

GENERAL NOTES

- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS. ALL CONSTRUCTION SHALL BE COMPLETED FOLLOWING CURRENT CITY STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
- THE CONTRACTOR WILL BE REQUIRED TO PROVIDE NOTICE TO UTILITY COMPANIES A MINIMUM OF SEVENTY-TWO (72) HOURS PRIOR TO ANY EXCAVATION, AS FOLLOWS:
KANSAS ONE-CALL 687-2470
THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:
AT&T 1-800-246-8464
BLACK HILLS ENERGY (GAS) 1-800-694-8989
CITY OF WICHITA WATER 1-316-268-4555
CITY OF WICHITA SEWER 1-316-268-4073
CITY OF WICHITA STORMWATER 1-316-268-4090
CITY OF WICHITA TRAFFIC 1-316-268-4034
COX COMMUNICATIONS 1-888-249-3530
KANSAS GAS SERVICE 1-888-482-4950
WESTAR ENERGY 1-800-544-4857
- UTILITY SERVICE LINES, POLES, ETC. ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLAN, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS, IN THE OPINION OF THE ENGINEER, THAT WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WOULD REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS WOULD REQUIRE ADDITIONAL ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.
- TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.
- THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS NOTICE PRIOR TO START OF CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
- THE WATER DISTRIBUTION DIVISION SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY CONTRACTOR AT HIS OWN EXPENSE. VALVE BOXES AND WATER METERS WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO MATCH FIELD GRADES.
- THE CONTRACTOR SHALL NOTIFY THE CONSULTANT ENGINEER AND TOM MASON WITH THE CITY AT 316-268-4574 WITH THE ANTICIPATED CONSTRUCTION START DATE AND NOTIFY THEM OF PROJECT COMPLETION. STAKING AND INSPECTION FOR THIS PROJECT WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- IF TRAFFIC WILL BE IMPACTED BY CONSTRUCTION, A TRAFFIC CONTROL PLAN MUST BE SUBMITTED AND APPROVED BY THE CITY TRAFFIC ENGINEER, BRIAN COON AT traffic@wichita.gov BEFORE CONSTRUCTION CAN BEGIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL MEASURES TO FACILITATE CONSTRUCTION. ALL CONSTRUCTION ZONE MARKINGS AND SIGNAGE SHALL CONFORM TO THE LATEST VERSION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS PUBLISHED BY THE US DEPT. OF TRANSPORTATION, FEDERAL HIGHWAY ADMINISTRATION. ALL COSTS ASSOCIATED WITH CONSTRUCTION MARKINGS AND SIGNAGE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- ALL ELEVATIONS SHOWN ARE NAVD 88.
- ALL AREAS DISTURBED DURING CONSTRUCTION THAT WILL NOT BE UNDER PROPOSED PAVEMENT SHALL BE RESTORED TO MATCH EXISTING CONDITIONS.
- FOLLOW THE LINK BELOW FOR SPECIFIC CITY OF WICHITA STANDARD DETAILS:
<http://www.wichita.gov/government/departments/pwu/standardsconstruction>
- CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
- EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS COMPANIES AND IS EITHER FROM COMPANY UTILITY DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
- A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUNDED AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUND SHALL BE CONSTRUCTED WITH NEW DEVELOPMENT A SIX (6) FOOT DIAMETER FLAT TOP WITH 4" TO 1" SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP OF THE MANHOLE.
- GEOTECHNICAL REPORT AVAILABLE UPON REQUEST.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
- CITY MAINTENANCE OF STORM SEWER ENDS AT RIGHT-OF-WAY OR EASEMENT LINE.
- ANY SIDEWALK, DRIVE APPROACH, OR STREET PAVEMENT WITHIN PUBLIC RIGHT-OF-WAY REMOVED TO CONSTRUCT PROJECT MUST HAVE A PAVEMENT CUT PERMIT AND BE REPLACED BY CITY CONTRACTOR. PERMITS CAN BE OBTAINED BY CALLING 316-268-4501 OR 316-268-4480.
- THE INSPECTING FIRM SHALL SUBMIT TO THE CITY STORMWATER MAINTENANCE DIVISION A DIGITAL COPY OF THE CCTV INSPECTION OF THE CONDUITS AND STRUCTURES FOLLOWING CONSTRUCTION. THE DIGITAL FILE FORMATION SHALL BE COMPATIBLE WITH THE CITY INPUT TEMPLATE. A COPY OF THE TEMPLATE IS AVAILABLE UPON REQUEST AT 316-268-4090.
- WORK DONE UNDER THIS PROJECT IS SUBJECT TO THE CITY OF WICHITA REQUIREMENTS FOR "CONSTRUCTION OF INFRASTRUCTURE IMPROVEMENTS BY PRIVATE CONTRACT". THE CONTRACTOR SHALL BE FAMILIAR AND COMPLY WITH ALL OF THE REQUIREMENTS, INCLUDING BONDING, INSPECTION, TESTING, NOTIFICATION, PROVIDING AS-BUILT DRAWINGS, PAYING FOR ALL NECESSARY CONNECTIONS, AND/OR STREET REPAIR FEES AND PROVIDING PIPE MATERIAL AND OTHER CERTIFICATIONS.

AS-BUILT PLANS - JUNE 2017

INSPECTED BY: GENE RATH, MKEC ENGINEERING, INC
 CONSTRUCTED BY: KLAVER CONSTRUCTION
 SUPERINTENDENT: CODY ALOE

PRIVATE STORM WATER SEWER

TO SERVE

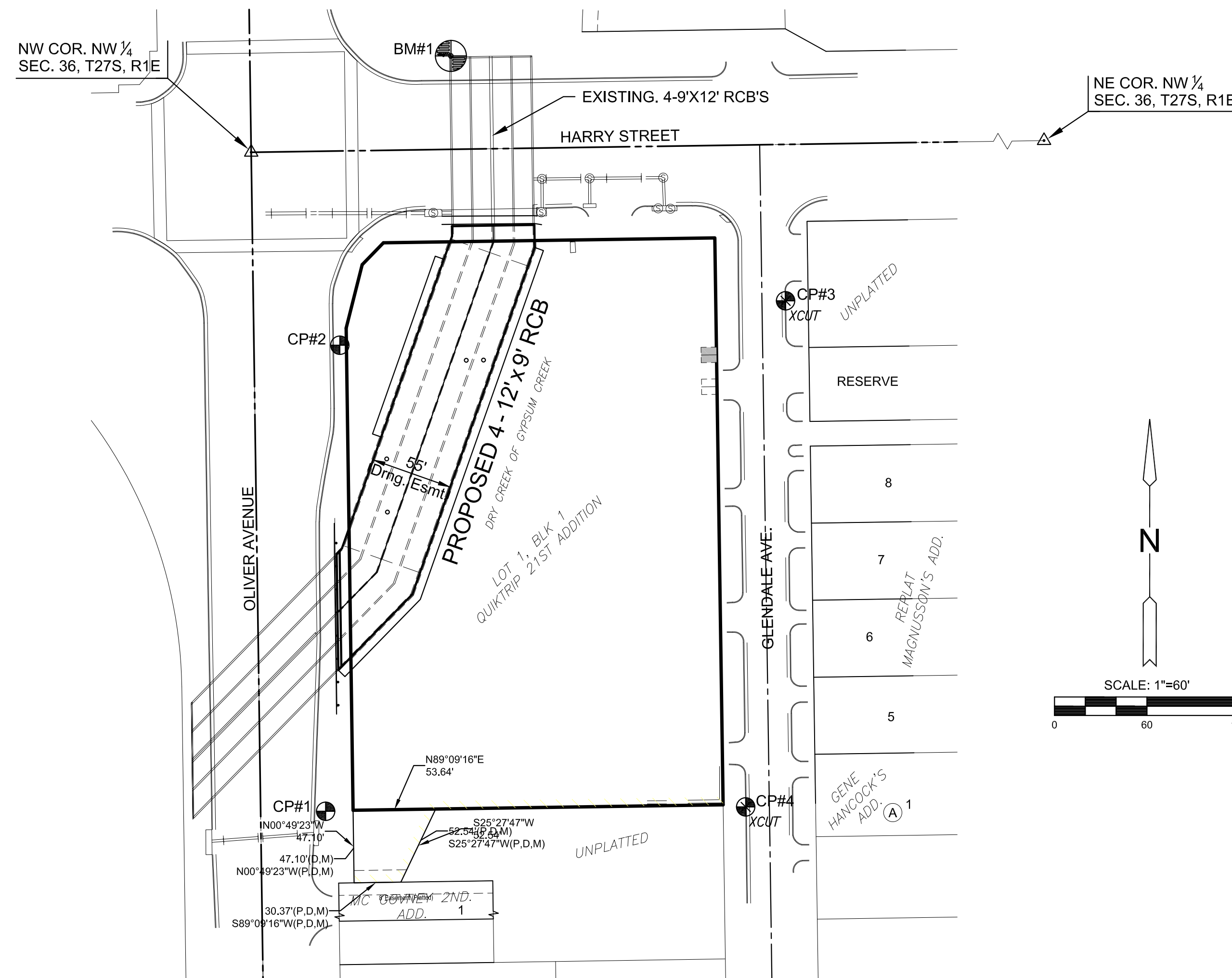
QUIKTRIP NO. 329

PROJECT NO. 0372PPD

1620 S. OLIVER ST.

THE CITY OF WICHITA, KANSAS
 GARY JANZEN, P.E. - CITY ENGINEER

OCA NO. 607861

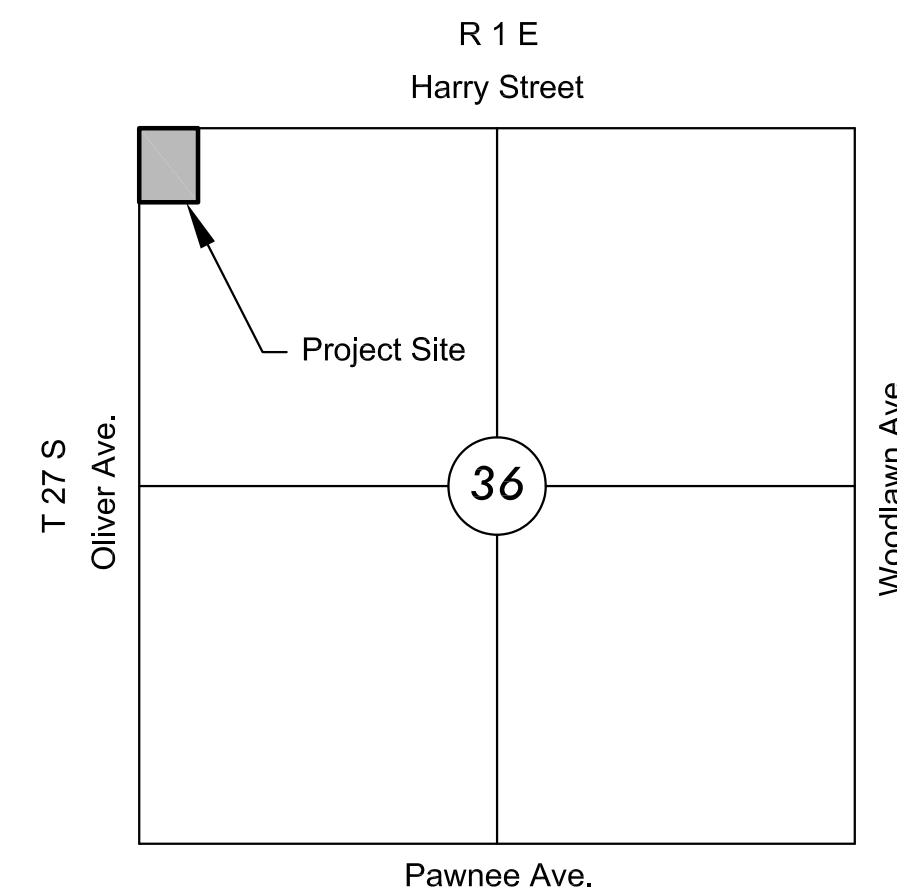


DATUM:
 1 - The Project Horizontal Datum is based on the NAD83, Kansas State Plane Coordinate System, South Zone, (US Survey Feet Definition), with a Combined Adjustment Factor (CAF) of 1.0001200144.

All coordinates and dimensions shown on these plans are modified to Ground values.
 The following equations can be used for conversion:
 Ground Coordinates to State Plane Coordinates = Ground x 1/CAF
 State Plane Coordinates to Ground Coordinates = State Plane x CAF

2 - The Vertical Datum used is NAVD88. UTILITIES: The underground utilities shown hereon were marked in the field by the utility owners in response to Kansas One Call Ticket Numbers: 15218553, 15218560, 15218565, 15218568, 15218576, 15218584 and 15218593

CONTROL POINTS				
POINT	Northing	Easting	Elevation	Description
CP#1	1677804.043	1665579.032	1327.207	DISC MAKE
CP#2	1678106.523	1665588.253	1327.608	DISC MAKE
CP#3	1678135.328	1665877.578	1331.871	CUT
CP#4	1677806.888	1665851.699	1332.223	CUT



VICINITY MAP

No Scale

INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
01	TITLE SHEET
02	SITE PLAN
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05	RCB PLAN & PROFILE
06-11	RCB DETAILS
12	SITE RESTORATION PLAN
13-15	TRAFFIC CONTROL
16-19	TEMP. CONC. SAFETY BARRIER
20-25	EROSION CONTROL PLAN & DETAILS
26	FINAL PLAT

BENCHMARKS

- BM#1 CITY OF WICHITA BENCHMARK DISC ON WEST END OF NORTH HEADWALL OF RCBC, 130'± EAST OF CENTERLINE OF OLIVER.
 ELEV.=1330.37 N.A.V.D. 88
- BM#2 5/8" REBAR WITH "MKEC" ALUMINUM DISC, 4'± E OF EAST CURB ON OLIVER & 63'± SSW OF TRAFFIC SIGNAL POLE ON THE SE COR OF THE HARRY ST. & OLIVER AVE. INTERSECTION.
 ELEV.=1327.21 N.A.V.D. 88

APPROVED AS NOTED
 BY WICHITA PUBLIC WORKS ENGINEERING
 AND STORMWATER DIVISION

Engineering

Storm Water

NOTE TO CONTRACTORS

Inspection and testing for this project is to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer in the state of Kansas. No work shall be performed by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the current City of Wichita Specifications and Standards and Special Provisions. (on file and available at Wichita.gov).

An approved copy of these plans signed by City staff are required on-site.



PRIVATE STORM WATER SEWER PLAN FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

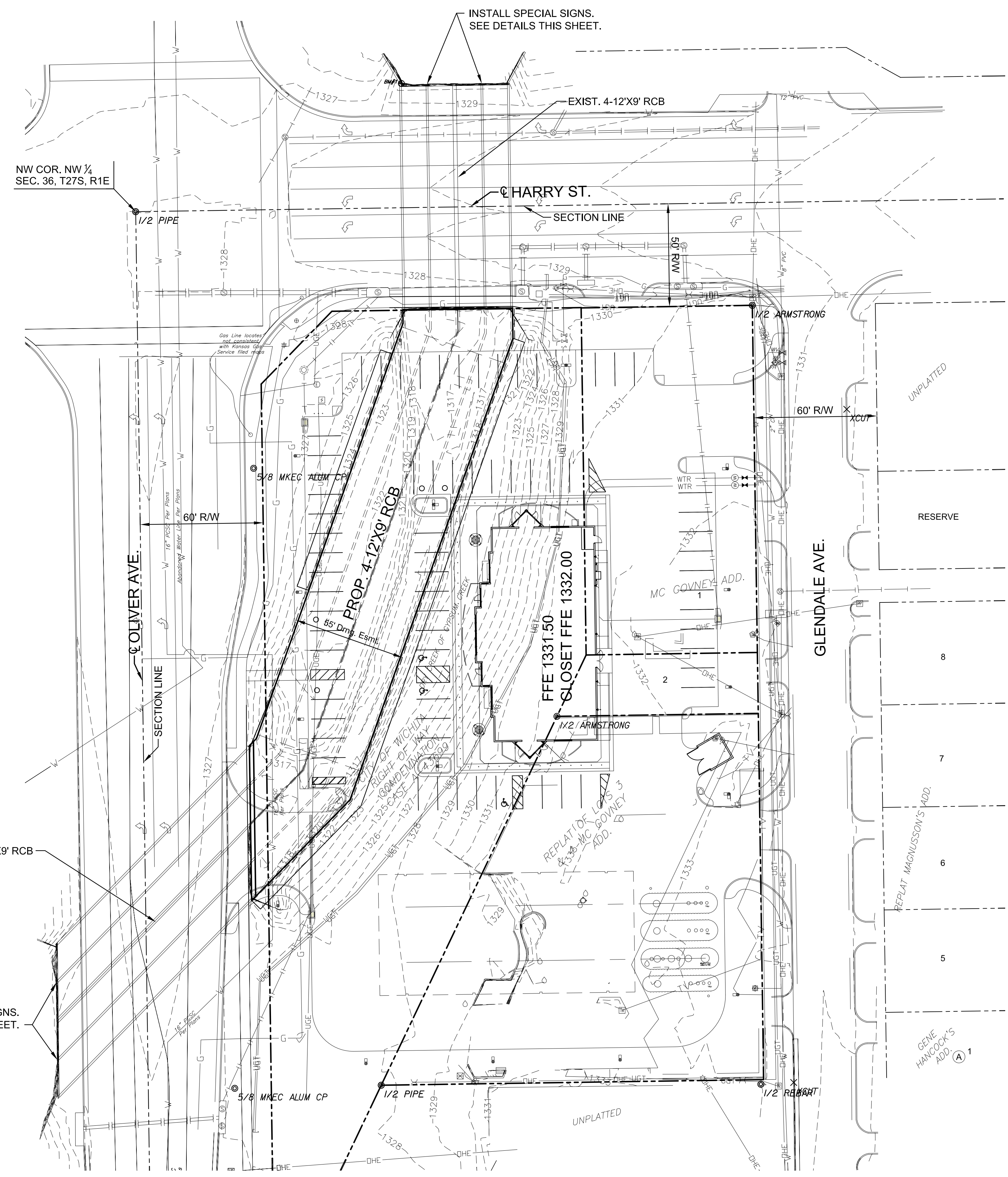
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TITLE SHEET

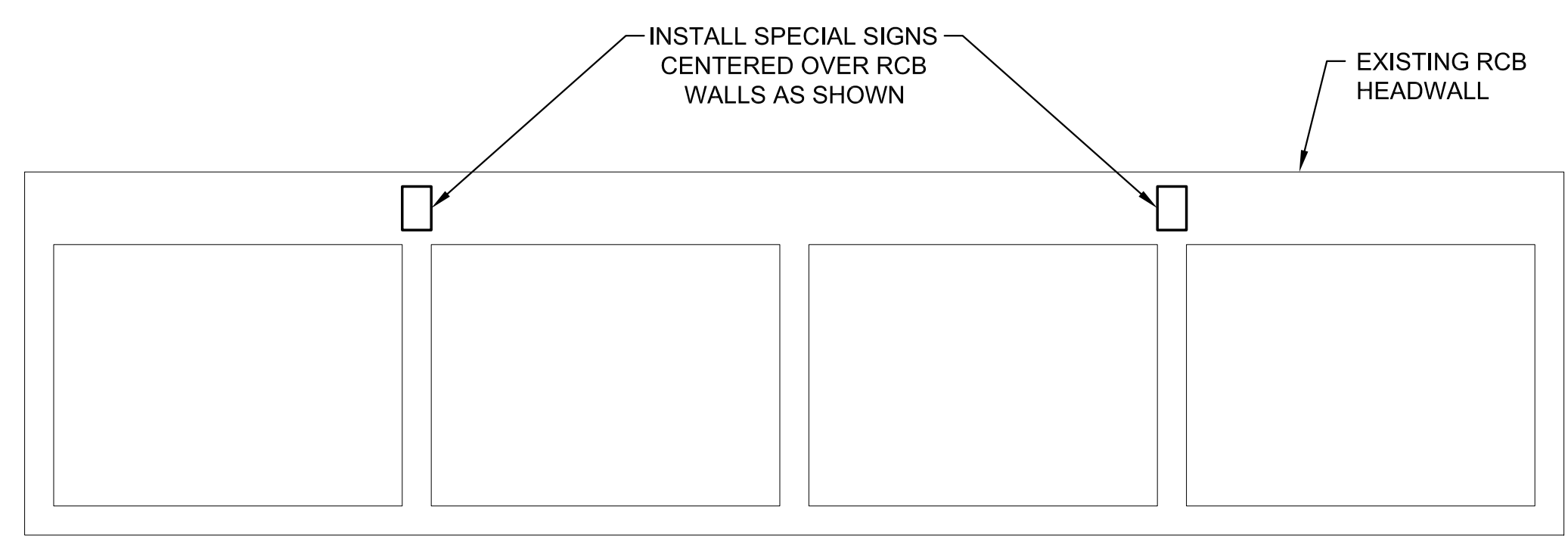
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DATE	04/07/2016
SCALE	1"=60'
DESIGNED	JRA
DRAWN	WNJ
CHECKED	JRA
1 ISSUED FOR BID	7/12/16
NO. REVISION	DATE

SHEET NO.

W:\TNSAS03\WOL\PROJECTS\2015\151010321_CIT_329R_HARRY AND OLIVER_1521 CAD\SITE\505\CIVIL\SITE\15321\SP0.LDWG
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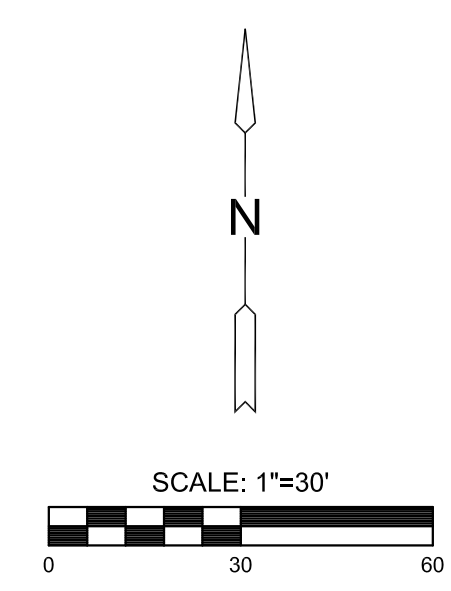


SPECIAL SIGN (12 x 18)



ELEVATION - SPECIAL SIGN PLACEMENT

TYPICAL INSTALLATION AT N. HEADWALL OF EXISTING RCB BENEATH HARRY ST.
AND AT W. HEADWALL OF EXISTING RCB BENEATH OLIVER AVE.



SITE PLAN LAYOUT AND DESIGN IS BEING COMPLETED BY OTHERS. IT IS SHOWN HERE FOR REFERENCE ONLY.



STORM WATER SEWER PLAN FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

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SITE PLAN		
PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	1"=30'	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA
NO.	REVISION	DATE
1	ISSUED FOR BID	7/12/16
SHEET NO.		
02 OF 26		

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DEMOLITION PLAN

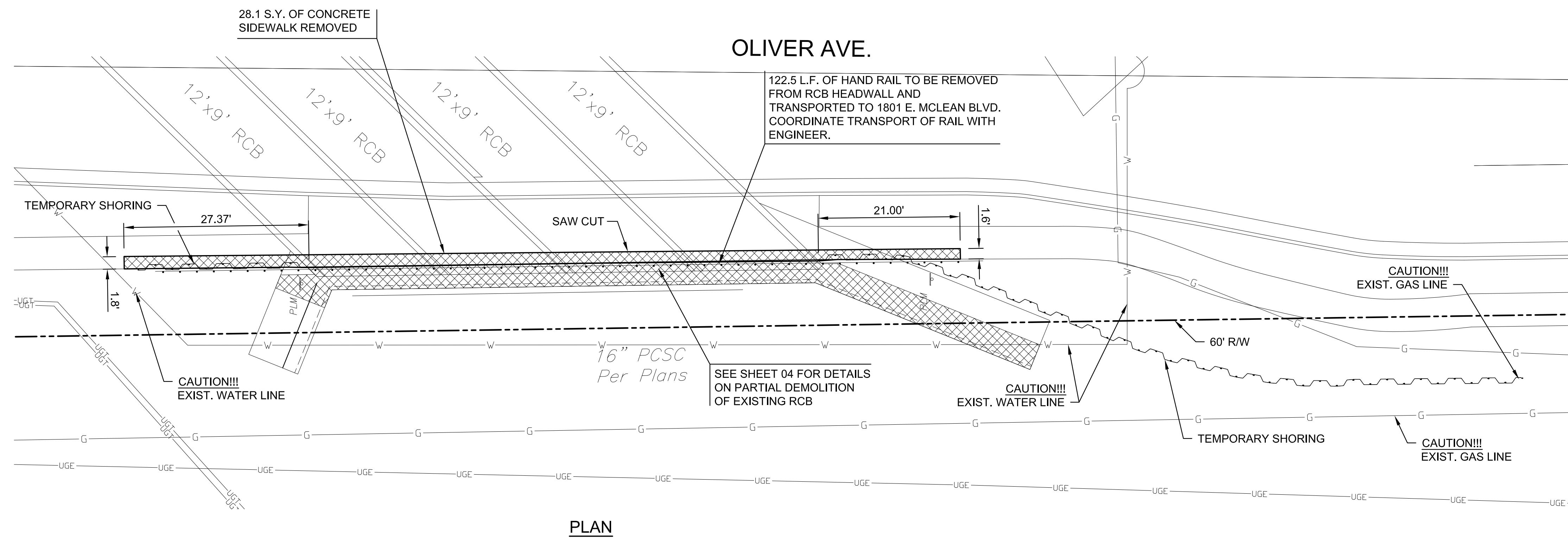
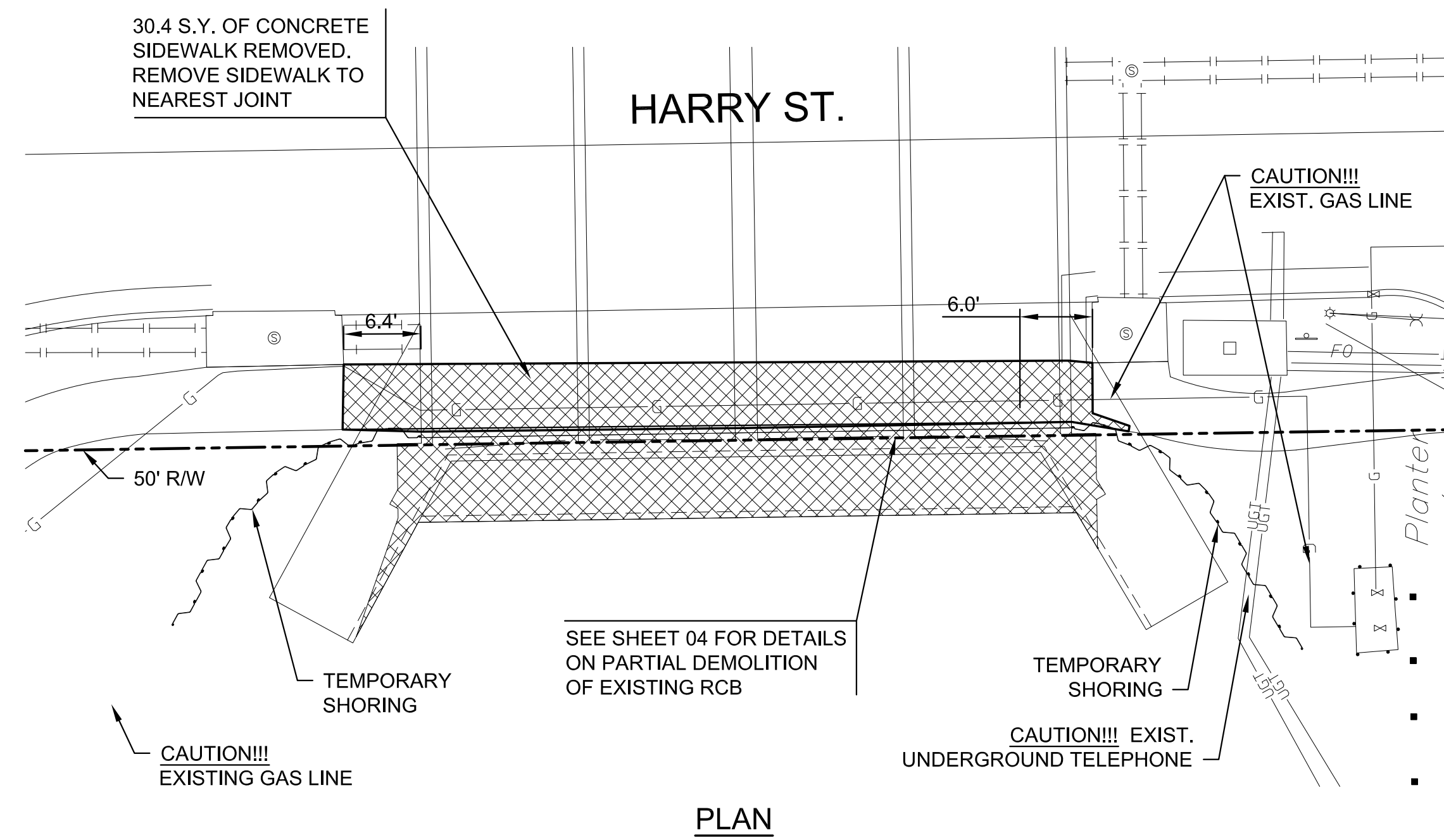
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SCALE	1"=10'	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

SHEET NO.

DEMOLITION NOTES

1. THE CONTRACTOR SHALL VERIFY THE DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION. SOME EXISTING UTILITIES WILL BE RELOCATED BY OTHERS, EITHER PRIOR TO OR DURING CONSTRUCTION OF THIS PROJECT. THE CONTRACTOR SHOULD COORDINATE WITH THE OWNER'S REPRESENTATIVE IN REGARDS TO TIMELINES FOR UTILITY RELOCATIONS AND PROPOSED UTILITY LOCATIONS.
2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE LENGTH OF NEED, LOCATIONS, EXTENT, AND DESIGN OF TEMPORARY SHORING REQUIRED FOR HIS CONSTRUCTION ACTIVITIES. IT IS ALSO THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT TEMPORARY SHORING INSTALLED DOES NOT DAMAGE OR INTERFERE WITH THE OPERATION OF EXISTING UTILITIES ON-SITE. ANY UTILITIES DAMAGED DURING CONSTRUCTION ACTIVITIES WILL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY MOTORIST AND PEDESTRIAN SAFETY MEASURES ARE IN PLACE PRIOR TO DEMOLITION AND MAINTAINED THROUGHOUT CONSTRUCTION.
4. SEE SHEET 04 FOR ADDITIONAL NOTES ON PARTIAL DEMOLITION OF EXISTING RCB.
5. SEE SHEETS 13-19 FOR TRAFFIC CONTROL PLAN AND DETAILS.
6. PEDESTRIAN HANDRAIL SHALL BE CAREFULLY REMOVED, WITH TOOLS INTENDED FOR SUCH PURPOSES, SUCH AS NOT TO DAMAGE THE RAIL OR BASE PLATES.




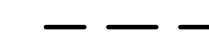
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W:\TAS\303\WOL\PROJECTS\2015\101824_CIT_329R_HARRY AND OLIVER_1521_CADD\SITE\05\CIVIL\SITE\1532\XPO.LDWG

GENERAL NOTES

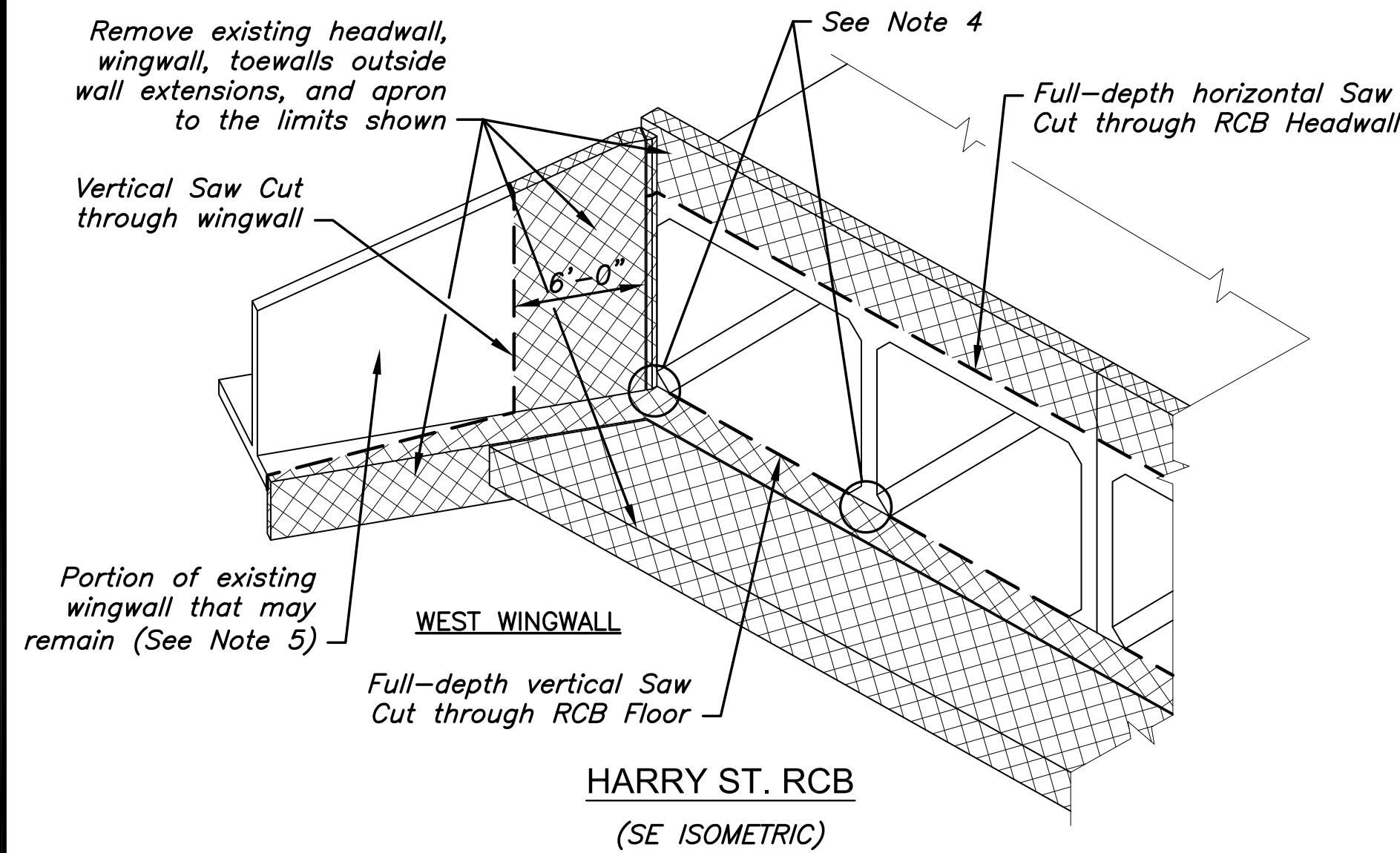
1. IMPACT DEMOLITION IS **NOT PERMITTED** ON ANY PORTION OF THE EXISTING STRUCTURE TO BE REMOVED.
2. THE CONTRACTOR SHALL REMOVE SOIL AND DEBRIS FROM ALL CELLS OF THE EXISTING RCBs PRIOR TO PARTIAL DEMOLITION ACTIVITIES.
3. TEMPORARY SHORING, AS SHOWN ON SHEET 03, SHALL BE IN PLACE PRIOR TO ANY DEMOLITION ACTIVITIES ON ADJACENT WINGWALLS.
4. THE CONTRACTOR SHALL PERFORM FULL-DEPTH SAW CUTS AS REQUIRED TO REMOVE THE PORTIONS OF THE EXISTING RCB STRUCTURES SHOWN ON THIS SHEET.
5. AT THE CONTRACTOR'S OPTION, A PORTION OF THE EXISTING WINGWALLS AS SHOWN MAY BE LEFT IN PLACE TO AID RETENTION OF SOIL DURING PROPOSED RCB CONSTRUCTION. AFTER CONSTRUCTION OF PROPOSED RCB, THOSE PORTIONS LEFT IN PLACE MUST BE REMOVED BEFORE THE PROJECT IS COMPLETE. IF A COMPLETE DEMOLITION OF WINGWALLS IS PERFORMED PRIOR TO CONSTRUCTION ACTIVITIES, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ADJUST TEMPORARY SHORING.
6. SAW CUTTING, TO THE LINES SHOWN, MAY NOT BE POSSIBLE IMMEDIATELY AT THE ENDS OF EXISTING RCB WALLS TO REMAIN. IN THESE AREAS, CHIPPING OR GRINDING METHODS MAY BE REQUIRED TO REMOVE MATERIAL.
7. ANY SLAB, FLOOR, OR OUTSIDE WALL EXTENSIONS SHOWN FOR REMOVAL ON THIS SHEET, SHALL BE REMOVED FLUSH WITH THE ENDS OF INTERIOR WALLS TO PROVIDE A UNIFORM SURFACE FOR PROPOSED CONSTRUCTION.
8. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT CLEAN, FLAT, AND LEVEL SURFACES ARE PROVIDED IN PREPARATION FOR THE PROPOSED STRUCTURE. IT MAY BE NECESSARY TO REPAIR DAMAGE TO THE EXISTING CONCRETE SURFACES IN SOME AREAS.
9. THE CONTRACTOR SHALL BRUSH BLAST, POWER WASH, AND WATER SOAK EXISTING CONCRETE SURFACES IMMEDIATELY PRIOR TO APPLYING REPAIR MATERIAL TO ENSURE PROPER BONDING.

LEGEND

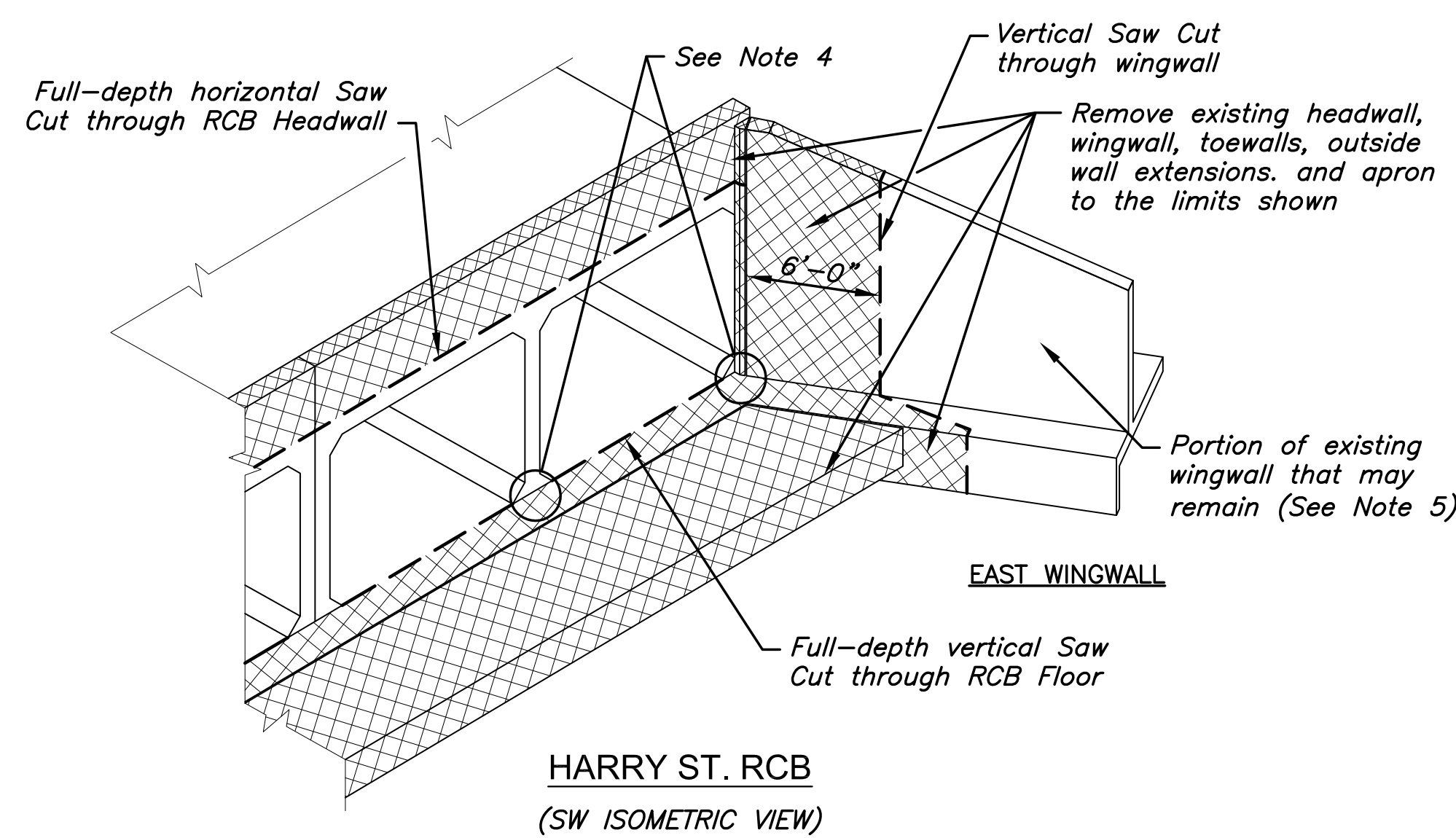
-  - PORTIONS OF EXISTING RCB TO BE REMOVED
-  - FULL-DEPTH SAW CUT LOCATIONS

NO IMPACT DEMOLITION ALLOWED

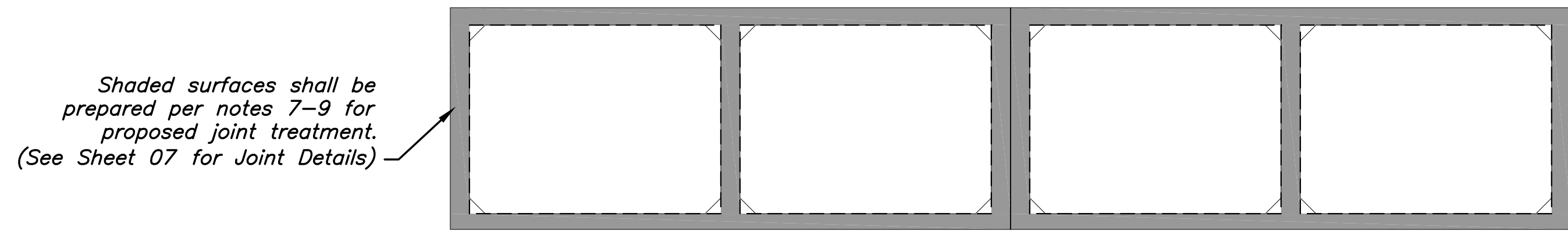
PLOT/TEC Tuesday, July 12, 2016 @ 10:45AM



HARRY ST. RCB
(SE ISOMETRIC)

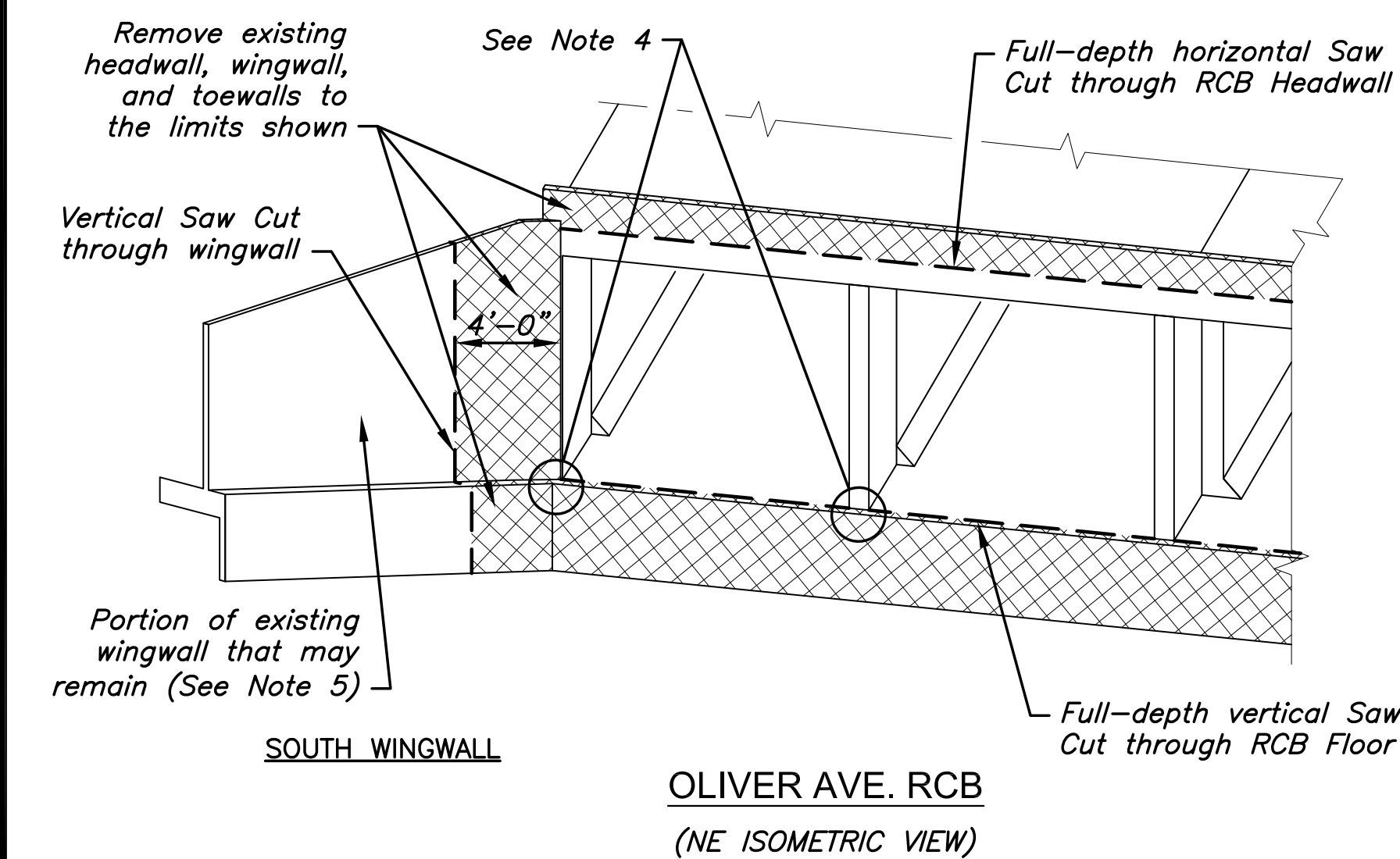


HARRY ST. RCB
(SW ISOMETRIC VIEW)

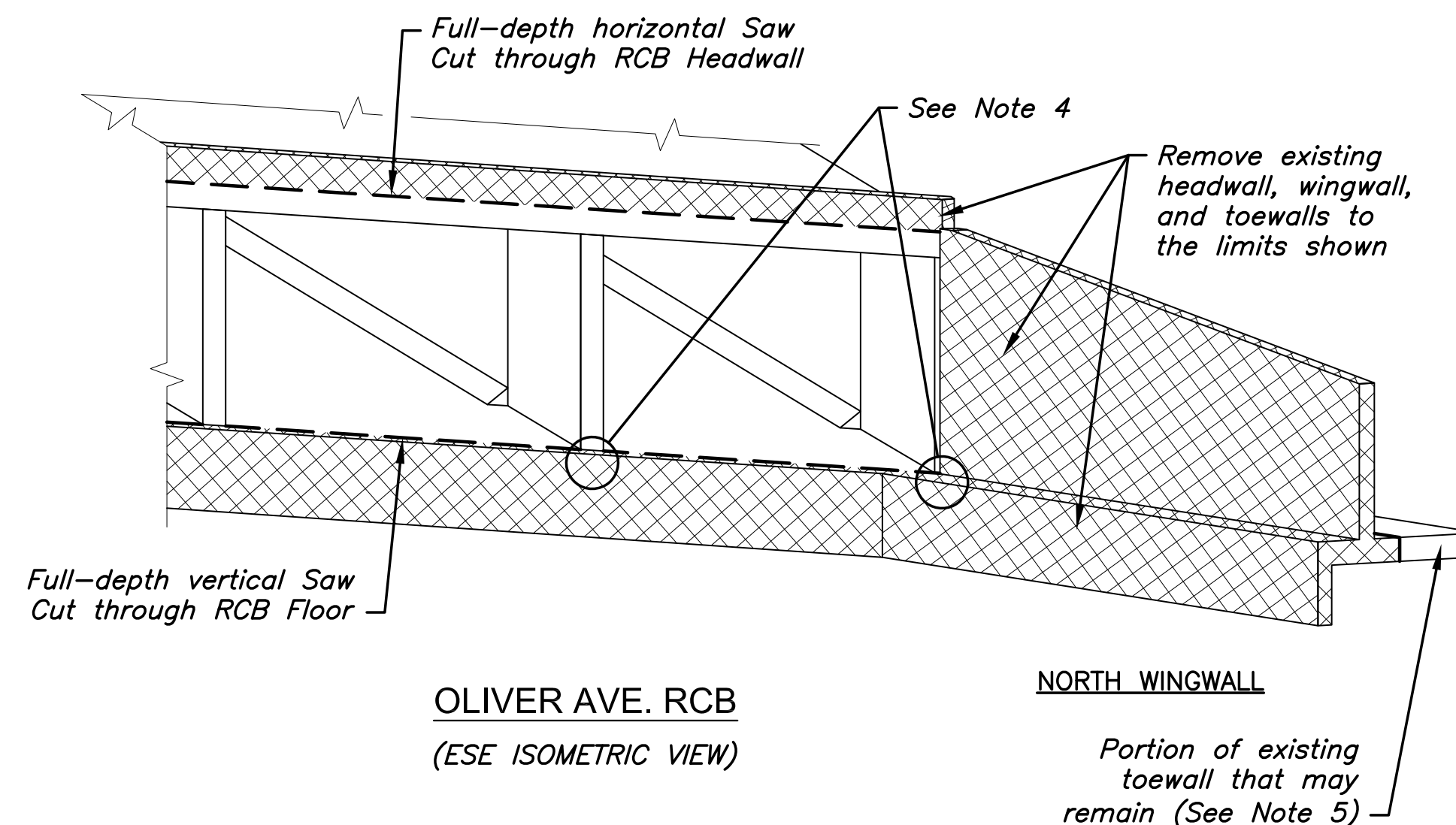


HARRY ST. RCB - END VIEW
(AFTER DEMOLITION)

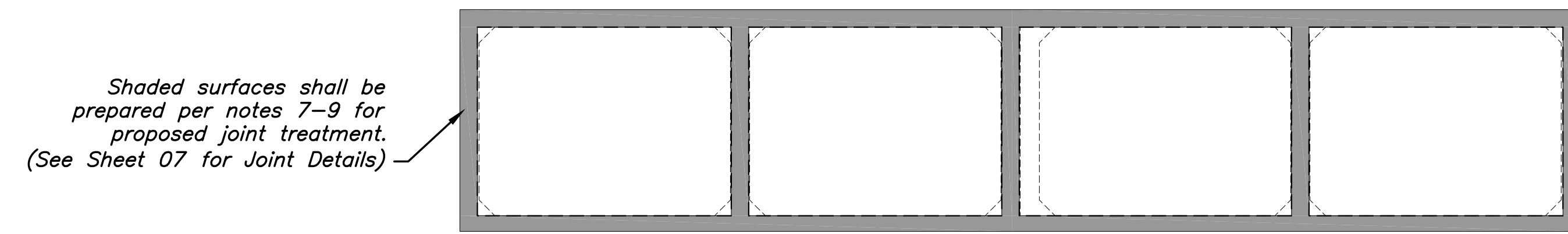
NOTE:
See Demolition Plan, sheet 03, for a plan view of suggested limits of partial demolition.



OLIVER AVE. RCB
(NE ISOMETRIC VIEW)



OLIVER AVE. RCB
(ESE ISOMETRIC VIEW)



OLIVER AVE. RCB - END VIEW
(AFTER DEMOLITION)

NOTE:
See Demolition Plan, sheet 03, for a plan view of suggested limits of partial demolition.

