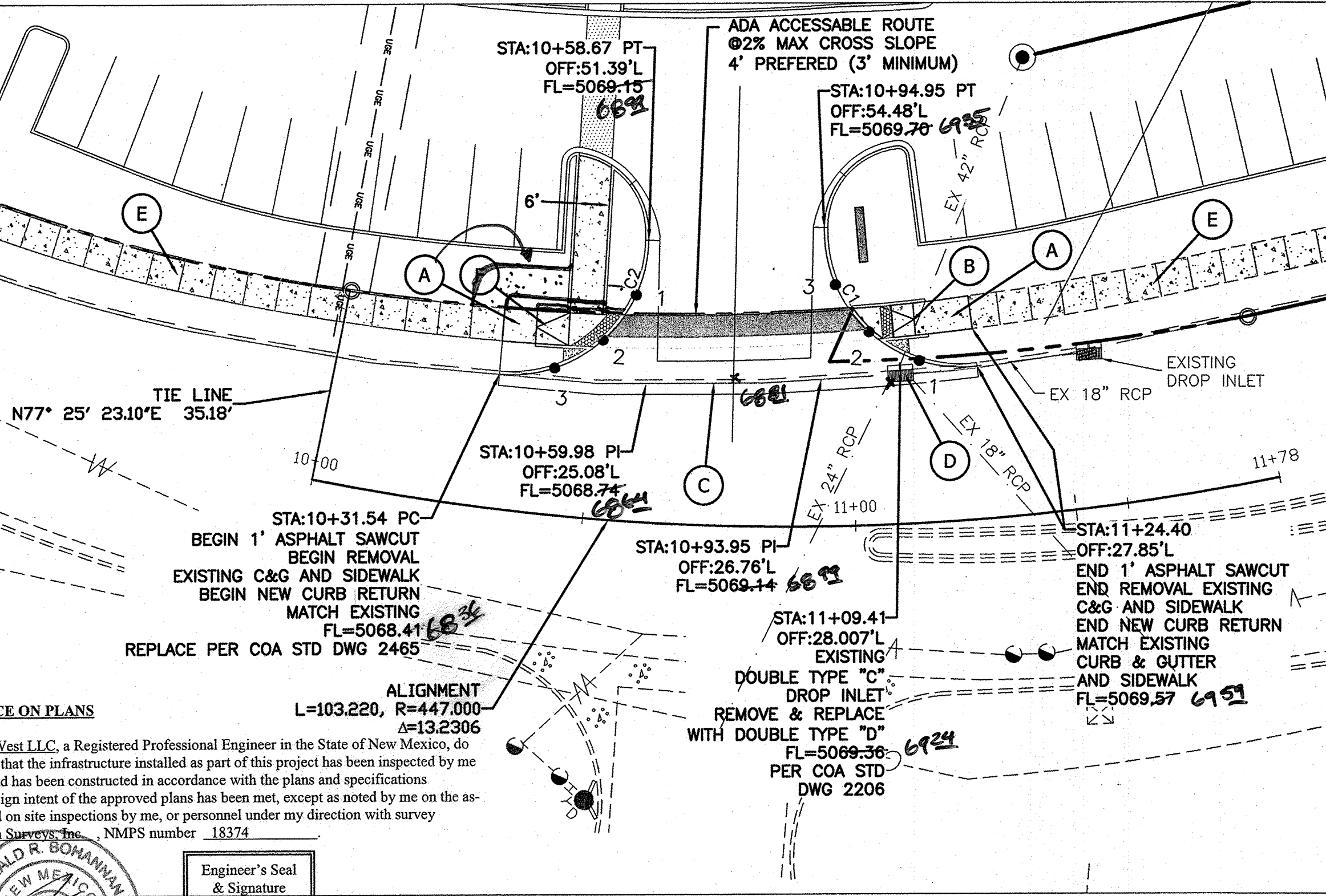
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- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990 (OR DIAL 811 LOCALLY), FOR LOCATION OF EXISTING.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACK FILL COMPACTION SHALL BE ACCORDING TO ABCWA TRENCH DETAIL.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

