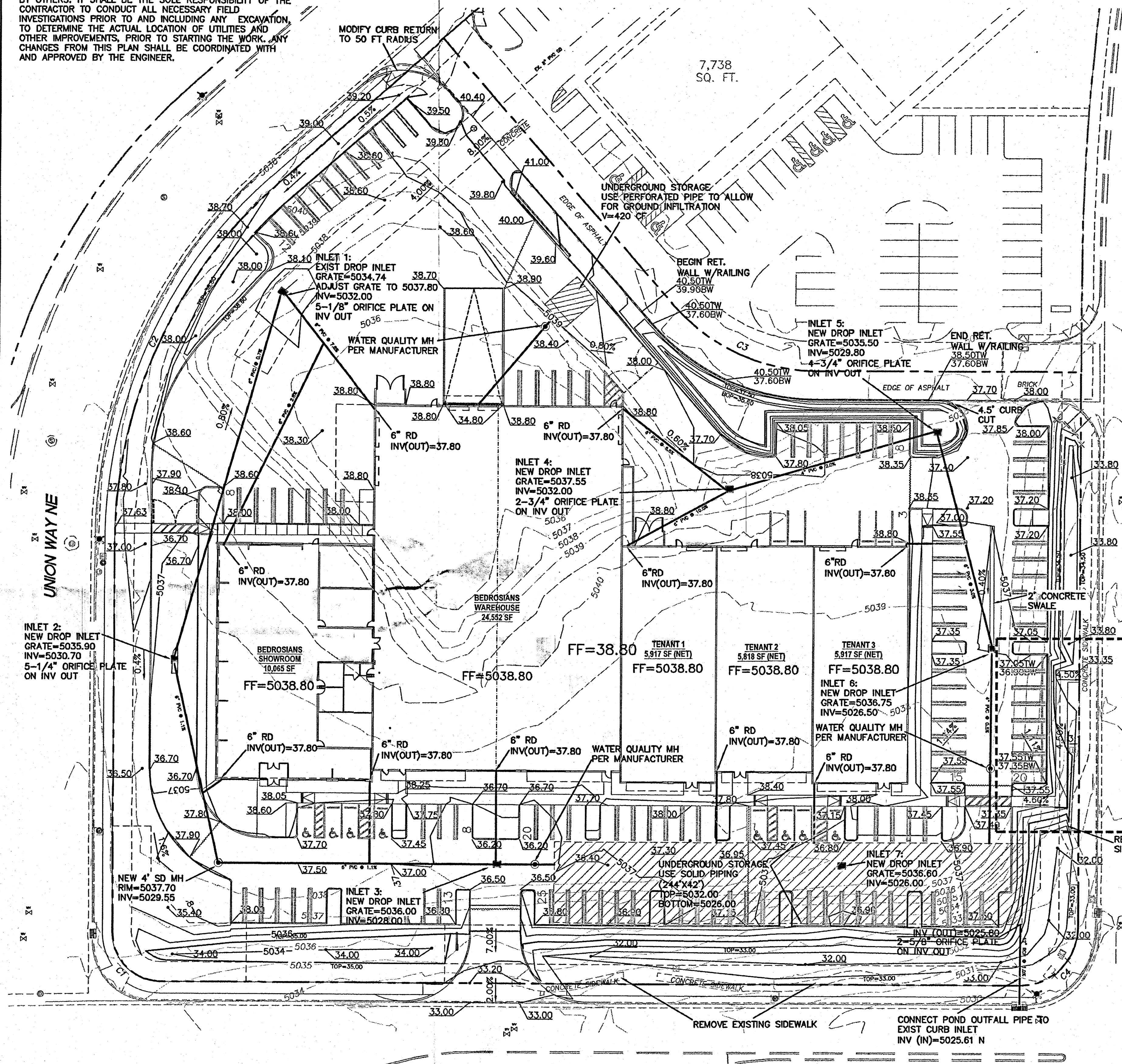


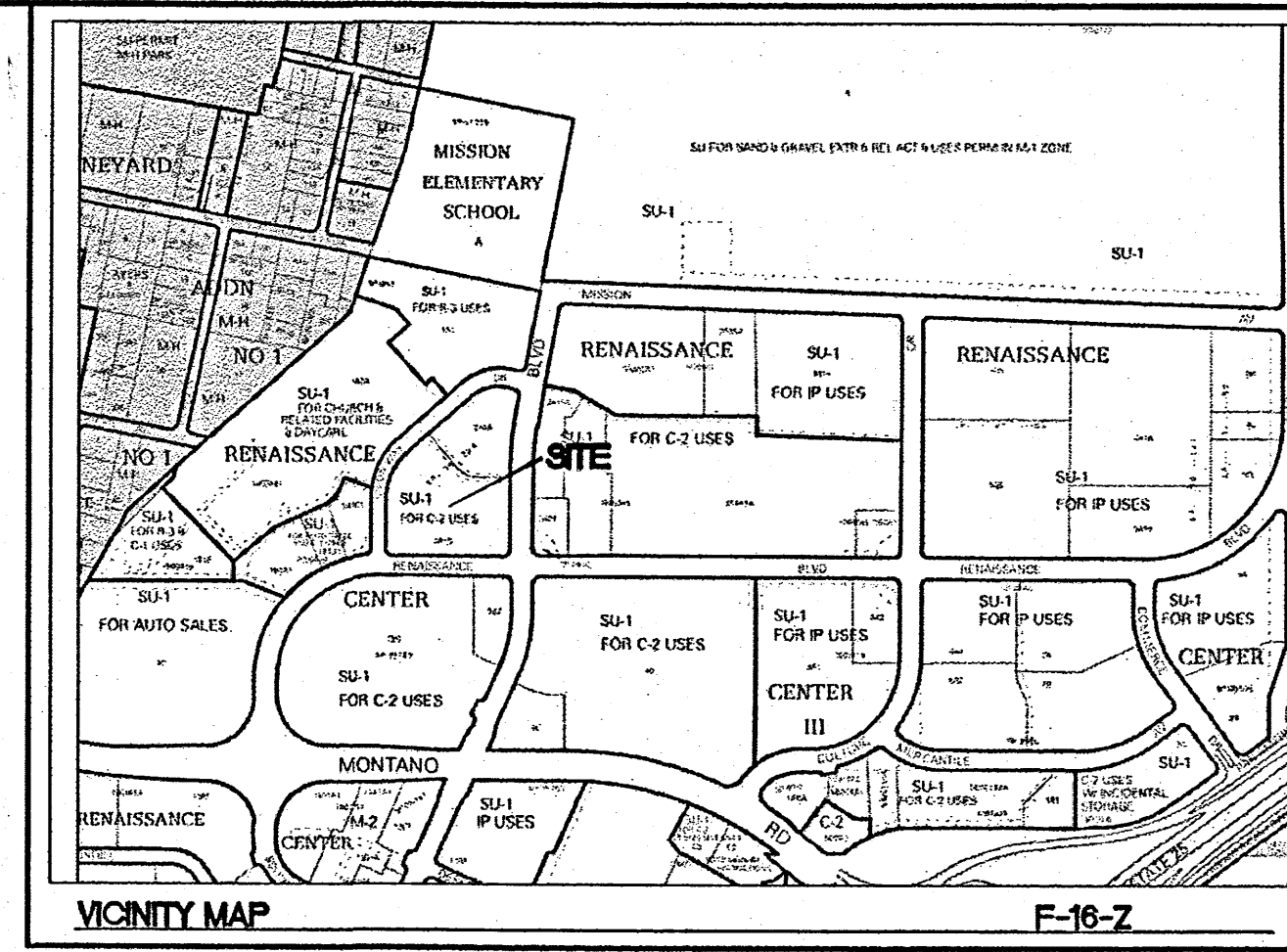
CAUTION:

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.



LEGEND

- BOUNDARY LINE
- EASEMENT
- EXISTING CURB & GUTTER
- EXISTING SD MANHOLE
- EXISTING SAS MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM SEWER LINE
- EXISTING INDEX CONTOUR
- EXISTING CONTOUR
- WATER BLOCK
- UNDERGROUND STORAGE



LEGAL DESCRIPTION

TRACTS 2A-1B-1 AND 2A-1B-2, RENAISSANCE CENTER

NOTICE TO CONTRACTORS

- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- SOURCE OF TOPO IS ALTA/ACSM LAND TITLE SURVEY OF LOT 2 HARMS INDUSTRIAL PARK PREPARED BY PRECISION SURVEYS, INC DATED JUNE, 2014.

EROSION CONTROL NOTES

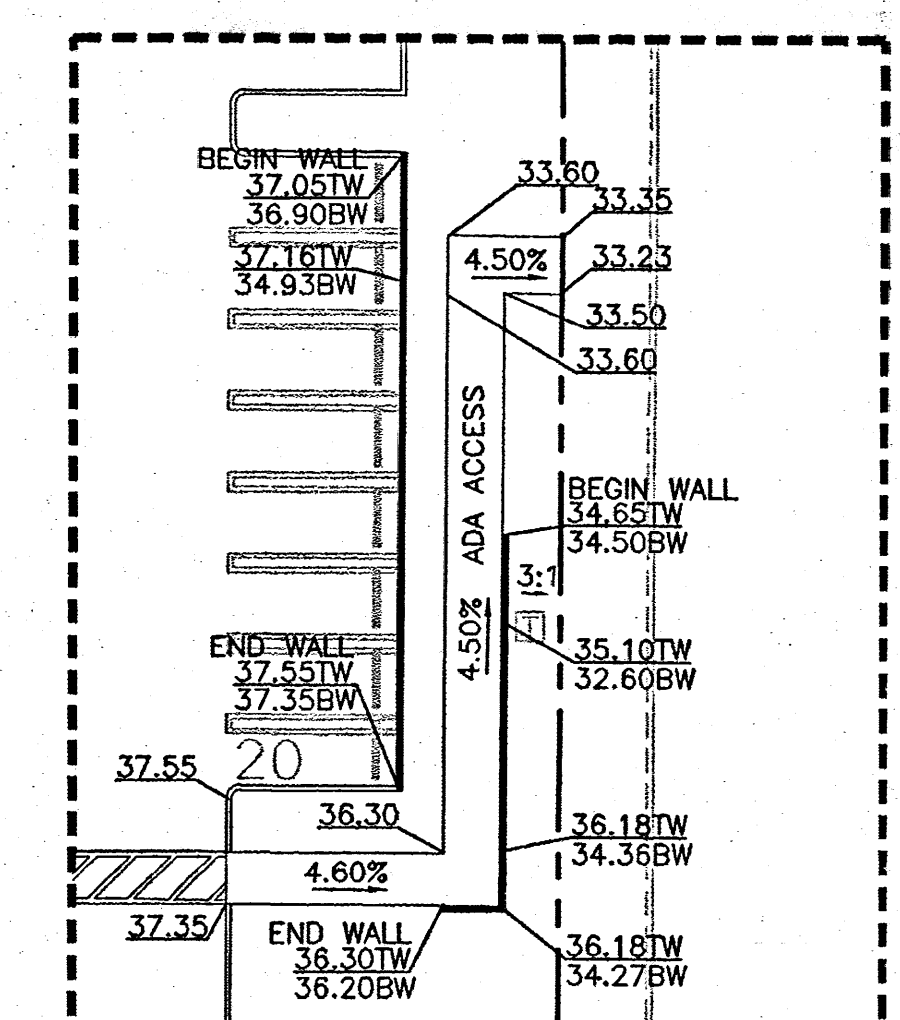
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND 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 ACCEPTANCE OF ANY PROJECT.

PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

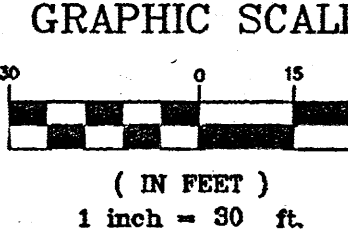
NOTICE TO CONTRACTORS
(SPECIAL ORDER 19 ~ "SO-19")

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL, DIAL "811" [OR (505) 260-1990] FOR THE LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- 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.
- CONTRACTOR MUST CONTACT JASON RODRIGUEZ AT (505) 235-8016 AND CONSTRUCTION COORDINATION AT (505) 924-3416 TO SCHEDULE AN INSPECTION.