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DEMOLITION DETAILS

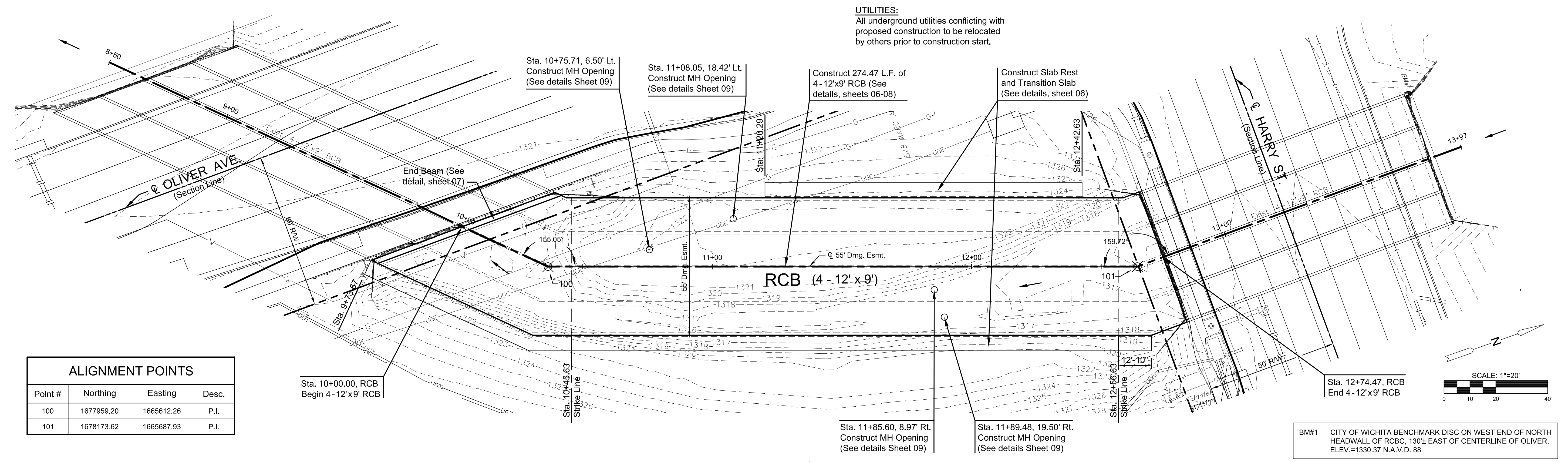
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DESIGNED	DRAWN	CHECKED
KJS	DMU	KJS
1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

SHEET NO.

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**4 - 12' x 9' RCB
 PLAN AND
 PROFILE**

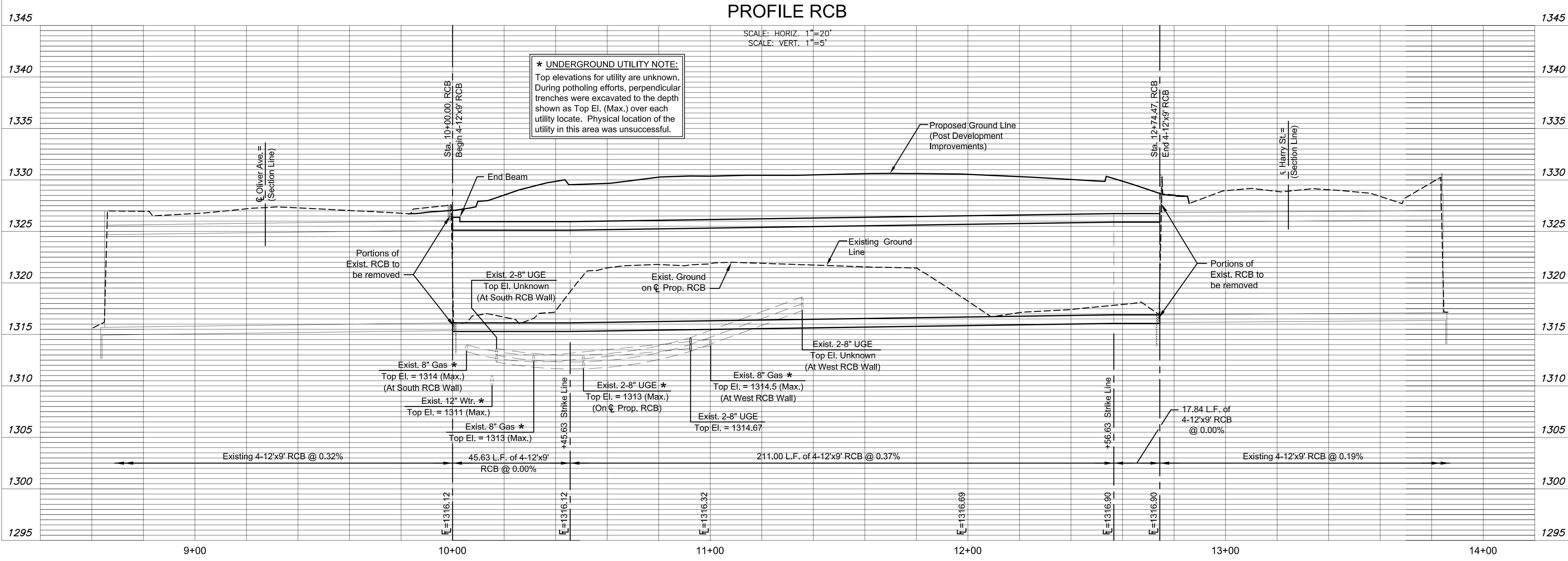
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NO.	REVISION	DATE



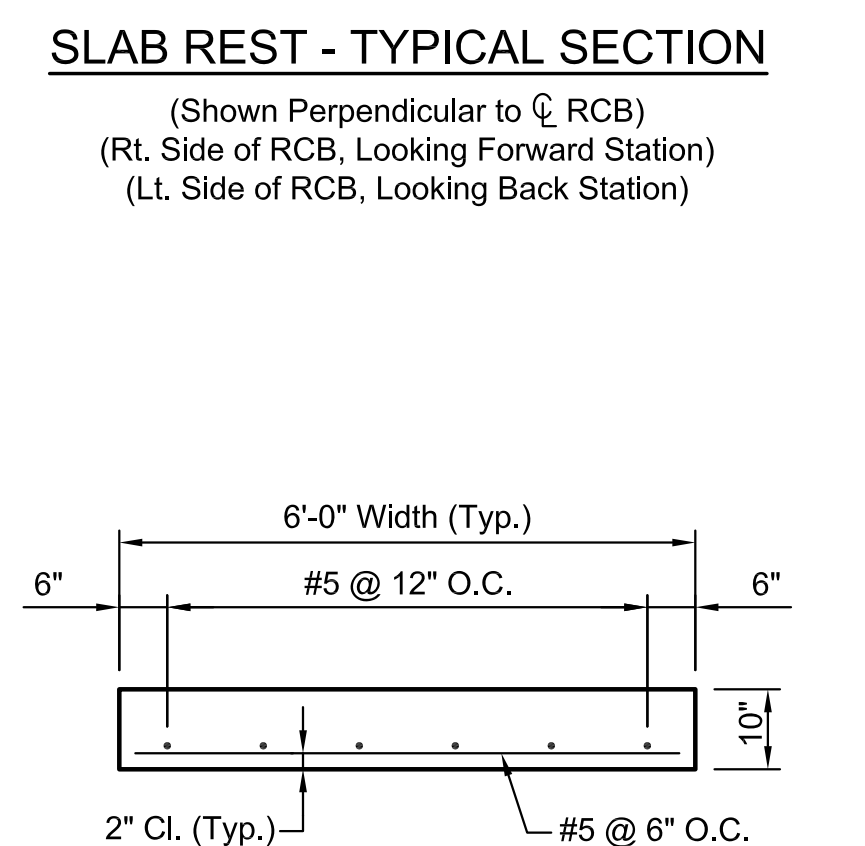
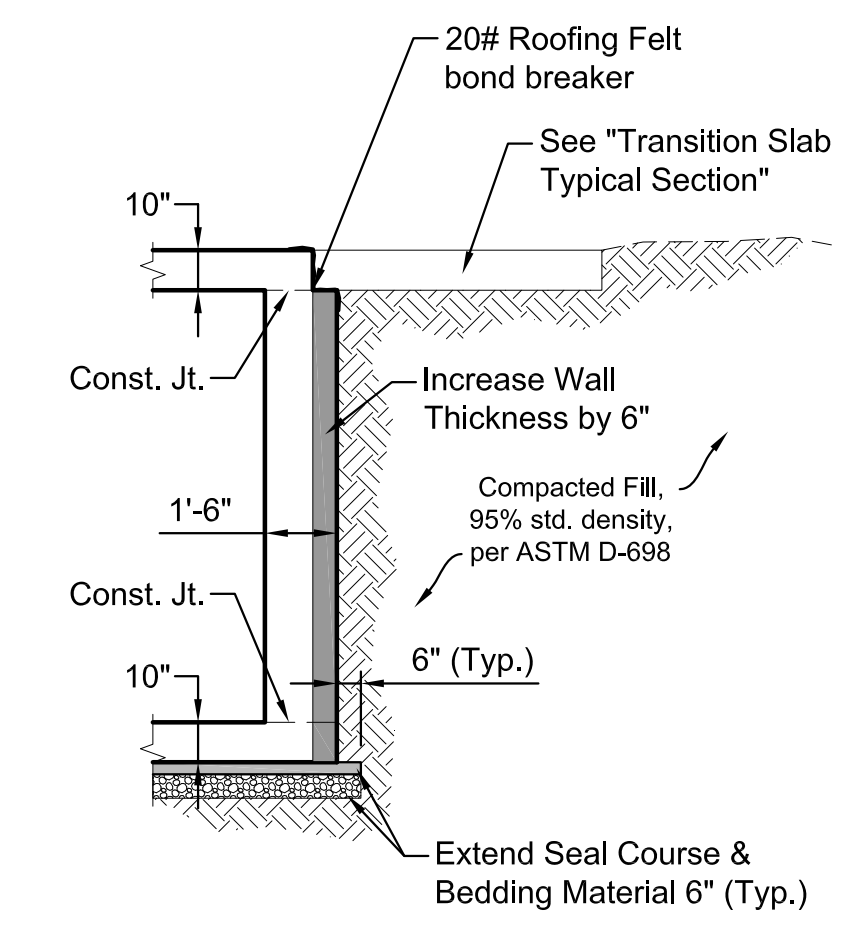
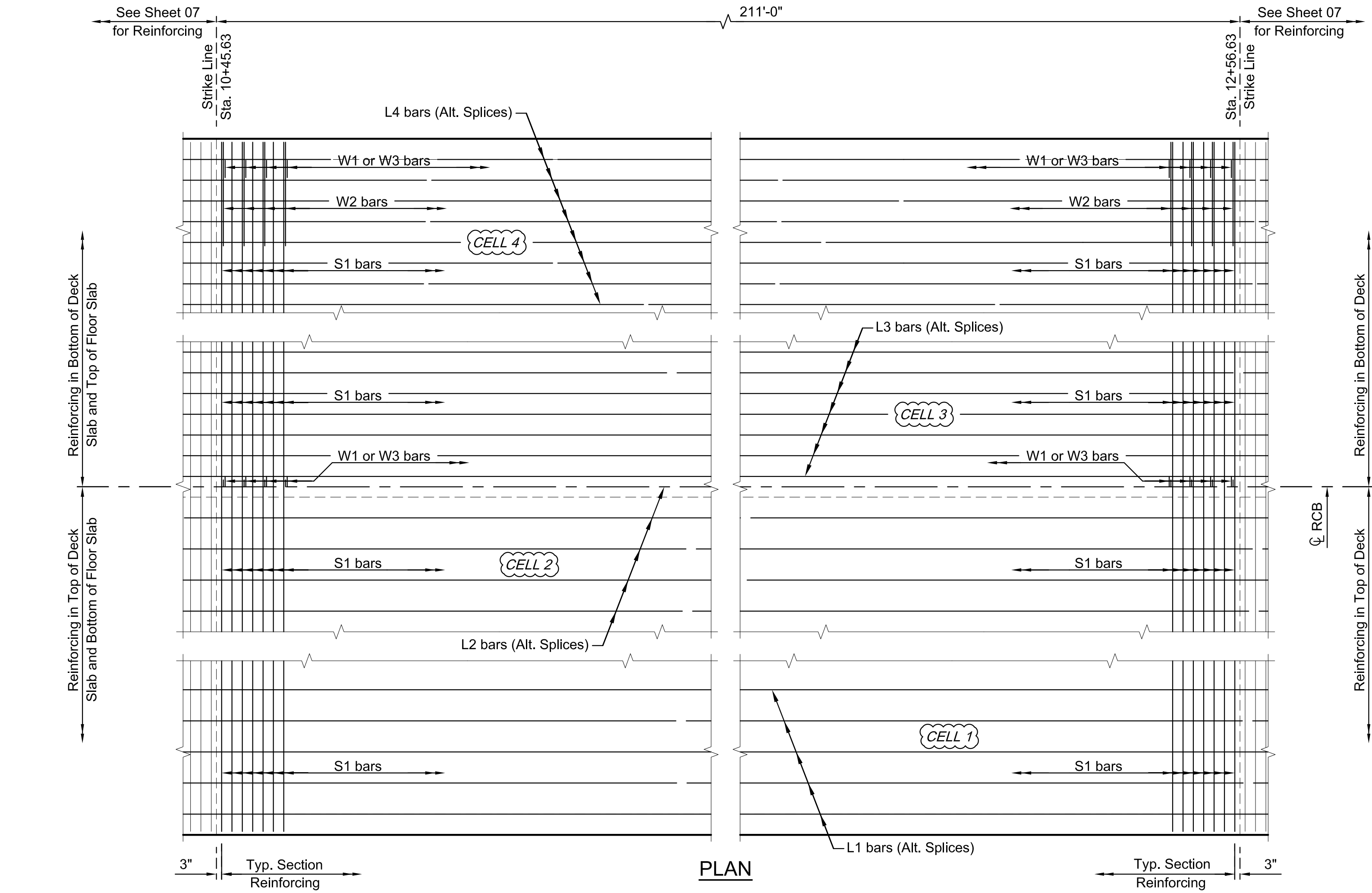
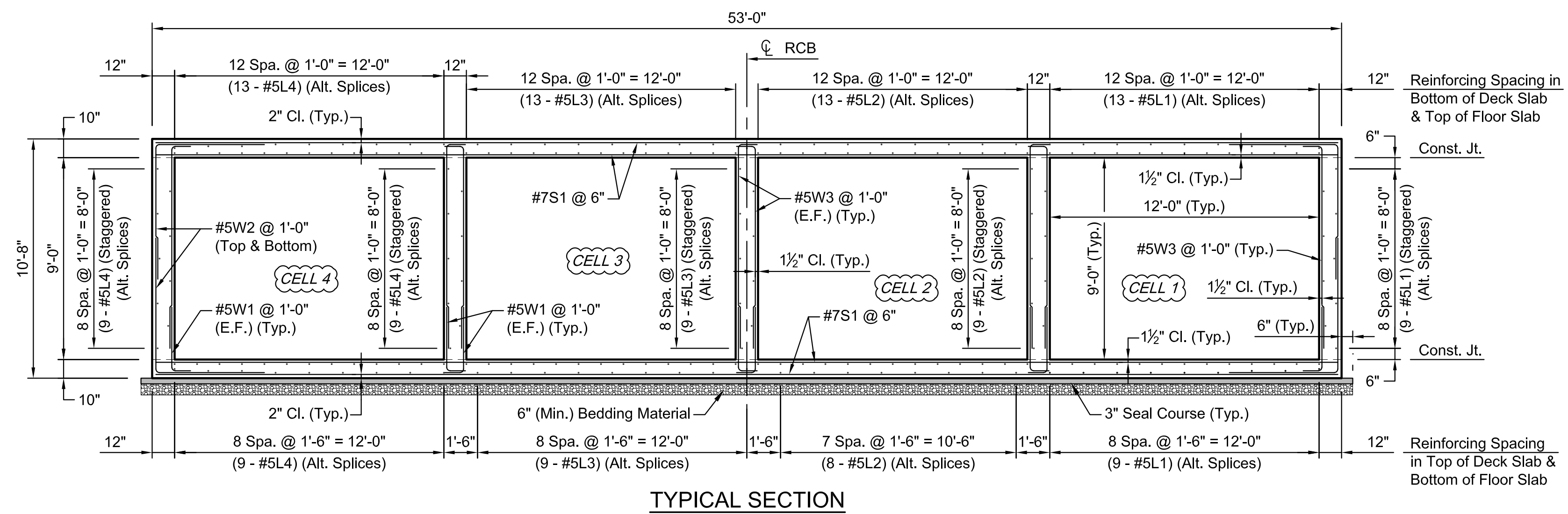
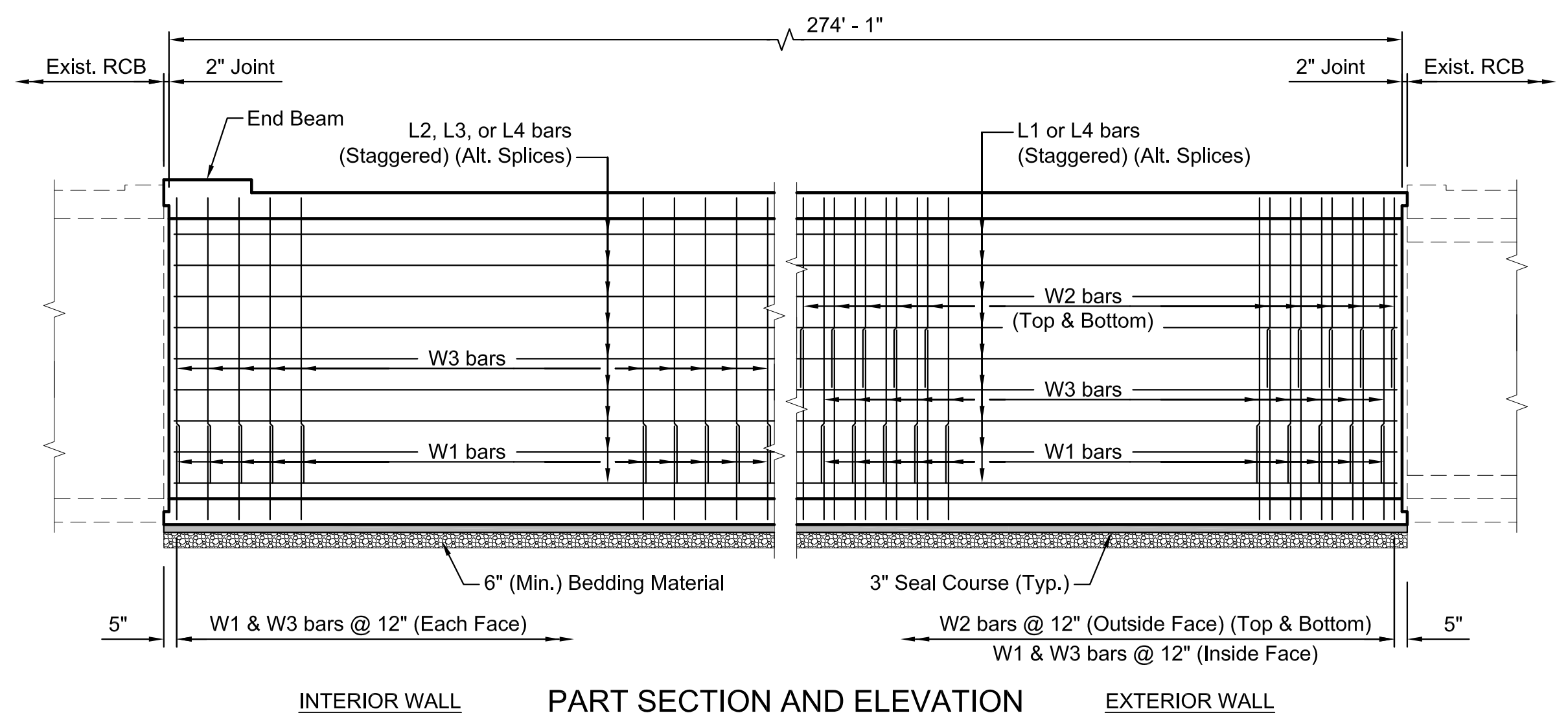
ALIGNMENT POINTS

Point #	Northing	Easting	Desc.
100	1677959.20	1665612.26	P.I.
101	1678173.62	1665687.93	P.I.

**PLAN RCB
 PROFILE RCB**



WCTN8303VOL7PROJECT2015101010221_CIT_329R_HARRY AND OLIVER_15241_CAD/SHTS/05_CIVIL/SWS/1532/0003.DWG
 PLOTTED: Tuesday, July 12, 2016 @ 10:46AM



NOTE:
Reinforcing Steel required for the construction of Transition Slabs is not detailed or shown in the "Bill of Reinforcing Steel". Refer to "Minimum Splice Length" table on sheet 08. A quantity of 7,880 lbs. has been included in the Summary of Quantities for this purpose.

- GENERAL NOTES**
- DESIGN SPECIFICATION:** AASHTO LRFD Bridge Design Specifications, Seventh Edition, 2014 with latest Interims.
- DESIGN LOADING:** HL-93
- UNIT STRESSES:** Concrete (Grade 4.0) $f_c = 4$ k.s.i.
Reinforcing Steel (Grade 60) $f_y = 60$ k.s.i.
- BEDDING MATERIAL:** Bedding Material is required beneath the box in accordance with the dimensions shown in the details. Bedding Material shall consist of a 6" (Min.) thickness of crushed rock conforming to ASTM C-33, Gradation No. 67. The aggregate shall meet the requirements for Portland Cement Concrete Pavement Course Aggregate, Section 406.2 of the City of Wichita Standard Specifications.
- SEAL COURSE:** The Seal Course shall be a three (3) inch concrete slab for placing the RCB Floor Slab. The Seal Course shall be unreinforced Concrete (Commercial Grade) per KDOT Specifications Section 401.
- CONCRETE:** Grade 4.0 Concrete shall be used throughout. Bevel all exposed edges with a 3/4 inch triangular moulding.
- REINFORCING:** All reinforcing shall conform to the requirements of ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar, unless otherwise noted.
- STRIKE LINE:** Construct the portion between the existing box culvert and the Strike Line level, at each end of the proposed RCB.
- EXPANSION JOINTS:** Joints shall be filled with a Self-Expanding Cork material per AASHTO M 153, Type III.
- CONCRETE PLACING SEQUENCE:** See sheet 08 for Casting Sequence and applicable notes.
- CONSTRUCTION LOADS:** Only foot traffic is permitted on the new concrete Deck Slab or Floor Slab during the curing period. Keep any exposed concrete wet during the curing period. See KDOT Specifications Section 710, Tables 710-1 & 710-2 for additional information.
- QUANTITIES:** The quantities shown in the Summary are provided for information only.
- PRECAST ALTERNATE:** The Contractor may elect to place Precast RCB sections, rather than using conventional Cast-In-Place construction methods. If this option is selected, the Contractor may only place precast sections between plan stations for Strike Lines. It is the Contractor's responsibility to provide a precast design, conforming to ASTM C1577 (latest edition), for the Engineer's review prior to construction. The alternate plans must accomplish original plan dimensions, and bear the seal and signature of a Professional Engineer licensed in the State of Kansas. Any additional costs associated with the alternate plan shall be at the Contractor's expense.

SUMMARY OF QUANTITIES		
Concrete (Grade 4.0) (AE)	1,506.3	C.Y.
Reinforcing Steel (Gr. 60)	367,560	Lbs.
Bedding Material	278.6	C.Y.
Concrete for Seal Course	139.3	C.Y.

The quantities above are provided For Information Only.



STORM WATER SEWER PLAN FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

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4 - 12' X 9' RCB BARREL DETAILS

PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
KJS	DMU	KJS
NO.	REVISION	DATE
1	ISSUED FOR BID	7/12/16

SHEET NO.
06 OF 26

CASTING SEQUENCE NOTES:

- The Proposed RCB shall be cast in the sequence as outlined below. There shall be a minimum of seven (7) days between each casting. The concrete plant shall have a minimum capacity of 45 C.Y. per hour, with a total capacity of 520 C.Y. at a single casting.

- The Contractor may submit an alternate casting sequence for the Engineer's review at the Pre-Construction Conference.

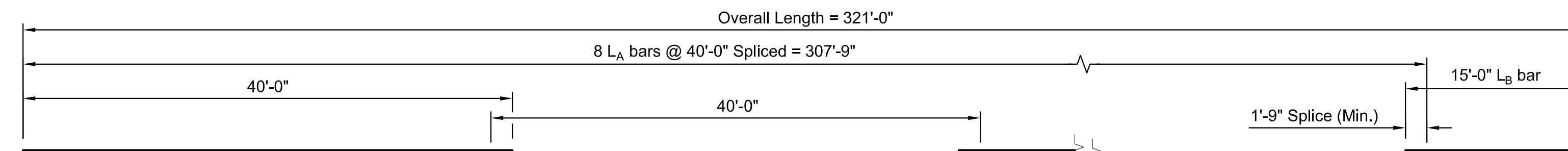
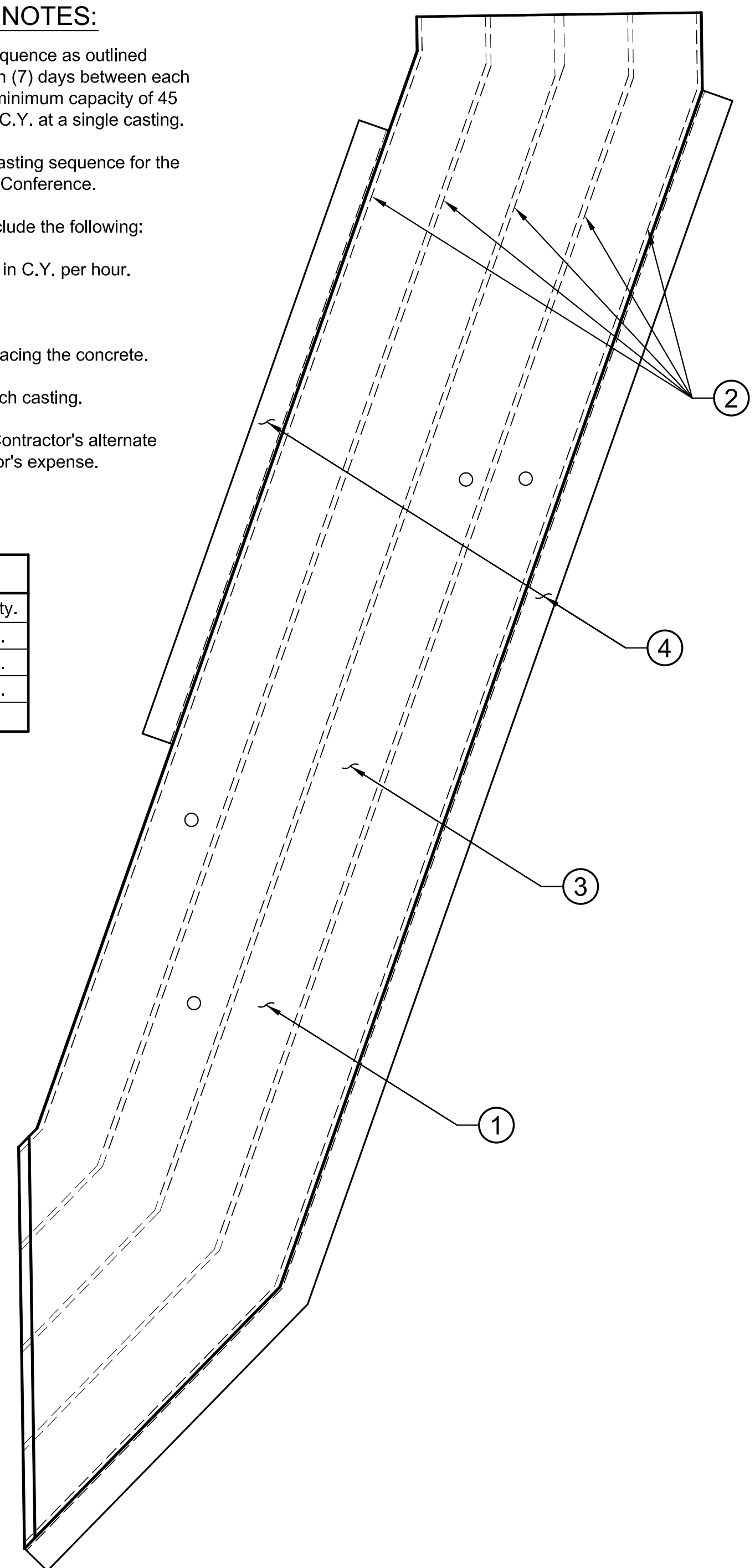
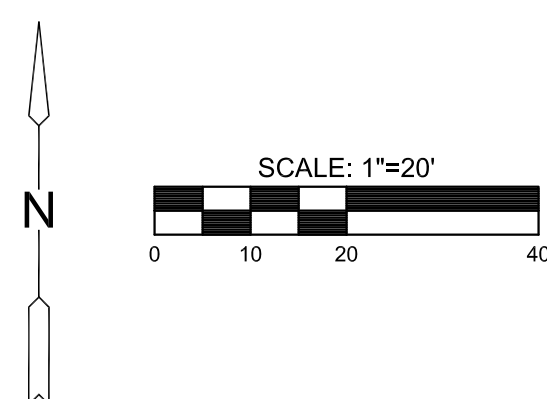
The alternate casting sequence should include the following:

- Proposed rate of concrete placement in C.Y. per hour.
- The mix plant capacity.
- Proposed placement direction.
- Alternate construction joint locations.
- A description of equipment used in placing the concrete.
- Proposed admixtures.
- The quantity of concrete placed in each casting.

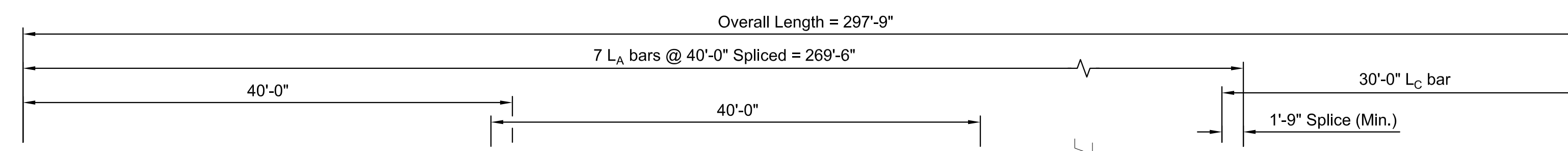
- Any additional costs associated with the Contractor's alternate casting sequence shall be at the Contractor's expense.

CASTING SEQUENCE

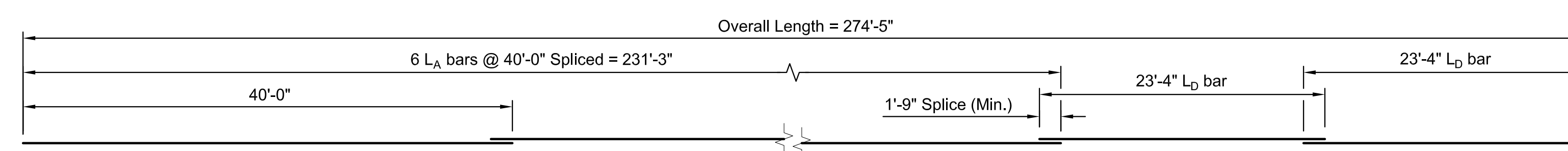
Casting	Description	Concrete Qty.
1	Floor Slab	455.5 C.Y.
2	Walls	519.8 C.Y.
3	Deck Slab	451.2 C.Y.
4	Transition Slabs	79.8 C.Y.



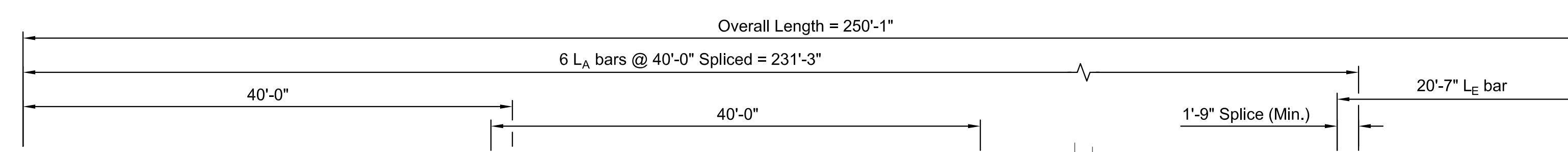
L1 Series Bar
(Each L1 Series bar includes 8 - L_A bars & 1 - L_B bar)



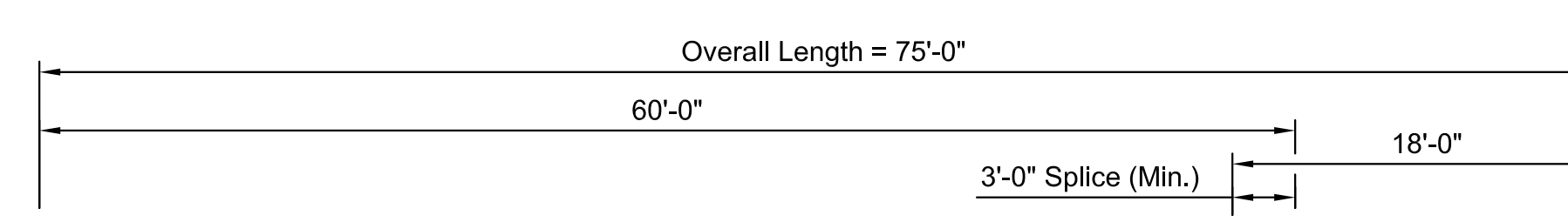
L2 Series Bar
(Each L2 Series bar includes 7 - L_A bars & 1 - L_C bar)



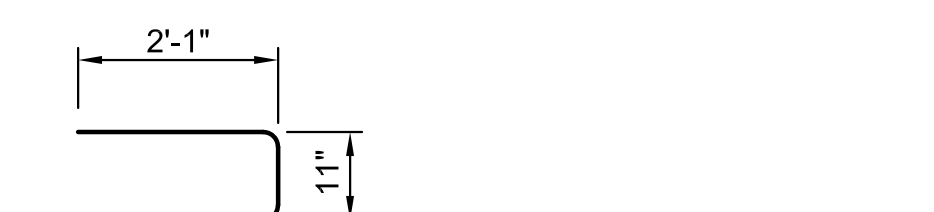
L3 Series Bar
(Each L3 Series bar includes 6 - L_A bars & 2 - L_D bars)



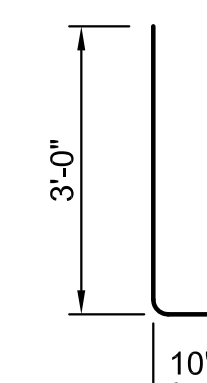
L4 Series Bar
(Each L4 Series bar includes 6 - L_A bars & 1 - L_E bar)



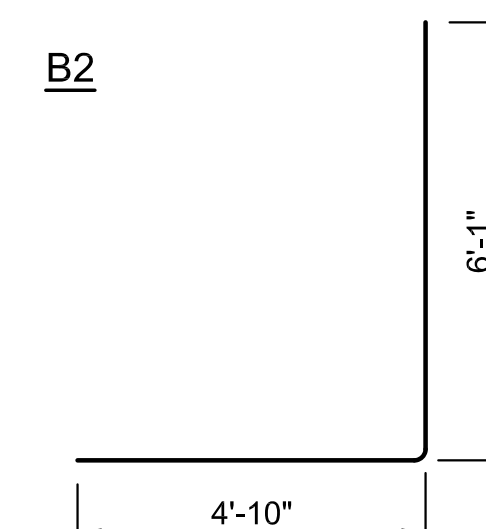
B1 Series Bar



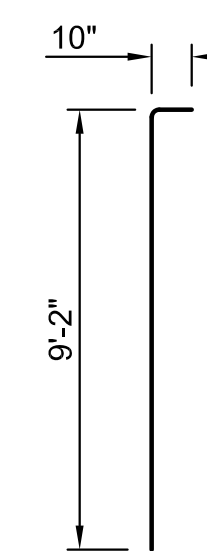
B2



W1



W2



W3

REINFORCING STEEL NOTES:

- Dimensions provided for L Series bars are the maximum required length for any given range to reinforce the structure per plan dimensions. The Contractor shall increase splice lengths uniformly as required to achieve length of need.
- L Series bars shall be field bent as required to achieve proper spacing on RCB plan geometry.

BAR BENDING DIAGRAMS

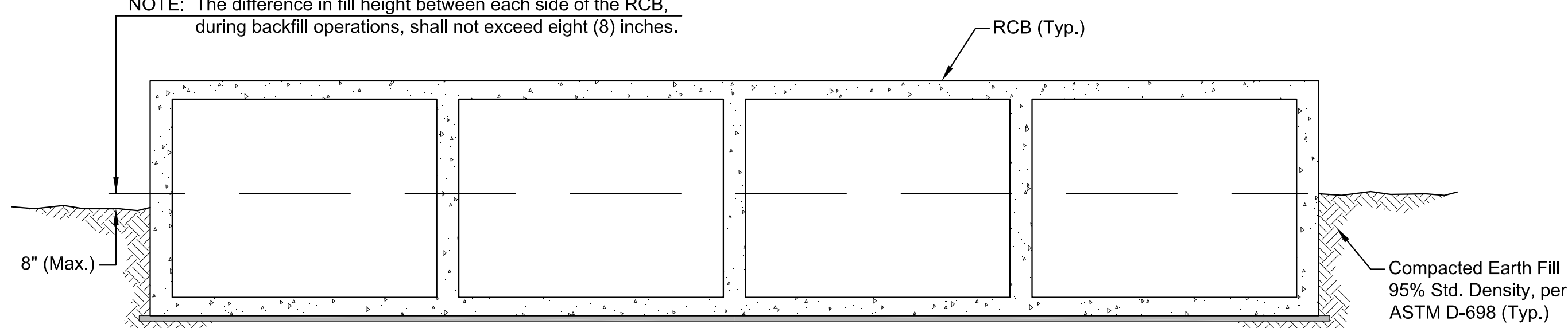
NOTE: All dimensions are out to out of bars.

BILL OF REINFORCING STEEL (Grade 60)

Bar	S1	S2	S4	S5	△B1	△B2	△L1	△L2	△L3	△L4	△W1	△W2	△W3
No.	1792	290	184	92	8	108	53	51	53	62	2196	1098	2196
Size	#7	#7	#7	#7	#8	#5	#5	#5	#5	#5	#5	#5	#5
Length	52'-8"	53'-2"	30'-0"	44'-0"	78'-0"	5'-1"	335'-0"	310'-0"	286'-8"	260'-7"	3'-10"	10'-11"	10'-0"

Minimum Splice Length	
#5	1'-9"
#7	2'-4"
#8	3'-0"

NOTE: The difference in fill height between each side of the RCB, during backfill operations, shall not exceed eight (8) inches.



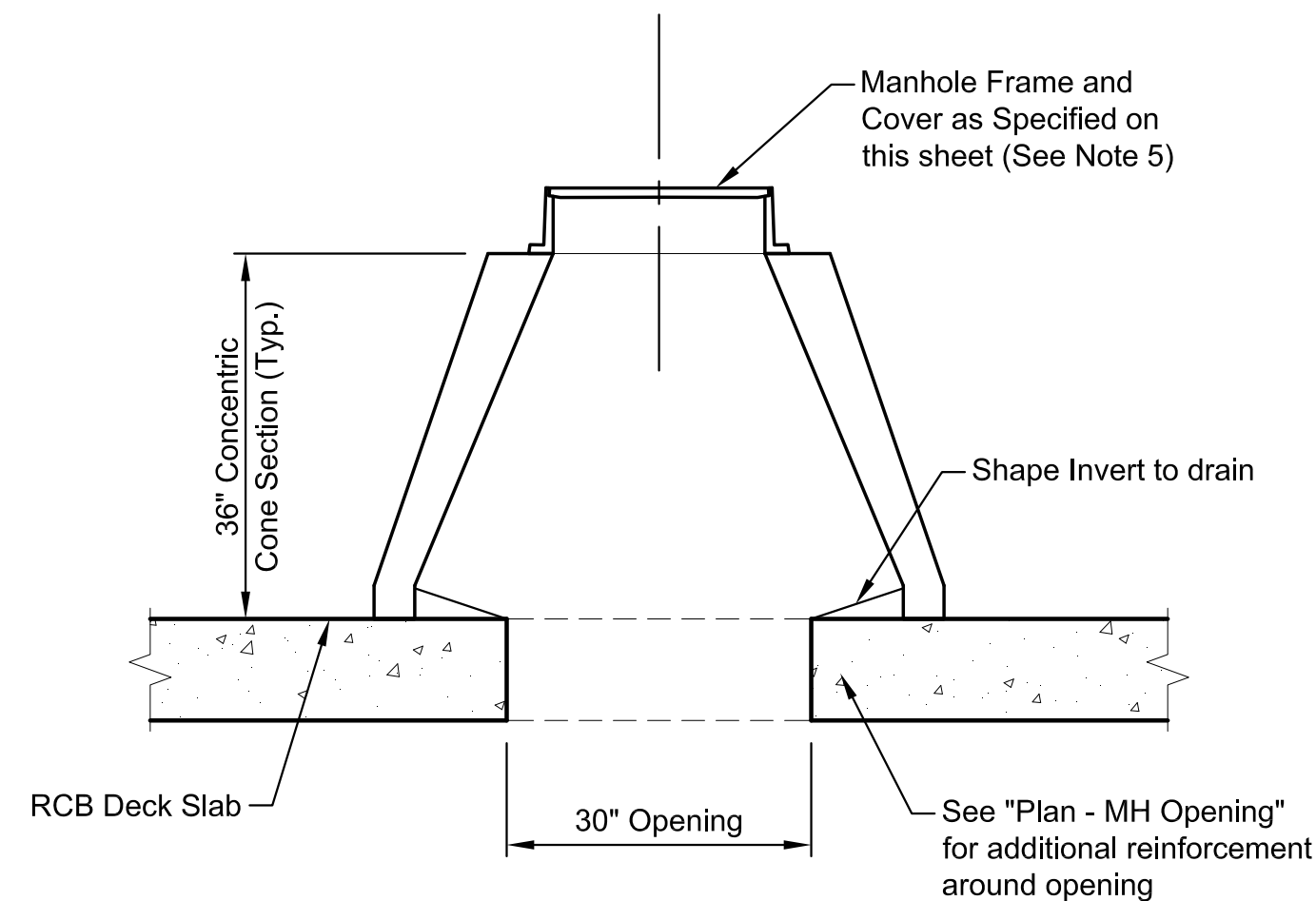
BACKFILL OPERATIONS

WICTAS03\WOL\PROJECTS\2015\151010321_CIT_329R_HARRY AND OLIVER_1521 CAD\SHR505\CIVIL\DWG\15321\DD05.DWG

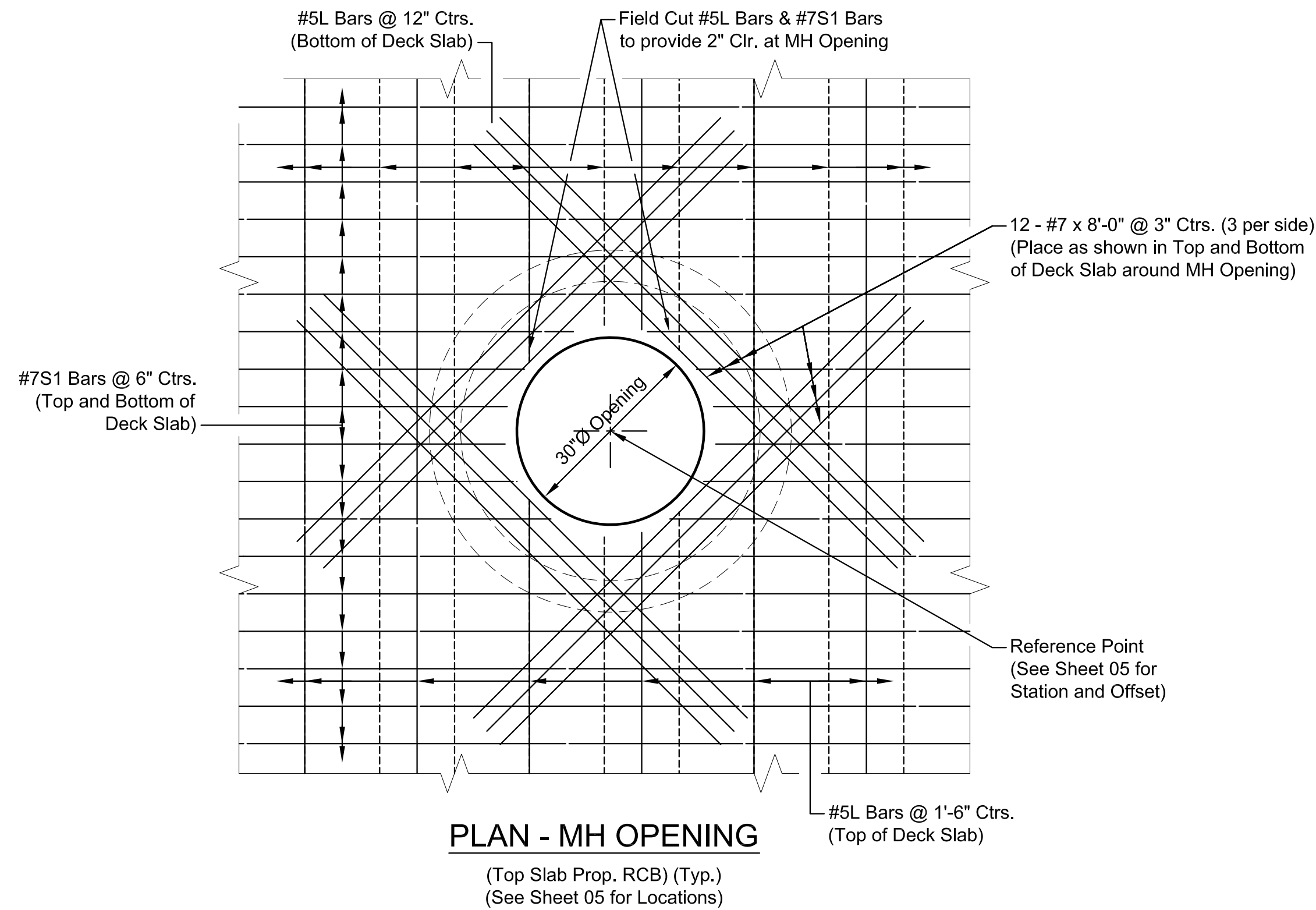
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GENERAL NOTES

1. ALL PRE-CAST CONCRETE MANHOLE STACKS SHALL CONFORM TO THE LATEST REVISION OF ASTM C-478, CITY OF WICHITA'S STANDARD SPECIFICATIONS, AND THE GENERAL NOTES ON THE STANDARD PRE-CAST MANHOLE DETAIL.
2. CONCRETE USED FOR MANHOLE CONSTRUCTION SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT.
3. 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 THROUGH MANHOLE WALLS WILL NOT BE ACCEPTED.
4. ALL INVERTS SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE.
5. THE CONTRACTOR SHALL WRAP THE FRAME AND COVER IN PLASTIC SHEETING (10 MIL MIN. THICKNESS) AND SET FRAME AND COVER ON CONE SECTION. DO NOT ADD ADJUSTMENT RINGS OR GROUT THE FRAME IN PLACE AT THIS TIME. FINAL TOP GRADE SHALL BE SET BY OWNER'S PAVING CONTRACTOR.

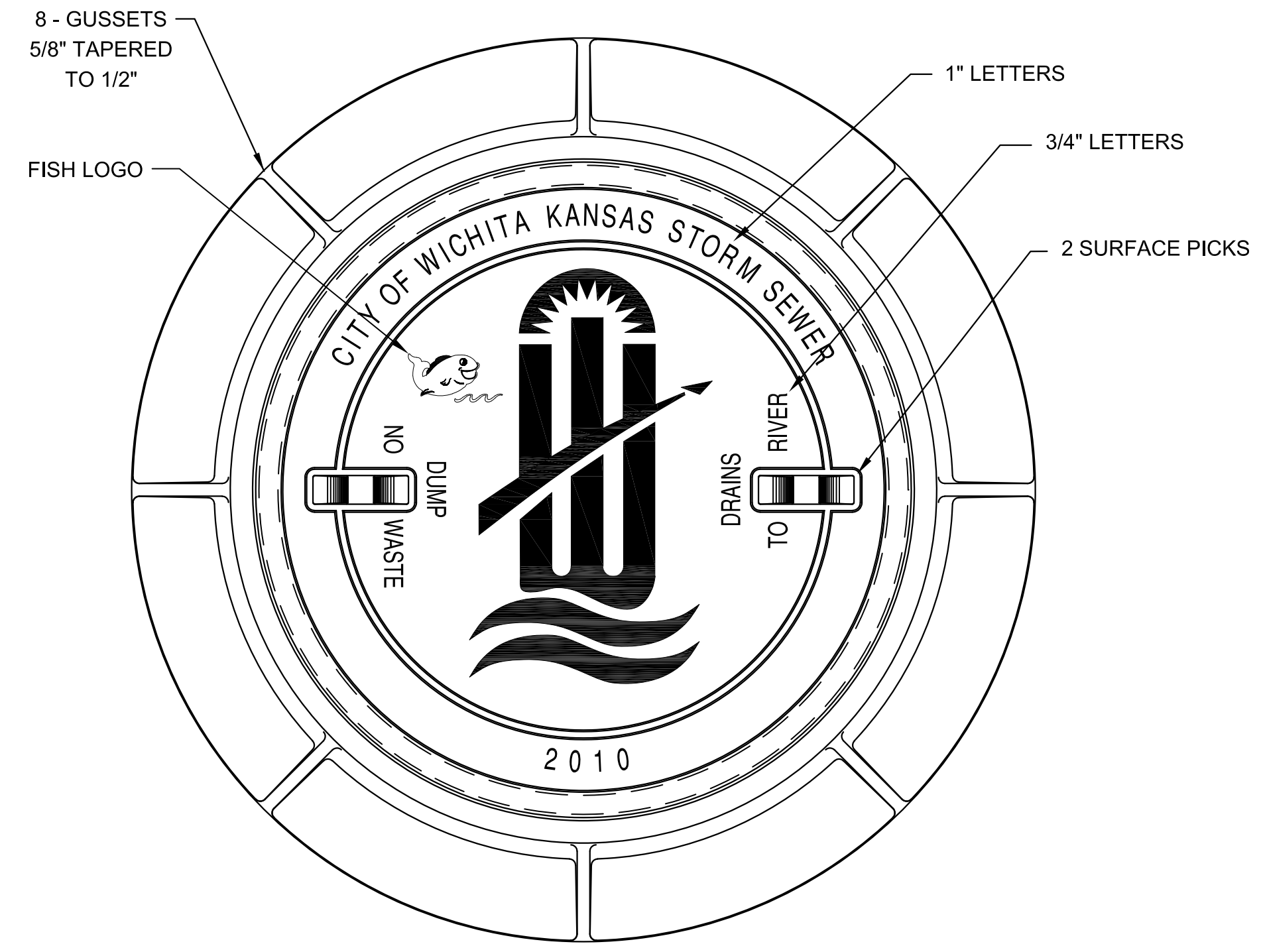


MANHOLE STACK DETAIL (TYP.)