NOTES

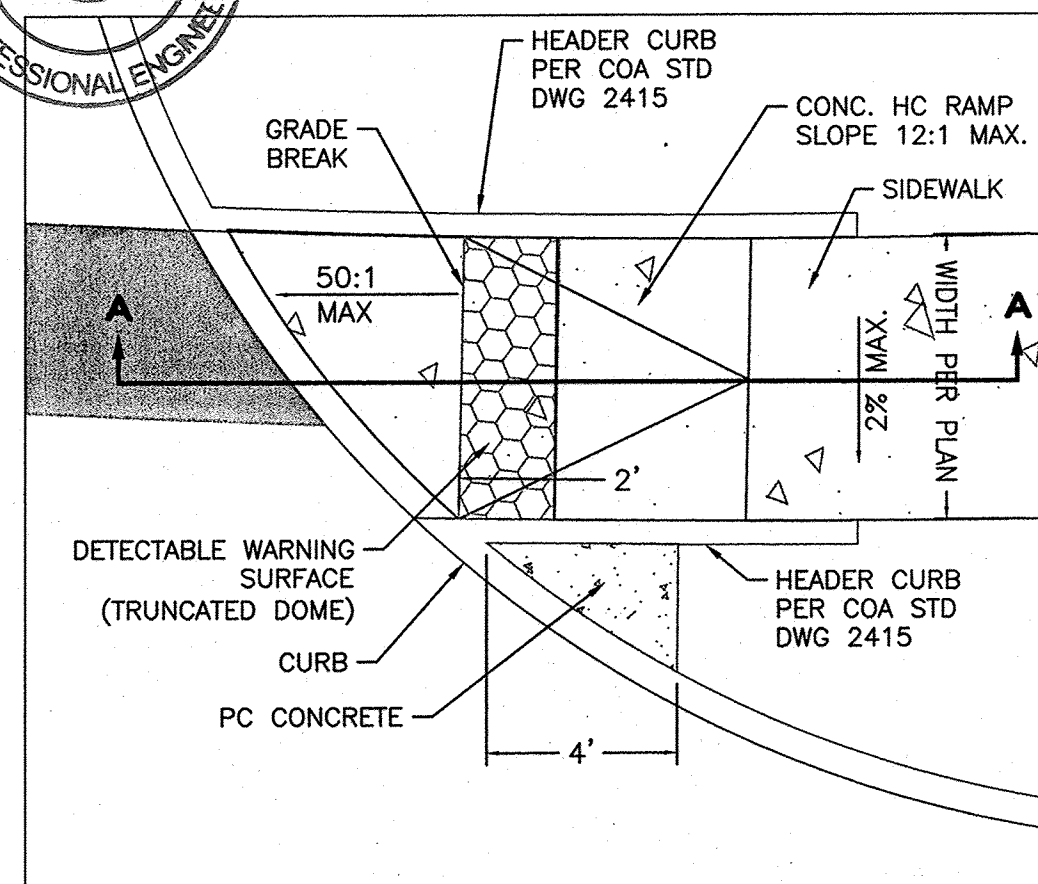
- REMOVAL OF EXISTING CURB & GUTTER AND SIDEWALKS SHALL BE TO THE NEAREST JOINT.
- ANY DAMAGE TO THE EXISTING CURB & GUTTER, PAVEMENT, SIDEWALKS, STRIPING, AND SIGNAGE DURING CONSTRUCTION SHALL BE REPLACED.
- OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS OR DESIGNATED TRAFFIC LANES. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE PUBLIC RIGHT-OF-WAY.
- CURB AND GUTTER, SIDEWALKS, AND DRIVEWAY PADS SHALL MATCH THE ELEVATIONS OF ABUTTING EXISTING AREAS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE PROJECT ENGINEER.
- THE SUBGRADE PREP SHALL EXTEND ONE FOOT BEYOND THE FREE EDGE OF NEW CURB AND GUTTER AND SIDEWALK.
- CONTRACTOR TO TEST SUBGRADE R-VALUE PRIOR TO CONSTRUCTION IN THE EVENT THE R-VALUE IS LESS THAN 50, REMOVE 2 FEET OF SUBGRADE MATERIAL AND IMPORT MATERIAL WITH R-VALUE GREATER THAN 50 OR CONTACT THE ENGINEER IMMEDIATELY SO THE PAVEMENT SECTION CAN BE MODIFIED WITHIN PUBLIC STORM SEWER EASEMENT.
- CONTRACTOR TO REMOVE OLD METER BOX AND SERVICE LINE BACK TO THE MAIN LINE. ABCWA CREW TO CAP LINE AT CORP STOP. PLEASE NOTIFY ABCWA WHEN EXCAVATION IS OPEN FOR WORK.

CAUTION:

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.



PAVING IMPROVEMENTS

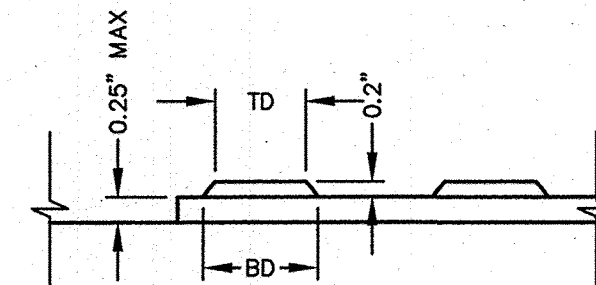


SECTION A-A

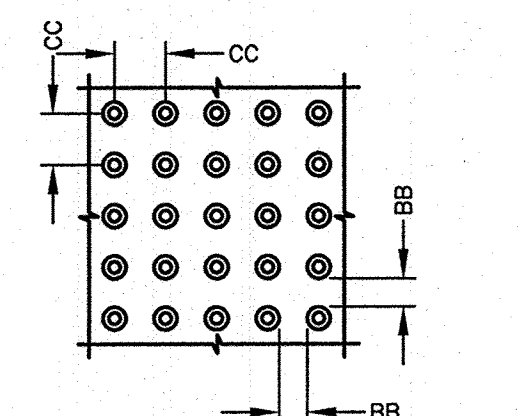
UNIDIRECTION HC RAMP
SCALE : NTS

NOTES:

- WHEELCHAIR RAMPS ARE AS C.O.A. STD DWG 2441 CASE II, EXCEPT THE RAMP WIDTH WILL VARY TO MEET A 12:1 SLOPE; 7" MIN REQ.
- THE SURFACE OF RAMP AND SIDES SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
- DESIGN PER A.D.A. SPECIFICATIONS
- SUBMIT SPECIFICATIONS TO CITY CONSTRUCTION ENGINEER FOR EVALUATION PRIOR TO CONSTRUCTION



