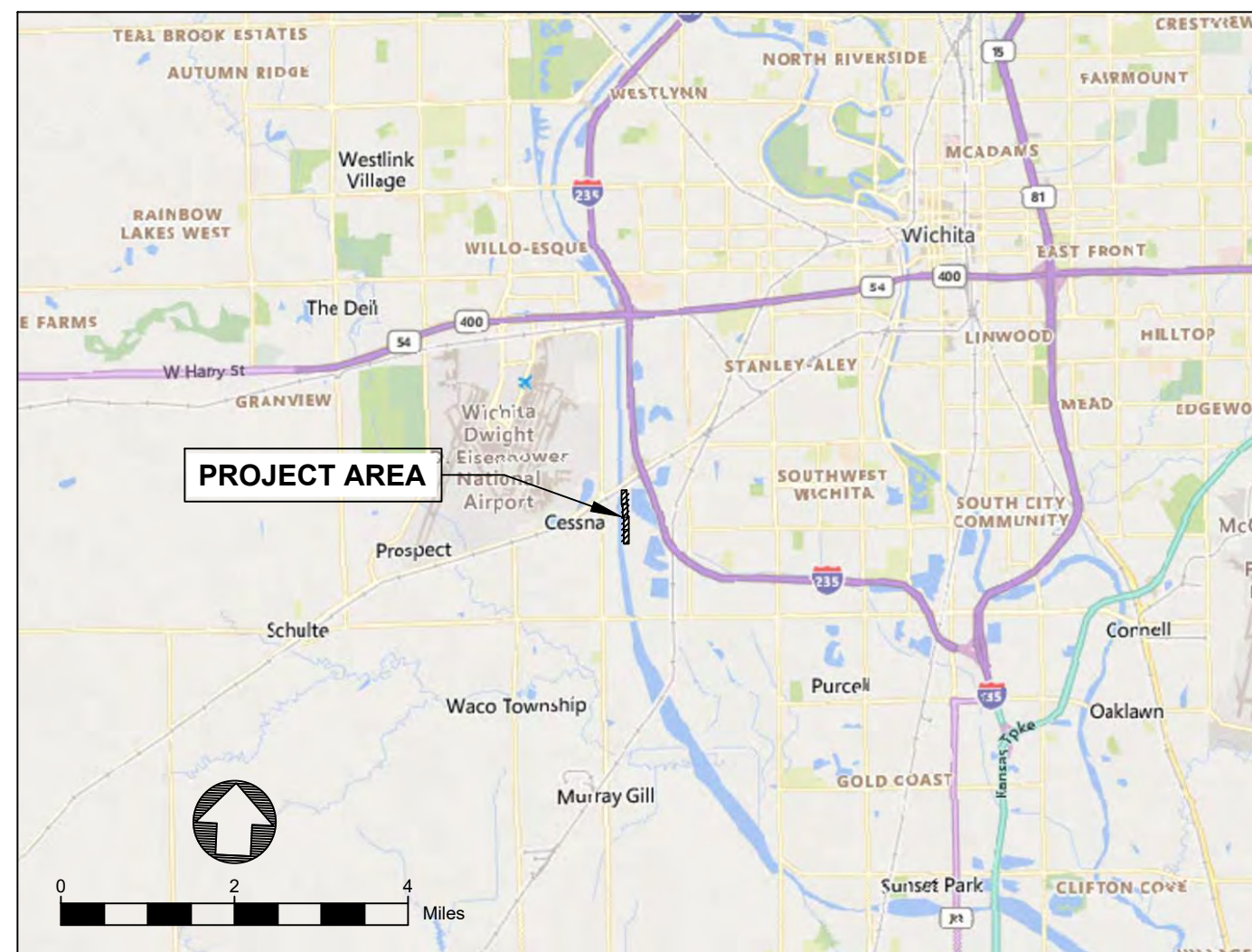


LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3

CITY OF WICHITA, KANSAS

JOE HICKLE, P.E. - CITY STORMWATER ENGINEER
 PROJECT NO. 458-2025-085609
 O.C.A. NUMBER: 56200025-U5002



DRAWING INDEX		
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MAY 2025

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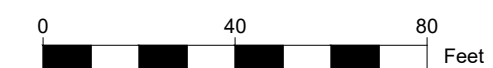
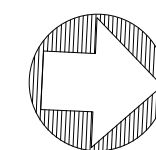
COVER SHEET - SHEET INDEX	DATE: May 25
	PROJ.: 458-2025-085609
	SHEET: G-01



① TRENCH EXCAVATION AND DISPOSAL OF EXISTING FILTER MEDIA, EXISTING TOE DRAIN PIPE AND EXISTING RISERS.

EXISTING CONDITIONS AND DEMO PLAN

SCALE: 1" = 120'-0"



REVISION	DATE	ISSUE / REVISION DESCRIPTION	REVIEWED BY	APPROVED BY
B	5/7/2025	100% DESIGN	EJB	EJB
A	5/7/2025	50% DESIGN	EJB	EJB

PROJECT: LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3
CITY OF WICHITA
WICHITA, KANSAS

TITLE: EXISTING CONDITIONS AND DEMO PLAN

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CITY OF WICHITA

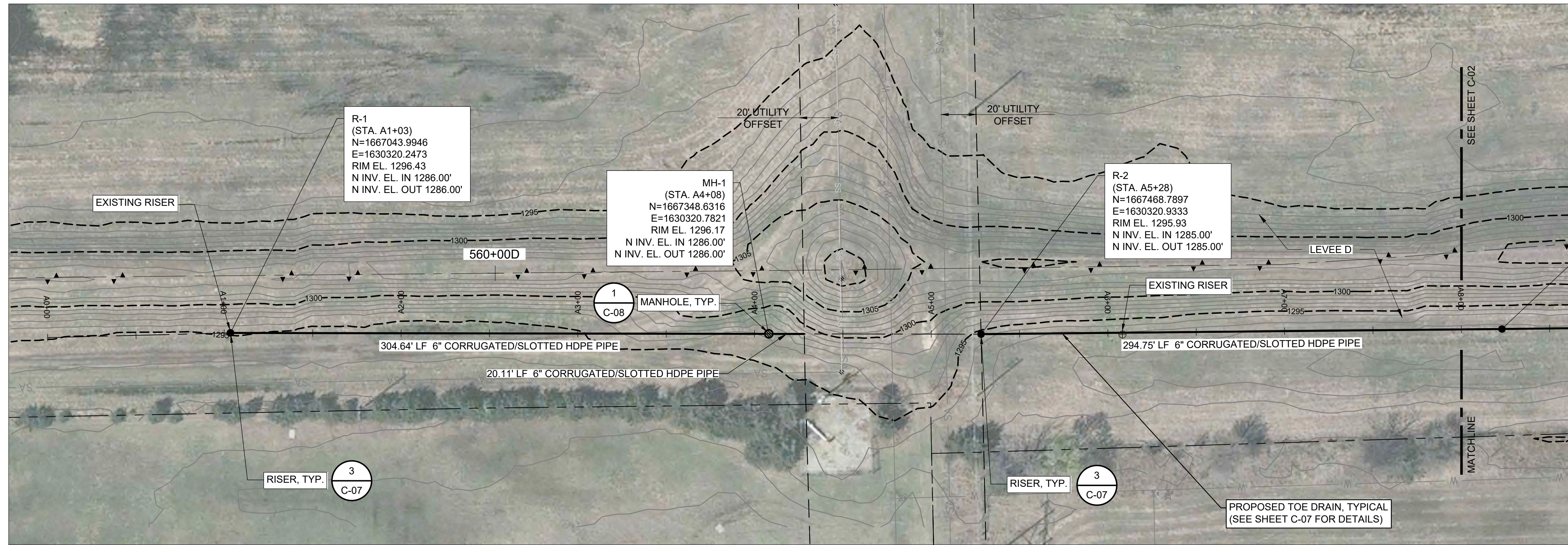
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DRAWN BY: MJR

SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS

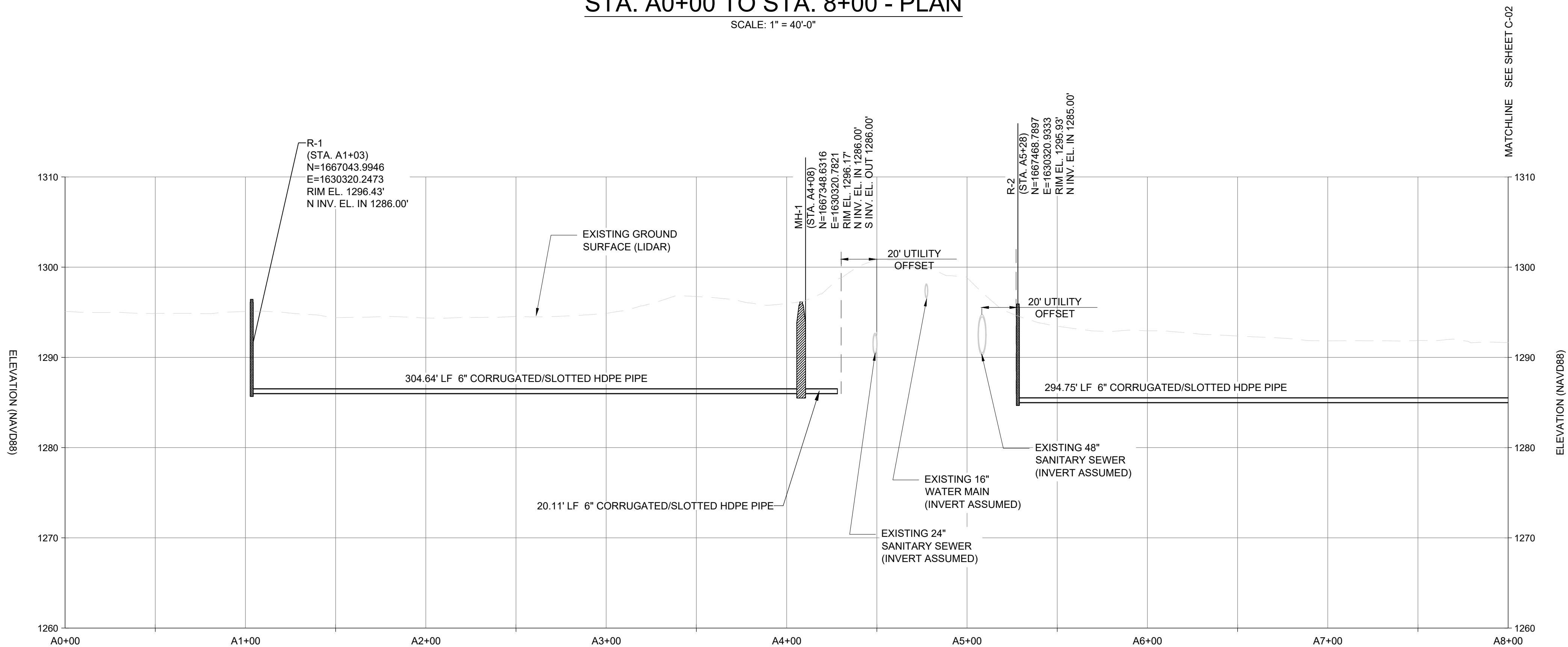
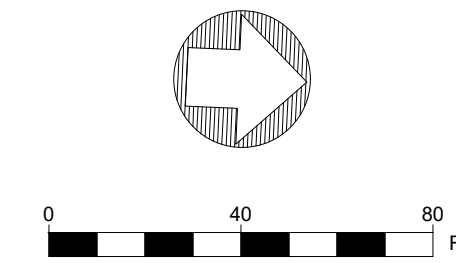
PROJECT NUMBER: 458-2025-085609

SHEET NO. E-01

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STA. A0+00 TO STA. 8+00 - PLAN
SCALE: 1" = 40'-0"



STA. A0+00 TO STA. 8+00 - PROFILE
HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 8'-0"

NOTE:
1. RISER/MANHOLE COORDINATES AND TOE-DRAIN PIPE INVERT ELEVATIONS ARE BASED ON LIDAR ELEVATIONS AND GIS TOPOGRAPHIC DATA AND MAY REQUIRE MINOR HORIZONTAL AND VERTICAL ADJUSTMENTS TO BE MADE IN THE FIELD. ANY FIELD CHANGES TO THE TOE-DRAIN ALIGNMENT OR PIPE INVERTS SHALL BE APPROVED BY THE CITY OF WICHITA'S STORMWATER ENGINEER.