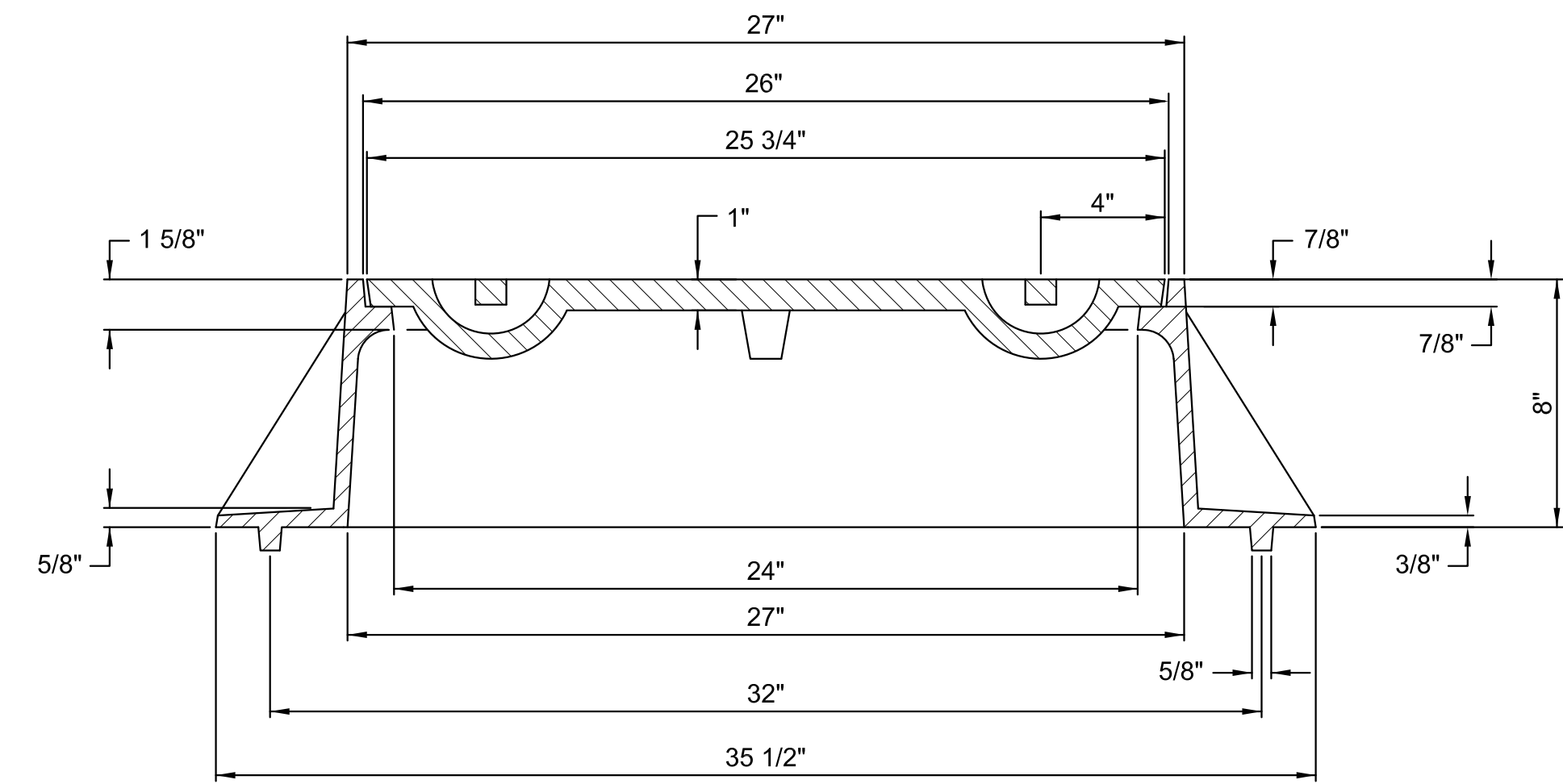
PLAN - MH OPENING
(Top Slab Prop. RCB) (Typ.)
(See Sheet 05 for Locations)

NOTE:
Reinforcing Steel required around MH Openings is not detailed or shown in the "Bill of Reinforcing Steel". A quantity of 1,570 lbs. has been included in the Summary of Quantities on sheet 06 for this purpose.



MANHOLE FRAME
DEETER #1261 OR EJIW #1936-Z1

- NOTE:**
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.
 2. COVER TO BE DEETER #1261 OR EJIW #1936A.



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MANHOLE STACK DETAILS

PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	NONE	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0372PPD	2015	10	26

GENERAL NOTES

(All items on this sheet are subsidiary)

PRECAST BOX CULVERTS: If precast boxes are specified, construct them at the locations shown in the plans and according to the requirement shown on this sheet. When approved by the Engineer, precast box culverts may be used in lieu of cast-in-place box culverts. If the Contractor chooses the precast option, use the cast-in-place quantities as the cost basis. This cost includes all labor equipment, material and incidentals necessary to complete the installation.

Unless otherwise approved by the Engineer, use cast-in-place collars at horizontal and vertical changes in RCB alignment. Use cast-in-place end sections and wingwalls except as noted on this sheet. The Engineer may require cast-in-place sections at junctions of drainage structures.

Cast-in-place concrete work shall conform to the requirements of the KDOT Specifications and KDOT's "Guidelines for Structural Design and Detail of Reinforced Concrete Box Culverts". Use Grade 4.0 concrete and Grade 60 reinforcing steel conforming to ASTM A615 for cast-in-place construction.

Cast-in-place box sections shall have member thicknesses and reinforcement not less than the RCB Standard from the original design. Connections between the cast-in-place and precast members shall be drilled and grouted according to details shown on this sheet. When the wall thicknesses differ between the cast-in-place and precast, transition at a 4:1 without reducing the box opening size. See KDOT Specifications for further requirements.

SPECIFICATIONS: Single-cell Precast Concrete Box Culverts shall conform to the requirements of the following specifications except as noted in the KDOT Specifications. Design multiple-cell precast boxes in accordance with the criteria used to develop the single-cell precast boxes. (See Appendix of ASTM Specification C 1577-08, Table 2 and the latest AASHTO LRFD Specifications.)

DISTRIBUTION SLAB: Fill heights less than 2 feet require a distribution slab. Construct the distribution slab over the width of the exterior walls of the barrel to the outside edges of the roadway shoulders. Terminate the slab a minimum of 2 feet from the edge of a barrel segment.

If the fill height is less than or equal to one foot then:

A distribution slab shall be a minimum of 6 inches thick, reinforced with #4 bars spaced at 18 inches, placed perpendicular to centerline of the box and with #5 bars spaced at 12 inches, placed parallel to centerline of the box. Substitution of an equivalent welded wire fabric is acceptable. Place a min. of 3" of granular material between the box and slab.

If the fill height is greater than one foot then:
(Use one of the following options)

- 1) Use the cast-in-place criteria above.
- 2) Use precast distribution slabs with same criteria as the cast-in-place above. Center the joints in slabs over the box segments. Provide a minimum of 3 inches of granular material between the box and the slabs.
- 3) Reinforced concrete pavement (min. 6 inches thick) will meet the requirements of a distribution slab. Reinforce as noted above. Provide a minimum of 3 inches of granular material between the concrete pavement and the precast boxes.
- 4) Asphalt pavement (min. 6 inches thick) will meet the requirements of a distribution slab. Provide a minimum of 6 inches of granular material between the asphalt and the precast boxes. Also provide geogrid with 4" of cover to the asphalt within the granular material.

A special design will be required when the above options are not geometrically possible.

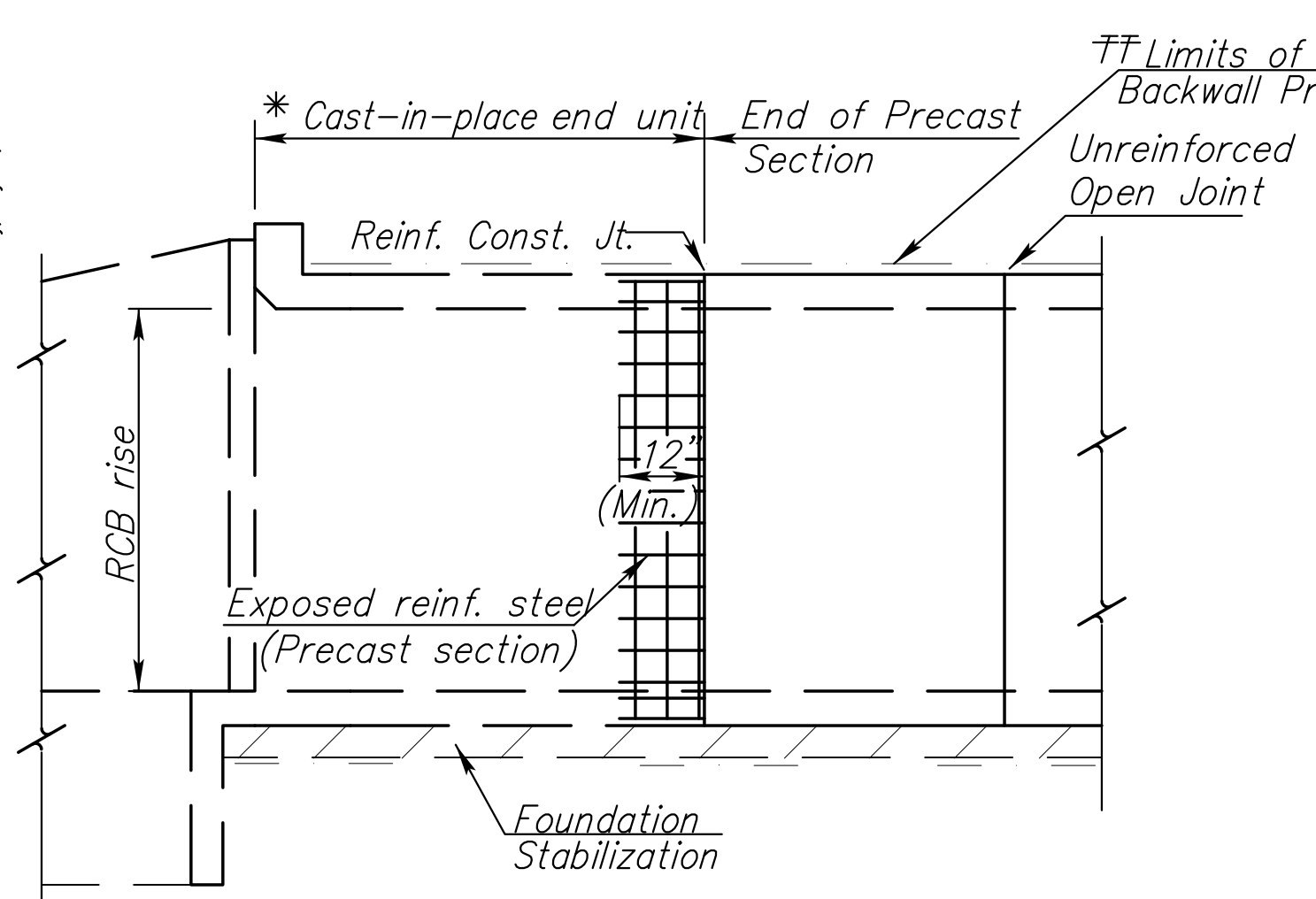
5	08-19-13	Edit Geogrid Placement	JPJ	TLF
4	07-28-11	Added Bridge Backwall Protection	JPJ	KFH
3	03-10-10	Clarification of Extension	JPJ	KFH
2	12-03-09	Revised ASTM / Added Note	JPJ	LRR
1	4-07-09	Clarified Distribution Slab	RAM	KFH
NO.	DATE	REVISIONS	BY	APP'D

KANSAS DEPARTMENT OF TRANSPORTATION

PRECAST CONCRETE BOX CULVERT DETAILS

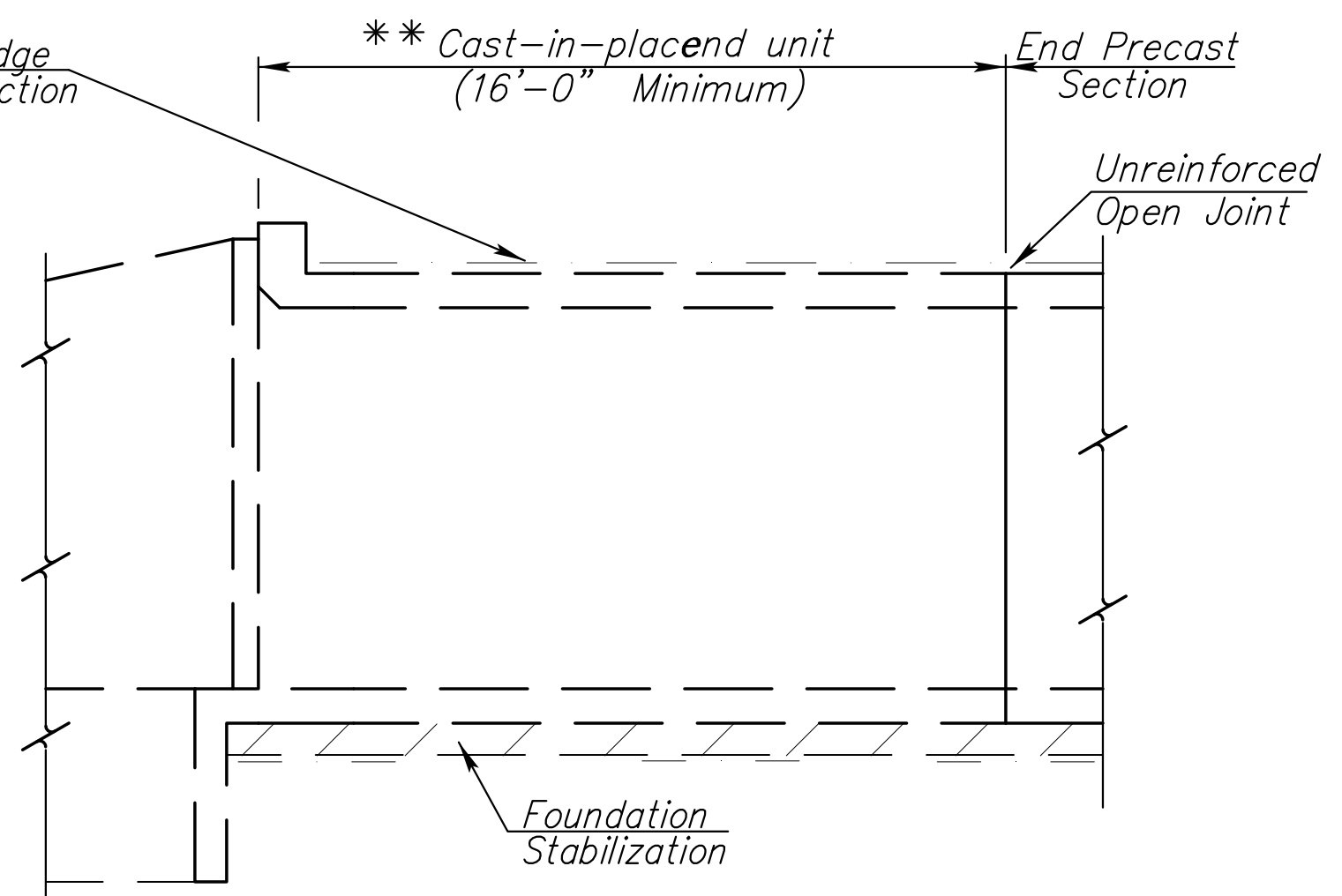
BR031	9-20-11	APP'D	KENNETH F. HURST
DESIGNED	DETAILED	PF QUANTITIES	CADD
DESIGN CK.	DETAIL CK.	RAM QUAN CK.	CADD CK.

PLOTTED: Tuesday, July 12, 2016 @ 10:54AM
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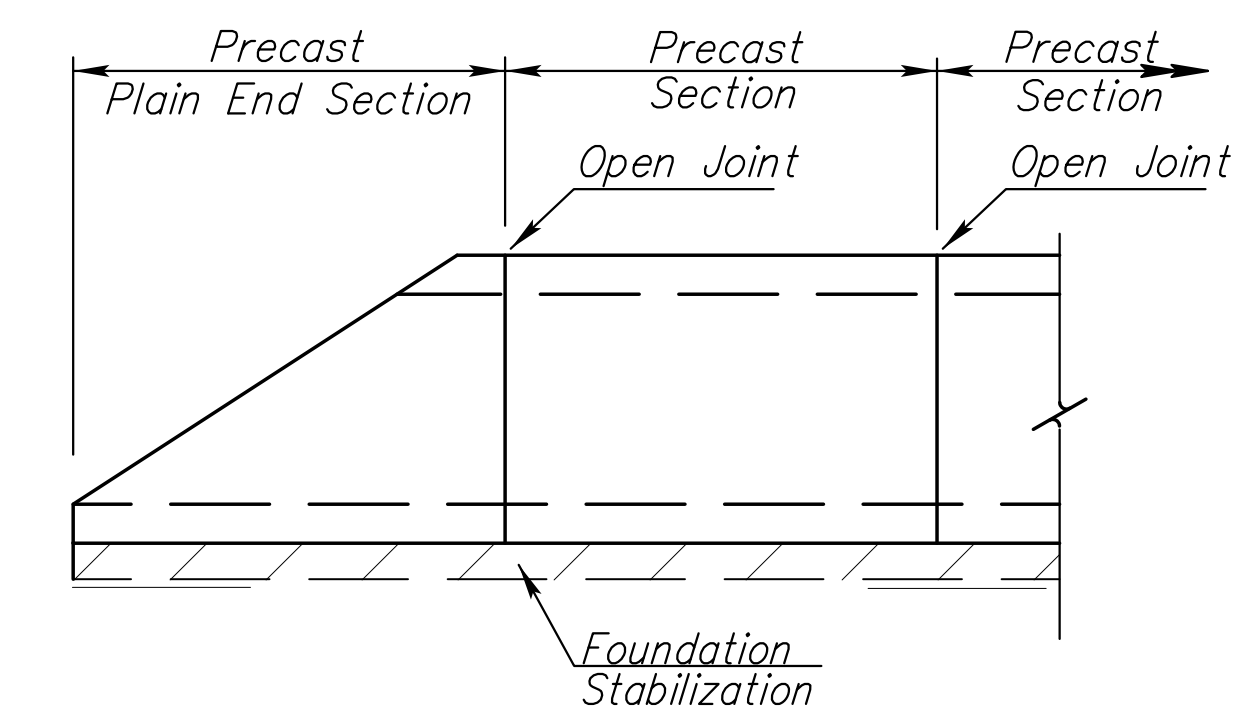
ELEVATION AT HEADWALL

* Minimum barrel length of cast-in-place end unit shall equal the RCB rise or 8'-0", whichever is less. This length can be used when the joint between the cast-in-place end unit and the precast section is reinforced as shown.



ELEVATION AT HEADWALL

** Minimum barrel length of cast-in-place end unit shall be 16'-0" when using an unreinforced open joint at the end of the precast section.



ELEVATION AT PRECAST END SECTION

(Precast End Sections are permitted where straight wings are shown in the plans or at the downstream end for single cell RCB with a rise of six feet or less.)

NOTE: See "Bridge Excavation" sheet, (Std. No. BR100), for excavation details and basis of payment.

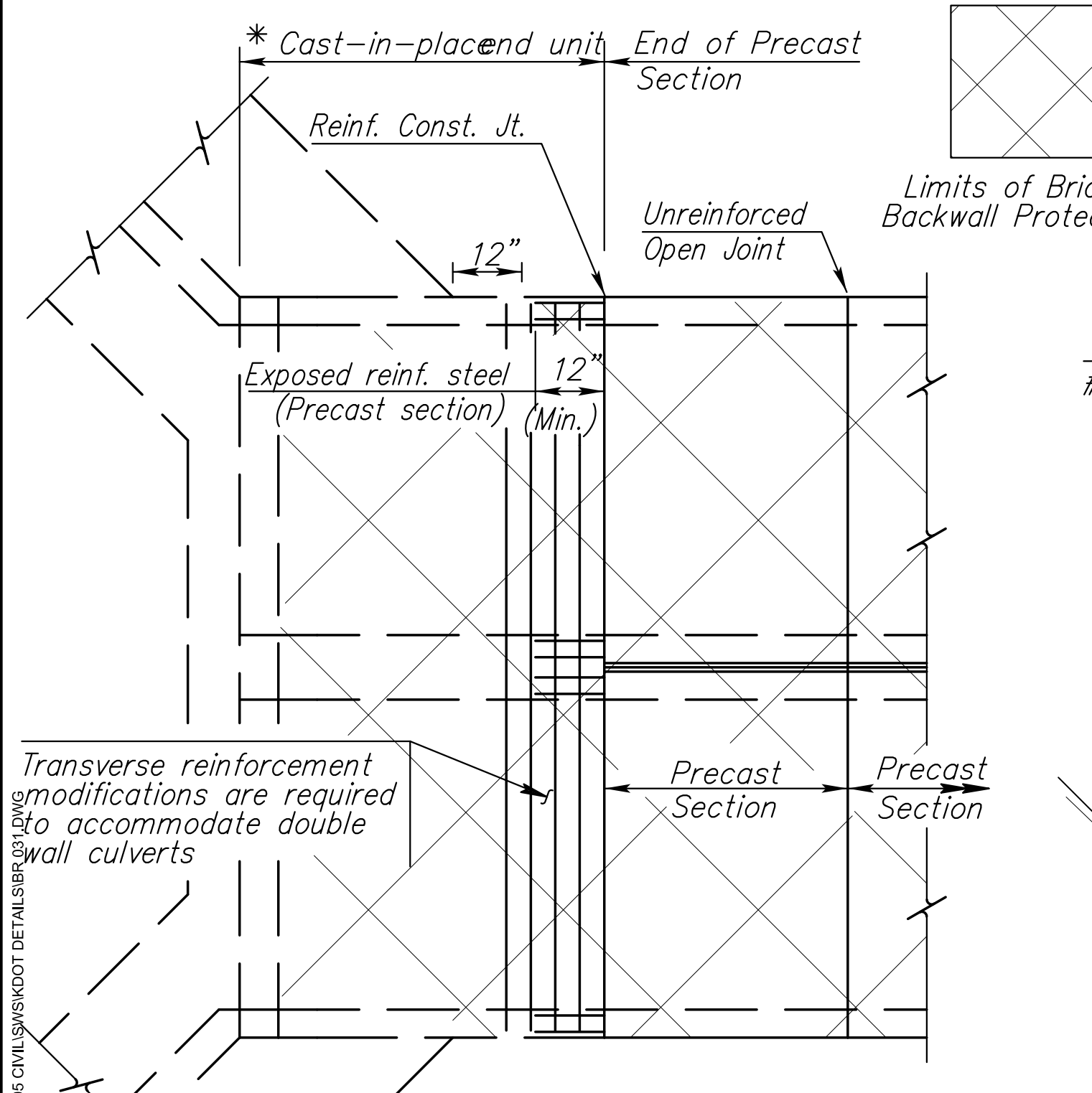
NOTE: Minimum length of precast section shall be 4'-0".

NOTE: A single cell box of equivalent area may be substituted for a double cell box with cell spans less than or equal to 6'-0". Any revision in the cell height from that shown on the plans will not be permitted, unless approved by the Engineer. Two single cell boxes may be substituted for a double cell box, when approved by the Engineer.

NOTE: See respective RCB Standard Sheets for cast-in-place details.

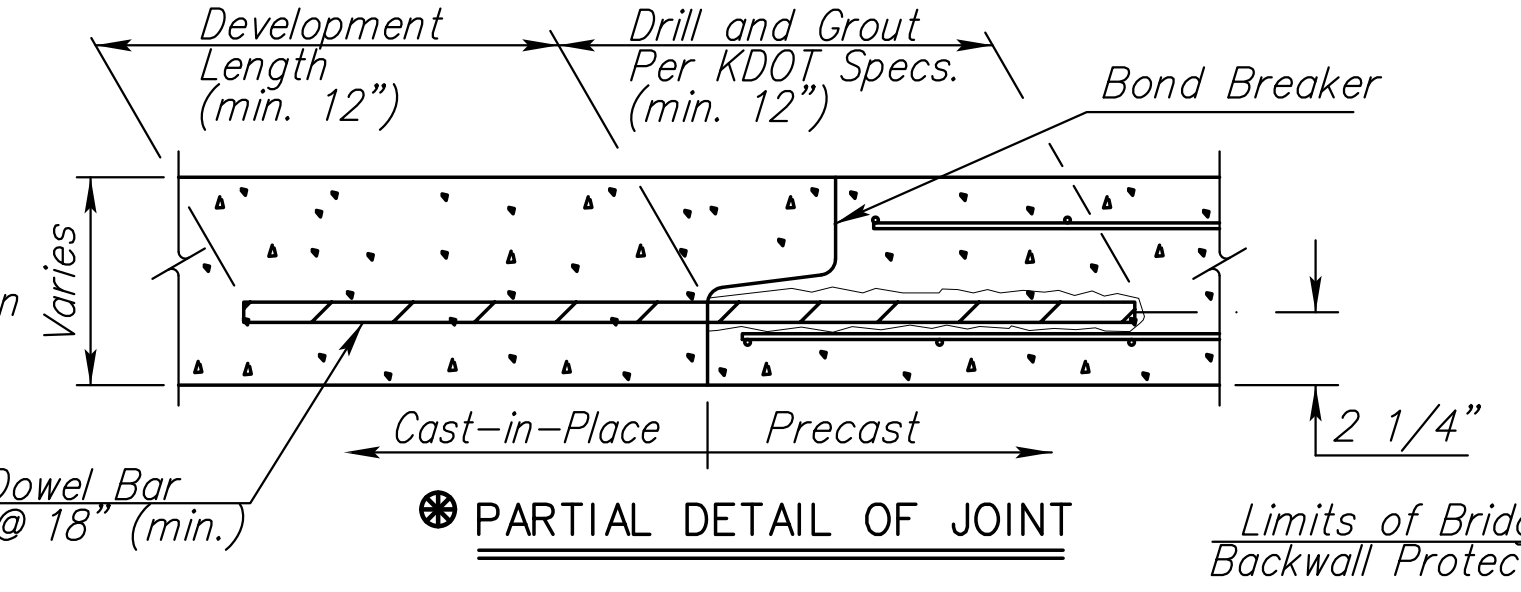
NOTE: When the fill height is 2'-0" or less "Bridge Backwall Protection" is required.

NOTE: Bridge Backwall Protection not shown for clarity

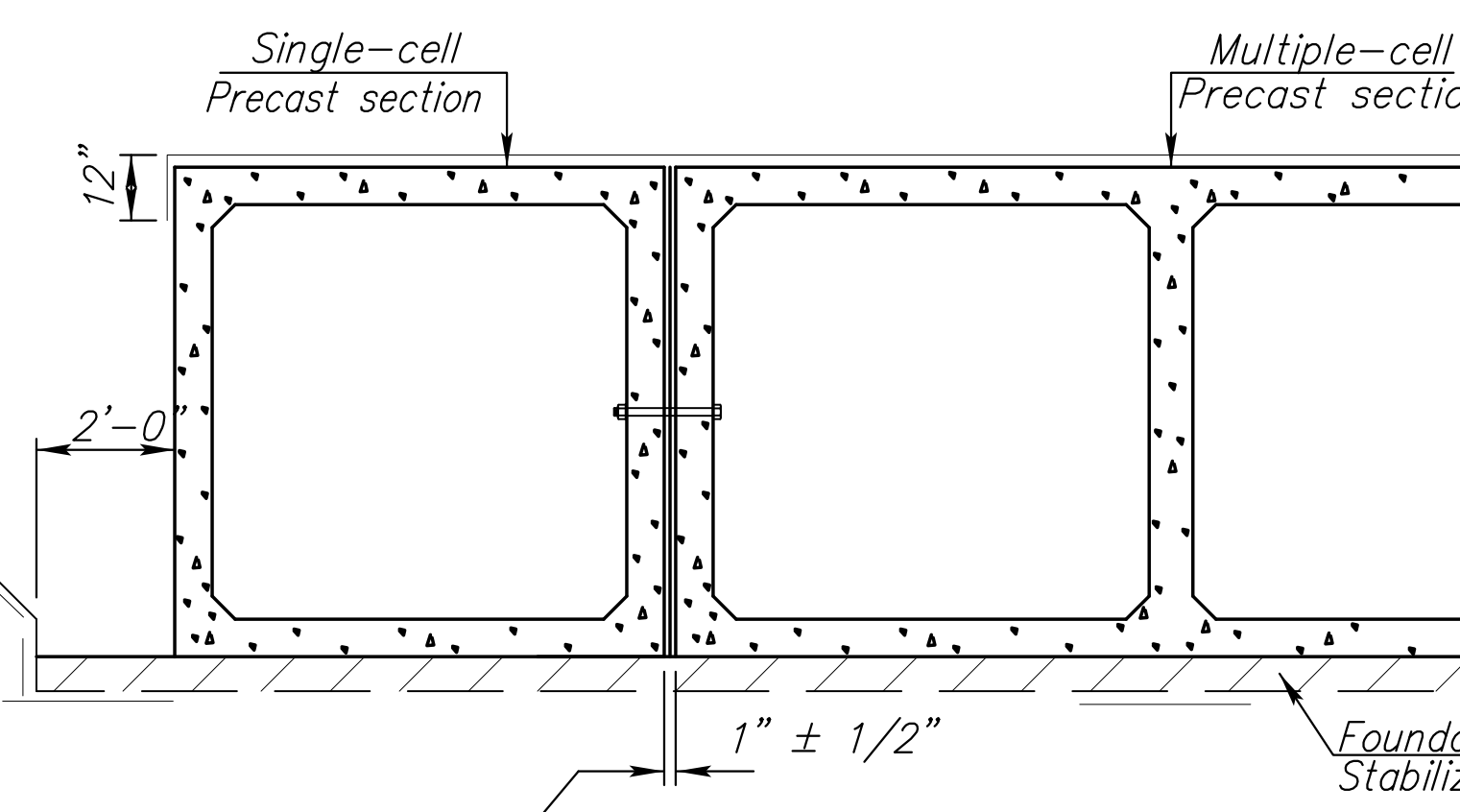


PLAN AT HEADWALL

(Double culvert installation shown)

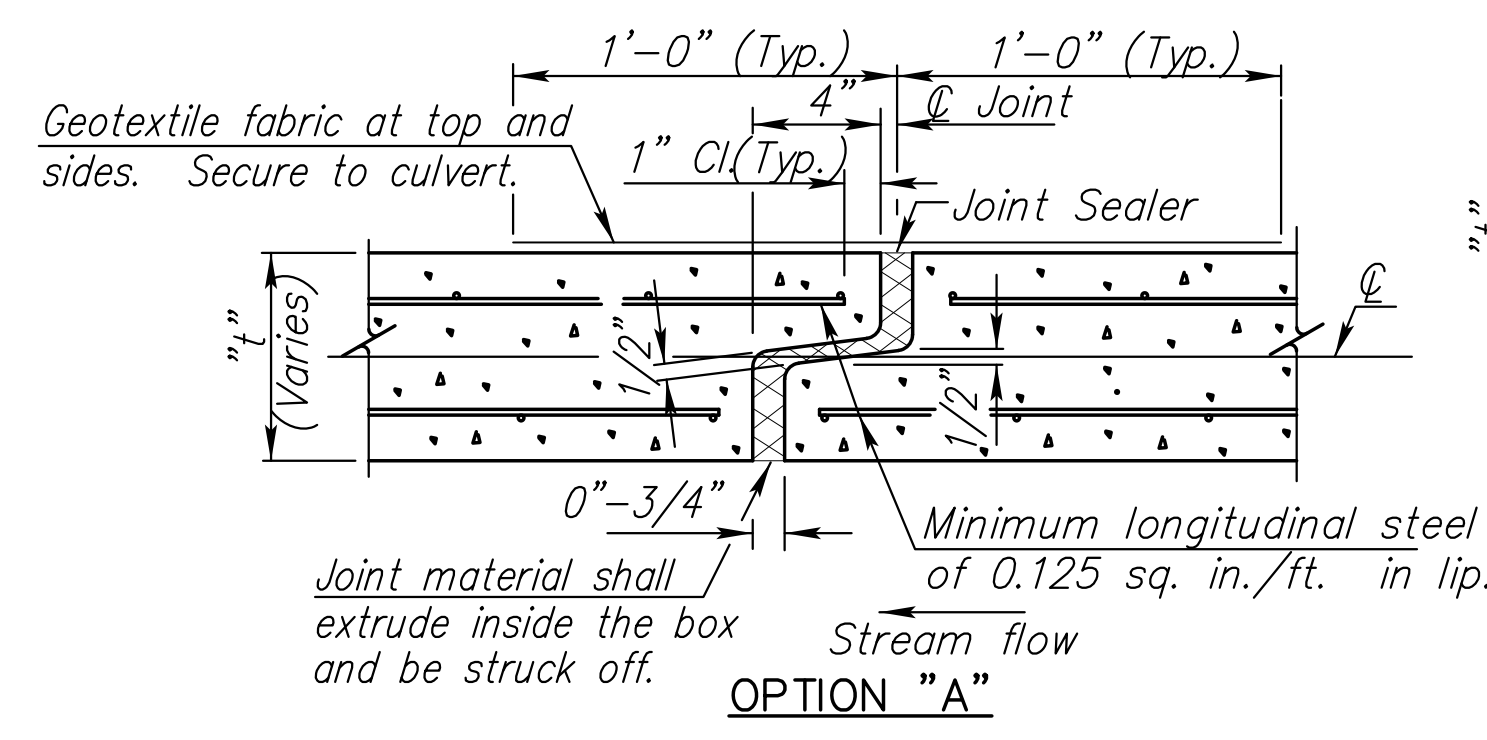


PARTIAL DETAIL OF JOINT

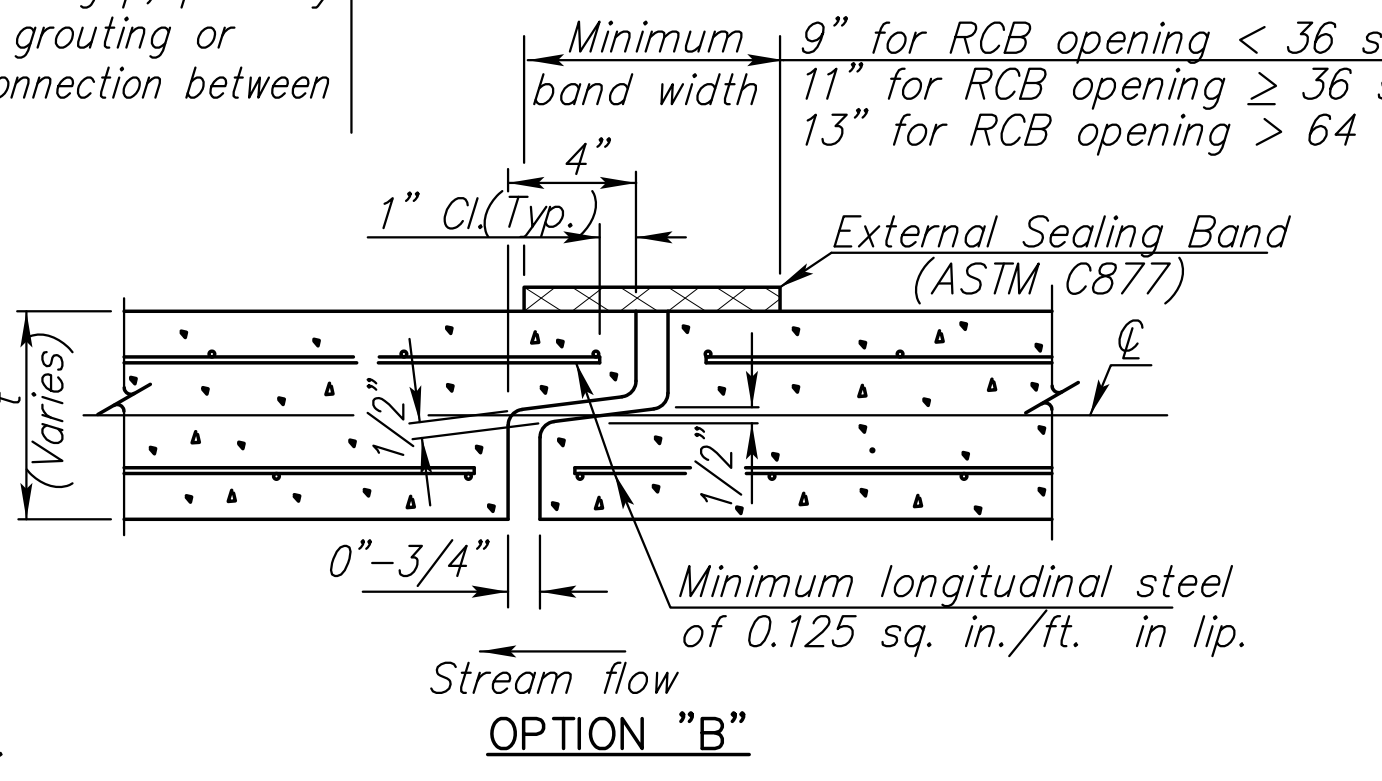


TYPICAL INSTALLATION DETAILS

Fill space between boxes with grout. (To maintain proper joint gap, partially backfill boxes prior to grouting or provide a mechanical connection between boxes.)

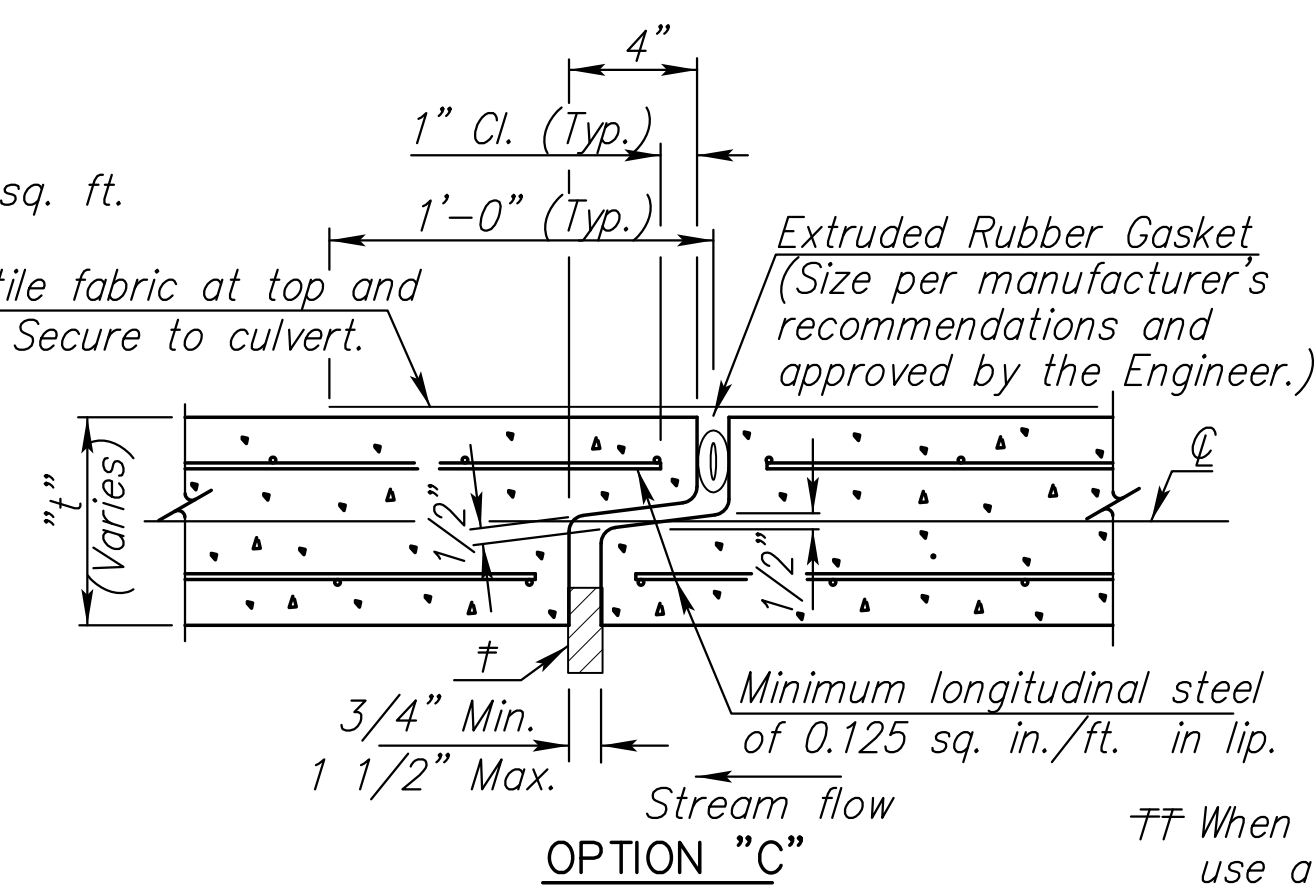


OPTION "A"



OPTION "B"

OPEN JOINT DETAIL



OPTION "C"

† Insert temporary, 3/4"-1" wide, hardwood wedges to prevent over-compressing gasket.

†† When shown on the shop details use a Bridge Backwall Protection conforming to Section 1700 of the KDOT Specifications.

GENERAL NOTES

Reference is made to the latest edition of the CRSI "Manual of Standard Practice" for recommended industry practices concerning reinforcing steel.

Use only the following types of bar supports:

- 1) Wire Bar Supports:
 - a) Epoxy coated reinforcing: Class 1 Protection
 - b) Non-epoxy coated reinforcing: Class 1, 2, or 3 Protection
- 2) Plastic Bar Supports
- 3) Supplementary bars

When securing epoxy coated reinforcement, use tie wires or metal clips that are epoxy or plastic coated.

Do not weld reinforcing steel to bar supports or to other reinforcing steel. Shop weld spacer frames for haunched slabs.

Tie bars at all intersections around the perimeter of each mat and at not less than 2'-0" centers or at every intersection, whichever is greater.

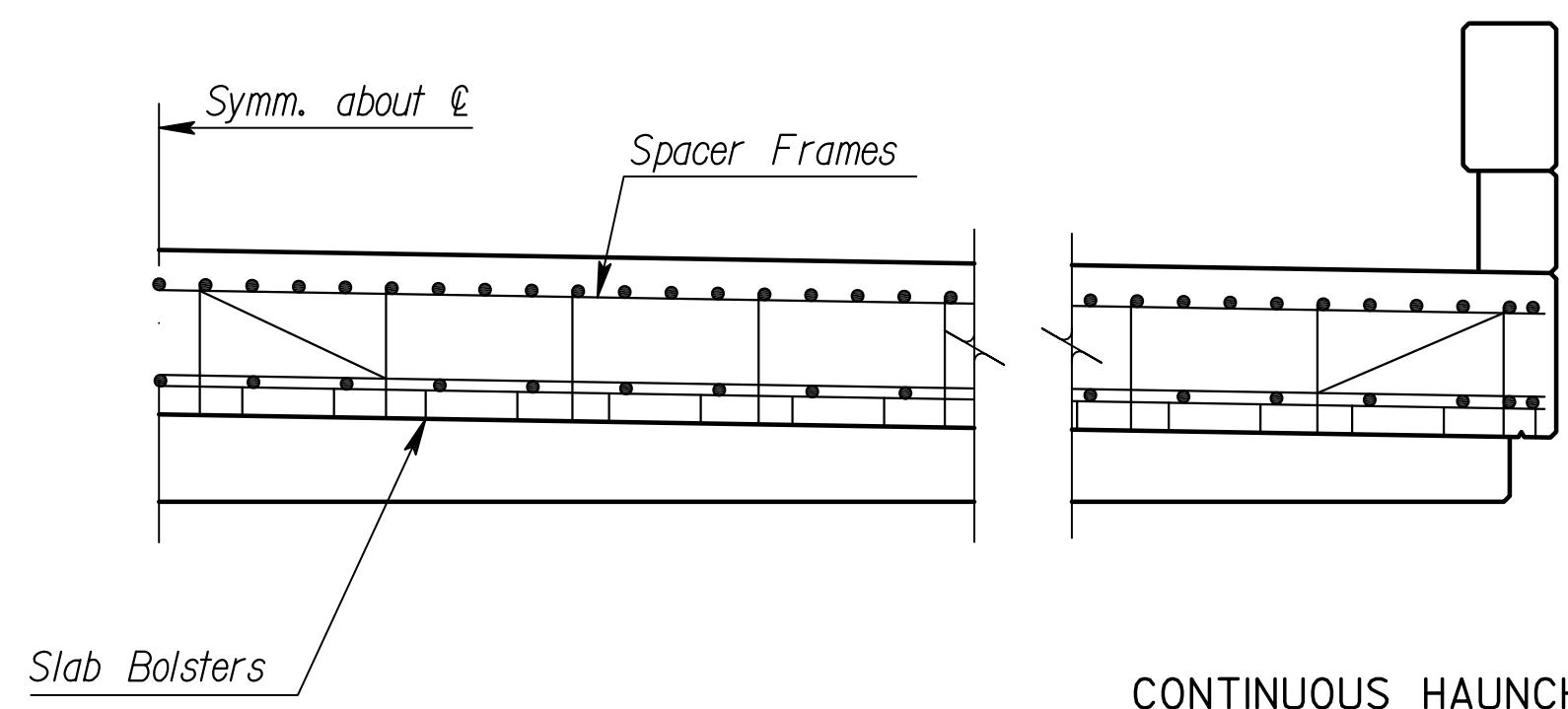
Where more than one length of bar support is required, lap the end legs so they are locked or tied together.

Use proper height supports to maintain the distance between the reinforcing and the formed surface or the top surface of deck slabs within 1/4" of that indicated on the plans.

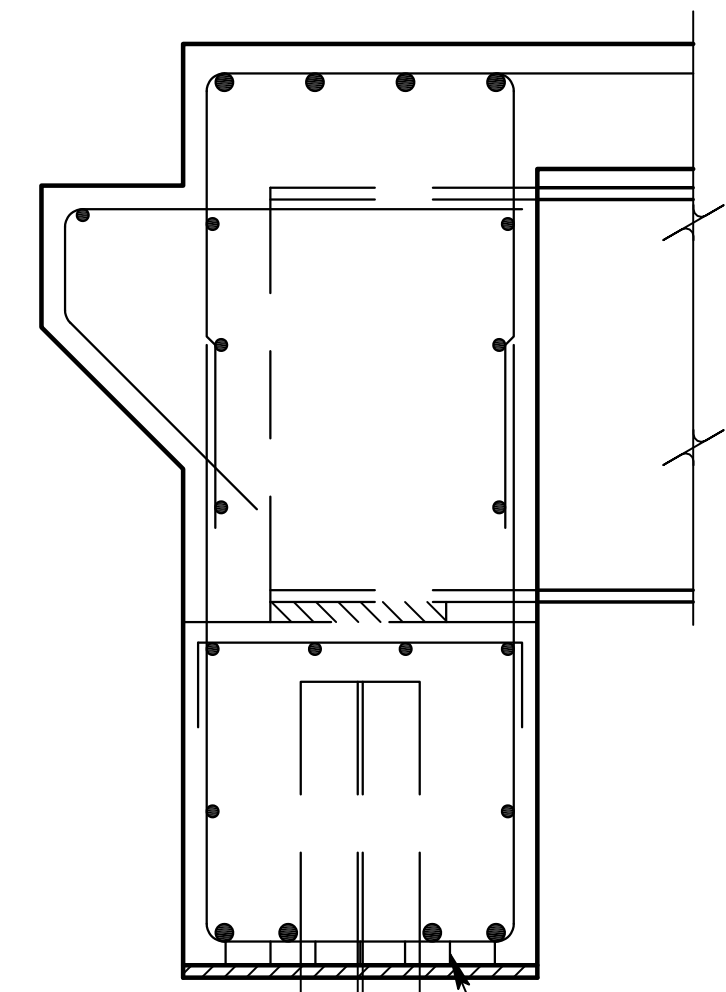
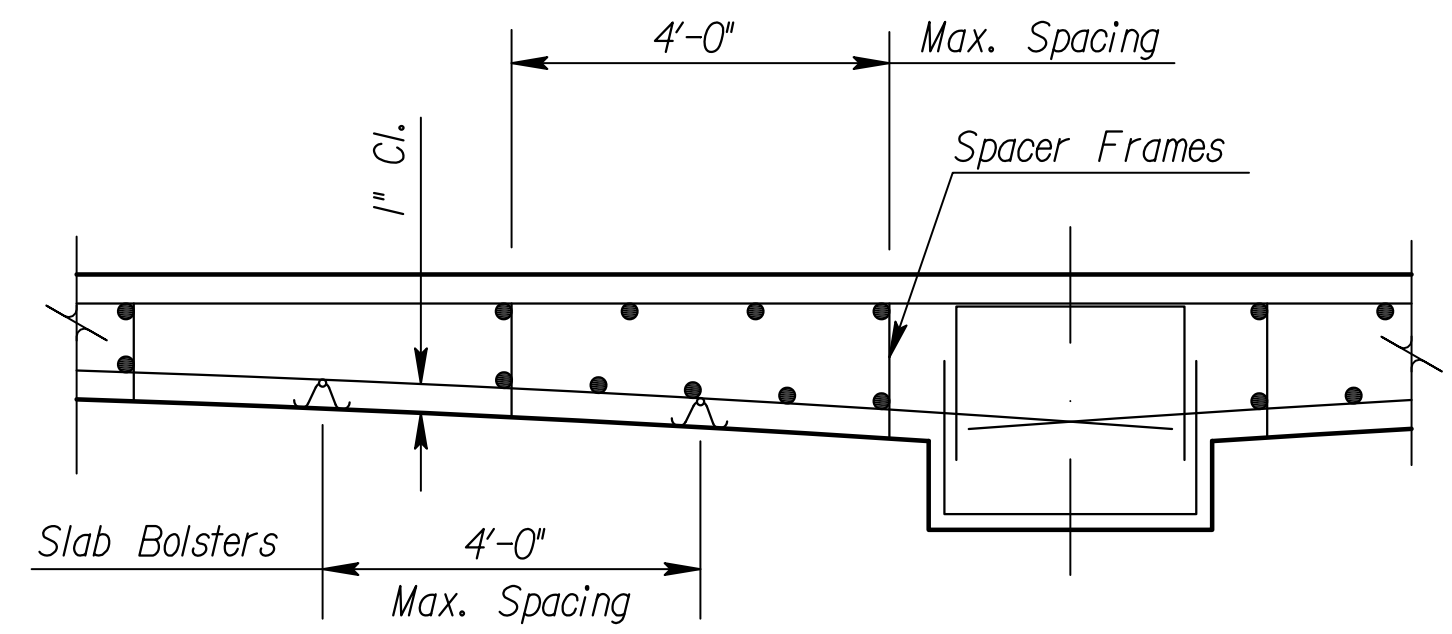
Spacings shown are maximums. Use sufficient supports, as determined by the Engineer, to retain the reinforcing steel in position.

Construct any platforms, required for the support of workers and/or equipment during concrete placement, directly on the forms and not on the reinforcing steel.

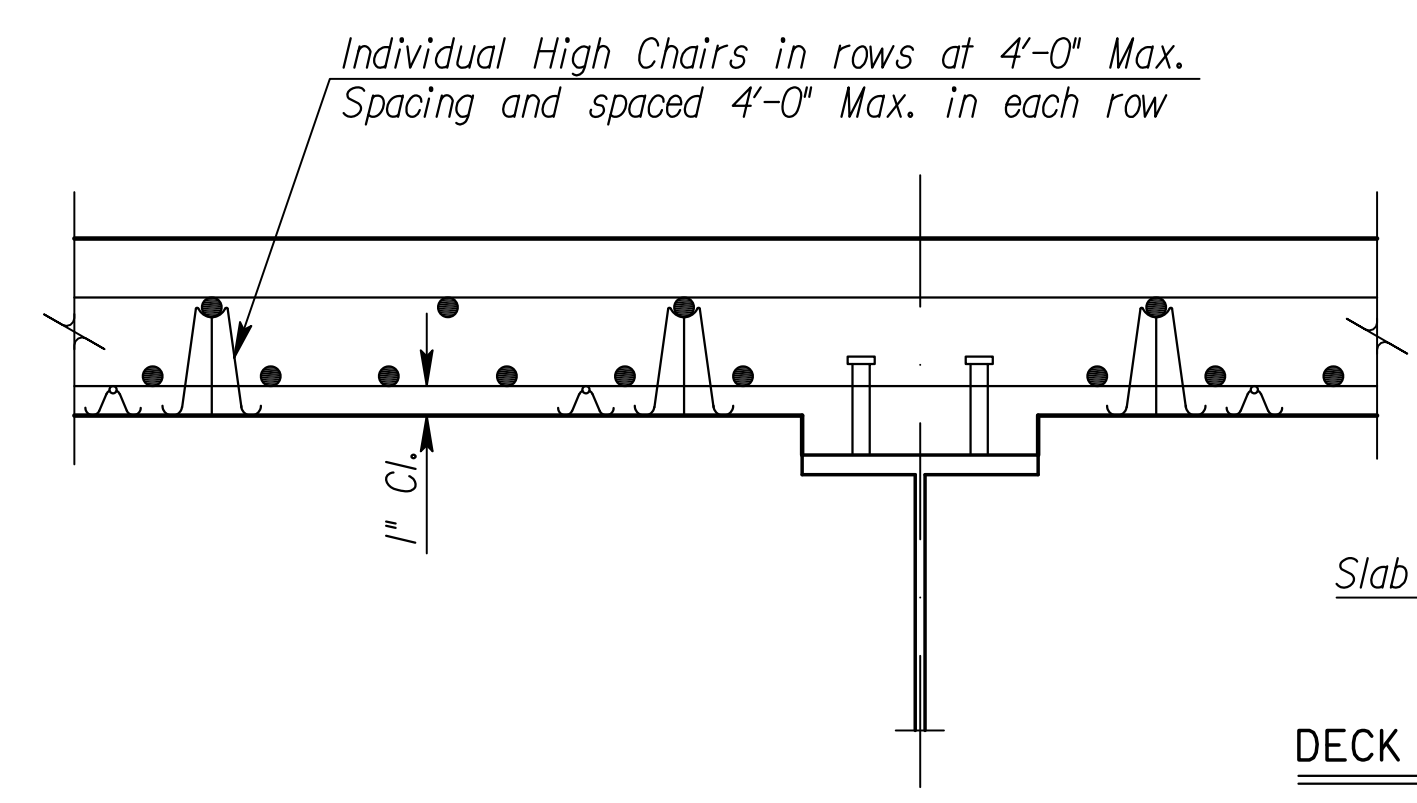
Designs and arrangements of Supports or Spacers other than as shown on this sheet, may be used with the permission of the Engineer.



