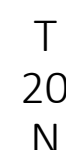




CITY OF BENTONVILLE, ARKANSAS

PUBLIC INFRASTRUCTURE IMPROVEMENT PLANS
SW 3RD AND C LATERALS
CEI PROJECT NO.32244
(MUNIS# 21EN0022)
JUNE 2022



TOTAL LENGTH OF STORM SEWER - A = 1224 LF (0.23 MILE)
TOTAL LENGTH OF STORM SEWER - B = 137 LF (0.03 MILE)
TOTAL LENGTH OF ENTIRE PROJECT = 1361 LF (0.26 MILE)

CITY OF BENTONVILLE
TRANSPORTATION DEPARTMENT
CONTACT: DENNIS BIRGE
3200 SW. MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: 479-271-6840
EMAIL: DBIRGE@BENTONVILLEAR.COM

CITY OF BENTONVILLE
DEPUTY DIRECTOR OF TRANSPORTATION
CONTACT: DAN WEESE
3200 SW. MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: 479-271-6840
EMAIL: DWEESE@BENTONVILLEAR.COM

AT&T
CONTACT: BRENT BALDWIN
1133 HAROLD STREET
FAYETTEVILLE, AR 72744
PHONE: 479-220-9022
EMAIL: BB6585@ATT.COM

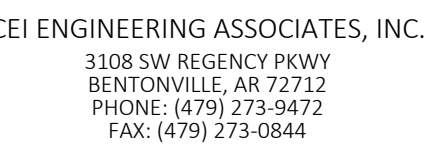
WATER/SEWER
CITY OF BENTONVILLE
CONTACT: BEAU THOMPSON, AICP
3200 SW MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: 479-271-3140
EMAIL: BTHOMPSON@BENTONVILLEAR.COM

ELECTRIC
CITY OF BENTONVILLE
CONTACT: TRAVIS MATLOCK
3200 SW MUNICIPAL DRIVE
BENTONVILLE, AR 72712
PHONE: 479-271-3135
EMAIL: TMATLOCK@BENTONVILLEAR.COM

CABLE
COX
CONTACT: MICHAEL MOORE
4901 S. 48TH STREET
SPRINGDALE, AR 72762
PHONE: 479-717-3730
EMAIL: MICHAEL.MOORE3@COX.COM

NAUTRAL GAS
BLACK HILLS ENERGY
CONTACT: JOSH KNIGHT
1301 FEDERAL WAY
P.O. BOX 2129
LOWELL, AR 72745
PHONE: 479-320-5091 / 479-721-4543
EMAIL:
JOSHUA.KNIGHT@BLACKHILLSCORP.COM

TELECOMMUNICATIONS
RITTER COMMUNICATIONS
CONTACT: KYLE GRAHAM
5078 W NORTHGATE ROAD, STE 220
ROGERS, AR 72758
PHONE: (479) 567-9370
EMAIL: KYLE.GRAHAM@
RITTERCOMMUNICATIONS.COM



CITY OF BENTONVILLE
SW 3RD AND C LATERALS
BENTONVILLE, AR

PRELIMINARY
NOT FOR
CONSTRUCTION

PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/28/2022
REVISION	90%

SHEET TITLE

SHEET NUMBER

1



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INDEX OF SHEETS	
SHEET NO.	TITLE
1	TITLE SHEET
2	INDEX OF SHEETS
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4	OVERALL PLAN LAYOUT
5 - 7	SPECIAL DETAILS
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11	EROSION CONTROL NOTES
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	ARDOT STANDARD DRAWINGS
	CITY OF BENTONVILLE DETAILS
	DRAINAGE SUMMARY

ARDOT ROADWAY STANDARD DRAWINGS		
DRWG. NO.	TITLE	DATE
CG-1	CURBING DETAILS	11/29/2007
FES-1	FLARED END SECTION	10/18/1996
FES-2	FLARED END SECTION	10/18/1996
FPC-9	DETAILS OF DROP INLETS & JUNCTION BOXES	11/16/2001
FPC-9E	DETAILS OF DROP INLETS (TYPE C)	08/22/2002
FPC-9M	DETAILS OF DROP INLETS (TYPE MO)	08/22/2002
PM-1	PAVEMENT MARKING DETAILS	02/27/2020
TC-1	STANDARD TRAFFIC CONTROLS FOR HIGHWAY CONSTRUCTION	11/07/2019
TEC-1	TEMPORARY EROSION CONTROL DEVICES	11/16/2017
TEC-2	TEMPORARY EROSION CONTROL DEVICES	06/02/1994
TEC-3	TEMPORARY EROSION CONTROL DEVICES	11/03/1994
WR-1	WHEELCHAIR RAMPS NEW CONSTRUCTION AND ALTERATIONS	11/10/2005



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FAX: (479) 273-0844



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GENERAL NOTES

1.

TOPOGRAPHIC SURVEY, INCLUDING PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, SITE TOPOGRAPHY WITH SPOT ELEVATIONS, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WAS PROVIDED BY THE FOLLOWING COMPANY, AS A CONTRACTOR TO THE SELLER/OWNER:

CEI ENGINEERING ASSOCIATES INC.
3108 S.W. REGENCY PARKWAY
BENTONVILLE, AR 72712
(479) 273-9241
2.

ALL MATERIALS DEEMED ACCEPTABLE FOR CITY USE SHALL BE PRESERVED, SAVED, AND DELIVERED TO A LOCATION DEEMED BY THE CITY FOR FUTURE USE. CONTRACTOR IS TO REMOVE AND DISPOSE OF ALL OTHER MATERIALS RESULTING FROM PREVIOUS AND CURRENT DEMOLITION OPERATIONS. DISPOSAL WILL BE IN ACCORDANCE WITH ALL LOCAL STATE . AND/OR FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS. CONTRACTOR SHALL TAKE PRECAUTION TO PROTECT EXISTING PIPE CULVERTS FROM DAMAGE DURING THEIR REMOVAL AND SHALL RETURN THE UNDAMAGED PIPE CULVERTS TO THE OWNER.
3.

UNLESS NOTED IN THE PLANS, ALL RCP PIPE PLACED SHALL BE CLASS III OR BETTER.
4.

STORM SEWER RINGS AND LIDS SHALL BE INSTALLED TO MATCH THE CROSS SLOPE OF THE FINISHED PAVEMENT.
5.

ALL STORM SEWER BOX LIDS WITHIN THE SIDEWALK SHALL HAVE A MAXIMUM CROSS SLOPE OF 2% AND MUST MEET THE MINIMUM ADA REQUIREMENTS AND GUIDELINES.
6.

THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR AND SHALL TAKE ALL PRECAUTIONS NECESSARY TO AVOID PROPERTY DAMAGE TO ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASES OF THIS PROJECT.
7.

WARRANTY/DISCLAIMER: THE DESIGNS REPRESENTED IN THESE PLANS ARE IN ACCORDANCE WITH ESTABLISHED PRACTICES OF CIVIL ENGINEERING FOR THE DESIGN FUNCTIONS AND USES INTENDED BY THE OWNER AT THIS TIME. HOWEVER, NEITHER THE ENGINEER NOR ITS PERSONNEL CAN OR DO WARRANT THESE DESIGNS OR PLANS AS CONSTRUCTED EXCEPT IN THE SPECIFIC CASES WHERE THE ENGINEER INSPECTS AND CONTROLS THE PHYSICAL CONSTRUCTION ON A CONTEMPORARY BASIS AT THE SITE.
8.

SAFETY NOTICE TO CONTRACTOR IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. ANY CONSTRUCTION OBSERVATION BY THE ENGINEER OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.
9.

WETLANDS NOTE: ANY DEVELOPMENT, EXCAVATION, CONSTRUCTION, OR FILLING IN A U.S. CORPS OF ENGINEERS DESIGNATED WETLAND IS SUBJECT TO LOCAL, STATE AND FEDERAL APPROVALS. THE CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS AND/OR RESTRICTIONS AND ANY VIOLATION WILL BE SUBJECT TO FEDERAL PENALTY. THE CONTRACTOR SHALL HOLD THE OWNER/DEVELOPER, THE ENGINEER AND THE LOCAL GOVERNING AGENCIES HARMLESS AGAINST SUCH VIOLATION.
10.

ALL CONSTRUCTION WITHIN CITY RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CITY STANDARDS AND PROCEDURES, INCLUDING TRAFFIC CONTROL, WHICH WILL CONFORM TO THE MUTCD LATEST EDITION.
11.

THE CONTRACTOR SHALL PROVIDE ALL PAVEMENT MARKINGS AND SIGNS IN ACCORDANCE WITH THE MUTCD LATEST EDITION.
12.

CONTRACTOR TO PROVIDE CONSTRUCTION STAKING.
13.

ANY PLAN DISCREPANCY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
14.

CONTRACTOR SHALL BE RESPONSIBLE FOR RAZING AND REMOVAL OF THE EXISTING STRUCTURES, RELATED UTILITIES, PAVING, UNDERGROUND STORAGE TANKS AND ANY OTHER EXISTING IMPROVEMENTS AS NOTED.
15.

PRIOR TO INSTALLATION OF STORM OR SANITARY SEWER, THE CONTRACTOR SHALL EXCAVATE, VERIFY, AND CALCULATE ALL CROSSINGS AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS PRIOR TO CONSTRUCTION. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT THE ENGINEER IS NOT NOTIFIED OF DESIGN CONFLICTS.
16.

ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED SMOOTH AND 4" OF TOPSOIL APPLIED. IF ADEQUATE TOPSOIL IS NOT AVAILABLE ON SITE, THE CONTRACTOR SHALL PROVIDE TOPSOIL, APPROVED BY THE OWNER, AS NEEDED. THE AREA SHALL THEN BE SEEDED OR SODDED, FERTILIZED, MULCHED, WATERED, AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. CONTRACTOR SHALL BE REQUIRED TO MOW ALL SEEDED AND/OR SODDED AREAS A MINIMUM OF TWO TIMES PRIOR TO ACCEPTANCE BY CITY. CONTRACTOR SHALL CONTINUE TO MOW AND MAINTAIN THE PROJECT UNTIL THE PROJECT HAS REACHED FINAL COMPLETION.
17.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON PLANS IS BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FILED LOCATION OF UTILITIES.

18.

ALL STORM DRAIN PIPE SHALL BE BACKFILLED TO FINISH SUB-GRADE OR PLAN FINISH GRADE IMMEDIATELY AFTER INSTALLATION AND PRIOR TO ALLOWING CONSTRUCTION TRAFFIC TO DRIVE OVER.
19.

GENERAL CONTRACTOR SHALL LOCATE THEIR OWN LAY DOWN YARD. CONTRACTOR TO PROVIDE PERIMETER BMP ON THE DOWNSTREAM SIDE OF THE LAYDOWN AREA.
20.

CONTRACTOR IS ADVISED THAT ALL SECTIONS OF PAVED SIDEWALK AND STAGING AREA SHALL MEET MINIMUM ADA STANDARDS FOR MINIMUM/MAXIMUM GRADES ALLOWED. THE MAXIMUM GRADE ALLOWED IS 4.99%, UNLESS STATED ON PLANS, WITH A MAXIMUM CROSS SLOPE OF 2%.
21.

PRINTED DRAWINGS PROVIDED BY ENGINEER ARE PART OF THE CONTRACT DOCUMENTS; HOWEVER, ELECTRONIC DATA IS NOT. ELECTRONIC DATA PROVIDED IS FOR CONTRACTOR'S CONVENIENCE ONLY. IT IS CONTRACTOR'S RESPONSIBILITY TO VERIFY ELECTRONIC DATA AGAINST PRINTED DRAWINGS. USE OF ELECTRONIC DATA IS AT CONTRACTORS RISK.
22.

THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND OWNER PRIOR TO DISTURBING ANY AREAS OF VEGETATION AND LANDSCAPING WITHIN TEMPORARY CONSTRUCTION EASEMENTS. CONSTRUCTION ACTIVITIES WITHIN TEMPORARY CONSTRUCTION EASEMENTS SHALL BE KEPT TO A MINIMUM.
23.

ALL DRIVES TO BE RECONSTRUCTED TO EXISTING ROW UTILIZING CONCRETE. CURB TO BE REPLACED IN KIND.
24.

TAPER CURB HEIGHTS FROM 6" TO 0" OVER 2' AT ALL CURB ENDS. WHEN APPROACHING THE SIDEWALK EDGE, TAPER CURB TO 0" 2' BEFORE SIDEWALK EDGE AND CONTINUE FLAT INTO SIDEWALK EDGE.
25.

CONTRACTOR SHALL NOTIFY THE CITY OF BENTONVILLE OR THE ENGINEER PRIOR TO THE REMOVAL OF ANY TREES.
26.

ALL PIPE LINES, POWER, TELEPHONE AND TELEGRAPH LINES TO BE MOVED OR LOWERED BY THE RESPECTIVE OWNERS AS PER AGREEMENT WITH SUCH OWNERS.
27.

ANY EQUIPMENT OR APPURTENANCE THAT INTERFERES WITH THE PROPOSED CONSTRUCTION AND WHICH MAY BE THE PROPERTY OF UTILITY SERVICE ORGANIZATIONS, SHALL BE MOVED BY THE OWNERS UNLESS OTHERWISE PROVIDED.
28.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING U.S. MAILBOXES WITHIN THE PROJECT LIMITS IN SUCH A MANNER THAT THE PUBLIC MAY RECEIVE CONTINUED MAIL SERVICE. PAYMENT WILL BE CONSIDERED INCLUDED IN THE PRICE BID FOR THE VARIOUS BID ITEMS.
29.

ALL LAND MONUMENTS LOCATED WITHIN THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH SECTION 107.12 OF THE STANDARD SPECIFICATIONS.
30.

ALL TREES THAT DO NOT DIRECTLY INTERFERE WITH THE PROPOSED CONSTRUCTION SHALL BE SPARED AS DIRECTED BY THE ENGINEER. CARE AND DISCRETION SHALL BE USED TO INSURE THAT ALL TREES NOT TO BE REMOVED SHALL BE HARMED AS LITTLE AS POSSIBLE DURING THE CONSTRUCTION OPERATIONS.
31.

ONCE INSTALLED, LANDSCAPING SHALL BE MAINTAINED IN HEALTHY LIVING CONDITION AND ALL PLANT MATERIAL THAT DIES SHALL BE REPLACED. (SEC 1400.5.C-10)
32.

HEALTHY TREES SHALL NOT BE REMOVED AT ANY TIME AND PROPER TREE PRUNING TECHNIQUES AS ESTABLISHED BY THE LATEST EDITION OF THE ANSI A300 "STANDARDS FOR TREE CARE" SHALL BE UTILIZED FOR MAINTENANCE PURPOSES.
33.

THE GENERAL CONTRACTOR WILL BE HELD SOLELY RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT STRIPING THAT IS TO TIE INTO PROPOSED STRIPING. IN THE EVENT OF DAMAGE, THE GENERAL CONTRACTOR SHALL REPLACE ANY OF SAID STRIPING AT NO COST TO THE OWNER.
34.

PROPOSED STORM SEWER PIPES AND STRUCTURES MUST MAINTAIN MINIMUM SEPARATIONS OF 5' HORIZONTAL AND 8" VERTICAL FROM ALL PUBLIC WATER AND SEWER INFRASTRUCTURE.
35.

REMOVAL OF TREES SHALL NOT BE LIMITED TO TREES IDENTIFIED AND SPECIFIED IN PLANS, BUT SHALL INCLUDE ALL TREES IN CONFLICT WITH PROPOSED IMPROVEMENTS AS APPROVED BY THE ENGINEER. REMOVAL OF TREES SHALL BE CONSIDERED INCIDENTAL TO CLEARING AND GRUBBING.



CEI ENGINEERING ASSOCIATES, INC.
3108 SW REGENCY PKWY
BENTONVILLE, AR 72712
PHONE: (479) 273-9472
FAX: (479) 273-0844



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CITY OF BENTONVILLE
SW 3RD AND C LATERALS
BENTONVILLE, AR

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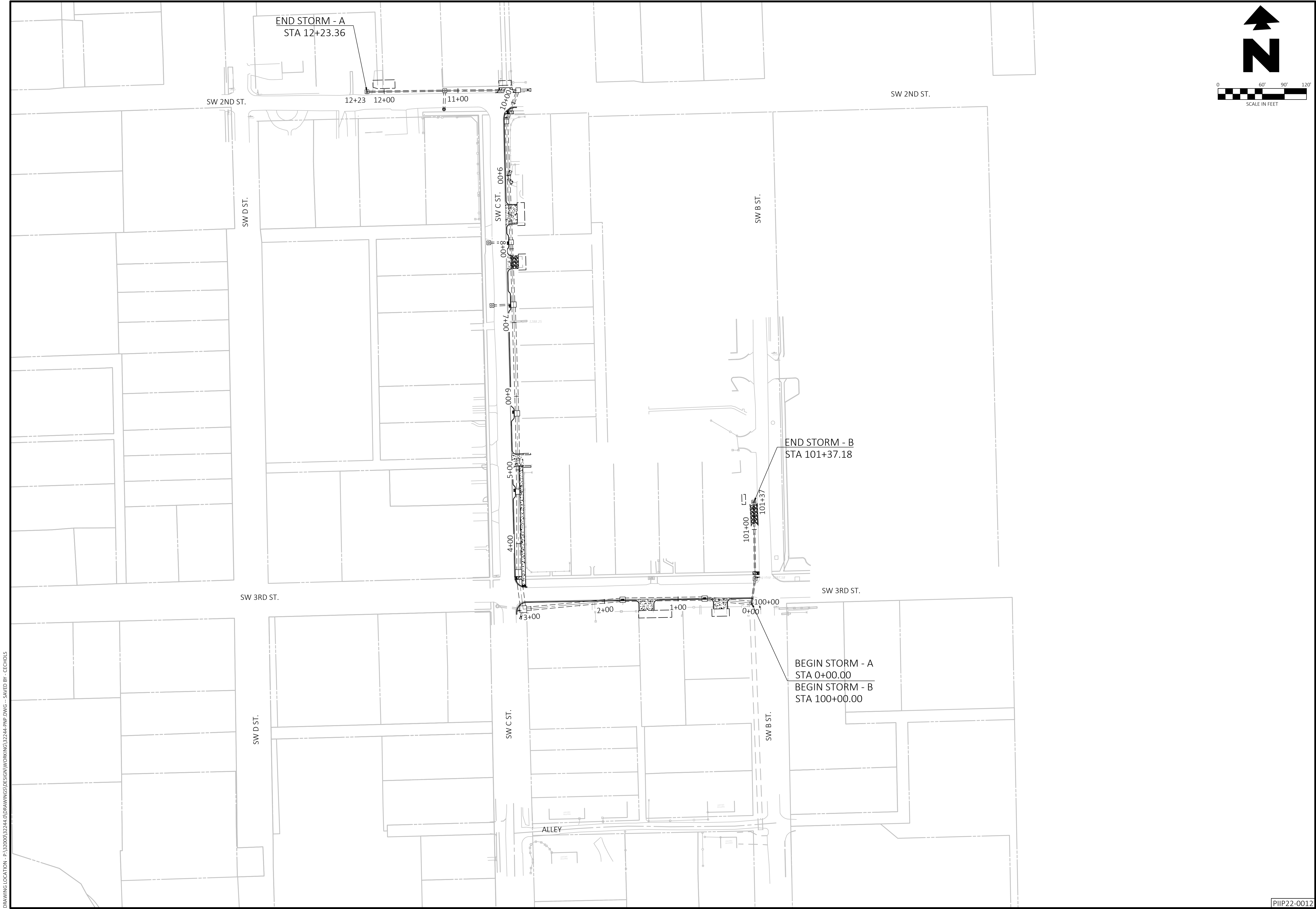
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PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/28/2022
REVISION	90%

GENERAL NOTES

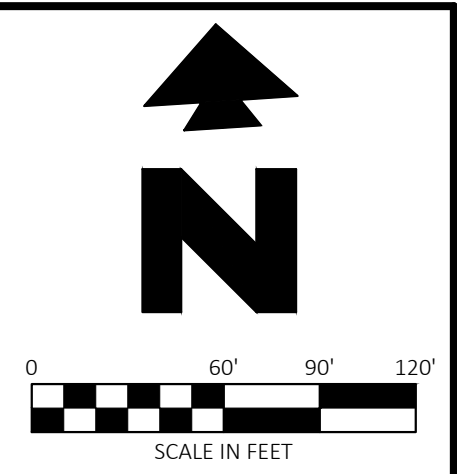
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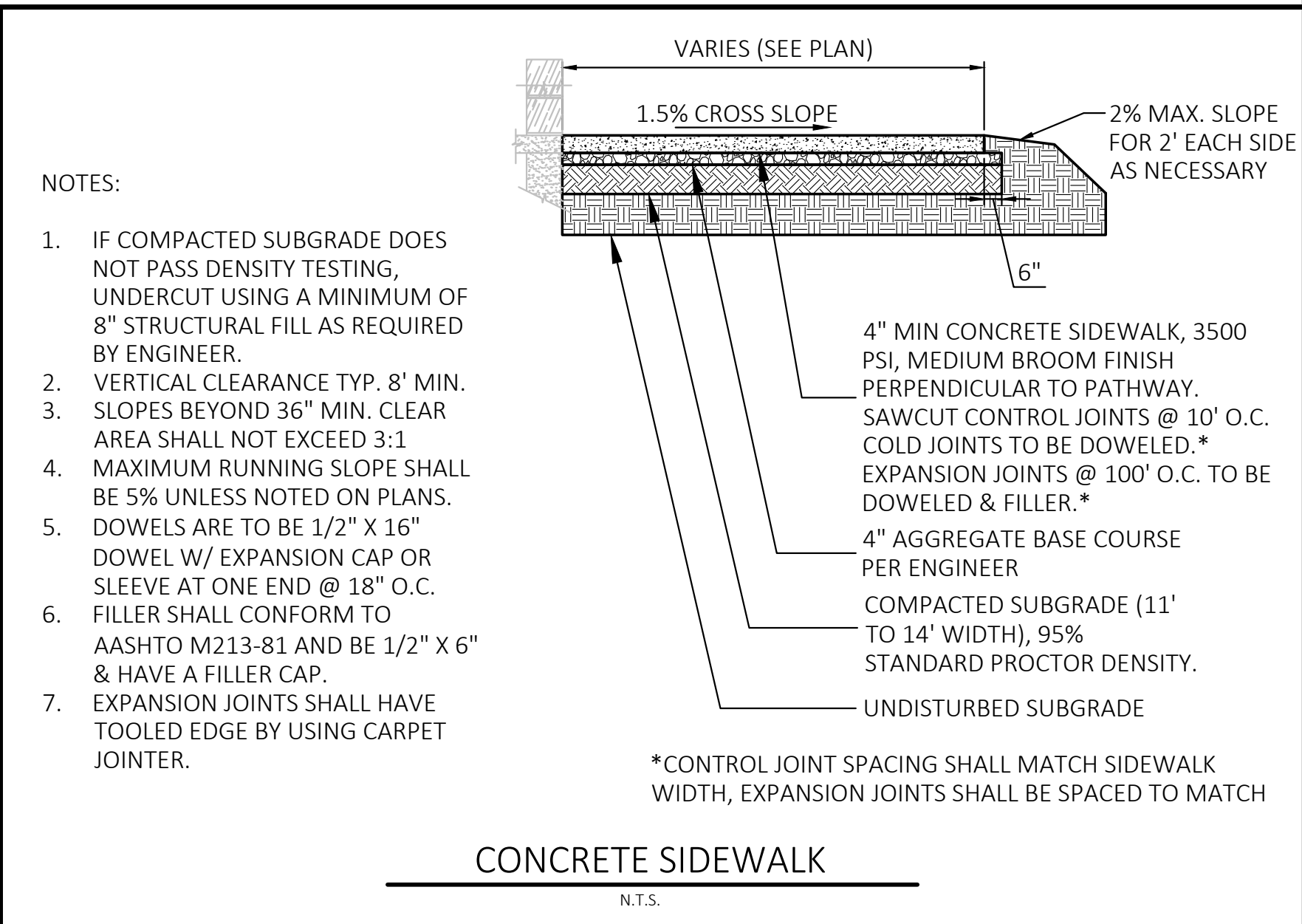
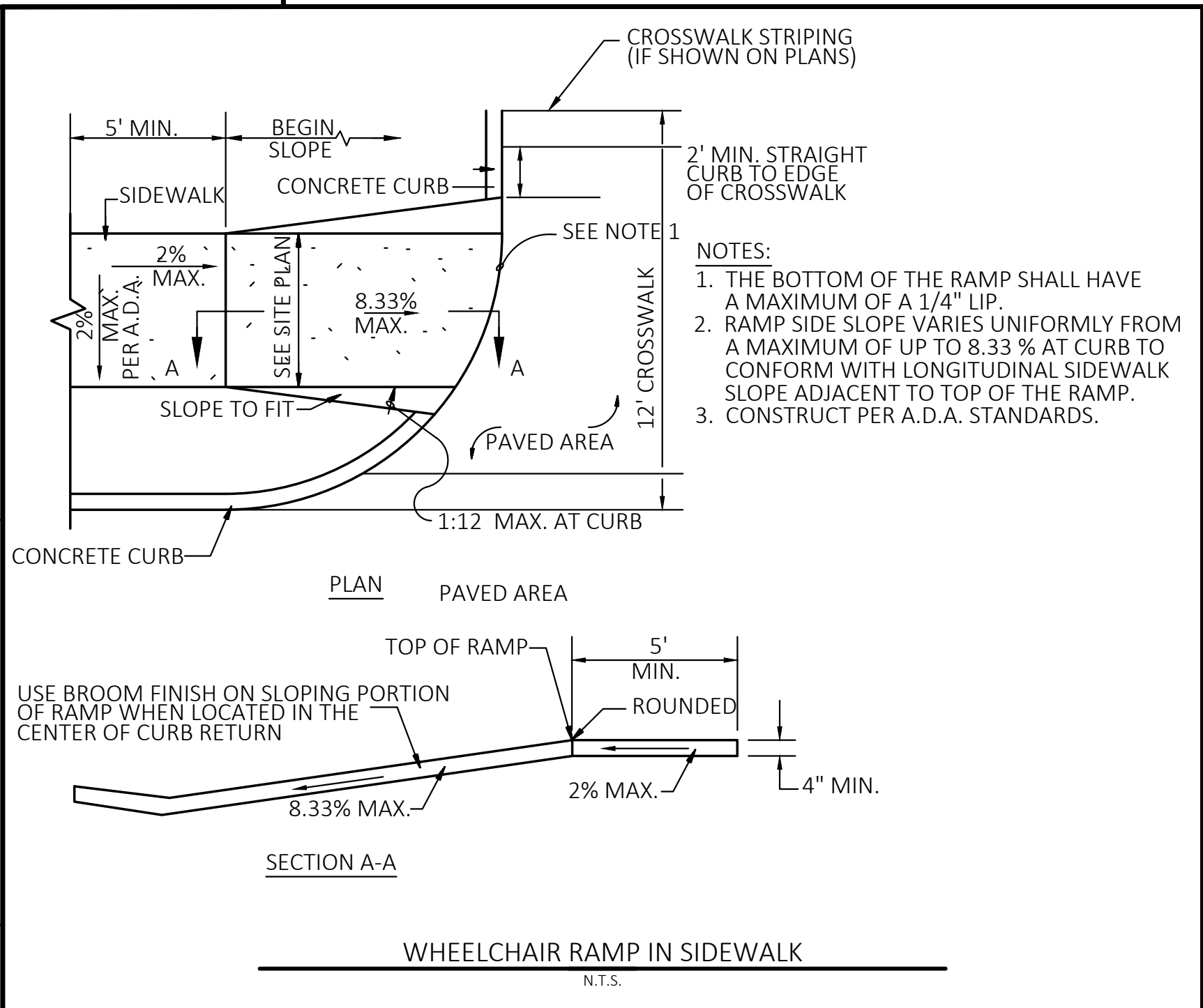
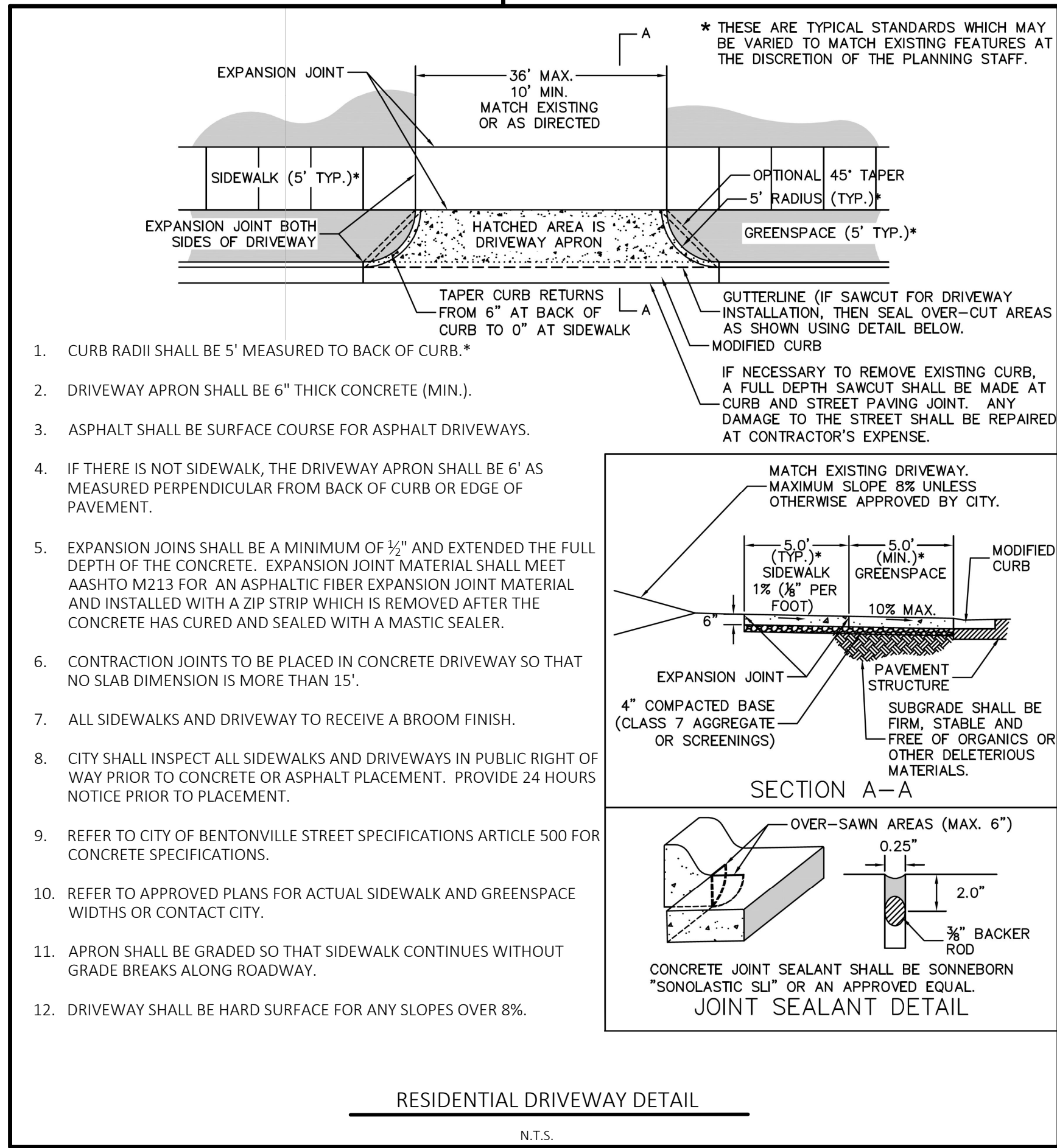
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PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/30/2022
REVISION	90%

OVERALL PLAN
LAYOUT

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SHEET NUMBER

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CITY OF BENTONVILLE
SW 3RD AND C LATERALS
BENTONVILLE, AR

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PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

SPECIAL DETAILS - (1)

SHEET TITLE
SHEET NUMBER

5

PIIP22-0012

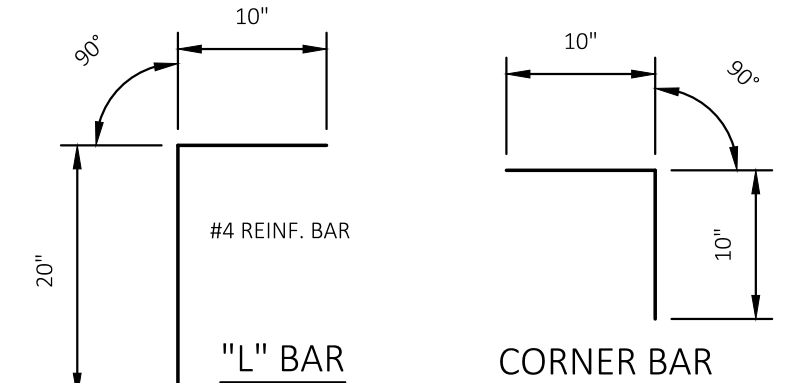
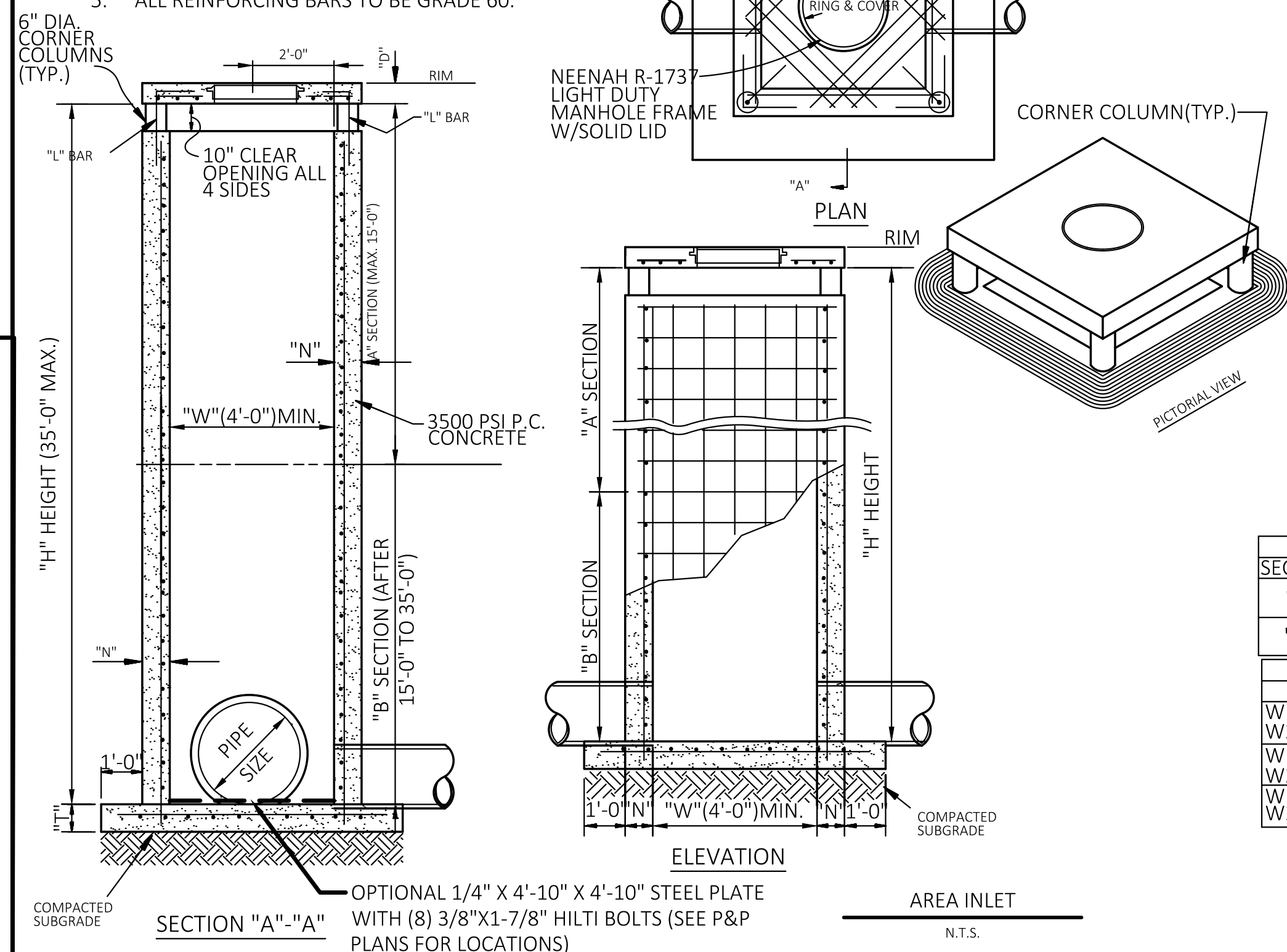


CEI ENGINEERING ASSOCIATES, INC.
3108 SW REGENCY PKWY
BENTONVILLE, AR 72712
PHONE: (479) 273-0472
FAX: (479) 273-0844



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- GENERAL NOTES:
1. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
 2. ALL #4 & #5 REINFORCING BARS TO HAVE 1-1/2" COVER, LARGER SIZES 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 THE CORNERS OF THE INLET.
 5. ALL REINFORCING BARS TO BE GRADE 60.



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	30° 45°
#24"	4'-0" 4'-0"
30"	4'-0" 4'-7"
36"	4'-0" 5'-3"
42"	5'-3" 5'-11"
48"	5'-10" 6'-7"
60"	7'-0" 7'-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"
"B"	GREATER THAN 7' #5's @ 4 1/2" #4's @ 10"
	4' #4's @ 6" #4's @ 10"
"B"	BETWEEN 4' & 7' #6'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

NOTES:

1. WHEN THE INLET IS BUILT IN EXISTING PAVEMENT, THE APRON AROUND THE INLET SHALL BE OF THE SIZE SHOWN IN THE PLAN, AND BUILT OF P.C. CONCRETE TO A MINIMUM 8" THICKNESS. SEE STANDARD DUTY CONCRETE PAVING DETAIL.
2. PLASTIC POLYPROPYLENE MANHOLE STEPS SHALL BE PLACED AT THE HEADERS IN ALL INLETS 4' OR MORE IN DEPTH.
3. NEENAH R-3076-L CURB INLET FRAME, GRATE, AND CURB BOX OR APPROVED EQUAL SHALL BE USED.
4. CURB INLETS CASTINGS SHALL BE PLACED ON UPSTREAM SIDE OF GRATE INLETS FOR TYPICAL INSTALLATIONS.
5. MANHOLE FRAME AND LID MUST BE FLUSH WITH TOP OF THE SURROUNDING CONCRETE SLAB.
6. ALL EXPOSED CORNERS TO HAVE 3/4" CHAMFER
7. ALL #4 & #5 REINFORCING BARS TO HAVE 1-1/2" COVER, LARGER SIZES TO HAVE 2" COVER.
8. SEE GRADING AND DRAINAGE PLAN FOR PIPE SIZES, LOCATIONS, AND FLOW LINES.
9. PIPES SHALL CONNECT TO THE ENDS OR SIDES OF THE INLET.
10. ALL REINFORCING BARS TO BE GRADE 60.

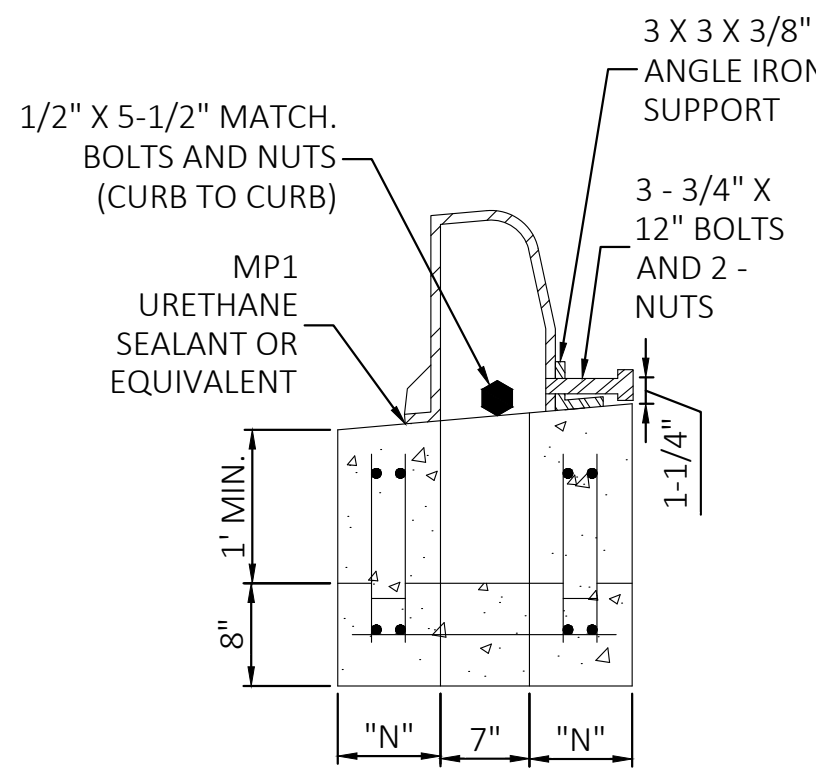
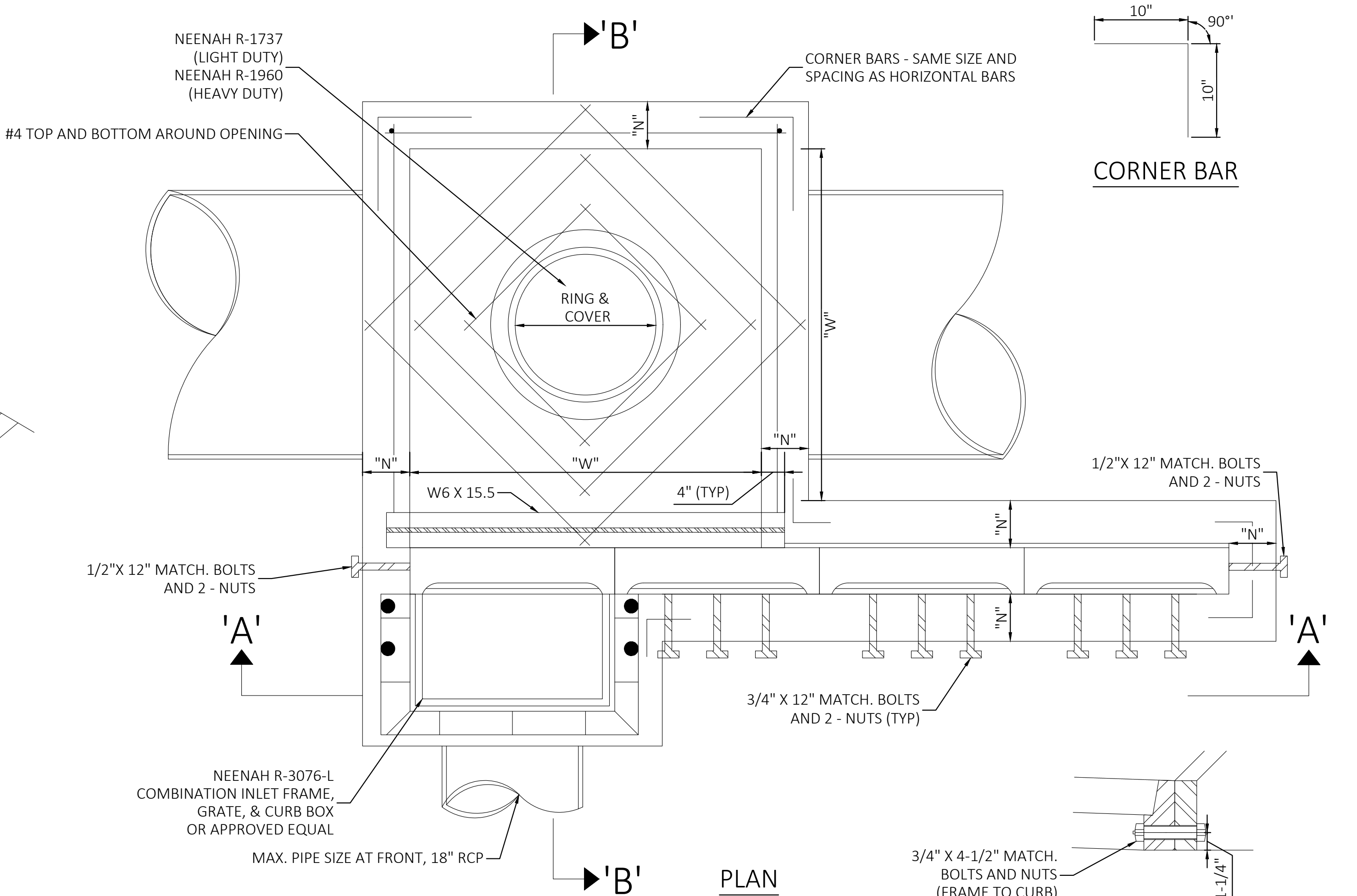
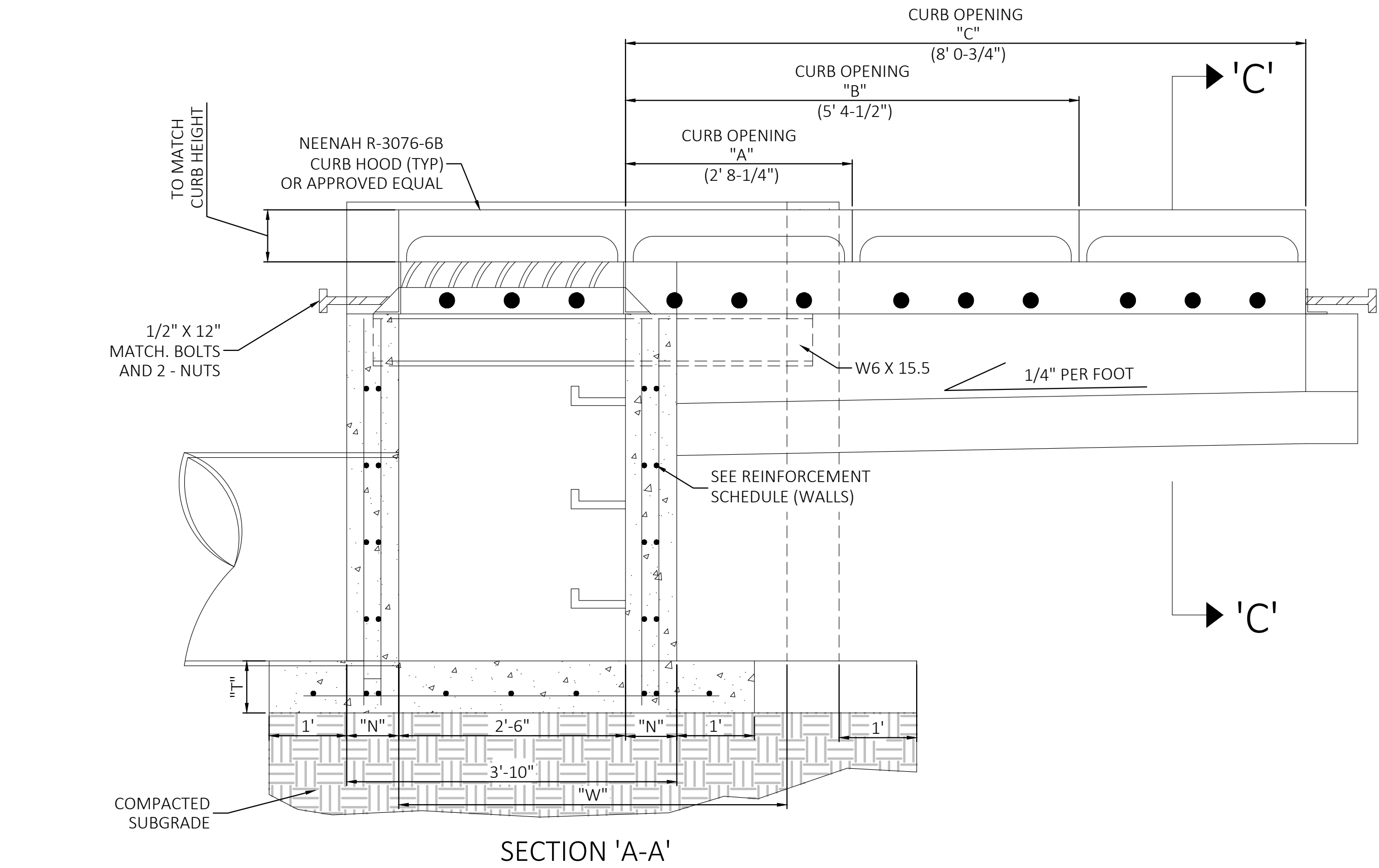
REINFORCEMENT SCHEDULE, BASE				
SECTION				
"A"	#4's @ 6" E.W.			
"B"	#6's @ 6" E.W.			

TABLE OF 'W' DIMENSIONS				
	SKEW OF CROSS DRAIN			
	STRAIGHT	30°	45°	
SINGLE	4'-0"	4'-0"	4'-10"	
≠24"	4'-0"	4'-7"	5'-8"	
30"	4'-0"	5'-3"	6'-5"	
36"	4'-0"	5'-11"	7'-3"	
42"	5'-10"	6'-7"	8'-0"	
48"	7'-0"	7'-10"	9'-8"	
60"				

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"

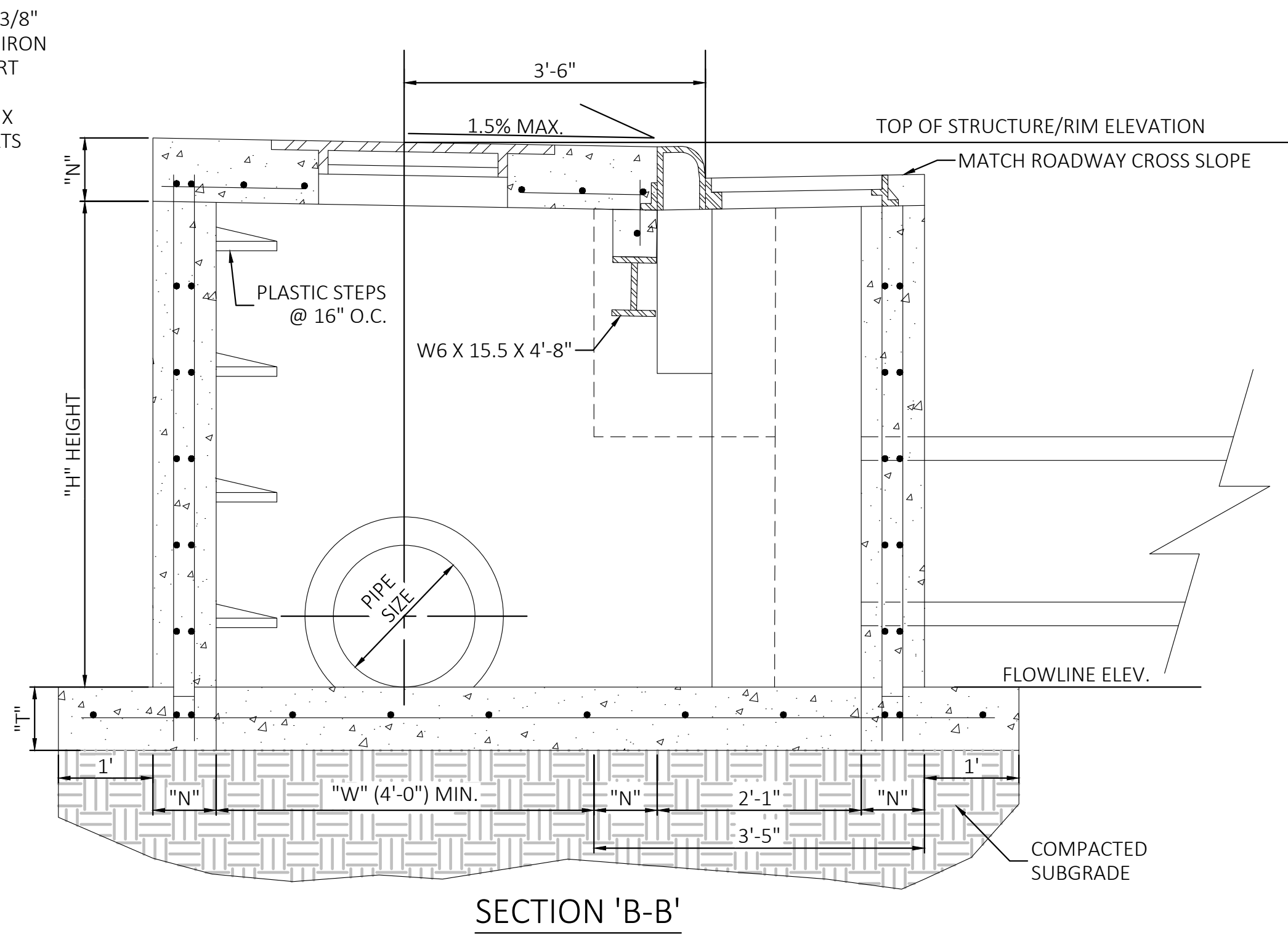
TABLE OF "T" & "N" DIMENSIONS			
SECTION	WIDTH ("W")	"T"	"N" "D"
"A"	BETWEEN 4' & 7'	6" + PIPE THICKNESS	8" 6"
	GREATER THAN 7'	6" + PIPE THICKNESS	8" 8"
"B"	4'	6" + PIPE THICKNESS	8" 8"
	BETWEEN 4' & 7'	6" + PIPE THICKNESS	10" 8"

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



SECTION 'C-C'

ANGLE IRON LENGTHS	
OPENING	LENGTH
"A"	2' 5-3/8"
"B"	5' 1-5/8"
"C"	7' 9-7/8"



SECTION 'B-B'

SINGLE GRATE CURB INLET WITH JUNCTION BOX

N.T.S.



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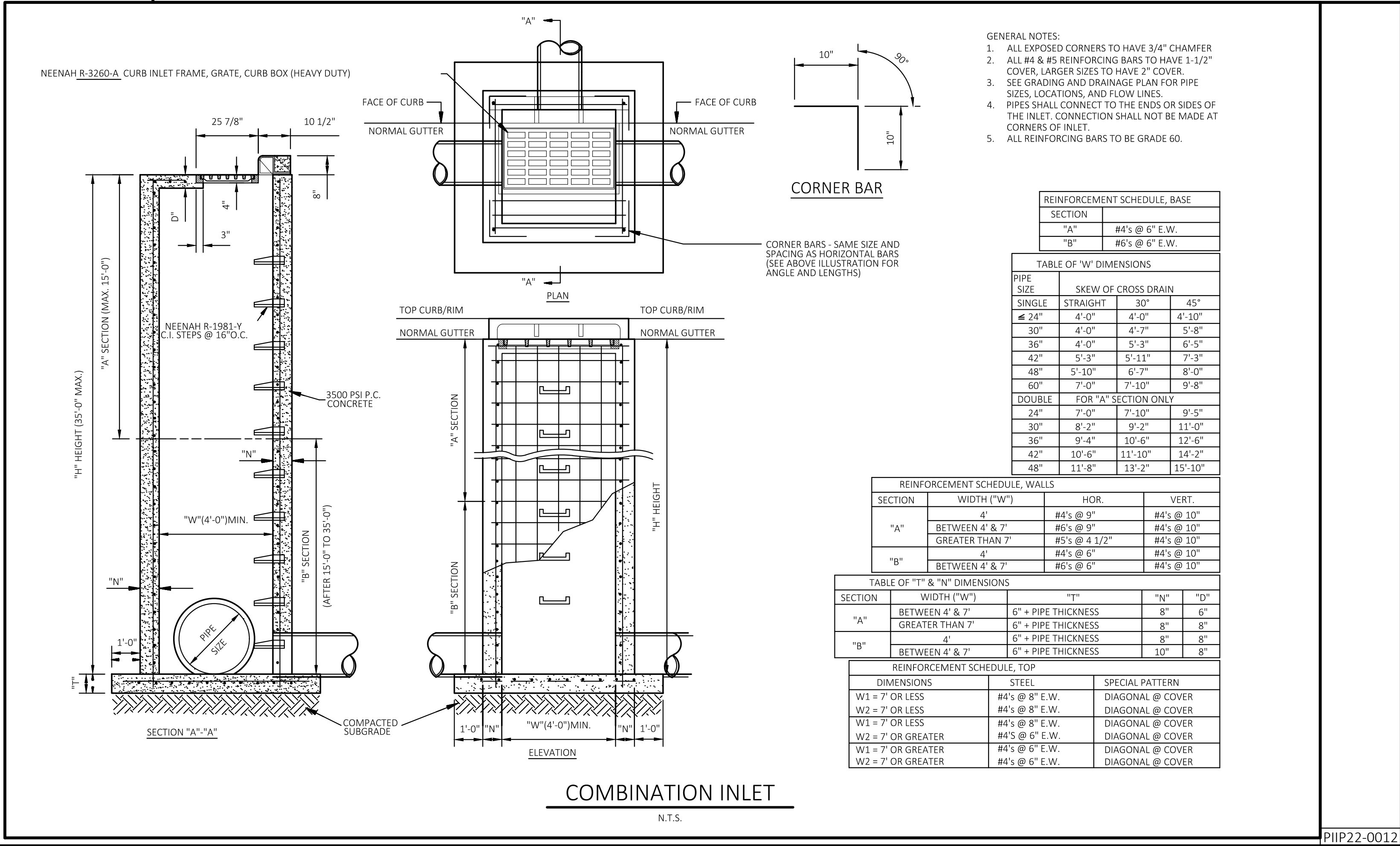
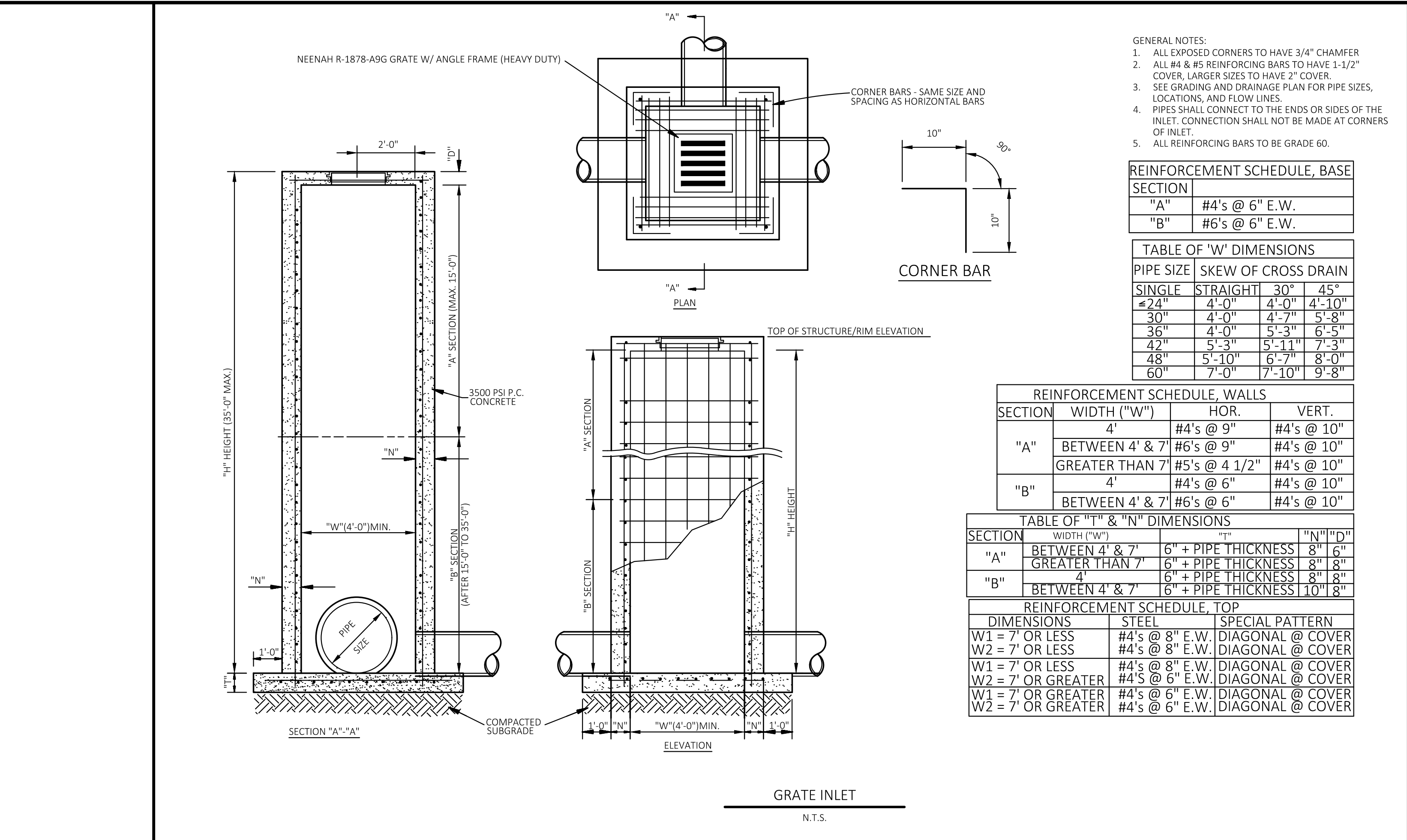
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

SPECIAL DETAILS - (2)

SHEET TITLE	
SHEET NUMBER	

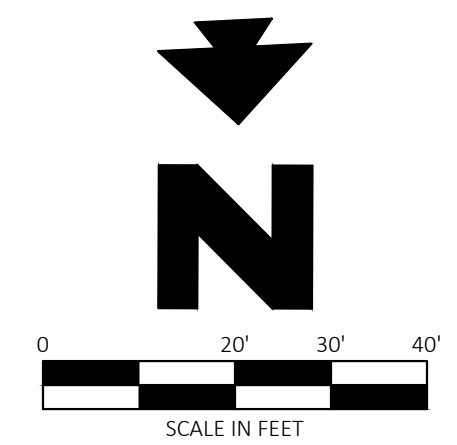
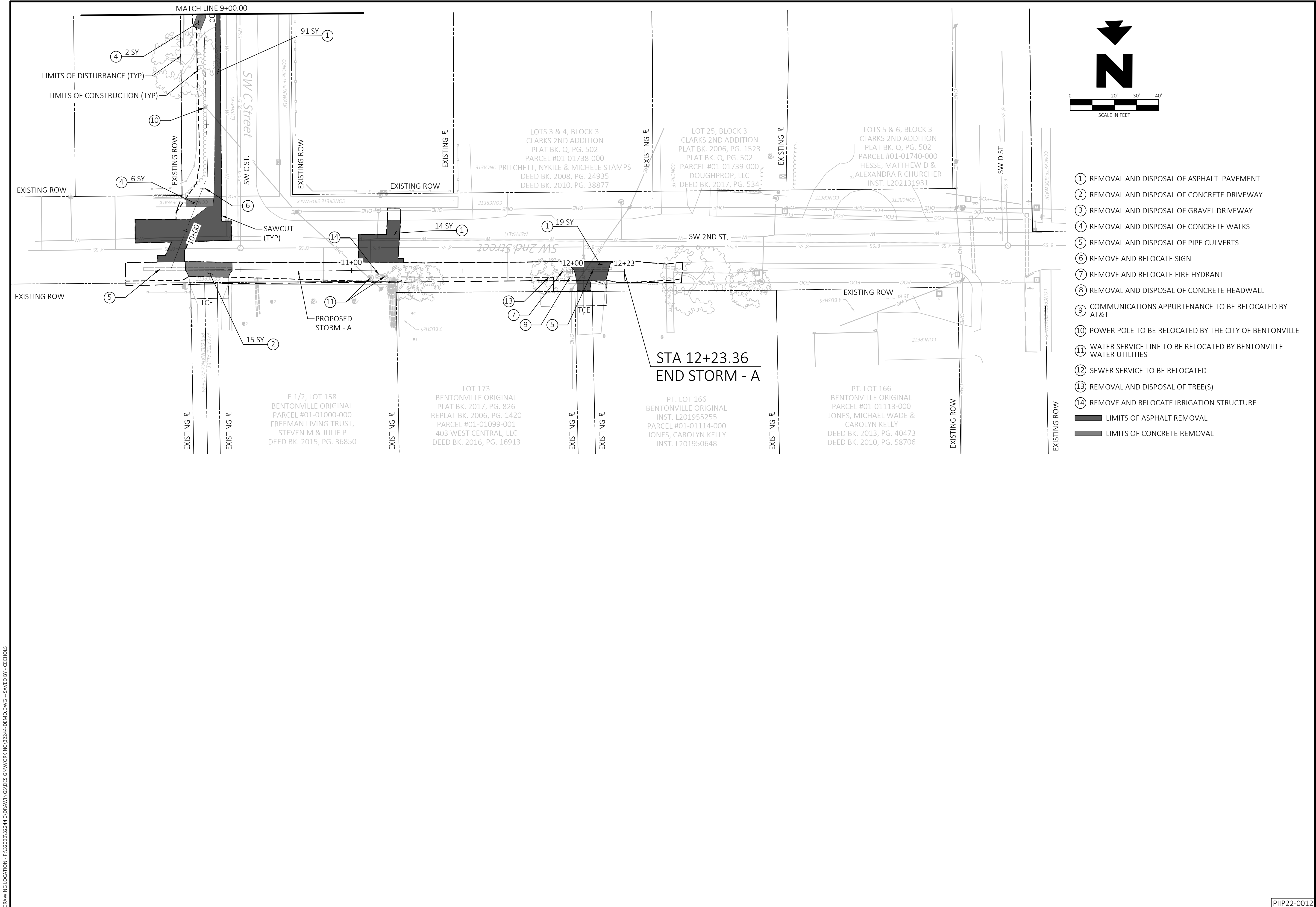
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- ① REMOVAL AND DISPOSAL OF ASPHALT PAVEMENT
 - ② REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAY
 - ③ REMOVAL AND DISPOSAL OF GRAVEL DRIVEWAY
 - ④ REMOVAL AND DISPOSAL OF CONCRETE WALKS
 - ⑤ REMOVAL AND DISPOSAL OF PIPE CULVERTS
 - ⑥ REMOVE AND RELOCATE SIGN
 - ⑦ REMOVE AND RELOCATE FIRE HYDRANT
 - ⑧ REMOVAL AND DISPOSAL OF CONCRETE HEADWALL
 - ⑨ COMMUNICATIONS APPURTENANCE TO BE RELOCATED BY AT&T
 - ⑩ POWER POLE TO BE RELOCATED BY THE CITY OF BENTONVILLE
 - ⑪ WATER SERVICE LINE TO BE RELOCATED BY BENTONVILLE WATER UTILITIES
 - ⑫ SEWER SERVICE TO BE RELOCATED
 - ⑬ REMOVAL AND DISPOSAL OF TREE(S)
 - ⑭ REMOVE AND RELOCATE IRRIGATION STRUCTURE
- LIMITS OF ASPHALT REMOVAL
- LIMITS OF CONCRETE REMOVAL



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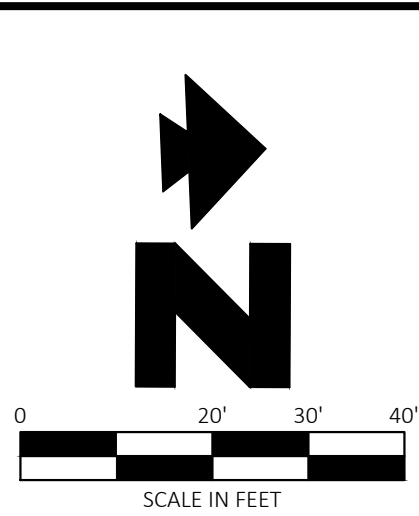
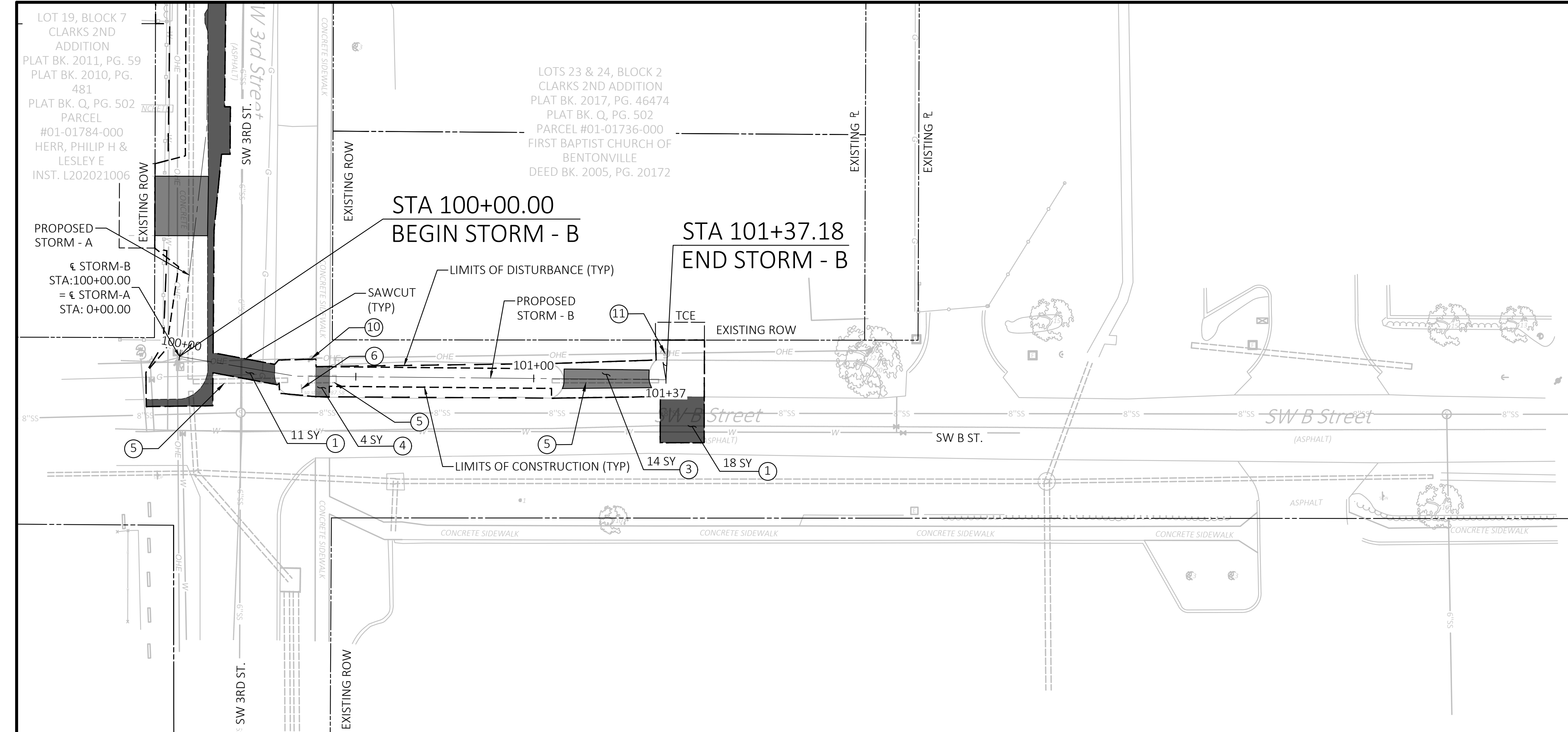
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DEMOLITION PLAN -
(2)

SHEET TITLE
SHEET NUMBER

9

PIIP22-0012



- 1 REMOVAL AND DISPOSAL OF ASPHALT PAVEMENT
- 2 REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAY
- 3 REMOVAL AND DISPOSAL OF GRAVEL DRIVEWAY
- 4 REMOVAL AND DISPOSAL OF CONCRETE WALKS
- 5 REMOVAL AND DISPOSAL OF PIPE CULVERTS
- 6 REMOVE AND RELOCATE SIGN
- 7 REMOVE AND RELOCATE FIRE HYDRANT
- 8 REMOVAL AND DISPOSAL OF CONCRETE HEADWALL
- 9 COMMUNICATIONS APPURTENANCE TO BE RELOCATED BY AT&T
- 10 POWER POLE TO BE RELOCATED BY THE CITY OF BENTONVILLE
- 11 WATER SERVICE LINE TO BE RELOCATED BY BENTONVILLE WATER UTILITIES
- 12 SEWER SERVICE TO BE RELOCATED
- 13 REMOVAL AND DISPOSAL OF TREE(S)

LIMITS OF ASPHALT REMOVAL

LIMITS OF CONCRETE REMOVAL



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DESIGNER	CE
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DEMOLITION PLAN -
(3)

SHEET TITLE
SHEET NUMBER

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A. GENERAL SITE DATA

PROJECT LIMITS:

BEGIN CONSTRUCTION OF STORM SEWER - A AT STA 0+00.00 - END CONSTRUCTION AT STA 12+23.36
BEGIN CONSTRUCTION OF STORM SEWER - B AT STA 100+00.00 - END CONSTRUCTION AT STA 101+37.18
(ROADWAY LENGTH = 1,359 FT = APPROX. 0.26 MILE)

PROJECT SITE MAPS:

- PROJECT LOCATION MAP: TITLE SHEET (SHEET 1)

PROJECT DESCRIPTION:

STORM SEWER IMPROVEMENTS THAT INCLUDES CURB AND GUTTER; CONSTRUCTION OF UNDERGROUND UTILITIES; UNDERGROUND DRAINAGE PIPES AND STRUCTURES; UNDERCUT; STRUCTURAL SUBGRADE FILL PLACEMENT; BASE COURSE; HOT MIXED ASPHALTIC CONCRETE BINDER AND SURFACE COURSES, PORTLAND CONCRETE PAVEMENT COURSE, PERMANENT PAVEMENT MARKINGS; AND SIDEWALKS.

MAJOR SOIL DISTURBING ACTIVITIES:

- ASPHALT REMOVAL
- FULL DEPTH REMOVAL
- INSTALLATION OF STORM SEWER
- UTILITIES RELOCATION

EXISTING CONDITION OF SOIL & VEGETATIVE COVER & % OF EXISTING VEGETATIVE COVER:

THE PROJECT SITE IS COMPRISED OF PERIDGE GRAVELLY SILT LOAM . PERIDGE GRAVELLY SILT LOAM IS CHARACTERIZED AS HYDROLOGIC SOIL GROUP B. VEGETATIVE COVER IS MOSTLY BERMUDA GRASS WITH ESTIMATED 100% VEGETATIVE COVER.

TOTAL PROJECT AREA:

0.47 ACRES

TOTAL AREA TO BE DISTURBED:

0.54 ACRES

WEIGHTED RUNOFF COEFFICIENT:

BEFORE CONSTRUCTION: 0.65
AFTER CONSTRUCTION: 0.65

PROJECT LATITUDE & LONGITUDE:

STORM SEWER - A					
PROJECT BEGINS -	LATITUDE:	36°	22' 10.55"N	ENDS - LATITUDE:	36°
	LONGITUDE:	-94°	12' 41.52"W		22' 17.62"N
STORM SEWER - B					
PROJECT BEGINS -	LATITUDE:	36°	22' 10.55"N	ENDS - LATITUDE:	36°
	LONGITUDE:	-94°	12' 41.52"W		22' 11.87"N

NAME OF RECEIVING WATERS:

THE ULTIMATE RECEIVING WATER OF THE STORM RUNOFF IS BLACK APPLE CREEK WHICH EMPTIES INTO MCKISIC CREEK.

ENDANGERED SPECIES, DESIGNATED CRITICAL HABITAT AND HISTORY PROPERTY:

- US FISH AND WILDLIFE SERVICE HAS SUBMITTED COMMENTS IN ACCORDANCE WITH THE ENDANGERED SPECIES ACT (87 STAT. 884, AS AMENDED 16 U.S.C. 1531 ET SEQ.). THE FOLLOWING ENDANGERED SPECIES ARE KNOWN TO OCCUR IN BENTON COUNTY: GRAY BAT; INDIANA BAT; OZARK BIG-EARED BAT; AND THE BENTON CAVE CRAYFISH. THE OZARK CAVEFISH IS A SPECIES LISTED AS THREATENED THAT ALSO OCCURS IN BENTON COUNTY.

B. EROSION AND SEDIMENT CONTROLS

- SOIL STABILIZATION PRACTICES: (SELECT "T" - TEMPORARY OR "P" - PERMANENT, AS APPLICABLE)

<input type="checkbox"/> T	TEMPORARY SEEDING	<input type="checkbox"/>	PRESERVATION OF NATURAL RESOURCES
<input type="checkbox"/>	MULCHING (HAY OR STRAW)	<input type="checkbox"/>	FLEXIBLE CHANNEL LINER
<input type="checkbox"/>	BUFFER ZONES	<input type="checkbox"/>	RIGID CHANNEL LINER
<input type="checkbox"/>	PLANTING	<input type="checkbox"/>	SOIL RETENTION BLANKET
<input type="checkbox"/> T, P	SEEDING	<input type="checkbox"/>	COMPOST MANUFACTURED TOPSOIL
<input type="checkbox"/> P	SODDING	<input type="checkbox"/>	OTHER: RIPRAP

- WHERE WORK IN AN AREA WILL CEASE FOR MORE THAN 14 DAYS, THE AREA MUST BE TEMPORALITY STABILIZED IMMEDIATELY.
- WHERE WORK IN AN AREA HAS PERMANENTLY CEASED, THE AREA MUST BE PERMANENTLY STABILIZED IMMEDIATELY, BUT NO MORE THAN 14 DAYS AFTER LAST CONSTRUCTION ACTIVITY.
- STRUCTURAL PRACTICES: (SELECT "T" - TEMPORARY OR "P" - PERMANENT, AS APPLICABLE)

<input type="checkbox"/> T	SILT FENCES
<input type="checkbox"/> T	WATTLES OR EROSION CONTROL LOG
<input type="checkbox"/> T	ROCK CHECK DAMS
<input type="checkbox"/>	DIVERSION, INTERCEPTOR, OR PERIMETER DIKES
<input type="checkbox"/>	DIVERSION, INTERCEPTOR, OR PERIMETER SWALES
<input type="checkbox"/>	DIVERSION, DIKE AND SWALE COMBINATIONS
<input type="checkbox"/>	PIPE SLOPE DRAINS
<input type="checkbox"/>	PAVED FLUMES
<input type="checkbox"/>	ROCK BEDDING AT CONSTRUCTION EXIT
<input type="checkbox"/>	TIMBER MATTING AT CONSTRUCTION EXIT
<input type="checkbox"/>	CHANNEL LINERS
<input type="checkbox"/>	SEDIMENT TRAPS
<input type="checkbox"/>	SEDIMENT BASINS
<input type="checkbox"/> T	CURB INLET SEDIMENT FILTER
<input type="checkbox"/>	STONE OUTLET STRUCTURES
<input type="checkbox"/> P	CURBS AND GUTTERS
<input type="checkbox"/> P	STORM SEWERS
<input type="checkbox"/>	VELOCITY CONTROL DEVICES
<input type="checkbox"/>	OTHER:
<input type="checkbox"/> T	CONCRETE WASH OUT

- STORM WATER MANAGEMENT:

- STORM WATER DRAINAGE WILL BE PROVIDED BY THE INLETS WHICH WILL CARRY DRAINAGE WITHIN THE ROW TO THE LOW POINTS WITHIN THE ROADWAY AND PROJECT SITE WHICH DRAIN TO NATURAL FACILITIES.
- OTHER PERMANENT EROSION CONTROLS INCLUDE HYDRAULIC DESIGN TO LIMIT STRUCTURE OUTLET VELOCITIES AND GRADING DESIGN GENERALLY CONSISTING OF 4:1 (TYPICAL ROADWAY SECTIONS) OR FLATTER SLOPES WITH PERMANENT VEGETATIVE COVER.

- STORM WATER MANAGEMENT ACTIVITIES: (SEQUENCE OF CONSTRUCTION)

- INSTALL TEMPORARY EROSION CONTROL DEVICES.
- PERFORM CLEARING, GRUBBING, AND DEMO.
- CONSTRUCT UTILITIES AND DRAINAGE SYSTEM. PROVIDE TEMPORARY SILT FENCE BOX PROTECTION AFTER INSTALLING INLET BOXES.
- CONSTRUCT THE PAVEMENT STRUCTURE, CURB AND GUTTER, AND SIDEWALKS.
- PERFORM PERMANENT SEEDING AND SOD.
- REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES ONCE PROJECT HAS BEEN STABILIZED.

- NON-STORM WATER DISCHARGES:

NON-STORM WATER DISCHARGES SHOULD BE FILTERED, OR HELD IN RETENTION BASINS, BEFORE BEING ALLOWED TO MIX WITH STORM WATER.

THESE DISCHARGES CONSIST OF NON-POLLUTED GROUND WATER, SPRING WATER, FOUNDATION AND/OR FOOTING DRAIN WATER; AND WATER USED FOR DUST CONTROL, PAVEMENT WASHING AND VEHICLE WASHWATER CONTAINING NO DETERGENTS.

C. OTHER REQUIREMENTS & PRACTICES

- MAINTENANCE:

ALL EROSION AND SEDIMENT CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER. IF A REPAIR IS NECESSARY, IT SHALL BE INITIATED WITHIN 72 HOURS OF DISCOVERY WITHOUT FURTHER DAMAGE TO THE SITE FROM HEAVY EQUIPMENT. DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED, TEMPORARILY OR PERMANENTLY, SHALL BE STABILIZED IMMEDIATELY UNLESS THEY ARE SCHEDULED TO AND DO RESUME WITHIN 14 CALENDAR DAYS. THE AREAS ADJACENT TO CREEKS AND DRAINAGE WAYS SHALL HAVE PRIORITY FOLLOWED BY DEVICES PROTECTING STORM SEWER INLETS.