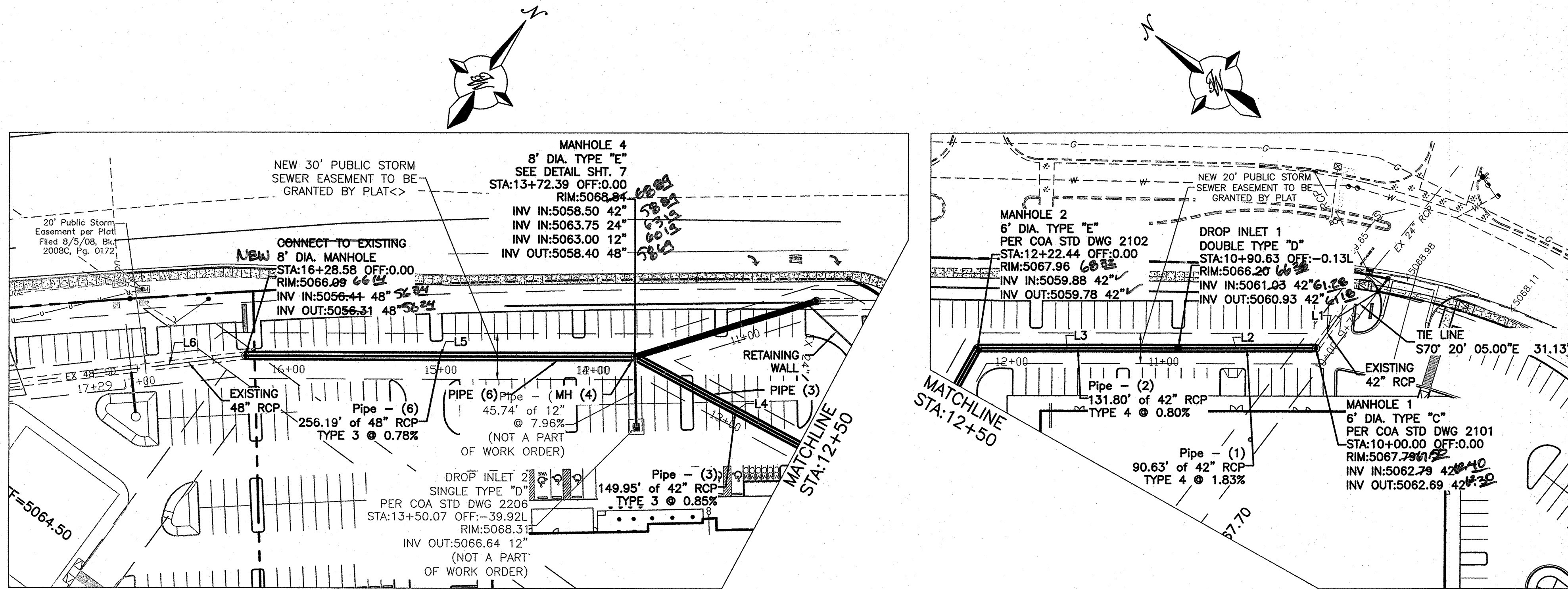
DOMES SECTION



DOMES SPACING
CC - CENTER TO CENTER SPACING
2.35" BB - BASE TO BASE SPACING
1.48" MIN

TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100 www.tierrawestllc.com	
CITY OF ALBUQUERQUE PUBLIC WORKS ENGINEERING GROUP	
MAIN EVENT PAVING & UTILITY IMPROVEMENTS VASSAR DR. STA: 10+00.00 TO 11.78.00	
DESIGN REVIEW COMMITTEE APPROVED SEP 04 2015 DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL APPROVED OCT 05 2015 CITY ENGINEER
CITY PROJECT NO. 733182	ZONE MAP NO. G-16-Z
SHEET 5 OF 8	DATE: 06/24/2015 DRAWN BY: BJF DRAWING NAME: 20150115-03-VASSAR DR-PV CHECKED BY: JN

