



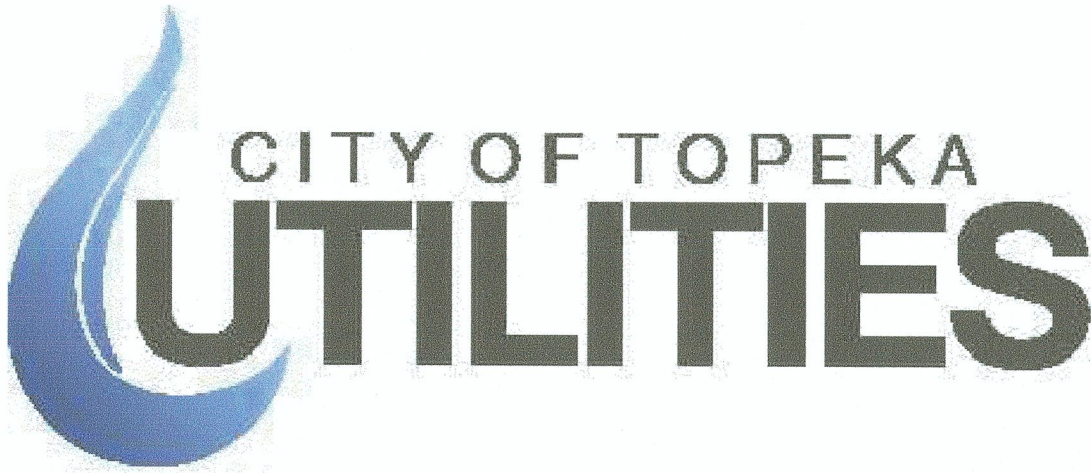
TOPEKA METRO

**REQUEST FOR BIDS
Pedestrian Bridges and
Concrete Footings for
Bus Stops
TO-22-05**

**Appendix III
Engineering Studies**

NE SEWARD AVENUE BULB-OUT PROJECT

NE SEWARD AVE FROM NE LAKE ST TO NE GRATTAN ST CITY OF TOPEKA PROJECT #T-501023.15 & #T-501081.01



MARCH 2021

"Kansas One-Call" is the Underground Utility Notification center for the State of Kansas. Through this facility, you can notify operators of underground facilities of proposed excavations to request that the underground facilities be marked before you dig.

Kansas Statute annotated #66-1801 through #66-1815 requires anyone who engages in any type of excavation to provide advance notice of at least two full working days, but not more than 15 calendar days, excluding weekends and holidays.

The person who is doing the work is responsible for calling Kansas One-Call. If the owner contracts with a professional excavator to do the excavation, then the professional excavator is responsible for calling Kansas One-Call.

The service provided by Kansas One-Call to excavators is free of charge.

Call 785-368-3111 for emergencies with City of Topeka utilities.

NON-EMERGENCY UTILITY OWNER CONTACTS

Cable TV

Cox Communications
931 SW Henderson Rd.
Topeka, KS 66615
Glenn Calhoon
(785)215-6705
(785)207-1693
glenn.calhoon@cox.com

Electric

Evergy
PO Box 889
4001 NW 14th St.
Topeka, KS 66603
Aaron Spreer
(785)865-4850
(785)575-6300
aaron.spreer@evergy.com

Fiber Optic - City of Topeka

City of Topeka, Info. Tech.
620 SE Madison St., 3rd Floor
Topeka, KS 66603
Mark Biswell
(785)368-3718
mbiswell@topeka.org

Fiber Optic - Centurylink CLEC

Centurylink CLEC
100 Centurylink Dr.
Monroe, LA 71203
Luke Hempler
(816)308-9639
luke.hempler@centurylink.com

Fiber Optic - USD 501

USD 501, Info. Tech.
1900 SW Hope St.
Topeka, KS 66604
Dickie Hanson
(785)438-4750
dhanson@tps501.org

Fiber Optic - KsFiberNet

Kansas Fiber Network LLC
10875 Benson, Suite 250
Overland Park, KS 66210
Brad Burger
(913)213-2937
bburger@ksfiber.net

Gas

Kansas Gas Service
PO Box 3538
200 E 1st St.
Topeka, KS 66601
Dawn Hecker
(785)431-4251
dawn.hecker@onegas.com
For Gas Leaks 1-888-482-4950
911 must also be called immediately

Telephone

AT&T
220 SE 6th St., Rm 360
Topeka, KS 66603
Randall Nicely
(785)276-5377
RN0380@att.com

Sanitary/Storm Sewer

City of Topeka, WPC Div.
1115 NE Poplar St.
Topeka, KS 66616
Darrin A. Coffland
(785)368-2467
dcoffland@topeka.org

Water

City of Topeka, Water Dist.
3245 NW Waterworks Dr.
Topeka, KS 66606
Duncan Theuri
(785)368-0152
dtheuri@topeka.org

Traffic Signal

City of Topeka, Traffic Ops.
927 NW Harrison St.
Topeka, KS 66612
Duane Morris
(785)368-3913
dmorris@topeka.org

Fiber Optic - AT&T Transmission

AT&T Services, Inc.
203 East Ave. A
Salina, KS 67401
Kelly Kuntz
(785)203-0046
kk1834@att.com

Fiber Optic - Giant Communications

Giant Communications
515 S Kansas Ave. Suite 210
Topeka, KS 66603
Lance Lyman
(785)362-3312
lancelym@giantcomm.net

Telephone/Fiber Optics

Verizon/MCI
Jeffrey Wiard
(620)242-6647
Jeffrey.Wiard@verizonwireless.com



LOCATION MAP

SHEET INDEX		
SHEET NO.	DWG NO.	SHEET TITLE
1	G-01	COVER SHEET, UTILITY OWNERS, LOCATION MAP, & SHEET INDEX
2	G-02	NOTES, SUMMARY OF QUANTITIES, ABBREVIATIONS, & LEGEND
3	G-03	GREEN STORMWATER INFRASTRUCTURE SPECIFICATIONS
4	G-04	KEY MAP
5	D-01	DEMO PLAN
6	D-02	DEMO PLAN
7	D-03	DEMO PLAN
8	D-04	DEMO PLAN
9	C-01	PLAN AND PROFILE
10	C-02	PLAN AND PROFILE
11	C-03	PLAN
12	C-03.2	PROFILE
13	C-04	PLAN
14	C-04.2	PROFILE
15	C-05	PLAN AND PROFILE
16	C-06	PLAN AND PROFILE
17	C-07	WATERLINES PLAN AND PROFILE
18	S-001	PEDESTRAIN BRIDGE NOTES
19	S-501	PEDESTRAIN BRIDGE DETAILS
20	T-01	TRAFFIC CONTROL PLAN
21	T-02	TRAFFIC CONTROL PLAN
22	DTL-01	BULB-OUT RETROFIT DETAIL
23	DTL-02	CURB & GUTTER AND APPROACH DETAILS DT-003
24	DTL-03	RAMP & WALK DETAILS DT-004
25	DTL-04	STORM SEWER DETAILS (DT-008)
26	DTL-05	STANDARD MANHOLE DETAILS (DT-005)
27	DTL-06	TYPE II-P INLET (PRECAST) (DT-011)
28	DTL-07	MISCELLANEOUS DETAILS I (DT-017)
29	DTL-08	WATER DETAILS I (DT-023)
30	DTL-09	WATER DETAILS 2 (DT-024)
31	DTL-10	TRAFFIC CONTROL DT-118
32	DTL-11	TRAFFIC CONTROL DT-119
33	DTL-12	TRAFFIC CONTROL DT-120
34	DTL-13	TRAFFIC CONTROL DT-121
35	GEC-01	EROSION CONTROL PLAN
36	EC-01	EROSION CONTROL PLAN
37	EC-02	EROSION CONTROL PLAN
38	EC-03	EROSION CONTROL PLAN
39	EC-04	EROSION CONTROL PLAN
40	DTL-14	EROSION & POLLUTION CONTROL DT-020
41	DTL-15	EROSION & POLLUTION CONTROL DT-021