- INSPECTION:

AN INSPECTION SHALL BE PERFORMED BY AN INSPECTOR EVERY 14 CALENDAR DAYS AS WELL AS WITHIN 24 HOURS OF EVERY 0.25" OR MORE RAIN AS RECORDED ON A RAIN GAUGE TO BE LOCATED AT THE PROJECT SITE. AN INSPECTION AND MAINTENANCE REPORT SHALL BE FILED FOR EACH INSPECTION. BASED ON THE INSPECTION RESULTS, THE CONTROLS SHALL BE REVISED AS PER THE INSPECTION REPORT.

- WASTE MATERIALS:

ALL WASTE MATERIALS SHALL BE COLLECTED IN A METAL DUMPSTER HAVING A SECURE COVER. THE DUMPSTER SHALL MEET ALL STATE AND LOCAL CITY SOLID WASTE MANAGEMENT REGULATIONS. ALL TRASH AND DEBRIS FROM CONSTRUCTION SHALL BE DEPOSITED IN THE DUMPSTER. THE DUMPSTER SHALL BE EMPTIED, AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION, AND HAULED TO A LOCAL APPROVED LANDFILL SITE. THE BURYING OF CONSTRUCTION WASTE ON THE PROJECT SITE SHALL NOT BE PERMITTED.

CONCRETE WASHOUT LOCATION WILL BE AT THE DISCRETION OF THE CONTRACTOR. CONTAMINATED WATER OF CONCRETE SHALL NOT BE DRAINED IN TO THE STORM SEWER SYSTEM. ONCE THE SURPLUS CONCRETE HAS DRIED THEN IT CAN BE DISPOSED OF AS REQUIRED BY STATE OR LOCAL REGULATION.

- HAZARDOUS WASTE (INCLUDING SPILL REPORTING):

AS A MINIMUM, ANY PRODUCTS IN THE FOLLOWING CATEGORIES ARE CONSIDERED TO BE HAZARDOUS: PAINTS, ACIDS, SOLVENTS, ASPHALT PRODUCTS, CHEMICAL ADDITIVES FOR SOIL STABILIZATION AND CONCRETE CURING COMPOUNDS OR ADDITIVES. IN THE EVENT OF A SPILL WHICH MAY BE HAZARDOUS, THE SPILL COORDINATOR SHALL BE CONTACTED IMMEDIATELY.

- SANITARY WASTE:

ALL SANITARY WASTE SHALL BE COLLECTED FROM THE PORTABLE UNITS, AS NECESSARY OR AS REQUIRED BY LOCAL REGULATION, BY A LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR.

- OFFSITE VEHICLE TRACKING:

THE CONTRACTOR SHALL BE REQUIRED, ON A REGULAR BASIS OR AS MAY BE DIRECTED BY THE ENGINEER, TO DAMPEN HAUL ROADS FOR DUST CONTROL, STABILIZE CONSTRUCTION ENTRANCES AND TO REMOVE EXCESS DIRT FROM THE ROADWAY.

- MANAGEMENT PRACTICES:

- DISPOSAL AREAS, STOCKPILES AND HAUL ROADS SHALL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE AND CONTROL THE AMOUNT OF SEDIMENT THAT MAY ENTER RECEIVING WATERS. THE LENGTH OF SITE ENTRANCE SHALL BE AT LEAST FOUR TIMES THE LARGEST TIRE SIZE AT THE SITE. DISPOSAL AREAS SHALL NOT BE LOCATED IN ANY WETLAND, WATER BODY OR STREAM BED.
- CONSTRUCTION STAGING AREAS AND VEHICLE MAINTENANCE AREAS SHALL BE CONSTRUCTED BY THE CONTRACTOR IN A MANNER TO MINIMIZE THE RUNOFF OF POLLUTANTS AND SHOULD BE AT LEAST 300 FEET AWAY FROM STREAMS, WETLANDS AND KARST FEATURES. OFFSITE VEHICLE TRACKING SHALL BE CONTROLLED BY TEMPORARY CONSTRUCTION ENTRANCES THAT ARE EQUAL OR BETTER THAN SPECIFIED.
- ALL WATERWAYS SHALL BE CLEARED AS SOON AS PRACTICABLE OF TEMPORARY EMBANKMENT, TEMPORARY BRIDGES, MATTING, FALSE WORK, PILING, DEBRIS OR OTHER OBSTRUCTIONS PLACED DURING CONSTRUCTION OPERATIONS THAT ARE NOT A PART OF THE FINISHED WORK.

- OTHER:

- A LIST OF CONSTRUCTION MATERIALS STORED ON SITE, INCLUDING PROTECTIVE CONTROLS, WILL BE MAINTAINED BY THE CONTRACTOR.
- DUST CONTROL MUST BE PROVIDED IN ACCORDANCE WITH ANY LOCAL, STATE, AND FEDERAL REGULATIONS.
- ANY EXCAVATIONS MUST BE DEWATERED THROUGH A PUMPED FILTER BAG ON A STABILIZED SURFACE AND PROTECTED WITH A DOWNSTREAM BMP SUCH AS A BIG RED, EROSION EEL, OR OTHER RELATED BMP.

- SPECIFICATIONS:

REFER TO THE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS, INCLUDING BEST MANAGEMENT PRACTICES REQUIRED BY THE UNITED STATES FISH AND WILDLIFE SERVICE.



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DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/28/2022
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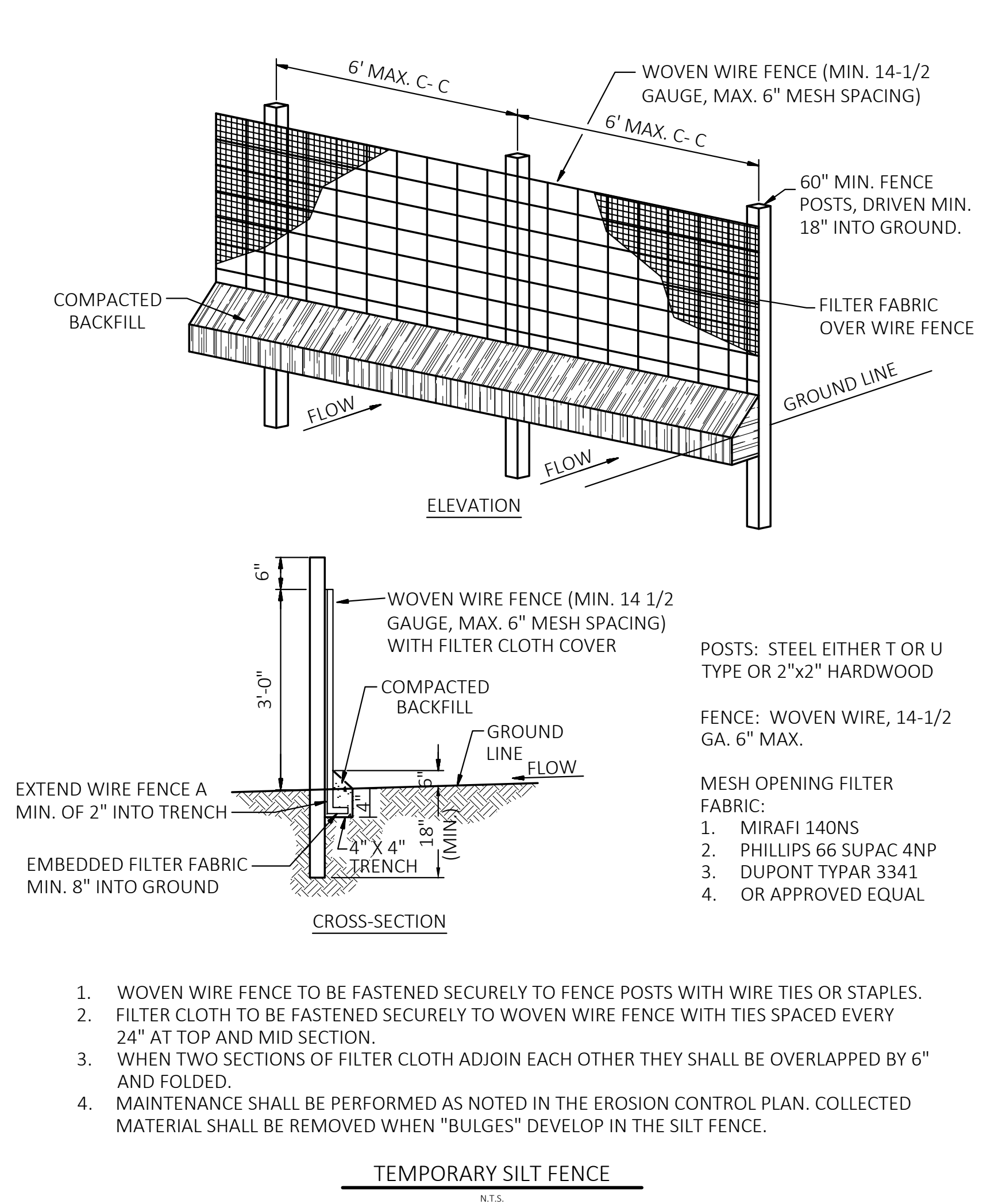
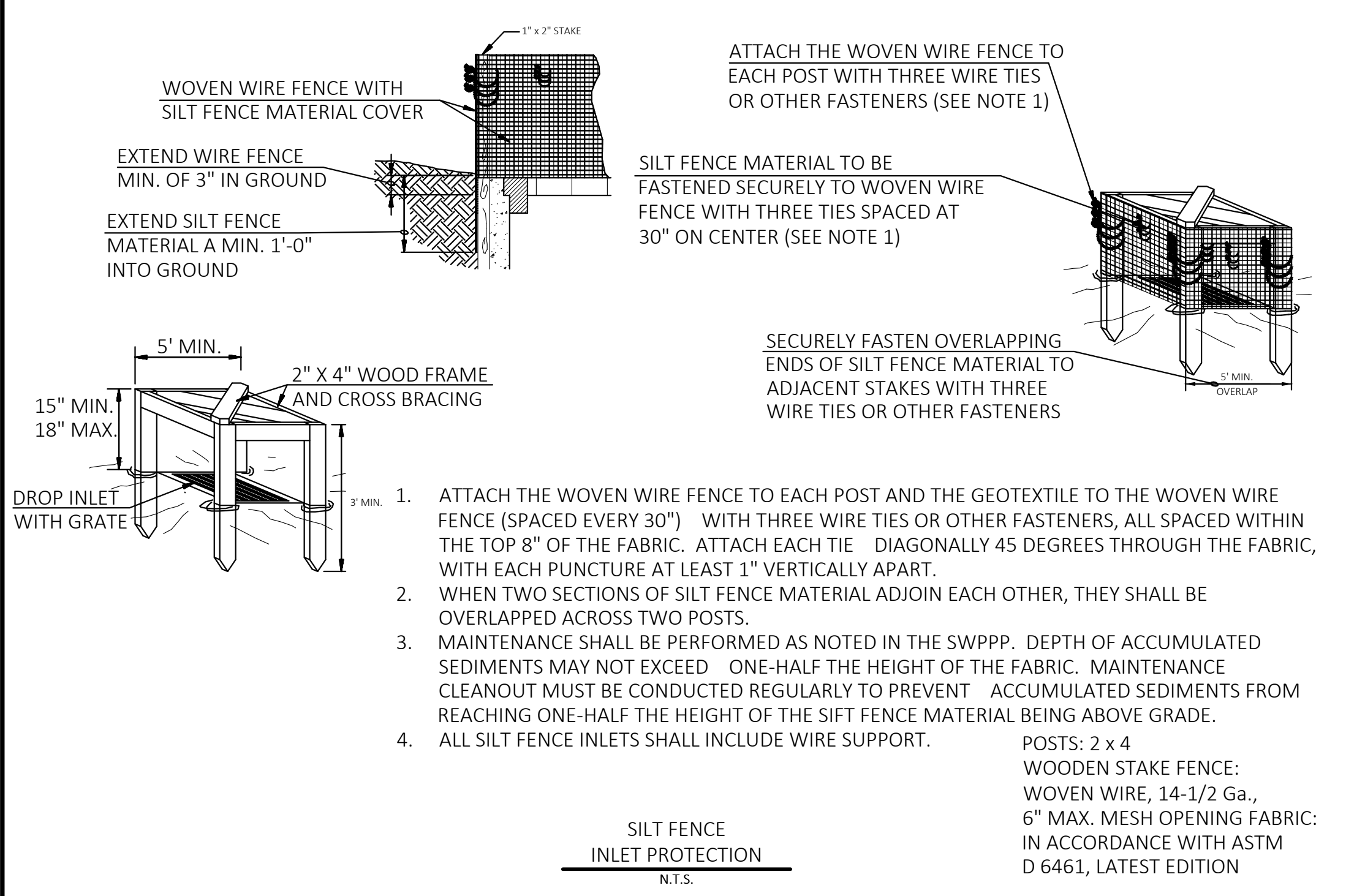
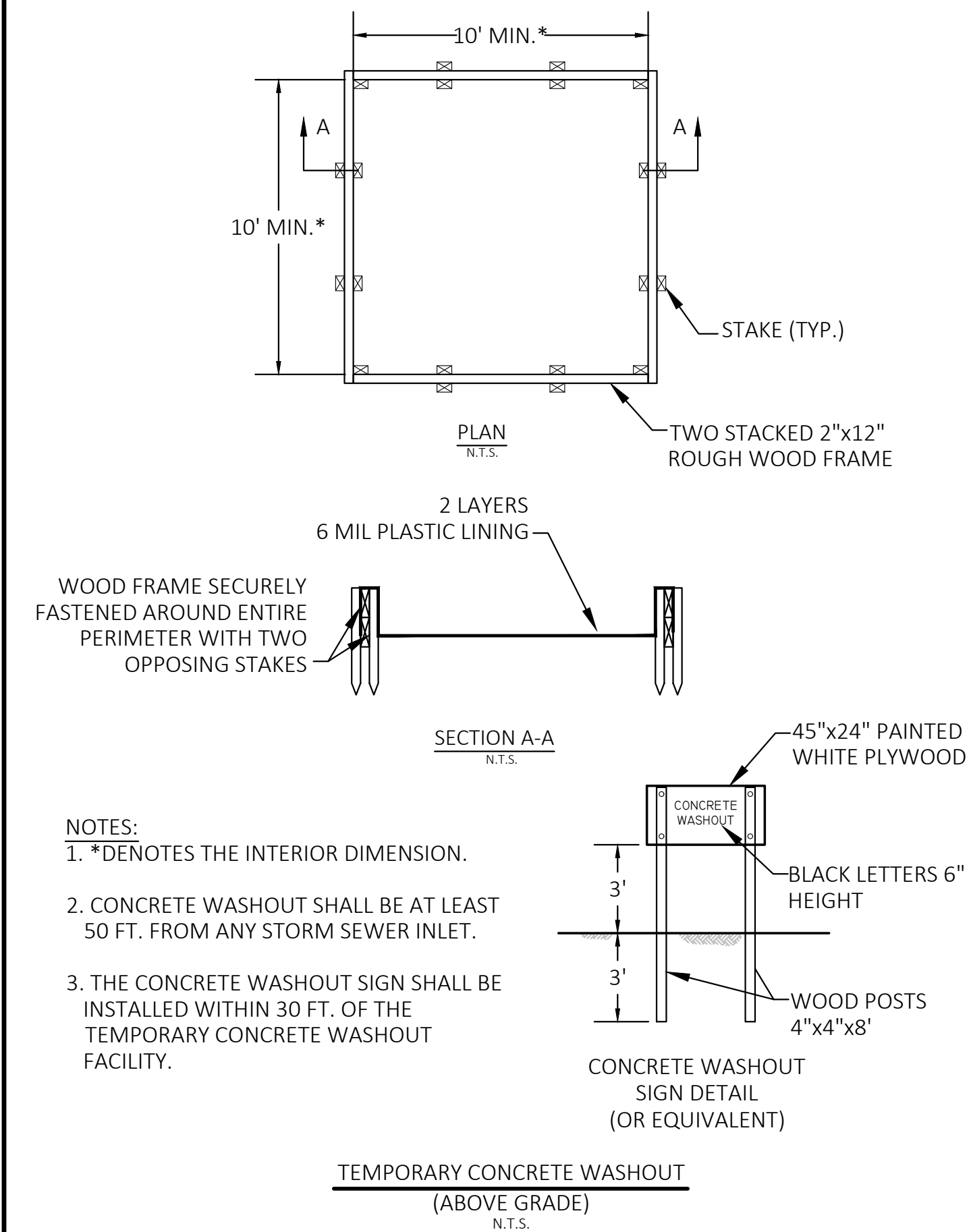
EROSION CONTROL
NOTES

SHEET TITLE
SHEET NUMBER

11

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SWP-CI "Big Red"

Curb Inlet Protector
By ASP Enterprises and Storm Water Products



Specifications:

1. Infill Material: shredded recycled rubber tires
2. Weight: approx. 10 lbs per linear foot
3. Diameter: approx. 8"

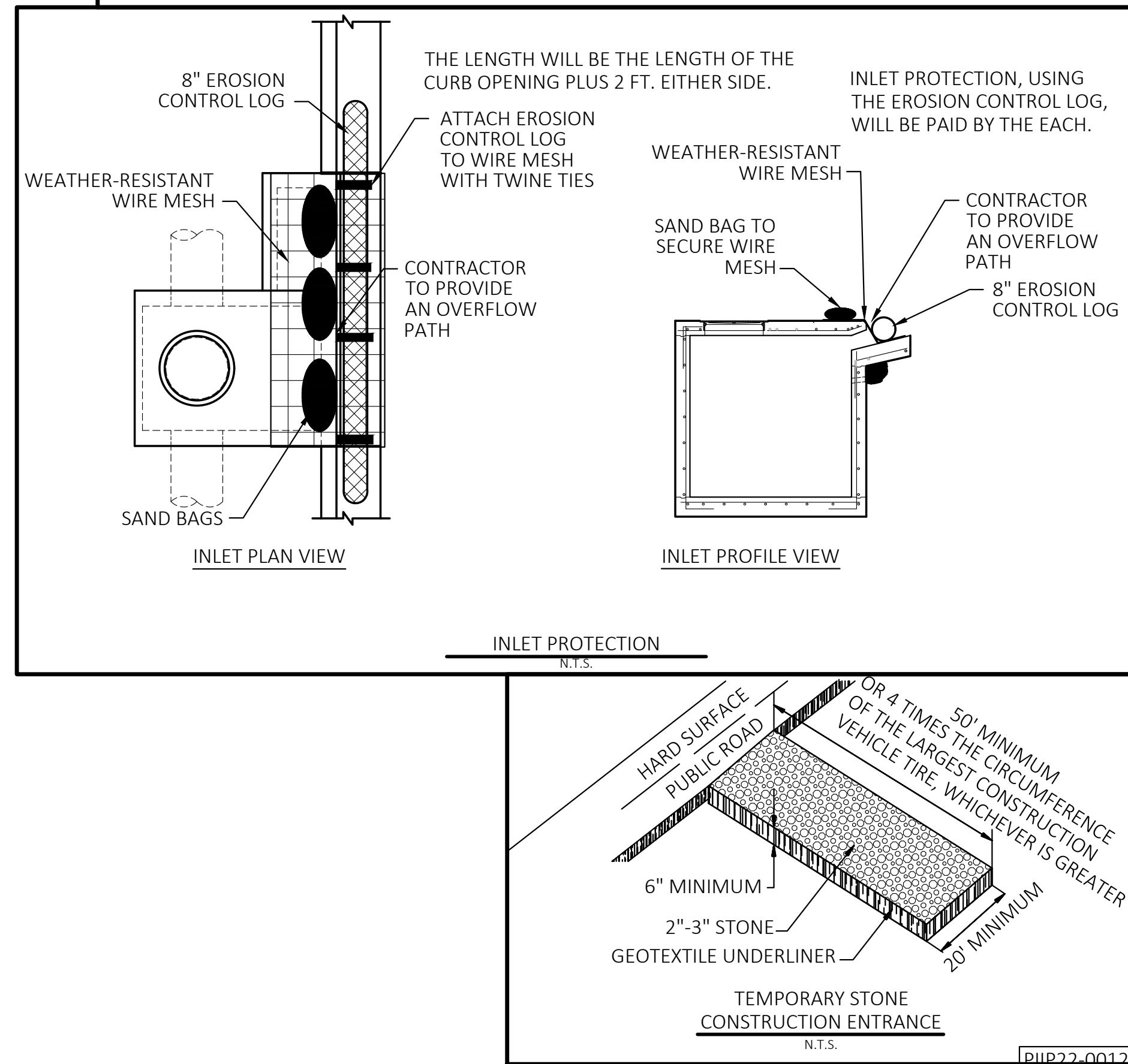
Geotextile fabric made of durable high flow fabric with the following properties:

Property	Test Method	Units	Typical Value
Weight	ASTM D5261	oz/sq. yd	9.3
Grab Tensile Strength	ASTM D4632	lb	warp 250 fill 290
Tear Strength (Trapezoid)	ASTM D4533	lb	warp 60 fill 50
Burst	ASTM D3786	psi	440

(Efforts were made to determine flow rate-the fabric exceeded all capacities of the testing equipment)



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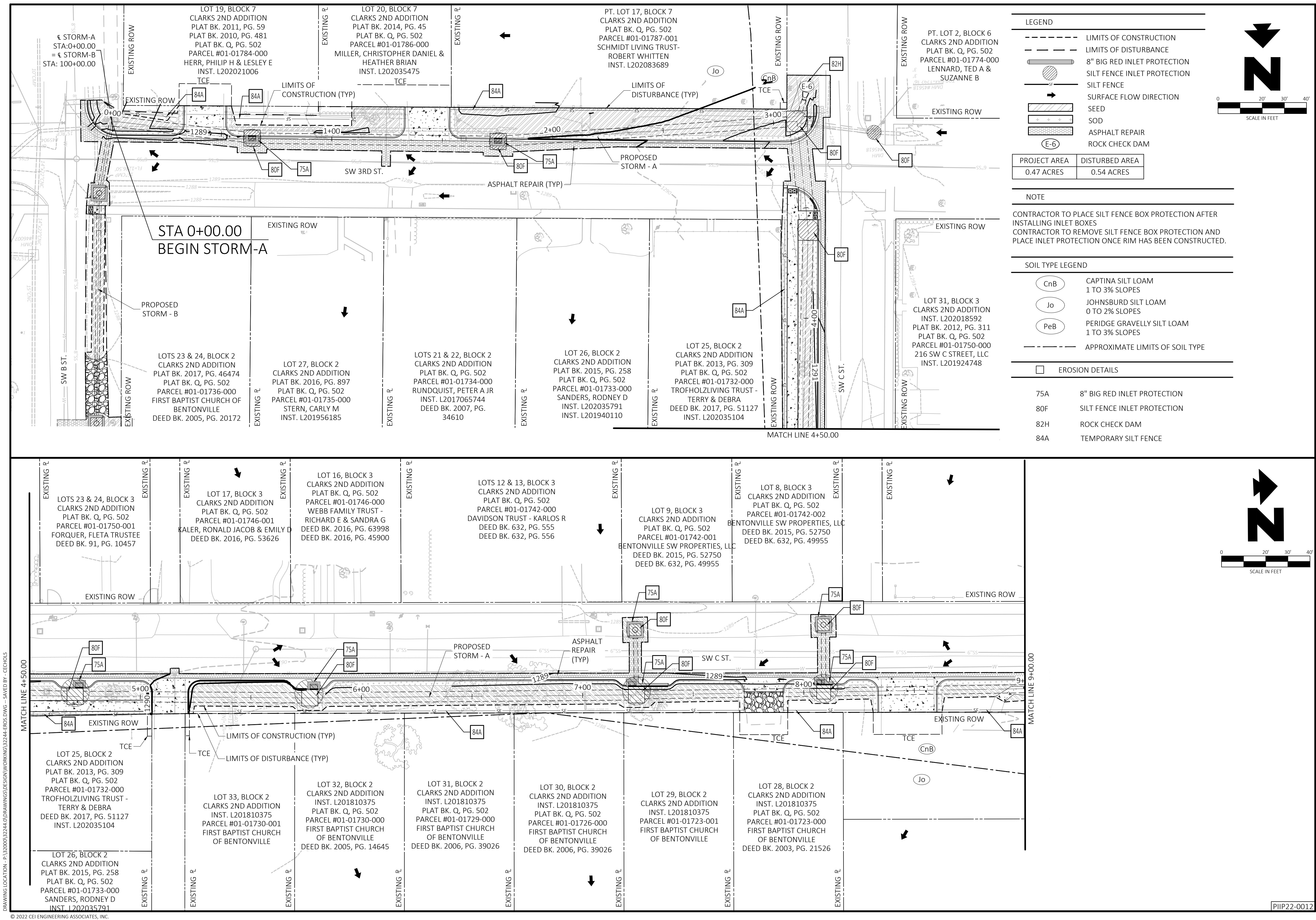
EROSION CONTROL
DETAILS

SHEET TITLE

SHEET NUMBER

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BHP22-0013



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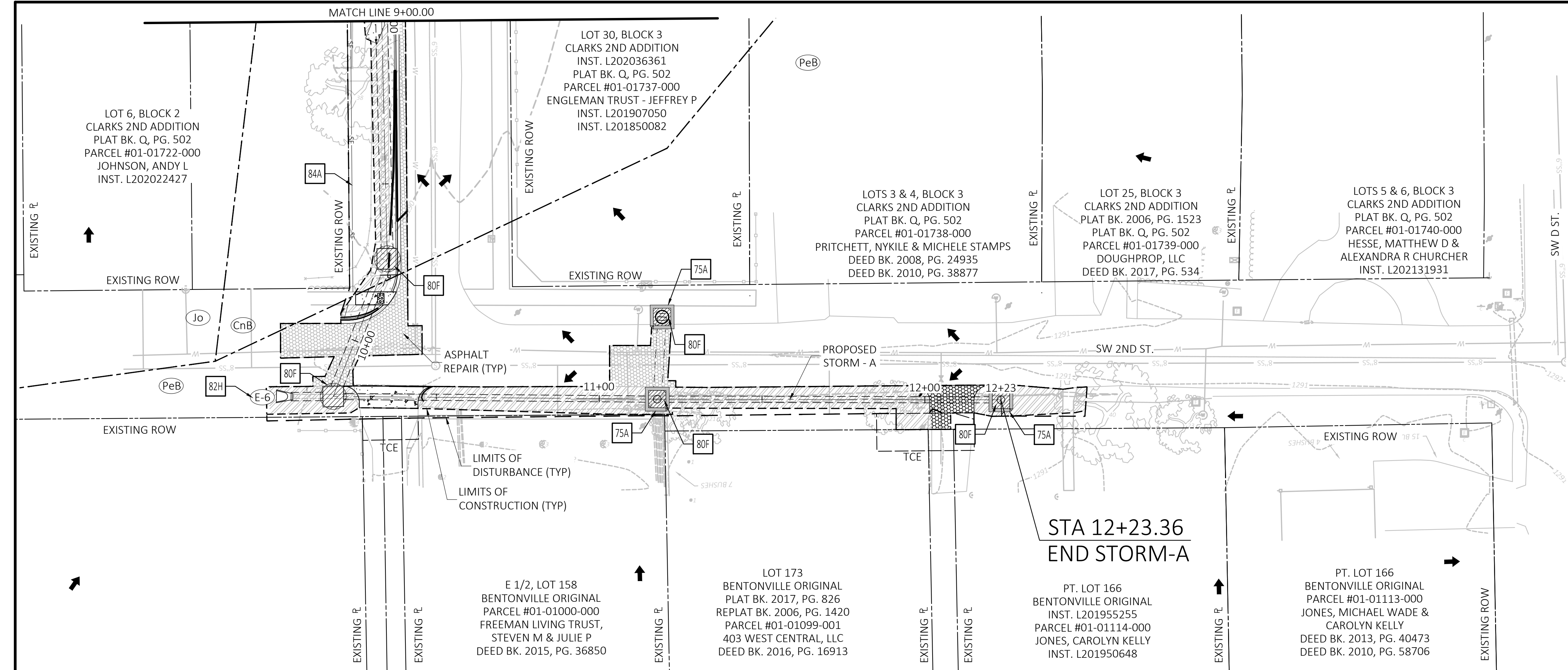
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PROJECT MANAGER	AN
DESIGNER	CE
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EROSION CONTROL
PLAN - (1)

SHEET TITLE
SHEET NUMBER

13

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LEGEND

- LIMITS OF CONSTRUCTION
- LIMITS OF DISTURBANCE
- 8" BIG RED INLET PROTECTION
- SILT FENCE INLET PROTECTION
- SILT FENCE
- SURFACE FLOW DIRECTION
- SEED
- SOD
- ASPHALT REPAIR
- ROCK CHECK DAM

PROJECT AREA	DISTURBED AREA
0.47 ACRES	0.54 ACRES

NOTE

CONTRACTOR TO PLACE SILT FENCE BOX PROTECTION AFTER INSTALLING INLET BOXES
CONTRACTOR TO REMOVE SILT FENCE BOX PROTECTION AND PLACE INLET PROTECTION ONCE RIM HAS BEEN CONSTRUCTED.

SOIL TYPE LEGEND

- CnB CAPTINA SILT LOAM
1 TO 3% SLOPES
- Jo JOHNSBURD SILT LOAM
0 TO 2% SLOPES
- PeB PERIDGE GRAVELLY SILT LOAM
1 TO 3% SLOPES
- APPROXIMATE LIMITS OF SOIL TYPE

EROSION DETAILS

- 75A	8" BIG RED INLET PROTECTION
- 80F SILT FENCE INLET PROTECTION
- 82H ROCK CHECK DAM
- 84A TEMPORARY SILT FENCE



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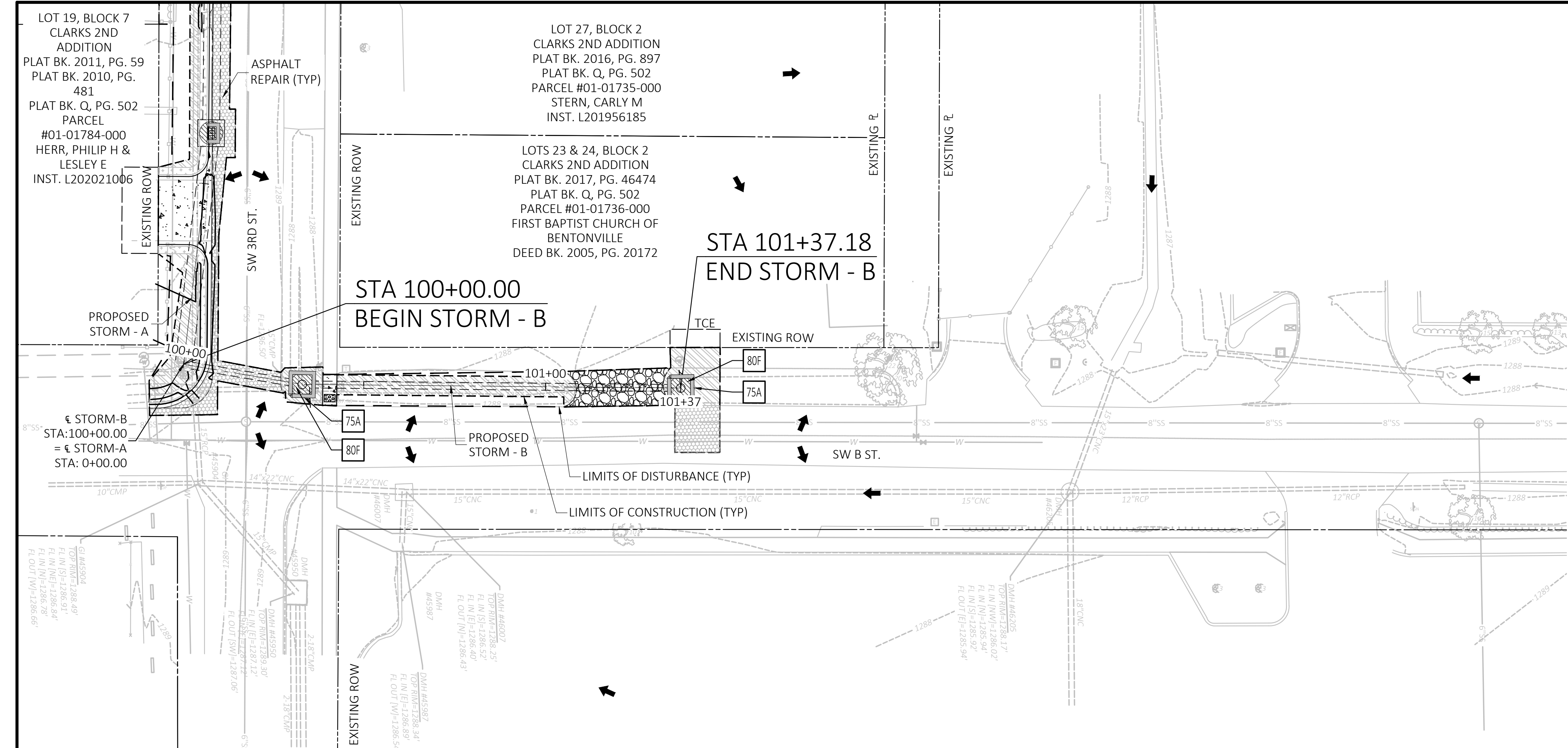
EROSION CONTROL
PLAN - (2)

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SHEET NUMBER

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LEGEND

- LIMITS OF CONSTRUCTION
- - - LIMITS OF DISTURBANCE
- 8" BIG RED INLET PROTECTION
- SILT FENCE INLET PROTECTION
- SILT FENCE
- SURFACE FLOW DIRECTION
- SEED
- SOD
- ASPHALT REPAIR
- ROCK CHECK DAM

PROJECT AREA	DISTURBED AREA
0.47 ACRES	0.54 ACRES

NOTE

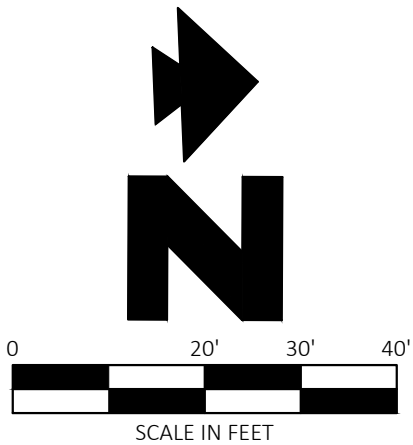
CONTRACTOR TO PLACE SILT FENCE BOX PROTECTION AFTER INSTALLING INLET BOXES
CONTRACTOR TO REMOVE SILT FENCE BOX PROTECTION AND PLACE INLET PROTECTION ONCE RIM HAS BEEN CONSTRUCTED.

SOIL TYPE LEGEND

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1 TO 3% SLOPES
- Jo JOHNSBURD SILT LOAM
0 TO 2% SLOPES
- PeB PERIDGE GRAVELLY SILT LOAM
1 TO 3% SLOPES
- APPROXIMATE LIMITS OF SOIL TYPE

EROSION DETAILS

75A	8" BIG RED INLET PROTECTION
80F	SILT FENCE INLET PROTECTION
82H	ROCK CHECK DAM
84A	TEMPORARY SILT FENCE



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BENTONVILLE, AR

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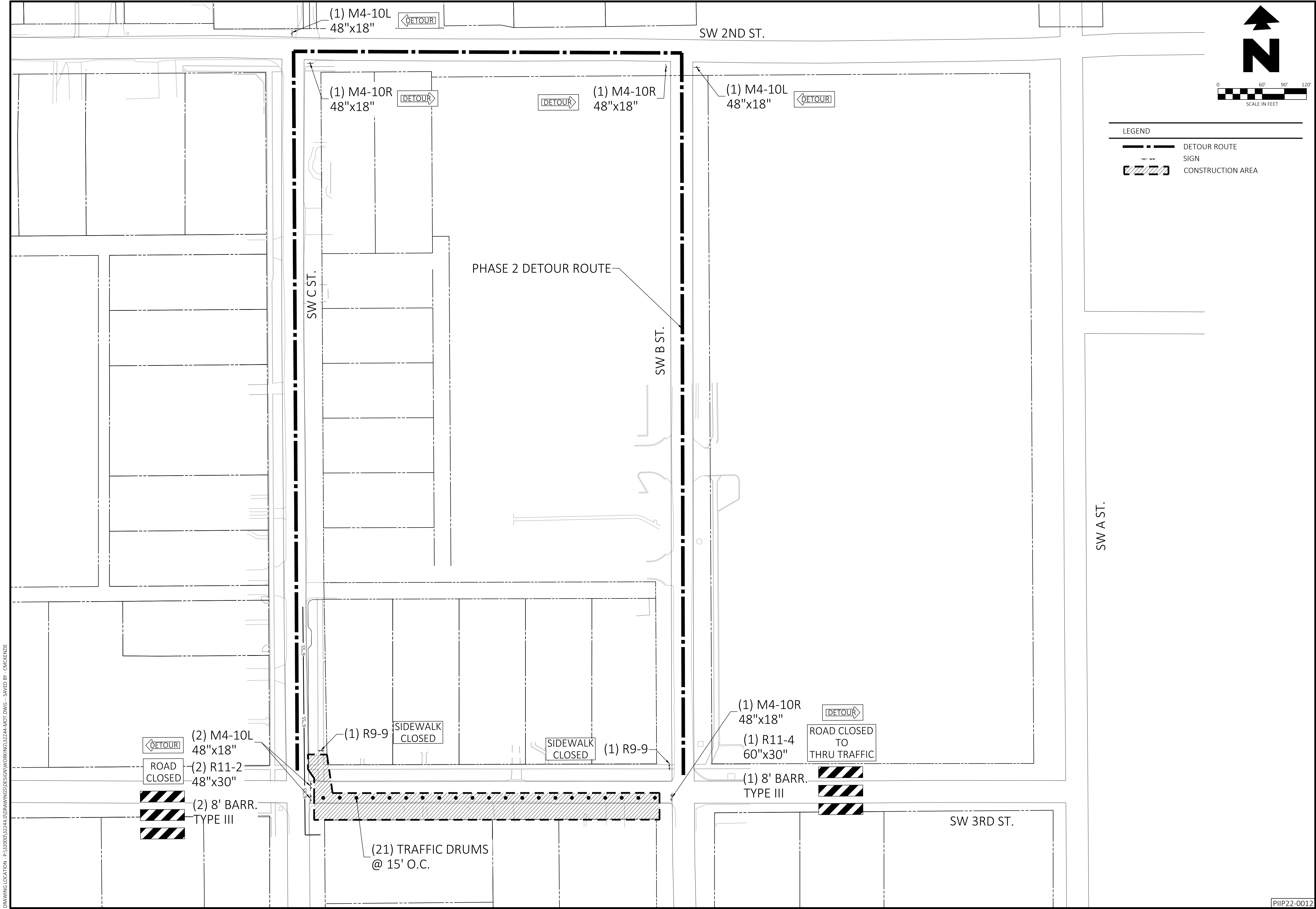
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/30/2022
REVISION	90%

EROSION CONTROL
PLAN - (3)

SHEET TITLE
SHEET NUMBER

15

PIIP22-0012



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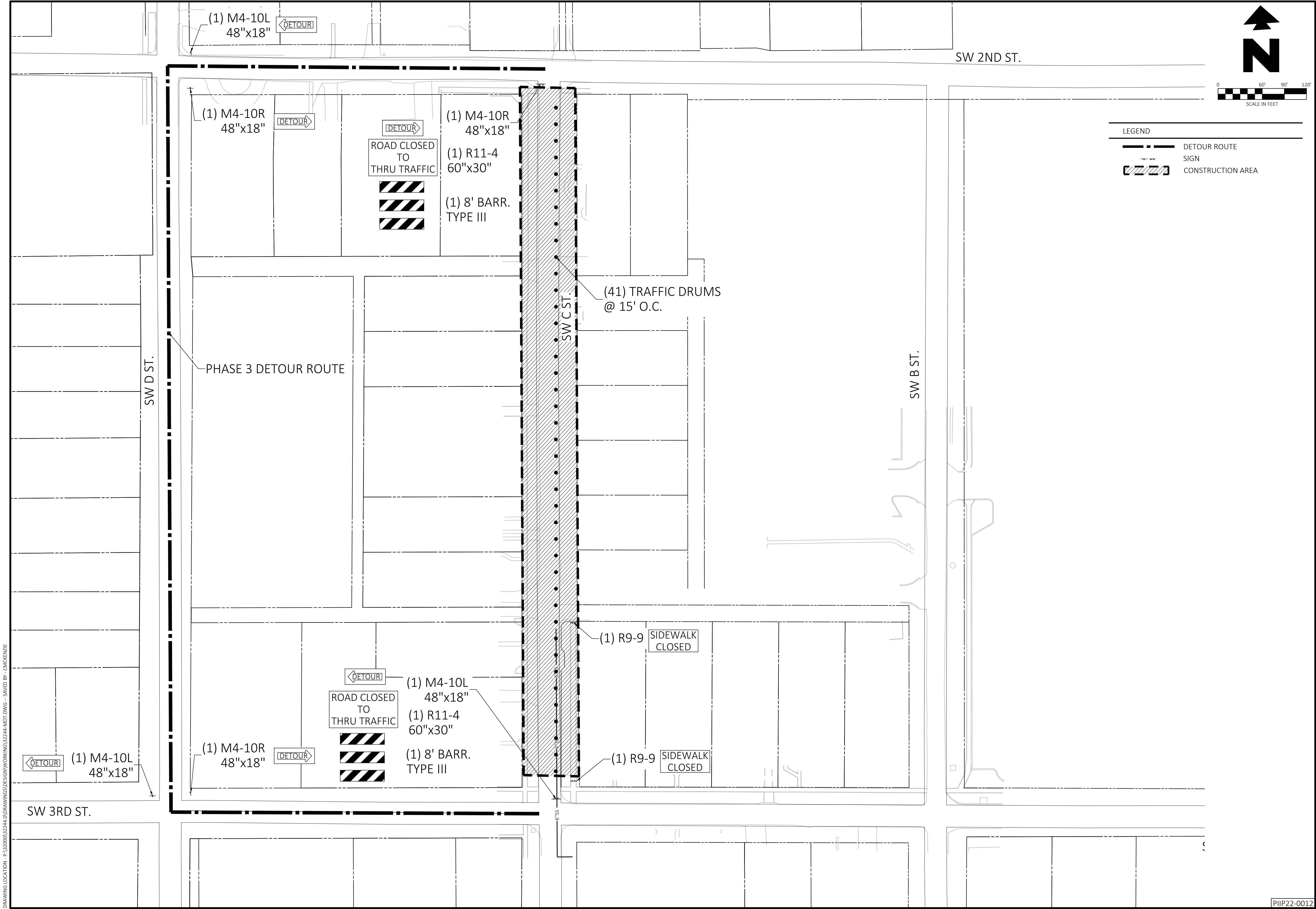
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PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

MAINTENANCE OF
TRAFFIC - PHASE 2

SHEET TITLE
SHEET NUMBER

17



DRAWING LOCATION - P:\32000\32244\DRAWINGS\DESIGN\WORKING\32244-MOT.DWG -- SAVED BY: CVCCKENZIE

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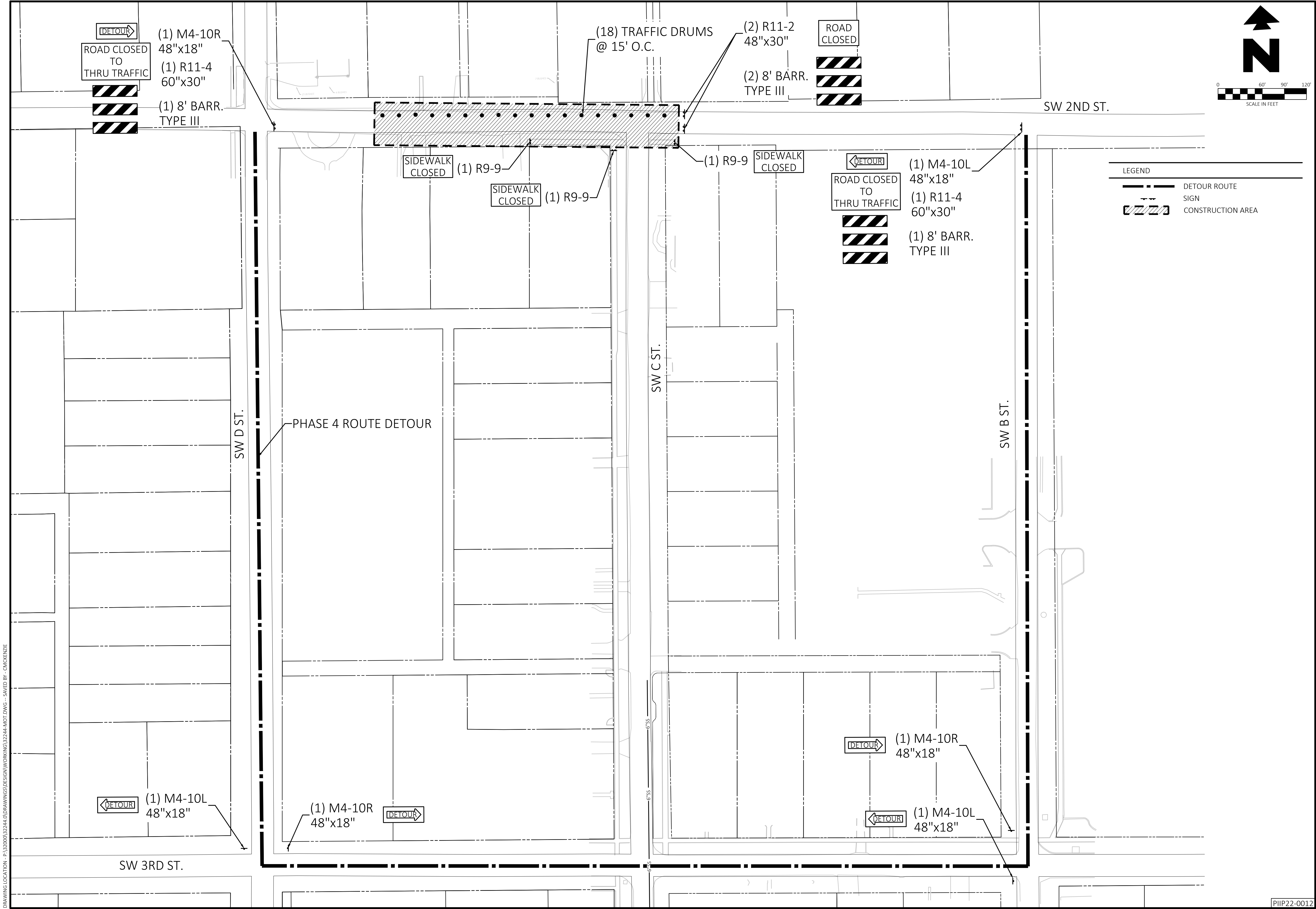
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PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

MAINTENANCE OF
TRAFFIC - PHASE 3

SHEET TITLE
SHEET NUMBER

18



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PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

MAINTENANCE OF
TRAFFIC - PHASE 4

SHEET TITLE
SHEET NUMBER

19

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DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-QNTY.DWG -- SAVED BY: CECHOLS

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CLEARING AND GRUBBING				
STATION	STATION	LOCATION	CLEARING	GRUBBING
			STATION	
04+00.00	05+00.00	SW 3RD ST. TO SW 2ND ST.	1	1
06+00.00	08+00.00	SW 3RD ST. TO SW 2ND ST.	2	2
11+00.00	12+00.00	SW 3RD ST. TO SW 2ND ST.	1	1
TOTALS:			4	4

REMOVE AND SALVAGE / RELOCATE ITEMS				
STATION	STATION	LOCATION	SIGN	IRRIGATION STRUCTURE
			EA.	EA.
00+00.00	12+23.56	SW 3RD ST. TO SW 2ND ST.	3	1
100+00.00	101+37.18	SW B ST.	1	
TOTALS:			4	1

SELECTED PIPE BEDDING	
LOCATION	SELECTED PIPE BEDDING CU. YD.
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY THE ENGINEER	50
TOTAL:	50

NOTE: QUANTITY ESTIMATED.
SEE SECTION 104.03 OF THE STD. SPECS.

EARTHWORK			
STATION	STATION	UNCLASSIFIED EXCAVATION	COMPACTED EMBANKMENT
		CU. YD.	
ENTIRE	PROJECT	10	140
TOTALS:		10	140

SEE SECTION 104.03 OF THE STD. SPECS.
NOTE: EARTHWORK QUANTITIES SHOWN ABOVE SHALL BE PAID AS PLAN QUANTITY
* QUANTITY ESTIMATED AND TO BE MEASURED AND PAID AS DIRECTED BY THE ENGINEER.

CONCRETE COMBINATION CURB AND GUTTER			
STATION	STATION	LOCATION	TYPE A (1'-6)
			LF
00+00.00	12+23.56	SW 3RD ST. TO SW 2ND ST.	1019
TOTAL:			1019

CONCRETE				CONCRETE SIDEWALK	
STATION	STATION	DESCRIPTION	AVG. WIDTH	CONCRETE SIDEWALKS	
					FEET SY
03+40.14	05+05.15	SW 3RD ST. TO SW 2ND ST.	5		87
08+86.68	09+07.09	SW 3RD ST. TO SW 2ND ST.	4		8
TOTAL:					95

WHEELCHAIR RAMPS			
STATION	STATION	LOCATION	RAMPS
			EA
00+00.00	12+23.56	SW 3RD ST. TO SW 2ND ST.	3
100+00.00	101+37.18	SW B ST.	1
TOTAL:			4

PERMANENT PAVEMENT REPAIR			
STATION	STATION	LOCATION	ASPHALT PAVEMENT
			SY
ENTIRE	PROJECT		470
TOTAL:			470

REMOVAL AND DISPOSAL OF ITEMS						
STATION	STATION	LOCATION	ASPHALT PAVEMENT	CONCRETE DRIVEWAY	GRAVEL DRIVEWAY	CONCRETE WALKS
			SY			
00+00.00	12+23.56	SW 3RD ST. TO SW 2ND ST.	426	141	32	113
100+00.00	101+37.18	SW B ST.	29		14	4
TOTALS:			455	141	46	117

STRUCTURES																			
STATION	DESCRIPTION	REIN. CONC. PIPE		REIN. CONC. BOX CULVERT			DROP INLETS				CURB HOOD EXTENSION	JUNCTION BOX		FLARED END SECTION		DREDGE EXISTING CULVERT	FLOWABLE FILL	CRUSHED STONE (ARDOT CLASS 7) BACKFILL FOR STORM SEWER	
		(CLASS III)	(CLASS IV)	(CLASS III)			COMBINATION INLET		AREA INLET	GRATE INLET		TYPE E							
		18"	14"x23" ELLIP.	18"	3'x2'	4'x3'	6'x2'	5'x5'	6'x6'	4'x4'		4'x4'	5'x5'	8'x8'	14"x23" ELLIP				18"
		LF						EA.											CY	TON
00+63.98	DROP INLET LT.					64			1										
01+75.21	DROP INLET LT.					111			1										
03+11.78	JUNCTION BOX LT.	11				137							1		1				
03+59.31	JUNCTION BOX RT.						48						1						
04+70.74	DROP INLET RT.					111			1										
05+76.85	DROP INLET RT.					106			1										
07+24.55	DROP INLET RT.					148			1			4							
07+24.23	AREA INLET LT.			29						1									
08+09.19	DROP INLET RT.				85			1				1							
08+09.60	AREA INLET LT.			30						1									
09+73.18	JUNCTION BOX RT.				164								1						
10+18.55	JUNCTION BOX RT.		13		45								1		1				
11+18.04	AREA INLET RT.	99								1									
11+26.13	GRATE INLET LT.			25							1								
12+23.56	AREA INLET RT.	106								1									
100+33.08	AREA INLET LT.	33								1									
101+37.18	AREA INLET LT.	104								1									
ENTIRE PROJECT TO BE USED IF AND WHERE DIRECTED BY ENGINEER																	50		
ENTIRE PROJECT																1		2474	
TOTALS:		353	13	84	294	677	48	1	5	6	1	5	2	2	1	1	1	2474	

NOTE: FOR R.C. PIPE CULVERT INSTALLATIONS USE TYPE 3 BEDDING UNLESS OTHERWISE SPECIFIED.

REMOVAL AND DISPOSAL OF CULVERTS AND STRUCTURES			
STATION	DESCRIPTION	PIPE CULVERTS	HEADWALL
		EA.	
00+84.32	15" RCP	1	1
02+26.24	15" RCP	1	1
07+23.98	10" RCP	1	
10+26.10	15" CMP	1	
12+08.20	12" CMP	1	
100+18.13	15" CMP	1	
100+40.61	24" CMP	1	
101+20.15	15" CMP	1	
TOTALS:		8	2

NOTE: QUANTITIES SHOWN ABOVE SHALL INCLUDE REMOVAL & DISPOSAL OF ALL HEADWALLS AND FLARED END SECTIONS IF APPLICABLE.
CONTRACTOR SHALL REMOVE, PROTECT, AND RETURN CULVERTS/PIPES TO OWNER IN REUSABLE CONDITION.

DRIVEWAYS AND TURNOUTS							
STATION	SIDE	LOCATION	WIDTH	P.C. CONCRETE DRIVEWAY APRON	P.C. CONCRETE DRIVEWAY	ASPHALT DRIVEWAY	8" GRAVEL DRIVEWAY (CLASS 7)
			FEET	SY			TON
00+41.18	LT	SW 3RD ST.	19		29		
01+42.99	LT	SW 3RD ST.	20		32		
05+12.03	RT	SW C ST.	16		27		
07+80.18	RT	SW C ST.	17	12			9
08+45.21	RT	SW C ST.	26		44		
10+33.83	LT	SW 2ND ST.	18		15		
12+06.80	LT	SW 2ND ST.	14			17	
101+19.44	LT	SW B ST.	27				14
TOTALS:				12	147	17	22

		EROSION CONTROL															
STATION	STATION	PERMANENT EROSION CONTROL						TEMPORARY EROSION CONTROL									
		SEEDING	LIME	MULCH COVER	WATER	SECOND SEEDING APPLICATION	SOLID SODDING	TEMPORARY SEEDING	MULCH COVER	WATER	8" BIG RED INLET PROTECTION	SILT FENCE	SILT FENCE INLET PROTECTION	ROCK DITCH CHECK	STONE CONSTRUCTION ENTRANCE	CONCRETE WASHOUT	*SEDIMENT REMOVAL & DISPOSAL
		ACRE	TON	ACRE	M. GAL.	ACRE	SY	ACRE		M. GAL.	LF		EA.		LS		CU.YD.
ENTIRE	PROJECT	0.19	0.38	0.19	19.38	0.19	307	0.19	0.38	3.88	222	884	18	2	1	1	36
TOTALS:		0.19	0.38	0.19	19.38	0.19	307	0.19	0.38	3.88	222	884	18	2	1	1	36

BASIS OF ESTIMATE:
LIME..... 2 TONS / ACRE OF SEEDING
WATER..... 102.0 M.G. / ACRE OF SEEDING
WATER..... 20.4 M.G. / ACRE OF TEMPORARY SEEDING
WATER..... 12.6 GALS. / SQ. YARD OF SOLID SODDING
ROCK DITCH CHECKS..... 3 CU. YD. / LOCATION
NOTE: THE TEMPOARARY EROSION CONTROL DEVICES SHOWN ABOVE AND ON THE PLANS SHALL BE INSTALLED IN SUCH A SEQUENCE AS TO DETER EROSION AND SEDIMENTATION ON U.S. WATERWAYS AS EXPLAINED BY THE NATIONAL POLLUTANT DISCHARGE ELIMINATION
*QUANTITIES ESTIMATED
SEE SECTION 104.03 OF THE STD. SPECS.

ADVANCE WARNING SIGNS												
SIGN NUMBER	DESCRIPTION	SIGN SIZE	OVERALL DETOUR PLAN				MAXIMUM NUMBER REQUIRED	TOTAL SIGNS REQUIRED		TRAFFIC DRUMS	BARRICADES (TYPE III)	
			PHASE 1	PHASE 2	PHASE 3	PHASE 4					RIGHT	LEFT
			EA.						NO.	SQ. FT.	EA.	LIN. FT.
R9-9	SIDEWALK CLOSED	24"X12"	2	2	2	3	3	3	6			
R11-2	ROAD CLOSED	48"X30"	6	2		2	6	6	60			
R11-4	ROAD CLOSED TO THRU TRAFFIC	60"X30"	2	1	2	2	2	2	25			
M4-10R	DETOUR	48"X18"	8	3	3	3	8	8	48			
M4-10L	DETOUR	48"X18"	8	4	3	3	8	8	48			
	TRAFFIC DRUMS		11	21	41	18	41			41		
	BARRICADES TYPE III (8')		8	3	2	4	8				32	32
TOTALS:									187	41	32	32

NOTE: THIS IS A HIGH TRAFFIC VOLUME ROAD AS DEFINED IN SECTION 604.03, STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

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PROJECT MANAGER AN
DESIGNER CE
CEI PROJECT NUMBER 32244
DATE 6/29/2022
REVISION 90%

QUANTITIES

SHEET TITLE
SHEET NUMBER

20

DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-QNTY.DWG -- SAVED BY: JIRENNICK

SUMMARY OF QUANTITIES			
ITEM NO.	ITEM	UNIT	TOTAL QUANTITY
ROADWAY			
1	MOBILIZATION	LS	1
2	TRENCHING AND EXCAVATION SAFETY SYSTEMS	LS	1
3	CLEARING	STA	4
4	GRUBBING	STA	4
5	REMOVAL AND DISPOSAL OF ASPHALT PAVEMENT	SY	455
6	REMOVAL AND DISPOSAL OF CONCRETE DRIVEWAY	SY	141
7	REMOVAL AND DISPOSAL OF GRAVEL DRIVEWAY	SY	46
8	REMOVAL AND DISPOSAL OF CONCRETE WALKS	SY	117
9	REMOVAL AND DISPOSAL OF PIPE CULVERTS	EA	8
10	REMOVAL AND DISPOSAL OF HEADWALL	EA	2
11	REMOVE AND RELOCATE SIGN	EA	4
12	REMOVE AND RELOCATE IRRIGATION STRUCTURE	EA	1
13	UNCLASSIFIED EXCAVATION	CY	10
14	COMPACTED EMBANKMENT	CY	140
15	P.C. CONCRETE DRIVEWAY APRON	SY	12
16	P.C. CONCRETE DRIVEWAY	SY	147
17	ASPHALT DRIVEWAY	SY	17
18	8" GRAVEL DRIVEWAY (CLASS 7)	TON	22
19	MAINTENANCE OF TRAFFIC	LS	1
20	SIGNS	SF	187
21	TRAFFIC DRUMS	EA	41
22	TYPE III BARRICADES	LF	64
23	18" REINFORCED CONCRETE PIPE, CLASS III	LF	353
24	14"x23" REINFORCED CONCRETE PIPE ELLIP., CLASS III	LF	13
25	18" REINFORCED CONCRETE PIPE, CLASS IV	LF	84
26	3'x2' REINFORCED CONCRETE BOX CULVERT, CLASS III	LF	294
27	4'x3' REINFORCED CONCRETE BOX CULVERT, CLASS III	LF	677
28	6'x2' REINFORCED CONCRETE BOX CULVERT, CLASS III	LF	48
29	COMBINATION INLET (5'x5')	EA	1
30	COMBINATION INLET (6'x6')	EA	5
31	AREA INLET (4'x4')	EA	6
32	GRATE INLET (4'x4')	EA	1
33	CURB HOOD EXTENSION	EA	5
34	TYPE E JUNCTION BOX (5'x5')	EA	2
35	TYPE E JUNCTION BOX (8'x8')	EA	2
36	FLARED END SECTION (14"x23")	EA	1
37	FLARED END SECTION (18")	EA	1
38	DREDGE EXISTING CULVERT	EA	1
39	FLOWABLE FILL	CY	50
40	CRUSHED STONE (ARDOT CLASS 7) BACKFILL FOR STORM SEWER	TON	2474
41	SELECTED PIPE BEDDING	CY	50
42	SEEDING	ACRE	0.19
43	TEMPORARY SEEDING	ACRE	0.19
44	LIME	TON	0.38
45	MULCH COVER	ACRE	0.57
46	WATER	M. GAL	23.26
47	SECOND SEEDING APPLICATION	ACRE	0.19
48	SOLID SODDING	SY	307
49	8" BIG RED INLET PROTECTION	LF	222
50	SILT FENCE	LF	884
51	SILT FENCE INLET PROTECTION	EA	18
52	ROCK DITCH CHECK	EA	2
53	STONE CONSTRUCTION ENTRANCE	LS	1
54	CONCRETE WASHOUT	LS	1
55	SEDIMENT REMOVAL & DISPOSAL	CY	36
56	CONCRETE COMBINATION CURB AND GUTTER (TYPE A 1'-6")	LF	1019
57	CONCRETE SIDEWALK	SY	95
58	WHEELCHAIR RAMPS	EA	4
59	ASPHALT PAVEMENT REPAIR	SY	470
60	STORM SEWER CONTINGENCY	LS	1

WATER LINE RELOCATION			
61	TRENCHING AND EXCAVATION SAFETY SYSTEMS (WATER)	LS	1
62	CRUSHED STONE (ARDOT CLASS 7) BACKFILL (WATER)	TON	107
63	8-INCH DUCTILE IRON PIPE	LF	44
64	DUCTILE MJ IRON FITTINGS	LB	276
65	8-INCH TAPPING SLEEVE	EA	4
66	8-INCH GATE VALVE	EA	4
67	8-INCH CUT, CAP AND ANCHOR COLLAR BLOCK	EA	4
68	RELOCATE EXISTING WATER METER	EA	2
69	REMOVE AND RELOCATE IRRIGATION STRUCTURE	EA	1
70	CONNECT TO EXISTING FIRE HYDRANT	EA	2
71	REMOVE AND SALVAGE FIRE HYDRANT	EA	2
72	REMOVE EXISTING WATER LINE	LF	10
73	CONNECT 2" WATER SERVICE TO EXISTING VALVE	EA	1
74	CONNECT 2" WATER SERVICE TO EXISTING SERVICE LINE	EA	1
75	2" COPPER FITTINGS	EA	4
76	PAVEMENT PATCHING/REPAIR (WATER)	SY	59
77	WATER CONTINGENCY	LS	1
SEWER LINE RELOCATION			
78	TRENCHING AND EXCAVATION SAFETY SYSTEMS (SEWER)	LS	1
79	CRUSHED STONE (ARDOT CLASS 7) BACKFILL (SEWER)	TON	10
80	SEWER SERVICE CONNECTION	EA	1
81	PAVEMENT PATCHING/REPAIR (SEWER)	SY	5
82	SEWER CONTINGENCY	LS	1



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PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/30/2022
REVISION	90%

SUMMARY OF
QUANTITIES

SHEET TITLE
SHEET NUMBER

21

PIIP22-0012

SURVEY CONTROL COORDINATES

PROJECT NAME: SW 3RD AND C LATERALS

BASIS OF BEARING:
ARKANSAS STATE PLANE GRID COORDINATES, NORTH ZONE, NAD 83,
ESTABLISHED BY USING THE CITY OF BENTONVILLE GPS BASE.

BASIS OF ELEVATION:
NAVD 88, ESTABLISHED BY USING THE CITY OF BENTONVILLE GPS BASE.

HORIZONTAL DATUM:
NAD 83

VERTICAL DATUM:
NAVD 88

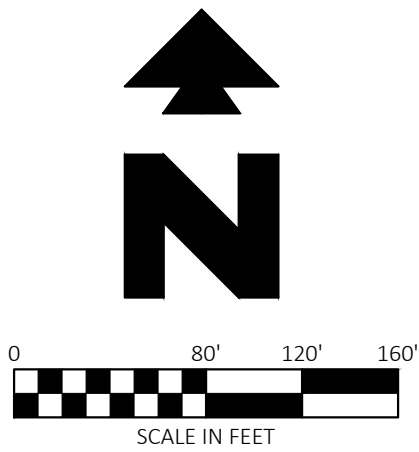
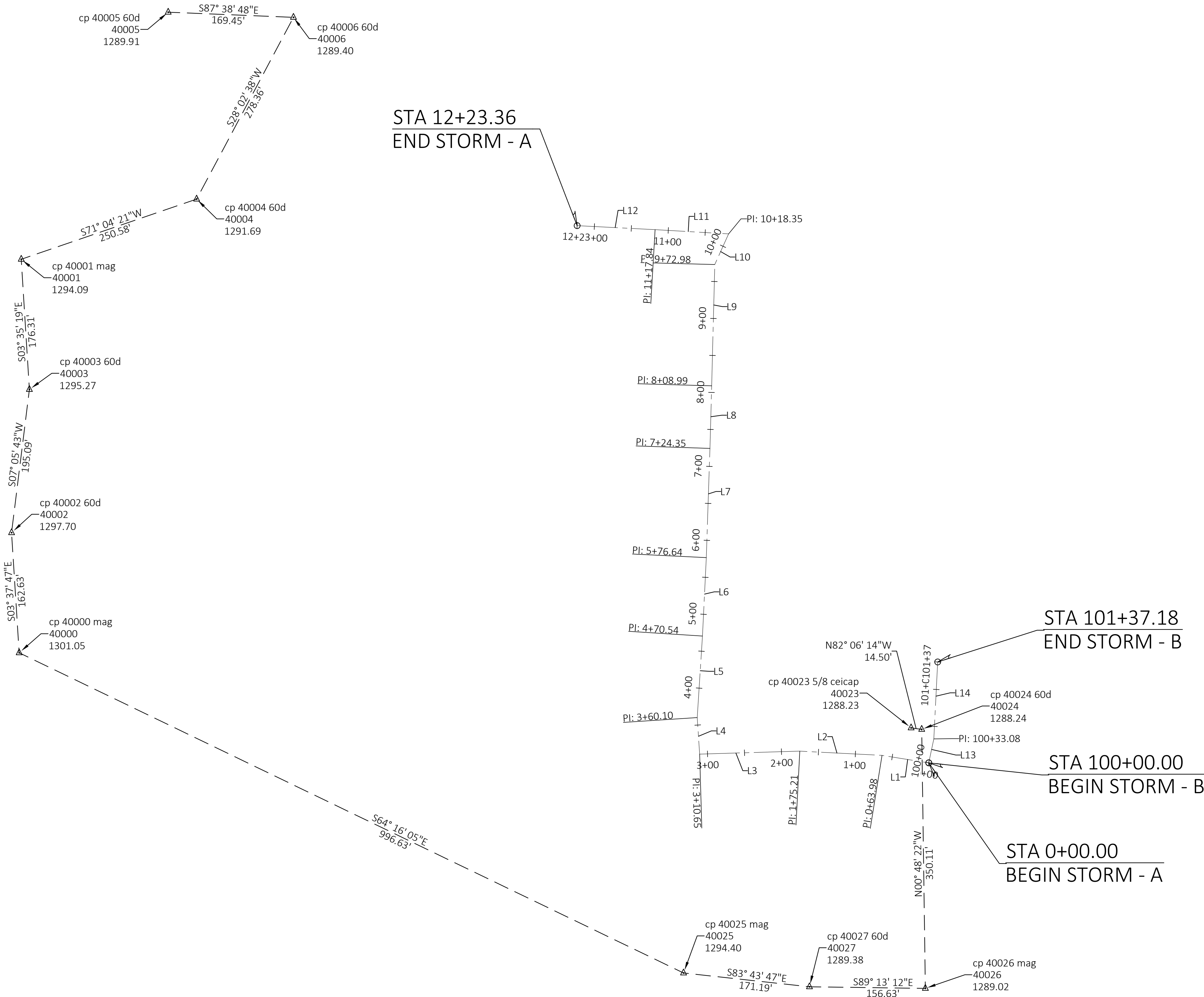
UNITS: U.S. SURVEY FOOT

SURVEY POINT TABLE

POINT NAME	NORTHING	EASTING	ELEVATION	DESCRIPTION
40000	748656.04	660008.30	1301.05	CP 40000 MAG
40001	749187.91	660011.06	1294.09	CP 40001 MAG
40002	748818.35	659998.00	1297.70	CP 40002 60D
40003	749011.94	660022.10	1295.27	CP 40003 60D
40004	749269.19	660248.09	1291.69	CP 40004 60D
40005	749521.83	660209.66	1289.91	CP 40005 60D
40006	749514.87	660378.97	1289.40	CP 40006 60D
40023	748554.58	661213.59	1288.23	CP 40023 5/8 CEICAP
40024	748552.59	661227.95	1288.24	CP 40024 60D
40025	748223.34	660906.09	1294.40	CP 40025 MAG
40026	748202.52	661232.87	1289.02	CP 40026 MAG
40027	748204.65	661076.26	1289.38	CP 40027 60D

STORM-A			
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION
L1		63.98'	N80° 53' 59.82"W
L2		111.23'	N87° 02' 32.47"W
L3		135.44'	S88° 17' 42.06"W
L4		49.45'	N3° 44' 08.76"W
L5		110.44'	N3° 39' 36.10"E
L6		106.11'	N2° 47' 58.11"E
L7		147.70'	N1° 54' 47.40"E
L8		84.64'	N1° 34' 51.56"E
L9		164.00'	N1° 28' 08.21"E
L10		45.37'	N24° 17' 01.09"E
L11		99.49'	N86° 41' 27.97"W
L12		105.52'	N87° 03' 30.09"W

STORM-B			
NUMBER	RADIUS	LENGTH	LINE/CHORD DIRECTION
L13		33.08'	N11° 55' 42.06"E
L14		104.10'	N2° 51' 06.53"E



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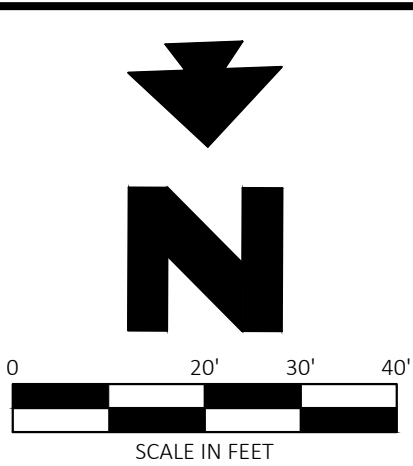
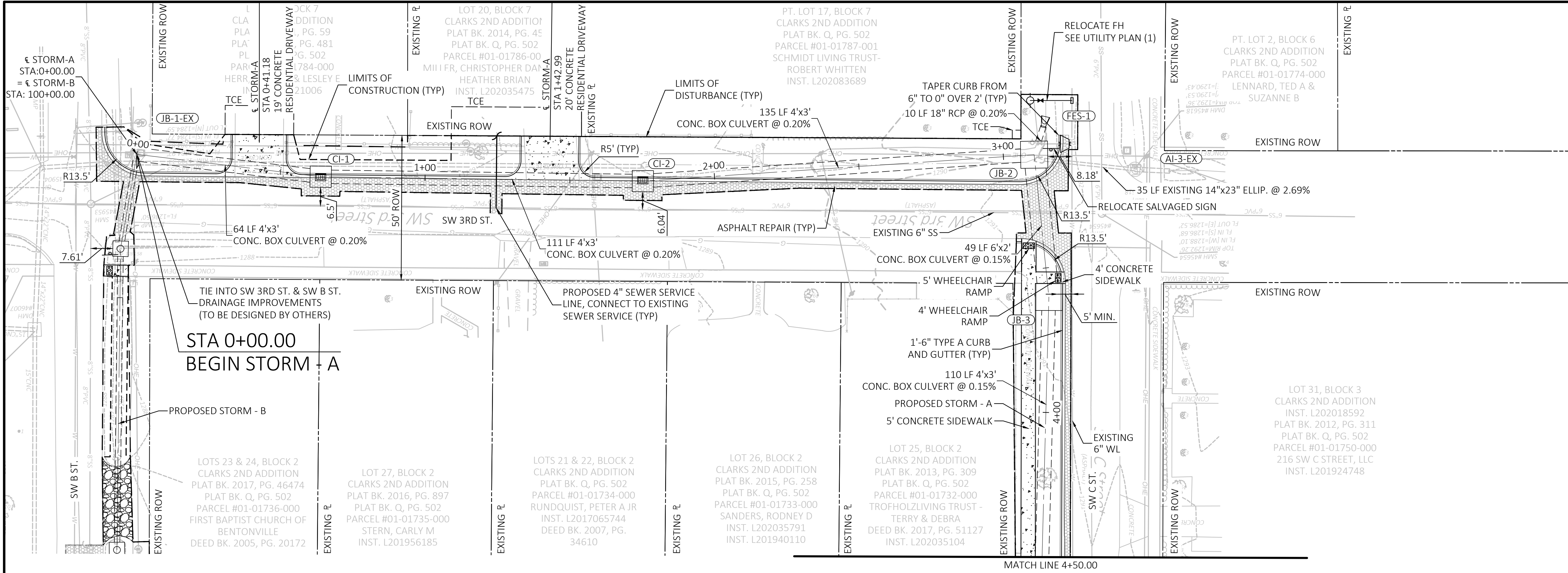
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/28/2022
REVISION	90%

SURVEY CONTROL
DETAILS

SHEET TITLE
SHEET NUMBER

22

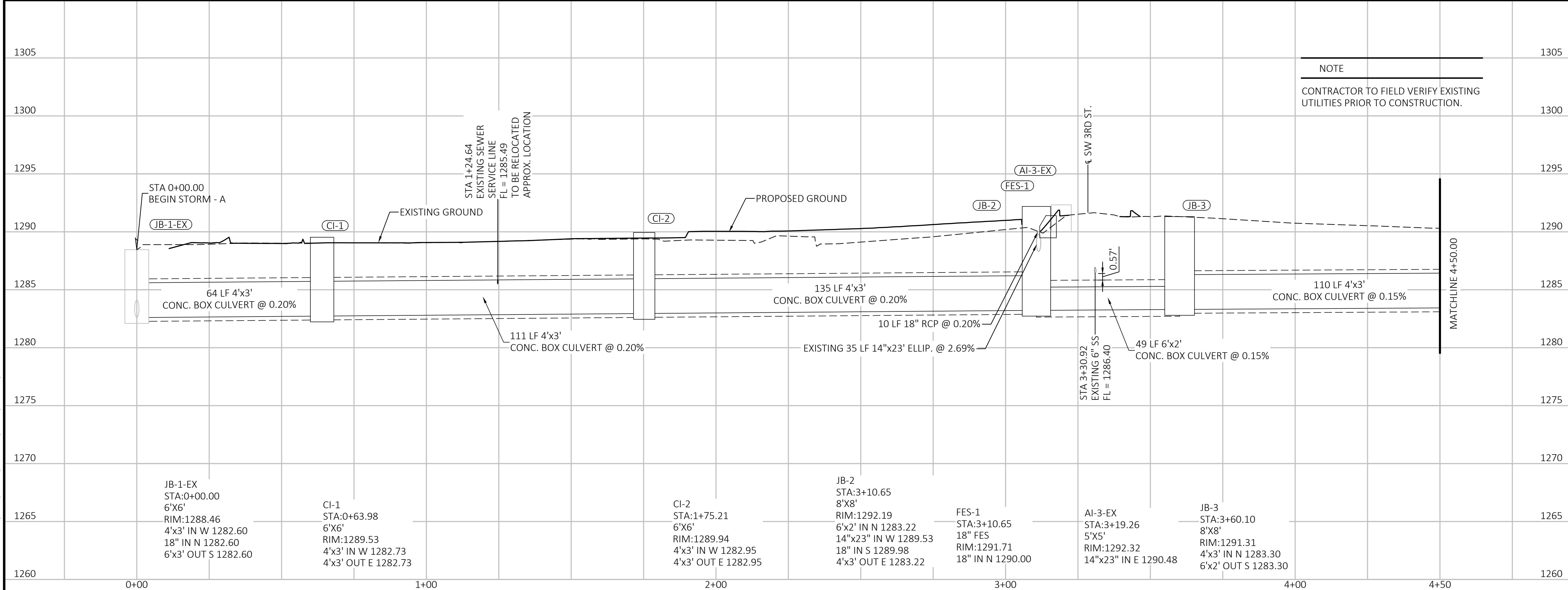
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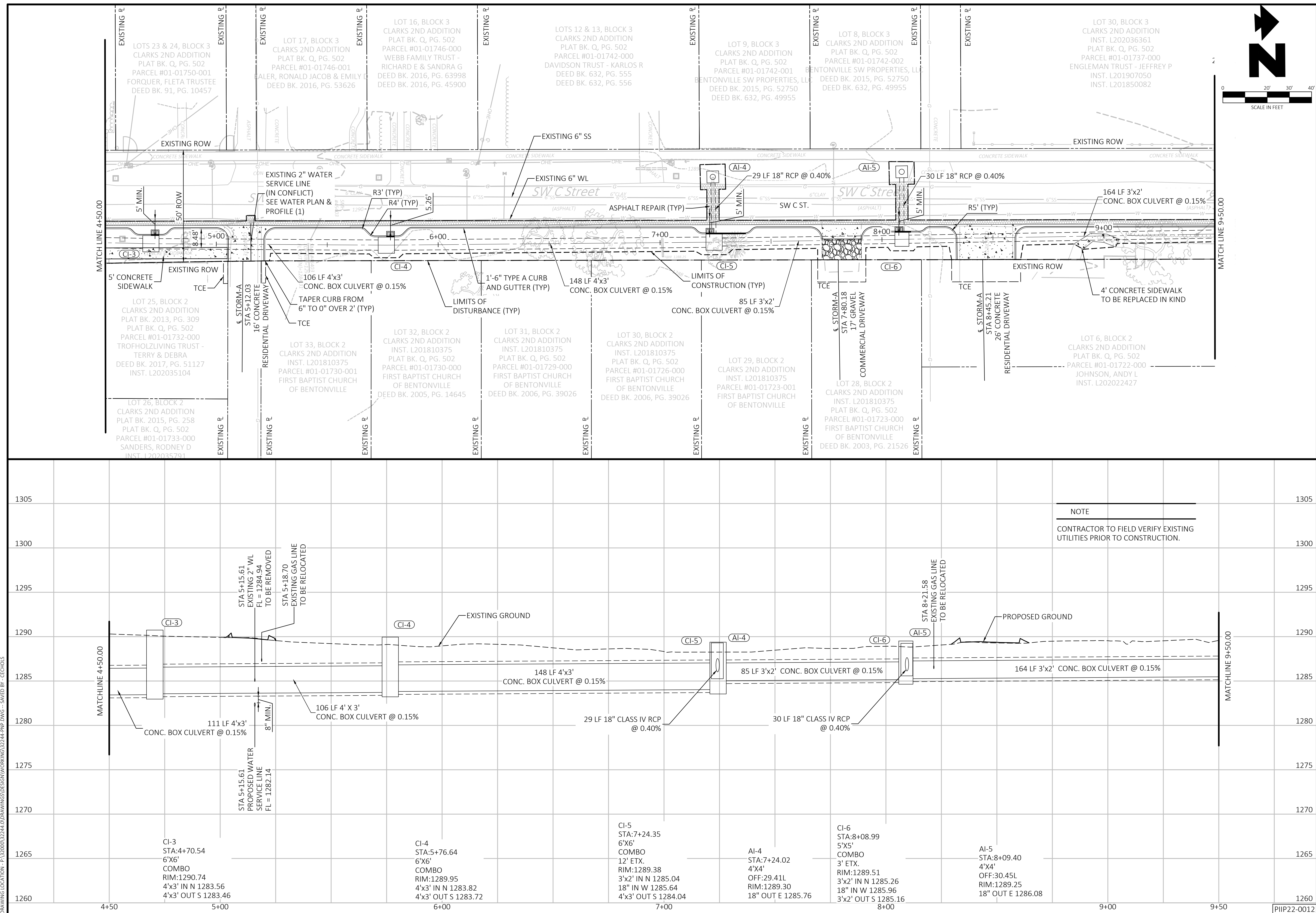
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/30/2022
REVISION	90%

STORM SEWER PLAN
& PROFILE - (1)