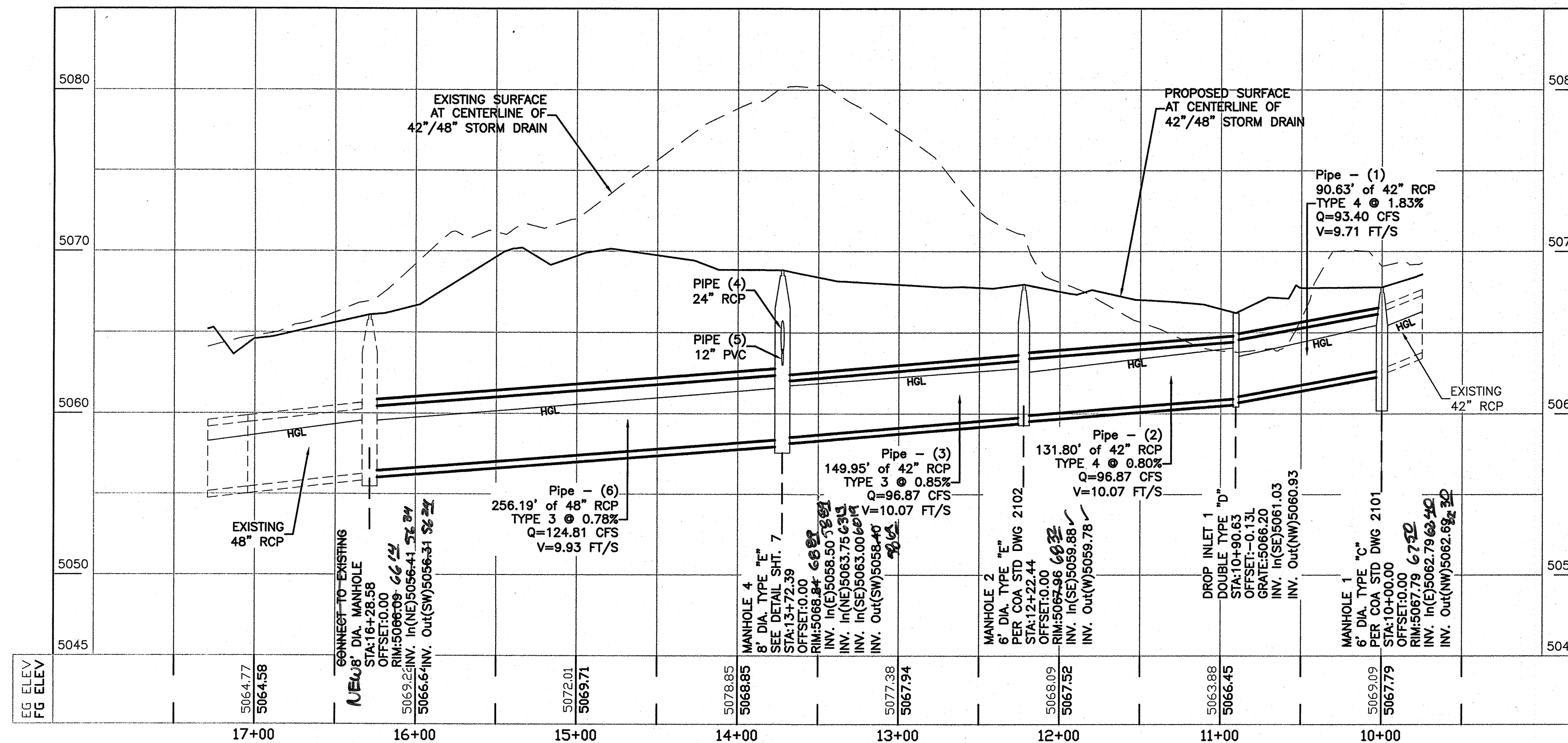
*ALL COORDINATES SHOWN HEREON ARE NAD83 MODIFIED GRID



STORM DRAIN 1 ALIGNMENT LINE TABLE			
Line #	Length	Direction	
L1	25.000	S88° 11'	27.15°W
L2	104.804	N37° 29'	38.08°W
L3	117.634	N37° 25'	35.02°W
L4	149.951	S81° 50'	28.58°W
L5	256.190	S53° 51'	04.23°W
L6	100.666	S47° 01'	00.90°W

NOTE:
CENTERLINE OF STORM DRAIN IS
BASIS OF STATIONING.

- | | |
|--|---------------------------|
| | EXISTING CURB & GUTTER |
| | BOUNDARY LINE |
| | EASEMENT |
| | PROPOSED SCREEN WALL |
| | PROPOSED RETAINING WALL |
| | PROPOSED SIDEWALK |
| | EXISTING SD MANHOLE |
| | EXISTING INLET |
| | EXISTING SAS MANHOLE |
| | EXISTING FIRE HYDRANT |
| | EXISTING WATER METER |
| | EXISTING POWER POLE |
| | EXISTING GAS VALVE |
| | PROPOSED CLEAN OUT |
| | PROPOSED DOUBLE CLEAN OUT |
| | |



NOTICE TO CONTRACTORS

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2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERIM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
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5. BACK FILL COMPACTION SHALL BE ACCORDING TO ABCWUA TRENCH DETAIL.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

GENERAL NOTES:

1. ALL WATER AND SEWER UTILITY WORK TO BE DONE IN ACCORDANCE WITH C.O.A. STANDARDS AND SPECIFICATIONS LATEST EDITION.
2. 4' MINIMUM BURY REQUIRED FOR ALL UTILITIES UNLESS OTHERWISE NOTED.
3. REFERENCE ARCHITECTURAL PLANS FOR WATER LINE RISER LOCATIONS.
4. CLEAN OUTS ARE TO BE BUILT PER UNIFORM PLUMBING CODE STANDARDS.
5. ALL PLUMBING PIPE MATERIAL TO BE USED PER UPC.
6. FIRE LINE AND DOMESTIC WATERLINE MUST HAVE BACKFLOW PREVENTORS PER UPC. IF BACKFLOW PREVENTOR IS INSTALLED EXTERIOR OF BUILDING A HOT BOX SHALL BE INSTALLED AND USED. BACKFLOW PREVENTOR TO BE INSTALLED INSIDE OF BUILDING.
7. ALL EX. SD INLETS AND MH SHALL HAVE CONCRETE COLLARS POURED AND BE ADJUSTED TO FINISHED GRADE.
8. ALL EXCAVATION, TRENCHING AND SHORING ACTIVITIES MUST BE CARRIED-OUT IN ACCORDANCE WITH OSHA 29 CFR 1926.650 SUBPART P.
9. ALL UTILITY DISTANCES SHOWN ARE FOR REFERENCE ONLY.

CAUTION:

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50 25 0 25 50

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

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

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ALBUQUERQUE, NM 87109
(505)858-3100
www.tierrawestllc.com

CITY OF ALBUQUERQUE
PUBLIC WORKS
ENGINEERING GROUP

TITLE:	MAIN EVENT ONSITE STORM DRAIN IMPROVEMENTS STA: 10+00.00 TO 19+00.00
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[illegible]

CITY PROJECT NO.	733182	ZONE MAP NO.	G-16-7	SHEET	6	OF	8
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CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

I, **Ronald R. Bohannon**, of the firm of **Tierra Verde LLC**, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except for the changes on the as-built construction drawings. This Certification is based on site inspections by me, or personnel under my direction with survey information provided by **Brian Martinez**, of **Cartesian Surveys, Inc.**, NMPS number 18374.