APPROVAL	NAME	DATE
INSPECTOR		

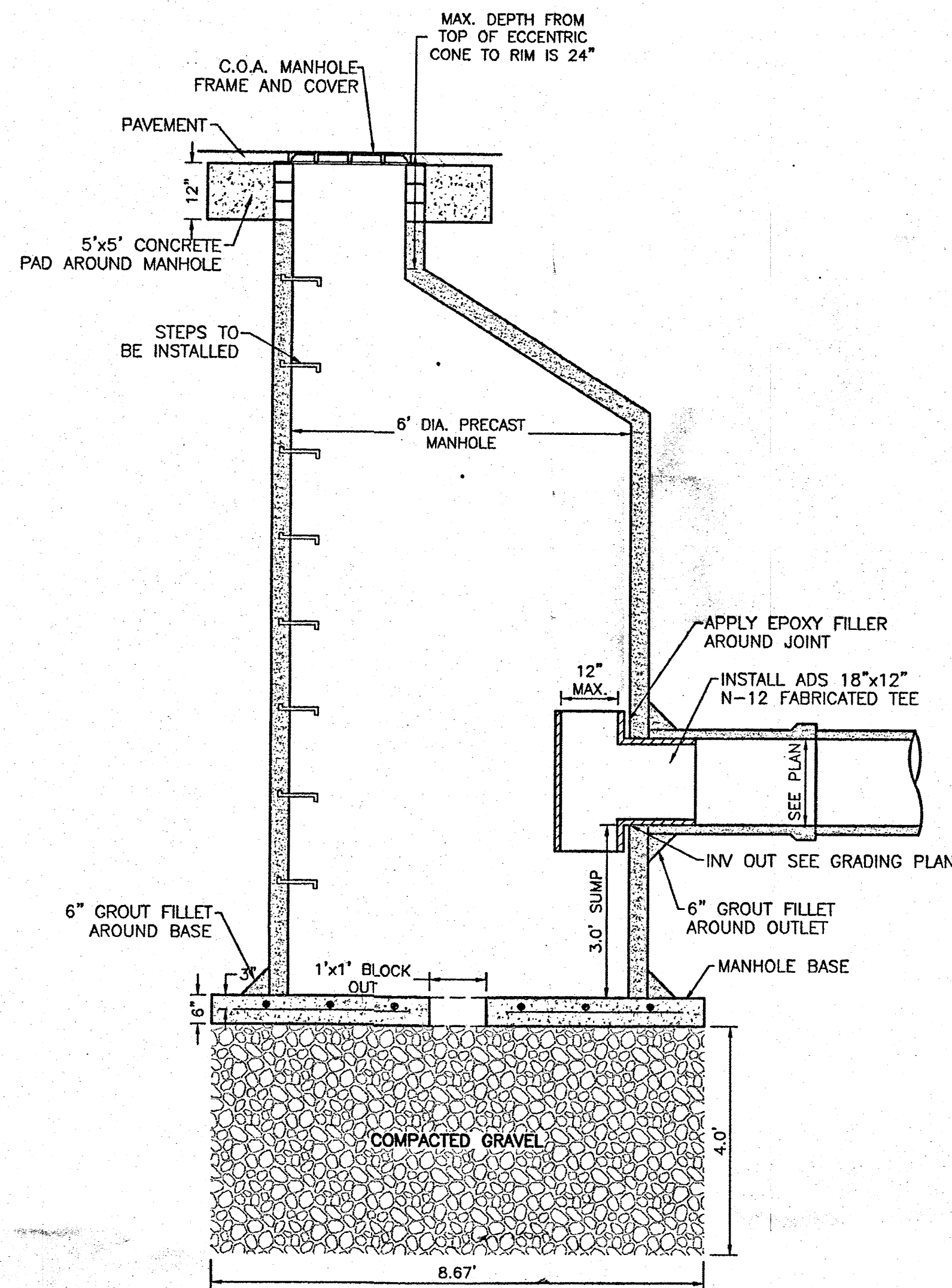


DETAIL A

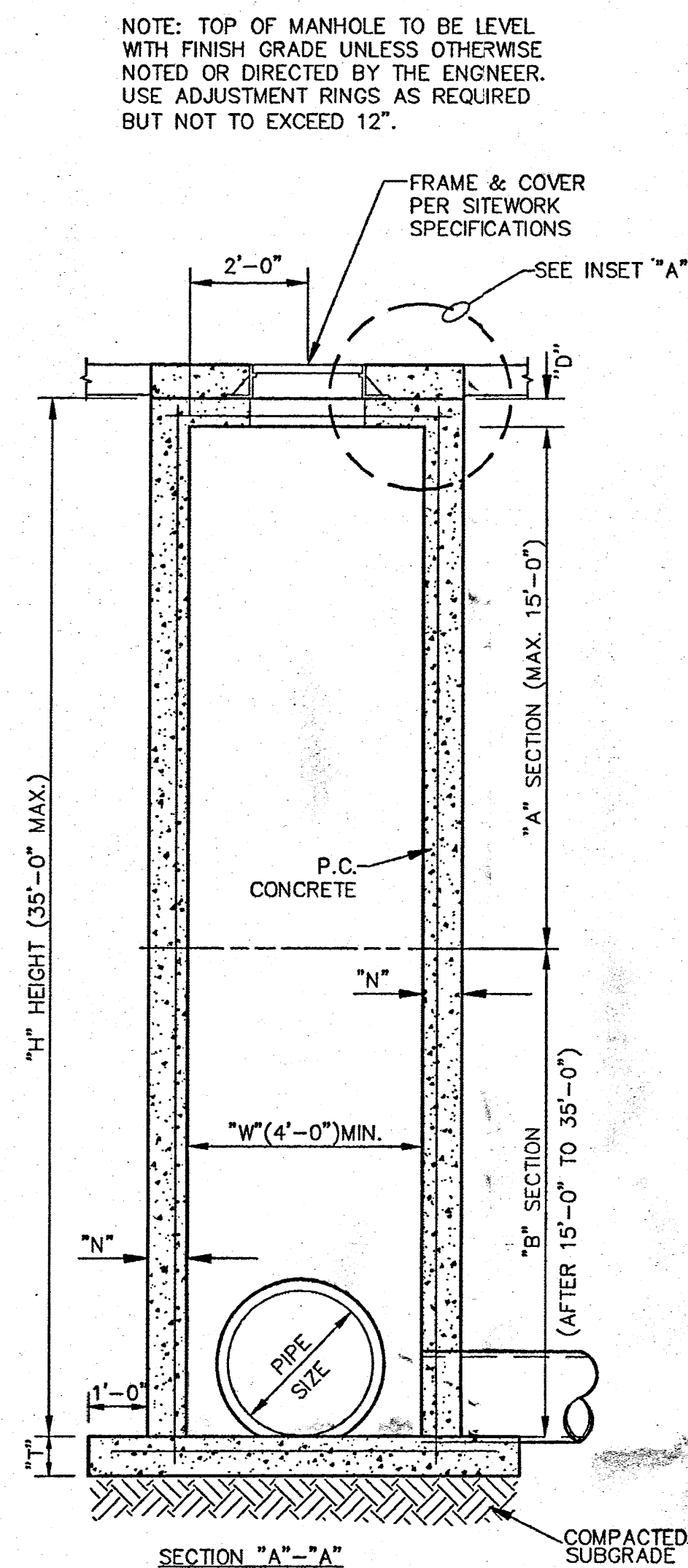


ENGINEER'S SEAL RONALD R. BOHANNAN NEW MEXICO PROFESSIONAL ENGINEER RONALD R. BOHANNAN P.E. #7868	BEDROSIAN TILE AND STONE GRADING PLAN TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com	DRAWN BY pm DATE 05-13-16 SHEET # C1.00 JOB # 2014084
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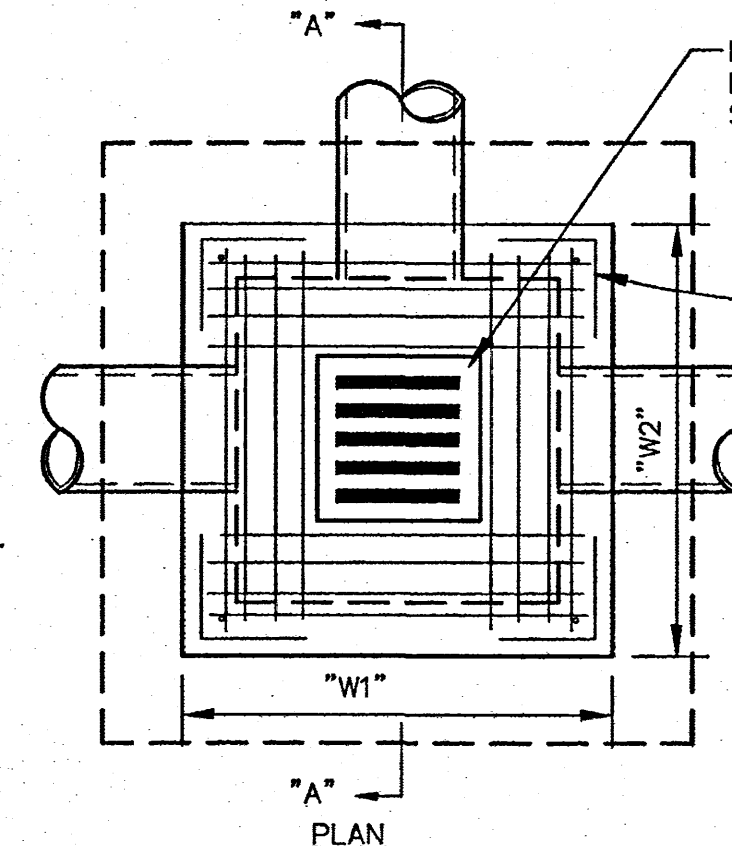
Revised 6/16



WATER QUALITY MANHOLE
NTS



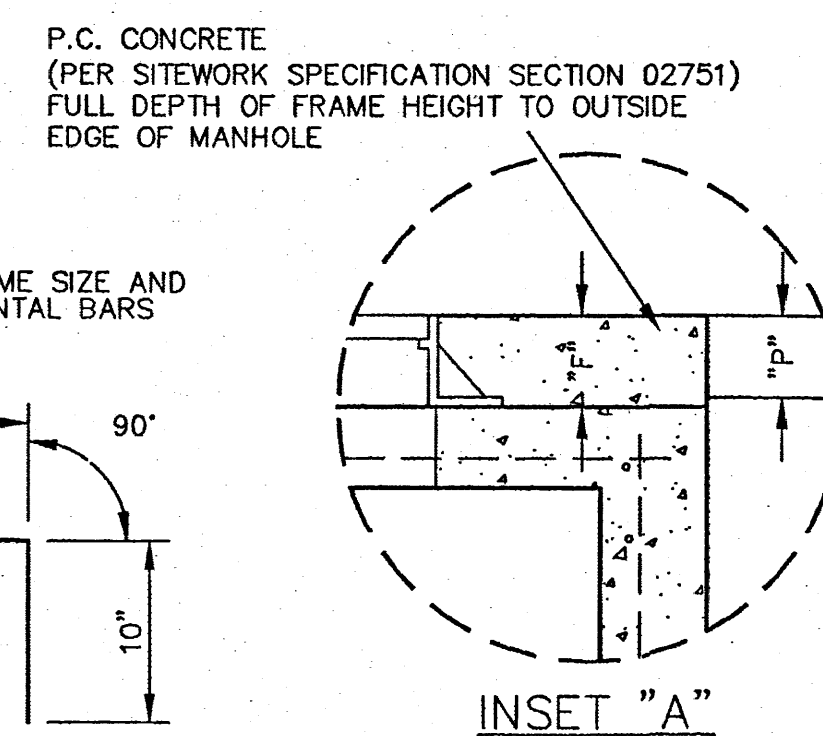
GRATE INLET
N.T.S.



- GENERAL NOTES:
- ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
 - ALL REINFORCING BARS TO HAVE 2" COVER.
 - SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
 - PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF BOX.
 - ALL REINFORCING BARS TO BE GRADE 60.
 - PRECAST MANHOLE MAY BE USED UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PRECAST MANHOLE SPECIFICATIONS

ASTM C478 - PRECAST REINFORCED CONCRETE MANHOLE SECTIONS
ASTM C913 - PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES
CONCRETE: 4000 PSI AE (MIN.)
JOINT: WATERTIGHT RUBBER GASKET



"P" = PAVEMENT THICKNESS
"F" = FRAME HEIGHT

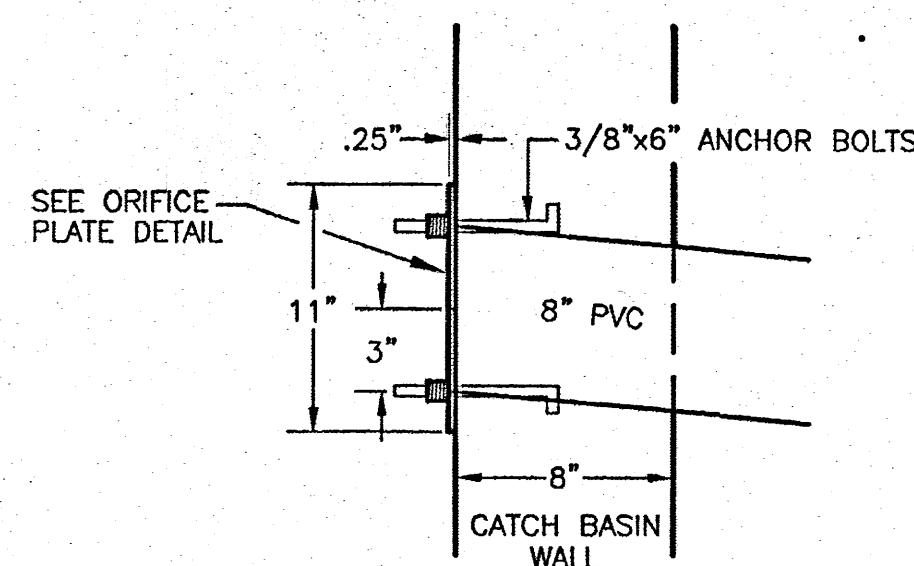
REINFORCEMENT SCHEDULE, BASE	
SECTION	
"A"	#4's @ 6" E.W.
"B"	#6's @ 6" E.W.