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B	5/7/2025	100% DESIGN	EJB	EJB
A	5/9/2025	50% DESIGN	EJB	EJB

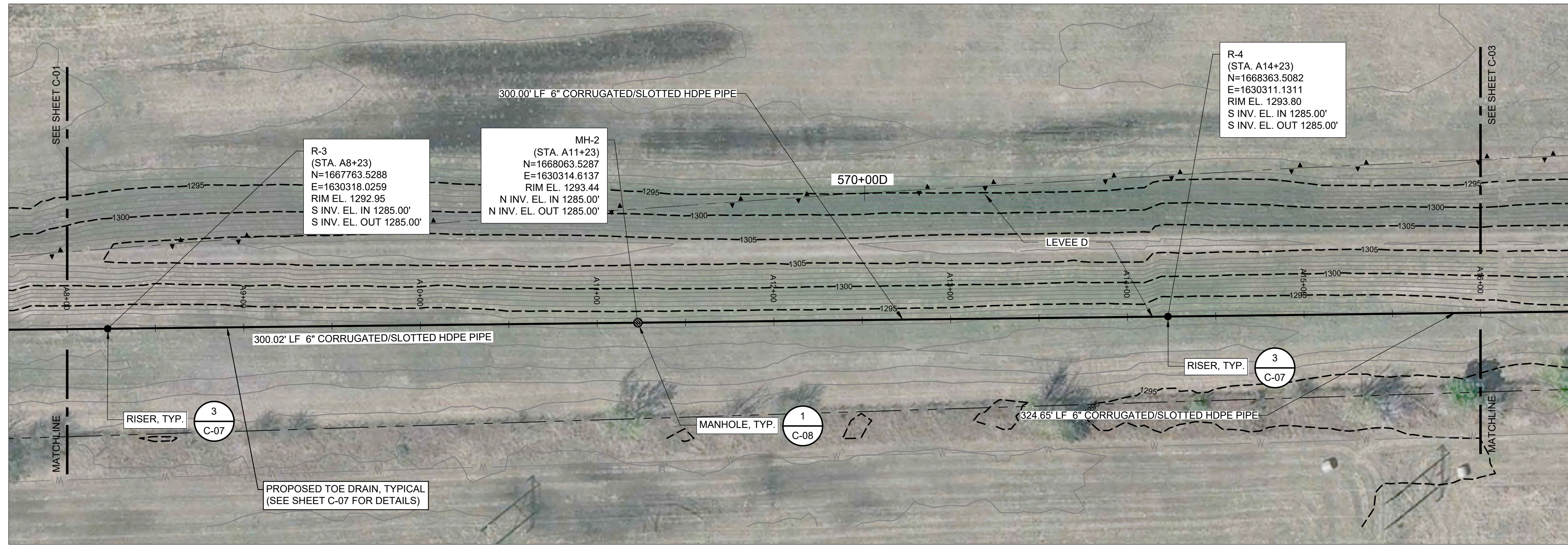
PROJECT: LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3
CITY OF WICHITA
WICHITA, KANSAS

TITLE: PLAN AND PROFILE - STA. A0+00 TO STA. 8+00

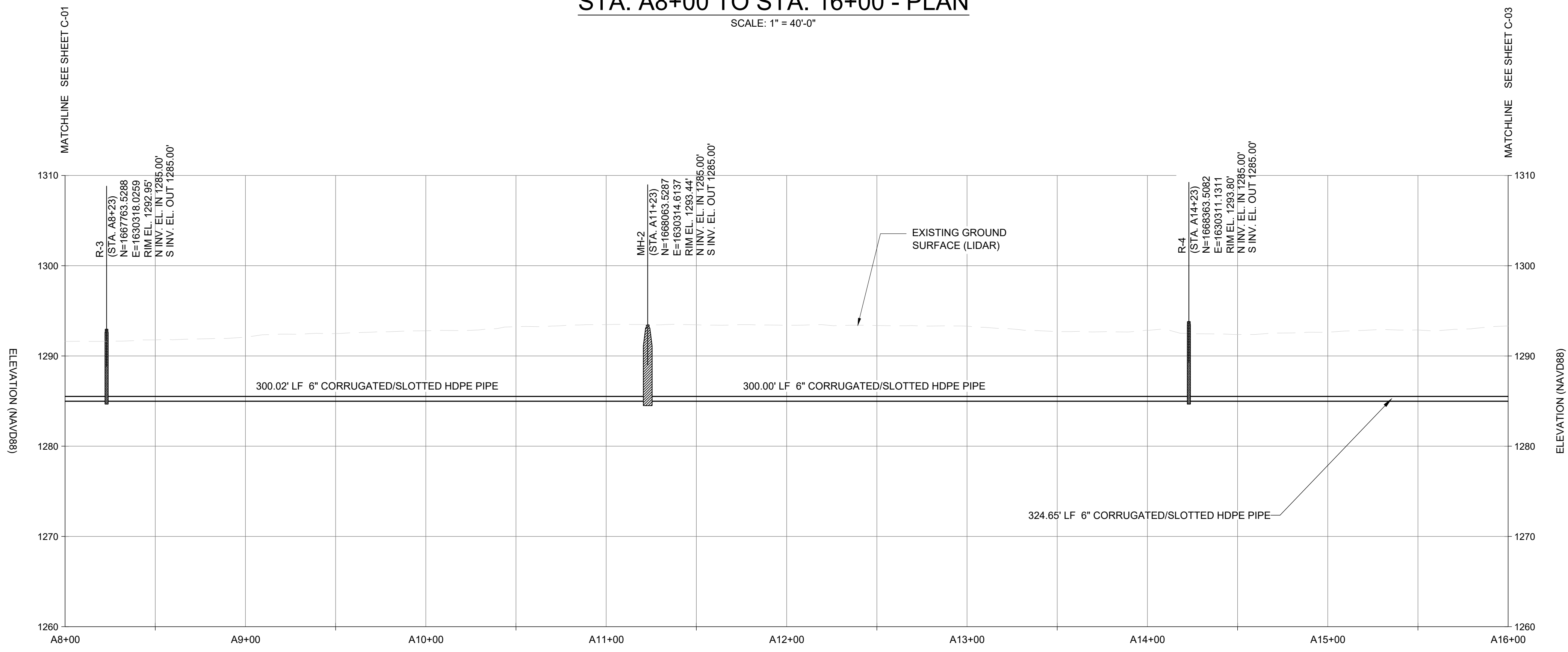
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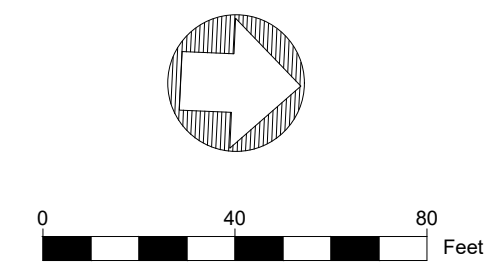
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PROJECT NUMBER: 458-2025-085609	
SHEET NO. C-01	



STA. A8+00 TO STA. 16+00 - PLAN
SCALE: 1" = 40'-0"



STA. A8+00 TO STA. 16+00 - PROFILE
HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 8'-0"



NOTE:
1. RISER/MANHOLE COORDINATES AND TOE-DRAIN PIPE INVERT ELEVATIONS ARE BASED ON LIDAR ELEVATIONS AND GIS TOPOGRAPHIC DATA AND MAY REQUIRE MINOR HORIZONTAL AND VERTICAL ADJUSTMENTS TO BE MADE IN THE FIELD. ANY FIELD CHANGES TO THE TOE-DRAIN ALIGNMENT OR PIPE INVERTS SHALL BE APPROVED BY THE CITY OF WICHITA'S STORMWATER ENGINEER.

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B	5/7/2025	100% DESIGN	EJB	EJB
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PROJECT: LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3 CITY OF WICHITA, WICHITA, KANSAS
TITLE: PLAN AND PROFILE - STA. A8+00 TO STA. 16+00



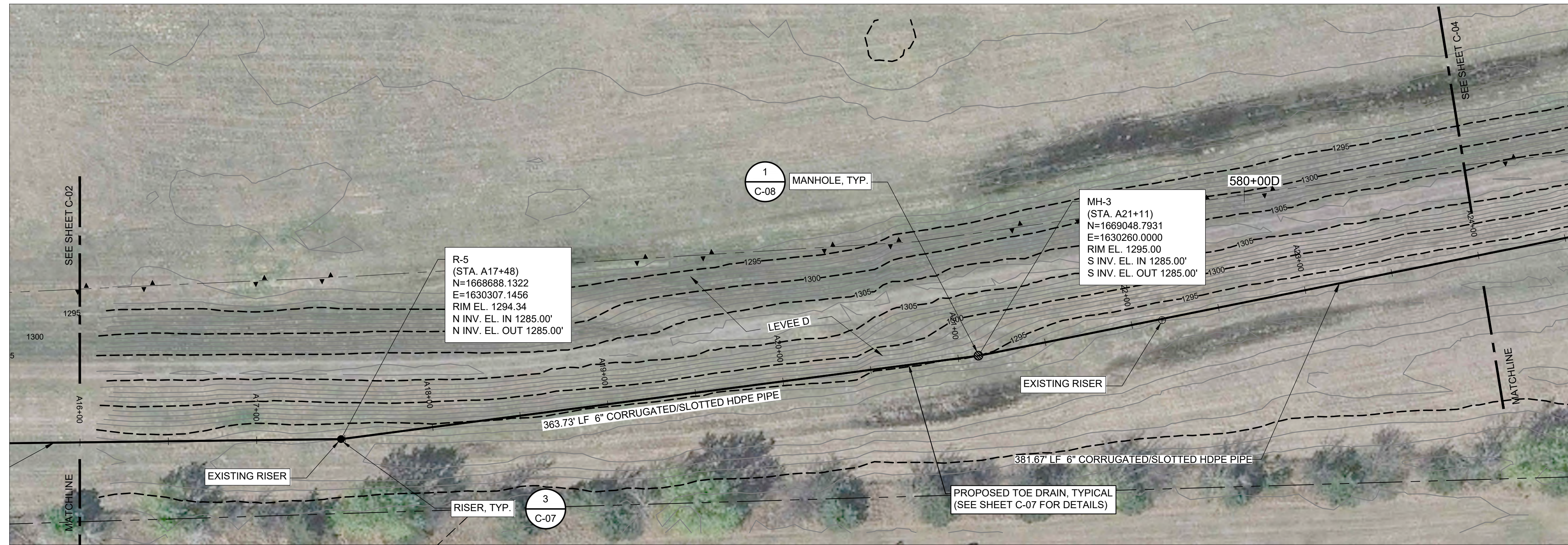
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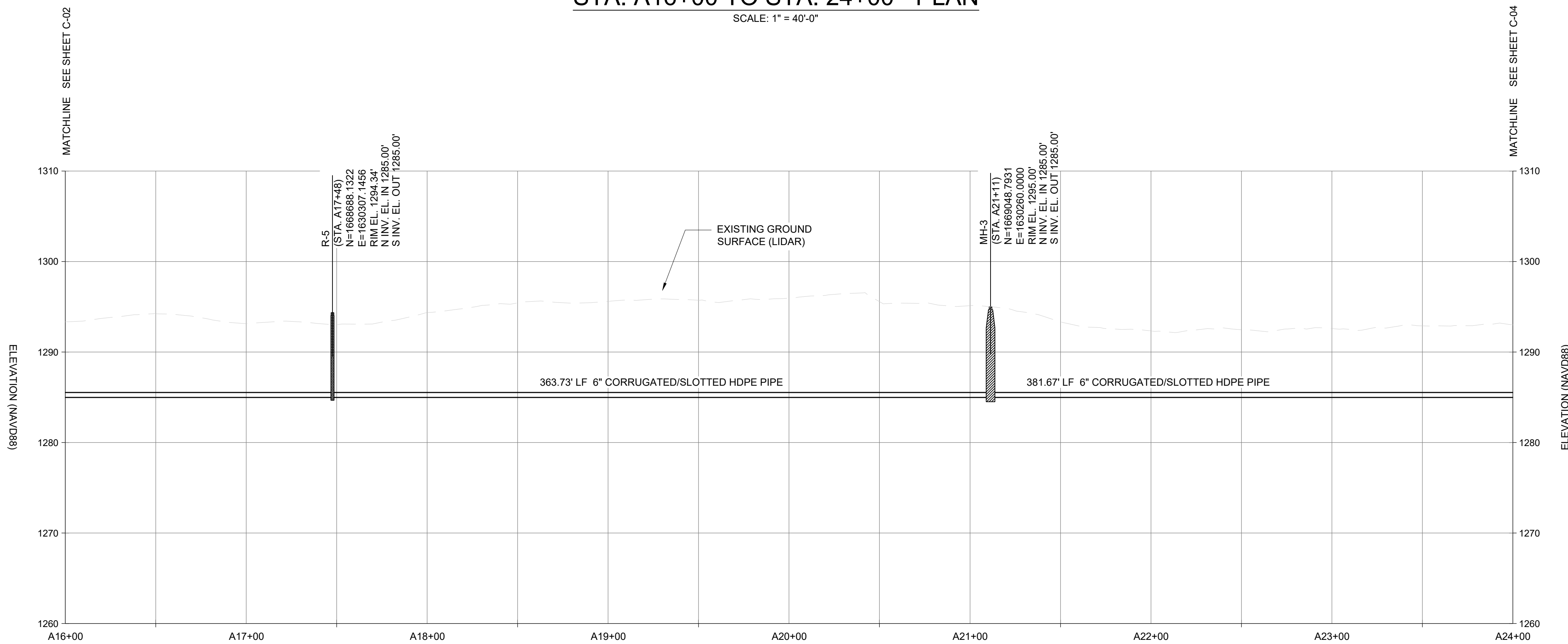
 CITY OF WICHITA