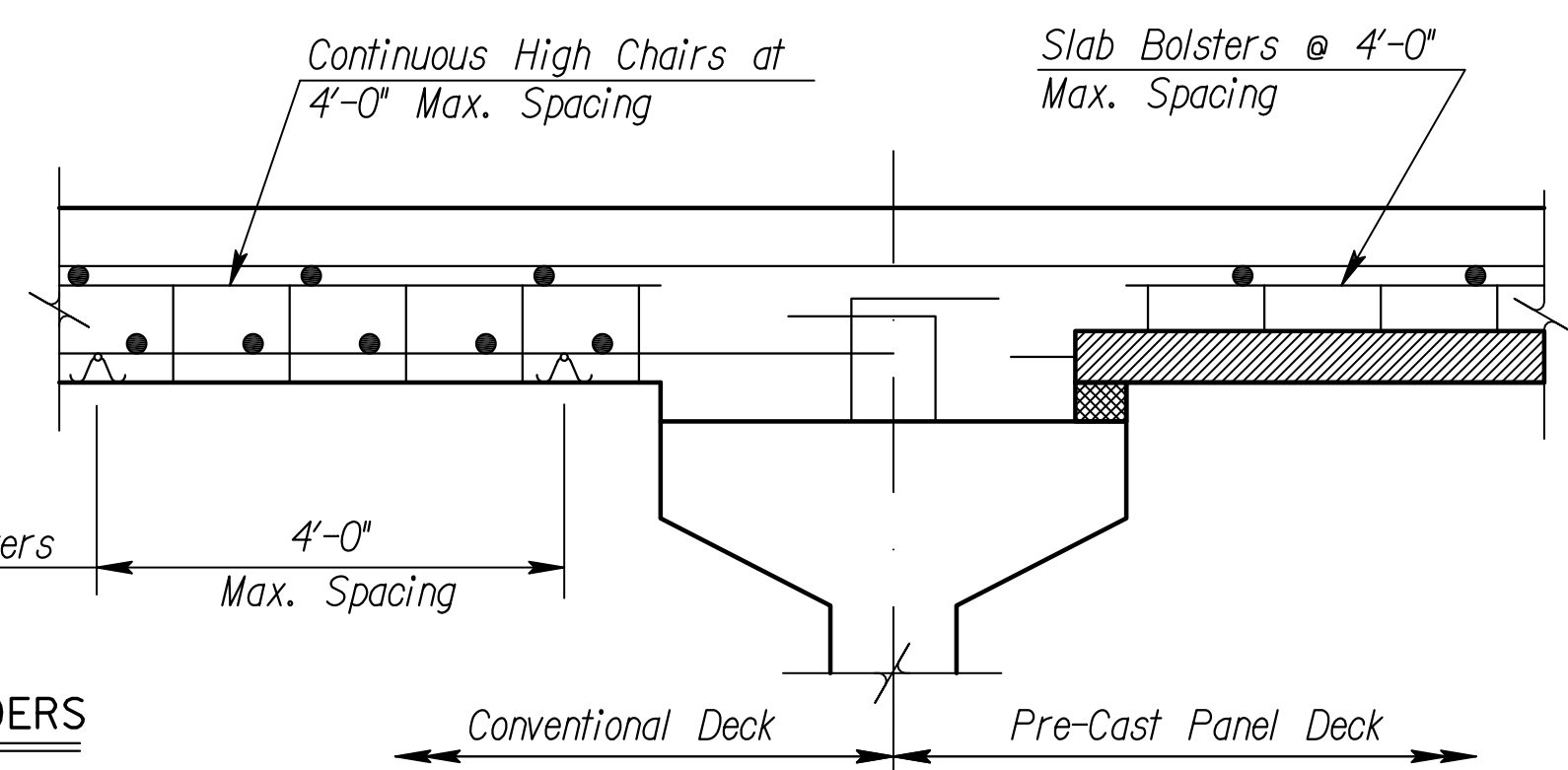
CONTINUOUS HAUNCHED SLAB



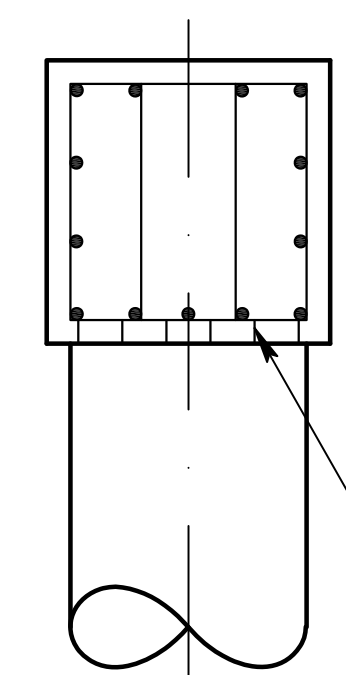
ABUTMENT



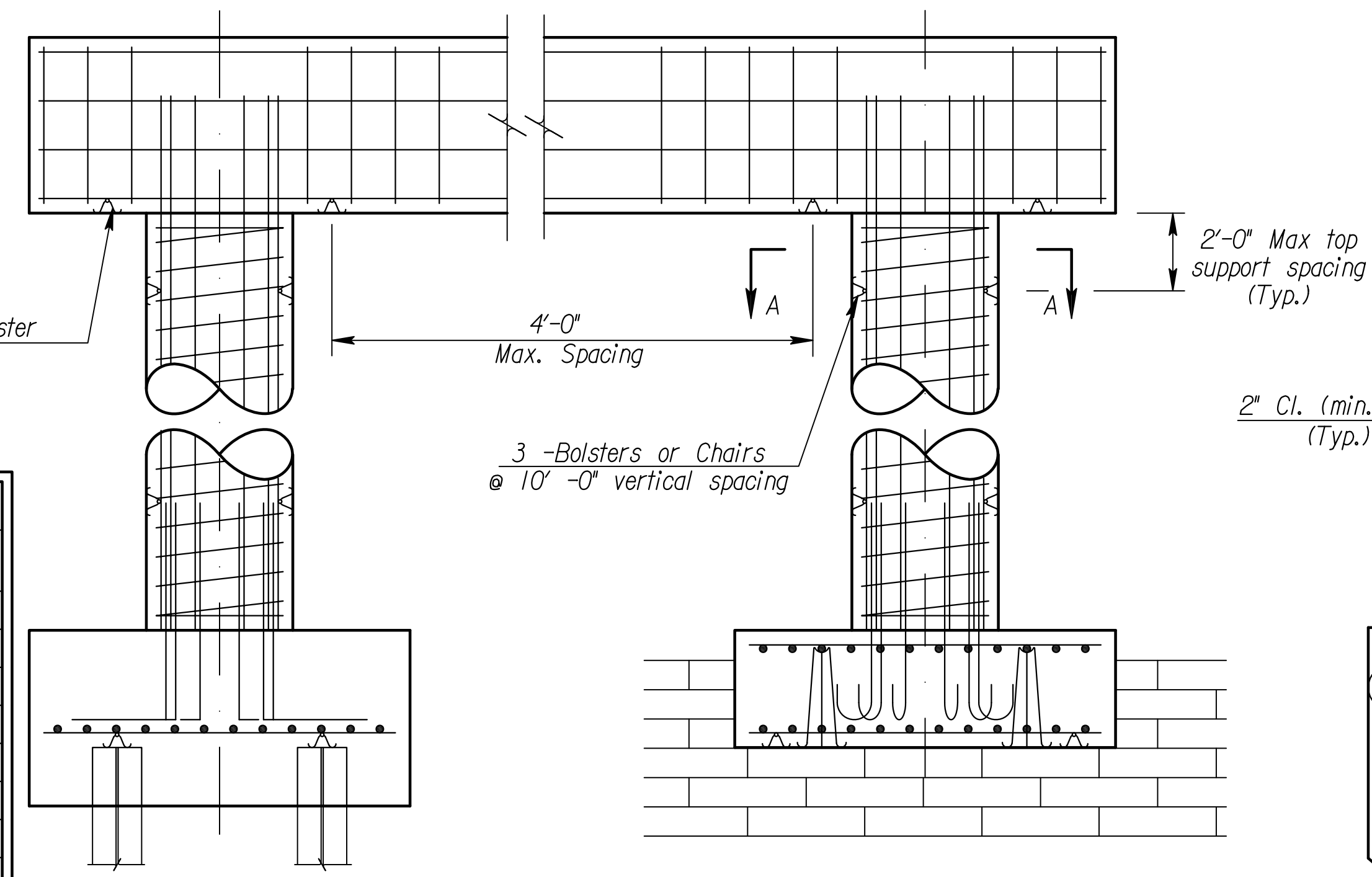
DECK GIRDERS



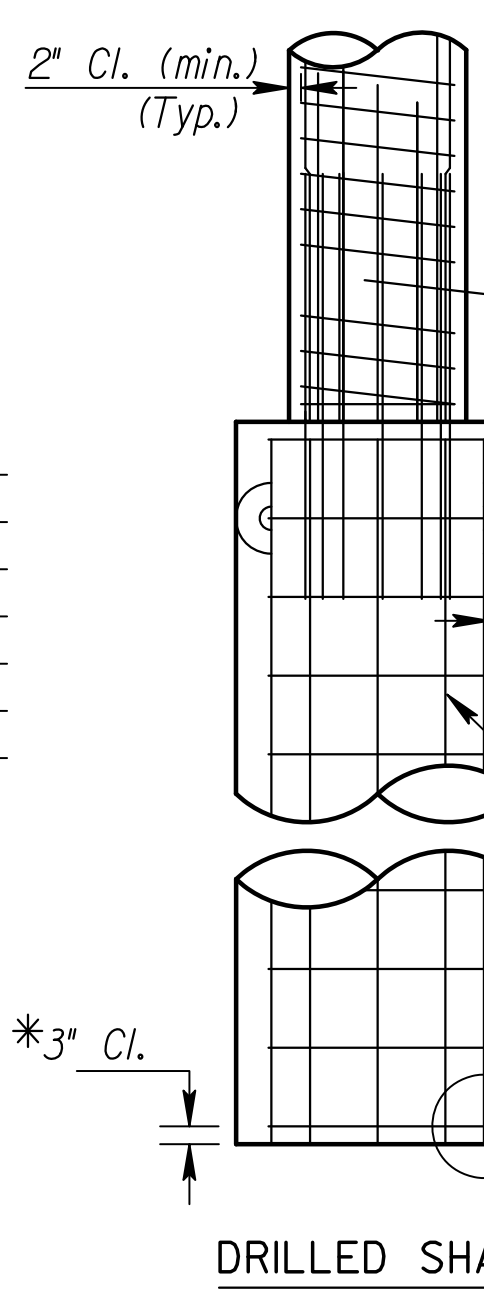
BOX CULVERT



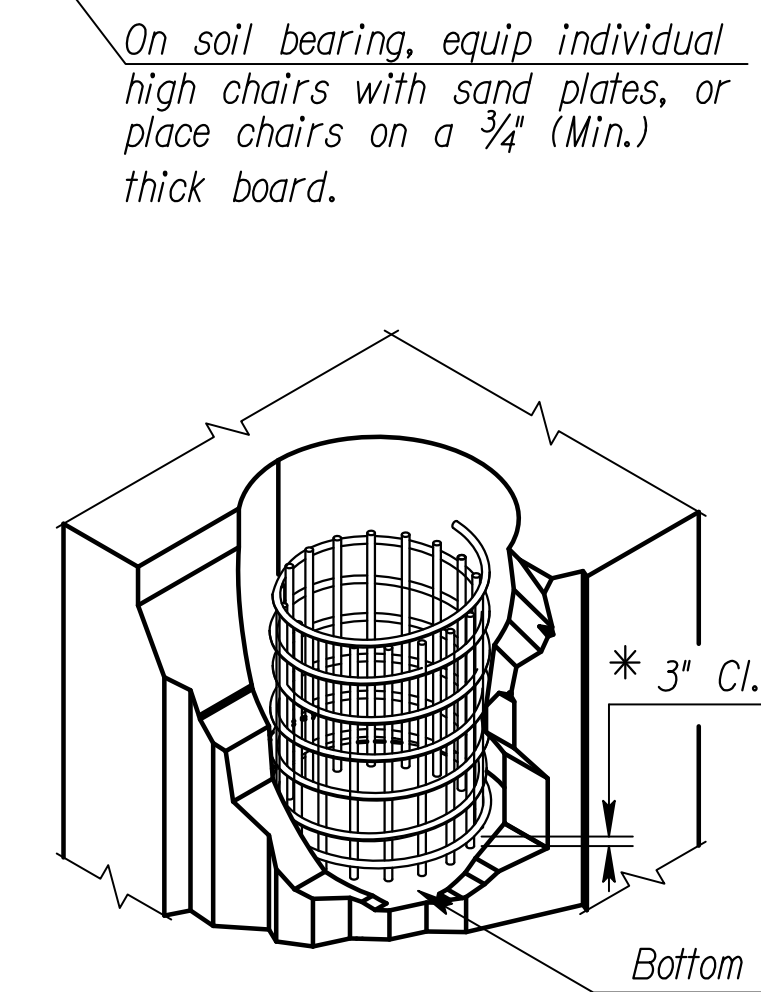
Beam Bolster



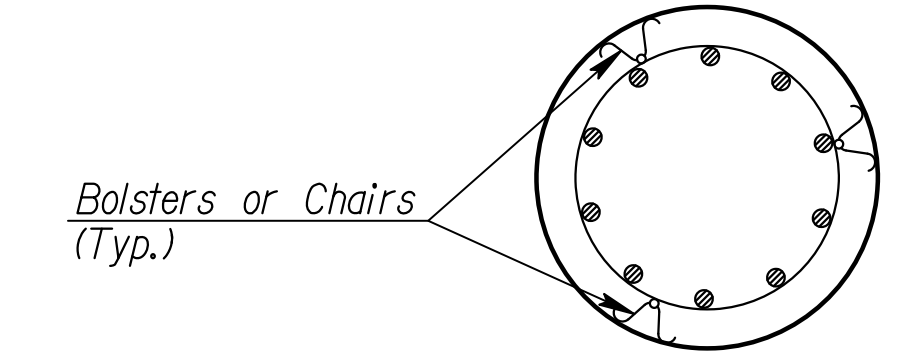
PIER



DRILLED SHAFT



DETAIL A



SECTION A-A

PLOTTED: Tuesday, July 12, 2016 @ 10:55AM
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Req'd Shaft Supports		
Diameter (in.)	Circumference (in.)	No. of Spacers
18	56	3
24	75	3
30	94	4
36	113	4
42	131	5
48	150	6
54	169	6
60	188	7
66	207	7
72	226	8
78	244	9
84	263	9
90	282	10
96	301	11
102	320	11
108	339	12

3 spacers at 10'-0" vertical spacing. (See Table)

Min. Cl. varies from 3" to 6" See drilled shaft details.

Tie bars at a minimum of 75% of all intersections on drilled shaft reinforcing cage.

Place long reinforcement on bottom of rock socket. See Detail A

*Note: Longitudinal reinforcing steel is placed on the bottom of the rock socket. Maintain 3" clearance from the bottom of rock socket to the first spiral or tie bar.

NO.	DATE	REVISIONS	BY	APP'D
5	11-10-10	Column Bar Supports Req'd	JPJ	TLF
4	12-01-05	Drilled Shaft Spiral Steel Placement	JPJ	KFH
3	8-21-00	Added Pre-Cast Panel Detail	RAM	KFH
2	12-20-99	Added Haunched Slab Bolsters	RAM	KFH
1	12-09-99	Revised Drilled Shaft Clearance	RAM	KFH

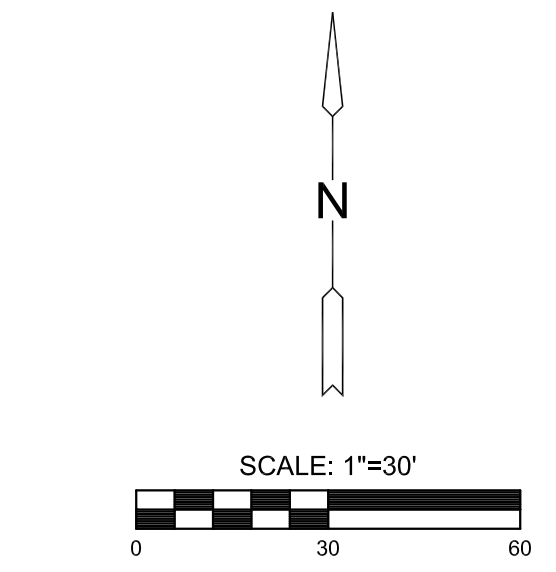
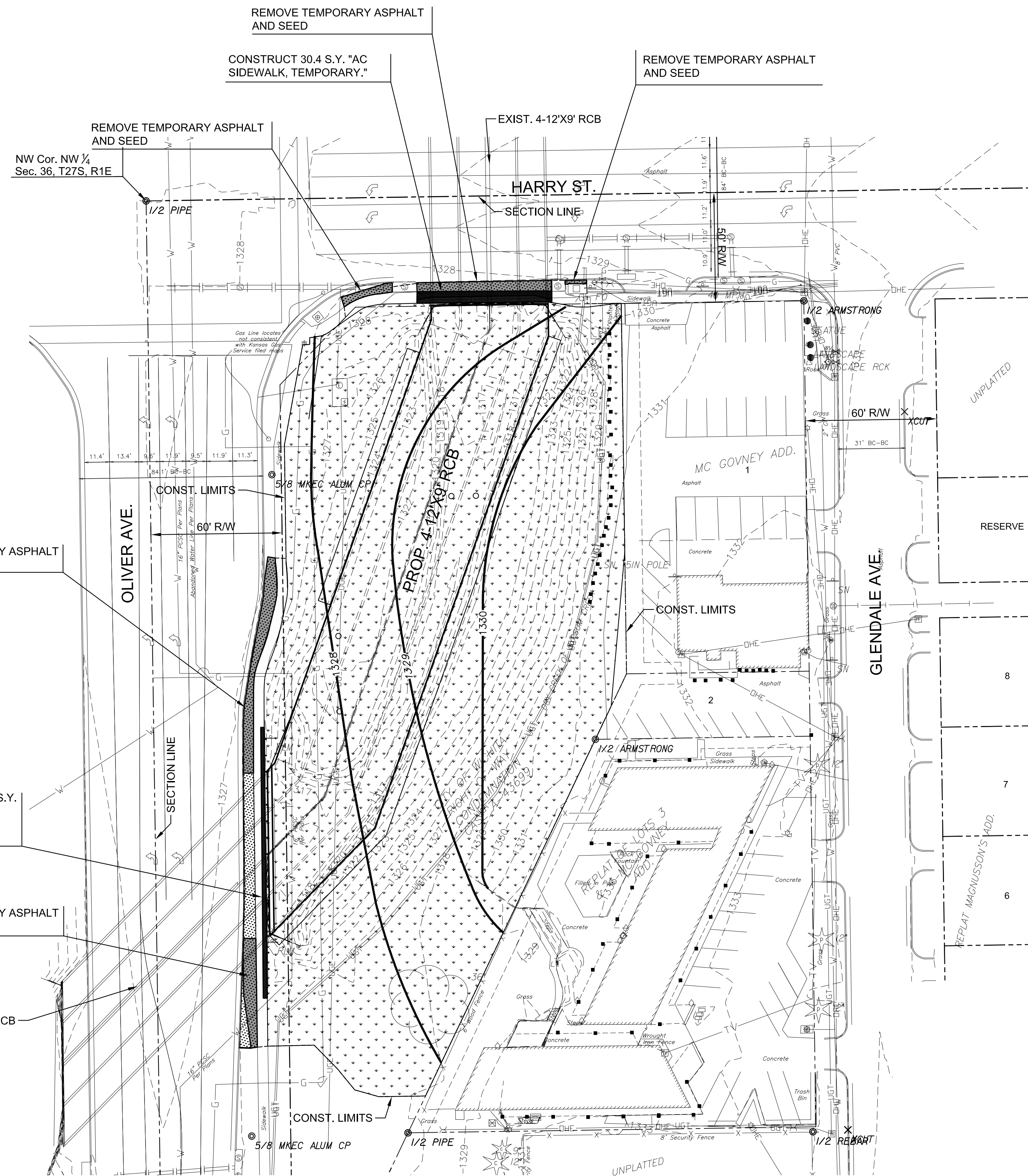
KANSAS DEPARTMENT OF TRANSPORTATION

SUPPORTS AND SPACERS FOR REINFORCING STEEL

BRI20 11

FHWA APPROVAL	11-17-10	APP'D	Terry L. Fleck
DESIGNED	RAM	DETAILED	RAA
DESIGN CK.	LRR	DETAIL CK.	RAM

W:\TAS\303\WOL\PROJECTS\2015\1010321_CIT_329R_HARRY AND OLIVER_1521 CAD\SITE\505\CIVIL\SITE\15321SR01.DWG
 PLOTTED: Tuesday, July 12, 2016 @ 10:57AM



- LEGEND**
- TEMPORARY ASPHALT TO REMAIN
 - TEMPORARY ASPHALT WEDGE RAMP REMOVAL
 - TEMPORARY ASPHALT REMOVAL AND SEED
 - AC SIDEWALK, TEMPORARY *
 - SEEDING (WITHIN RIGHT-OF-WAY) **
 - SEEDING (BEYOND RIGHT-OF-WAY) ***
- * THE COST FOR TEMPORARY SIDEWALK SHALL INCLUDE ITS EVENTUAL REMOVAL. THE AREA SHALL BE RESTORED TO ORIGINAL GRADES AND SEEDED.
- ** ALL SEEDING SHALL BE PER SECTION 901, CITY OF WICHITA STANDARD SPECIFICATIONS FOR NON-DEVELOPED PROPERTIES.
- *** ALL SEEDING SHALL BE PER SECTION 901, CITY OF WICHITA STANDARD SPECIFICATIONS FOR NON-DEVELOPED PROPERTIES. SEEDING WILL NOT BE REQUIRED IF PROPOSED DEVELOPMENT IMPROVEMENT CONSTRUCTION BEGINS WITHIN ONE (1) MONTH OF THE COMPLETION OF RCB CONSTRUCTION. SEE THE DEVELOPMENT IMPROVEMENT PLANS (BY OTHERS) FOR EROSION CONTROL MEASURES ASSOCIATED WITH ITS CONSTRUCTION.

STORM WATER SEWER PLAN FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

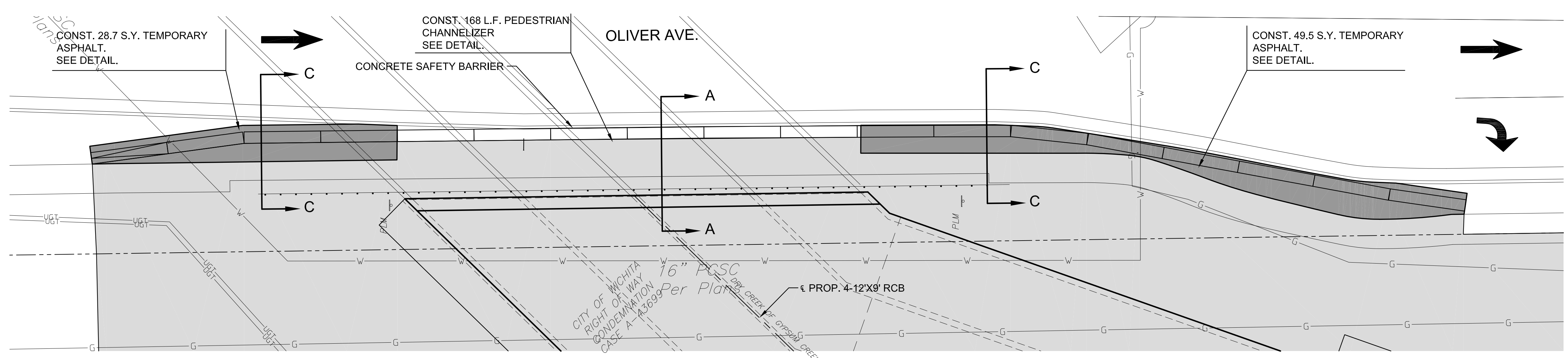
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SITE RESTORATION PLAN

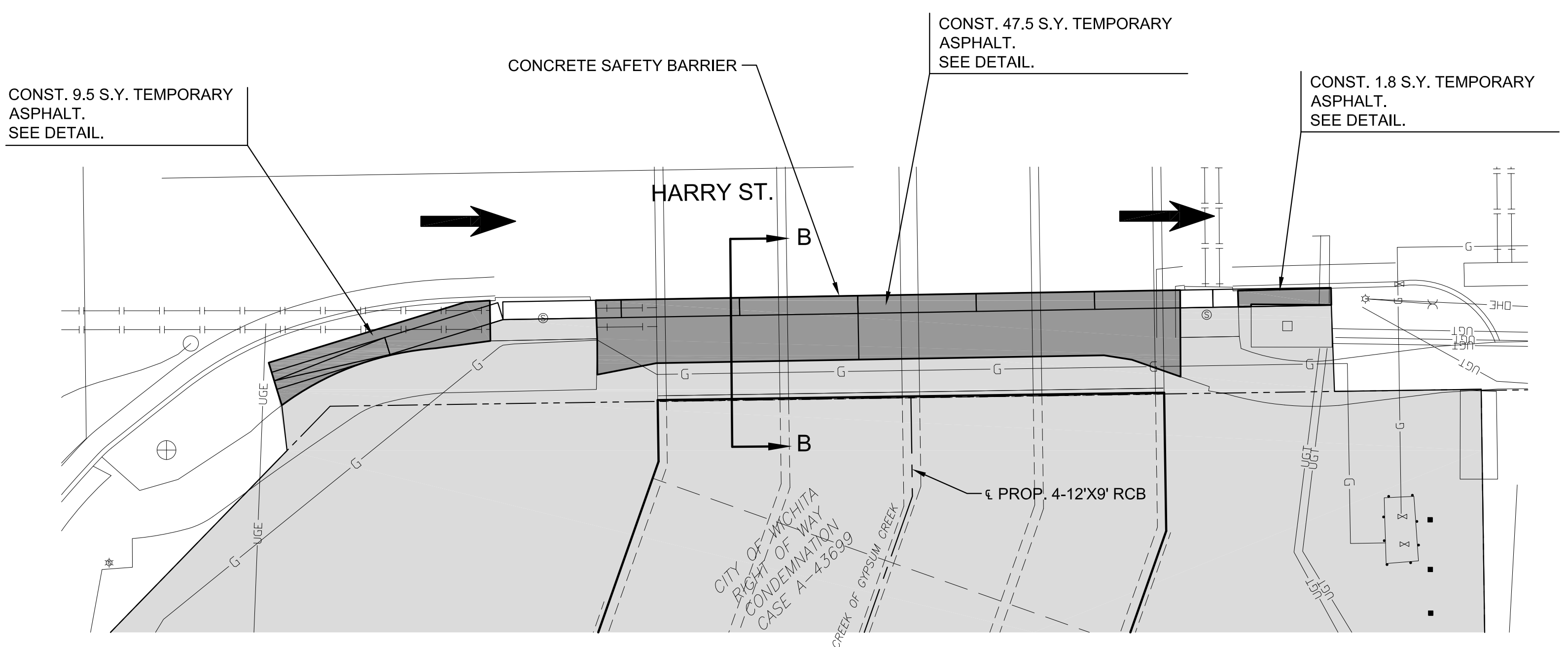
PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	1"=30'	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

PLOTTED: Tuesday, July 12, 2016 @ 12:25PM
 W:\2016\PROJECTS\2016\1010321_CIT_329R_HARRY AND OLIVER_1521 CAD\SITE\505_CIVIL\TRAFFIC\16321TP01.DWG



TRAFFIC CONTROL ALONG OLIVER AVE. - PHASE 1



TRAFFIC CONTROL ALONG HARRY ST. - PHASE 3

LEGEND

- WORK ZONE
- DIRECTION OF TRAFFIC
- TEMPORARY ASPHALT
- TEMPORARY CONCRETE BARRIER UNIT
- TEMPORARY CONCRETE BARRIER SLOPED END UNIT

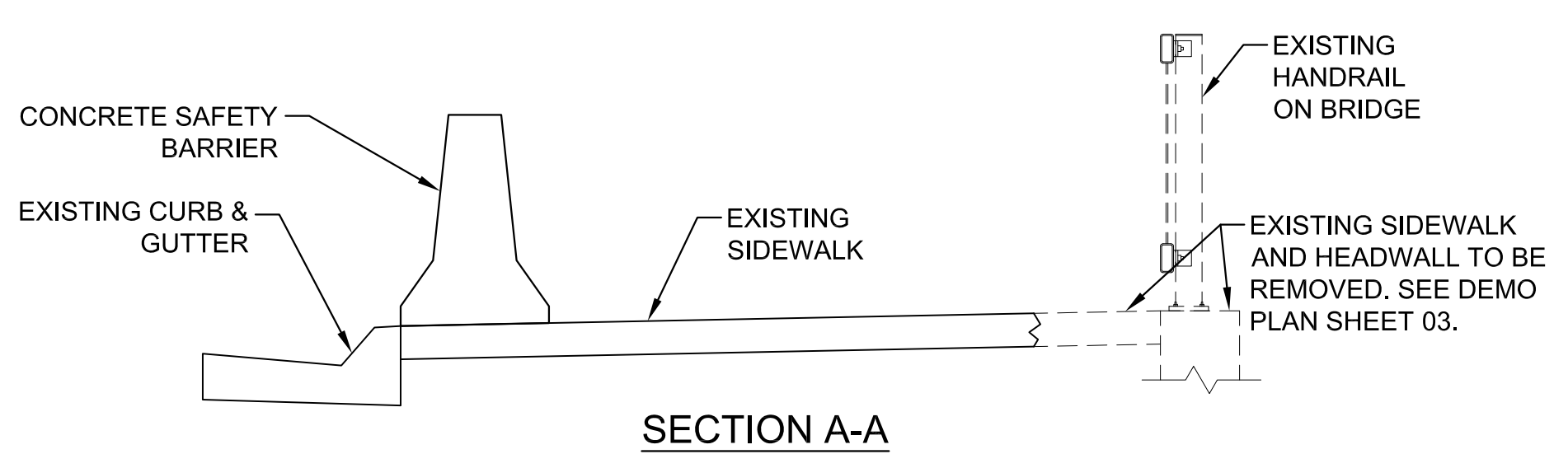
CONSTRUCTION PHASING NOTES:

PHASE 1: ERECT PHASE 1 TRAFFIC CONTROL SHOWN ON SHEET 13 AND THE PHASE 1 PEDESTRIAN DETOUR SHOWN ON SHEET 14. CONSTRUCT THE SOUTH RCB END INCLUDING BACKFILL AND SITE RESTORATION.

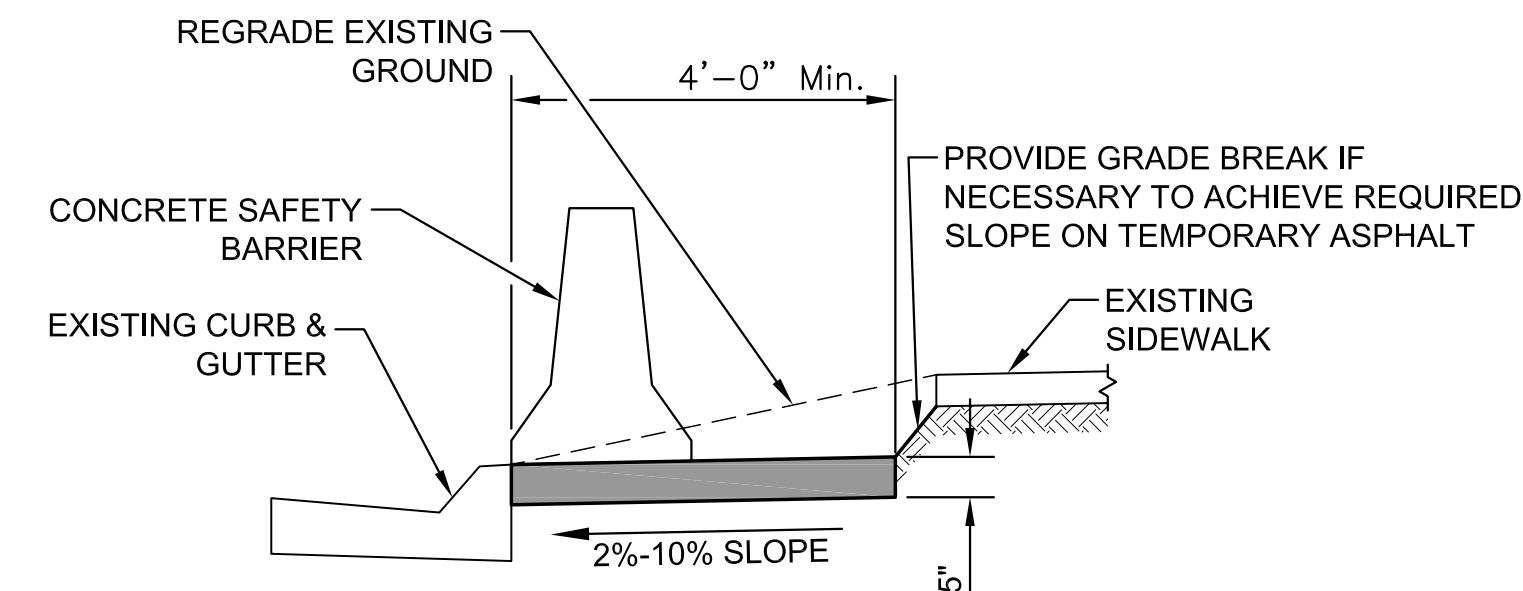
PHASE 2: CONSTRUCT THE PORTION OF THE RCB BETWEEN STATION 10+45.63 AND STATION 12+56.63.

PHASE 3: ERECT PHASE 3 TRAFFIC CONTROL SHOWN ON SHEET 13 AND THE PHASE 3 PEDESTRIAN DETOUR SHOWN ON SHEET 15. CONSTRUCT THE NORTH RCB END INCLUDING BACKFILL AND SITE RESTORATION.

PHASE 2 MAY BE CONSTRUCTED AT THE SAME TIME AS PHASE 1 AND/OR PHASE 3. PHASE 3 MAY NOT BEGIN UNTIL PHASE 1 IS COMPLETE AND PEDESTRIAN TRAFFIC IS SAFELY ALLOWED TO USE THE SIDEWALK ON OLIVER.

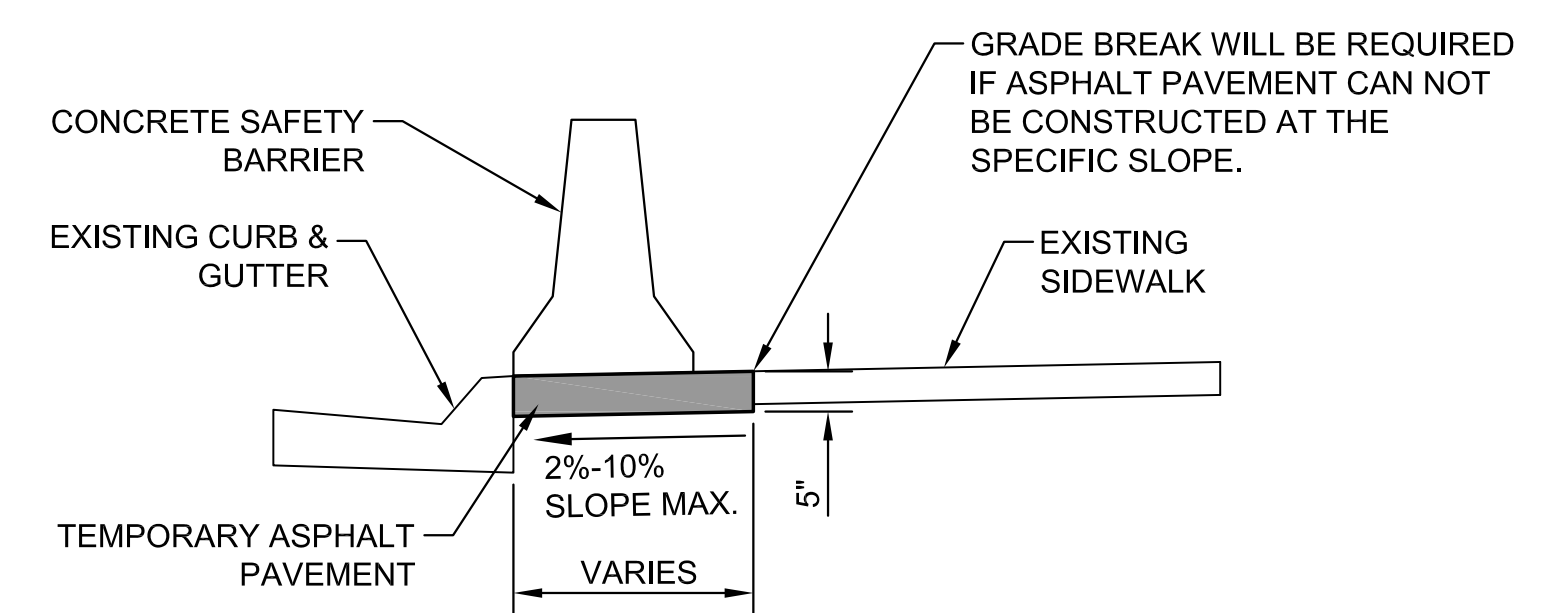


SECTION A-A



SECTION B-B

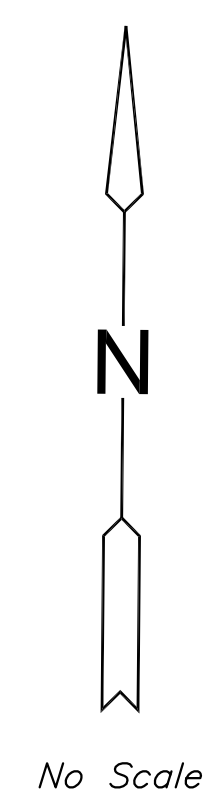
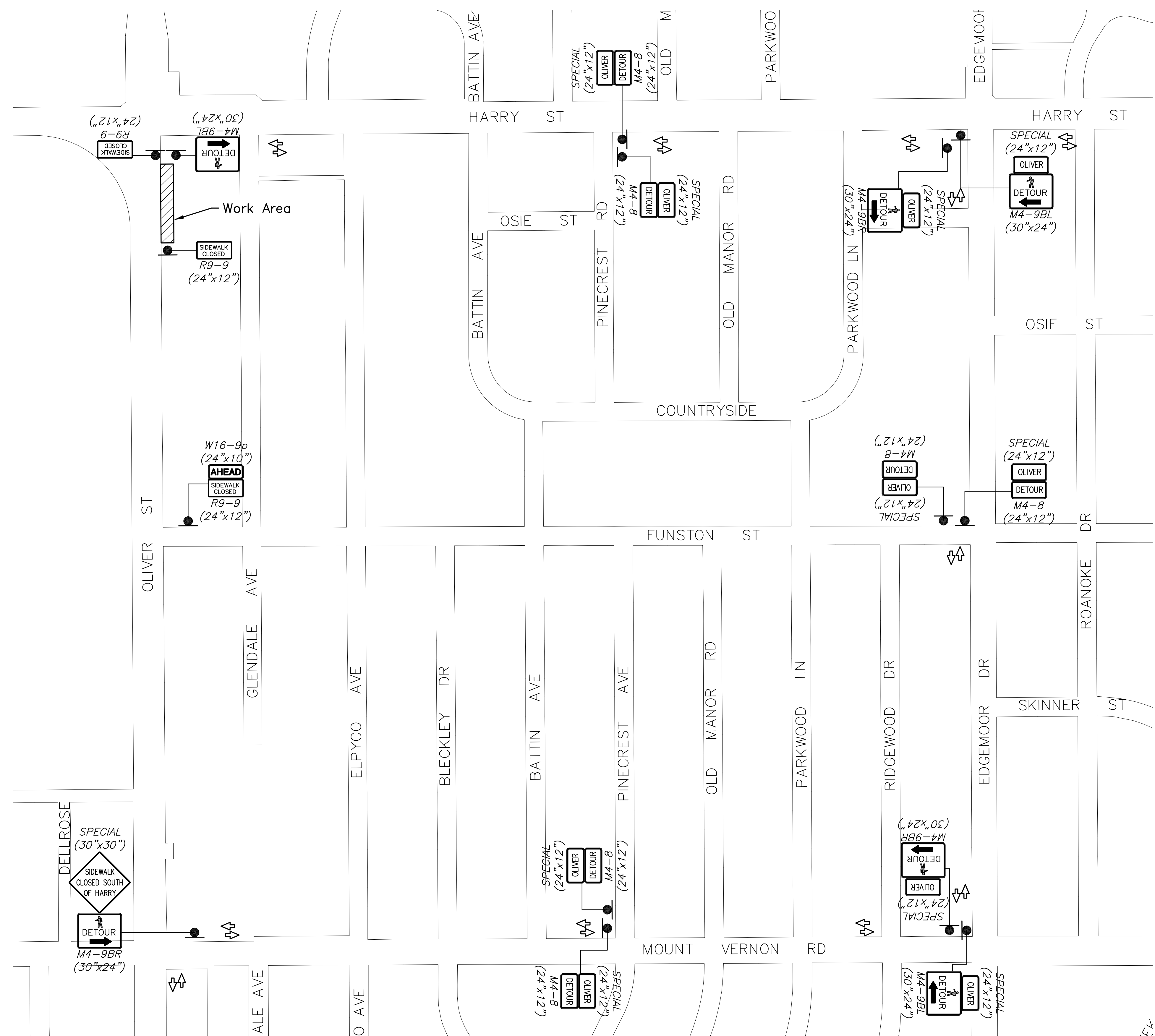
NOTE:
 REMOVE EXISTING SIDEWALK TO THE NEAREST JOINT THAT IS LESS THAN 4 FEET FROM THE BACK OF CURB TO PREVENT THE CONCRETE SAFETY BARRIER FROM TEETERING.



SECTION C-C

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TRAFFIC CONTROL	
PROJECT NO.	0372PPD
DATE	04/07/2016
SCALE	1"=30'
DESIGNED	DRAWN
JRA	WNJ
CHECKED	JRA
NO.	REVISION
1	ISSUED FOR BID
	7/12/16
	DATE
SHEET NO.	
13 OF 26	



- LEGEND**
- Type II Barricade with Signs
 - Pedestrian Flow
 - Work Area

Note:
 Work Area shall be completely fenced off to protect against pedestrian access.

The Contractor shall erect and maintain appropriate pedestrian detour routes at all times.

Construction shall be phased to allow pedestrian access through the project on Oliver or Harry at all times.



PAVING & INCIDENTAL DRAINAGE FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

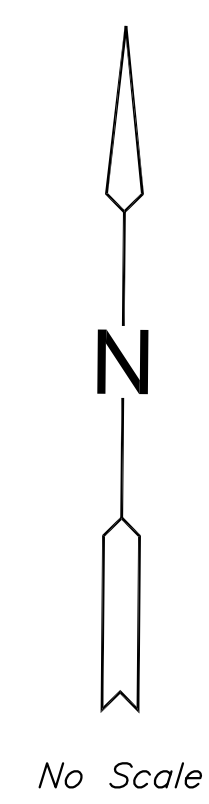
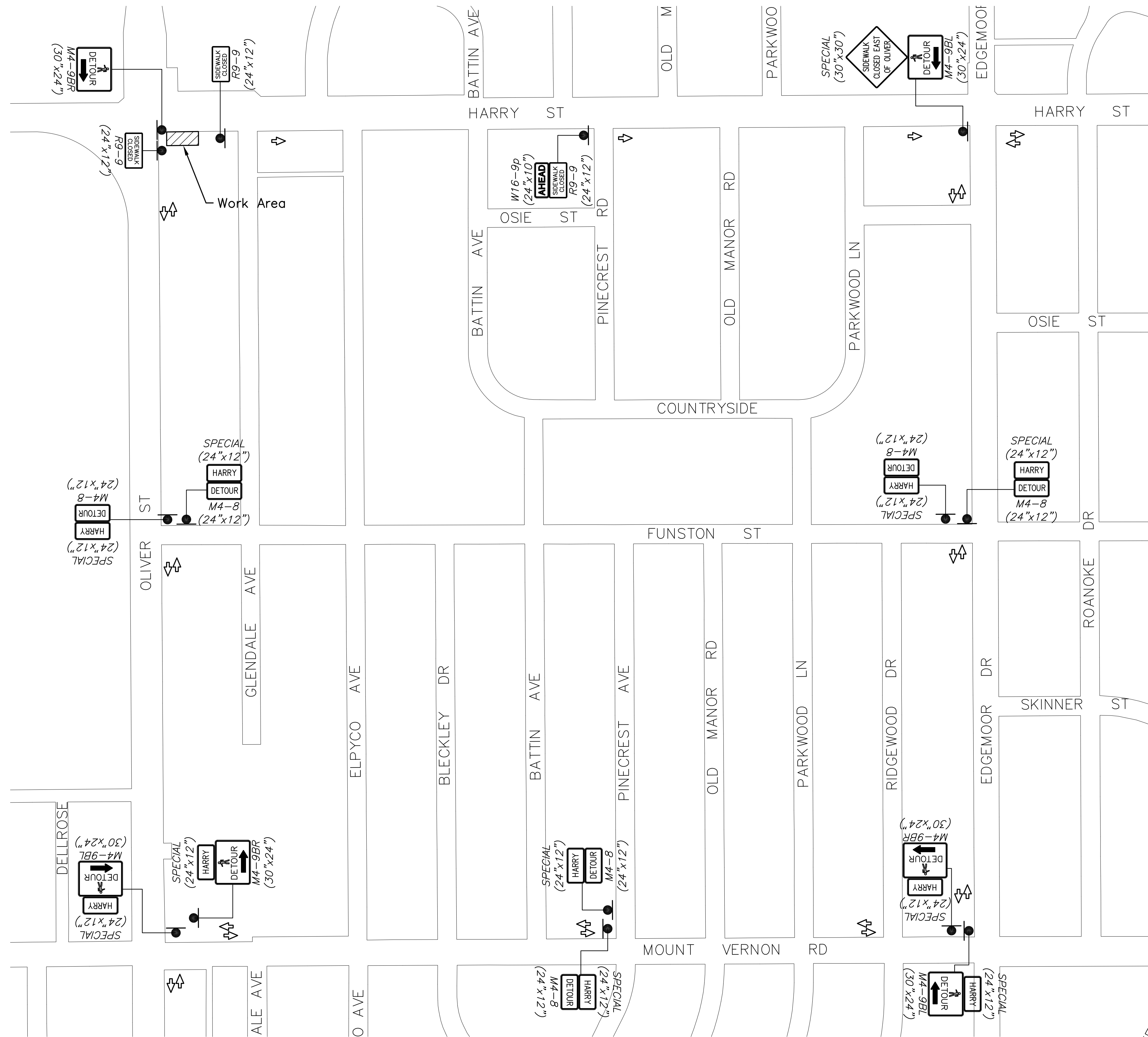
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PEDESTRIAN DETOUR PLAN PHASE 1

PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

NO.	REVISION	DATE
1	ISSUED FOR BID	7/12/16

PEDESTRIAN DETOUR PLAN - PHASE 1



- LEGEND**
- Type II Barricade with Signs
 - ⇨ Pedestrian Flow
 - ▨ Work Area

Note:
 Work Area shall be completely fenced off to protect against pedestrian access.
 The Contractor shall erect and maintain appropriate pedestrian detour routes at all times.
 Construction shall be phased to allow pedestrian access through the project on Oliver or Harry at all times.



PAVING & INCIDENTAL DRAINAGE FOR
QUIKTRIP NO. 329
 HARRY AND OLIVER

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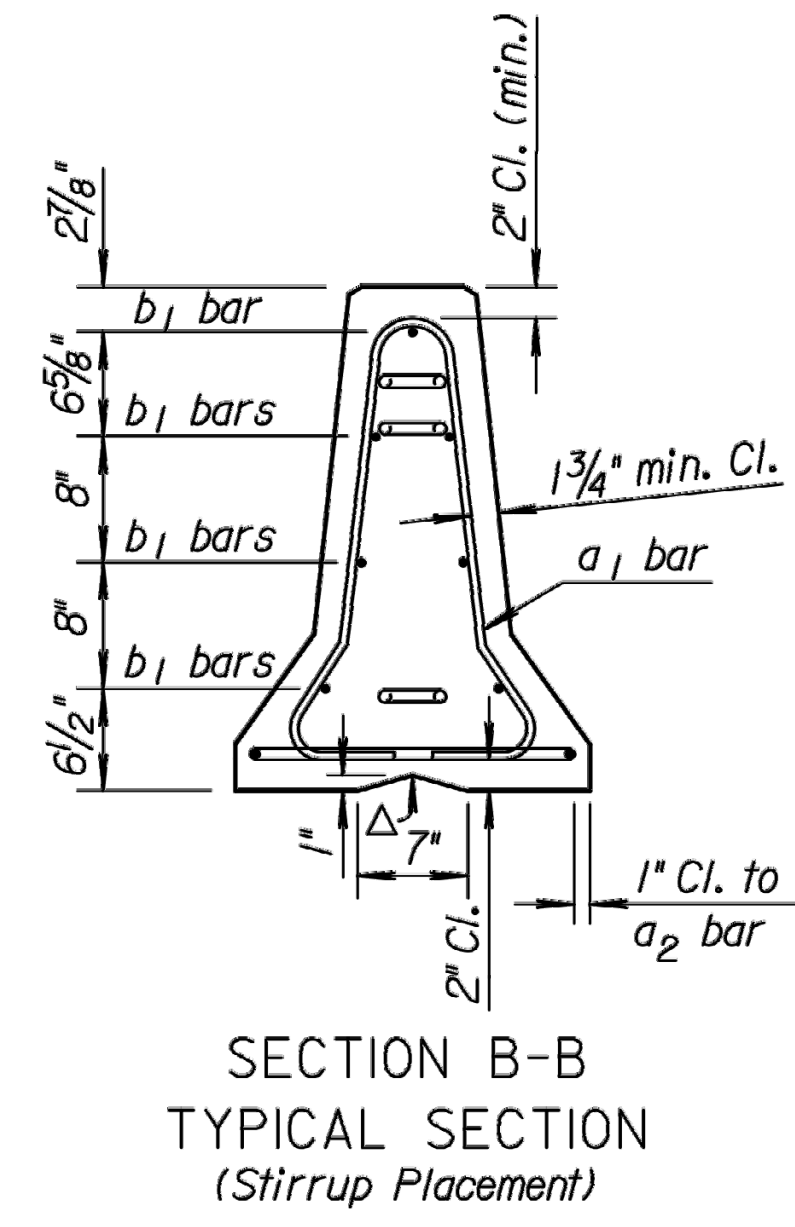
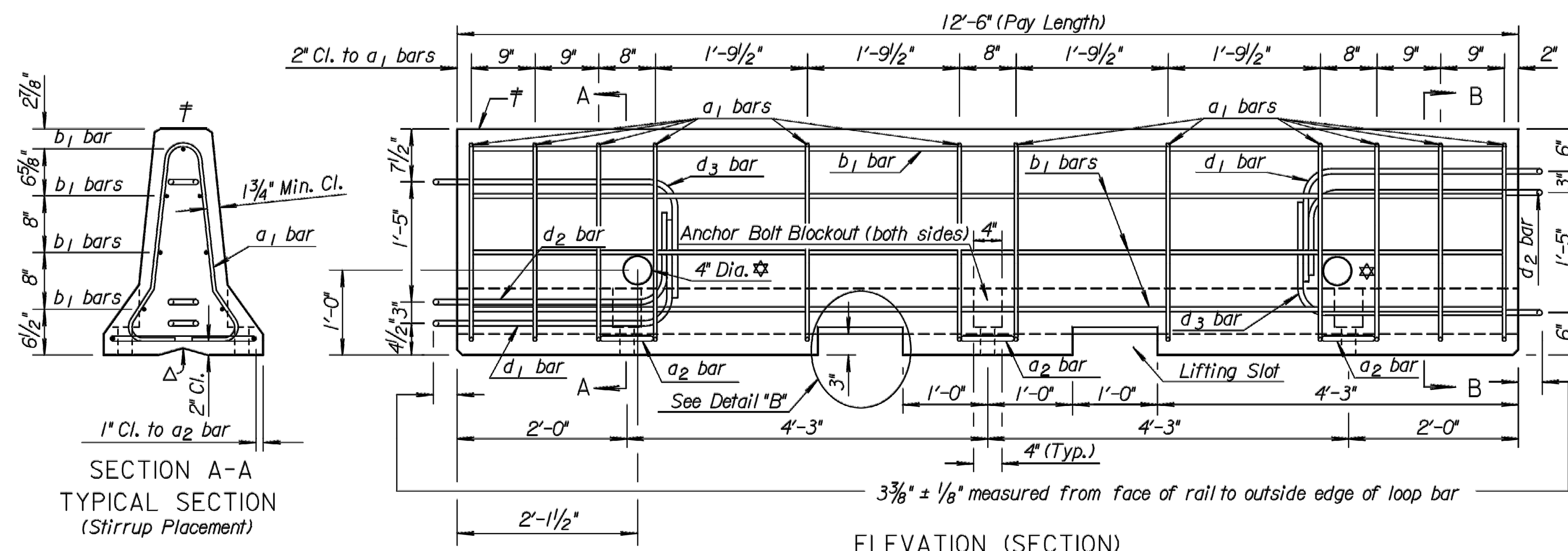
PEDESTRIAN DETOUR PLAN PHASE 3

PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	NO SCALE	
DESIGNED	DRAWN	CHECKED
JRA	WNJ	JRA

1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

PEDESTRIAN DETOUR PLAN - PHASE 3

Plotted: 18-SEP-2015 13:20
 Drawn By: throads
 File: rd622.dgn
 W:\MS\PROJECTS\151010321\151010321_03\RD622\HARRY AND OLIVER_15221\CAD\SHR505\CIVIL\TRAFFIC\DETAILS\RD622.DWG



GENERAL NOTES:

MATERIAL: Use ASTM A615, Grade 60 reinforcing bars, except for the loop bars (d_1, d_2 and d_3).
 The loop bars (d_1, d_2 and d_3) shall be $3/4$ " smooth steel bars with a minimum yield of 60 ksi, a tensile strength of not less than 1.25 times the yield strength but a minimum of 80 ksi, a minimum 14% elongation in 8 inches, and passing a 180 degree bend test using a 3.5 D pin bend diameter. The loops shall be installed with-in $1/8$ " of the plan dimensions.