SHEET TITLE
SHEET NUMBER

23

DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-DWG - SAVED BY - CECHOLS



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FAX: (479) 273-0844



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SW 3RD ANI
BENTONVILLE, AR

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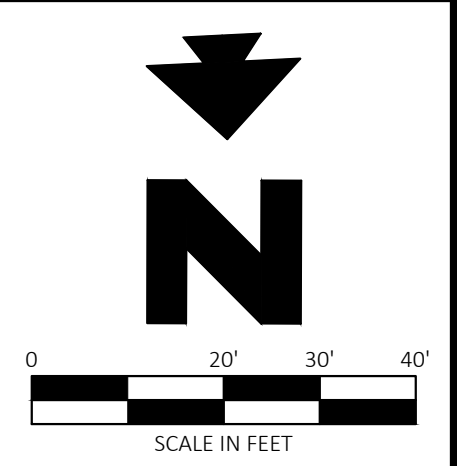
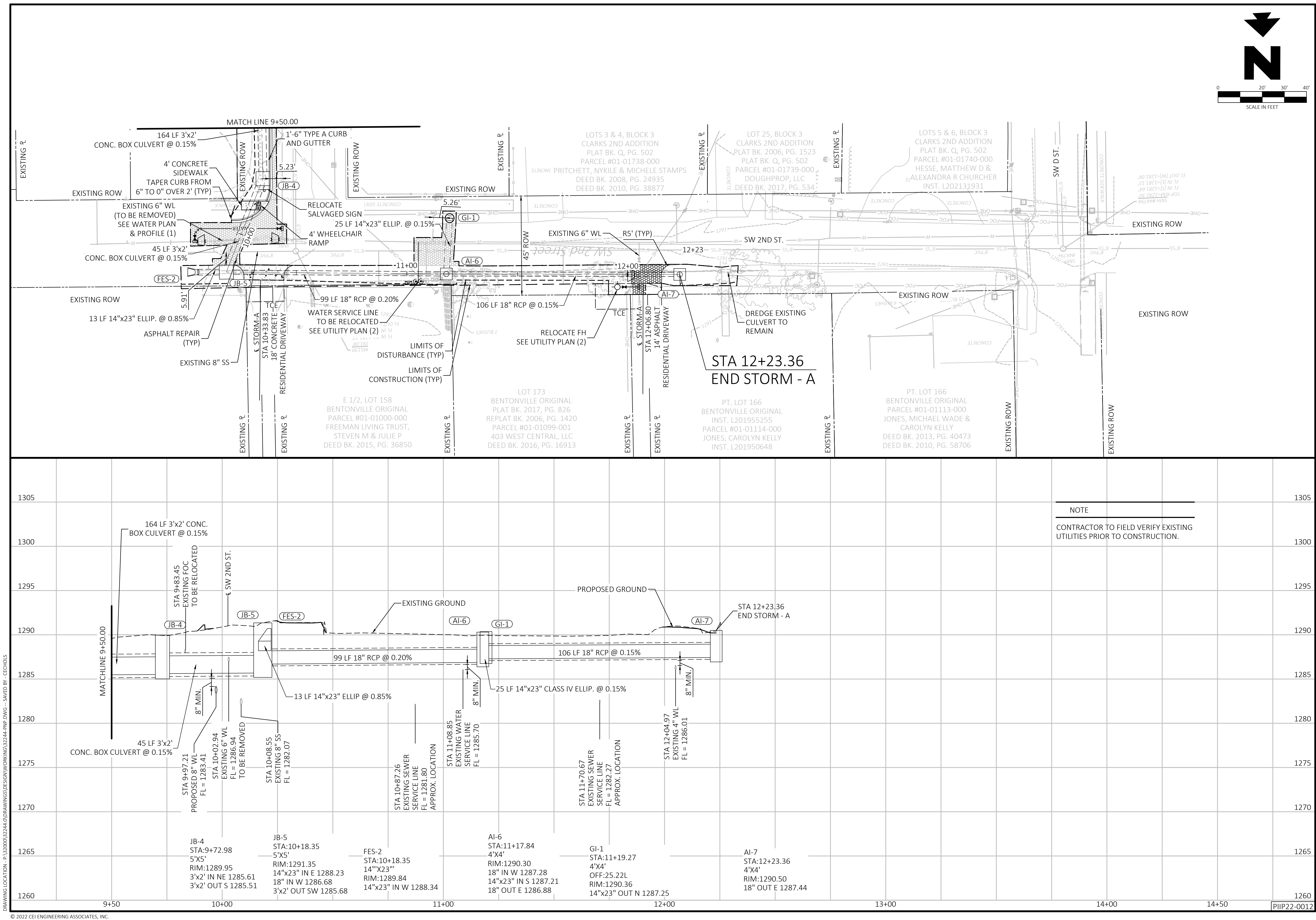
PRELIMINARY
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PROFESSIONAL OF RECORD	AK
PROJECT MANAGER	AK
DESIGNER	CI
CEI PROJECT NUMBER	3224
DATE	6/30/2021
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STORM SEWER PLAN
& PROFILE - (2)

SHEET TITLE
SHEET NUMBER

24



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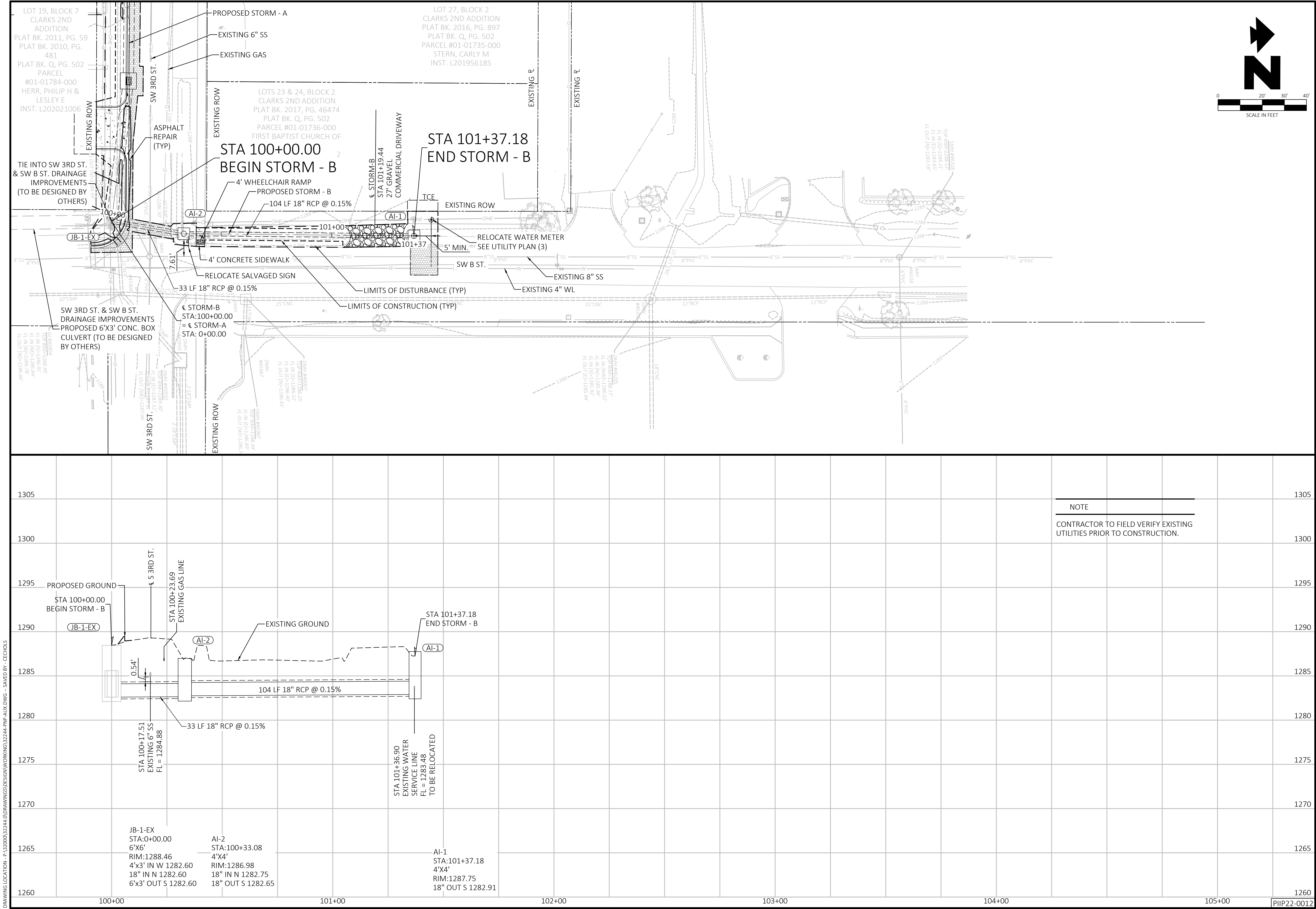
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/30/2022
REVISION	90%

STORM SEWER PLAN
& PROFILE - (3)

SHEET TITLE
SHEET NUMBER

25

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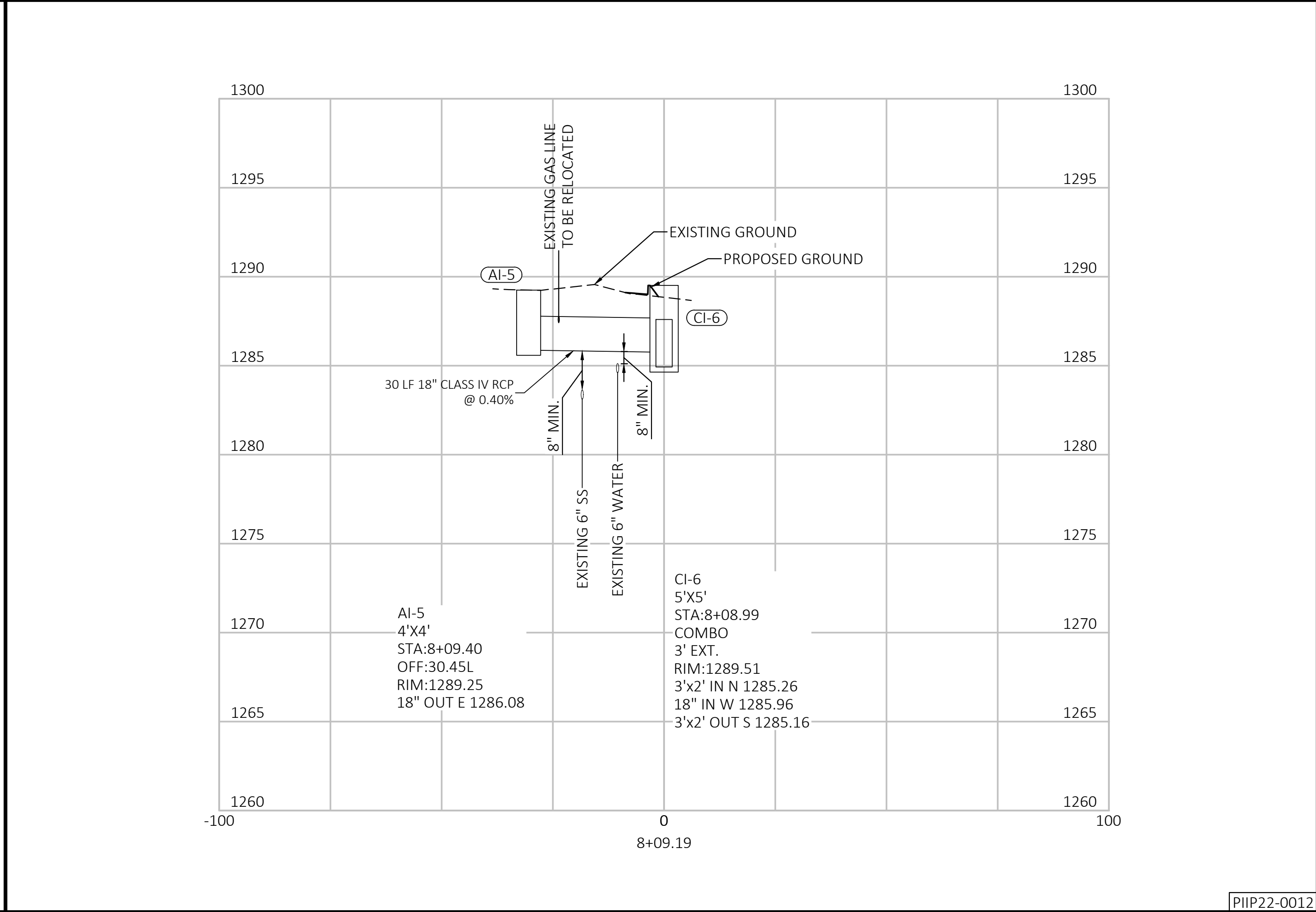
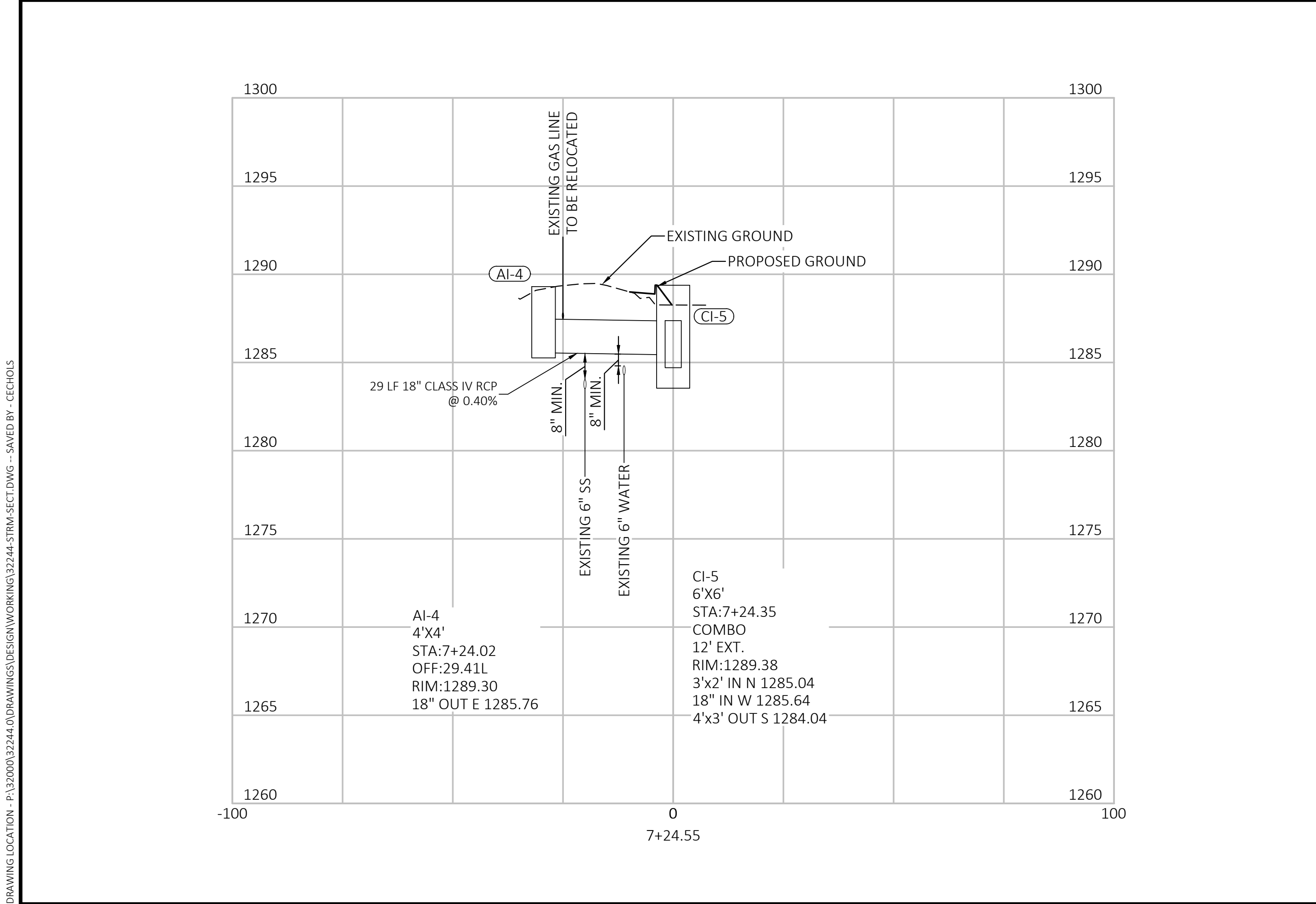
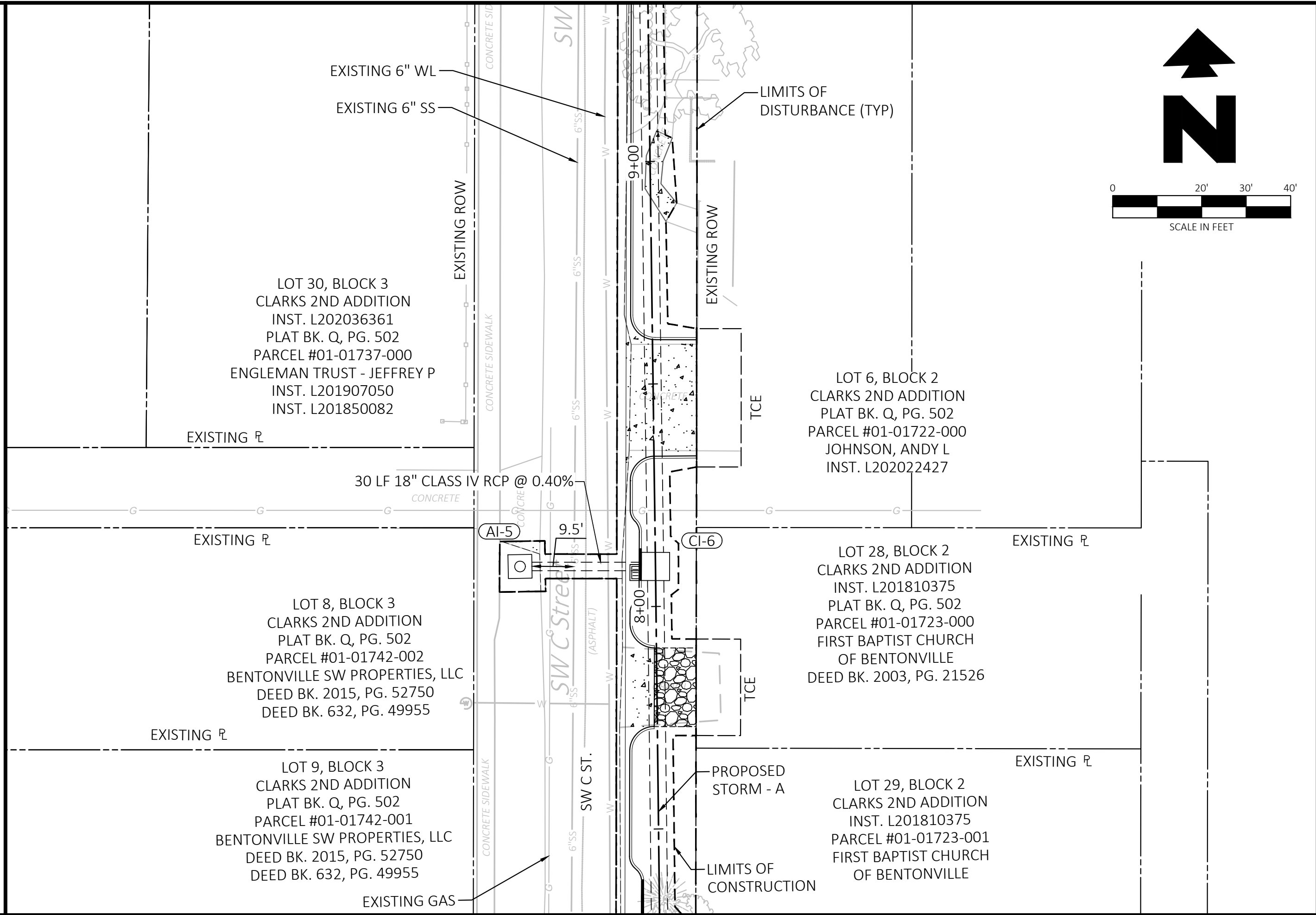
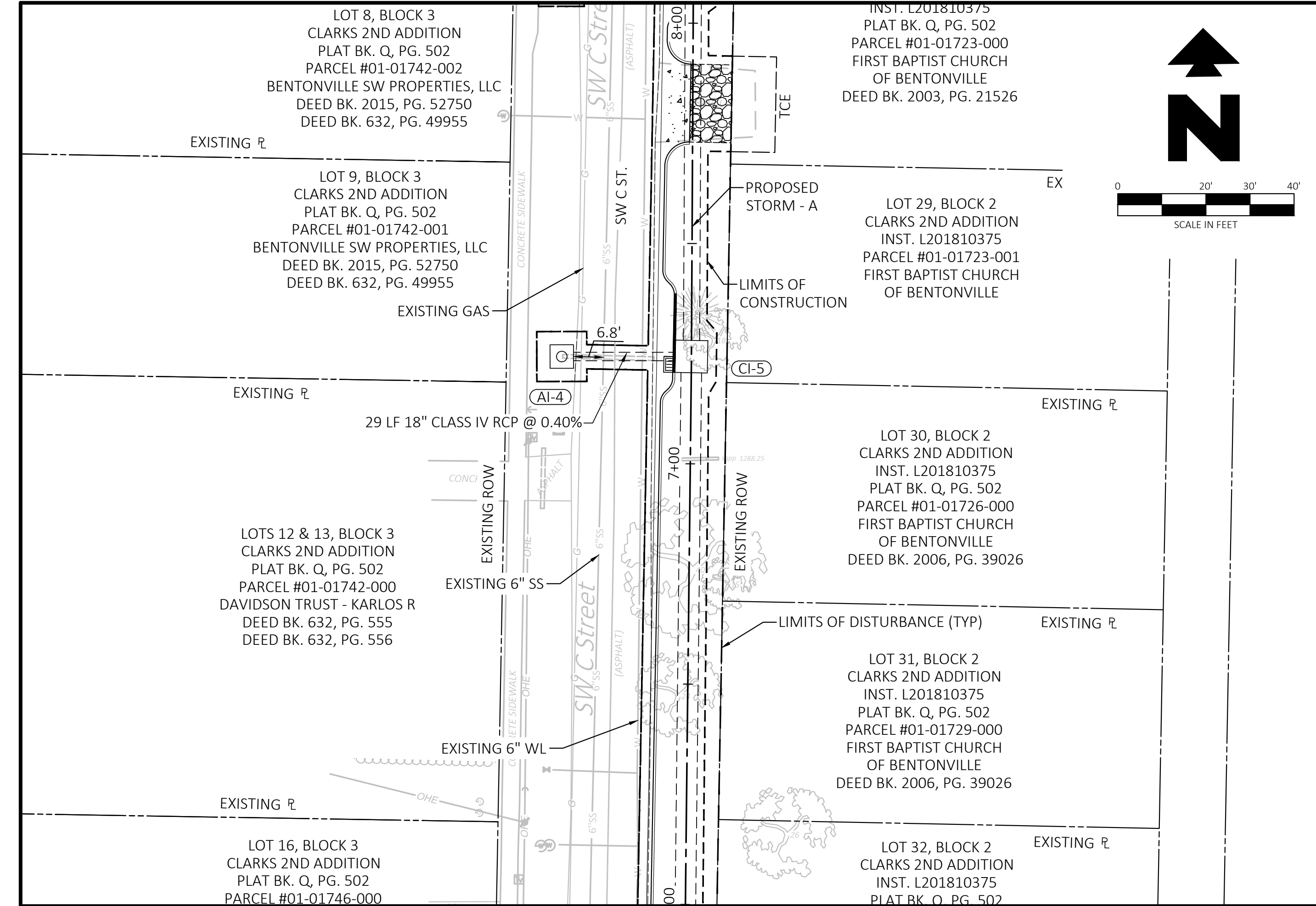
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
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REVISION	90%

STORM SEWER PLAN
& PROFILE - (4)

SHEET TITLE
SHEET NUMBER

26

DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-DNP-AUX.DWG -- SAVED BY - CECHOLS



DRAWING LOCATION - P:\32000\32244\DRAWINGS\DESIGN\WORKING\32244-STRM-SECT.DWG -- SAVED BY -- TECHOLS



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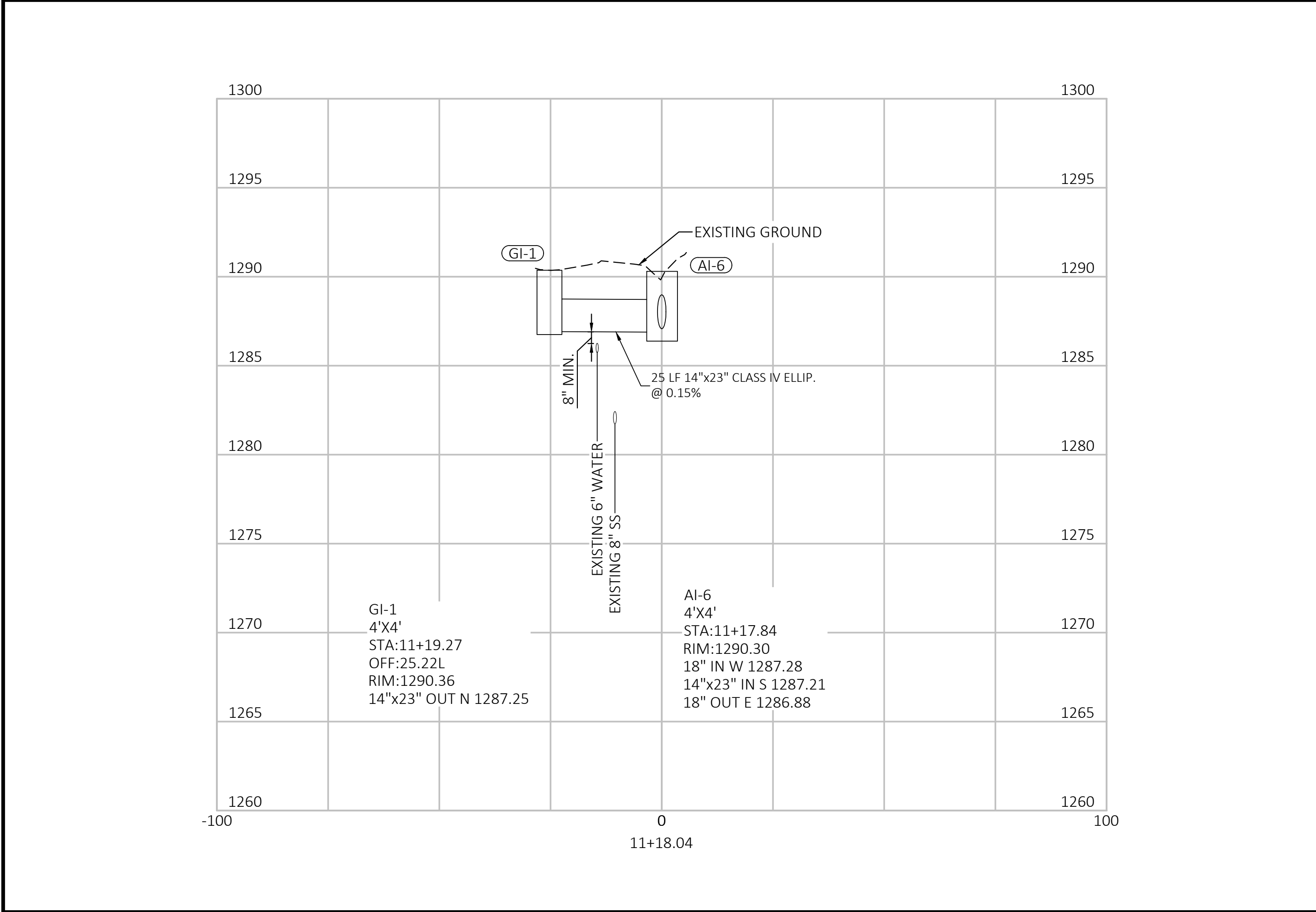
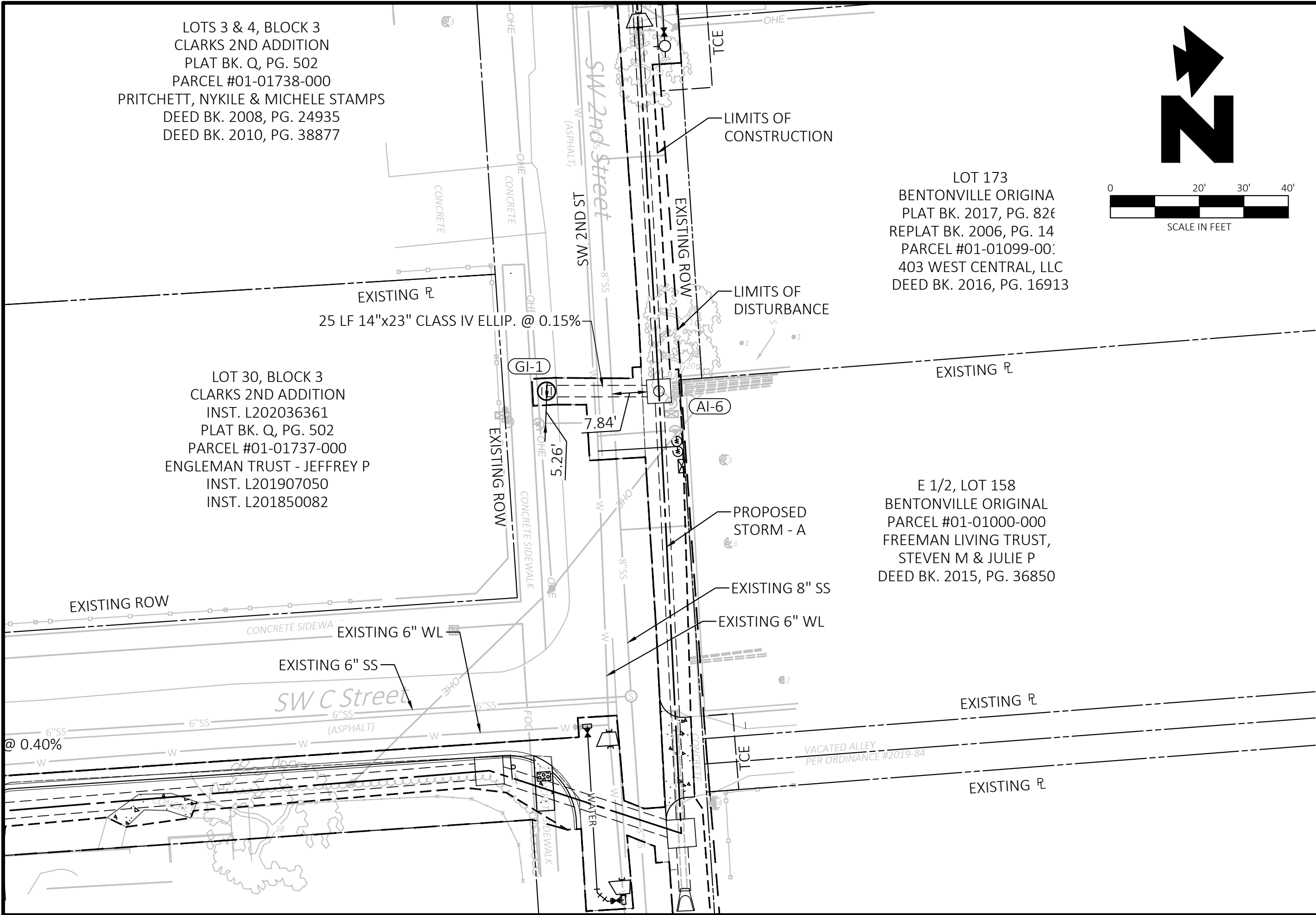
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STORM PIPE CROSS
SECTIONS - (1)

SHEET TITLE
SHEET NUMBER



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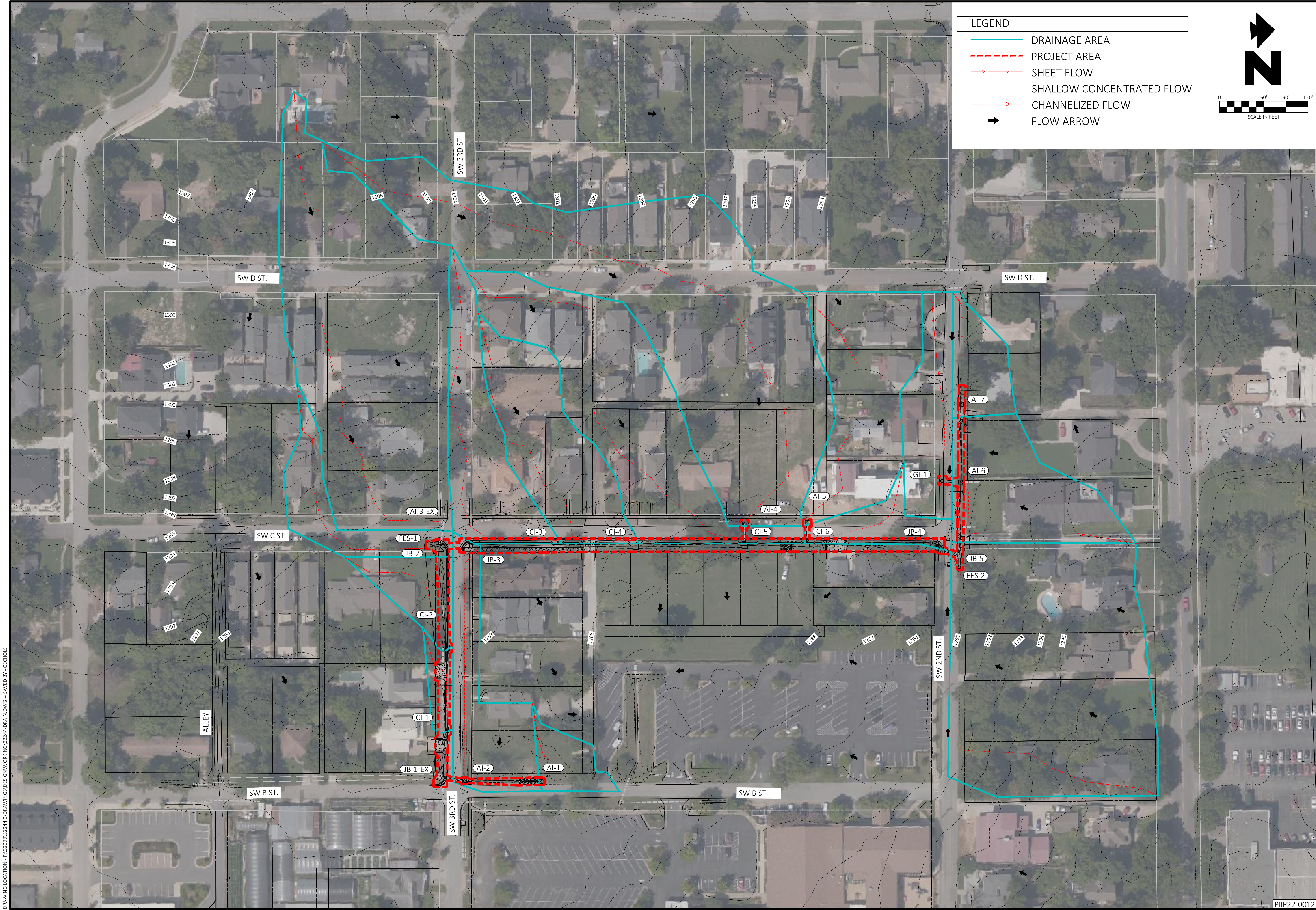
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STORM PIPE CROSS
SECTIONS - (2)

SHEET TITLE
SHEET NUMBER

28



DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-DRAIN.DWG - SAVED BY - CECIOLS

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DRAINAGE AREA MAP

SHEET TITLE
SHEET NUMBER

29

PIIP22-0012

DRAWING LOCATION - P:\32000\32244.D\DRAWINGS\DESIGN\WORKING\32244-COVER.DWG -- SAVED BY - CECIOLIS

BWUD GENERAL NOTES:

ALL MATERIALS AND METHODS USED TO CONSTRUCT, MODIFY, OR TAP ANY PUBLIC WATER OR SEWER MAIN SHALL CONFORM TO BWUD STANDARD SPECIFICATIONS AND STANDARD DETAILS.

VERTICAL SEPARATION SHALL BE 18" MIN. BETWEEN WATER AND SANITARY SEWER AND 8" BETWEEN WATER AND ALL OTHER UTILITIES AND STORM SEWER.

PROPOSED STORM SEWER PIPES AND STRUCTURES MUST MAINTAIN MINIMUM SEPARATIONS OF 5' HORIZONTAL AND 8" VERTICAL FROM ALL PUBLIC WATER AND SEWER INFRASTRUCTURE.

BWUD WATER NOTES:

ALL WATER MAINS SHALL BE DUCTILE IRON PIPE WITH 4 FEET MIN. COVER BELOW POINT OF BURY, MEASURED FROM THE GROUND SURFACE OR THE SURFACE OF PERMANENT IMPROVEMENT TO THE TOP OF THE BARREL OF THE PIPE, WHICHEVER IS GREATER, UNLESS OTHERWISE APPROVED BY BWUD. ALL DEPTHS OF WATER MAINS SHALL BE APPROVED BY BWUD.

MINIMUM COVER OVER WATER SERVICES SHALL BE 24" OR AS APPROVED BY BWUD.

WATER SERVICES CROSSING ROADWAY SHALL BE INSTALLED IN 4" SCH. 40 PVC CONDUIT.

PROVIDE FULL LENGTH OF PIPE FOR WATER MAINS CROSSING UNDER STORM SEWERS.

BWUD SEWER NOTES:

ALL SANITARY SEWER MAINS SHALL BE SDR 26 PVC WITH 3 FEET MIN. COVER BELOW POINT OF BURY, MEASURED FROM THE GROUND SURFACE OR THE SURFACE OF PERMANENT IMPROVEMENT TO THE TOP OF THE BARREL OF THE PIPE, WHICHEVER IS GREATER, UNLESS OTHERWISE APPROVED BY BWUD. ALL DEPTHS OF SEWER MAINS SHALL BE APPROVED BY BWUD.

SANITARY SEWER MANHOLES LOCATED IN ROADWAYS OR IN AREAS EXPOSED TO VEHICULAR TRAFFIC SHALL HAVE HEAVY DUTY FRAMES AND COVERS INSTALLED.

SANITARY SEWER MANHOLES LOCATED IN AREAS SUBJECT TO FLOODING OR POOLING SHALL HAVE WATER TIGHT COVERS INSTALLED.

UNLESS STATED IN THE PLANS, ALL SANITARY SEWER MANHOLES SHALL BE 4-FOOT DIAMETER AND SHALL BE PROXY-LINED WITH A GMI 24" COMPOSITE RING AND LID PER BWUD STANDARD DETAILS.



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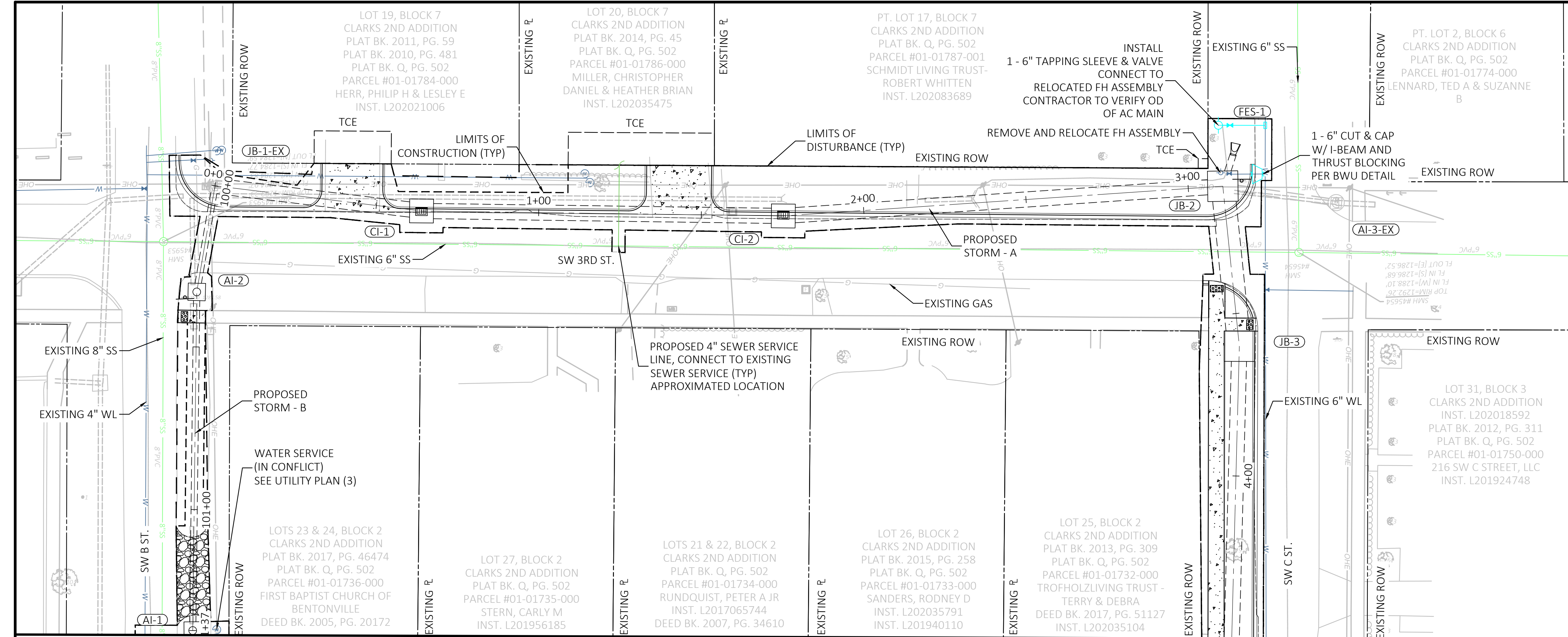
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CEI PROJECT NUMBER	32244
DATE	6/28/2022
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UTILITY NOTES

SHEET TITLE
SHEET NUMBER

30



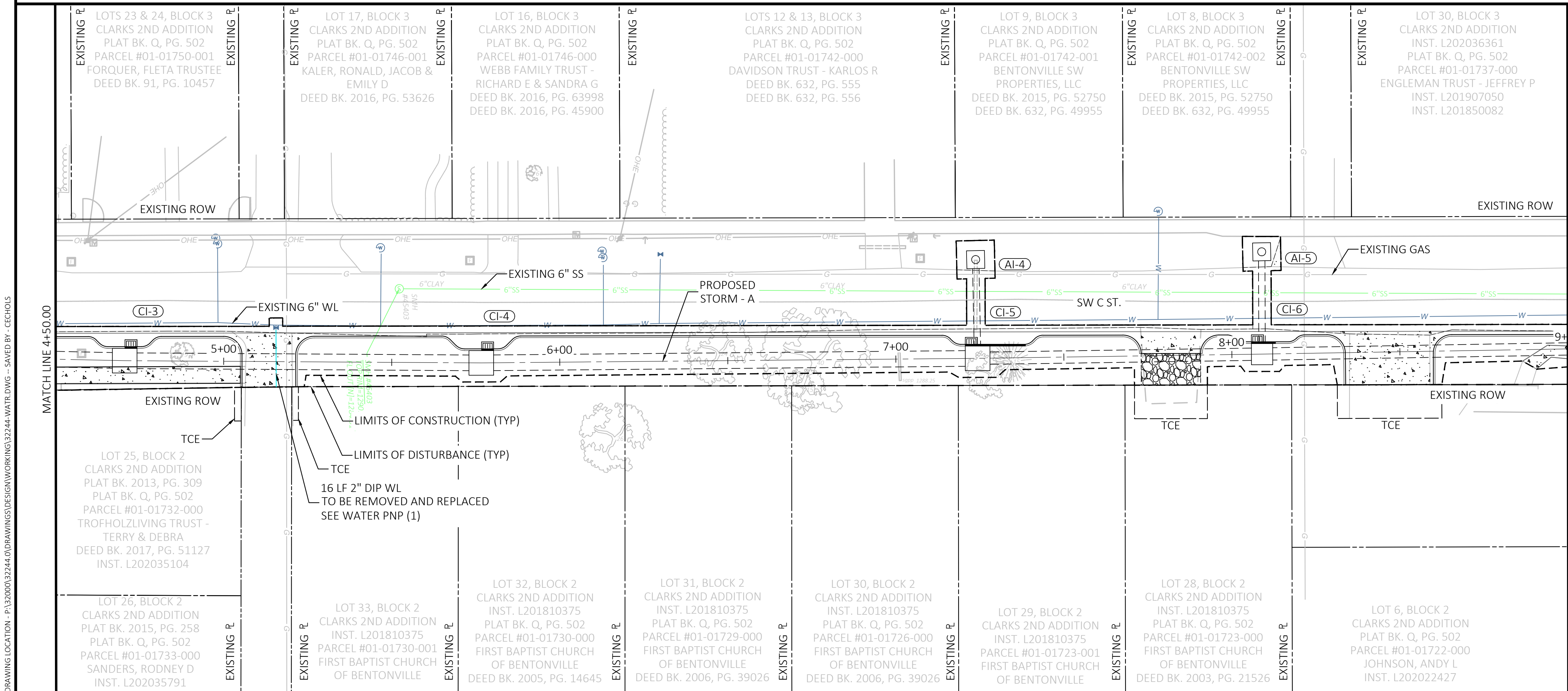
NOTE

- CONTRACTOR TO FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR TO ENSURE CUT AND CAP IS PLACED TO PROVIDE ADEQUATE BACKING WHEN STORM TRENCH IS DUG.
- ANY WATER SERVICE RELOCATION REQUIRING A BREAK BETWEEN THE METER AND THE MAIN MUST BE COMPLETED BY BENTONVILLE WATER UTILITIES.

8" W ——— EXISTING WATER LINE

SS ——— EXISTING SEWER LINE

WATER ——— PROPOSED WATER LINE



NOTE

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CONSTRUCTION

8" W ——— EXISTING WATER LINE

SS ——— EXISTING SEWER LINE

WATER ——— PROPOSED WATER LINE

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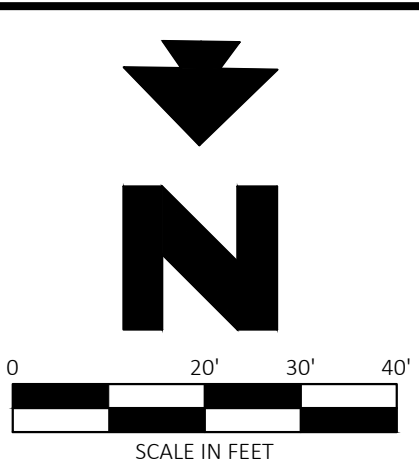
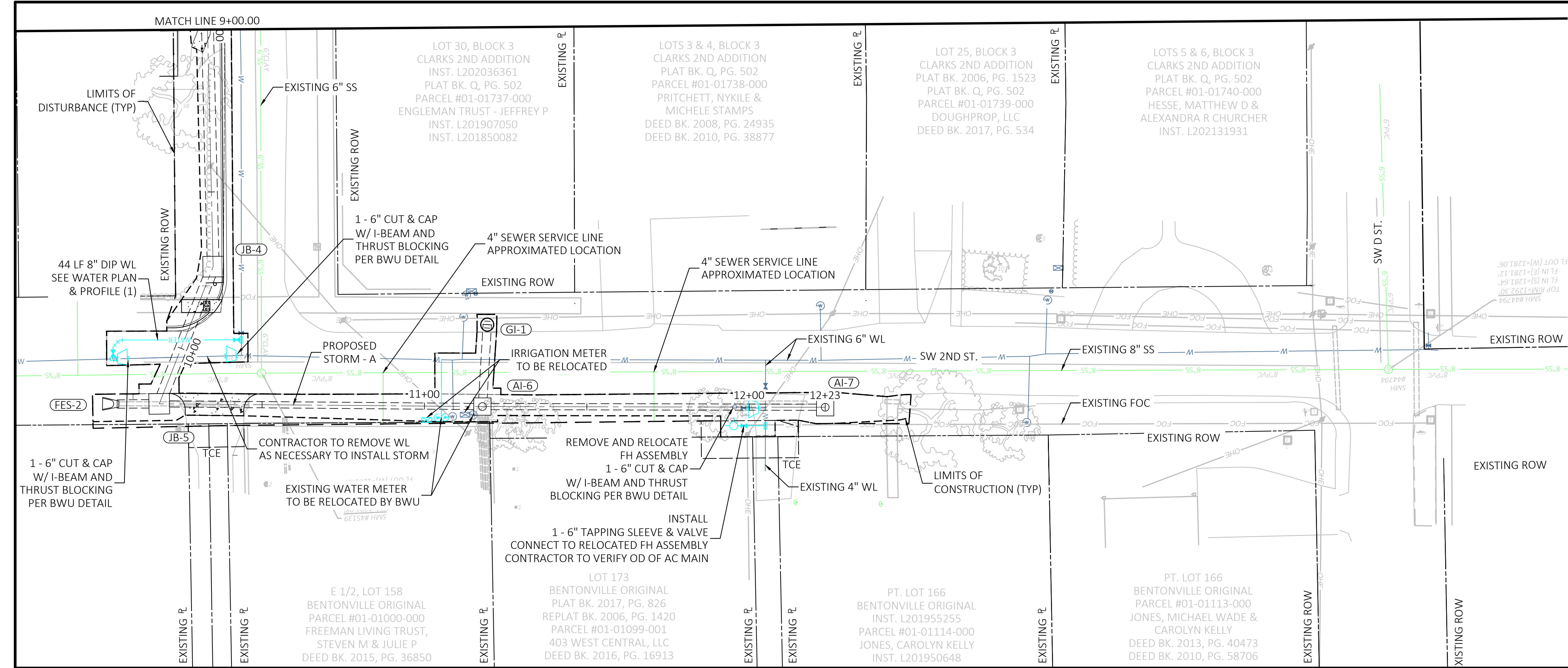
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PROFESSIONAL OF RECORD	AJK
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DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

UTILITY PLAN - (1)

SHEET TITLE
SHEET NUMBER



- NOTE
1. CONTRACTOR TO FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 2. CONTRACTOR TO ENSURE CUT AND CAP IS PLACED TO PROVIDE ADEQUATE BACKING WHEN STORM TRENCH IS DUG.
 3. ANY WATER SERVICE RELOCATION REQUIRING A BREAK BETWEEN THE METER AND THE MAIN MUST BE COMPLETED BY BENTONVILLE WATER UTILITIES.

- 8"W EXISTING WATER LINE
- SS EXISTING SEWER LINE
- WATER PROPOSED WATER LINE



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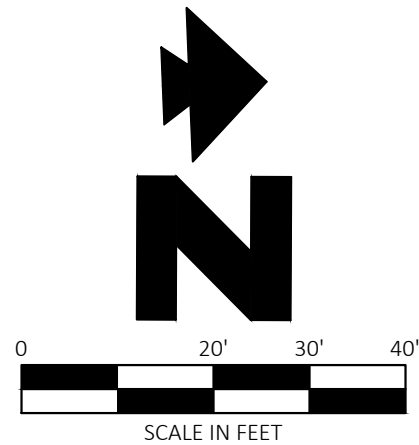
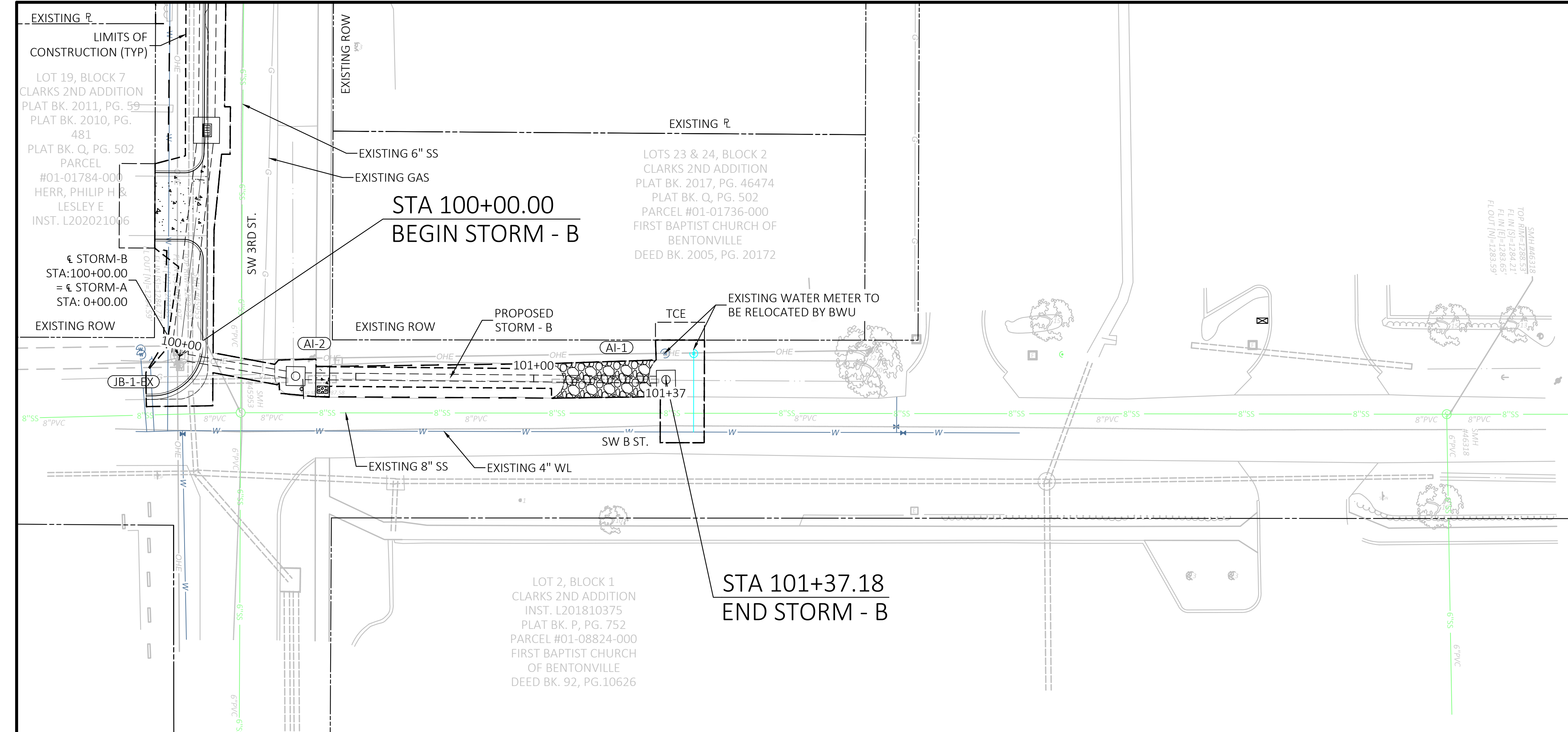
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
REVISION	90%

UTILITY PLAN - (2)

SHEET TITLE
SHEET NUMBER

32

PIIP22-0012



NOTE

1. CONTRACTOR TO FIELD VERIFY EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO ENSURE CUT AND CAP IS PLACED TO PROVIDE ADEQUATE BACKING WHEN STORM TRENCH IS DUG.
3. ANY WATER SERVICE RELOCATION REQUIRING A BREAK BETWEEN THE METER AND THE MAIN MUST BE COMPLETED BY BENTONVILLE WATER UTILITIES.

- 8"W EXISTING WATER LINE
- SS EXISTING SEWER LINE
- WATER PROPOSED WATER LINE



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PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/29/2022
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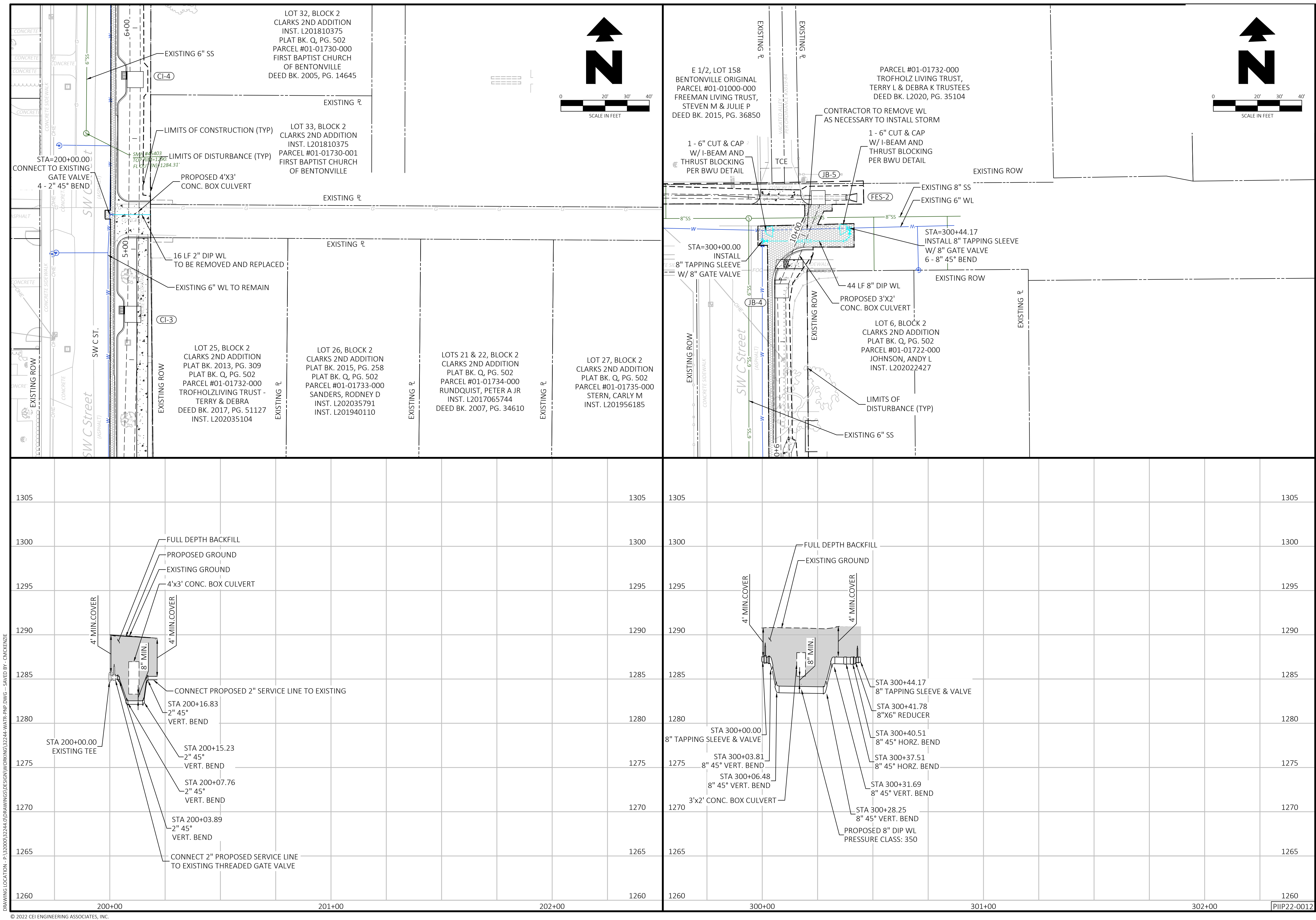
UTILITY PLAN - (3)

SHEET TITLE
SHEET NUMBER

33

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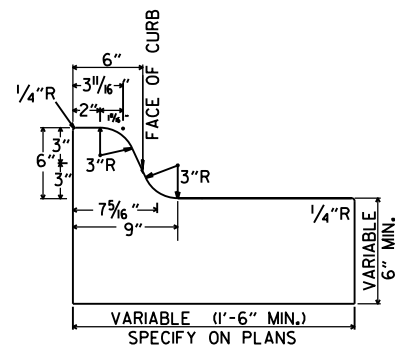
PROFESSIONAL OF RECORD	AJK
PROJECT MANAGER	AN
DESIGNER	CE
CEI PROJECT NUMBER	32244
DATE	6/28/2022
REVISION	90%

WATER PLAN &
PROFILE (1)

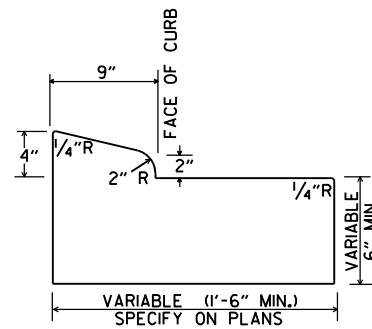
SHEET TITLE
SHEET NUMBER

34

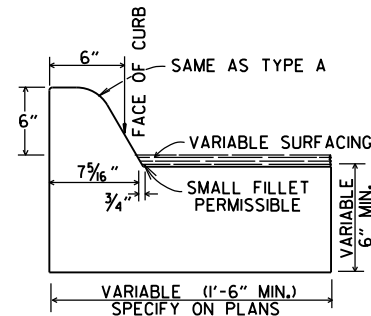
PHIP22-0012



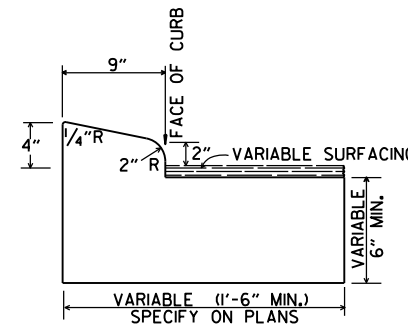
TYPE A



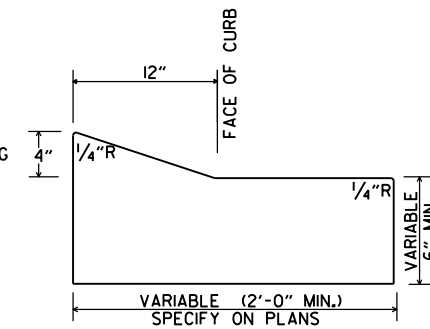
TYPE B-1



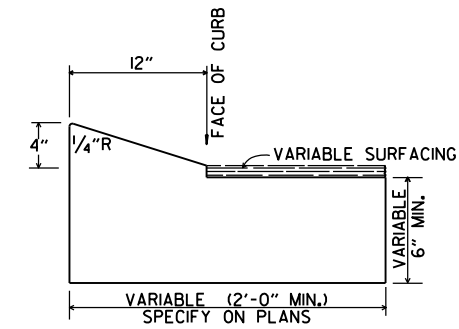
TYPE C



TYPE B-2

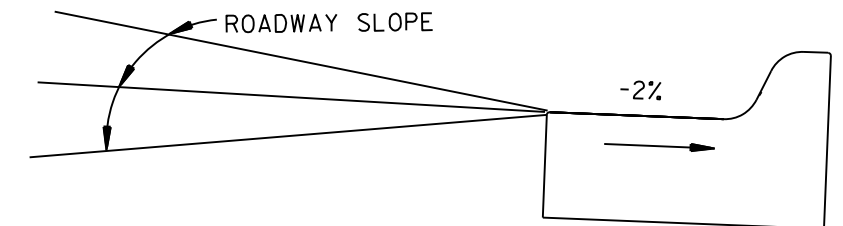


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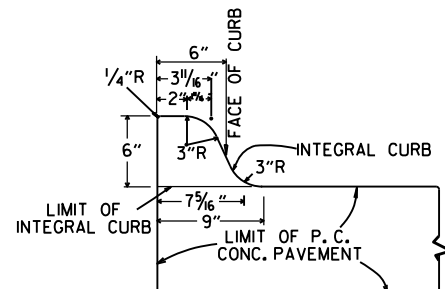


TYPE E-2

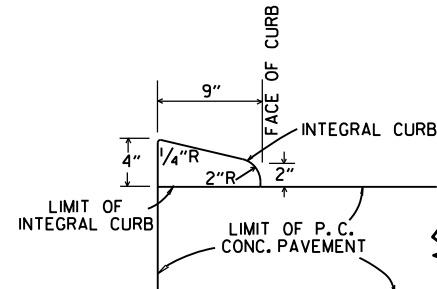
CONCRETE COMBINATION CURB AND GUTTER



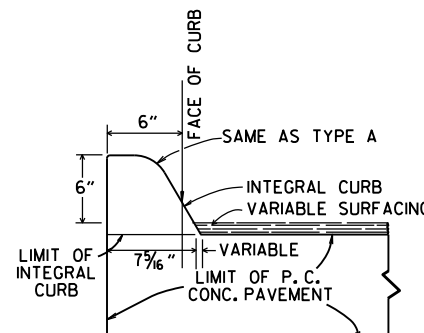
DETAIL OF GUTTER SLOPE
GUTTER SHALL BE CONSTRUCTED ON 2% SLOPE AWAY FROM ROADWAY, REGARDLESS OF ROADWAY SLOPE.



TYPE A

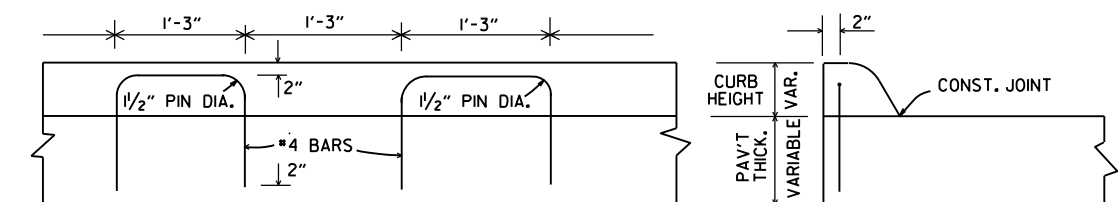


TYPE B



TYPE C

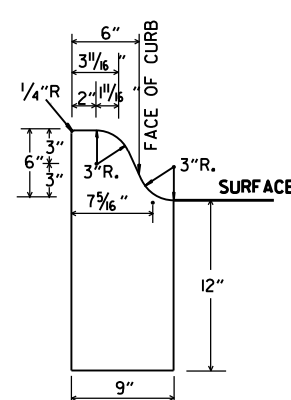
INTEGRAL CURB



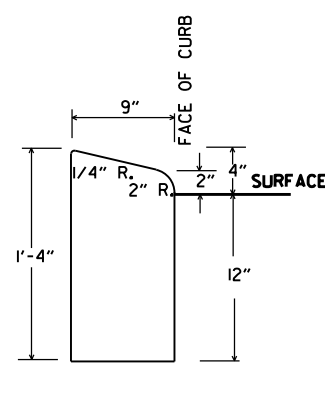
LONGITUDINAL SECTION

ELEVATION

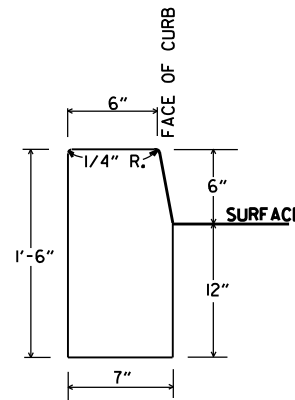
ALTERNATE CONSTRUCTION METHOD FOR INTEGRAL CURB



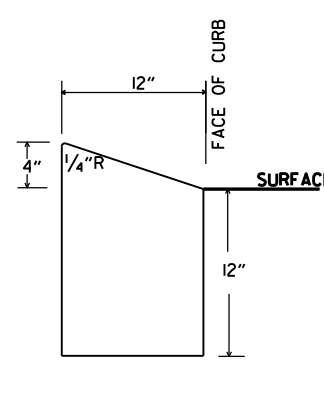
TYPE A



TYPE B

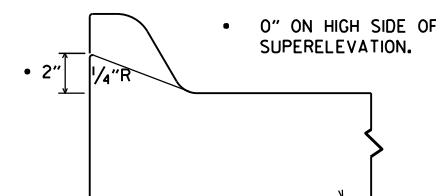


TYPE D



TYPE E

CONCRETE CURB



NOTE: USE MODIFIED CURB AS SPECIFIED ON STD. DR-1.
COMPENSATION FOR MODIFIED CURB WILL BE CONSIDERED
INCLUDED IN THE PRICE BID FOR THE TYPE OF CURB OR
CURB AND GUTTER SPECIFIED.

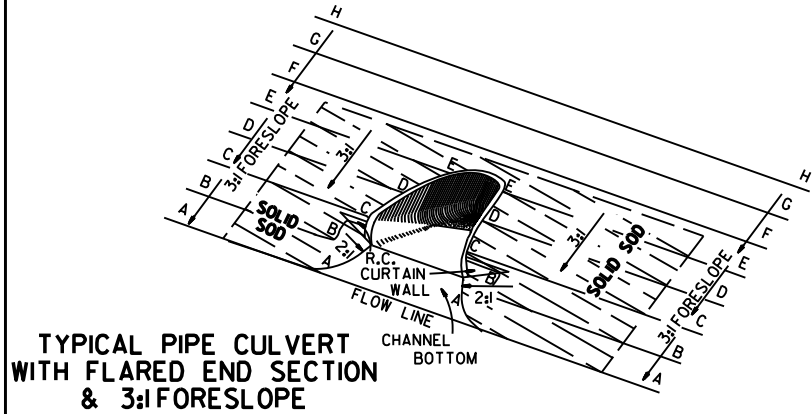
DETAILS OF MODIFIED CURB

DATE	REVISION	DATE FILMED
11-29-07	REVISED GUTTER SLOPE & MODIFIED CURB DETAILS	
11-10-05	ADDED DETAILS OF TYPE E CURBS	
11-16-01	REVISED CONCRETE CURB TYPE B	
11-18-98	REVISED MODIFIED CURB	
6-2-94	ADDED NOTE TO SPECIAL MODIFIED CURB	
8-5-93	CORRECTED GUTTER SLOPE	8-5-93
10-1-92	ADDED DETAILS OF GUTTER SLOPE	10-1-92
5-24-90	ADDED DETAILS OF MODIFIED CURB	5-24-90
11-30-89	VARIABLE DEPTH TYPE A & B I	11-30-89
7-15-88	REVISED MODIFIED CURB	630-7-15-88
1-1-73	REVISED MODIFIED CURB	500-1-1-73
10-2-72	REVISED AND REDRAWN	512-10-2-72

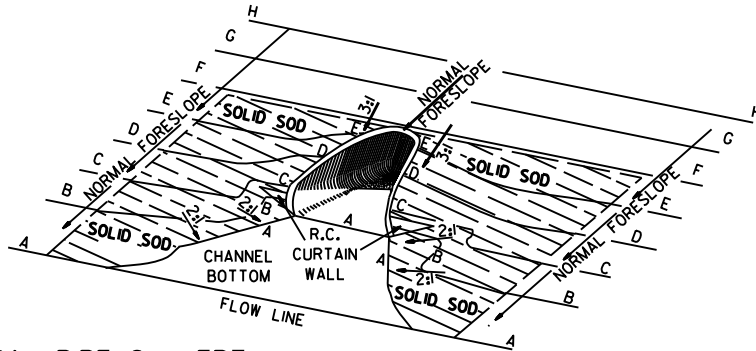
ARKANSAS STATE HIGHWAY COMMISSION

CURBING DETAILS

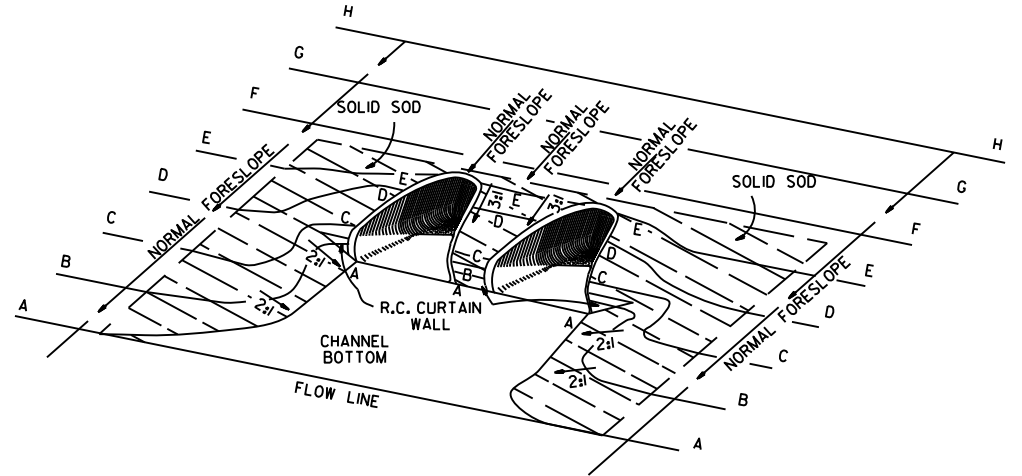
STANDARD DRAWING CG-1



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& 3:1 FORESLOPE



TYPICAL PIPE CULVERT
WITH FLARED END SECTION
& FLATTENED ADJACENT SLOPES



TYPICAL MULTIPLE PIPE CULVERT
WITH FLARED END SECTIONS
& FLATTENED ADJACENT SLOPES

R.C. CURTAIN WALL DIMENSIONS & QUANTITIES

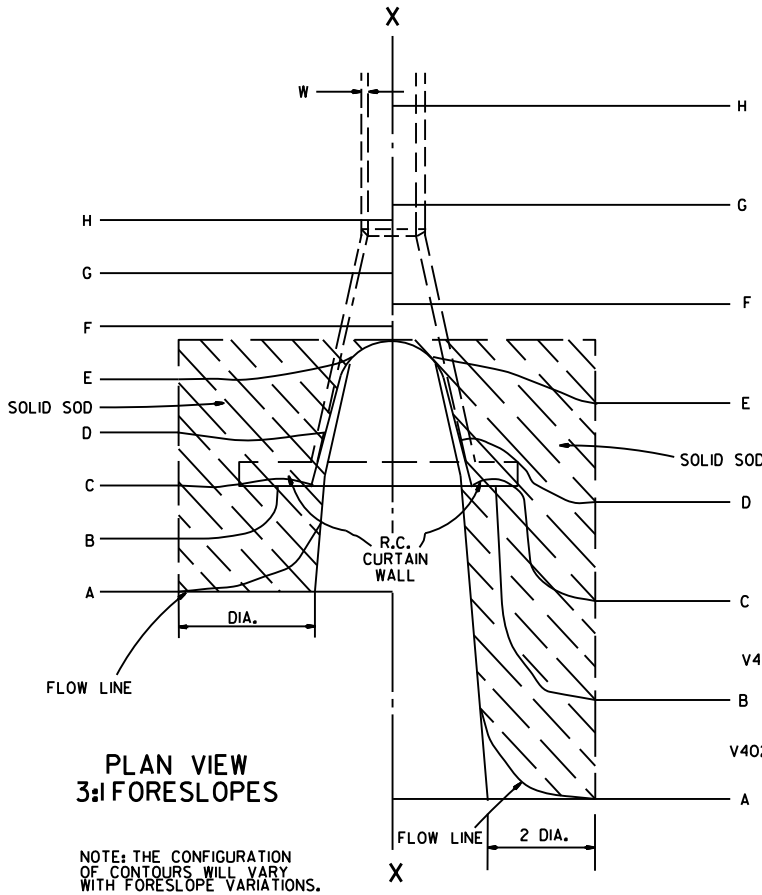
PIPE DIA.	H ₁	L ₁	L	L (DBL.) 2	SINGLE R.C.P.C.		DOUBLE R.C.P.C.	
					CONC.	REINF. STEEL	CONC.	REINF. STEEL
					CU. YDS.	LBS.	CU. YDS.	LBS.
18"	11 1/2"	3'-5"	8'-0"	6'-3"	0.31	27.7	0.45	39.5
24"	1'-0 1/2"	4'-6"	9'-6"	7'-6"	0.37	33.4	0.53	48.0
30"	1'-3 1/2"	5'-7"	11'-0"	9'-0"	0.45	39.0	0.67	59.0
36"	1'-7"	6'-8"	13'-0"	10'-6"	0.58	52.6	0.83	73.9
42"	2'-1 1/2"	7'-3"	15'-6"	12'-0"	0.82	77.1	1.10	100.7
48"	2'-5"	7'-10"	17'-0"	13'-0"	0.98	94.9	1.27	120.4
54"	2'-9 1/2"	8'-5"	18'-6"	14'-0"	1.16	115.8	1.47	143.7
60"	3'-4"	9'-0"	20'-6"	15'-6"	1.47	149.7	1.84	180.3
72"	4'-5"	10'-2"	25'-6"	18'-6"	2.31	232.6	2.73	271.0

NOTE: QUANTITIES SHOWN ARE FOR ONE (1) CURTAIN WALL.

REINFORCING STEEL SCHEDULE

PIPE DIA.	SINGLE R.C. PIPE CULVERT								DOUBLE R.C. PIPE CULVERT									
	H401		H402		V401		V402		H401		H402		H403		V401		V402	
	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.	L	NO.
18"	7'-8"	2	1'-11½"	4	1'-7½"	8	8"	8	12'-2"	2	1'-11½"	4	8"	2	1'-7½"	10	8"	14
24"	9'-2"	2	2'-2"	4	1'-8½"	10	8"	9	14'-8"	2	2'-2"	4	8"	2	1'-8½"	12	8"	18
30"	10'-8"	2	2'-4½"	4	1'-11½"	10	8"	12	17'-8"	2	2'-4½"	4	8"	2	1'-11½"	14	8"	22
36"	12'-8"	2	2'-10"	6	2'-3"	12	8"	14	20'-8"	2	2'-10"	6	8"	3	2'-3"	14	8"	28
42"	15'-2"	2	3'-9½"	8	2'-9½"	16	8"	15	23'-8"	2	3'-9½"	8	8"	4	2'-9½"	18	8"	30
48"	16'-8"	2	4'-3"	10	3'-1"	18	8"	16	25'-8"	2	4'-3"	10	8"	5	3'-1"	20	8"	32
54"	18'-2"	2	4'-8½"	12	3'-5½"	20	8"	17	27'-8"	2	4'-9"	12	8"	6	3'-5½"	22	8"	34
60"	20'-2"	2	5'-5"	14	4'-0"	24	8"	18	30'-8"	2	5'-5"	14	8"	7	4'-0"	26	8"	36
72"	25'-2"	2	7'-4"	18	5'-1"	30	8"	20	36'-8"	2	7'-4"	18	8"	9	5'-1"	33	8"	40

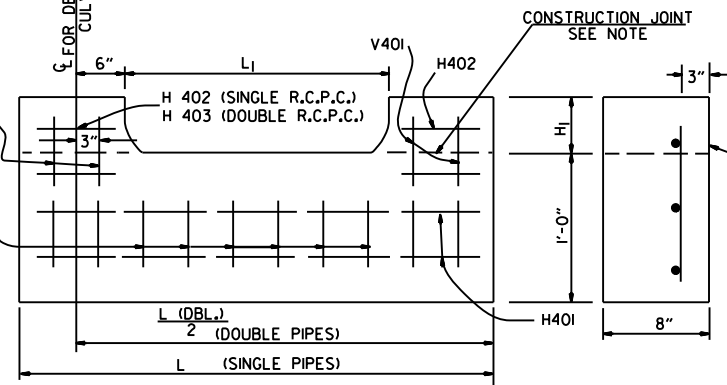
ALL REINFORCING STEEL #4 BARS @ 6" O.C.



PLAN VIEW
3:1 FORESLOPES

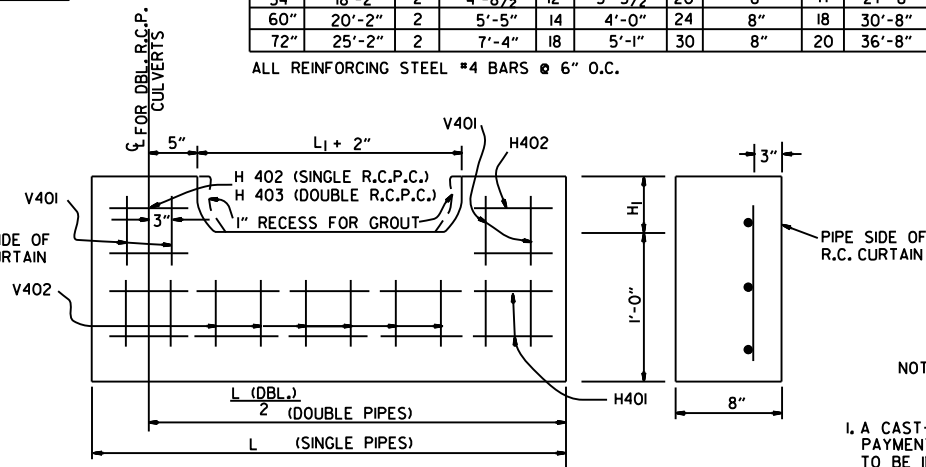
NOTE: THE CONFIGURATION
OF CONTOURS WILL VARY
WITH FORESLOPE VARIATIONS.

PLAN VIEW
FLATTENED FORESLOPES



NOTE: THE PORTION OF THE R.C. CURTAIN WALL BENEATH THE
FLARED END SECTION (LOWER 1'-0") SHALL BE PLACED
MONOLITHICALLY. THE FLARED END SECTION SHALL THEN
BE SET IN PLACE & THE REMAINING PORTIONS OF THE
R.C. CURTAIN WALL PLACED.

R.C. CURTAIN WALL DETAILS



NOTE: THE PRECAST CURTAIN WALL WILL BE SET AND BACKFILLED
WITH COMPACTED MATERIAL. THE FLARED END SECTION SHALL
THEN BE SET IN PLACE AND THE 1" RECESS FILLED WITH GROUT.
WHERE "L" EXCEEDS 11' THE CURTAIN WALL MAY BE CAST IN TWO (2)
OR MORE SECTIONS. THE METHOD OF JOINING THE SECTIONS FOR
INSTALLATION SHALL BE APPROVED BY THE ENGINEER.