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SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS	
PROJECT NUMBER: 458-2025-085609	
SHEET NO. C-02	

6 OF 12



STA. A16+00 TO STA. 24+00 - PLAN
SCALE: 1" = 40'-0"



STA. A16+00 TO STA. 24+00 - PROFILE
HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 8'-0"

NOTE:

1. RISER/MANHOLE COORDINATES AND TOE-DRAIN PIPE INVERT ELEVATIONS ARE BASED ON LIDAR ELEVATIONS AND GIS TOPOGRAPHIC DATA AND MAY REQUIRE MINOR HORIZONTAL AND VERTICAL ADJUSTMENTS TO BE MADE IN THE FIELD. ANY FIELD CHANGES TO THE TOE-DRAIN ALIGNMENT OR PIPE INVERTS SHALL BE APPROVED BY THE CITY OF WICHITA'S STORMWATER ENGINEER.

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B	5/7/2025	100% DESIGN	EJB	EJB
A	5/6/2025	50% DESIGN	EJB	EJB

PROJECT: LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3
CITY OF WICHITA, WICHITA, KANSAS

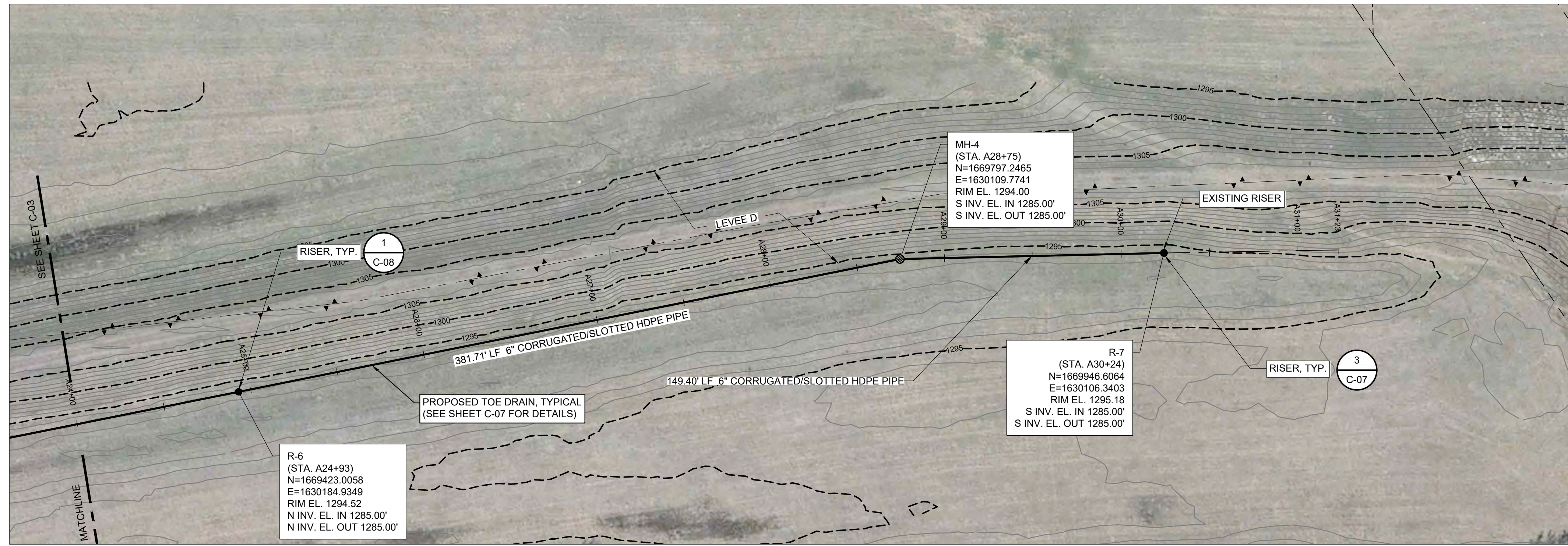
TITLE: PLAN AND PROFILE - STA. A16+00 TO STA. 24+00

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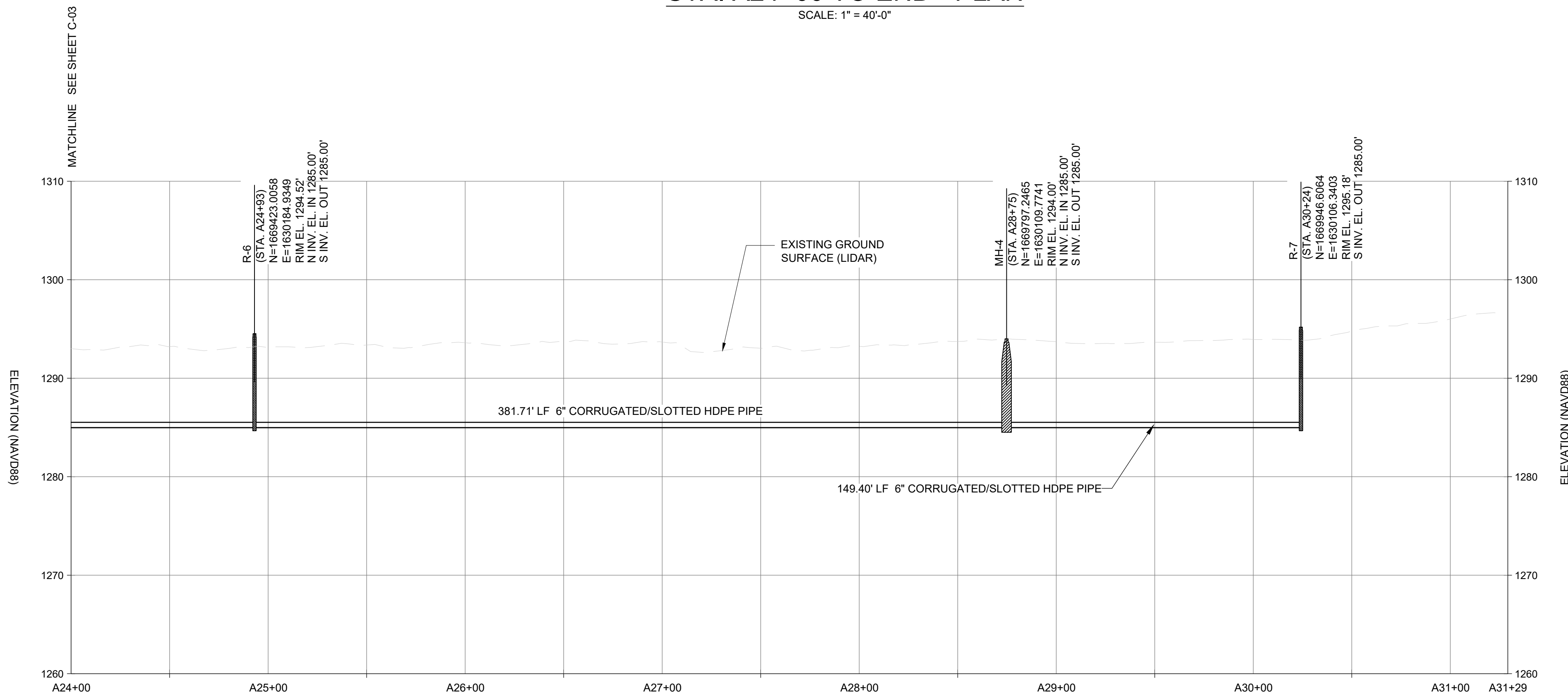
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SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS	
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STA. A24+00 TO END - PLAN
SCALE: 1" = 40'-0"



STA. A24+00 TO STA. END - PROFILE
HORIZONTAL SCALE: 1" = 40'-0"
VERTICAL SCALE: 1" = 8'-0"

NOTE:
1. RISER/MANHOLE COORDINATES AND TOE-DRAIN PIPE INVERT ELEVATIONS ARE BASED ON LIDAR ELEVATIONS AND GIS TOPOGRAPHIC DATA AND MAY REQUIRE MINOR HORIZONTAL AND VERTICAL ADJUSTMENTS TO BE MADE IN THE FIELD. ANY FIELD CHANGES TO THE TOE-DRAIN ALIGNMENT OR PIPE INVERTS SHALL BE APPROVED BY THE CITY OF WICHITA'S STORMWATER ENGINEER.