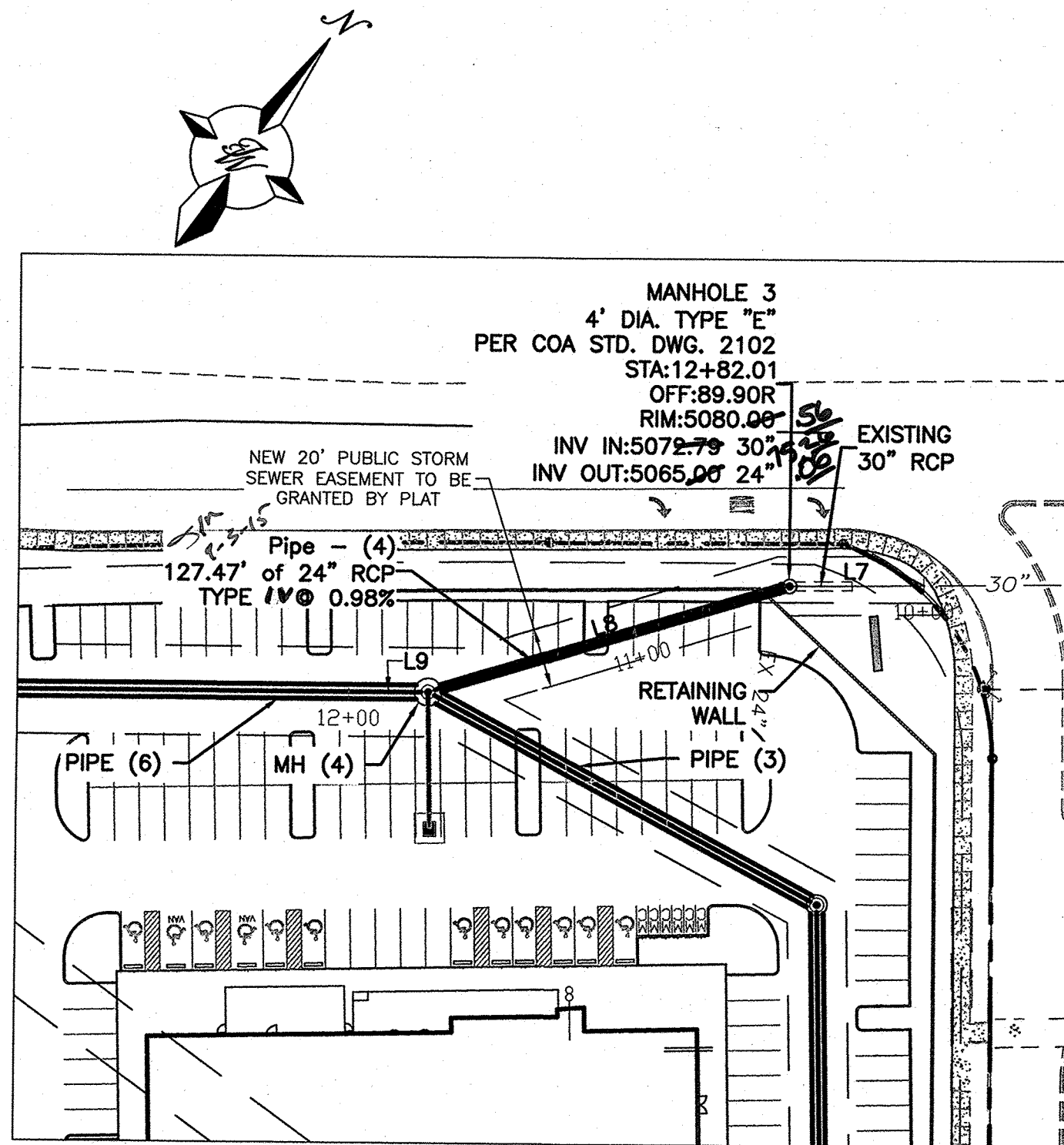
Engineer's Seal
& Signature

DRIVE AISLE/PARKING PAVING SECTION
OR 3.5" ASPHALT OVER NATIVE

2" ASPHALTIC CONCRETE

6" AGGREGATE BASE COURSE TO BE COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557

10" RECOMPACTED SUBBASE TO BE COMPACTED TO A MINIMUM OF 90% OF MAXIMUM DENSITY AS DETERMINED BY ASTM D-1557

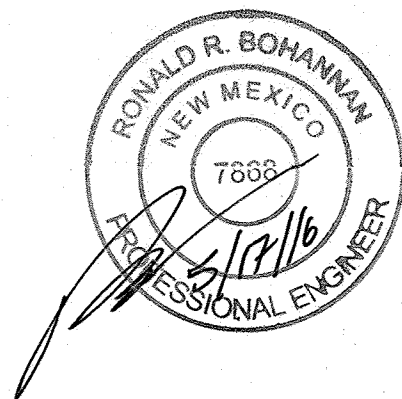


STORM DRAIN 1 ALIGNMENT LINE TABLE		
Line #	Length	Direction
L7	45.503	S53° 11' 01.64"W
L9	26.916	S53° 51' 04.23"W
L8	127.470	S36° 59' 35.82"W

NOTE:
CENTERLINE OF STORM DRAIN IS
BASIS OF STATIONING.

CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

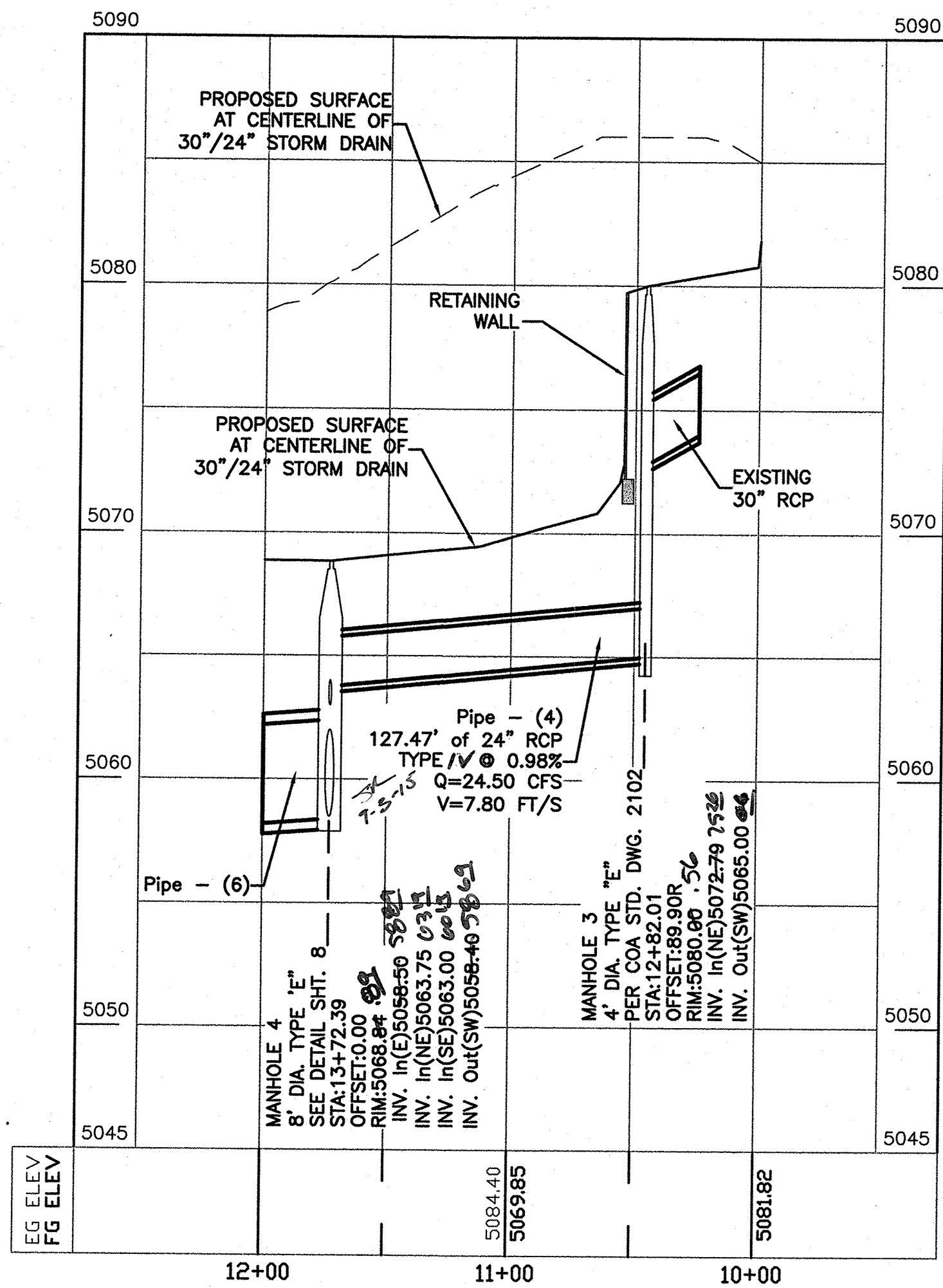
I, Ronald R. Bohannon, of the firm of Tierra West LLC, a Registered Professional Engineer in the State of New Mexico, do hereby certify, to the best of my knowledge and belief, that the infrastructure installed as part of this project has been inspected by me or by a qualified person under my direct supervision and has been constructed in accordance with the plans and specifications approved by the City Engineer and that the original design intent of the approved plans has been met, except as noted by me on the as-built construction drawings. This Certification is based on site inspections by me, or personnel under my direction with survey information provided by Brian Martinez, of Cartesian Surveys, Inc., NMPS number 18374.



Engineer's Seal
& Signature

LEGEND

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- BOUNDARY LINE
- EASEMENT
- ===== PROPOSED SCREEN WALL
- ===== PROPOSED RETAINING WALL
- ===== PROPOSED SIDEWALK
- EXISTING SD MANHOLE
- EXISTING INLET
- EXISTING SAS MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING POWER POLE
- EXISTING GAS VALVE
- PROPOSED CLEAN OUT
- PROPOSED DOUBLE CLEAN OUT
- EX. 2" GAS ---
- EX. 8" SAS ---
- EX. 10" WL ---
- EX. 18" RCP ---
- 8" SAS ---
- 8" WL ---
- JUT ---
- TRANSFORMER
- BOLLARD



NOTICE TO CONTRACTORS

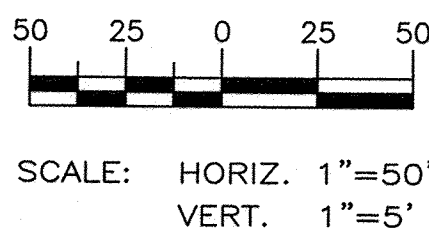
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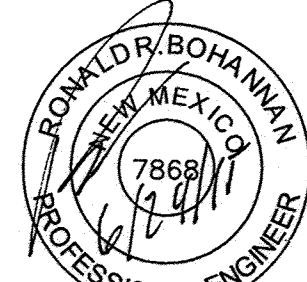