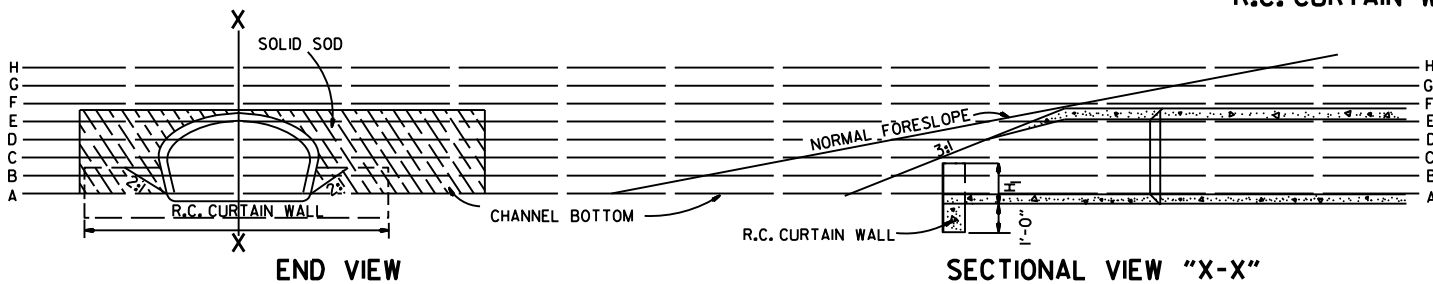
SOLID SODDING

PIPE DIA.	SINGLE R.C.P.C.						DOUBLE R.C.P.C.					
	3:1	4:1	6:1	3:1	4:1	6:1	3:1	4:1	6:1	3:1	4:1	6:1
	SQ. YDS.						SQ. YDS.					
18"	5	7	12	6	8	13	5	7	12	6	8	13
24"	8	12	19	9	13	20	8	12	19	9	13	20
30"	13	18	29	14	19	30	13	18	29	14	19	30
36"	17	26	41	18	28	43	17	26	41	18	28	43
42"	23	35	55	25	37	57	23	35	55	25	37	57
48"	29	46	68	31	48	70	29	46	68	31	48	70
54"	35	57	85	37	59	87	35	57	85	37	59	87
60"	45	62	104	48	65	107	45	62	104	48	65	107
72"	64	92	156	67	95	159	64	92	156	67	95	159

NOTE: QUANTITIES SHOWN ABOVE ARE FOR ONE (1) END OF F.E.S.

GENERAL NOTES

1. A CAST-IN-PLACE OR PRECAST CURTAIN WALL MAY BE USED. PAYMENT FOR THE CURTAIN WALL SHALL BE CONSIDERED TO BE INCLUDED IN THE UNIT PRICE BID EACH FOR FLARED END SECTIONS OF THE SEVERAL SIZES, WHICH PRICE SHALL BE FULL COMPENSATION FOR FURNISHING ALL MATERIALS INCLUDING REINFORCING STEEL AND CONCRETE; FOR FORMS, MIXING AND PLACING; FOR EXCAVATION AND BACKFILL, AND FOR ALL LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.
2. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4".
3. CONCRETE FOR CURTAIN WALL SHALL MEET THE REQUIREMENTS FOR CLASS A OR S CONCRETE AS PROVIDED IN SECTION 802 OF THE STANDARD SPECIFICATIONS OR FOR PAVING CONCRETE AS PROVIDED IN SECTION 501 OF THE STANDARD SPECIFICATIONS.
4. WELDED WIRE MESH 3 x 3 W/10 x W/10 MAY BE USED IN LIEU OF REINFORCING BARS.



END VIEW

SECTIONAL VIEW "X-X"

10-18-96	ADDED NOTE TO SOLID SODDING		ARKANSAS STATE HIGHWAY COMMISSION
10-12-95	CORRECTED SPELLING		
11-3-94	ADDED GENERAL NOTE NO. 4		
8-15-91	REV. CURTAIN WALL QUANT. STEEL SCH. & SOLID SOD QUANT.		
3-2-81	ALLOW PRECAST IN 2 OR MORE PIECES CHAMFER EDGES		
5-15-80	ADDED PRECAST WALL & GENERAL NOTES		
10-2-72	REVISED AND REDRAWN		
DATE	REVISION	FILMED	STANDARD DRAWING FES-1

FLARED END SECTION

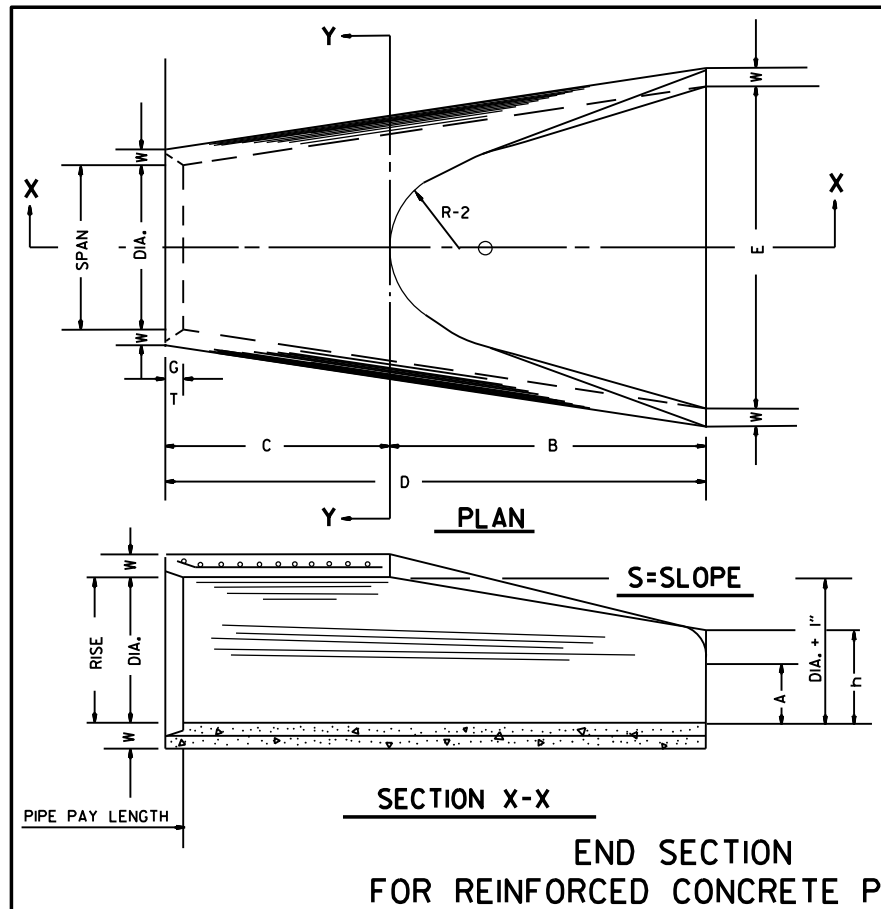
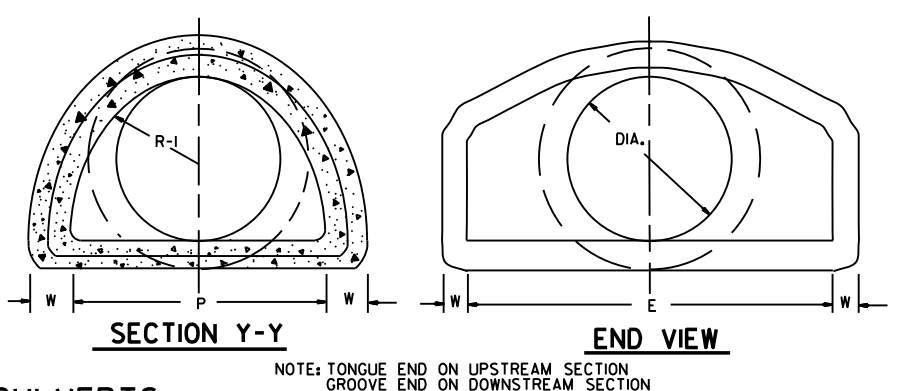
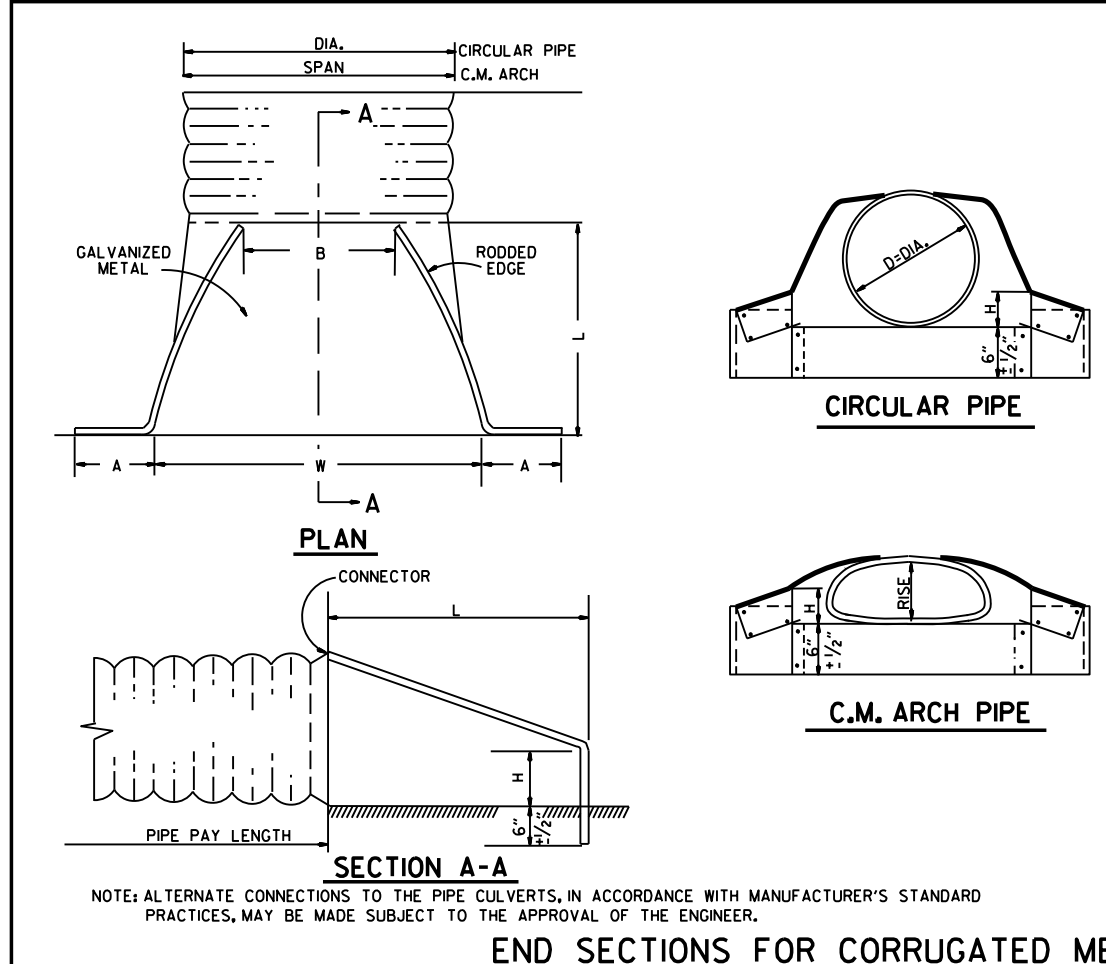
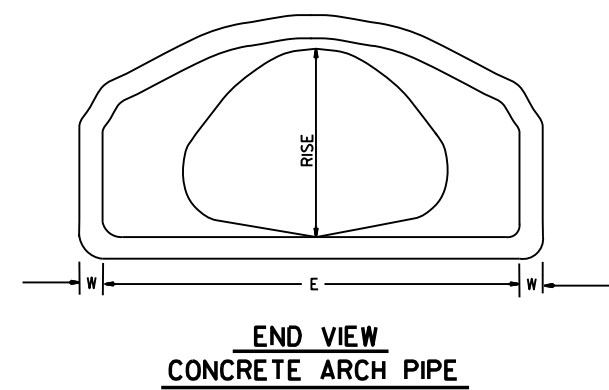


TABLE OF DIMENSIONS														
DIA.	WALL	A	B	C	D	E	S	DIA. + 1"	P	R-1	R-2	G-T	WT.	h
18"	2 1/2"	9"	2'-3"	3'-10"	6'-1"	3'-0"	3:1	19"	29"	15 1/2"	12"	2"	1000	1'-0 1/2"
24"	3"	9 1/2"	3'-7 1/2"	2'-6"	6'-1 1/2"	4'-0"	3:1	25"	33 3/8"	16 1/8"	14"	2 1/2"	1600	1'-1 1/2"
30"	3 1/2"	1'-0"	4'-6"	1'-7 3/4"	6'-1 3/4"	5'-0"	3:1	31"	37"	18 1/2"	15"	3 1/4"	1940	1'-4 5/8"
36"	4"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	6'-0"	3:1	37"	47 1/8"	24 1/8"	20"	3 1/2"	4100	1'-8"
42"	4 1/2"	1'-9"	5'-3"	2'-11"	8'-2"	6'-6"	3:1	43"	53 1/8"	27 1/2"	22"	3 1/2"	5380	2'-2 1/2"
48"	5"	2'-0"	6'-0"	2'-2"	8'-2"	7'-0"	3:1	49"	56 1/2"	28 1/2"	22"	3 1/2"	6550	2'-6"
54"	5 1/2"	2'-4"	6'-6"	1'-10"	8'-4"	7'-6"	3:1	55"	65 1/2"	33 1/8"	24"	4"	8750	2'-10 1/2"
60"	6"	2'-10"	6'-6"	1'-10"	8'-4"	8'-0"	3:1	61"	72 1/2"	36 1/8"	24"	4"	9270	3'-5"
72"	7"	3'-10"	6'-6"	1'-10"	8'-4"	9'-0"	3:1	73"	77 1/8"	38 1/8"	24"	5"	13250	4'-6"



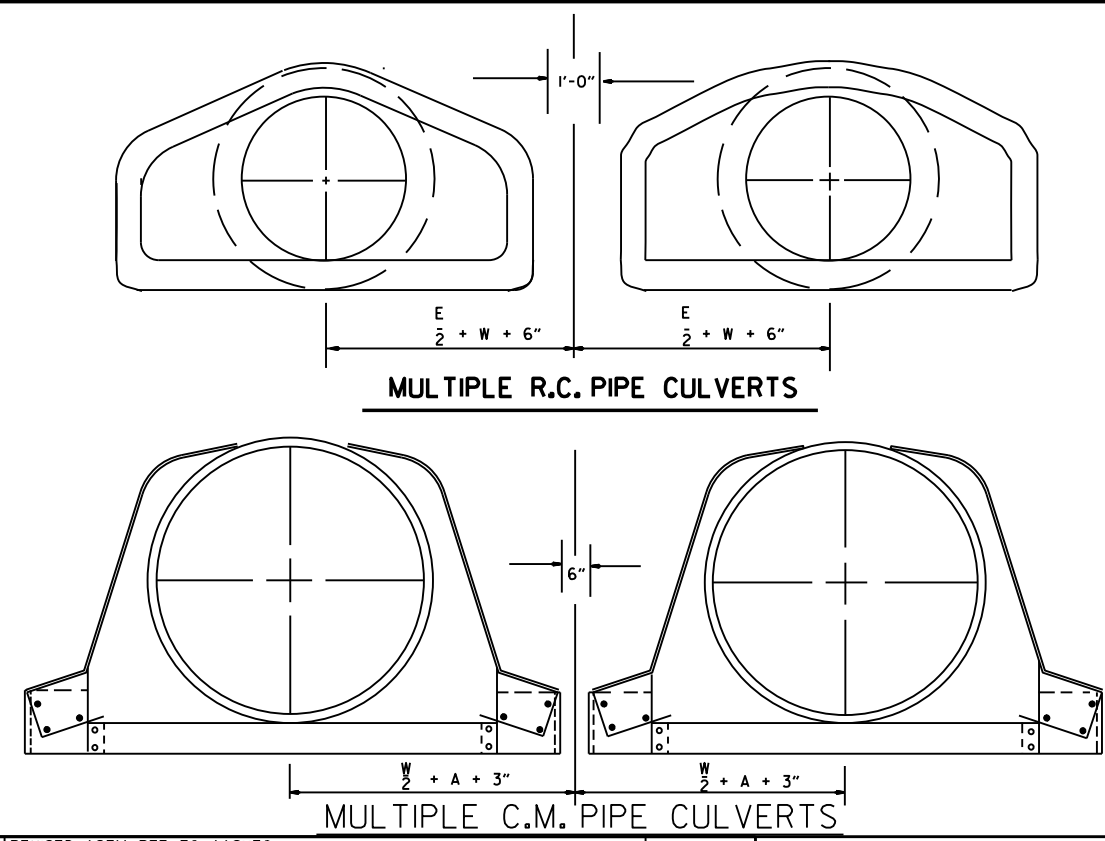
ARCH PIPE														
EQUIV. DIA.	• SPAN		• RISE		W	A	B	C	D	E	P	R2	G-T	S
	AASHTO M 206	AHD NOMINAL	AASHTO M 206	AHD NOMINAL										
INCHES														
15	18	18	11	11	2"	4"	2'-0"	4'-0"	6'-0"	3'-0"	29"	12"	1 1/2"	2 1/2:1
18	22	22	13 1/2	14	2 1/2"	5"	2'-0"	4'-1"	6'-1"	3'-6"	32 1/8"	13"	2 1/2"	2 1/2:1
21	26	26	15 1/2	16	2 3/4"	7"	2'-3"	3'-10"	6'-1"	4'-0"	34 1/8"	14"	2 1/2"	2 1/2:1
24	28 1/2	29	18	18	3"	9"	2'-3"	3'-10"	6'-1"	5'-0"	36 1/8"	15"	2 1/2"	2 1/2:1
30	36 1/4	36	22 1/2	23	3 1/2"	10"	3'-1"	3'-0 1/2"	6'-1 1/2"	6'-0"	47 1/8"	20"	3"	2 1/2:1
36	43 3/4	44	26 3/8	27	4"	10 1/2"	4'-0"	2'-1 1/2"	6'-1 1/2"	6'-6"	54 1/8"	22"	3 1/2"	2 1/2:1
42	51 1/8	51	31 5/8	31	4 1/2"	11 1/2"	4'-7"	1'-10 1/4"	6'-5 1/4"	7'-2"	59 1/2"	23"	3 3/4"	2 1/2:1
48	58 1/2	59	36	36	5"	1'-3"	5'-3"	2'-10 3/4"	8'-1 3/4"	7'-10"	70 7/8"	24"	4 1/4"	2 1/2:1
54	65	65	40	40	5 1/2"	1'-7"	5'-3"	2'-11"	8'-2"	8'-6"	72 1/8"	24"	4 3/4"	2 1/4:1
60	73	73	45	45	6"	1'-10"	5'-6"	2'-8"	8'-2"	9'-0"	77 1/8"	24"	5"	2 1/4:1

• THE MEASURED SPAN AND RISE SHALL NOT VARY MORE THAN ± 2 PER CENT FROM THE VALUES SPECIFIED BY AASHTO M 206.

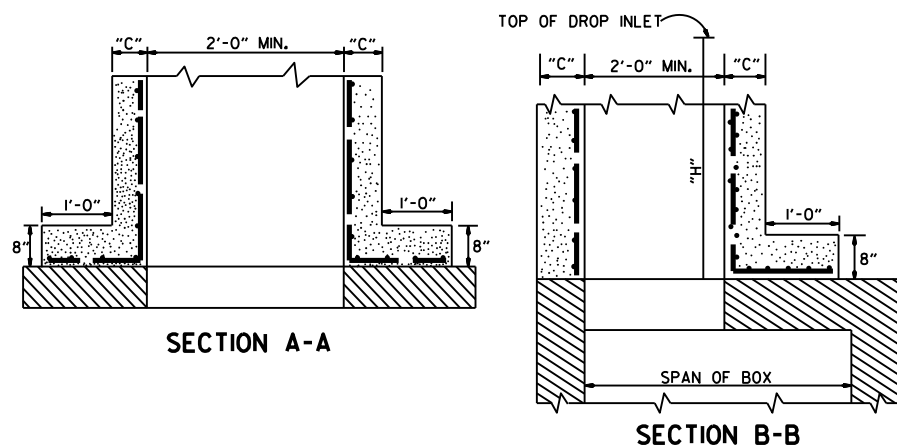
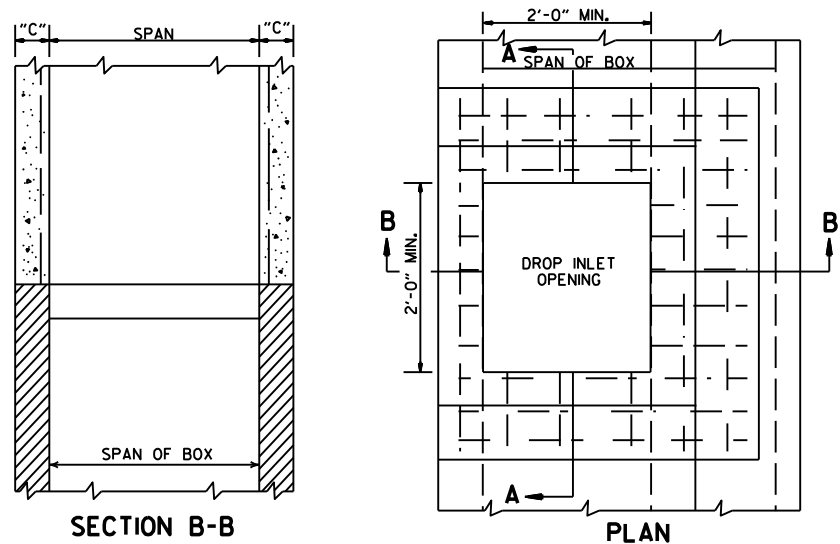


CIRCULAR PIPE								
D. DIA.	GAUGE	A 1" \pm	B. MAX.	H 1" \pm	L 1 1/2" \pm	W 2" \pm	S	
INCHES								
12	16	6	6	6	21	24	2 1/2:1	
15	16	7	8	6	26	30	2 1/2:1	
18	16	8	10	6	31	36	2 1/2:1	
21	16	9	12	6	36	42	2 1/2:1	
24	16	10	13	6	41	48	2 1/2:1	
30	14	12	16	8	51	60	2 1/2:1	
36	14	14	19	9	60	72	2 1/2:1	
42	12	16	22	11	69	84	2 1/2:1	
48	12	18	27	12	78	90	2 1/2:1	
54	12	18	30	12	84	102	2:1	
60	12	18	33	12	87	114	1 3/4:1	
66	12	18	36	12	87	120	1 1/2:1	
72	12	18	39	12	87	126	1 1/3:1	

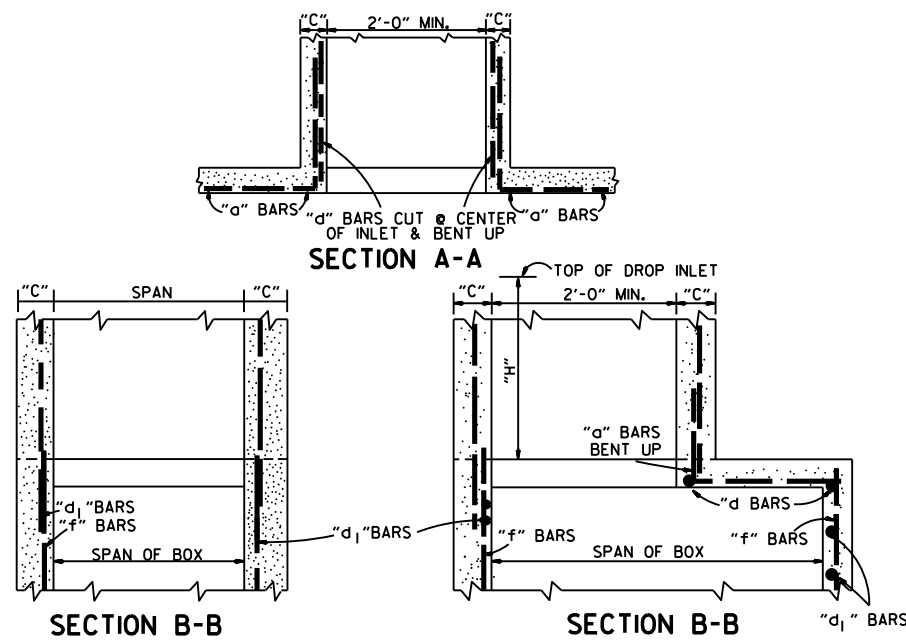
C.M. ARCH PIPE									
EQUIV. DIA.	SPAN	RISE	A 1" \pm	B. MAX.	H 1" \pm	L 1 1/2" \pm	W 2" \pm	S	GAUGE
INCHES									
15"	17	13	7	9	6	19	30	2 1/2:1	16
18"	21	15	7	10	6	23	36	2 1/2:1	16
21"	24	18	8	12	6	28	42	2 1/2:1	16
24"	28	20	9	14	6	32	48	2 1/2:1	16
30"	35	24	10	16	6	39	60	2 1/2:1	14
36"	42	29	12	18	8	46	75	2 1/2:1	14
42"	49	33	13	21	9	53	85	2 1/2:1	12
48"	57	38	18	26	12	63	90	2 1/2:1	12
54"	64	43	18	30	12	70	102	2 1/4:1	12
60"	71	47	18	33	12	77	114	2 1/4:1	12



10-18-96	REVISED ASTM REF. TO AASHTO	664-5-15-80	ARKANSAS STATE HIGHWAY COMMISSION
5-15-80	REVISED DISTANCE BETWEEN MULTIPLE R.C.P. F.E.S.	752-7-14-78	
7-14-78	C.M. ARCH SIZES TO CONFORM WITH AASHTO SIZES	517-8-22-75	
8-22-75	ADDED MULTIPLE PIPE CULVERTS	500-12-5-74	
12-5-74	REMOVED NOTE RE REINF. FOR R.C. F.E.S.	627-5-24-73	
5-24-73	CMP END SECTION, SHOW PIPE PAY LENGTH	760-10-2-72	STANDARD DRAWING FES-2
10-2-72	REVISED AND REDRAWN	FILMED	
DATE	REVISION		

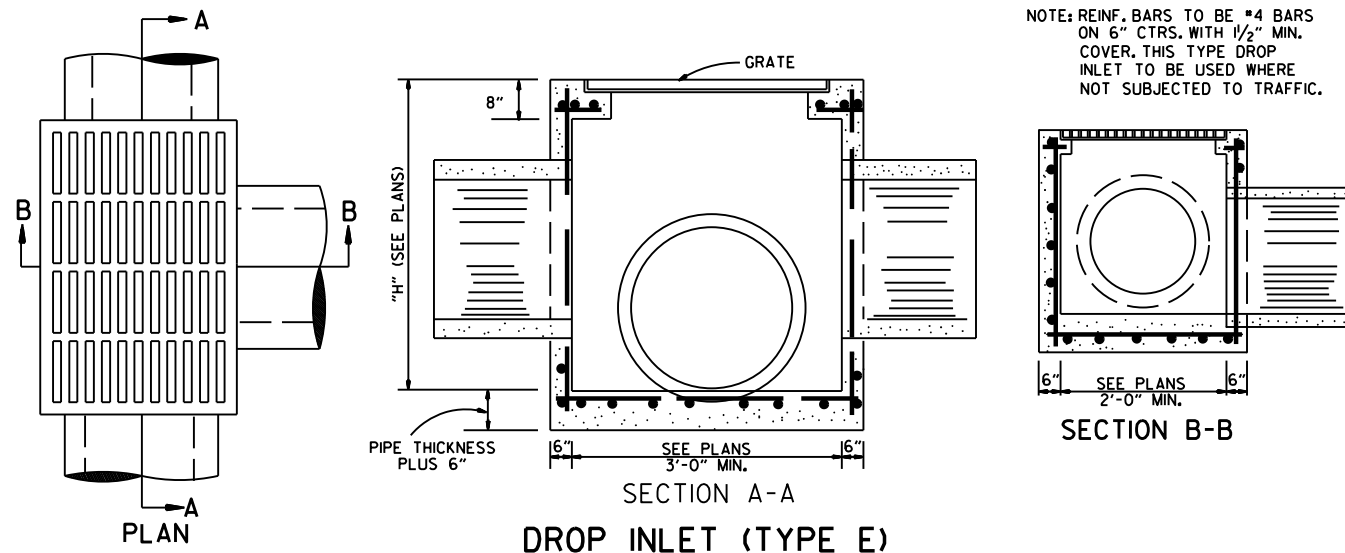


METHOD OF CONSTRUCTING DROP INLET ON EXISTING R.C. BOX CULVERT

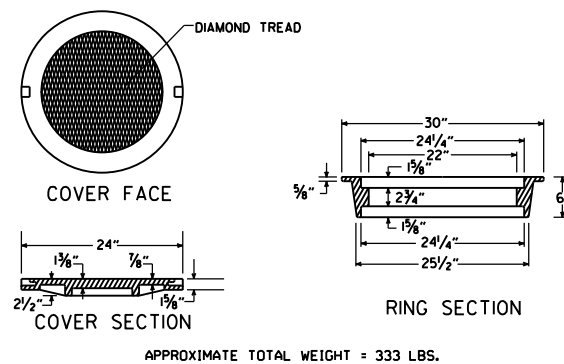


METHOD OF CONSTRUCTING DROP INLET ON NEW R.C. BOX CULVERT

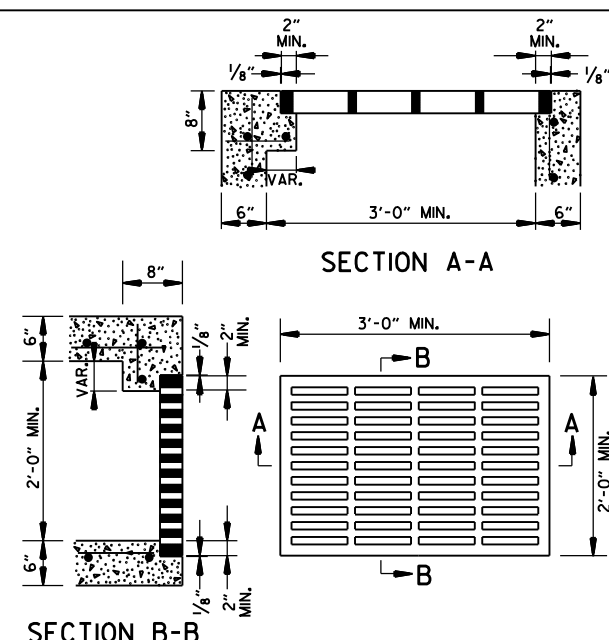
NOTE: "C" DIMENSIONS AND REINFORCING BAR SIZES, SHALL CONFORM TO THOSE SHOWN ON STANDARD DRAWING FOR DROP INLET.



DROP INLET (TYPE E)

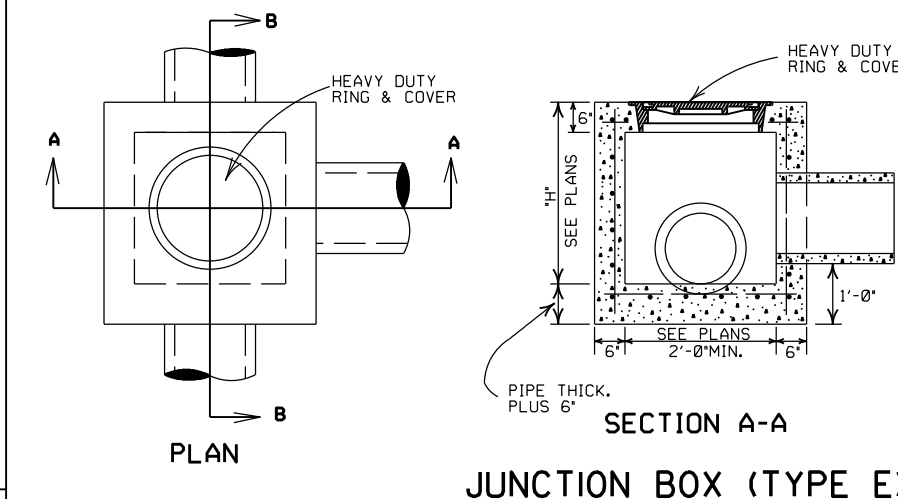


HEAVY DUTY RING & COVER

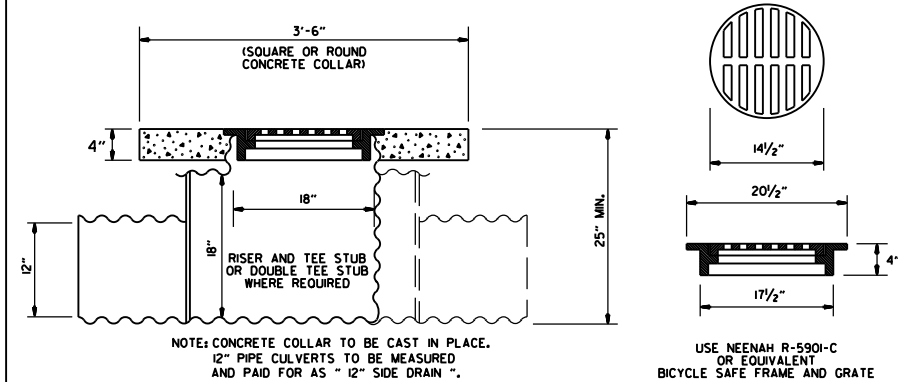


APPROXIMATE MINIMUM WATERWAY OPENING = 260 SQ. IN.

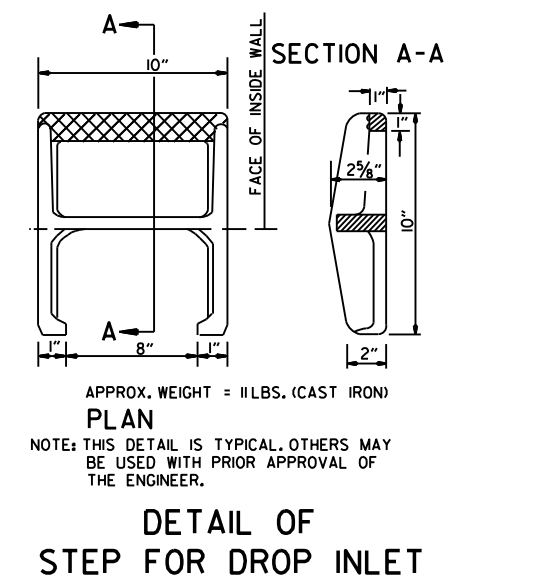
GRATE FOR TYPE E DROP INLET



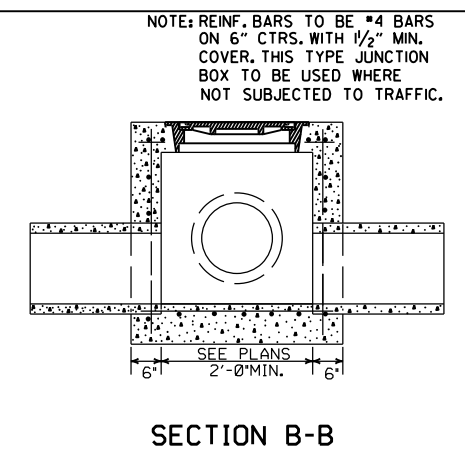
JUNCTION BOX (TYPE E)



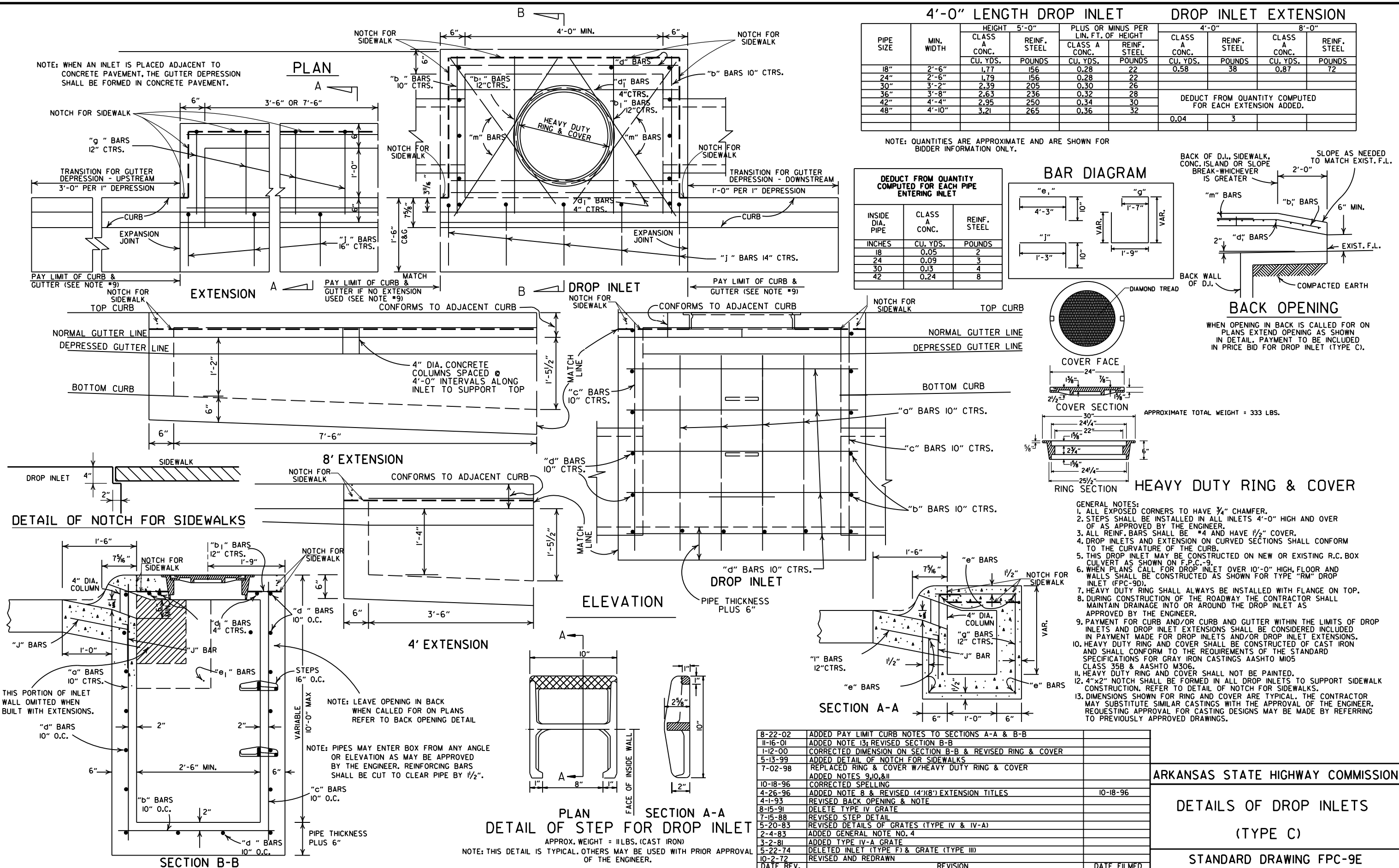
11-16-01	ADDED NOTE 10	
1-12-00	REVISED HEAVY DUTY RING & COVER	
7-02-98	CHANGED GRATE DETAIL, DELETED D (TYPE D), REPLACED RING & COVER W/ HEAVY DUTY RING & COVER, ADDED JUNCTION BOX (TYPE E)	
6-26-97	ADDED DIMENSION TO TYPE IV-A	
10-18-96	ADDED DETAIL OF YARD DRAIN	
8-15-91	DELETE TYPE IV GRATE	
7-15-88	REVISED STEP DETAIL	
5-20-83	REVISED DETAILS OF GRATES (TYPE IV & IV-A)	
2-4-83	ADDED GENERAL NOTE NO. 4	
3-2-81	ADDED TYPE IV-A GRATE	
5-22-74	DELETED INLET (TYPE F) & GRATE (TYPE III)	
10-2-72	REVISED AND REDRAWN	
DATE REV.	REVISION	DATE FILMED

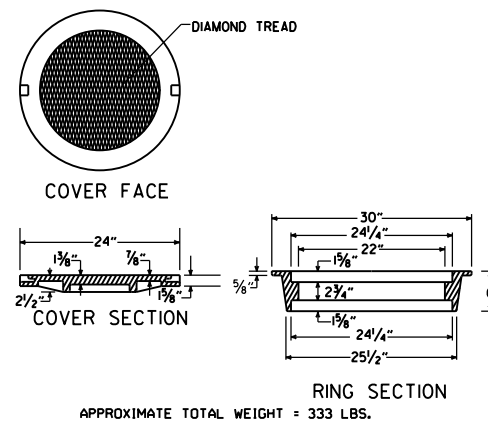
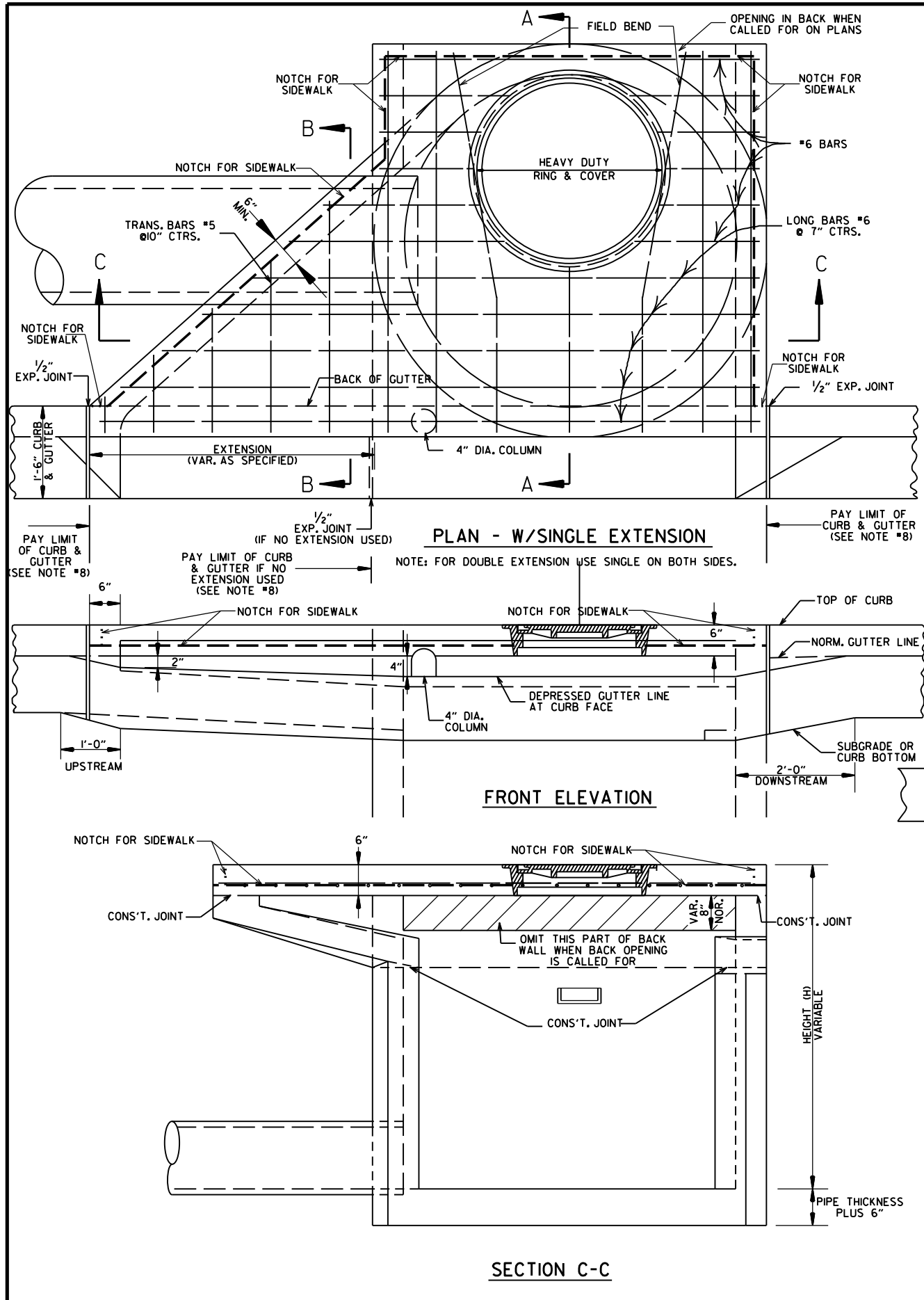


DETAIL OF STEP FOR DROP INLET



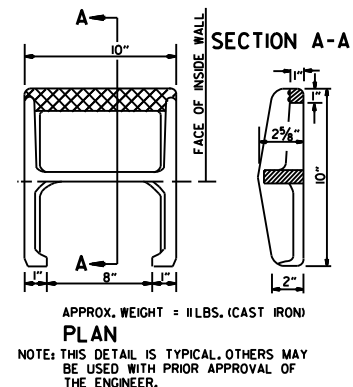
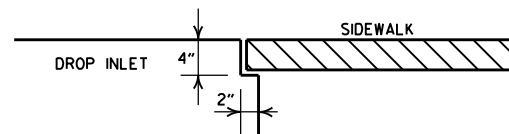
- GENERAL NOTES:**
1. ALL EXPOSED CORNERS SHALL BE 3/4" CHAMFERED.
 2. STEPS SHALL BE INSTALLED ON 16" CENTERS ON ALL INLETS 4'-0" HIGH OR OVER, OR AS APPROVED BY THE ENGINEER.
 3. EXPANSION JOINT MATERIAL SHALL BE 3/4" PREFORMED FIBER.
 4. GRATE OR GRATE AND FRAME SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B. GRATE MAY BE USED WITHOUT FRAME.
 5. GRATE AND FRAME SHALL NOT BE PAINTED.
 6. GRATE SHALL BE BICYCLE SAFE.
 7. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.
 8. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M 105 CLASS 35B & AASHTO M 306.
 9. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
 10. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER, REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.



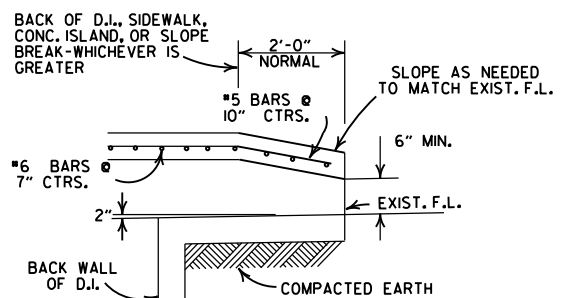
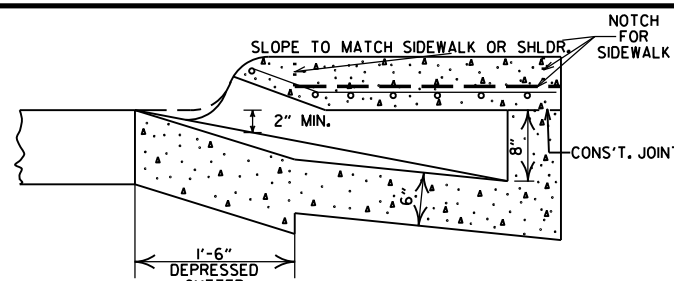
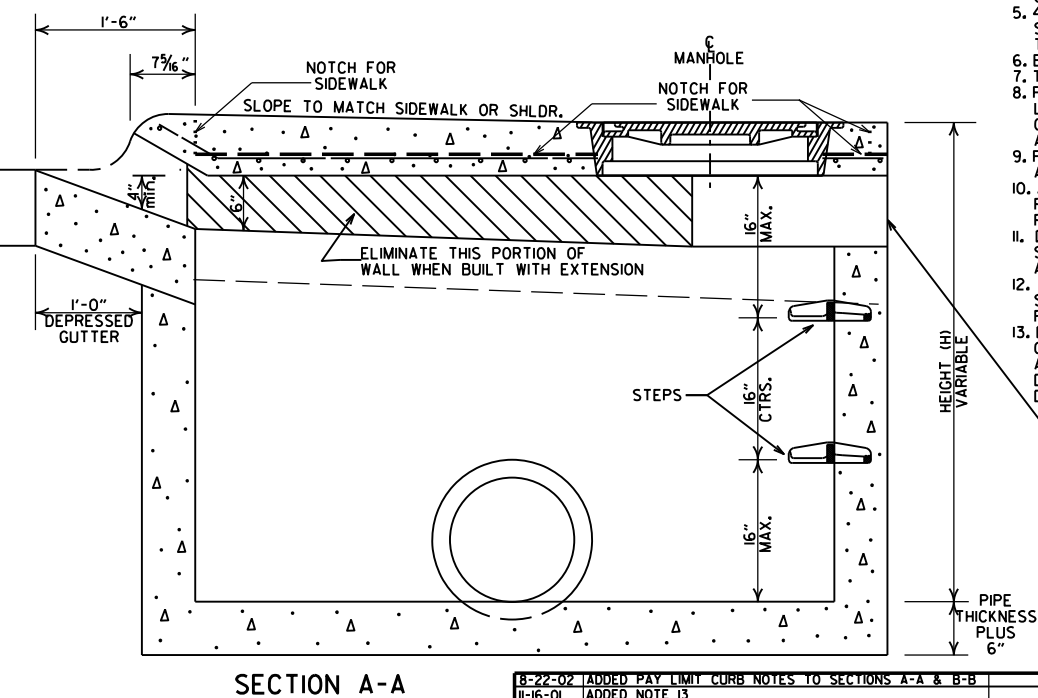


HEAVY DUTY RING & COVER

1. HEAVY DUTY RING AND COVER SHALL BE CONSTRUCTED OF CAST IRON AND SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR GRAY IRON CASTINGS AASHTO M105 CLASS 35B & AASHTO M306.
2. HEAVY DUTY RING AND COVER SHALL NOT BE PAINTED.
3. HEAVY DUTY RING SHALL ALWAYS BE INSTALLED WITH FLANGE ON TOP.



DETAIL OF STEP FOR DROP INLET



- GENERAL NOTES:**
1. ALL EXPOSED CORNERS TO HAVE $\frac{3}{4}$ " CHAMFER.
 2. STEPS SHALL BE INSTALLED IN ALL INLETS 4'-0" HIGH AND OVER OR AS DIRECTED BY THE ENGINEER.
 3. ALL REINFORCING BARS SHALL BE GRADE 60 AND HAVE MIN. $\frac{1}{2}$ " COVER.
 4. DROP INLETS AND EXTENSION ON CURVED SECTIONS SHALL CONFORM TO THE CURVATURE OF THE CURB.
 5. 4" DIA. COLUMNS SPACED AT MAX. 4'-0" INTERVALS SHALL BE INSTALLED ALONG INLET AND EXTENSION TO SUPPORT TOP.
 6. BASE AND INLET WALLS SHALL BE CAST MONOLITHICALLY.
 7. THE THROAT SHALL BE CAST INTEGRALLY WITH THE GUTTER.
 8. PAYMENT FOR CURB AND/OR CURB AND GUTTER WITHIN THE LIMITS OF DROP INLETS AND DROP INLET EXTENSIONS SHALL BE CONSIDERED INCLUDED IN PAYMENT MADE FOR DROP INLETS AND/OR DROP INLET EXTENSIONS.
 9. PIPES MAY ENTER DROP INLET FROM ANY ANGLE OR ELEVATION AS MAY BE APPROVED BY THE ENGINEER.
 10. APPROPRIATE SIZE TYPE C DROP INLETS MAY BE SUBSTITUTED FOR TYPE MO DROP INLETS AS APPROVED BY THE ENGINEER. PAYMENT TO BE AS DROP INLET (TYPE MO).
 11. DURING CONSTRUCTION OF THE ROADWAY THE CONTRACTOR SHALL MAINTAIN DRAINAGE INTO OR AROUND THE DROP INLET AS APPROVED BY THE ENGINEER.
 12. 4"x2" NOTCH SHALL BE FORMED IN ALL DROP INLETS TO SUPPORT SIDEWALK CONSTRUCTION. REFER TO DETAIL OF NOTCH FOR SIDEWALKS.
 13. DIMENSIONS SHOWN FOR RING AND COVER ARE TYPICAL. THE CONTRACTOR MAY SUBSTITUTE SIMILAR CASTINGS WITH THE APPROVAL OF THE ENGINEER. REQUESTING APPROVAL FOR CASTING DESIGNS MAY BE MADE BY REFERRING TO PREVIOUSLY APPROVED DRAWINGS.

LEAVE OPENING IN BACK WHEN CALLED FOR ON PLANS REFER TO BACK OPENING DETAIL

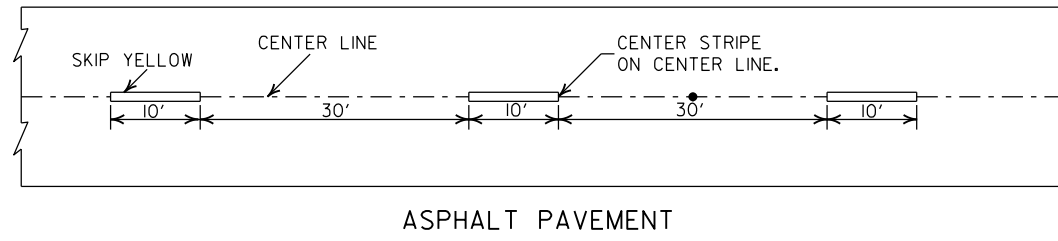
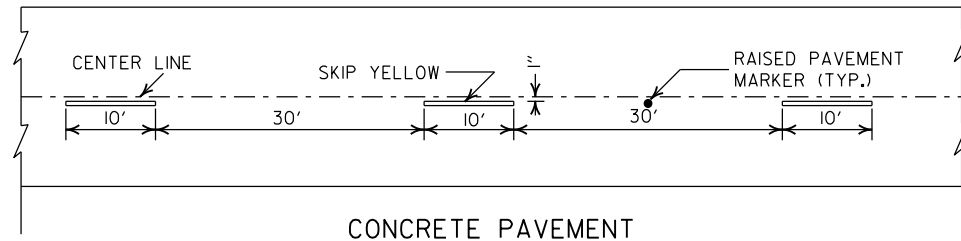
MINIMUM WALL THICKNESS			
DIA. OF D.I.	DIA. OF OUTLET PIPE	CAST IN PLACE	PRECAST
4" I.D.	12" THRU 27"	6"	5"
5" I.D.	30" THRU 42"	8"	6"
6" I.D.	48" THRU 54"	8"	7"

8-22-02	ADDED PAY LIMIT CURB NOTES TO SECTIONS A-A & B-B	
11-16-01	ADDED NOTE 13	
1-12-00	REVISED HEAVY DUTY RING & COVER	
5-13-99	ADDED NOTCH DETAIL FOR SIDEWALKS	
7-02-98	REP. NOTE 8, REV. PLAN DET., REV. PICTURE FOR NEW RING & COVER, ADDED HEAVY DUTY RING & COVER AND DETAIL OF STEP FOR DROP INLET	
4-26-96	ADDED NOTE 11, ADJ. OPENING DIMENSION	
10-12-95	CORRECTED #6 BAR SPACING	
7-20-95	CORRECTED DIAMETER OF D.I. IN BOX	
7-2-95	TYPE C TO MO (OPEN BACK DETAIL)	
11-3-94	REVISED GENERAL NOTES	11-3-94
4-1-93	REV. BACK OPEN DETAIL & NOTE	4-1-93
8-15-91	REVISED NOTES 11/2" & ADDED BK. OPEN DETAIL	8-15-91
11-10-89	ADDED NOTE NO. 12	11-10-89
5-23-89	ADDED NOTE 8 MINIMUM WALL THICKNESS	5-23-89
7-15-88	ADDED EXTEND NOTE TO SECTION A-A	6-15-88
11-14-87	MODIFIED WALL THICKNESS	7-15-88
6-22-87	ISSUED	7-15-88
DATE	REVISIONS	DATE FILMED

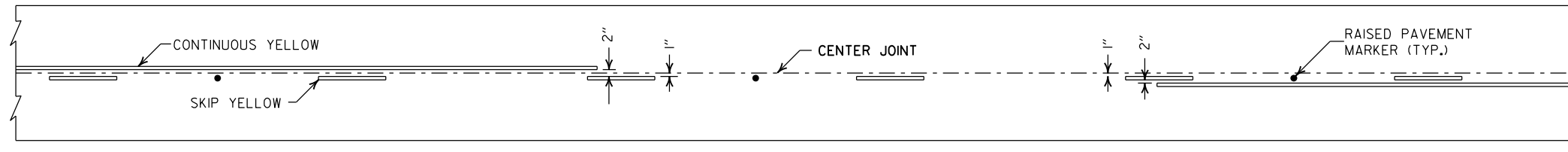
ARKANSAS STATE HIGHWAY COMMISSION

DETAILS OF DROP INLET (TYPE MO)

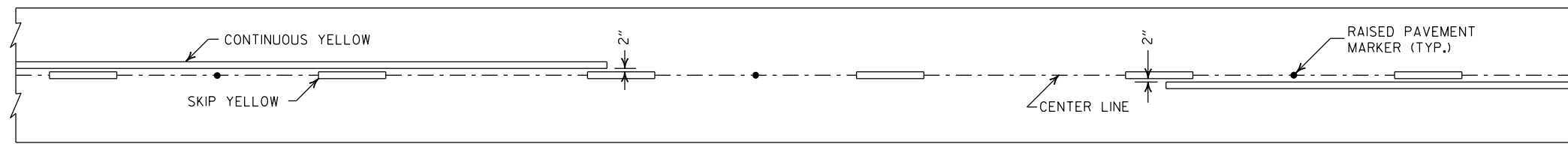
STANDARD DRAWING FPC-9M



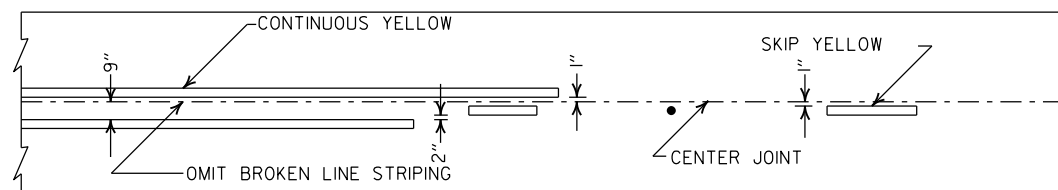
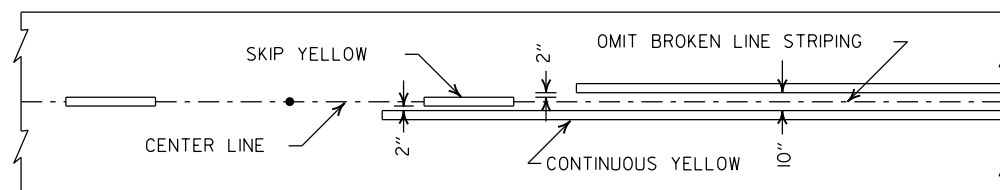
BROKEN LINE STRIPING



SOLID LINE STRIPING ON CONCRETE PAVEMENT



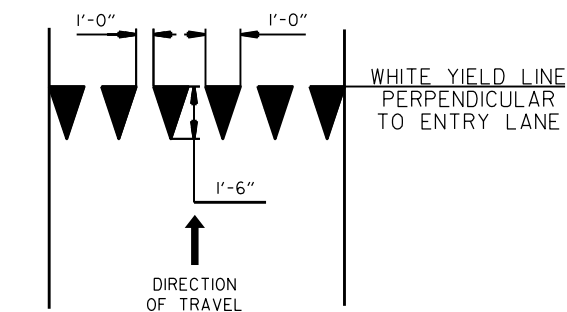
SOLID LINE STRIPING ON ASPHALT PAVEMENT



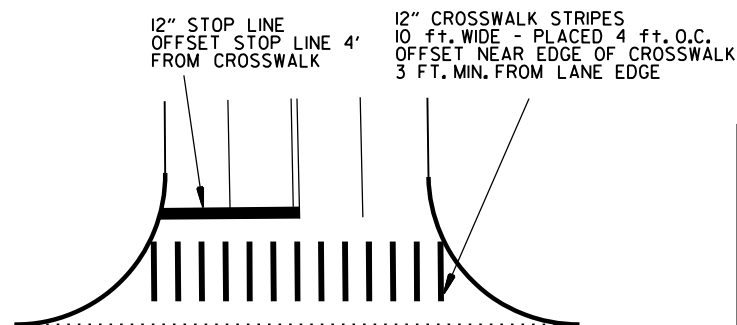
ASPHALT PAVEMENT

CONCRETE PAVEMENT

STRIPING AT ADJACENT NO PASSING LANES



YIELD LINE DETAIL

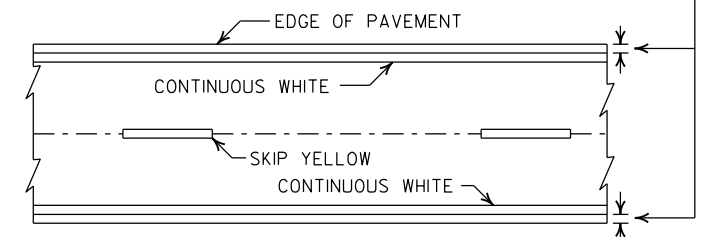


CROSSWALK AND STOP LINE DETAILS

NOTES:

1. REFER TO THE STRIPING DETAILS FOR PAVEMENT MARKING LINE WIDTHS.
2. THIS DRAWING SHALL BE USED IN CONJUNCTION WITH THE LATEST REVISED ADDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."
3. RAISED PAVEMENT MARKERS SHALL BE PLACED ON AN 80 FEET SPACING UNLESS OTHERWISE SHOWN IN THE PLANS.

2" FOR ASPHALT OR CONCRETE PAVEMENT
6" FOR BITUMINOUS SURFACE TREATMENT

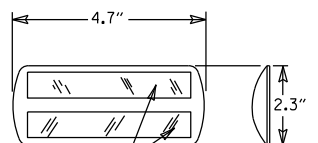


PAVEMENT EDGE LINE MARKING

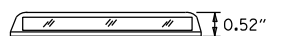
NOTE:
THE RED LENS OF THE
TYPE II R.P.M. SHALL
FACE THE INCORRECT
TRAFFIC MOVEMENT.

TYPE II
RED/CLEAR OR
YELLOW/YELLOW

PRISMATIC REFLECTOR



NOTE:
DIMENSIONS SHOWN FOR RAISED PAVEMENT
MARKERS ARE TYPICAL. THE CONTRACTOR
MAY SUBSTITUTE SIMILAR MARKERS WITH
THE APPROVAL OF THE ENGINEER. REQUESTING
APPROVAL FOR SIMILAR MARKERS MAY BE
MADE BY REFERRING TO THE ARDOT QUALIFIED
PRODUCTS LIST.




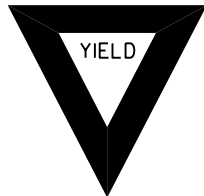

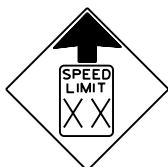

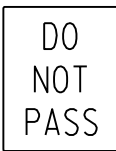



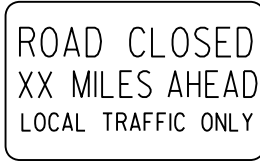


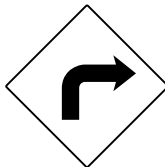




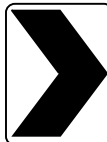
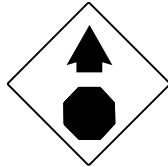
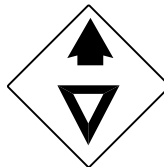
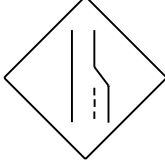



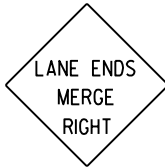


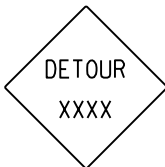










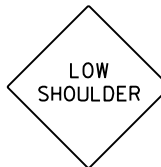

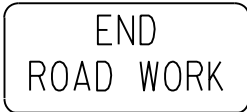
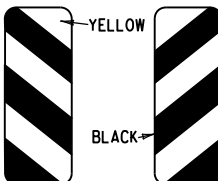


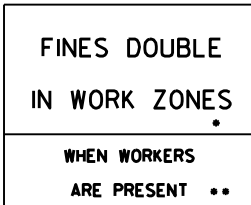
DETAIL OF STANDARD RAISED PAVEMENT MARKERS

2-27-20	REVISED STOP LINE DETAILS	
6-1-17	ADDED YIELD LINE DETAIL	
5-12-16	REVISED LINE WIDTHS, SPACING, & NOTES	
9-12-13	REVISED DETAIL OF STANDARD RAISED PAVEMENT MARKERS	
11-17-10	REVISED GENERAL NOTES & REMOVED PLOWABLE PVMT MRKRS	
11-18-04	REVISED NOTE 2 & GENERAL NOTES	
8-22-02	ADDED CROSSWALK & STOPBAR DTLS.	
7-02-98	ADDED DETAILS OF STD. RAISED PAV'T. MARKERS	
4-26-96	REV. NOTES 3&4; ADDED R.P.M.	
9-30-80	DRAWN	1-9-30-80
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION

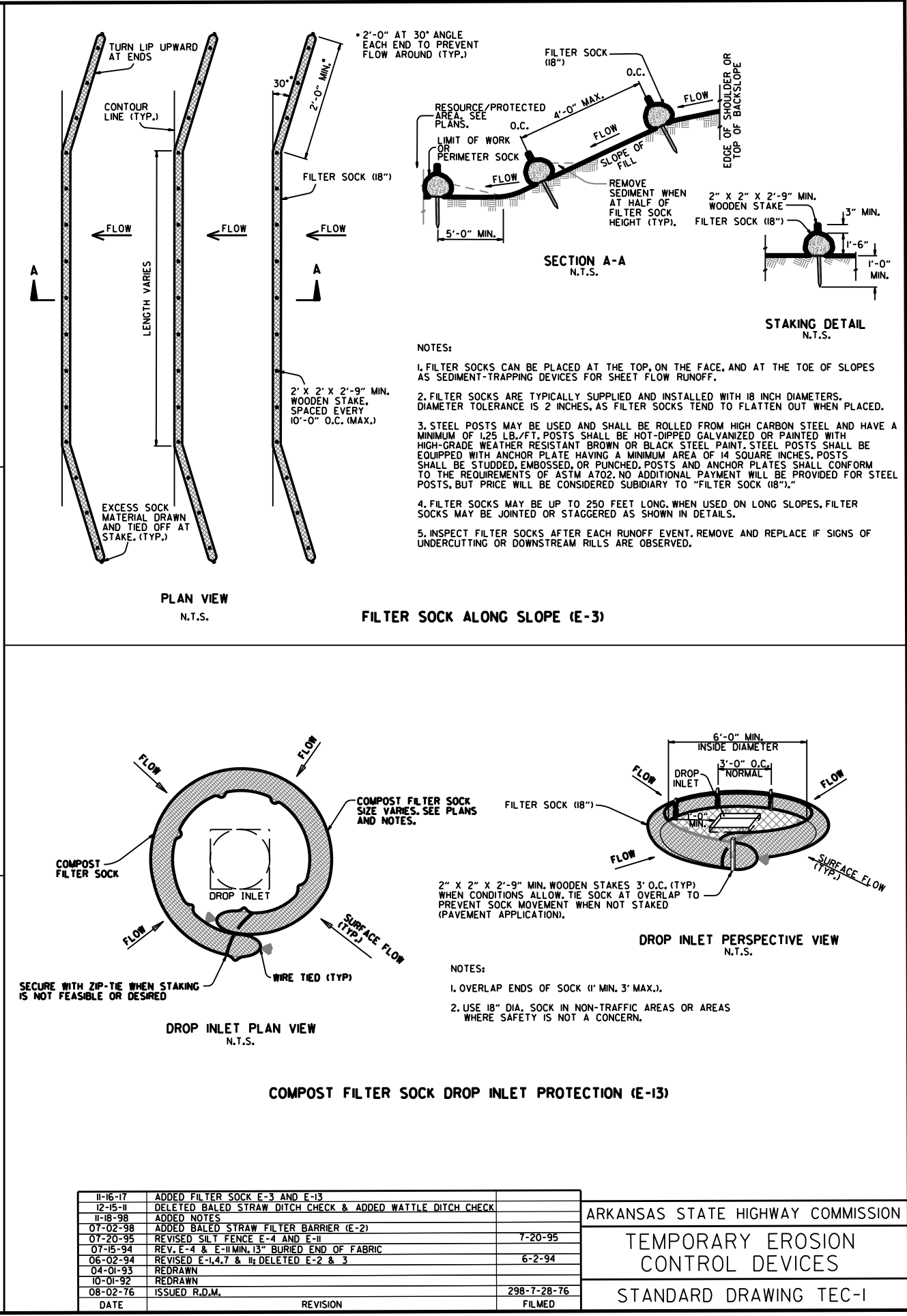
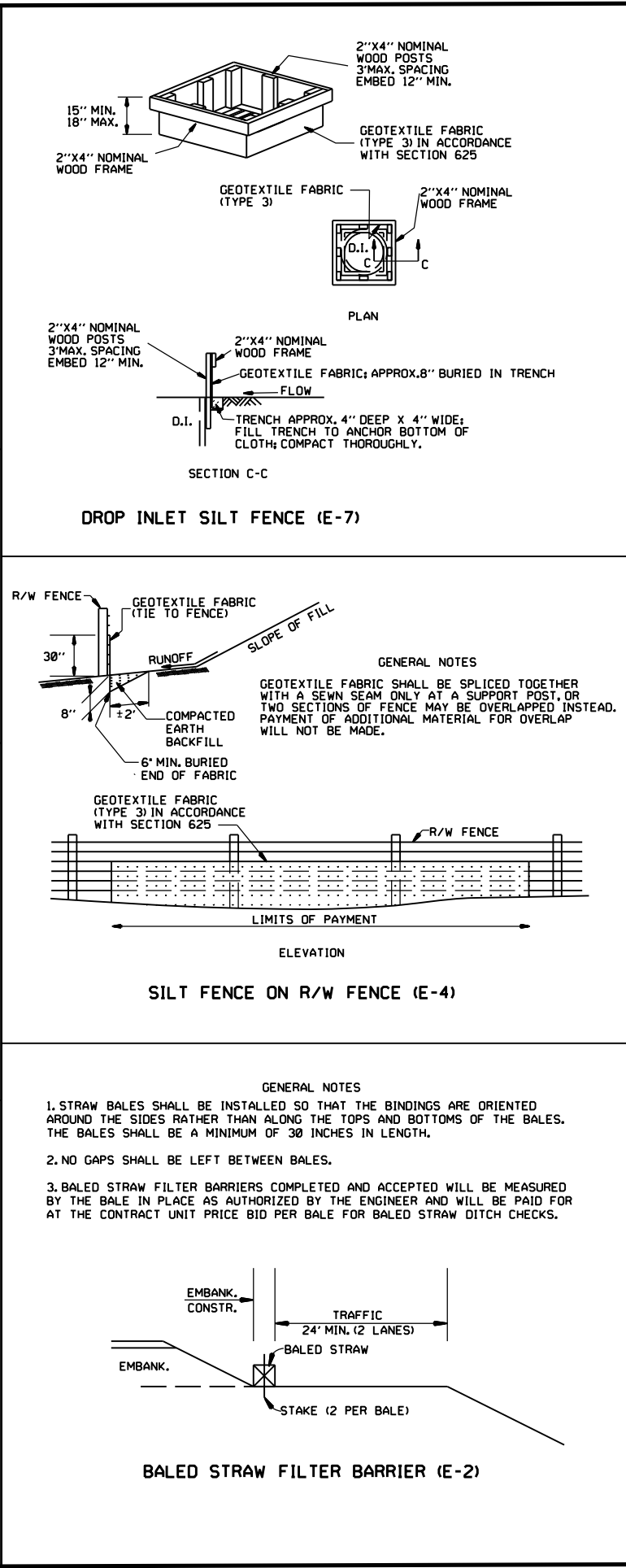
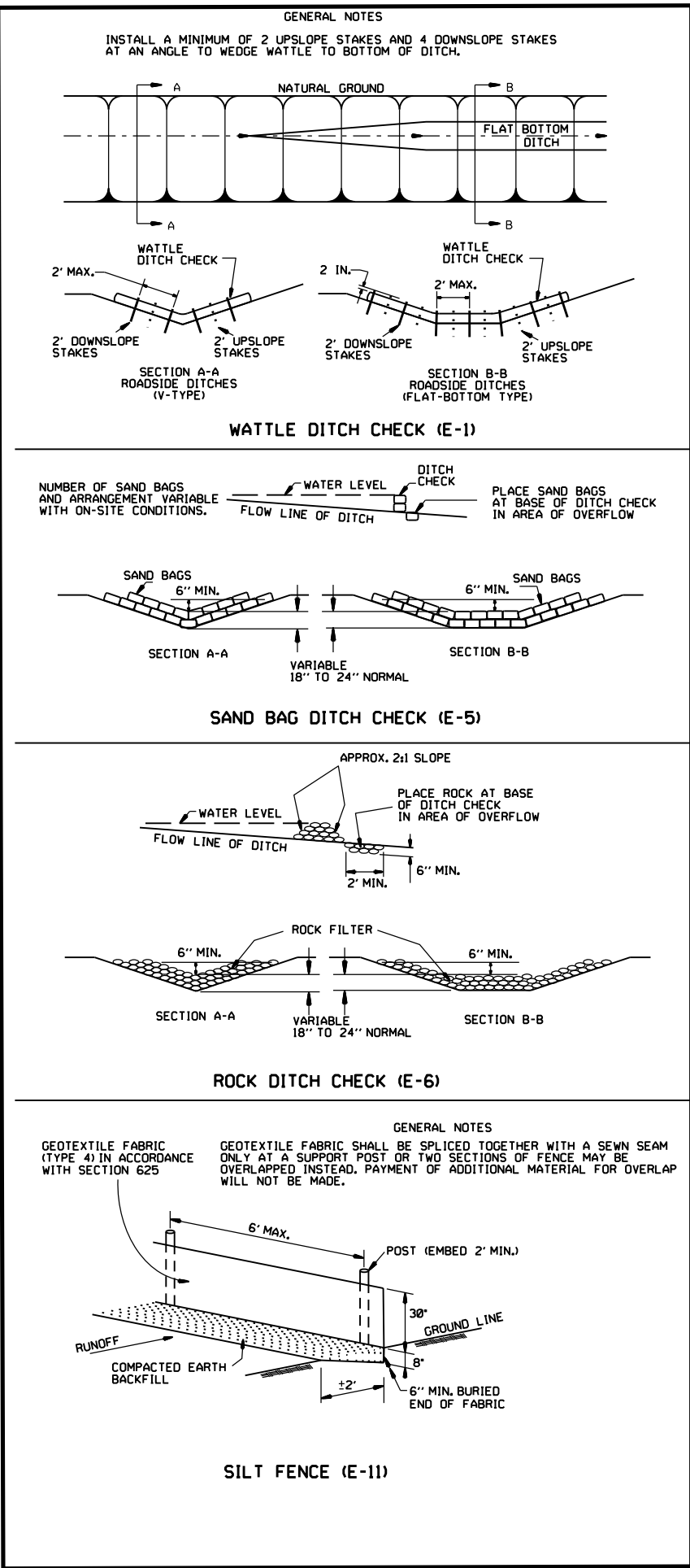
PAVEMENT MARKING DETAILS

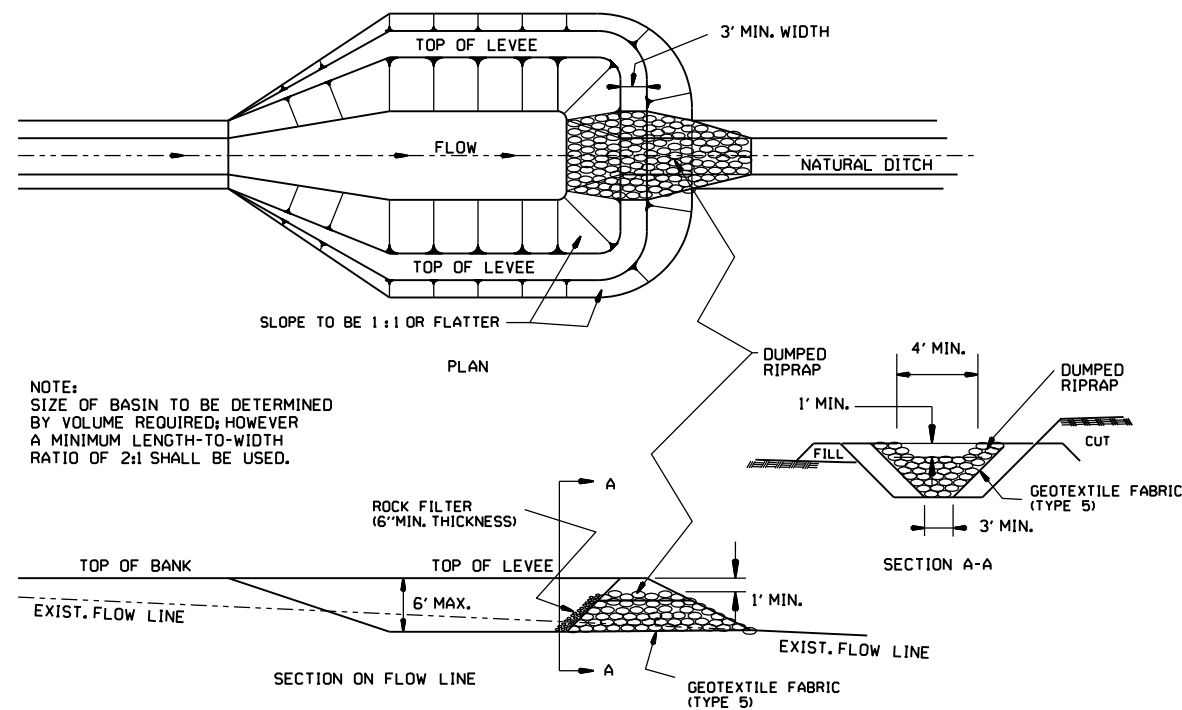
STANDARD DRAWING PM-1

<div>RI-I</div> <div></div> <div>STANDARD 30"x30" EXPRESSWAY 36"x36" SPECIAL 48"x48"</div>	<div>RI-2</div> <div></div> <div>STD. 36"x36"x36" EXPWY. 48"x48"x48" FWY. 60"x60"x60"</div>	<div>R2-I</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>W3-5</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>W3-5a</div> <div></div> <div>STD. 36"x36" EXPWY. 48"x48" FWY. 48"x48"</div>	<div>R4-I</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>R4-2</div> <div></div> <div>STD. 24"x30" EXPWY. 36"x48" FWY. 48"x60"</div>	<div>ADVANCE DISTANCES (XXXX)</div> <div>500 FT 1/2 MILE 1000 FT 3/4 MILE 1500 FT 1 MILE AHEAD</div> <div>GENERAL NOTES: 1. ALL TRAFFIC CONTROL DEVICES USED ON ROAD CONSTRUCTION SHALL CONFORM TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, LATEST EDITION, AND TO THE STANDARD HIGHWAY SIGNS, LATEST EDITION, OR AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION. 2. TRAFFIC CONTROL DEVICES SHALL BE SET UP JUST BEFORE THE START OF CONSTRUCTION OPERATIONS AND SHALL BE PROPERLY MAINTAINED DURING THE TIME SUCH CONDITIONS EXIST. THEY SHALL REMAIN IN PLACE ONLY AS LONG AS NEEDED AND REMOVED THEREAFTER. 3. EXISTING SIGNS AND CONSTRUCTION SIGNS SHALL BE KEPT IN PROPER POSITION, AND BE CLEAN AND LEGIBLE AT ALL TIMES. SIGNS THAT DO NOT APPLY TO EXISTING CONDITIONS SHALL BE REMOVED. SIGNS THAT ARE DAMAGED, DEFACED, OR THAT ACCUMULATE DIRT DURING CONSTRUCTION SHALL BE CLEANED, REPAIRED, OR REPLACED. 4. SIGNS ARE USUALLY MOUNTED ON A SINGLE POST, ALTHOUGH THOSE WIDER THAN 36" OR LARGER THAN 10 SQ. FT. SHALL BE MOUNTED ON TWO POSTS OR ABOVE A TYPE III BARRICADE. 5. SIGN POSTS DIRECT BURIED IN SOIL SHALL BE 2 LB. MINIMUM CHANNEL POST OR 4"x4" WOOD POSTS. CHANNEL POSTS SHALL BE PAINTED GREEN. WOOD POSTS SHALL BE PAINTED WHITE. ALL POSTS SHALL BE NEATLY CONSTRUCTED, AND SHALL BE REPLUMBED, CLEANED, OR REPAIRED AS NEEDED FOR THE DURATION OF THE JOB. THERE SHALL NOT BE MORE THAN 2 POSTS IN A 7' PATH FOR WOOD OR CHANNEL POSTS. ANY CHANNEL POST SPLICE SHALL BE IN ACCORDANCE WITH STANDARD DRAWING TC-3. 6. POST MOUNTED SIGNS IN RURAL AREAS SHALL BE CONSTRUCTED WITH THE NEAR EDGE OF THE SIGN FROM 6 TO 12 FEET FROM THE PAVEMENT EDGE. SIGNS IN URBAN AREAS AND BARRICADE MOUNTED SIGNS SHALL BE MOUNTED A MINIMUM OF 2 FEET FROM THE PAVEMENT EDGE. 7. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN URBAN AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE. ALL POST AND BARRICADE MOUNTED SIGNS MOUNTED IN RURAL AREAS SHALL BE MOUNTED A MINIMUM DISTANCE OF 7' FROM THE BOTTOM OF THE SIGN TO THE ROADWAY SURFACE, EXCEPT A MINIMUM OF 6' SHALL BE USED WHEN MOUNTING AN ADVISORY SIGN BELOW A WARNING SIGN. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR INTERMEDIATE TERM STATIONARY WORK CONDITIONS. THE SIGNS MINIMUM MOUNTING HEIGHT SHALL BE 5'. RETROREFLECTIVE DEVICES SHALL BE USED. TEMPORARY SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS FOR SHORT-TERM, SHORT DURATION, AND MOBILE CONDITIONS. THEY SHALL BE NO LESS THAN ONE (1) FOOT ABOVE THE TRAVELED WAY. LONG-TERM STATIONARY SIGNS SHALL BE DIRECT BURIED IN SOIL, UNLESS CONDITIONS NECESSITATE THE USE OF PORTABLE SIGNS, OR AS APPROVED BY THE ENGINEER. CONCRETE PADS, CONCRETE OR ROCK BALLAST, OR OTHER SOLID MATERIALS SHALL NOT BE UTILIZED WITH PORTABLE SIGN SUPPORTS. 8. FLAGGERS SHALL USE REFLECTORIZED STOP-SLOW PADDLES. FLAGS MAY BE USED ONLY FOR EMERGENCY SITUATIONS. 9. MOST OF THE SIGNS SHOWN ARE ORIENTED TO THE RIGHT. HOWEVER, THIS DOES NOT PRECLUDE THE USE OF MIRROR IMAGES OF THESE SIGNS WHERE THE REVERSE ORIENTATION MIGHT BETTER CONVEY TO MOTORISTS THE PROPER DIRECTION OF MOVEMENT. 10. R55-1 SIGNS SHALL BE PLACED AT LEAST 1500' BUT NOT MORE THAN 1 MILE IN ADVANCE OF THE WORK ZONE. IF A SPEED LIMIT REDUCTION IS IN EFFECT, THE SIGN SHALL BE PLACED A MINIMUM OF 500' IN ADVANCE OF THE "REDUCED SPEED AHEAD" SIGN. • NOTE: SUPPORTS FOR SIGNS, BARRICADES, AND VERTICAL PANELS THAT ARE DIFFERENT FROM THE REQUIREMENTS SHOWN IN NOTES 4 & 5, BUT MEET THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH), WILL BE ACCEPTED. COMPLIANCE WITH THE REQUIREMENTS OF MANUAL FOR ASSESSING SAFETY HARDWARE (MASH) IS REQUIRED FOR ALL PROJECTS.</div>
<div>R5-I</div> <div></div> <div>STD. 30"x30" EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>R1I-2</div> <div></div> <div>48"x30"</div>	<div>R1I-3A</div> <div></div> <div>60"x30"</div>	<div>R1I-4</div> <div></div> <div>60"x30"</div>	<div>W2I-5a</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI-I</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>WI-3</div> <div></div> <div>STD. 48"x48"</div>	<div>WI-4</div> <div></div> <div>STD. 48"x48"</div>	<div>WI-6</div> <div></div> <div>STD. 48"x24" SPECIAL 60"x30"</div>	<div>WI-8</div> <div></div> <div>STD. 18"x24" SPECIAL 24"x30" EXPWY. 30"x36" FWY. 36"x48"</div>	<div>W3-I</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W3-2</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W4-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	
<div>W5-I</div> <div></div> <div>STD. 36"x36" SPECIAL 48"x48"</div>	<div>W6-3</div> <div></div> <div>EXPWY. 36"x36" SPECIAL 48"x48"</div>	<div>W8-7</div> <div></div> <div>EXPWY. 36"x36" FWY. 48"x48"</div>	<div>W9-2</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>WI3-I</div> <div></div> <div>STD. 24"x24"</div>	<div>W20-I</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-2</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-3</div> <div></div> <div>STD. 48"x48"</div>
<div>W20-4</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-5</div> <div></div> <div>STD. 48"x48"</div>	<div>W20-7a</div> <div></div> <div>18" 500 FEET 24" W16-2 STD. 36"x36" FWY. 48"x48"</div>	<div>W2I-2</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W2I-5</div> <div></div> <div>STD. 30"x30" SPECIAL 36"x36"</div>	<div>W24-I</div> <div></div> <div>STD. 36"x36"</div>	<div>WI-4b</div> <div></div> <div>STD. 48"x48"</div>	<div>R56-I</div> <div></div> <div>STD. 18"x18"</div>
<div>W8-II</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>W8-9</div> <div></div> <div>STD. 36"x36" FWY. 48"x48"</div>	<div>G20-I</div> <div></div> <div>60"x24"</div>	<div>G20-2</div> <div></div> <div>48"x24"</div>	<div>OM-3L OM-3R</div> <div></div> <div>12"x36"</div>	<div>M4-9</div> <div></div> <div>STD. 30"x24" SPECIAL 48"x36" SPECIAL 60"x48"</div>	<div>M4-10</div> <div></div> <div>48"x18"</div>	<div>R55-I</div> <div></div> <div>36"x60" • USE 6" C LETTERS •• USE 4" D LETTERS</div>