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PROJECT: LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3
CITY OF WICHITA
WICHITA, KANSAS

TITLE: PLAN AND PROFILE - STA. A24+00 TO END



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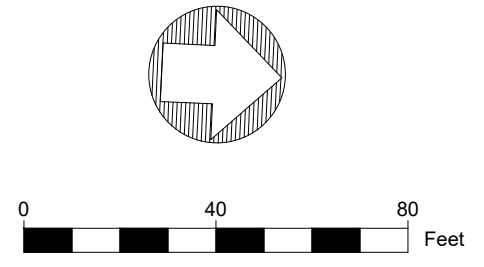
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 SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS
 PROJECT NUMBER: 458-2025-085609
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EROSION CONTROL PLAN

SCALE: 1" = 120'-0"



PROJECT: LOWER LEVEE "D" TOE DRAIN
INSTALLATION - PHASE 3
CITY OF WICHITA
WICHITA, KANSAS

TITLE: EROSION CONTROL
PLAN

DESIGNED BY: ACR
DRAWN BY: MJR

SCALE: ALL SCALES ARE INDICATED
FOR ANSI D SIZE DRAWINGS

PROJECT NUMBER:
458-2025-085609

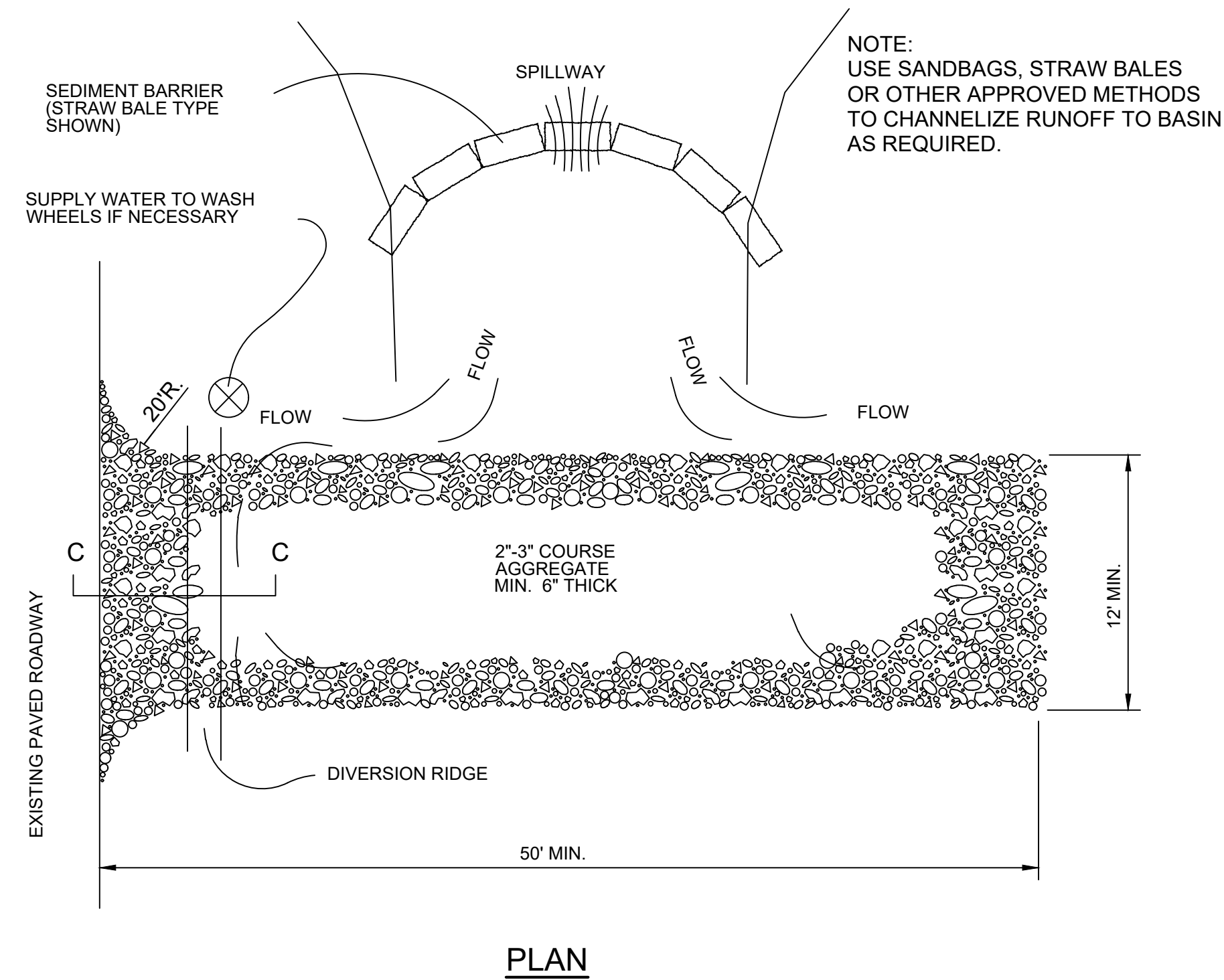
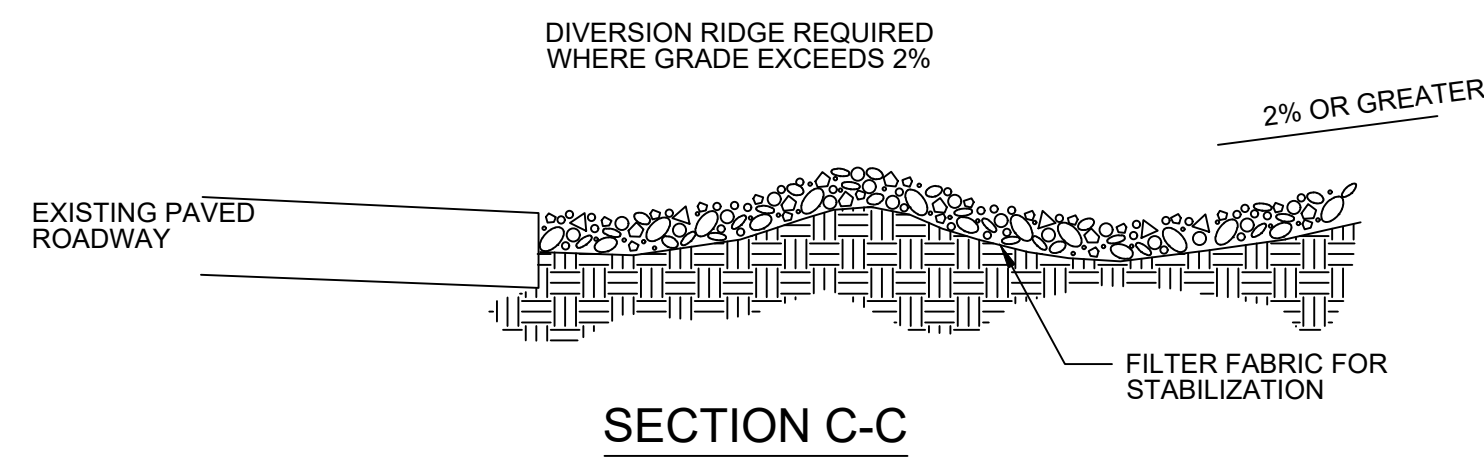
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REVISION

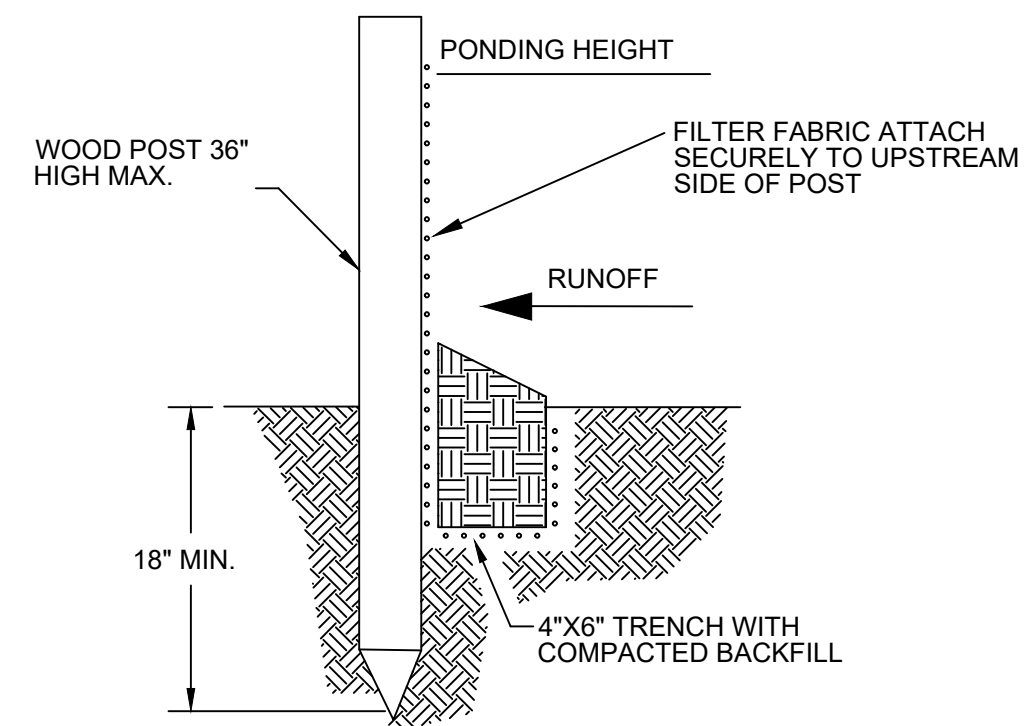
REVISION	DATE	ISSUE / REVISION DESCRIPTION	REVIEWED BY	APPROVED BY
B	5/7/2025	100% DESIGN	EJB	EJB
A	3/17/2025	50% DESIGN	EJB	EJB



NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.

STABILIZED CONSTRUCTION ENTRANCE ①
N.T.S. C-06



MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE POSTS USED TO SUPPORT THE SILT FENCE FABRIC SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4" LONG. SILT FENCE FABRIC SHOULD BE ATTACHED TO THE WOODEN POSTS WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

A SLOPE BARRIER SHOULD BE USED AT THE TOE OF A SLOPE WHEN A DITCH DOES NOT EXIST. THE SLOPE BARRIER SHOULD BE PLACED ON NEARLY LEVEL GROUND 5' TO 10' AWAY FROM THE TOE OF A SLOPE. THE BARRIER IS PLACED AWAY FROM THE TOE OF THE SLOPE TO PROVIDE ADEQUATE STORAGE FOR SETTLING OUT SEDIMENT. WHEN PRACTICABLE, SILT FENCE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. SILT FENCE SLOPE BARRIERS CAN ALSO BE PLACED ALONG RIGHT-OF-WAY FENCE LINES TO KEEP SEDIMENT FROM CROSSING ONTO ADJACENT PROPERTY. WHEN PLACED IN THIS MANNER, THE SLOPE BARRIER WILL NOT LIKELY FOLLOW CONTOURS.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH THE LENGTH OF THE PLANNED SLOPE BARRIER THAT IS 6" DEEP BY 4" WIDE. MAKE SURE THAT THE TRENCH IS EXCAVATED ALONG A SINGLE CONTOUR. WHEN PRACTICABLE, SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH FOR LATER USE. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC ON THE DOWNSLOPE SIDE OF THE TRENCH. PLACE THE EDGE OF THE FABRIC IN THE TRENCH STARTING AT THE TOP UPSLOPE EDGE. LINE ALL THREE SIDES OF THE TRENCH WITH THE FABRIC. BACKFILL OVER THE FABRIC IN THE TRENCH WITH THE EXCAVATED SOIL AND COMPACT. AFTER FILLING THE TRENCH, APPROXIMATELY 24" TO 36" OF SILT-FENCE FABRIC SHOULD REMAIN EXPOSED. LAY THE EXPOSED SILT FENCE UPSLOPE OF THE TRENCH TO CLEAR AN AREA FOR DRIVING IN THE POSTS. JUST DOWNSLOPE OF THE TRENCH, DRIVE POSTS INTO THE GROUND TO A DEPTH OF AT LEAST 18". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE SIDE OF THE SILT FENCE FABRIC. IN THIS CONFIGURATION, THE FORCE OF THE WATER IS NOT RESTRICTED BY THE POSTS, BUT ONLY BY THE STAPLES (WIRE, ZIP TIES, NAILS, ETC.). THE SILT FENCE WILL RIP AND FAIL. DO NOT PLACE SILT FENCE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT SUFFICIENTLY ANCHORED, IT WILL WASH OUT. SILT FENCE SLOPE BARRIERS MUST BE DUG INTO THE GROUND-SILT FENCE AT GROUND LEVEL DOES NOT WORK BECAUSE WATER WILL FLOW UNDERNEATH.