TABLE OF "W" DIMENSIONS			
PIPE SIZE	SKEW OF CROSS DRAIN		
SINGLE	STRAIGHT	30°	45°
24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"
DOUBLE FOR "A" SECTION ONLY			
24"	7'-0"	7'-10"	9'-5"
30"	8'-2"	9'-2"	11'-0"
36"	9'-4"	10'-6"	12'-6"
42"	10'-6"	11'-10"	14'-2"
48"	11'-8"	13'-2"	15'-10"

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#5's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"
"B"	4'	#4's @ 6"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 6"	#4's @ 10"

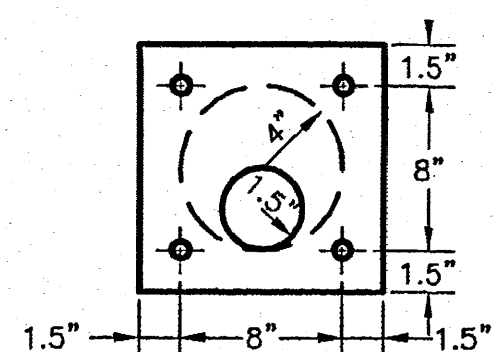
TABLE OF "T" & "N" DIMENSIONS			
SECTION	WIDTH ("W")	"T"	"N"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8" 6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8" 8"
"B"	4'	6" + PIPE THICKNESS	8" 8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10" 8"

REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER



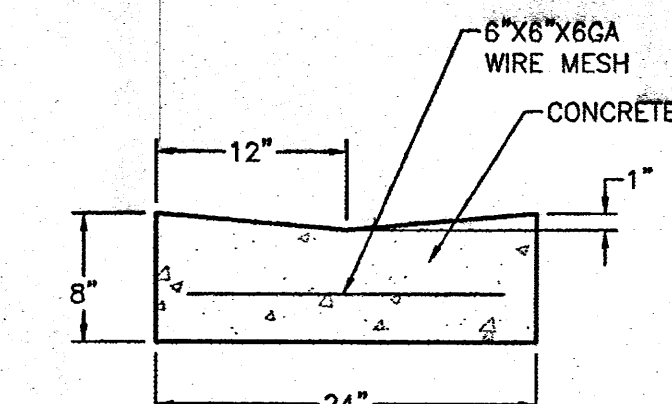
TO BE INSTALLED @ THE OUTFLOW OF ALL CATCH BASINS (SEE TABLE FOR SIZES)

DETAIL A

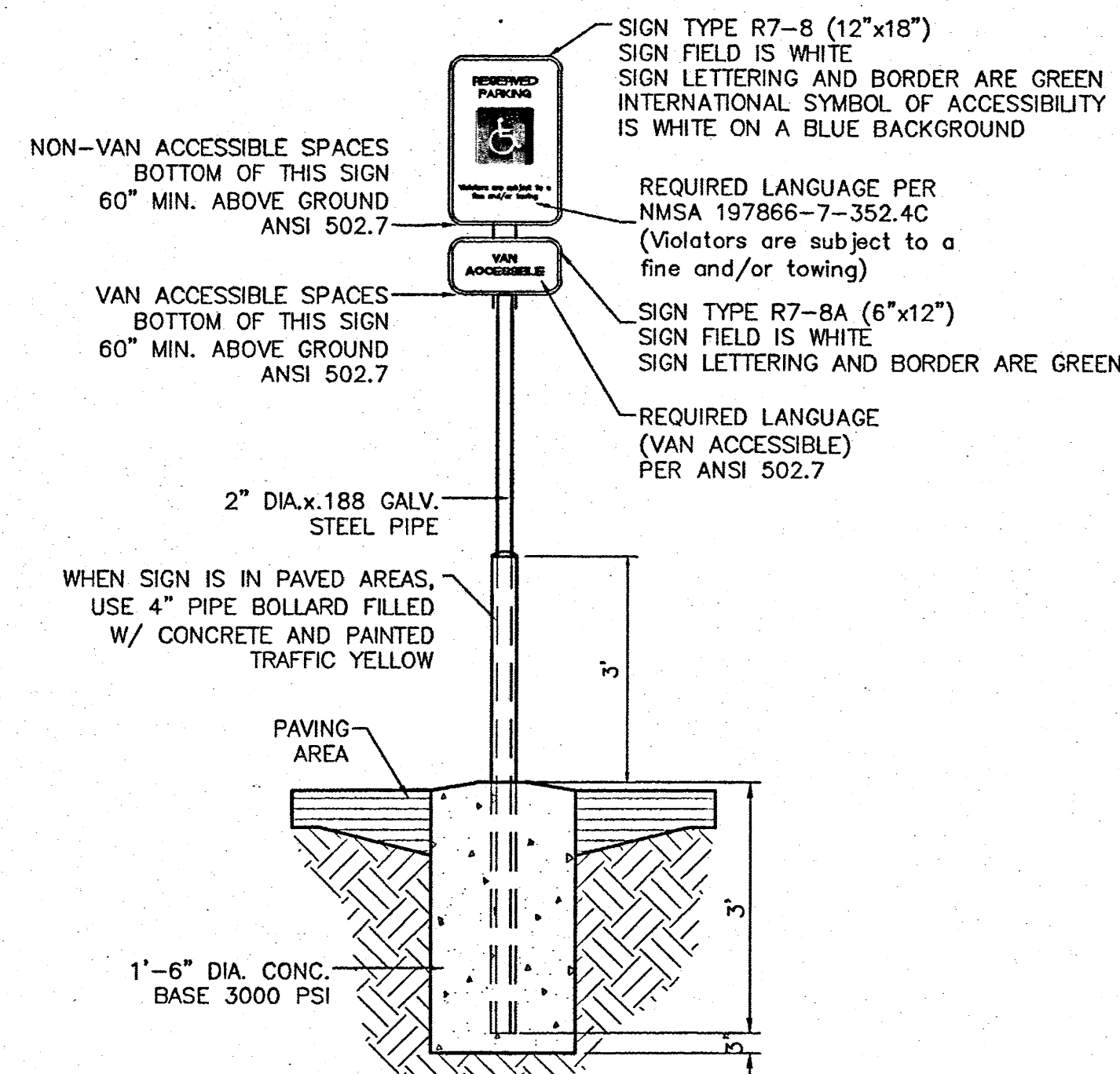


TYP. ORIFICE PLATE DETAIL
NTS

INLET #	ORIFICE SIZE
1	5.125"
2	5.25"
3	N/A
4	2.75"
5	4.75"
6	N/A
7	N/A



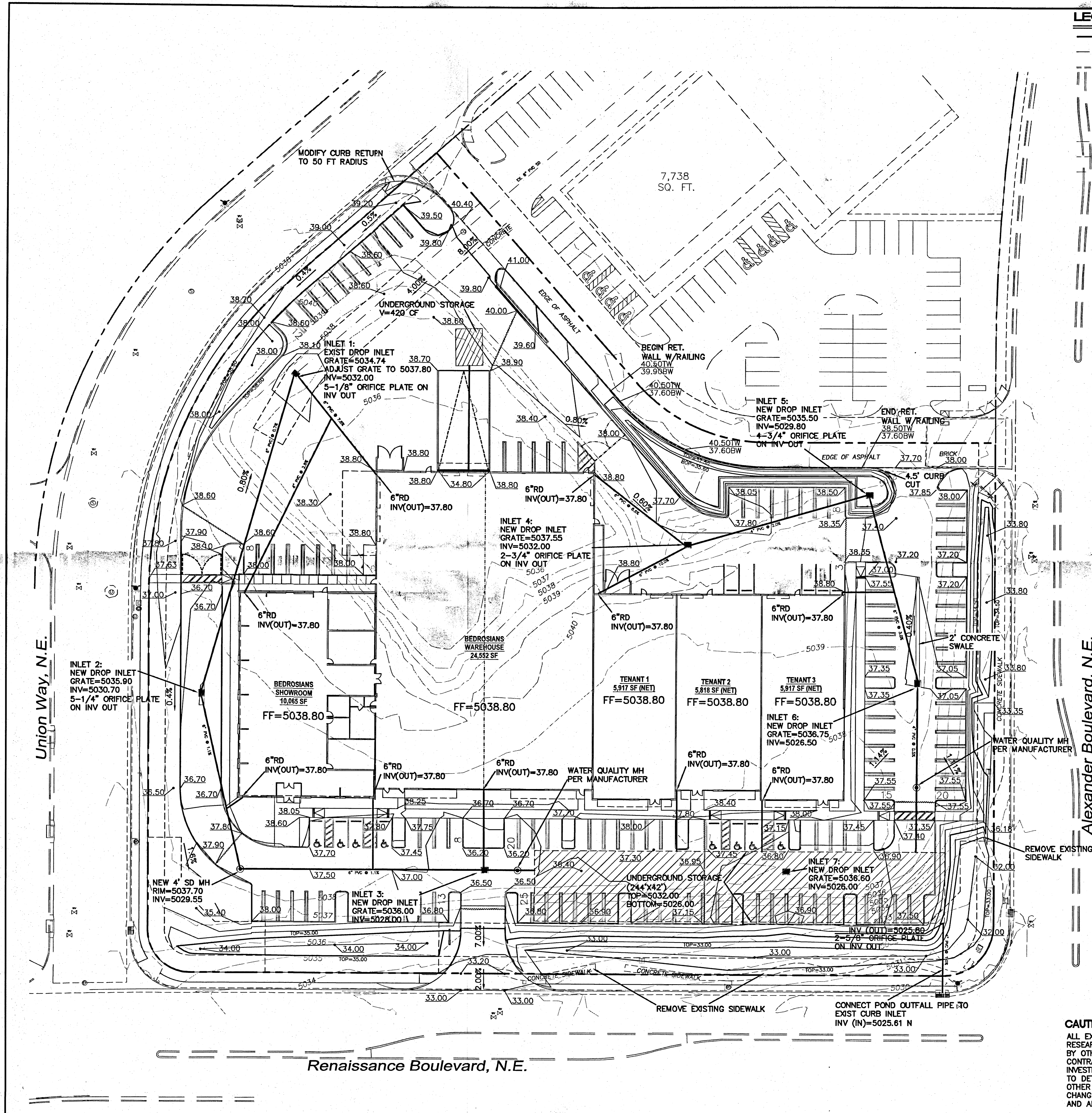
CONCRETE SWALE DETAIL
IN PARKING LOT



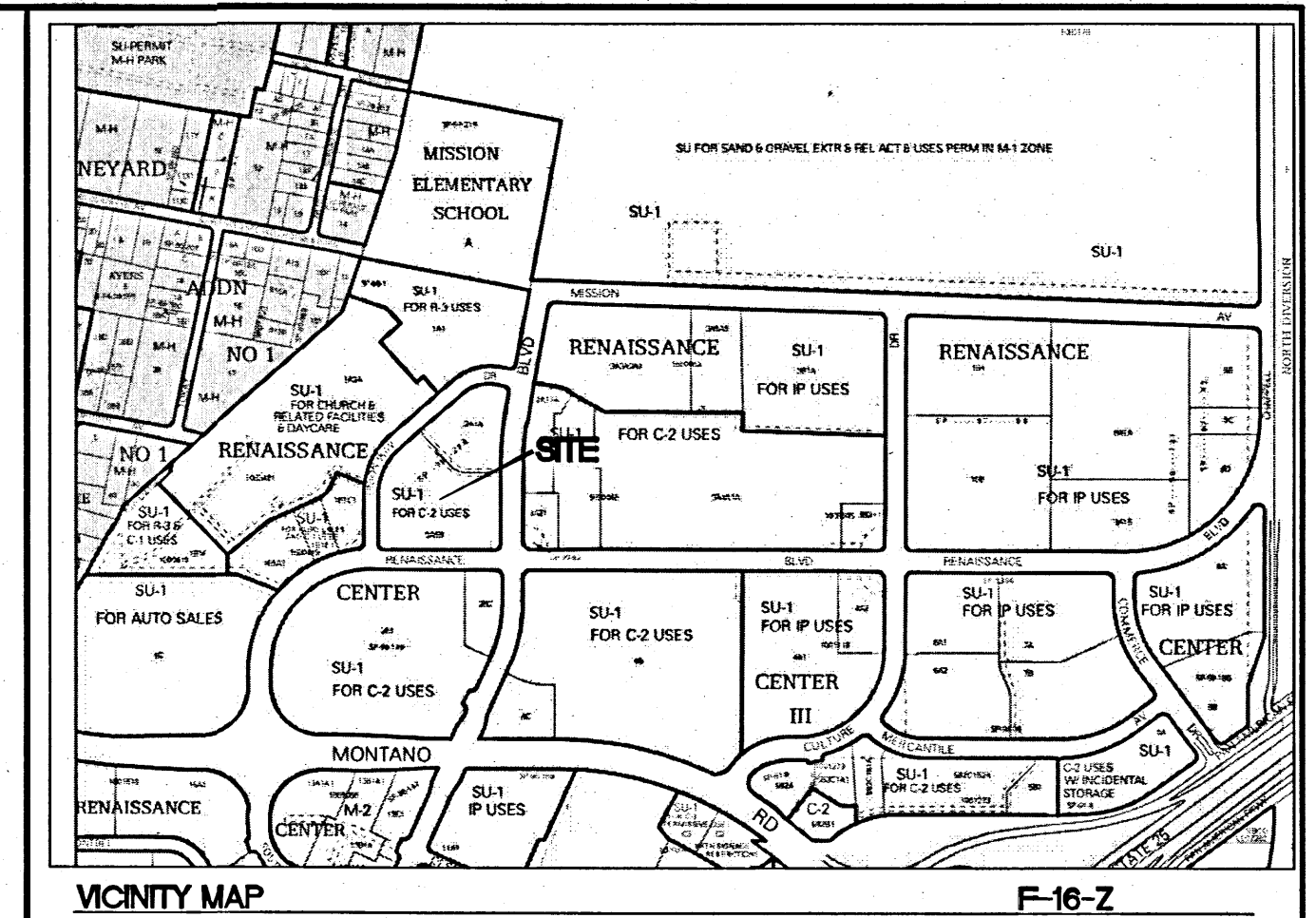
ACCESSIBLE PARKING SIGN
NTS

RONALD R. BOHANNAN P.E. #7968	ENGINEER'S SEAL	BEDROSIAN TILE AND STONE	DRAWN BY DY
			DATE 05-13-16
		GRADING DETAILS	2015023-DET
		TIERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrawestllc.com	SHEET # C2.00 JOB # 2014084

2014084



- LEGEND**
- BOUNDARY LINE
 - EASEMENT
 - EXISTING CURB & GUTTER
 - EXISTING SD MANHOLE
 - EXISTING SAS MANHOLE
 - EXISTING FIRE HYDRANT
 - EXISTING WATER METER
 - EXISTING SANITARY SEWER LINE
 - EXISTING WATER LINE
 - EXISTING STORM SEWER LINE
 - EXISTING INDEX CONTOUR
 - EXISTING CONTOUR
 - WATER BLOCK
 - UNDERGROUND STORAGE



LEGAL DESCRIPTION
TRACTS 2A-1B-1 AND 2A-1B-2, RENAISSANCE CENTER

NOTICE TO CONTRACTORS

- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- SOURCE OF TOPO IS ALTA/ACSM LAND TITLE SURVEY OF LOT 2 HARMS INDUSTRIAL PARK PREPARED BY PRECISION SURVEYS, INC DATED JUNE, 2014.

NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- 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, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- 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.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

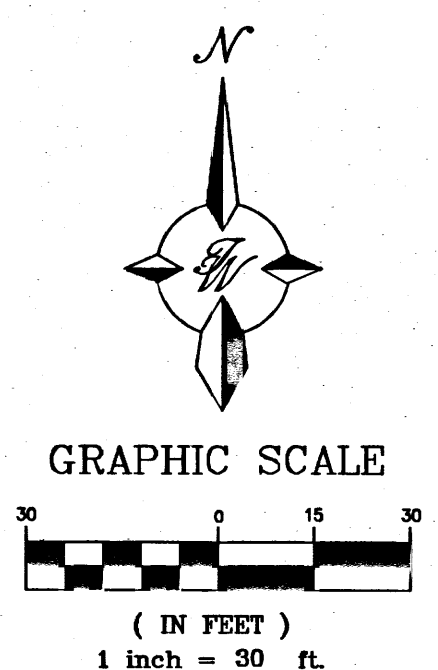
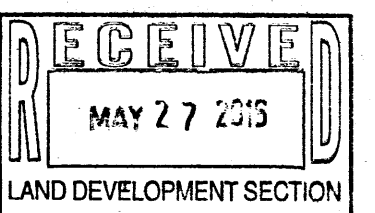
APPROVAL	NAME	DATE
INSPECTOR		

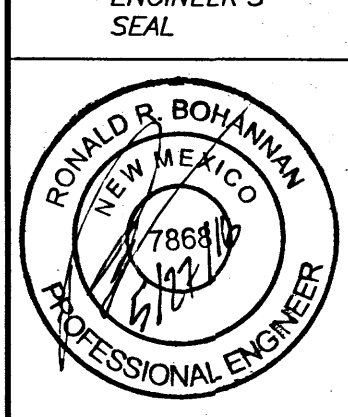
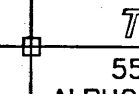
EROSION CONTROL NOTES

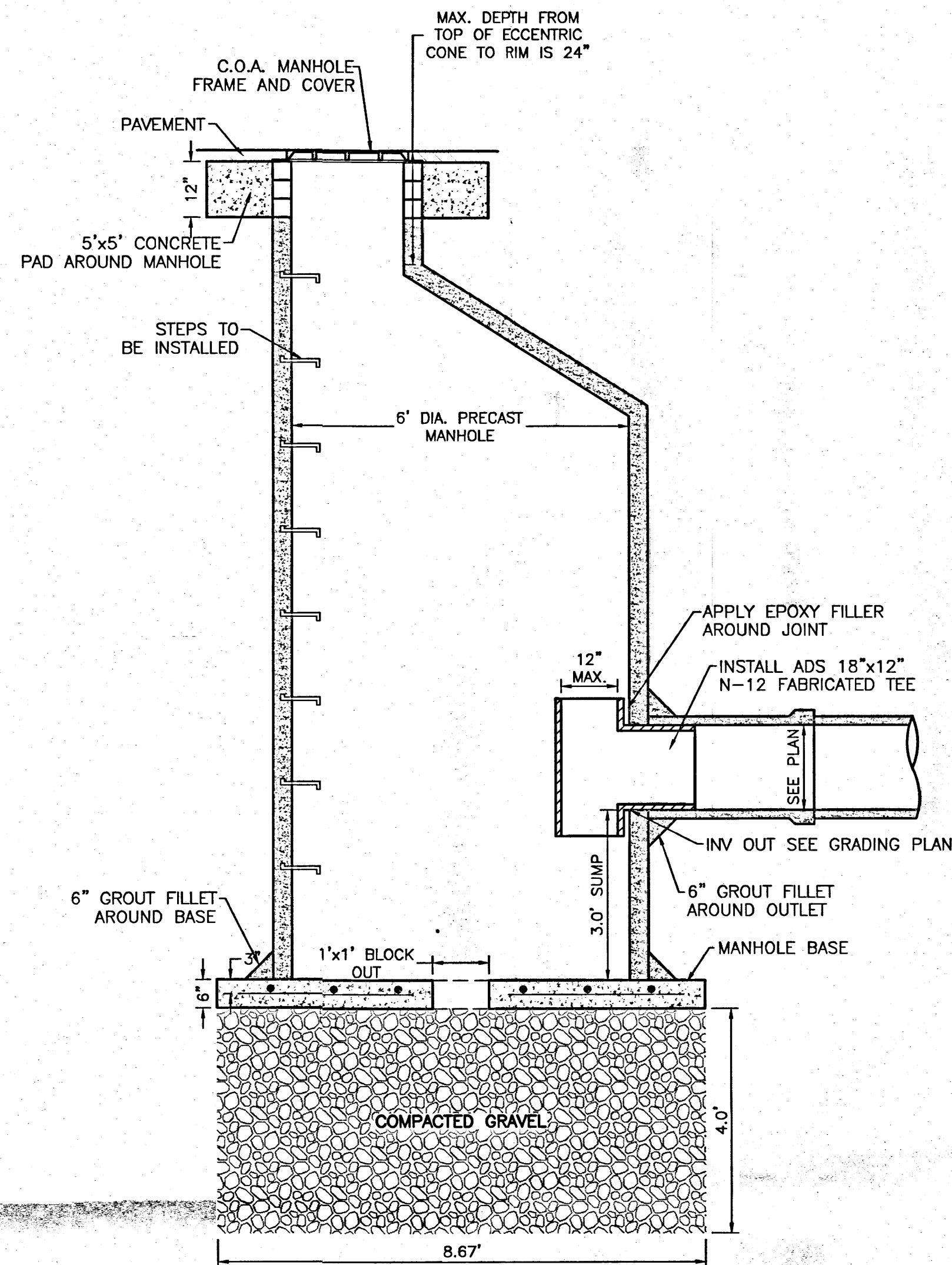
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND 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 ACCEPTANCE OF ANY PROJECT.

CAUTION

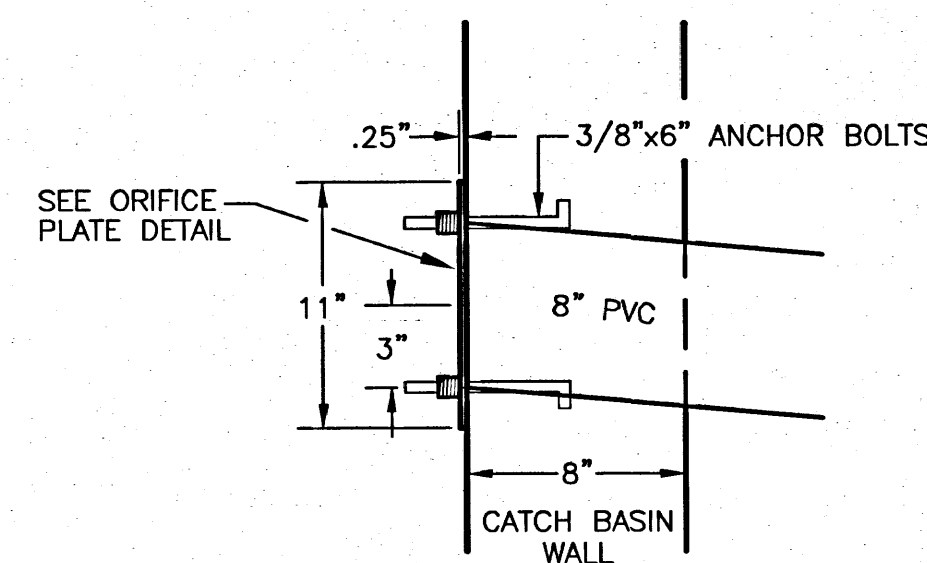
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 RONALD B. BOHANNON P.E. #7868	BEDROSIAN TILE AND STONE	DRAWN BY pm
	GRADING PLAN	DATE 05-13-16
 TERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.terrawestllc.com		SHEET # C1.00
		JOB # 2014084



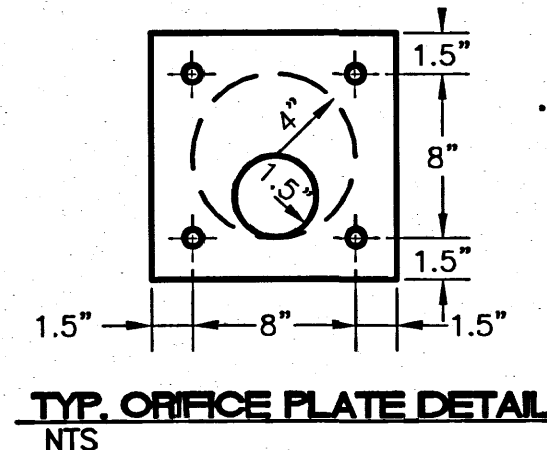
WATER QUALITY MANHOLE
NTS



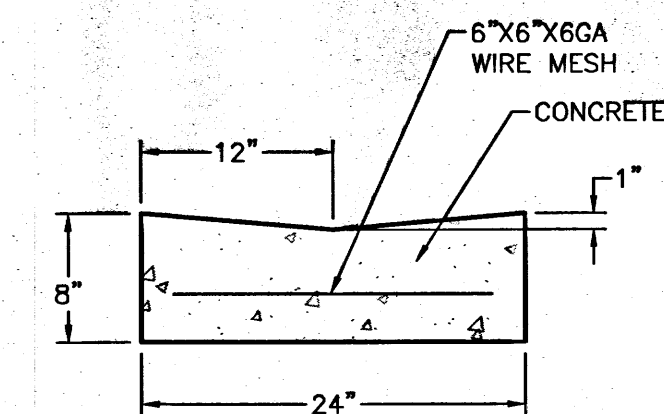
TO BE INSTALLED @ THE OUTFLOW OF ALL CATCH BASINS (SEE TABLE FOR SIZES)