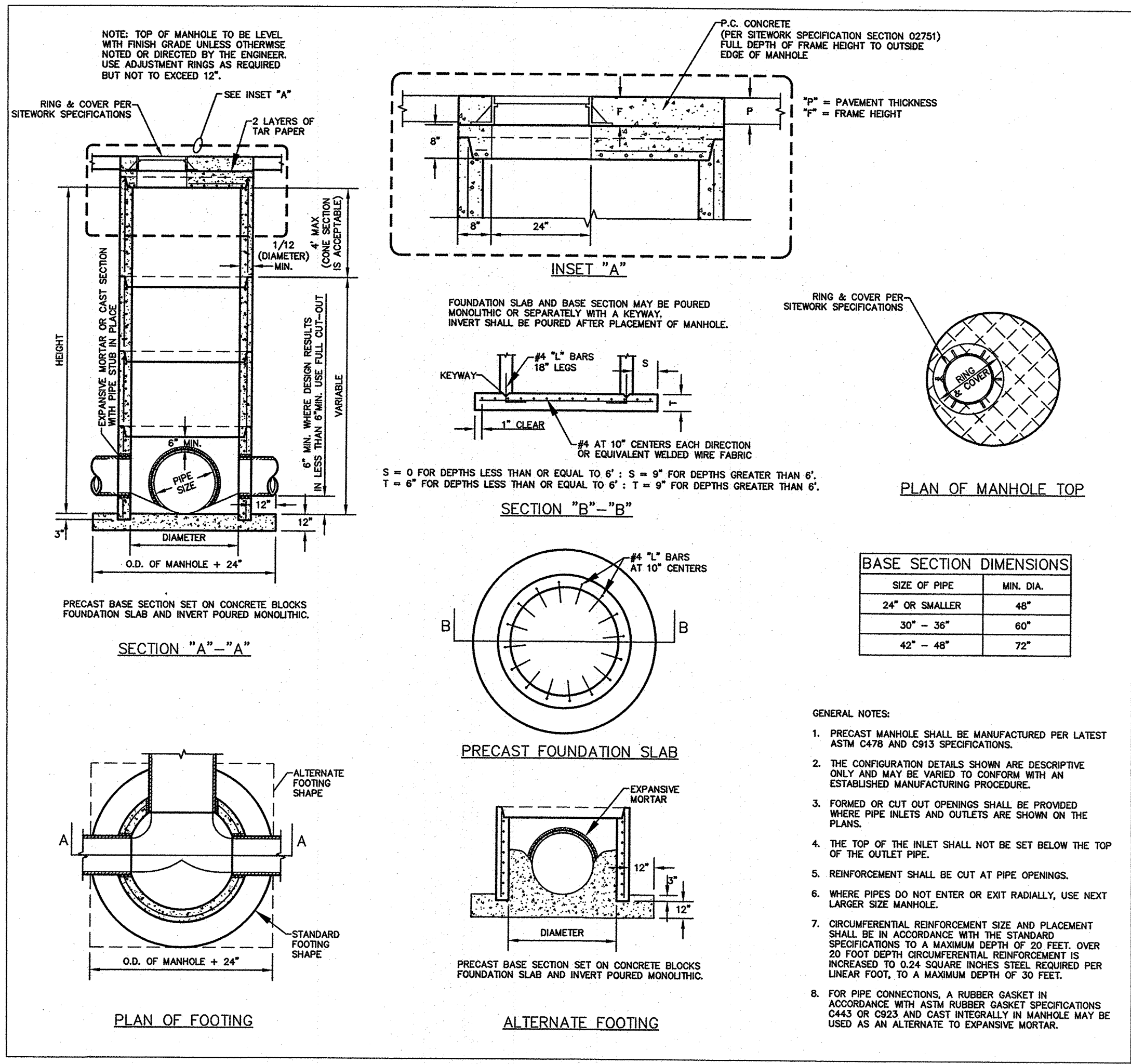
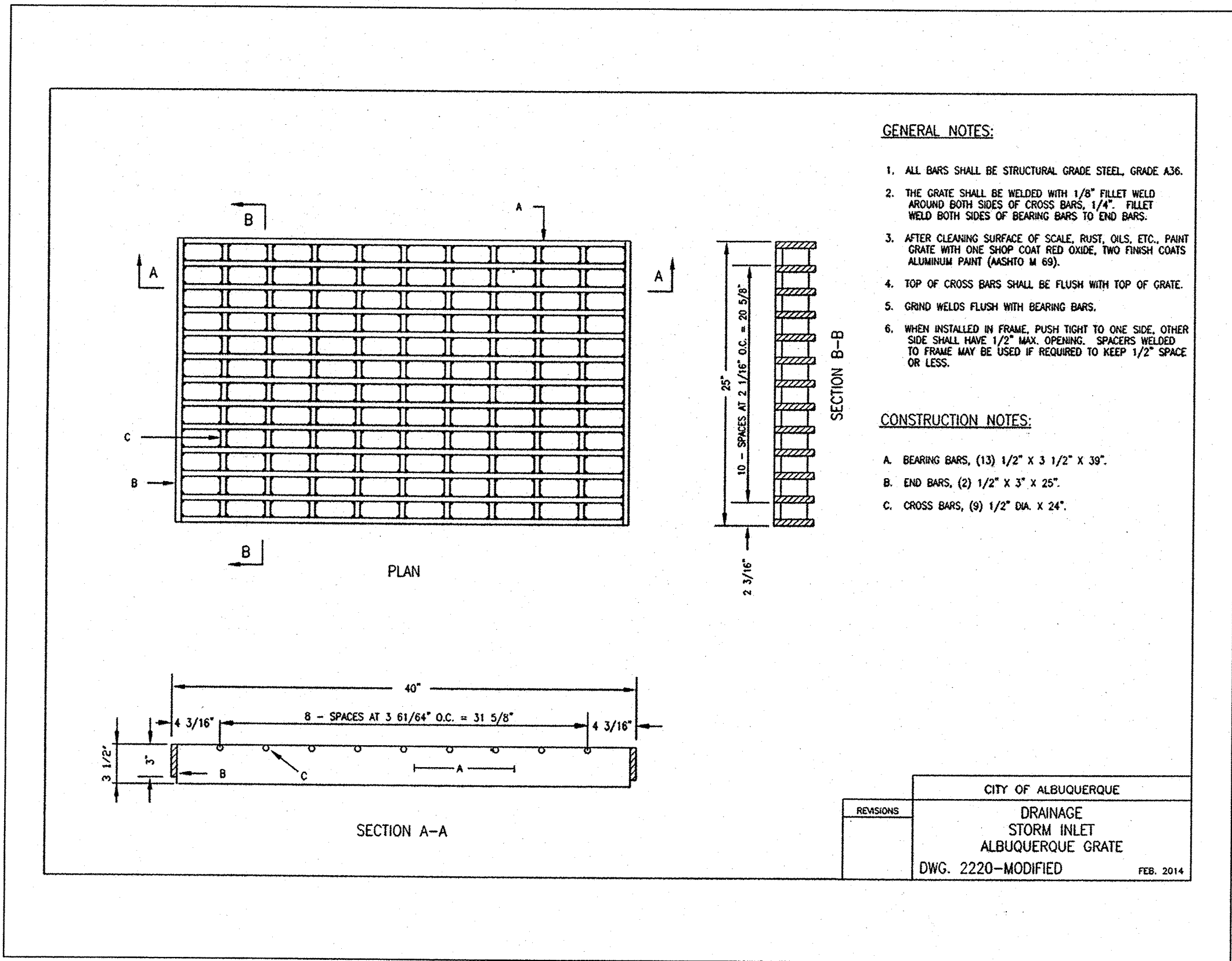
TIERRA WEST, LLC
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ALBUQUERQUE, NM 87109
(505) 858-3100
www.tierrowestllc.com