INSPECTION AND MAINTENANCE:

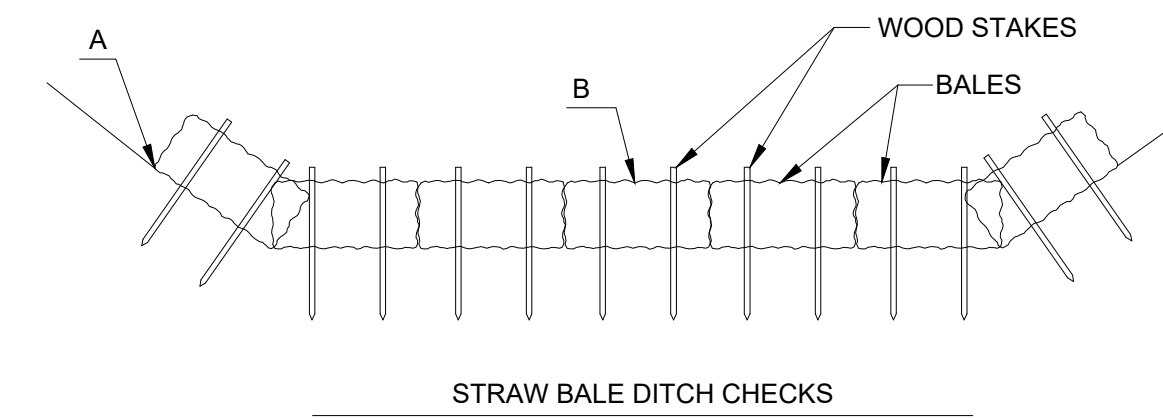
SILT FENCE SLOPE BARRIERS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

- ARE THERE ANY POINTS ALONG THE SLOPE BARRIER WHERE WATER IS CONCENTRATING?
- DOES WATER FLOW UNDER THE SLOPE BARRIER?
- DO THE SILT FENCES SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

SILT FENCE BARRIER ②
N.T.S. C-06

NOTE:

POINT A MUST BE HIGHER THAN POINT B SO THAT WATER FLOWS OVER THE BALES AND NOT AROUND THEM.



MATERIAL SPECIFICATION:

BALE DITCH CHECKS MAY BE CONSTRUCTED OF WHEAT STRAW, OAT STRAW, PRAIRIE HAY, OR BROMEGRASS HAY THAT IS FREE OF WEEDS DECLARED NOXIOUS BY THE KANSAS STATE BOARD OF AGRICULTURE. THE STAKES USED TO ANCHOR THE BALES SHOULD BE A HARDWOOD MATERIAL WITH THE FOLLOWING MINIMUM DIMENSIONS: 2" SQUARE (NOMINAL) BY 4" LONG. OPTIONAL: THE DOWNSLOPE SCOUR APRON SHOULD BE CONSTRUCTED OF A DOUBLE-NETTED STRAW EROSION-CONTROL BLANKET AT LEAST 6' WIDE. OPTIONAL: THE METAL LANDSCAPE STAPLES USED TO ANCHOR THE EROSION-CONTROL BLANKET SHOULD BE AT LEAST 8" LONG.

PLACEMENT:

BALE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE DITCH CHECK SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. STRAW BALE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. BALES SHOULD BE PLACED IN DITCHES WITH SLOPES OF 6% OR LESS. FOR SLOPES STEEPER THAN 6%, ROCK CHECKS SHOULD BE USED. THE FOLLOWING TABLE PROVIDES CHECK SPACING FOR A GIVEN DITCH GRADE:

DITCH CHECK SPACING DITCH GRADE (%)	CHECK SPACING (feet)
0.5	200
1.0	200
2.0	100
3.0	65
4.0	50
5.0	40
6.0	30

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH PERPENDICULAR TO THE DITCH FLOWLINE THAT IS 4" DEEP AND A BALE'S WIDTH WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSLOPE SIDE OF THE TRENCH-IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSLOPE SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSLOPE EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSLOPE EDGE OF THE TRENCH. THE EROSION CONTROL BLANKET SHOULD BE ANCHORED IN THE TRENCH WITH ONE ROW OF 8" LANDSCAPE STAPLES PLACED ON 18" CENTERS. THE REMAINDER OF THE EROSION-CONTROL BLANKET (THE PORTION THAT IS NOT LYING IN THE TRENCH) WILL SERVE AS THE DOWNSLOPE SCOUR APRON. THIS SECTION OF THE BLANKET SHOULD BE ANCHORED TO THE GROUND WITH 8" LANDSCAPE STAPLES PLACED AROUND THE PERIMETER OF THE BLANKET ON 18" CENTERS. THE REMAINDER OF THE BLANKET SHOULD BE ANCHORED USING TWO EVENLY SPACED ROWS OF 8" LANDSCAPE STAPLES ON 18" CENTERS PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE ALONG THE CENTERLINE OF THE DITCH CHECK, APPROXIMATELY 6" TO 8" IN FROM THE BALE ENDS. STAKES SHOULD BE DRIVEN AT LEAST 12" INTO THE GROUND. ONCE ALL THE BALES HAVE BEEN INSTALLED AND ANCHORED, PLACE THE EXCAVATED SOIL AGAINST THE UPSLOPE SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSLOPE NO MORE THAN 24".

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

DO NOT PLACE A BALE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE BALE DITCH CHECKS IN DITCHES THAT WILL LIKELY EXPERIENCE HIGH FLOWS. THEY WILL NOT STAND UP TO CONCENTRATED FLOW. FOLLOW PRESCRIBED DITCH-CHECK SPACING GUIDELINES. IF SPACING GUIDELINES ARE EXCEEDED, EROSION WILL OCCUR BETWEEN THE DITCH CHECKS. DO NOT ALLOW WATER TO FLOW AROUND THE DITCH CHECK. MAKE SURE THAT THE DITCH CHECK IS LONG ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE CHECK IS HIGHER THAN THE TOP OF THE LOWEST CENTER BALE. DO NOT PLACE BALE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE DITCH CHECKS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE CHECK.

INSPECTION AND MAINTENANCE:

BALE DITCH CHECKS SHOULD BE INSPECTED EVERY 7 DAYS AND WITHIN 24 HOURS OF A RAINFALL OF 1/2" OR MORE. THE FOLLOWING IS A LIST OF QUESTIONS THAT SHOULD BE ADDRESSED DURING EACH INSPECTION:

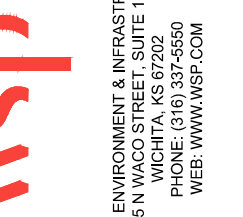
- DOES WATER FLOW AROUND THE DITCH CHECK?
- DOES WATER FLOW UNDER THE DITCH CHECK?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES AND/OR SCOUR APRONS (OPTIONAL) DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?

STRAW BALE DITCH CHECK ③
N.T.S. C-06

REVISION	DATE	ISSUE / REVISION DESCRIPTION	REVIEWED BY	APPROVED BY
B	5/7/2025	100% DESIGN	EJB	EJB
A	5/1/2025	90% DESIGN	EJB	EJB

PROJECT: LOWER LEVEL "D" TOE DRAIN INSTALLATION - PHASE 3 CITY OF WICHITA WICHITA, KANSAS

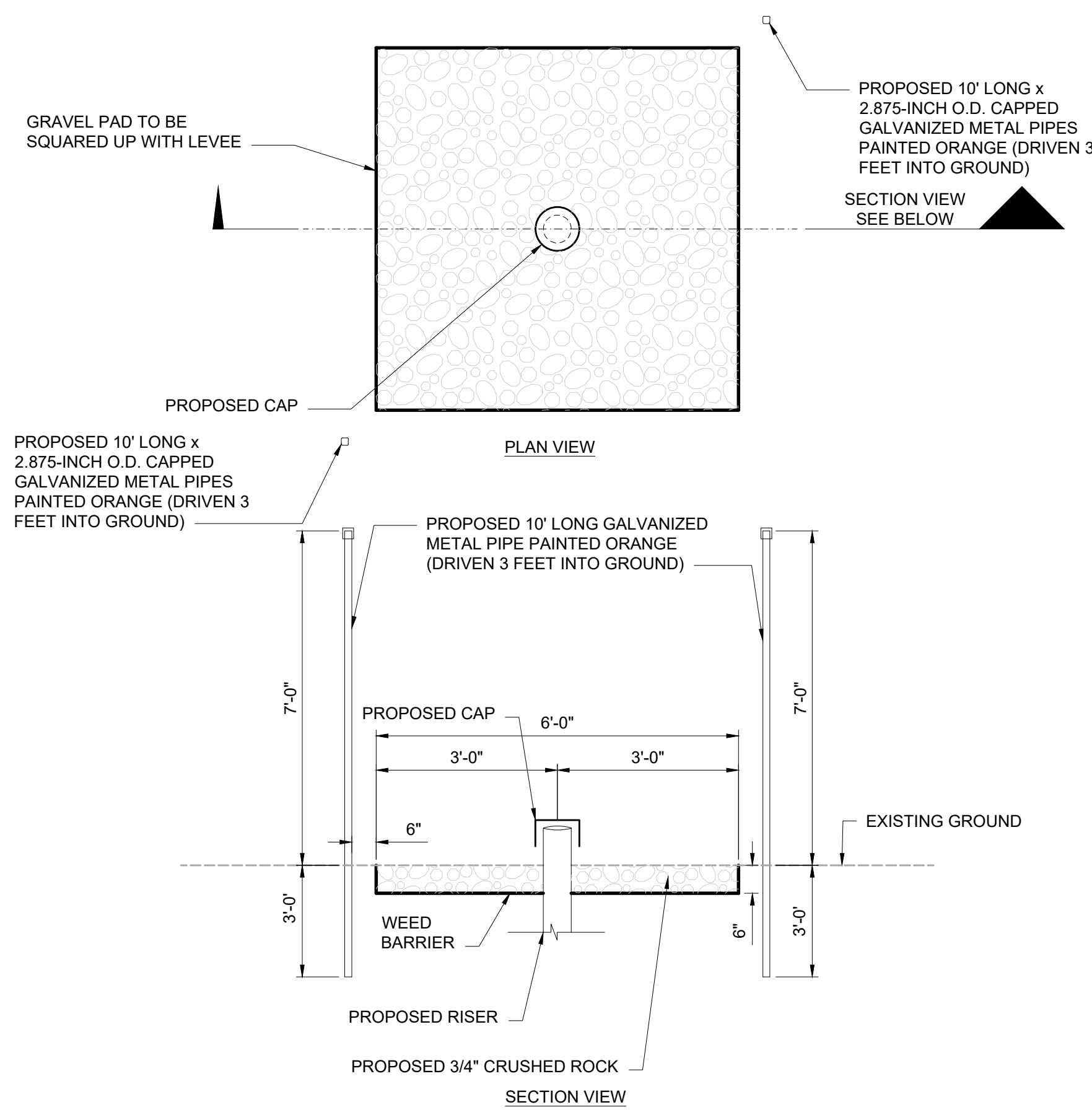
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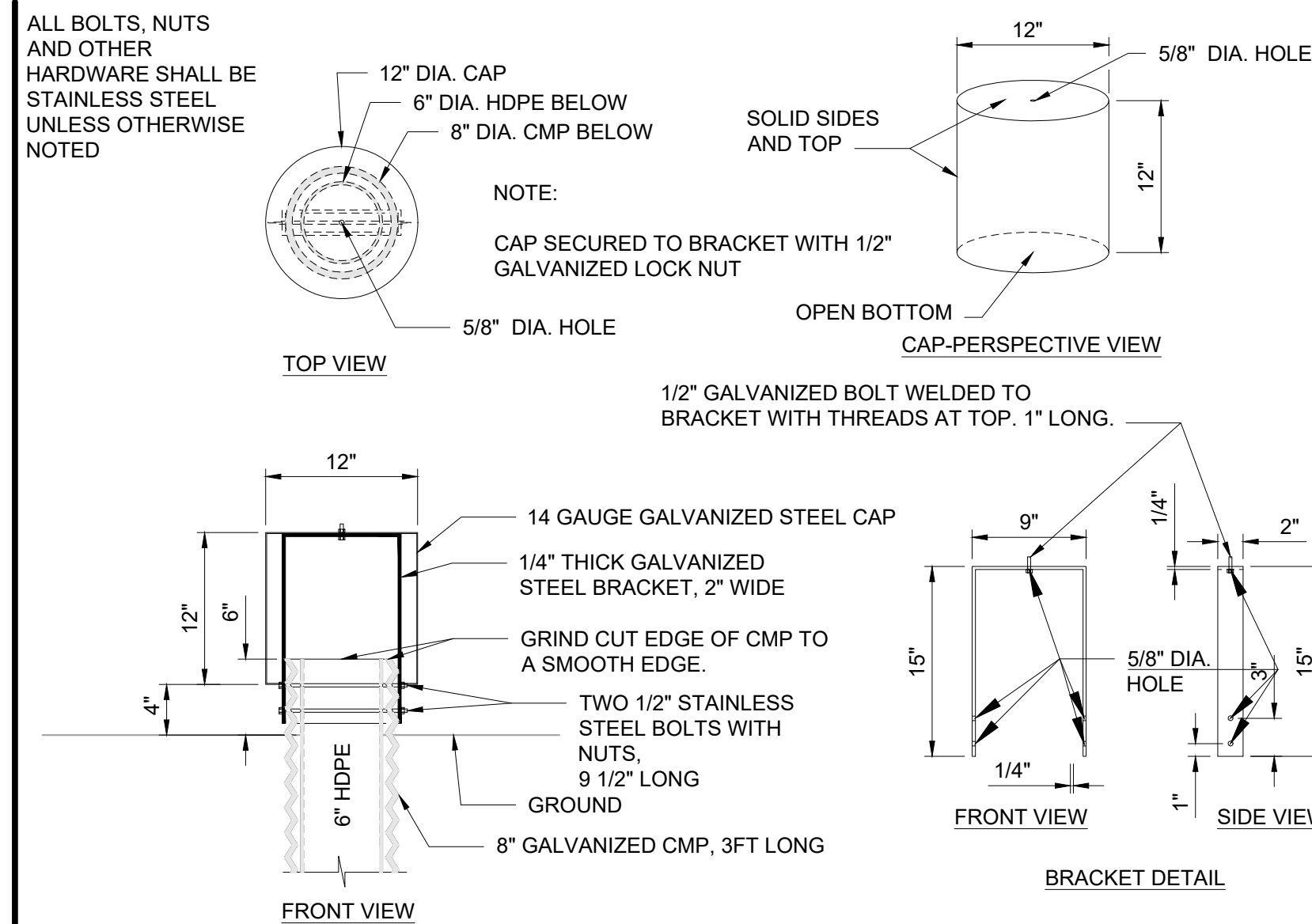