CITY OF TOPEKA, KANSAS

DEPARTMENT OF PUBLIC WORKS -- ENGINEERING DIVISION

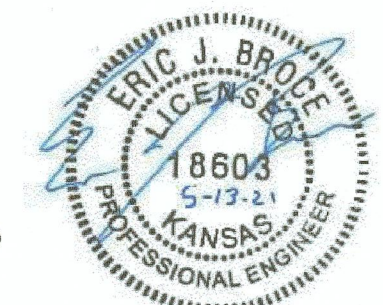
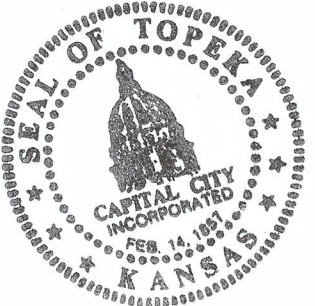
RELEASED FOR CONSTRUCTION

Mark Schuman 5-19-21
CITY ENGINEER DATE

ATTEST:
Brandt Upinger 5/19/21
CITY CLERK DATE

REVIEWED BY

RB 5-13-21
UTILITIES DATE



PREPARED BY:

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.

Wood Project No. 8275000407

COVER SHEET
UTILITY OWNERS
LOCATION MAP
SHEET INDEX

DATE: 05/2021
T-501023.15 /
PROJ.: T-501081.01
SHEET: 01 OF 41
G-01

3. ALL CONSTRUCTION METHODS AND MATERIALS USED IN THE CONSTRUCTION OF THE IMPROVEMENTS COVERED BY THESE PLANS SHALL BE IN ACCORDANCE WITH THE STANDARD TECHNICAL SPECIFICATIONS AND CURRENT REVISIONS ON FILE IN THE OFFICE OF THE CITY ENGINEER, CITY OF TOPEKA, KANSAS.
2. THE UTILITIES INDICATED ON THE DRAWINGS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. HOWEVER, ALL UTILITIES ACTUALLY EXISTING MAY NOT BE SHOWN. UTILITIES DAMAGED THROUGH THE FAILURE OF THE CONTRACTOR TO OBTAIN THE LOCATION OF SAME SHALL BE REPAIRED AND/OR REPLACED BY THE UTILITIES OWNER AT THE CONTRACTOR'S EXPENSE. CONTRACTOR IS RESPONSIBLE TO POTHOLE AND LOCATE ALL UTILITIES WITHIN CONSTRUCTION SITE.
3. CONSTRUCTION STAKING IS TO BE PROVIDED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS AND RIGHT-OF-WAY MONUMENTS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS OR RIGHT-OF-WAY MONUMENTS WHICH ARE DAMAGED OR DESTROYED BY CONSTRUCTION OPERATIONS. SUCH IRONS OR MONUMENTS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
4. UTILITIES EXPOSED DURING CONSTRUCTION SHALL BE ADEQUATELY SUPPORTED BY THE CONTRACTOR TO PREVENT THE CONDUIT/LINES FROM SAGGING OR BEING DAMAGE.
5. CONTRACTOR SHALL MAINTAIN CONSTRUCTION LIMITS WITHIN THE EXISTING RIGHT-OF-WAY, EASEMENTS, AND CITY PROPERTY WHERE PROVIDED ON PLANS.
6. THE CONTRACTOR SHALL MAINTAIN DRAINAGE DURING CONSTRUCTION AND IS RESPONSIBLE FOR ANY DEWATERING NECESSARY DURING CONSTRUCTION. ALL COSTS SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.
7. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL SUBMIT A DETAILED TRAFFIC CONTROL PLAN FOR OWNER'S REVIEW AND APPROVAL. THE TRAFFIC CONTROL PLAN SHALL BE IN ACCORDANCE WITH THE CITY OF TOPEKA SPECIFICATIONS AND STANDARD DRAWINGS AND THE MUTCD (LATEST EDITION). TRAFFIC CONTROL AND DEVICES SHOWN IN THESE PLANS ARE FOR INFORMATION ONLY. ALL DEVICES AND FLAGGER OPERATIONS SHALL NOT BE PAID FOR DIRECTLY, BUT SHALL BE CONSIDERED SUBSIDIARY TO THE BID ITEM "TRAFFIC CONTROL (L.S.)" ONLY ONE SIDE STREET MAY BE CLOSED AT A TIME. SEWARD MUST REMAIN OPEN TO TRAFFIC THROUGHOUT THE DURATION OF THE PROJECT. PEDESTRIAN DETOURS WILL BE REQUIRED PER CITY DETAILS AS WELL..
8. THE CONTRACTOR SHALL CONTAIN ALL OPERATIONS TO PERMIT LOCAL AND EMERGENCY TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT ALL TIMES. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET
9. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF AT A SITE PROVIDED BY THE CONTRACTOR. NO ON-SITE DISPOSAL OF DEBRIS WILL BE ALLOWED. THE DISPOSAL SITE SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER 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 WILL 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 MAY REQUIRE ARCHEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
10. THE CONTRACTOR SHALL RESTORE ALL RIGHT-OF-WAY, DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, ETC. CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET, UNLESS OTHERWISE NOTED ON THE PLANS. THE REPLACEMENT OF ALL PREVIOUSLY MENTIONED ITEMS, INCLUDING SEEDING, FERTILIZER AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.
11. THE CONTRACTOR SHALL AT NO TIME LEAVE EQUIPMENT, MATERIALS, OR DEBRIS IN LOCATIONS THAT ARE NOT PROPERLY SECURED.
12. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF 3 DAYS ADVANCE NOTICE PRIOR TO THE START OF CONSTRUCTION.
13. ALL WORK SHALL BE ACCOMPLISHED DURING NORMAL DAYTIME WORKING HOURS ONLY (6 A.M. TO 8 P.M.) OR AS APPROVED BY THE OWNER AND ENGINEER.
14. CONTRACTOR SHALL PROVIDE DUST CONTROL DURING ENTIRE CONSTRUCTION PERIOD. ALL DISTURBED AREAS SHALL BE MAINTAINED WITH DUST SUPPRESSORS (WATER, ETC.) TO PROHIBIT ENVIRONMENTAL CONTAMINATION. CALCIUM CHLORIDE SHALL NOT BE USED FOR DUST CONTROL.
15. THE CONTRACTOR SHALL NOT DAMAGE THE EXISTING SURFACE ON STREETS, DRIVEWAYS OR SIDEWALKS WITH THE EQUIPMENT DURING CONSTRUCTION. IF DAMAGED, THE CONTRACTOR SHALL REPAIR OR REPLACE THE SURFACE TO ITS ORIGINAL CONDITION AT NO COST TO THE CITY.
16. SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL COMPLY WITH O.S.H.A. REGULATIONS THAT APPLY TO ALL WORK ON THE PROJECT.
17. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSAL OF ANY MATERIALS REMOVED AS A RESULT OF EXCAVATION.