Use air-entrained concrete with $f'c = 5,000$ p.s.i.

SECTION: The section furnished must generally comply with dimensions shown. Requests for minor variations in section geometry and attachments may be submitted to the Engineer for approval.

LIFTING SLOTS: Lifting slots shall be constructed where specified on the plans to facilitate the drainage of water after installation on the roadway.

TEMPORARY CONCRETE SAFETY BARRIER: Furnishing and placing of all materials when required and all labor and equipment required to position the temporary barrier shall be included in the Contract unit price bid for "Concrete Safety Barrier (Type F3)(Temporary)". Any relocation of the barrier required for the project shall be paid in accordance with the Special Provisions under the bid item "Concrete Safety Barrier (Type F3) (Temporary-Relocate)". Unless otherwise noted on the Plans, the Temporary Concrete Safety Barrier shall become the property of the Contractor and shall be removed from the site upon acceptance of the completed project. Approximate weight of one unit equals 2.7 tons.

SURFACE PREPARATION: Barrier shall be placed on a paved surface. All loose dirt and sand shall be removed from the roadway surface just prior to placement of the barrier.

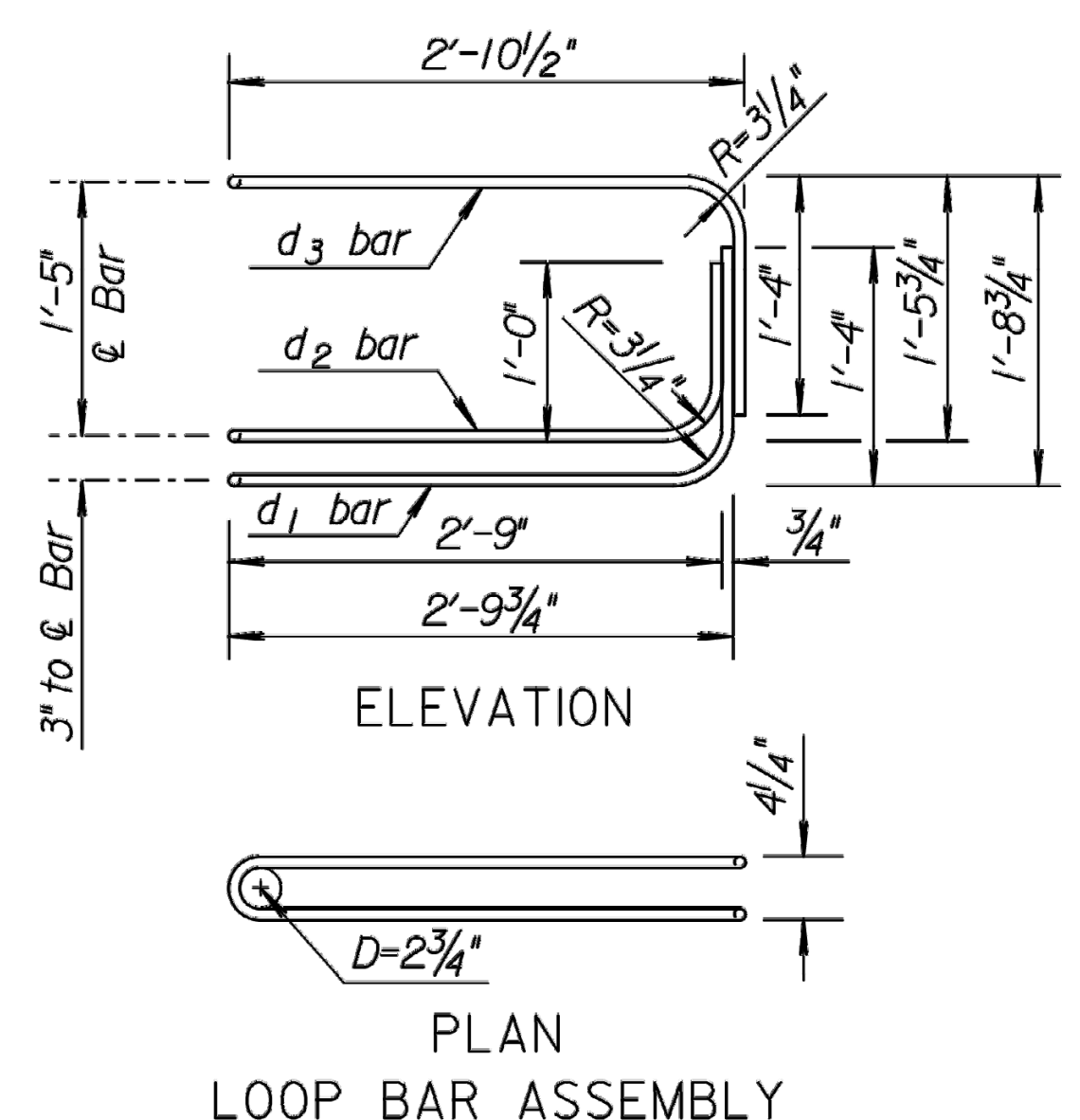
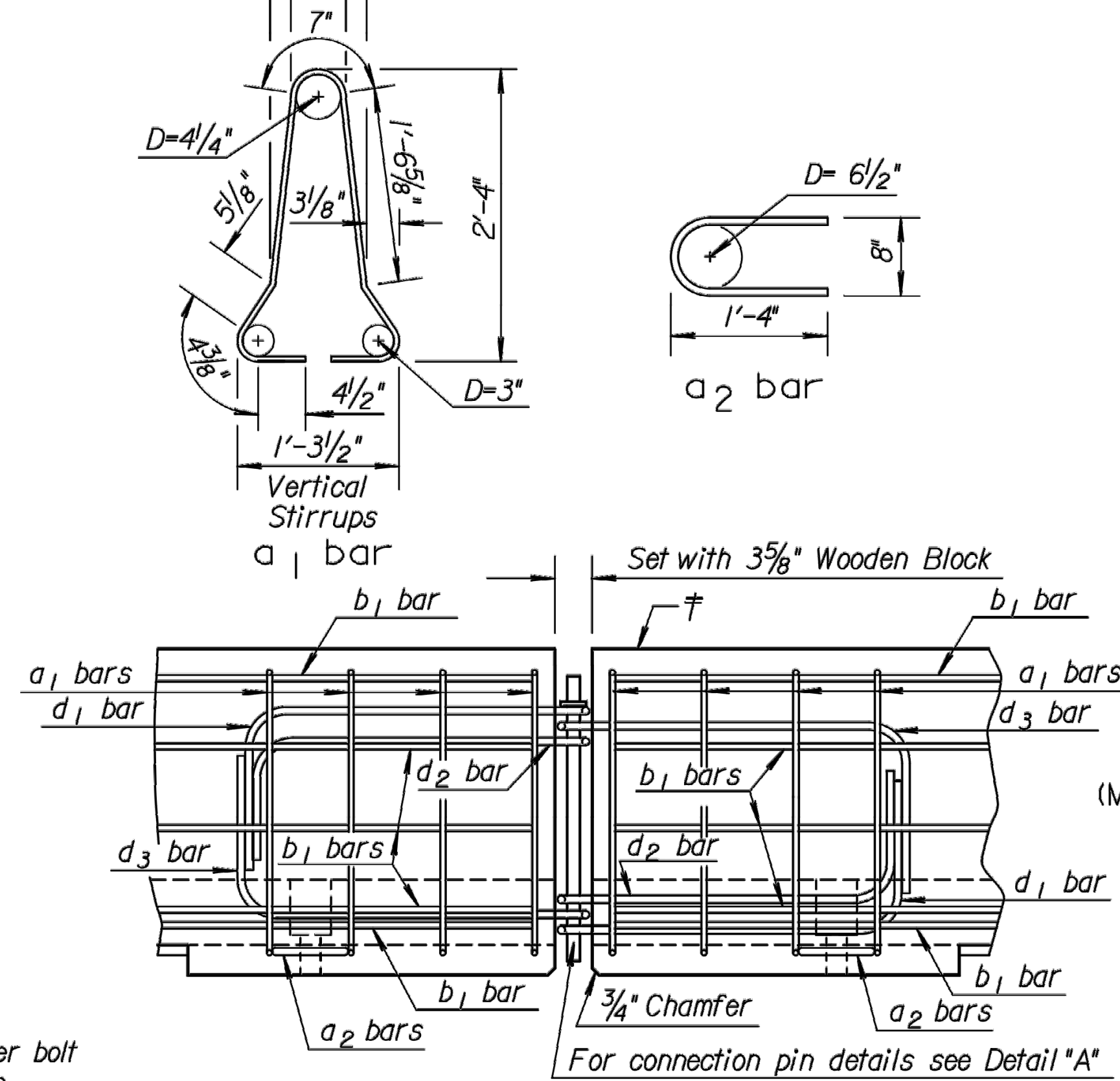
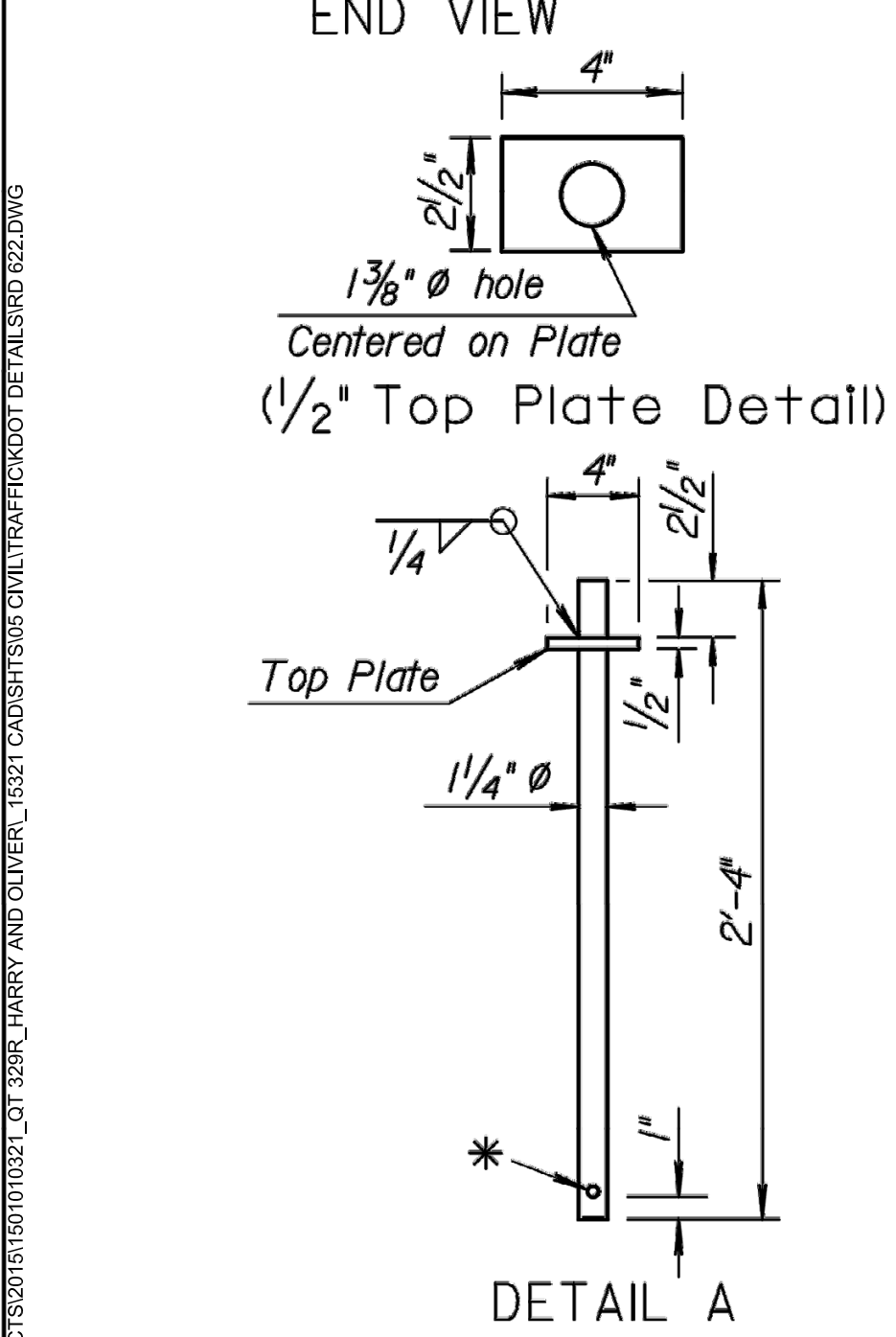
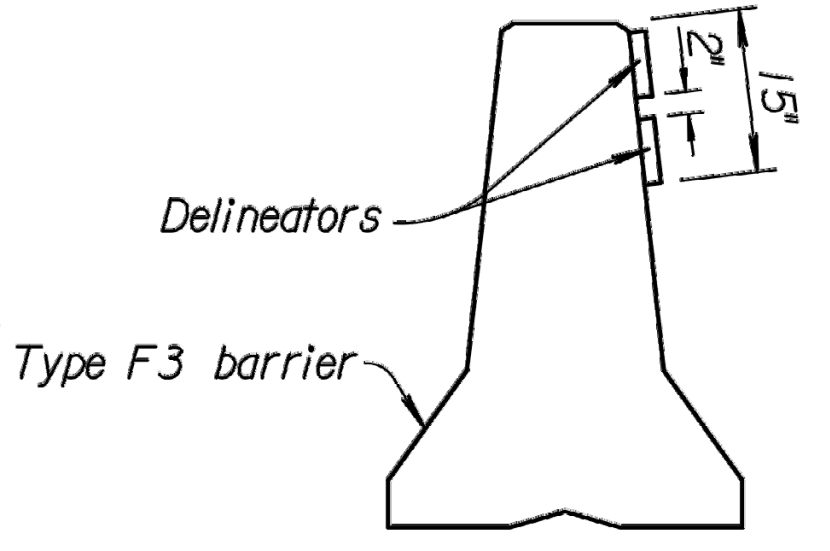
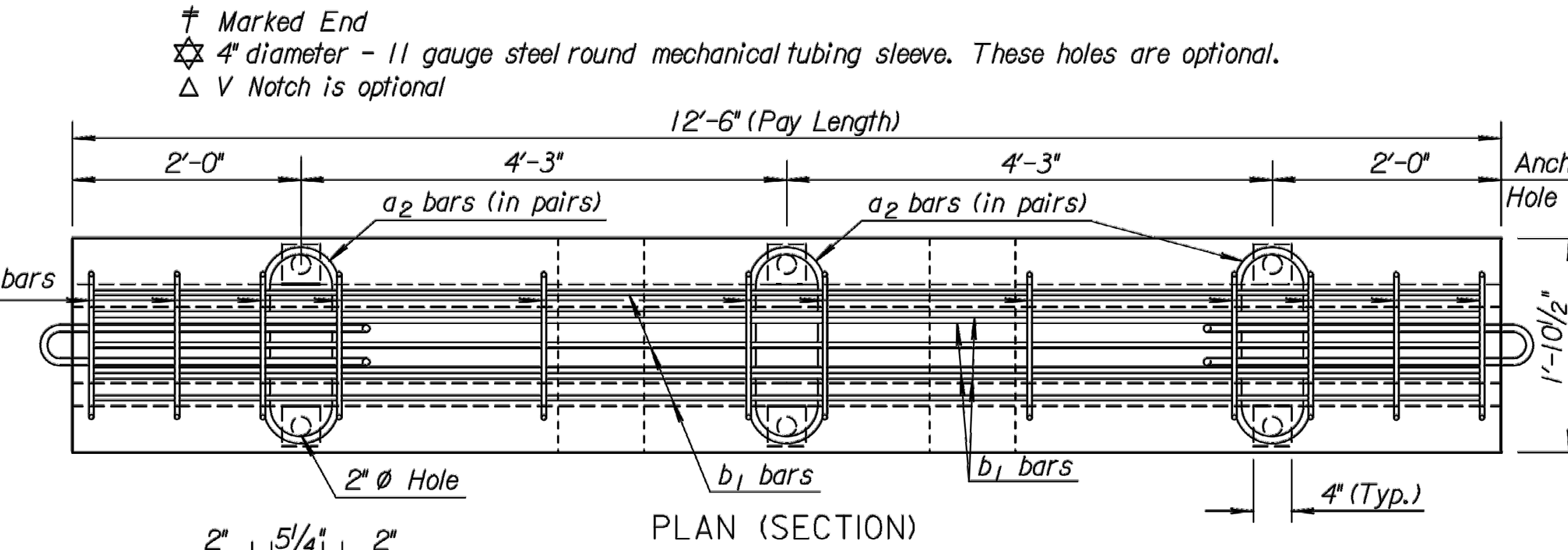
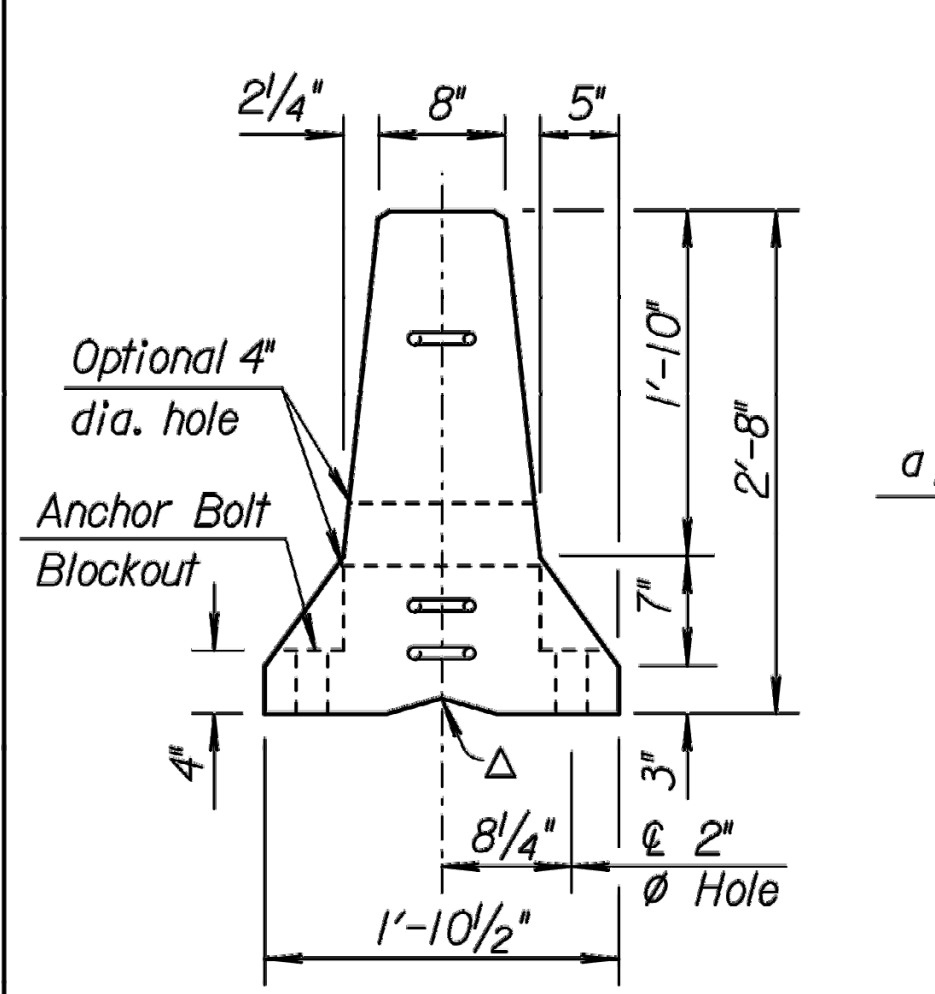
MARKING: The left end (†) of each barrier shall be permanently marked by stamping or forming into the barrier the following information:
 - Type F3
 - Manufacturer code (as specified by KDOT Bureau of Const. & Maint.)
 - Date manufactured (month and year)

DELINEATION: Delineators shall be spaced on 50' centers, except through curves having 1900' or greater curvature where they shall be spaced on 25' centers.
 The delineation shall be mounted on the side of the Temporary Concrete Safety Barrier with two delineators at each location. Each delineator shall have a minimum height-to-width ratio of 1.75, and a minimum reflective surface area of 7 sq. in.. The delineators shall be affixed to the Temporary Concrete Safety Barrier as recommended by the manufacturer.

Delineators shall be attached to bridge rail or other structures in construction zones when roadway is narrowed and traffic is adjacent to the structure. The method and location of placement shall be similar to permanent barrier delineation.

When traffic flow is in one direction, the delineators shall be yellow when used on the left, white when used on the right. When traffic flow is in both directions delineators shall be placed back-to-back, and shall correspond to the color of the edge line.

The work and materials required for the installation of delineators as mentioned shall be subsidiary to the bid item "Concrete Safety Barrier (Type F3) (Temporary)".
 If necessary, include Standard Drawing RD622A for Taper Section, Standard drawing RD622B for anchor and tie down details, Standard Drawing RD622C for Bridges with thermal expansion of $1/2$ " or greater and Standard Drawing RD622D for Barrier Layouts.
 The Contractor shall be responsible for maintaining a clear area, shown as dimension "A" on Standard Drawing RD622B. The clear area is located behind the Temporary Concrete Safety Barrier and shall be kept free of any equipment, material stockpiles or other obstacles. For non-anchored roadway applications, dimension "A" shall be a minimum of 2'-0".



PLAN LOOP BAR ASSEMBLY
 (Marked end shown, invert for other end)
 (Material as stated in General Notes)

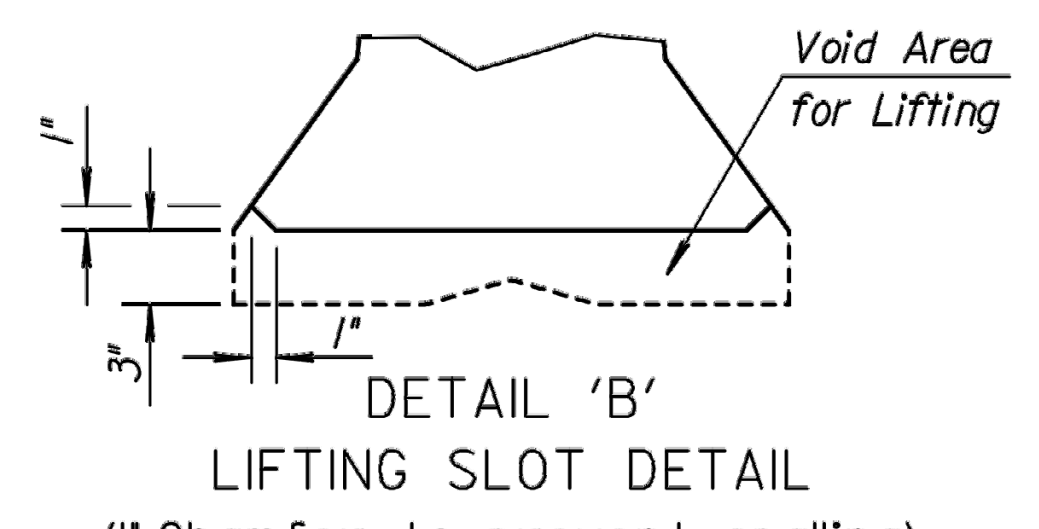
NOTE: At no time shall the barriers be lifted, moved, etc. by use of the loop bars: d_1, d_2 or d_3 .

Per 12'-6" Barrier Section

REINFORCING A615 Gr. 60					
Bar	Bar Size	Shape	No. of Bars	Length Ft.	Weight Lbs.
a_1	#4	U	12	6'-0"	48.1
a_2	#6	C	6	2'-11"	26.3
b_1	#5	—	7	12'-2"	88.8

LOOP ASSEMBLY					
	Bar Size	Shape	No. of Bars	Length Ft.	Weight Lbs.
d_1	#6	U	2	8'-5"	25.3
d_2	#6	U	2	7'-7"	22.8
d_3	#6	U	2	8'-6"	25.5

Concrete Quantity = 1.3 C.Y.
 (Dimensions are out to out of bars unless otherwise noted.)



NO.	DATE	REVISIONS	BY	APP'D
5	8-27-15	Added Note, Pay Length	K.E.K.	S.W.K.
4	5-17-13	Revised General Notes, Clear Area	S.W.K.	J.D.B.
3	06-03-12	Revised General Notes, Clear Area	S.W.K.	J.D.B.
2	02-06-07	Revised additional sheets note	S.W.K.	J.D.B.

KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY CONCRETE SAFETY BARRIER TYPE F3

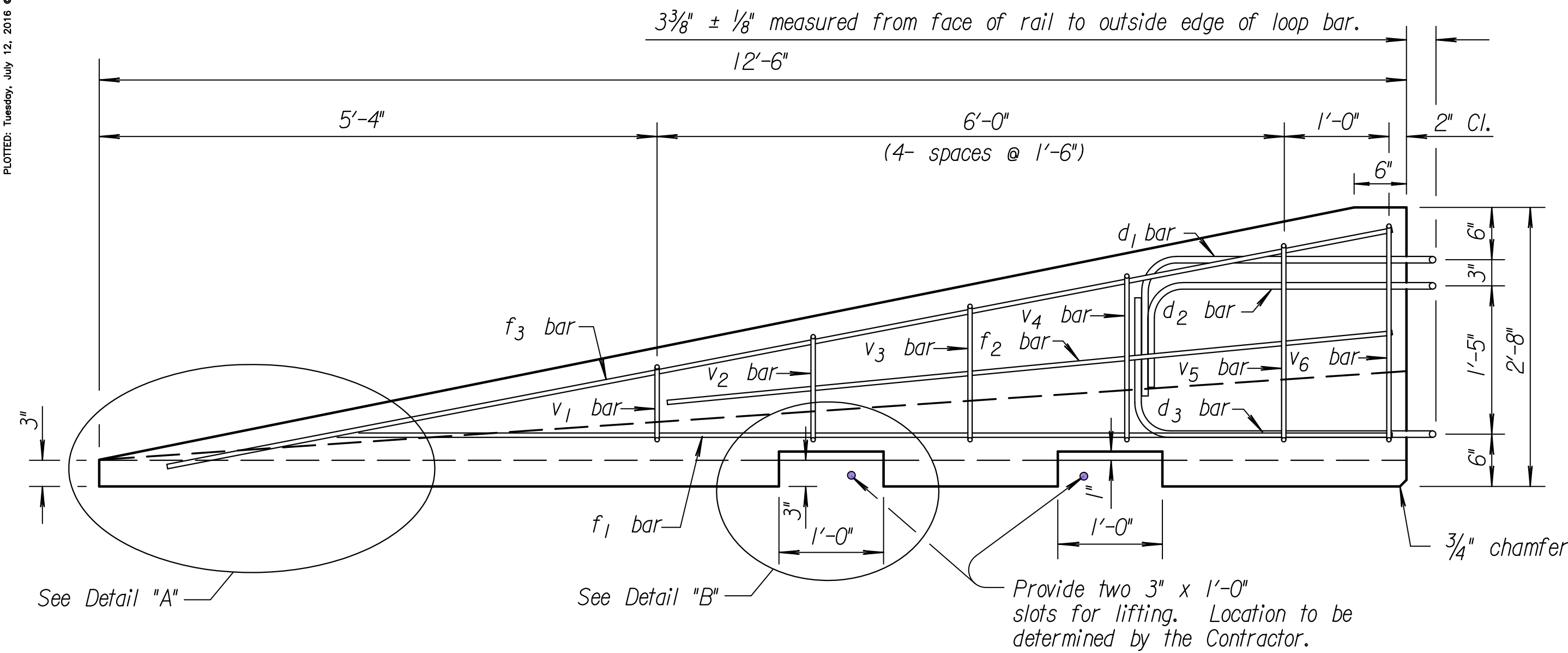
RD622

FWHA APPROVAL	9-16-15	APP'D. James O. Brewer	TRACED	Bowser
DESIGNED	DETAIL CK.	QUANTITIES	QUAN. CK.	TRACE CK. King

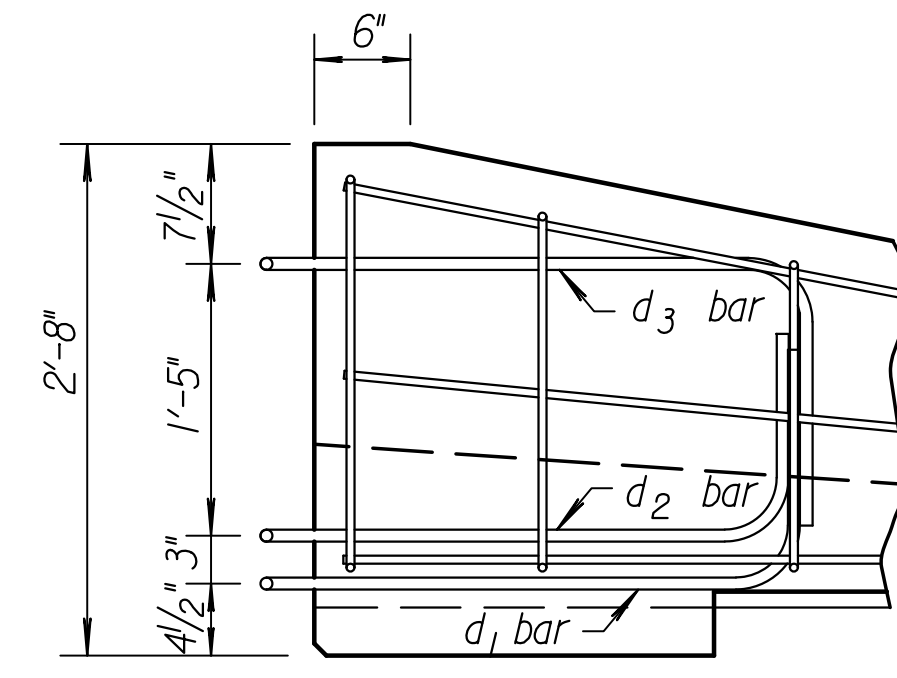
16

KDOT Graphics Certified 09-18-2015

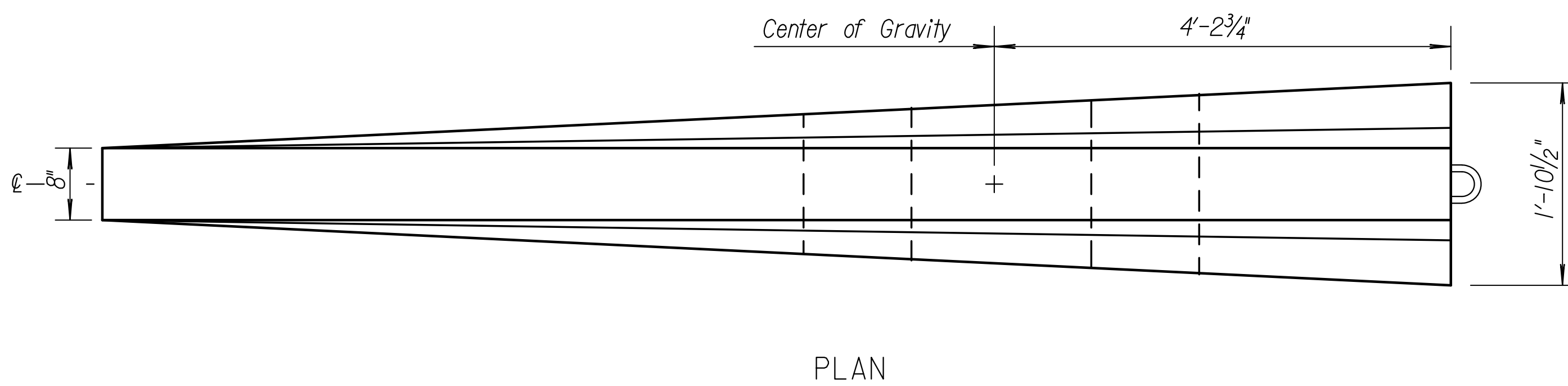
PLOTTED: Tuesday, July 12, 2016 @ 11:03AM



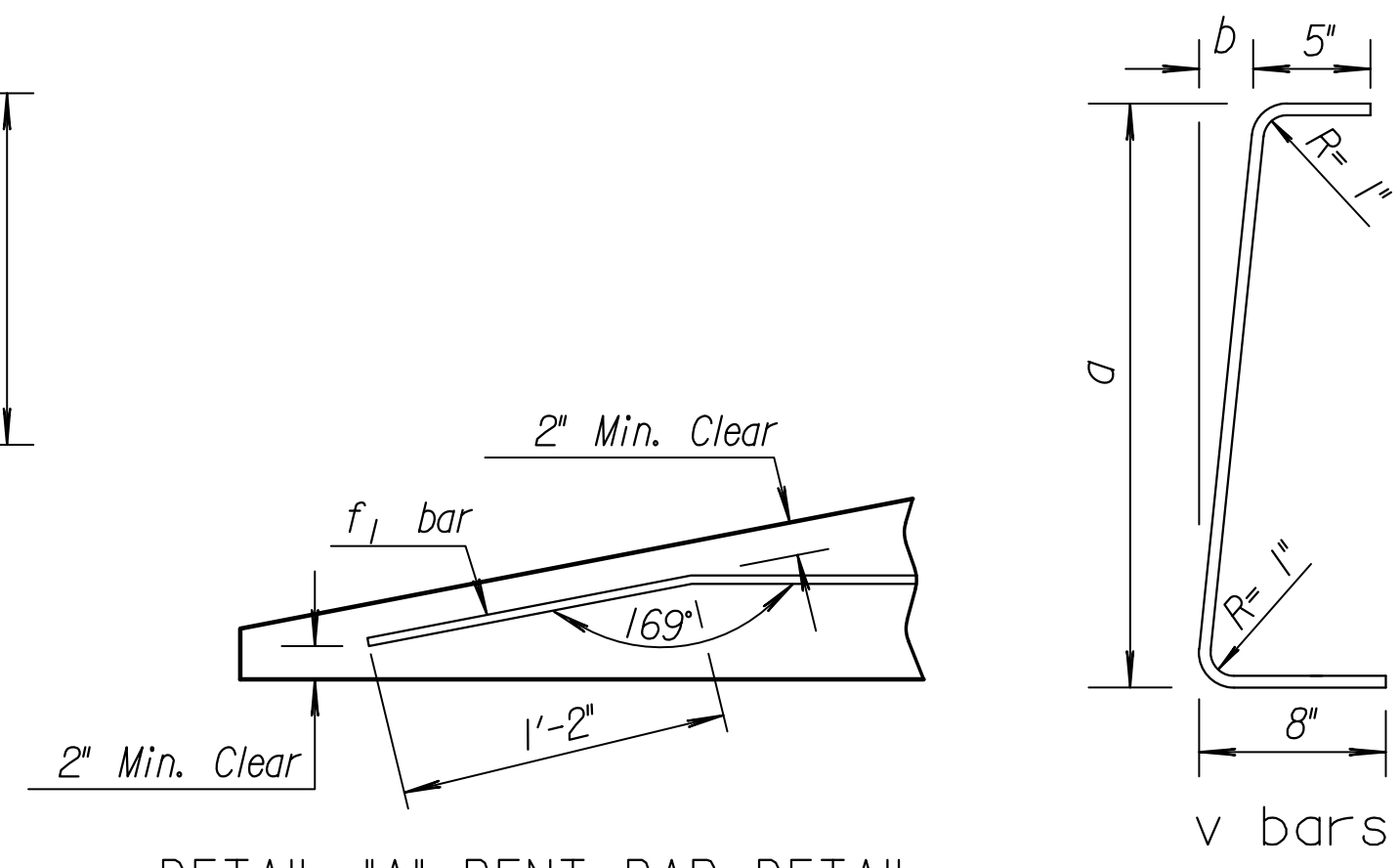
ELEVATION (SECTION)
(For connection to left end of Barrier)



ELEVATION (SECTION)
(For connection to right end of Barrier)

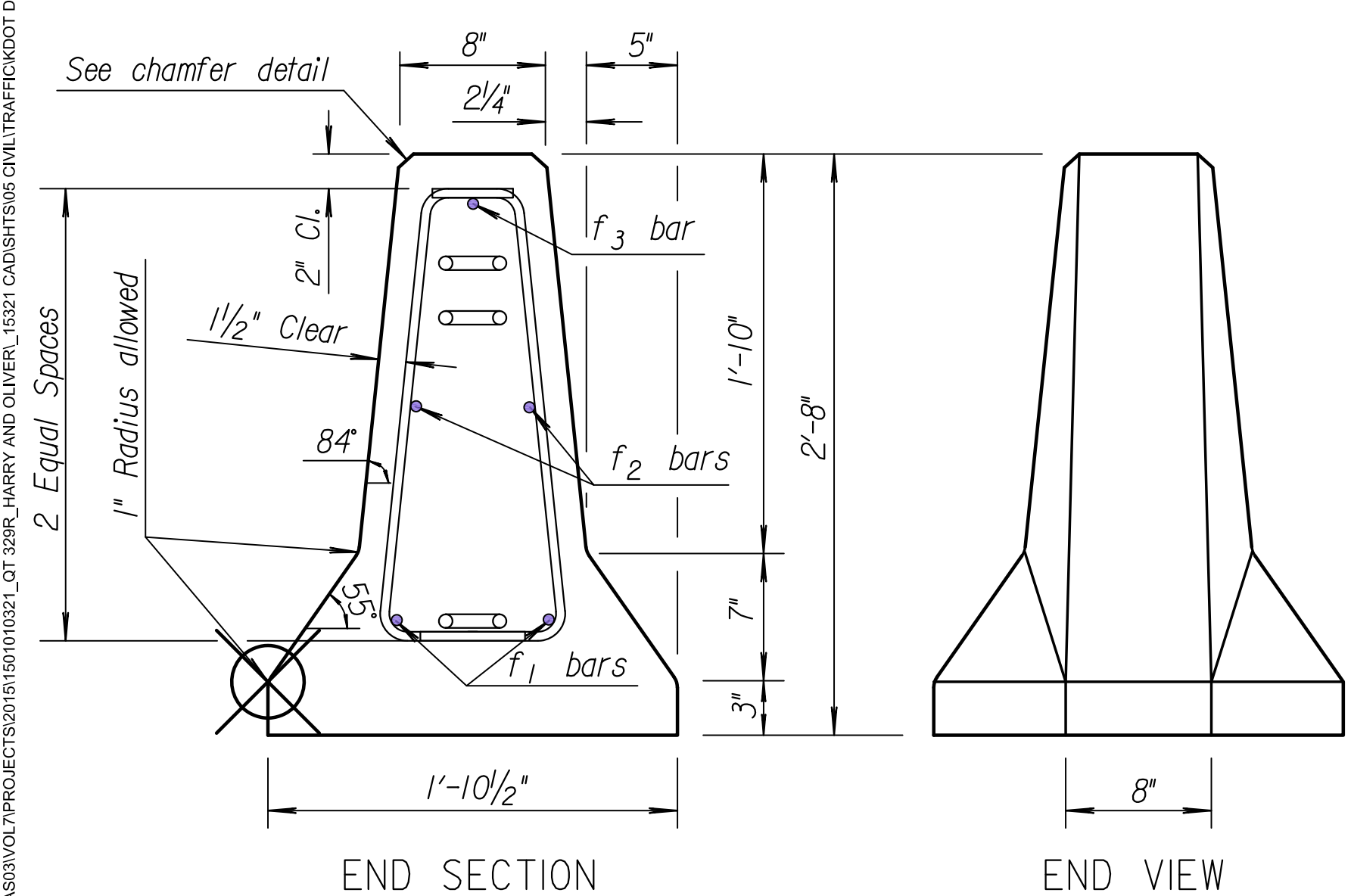


PLAN



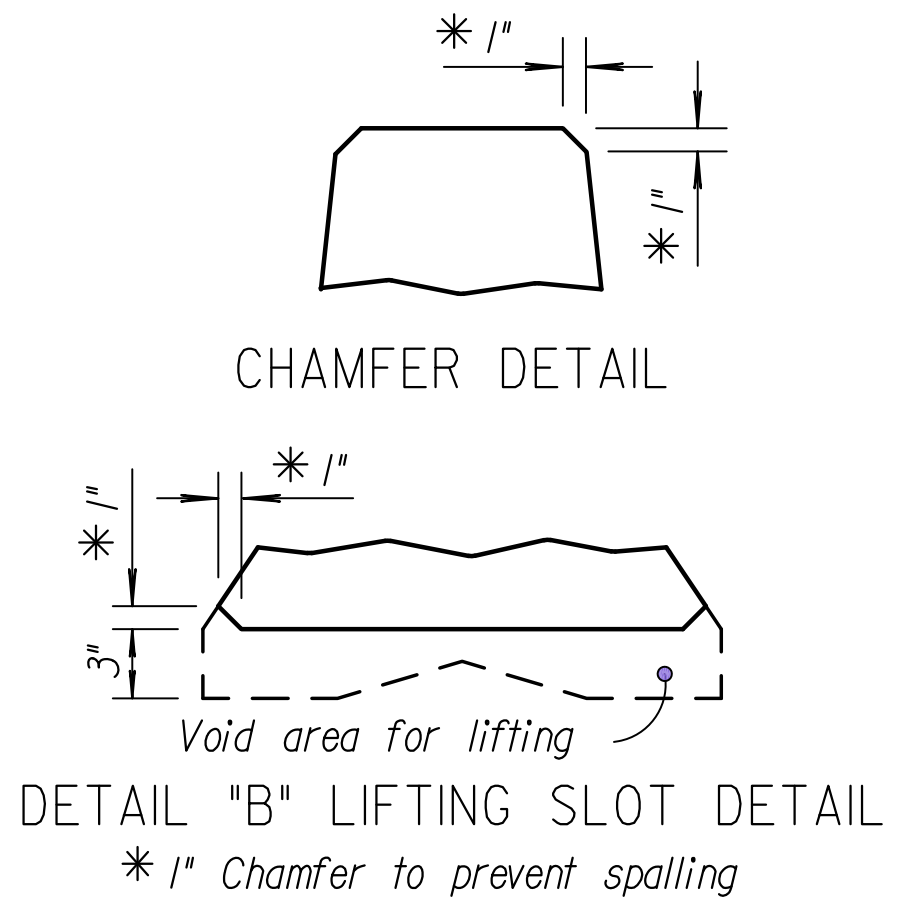
DETAIL "A" BENT BAR DETAIL

2 at each size required for stirrup assembly



END SECTION

END VIEW



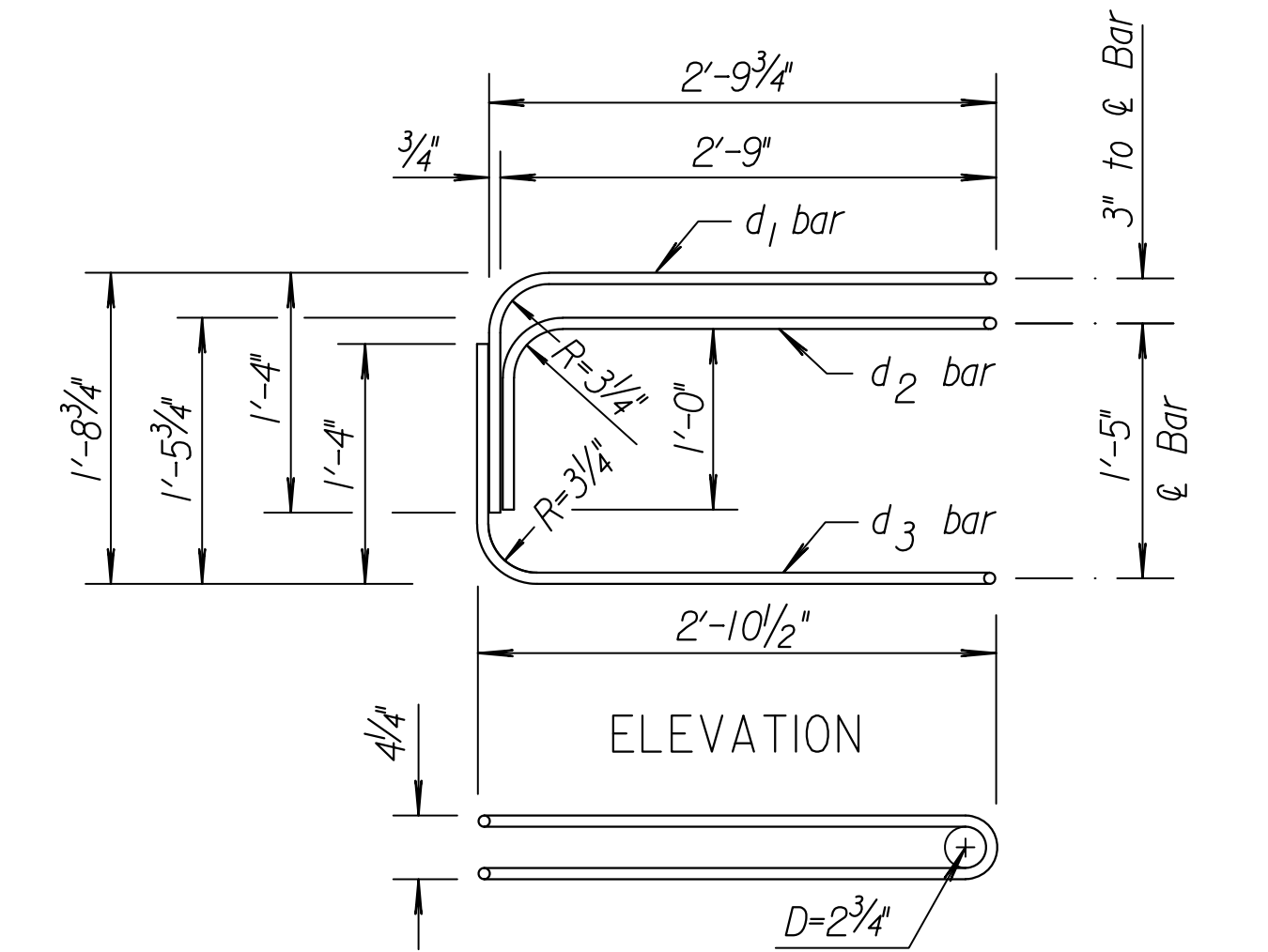
DETAIL "B" LIFTING SLOT DETAIL
* 1" Chamfer to prevent spalling

Per 12'-6" Barrier Taper Section

REINFORCING A615 Gr. 60					
Bar	Bar Size	Shape	No. of Bars	Length ft.	Weight lbs.
v ₁	#4	[	2	1'-11"	2.6
v ₂	#4	[	2	2'-2"	2.9
v ₃	#4	[	2	2'-6"	3.3
v ₄	#4	[	2	2'-9"	3.7
v ₅	#4	[	2	3'-2"	4.2
v ₆	#4	[	2	3'-4"	4.5
f ₁	#4	—	2	12'-0"	16.0
f ₂	#4	—	2	7'-6"	10.0
f ₃	#5	—	1	11'-9"	12.3
LOOP ASSEMBLY					
d ₁	#6	⌈	1	8'-5"	12.6
d ₂	#6	⌈	1	7'-7"	11.4
d ₃	#6	⌈	1	8'-6"	12.8

Concrete Quantity = 0.6 C.Y.

GENERAL NOTES:
MATERIAL: Use ASTM A615, Grade 60 reinforcing bars, except for the loop bars (d₁, d₂ and d₃). The loop bars (d₁, d₂ and d₃) shall be 3/4" smooth steel bars with a minimum yield of 60 ksi, a tensile strength of not less than 1.25 times the yield strength but a minimum of 80 ksi, a minimum 14% elongation in 8 inches, and passing a 180 degree bend test using a 3.5" D pin bend diameter. The loops shall be installed within 1/8" of the plan dimensions.
 Use air-entrained concrete with f'c = 5,000 p.s.i.
SECTION: The section furnished must generally comply with dimensions shown. Requests for minor variations in section geometry and attachments may be submitted to the Engineer for approval.
LIFTING SLOTS: Lifting slots shall be constructed where specified on the plans to facilitate the drainage of water after installation on the roadway.
TEMPORARY CONCRETE SAFETY BARRIER: One section of Taper Barrier shall be bid as one section of Type F3 Barrier. Type F3 barrier taper sections shall be used only for low speed (40 mph or less) applications or where a barrier terminates beyond the roadway clear zone. Where a barrier terminates within the clear zone of a high speed roadway, an appropriate impact attenuator shall be installed on the approach end. Furnishing and placing of all materials when required and all labor and equipment required to position the temporary barrier shall be included in the Contract unit price bid for "Concrete Safety Barrier (Type F3)(Temporary)". Any relocation of the barrier required for the project shall be paid in accordance with the Special Provisions under the bid item "Concrete Safety Barrier (Type F3)(Temporary-Relocate)". Unless otherwise noted on the Plans, the Temporary Concrete Safety Barrier shall become the property of the Contractor and shall be removed from the site upon acceptance of the completed project. Approximate weight of one unit equals 1.3 tons.
SURFACE PREPARATION: Barrier shall be placed on a paved surface. All loose dirt and sand shall be removed from the roadway surface just prior to placement of the barrier.
MARKING: Each barrier shall be permanently marked by stamping or forming into the barrier the following information:
 - Type F3
 - Manufacturer code (as specified by KDOT Bureau of Const. & Maint.)
 - Date manufactured (month and year)



PLAN
LOOP BAR ASSEMBLY
(Left Barrier Connection shown, invert for other end)

Note: At no time shall the barriers be lifted, moved, etc. by use of the loop bars: d₁, d₂ or d₃.