DETAIL A

INLET #	ORIFICE SIZE
1	5.125"
2	5.25"
3	N/A
4	2.75"
5	4.75"
6	N/A
7	N/A

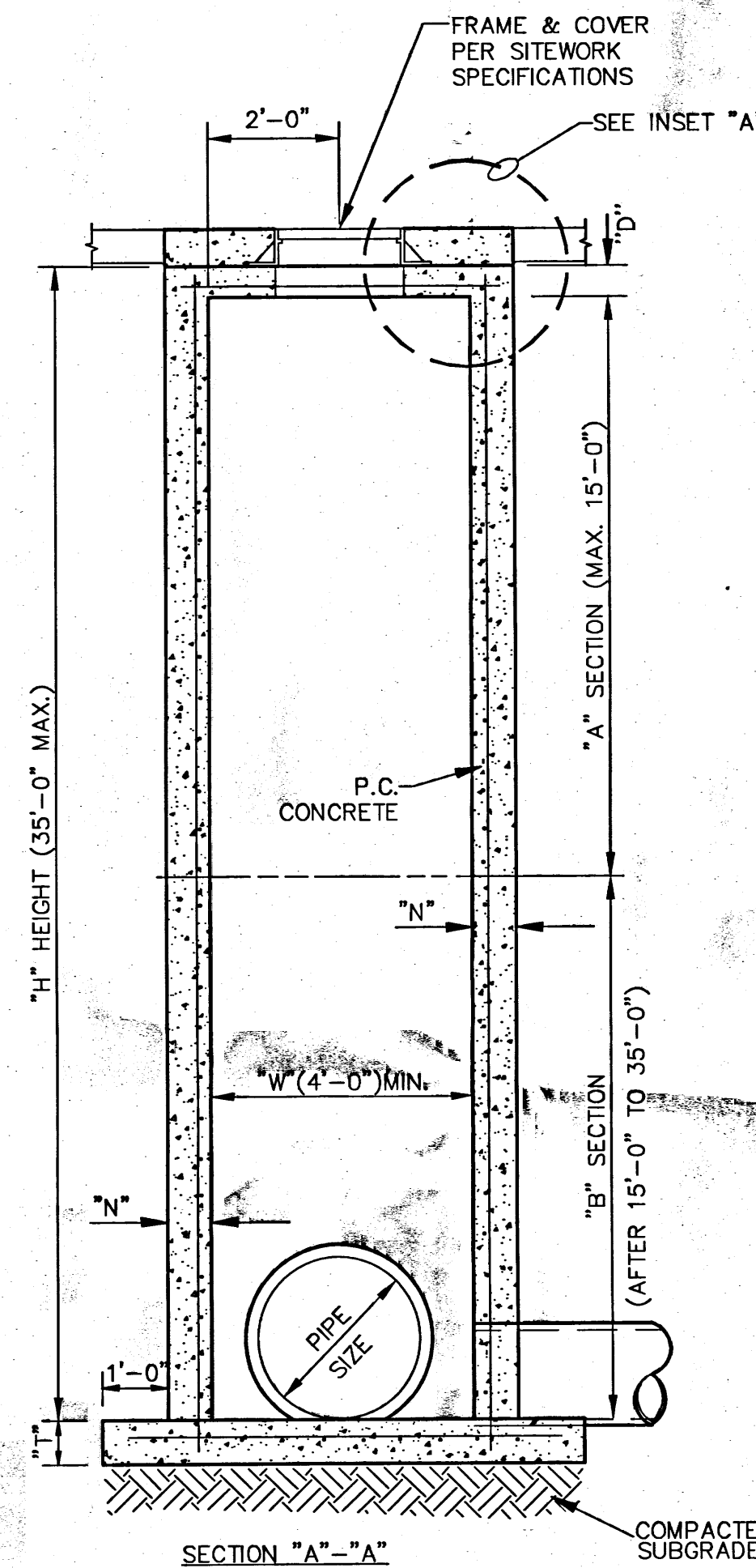


TYP. ORIFICE PLATE DETAIL
NTS

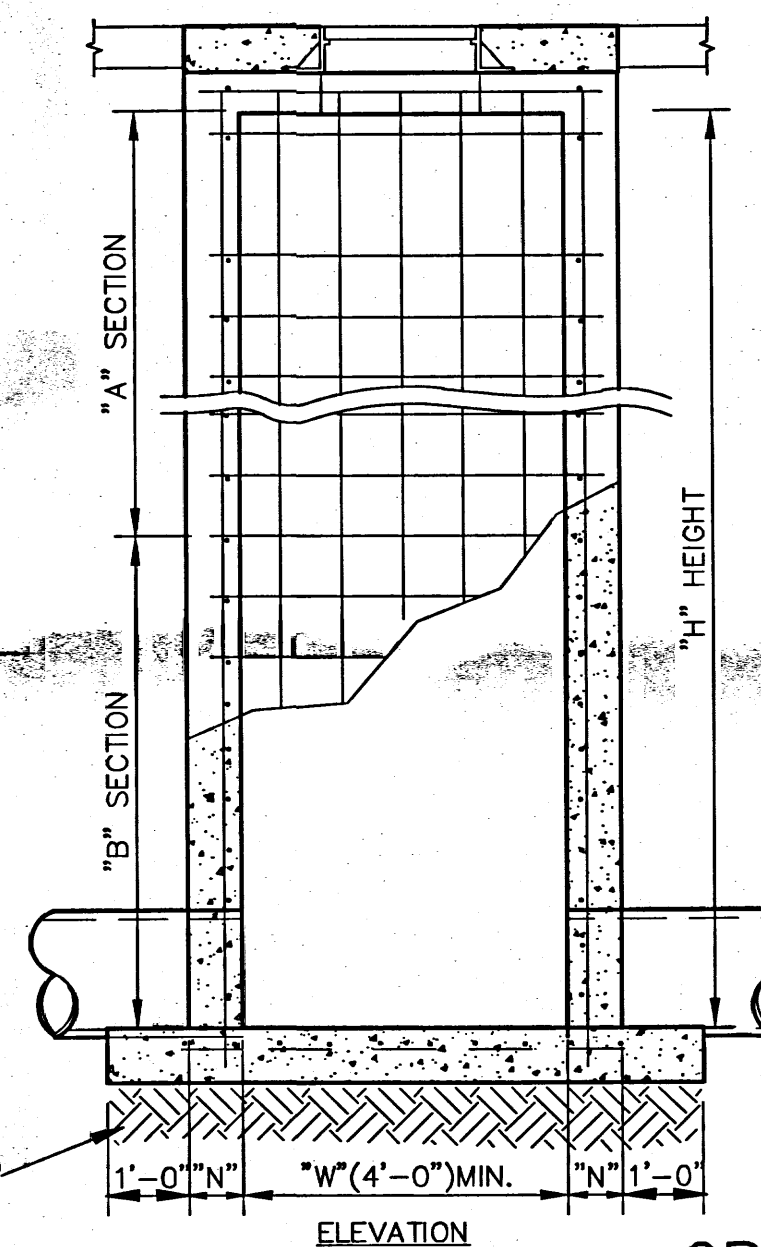
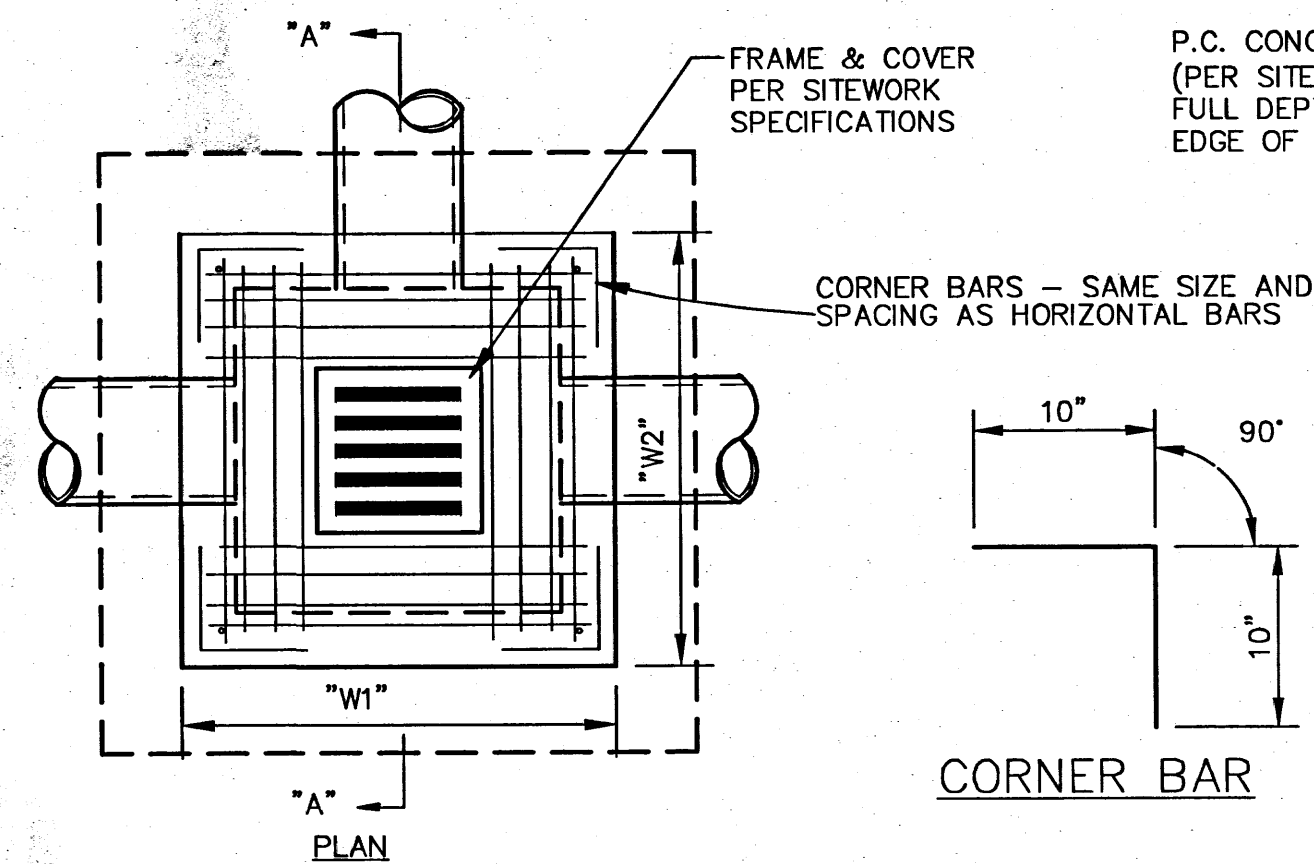


CONCRETE SWALE DETAIL
IN PARKING LOT

NOTE: TOP OF MANHOLE TO BE LEVEL WITH FINISH GRADE UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER. USE ADJUSTMENT RINGS AS REQUIRED BUT NOT TO EXCEED 12\"/>



SECTION "A"-A"



ELEVATION

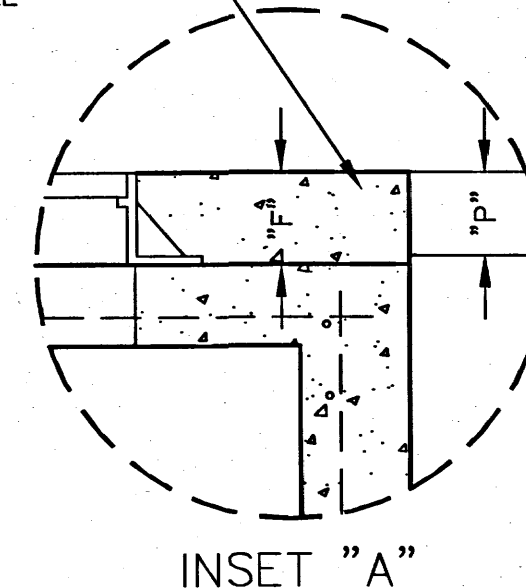
GRATE INLET
N.T.S.

- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
 2. ALL REINFORCING BARS TO HAVE 2" COVER.
 3. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
 4. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET. CONNECTION SHALL NOT BE MADE AT CORNERS OF BOX.
 5. ALL REINFORCING BARS TO BE GRADE 60.
 6. PRECAST MANHOLE MAY BE USED UNLESS OTHERWISE NOTED OR DIRECTED BY THE ENGINEER.

PRECAST MANHOLE SPECIFICATIONS

ASTM C478 - PRECAST REINFORCED CONCRETE MANHOLE SECTIONS
ASTM C913 - PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES
CONCRETE: 4000 PSI AE (MIN.)
JOINT: WATERTIGHT RUBBER GASKET

P.C. CONCRETE (PER SITEWORK SPECIFICATION SECTION 02751)
FULL DEPTH OF FRAME HEIGHT TO OUTSIDE EDGE OF MANHOLE



"P" = PAVEMENT THICKNESS
"F" = FRAME HEIGHT

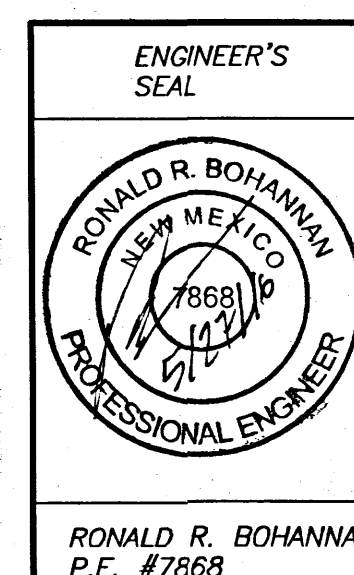
REINFORCEMENT SCHEDULE, BASE	
SECTION	
"A"	#4's @ 6" E.W.
"B"	#6's @ 6" E.W.

TABLE OF "W" DIMENSIONS			
PIPE SIZE	SKEW OF CROSS DRAIN		
SINGLE	STRAIGHT	30°	45°
24"	4'-0"	4'-0"	4'-10"
30"	4'-0"	4'-7"	5'-8"
36"	4'-0"	5'-3"	6'-5"
42"	5'-3"	5'-11"	7'-3"
48"	5'-10"	6'-7"	8'-0"
60"	7'-0"	7'-10"	9'-8"
DOUBLE FOR "A" SECTION ONLY			
24"	7'-0"	7'-10"	9'-5"
30"	8'-2"	9'-2"	11'-0"
36"	9'-4"	10'-6"	12'-6"
42"	10'-6"	11'-10"	14'-2"
48"	11'-8"	13'-2"	15'-10"

REINFORCEMENT SCHEDULE, WALLS			
SECTION	WIDTH ("W")	HOR.	VERT.
"A"	4'	#4's @ 9"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 9"	#4's @ 10"
	GREATER THAN 7'	#5's @ 4 1/2"	#4's @ 10"
"B"	4'	#4's @ 6"	#4's @ 10"
	BETWEEN 4' & 7'	#6's @ 6"	#4's @ 10"

TABLE OF "T" & "N" DIMENSIONS				
SECTION	WIDTH ("W")	"T"	"N"	"D"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8"	6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8"	8"
"B"	4'	6" + PIPE THICKNESS	8"	8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10"	8"

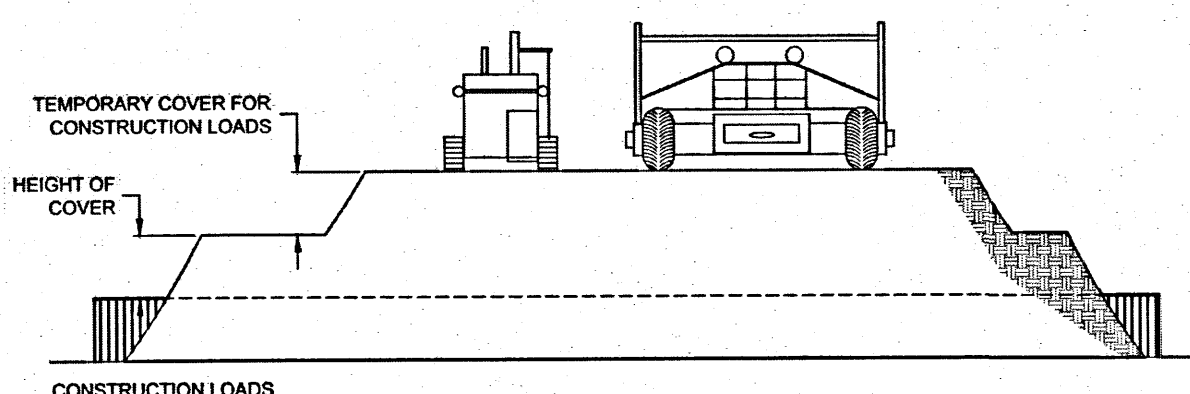
REINFORCEMENT SCHEDULE, TOP		
DIMENSIONS	STEEL	SPECIAL PATTERN
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W1 = 7' OR LESS	#4's @ 8" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W1 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER
W2 = 7' OR GREATER	#4's @ 6" E.W.	DIAGONAL @ COVER



BEDROSIAN TILE AND STONE
GRADING DETAILS

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NM 87109
(505) 858-3100
www.tierrowestllc.com

DRAWN BY
DY
DATE
05-13-16
2015023-DET
SHEET #
C2.00
JOB #
2014084



CONSTRUCTION LOADS
FOR TEMPORARY CONSTRUCTION VEHICLE LOADS, AN EXTRA AMOUNT OF COMPACTED COVER MAY BE REQUIRED OVER THE TOP OF THE PIPE. THE HEIGHT OF COVER SHALL MEET THE MINIMUM REQUIREMENTS SHOWN IN THE TABLE BELOW. THE USE OF HEAVY CONSTRUCTION EQUIPMENT NECESSITATES GREATER PROTECTION FOR THE PIPE THAN FINISHED GRADE COVER MINIMUMS FOR NORMAL HIGHWAY TRAFFIC.

PIPE SPAN, Ø INCHES	AXLE LOADS (KIP)			
	32-50	50-75	75-110	110-150
STEEL 15-42	2.0	2.5	3.0	3.0
48-72	3.0	3.0	3.5	4.0
78-108	3.0	3.5	4.0	4.5
ALUMINUM 15-42	2.5	3.0	3.5	3.5

*MINIMUM COVER MAY VARY, DEPENDING ON LOCAL CONDITIONS. THE CONTRACTOR MUST PROVIDE THE ADDITIONAL COVER REQUIRED TO AVOID DAMAGE TO THE PIPE. MINIMUM COVER IS MEASURED FROM THE TOP OF THE PIPE TO THE TOP OF THE MAINTAINED CONSTRUCTION ROADWAY SURFACE.

3 CONSTRUCTION LOADING DIAGRAM

P3 N.T.S. ULTRA FLO

SPECIFICATION FOR ULTRA FLO STORM SEWER PIPE-ALUMINIZED TYPE 2 STEEL

SCOPE

THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE ALUMINIZED TYPE 2 ULTRA FLO PIPE DETAILED IN THE PROJECT PLANS.