1. PLANTS SHALL BE SALVAGED, REMOVED, PROTECTED, AND DELIVERED TO WATER POLLUTION CONTROL AT 1115 NE POPLAR STREET. COORDINATE PLANT REMOVALS AND DELIVERY WITH AARON GRAMS 785-368-3111.

1. PVC SCH 40 CONDUIT - CAN BE SPLICED
2. HDPE CONDUIT - NO SPLICES, CONDUIT THAT IS REPLACED SHALL BE 24" UNDER ROADWAY AND 18" TO 24" IN GRASSY SURFACES.
3. ADJUST BOXES AS NEEDED.
4. IF WIRE IS DAMAGED, NEW WIRE WILL BE PULLED BETWEEN STREET LIGHTS. NO SPLICES.
5. ANY ITEMS REPLACED PUT BACK WHAT WAS EXISTING.

LINE	ITEM	QUANTITY	UNIT
1	REMOVE EX CURB & GUTTER	746	LF
2	REMOVE EX 2" ASPHALT ON 7" CONCRETE PAVEMENT	118	SY
3	REMOVE EX CONCRETE PARKING	15	SY
4	REMOVE EX CONCRETE DRIVE WAY	234	SF
5	REMOVE EX CONCRETE SIDEWALK	571	SF
6	REMOVE EX 8" WATERLINE	25	LF
7	REMOVE EX 6" WATERLINE	20	LF
8	REMOVE EX 15" RCP STORM LINE	45	LF
9	REMOVE EX 6" PVC STORM LINE	39	LF
10	GROUT EX 15" RCP	1	EA
11	REMOVE EX ELECTRICAL CONDUIT	110	LF
12	REMOVE EX ELECTRICAL WIRE	160	LF
13	REMOVE EX PAVEMENT MARKINGS	1	LS
14	REMOVE EX 11 3/4" ASPHALT MATERIAL	343	SY
15	REMOVE & RESET FIRE HYDRANT & BLOCK	1	EA
16	UNCLASSIFIED EXCAVATION	304	CY
17	15" STORM SEWER (RCP), CLASS III	308	LF
18	18" STORM SEWER (RCP), CLASS III	55	LF
19	6" EDGE CURB	504	LF
20	COMBINED CURB & GUTTER, TYPE I	590	LF
21	2.5" PVC ELECTRICAL CONDUIT FOR STREET LIGHTS	47	LF
22	3" PVC ELECTRICAL CONDUIT FOR STREET LIGHTS	60	LF
23	UG ELEC WIRES FOR STREET LIGHTS	161	LF
24	CURB NARROW INLETS	11	EA
25	CURB FOREBAY INLET	12	EA
26	FOREBAY & CONCRETE TRANSITIONS	12	EA
27	PEDESTRIAN BRIDGE	2	LS
28	6" UNDERDRAIN, PERFORATED PVC SCH-40	308	LF
29	CURB INLET-MANHOLE (4" DIA), TYPE II P	9	EA
30	PRE-CAST STANDARD MANHOLE (4" DIA), TYPE I	1	EA
31	AREA INLET-MANHOLE (4" DIA)	2	EA
32	STORM DRAIN INLET W/ BEE HIVE GRATE	4	EA
33	3/4" TO 1-1/2" AASHTO 57 WASHED STONE	134	CY
34	BIO RETENTION SOIL PER GSI 5.1	168	CY
35	PLANTING & MULCH PER GSI 7.5	1	LS
36	NON WOVEN GEOTEXTILE	6744	SF
37	2" TO 3" RIVER ROCK SPILLWAY	3	CY
38	2" ASPHALT ON 9" CONCRETE PAVEMENT	136	SY
39	2" ASPHALT ON 7" CONCRETE PAVEMENT	116	SY
40	6" CONCRETE PAVEMENT	41	SY
41	PAVEMENT MARKING (EPOXY)(YELLOW)(4")	20	LF
42	PAVEMENT MARKING (EPOXY)(WHITE)(18")	18	LF
43	4" CONCRETE SIDEWALK (5' WIDE)	295	SF
44	SIDEWALK RAMP	288	SF
45	SOD	2	SY
46	8" RJ WATERLINE	32	LF
47	6" RJ WATERLINE	28	LF
48	8" THRUST COLLAR & BLOCK	2	EA
49	6" THRUST COLLAR & BLOCK	2	EA
50	6" X 6" DI CL MJ TEE	1	EA
51	8" DI CL RJ 45° BEND & BLOCK	2	EA
52	6" DI CL RJ 45° BEND & BLOCK	4	EA
53	8" DI CL RJ 11.25° BEND & BLOCK	2	EA
54	6" SWIVEL X SOLID ADAPTOR	1	EA
55	6" GATE VALVE	1	EA
56	8" TEMPORARY RJ CAP	2	EA

LINE	ITEM	QUANTITY	UNIT
57	6" TEMPORARY RJ CAP	2	EA
58	CONNECT WL 1 AT STA 10+00	1	EA
59	CONNECT WL 1 AT STA 10+32	1	EA
60	CONNECT WL 2 AT STA 10+00	1	EA
61	CONNECT WL 2 AT STA 10+21	1	EA
62	TRAFFIC CONTROL	1	LS
63	INLET PROTECTION (AREA)	14	EA
64	INLET PROTECTION (CURB)	12	EA
65	HALE BALE BARRIER	240	LF
66	CONCRETE WASHOUT AREA	6	EA
67	CONTRACTOR CONSTRUCTION STAKING	1	LS