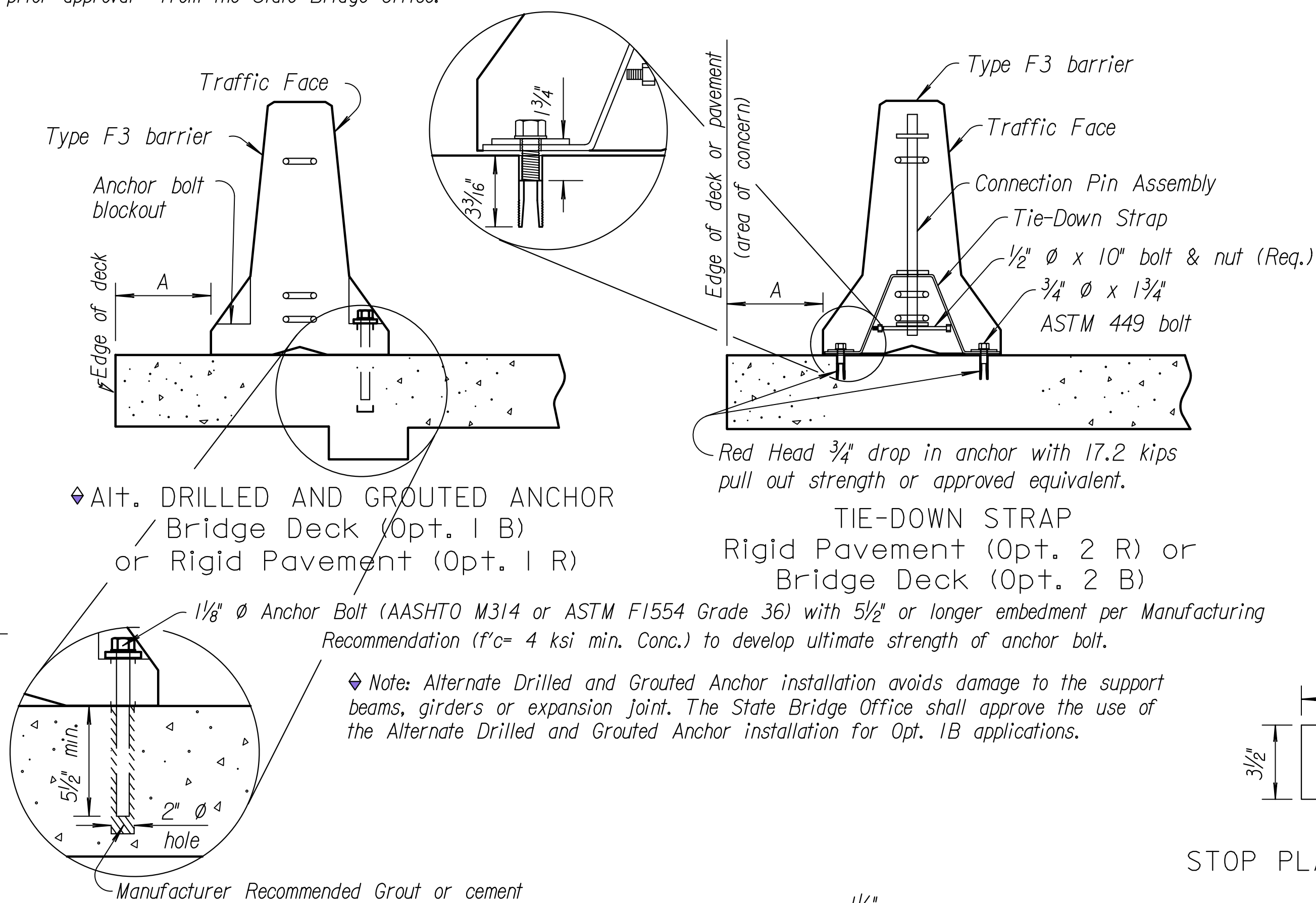
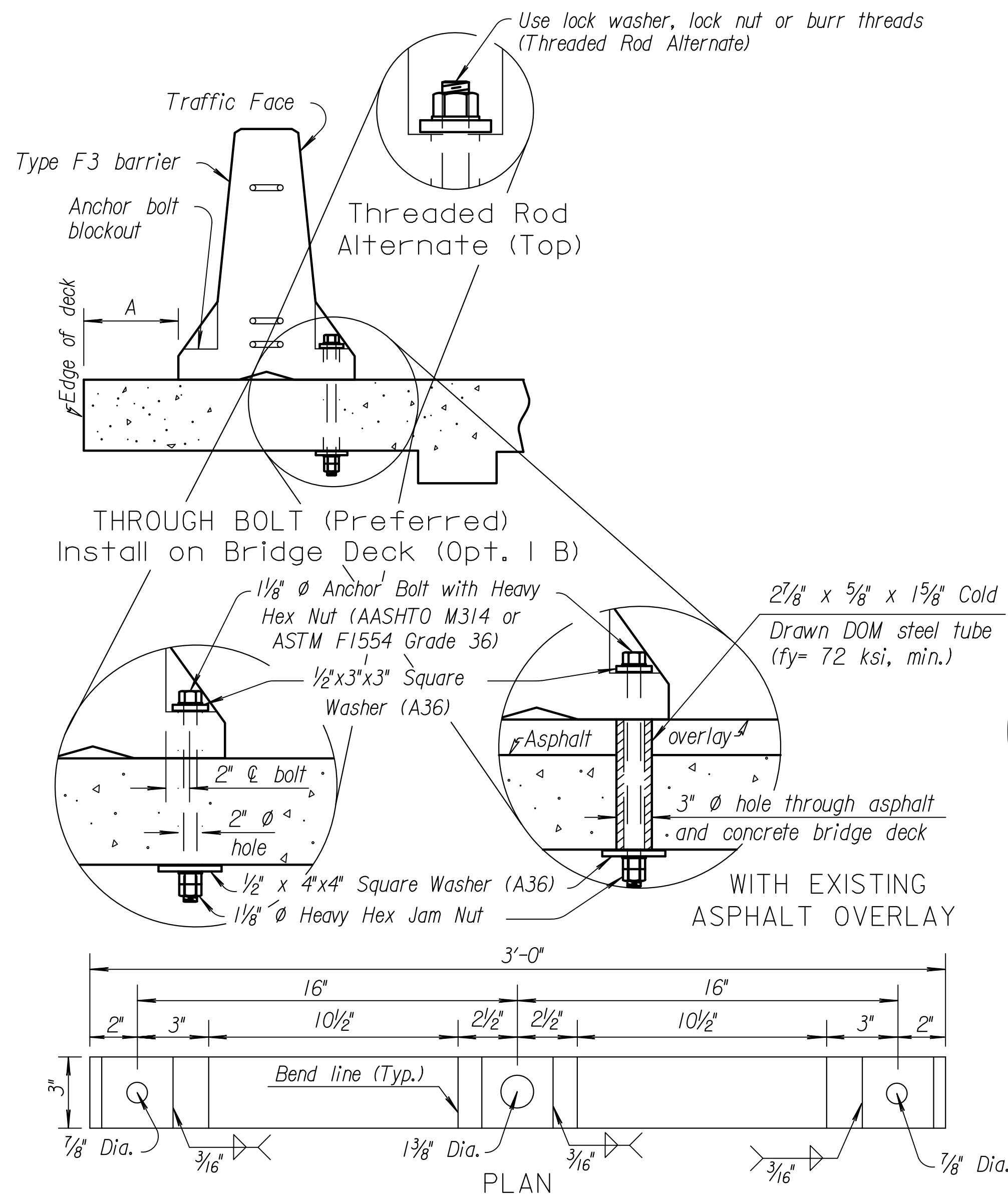
3					
2					
1	1-10-07	Revised layout & notes		S.W.K.	J.O.B.
NO.	DATE	REVISIONS		BY	APP'D
KANSAS DEPARTMENT OF TRANSPORTATION					
TEMPORARY CONCRETE SAFETY BARRIER TAPER SECTION TYPE F3					
RD622A					
17					
FHWA APPROVAL	01-19-07	APP'D. James O. Brewer			
DESIGNED	DETAILED	QUANTITIES	TRACED	B.N.B.	
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK.	S.W.K.	

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0372PPD	2015	18	26

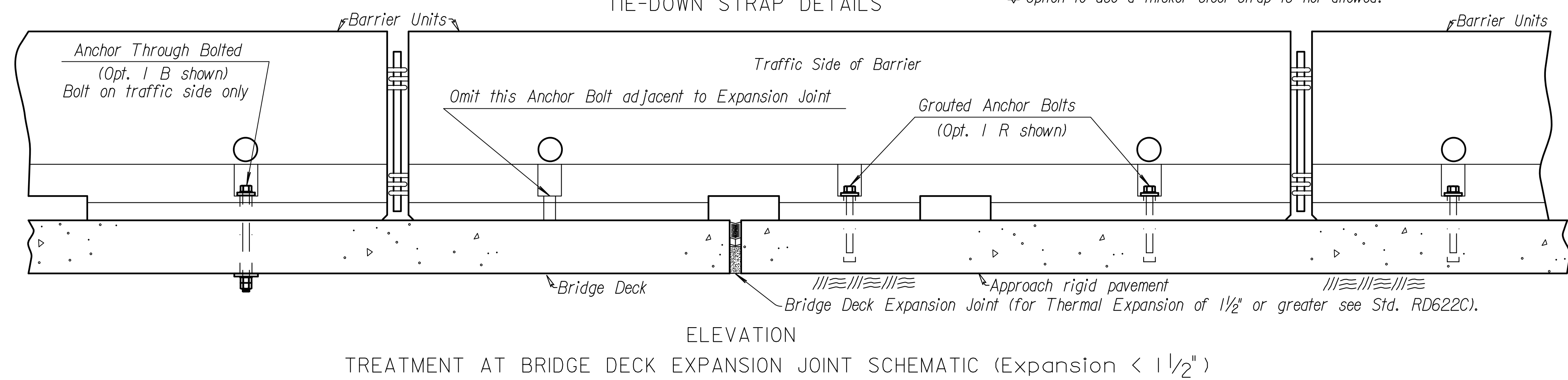
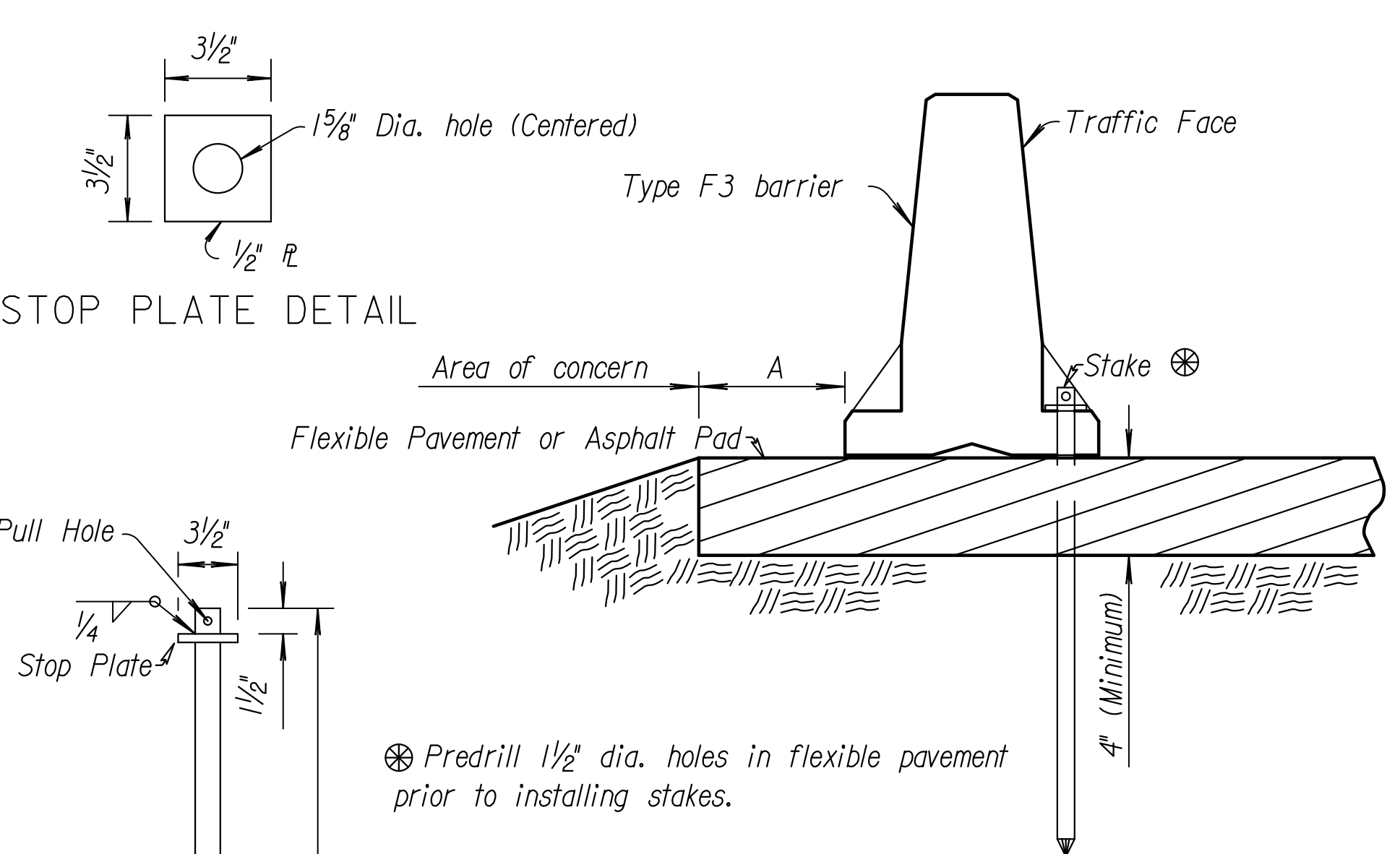
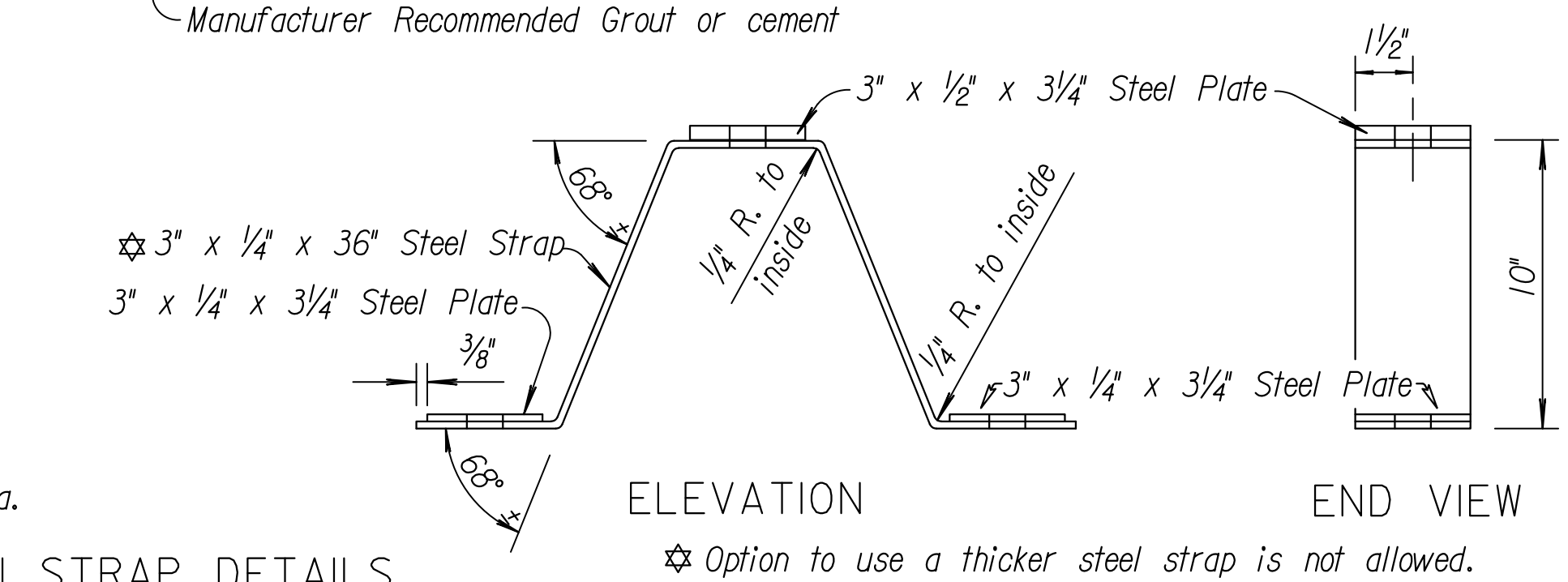
Option	BRIDGE DECK APPLICATION	
1	$0' \leq A < 2'$	Anchor each barrier with 3 bolts on traffic face
2 B	$\Delta 2' \leq A < 4'$	Anchor with Tie-down strap connector
3 B	$A \geq 4'$	No anchorage required unless shown on plans

Option	ROAD PAVEMENT APPLICATION	
1 R	$0' \leq A < 2'$	Anchor each barrier with 3-bolts on traffic face
2 R	$6' \leq A < 2'$	Anchor with Tie-down Strap or Staked Down (flexible)
3 R	$A \geq 2'$	No anchorage required

Δ This dimension may be reduced to 1' on a newly constructed Bridge Deck.
 Note: BRIDGE APPLICATION (Opt. 1 B) may be used in lieu of (Opt. 2 B) with prior approval from the State Bridge Office.



TIE-DOWN STRAP
Rigid Pavement (Opt. 2 R) or
Bridge Deck (Opt. 2 B)



NO.	DATE	REVISIONS	BY	APP'D
6	12-31-13	Rev. Note (Alt. Drill. & Grout. Anch.)	S.W.K.	J.O.B.
5	6-27-11	Revised General Note	S.W.K.	J.O.B.
4	9-14-10	Add. through bolt with asphalt over	S.W.K.	J.O.B.
3	2-2-10	Rev. Anchor to Tie-down callout	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

TEMPORARY
CONCRETE SAFETY BARRIER
TYPE F3 ANCHORAGE

RD622B

18

DESIGNED	9-4-14	APP'D. James O. Brewer	TRACED	Bowser
DESIGN CK.	DETAIL CK.	QUANTITIES	TRACE CK.	King

Grind bottom 1/2" to a point

STAKE DETAIL

Grind bottom 1/2" to a point

STAKE DETAIL

PLOTTED: Tuesday, July 12, 2016 @ 11:04AM
 W:\NAS03\VOL\PROJECTS\2015\1501010321_COT_529R_HARRY AND OLIVER_15321_CAD\SHS\505\CIVIL\TRAFFICKNOT DETAIL\RD622B.DWG

KDOT Graphics Certified

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	0372PPD	2015	19	26

GENERAL NOTES

The delineators shall be spaced on 200' centers, except through curves greater than 1900' radius curvature and along ramps and ramp tapers where the spacing shall be on 100' centers. Delineators should be installed back to back when used on 32" median barrier for two-way roadways. The delineator color shall be yellow when used on the left side or white when used on the right side of the roadway.

The flat sheet sign blank shall be made of the aluminum alloy and thickness shown.

The 3" x 8" delineator sign face shall be covered with high performance white or yellow retroreflective sheeting.

The type of adhesive for reflective sheeting shall be heat activated or pressure sensitive.

The delineator bracket shall be fabricated from aluminum in the thickness and sizes shown. The material for the brackets shall comply with the Standard Specifications. All holes for mounting the delineator to the bracket shall be 3/8" diameter. The holes for mounting the bracket to the barrier shall be 7/16" diameter. All burrs and sharp edges shall be smoothed off. The brackets shall not be fabricated by the use of welding.

All items of the fastening accessories shall be Zinc or Cadmium plated.

The machine screws, nuts, and washers used to fasten the delineator to the bracket shall comply with the Standard Specifications.

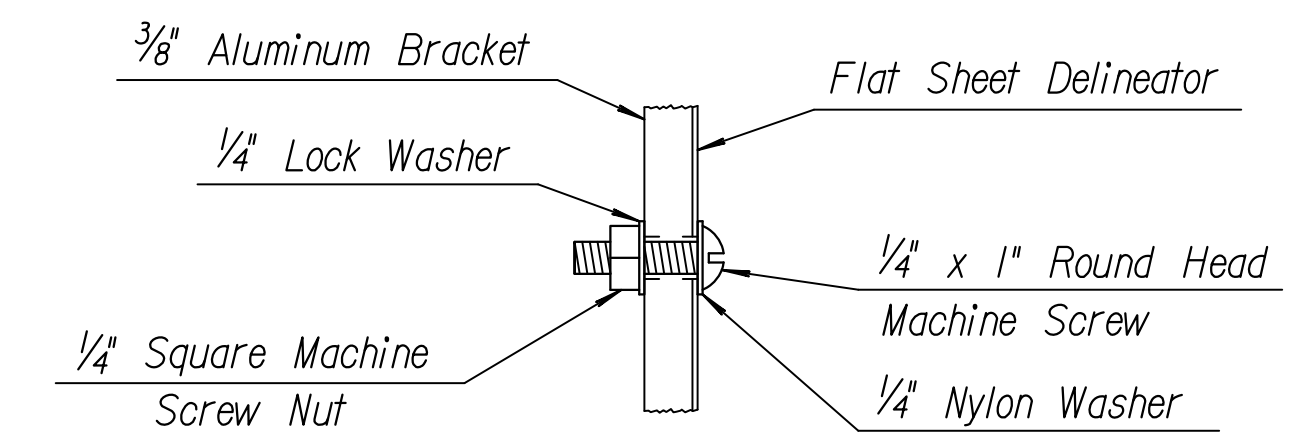
All work and materials required for the installation of the delineators shall be Subsidiary to the bid item "Concrete Safety Barrier".

When delineators are installed on median or roadside barriers approaching a bridge, they shall be installed on the bridge rail in accordance with the spacing and details on this sheet.

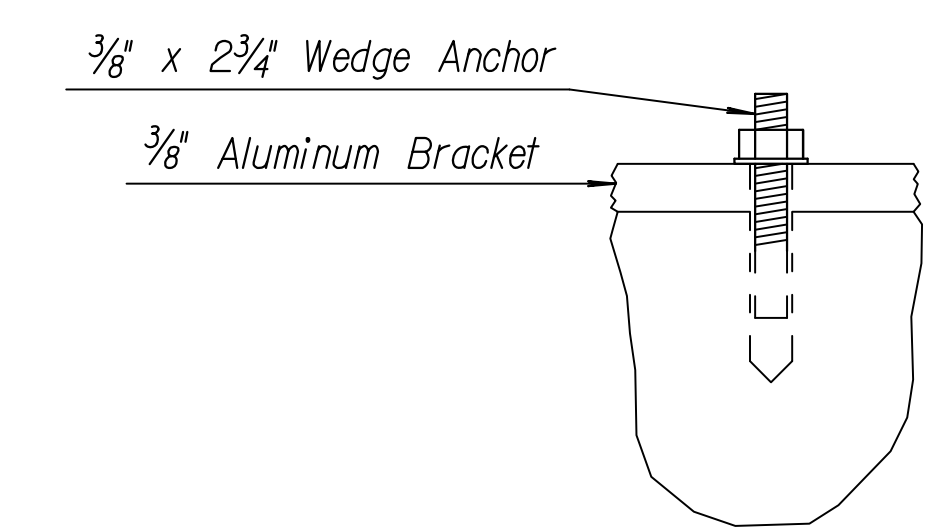
The color of delineation (white or yellow) shall match the color of the pavement marking edge line.

Road Type	Right Edge Delineator	Left Edge Delineator
Main Line	Type "A" White	Type "A" Yellow
Acceleration Lane Deceleration Lane	Type "B" White	Type "B" Yellow
Ramp	Type "A" White	Type "A" Yellow

PATTERN OF DELINEATION



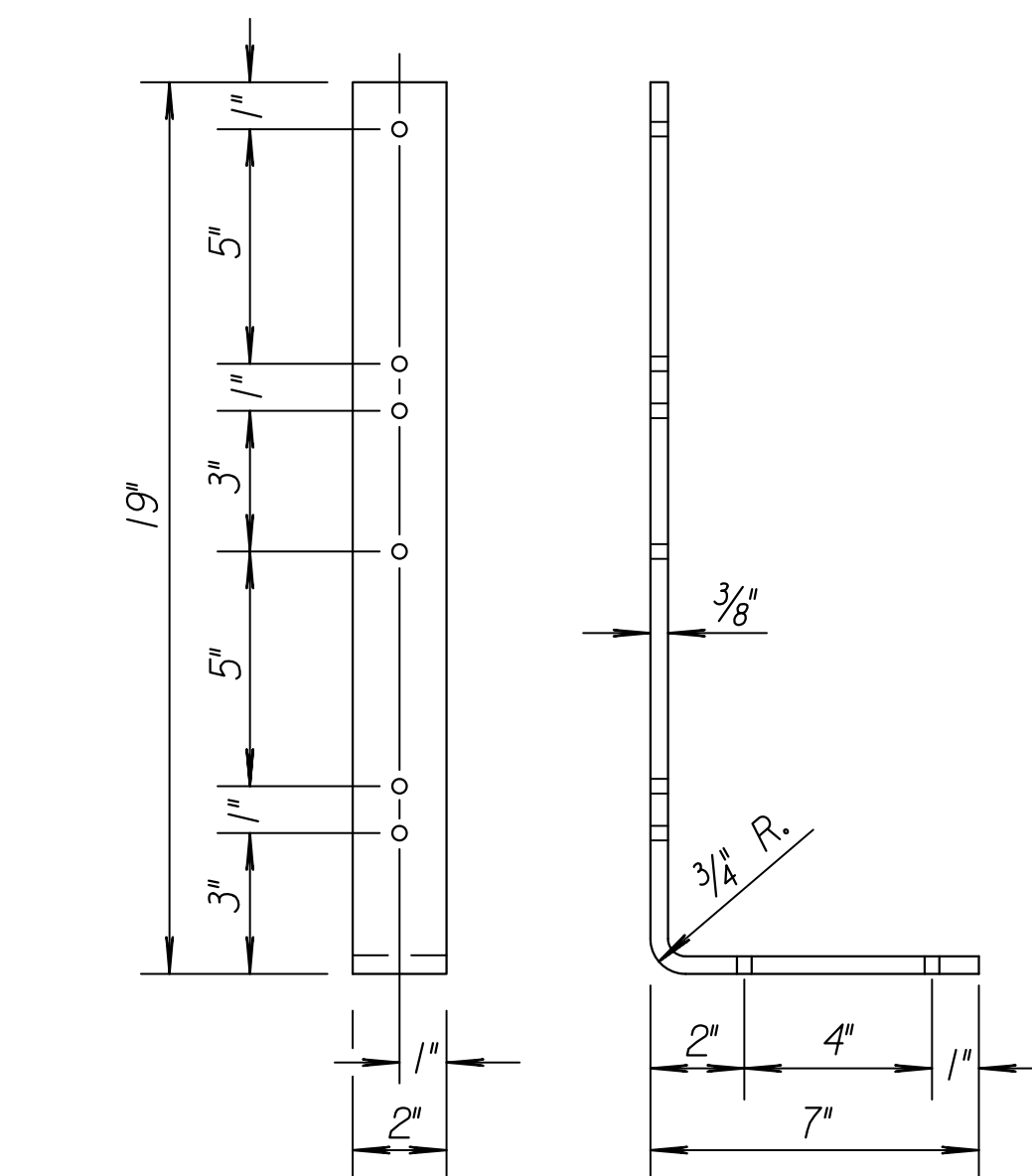
FLAT SHEET DELINEATOR MOUNTING
DETAILS FOR ATTACHING
DELINEATORS TO BRACKETS



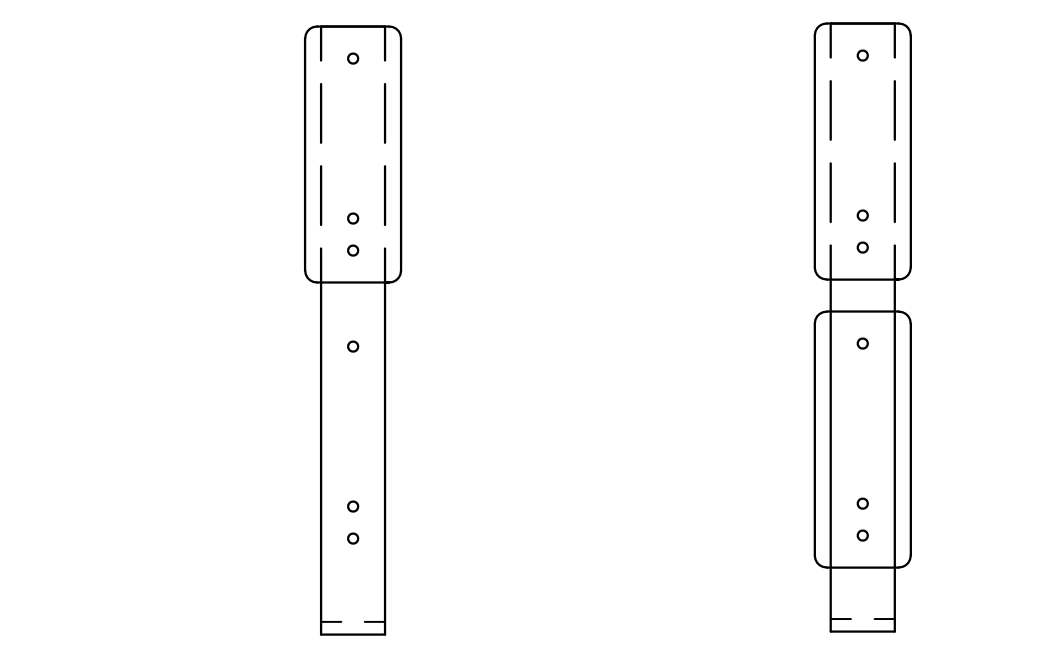
DETAILS FOR ATTACHING BRACKETS
TO SAFETY BARRIER

NO.	DATE	REVISIONS	BY	APP'D
3	6-03-09	Removed button & diamond details	S.W.K.	J.O.B.
2	6-05-07	Changed degree of curve to radius	S.W.K.	J.O.B.
1	2-28-03	Revised layout and details.	S.W.K.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION			
DESIGN DETAILS FOR DELINEATION ON CONCRETE SAFETY BARRIER			
RD624		19	
DESIGNED	12-18-09	APP'D.	James O. Brewer
DESIGN CK.	DETAIL CK.	QUANTITIES	TRACED
		QUAN. CK.	TRACE CK.

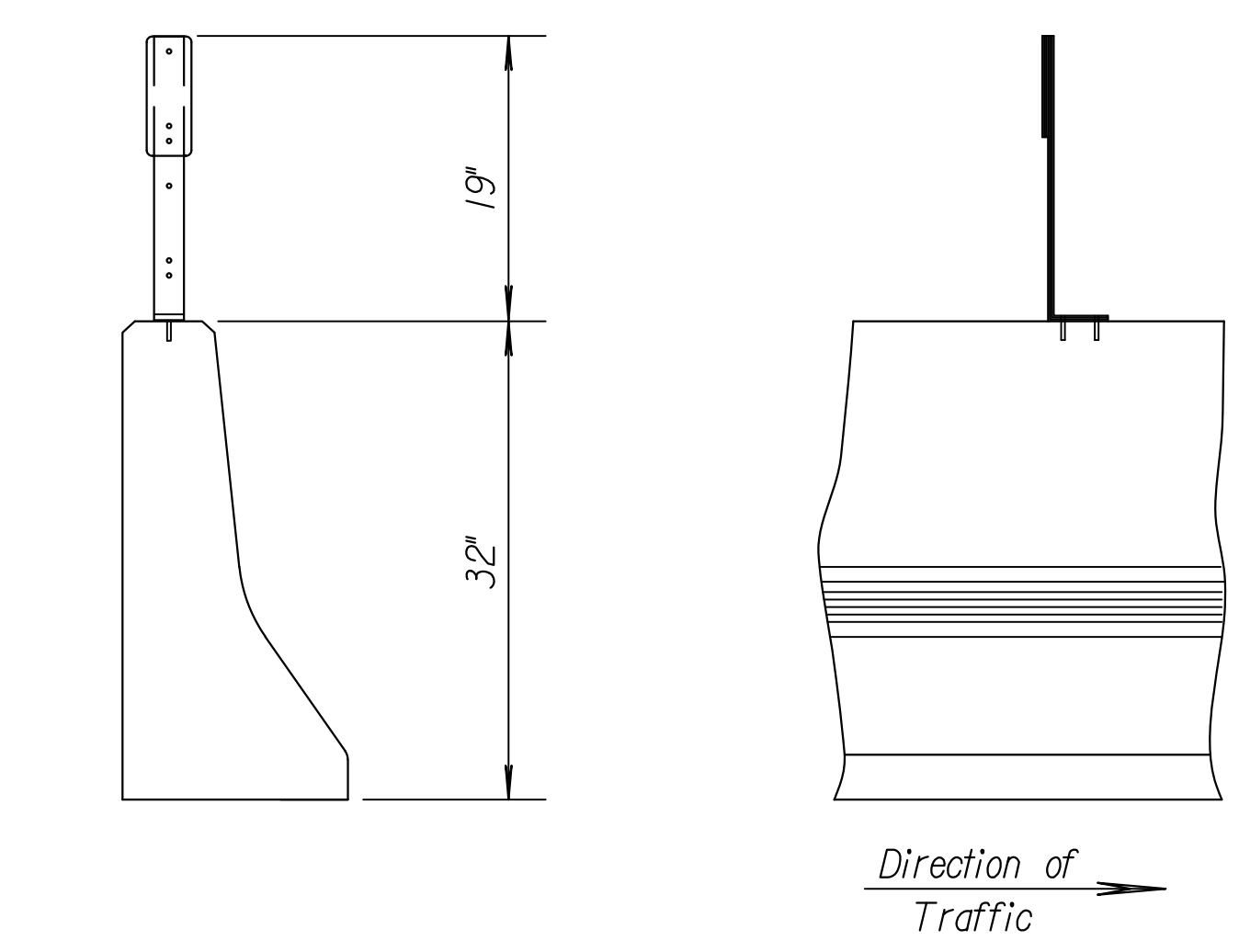


DELINEATOR BRACKET DETAILS

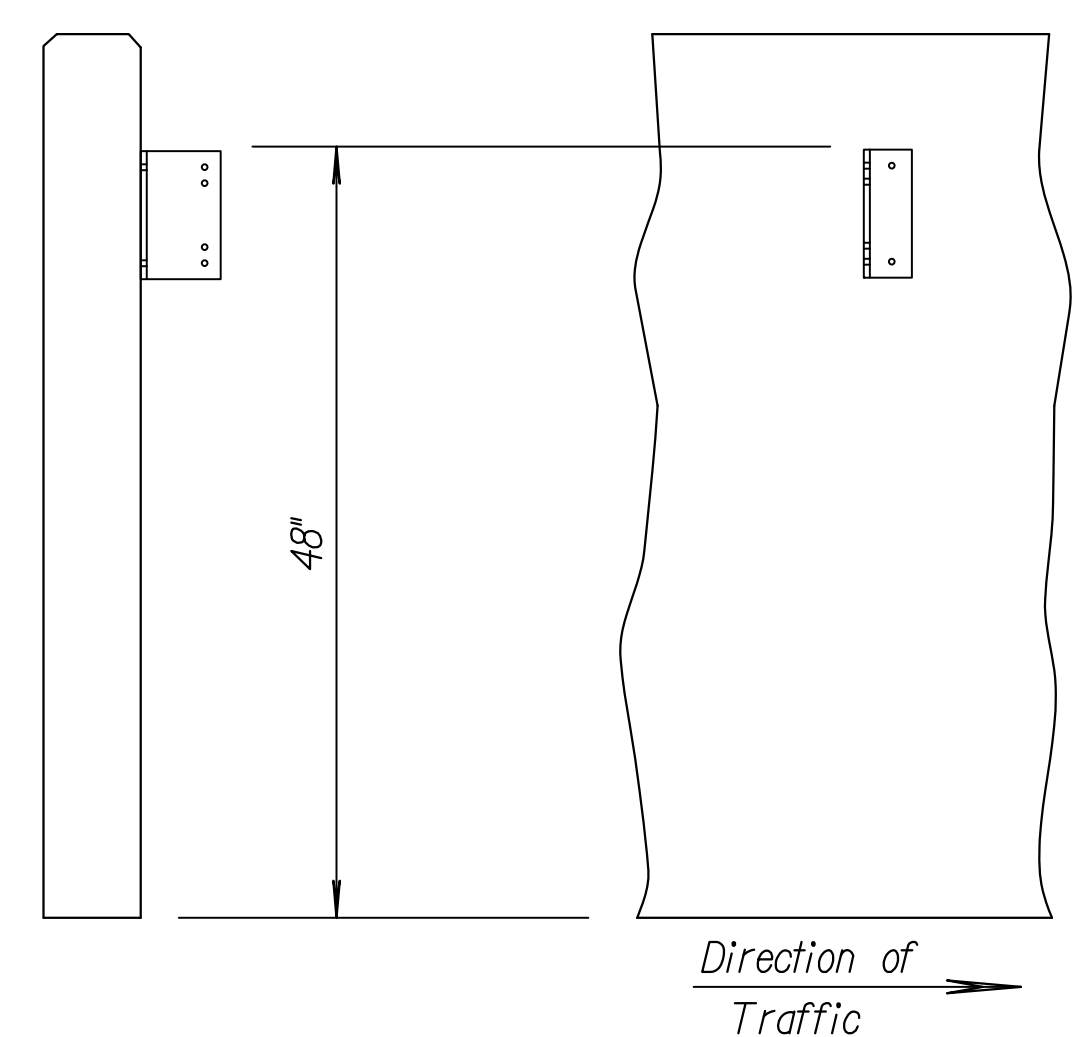


TYPE "A" TYPE "B"
DELINEATOR POSITION DETAILS

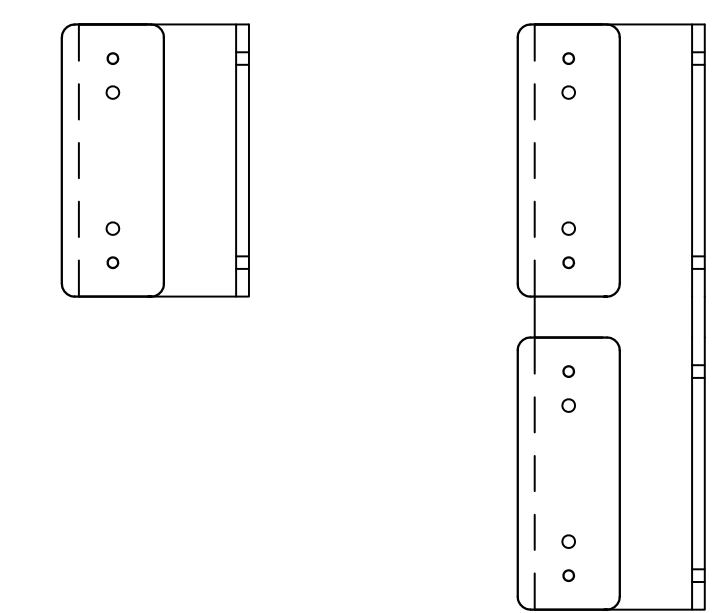
DESIGN DETAILS FOR DELINEATION ON 32" CONCRETE SAFETY BARRIER SECTION



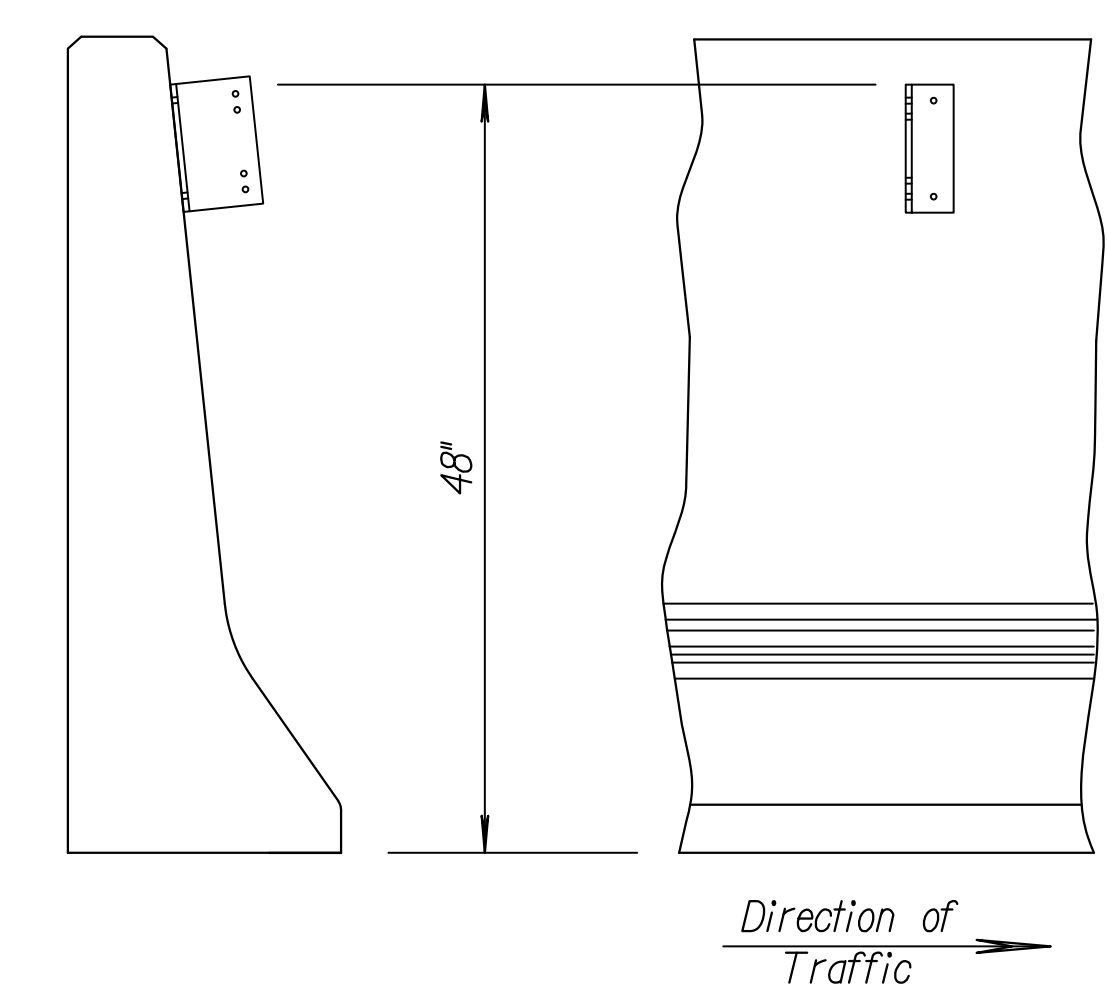
TYPICAL MOUNTING DETAIL



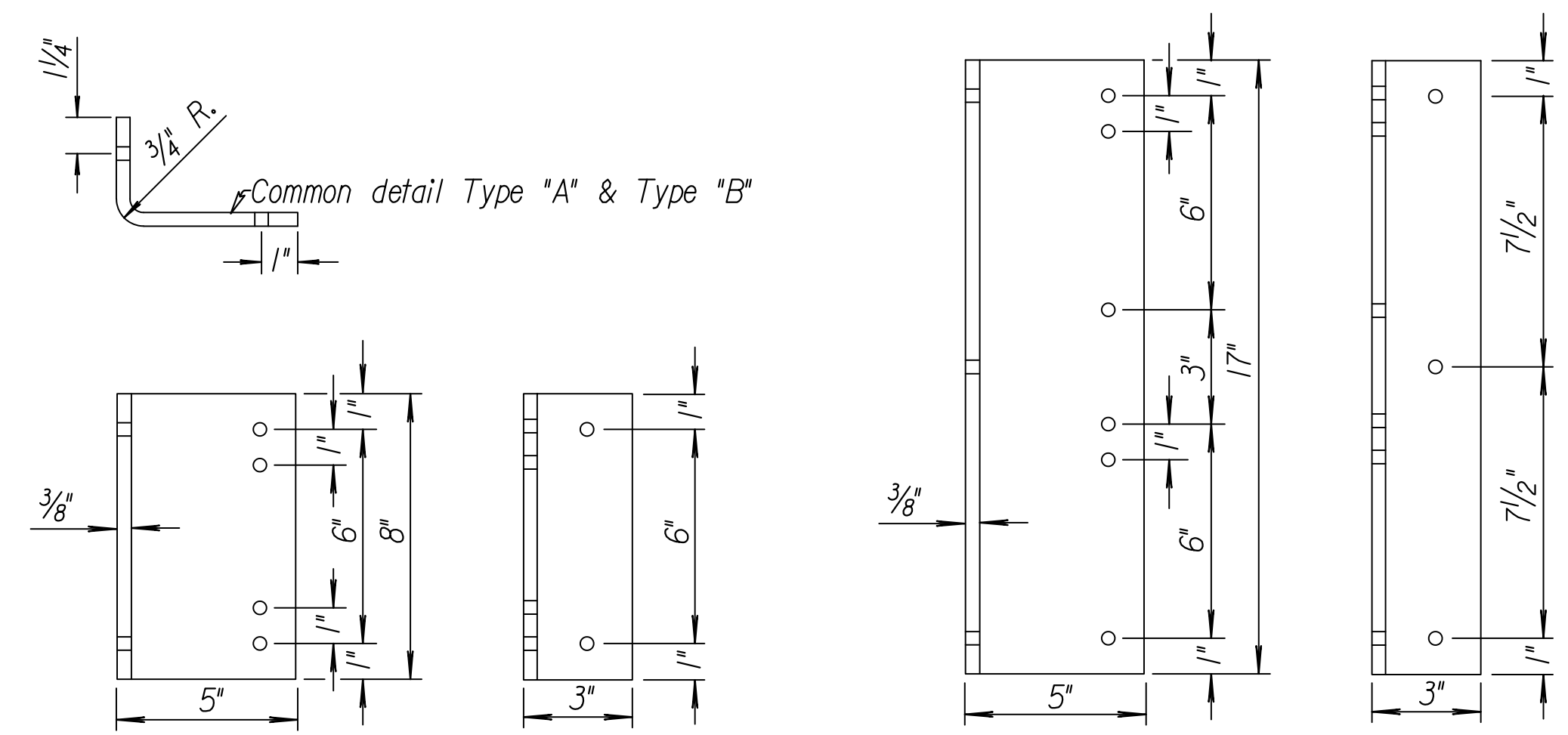
TYPICAL MOUNTING DETAIL FOR
RETAINING WALL SECTION



TYPE "A" TYPE "B"
DELINEATOR POSITION DETAILS



TYPICAL MOUNTING DETAIL



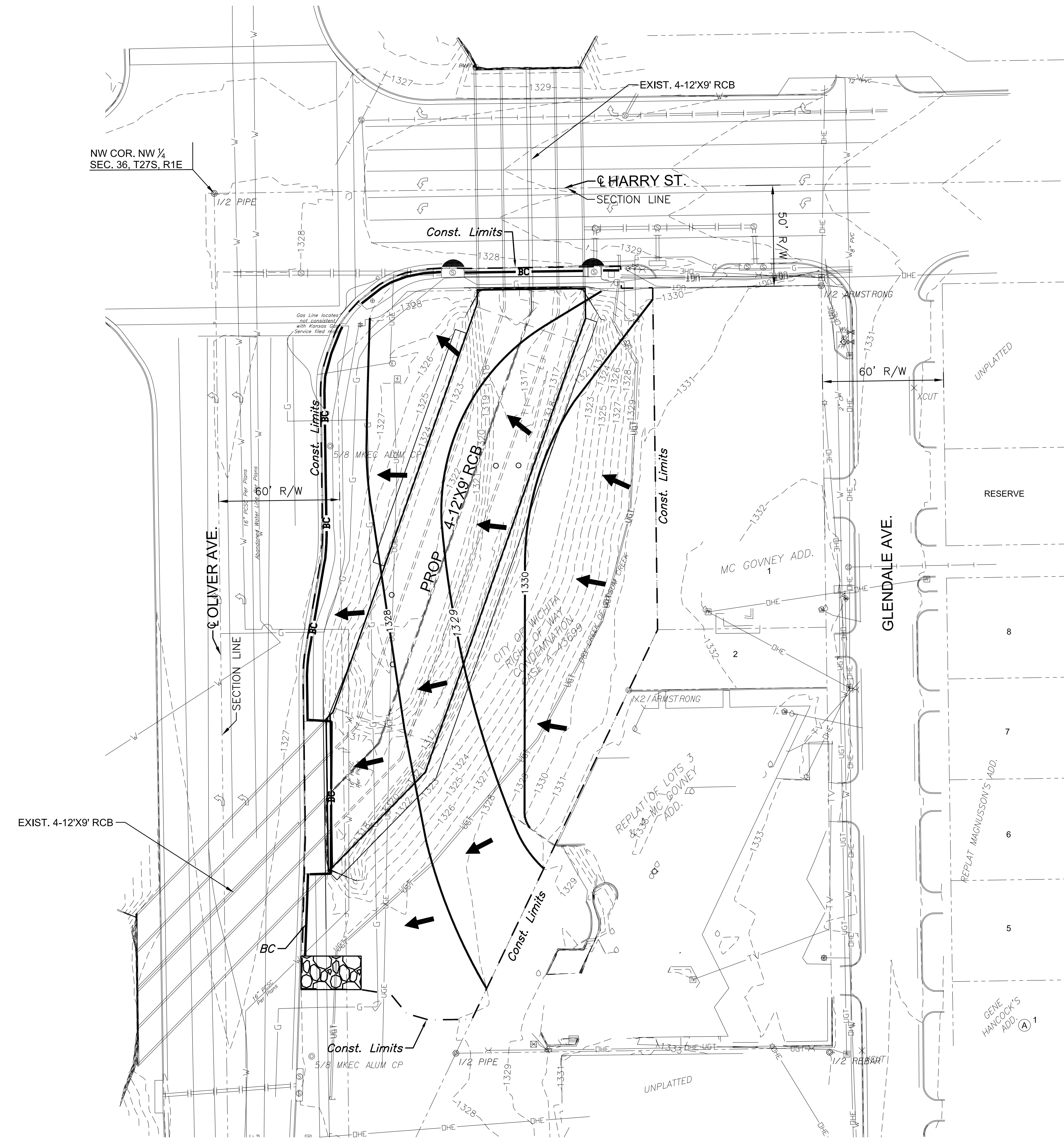
TYPE "A" TYPE "B"
DELINEATOR BRACKET DETAILS

NOTE: The aluminum sign blanks are to be ASTM B-209(H), Alloy 6061-T6, or 5154-H38, or 5052-H38. The aluminum sign blank shall be 0.040" thick. Both faces and all cut edges of sign to be degreased and etched. All holes shall be 5/16" in diameter.