MATERIAL

THE ALUMINIZED TYPE 2 STEEL COILS SHALL CONFORM TO THE APPLICABLE REQUIREMENTS OF AASHTO M 274 OR ASTM A 929. GAUGES AND CORRUGATIONS SHALL BE AS SHOWN ON THE PROJECT PLANS.

ALL FABRICATION OF THE PRODUCT SHALL OCCUR WITHIN THE UNITED STATES.

HANDLING AND ASSEMBLY

SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF THE NCSPA (NATIONAL CORRUGATED STEEL PIPE ASSOCIATION).

INSTALLATION

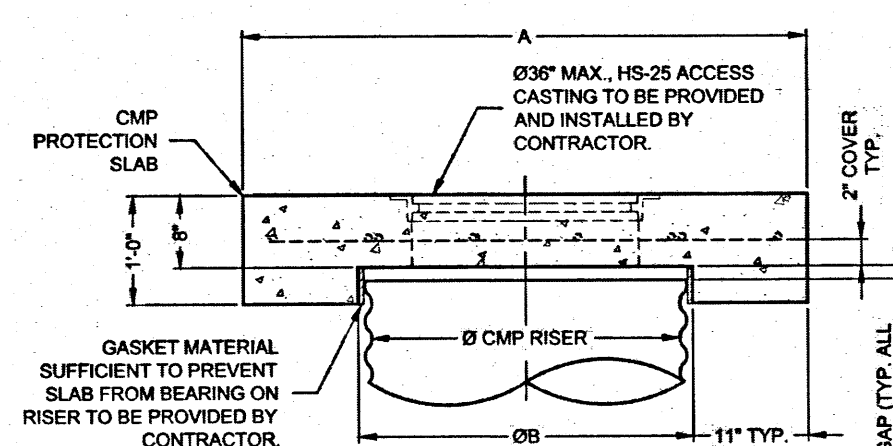
SHALL BE IN ACCORDANCE WITH AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SECTION 26, DIVISION II OR ASTM A 798 AND IN CONFORMANCE WITH THE PROJECT PLANS AND SPECIFICATIONS. IF THERE ARE ANY INCONSISTENCIES OR CONFLICTS, THE CONTRACTOR MUST BRING THEM TO THE ATTENTION OF THE SITE ENGINEER.

CONSTRUCTION LOADS

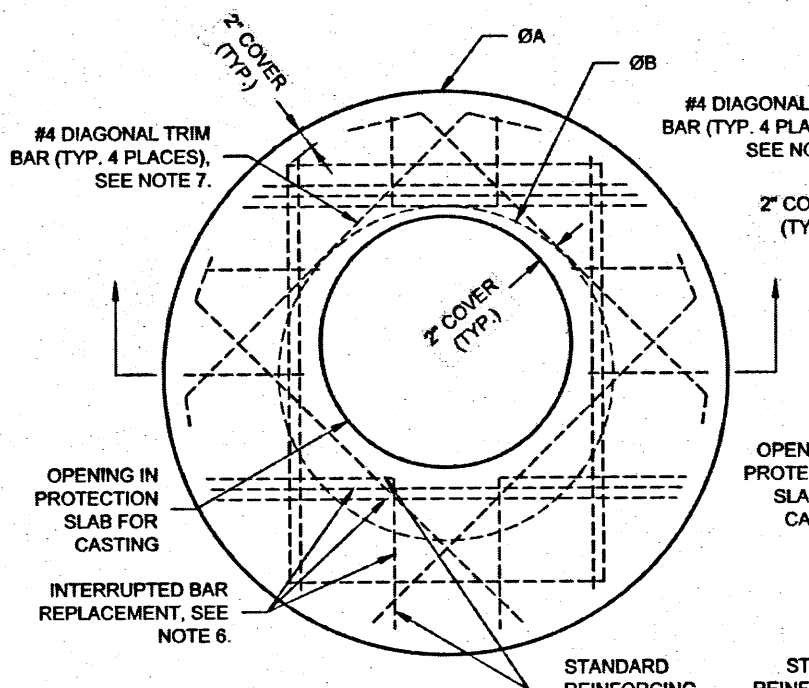
IT IS RESPONSIBILITY OF THE CONTRACTORS TO FOLLOW OSHA GUIDELINES FOR SAFE PRACTICES.
CONSTRUCTION LOADS MAY BE HIGHER THAN FINAL LOADS. FOLLOW THE MANUFACTURER'S OR NCSPA'S GUIDELINES.

4 MATERIAL SPECIFICATION

P3



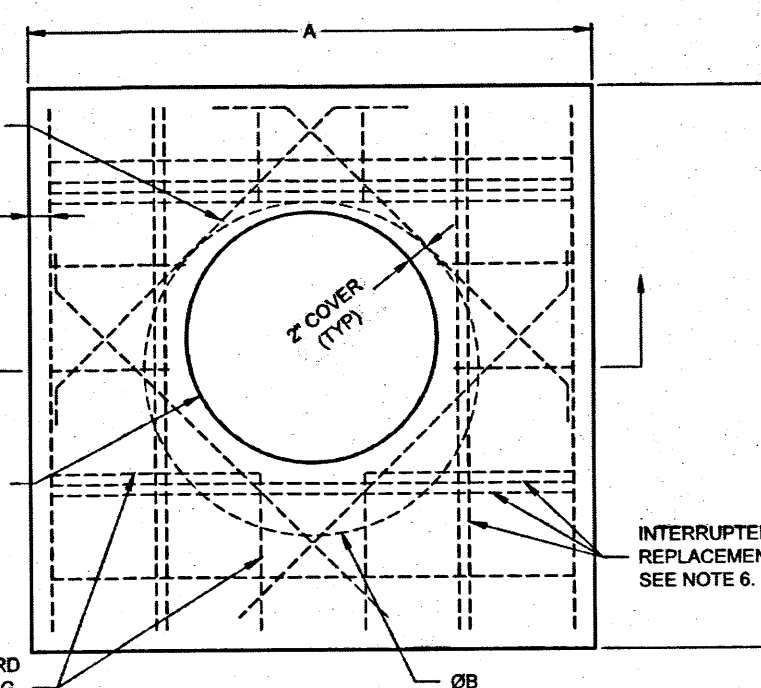
SECTION VIEW



ROUND OPTION PLAN VIEW

REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4"	26"	#5 @ 10" OCEW #5 @ 10" OCEW	2,540 1,900
30"	Ø 4-4/8"	32"	#5 @ 10" OCEW #5 @ 9" OCEW	2,280 1,670
36"	Ø 5"	38"	#5 @ 9" OCEW #5 @ 8" OCEW	2,060 1,500
42"	Ø 5-4/8"	44"	#5 @ 8" OCEW #5 @ 8" OCEW	1,490 1,370
48"	Ø 6"	50"	#5 @ 7" OCEW #5 @ 7" OCEW	1,210 1,270

** ASSUMED SOIL BEARING CAPACITY



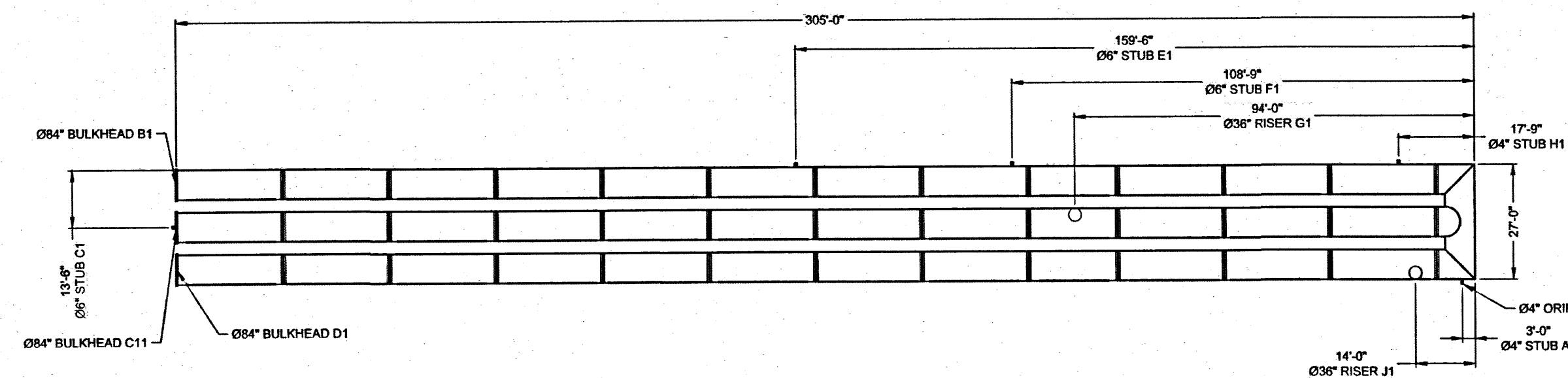
SQUARE OPTION PLAN VIEW

NOTES:

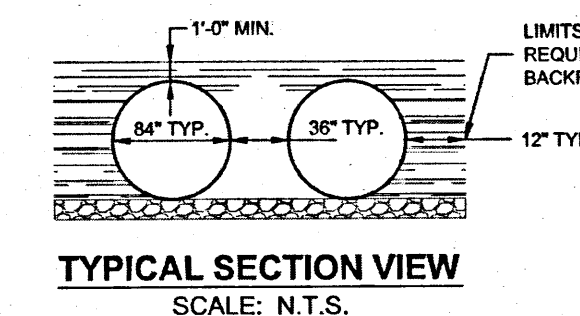
- DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION AND ACI 309.
- DESIGN LOAD HS25.
- EARTH COVER = 1' MAX.
- CONCRETE STRENGTH = 4,000 psi
- REINFORCING STEEL = ASTM A615, GRADE 60.
- PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
- TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
- PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
- DETAIL DESIGN BY DELTA ENGINEERS, ARCHITECTS AND LAND SURVEYORS, ENDWELL, NY.

5 MANHOLE CAP DETAIL

P3 N.T.S.



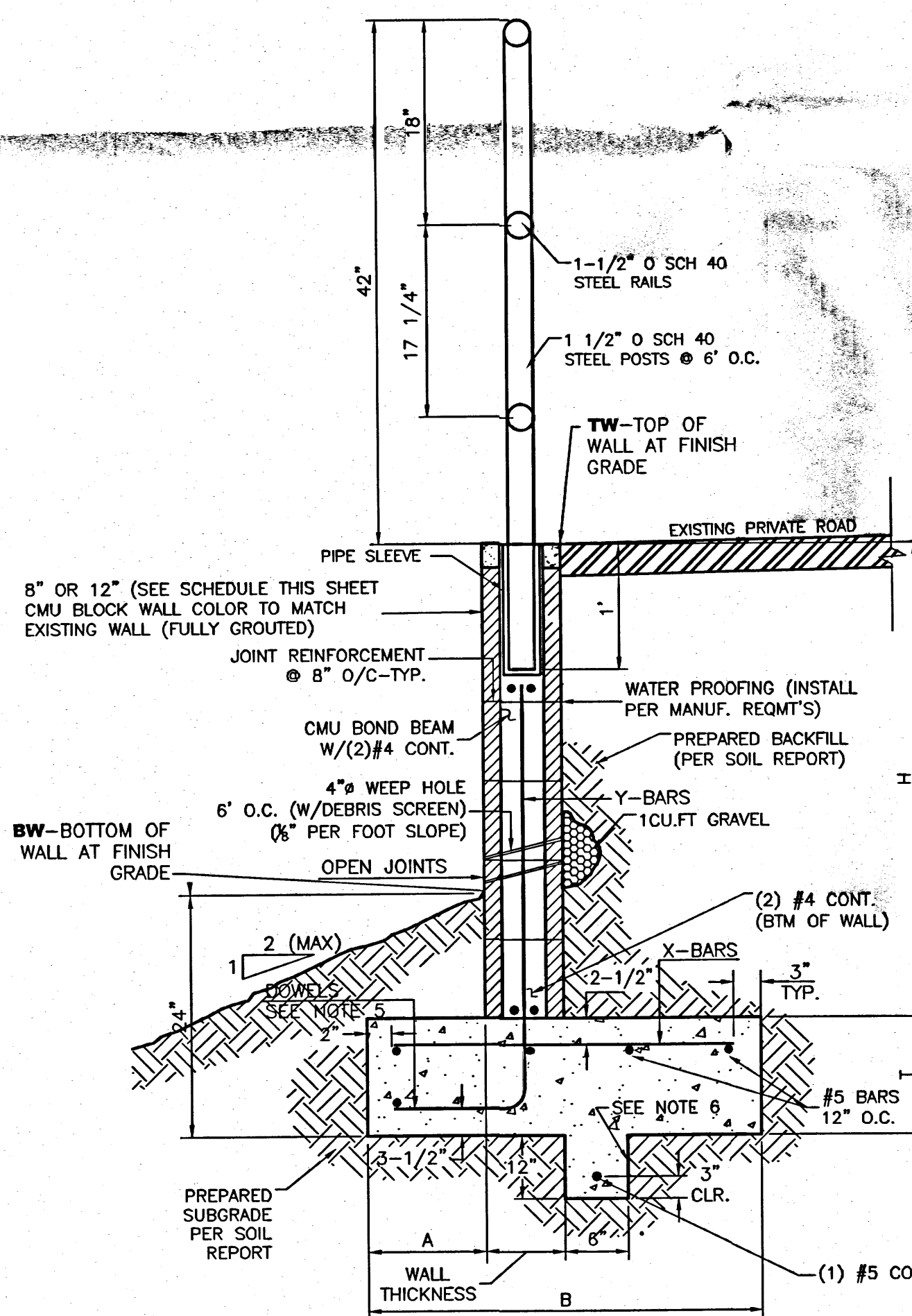
ASSEMBLY
SCALE: 1" = 30'
VOLUME: 35,445 CF
LOADING: H20/H25
SYSTEM INV = 5026.00±



TYPICAL SECTION VIEW
SCALE: N.T.S.