	EXISTING PROPERTY IRON
	BENCH MARK
307	HORIZONTAL CONTROL POINT
---	EXISTING LOT NUMBER
---	EXISTING SECTION LINE
---	EXISTING PROPERTY LINE
---	EXISTING EASEMENT LINE
W W	EXISTING WATERLINE
WM	EXISTING WATER METER
WV	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
---	EXISTING STORM WATER LINE
SW	EXISTING STORM WATER MANHOLE
OR	EXISTING STORM WATER DRAIN
SS SS	EXISTING SANITARY SEWER
G G	EXISTING GAS LINE
GM	EXISTING GAS METER
UT UT	EXISTING BURIED TELEPHONE
TV	EXISTING TELEPHONE MANHOLE
FO FO	EXISTING BURIED FIBER OPTIC
UE UE	EXISTING BURIED ELECTRIC
OHE OHE	EXISTING OVERHEAD ELECTRIC
TR	EXISTING TRAFFIC MANHOLE
	EXISTING LIGHT POLE
	EXISTING DEADMAN ANCHOR
	EXISTING ELECTRIC BOX
---	EXISTING EDGE OF PAVEMENT
---	EXISTING FLOWLINE
X X X	EXISTING FENCE
	EXISTING BUILDING
	EXISTING SIGN
	EXISTING TREE
UE UE	PROPOSED BURIED ELECTRIC
---	PROPOSED STORM WATER LINE
	PROPOSED STORM CURB DRAIN
	FLOW LINES

CONC.	CONCRETE
ASPH.	ASPHALT
REC. INFO	RECORD INFORMATION
ELEC	ELECTRIC
EX	EXISTING
IP	IRON PIN
RCP	REINFORCED CONCRETE PIPE
CMP	CORRIGATED METAL PIPE
PE	POLYETHYLENE
SW	STORM WATER
GM	GAS METER
SS	SANITARY SEWER
WL	WATERLINE
WM	WATER METER
WV	WATER VALVE
X-WALK	CROSS WALK
CP	HORIZONTAL CONTROL POINT
BM	BENCH MARK
PVMT	PAVEMENT
ME	MATCH EXISTING

[illegible]

Last Saved by: alex.mckeen Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:23 AM
File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\G-03.dwg

1. The cost for site activity plan, development and implementation of green stormwater infrastructure control and protection, shall be subsidiary to Work being performed.

2. GREEN STORMWATER INFRASTRUCTURE SITE ACTIVITY PLAN

The Contractor shall develop and control the Site Activity Plan. The Contractor is responsible for installation and establishment of all green stormwater infrastructure components. The purpose of the Site Activity Plan is to thoroughly plan construction sequencing, site preparation (including control of stormwater within the site and protection of GSI), installation, stabilization of all disturbed area, and establishment of GSI facilities. The Site Activity Plan shall be submitted by the contractor and approved by the City prior to the commencement of any field activities. The contractor can work directly with the designer to develop the material required for the Site Activity Plan. Standard forms have been created to assist both designer and contractor with development of the Site Activity Plan along with instructions on how to use the forms. The items required in the Site Activity Plan supplement those required in City Standard Technical Specifications Manual, with an emphasis on proactively constructing with the integrity of the GSI in mind. The following items are the major submittal requirements of the Site Activity Plan:

A. Green Stormwater Infrastructure Construction Schedule. The GSI Construction Schedule shall be included as part of the overall project construction schedule required per the contract documents. The GSI Construction Schedule shall include additional detail on GSI phasing with an emphasis on protecting the GSI facility, including GSI preparation, installation, and post-construction measures. The following items shall be included as part of the GSI Construction Schedule:

1. Stormwater runoff shall not discharge in the GSI facility until authorized by the designer.

2. Procurement of GSI materials, including planting materials, lead times, and storage requirements;

3. Installation of GSI Components;

4. Sequence for bypassing/diverting stormwater runoff from GSI facility for establishment of landscape;

5. Sequence for site stabilization activities of areas upstream of GSI;

6. Inclusion of GSI Establishment, including landscaping.

B. Stormwater Runoff Management Plan. The stormwater runoff management plan includes a plan view sheet with appropriate existing and proposed topographic information to fully illustrate drainage patterns on the site throughout construction, and the impact of these drainage patterns on the GSI installation sequence and establishment. Development of the stormwater runoff management plan should integrate protection measures to protect the integrity of the GSI. The following items shall be included as part of the stormwater runoff management plan:

1. Means and methods to control stormwater runoff and protect the GSI, including installation and maintenance plan.

2. GSI shall not be used for collection or conveyance of stormwater during construction unless approved by the City.

3. Sedimentation within the footprint of the GSI during construction shall be removed immediately by the contractor, and the GSI repaired as needed to fully functioning capacity.

4. Contributing drainage area to the GSI must be fully stabilized and approved by the designer prior to the installation of the GSI.

5. Stormwater runoff shall not discharge in the GSI facility until authorized by the designer.

C. Site Access and Utilization Plan. The site access plan shall include a plan view sheet with existing and proposed topographic information to fully illustrate traffic patterns during construction. This includes site access, haul roads, delivery of materials, and any temporary access facilities. The city and designer will evaluate site access plan for compaction and sedimentation impact to the GSI facilities. Where compaction is anticipated, the contractor will provide a plan for decompaction and/or removal and replacement of any soils. The following items shall be included as part of the site utilization plan:

1. A plan for protecting existing trees and vegetation during construction;

2. A plan for maintaining utilities on site during construction;

3. Identification of material storage, laydown/equipment staging, and temporary facility areas;

4. A description of how stored materials will be protected, including maximum storage durations, and a description of how materials will be disposed of (if applicable);

5. A description of the equipment and methods used to backfill with respective materials, in a manner that does not put the function of the GSI at risk.

3. Subgrade Preparation

A. Clean subgrade and dispose of all debris prior to placement of aggregate or soil media. Remove all large clods, lumps, brush, roots, stumps, litter, trash, and other foreign material three (3) inches in diameter or larger.

B. Verify finished depth of facility and grade of surrounding area with Drawings and are within tolerances specified in **Tolerances**.

C. Do not compact subgrade under green stormwater infrastructure facility unless specifically required per the Drawings.

4. Filling and Backfilling

A. Backfill material shall not be placed until PRE-CONSTRUCTION INFILTRATION TEST RESULTS have been accepted.

B. Green stormwater infrastructure facility shall be filled to the dimensions, side slopes, elevations, and cross sections specified in the Drawings.

C. Soil and Aggregate Backfill: Fill and backfill materials shall be placed in lifts to suit the lines and grades required, making allowances for settlement and placement of cover materials as specified in Section 02946 Green Stormwater Infrastructure Soil and Aggregate Media.

5. Pipe and Structure Aggregate

A. Aggregate shall be placed to the depth and extents shown in the Drawings.

B. Place aggregate using methods that will not disturb or damage the piping material or the surrounding green stormwater infrastructure facility.