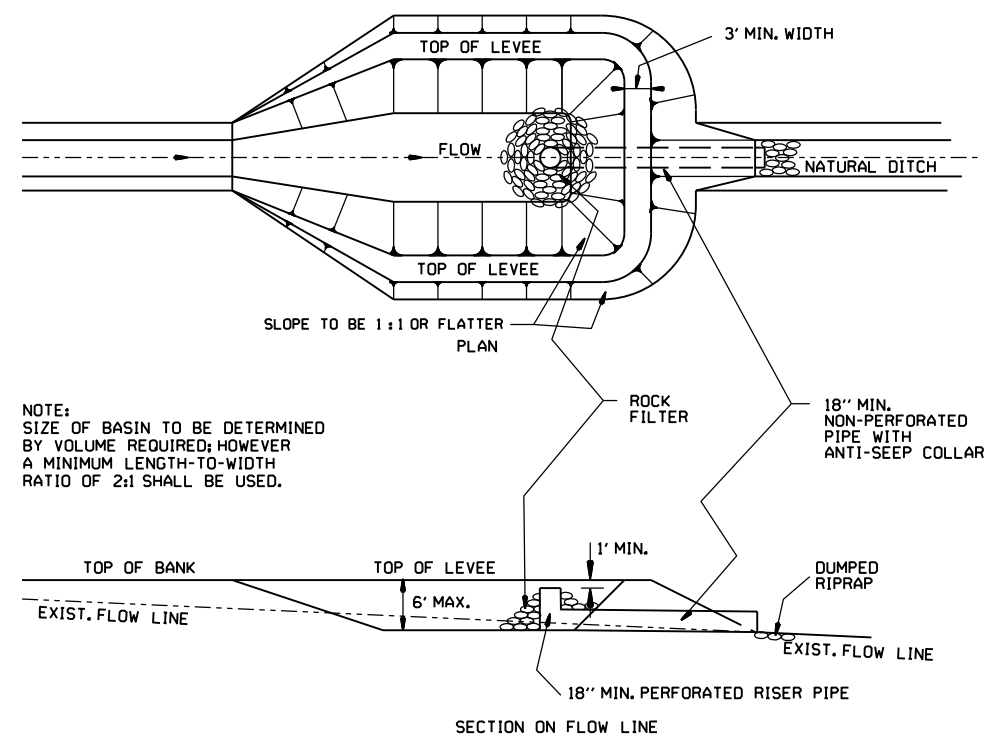
II-07-19	REVISED FOR MASH	
4-13-17	DELETED RSP-1 & ADDED W2I-5a	
9-2-15	REVISED REDUCED SPEED LIMIT AHEAD SIGNS REVISED ROAD WORK NEXT XX MILES	
12-15-11	REVISED W24-1	
11-17-10	DELETED W8-9a & ADDED W8-9	
10-15-09	ADDED REFERENCE TO MASH & ADDED SIGN W24-1	
4-17-08	REVISED SIGN DESIGNATIONS	
11-18-04	REVISED NOTES	
10-9-03	REVISED NOTE 1	
11-16-01	REVISED NOTE 7	
9-28-00	REVISED NOTE	
11-18-98	ADDED NOTE	
6-26-97	REVISED NOTE 5	
4-03-97	REVISED NOTE 5	
10-18-96	ADDED CONTROLLED ACCESS HWY. SIGN & TO NOTE 7	
10-12-95	ADDED R55-1	
6-8-95	REVISED TO CORRECT SIGN ILLUSTRATIONS	6-8-95
2-2-95	REVISED PER PART VI, MUTCD SEPT. 3, 1993	
8-15-91	DRAWN AND PLACED IN USE	
DATE	REVISION	FILMED

ARKANSAS STATE HIGHWAY COMMISSION
STANDARD TRAFFIC CONTROLS
FOR HIGHWAY CONSTRUCTION
STANDARD DRAWING TC-1

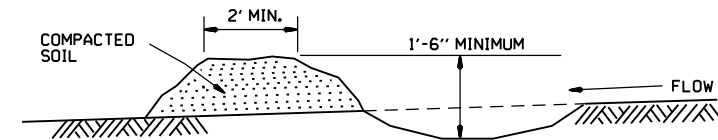




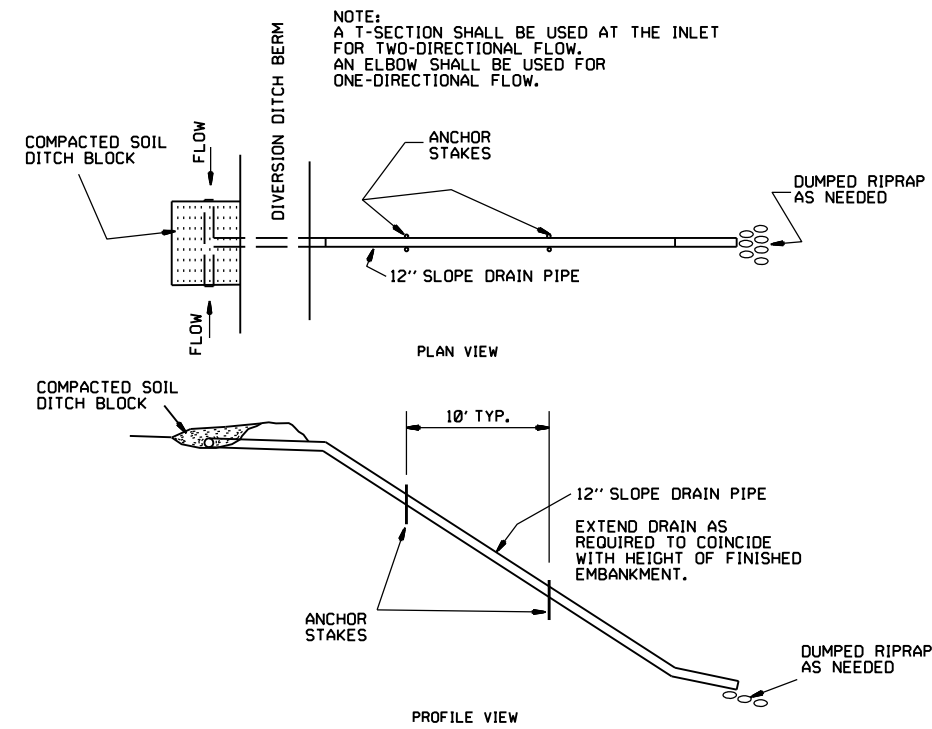
SEDIMENT BASIN WITH RIPRAP OUTLET (E-9)



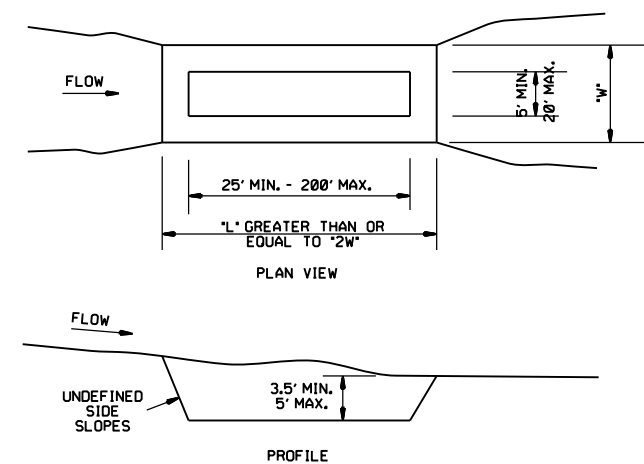
SEDIMENT BASIN WITH PIPE OUTLET (E-10)



DIVERSION DITCH (E-8)



SLOPE DRAIN (E-12)



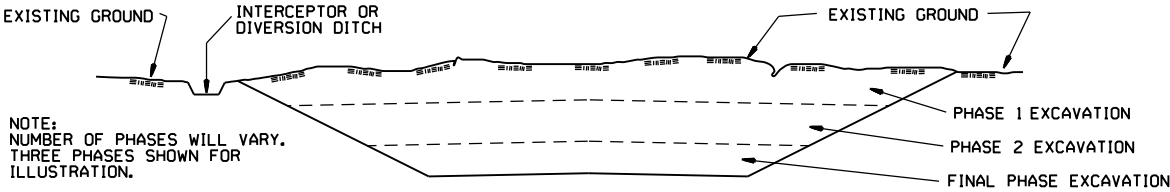
SEDIMENT BASIN (E-14)

6-2-94	Revised E-8 & E-12; Added E-14 & Deleted E-13		ARKANSAS STATE HIGHWAY COMMISSION
4-1-93	ISSUED		TEMPORARY EROSION CONTROL DEVICES
DATE	REVISION	FILMED	STANDARD DRAWING TEC-2

CLEARING AND GRUBBING

- CONSTRUCTION SEQUENCE
- 1. PLACE PERIMETER CONTROLS (I.E. SILT FENCES ,DIVERSION DITCHES, SEDIMENT BASINS, ETC.)
 - 2. PERFORM CLEARING AND GRUBBING OPERATION.

EXCAVATION

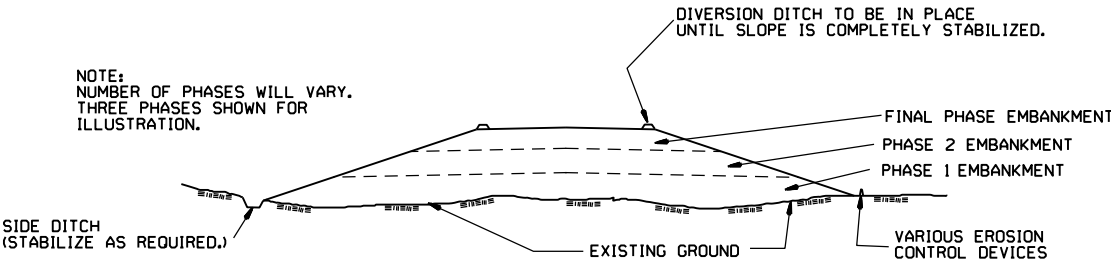


GENERAL NOTE

ALL CUT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE EXCAVATED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

- CONSTRUCTION SEQUENCE
- 1. EXCAVATE AND STABILIZE INTERCEPTOR AND/OR DIVERSION DITCHES.
 - 2. PERFORM PHASE 1 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 - 3. PERFORM PHASE 2 EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING.
 - 4. PERFORM FINAL PHASE OF EXCAVATION. PLACE PERMANENT OR TEMPORARY SEEDING. STABILIZE DITCHES. CONSTRUCT DITCH CHECKS, DIVERSION DITCHES, SEDIMENT BASINS, OR OTHER EROSION CONTROL DEVICES AS REQUIRED.

EMBANKMENT

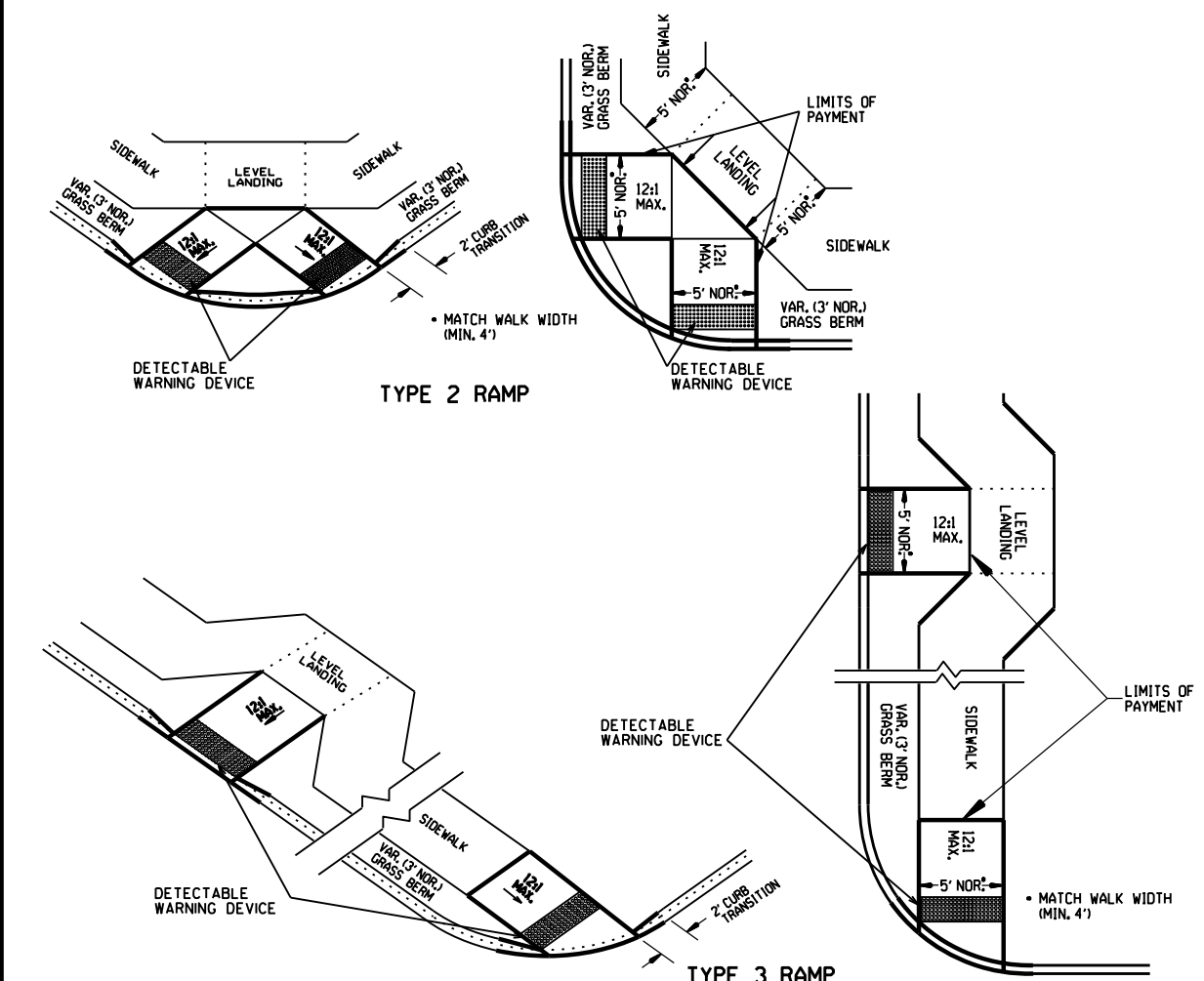
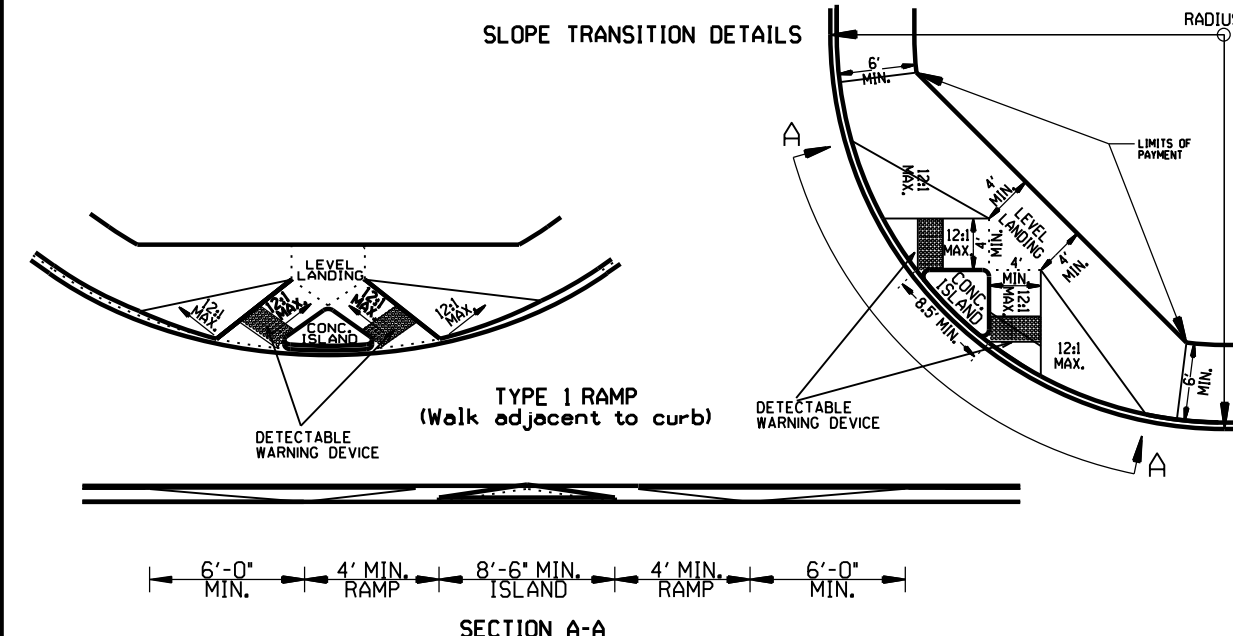
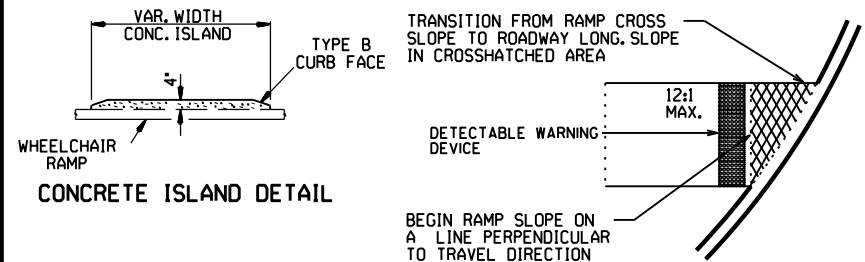


GENERAL NOTE

ALL EMBANKMENT SLOPES SHALL BE DRESSED, PREPARED, SEEDED, AND MULCHED AS THE WORK PROGRESSES. SLOPES SHALL BE CONSTRUCTED AND STABILIZED IN EQUAL INCREMENTS NOT TO EXCEED 25 FEET, MEASURED VERTICALLY.

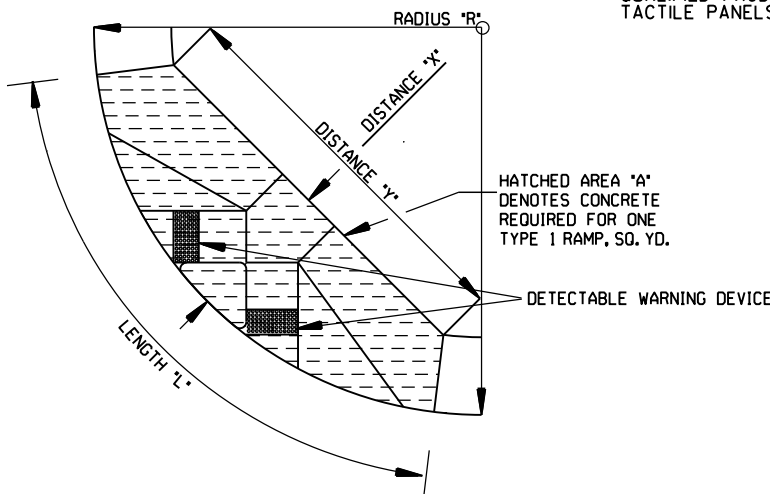
- CONSTRUCTION SEQUENCE
- 1. CONSTRUCT DIVERSION DITCHES, DITCH CHECKS, SEDIMENT BASINS, SILT FENCES, OR OTHER EROSION CONTROL DEVICES AS SPECIFIED.
 - 2. PLACE PHASE 1 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
 - 3. PLACE PHASE 2 EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PROVIDE DIVERSION DITCHES AND SLOPE DRAINS IF EMBANKMENT CONSTRUCTION IS TO BE TEMPORARILY ABANDONED FOR A PERIOD OF GREATER THAN 21 DAYS.
 - 4. PLACE FINAL PHASE OF EMBANKMENT WITH PERMANENT OR TEMPORARY SEEDING. PLACE DIVERSION DITCHES AND SLOPE DRAINS AND MAINTAIN UNTIL ENTIRE SLOPE IS STABILIZED.

			ARKANSAS STATE HIGHWAY COMMISSION
			TEMPORARY EROSION CONTROL DEVICES
11-03-94	CORRECTED SPELLING		STANDARD DRAWING TEC-3
6-2-94	Drawn & Issued	6-2-94	
DATE	REVISION	FILMED	

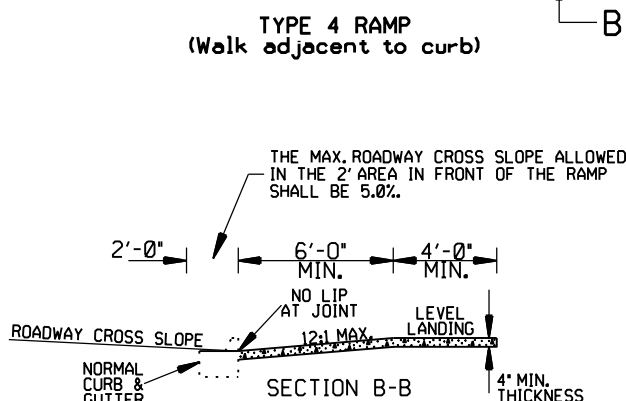
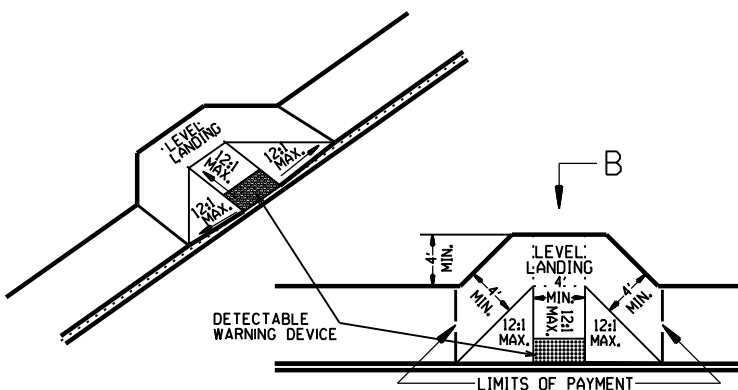


TYPE 1 RAMP DIMENSIONS AND QUANTITIES

RADIUS "R"	DISTANCE "X"	DISTANCE "Y"	LENGTH "L"	RAMP AREA "A"
FEET	FEET	FEET	FEET	SQ. YD.
15	11.67	18.82	32.18	26.21
20	11.52	22.28	35.46	30.07
25	11.43	26.60	38.77	33.80
30	11.37	30.26	40.93	36.90
35	11.33	33.51	43.11	39.77
40	11.30	36.45	45.26	42.45
45	11.27	39.16	47.34	44.97
50	11.25	41.69	49.36	47.35
55	11.24	44.07	51.31	49.63
60	11.22	46.33	53.21	51.80



NOTE: THE CROSS SLOPE OF THE RAMPS, LEVEL LANDINGS, AND SIDEWALKS SHALL NOT EXCEED 2.0% UNLESS REQUIRED TO MATCH STREET LONGITUDINAL GRADE.



GENERAL NOTES FOR DETECTABLE WARNING DEVICES

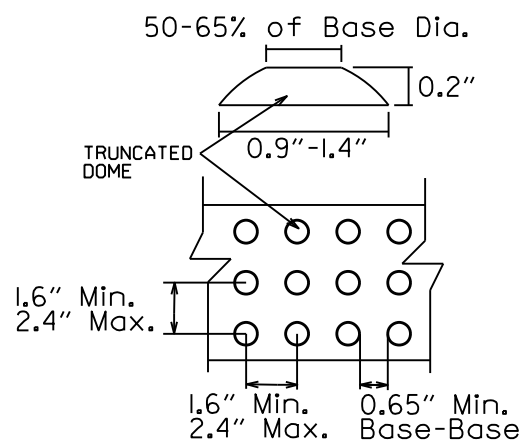
THE DETECTABLE WARNING DEVICE SHALL BE LOCATED SO THAT THE NEAREST EDGE OF THE DEVICE IS 6 TO 8 INCHES FROM THE FACE OF THE CURB.

TRUNCATED DOMES IN THE DETECTABLE WARNING SURFACE SHALL MEET THE REQUIREMENTS OF THE GEOMETRIC CONFIGURATION SHOWN.

DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.

DETECTABLE WARNING DEVICE SHALL BE 24 INCHES IN THE DIRECTION OF TRAVEL AND EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE.

DETECTABLE WARNING DEVICE SHALL BE ON THE ARDOT QUALIFIED PRODUCTS LIST FOR CAST-IN-PLACE TACTILE PANELS (ADA DETECTABLE WARNING).



DETECTABLE WARNING DEVICE DETAIL

GENERAL NOTES:

IN NEW CONSTRUCTION, UNLESS OTHERWISE INDICATED ON THE PLANS, WHEELCHAIR RAMPS ARE TO BE PROVIDED AT ALL CORNERS OF CURBED STREET INTERSECTIONS AND MID-BLOCK CROSSWALK LOCATIONS.

IN ALTERATIONS WHEELCHAIR RAMPS ARE TO BE PROVIDED AT CURBED STREET INTERSECTIONS WITH PEDESTRIAN TRAFFIC AND MID-BLOCK CROSSWALK LOCATIONS.

THE LENGTH OF THE RAMP SHALL BE SUCH THAT THE SLOPE DOES NOT EXCEED 12:1. THE SURFACE TEXTURE OF THE RAMP SHALL CONFORM TO A CLASS 6 FINISH ACCORDING TO SECTION 802.19.

THE NORMAL GUTTER GRADE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.

ALL PAYEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.

THE MINIMUM THICKNESS OF THE RAMP, WALK, & LANDING SHALL BE 4".

THE MINIMUM WIDTH OF THE RAMPS SHALL BE THE WALK WIDTH OR 36", WHICHEVER IS GREATER.

RAMPS SHALL BE MODIFIED AS NECESSARY TO INSURE THAT THEY ARE PARALLEL TO A LINE DRAWN FROM THE CENTER OF ONE RAMP TO THE CENTER OF THE RAMP ON THE OPPOSITE SIDE OF THE INTERSECTION.

THE DIMENSIONS AND QUANTITIES SHOWN ON THIS DRAWING ARE FOR A 90° INTERSECTION ONLY. DIMENSIONS AND QUANTITIES FOR SKEWED INTERSECTIONS WILL VARY, AND ARE TO BE DETERMINED BY THE ENGINEER.

RAMP SELECTION CRITERIA

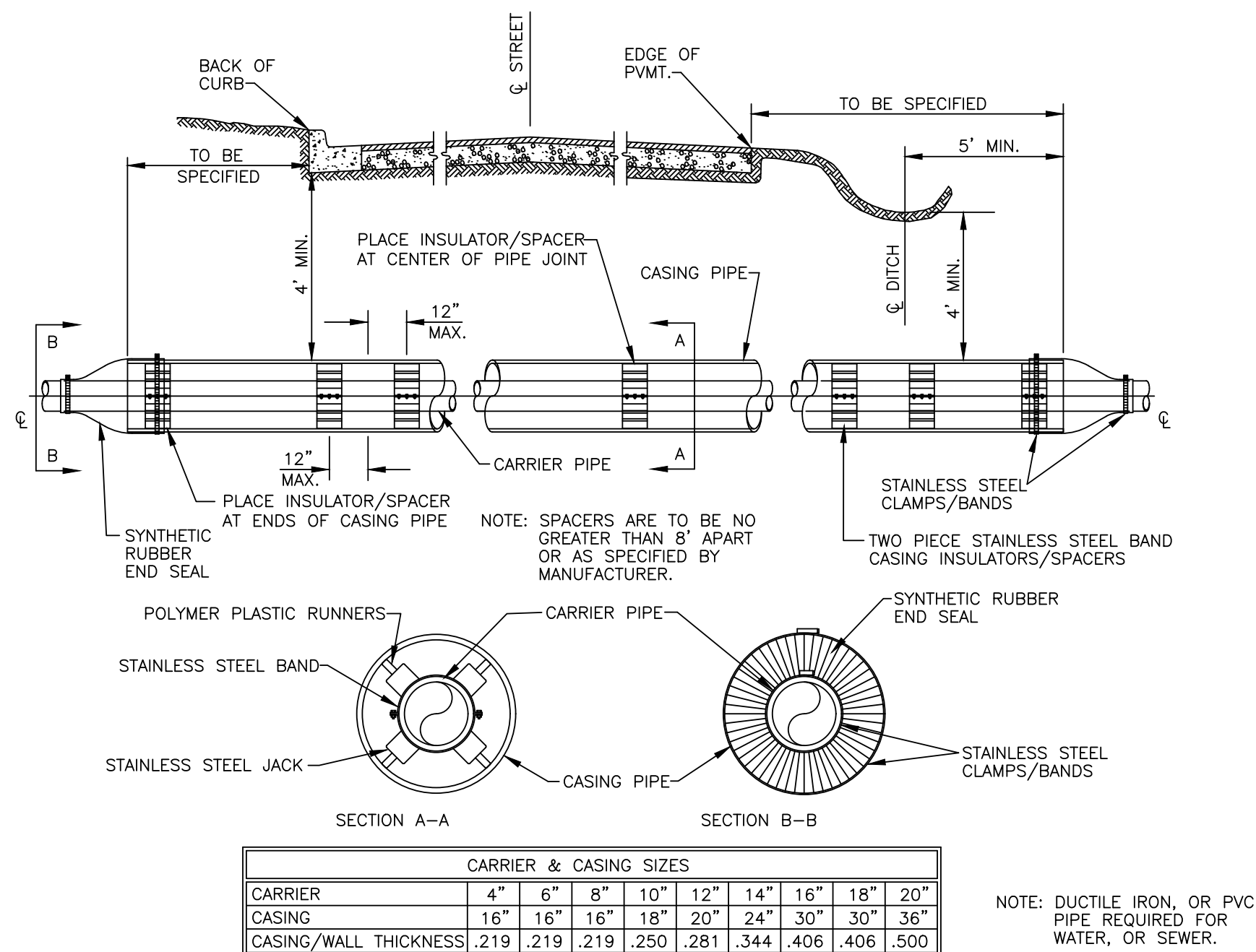
FIRST CHOICE	TYPE 1	CORNER LOCATIONS WITH THE WALK ADJACENT TO THE CURB (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 2	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE INSUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 3	CORNER LOCATIONS WITH THE WALK OFFSET FROM THE CURB A DISTANCE SUFFICIENT TO ALLOW THE REQUIRED RAMP SLOPE (BOTH NEW CONSTRUCTION AND ALTERATIONS).
SECOND CHOICE	TYPE 4	TANGENT LOCATIONS (BOTH NEW CONSTRUCTION AND ALTERATIONS).
	TYPE 5	TANGENT LOCATIONS (ALTERATIONS ONLY).
THIRD CHOICE	TYPE 6	CORNER LOCATIONS (ALTERATIONS ONLY). THIS RAMP MAY BE USED ONLY IF THE TYPE 5 RAMPS CANNOT BE PLACED AT THE ENDS OF THE RADIUS.
FOURTH CHOICE		IF SITE CONSTRAINTS PREVENT THE CONSTRUCTION OF ANY OF THE TYPES LISTED, THEN AND ONLY THEN CAN THE 12:1 MAX. SLOPE ON THE RAMP BE EXCEEDED TO PROVIDE ACCESS TO THE STREET LEVEL (ALTERATIONS ONLY). THE SLOPE CAN BE STEEPENED TO A 10:1 MAX. FOR A MAX. LENGTH OF 5' OR A 8:1 MAX. FOR A MAX. LENGTH OF 2'. SLOPES STEEPER THAN 8:1 ARE NOT ALLOWED UNDER ANY CIRCUMSTANCES.

NOTE: IN ALTERATIONS, THE SELECTION OF THE TYPE OF WHEELCHAIR RAMP TO BE CONSTRUCTED SHALL BE BASED ON THE AMOUNT OF RIGHT-OF-WAY AVAILABLE, AND ON THE PRESENCE OF OTHER SITE CONSTRAINTS (UTILITIES, BUILDINGS, ETC.). THE TABLE ABOVE LISTS THE ORDER IN WHICH THE RAMPS ARE TO BE CONSIDERED.

AN ALTERATION IS DEFINED AS A PROJECT THAT CHANGES OR AFFECTS THE USE OF A PEDESTRIAN PATHWAY (OVERLAYS, SIGNALIZATION PROJECTS, ETC.) BUT DOES NOT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY. ALL PROJECTS THAT REQUIRE THE PURCHASE OF ADDITIONAL RIGHT-OF-WAY WILL USUALLY BE CONSIDERED NEW CONSTRUCTION FOR THE PURPOSES OF THE CHART ABOVE.

DATE	REVISION	DATE FILM
11-10-05	REVISED TO NEW SIDEWALK POLICY	
10-9-03	REVISED GEN. NOTES & ADDED NOTE	
4-10-03	REV. DETECTABLE WARNING DEVICES	
8-22-02	ADD DETECTABLE WARNING DEVICES	
3-30-00	ADD SLOPE TRANS. & REV. ISL. DIMS.	
11-8-98	REVISED NOTES	
8-12-98	REVISED TEXTURE	
7-02-98	REDRAWN & REISSUED	
10-18-96	CORRECTED DIMENSIONS	10-18-96
5-24-90	FROM 8:1 TO 12:1 MAX. SLOPES	5-24-90
7-15-88	ADJUSTED MAX. SLOPE	652-7-15-88
7-14-88	INCLUD. "CONC. ISLD." IN PAY ITEM	-----
6-02-76	ISSUED-P.H.D.	299-7-28-76

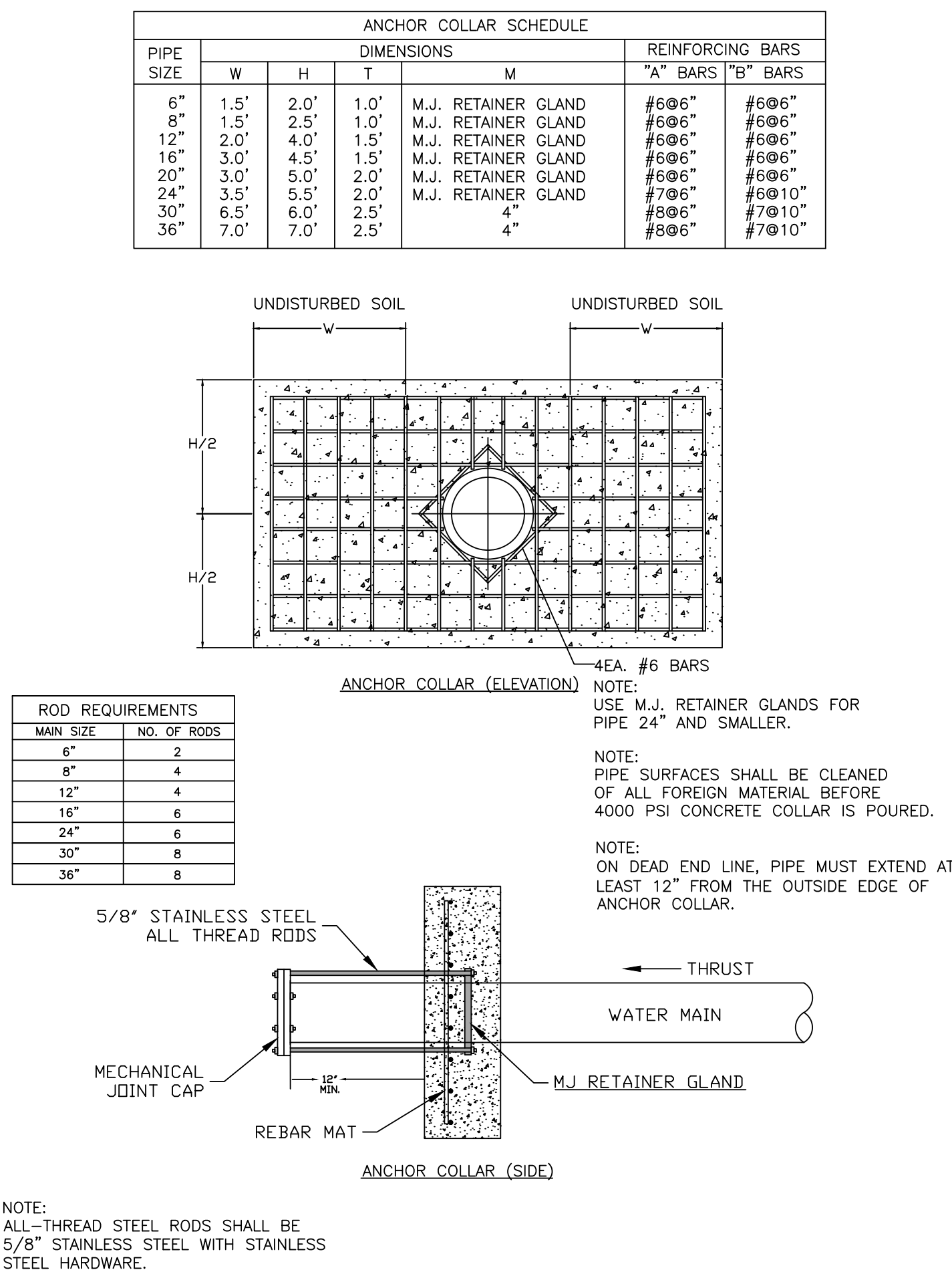
ENCASEMENT DETAIL



*ALL BELLS SHALL BE RESTRAINED INSIDE ENCASEMENT BY APPROVED METHOD.

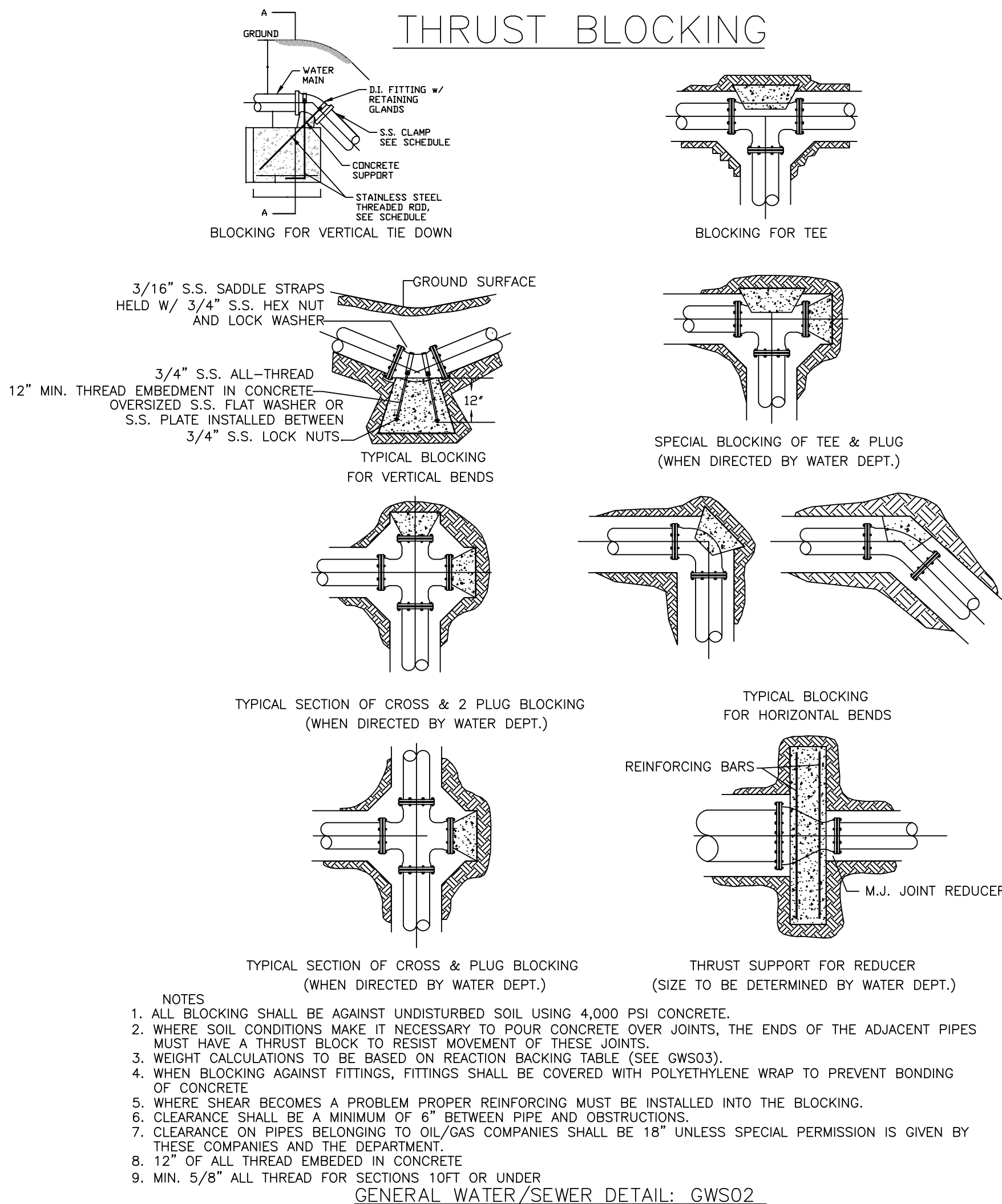
GENERAL WATER/SEWER DETAIL: GWS01

ANCHOR COLLAR SPECIFICATIONS



GENERAL WATER/SEWER DETAIL: GWS04

THRUST BLOCKING



GENERAL WATER/SEWER DETAIL: GWS02

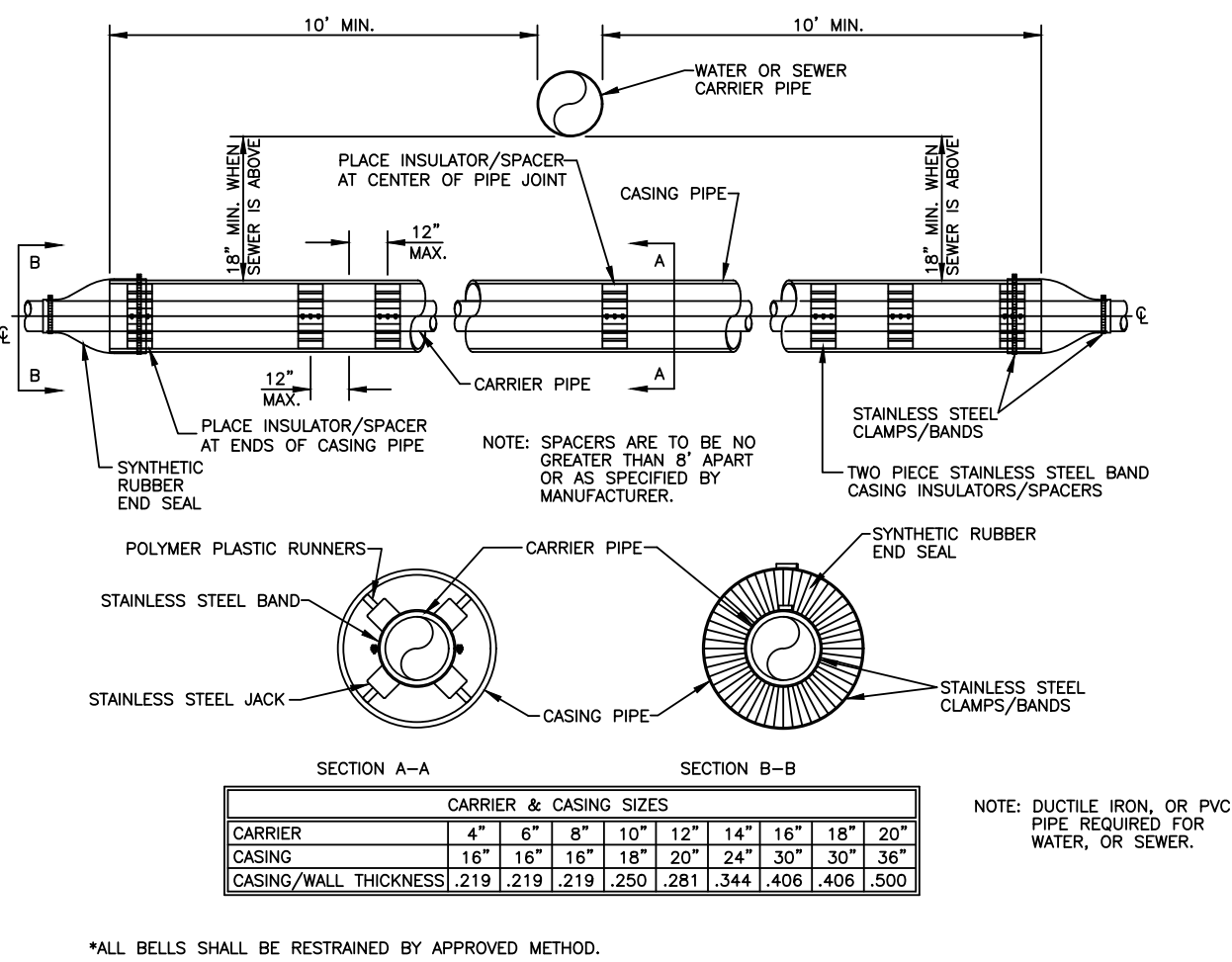
REACTION BACKING TABLE

BLOCKING SCHEDULE						
PIPE SIZE		BENDS			ROD DIA.	
		45'	22 1/2'	11 1/4'		
8"	VOLUME REQ'D (CU. FT.)	98.5	50.2	25.2	3/4 IN.	
	A (FT.)	5.00'	4.00'	3.00'		
	B (FT.)	4.00'	3.20'	2.80'		
	C (FT.)	5.00'	4.00'	3.00'		
12"	VOLUME REQ'D (CU. FT.)	209.5	106.8	53.7	3/4 IN.	
	A (FT.)	6.00'	5.00'	4.00'		
	B (FT.)	6.00'	4.25'	3.50'		
	C (FT.)	6.00'	5.00'	4.00'		
18"	VOLUME REQ'D (CU. FT.)	457.2	233.1	117.1	1 IN.	
	A (FT.)	8.00'	6.50'	5.00'		
	B (FT.)	7.25'	5.50'	4.75'		
	C (FT.)	8.00'	6.50'	5.00'		
24"	VOLUME REQ'D (CU. FT.)	800.3	408.0	205.0	1 1/4 IN.	
	A (FT.)	9.50'	7.50'	6.00'		
	B (FT.)	9.00'	7.25'	5.75'		
	C (FT.)	9.50'	7.50'	6.00'		

- NOTES:
1. ALL FITTINGS SHALL BE MECHANICAL JOINTS.
 2. DO NOT COVER BELLS OR FLANGES WITH CONCRETE.
 3. WRAP ALL FITTINGS WITH POLY WRAP.
 4. BACK ALL TEES ACCORDING TO SIZE OF BRANCH.
 5. BACKING FUTURE LINE EXTENSIONS SHALL BE SUCH THAT LATER REMOVAL IS POSSIBLE.
 6. ALL BENDS WHERE FITTINGS ARE USED, BOTH HORIZONTAL OR VERTICAL, SHALL BE BACKED WITH CONCRETE.
 7. REACTION BACKING TABLE IS BASED ON 150 PSI AND SOIL BEARING PRESSURE OF 2,000 LB/SQ. FT. ADDITIONAL BACKING MAY BE REQUIRED IN SOME AREAS AS REQUIRED BY CITY WATER DEPARTMENT.

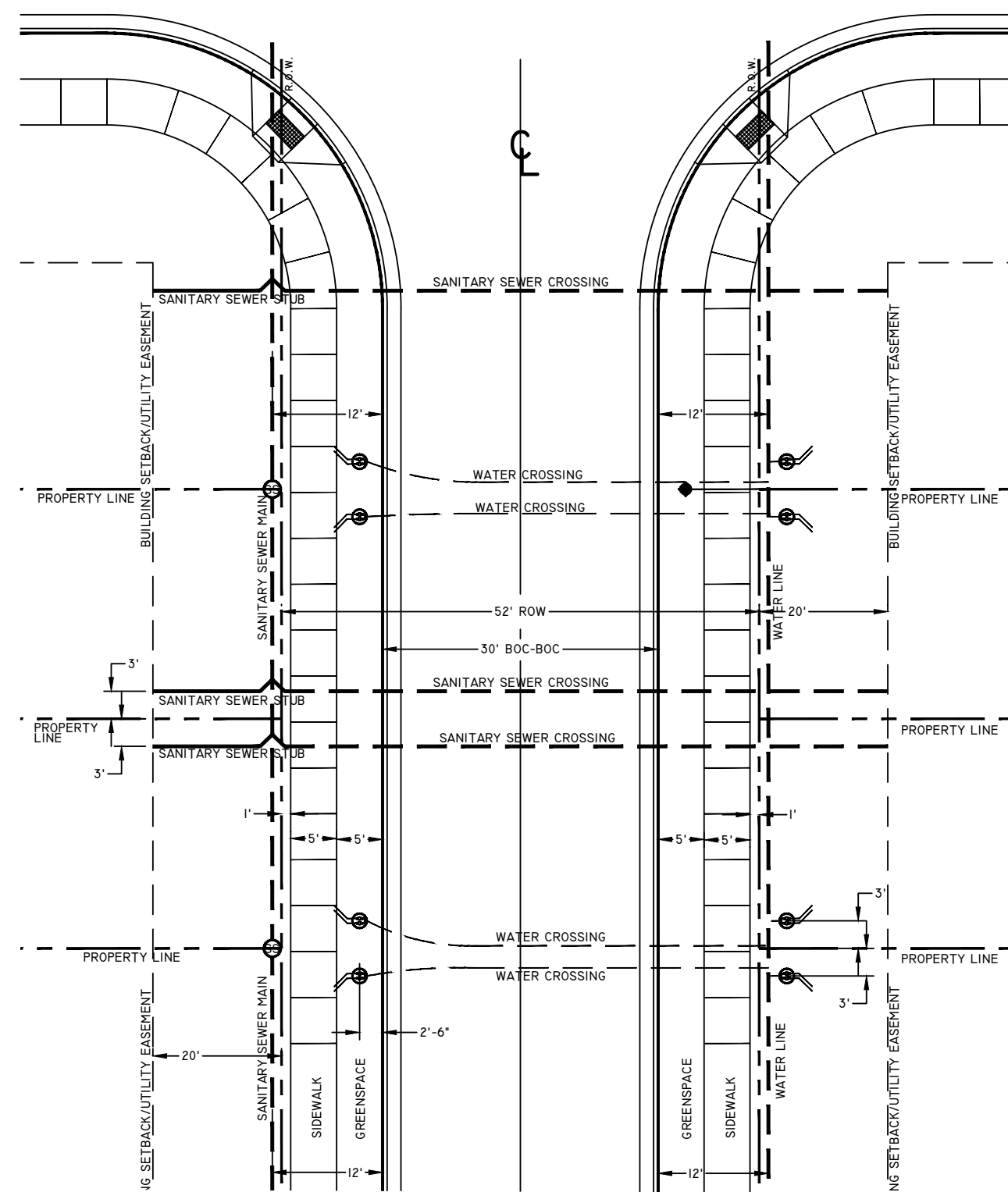
GENERAL WATER/SEWER DETAIL: GWS03

ENCASEMENT CROSSING DETAIL



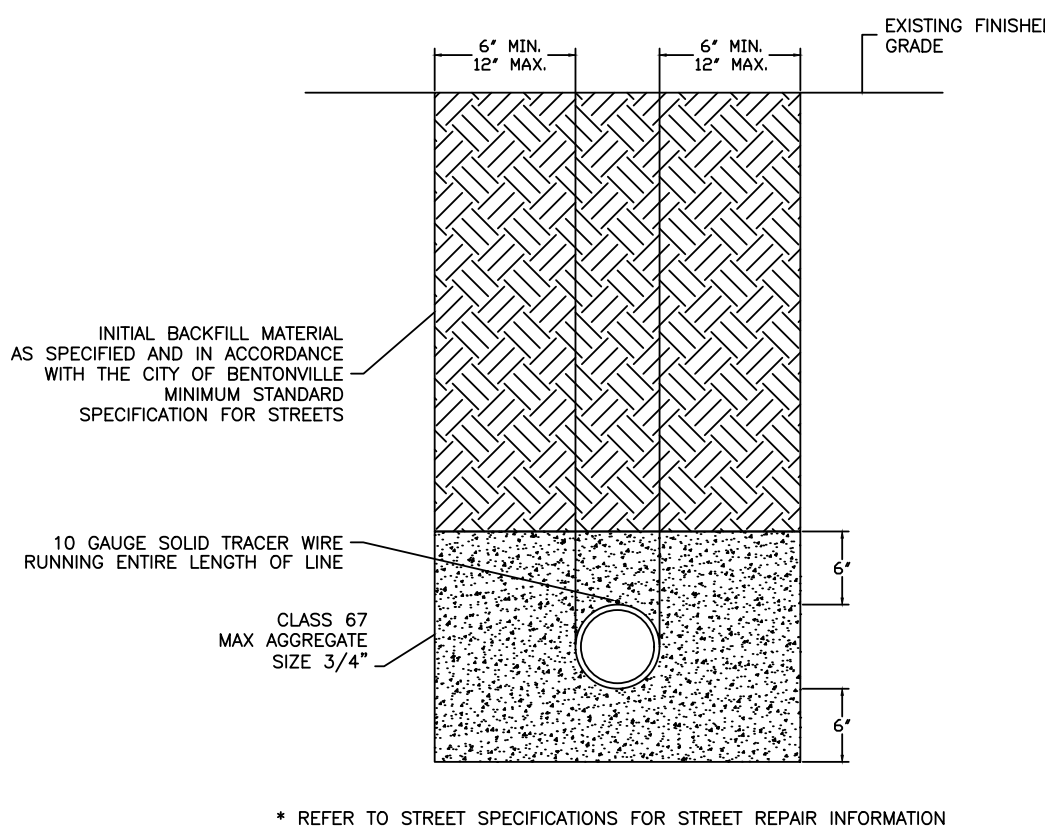
GENERAL WATER/SEWER DETAIL: GWS05

SUBDIVISION UTILITY PLACEMENT



GENERAL WATER/SEWER DETAIL: GWS06

TYPICAL BEDDING DETAIL



GENERAL WATER/SEWER DETAIL: GWS07



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WATER/SEWER DETAILS

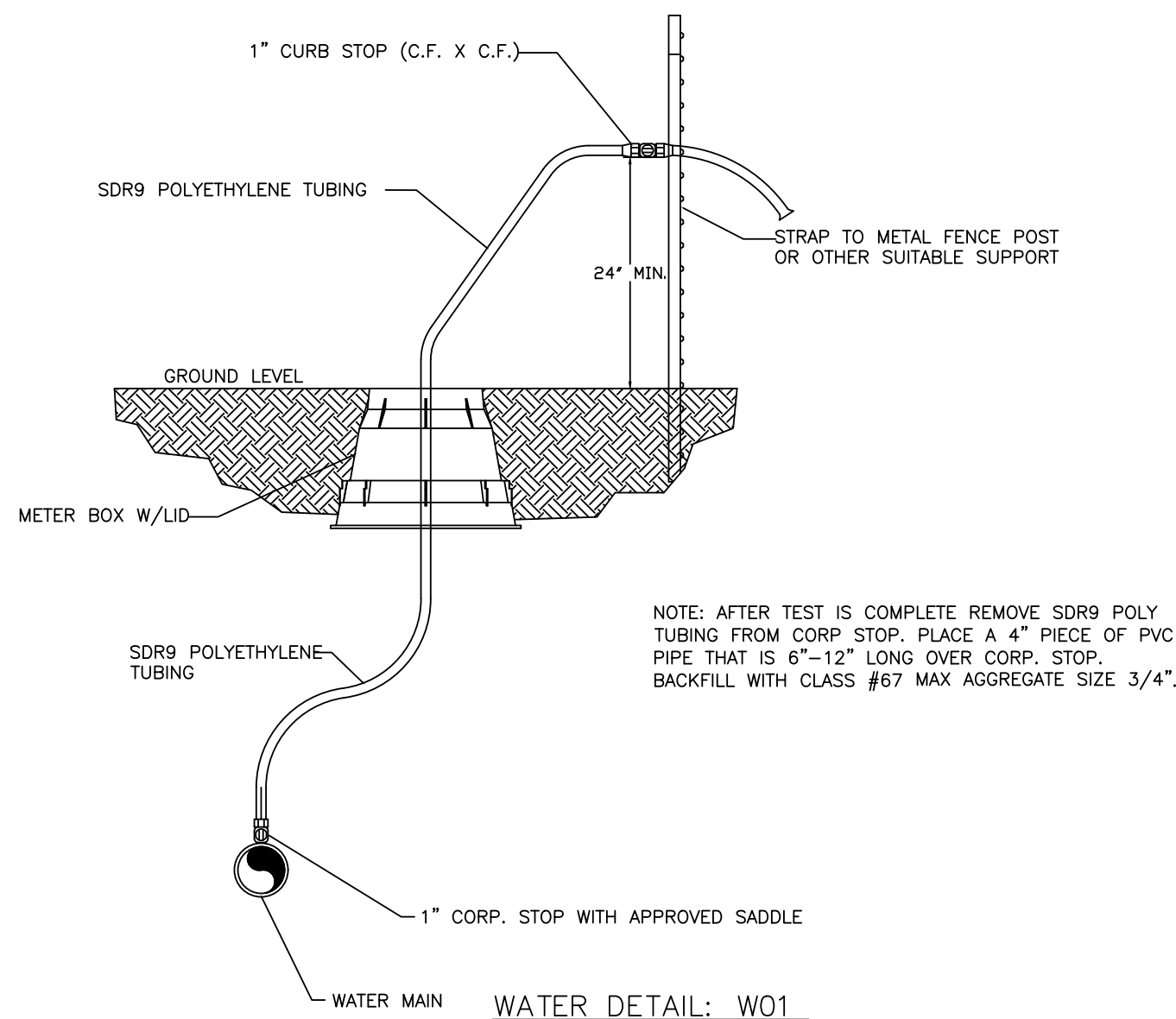


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Ordinance Number: 2021-135

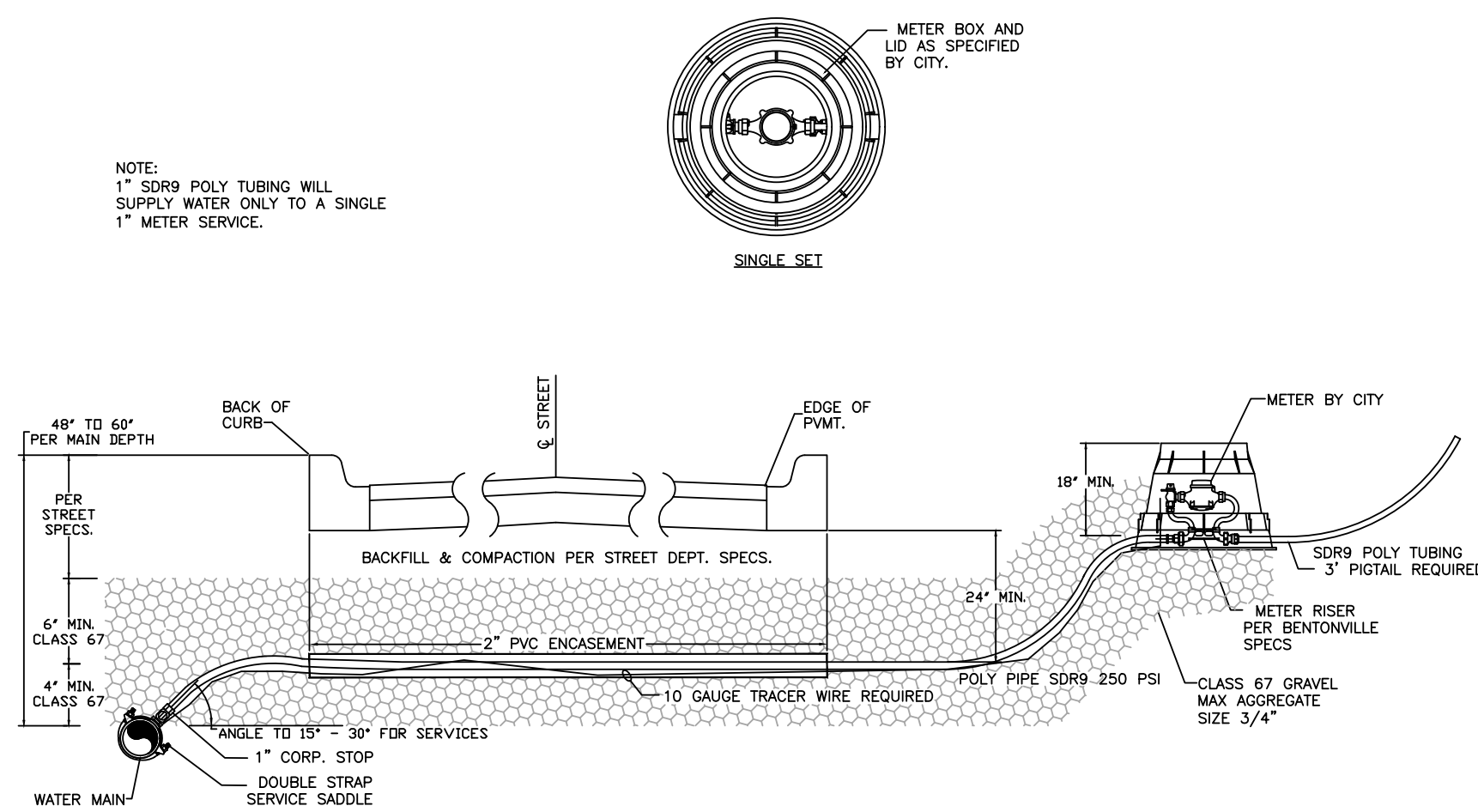
DRAWN BY: JI	DATE: 03/16/2021
APPROVED BY: PN	DATE: 03/16/2021
SHEET NUMBER: 1	OF 1

TEMPORARY 1" BLOW OFF ASSEMBLY
SAMPLE POINTS



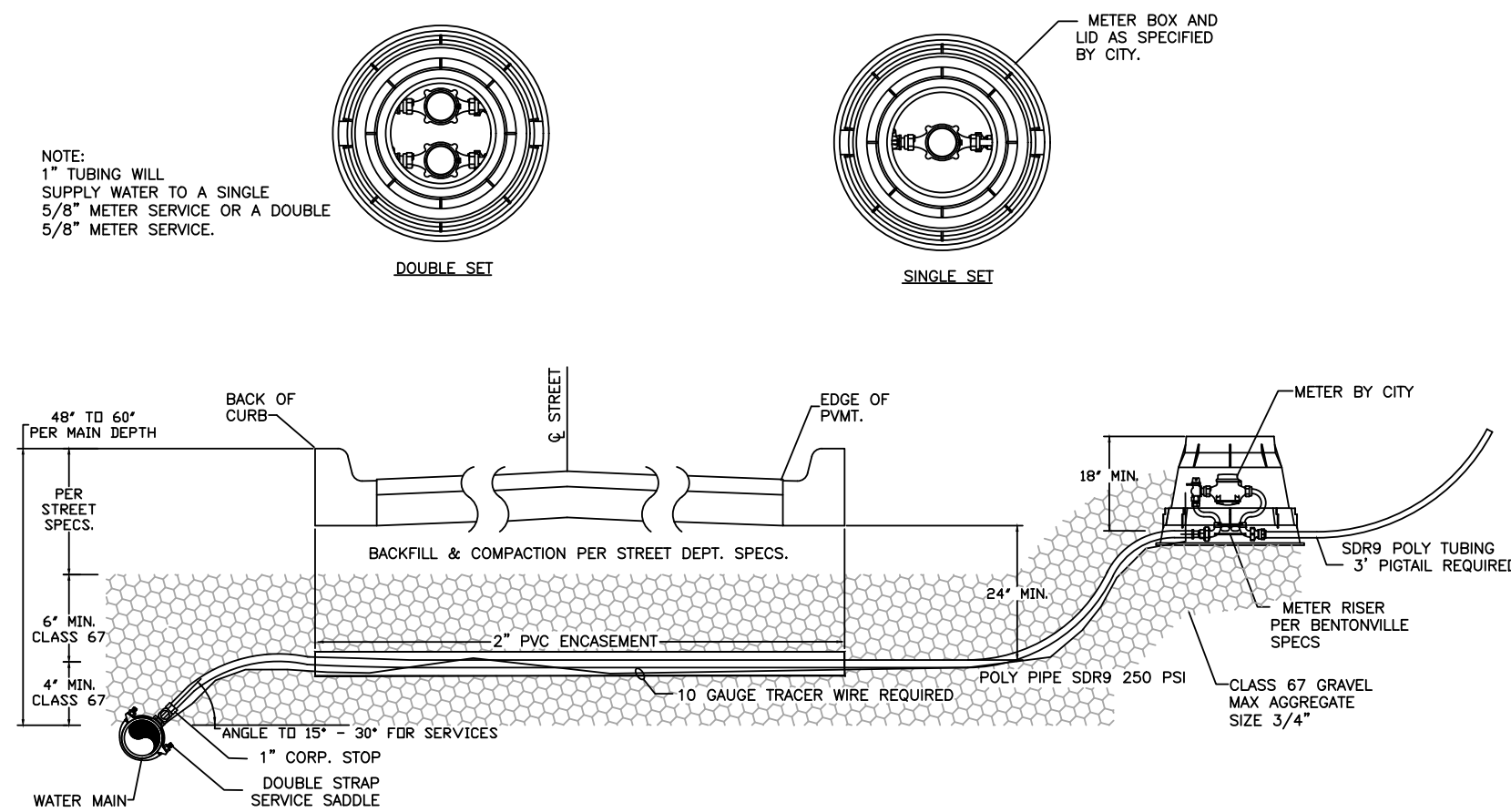
WATER DETAIL: W01

WATER SERVICE DETAIL 1"



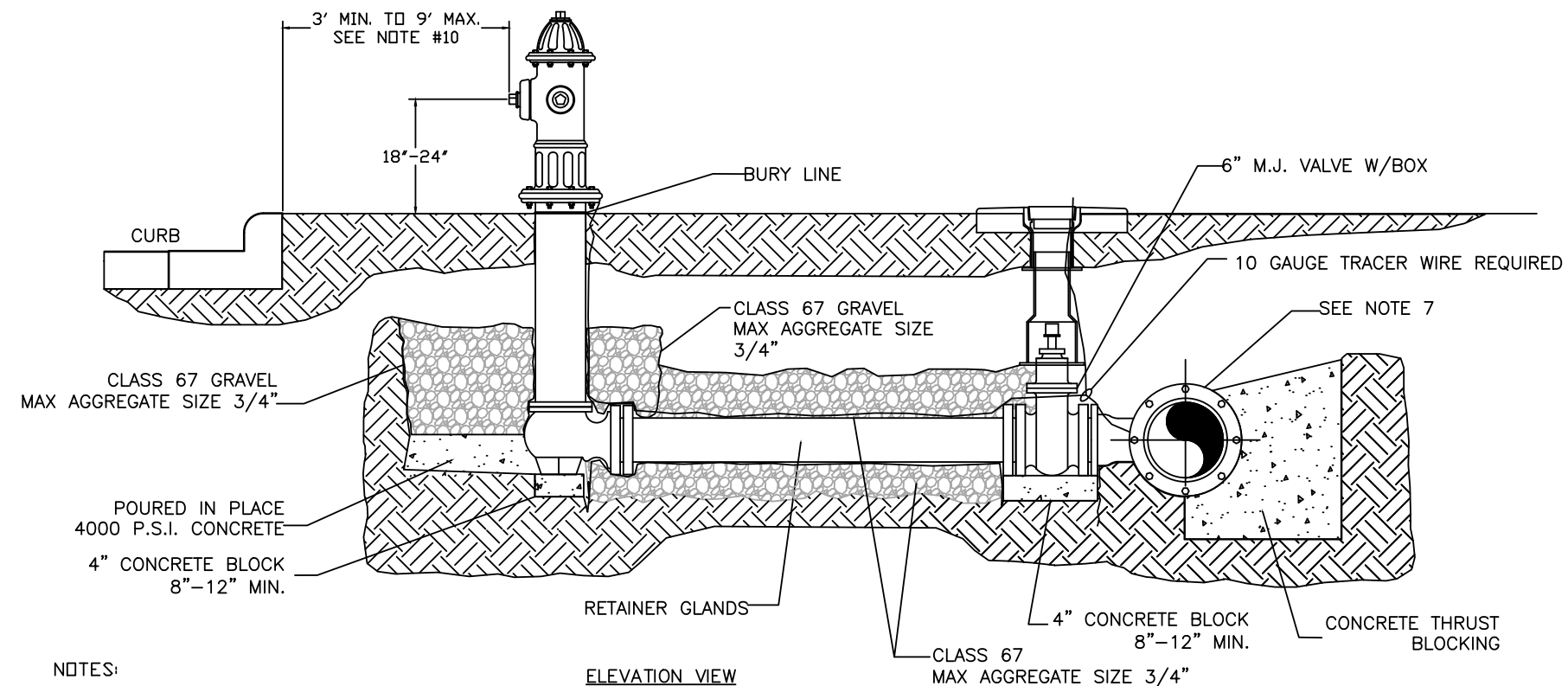
WATER DETAIL: W02

WATER SERVICE DETAIL 5/8"



WATER DETAIL: W03

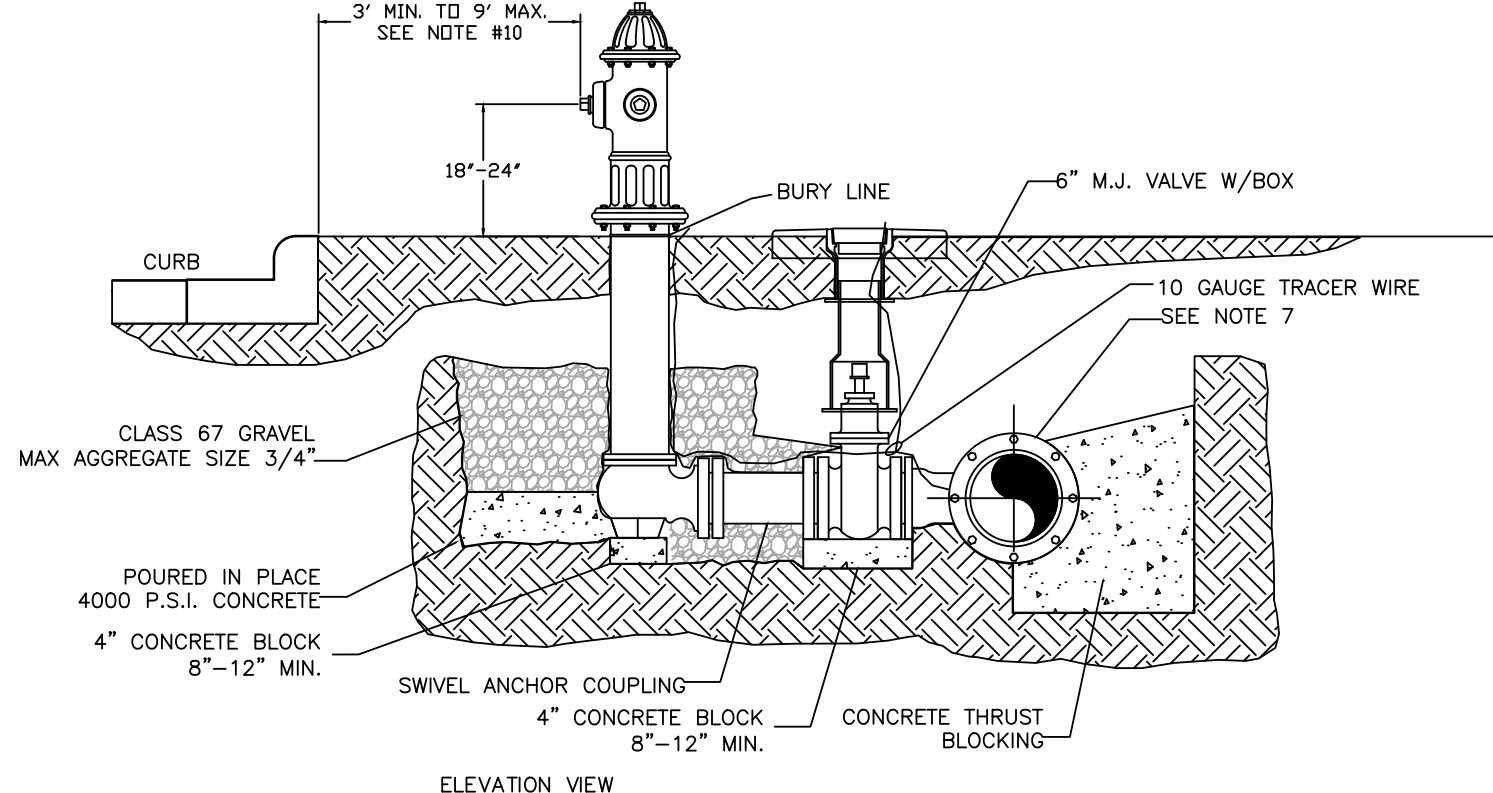
FIRE HYDRANT DETAIL W/
RETAINER GLANDS



- NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
 2. USE 6" NIPPLE WITH M.J. RETAINER GLANDS IF DISTANCE BETWEEN VALVE AND HYDRANT MUST BE GREATER THAN 13" SWIVEL ADAPTER.
 3. FIRE HYDRANT TO BE BLOCKED AGAINST FIRM SOIL AS SHOWN.
 4. ALL HYDRANTS SHALL BE INSTALLED PLUMB.
 5. LARGE NOZZLE SHALL FACE CURB UNLESS OTHERWISE NOTED. ROTATE BARREL AS REQUIRED.
 6. HYDRANT SHOULD NOT BE SET CLOSER THAN 4.0' TO OBSTRUCTIONS THAT ARE IN LINE WITH NOZZLE.
 7. M.J. ANCHOR TEE, TAPPING SLEEVE OR TAPPING SADDLE MAY BE USED (SEE MATERIAL SPECIFICATIONS).
 8. HYDRANTS TO BE SET AT DEPTHS GREATER THAN 6.0' SHALL BE SET WITH A MODIFIED FIRE HYDRANT SETTING.
 9. POLYWRAP ENTIRE HYDRANT ASSEMBLY. DO NOT COVER WEEP HOLE DRAIN.
 10. HYDRANTS WILL BE SET AT A MINIMUM OF 3' TO A MAXIMUM OF 9' BACK OF CURB OR EDGE OF DRAINING SURFACE, NOT IN SIDEWALK, FIRE LANE, OR RADIUS OR AS DIRECTED BY BENTONVILLE WATER DEPARTMENT.