NOTES:

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE.
- ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO RELEASING FOR FABRICATION.
- ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A998.
- ALL RISERS AND STUBS ARE 2 1/2" x 1/2" CORRUGATION AND 16 GAUGE UNLESS OTHERWISE NOTED.
- RISERS TO BE FIELD TRIMMED TO GRADE.
- QUANTITY OF PIPE SHOWN DOES NOT PROVIDE EXTRA PIPE FOR CONNECTING THE SYSTEM TO EXISTING PIPE OR DRAINAGE STRUCTURES. OUR SYSTEM AS DETAILED PROVIDES NOMINAL INLET AND/OR OUTLET PIPE STUB FOR CONNECTION TO EXISTING DRAINAGE FACILITIES. IF ADDITIONAL PIPE IS NEEDED IT IS THE RESPONSIBILITY OF THE CONTRACTOR.



RETAINING WALL DETAIL

NTS

- $f_m = 1500$ PSI
- SOIL ALLOWABLE 2000 PSF (VERIFY W/SOILS REPORT)
- ACTIVE SOIL PRESSURE = 35 PSF/FT (VERIFY W/SOILS REPORT)
- PASSIVE SOIL PRESSURE = 250 PSF/FT (VERIFY W/SOILS REPORT)
- SOIL FRICTION FACTOR = 0.4 (VERIFY W/SOILS REPORT)

8 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
2'-0"	10"	2'-4"	10"	#4 @24" O.C.	#4 @24" O.C.
2'-8"	10"	2'-4"	10"	#4 @24" O.C.	#4 @24" O.C.
3'-4"	10"	2'-4"	10"	#4 @24" O.C.	#4 @24" O.C.
4'-0"	12"	2'-8"	10"	#4 @16" O.C.	#4 @24" O.C.
4'-8"	16"	3'-4"	12"	#5 @16" O.C.	#4 @18" O.C.
5'-4"	19"	3'-10"	12"	#5 @8" O.C.	#5 @24" O.C.
6'-0"	20"	4'-8"	12"	#6 @8" O.C.	#5 @24" O.C.

Y-BARS EDGE (2 1/2") FROM RETAINING FACE

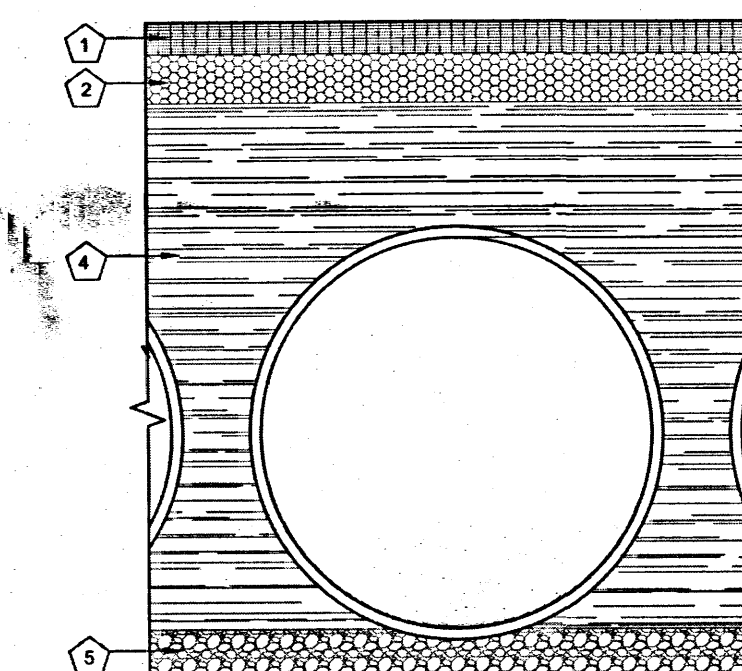
12 INCH REINFORCED CONCRETE MASONRY WALL

H	A	B	T	Y-BARS	X-BARS
ft.-in.	in.	ft.-in.	in.		
5'-4"	16"	3'-8"	12"	#5 @16" O.C.	#5 @24" O.C.
6'-0"	19"	4'-2"	12"	#5 @8" O.C.	#5 @24" O.C.
6'-8"	21"	4'-6"	12"	#5 @8" O.C.	#5 @16" O.C.
7'-4"	23"	4'-10"	12"	#6 @8" O.C.	#6 @18" O.C.
8'-0"	26"	5'-4"	12"	#6 @8" O.C.	#6 @18" O.C.
8'-8"	28"	5'-8"	12"	#6 @8" O.C.	#6 @12" O.C.

Y-BARS EDGE (3") FROM RETAINING FACE

GENERAL NOTES:

- ALL CONCRETE IS TO BE 4000 PSI @ 28 DAYS.
- MINIMUM COMPACTION UNDER FOOTINGS IS TO BE 95% PER ASTM D 1557 FOR A DEPTH OF 12" MOISTURE CONTENT IS TO BE $\pm 2.0\%$.
- BACK FILL AGAINST WALLS IS TO BE HAND-PLACED AND COMPACTED.
- ALL BARS ARE TO BE GRADE 60, ASTM 615.
- DOWELS SHALL BE EQUAL IN SIZE AND SPACING TO Y-BARS, SHALL PROJECT A MINIMUM OF #4-24", #5-30", #6-36" INTO THE FILLED BLOCK CORES, AND SHALL EXTEND TO THE TOE OF THE FOOTING.
- PROVIDE KEY FOR 8" AND 12" WALLS WHERE H EXCEEDS 6'
- USE EITHER EXPANSION JOINTS ON 20' CENTERS OR PILASTERS EVERY 16'.



FOUNDATION BEDDING PREPARATION

PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE. IN THE EVENT THAT UNSUITABLE FOUNDATION MATERIALS ARE ENCOUNTERED DURING EXCAVATION, THEY SHALL BE REMOVED AND BROUGHT BACK TO THE GRADE WITH A FILL MATERIAL AS APPROVED BY THE ENGINEER. ONCE THE FOUNDATION PREPARATION IS COMPLETE, 4" - 6" OF A WELL-GRADED GRANULAR MATERIAL SHALL BE PLACED AS THE BEDDING.

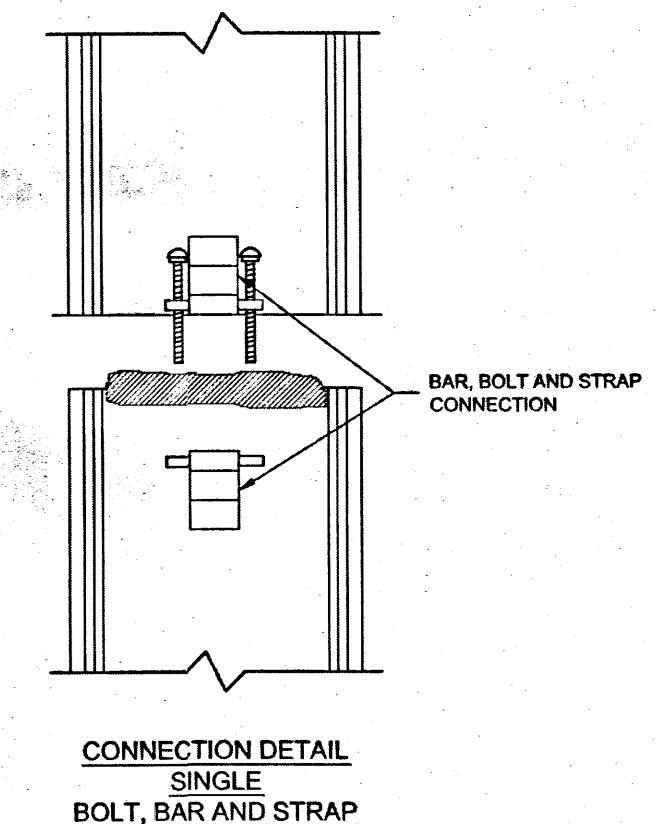
BACKFILL

THE BACKFILL SHALL BE AN A1, A2 OR A3 GRANULAR FILL PER AASHTO M145, OR A WELL-GRADED GRANULAR FILL AS APPROVED BY THE SITE ENGINEER (SEE INSTALLATION GUIDELINES). THE MATERIAL SHALL BE PLACED IN 6" LOOSE LIFTS AND COMPACTED TO 90% AASHTO T99 STANDARD PROCTOR DENSITY. WHEN PLACING THE FIRST LIFTS OF BACKFILL IT IS IMPORTANT TO MAKE SURE THAT THE BACKFILL IS PROPERLY COMPACTED UNDER AND AROUND THE PIPE HAUNCHES. BACKFILL SHALL BE PLACED SUCH THAT THERE IS NO MORE THAN A TWO (2) INCH (16") DIFFERENTIAL BETWEEN ANY OF THE PIPES AT ANY TIME DURING THE BACKFILL PROCESS. THE BACKFILL SHALL BE ADVANCED ALONG THE LENGTH OF THE DETENTION SYSTEM AT THE SAME RATE TO AVOID DIFFERENTIAL LOADING ON THE PIPE.

OTHER ALTERNATE BACKFILL MATERIAL MAY BE ALLOWED DEPENDING ON SITE SPECIFIC CONDITIONS, AS APPROVED BY SITE ENGINEER.

1 BACKFILL DETAIL

P2 SCALE: N.T.S.



CONNECTION DETAIL
SINGLE
BOLT, BAR AND STRAP

GENERAL NOTES:

- BANDS ARE NORMALLY FURNISHED AS FOLLOWS:
12" THRU 48", 1-PIECE
54" THRU 96", 2-PIECE
102" THRU 144", 3-PIECES
- BAND FASTENERS ARE ATTACHED WITH SPOT WELDS, RIVETS OR HAND WELDS
- REROLLED ANNUAL END CORRUGATIONS ARE NORMALLY 2 1/2" x 1/2". DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES

2 H-12 HUGGER BAND DETAIL

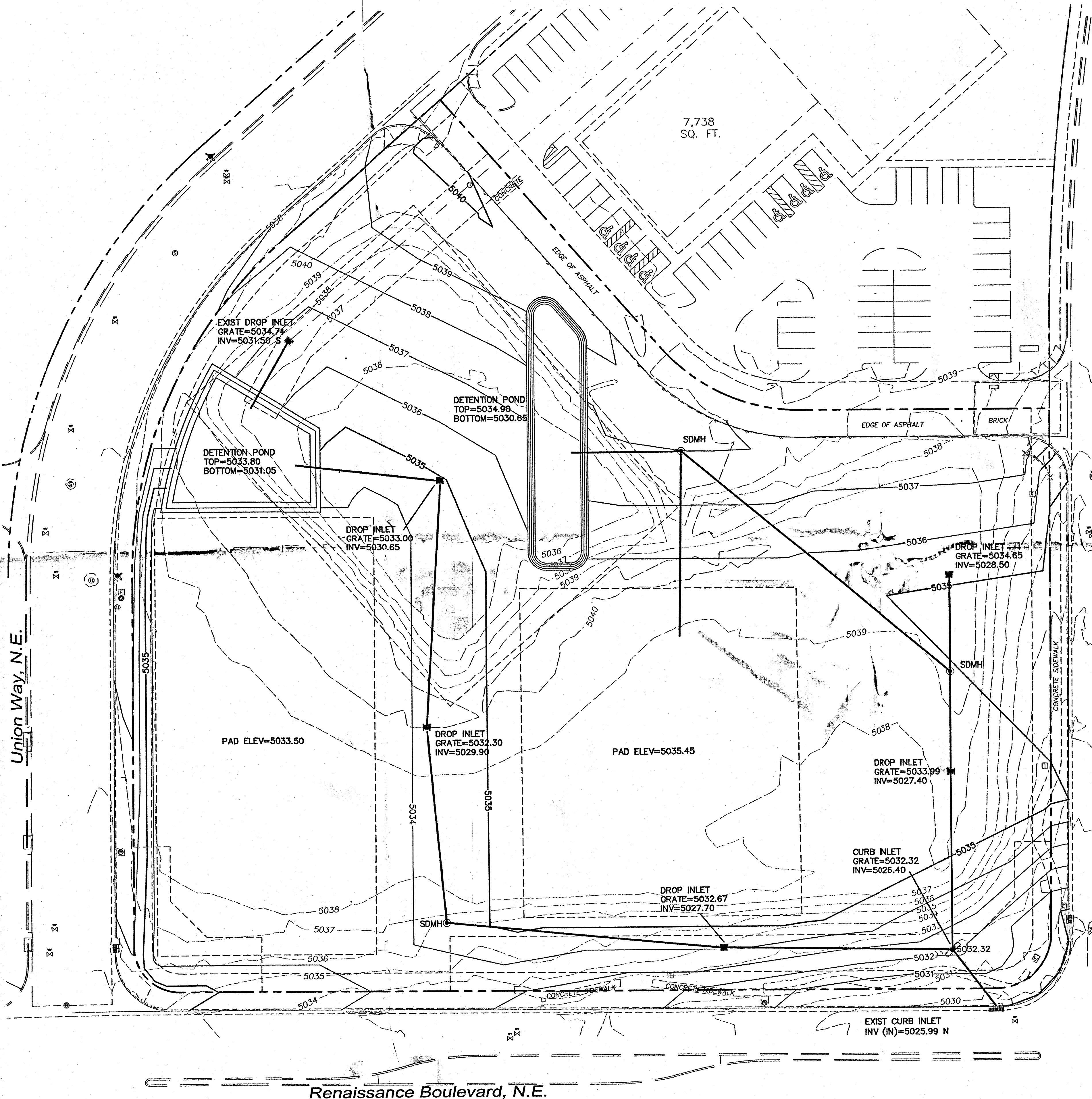
P2 N.T.S.

ENGINEER'S SEAL
RONALD R. BOHANNAN
NEW MEXICO
P.E. #7868

BEDROSIAN TILE AND STONE
SUBSURFACE DETENTION SYSTEM

TIERRA WEST, LLC
5571 MIDWAY PARK PLACE NE
ALBUQUERQUE, NM 87109
(505) 858-3100
www.tierrowestllc.com

DRAWN BY
DY
DATE
05-13-16
2015023-DET
SHEET #
C3.00
JOB #
2014084



LEGEND

- BOUNDARY LINE
- EASEMENT
- EXISTING CURB & GUTTER
- EXISTING SD MANHOLE
- EXISTING SAS MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING STORM SEWER LINE
- EXISTING INDEX CONTOUR
- EXISTING CONTOUR



VICINITY MAP

F-16-Z

LEGAL DESCRIPTION

TRACTS 2A-1B-1 AND 2A-1B-2, REINASSANCE CENTER

NOTICE TO CONTRACTORS

- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- SOURCE OF TOPO IS ALTA/ACSM LAND TITLE SURVEY OF LOT 2 HARMS INDUSTRIAL PARK PREPARED BY PRECISION SURVEYS, INC DATED JUNE, 2014.