C. Spread aggregate to provide uniform and continuous support beneath pipe or structures. Backfill around the pipe or structure uniformly in maximum six (6) inch lifts.

D. Where required for stability, compaction shall be achieved using small, hand-held or walk behind compactors.

6. Fine Grading

A. Fine grading shall be performed immediately prior to planting operations.

B. Grading shall provide positive drainage to the green stormwater infrastructure facility and/or outlet structure within the facility, unless otherwise specified in the Drawings.

7. Tolerances - The Contractor shall place materials based on the lines and grades specified in the Drawings within the following tolerances: Horizontal Tolerance: 0.1 feet, Vertical Tolerance: 0.1 feet

FINISHED GRADE SURVEY VERIFICATION: Submit survey of finished grade elevation to the Design Professional Owner for review. Survey elevation shall be taken at specific point locations identified in the Drawings.

8. Disposal of material - Materials no longer in use shall be removed and disposed of by Contractor per Green Stormwater Infrastructure Site Activity Plan.

9. Protection - The Contractor shall implement temporary erosion control and protection measures until final completion of project or 70% vegetative cover established whichever occurs last.

- A. The Contractor shall implement temporary control and protection measures per plan sheets.
- B. All protection measures shall be submitted to the Owner for acceptance.
10. Maintenance
- A. The Contractor shall be responsible for maintaining finished grade of materials within the tolerances defined in the **Tolerances** section for the duration of the Establishment Period. The Contractor shall make all repairs or replacements necessary to correct changes in finished grade within 30 days of notice from the Owner.
11. Infiltration inlet
- A. Media Liner: Shall be the type specified in the Drawings and meet the requirements specified in Green Stormwater Infrastructure Media Liners.
- B. Perforated Underdrain: Shall be the type specified in the Drawings and meet the requirements specified in Green Stormwater Infrastructure Piping.
12. Infrastructure Piping.
- A. Cleanout: As specified in the Drawings no cleanout assembly will be required for this project.
- B. Storage Aggregate Media: Shall be the type specified in the Drawings and meet the requirements specified in Section 02946 Green Stormwater Infrastructure Soil and Aggregate Media.
13. Soil and Aggregate Media.
- A. Growing Media: Shall be the type specified in the Drawings and meet the requirements specified in Green Stormwater Infrastructure Soil and Aggregate Media.
14. Curb Cut
- A. Curb cuts shall be cast-in-place, installed as concrete curb with opening dimensions as specified in the Drawings.
- B. If modifying an existing curb line, the existing curb shall be removed to the nearest contraction or expansion (isolation) joint and the curb cut shall be cast-in-place with a throat and directional veins to divert flows through the curb cut as opposed to running parallel with the curb line.
- C. Concrete shall be poured such that the finished grade of the inlet is flush with the adjacent pavement and shall have positive drainage toward the green stormwater infrastructure facility, as specified in the Drawings.]
15. Soil Media (Growing Media/Bioretenation Soil Media)
- A. Bioretention soil media shall be a mixture of topsoil, compost, and sand. Material tests are required for each individual component of the bioretention media prior to mixing as specified below.
- B. Bioretention soil media mix shall be certified to meet the following mixing composition of each component:
- BIORETENTION SOIL MEDIA COMPONENTS
- | COMPONENT | COMPOSITION (PERCENT BY VOLUME) |
|-----------|---------------------------------|
| TOPSOIL | 25-30 |
| COMPOST | 25-30 |
| SAND | 40-50 |
- C. The bioretention soil media shall meet the follow requirements after thorough mixing of all components:
- BIORETENTION SOIL MEDIA TESTING REQUIREMENTS
- | ITEM | CRITERIA | TEST METHOD (OR APPROVED EQUAL) |
|---|-----------------|---------------------------------|
| pH | 5.5-7.5 | ASTM D4972 |
| TOTAL PHOSPHORUS (P ₂ O ₅) | 60 PPM MAXIMUM | TMECC 4.03-A |
| TOTAL POTASSIUM (K ₂ O) | 78 PPM MINIMUM | TMECC 4.04-A |
| MAGNESIUM | 32 PPM MINIMUM | TMECC 4.05-Mg |
| CONDUCTIVITY (SOLUBLE SALTS) | 500 PPM MAXIMUM | TMECC 4.10-A |
- D. BIORETENTION SOIL MEDIA CERTIFICATION: Submit testing agency certification that the bioretention soil media is within the parameters specified after thorough mixing of all components. At a minimum, test report shall include the following:
- 1) Material supplier name, address and phone;

2) Percent by volume composition of topsoil, compost and sand components;

3) pH;

4) Total Phosphorus;

5) Total Potassium;

6) Magnesium;

7) Conductivity (Soluble Salts).

16. Storage Aggregate Media
- A. Storage aggregate media shall be No. 67, No. 57, No. 56, No. 3, or No. 2 stone as specified in the Drawings.
- B. Storage aggregate media shall be double-washed, hard, durable, rounded, or sub-angular particles of proper size and gradation, and shall be free from sand, silt, clay, excess fines, and other deleterious materials.
- C. Storage aggregate media shall meet ASTM C33/C33M grading requirements for coarse aggregates as follows:

SIEVE SIZE	PASSING (PERCENT BY MASS)				
	NO. 2	NO. 3	NO. 56	NO. 57	NO. 67
75 MM (3 INCH)	100	-	-	-	-
63 MM (2-1/2 INCH)	90-100	100	-	-	-
50 MM (2 INCH)	35-70	90-100	-	-	-
37.5 MM (1-1/2 INCH)	0-15	65-70	100	100	-
25 MM (1 INCH)	-	0-15	90-100	95-100	100
19 MM (3/4 INCH)	0-5	-	40-85	-	90-100
12.5 MM (1/2 INCH)	-	0-5	10-40	25-60	-
9.5 MM (3/8 INCH)	-	-	0-15	-	20-55
4.75 MM (NO. 4)	-	-	0-5	0-10	0-10
2.36 MM (NO. 8)	-	-	-	0-5	0-5
1.18 MM (NO. 16)	-	-	-	-	-

STORAGE AGGREGATE MEDIA CERTIFICATION; Submit certification that aggregate is clean, double washed and meeting the specified gradation. Submittal shall include supplier name, address and phone. Gradation reports shall include the specified media stone sizes.

17. Soil Media Placement

- A. The growing media shall have a moisture content low enough to prevent visible clumping and compaction during placement.
- B. Contractor shall place engineered soil media in horizontal lifts not to exceed six (6) inches for the entire green stormwater infrastructure facility. Each lift shall be lightly watered to encourage settling.
- C. If the growing media becomes contaminated with undesired materials during construction, the undesired materials shall be removed and replaced with uncontaminated growing media at the Contractor's expense.
- D. To account for settling, Contractor shall install a surcharge lift of growing media over the entire green stormwater infrastructure facility. Surcharge lift shall be allowed to settle for a minimum of 14 days prior to bringing green stormwater infrastructure to finished grade. The entire surface of the growing media shall be roto-tilled to a depth of six (6) inches at final grading.
- E. Mechanical compaction of the growing media is not permitted. Compaction of the growing media shall not exceed 85 percent density per ASTM D1557.