WATER DETAIL: W04

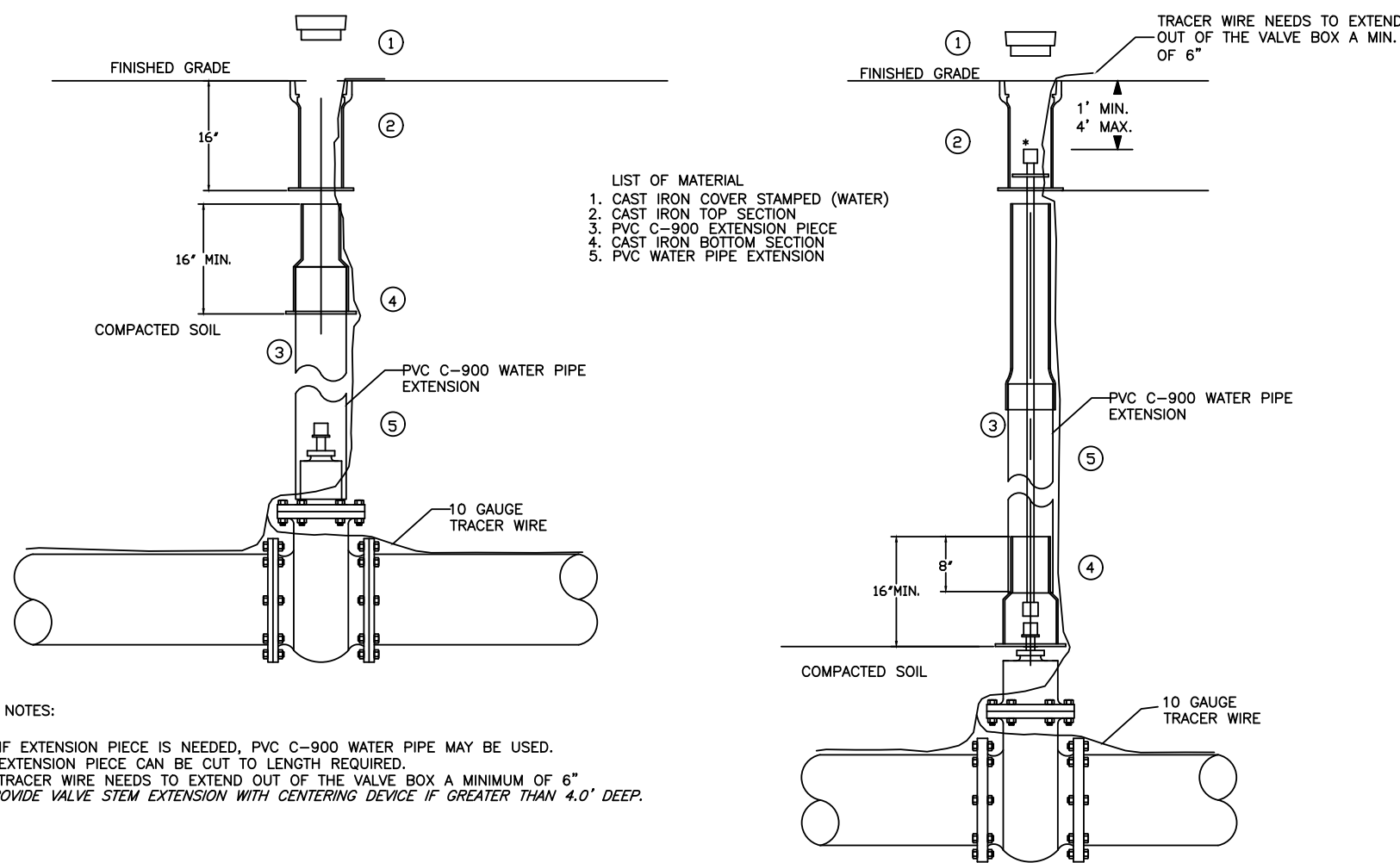
FIRE HYDRANT DETAIL W/SWIVEL ANCHOR COUPLING



- NOTES:
1. DRAINAGE BED SHALL CONSIST OF CLASS 67 GRAVEL WITH A MAX AGGREGATE SIZE OF 3/4".
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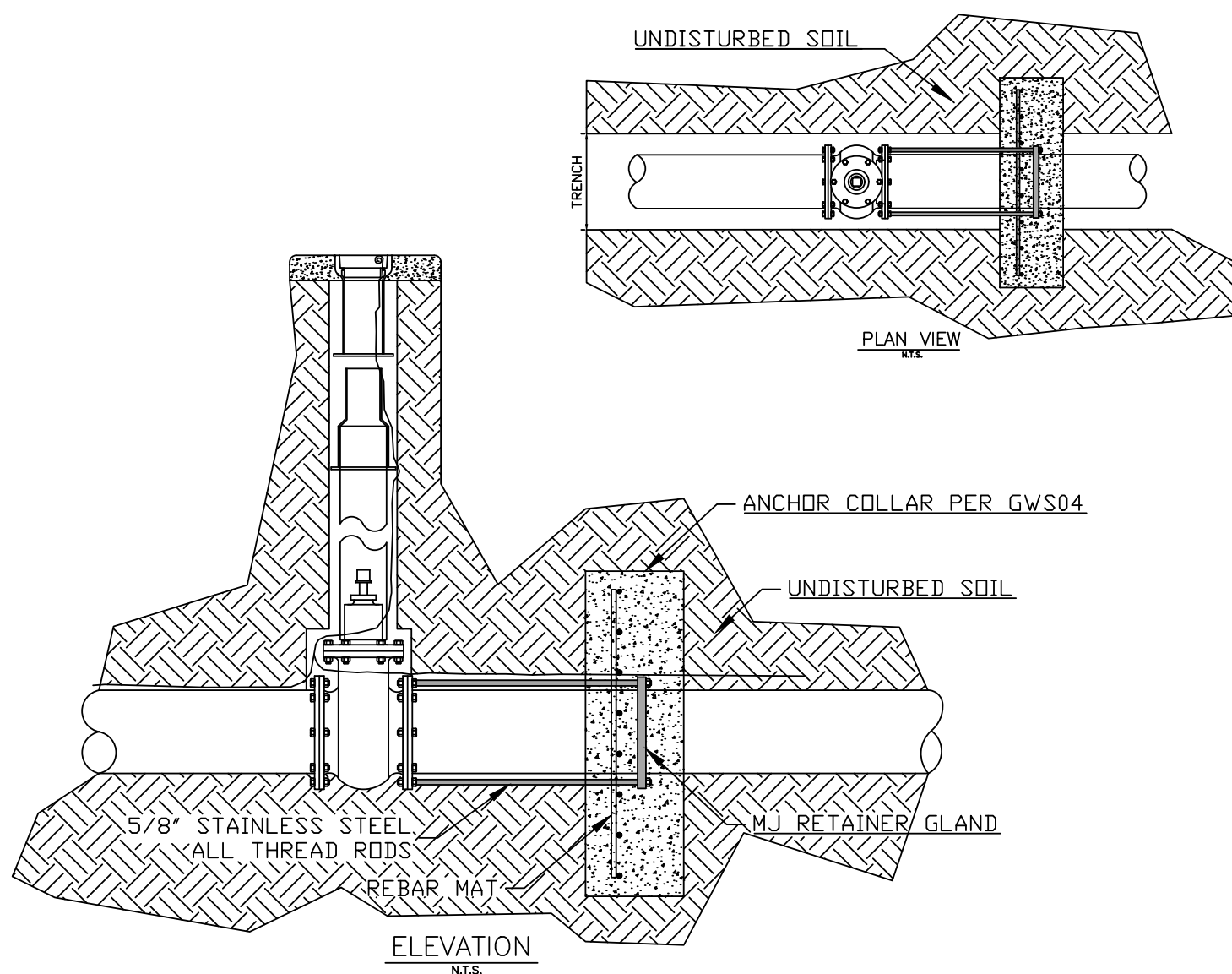
WATER DETAIL: W05

VALVE BOX VALVE STEM & TRACER
WIRE INSTALLATION



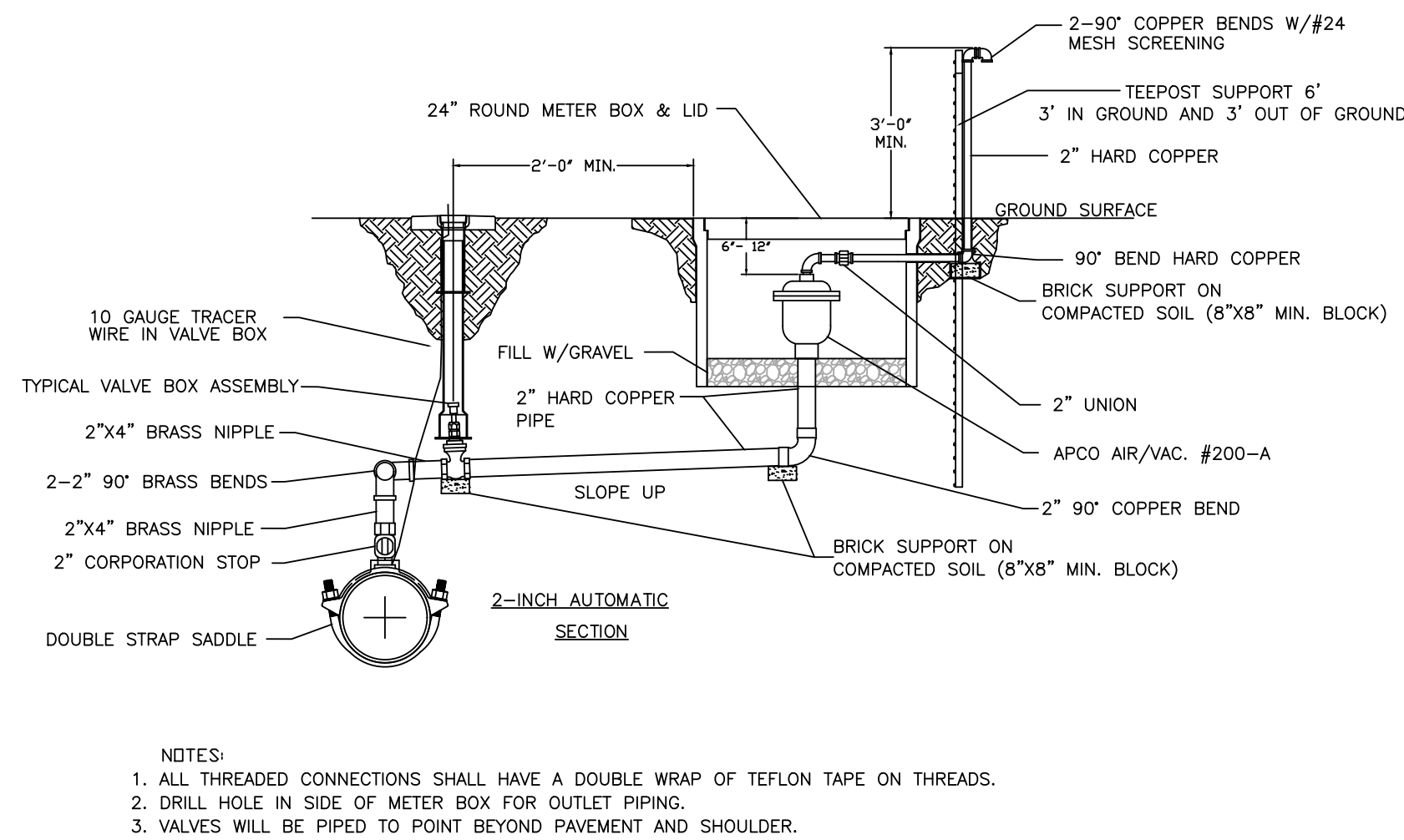
WATER DETAIL: W07

RESTRAINED GATE VALVE



WATER DETAIL: W08

2" COMBINATION AIR/VACUUM VALVE DETAIL



- NOTES:
1. ALL THREADED CONNECTIONS SHALL HAVE A DOUBLE WRAP OF TEFLON TAPE ON THREADS.
 2. DRILL HOLE IN SIDE OF METER BOX FOR OUTLET PIPING.
 3. VALVES WILL BE PIPED TO POINT BEYOND PAVEMENT AND SHOULDER.

WATER DETAIL: W09



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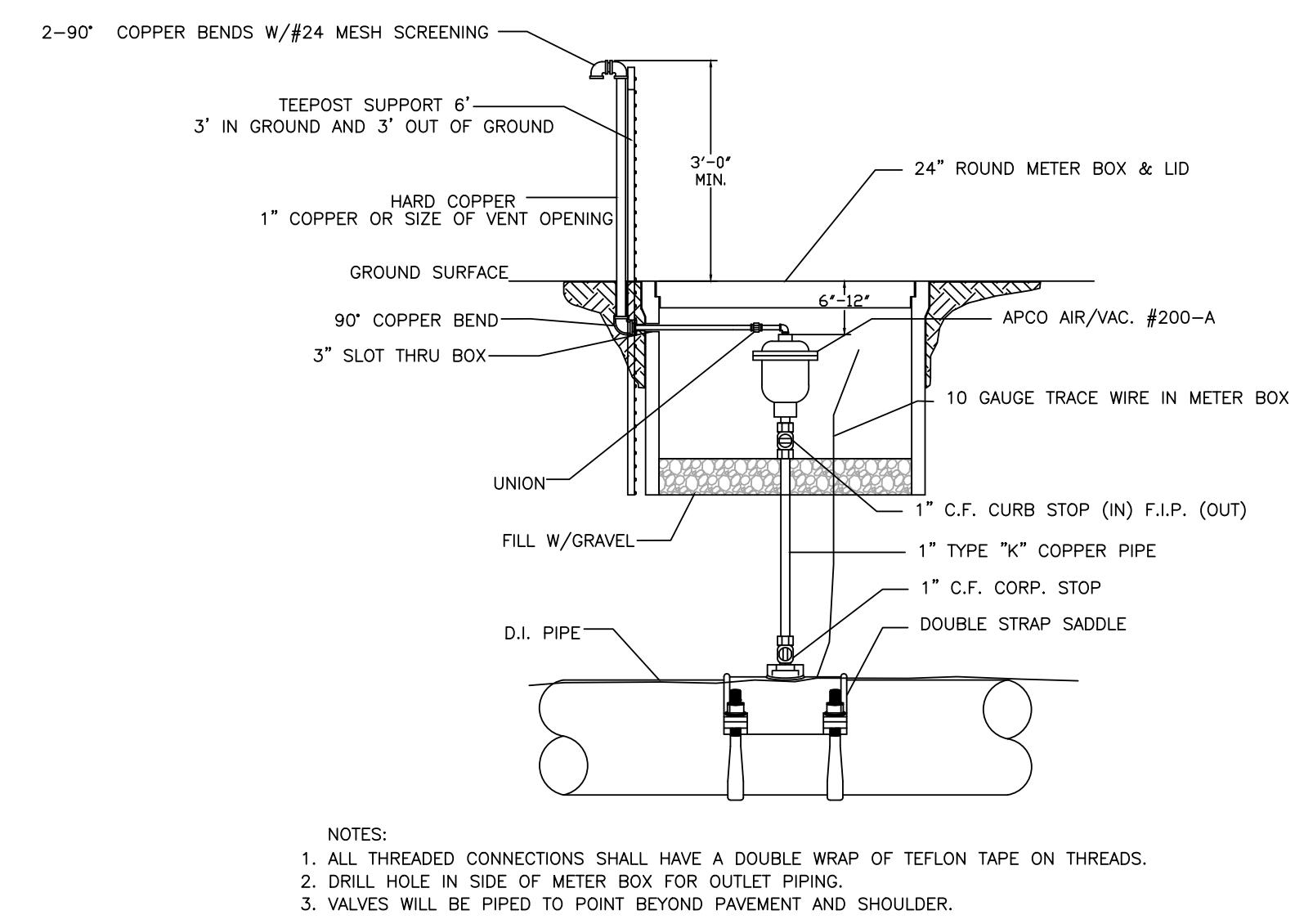
NOTES:

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

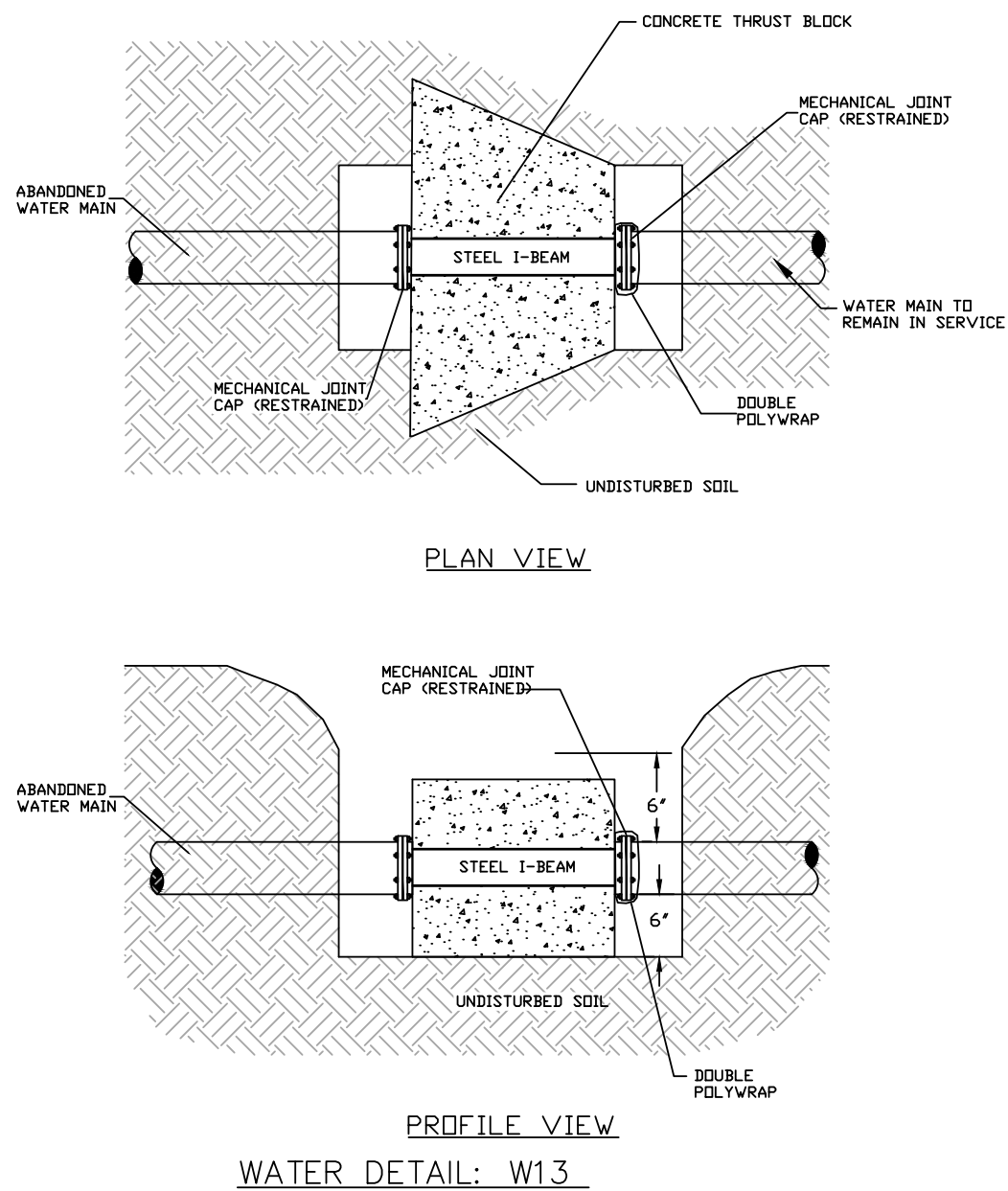
SHEET NUMBER: 1 OF 2

1” COMBINATION AIR/VACUUM VALVE DETAIL



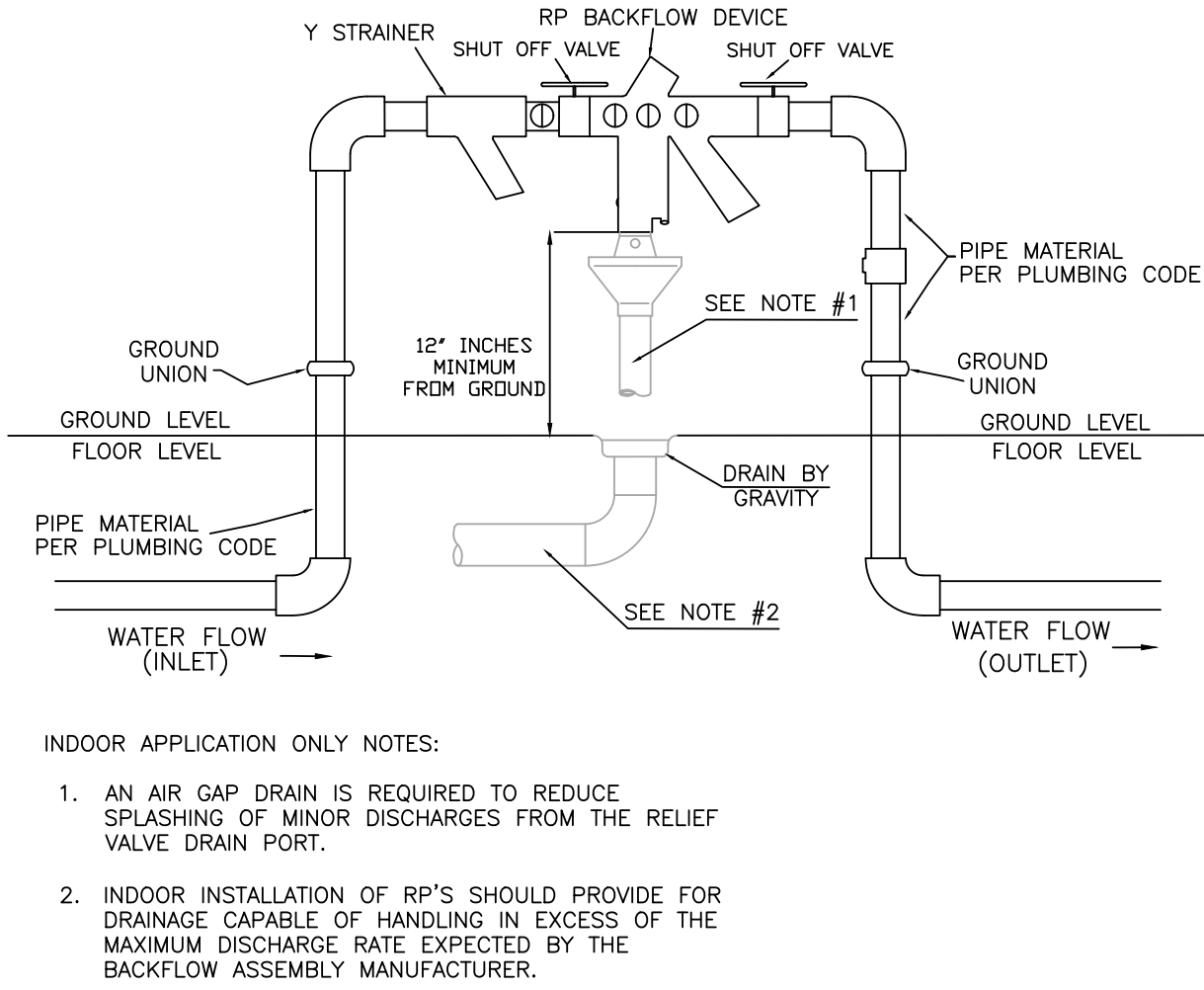
WATER DETAIL: W10

CUT/CAP DETAIL



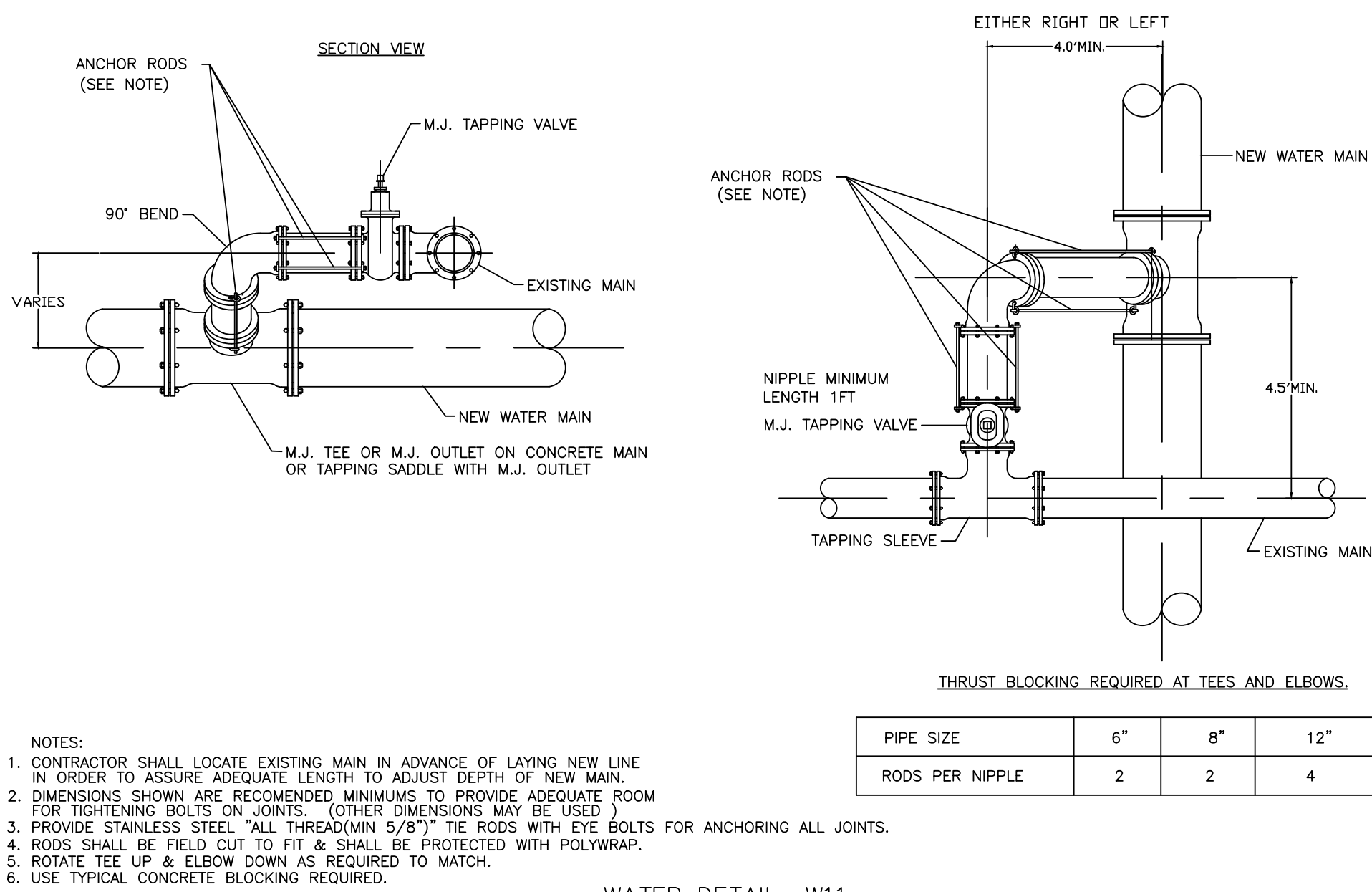
WATER DETAIL: W13

REDUCED PRESSURE (RP) IRRIGATION ONLY



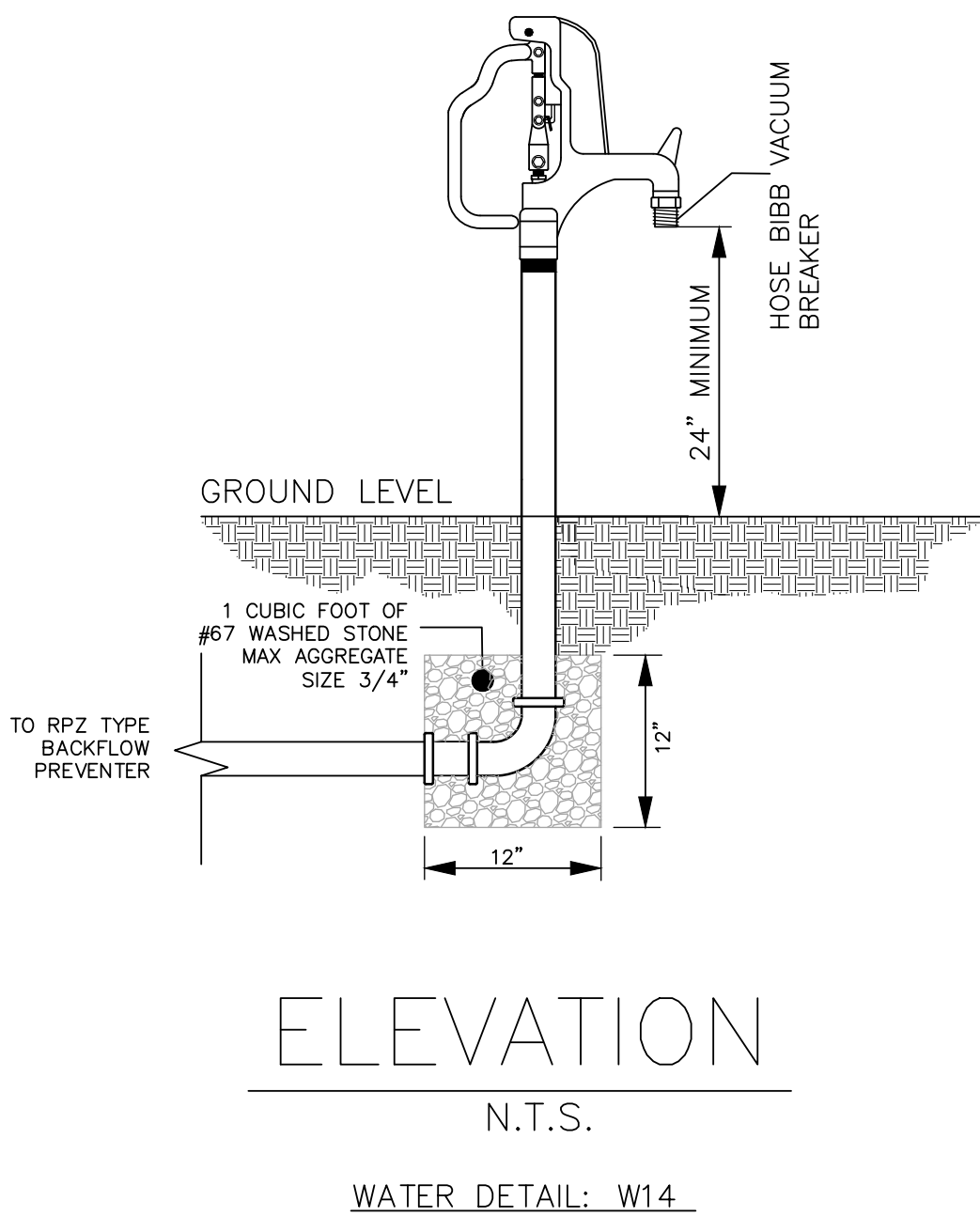
WATER DETAIL: W16

SWING CONNECTION – NEW MAIN TO EXISTING MAIN



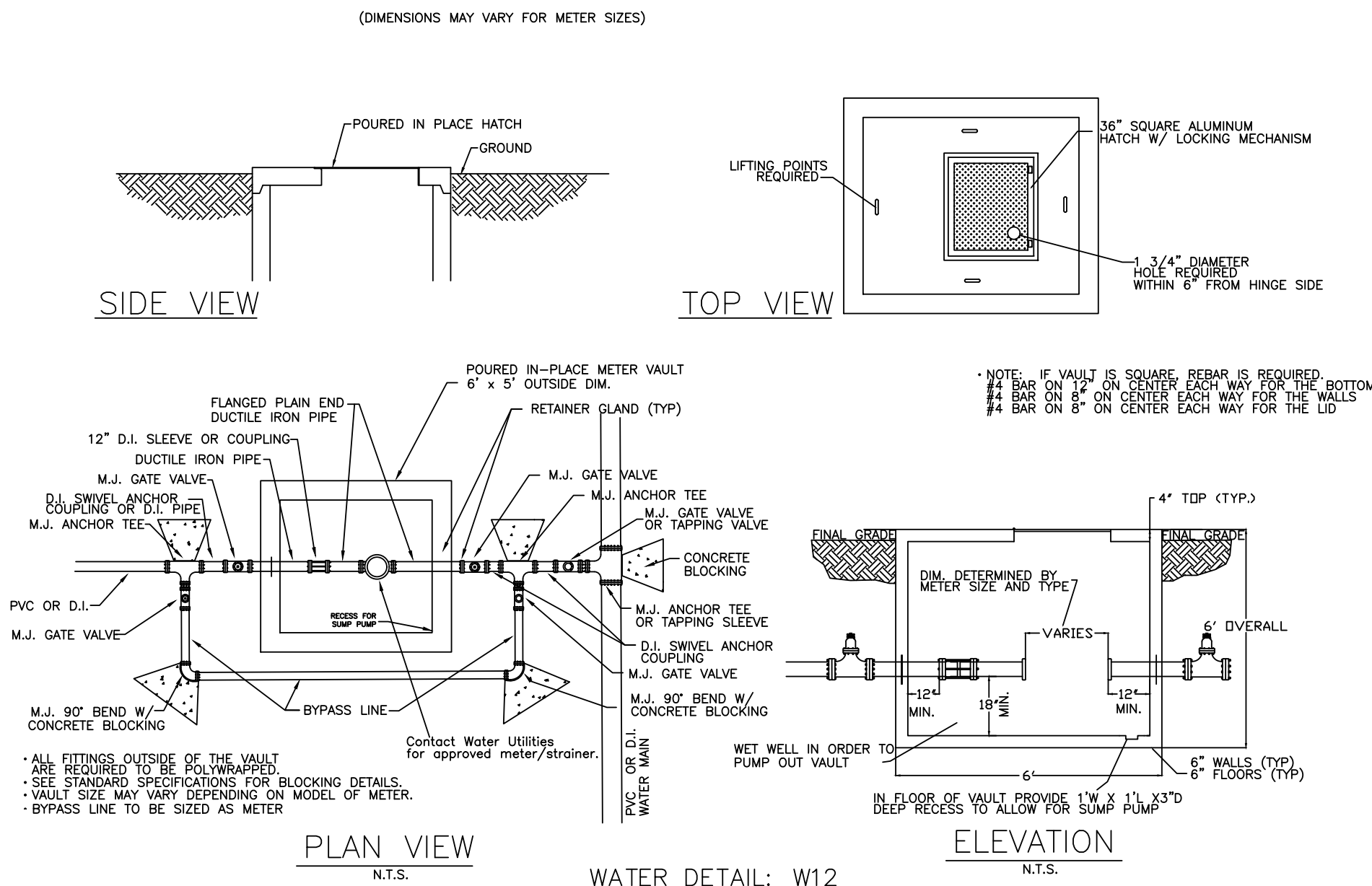
WATER DETAIL: W11

FROST FREE HOSE BIBB WITH VACUUM BREAKER



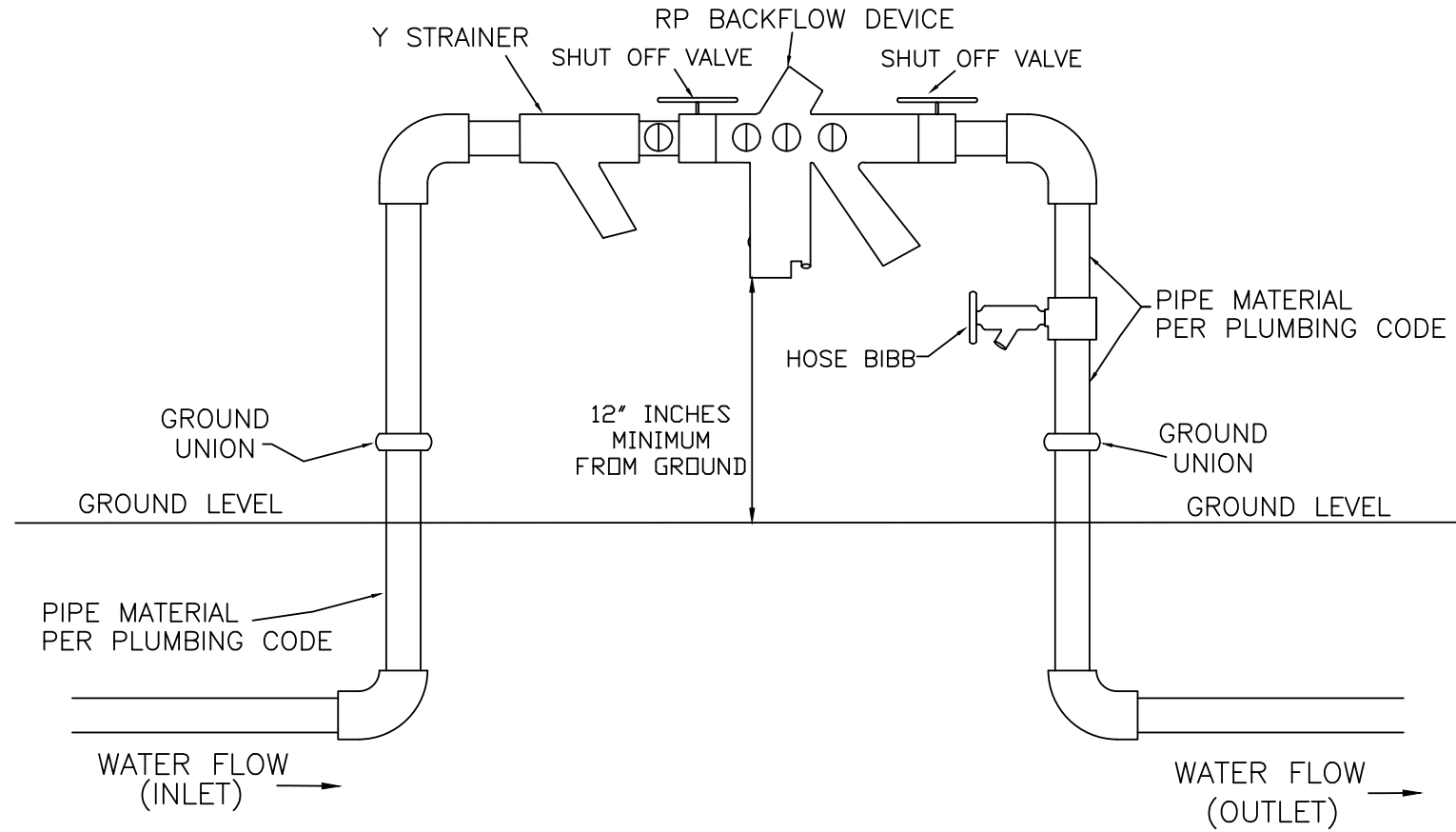
WATER DETAIL: W14

METER VAULT DETAIL FOR 4” – 8” METERS (TYPICAL)



WATER DETAIL: W12

REDUCED PRESSURE (RP) IRRIGATION ONLY



WATER DETAIL: W15



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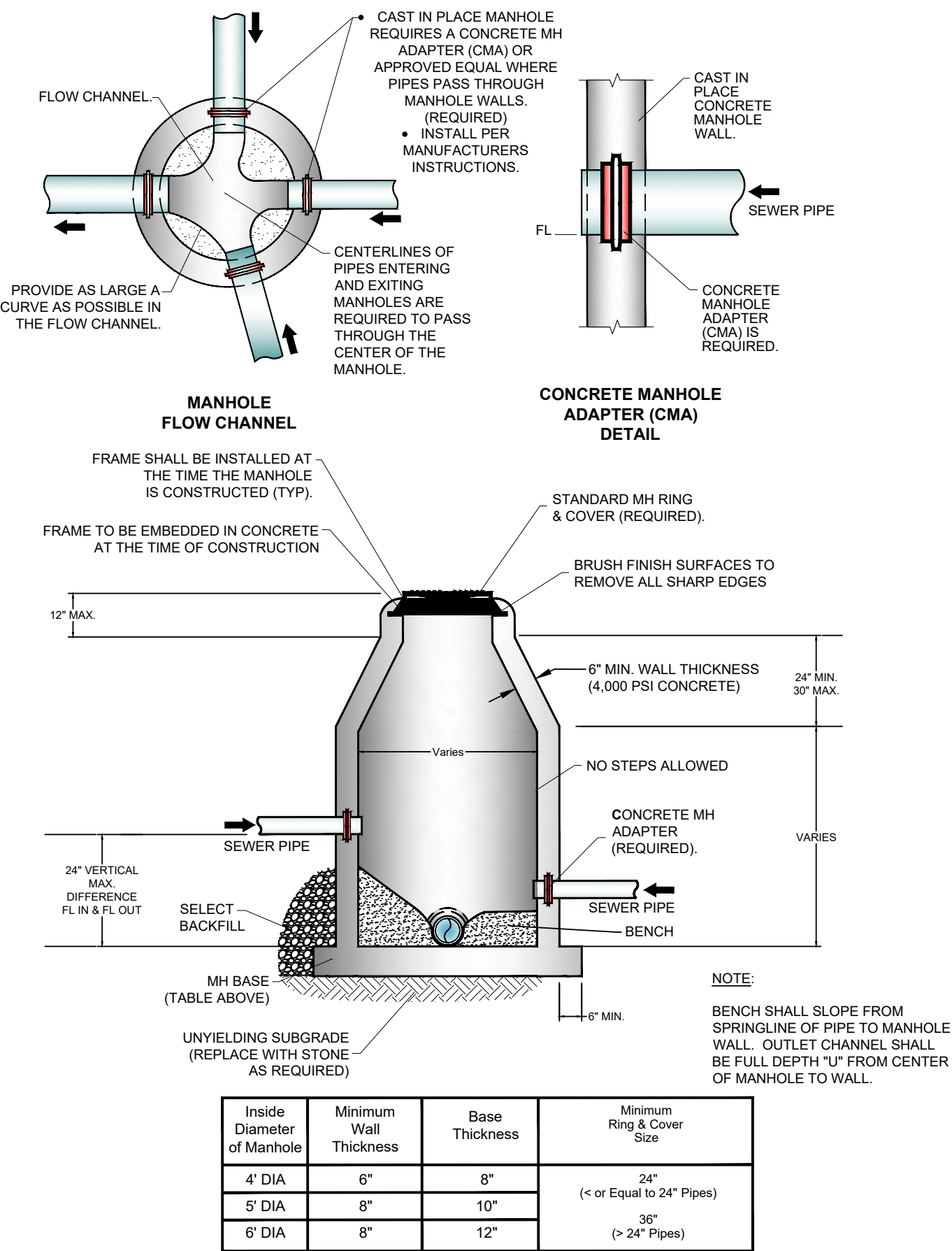
Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI DATE: 03/16/2021
APPROVED BY: PN DATE: 03/16/2021

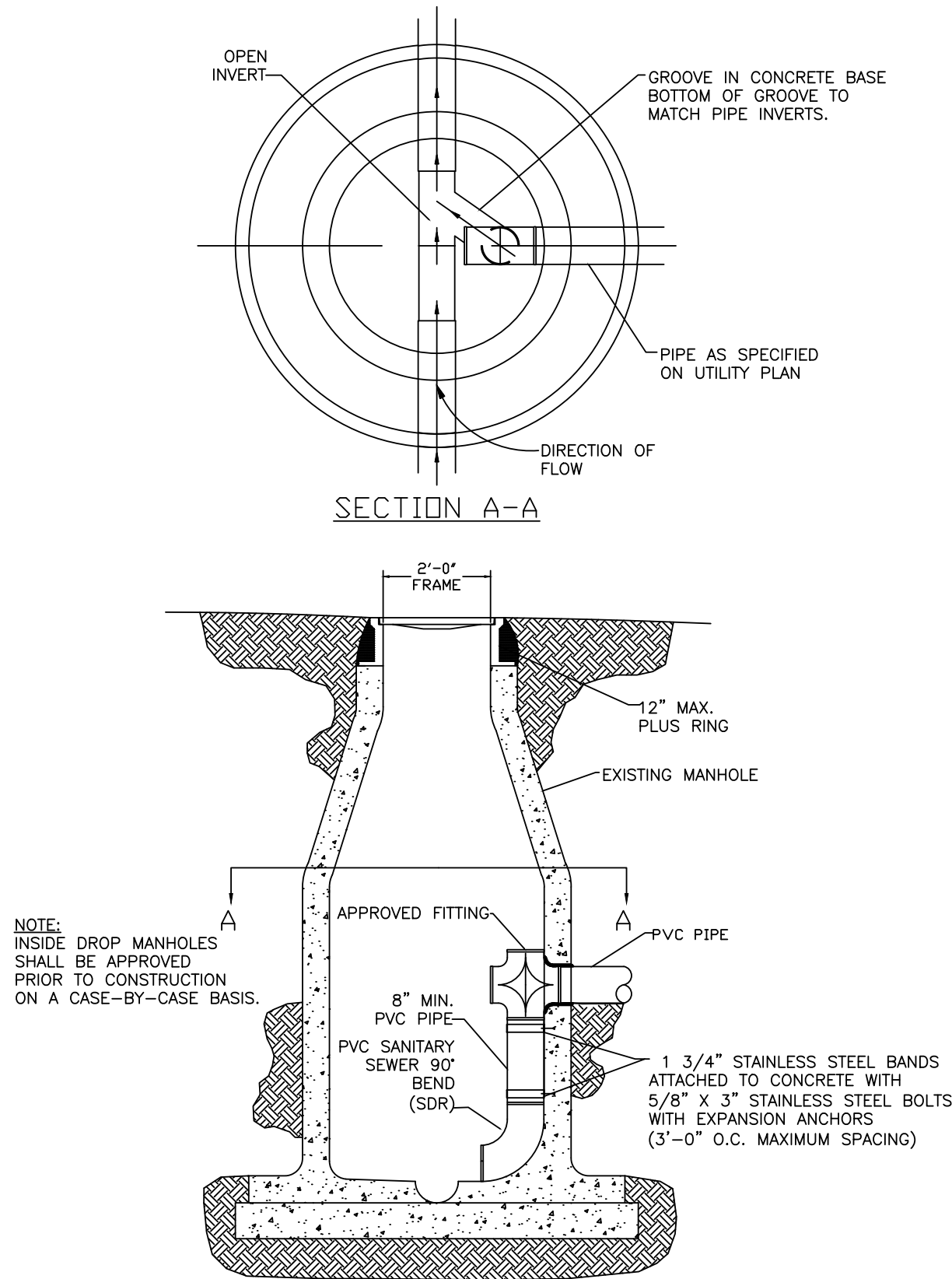
SHEET NUMBER: 2 OF 2

SANITARY SEWER
CAST IN PLACE MANHOLE



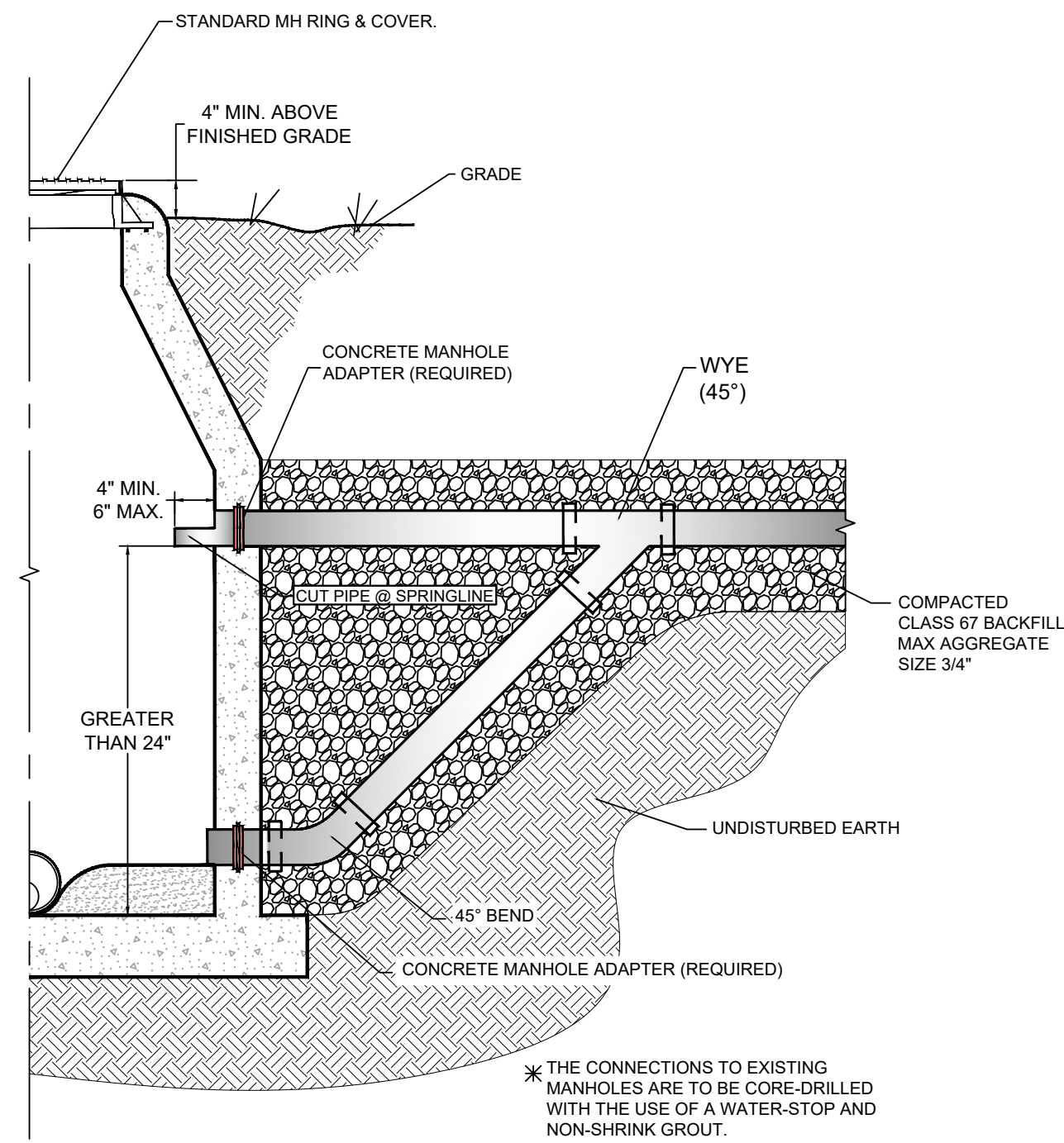
SANITARY SEWER DETAIL: SS01

SANITARY SEWER
INTERIOR DROP MANHOLE



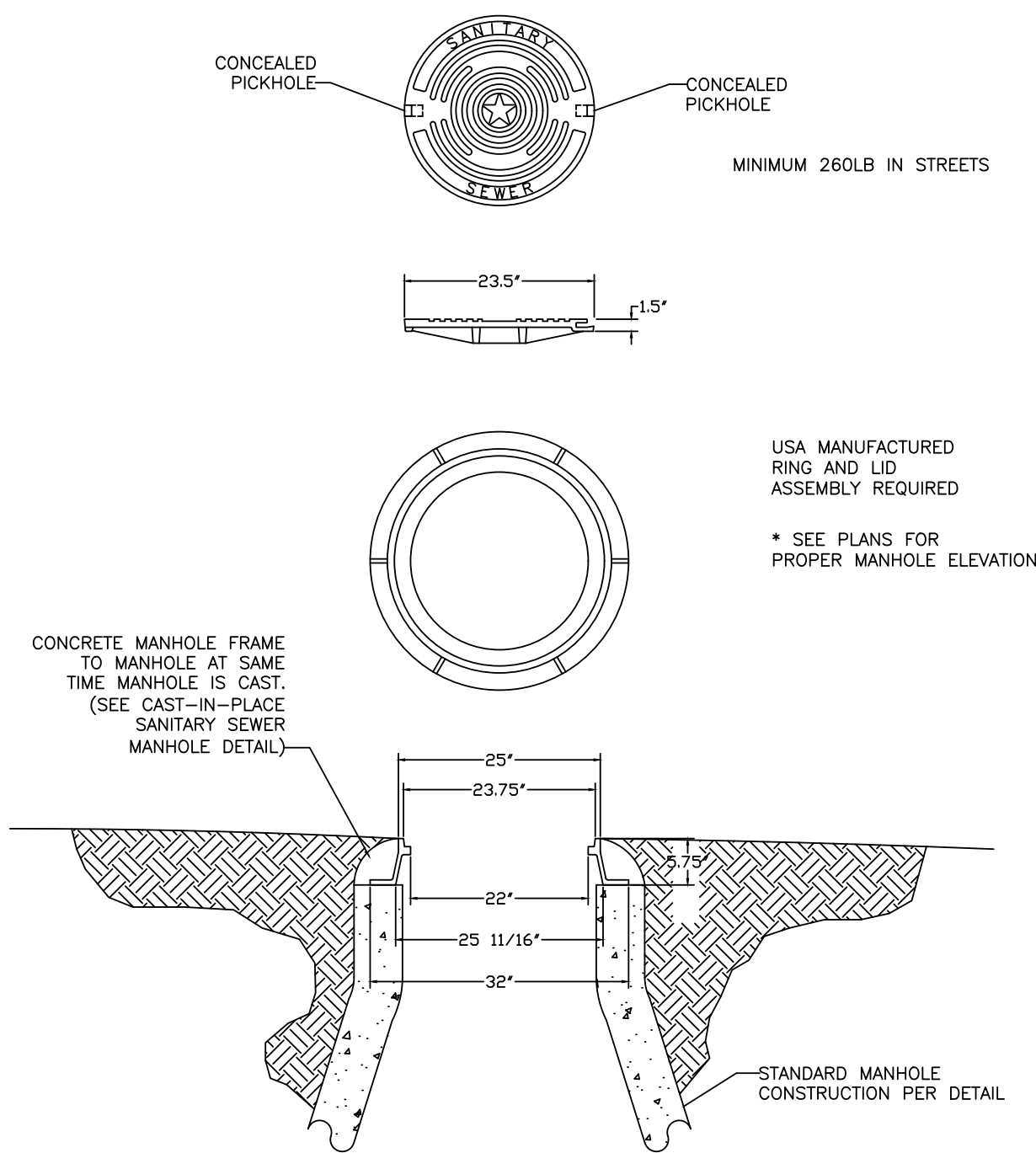
SANITARY SEWER DETAIL: SS02

SANITARY SEWER
EXTERIOR DROP MANHOLE



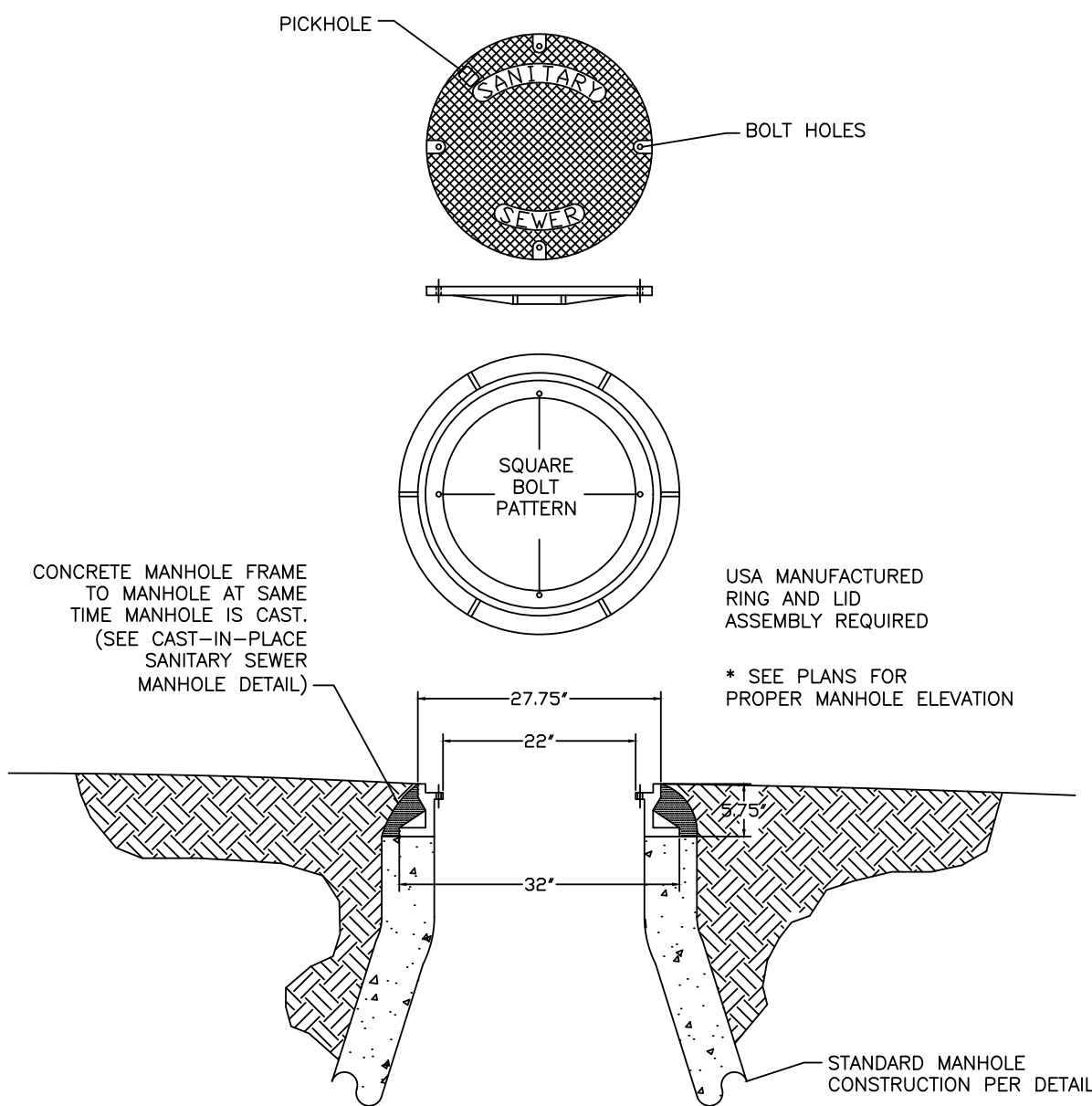
SANITARY SEWER DETAIL: SS03

HEAVY DUTY MANHOLE
LID & FRAME



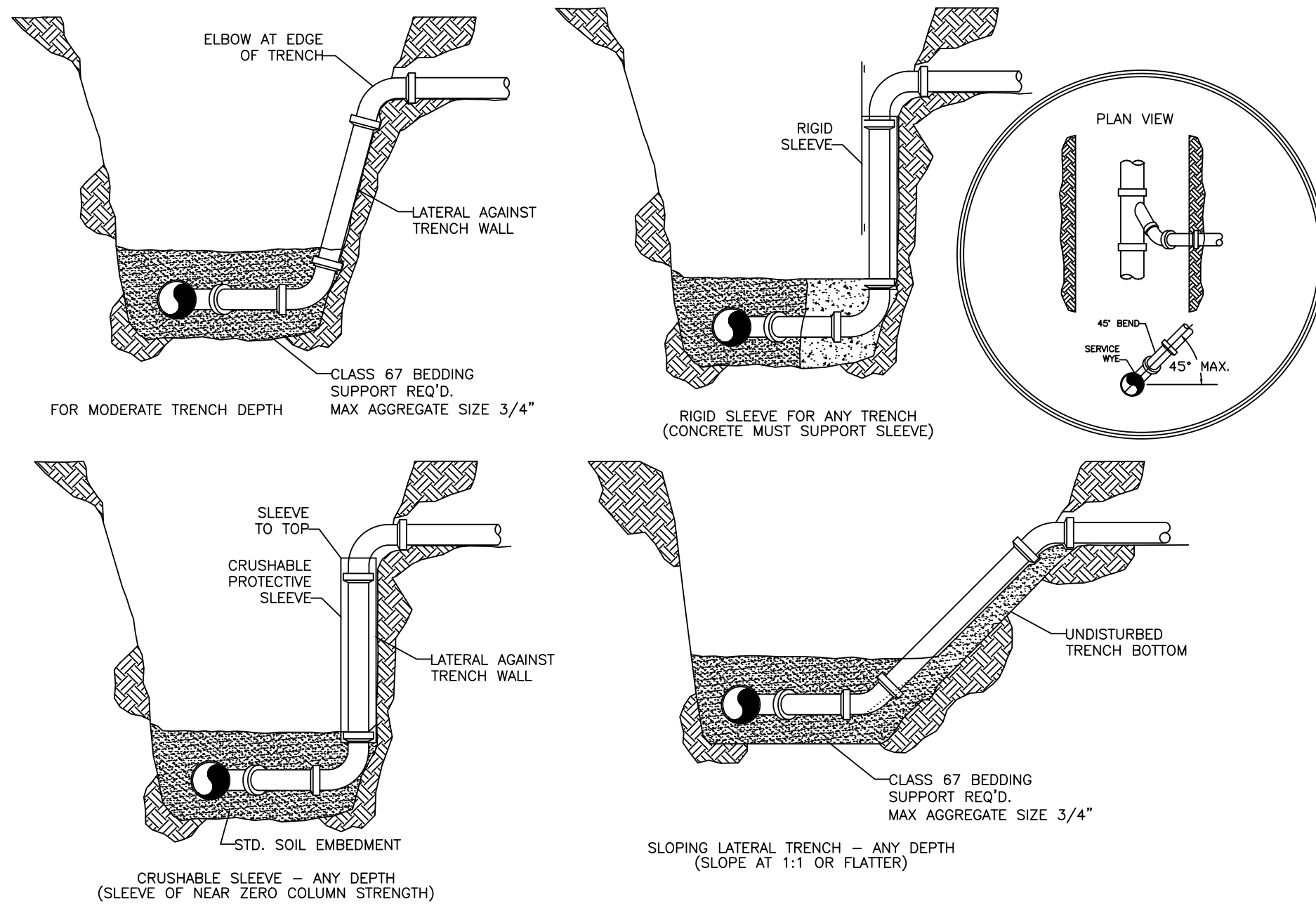
SANITARY SEWER DETAIL: SS04

WATER TIGHT BOLTED MANHOLE
LID & FRAME



SANITARY SEWER DETAIL: SS05

SANITARY SEWER
SERVICE WYE



SANITARY SEWER DETAIL: SS06



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SAN. SEWER
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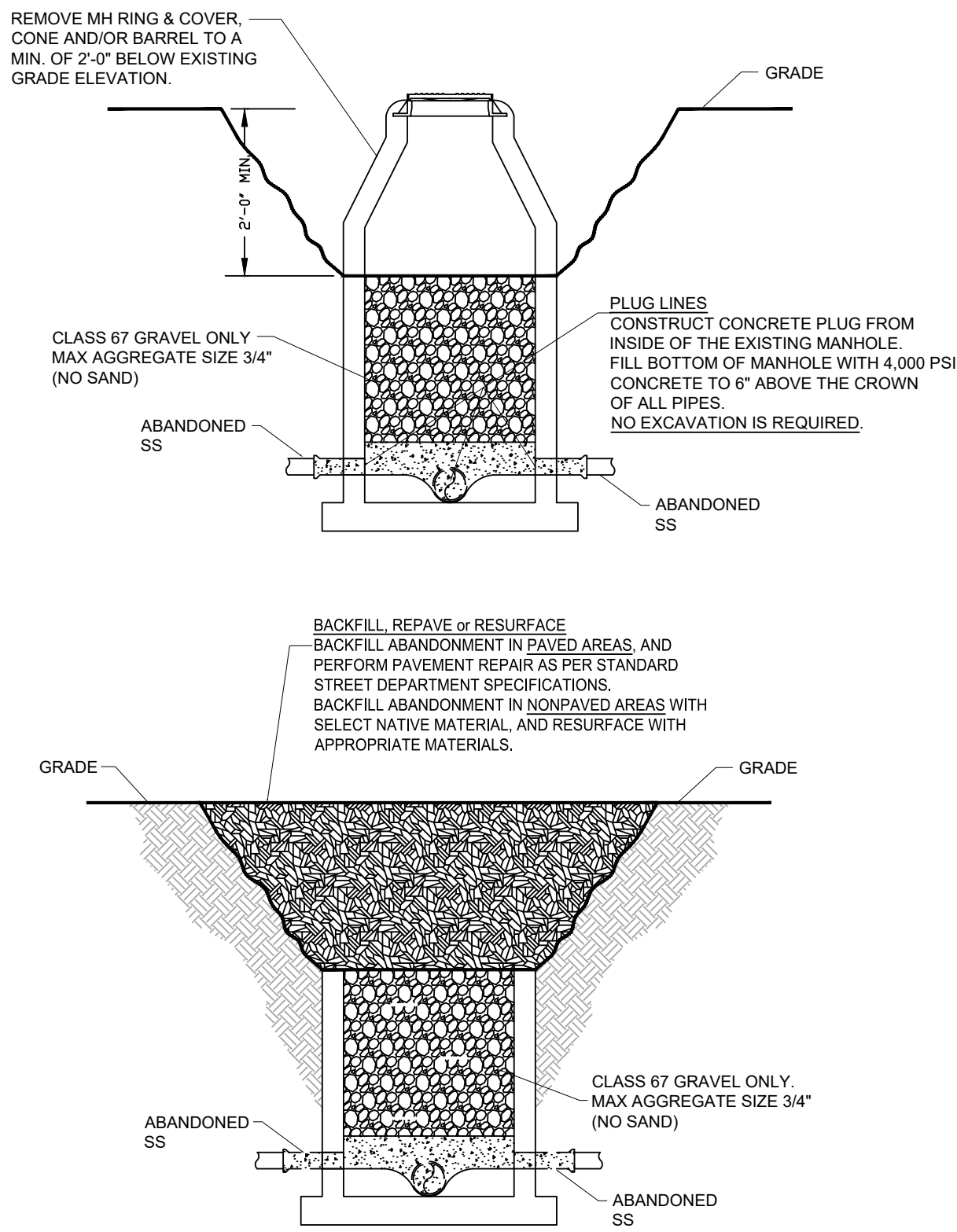
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DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

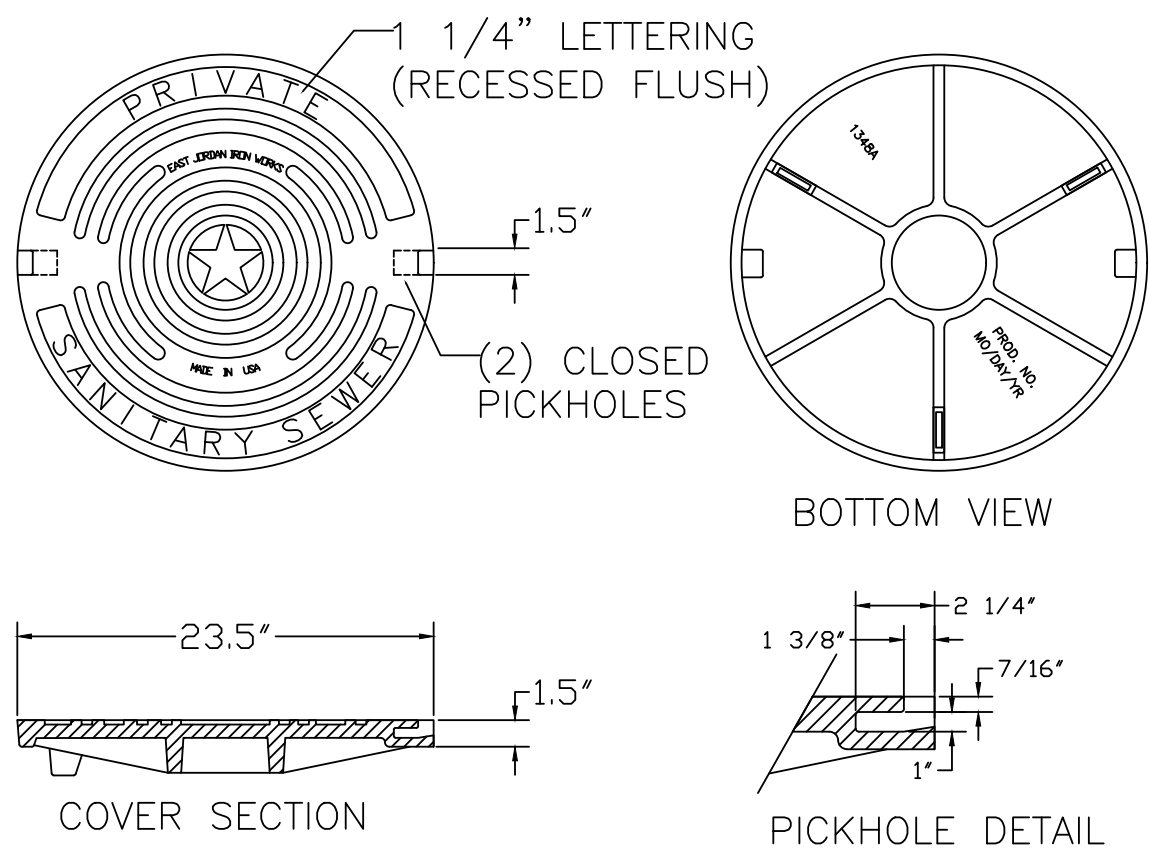
SHEET NUMBER: 1 OF 2

SANITARY SEWER MANHOLE
ABANDONMENT



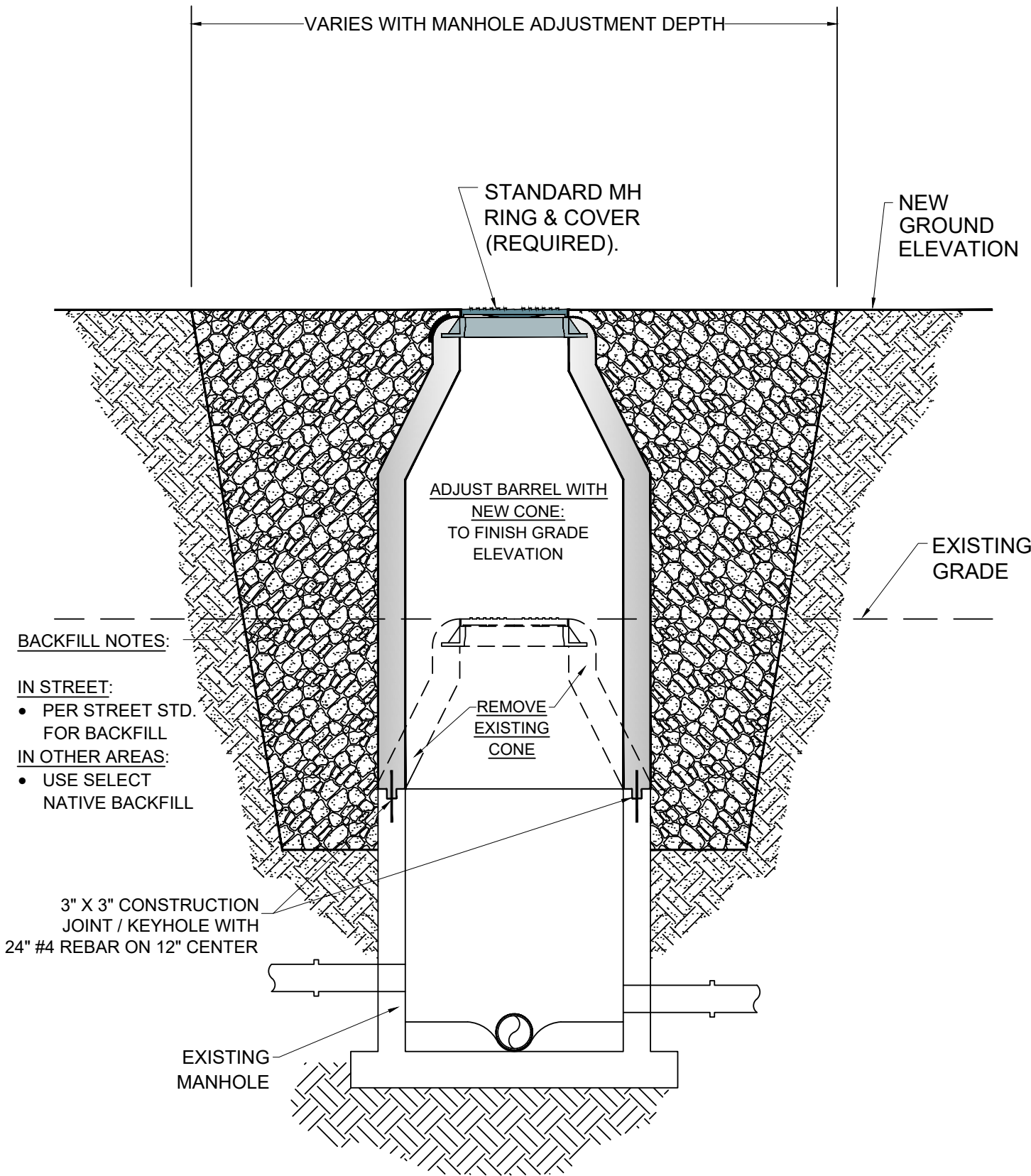
SANITARY SEWER DETAILS: SS07

PRIVATE MANHOLE
RING AND LID



SANITARY SEWER DETAILS: SS08

TYPICAL MANHOLE
ADJUST TO GRADE



SANITARY SEWER DETAILS: SS09



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SAN. SEWER
DETAILS



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REVISIONS:

Adopted by City Council 06/22/2021
Ordinance Number: 2021-135

Approved by Dept. of Health
04/01/2021

NOTES:

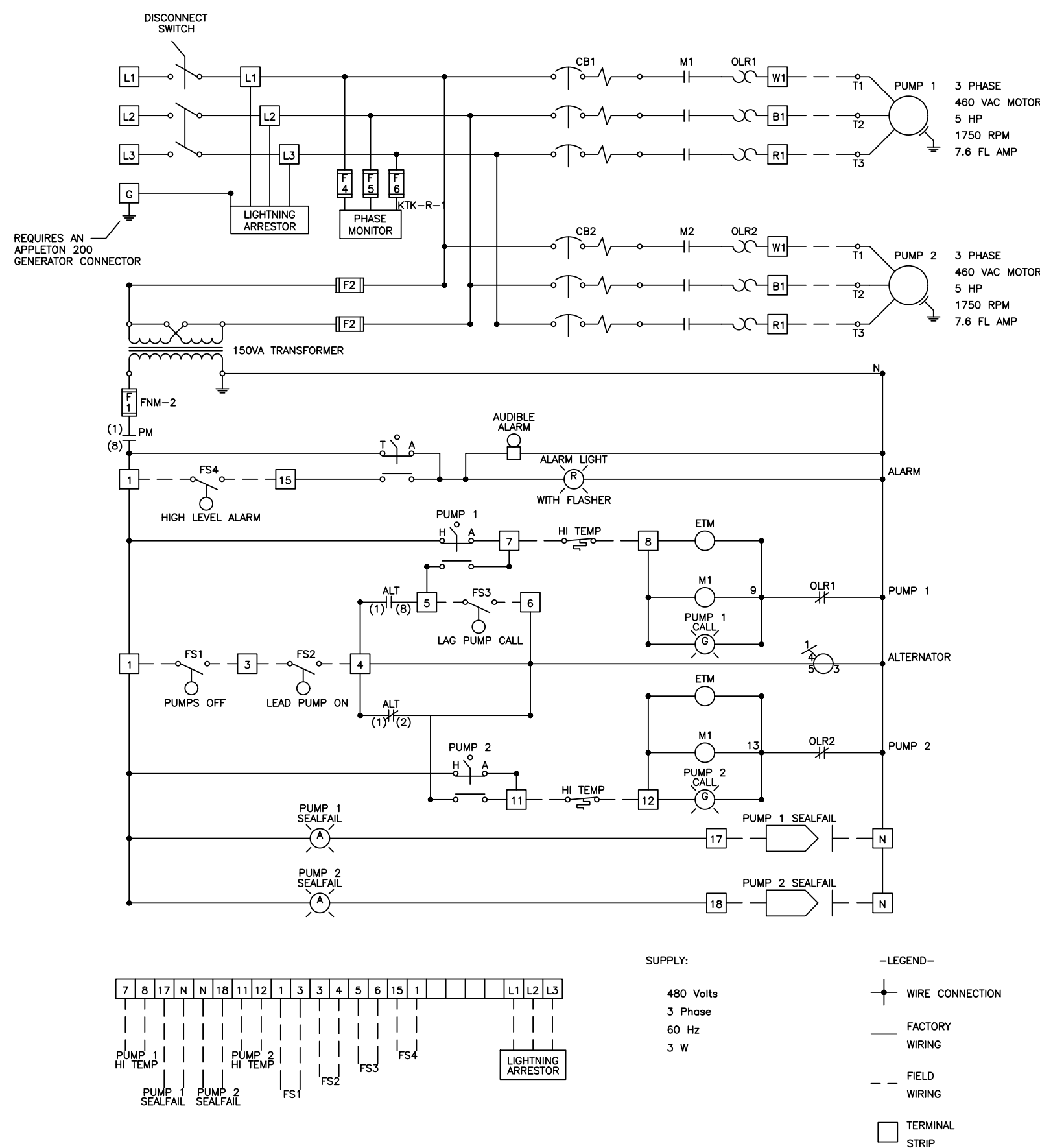
DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