FLAT SHEET SIGN BLANK DETAILS

PLOTTED: Tuesday, July 12, 2016 @ 11:05AM
 W:\NAS03\VOL7\PROJECTS\2015\15010321_COT 529R_HARRY AND OLIVER_15321_CAD\SHETS\05 CIVIL\TRAFFICKDOT DETAILS\RD624.DWG

KDOT Graphics Certified



EROSION CONTROL/SEEDING NOTES

1. EROSION CONTROL IS TO MEET ALL FEDERAL, STATE, COUNTY AND LOCAL CODE STANDARDS.
2. TEMPORARY SEEDING: ALL AREAS DISTURBED WITH EXCEPTION OF PROPOSED STREET PAVEMENT BE SEEDED (COST SUBSIDIARY TO PROJECT) AND FERTILIZED AS FOLLOWS UNLESS PERMANENT SEEDING CAN BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION:
 - ANNUAL RYE @ 150 LBS./ACRE
 - SLOW RELEASE @ 150 LBS./ACRE
3. IN THE EVENT THAT A PORTION OF THE SITE WILL REMAIN DISTURBED FOR MORE THAN 30 DAYS, PERMANENT SEEDING SHALL BE INSTALLED. PERMANENT SEEDING MIX AND RATE SHALL BE APPROVED BY PROJECT LANDSCAPE ARCHITECT.
4. ALL AREAS SHALL BE FINE GRADED AND SURFACE SHALL BE FREE FROM STICKS, SMALL STONES, AND OTHER EXTRANEIOUS MATERIALS.
5. CONTRACTOR SHALL PROVIDE EROSION PROTECTION THROUGHOUT PROJECT CONSTRUCTION. THE PLAN PROVIDED HERE IS FOR FINAL PROTECTION. VARIOUS PHASES OF THIS PLAN SHALL BE IMPLEMENTED OR MODIFIED TO CONTROL EROSION. MODIFICATIONS OF THE PLAN SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE.
6. SEEDING AREAS SHALL BE PREPARED FOR PLANTING WITH COMMON AGRICULTURAL TECHNIQUES. APPROVE WITH OWNER'S REPRESENTATIVE BEFORE PLANTING.
7. ALL SEED SHALL BE DISTRIBUTED WITH AN ACCEPTABLE DRILL INTENDED FOR SUCH OPERATIONS, OR OTHER EQUIPMENT APPROVED BY THE OWNER'S REPRESENTATIVE. SEEDING DEPTH SHALL BE 1/4 OF AN INCH.
8. ALL SEEDED AREAS SHALL BE IMMEDIATELY MULCHED WITH PRAIRIE HAY AT 2 TONS/ACRE. ANCHOR MULCH BY CRIMPING INTO TOPSOIL WITH SUITABLE MECHANICAL EQUIPMENT.
9. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING AND IMPLEMENTING ALL EROSION CONTROL..
10. IN ORDER TO PREVENT SILT OR SEDIMENT FROM ENTERING ADJACENT PROPERTIES, APPROPRIATE BMP'S SHALL BE IMPLEMENTED WITHIN THE PROJECT.
11. ANY MUD TRACKED ONTO ADJACENT PAVED AREAS OR STREETS SHALL BE REMOVED AT THE END OF EACH WORK DAY.
12. PER THE REQUIREMENTS OF THE NOI/SWPPP, BMP INSPECTION REPORTS SHALL BE COMPLETED BY THE CONTRACTOR WEEKLY AND WITHIN 24 HOURS AFTER A 1/2" RAIN. REPORTS SHALL BE KEPT WITH THE SWPPP ON SITE.
13. CONTRACTOR SHALL PROVIDE A SIGN NEAR THE ENTRANCE WITH THE FOLLOWING INFORMATION:
 - A. CONTACT NAME AND INFORMATION
 - B. A COPY OF THE NOI
 - C. LOCATION OF SWPPP

CONSTRUCTION SEQUENCING

1. INSTALL INLET PROTECTION AT EXISTING INLETS. CONSTRUCTION ENTRANCE SHALL BE INSTALLED.
2. CLEARING/GRUBBING
3. INSTALL BOX CULVERTS.
4. PLACE FILL.
5. INSTALL BACK-OF-CURB PROTECTION ALONG OLIVER AND HARRY.
6. TEMPORARY SEEDING AS NEEDED
7. ALL DISTURBED AREAS TO BE SEEDDED WITH RYE GRASS AT A RATE OF 150 LBS. PER ACRE WITHIN 10 DAYS OF CONSTRUCTION. CONTRACTOR TO PREPARE GROUND PER CITY SPECIFICATIONS. COST IS SUBSIDIARY TO SITE PREPARATION AND RESTORATION.

LEGEND

- 1370 --- EXIST. CONTOUR
- 1370 — PROP. CONTOUR
- W — WATERLINE
- S — SANITARY SEWER
- SW — STORMWATER SEWER
- UGE — UNDERGROUND ELECTRICAL
- G — GAS LINE
- FOC — FIBER OPTIC CABLE
- ➔ FLOW ARROW
- ⌒ CURB INLET PROTECTION
- BC — BACK OF CURB PROTECTION
- LIMITS OF GRADING
- ⊗ STABILIZED CONSTRUCTION ENTRANCE

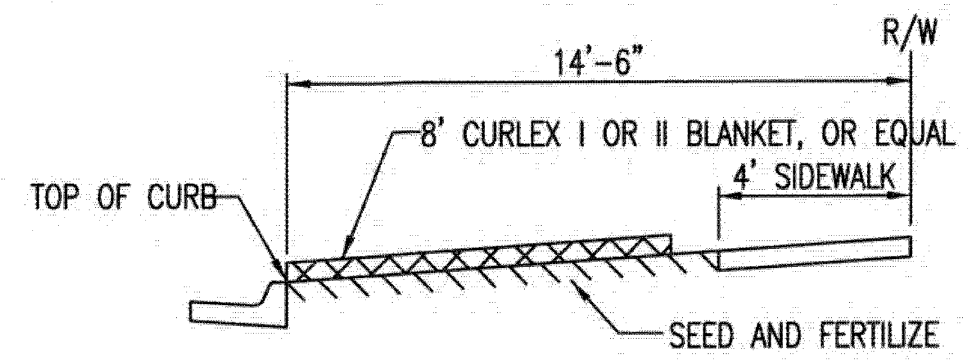


STORM WATER SEWER PLAN FOR
QUIKTRIP NO. 329
HARRY AND OLIVER

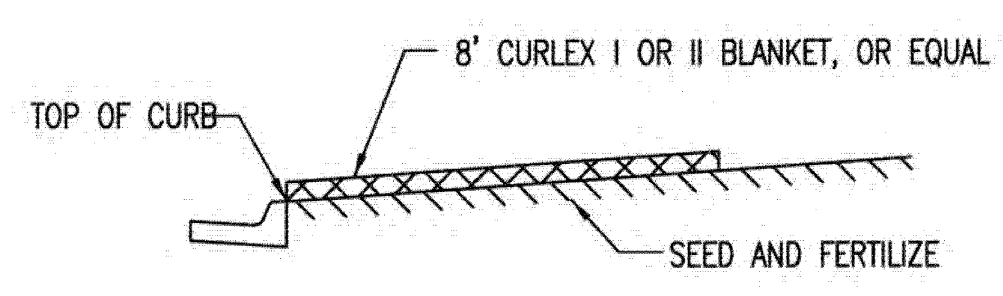
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EROSION CONTROL PLAN

PROJECT NO.	0372PPD	
DATE	04/07/2016	
SCALE	AS SHOWN	
DESIGNED	DRAWN	CHECKED
SPE	LES	SPE
1	ISSUED FOR BID	7/12/16
NO.	REVISION	DATE

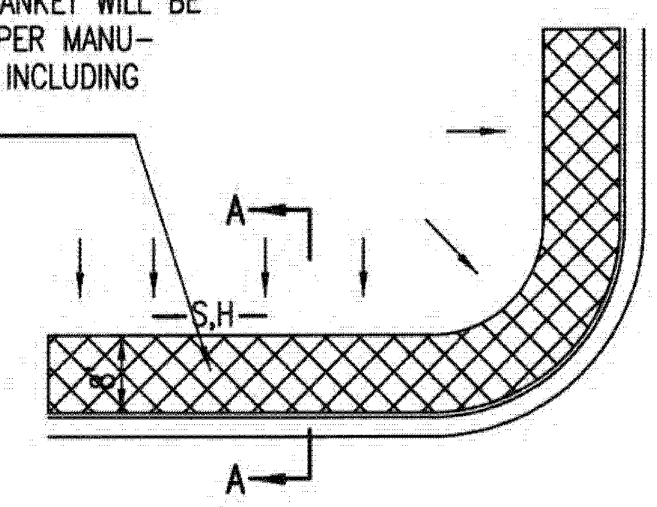


SECTION B-B

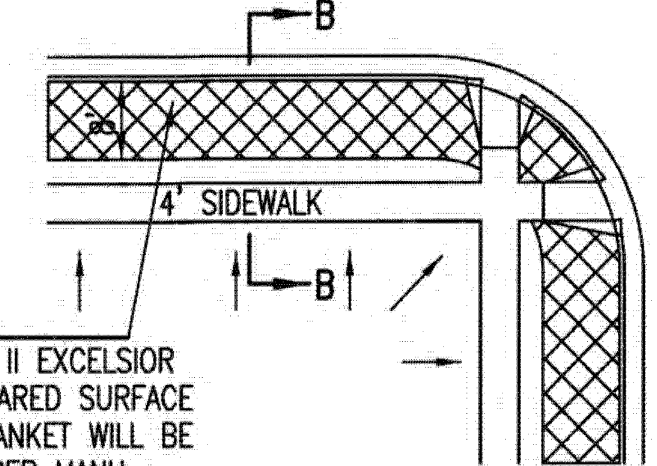


SECTION A-A

INSTALL 8" WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)



SOUTH STREET

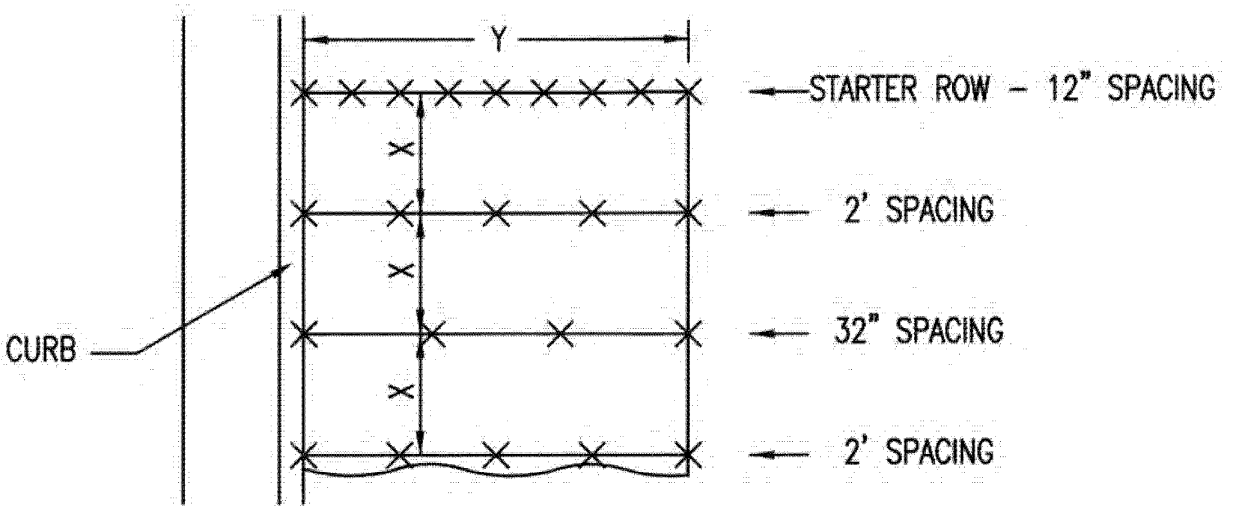


INSTALL 8" WIDE CURLEX I OR II EXCELSIOR BLANKET, OR EQUAL, ON PREPARED SURFACE BACK OF CURB. EDGE OF BLANKET WILL BE AT BACK OF CURB. INSTALL PER MANUFACTURERS RECOMMENDATION, INCLUDING STAPLES. (SEE DETAIL)

GENERAL NOTES

- EXCELSIOR MAT TO BE INSTALLED WHEN SOD IS NOT SPECIFIED ON PROJECT.
- EXCELSIOR BLANKET TO BE INSTALLED OVER SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS.
- AFTER INSTALLATION OF EXCELSIOR BLANKET, AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB AND INTO THE GUTTER, SUPPLEMENTAL EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS NEEDED, TO FIX THE PROBLEM.

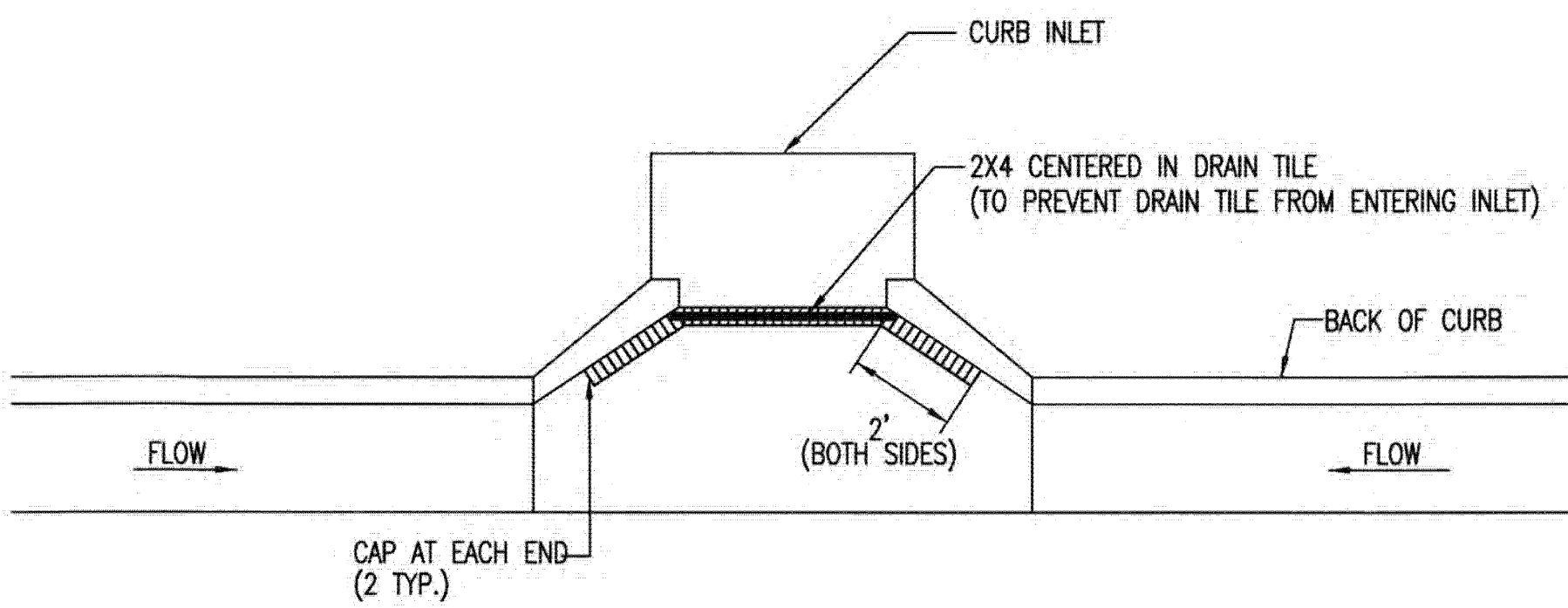
BACK OF CURB PROTECTION DETAIL



STAPLE PATTERN

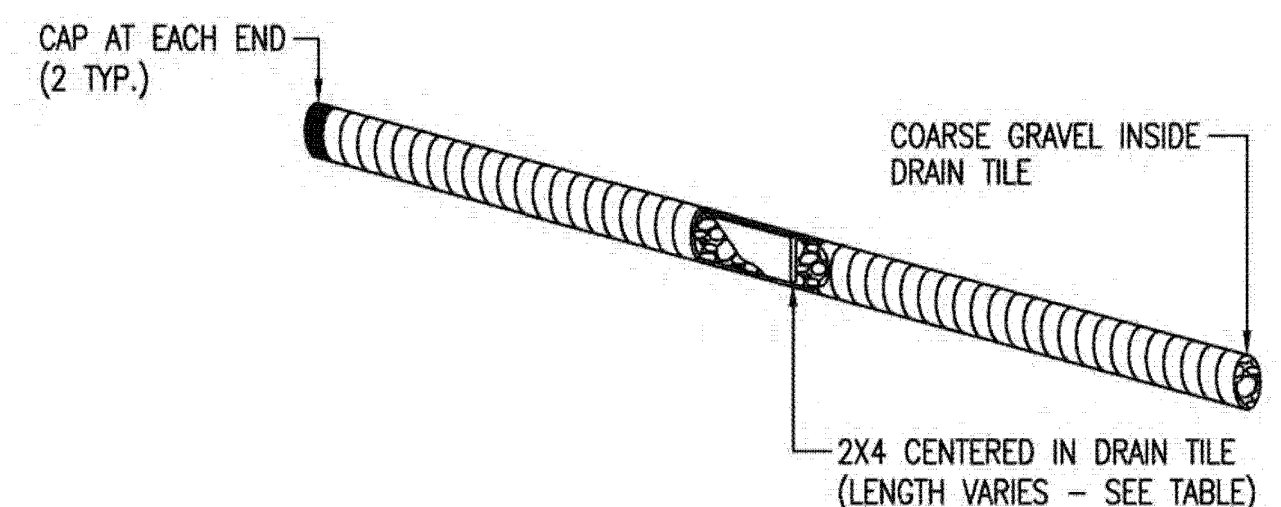
NOTES: USE 6" SEAM OVERLAP
(X & Y = RECOMMENDED BY MANUFACTURE)

DETAILS FOR APPROVED EROSION CONTROL MAT



NOTE: PLACE 4" PERFORATED PVC PIPE, FILLED WITH 1/2"-1" DIA. GRAVEL, IN FRONT OF CURB INLET AS SHOWN.

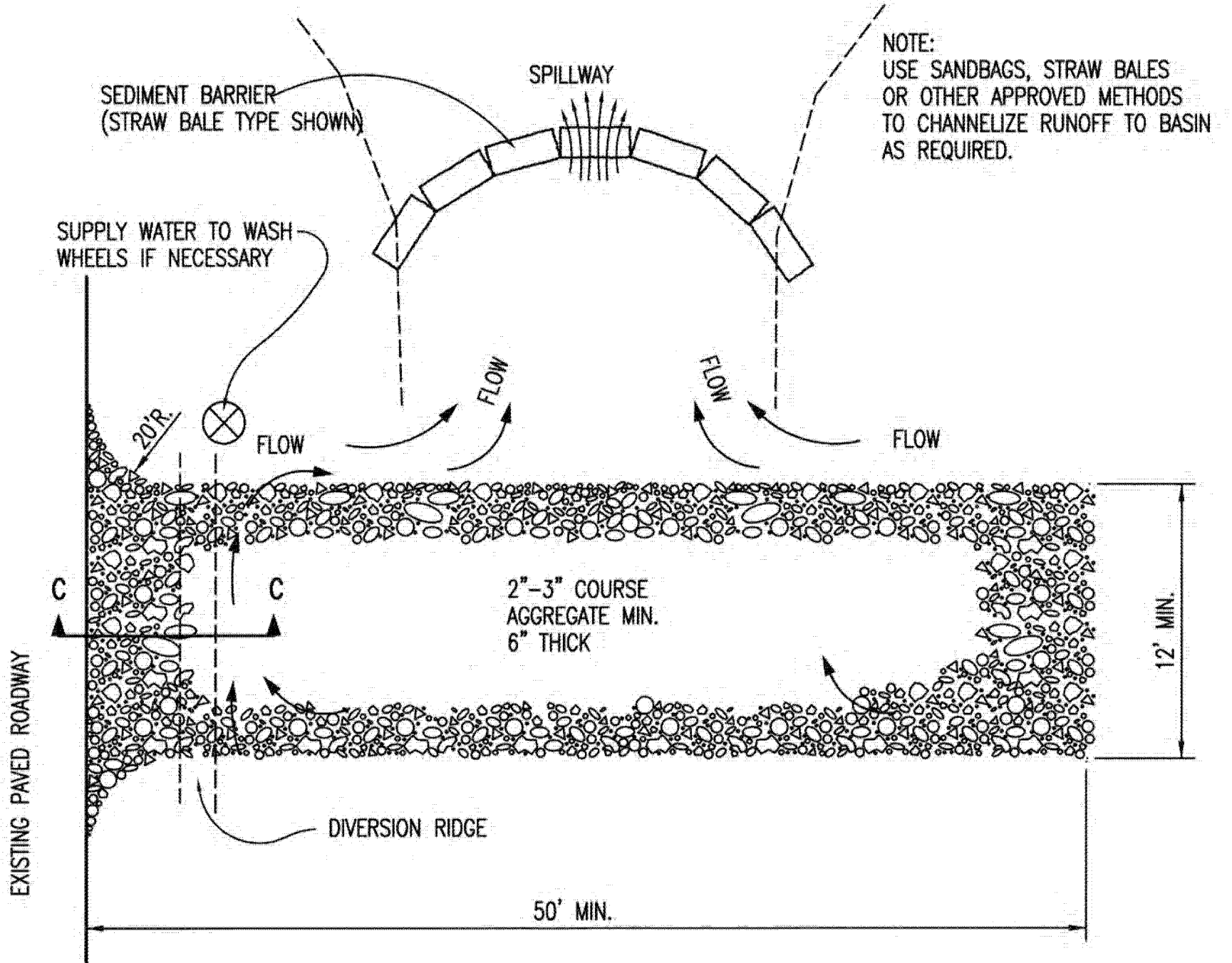
2X4 LENGTH	INLET TYPE	INLET OPENING
5'-6"	1-A	5'-0"
10'-6"	1-A	10'-0"
15'-6"	1-A	15'-0"



CURB INLET PROTECTION
4" PERFORATED PIPE W/ GRAVEL



SECTION C-C

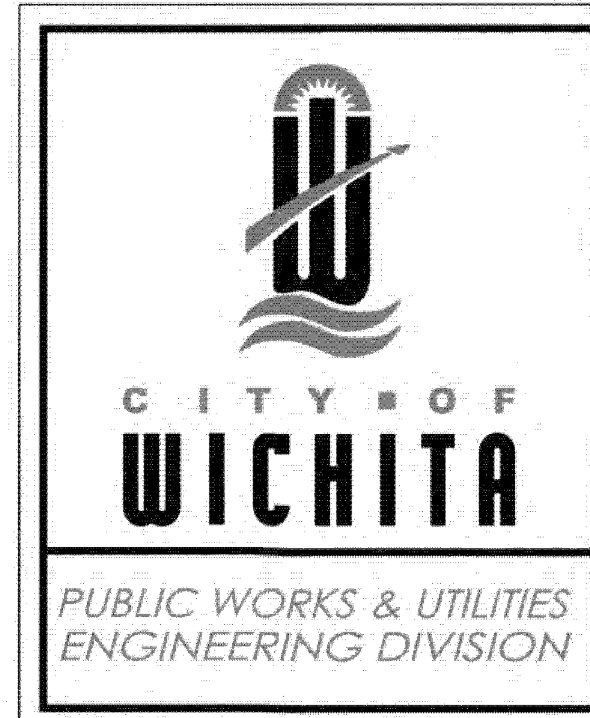
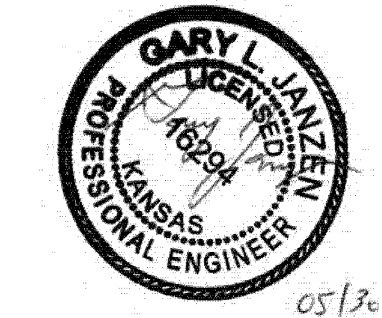


STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES

- 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.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
- 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.
- 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.

REVISION DATE: MAY 2013



BACK OF CURB PROTECTION, CURB INLET PROTECTION AND CONSTRUCTION ENTRANCE

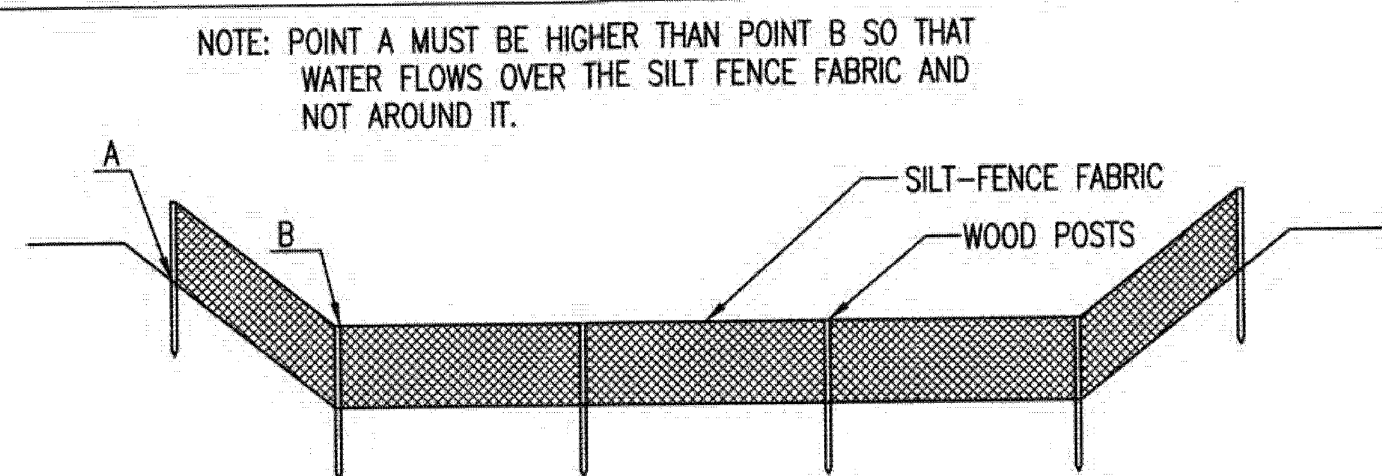
CITY ENGINEER
GARY JANZEN, P.E.

PROJECT NUMBER	OCA NUMBER	DATE
0372PPD	607861	

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501

SHEET
21 OF 26

PLOTTED: Tuesday, July 12, 2016 @ 11:10AM



ELEVATION
SILT FENCE DITCH CHECKS
(STREAM PROTECTION)

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:

PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK, NOT OVER IT. SILT FENCE DITCH CHECKS OFTEN FAIL WHEN OVERTOPPED. SILT FENCE DITCH CHECKS SHOULD BE PLACED PERPENDICULAR TO THE FLOWLINE OF THE DITCH. THE SILT FENCE SHOULD EXTEND FAR ENOUGH SO THAT THE GROUND LEVEL AT THE ENDS OF THE FENCE IS HIGHER THAN THE TOP OF THE LOW POINT OF THE FENCE. THIS PREVENTS WATER FROM FLOWING AROUND THE CHECK. SILT FENCE DITCH CHECKS SHOULD NOT BE PLACED IN DITCHES WHERE HIGH FLOWS ARE EXPECTED. ROCK CHECKS SHOULD BE USED INSTEAD. SILT FENCE 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 DITCH GRADE (%)	SPACING 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 AT LEAST 12" DEEP BY 6" WIDE. EXTEND THE TRENCH IN A STRAIGHT LINE ALONG THE ENTIRE LENGTH OF THE PROPOSED DITCH CHECK. PLACE THE SOIL ON THE UPSTREAM 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 UPSTREAM EDGE OF THE TRENCH. LINE TWO SIDES OF THE TRENCH WITH THE FABRIC AS SHOWN ON DETAIL. 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 ON THE UPSLOPE SIDE 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 24". PLACE POSTS NO MORE THAN 4' APART. ATTACH THE SILT FENCE TO THE ANCHORED POST WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

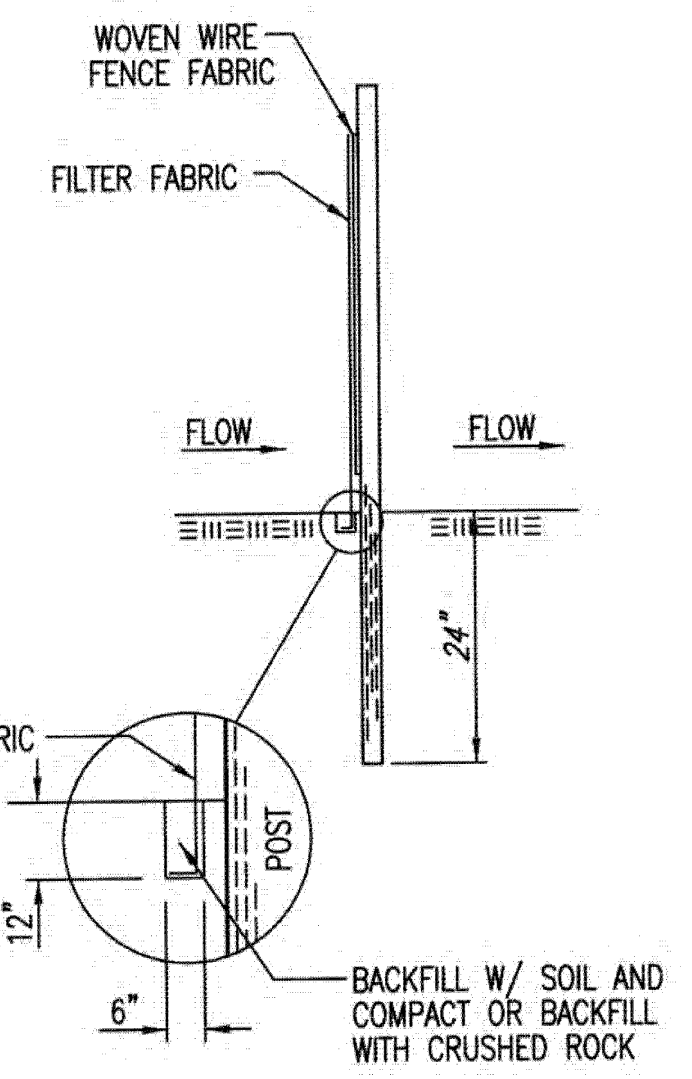
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE DITCH CHECK—NOT OVER IT. PLACE SILT FENCE IN DITCHES WHERE IT IS UNLIKELY THAT IT WILL BE OVERTOPPED. SILT FENCE INSTALLATIONS QUICKLY DETERIORATE WHEN WATER OVERTOPS THEM. 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 A SILT FENCE DITCH CHECK DIRECTLY IN FRONT OF A CULVERT OUTLET. IT WILL NOT STAND UP TO THE CONCENTRATED FLOW. DO NOT PLACE SILT FENCE 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 FENCE IS HIGHER THAN THE LOW POINT ON THE TOP OF THE FENCE. DO NOT PLACE SILT FENCE DITCH CHECKS IN CHANNELS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE CHECK IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT.

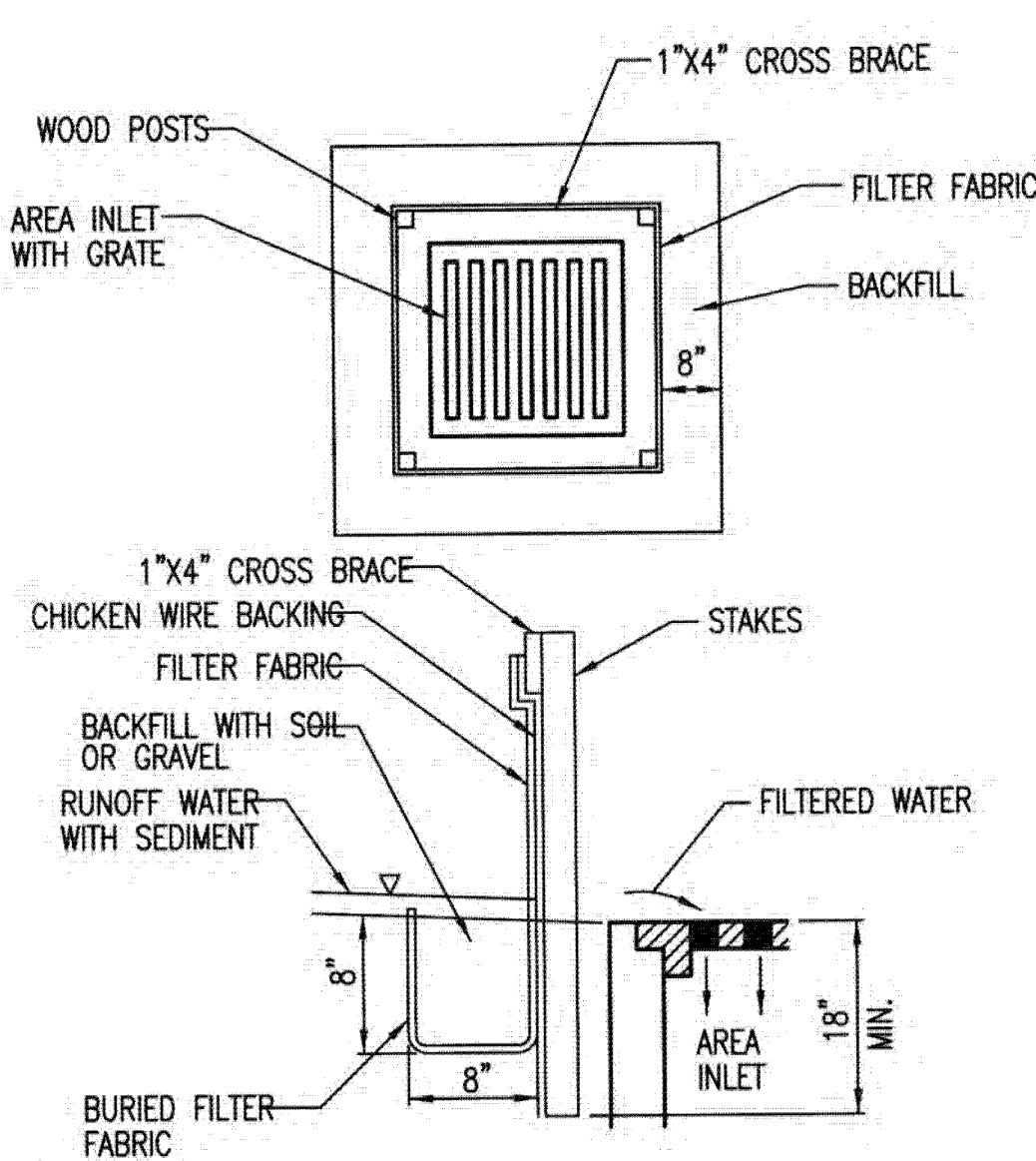
INSPECTION AND MAINTENANCE:

SILT FENCE 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 THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE DITCH CHECK?



ANCHOR TRENCH DETAIL



SILT FENCE BARRIERS FOR AREA INLETS
(INLET PROTECTION)

MATERIAL SPECIFICATION:

SILT FENCE FABRIC SHOULD CONFORM TO THE AASHTO M288 96 SILT FENCE SPECIFICATION. THE WIRE OR POLYMERIC MESH BACKING USED TO HELP SUPPORT THE 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. THE MATERIAL USED TO FRAME THE TOPS OF THE POSTS SHOULD BE 1" BY 4" BOARDS. SILT FENCE FABRIC AND SUPPORT BACKING SHOULD BE ATTACHED TO THE WOODEN POSTS AND FRAME WITH STAPLES, WIRE, ZIP TIES, OR NAILS.

PLACEMENT:

PLACE A SILT FENCE DROP INLET BARRIER IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. WATER SHOULD FLOW THROUGH SILT FENCE, NOT OVER IT. SILT FENCE BARRIERS FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. WHEN USED AS A BARRIER FOR AREA INLETS, SILT FENCE FABRIC AND POSTS MUST BE SUPPORTED AT THE TOP BY A WOODEN FRAME. WHEN A SILT FENCE BARRIER FOR AREA INLETS IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 8" DEEP BY 8" WIDE. DRIVE POSTS TO A DEPTH OF AT LEAST 18" AROUND THE PERIMETER OF THE AREA INLET. THE DISTANCE BETWEEN POSTS SHOULD BE 4' OR LESS. IF THE DISTANCE BETWEEN TWO ADJACENT CORNER POSTS IS MORE THAN 4', ADD ANOTHER POST(S) BETWEEN THEM. CONNECT THE TOPS OF ALL THE POSTS WITH A WOODEN FRAME MADE OF 1" BY 4" BOARDS. USE NAILS OR SCREWS FOR FASTENING. ATTACH THE WIRE OR POLYMERIC-MESH BACKING TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. ROLL OUT A CONTINUOUS LENGTH OF SILT FENCE FABRIC LONG ENOUGH TO WRAP AROUND THE PERIMETER OF THE AREA INLET. ADD MORE LENGTH FOR OVERLAPPING THE FABRIC JOINT. PLACE THE EDGE OF THE FABRIC IN THE TRENCH, STARTING AT THE OUTSIDE EDGE OF THE TRENCH. 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. ATTACH THE SILT FENCE TO THE OUTSIDE OF THE POST/FRAME STRUCTURE WITH STAPLES, WIRE, ZIP TIES, OR NAILS. THE JOINT SHOULD BE OVERLAPPED TO THE NEXT POST.

NOTE: WHEN A SILT FENCE BARRIER FOR AREA INLET IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

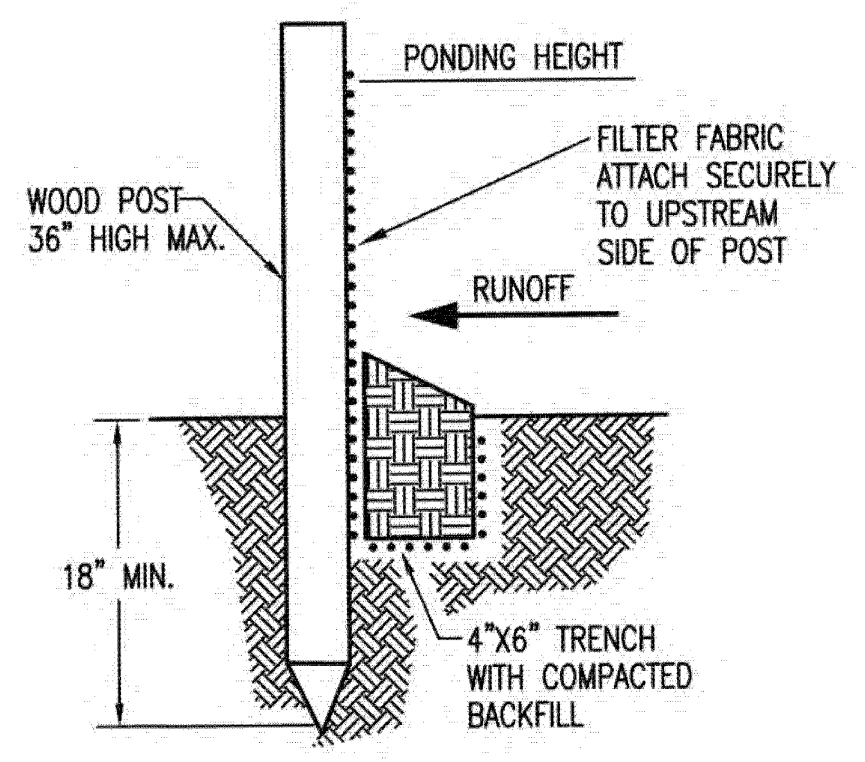
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

WATER SHOULD FLOW THROUGH A SILT FENCE BARRIER FOR AREA INLET—NOT OVER IT. PLACE A SILT FENCE BARRIER FOR AREA INLET IN A LOCATION WHERE IT IS UNLIKELY TO BE OVERTOPPED. SILT FENCE BARRIER FOR AREA INLETS OFTEN FAIL WHEN REPEATEDLY OVERTOPPED. DO NOT PLACE POSTS ON THE OUTSIDE OF THE SILT FENCE BARRIER FOR AREA INLET. 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 INSTALL SILT FENCE BARRIER FOR AREA INLETS WITHOUT FRAMING THE TOP OF THE POSTS. THE CORNER POSTS AROUND AREA INLETS ARE STRESSED IN TWO DIRECTIONS WHEREAS A NORMAL SILT FENCE IS ONLY STRESSED IN ONE DIRECTION. THIS ADDED STRESS REQUIRES MORE SUPPORT.

INSPECTION AND MAINTENANCE:

SILT FENCE BARRIER FOR AREA INLETS 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 UNDER THE SILT FENCE?
- DOES THE SILT FENCE SAG EXCESSIVELY?
- HAS THE SILT FENCE TORN OR BECOME DETACHED FROM THE POSTS?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



SILT FENCE BARRIERS

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:

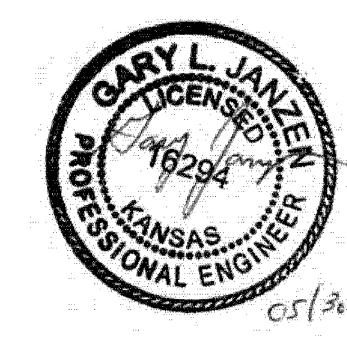
WHEN PRACTICABLE, DO NOT PLACE SILT FENCE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. WHEN THE FLOW CONCENTRATES, IT OVERTOPS THE BARRIER AND THE SILT FENCE SLOPE BARRIER QUICKLY DETERIORATES. DO NOT PLACE SILT-FENCE POSTS ON THE UPSLOPE 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?
- DOES 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?

REVISION DATE: MAY 2013



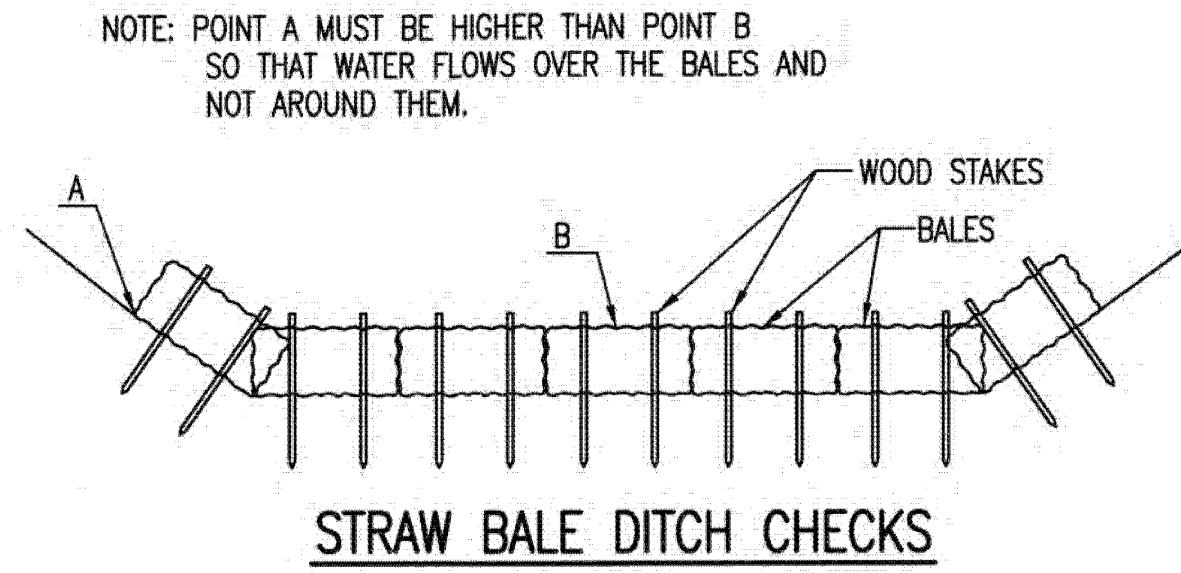
CITY OF WICHITA
PUBLIC WORKS & UTILITIES
ENGINEERING DIVISION

SILT FENCE DITCH CHECK AND BARRIER DETAILS

CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER 0372PPD	OCA NUMBER 607861	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 22 OF 26

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PLOTTED: Tuesday, July 12, 2016 @ 11:11 AM
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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 DOWNSTREAM 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 (%)	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 UPSTREAM SIDE OF THE TRENCH-IT WILL BE USED LATER. OPTIONAL: ON THE DOWNSTREAM SIDE OF THE TRENCH, ROLL OUT A LENGTH OF EROSION-CONTROL BLANKET (SCOUR APRON) EQUAL TO THE LENGTH OF THE TRENCH. PLACE THE UPSTREAM EDGE OF THE EROSION-CONTROL BLANKET ALONG THE BOTTOM UPSTREAM 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 DOWNSTREAM 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 UPSTREAM SIDE OF THE CHECK AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP AND EXTEND UPSTREAM NO MORE THAN 24".

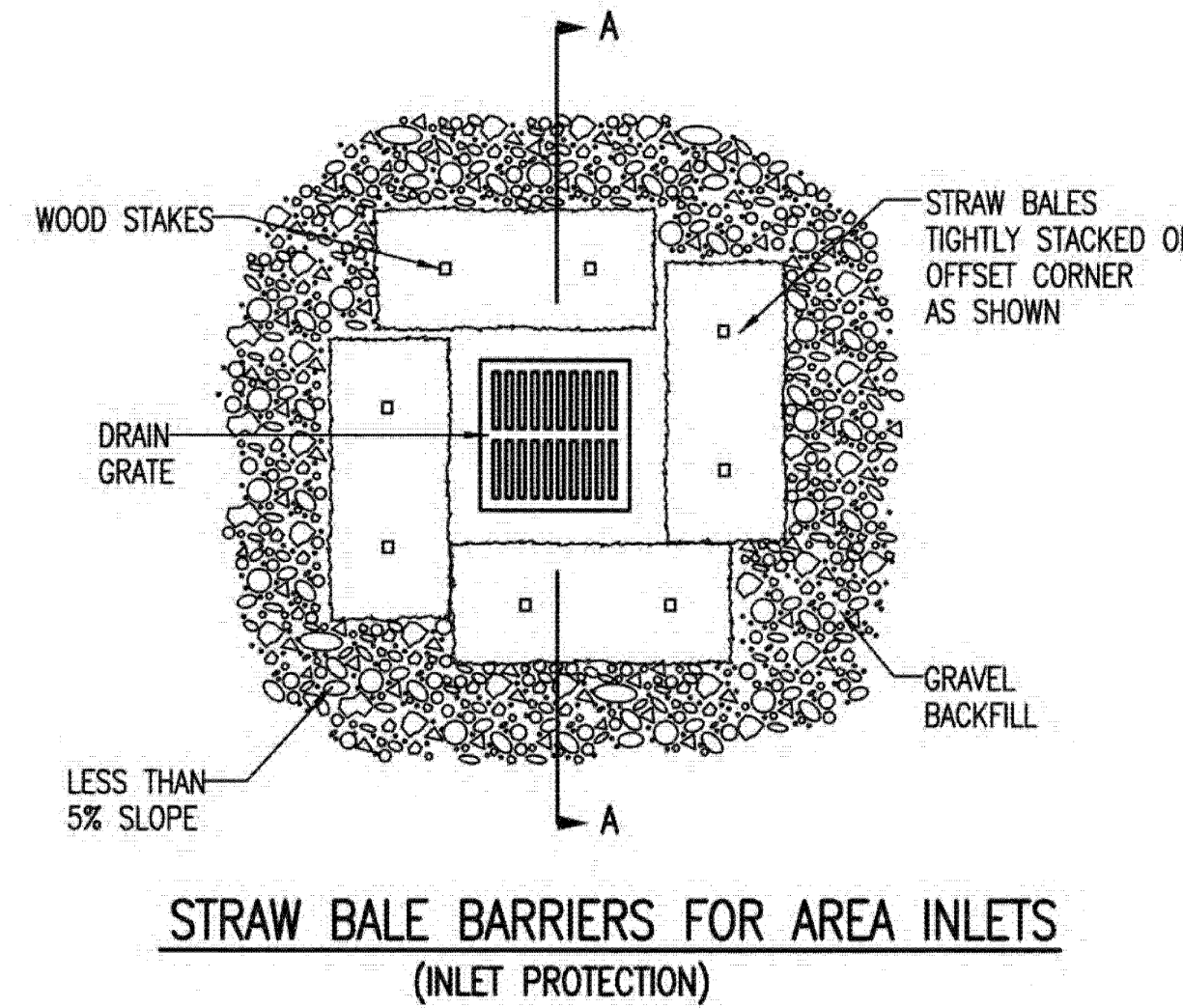
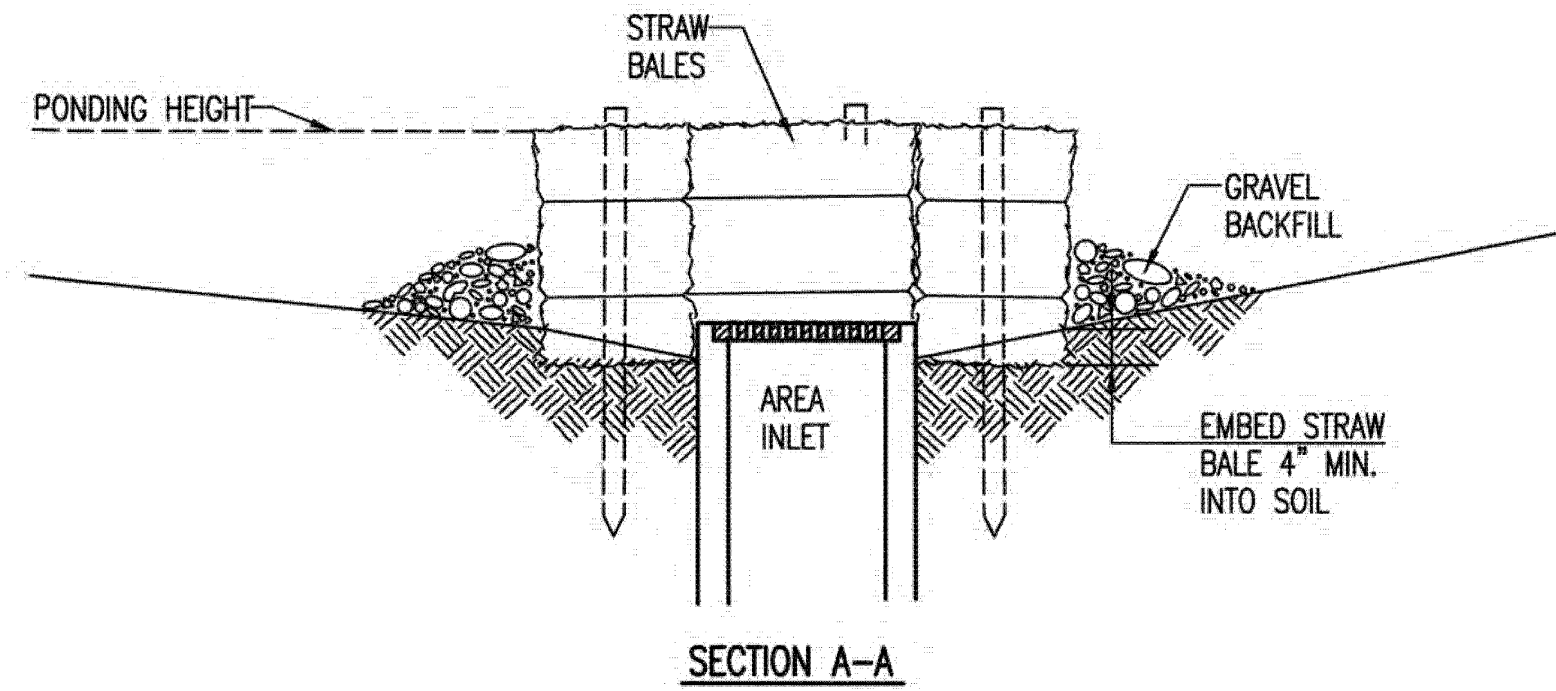
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

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?



MATERIAL SPECIFICATION:

BALE AREA INLET BARRIERS SHOULD 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. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

PLACEMENT:

BALE AREA INLET BARRIERS SHOULD BE PLACED DIRECTLY AROUND THE PERIMETER OF A DROP INLET. WHEN A BALE AREA INLET BARRIER IS LOCATED NEAR AN INLET THAT HAS STEEP APPROACH SLOPES, THE STORAGE CAPACITY BEHIND THE BARRIER IS DRASTICALLY REDUCED. TIMELY REMOVAL OF SEDIMENT MUST OCCUR FOR A BARRIER TO OPERATE PROPERLY IN THIS LOCATION.

PROPER INSTALLATION METHOD:

EXCAVATE A TRENCH AROUND THE PERIMETER OF THE AREA INLET THAT IS AT LEAST 4" DEEP BY A BALE'S WIDTH WIDE. PLACE THE BALES IN THE TRENCH, MAKING SURE THAT THEY ARE BUTTED TIGHTLY. SOME BALES MAY NEED TO BE SHORTENED TO FIT INTO THE TRENCH AROUND THE AREA INLET. TWO STAKES SHOULD BE DRIVEN THROUGH EACH BALE, 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 RECEIVING SIDE OF THE BARRIER AND COMPACT IT. THE COMPACTED SOIL SHOULD BE NO MORE THAN 3" TO 4" DEEP.

NOTE: WHEN A BALE AREA INLET BARRIER IS PLACED IN A SHALLOW MEDIAN DITCH, MAKE SURE THAT THE TOP OF THE BARRIER IS NOT HIGHER THAN THE PAVED ROAD. IN THIS CONFIGURATION, WATER MAY SPREAD ONTO THE ROADWAY CAUSING A HAZARDOUS CONDITION.