18. Green Stormwater Infrastructure Piping

Underdrain pipe material:

- A. High Density Polyethylene (HDPE)
1. All HDPE pipe, fitting and joints shall be provided by manufacturers certified through the Plastic Pipe Institute (PPI) and/or the National Transportation Product Evaluation Program (NTPEP) third party certification program.

2. Solid Wall HDPE Pipe

a. Solid wall HDPE pipe, fittings and joints shall conform to APWA 2602 Part 2602.2, D.

3. Perforated HDPE Pipe

a. Perforated HDPE pipe, fittings and joints shall conform to AASHTO M252 for three (3) inch to ten (10) inch diameter pipe and shall have AASHTO Class II perforations.

NO.	DATE	REVISION	BY	APP'D

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APP'D BY: EJB

Wood Environment & Infrastructure Solutions, Inc.

100 SE 9TH STREET, SUITE 400

TOPEKA, KS 66612

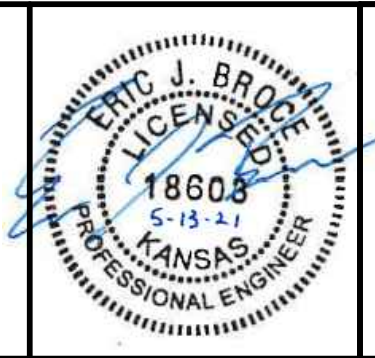
PHONE: (785) 272-6830





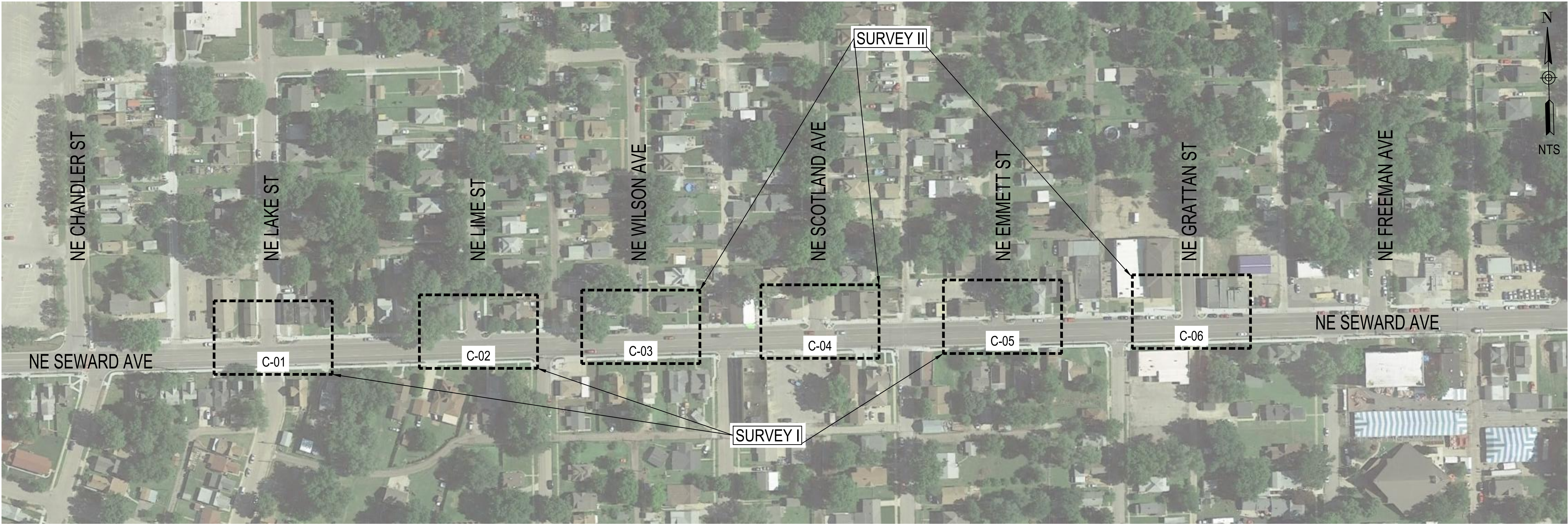
NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



GREEN STORMWATER INFRASTRUCTURE SPECIFICATIONS

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 03 OF 41
G-03



SURVEY I CONTROL POINTS:

- CP #1
N: 272967.4899, E: 1980938.5848
5/8" RED CAP REBAR
- CP #2
N: 272996.7310, E: 1977994.9320
5/8" RED CAP REBAR
- CP #3
N: 272890.3588, E: 1979434.8031
MAG AT SURFACE
- CP #5
N: 272836.1486, E: 1978678.9266
HUB AND TACK
- CP #6
N: 272841.7296, E: 1978888.2906
HUB AND TACK
- CP #7
N: 272871.4896, E: 1979621.7696
HUB AND TACK
- CP #8
N: 272869.4906, E: 1979831.3136
HUB AND TACK

SURVEY I SECTION CORNERS:

- SE COR., SW 1/4, SEC. 28, T11S, R16E
1" IRON PIN IN MONUMENT BOX IN PAVEMENT OF NE SEWARD AVE AND NE CHESTER AVE
75.02' SSE TO CROSS CUT IN CITY OF TOPEKA BENCHMARK BRASS TABLET NO. 224
40.44' SE TO CROSS CUT ON TOP OF CURB AT MID-POINT OF CURB RETURN
41.69' NE TO CROSS CUT IN BRASS TABLET STAMPED WILLIAMS
37.92' NE TO CROSS CUT ON TOP OF CURB AT CENTERLINE OF STORM SEWER INLET
28.43' NW TO CROSS CUT ON TOP OF CURB AT CENTERLINE OF STORM SEWER INLET
46.26' SW TO CROSS CUT ON NE SIDE OF CONCRETE TRAFFIC SIGNAL BASE
- NW COR., SEC. 33, T11S, R16E
1-1/4" BAR IN MONUMENT BOX
36.10' SW TO NAIL AND BOTTLE CAP IN SE FACE OF POWER POLE
38.90' SE TO 1-1/2" BAR AT NW BUILDING CORNER
24.60' NNW TO MAG NAIL IN E FACE OF POWER POLE
IN CENTERLINE OF TRAVELWAY WOODRUFF AVE TO S
IN CENTERLINE OF TRAVELWAY SEWARD AVE E-W

SURVEY I BENCHMARKS:

- OPUS BENCHMARK: 5/8" RED CAPPED REBAR
APPROX. 1430FT WEST AND 140FT NORTH OF THE SOUTHEAST CORNER OF SECTION 29, TOWNSHIP 11 SOUTH, RANGE 16 EAST OF THE 6TH P.M.
N: 272996.7310 E: 1977994.9320
ELEV: 885.84 NAVD 88
- CITY BM 128:
BRASS DISK IN CONCRETE APPROX. 93FT WEST OF THE INTERSECTION OF NE RIVER ROAD AND NE DIVISION STREET.
N: 274249.0293 E: 1978205.6150
ELEV: 890.10 NAVD 88
- CITY BM 214:
BRASS DISK IN CONCRETE APPROX. 52FT SOUTH AND 9FT WEST OF THE INTERSECTION OF NE SEWARD AVE AND NE WOODRUFF AVE.
N: 272840.7648 E: 1979415.1456
ELEV: 884.12 NAVD 88
- CITY BM 224:
BRASS DISK IN CONCRETE APPROX. 68FT SOUTH AND 32FT EAST OF THE SE COR. SW 1/4 OF SEC. 28, T11S, R16E OF THE 6TH P.M. NEAR THE INTERSECTION OF (NE SEWARD AVE AND NE GOLDEN AVE.)
N: 272893.7110 E: 1982106.7946
ELEV: 881.86 NAVD 88

SURVEY II CONTROL POINTS:

- CP#300
N: 272945.40, E: 1980079.50
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- CP#301
N: 272857.20, E: 1979385.15
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- CP#302
N: 272853.99, E: 1978973.97
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- CP#303
N: 272936.33, E: 1979779.82
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- CP#304
N: 273051.49, E: 1979943.40
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- CP#305
N: 273029.20, E: 1978972.44
1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP
- #103
N: 272847.57, E: 1977983.67
CENTERLINE INTERSECTION OF SE SEWARD AVENUE AND SE CHANDLER AVENUE, 1/2" X 24" REBAR W/ SBB ENG CONTROL ID CAP

SURVEY II SECTION CORNERS:

- NORTHWEST SECTION CORNER
SECTION: 33 TOWNSHIP: 11S RANGE: 16E
N: 272890.40, E: 1979430.75
DETAILED MONUMENT DESCRIPTION: 1/2" X 24" REBAR W/CLS
263 ID CAP IN MONUMENT BOX
36.10 FEET SOUTHWEST TO NAIL AND BOTTLE CAP IN SOUTHEAST FACE OF POWER POLE
42.40 FEET SOUTHEAST TO CENTERLINE TOP OF KEY OF FIRE HYDRANT
41.33 FEET NORTH NORTHWEST TO MAG NAIL AND WASHER IN EAST FACE OF POWER POLE
IN CENTERLINE OF TRAVELWAY WOODRUFF AVE. TO SOUTH
IN CENTERLINE OF TRAVELWAY SEWARD AVE. EAST-WEST
- NORTH QUARTER CORNER
SECTION: 33 TOWNSHIP: 11S RANGE: 16E
N: 272961.68, E: 1982074.67
DETAILED MONUMENT DESCRIPTION: 1" BAR IN MONUMENT BOX
R1 28.47' NW TO X CUT IN CENTER OF CURB INLET
R2 38.03' NE TO X CUT IN CENTER OF CURB INLET
R3 73.60' ESE TO X CUT IN NE BOLT IN CONCRETE PAD
R4 46.28' SW TO X CUT IN TRAFFIC SIGNAL BASE
R5 1' EAST TO CENTER OF GOLDEN AVENUE
R6 1' SOUTH TO CENTER OF SE SEWARD AVENUE

SURVEY II BENCHMARKS:

- BM #50
CITY OF TOPEKA BENCHMARK 214
N: 272840.83, E: 1979415.03
ELEV: 883.93
- BM #51
CHISELED SQUARE CUT AT SOUTHEAST CORNER RETAINING WALL
N: 272927.93, E: 1979723.95
ELEV: 885.51
- BM #52
CHISELED SQUARE CUT AT SOUTHEAST CORNER CURB INLET
N: 272853.66, E: 1978929.50
ELEV: 885.01

NO.	DATE	REVISION	BY	APP'D

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APP'D BY: EJB

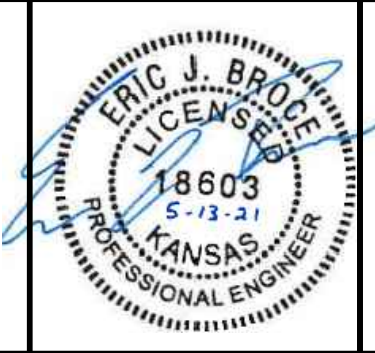
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100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



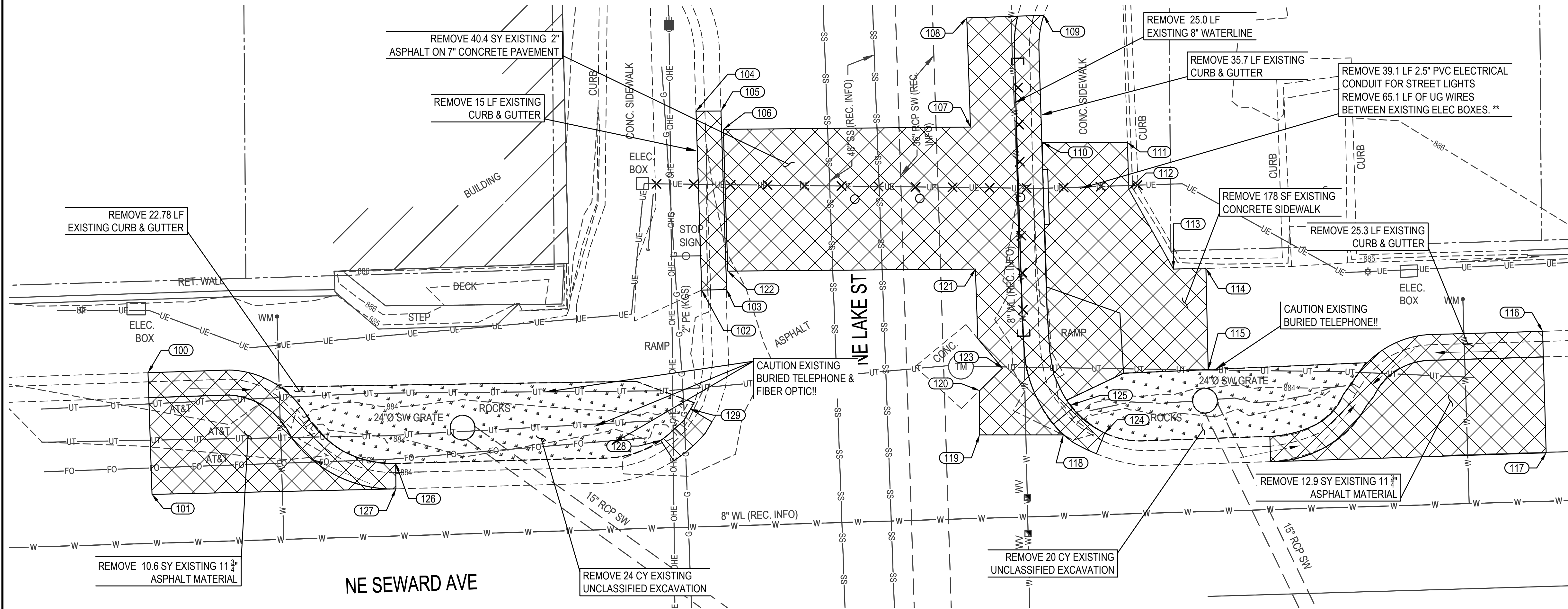
NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