SHEET NUMBER: 2 OF 2

DUPLEX PUMP CONTROL PANEL

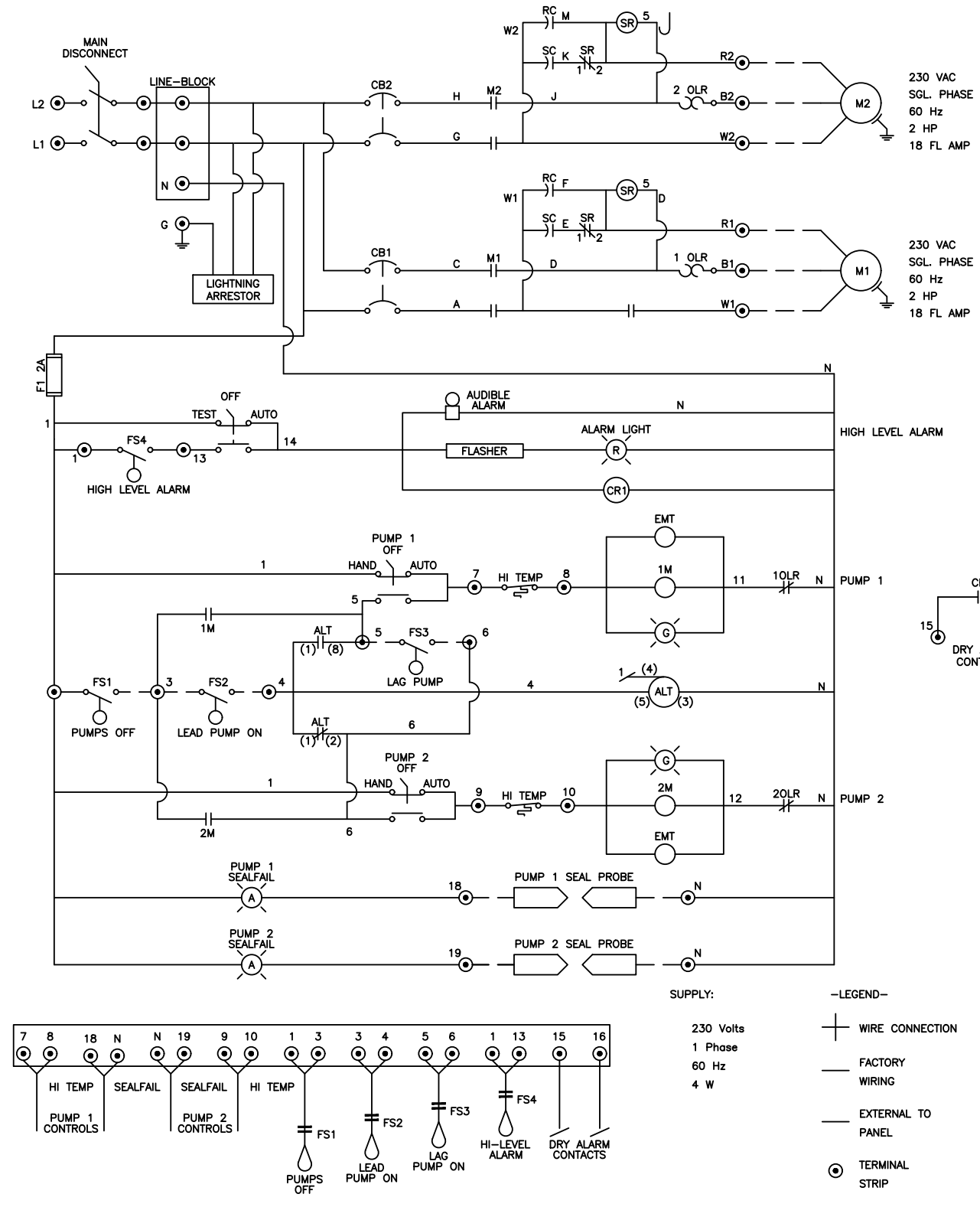
480 V / 3 PHASE



LIFT STATION DETAILS: LS01

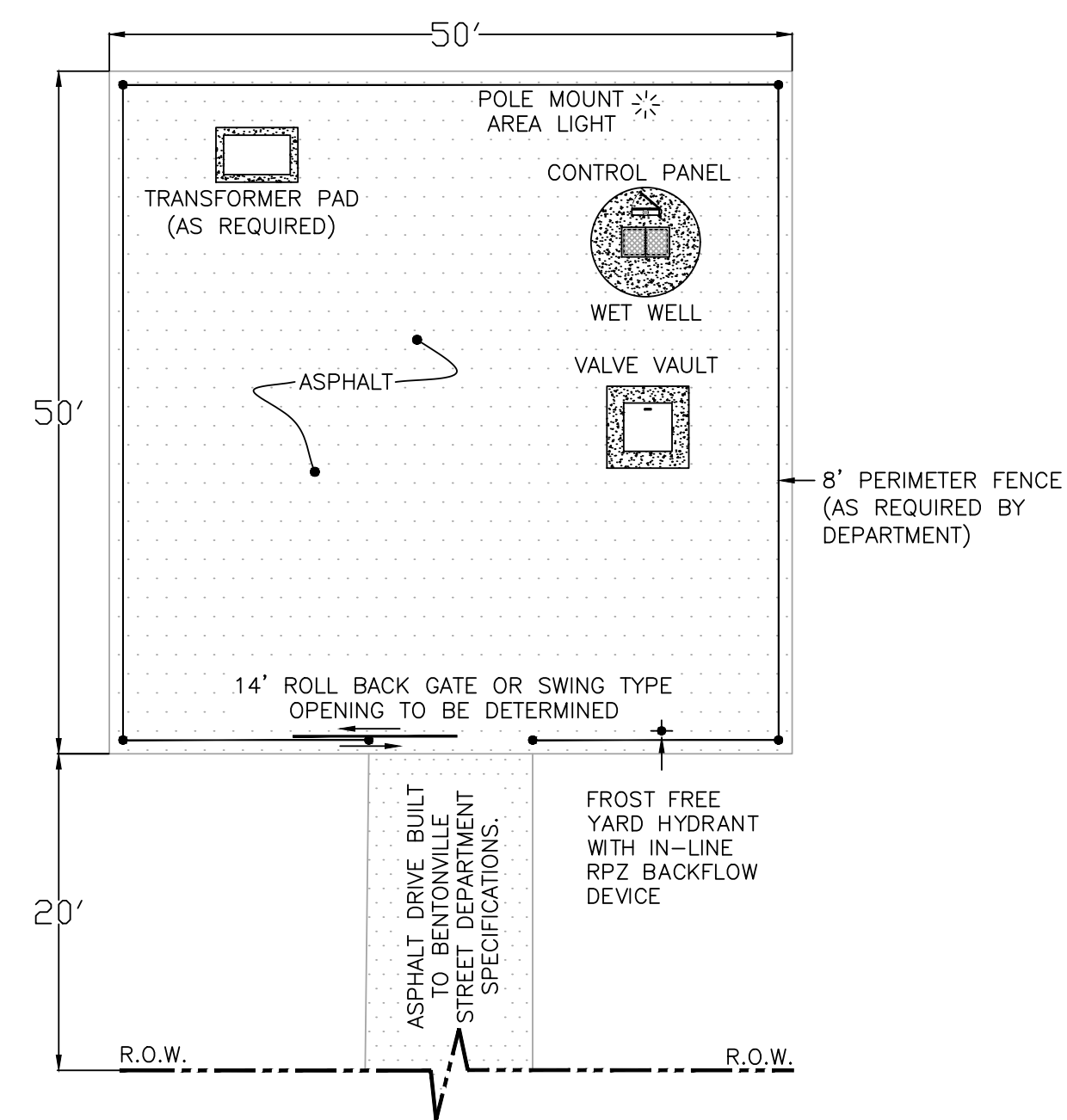
DUPLEX PUMP CONTROL PANEL

230 V / SINGLE PHASE



LIFT STATION DETAILS: LS02

LIFT STATION SITE DETAIL



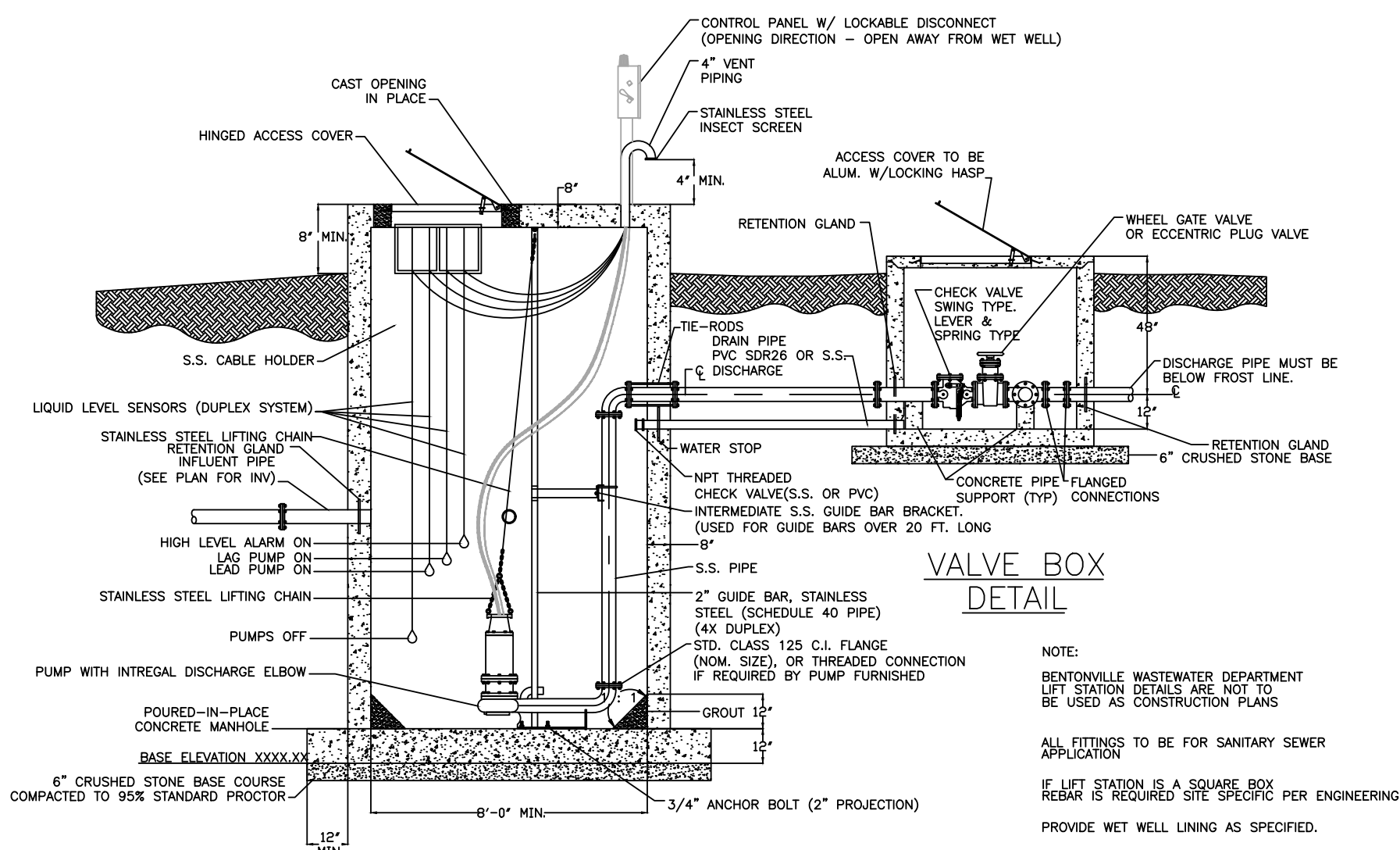
*ACTUAL SITE LAYOUT MAY VARY

BENTONVILLE WASTEWATER DEPARTMENT
LIFT STATION DETAILS ARE NOT TO
BE USED AS CONSTRUCTION PLANS

LIFT STATION DETAILS: LS03

LIFT STATION DETAIL

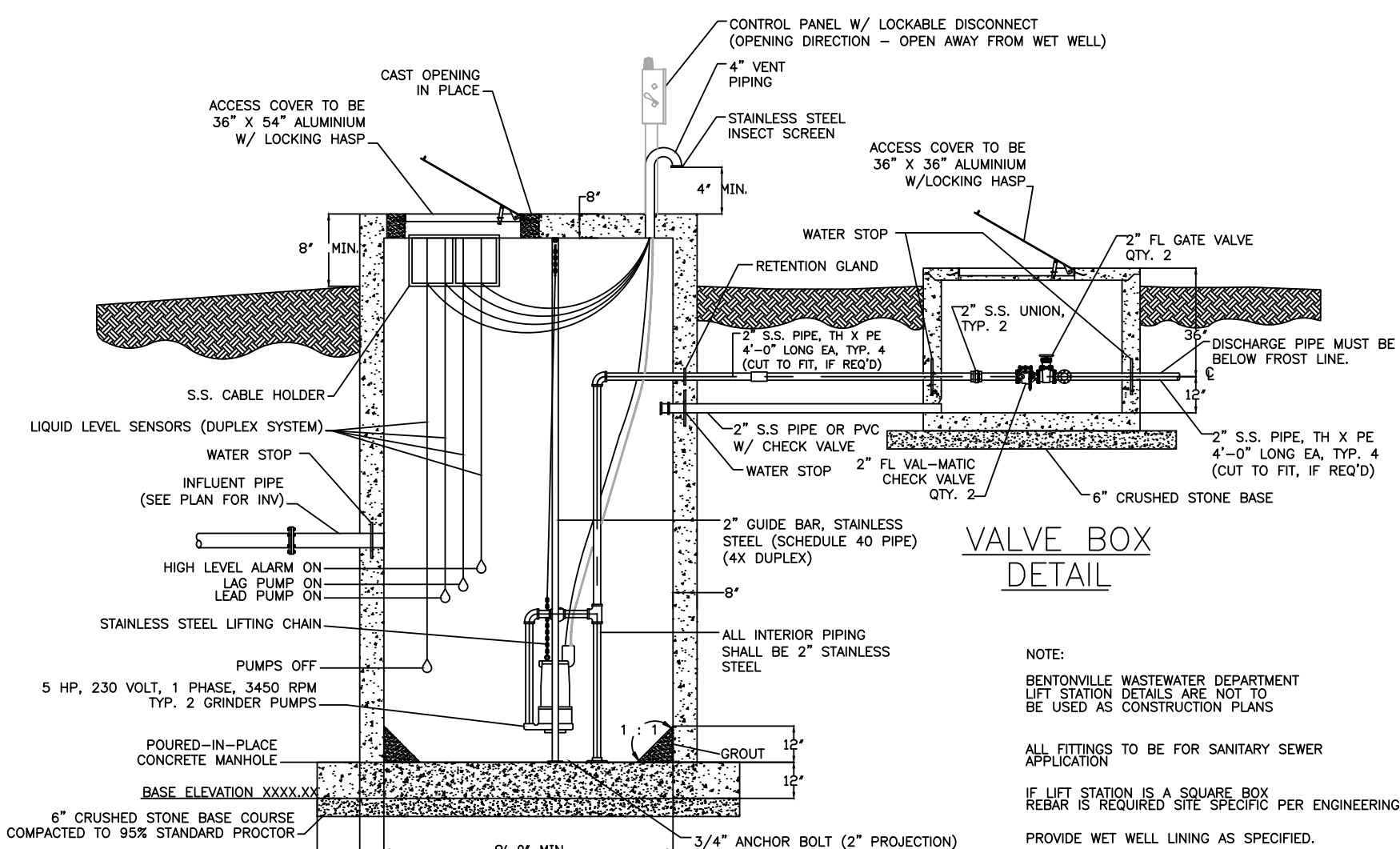
NON-CLOG PUMPS 5 HP AND UP



LIFT STATION DETAILS: LS04

LIFT STATION DETAIL

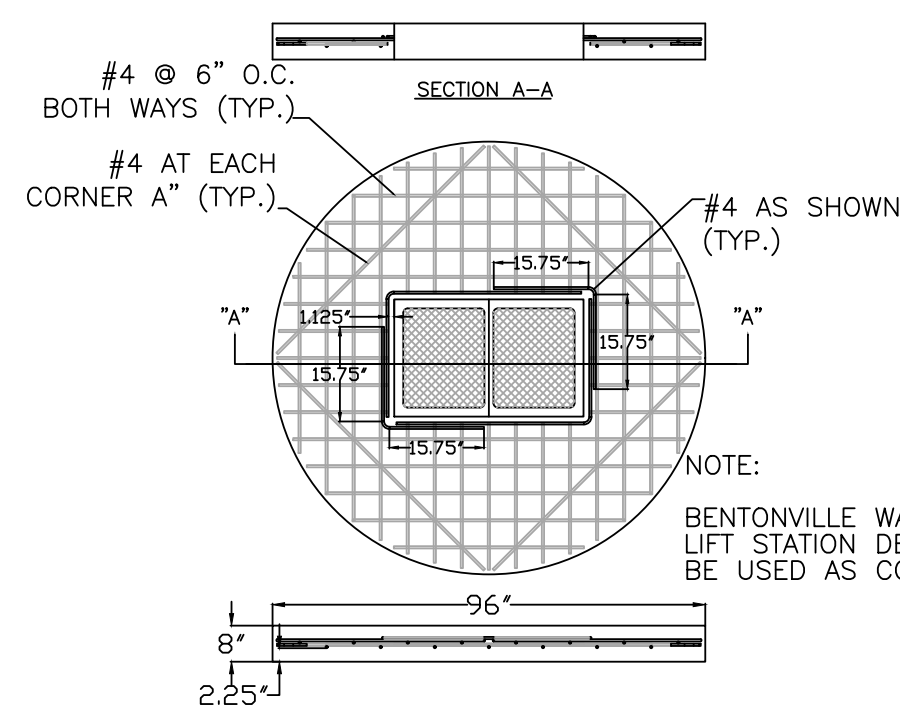
GRINDER PUMPS 5 HP AND LESS



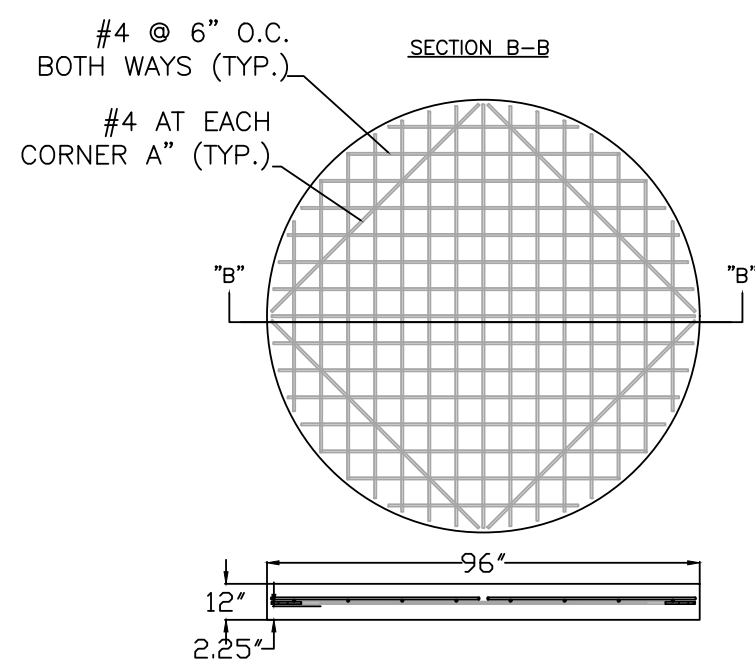
LIFT STATION DETAILS: LS05

WET WELL AND VALVE VAULT

TOP SLAB REINFORCEMENT DETAIL



BOTTOM SLAB REINFORCEMENT DETAIL



LIFT STATION DETAILS: LS06



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LIFT STATION DETAILS



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REVISIONS:

Adopted by City Council 06/22/2021
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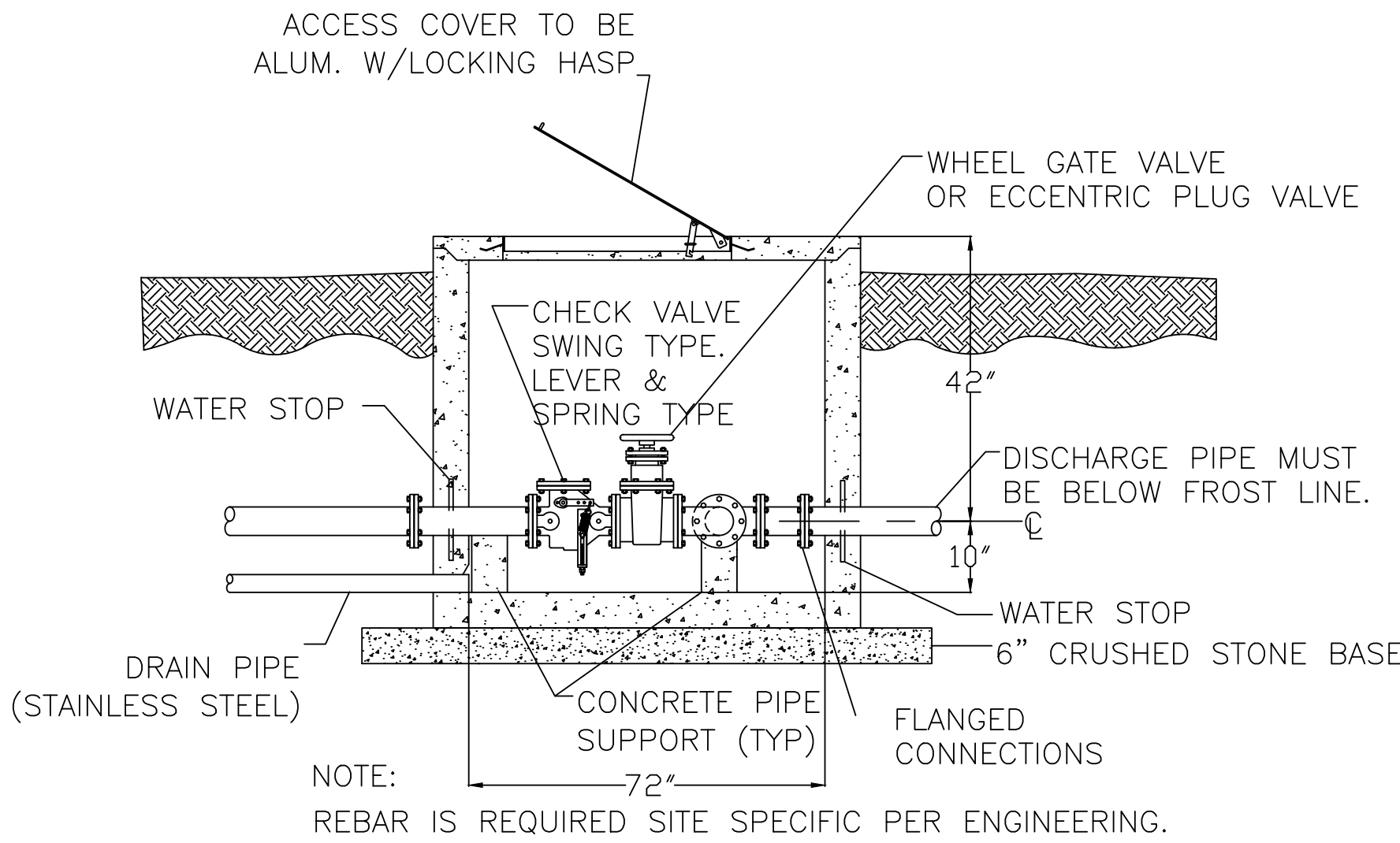
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DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

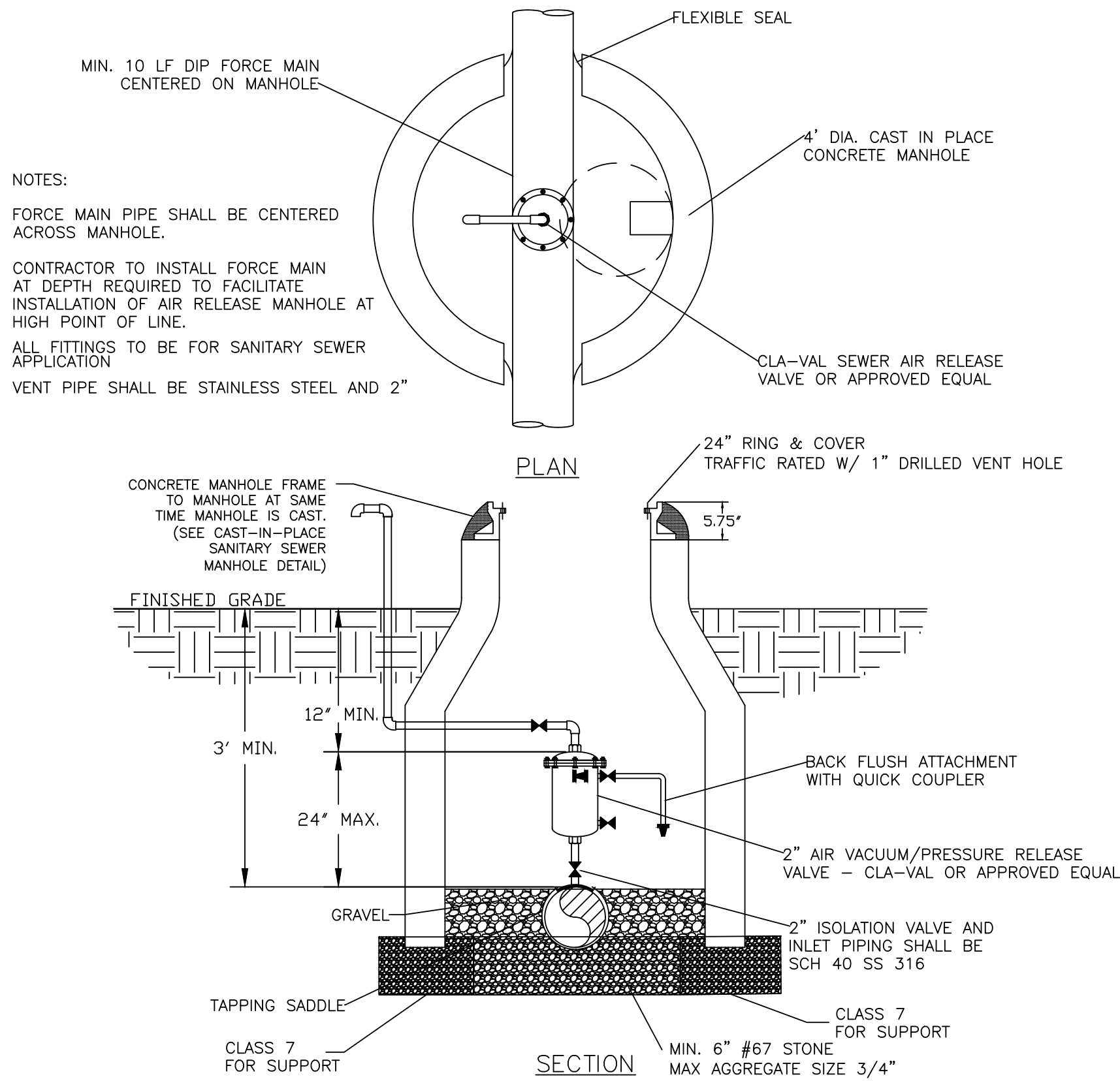
SHEET NUMBER: 1 OF 2

LIFT STATION VALVE VAULT DETAIL



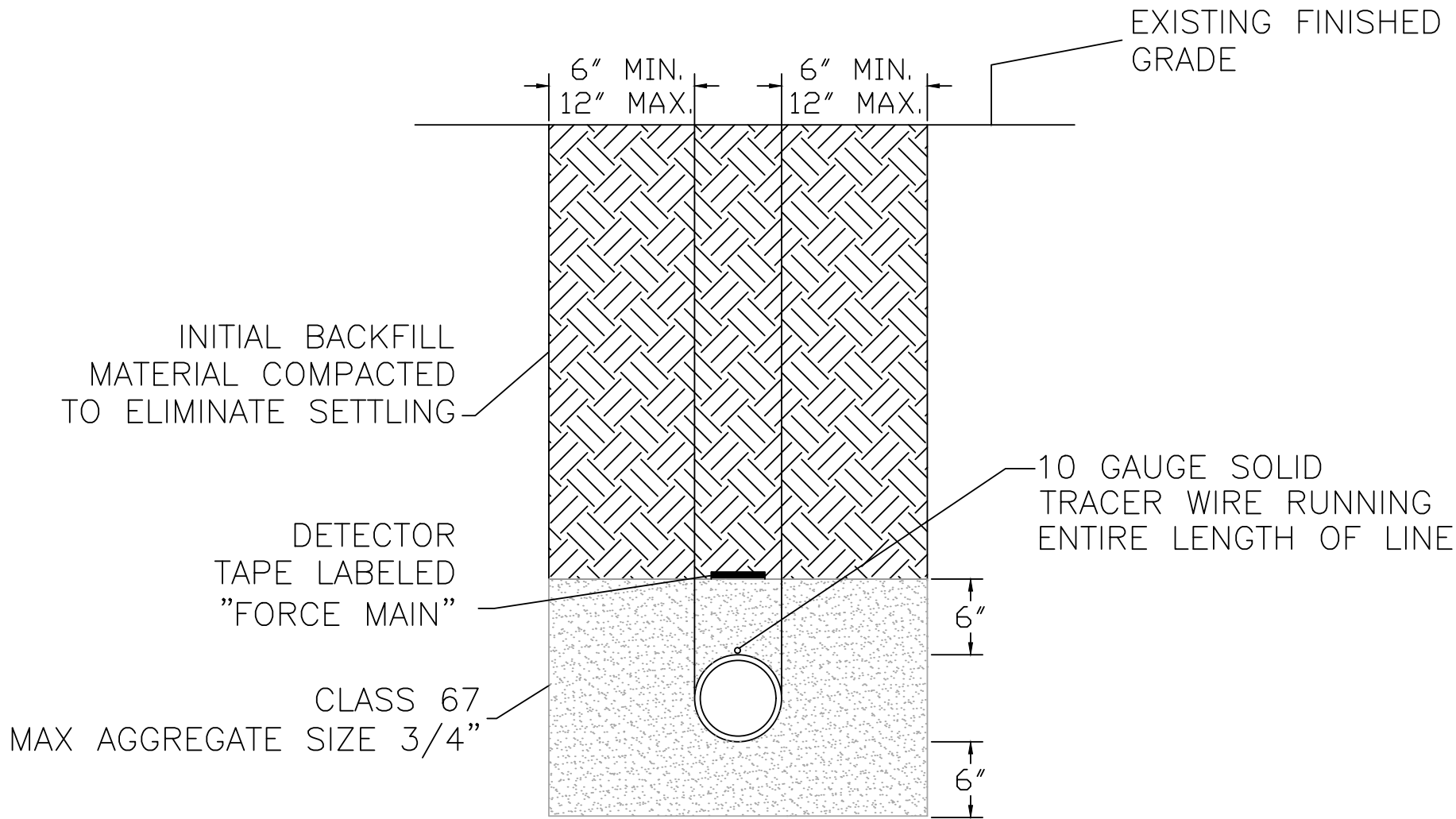
LIFT STATION DETAILS: LS07

AIR VACUUM/RELEASE
MANHOLE FOR FORCE MAIN



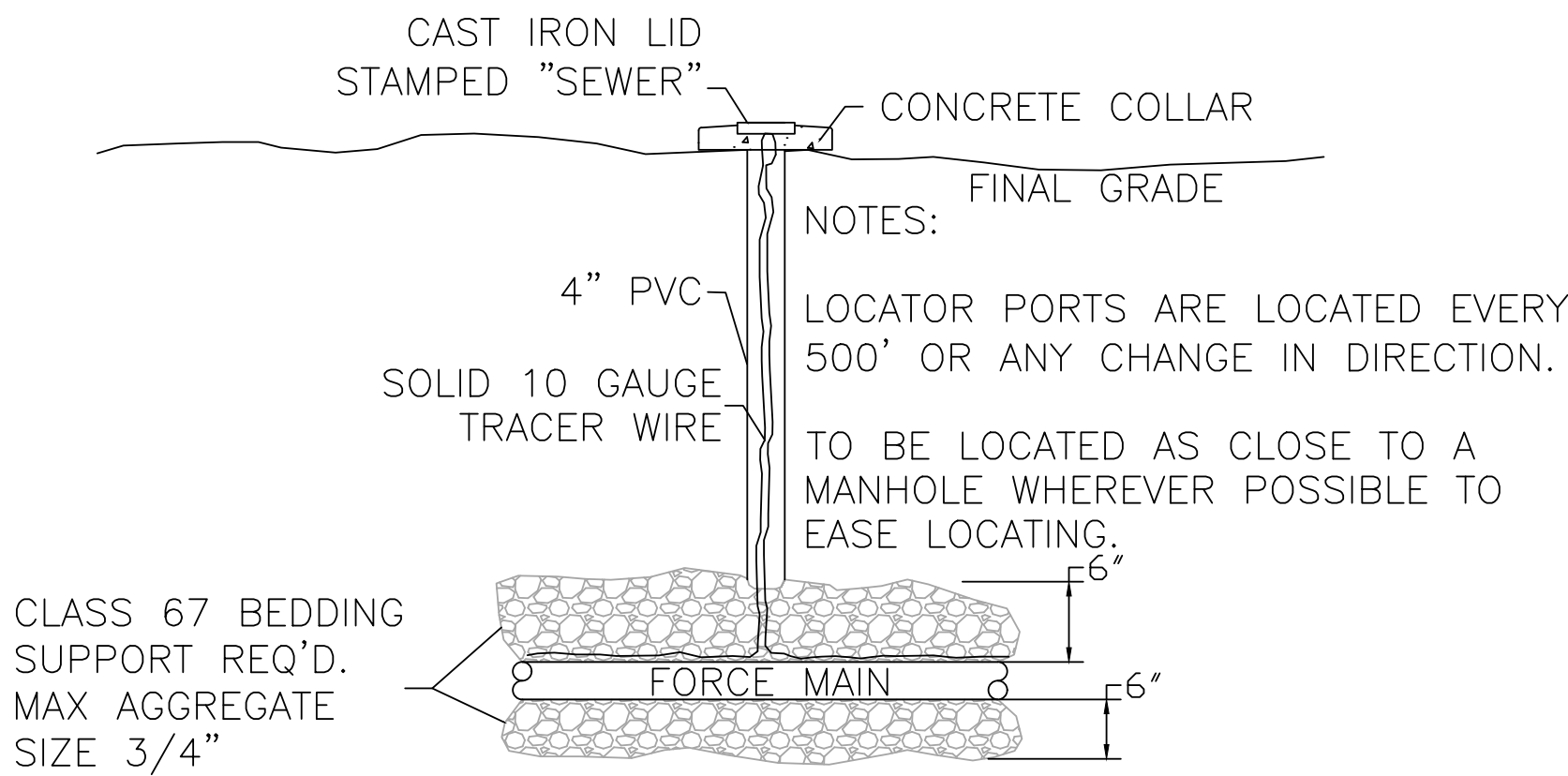
LIFT STATION DETAILS: LS08

TYPICAL BEDDING DETAIL
FOR FORCE MAIN



LIFT STATION DETAILS: LS09

TRACER WIRE PORT



LIFT STATION DETAILS: LS10



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LIFT STATION
DETAILS



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REVISIONS:
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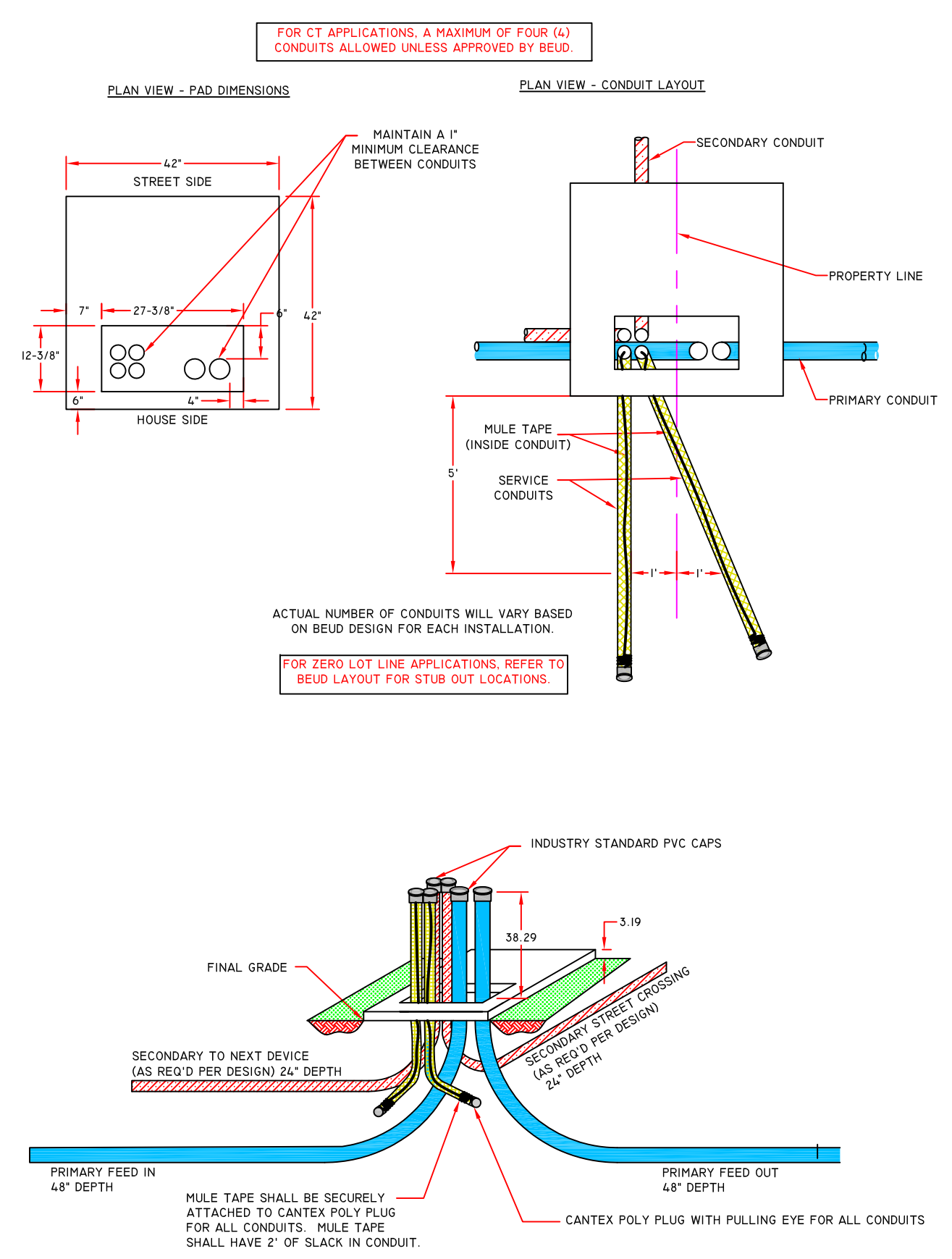
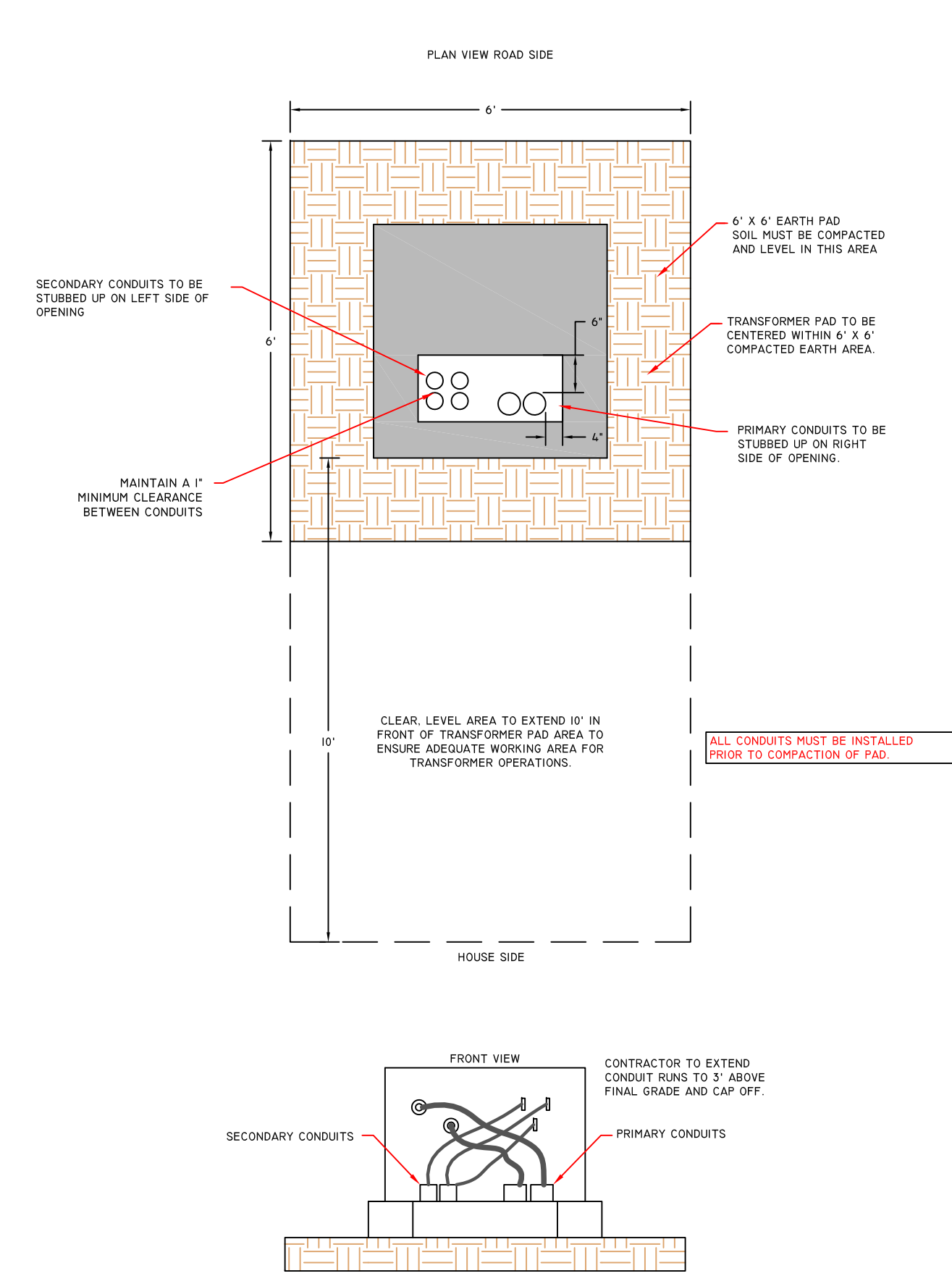
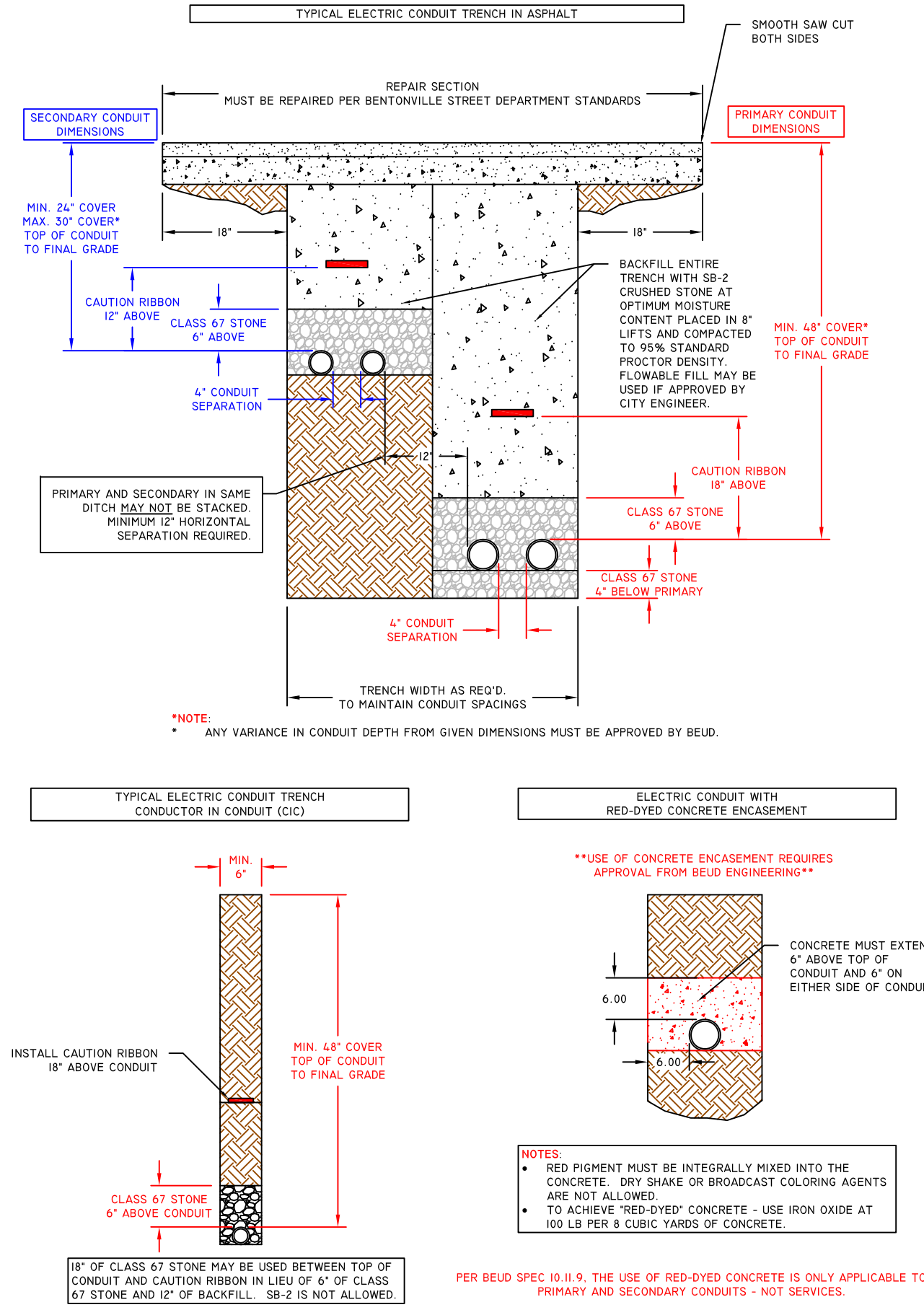
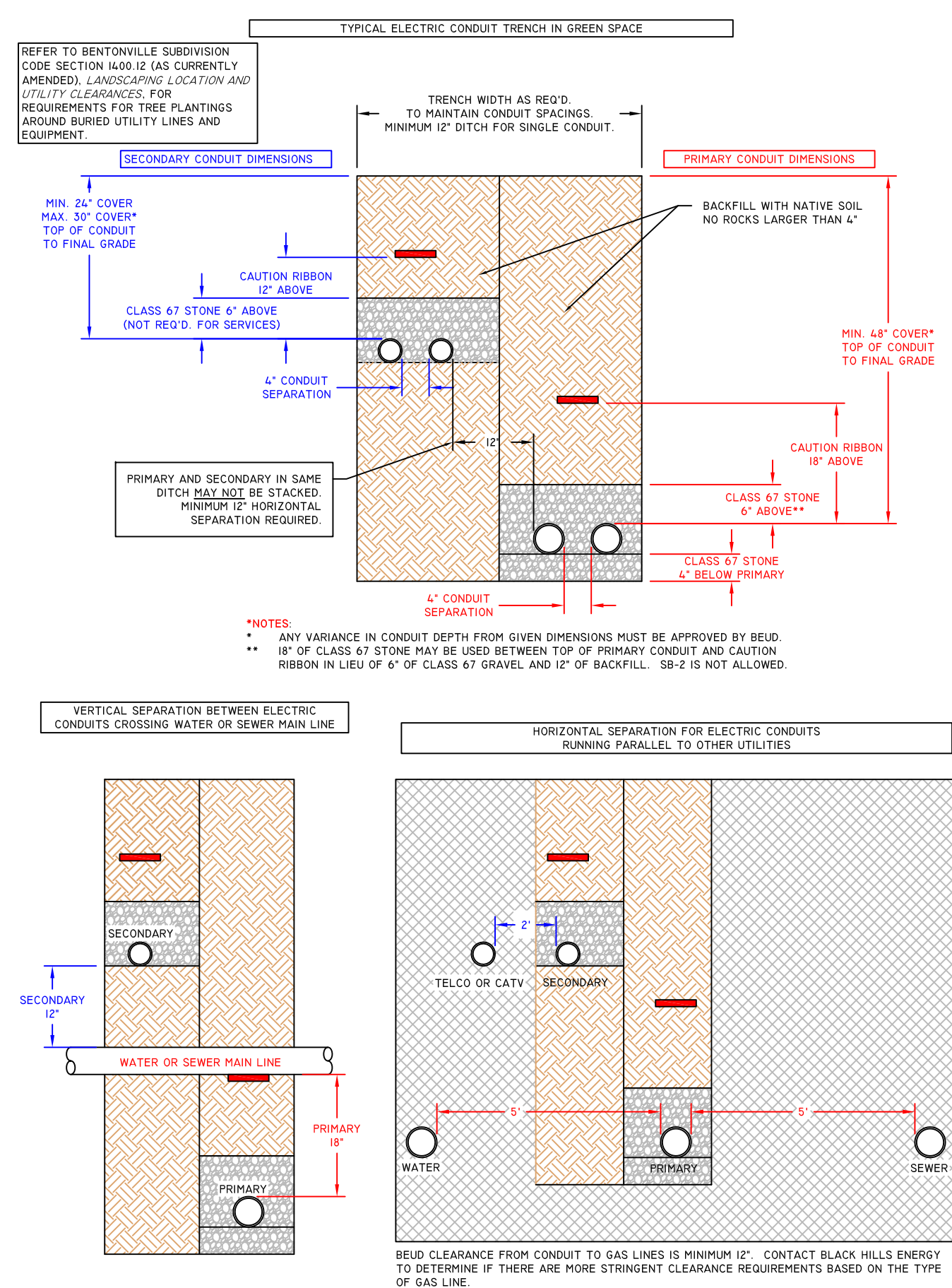
Approved by Dept. of Health
04/01/2021

NOTES:

DRAWN BY: JI DATE: 03/16/2021

APPROVED BY: PN DATE: 03/16/2021

SHEET NUMBER: 2 OF 2

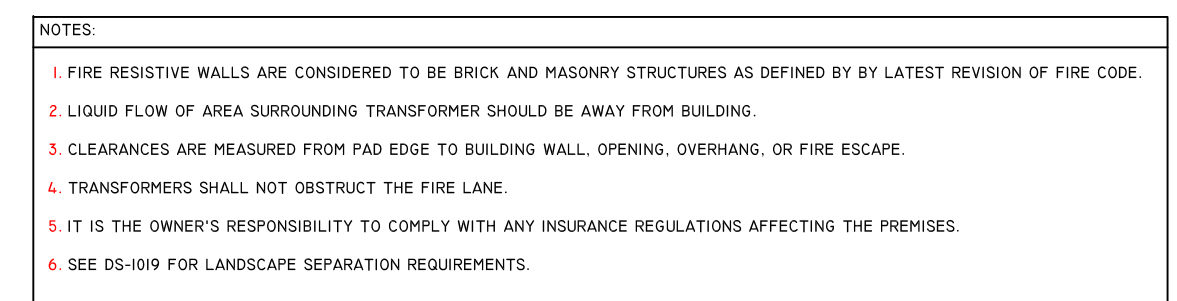
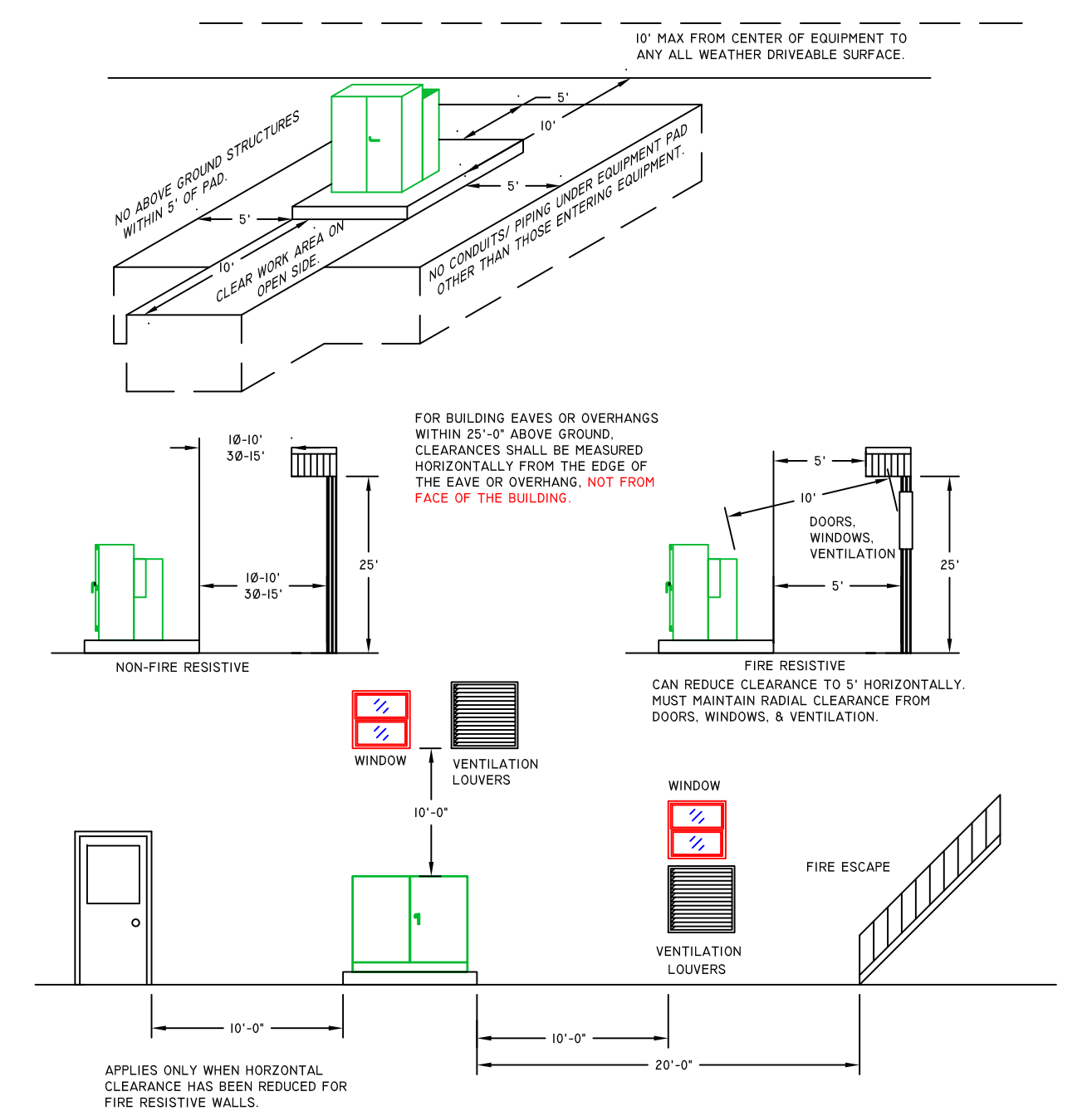
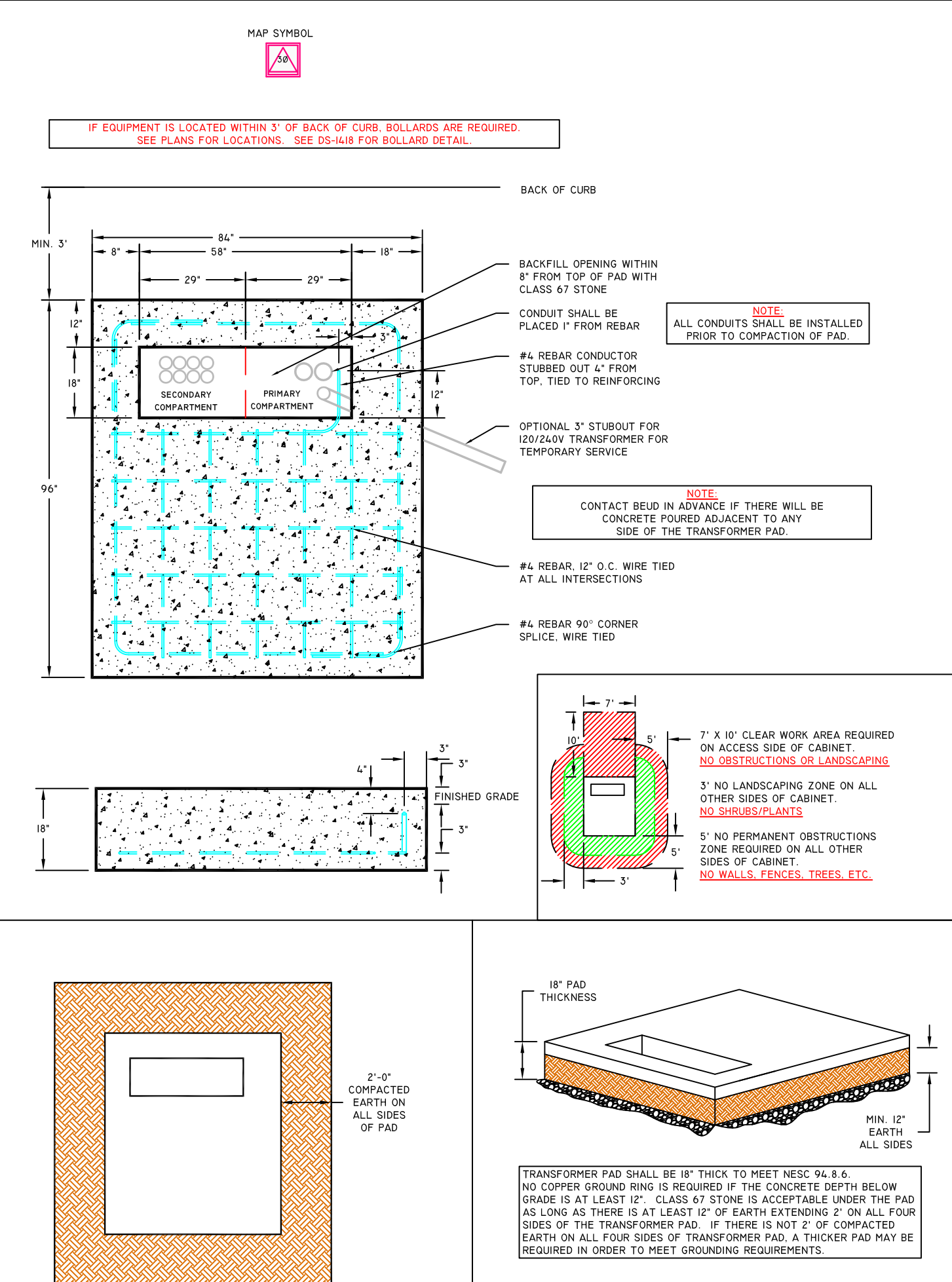
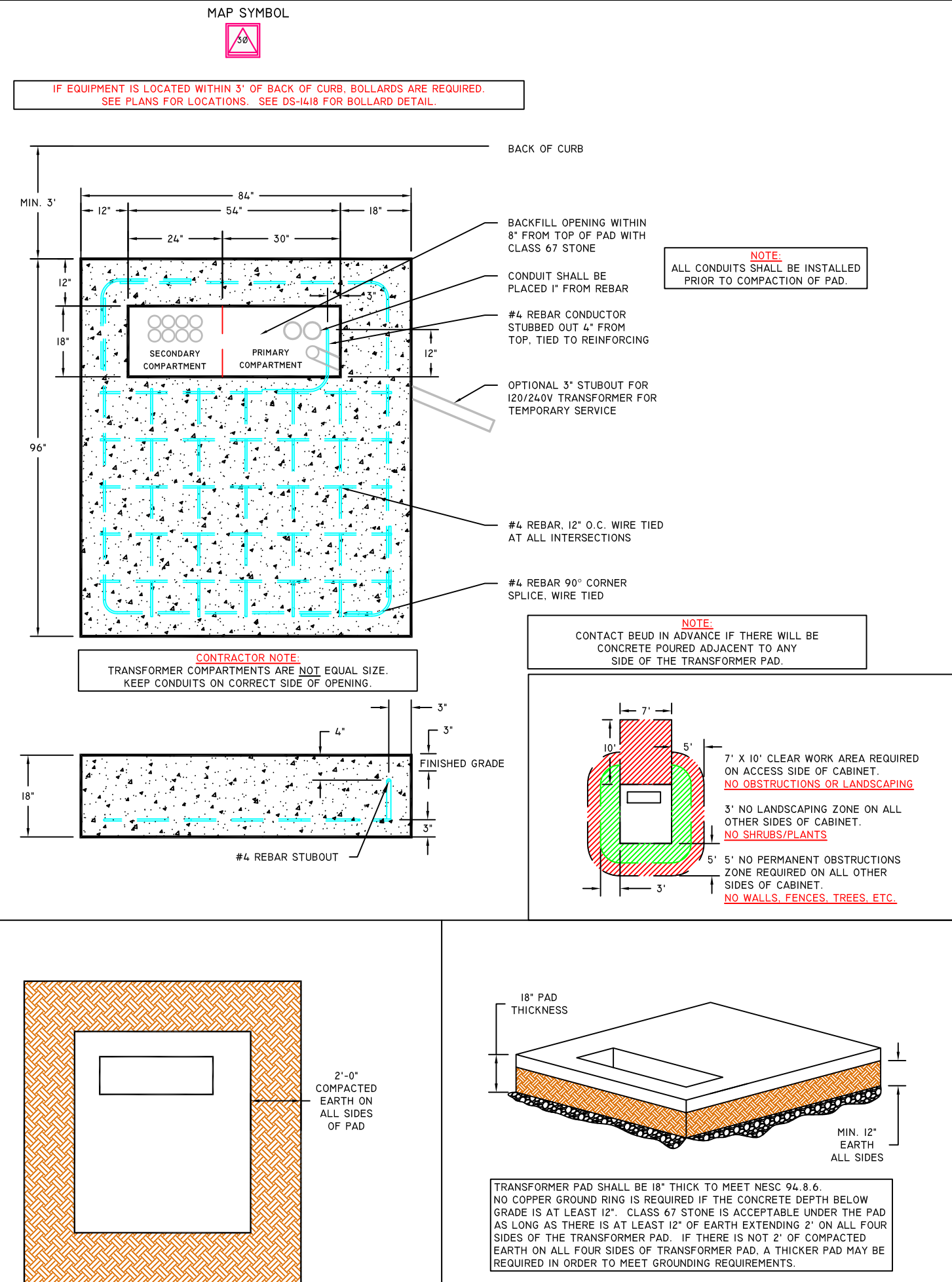
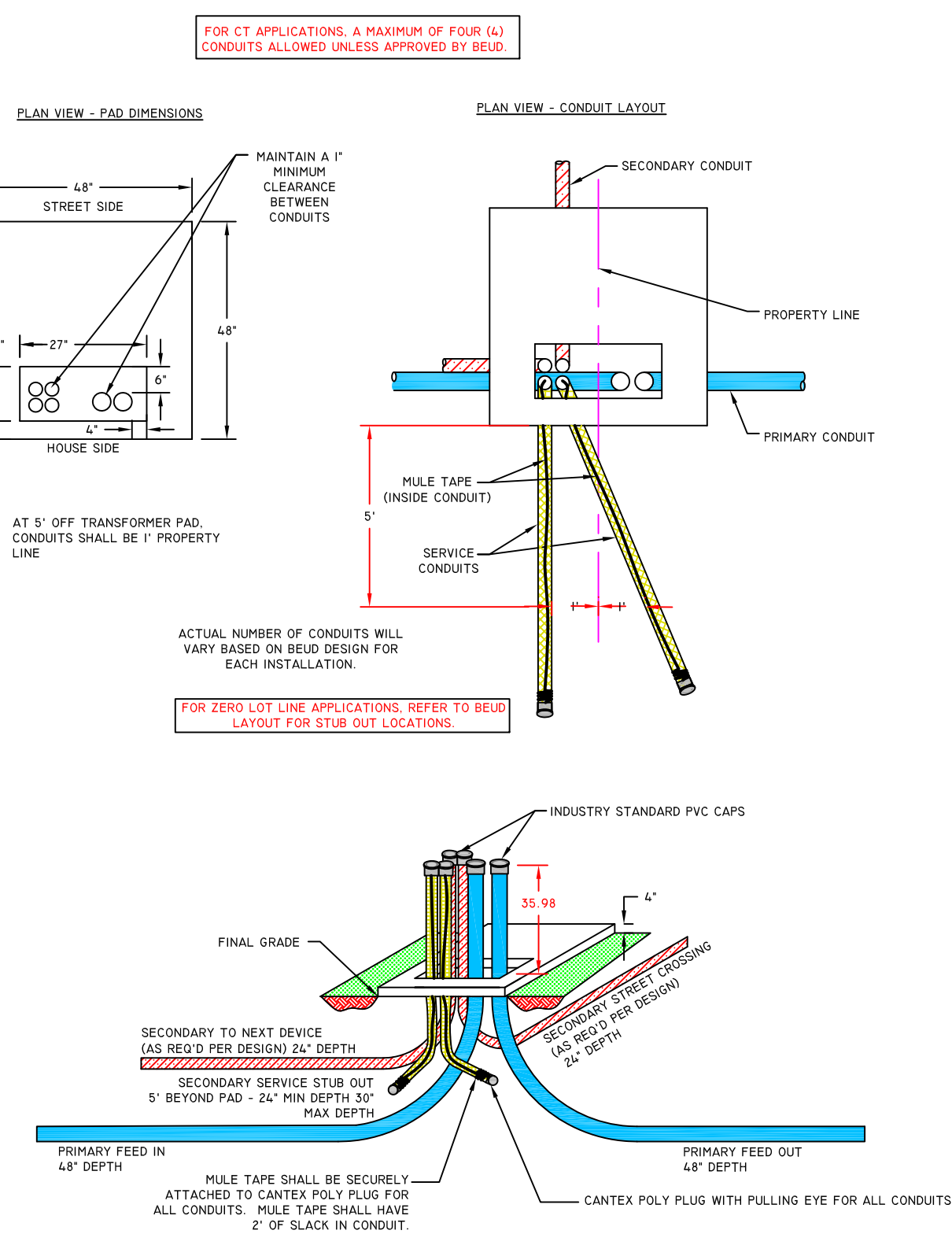


DS-1403 ELECTRIC TRENCH DETAILS SHEET 1

DS-1404 ELECTRIC TRENCH DETAILS SHEET 2

DS-I405 SINGLE PHASE TRANSFORMER SITE REQUIREMENTS

DS-I406 SINGLE PHASE TRANSFORMER PAD
SMALLER THAN 100 KVA



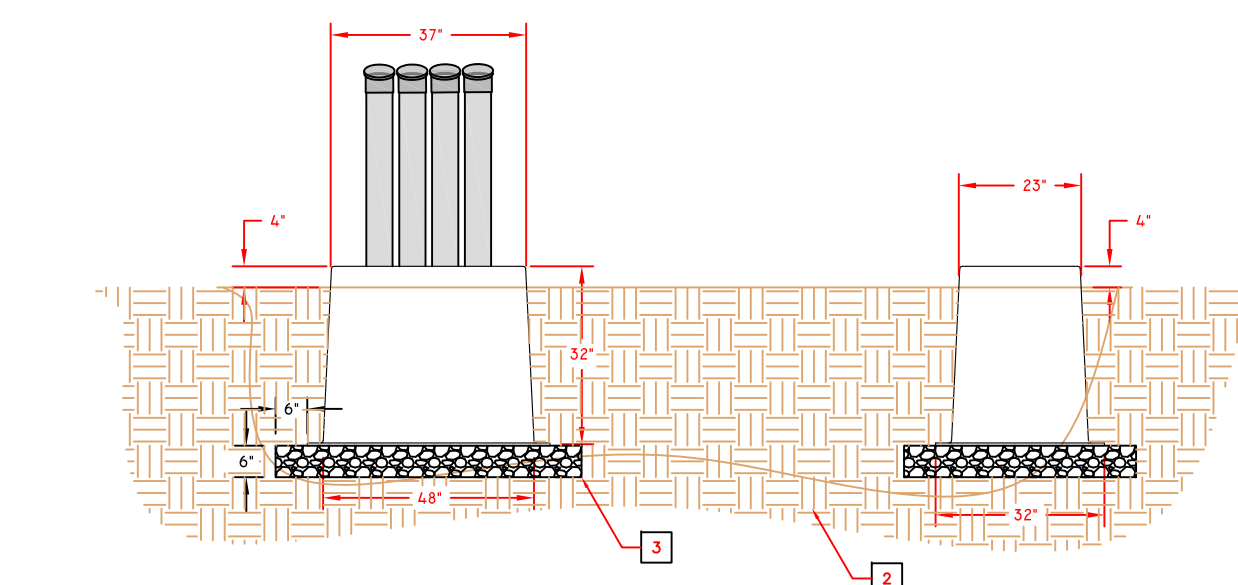
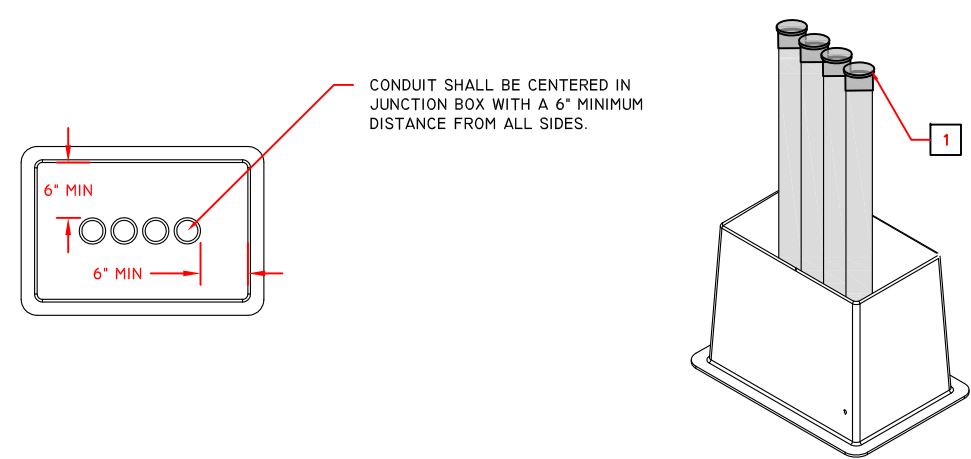
DS-I407 SINGLE PHASE TRANSFORMER PAD
100 KVA AND LARGER

DS-1408 THREE PHASE TRANSFORMER PAD
45-1000 kVA

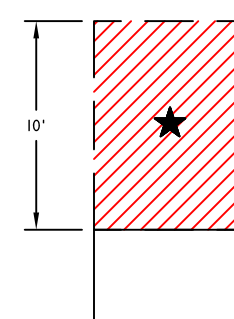
DS-I409 THREE PHASE TRANSFORMER PAD
1500-2500 kVA

DS-1410 CLEARANCE SPECIFICATIONS FOR PADMOUNTED EQUIPMENT

MAP SYMBOL

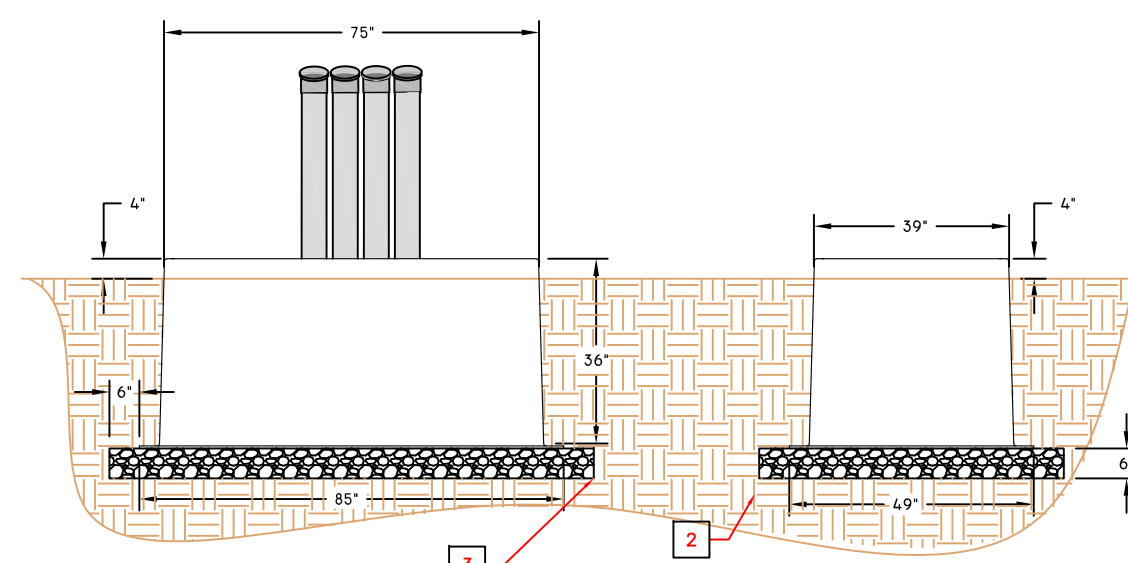
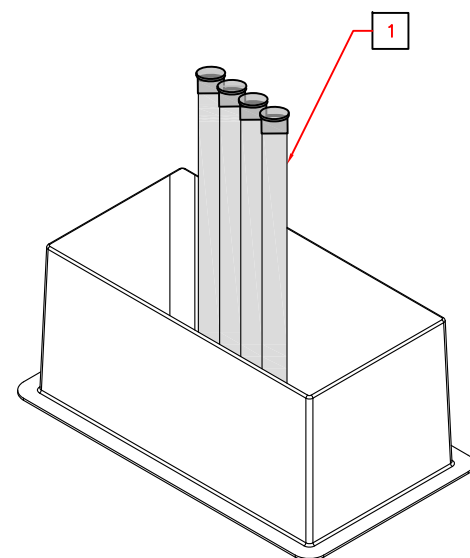
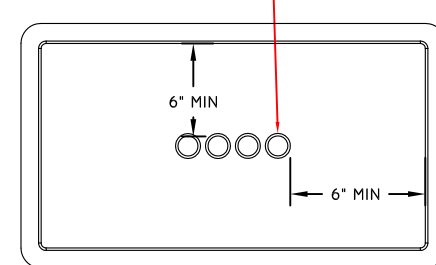


- NOTES:**
- CONDUITS SHALL BE STUBBED UP AND CAPPED 3" ABOVE TOP OF SLEEVE.
 - SOIL BELOW SLEEVE SHALL BE COMPACTED AND LEVEL.
 - 6" OF CLASS 67 GRAVEL SHALL BE PLACED IN THE BOTTOM OF THE EARTH BOX, EXTENDING 6" BEYOND EDGE OF SLEEVE.
 - MARK GROUND ROD PLACEMENT IN BOTTOM OF SLEEVE WITH WOODEN STAKE TO MISS BURIED CONDUIT RUNS.
 - 10' CLEAR WORK AREA REQUIRED ON ACCESS SIDE OF CABINET. **NO OBSTRUCTIONS.**

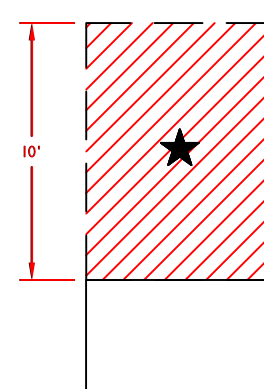


MAP SYMBOL

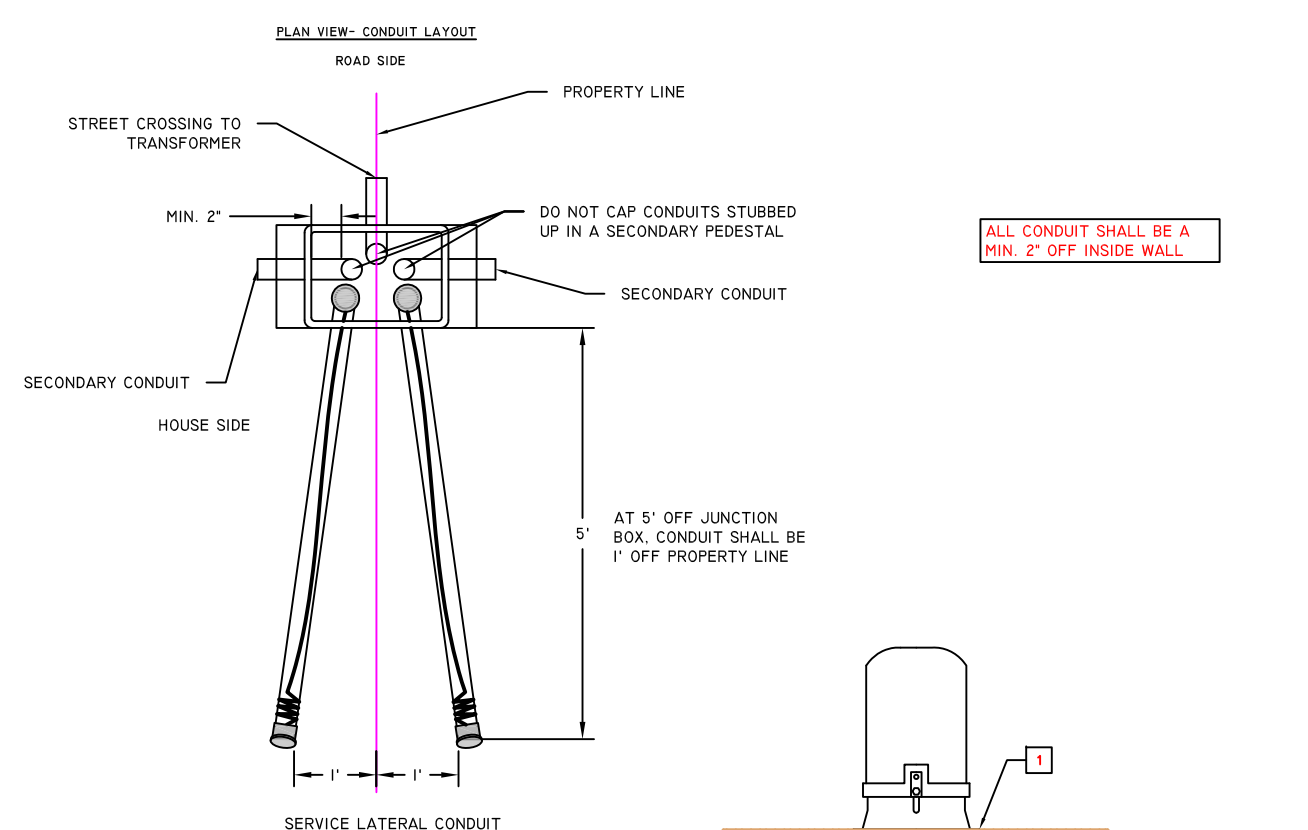
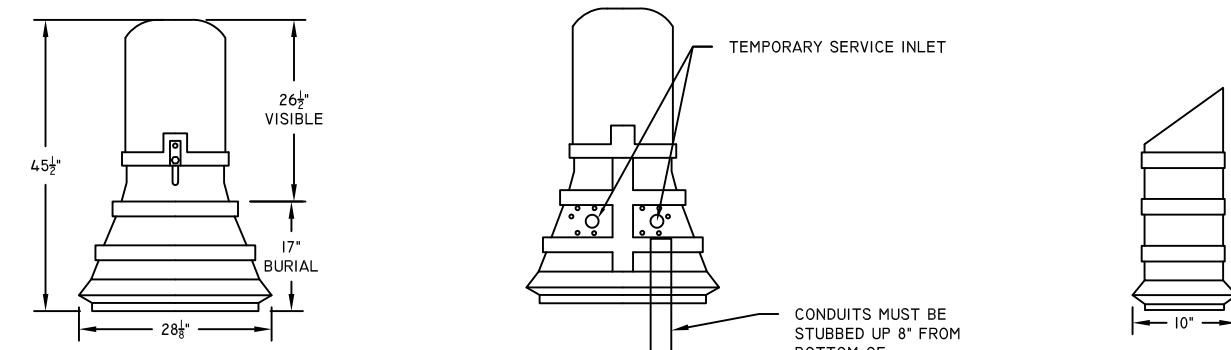
CONDUIT SHALL BE CENTERED IN JUNCTION BOX WITH A 6" MINIMUM DISTANCE FROM ALL SIDES.



- NOTES:**
- CONDUITS SHALL BE STUBBED UP AND CAPPED 3" ABOVE TOP OF SLEEVE.
 - SOIL BELOW SLEEVE SHALL BE COMPACTED AND LEVEL.
 - 6" OF CLASS 67 GRAVEL SHALL BE PLACED IN THE BOTTOM OF THE EARTH BOX, EXTENDING 6" BEYOND EDGE OF SLEEVE.
 - MARK GROUND ROD PLACEMENT IN BOTTOM OF SLEEVE WITH WOODEN STAKE TO MISS BURIED CONDUIT RUNS.
 - 10' CLEAR WORK AREA REQUIRED ON ACCESS SIDE OF CABINET. **NO OBSTRUCTIONS.**



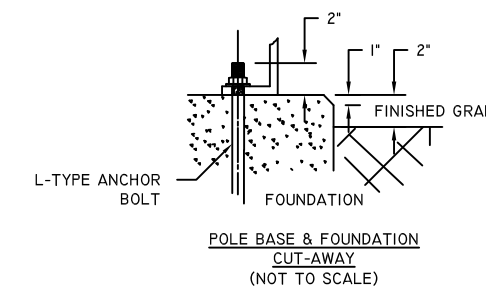
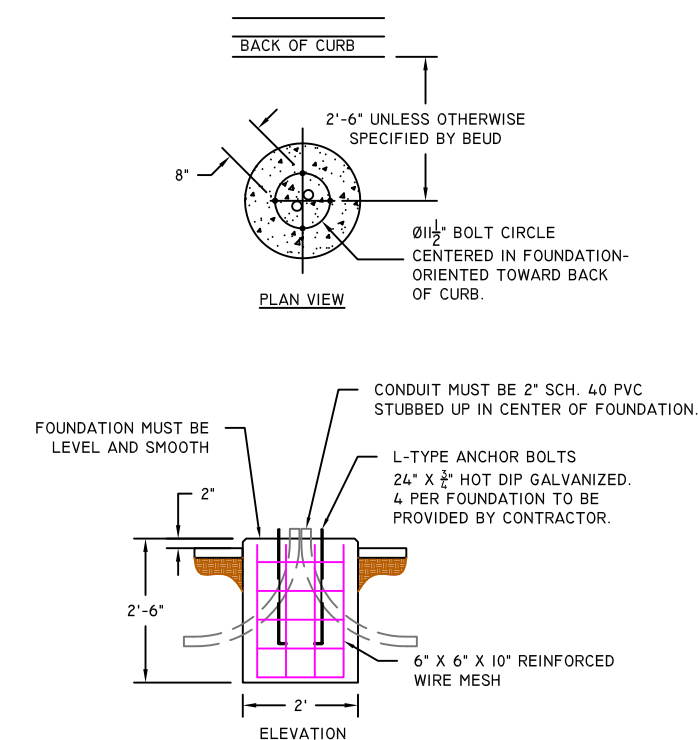
MAP SYMBOL



- NOTES:**
- EXCAVATE A 30" W X 24" H X 17" D PIT CENTERED IN A 5' X 5' CLEAR, LEVEL AREA. PEDESTAL SHALL NOT BE SITUATED IN A LOW AREA OR SWALE THAT WOULD CAUSE WATER TO COLLECT IN PIT.
 - CONTRACTOR TO USE ONLY SHORT SWEEP ELBOWS.
 - 6" OF CLASS 67 GRAVEL SHALL BE PLACED IN THE BOTTOM OF THE EARTH BOX, EXTENDING 6" BEYOND EDGE OF SLEEVE.