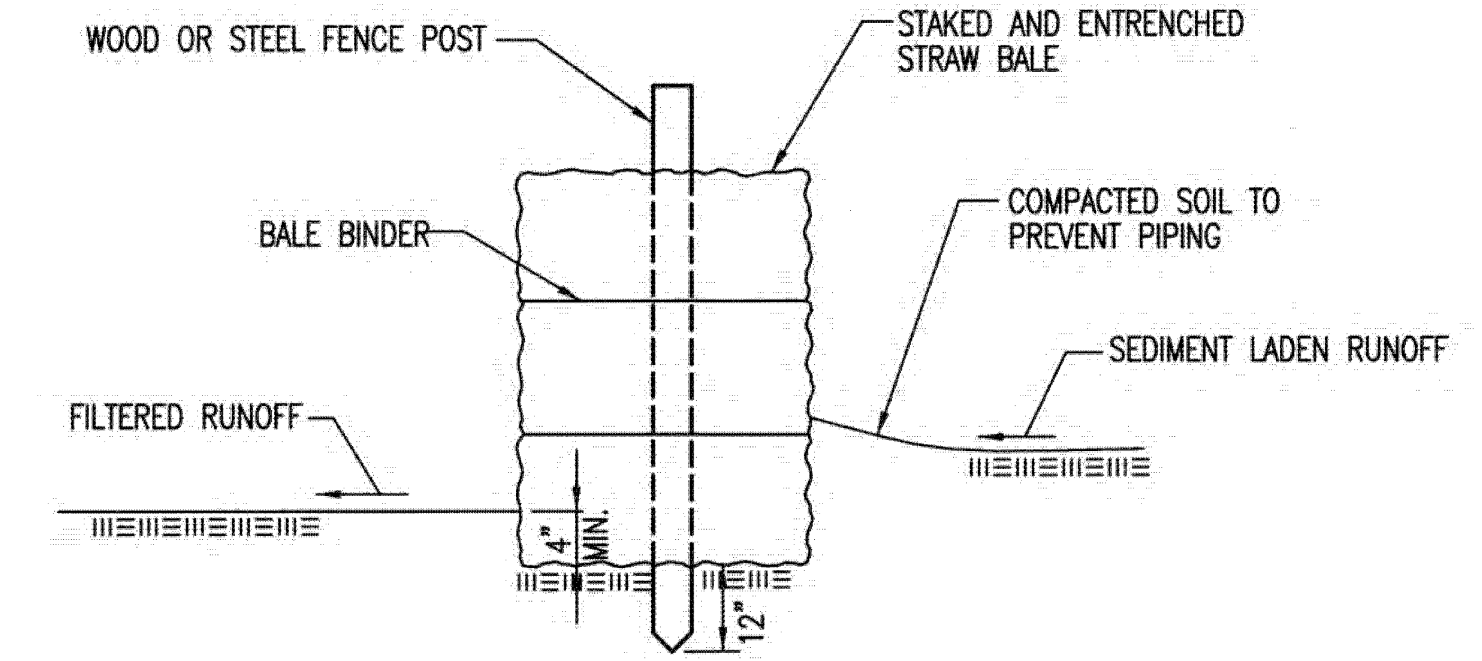
LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

BALES SHOULD BE PLACED DIRECTLY AGAINST THE PERIMETER OF THE AREA INLET. THIS ALLOWS OVERTOPPING WATER TO FLOW DIRECTLY INTO THE INLET INSTEAD OF ONTO NEARBY SOIL CAUSING SCOUR. BALE AREA INLET BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.

INSPECTION AND MAINTENANCE:

BALE AREA INLET 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:

- DOES WATER FLOW UNDER THE AREA INLET BARRIER?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE AREA INLET BARRIER?



STRAW BALE BARRIERS

MATERIAL SPECIFICATION:

BALE SLOPE BARRIERS 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. TWINE SHOULD BE USED TO BIND BALES. THE USE OF WIRE BINDING IS PROHIBITED BECAUSE IT DOES NOT BIODEGRADE READILY.

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, BALE SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. BALE 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 4" DEEP AND A BALE'S WIDTH 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. 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.

LIST OF COMMON PLACEMENT/INSTALLATION MISTAKES TO AVOID:

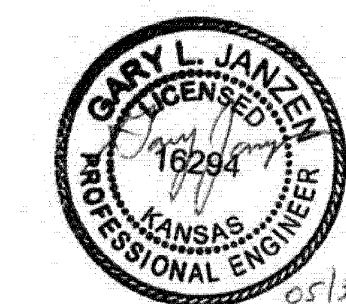
WHEN PRACTICAL, DO NOT PLACE BALE SLOPE BARRIERS ACROSS CONTOURS. SLOPE BARRIERS SHOULD BE PLACED ALONG CONTOURS TO AVOID A CONCENTRATION OF FLOW. CONCENTRATED FLOW OVER A SLOPE BARRIER CREATES A SCOUR HOLE ON THE DOWNSLOPE SIDE OF THE BARRIER. THE SCOUR HOLE EVENTUALLY UNDERMINES THE BALES AND THE BARRIER FAILS. DO NOT PLACE BALE SLOPE BARRIERS IN AREAS WITH SHALLOW SOILS UNDERLAIN BY ROCK. IF THE BARRIER IS NOT ANCHORED SUFFICIENTLY, IT WILL WASH OUT. BALE SLOPE BARRIERS MUST BE DUG INTO THE GROUND. BALES AT GROUND LEVEL DO NOT WORK BECAUSE THEY ALLOW WATER TO FLOW UNDER THE BARRIER.


INSPECTION AND MAINTENANCE:

BALE 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?
- DOES WATER FLOW THROUGH SPACES BETWEEN ABUTTING BALES?
- ARE ANY BALES DISLODGED?
- ARE BALES DECOMPOSING DUE TO AGE AND/OR WATER DAMAGE?
- DOES SEDIMENT NEED TO BE REMOVED FROM BEHIND THE SLOPE BARRIER?

REVISION DATE: MAY 2013



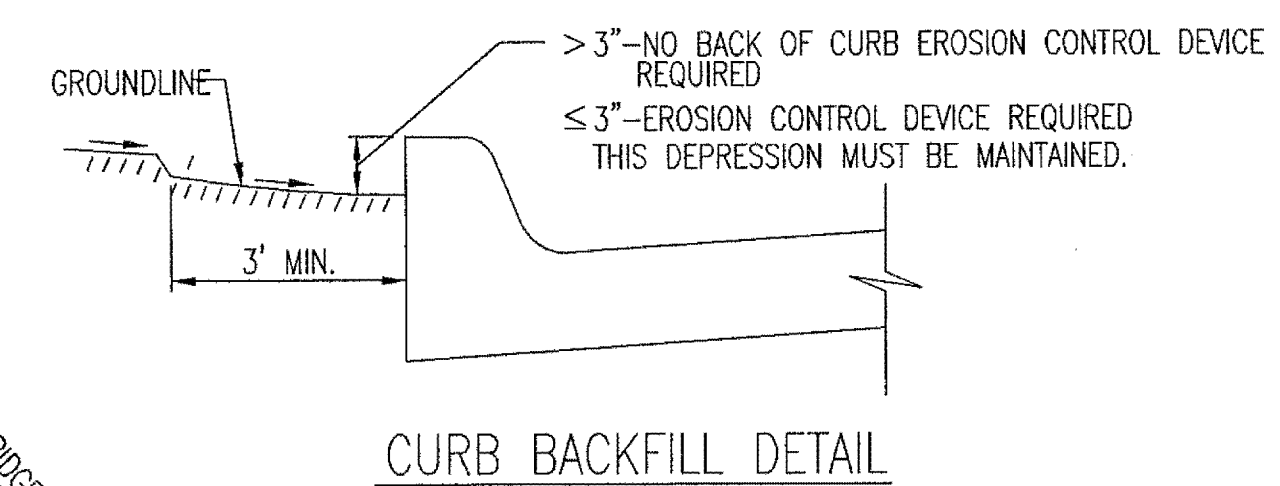
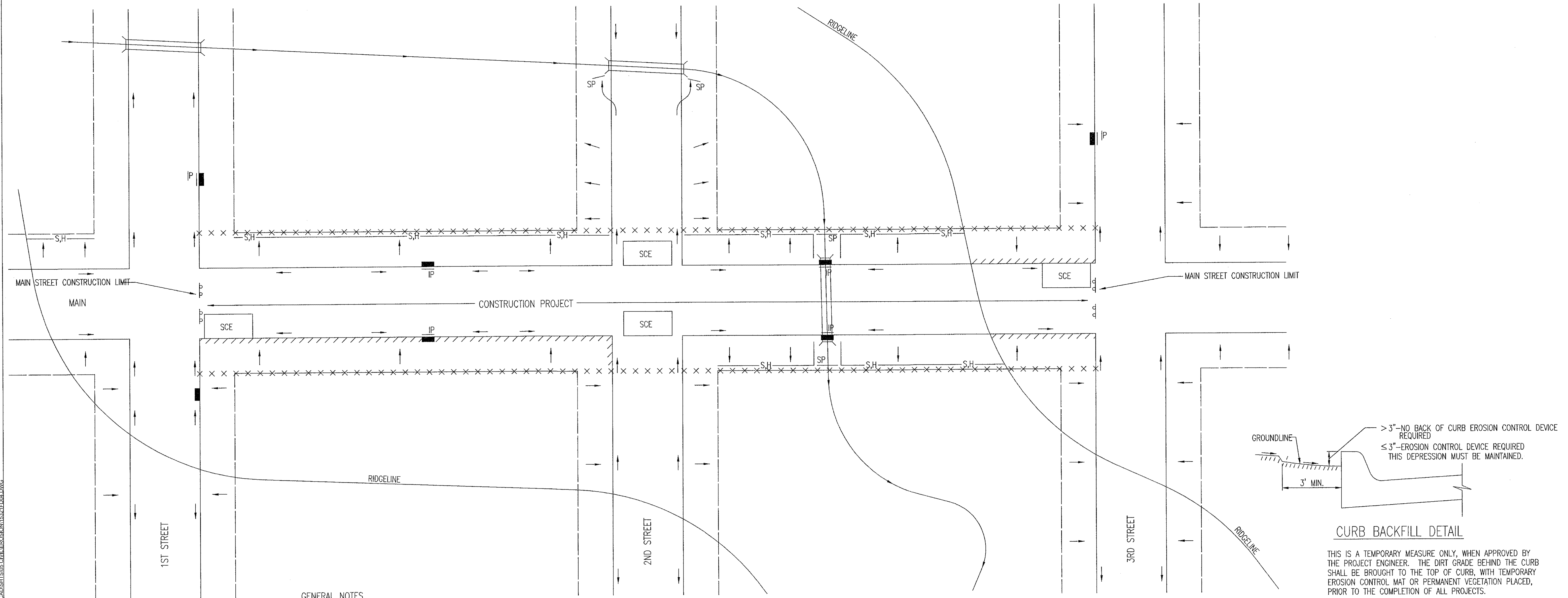
 CITY OF WICHITA PUBLIC WORKS & UTILITIES ENGINEERING DIVISION			STRAW BALE DITCH CHECK AND BARRIER DETAILS		
CITY ENGINEER GARY JANZEN, P.E.			PROJECT NUMBER 0372PPD		
OCA NUMBER 607861		DATE		SHEET	
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501			23 OF 26		

PLOTTED: Tuesday, July 19, 2016 @ 11:13AM

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GENERAL NOTES

1. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPES OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
2. EROSION CONTROL DEVICES MUST BE MAINTAINED BY THE CONTRACTOR THROUGHOUT THE CONSTRUCTION PROCESS AND UNTIL THE DISTURBED EARTH IS RESTABILIZED.
3. IF THE PROJECT WILL DISTURB 1 ACRE OR MORE, A FEDERAL/STATE NPDES STORMWATER PERMIT IS REQUIRED. A DETAILED STORMWATER POLLUTION PREVENTION PLAN, IS REQUIRED. THE EROSION CONTROL DEVICES SHOWN ON THIS SHEET ARE CONSIDERED TO BE THE MINIMUM TO BE SHOWN IN THE POLLUTION PREVENTION PLAN.
4. FOR PROJECTS DISTURBING LESS THAN 1 ACRE, CONTRACTORS ARE ENCOURAGED TO PREPARE STORMWATER POLLUTION PREVENTION PLANS PRIOR TO CONSTRUCTION. EROSION CONTROL DEVICES MUST BE USED ON ALL PROJECTS.
5. FAILURE TO USE AND MAINTAIN EROSION CONTROL DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE CONTRACTOR TO THE PENALTIES PROVIDED FOR THEREIN.
6. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE A DIFFERENT DEVICE OTHER THAN THOSE SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED AS LONG AS THEY ARE EFFECTIVE AND MAINTAINED.



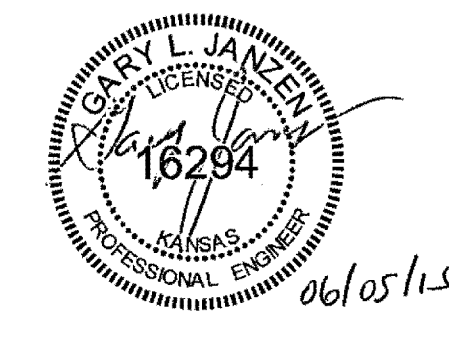
THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

LEGEND

--- R-O-W LIMITS
→ DRAINAGE FLOW PATH
x x x x x R/W LIMIT WITHIN CONSTRUCTION LIMIT
■ STORM WATER INLETS
IP INLET PROTECTION
S,H SILT FENCE OR HAY BALE BARRIER
SP STREAM PROTECTION
SCE STABILIZED CONSTRUCTION ENTRANCE
//// BACK OF CURB PROTECTION

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO KEEP ALL SEDIMENT CONFINED TO THE CONSTRUCTION SITE, AND OUT OF ALL UNDERGROUND PIPES, DITCHES, LAKES, AND OTHER DRAINAGE FACILITIES, AND OFF OF STREETS.
2. THE POINT OF COMPLIANCE IS GENERALLY THE RIGHT-OF-WAY LINES WITHIN THE LIMITS OF CONSTRUCTION.
3. EROSION CONTROL DEVICES WILL BE REQUIRED AT ALL POINTS ALONG THE PROJECT WHERE DISTURBED EARTH CAN DRAIN ONTO PRIVATE PROPERTY.
4. INLET PROTECTION DEVICES WILL BE REQUIRED WHEREVER WATER CAN DRAIN OFF THE PROJECT SITE INTO AN INLET, INCLUDING ANY SIDE STREET INLETS.
5. EROSION CONTROL DEVICES SHALL BE INSTALLED AT CREEK CROSSINGS SO AS TO PREVENT SEDIMENT FROM ENTERING THEREIN.
6. STABILIZED CONSTRUCTION ENTRANCES SHALL BE PROVIDED, AS NEEDED, TO PREVENT MUD FROM TRACKING ONTO STREETS NOT UNDER CONSTRUCTION AND ON STREETS WITHIN THE PROJECT LIMITS IF TRAFFIC IS BEING MAINTAINED THROUGH THE PROJECT.
7. ANY MUD TRACKED ONTO STREETS MUST BE REMOVED AT THE END OF EACH WORK DAY.
8. THE CONTRACTOR WILL BE REQUIRED TO PLACE EROSION CONTROL DEVICES BACK OF CURB, WHENEVER WATER CAN DRAIN OVER CURB, TO KEEP ERODED SOIL OUT OF THE GUTTERLINES, IN ACCORDANCE WITH THE FOLLOWING:
 - A. THE DEVICE REQUIRED WILL BE APPROVED EROSION CONTROL MAT LISTED ON THE CITY'S APPROVED MATERIAL LIST. SAID BLANKET SHALL BE PLACED OVER THE APPROPRIATE SEED AND FERTILIZER, AS SPECIFIED IN THE PROJECT SPECIFICATIONS. (SEE SOIL EROSION BMPs - BACK OF CURB SEDIMENT BARRIER DETAILS)
 - B. THIS DEVICE SHALL BE INSTALLED IMMEDIATELY WHENEVER THE CURB IS BACKFILLED TO WITHIN 3" OF THE TOP OF CURB. (SEE CURB BACKFILL DETAIL) OTHER BMP'S MAY BE REQUIRED AT LOCATIONS WHERE CONCENTRATED FLOW CARRIES SEDIMENT OVER THE CURB.
 - C. ADDITIONALLY, OTHER EROSION CONTROL DEVICES (HAY BALES, SILT FENCE, ETC.) WILL BE INSTALLED AT LOCATIONS OF CONCENTRATED FLOW RESULTING IN SEDIMENT OVERRUNNING THE MAT.
 - D. SHOULD THE PROJECT PLANS SPECIFY THAT THE RIGHT-OF-WAY IS TO BE SODDED, THE EXCELSIOR MAT WILL NOT BE REQUIRED SO LONG AS THE SOD IS PLACED WITHIN 48 HOURS AFTER CURB BACKFILL REACHES A HEIGHT OF 3" OR LESS FROM TOP OF CURB. (SEE CURB BACKFILL DETAIL)

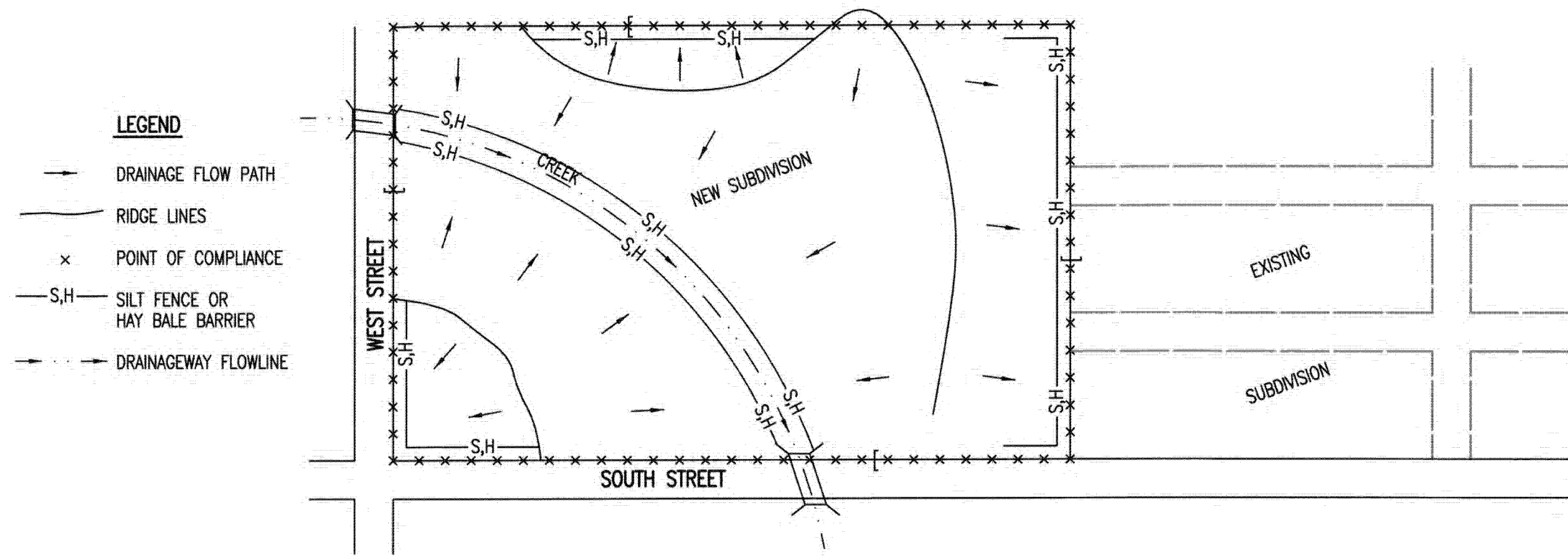


CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

REVISION: JUNE 2015

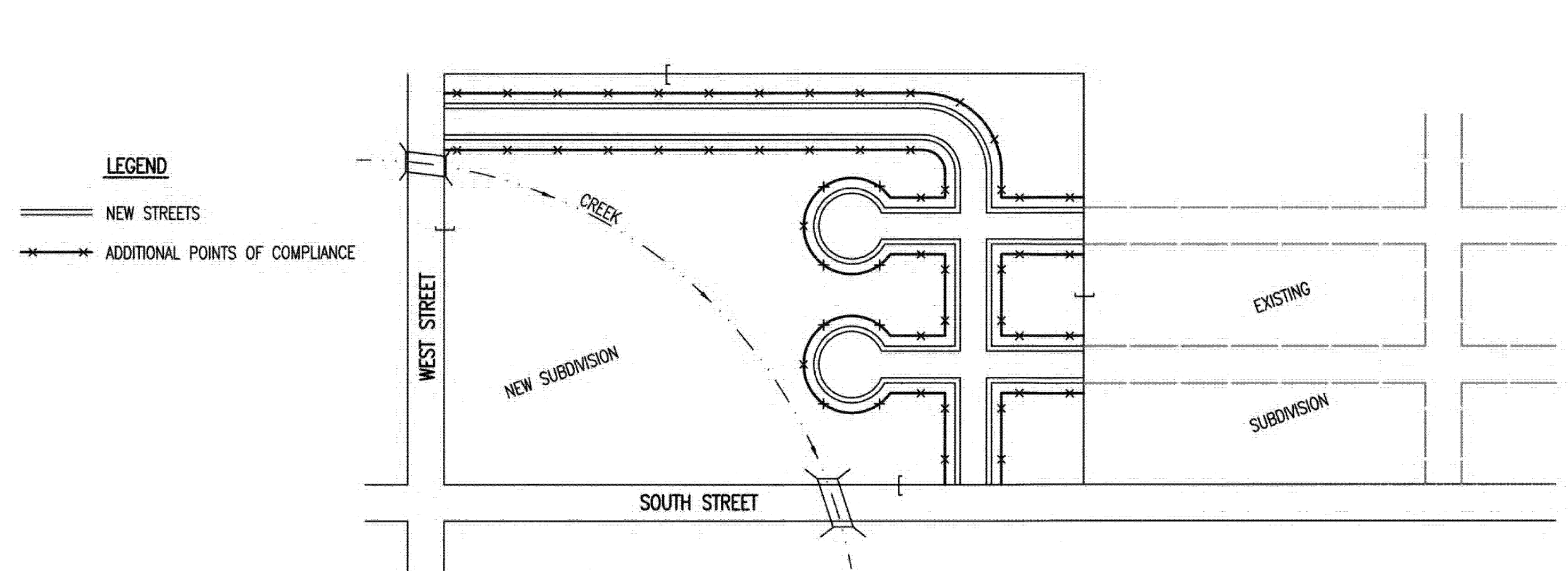
STREET IMPROVEMENT PROJECTS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER 0372PPD	OCA NUMBER 607861	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 24 OF 26

PHASE 1 – INITIAL EARTHWORK AND UTILITIES (EXCEPT STORM SEWER)



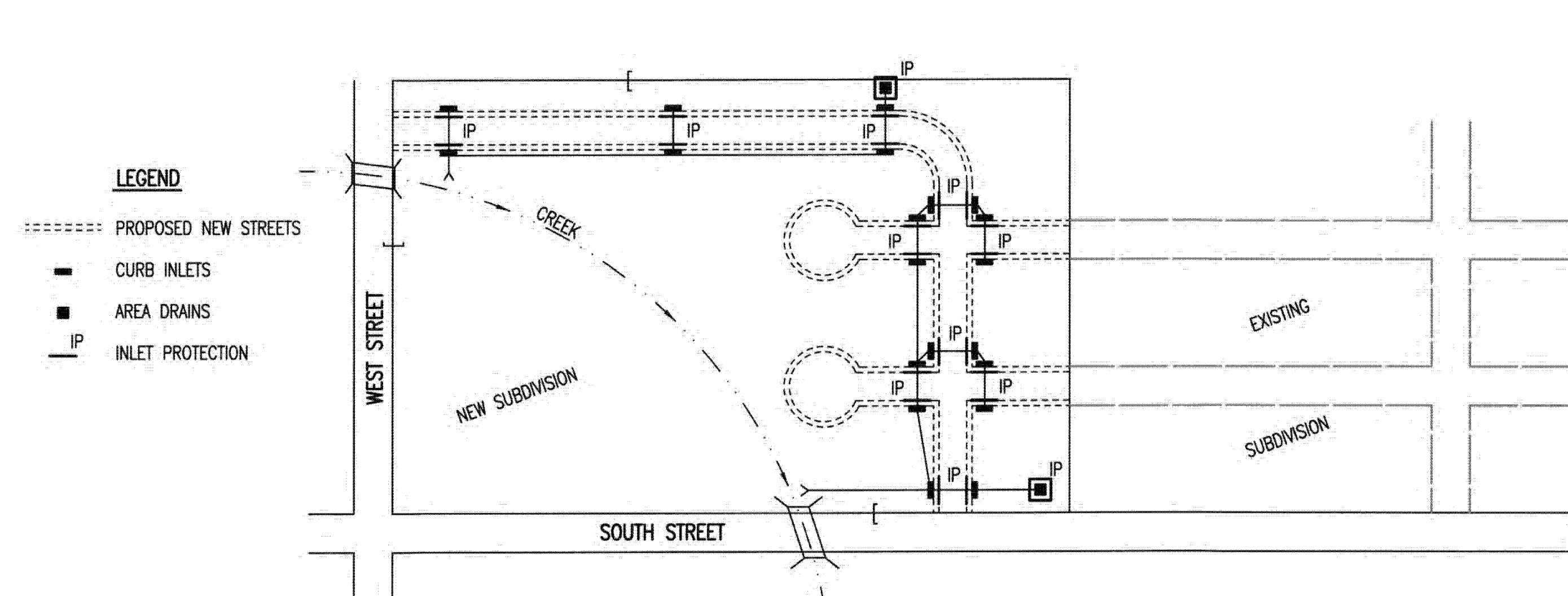
- LEGEND**
- DRAINAGE FLOW PATH
 - RIDGE LINES
 - x POINT OF COMPLIANCE
 - S,H- SILT FENCE OR HAY BALE BARRIER
 - - - DRAINAGEWAY FLOWLINE
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, THE POINTS OF COMPLIANCE ARE THE PERIMETER BOUNDARIES AND ANY DRAINAGE WAYS OR STORM SEWERS DRAINING THROUGH OR FROM THE SITE. SHOULD LAKES BE CONSTRUCTED WITHIN THE SUBDIVISION THAT WILL DISCHARGE DURING STORMS, THEY ARE ALSO A POINT OF COMPLIANCE.
 2. HAY BALES OR SILT FENCE MUST BE CONSTRUCTED ALONG THE PROPERTY LINE WHERE ON SITE WATER CAN DRAIN OFF THE PROPERTY. THESE EROSION CONTROL DEVICES WILL ALSO BE INSTALLED ALONG ANY DRAINAGE DITCH OR LAKE THAT CAN DISCHARGE.
 3. SHOULD SILT OR SEDIMENT ENTER THE DITCHES OR STREETS ON THE ADJACENT BOUNDARY STREETS, APPROPRIATE EROSION CONTROL DEVICES WILL BE PLACED WITHIN THE SUBDIVISION TO PREVENT THIS.
 4. ANY MUD TRACKED ONTO ADJACENT STREETS WILL BE REMOVED WITHIN 48 HOURS OR BY FRIDAY AT 6:00 PM, WHICHEVER IS EARLIER.
 5. CONTRACTORS WORKING WITHIN THE SITE WILL NOT BE REQUIRED TO USE INDIVIDUAL EROSION CONTROL DEVICES AS LONG AS THOSE SPECIFIED ABOVE ARE IN PLACE AND EFFECTIVE. CONTRACTORS WORKING ON THE BOUNDARY LINE STREETS OR ON ADJACENT PROPERTIES TO EXTEND UTILITIES ARE EXPECTED TO USE EROSION CONTROL DEVICES AT THEIR WORK LOCATIONS, AS NEEDED.
 6. UTILIZE STABILIZED CONSTRUCTION ENTRANCE AT ENTRANCE AND EXIT ONTO ANY EXISTING PUBLIC STREETS.
 7. IF THE INITIAL EARTH WORK AND UTILITIES ARE DONE AS PART OF A PUBLIC IMPROVEMENT PROJECT, THESE EROSION CONTROL DEVICES WILL BE INSTALLED BY THE CONTRACTOR AS SPECIFIED IN THE INDIVIDUAL PROJECT CONTRACTS. THE CONTRACTOR WILL MAINTAIN THE DEVICES UNTIL COMPLETION OF THE CONTRACT, AT WHICH TIME THE DEVELOPER WILL ASSUME MAINTENANCE RESPONSIBILITIES. IF THESE CONTRACTS ARE NOT PUBLIC IMPROVEMENT PROJECTS, THE DEVELOPER WILL BE RESPONSIBLE FOR INSTALLING AND MAINTAINING THESE DEVICES.
 8. WITHIN 14 DAYS OF COMPLETION OF EARTHWORK ACTIVITIES IN ANY GIVEN AREA, THAT AREA SHALL BE TEMPORARILY OR PERMANENTLY SEEDED AND MULCHED.

PHASE 3 – STREET CONSTRUCTION



- LEGEND**
- NEW STREETS
 - x ADDITIONAL POINTS OF COMPLIANCE
1. DURING THIS PHASE OF SUBDIVISION CONSTRUCTION, NEW STREETS ARE INSTALLED. ALL EROSION CONTROL DEVICES INSTALLED DURING PHASE 1 AND 2 MUST STILL BE MAINTAINED. THE POINT OF COMPLIANCE NOW SHIFTS TO THE BACK OF CURB ALONG EACH STREET.
 2. CURB OPENING INLET PROTECTION:
 - A. SUMP AREAS – INLET PROTECTION SHALL BE PROVIDED WHEN STREET SUBGRADE WORK IS COMPLETED.
 - B. NON-SUMP LOCATIONS – PROVIDE INLET PROTECTION AS SOON AS BASE COURSE ASPHALT IS INSTALLED, BEFORE THE SURFACE COURSE LIFT.
 3. EROSION CONTROL DEVICES WILL BE REQUIRED BACK OF CURB WHEREVER WATER CAN FLOW OVER THE CURB AND THE CURB HAS BEEN BACKFILLED TO WITHIN 3" OR LESS OF THE TOP OF CURB (SEE CURB BACKFILL DETAIL). FOR CURBS NOT YET ENTIRELY BACKFILLED (3" OR MORE BELOW TOP OF CURB), ADDITIONAL DEVICES WILL BE REQUIRED AT POINTS WHERE WATER BREAKS OVER CURB WHICH COULD RESULT IN THE PLACEMENT OF SEDIMENT IN THE GUTTER.
 4. SEE DETAIL SHEET FOR BACK OF CURB PROTECTION.
 5. THE BACK OF CURB PROTECTION SPECIFIED ON THIS PLAN MAY HAVE TO BE SUPPLEMENTED WITH HAY BALE OR SILT FENCE EROSION CONTROL DEVICES AT LOCATIONS WHERE CONCENTRATED FLOW RESULTS IN SEDIMENT BEING CARRIED OVER THE EXCELSIOR MATS.
 6. THE STREET CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING BACK OF CURB EROSION CONTROL DEVICES.
 7. THE INDIVIDUAL LOT OWNERS WILL BE RESPONSIBLE FOR MAINTAINING THE BACK OF CURB EROSION CONTROL DEVICES IN FRONT OF THEIR LOTS UNTIL SUCH TIME AS ADJACENT DISTURBED EARTH IS STABILIZED WITH GRASS OR SOD.

PHASE 2 – INSTALLATION OF STORM SEWER

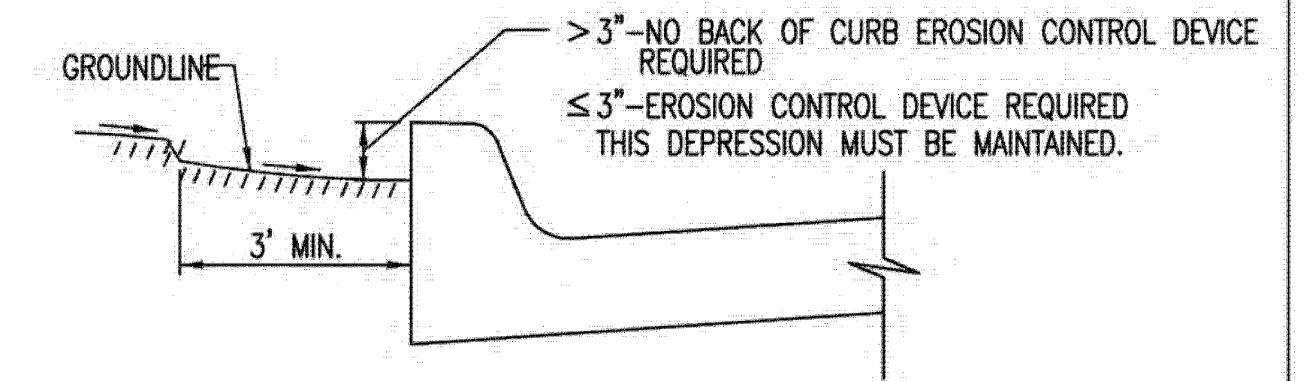


- LEGEND**
- - - PROPOSED NEW STREETS
 - CURB INLETS
 - AREA DRAINS
 - IP INLET PROTECTION
1. DURING THIS PHASE OF SUBDIVISION DEVELOPMENT, ALL EROSION CONTROL DEVICES REQUIRED IN PHASE 1 SHALL REMAIN IN PLACE AND BE MAINTAINED.
 2. AS NEW STORM SEWERS, WITH INLETS, ARE INSTALLED, THE STORM SEWERS MUST NOW BE PROTECTED SO ALL NEW INLETS BECOME POINTS OF COMPLIANCE.
 3. AREA DRAINS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, HAY BALE OR SILT FENCE PROTECTION WILL BE INSTALLED AROUND THEM.
 4. CURB OPENING INLETS – AS SOON AS WATER CAN FLOW INTO THESE DRAINS, INLET PROTECTION DEVICES MUST BE INSTALLED. IF WATER CANNOT FLOW INTO CURB INLETS UNTIL STREET CONSTRUCTION IS COMPLETE, THEN STREET CONTRACTOR WILL INSTALL INLET PROTECTION. SEE PHASE 3 – STREET CONSTRUCTION.
 5. THE STORM SEWER CONTRACTOR WILL BE RESPONSIBLE FOR INSTALLING THESE DEVICES.
 6. THE SUBDIVISION DEVELOPER WILL MAINTAIN THESE EROSION CONTROL DEVICES ONCE INSTALLED.
 7. ALL DISTURBED GROUND WILL BE FINAL GRADED AND TEMPORARILY OR PERMANENTLY SEEDED WITHIN 14 DAYS IF COMPLETION OF WORK IN ANY GIVEN PART OF THE SUBDIVISION.
 8. ONCE ALL DISTURBED GROUND DRAINING TO AN INLET HAS BEEN RESTABILIZED WITH GRASS OR SOD, THE SUBDIVISION DEVELOPER WILL BE RESPONSIBLE FOR PERMANENTLY REMOVING THE INLET PROTECTION.

GENERAL NOTES

1. THE INTENT OF ALL EROSION CONTROL DEVICES IS TO PREVENT ERODED SOIL FROM ENTERING DITCHES, STORM SEWERS, LAKES, STREETS OR ANY OTHER OTHER DRAINAGE FEATURE.
2. THIS SHEET IS INTENDED TO PROVIDE GUIDELINES AS TO WHAT TYPE OF EROSION CONTROL DEVICES WILL BE INSTALLED DURING THE CONSTRUCTION PROCESS. CONTRACTORS ARE EXPECTED TO BID PROJECTS ACCORDINGLY.
3. EROSION CONTROL DEVICES SHALL BE MAINTAINED DURING THE CONSTRUCTION PROCESS TO REMAIN EFFECTIVE. MAINTENANCE SHALL BE AS INDICATED ON SOIL EROSION BMP'S DETAIL SHEETS.
4. PERSONS DESTROYING EROSION CONTROL DEVICES SHALL BE RESPONSIBLE FOR IMMEDIATELY REPAIRING THEM OR INSTALLING SUITABLE REPLACEMENT DEVICES.
5. THE DEVELOPMENT OF ANY SUBDIVISION THAT DISTURBS 1 ACRE OR MORE WILL REQUIRE A FEDERAL/STATE NPDES STORMWATER PERMIT. THE PREPARATION OF A STORMWATER POLLUTION PREVENTION PLAN IS REQUIRED. EROSION CONTROL DEVICES ARE REQUIRED. THE DETAILS SHOWN ON THIS SHEET ARE THE MINIMUM STANDARDS TO BE SHOWN ON POLLUTION PREVENTION PLANS.
6. FOR SUBDIVISIONS SMALLER THAN 1 ACRE, SOIL EROSION DEVICES ARE REQUIRED. ALSO, DEVELOPERS AND CONTRACTORS ARE ENCOURAGED TO DEVELOP POLLUTION PREVENTION PLANS FOR EACH PROJECT PRIOR TO CONSTRUCTION.
7. FAILURE TO USE AND MAINTAIN SOIL EROSION DEVICES IS A VIOLATION OF SECTION 16.32 OF THE CITY CODE AND WILL SUBJECT THE SUBDIVISION DEVELOPER AND CONTRACTORS TO THE PENALTIES PROVIDED THEREIN.
8. THE APPLICATION OF EROSION CONTROL DEVICES SHOWN ON THIS SHEET IS FOR SITUATIONS NORMALLY ENCOUNTERED. FROM TIME TO TIME, SITUATIONS WILL ARISE THAT MAY REQUIRE DEVICES OTHER THAN THAT SHOWN. EROSION CONTROL DEVICES, OTHER THAN THOSE SHOWN, MAY BE UTILIZED SO LONG AS THEY ARE EFFECTIVE AND MAINTAINED.
9. A STABILIZED EARTH SURFACE IS DEFINED AS ONE THAT IS HARD SURFACED WITH CONCRETE, ASPHALT, OR THE LIKE, OR ONE ON WHICH 70% OF THE GRASS HAS GERMINATED ON THE ENTIRE SURFACE.

SEE DETAIL SHEET FOR BACK OF CURB PROTECTION DETAIL



CURB BACKFILL DETAIL (STREET CONSTRUCTION ONLY)

THIS IS A TEMPORARY MEASURE ONLY, WHEN APPROVED BY THE PROJECT ENGINEER. THE DIRT GRADE BEHIND THE CURB SHALL BE BROUGHT TO THE TOP OF CURB, WITH TEMPORARY EROSION CONTROL MAT OR PERMANENT VEGETATION PLACED, PRIOR TO THE COMPLETION OF ALL PROJECTS.

REVISION DATE: MAY 2013



CITY OF WICHITA
PUBLIC WORKS & UTILITIES ENGINEERING DIVISION

SUBDIVISION DEVELOPMENT PROCESS		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER 0372PPD	OCA NUMBER 607861	DATE
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET 25 OF 26

PLOTTED: Tuesday, July 12, 2016 @ 11:14AM
 I:\CTM\303\VOL7\PROJECTS\2015\16010\0321_OT_329R_HARRY AND OLIVER_15321 CAD\SHOTS\05 CIVIL\EROSION\15321FD05.DWG

CERTIFICATE OF SURVEY

I, James C. McClure a Professional Land Surveyor in Kansas, do hereby certify that I have been in responsible charge of surveying and platting of "QUIKTRIP 21ST ADDITION" an addition to Wichita, Sedgwick County, Kansas, into a Lot, a Block, and a Street the same being accurately set forth in the accompanying plat and described herein:

A contiguous tract of land being described as follows:

Lot 1 and the north 30 feet of Lot 2, McGovney Addition to Wichita, Kansas, Sedgwick County, Kansas.

TOGETHER WITH,

Lot 1, in Replat of Lots 3 & 4 & Part of Lot 2, McGovney Addition to Wichita, Kansas, Sedgwick County, Kansas.

TOGETHER WITH,

A tract of land lying in the Northwest Quarter of Section 36, Township 27 South, Range 1 East of the Sixth Principal Meridian, Wichita, Sedgwick County, Kansas, being more particularly described as follows:

Commencing at the Northwest Corner of said Northwest Quarter; thence East along the north line of said Quarter, 60 feet; thence South parallel with the west line of said Quarter, 50 feet; thence East parallel with said north line, 35 feet to the Point of Beginning; thence East parallel with said north line, 121.5 feet to the Northwest Corner of Lot 1, McGovney Addition to Wichita, Kansas; thence South along the west line of said Lot 1, 169.1 feet to the Southwest Corner of said Lot 1; thence Southwesterly along the west line of Lot 2, said Addition and the west line of Replat of Lots 3 & 4 & part of Lot 2, McGovney Addition to Wichita, Kansas, 232.91 feet, more or less, to the southwest corner of said Replat, said point being 428 feet south and 113.5 feet east of the Northwest Corner of said Quarter; thence Southwesterly along the west line of a tract of land described in Deed Book 981, Page 109, 52.5 feet to the north line of Lot 1, McGovney Second Addition to Wichita, Sedgwick County, Kansas; thence West along said north line, 30 feet; thence North parallel with and 60 feet east of the west line of said Quarter, 390 feet; thence Northeast, 49.5 feet to the Point of Beginning.

Said contiguous tract of land being more particularly described as follows:

BEGINNING at the northeast corner of said Lot 1, McGovney Addition to Wichita, Kansas, Sedgwick County, Kansas; thence along the east lines of said McGovney Addition and said Replat of Lots 3 & 4 & Part of Lot 2, McGovney Addition on a Kansas coordinate system of 1983 south zone bearing of S00°50'19"E, 377.90 feet to the southeast corner of said Replat Addition; thence along the south line of said Replat Addition, S89°09'16"W, 186.55 feet to a point on the east line of said tract of land, said point being the southwest corner of said Replat Addition; thence along said east line, S25°27'47"W, 52.54 feet to a point on the north line of said Lot 1, McGovney Second Addition to Wichita, Sedgwick County, Kansas, said point being the southeast corner of said tract of land; thence along said north line and south line of said tract of land, S89°09'16"W, 30.37 feet to a point 60 feet east of the west line of said Northwest Quarter, said point being the southwest corner of said tract of land; thence parallel with and 60 feet east of said west line, and along the west line of said tract of land, N00°49'23"W, 390.00 feet to a northwesterly corner of said tract of land; thence along a northerly line of said tract of land, N44°09'57"E, 49.51 feet to a point 50 feet south of the north line of said Northwest Quarter, said point being a northwesterly corner of said tract of land; thence parallel with and 50 feet south of said north line, and along the north line of said tract of land, N89°09'16"E, 205.09 feet to the POINT OF BEGINNING.

Said contiguous tract CONTAINS: 92,116 square feet or 2.115 acres of land, more or less.

All alleys, easements, rights-of-way, building setbacks, access controls, together with all other public dedications within the above described property, are hereby vacated and replatted by virtue of K.S.A. 12-512b, as amended.

I hereby certify that the details of this plat are correct to the best of my knowledge and belief this ___ day of _____, 2016.



James C. McClure, P.S. #1251
MKEC Engineering, Inc. (CLS 35)
411 North Webb Road
Wichita, Kansas 67206

OWNER'S CERTIFICATE

Know all men by these presents that we the undersigned property owners of the land above set forth in the Professional Land Surveyor's Certificate, have caused the same to be surveyed and replatted into a Lot, a Block, and a Street the same to be known as "QUIKTRIP 21ST ADDITION" an addition to Wichita, Sedgwick County, Kansas.

The street is hereby dedicated to and for the use of the public.

The sanitary sewer easement is hereby granted as indicated for municipal sanitary sewer systems and for the construction, maintenance / repair, and inspection thereof. The water easement is hereby granted as indicated for municipal water distribution systems and for the construction, maintenance / repair, and inspection thereof. The drainage easement is hereby granted as indicated for underground stormwater drainage systems and for the construction, maintenance / repair, and inspection thereof. No signs, light poles, private drainage systems, masonry trash enclosures, or other structures shall be located within said easements, provided however, such structures may be allowed with the approval of a Hold Harmless Agreement with the City of Wichita.

All abutters rights of access to or from Harry Street over and across the north line of "QUIKTRIP 21ST ADDITION," are hereby granted to the appropriate governing body. All abutters rights of access to or from Oliver Avenue over and across the west line of "QUIKTRIP 21ST ADDITION," are hereby granted to the appropriate governing body, provided however one full movement opening shall be allowed as indicated hereon.

A drainage plan has been developed for this plat. All drainage easements, rights-of-way, shall remain at established grades or as modified with the approval of the applicable City or County Engineer, and unobstructed to allow for the conveyance of stormwater. Lot 1, Block 1, is required to adhere to the minimum pad elevation as per the "Minimum Pad Elevations" table shown hereon.

QuikTrip West, Incorporated

Chad M. Stanford, Vice President

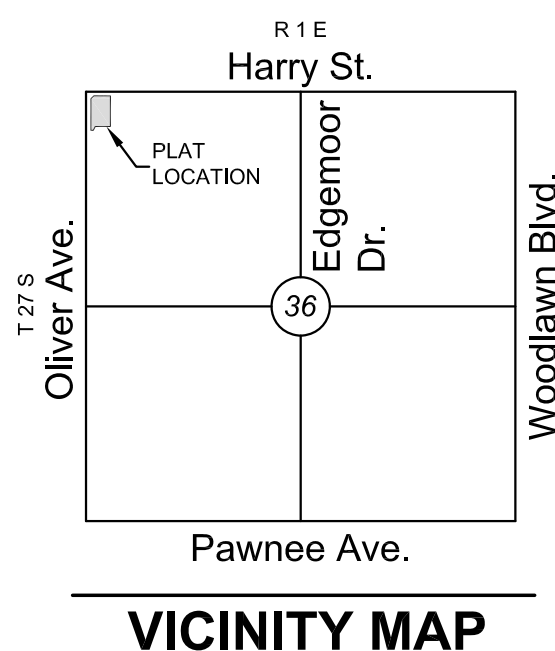
STATE OF OKLAHOMA, TULSA COUNTY) ss:

This instrument was acknowledged before me on ___ day of _____, 2016, by Chad M. Stanford, Vice President, QuikTrip West, Incorporated.

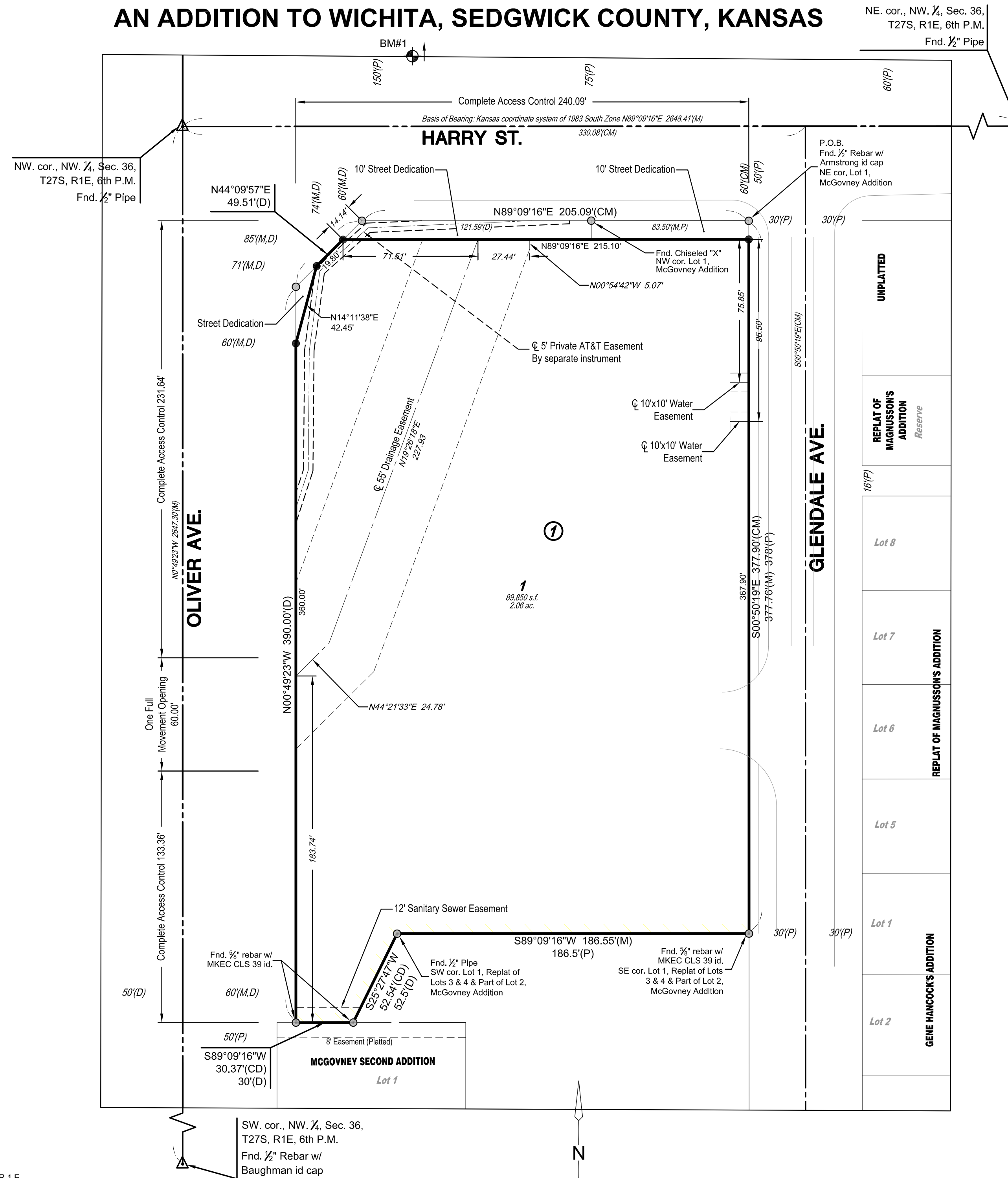
IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal, the day and year last above written.

Notary Public: _____, Notary Public

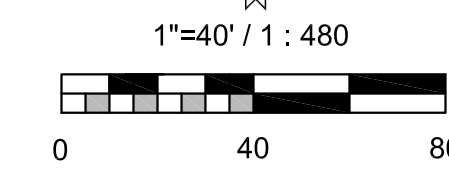
My Term Expires: _____



FINAL PLAT
QUIKTRIP 21ST ADDITION
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS



- LEGEND
Date of Survey: 5/21/15
- Section Corner Monument Found
- Found monument (see annotation for type)
- Set 3/8" rebar with MKEC CLS 39 id cap
- Benchmark
- Measured (M)
- Described (D)
- Platted (P)
- Calculated from Measurement (CM)
- Calculated from Described (CD)
- Calculated from Plat (CP)



Basis of Bearings: Kansas coordinate system of 1983 south zone bearing of N89°09'16"E on the north line of the Northwest Quarter, Section 36, Township 27 South, Range 1 East of the 6th Principal Meridian. This plat is surveyed and platted on NAD83 using Kansas state plane south zone coordinates, modified to the surface, having a combined adjustment scale factor of 1.000120014401728

BENCHMARKS

City of Wichita benchmark disc on west end of north headwall of RCBC, 130± east of centerline of Oliver Avenue. Elev.=1330.37' NAVD 88.

Table with 3 columns: LOT, BLOCK, ELEVATION (NAVD 88). Row 1: 1, 1, 1328.6

PLANNING COMMISSION CERTIFICATE

This plat of "QUIKTRIP 21ST ADDITION" has been submitted to and approved by the Wichita-Sedgwick County Metropolitan Area Planning Commission, Wichita, Kansas.

Dated this ___ day of _____, 2016.

WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION

By: Carol Chapman Neugent, Chair

Attest: Dale Miller, Secretary

GOVERNING BODY CERTIFICATE

This Plat approved and all dedications shown hereon, accepted by the Wichita City Council of the City of Wichita, Kansas dated this ___ day of _____, 2016.

At the direction of the City Council.

Jeff Longwell, Mayor

Attest: Karen Sublett, City Clerk

TRANSFER RECORD

STATE OF KANSAS, SEDGWICK COUNTY) ss:

Entered on transfer record this ___ day of _____, 2016.

Kelly B. Arnold, County Clerk

REGISTER OF DEEDS' CERTIFICATE

STATE OF KANSAS, SEDGWICK COUNTY) ss:

This is to certify that this instrument was filed for record in the Register of Deeds office this ___ day of _____, 2016, at ___ o'clock ___ M; and is duly recorded.

Bill Meek, Register of Deeds

Attest:

Tonya E. Buckingham, Deputy

COUNTY SURVEYOR

STATE OF KANSAS, SEDGWICK COUNTY) ss:

Reviewed in accordance with K.S.A. 58-2005 on this ___ day of _____, 2016.

Deputy County Surveyor

Tricia L. Robello, LS #1246
Deputy County Surveyor
Sedgwick County, Kansas



Wichita, KS • 316.684.9600