CITY OF ALBUQUERQUE
PUBLIC WORKS
ENGINEERING GROUP

TITLE: MAIN EVENT ONSITE STORM DRAIN IMPROVEMENTS STA: 10+00.00 TO 19+00.00		MO./DAY/YR.	MO./DAY/YR.
DESIGN REVIEW COMMITTEE APPROVED SEP 04 2015	CITY ENGINEER APPROVAL APPROVED OCT 05 2015	DESIGNED BY: JN DATE: 06/24/2015	DRAWN BY: BUF DATE: 06/24/2015
CITY PROJECT NO. 733182		ZONE MAP NO. G-16-Z	SHEET 7 OF 8

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION	
CONTRACTOR: Cartesian Surveys, Inc.	WORK: ONSITE STORM DRAIN IMPROVEMENTS	NO.	DATE	NO.	DATE
STAKED BY: Cartesian Surveys, Inc.	DATE: 06/24/2015	M-6	DATE	BY	DATE
ACCEPTANCE BY: City of Albuquerque	DATE: 06/24/2015	NM STATE PLANE COORDINATES			
FIELD NOTES BY: Cartesian Surveys, Inc.	DATE: 06/24/2015	CENTRAL ZONE (NAD 83)			
DRAWINGS BY: Cartesian Surveys, Inc.	DATE: 06/24/2015	X=1503215.185			
CORRECTED BY: Cartesian Surveys, Inc.	DATE: 06/24/2015	Y=1533745.194			
MICRO-FILM INFORMATION		G-O=0.999672339			
RECORDED BY	DATE	Do=012'19.10"			
NO.		Elev=5113.208 (NAD 1988)			





CERTIFICATE OF SUBSTANTIAL COMPLIANCE ON PLANS

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Engineer's Seal & Signature

TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505)858-3100 www.tierrawestllc.com	
CITY OF ALBUQUERQUE PUBLIC WORKS ENGINEERING GROUP	
TITLE: MAIN EVENT DETAIL SHEET	
DESIGN REVIEW COMMITTEE APPROVE SEP 04 2015 DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL APPROVE OCT 05 2015 CITY ENGINEER
DESIGNED BY: JN DRAWN BY: BJF DRAWING NAME: 20150115-07-DETAILS CHECKED BY: JN	DATE: 06/03/2015 DATE: 06/03/2015 JOB NO.: 2010015 DATE: 06/03/2015
CITY PROJECT NO. 733182	ZONE MAP NO. G-16-Z
SHEET 8	OF 8

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ENGINEER'S SEAL	
CONTRACTOR: Tierra West LLC	WORK: Albuquerque	DATE: 10/1/15	INSPECTOR: Brian Martinez	DATE: 10/1/15	NO.	BY	DATE
INSPECTOR'S SIGNATURE: [Signature]	DATE: 10/1/15	FIELD	INSPECTOR'S SIGNATURE: [Signature]	DATE: 10/1/15	NO.	BY	DATE
VERIFICATION BY: Brian Martinez	DATE: 10/1/15	FIELD	VERIFICATION BY: Brian Martinez	DATE: 10/1/15	NO.	BY	DATE
CORRECTED BY: [Signature]	DATE: 10/1/15	FIELD	CORRECTED BY: [Signature]	DATE: 10/1/15	NO.	BY	DATE
MICRO-FILM INFORMATION		RECORDED BY		NO.		DATE	
G-G-0-999672339		Dg-01219.10"		Elev=5113.205 (NAD 1988)			