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SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS	
PROJECT NUMBER: 458-2025-085609	
SHEET NO. C-06	
100% 12	

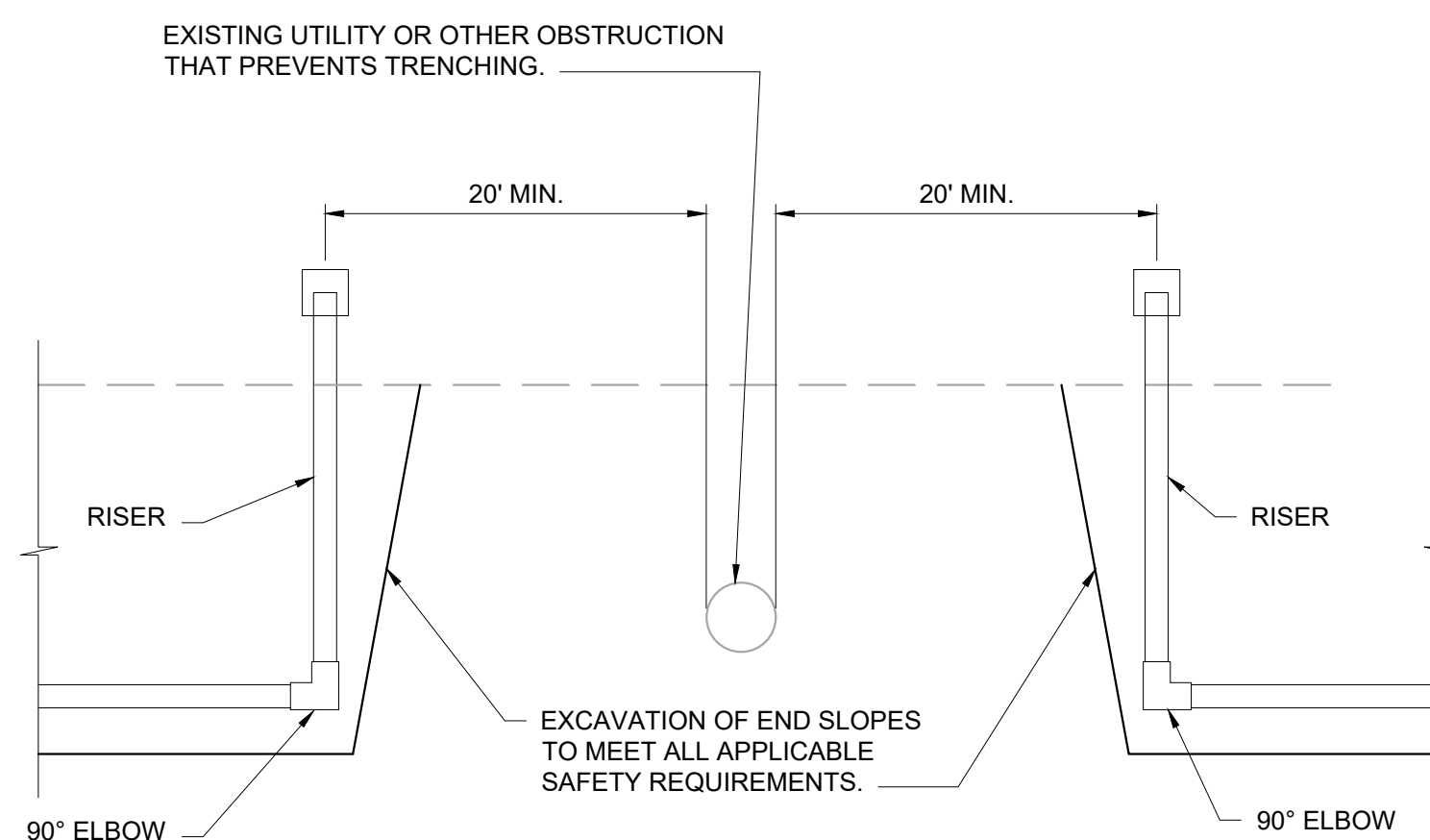


- NOTES:
- 1) GALVANIZED METAL PIPES SHALL BE 2.875" O.D., 0.203-INCH THICK AND 5.97 lbs./lin. ft.
 - 2) PIPES SHALL BE PAINTED IN ACCORDANCE WITH ASTM D 6386. REFER TO THE AMERICAN GALVANIZERS ASSOCIATION'S "GUIDE TO PREPARING HOT-DIP GALVANIZED STEEL FOR PAINT" (http://www.galvanizeit.org/images/uploads/publicationPDFs/Paint_Guide_Galvanized_Steel.pdf)

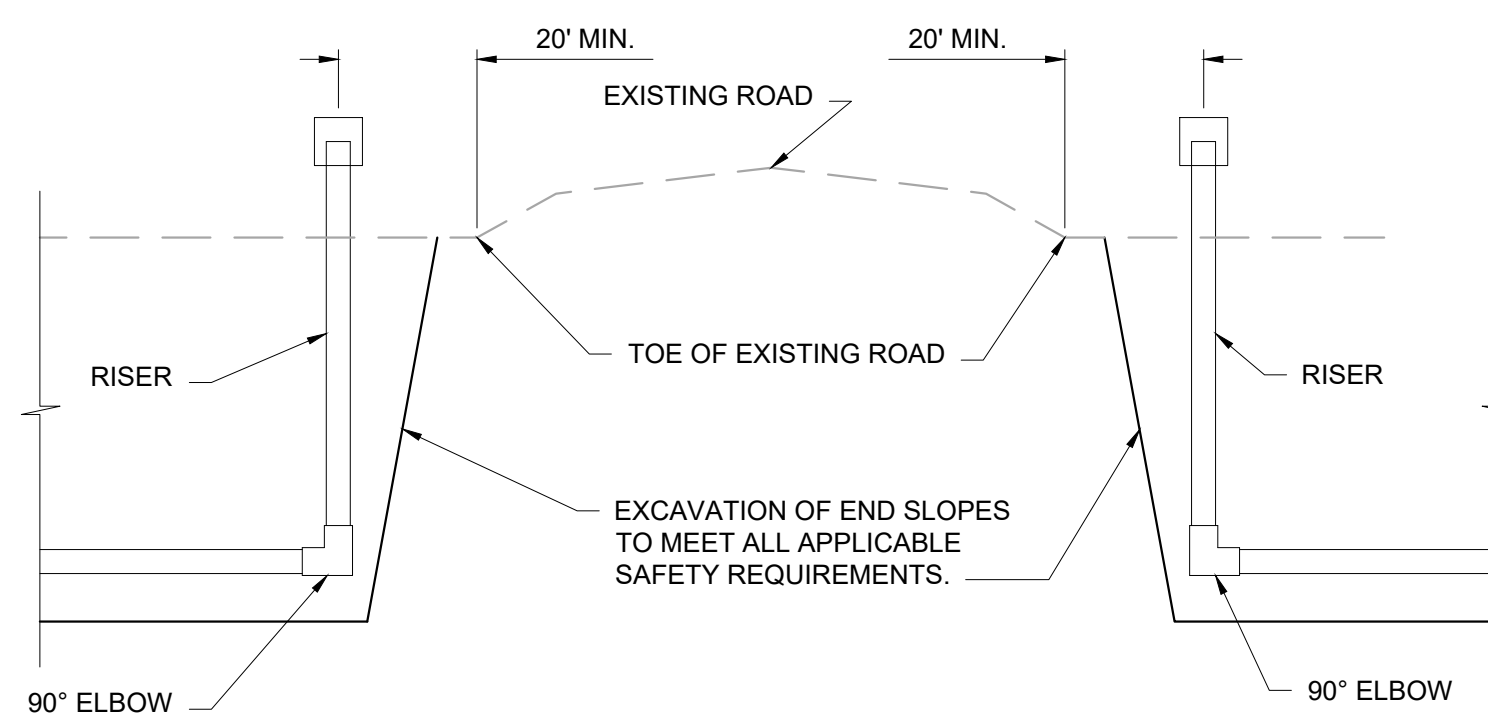
DETAIL "A" - TOE DRAIN MARKERS AND SURFACE TREATMENT
N.T.S.



RISER CAP
N.T.S.