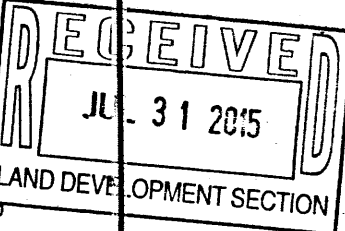
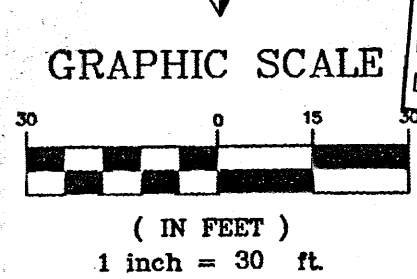
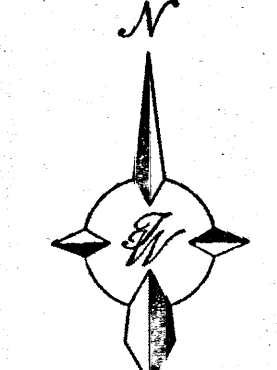
NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- 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, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- 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.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

APPROVAL	NAME	DATE
INSPECTOR		

EROSION CONTROL NOTES:

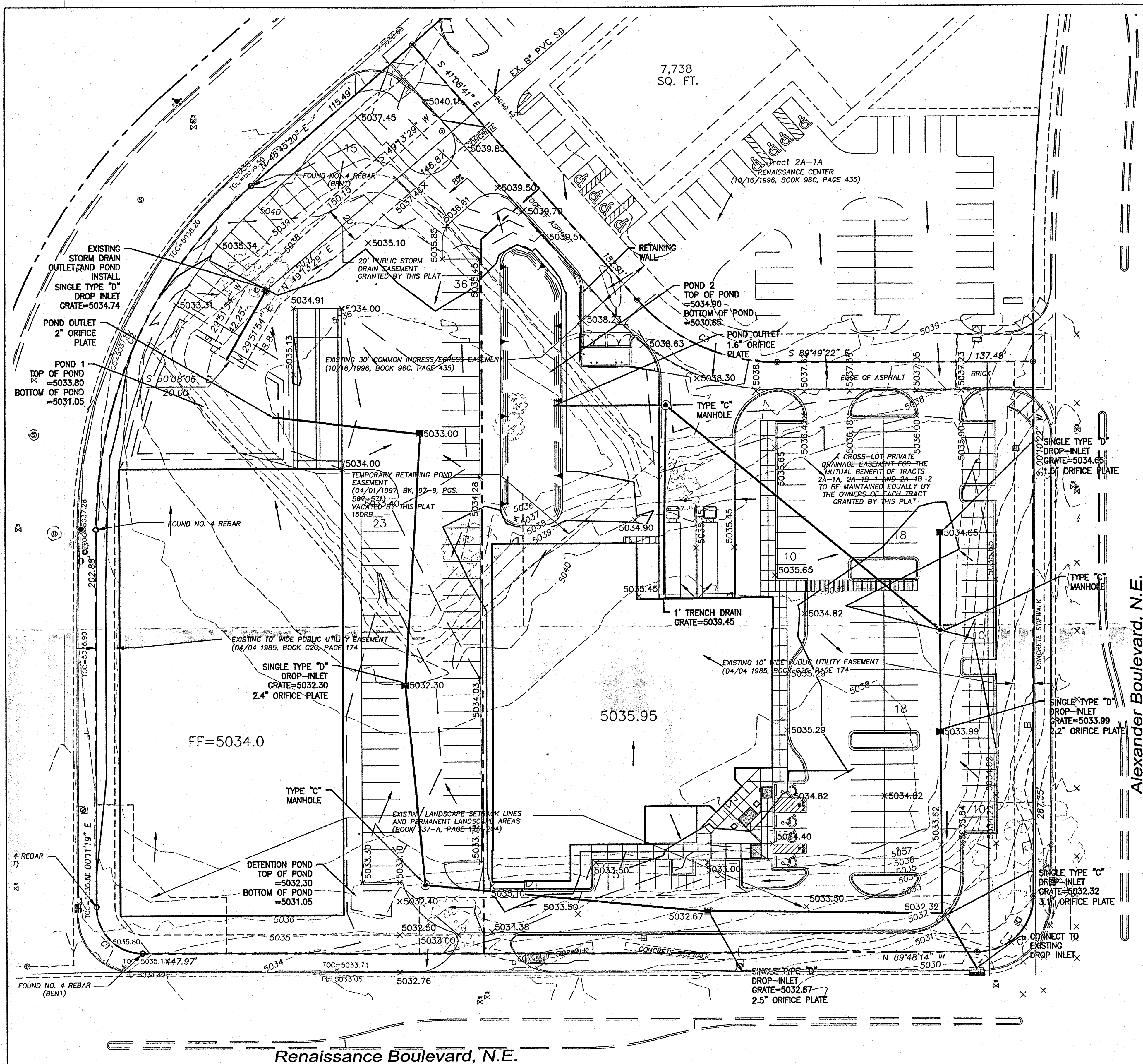
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND 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 ACCEPTANCE OF ANY PROJECT.



CAUTION:

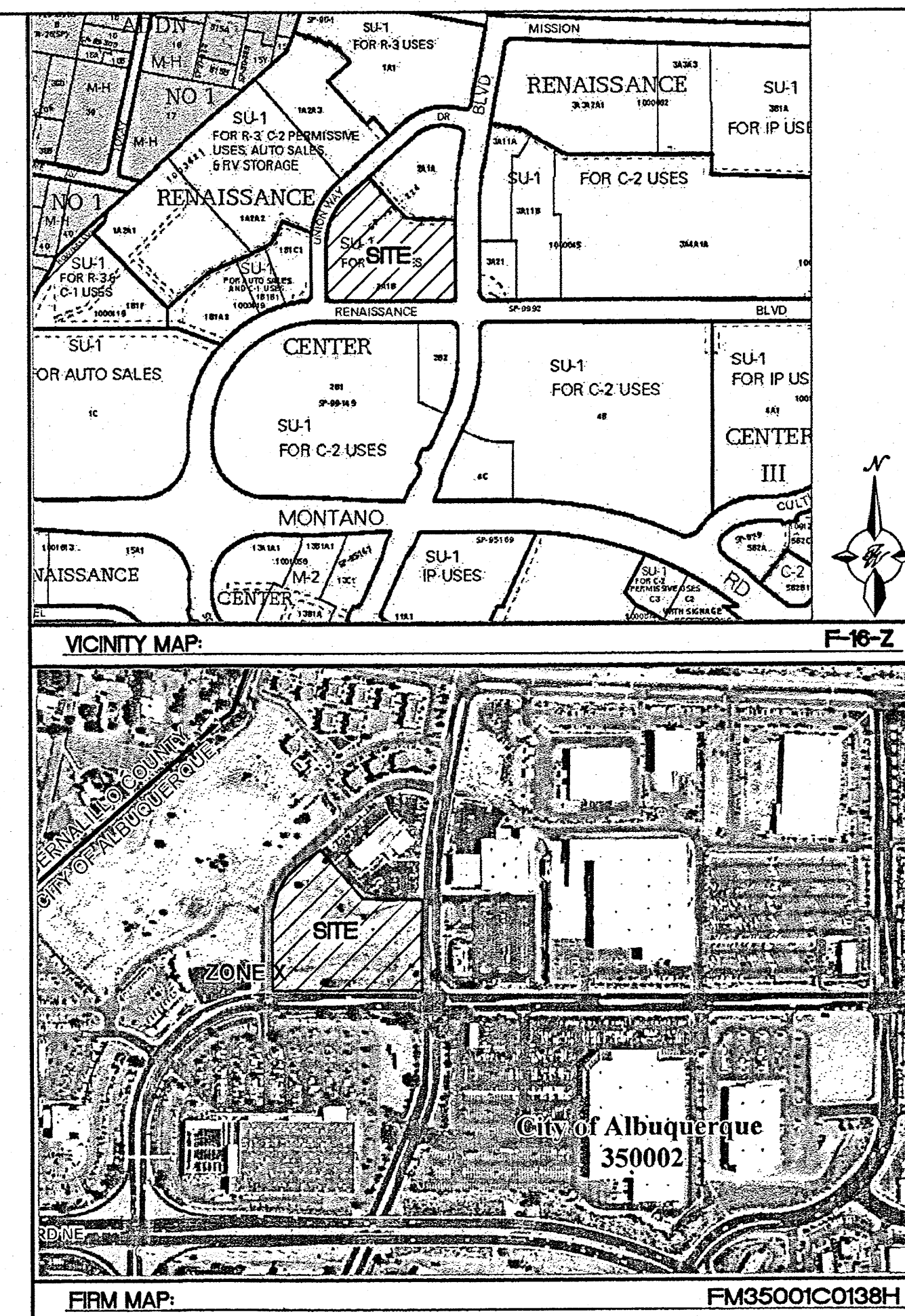
ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND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

 RONALD R. BOHANNAN P.E. #7868	TRACT 2A-1B REINASSANCE CENTER	DRAWN BY pm
	OVERALL GRADING PLAN	DATE 7-30-15
 TIERRA WEST, LLC 5571 MIDWAY PARK PL NE ALBUQUERQUE, NEW MEXICO 87109 (505) 858-3100 www.tierrawestllc.com		SHEET # 1
		JOB # 2015023



LEGEND

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

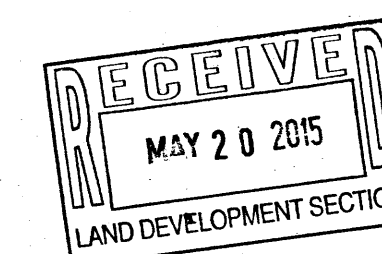


INTRODUCTION
The purpose of this submittal is to provide a conceptual grading and drainage plan to be approved for DRB action of Site Plan for Subdivision. The site is Tract 2A-1B in the Renaissance Center in Albuquerque, New Mexico and contains approximately 4.3 acres.

EXISTING CONDITIONS
The site is currently undeveloped property and is located at the NW corner of Renaissance Blvd. and Alexander Blvd. Flows from the tract directly north, Tract 2A-1A, are accepted into the subject site via an existing storm drain and surface flows. All flows from both tracts are directed towards a temporary retention pond located at the NW area of the site, there is no outfall to the temporary pond.

PROPOSED CONDITIONS
The proposed site layout shows two buildings within the tract, a retail building on the west side and a gun range on the east side. The development of this tract will continue to accept flows from Tract 2A-1A via surface flows and the existing storm drain. Two detention ponds are located directly north of each proposed building to hold as much of the offsite flows as possible. The ponds will be interconnected with a series of storm drains and drop inlets located within the parking lot areas to capture all runoff from the site. The storm drains will be directed to an existing catch basin located on Renaissance Boulevard at the NE corner of the site. Per the Master Drainage Plan for the Renaissance Center, the site is allowed a maximum discharge of 0.1 cfs/acre. The total area of both Tract 2A-1A and 2A-1B is 6.4 acres, resulting in a maximum discharge to the existing catch basin on Renaissance Boulevard of 0.64 cfs. In order to achieve this allowable discharge, the flow will be controlled by orifice plates placed on the inverts of the drop inlets and detention ponds. Ponding in the parking lot areas will occur above the drop inlets and will be graded to have a ponding depth no greater than 6 to 8 inches to allow for car door clearance.

CONCLUSION
This drainage management plan provides for grading and drainage elements which are capable of safely passing the 100 year storm and which meets city requirements. The proposed improvements to the site should not have any negative impacts to facilities downstream. With this submittal, we are requesting approval for DRB action for Site Plan for Subdivision.



EROSION CONTROL NOTES

- 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.
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NOTICE TO CONTRACTORS

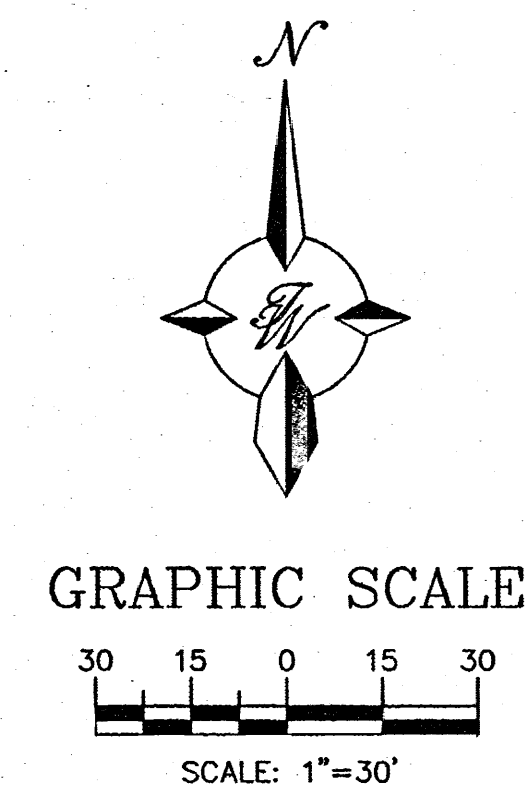
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- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.

NOTE

ALL GRADES INDICATE FLOWLINE UNLESS OTHERWISE NOTED

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.



ROUGH GRADING APPROVAL

DATE

ENGINEER'S SEAL	RENAISSANCE CENTER TRACT 2A-1B	DRAWN BY BJF
		DATE 5/20/15
		2015023-94021_TRACK 2A-1B_GRB
RONALD R. BOHANNAN P.E. #7868	CONCEPTUAL GRADING PLAN	
	 TERRA WEST, LLC 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrowestllc.com	SHEET # C3
		JOB # 94021

TERRA WEST, LLC
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