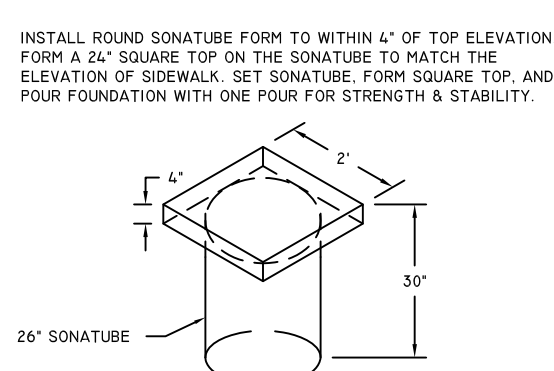
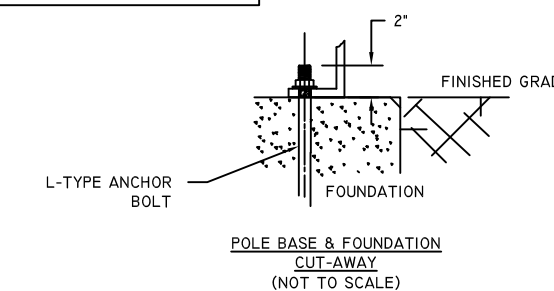
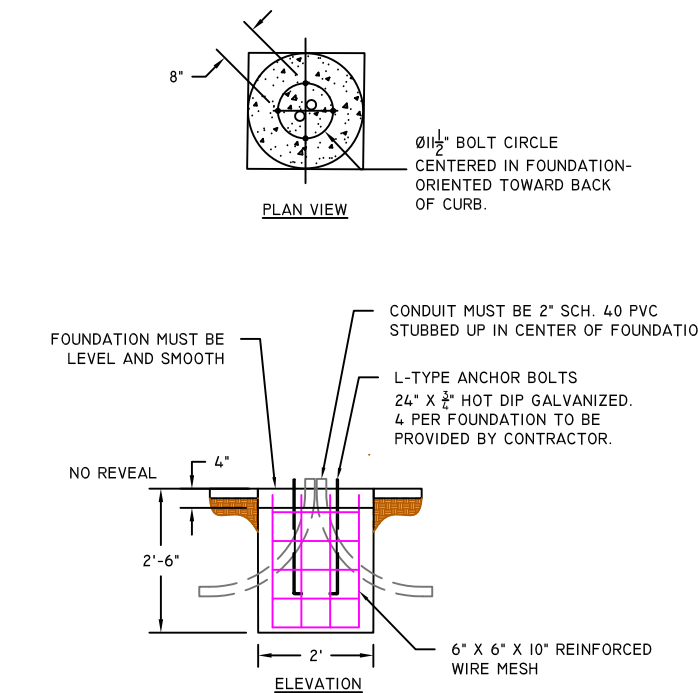
MAP SYMBOL

DS-1415A - STANDARD FOUNDATION



DS-1415B DOWNTOWN CORE

CONTRACTOR NOTE:
ONLY USE THIS DETAIL WHEN BEUD DESIGN CALLS FOR 'DS-1415 DOWNTOWN CORE'



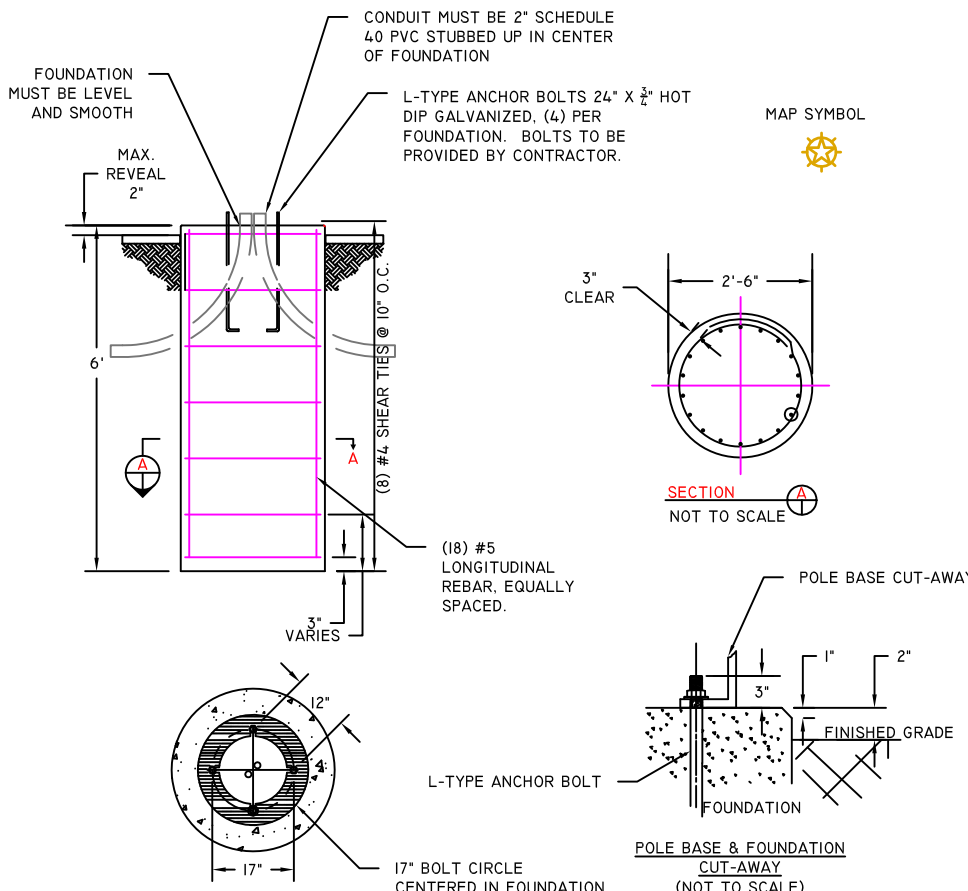
DS-1411 SINGLE PHASE PRIMARY JUNCTION BOX SLEEVE

DS-1412 THREE PHASE 200A PRIMARY JUNCTION BOX SLEEVE

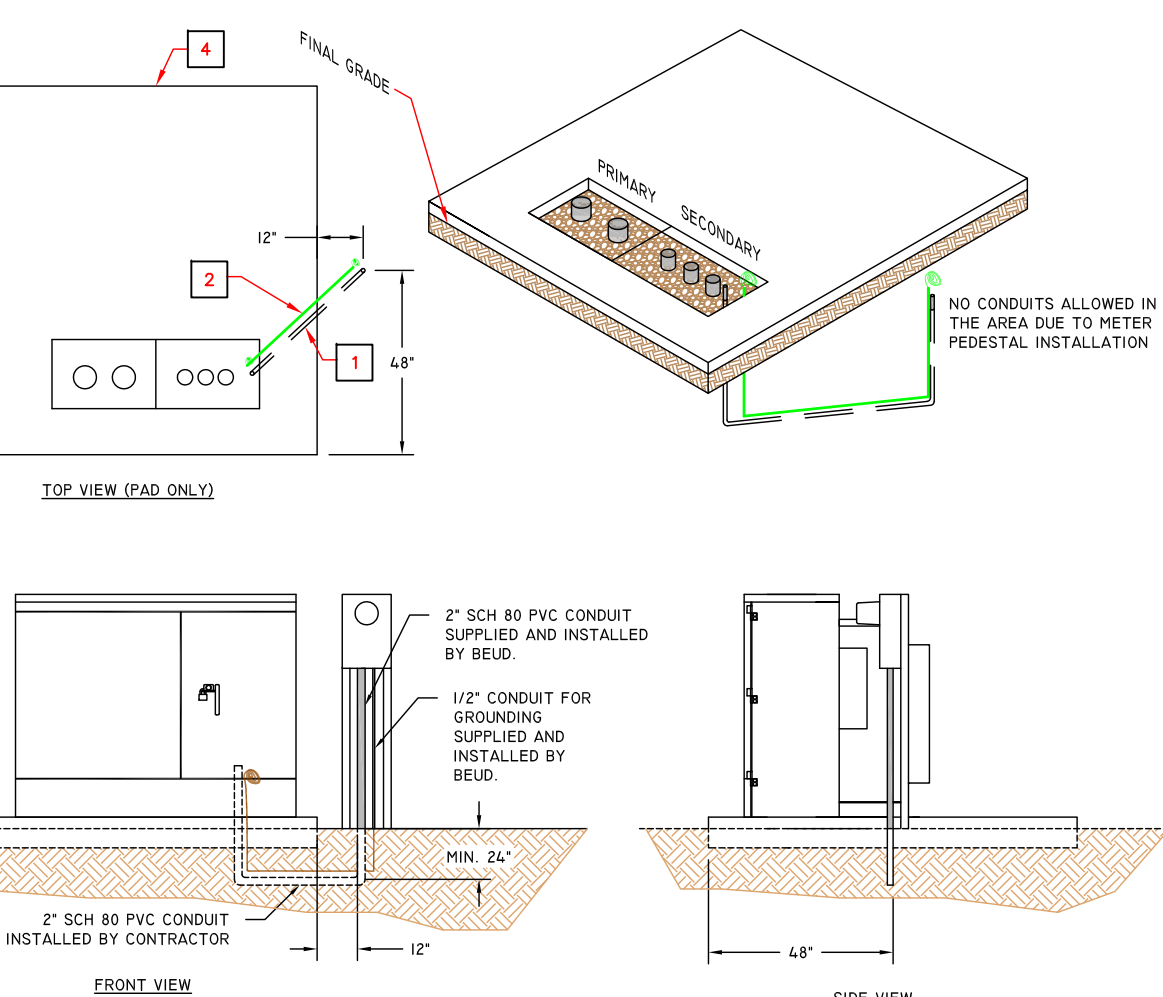
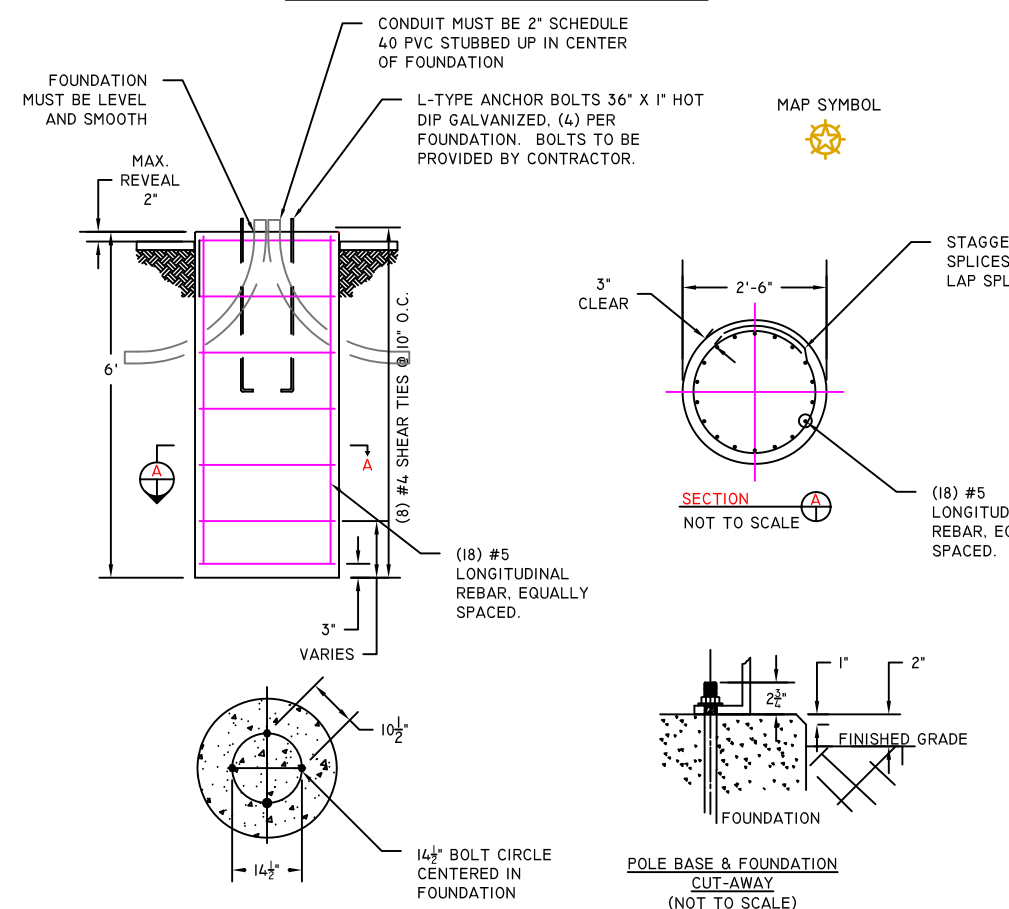
DS-1414 SECONDARY JUNCTION BOX

DS-1415 STREET LIGHT FOUNDATION FOR 12' RESIDENTIAL LIGHTS

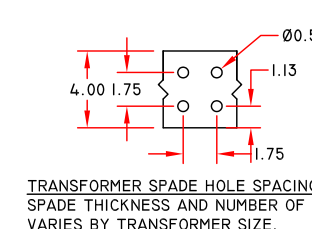
DS-1416A - 22' COMMERCIAL LIGHTS



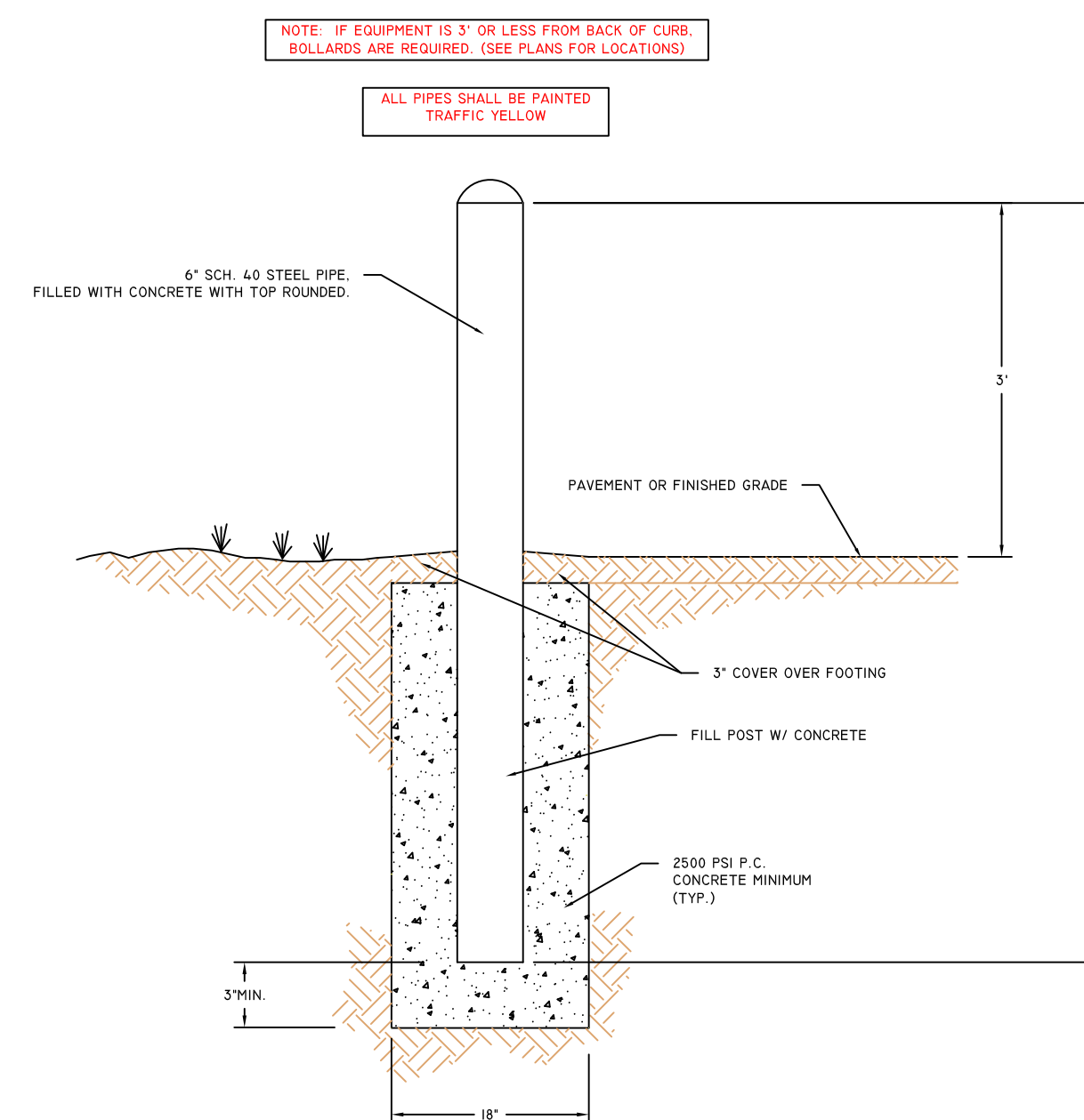
DS-1416B - 30' COMMERCIAL LIGHTS



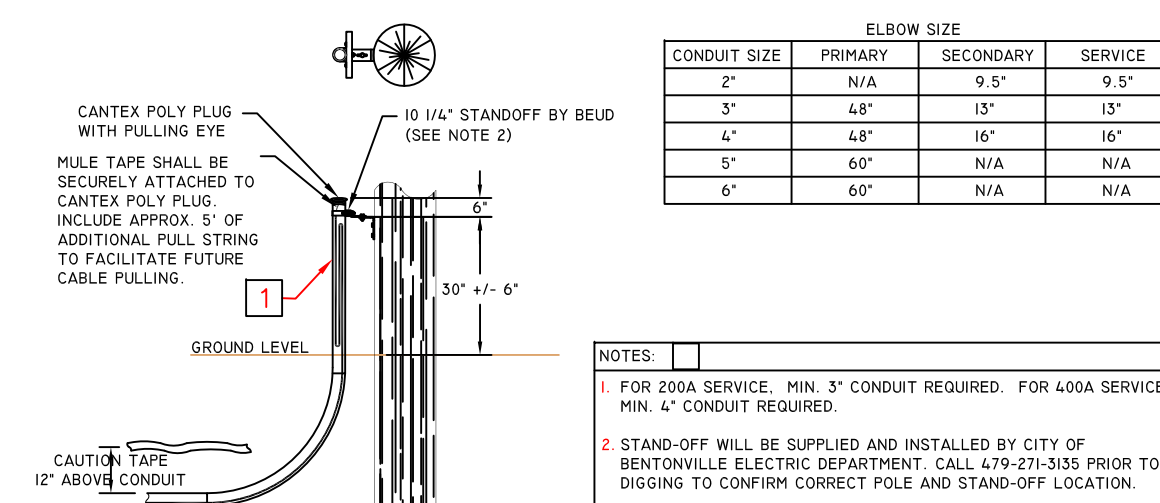
- 2" SCHEDULE 80 PVC CONDUIT FOR METERING TO BE INSTALLED BY CONTRACTOR. MUST BE STUBBED UP 12" FROM SIDE OF CONCRETE PAD AND 48" FROM FRONT EDGE OF CONCRETE PAD.
- #6 BARE SOLID COPPER FOR GROUNDING TO BE INSTALLED BY CONTRACTOR. MUST BE DIRECT BURIED OUTSIDE 2" SCH 80 PVC CONDUIT IN THE SAME DITCH WITH MIN. 2' FT LENGTH COILED AT EACH END.
- ELECTRICAL CONTRACTOR REQUIRED TO LAND SECONDARY CONDUCTORS IN TRANSFORMER WITH TWO HOLE TERMINAL LUGS USING (2) 1/2" SILICON BRONZE HEX BOLTS AND NUTS; (4) SILICON BRONZE FLAT WASHERS; (2) SILICON BRONZE LOCK WASHERS PER LUG. (BOLT LENGTH AS REQUIRED)
- CONTRACTOR TO OBTAIN CORRECT MEASUREMENTS FOR CONCRETE PAD FROM CITY OF BENTONVILLE ELECTRIC UTILITIES DEPARTMENT.
- COORDINATE WITH BEUD IF CONCRETE WILL BE POURED ANYWHERE ADJACENT TO THE TRANSFORMER PAD.



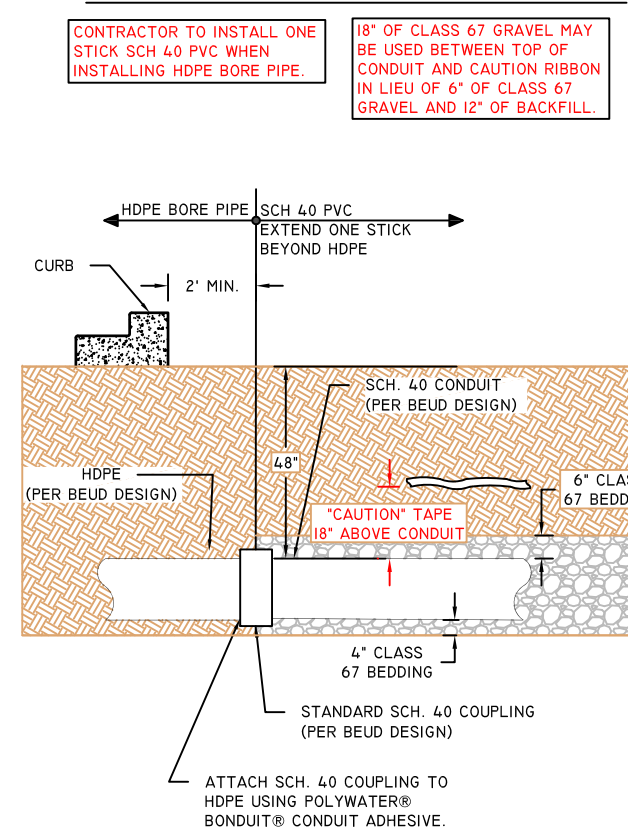
TRANSFORMER SIZE (KVA)	USABLE POSITIONS	SPADE THICKNESS
45	5	0.58"
75	7	0.5"
150/1000	11	0.5"
1500/2000	15	0.5"
2500	15	0.75"



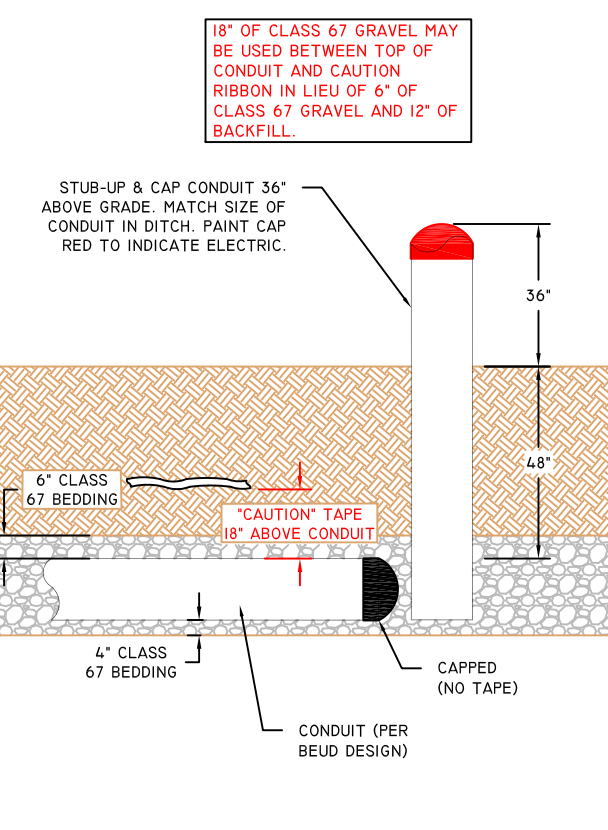
DS-1419A - CONDUIT STANDOFF



DS-1419B - HDPE BORE PIPE TO PVC SCHEDULE 40 CONDUIT



DS-1419C - CONDUIT STUB-UP



DS-1416 STREET LIGHT FOUNDATION FOR 22' AND 30' COMMERCIAL LIGHTS

DS-1417 TRANSFORMER PAD AND METER CONFIGURATION FOR CT'S ON SPADES

DS-1418 PIPE BOLLARD DETAIL

DS-1419 CONDUIT INSTALLATION DETAILS

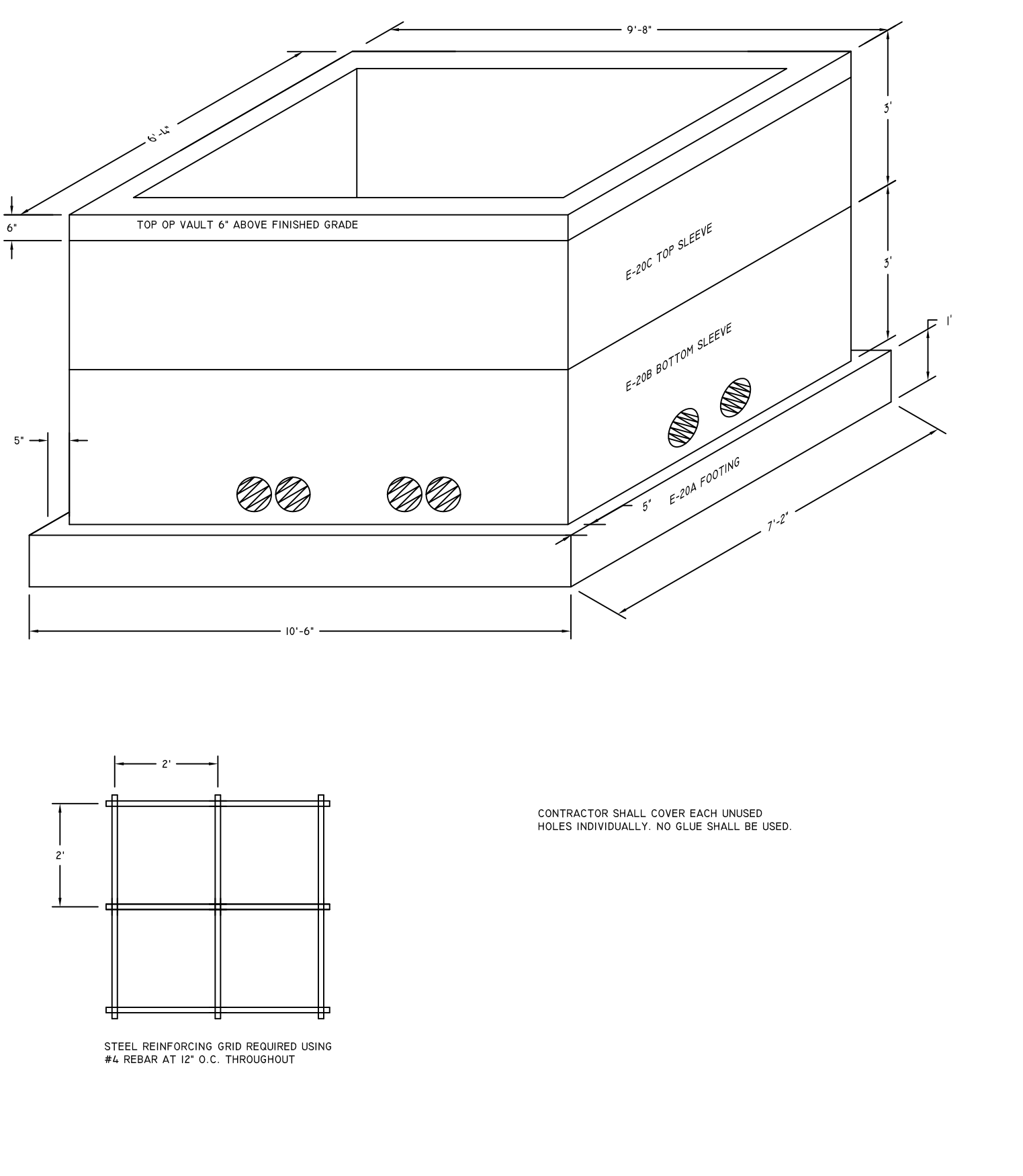
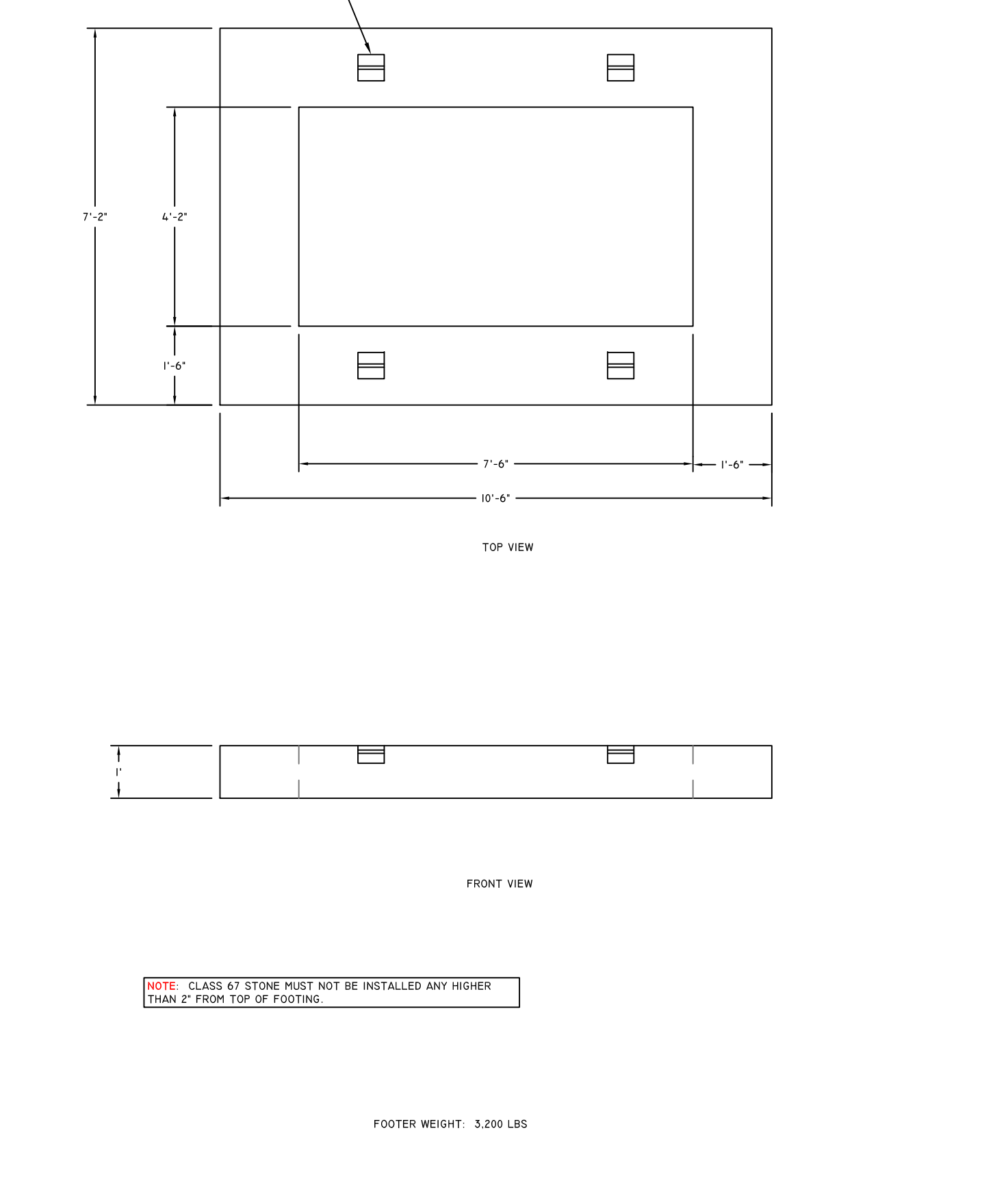
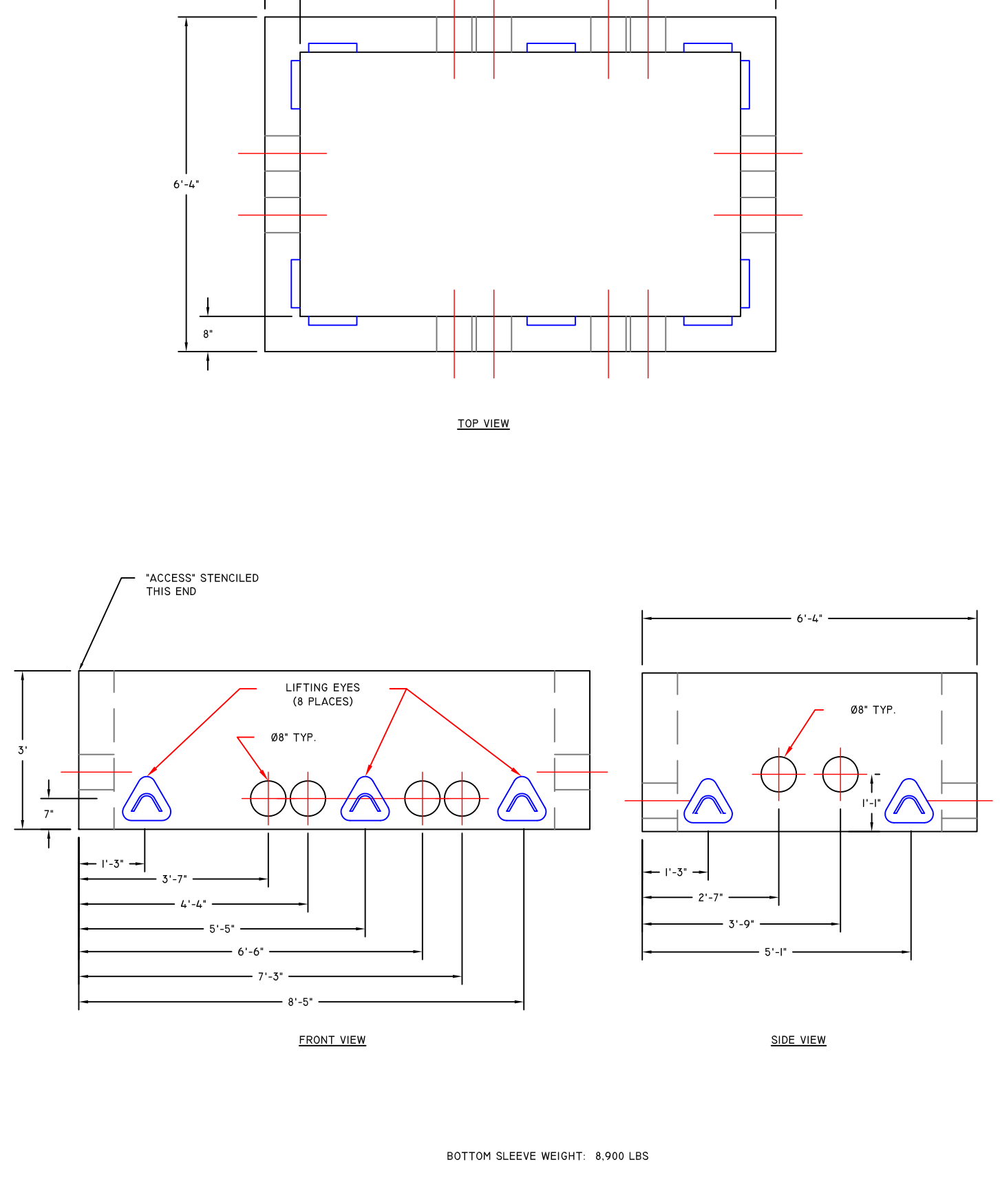
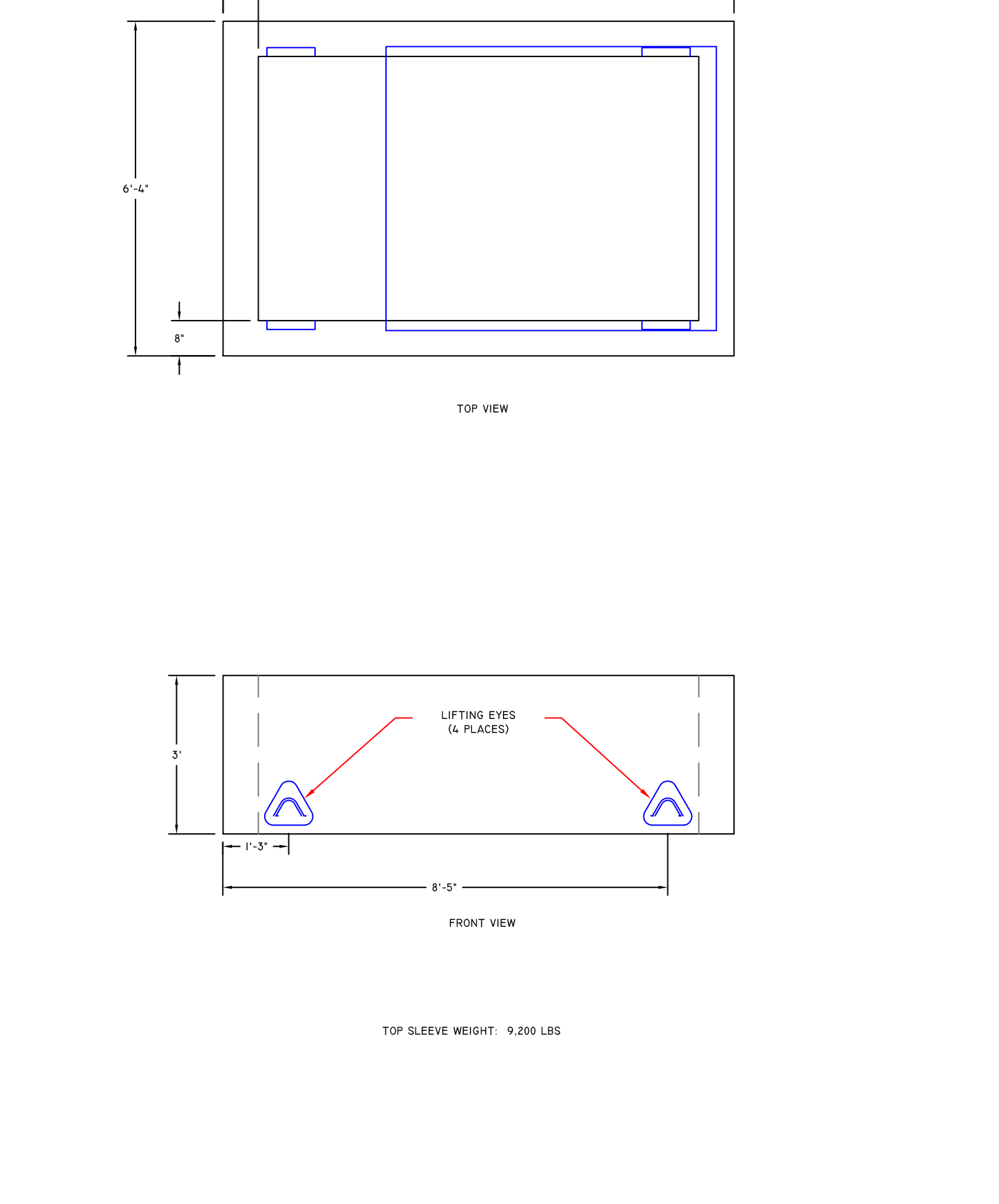

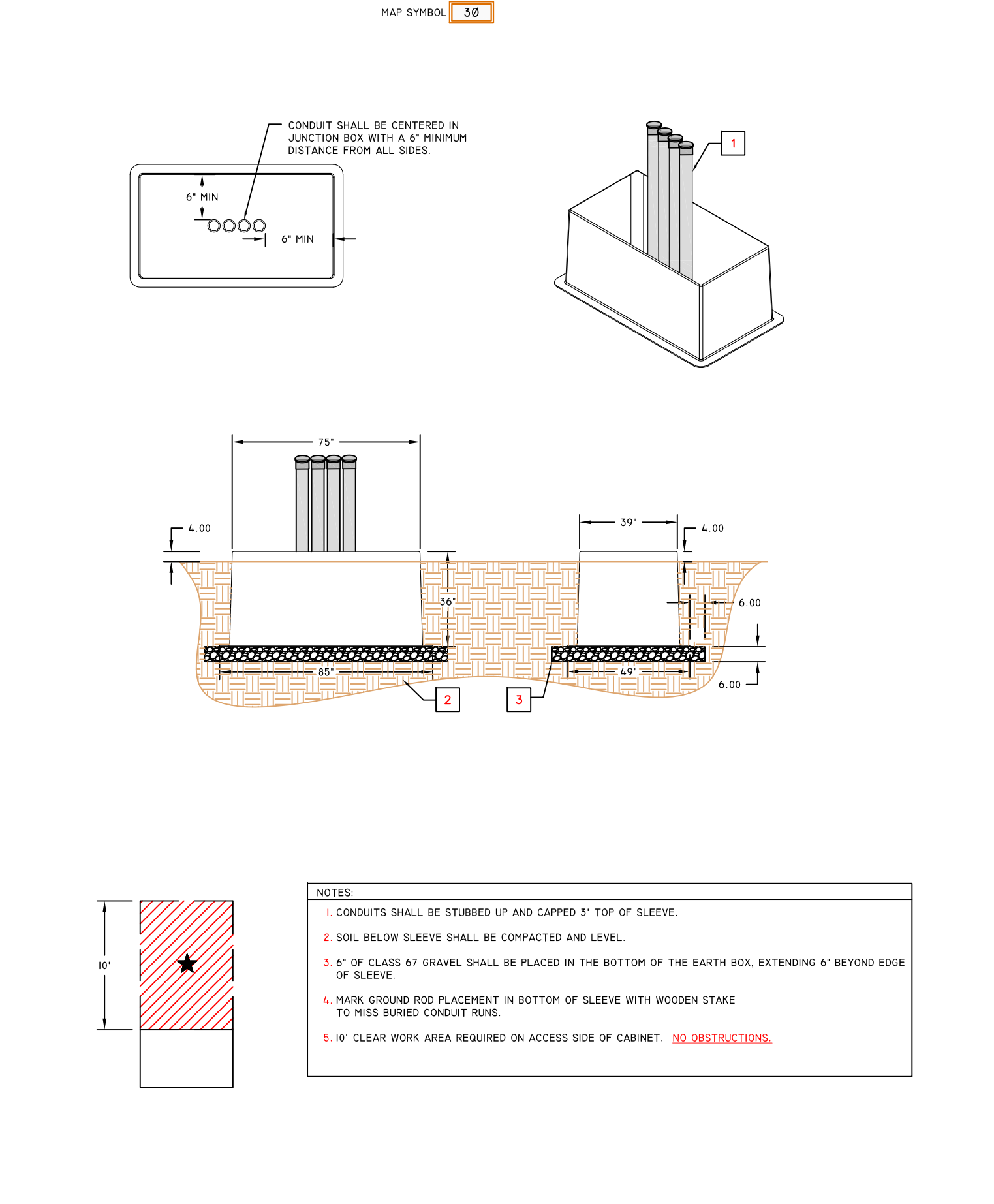

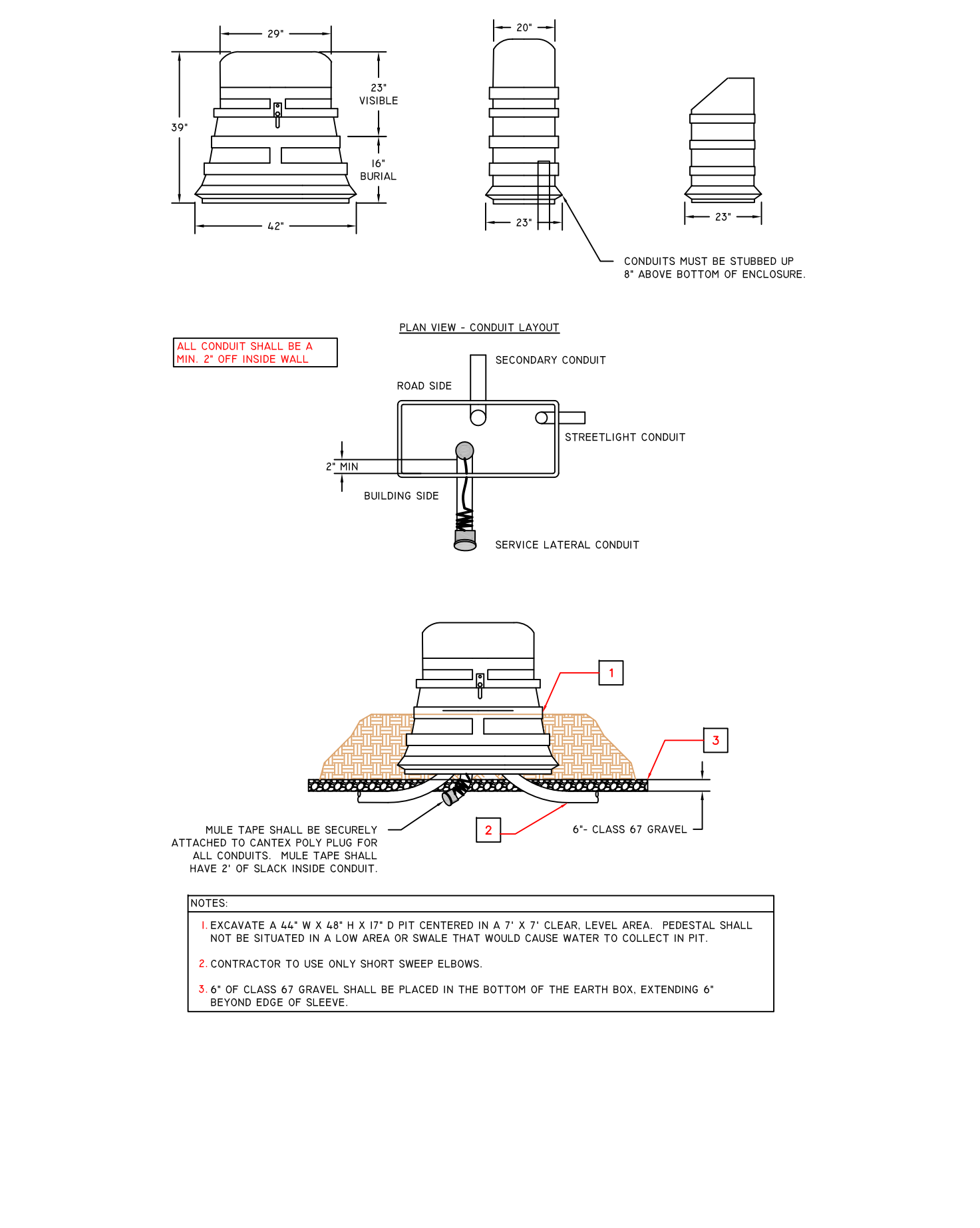
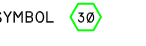
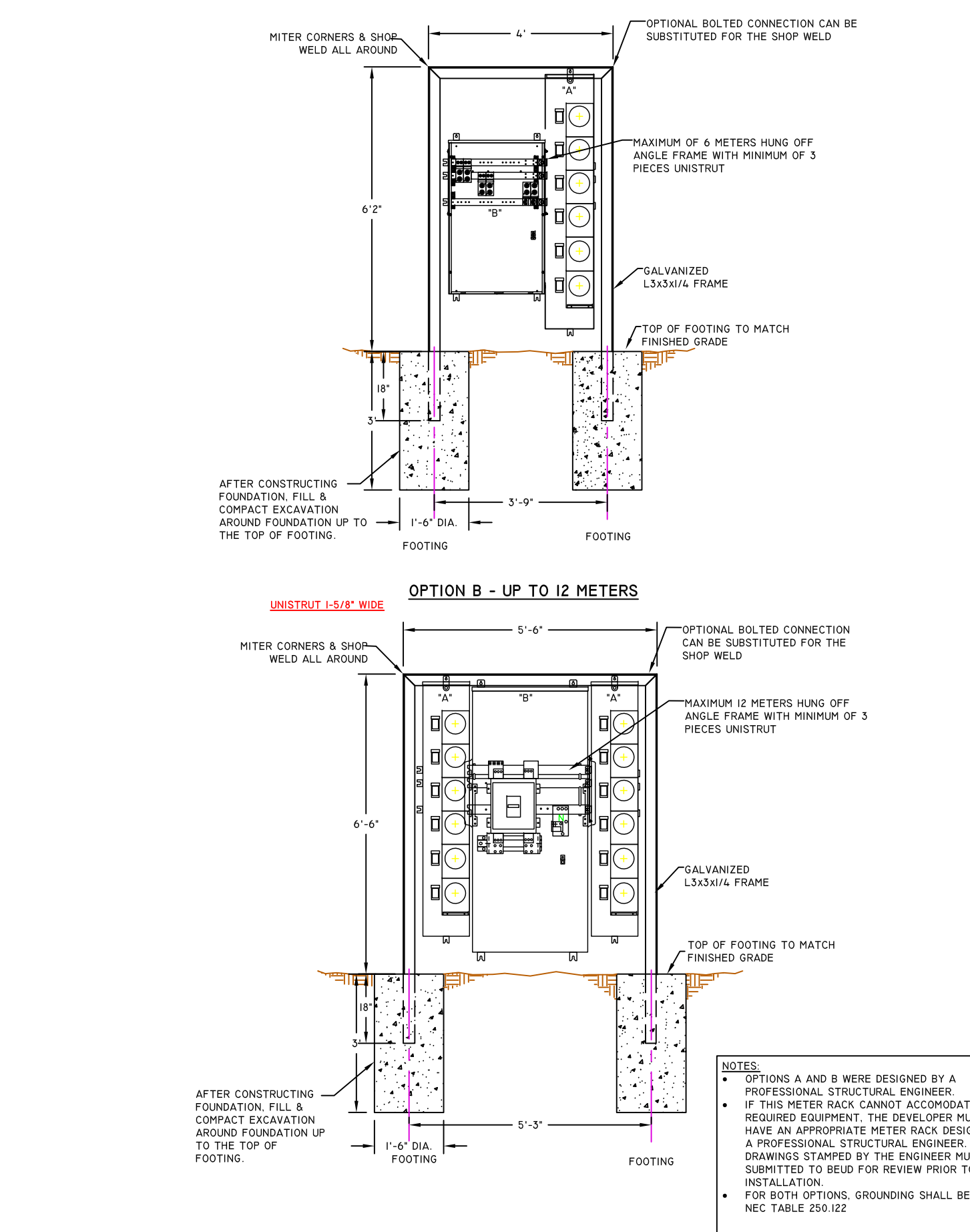

REVISION	DATE	BY	APP'D	DESCRIPTION
1	05/07/2014	BEUD	REVISION	BEUD REVISION
2	05/07/2014	BEUD	REVISION	BEUD REVISION
3	05/07/2014	BEUD	REVISION	BEUD REVISION
4	05/07/2014	BEUD	REVISION	BEUD REVISION



SCAN FOR LATEST
REVISION OF BEUD SPECS
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<div><p>CONTRACTOR SHALL COVER EACH UNUSED HOLES INDIVIDUALLY. NO GLUE SHALL BE USED.</p><p>STEEL REINFORCING GRID REQUIRED USING #4 REBAR AT 12" O.C. THROUGHOUT</p></div>	<div><p>NOTE: CLASS 67 STONE MUST NOT BE INSTALLED ANY HIGHER THAN 2" FROM TOP OF FOOTING.</p><p>FOOTER WEIGHT: 3,200 LBS</p></div>	<div><p>TOP VIEW</p><p>FRONT VIEW</p><p>SIDE VIEW</p><p>BOTTOM SLEEVE WEIGHT: 8,900 LBS</p></div>	<div><p>TOP VIEW</p><p>FRONT VIEW</p><p>TOP SLEEVE WEIGHT: 9,200 LBS</p></div>	<div><div><div><div><div>THE CITY OF</div><div>BENTONVILLE</div></div></div><div>608 SE 3rd Street Bentonville, AR 72712 Ph: (479) 271-3135 www.bentonvillear.com</div></div><div>ELECTRIC LAYOUT</div></div>												
DS-I420 PADMOUNT SWITCHGEAR VAULT ASSEMBLY	DS-I420A PADMOUNT SWITCHGEAR VAULT FOOTER	DS-I420B PADMOUNT SWITCHGEAR BOTTOM SLEEVE	DS-I420C PADMOUNT SWITCHGEAR TOP SLEEVE													
<div><p>CONDUIT SHALL BE CENTERED IN JUNCTION BOX WITH A 6" MINIMUM DISTANCE FROM ALL SIDES.</p><p>MAP SYMBOL: </p><p>NOTES:</p><ol style="list-style-type: none">CONDUITS SHALL BE STUBBED UP AND CAPPED 3" TOP OF SLEEVE.SOIL BELOW SLEEVE SHALL BE COMPACTED AND LEVEL.6" OF CLASS 67 GRAVEL SHALL BE PLACED IN THE BOTTOM OF THE EARTH BOX, EXTENDING 6" BEYOND EDGE OF SLEEVE.MARK GROUND ROD PLACEMENT IN BOTTOM OF SLEEVE WITH WOODEN STAKE TO MISS BURIED CONDUIT RUNS.10' CLEAR WORK AREA REQUIRED ON ACCESS SIDE OF CABINET. NO OBSTRUCTIONS.</div>	<div><p>MAP SYMBOL: </p><p>PLAN VIEW - CONDUIT LAYOUT</p><p>ROAD SIDE</p><p>BUILDING SIDE</p><p>SECONDARY CONDUIT</p><p>STREETLIGHT CONDUIT</p><p>SERVICE LATERAL CONDUIT</p><p>NOTES:</p><ol style="list-style-type: none">EXCAVATE A 44" W X 48" H X 17" D PIT CENTERED IN A 7' X 7' CLEAR LEVEL AREA. PEDESTAL SHALL NOT BE SITUATED IN A LOW AREA OR SWALE THAT WOULD CAUSE WATER TO COLLECT IN PIT.CONTRACTOR TO USE ONLY SHORT SWEEP ELBOWS.6" OF CLASS 67 GRAVEL SHALL BE PLACED IN THE BOTTOM OF THE EARTH BOX, EXTENDING 6" BEYOND EDGE OF SLEEVE.</div>	<div><p>OPTION A - UP TO 6 METERS</p><p>OPTION B - UP TO 12 METERS</p><p>UNISTRUT 1-5/8" WIDE</p><p>NOTES:</p><ul style="list-style-type: none">OPTIONS A AND B WERE DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER.IF THIS METER RACK CANNOT ACCOMMODATE THE REQUIRED EQUIPMENT, THE DEVELOPER MUST HAVE AN APPROPRIATE METER RACK DESIGNED BY A PROFESSIONAL STRUCTURAL ENGINEER. DESIGN DRAWINGS STAMPED BY THE ENGINEER MUST BE SUBMITTED TO BELU FOR REVIEW PRIOR TO INSTALLATION.FOR BOTH OPTIONS, GROUNDING SHALL BE PER NEC TABLE 250.122</div>		<div><div><div>REVISION</div><table><tr><td>1</td><td>BUILD REVISION</td><td>02/05/2014</td></tr><tr><td>2</td><td>BUILD REVISION</td><td>02/05/2016</td></tr><tr><td>3</td><td>BUILD REVISION</td><td>02/05/2016</td></tr><tr><td>4</td><td>BUILD REVISION</td><td>02/28/19</td></tr></table></div><div><div>SCAN FOR LATEST REVISION OF BELU SPECS</div></div></div> <div><div>811</div><div>Know what's below. Call before you dig.</div></div> <div><div>DRAWN: A.J.H.</div><div>CHECKED: WDT</div><div>SHEET NUMBER: 3</div><div>06/2019</div><div>REV 4</div></div>	1	BUILD REVISION	02/05/2014	2	BUILD REVISION	02/05/2016	3	BUILD REVISION	02/05/2016	4	BUILD REVISION	02/28/19
1	BUILD REVISION	02/05/2014														
2	BUILD REVISION	02/05/2016														
3	BUILD REVISION	02/05/2016														
4	BUILD REVISION	02/28/19														
DS-I413 THREE PHASE 600A PRIMARY JUNCTION BOX SLEEVE	DS-I414-I THREE PHASE SECONDARY JUNCTION BOX	DS-I024 SINGLE PHASE FREE STANDING METER RACK														



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June 30, 2022

Dan Weese
City of Bentonville
3200 SW Municipal Drive
Bentonville, AR 72712
Phone: (479) 271-6840

RE: SW 3rd and C St. Laterals – Executive Drainage Summary

Dear Mr. Weese,

Below is a summary of the drainage improvements for the SW 3rd and C Street Laterals project.

Introduction:

It is the intent of this report to show that the stormwater management facilities designed for the SW 3rd and C Street Laterals project area described within meets or exceeds the requirements of the City of Bentonville Stormwater Management and Drainage Manual and general engineering practices for the control of peak runoff and safe conveyance of stormwater within and/or from the site without damage to downstream property and life. The proposed improvements to the project area will consist of a new drainage trunk extending from the intersection of SW 3rd Street SW B Street to the intersection of SW 2nd Street and SW D street. This project is not located within any established 100-year floodplain, as shown by the Federal Emergency Management Agency (FEMA) Flood Rate Insurance Map (FIRM) for the City of Bentonville, Community Panels #05007C0255K (effective date 06/05/2012).

Hydrology Methods:

Stormwater runoff for the project area generally flows from southwest to the northeast. The existing drainage system is primarily open ditch flow in a easterly direction towards SW C street.

In accordance with the City of Bentonville Stormwater Management and Drainage Manual, the Rational Method was utilized for each drainage area due to their respective sizes being less than 200 acres each. The proposed drainage system was designed to convey full flow capacity for the 100-year storm event.

Hydrology Parameters:

The drainage areas for inlets were delineated using survey data along the proposed trunk and branch line locations and USGS Quad map contours.

The times of concentration (T_c) were calculated using the Technical Release 55 (TR-55) methodology. However, in drainage areas where the calculated T_c fell below the 5-minute minimum dictated by TR-55, a T_c of 5 minutes was assumed.

Peak flow rates for each drainage area were calculated using the Rational Method with composite runoff coefficients based on the following: 0.9 for pavement, roofs, and other impervious areas; 0.55 for properties zoned R-1 with an average size of 1/3 acre; 0.75 for properties zoned R-3; 0.8 for properties zoned R-4 and RC-2; and 0.92 for properties zoned RC-3. These runoff coefficients were obtained from Table 2.1 of the City of Bentonville Stormwater Management and Drainage Manual. Rainfall intensities (used in the Rational Method) were also obtained from the City of Bentonville Stormwater Management and Drainage Manual.

Conclusion:

The proposed drainage system was analyzed and sized to adequately convey the stormwater runoff that the existing system experienced.

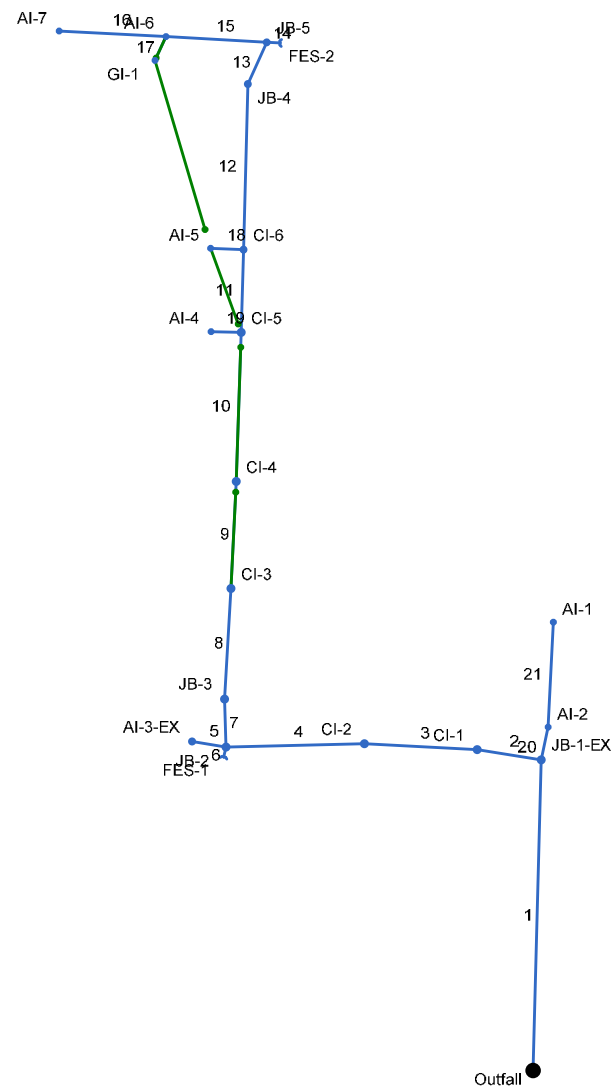
The project area is located outside of the floodway and the 100-year floodplain limits. Improvements as outlined in this report and depicted on the design drawings will not increase the risk of endangerment to life or have negative impact on adjacent or downstream property or watersheds.

This report has been prepared in accordance with the design requirements for this project. In addition, storm events/frequencies, runoff calculations, discharge criteria, pipe hydraulics, evaluation methods (including computer software applications), etc., have been based on the guidelines/requirements of this project and reflect the application of generally accepted standards of engineering practice.

Respectfully Submitted,

Colton Echols E.I.
Project Designer

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Structure Report

10-Year

Structure Number	Line ID	Junction Type	Rim Elevation (ft)	Structure			Line Out		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)
1	JB-1-EX	MH	1288.46	Rect	6	6	36 x 72	Box	1282.60
2	CI-1	Comb.	1289.53	Rect	6	6	36 x 48	Box	1282.73
3	CI-2	Comb.	1289.94	Rect	6	6	36 x 48	Box	1282.95
4	JB-2	MH	1292.19	Rect	8	8	36 x 48	Box	1283.22
5	AI-3-EX	Dp-Curb	1292.32	Rect	4	4	14 x 23	Ell	1290.44
6	FES-1	Hdwall	1291.71	...	...	...	18	Cir	1299.00
7	JB-3	MH	1291.31	Rect	8	8	24 x 72	Box	1283.30
8	CI-3	Comb.	1290.74	Rect	6	6	36 x 48	Box	1283.46
9	CI-4	Comb.	1289.95	Rect	6	6	36 x 48	Box	1283.72
10	CI-5	Comb.	1289.38	Rect	6	6	36 x 48	Box	1284.04
11	CI-6	Comb.	1289.51	Rect	6	6	24 x 36	Box	1285.16
12	JB-4	MH	1289.95	Rect	6	6	24 x 36	Box	1285.51
13	JB-5	MH	1291.35	Rect	6	6	24 x 36	Box	1285.68
14	FES-2	Hdwall	1289.84	...	...	...	14 x 23	Ell	1288.34
15	AI-6	Curb	1290.30	Rect	4	4	18	Cir	1286.88
16	AI-7	Dp-Curb	1290.50	Rect	4	4	18	Cir	1287.44
17	GI-1	Dp-Curb	1290.36	Rect	4	4	14 x 23	Ell	1287.25
18	AI-5	Dp-Curb	1289.25	Rect	4	4	18	Cir	1286.08
19	AI-4	Curb	1289.30	Rect	4	4	18	Cir	1285.76
20	AI-2	Dp-Curb	1286.98	Rect	4	4	18	Cir	1282.65
21	AI-1	Dp-Curb	1287.75	Rect	4	4	18	Cir	1282.91

Storm Sewer Summary Report

10-Year

Line Number	Line ID	Flow Rate (cfs)	Pipe Capacity (cfs)	Pipe Capacity (%)	Line Size (in)	Line Shape	Line Length (ft)	Invert El. Down (ft)	Invert El. Up (ft)	Line Slope (%)	Pipe Velocity (fps)
1	JB-1-EX	38.41	65.29	59%	36 x 72	Box	308	1282.29	1282.60	0.10	3.81
2	CI-1	35.31	55.79	63%	36 x 48	Box	64	1282.60	1282.73	0.20	4.67
3	CI-2	34.79	55.04	63%	36 x 48	Box	111	1282.73	1282.95	0.20	4.34
4	JB-2	34.29	59.62	58%	8	Box	137	1282.95	1283.22	0.20	4.22
5	AI-3-EX	5.94	16.71	36%	14 x 23	Ell	34	1289.53	1290.44	2.69	6.02
6	FES-1	1.35	4.70	29%	18	Cir	10	1298.98	1299.00	0.20	2.29
7	JB-3	27.00	44.43	61%	8	Box	52	1283.22	1283.30	0.15	2.25
8	CI-3	27.00	47.24	57%	36 x 48	Box	110	1283.30	1283.46	0.15	3.12
9	CI-4	26.78	48.05	56%	36 x 48	Box	106	1283.56	1283.72	0.15	3.27
10	CI-5	26.59	47.78	56%	36 x 48	Box	148	1283.82	1284.04	0.15	3.43
11	CI-6	13.74	18.66	74%	24 x 36	Box	82	1285.04	1285.16	0.15	3.43
12	JB-4	10.55	19.05	55%	24 x 36	Box	164	1285.26	1285.51	0.15	2.46
13	JB-5	10.55	19.17	55%	24 x 36	Box	45	1285.61	1285.68	0.15	2.73
14	FES-2	7.03	10.17	69%	14 x 23	Ell	13	1288.23	1288.34	0.85	5.24
15	AI-6	3.52	4.71	75%	18	Cir	99	1286.68	1286.88	0.20	2.92
16	AI-7	0.89	4.09	22%	18	Cir	106	1287.28	1287.44	0.15	1.13
17	GI-1	0.92	4.00	23%	14 x 23	Ell	26	1287.21	1287.25	0.15	0.59
18	AI-5	2.37	6.64	36%	18	Cir	30	1285.96	1286.08	0.40	2.66
19	AI-4	4.55	6.67	68%	18	Cir	30	1285.64	1285.76	0.40	4.06
20	AI-2	3.09	4.42	70%	18	Cir	33	1282.60	1282.65	0.15	1.75
21	AI-1	1.79	4.46	40%	18	Cir	104	1282.75	1282.91	0.15	1.01

Inlet Report

10-Year

Line Number	Inlet ID	Drainage Area (ac)	Q = CIA (cfs)	Q Carryover (cfs)	Q Captured (cfs)	Q Bypass (cfs)	Junction Type	Height (in)	Grate Area (sf)	Curb Inlet Length (ft)	Spread (ft)	Depth (ft)	Depression (in)	Bypass Line Number
1	JB-1-EX	0.00	0.00	Rect	6.00	....	MH	....	....	....	....	....	....	n/a
2	CI-1	0.09	1289.53	0.33	5.00	0.37	Comb.	4.00	2.10	3.00	6.2	0.15	0	Offsite
3	CI-2	0.23	0.83	0.00	5.00	0.33	Comb.	4.00	2.10	3.00	6.03	0.15	0	2
4	JB-2	0.00	0.00	....	8.00	....	MH	....	....	....	....	....	....	n/a
5	AI-3-EX	2.19	5.94	0.00	5.00	0.00	Dp-Curb	6.00	....	16.00	12.41	0.25	....	Sag
6	FES-1	0.33	1.35	0.00	1.35	0.00	Hdwall	....	....	....	....	....	....	n/a
7	JB-3	0.00	0.00	....	8.00	....	MH	....	....	....	....	....	....	n/a
8	CI-3	0.06	0.24	0.00	0.22	0.02	Comb.	4.00	2.10	3.00	2.41	0.10	0	9
9	CI-4	0.07	0.18	0.02	0.19	0.01	Comb.	4.00	2.10	3.00	1.77	0.10	0	10
10	CI-5	1.29	2.93	5.37	8.30	0.00	Comb.	4.00	2.10	15.00	9.13	0.29	0	Sag
11	CI-6	0.21	0.93	0.00	0.81	0.11	Comb.	4.00	2.10	6.00	5.88	0.20	0	10
12	JB-4	0.00	0.00	....	....	....	MH	....	....	....	....	....	....	n/a
13	JB-5	0.00	0.00	....	....	....	MH	....	....	....	....	....	....	n/a
14	FES-2	2.10	7.03	0.00	7.03	0.00	Hdwall	....	....	....	....	....	....	n/a
15	AI-6	0.65	2.21	0.00	1.71	0.50	Dp-Curb	6.00	....	16.00	7.73	0.18	0	17
16	AI-7	0.24	0.89	0.00	0.89	0.00	Dp-Curb	6.00	....	16.00	3.5	0.07	....	Sag
17	GI-1	0.40	1.49	0.50	0.92	1.07	Grate	....	2.10	....	5.57	0.23	0	18
18	AI-5	0.83	2.62	1.07	2.37	1.32	Dp-Curb	6.00	....	16.00	9.43	0.22	0	10
19	AI-4	2.73	8.49	0.00	4.55	3.93	Dp-Curb	6.00	....	16.00	10.08	0.32	0	10
20	AI-2	0.27	1.30	0.00	1.30	0.00	Dp-Curb	6	....	16.00	4.51	0.09	....	Sag
21	AI-1	0.49	1.79	0.00	1.79	0.00	Dp-Curb	6	....	16.00	5.58	0.11	....	Sag

Structure Report

100-Year

Structure Number	Line ID	Junction Type	Rim Elevation (ft)	Structure			Line Out		
				Shape	Length (ft)	Width (ft)	Size (in)	Shape	Invert (ft)
1	JB-1-EX	MH	1288.46	Rect	6	6	36 x 72	Box	1282.60
2	CI-1	Comb.	1289.53	Rect	6	6	36 x 48	Box	1282.73
3	CI-2	Comb.	1289.94	Rect	6	6	36 x 48	Box	1282.95
4	JB-2	MH	1292.19	Rect	8	8	36 x 48	Box	1283.22
5	AI-3-EX	Dp-Curb	1292.32	Rect	4	4	14 x 23	Ell	1290.44
6	FES-1	Hdwall	1291.71	...	...	...	18	Cir	1299.00
7	JB-3	MH	1291.31	Rect	8	8	24 x 72	Box	1283.30
8	CI-3	Comb.	1290.74	Rect	6	6	36 x 48	Box	1283.46
9	CI-4	Comb.	1289.95	Rect	6	6	36 x 48	Box	1283.72
10	CI-5	Comb.	1289.38	Rect	6	6	36 x 48	Box	1284.04
11	CI-6	Comb.	1289.51	Rect	6	6	24 x 36	Box	1285.16
12	JB-4	MH	1289.95	Rect	6	6	24 x 36	Box	1285.51
13	JB-5	MH	1291.35	Rect	6	6	24 x 36	Box	1285.68
14	FES-2	Hdwall	1289.84	...	...	...	14 x 23	Ell	1288.34
15	AI-6	Curb	1290.30	Rect	4	4	18	Cir	1286.88
16	AI-7	Dp-Curb	1290.50	Rect	4	4	18	Cir	1287.44
17	GI-1	Dp-Curb	1290.36	Rect	4	4	14 x 23	Ell	1287.25
18	AI-5	Dp-Curb	1289.25	Rect	4	4	18	Cir	1286.08
19	AI-4	Curb	1289.30	Rect	4	4	18	Cir	1285.76
20	AI-2	Dp-Curb	1286.98	Rect	4	4	18	Cir	1282.65
21	AI-1	Dp-Curb	1287.75	Rect	4	4	18	Cir	1282.91

Storm Sewer Summary Report

100-Year

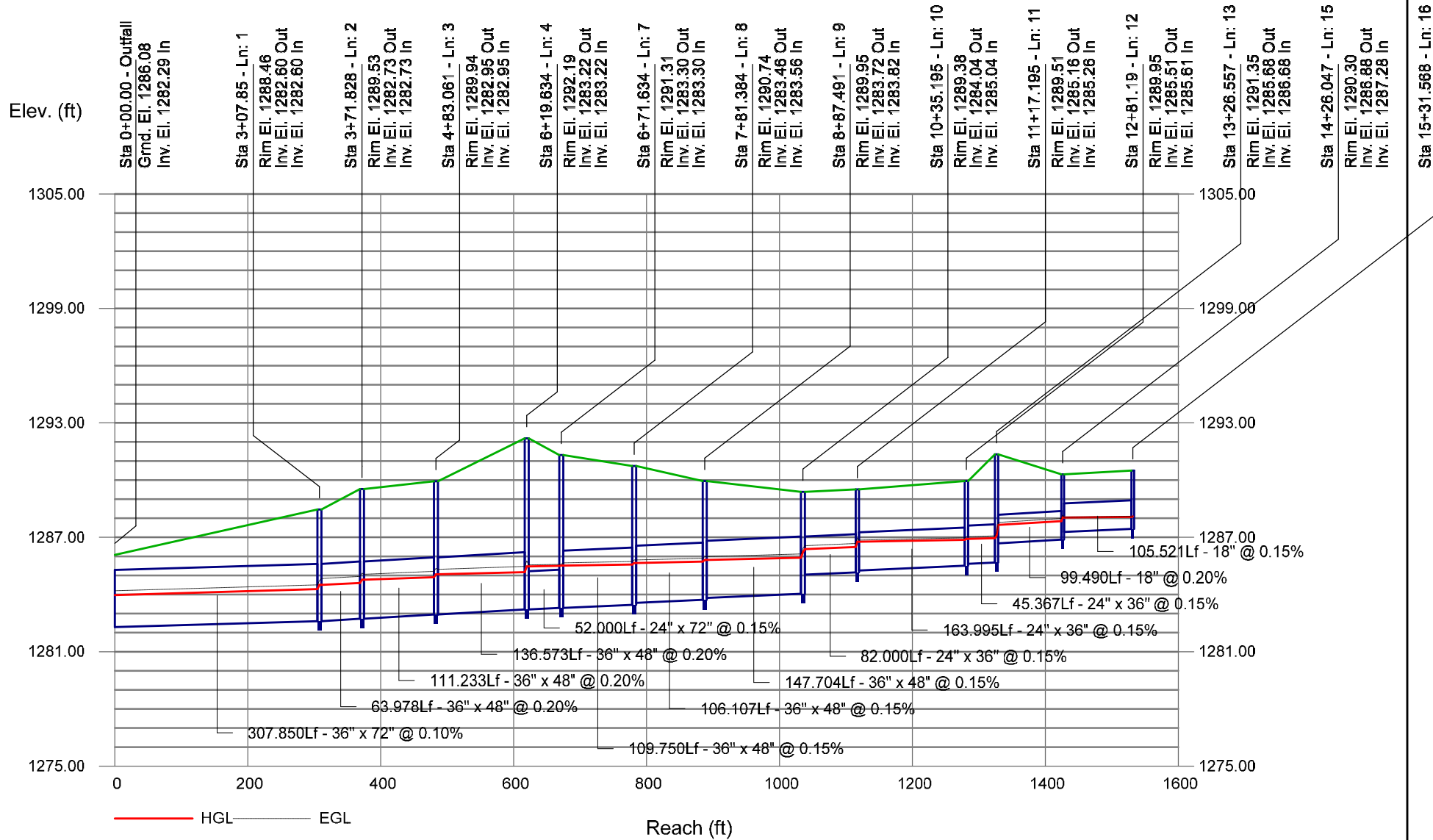
Line Number	Line ID	Flow Rate (cfs)	Pipe Capacity (cfs)	Pipe Capacity (%)	Line Size (in)	Line Shape	Line Length (ft)	Invert El. Down (ft)	Invert El. Up (ft)	Line Slope (%)	Pipe Velocity (fps)
1	JB-1-EX	53.72	65.29	82%	36 x 72	Box	308	1282.29	1282.60	0.10	4.91
2	CI-1	49.39	55.79	89%	36 x 48	Box	64	1282.60	1282.73	0.20	5.36
3	CI-2	48.72	55.04	89%	36 x 48	Box	111	1282.73	1282.95	0.20	4.88
4	JB-2	48.09	59.62	81%	8	Box	137	1282.95	1283.22	0.20	4.65
5	AI-3-EX	8.31	16.71	50%	14 x 23	Ell	34	1289.53	1290.44	2.69	6.95
6	FES-1	1.88	4.70	40%	18	Cir	10	1298.98	1299.00	0.20	2.52
7	JB-3	37.90	44.43	85%	8	Box	52	1283.22	1283.30	0.15	3.16
8	CI-3	37.90	47.24	80%	36 x 48	Box	110	1283.30	1283.46	0.15	3.36
9	CI-4	37.61	48.05	78%	36 x 48	Box	106	1283.56	1283.72	0.15	3.46
10	CI-5	37.33	47.78	78%	36 x 48	Box	148	1283.82	1284.04	0.15	3.57
11	CI-6	18.57	18.66	100%	24 x 36	Box	82	1285.04	1285.16	0.15	3.35
12	JB-4	14.48	19.05	76%	24 x 36	Box	164	1285.26	1285.51	0.15	2.53
13	JB-5	14.48	19.17	76%	24 x 36	Box	45	1285.61	1285.68	0.15	2.75
14	FES-2	9.86	10.17	97%	14 x 23	Ell	13	1288.23	1288.34	0.85	6.17
15	AI-6	4.62	4.71	98%	18	Cir	99	1286.68	1286.88	0.20	3.04
16	AI-7	1.25	4.09	31%	18	Cir	106	1287.28	1287.44	0.15	1.08
17	GI-1	1.24	4.00	31%	14 x 23	Ell	26	1287.21	1287.25	0.15	0.70
18	AI-5	3.03	6.64	46%	18	Cir	30	1285.96	1286.08	0.40	1.95
19	AI-4	5.62	6.67	84%	18	Cir	30	1285.64	1285.76	0.40	3.60
20	AI-2	4.32	4.42	98%	18	Cir	33	1282.60	1282.65	0.15	2.45
21	AI-1	2.51	4.46	56%	18	Cir	104	1282.75	1282.91	0.15	1.42

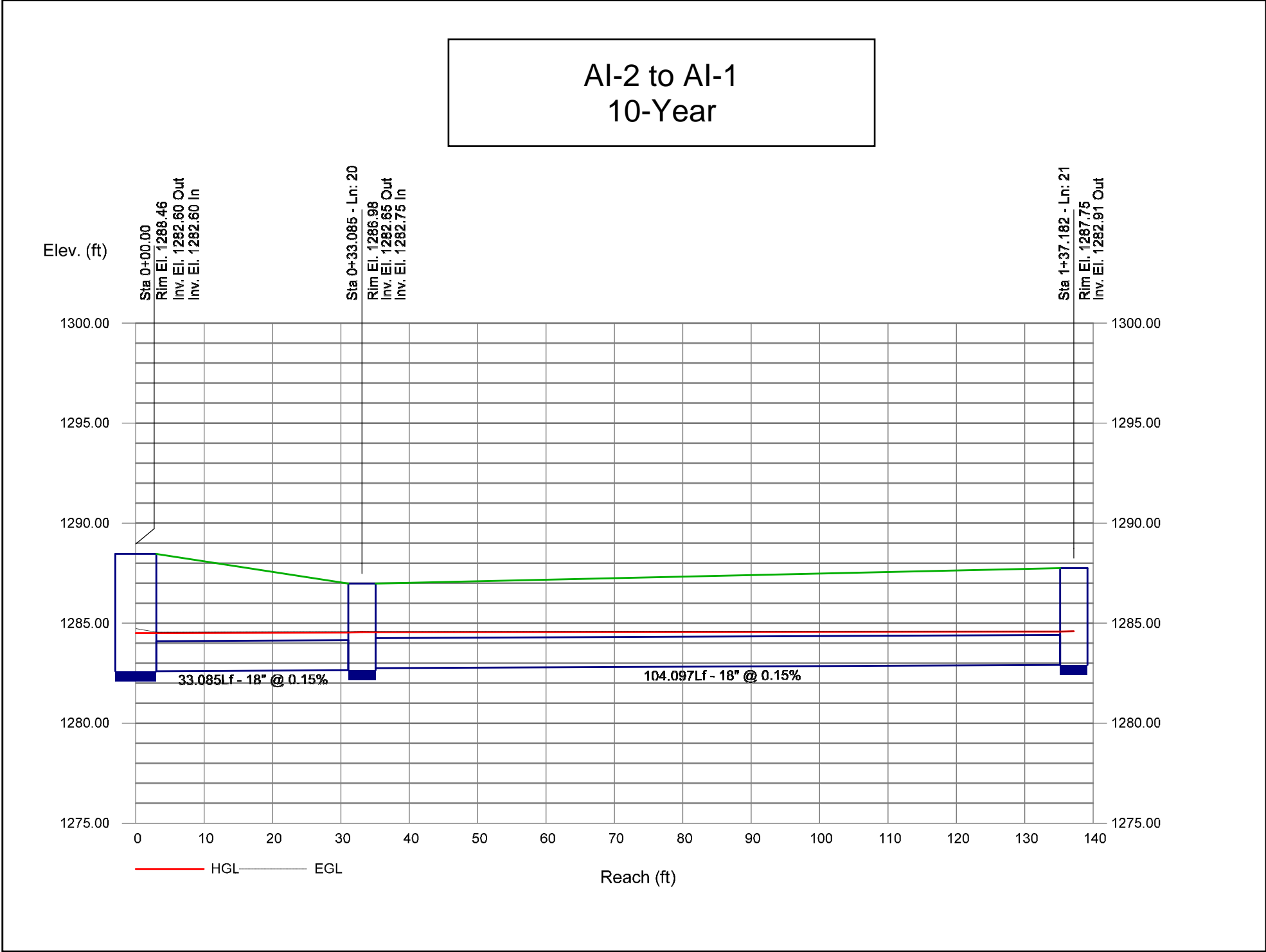
Inlet Report

100-Year

Line Number	Inlet ID	Drainage Area (ac)	Q = CIA (cfs)	Q Carryover (cfs)	Q Captured (cfs)	Q Bypass (cfs)	Junction Type	Height (in)	Grate Area (sf)	Curb Inlet Length (ft)	Spread (ft)	Depth (ft)	Depression (in)	Bypass Line Number
1	JB-1-EX	0.00	0.00	Rect	6.00	....	MH	....	....	....	....	....	....	n/a
2	CI-1	0.09	1289.53	0.54	5.00	0.65	Comb.	4.00	2.10	3.00	7.24	0.17	0	Offsite
3	CI-2	0.23	1.17	0.00	5.00	0.54	Comb.	4.00	2.10	3.00	6.89	0.17	0	2
4	JB-2	0.00	0.00	....	8.00	....	MH	....	....	....	....	....	....	n/a
5	AI-3-EX	2.19	8.31	0.00	5.00	0.00	Dp-Curb	6.00	....	16.00	15.52	0.31	....	Sag
6	FES-1	0.33	1.88	0.00	1.88	0.00	Hdwall	....	....	....	....	....	....	n/a
7	JB-3	0.00	0.00	....	8.00	....	MH	....	....	....	....	....	....	n/a
8	CI-3	0.06	0.33	0.00	0.29	0.04	Comb.	4.00	2.10	3.00	2.77	0.11	0	9
9	CI-4	0.07	0.25	0.04	0.27	0.02	Comb.	4.00	2.10	3.00	2.03	0.12	0	10
10	CI-5	1.29	4.10	9.04	13.14	0.00	Comb.	4.00	2.10	15.00	12.58	0.40	0	Sag
11	CI-6	0.21	1.30	0.00	1.06	0.24	Comb.	4.00	2.10	6.00	6.7	0.22	0	10
12	JB-4	0.00	0.00	....	....	....	MH	....	....	....	....	....	....	n/a
13	JB-5	0.00	0.00	....	....	....	MH	....	....	....	....	....	....	n/a
14	FES-2	2.10	9.86	0.00	9.86	0.00	Hdwall	....	....	....	....	....	....	n/a
15	AI-6	0.65	3.11	0.00	2.13	0.98	Dp-Curb	6.00	....	16.00	8.82	0.21	0	17
16	AI-7	0.24	1.25	0.00	1.25	0.00	Dp-Curb	6.00	....	16.00	4.39	0.09	....	Sag
17	GI-1	0.40	2.08	0.98	1.24	1.83	Grate	....	2.10	....	6.55	0.27	0	18
18	AI-5	0.83	3.68	1.83	3.03	2.47	Dp-Curb	6.00	....	16.00	10.99	0.25	0	10
19	AI-4	2.73	11.93	0.00	5.62	6.31	Dp-Curb	6.00	....	16.00	11.47	0.36	0	10
20	AI-2	0.27	1.82	0.00	1.82	0.00	Dp-Curb	6	....	16.00	5.63	0.11	....	Sag
21	AI-1	0.49	2.51	0.00	2.51	0.00	Dp-Curb	6	....	16.00	6.98	0.14	....	Sag

JB-1-EX to AI-7 10-Year





JB-1-EX to AI-7
100-Year