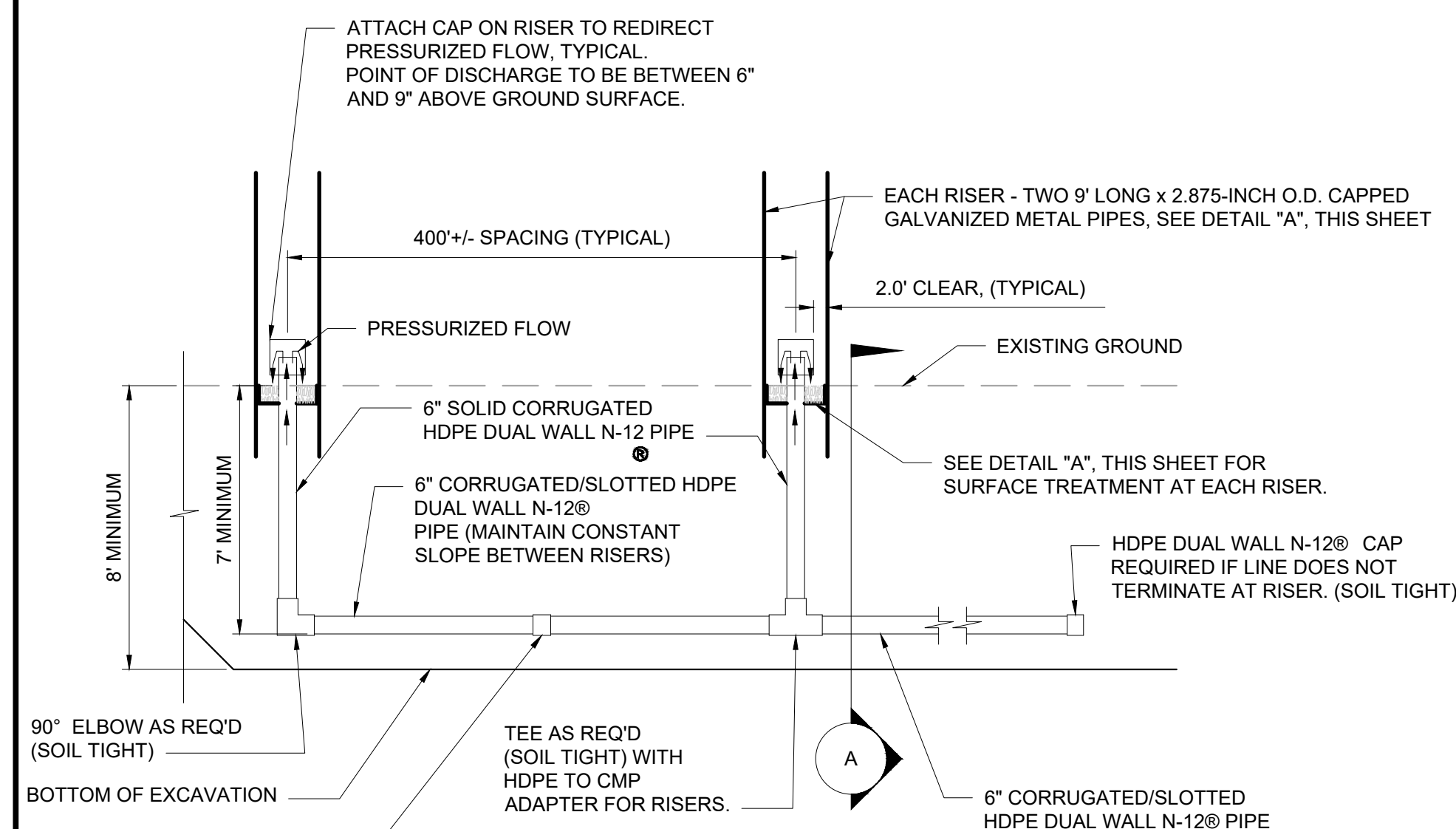
PROFILE VIEW AT UTILITY CONFLICT



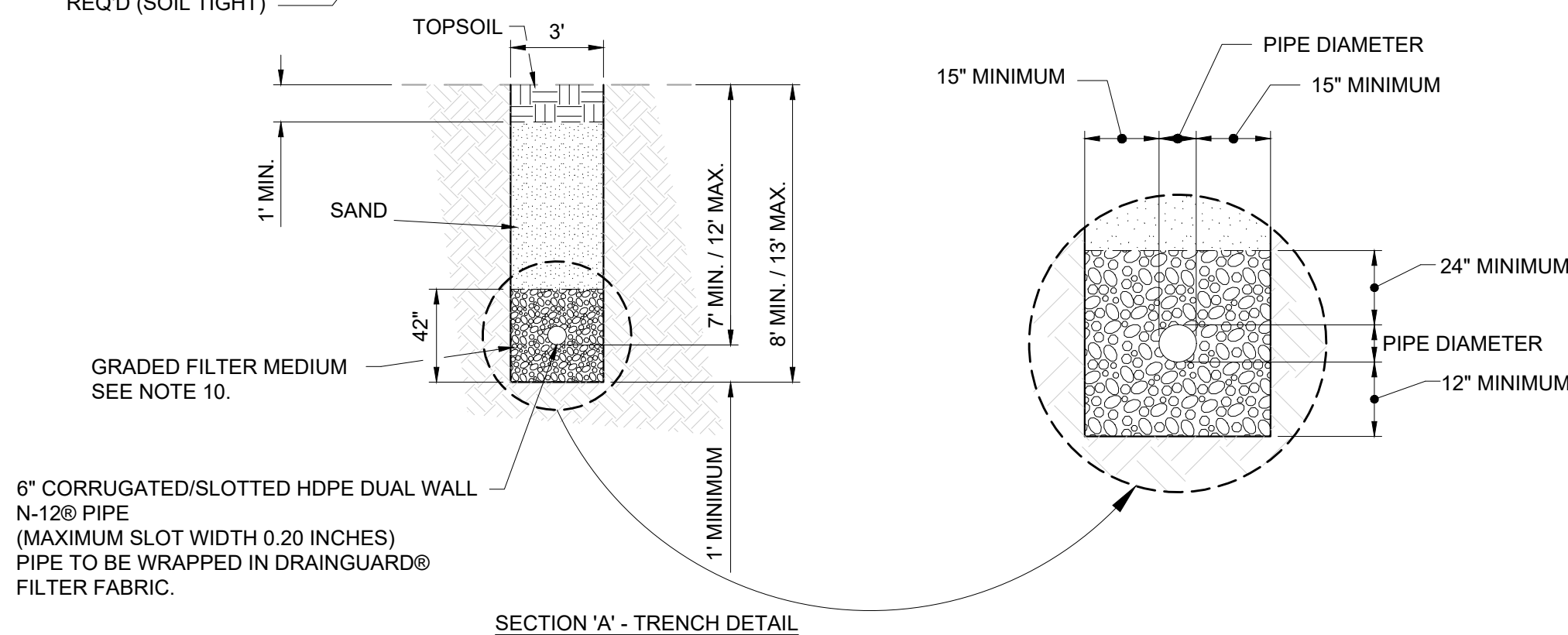
PROFILE VIEW AT ROAD CONFLICT

- NOTES:
1. UTILITY LOCATING IS THE RESPONSIBILITY OF THE CONTRACTOR. ADDITIONAL RISERS (NOT SHOWN ON PLAN & PROFILE SHEETS) WILL BE REQUIRED WHEN UTILITIES OR OTHER OBSTRUCTIONS ARE ENCOUNTERED.

LEVEE TOE DRAIN - TERMINATION AT ROADS AND UTILITY CONFLICTS
N.T.S.

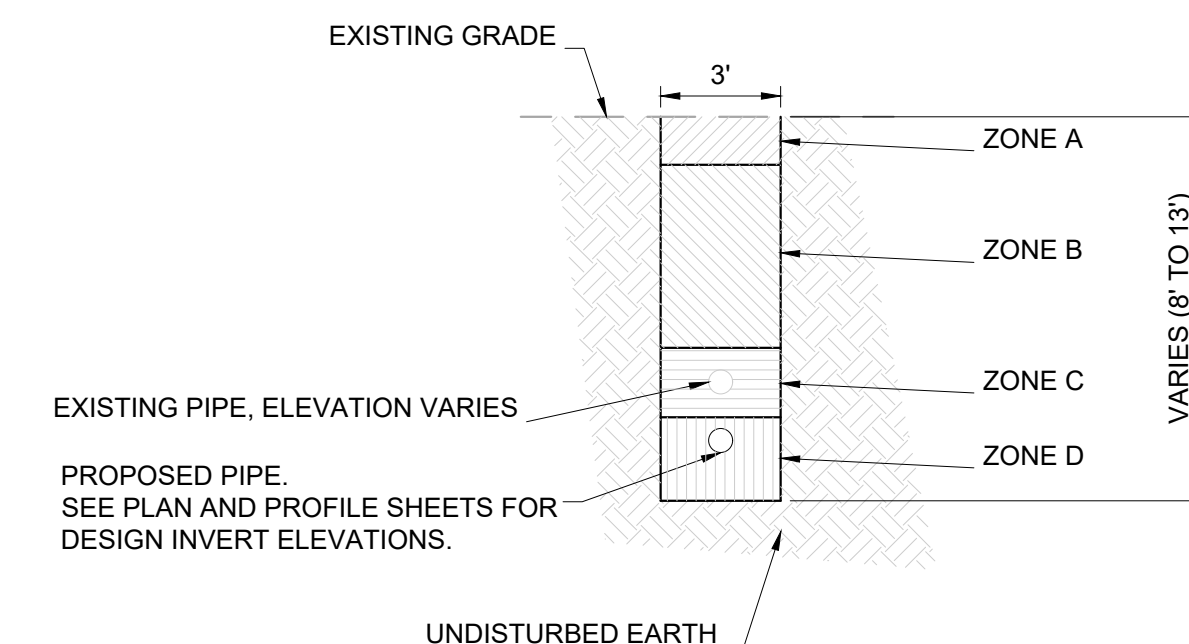


PROFILE VIEW



NOTES:

- 1) ALL EXISTING TOE-DRAIN PIPE TO BE REMOVED AND DISPOSED OF.
- 2) ALL EXISTING FILTER MEDIA TO BE REMOVED AND DISPOSED OF.
- 3) ALL EXISTING RISER CAPS SHALL BE SALVAGED TO WICHITA FLOOD CONTROL.
- 4) HORIZONTAL TRENCH DRAINS SHALL BE A MINIMUM OF 7 FEET DEEP TO PIPE INVERT.
- 5) MAINTAIN CONSTANT SLOPE OF HORIZONTAL PIPE RUNS BETWEEN VERTICAL RISERS. TRENCH DEPTHS GREATER THAN 7 FEET MAY BE NECESSARY.
- 6) EXCAVATION SLOPES FOR TOE DRAIN INSTALLATION SHALL MEET ALL APPLICABLE SAFETY REQUIREMENTS.
- 7) ALL CONNECTORS SHALL BE SOIL TIGHT.
- 8) ALL TOE DRAIN PIPE SHALL BE PERFORATED HDPE DUAL WALL N-12® PIPE OR EQUIVALENT WITH 0.20 INCH MAXIMUM SLOT WIDTH AND A MINIMUM PIPE STIFFNESS OF 46 PSI.
- 9) CONTRACTOR TO SUBMIT SHOP DRAWINGS FOR CAP ON RISER PIPE DISCHARGE.
- 10) FILTER MEDIA SHALL CONSIST OF HARD DURABLE STONE MEETING ASTM C33 SPECIFICATION FOR CONCRETE AGGREGATE. REFER TO GENERAL NOTES SHEET FOR GRADATION REQUIREMENTS.



EXCAVATION ZONE NOTES:

- ZONE A - EXCAVATE AND STOCKPILE 1' DEPTH OF TOPSOIL MATERIAL.
- ZONE B - EXCAVATE AND STOCKPILE MATERIAL THAT IS SUITABLE FOR BACKFILL AFTER NEW TRENCH DRAIN INSTALLATION. DISPOSE OF ANY OBJECTIONABLE MATERIAL ENCOUNTERED. LOWER LIMIT OF ZONE B IS EQUAL TO THE UPPER LIMIT OF EXISTING FILTER MEDIA.
- ZONE C - EXCAVATE AND DISPOSE OF EXISTING TRENCH DRAIN PIPE AND FILTER MEDIA.
- ZONE D - IF NECESSARY, CONTINUE EXCAVATION UNTIL AN ELEVATION OF 1-FOOT BELOW THE PROPOSED PIPE INVERT IS REACHED. ALL NOTES FOR ZONE B ABOVE ALSO APPLY TO ZONE D.

(ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NOTES ON SHEET G-0.02)

EXCAVATION ZONES - SECTION VIEW

LEVEE TOE DRAIN - DETAIL
N.T.S.

REVISION	DATE	ISSUE / REVISION DESCRIPTION	REVIEWED BY	APPROVED BY
B	5/7/2025	100% DESIGN	EJB	EJB
A	5/9/2025	50% DESIGN	EJB	EJB

LOWER LEVEE "D" TOE DRAIN INSTALLATION - PHASE 3
CITY OF WICHITA
WICHITA, KANSAS

TOE DRAIN DETAILS

PROJECT:

TITLE:



DESIGNED BY: ACR
DRAWN BY: MJR

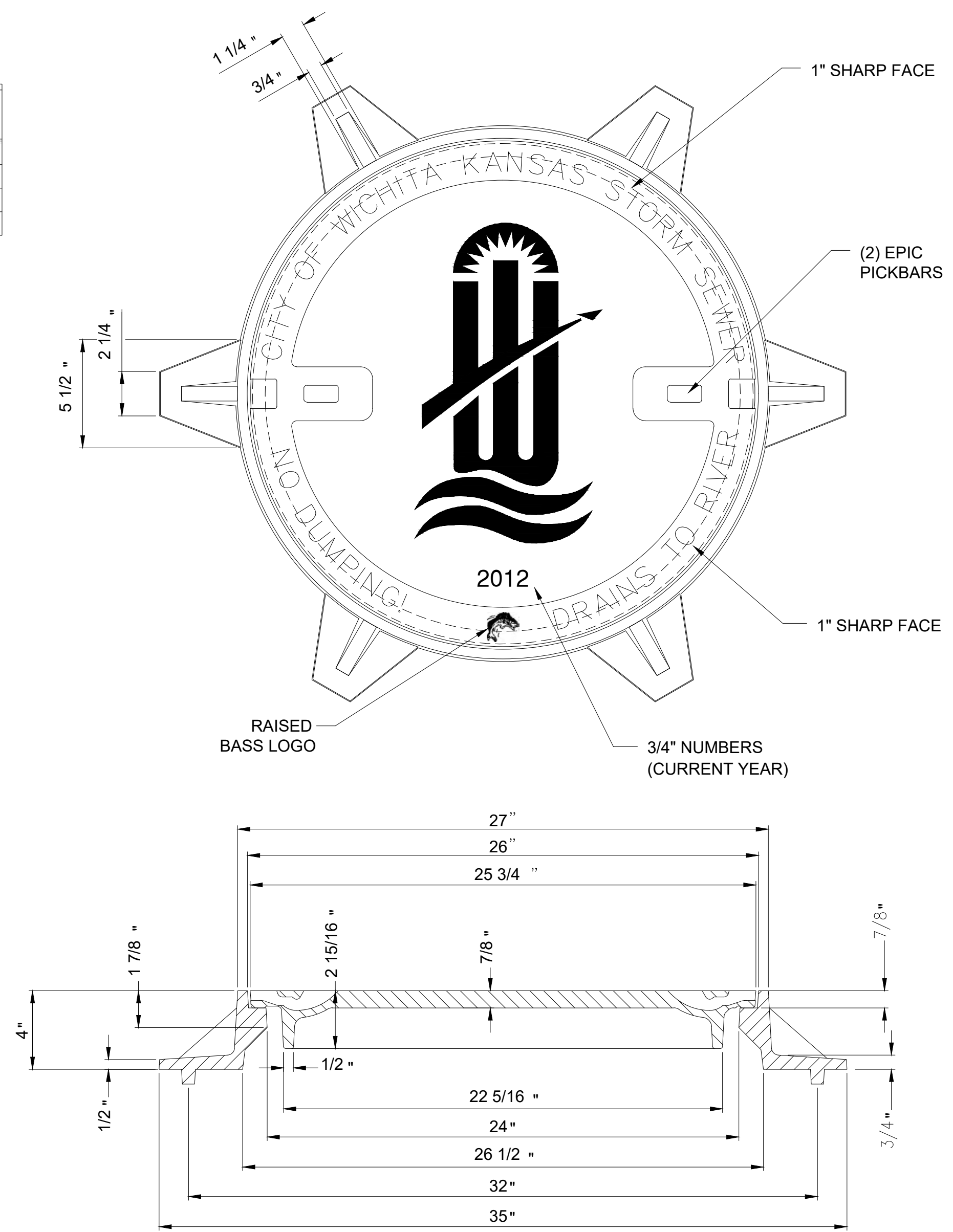
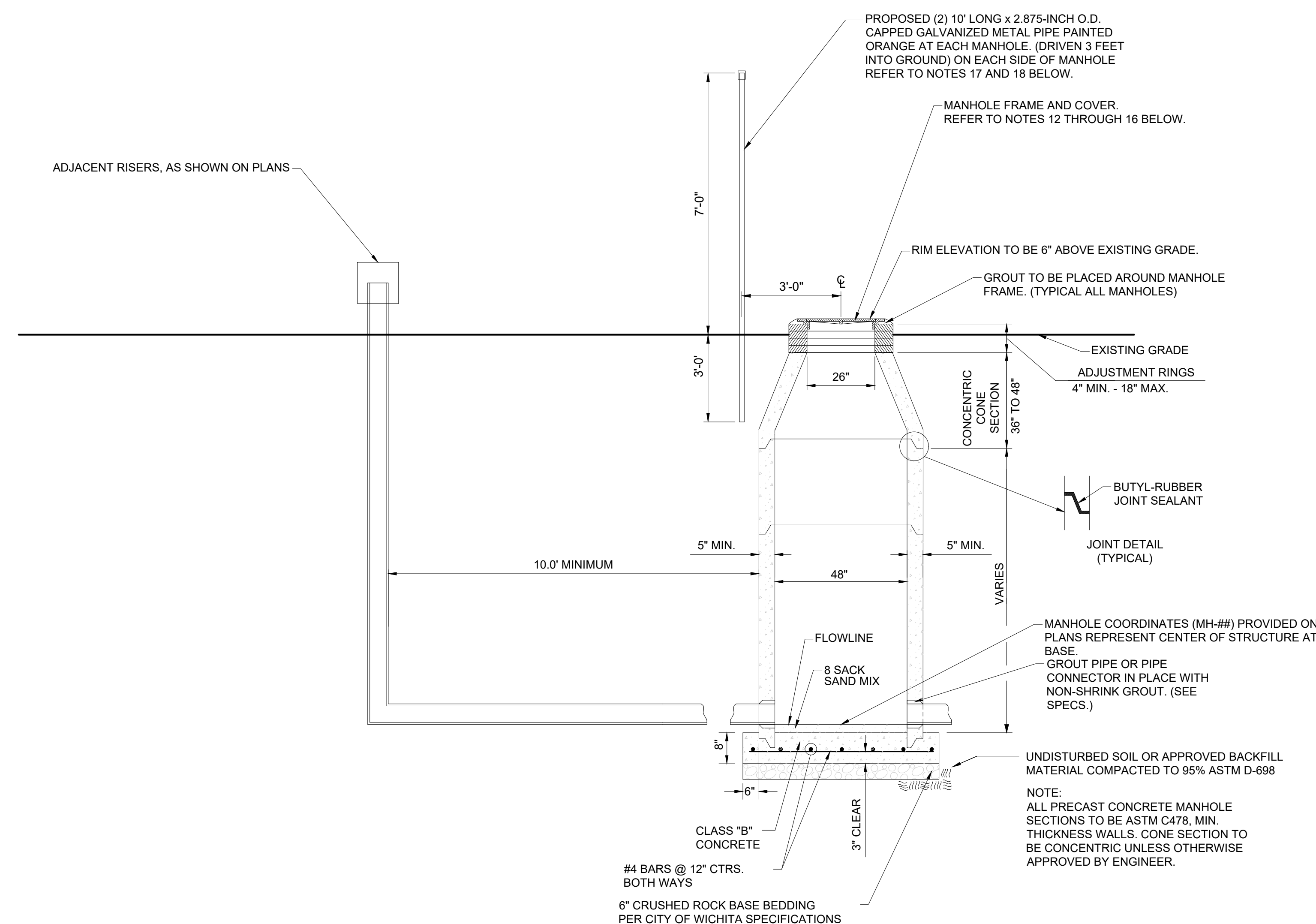
SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS

PROJECT NUMBER: 458-2025-085609

SHEET NO. C-07

NOTE:
RIM ELEVATIONS PROVIDED ARE APPROXIMATE AND MAY REQUIRE FIELD ADJUSTMENT.

MANHOLE DATA		
I.D.	FLOW LINE ELEV. (FT.)	RIM ELEV. (FT.)
MH-1	1286.00	1296.17
MH-2	1285.00	1293.44
MH-3	1285.00	1295.00
MH-4	1285.00	1294.00



**MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z4**

- NOTE:
- FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
 - NOT TO BE USED UNDER PAVEMENT.
 - COVER TO BE DEETER #1261 OR EJIW #1936A1

MANHOLE FRAME/COVER
N.T.S.

- GENERAL NOTES
- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
 - STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
 - ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
 - TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
 - ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C-478 AS MODIFIED BY THE SPECIFICATIONS.
 - CONCRETE USED FOR MANHOLE CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT MIX.
 - PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
 - MANHOLES WITH PRECAST BASES MAY BE USED AT THE CONTRACTORS OPTION. THESE MANHOLES SHALL HAVE AN 8 INCH MINIMUM BASE THICKNESS AND SHALL BE PLACED ON AN 8 INCH MIN. CRUSHED ROCK BASE. PIPES SHALL BE ENCASED WITH CRUSHED ROCK TO AT LEAST 3 FEET FROM THE MANHOLE WALL.
 - CONTRACTOR SHALL REMOVE LIFTING HOOKS AFTER INSTALLATION. RECESSES IN MANHOLE WALL SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.
 - THE ENDS OF ALL PIPES IN MANHOLES SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE MANHOLE WALL.
 - MANHOLE INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE MANHOLE WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.
 - CONTRACTOR TO SUBMIT SHOP DRAWINGS OF PRECAST MANHOLE, FRAME AND COVER FOR APPROVAL.
 - MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARDSPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
 - THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SEATING SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
 - THE SOLID MANHOLE COVER AND FRAME SHALL BE A DEETER #1261, EJIW #1936A1, OR APPROVED EQUAL.
 - THE MANHOLE FRAME SHALL BE A DEETER #1261, EJIW #1936-Z4, OR APPROVED EQUAL.
 - GALVANIZED METAL PIPES SHALL BE 2.875" O.D., 0.203-INCH THICK AND 5.97 lbs./lin. ft.
 - PIPES SHALL BE PAINTED IN ACCORDANCE WITH ASTM D 6386. REFER TO THE AMERICAN GALVANIZERS ASSOCIATION'S "GUIDE TO PREPARING HOT-DIP GALVANIZED STEEL FOR PAINT" (http://www.galvanizeit.org/images/uploads/publicationPDFs/Paint_Guide_Galvanized_Steel.pdf)

CONCENTRIC MANHOLE DETAIL 1
SCALE: NONE C-08

REVISION	DATE	ISSUE / REVISION DESCRIPTION	REVIEWED BY	APPROVED BY
B	5/7/2025	100% DESIGN	EJB	EJB
A	10/20/25	90% DESIGN	EJB	EJB

PROJECT: LOWER LEVEL "D" TOE DRAIN INSTALLATION - PHASE 3 CITY OF WICHITA WICHITA, KANSAS

TITLE: TOE DRAIN DETAILS

WSP USA ENVIRONMENT & INFRASTRUCTURE
240 N W WICHITA, KS 67202
WWW.WSPUSA.COM

CITY OF WICHITA

DESIGNED BY: ACR	DRAWN BY: MJR
SCALE: ALL SCALES ARE INDICATED FOR ANSI D SIZE DRAWINGS	
PROJECT NUMBER: 458-2025-085609	
SHEET NO. C-08	