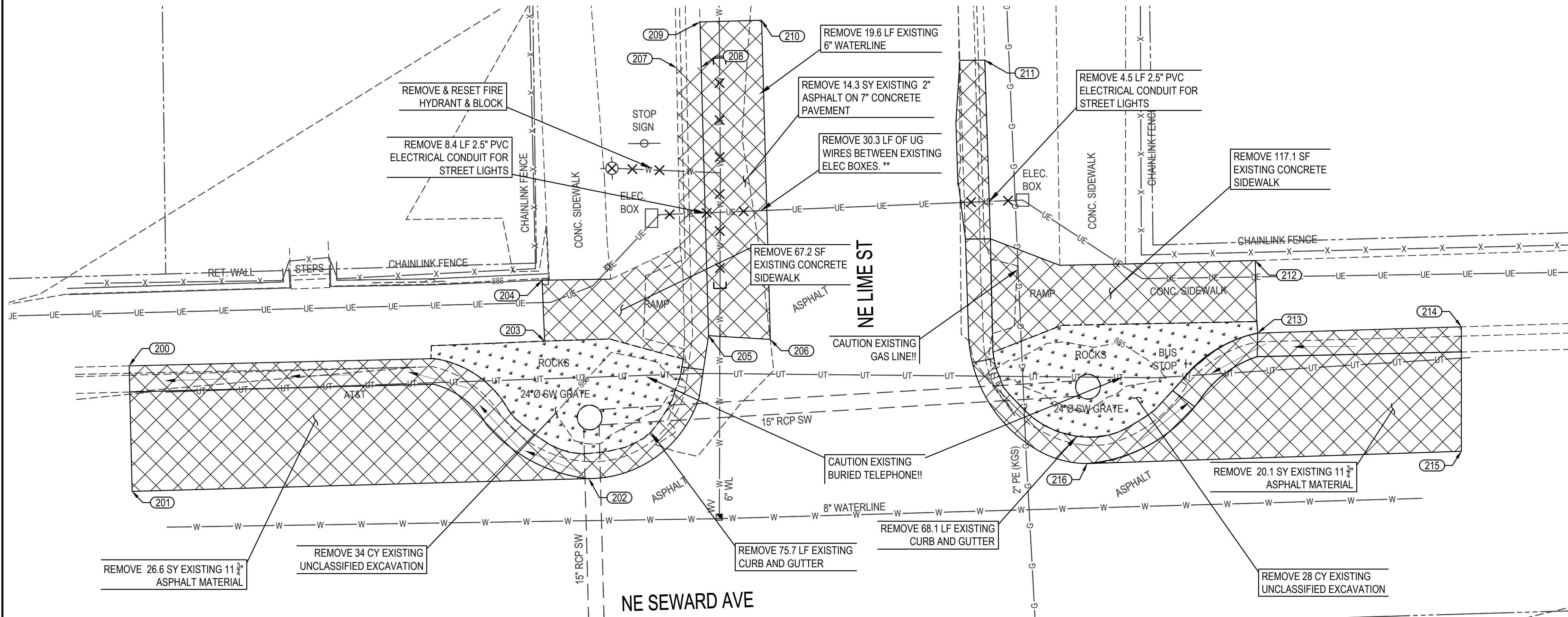


KEY MAP

DATE: 05/2021
T-501023.15 /
PROJ.: T-501081.01
SHEET: 04 OF 41
G-04



SEWARD & LAKE INTERSECTION

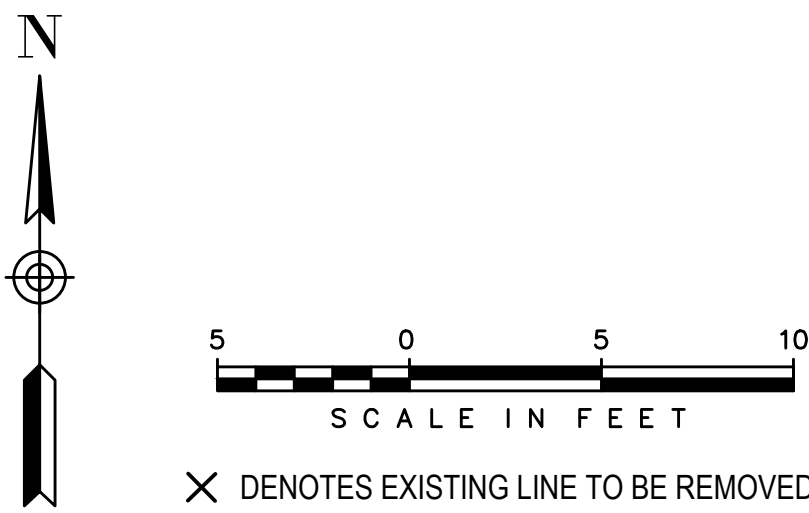


SEWARD & LIME INTERSECTION

COORDINATE / ELEVATION TABLE			
Point #	Northing	Easting	Elevation
100	272879.5149	1978257.4660	884.2
101	272869.6534	1978257.7918	884.1
102	272886.2079	1978302.3498	884.3
103	272886.2482	1978304.3678	884.0
104	272900.7046	1978301.8906	884.4
105	272900.7212	1978303.9093	884.1
106	272899.2334	1978304.1003	884.1
107	272899.4220	1978324.1405	884.3
108	272908.2621	1978323.8369	884.3
109	272908.4765	1978330.0827	884.6
110	272898.1734	1978329.9715	884.6
111	272898.1634	1978336.8551	884.7
112	272894.3697	1978336.9759	884.7
113	272887.9115	1978340.5923	884.6
114	272887.9703	1978343.2206	884.6
115	272879.7673	1978343.4043	884.4
116	272882.8687	1978370.5177	884.6
117	272873.0218	1978370.8023	884.4
118	272874.4772	1978331.6689	884.0
119	272874.4772	1978324.8762	884.2

COORDINATE / ELEVATION TABLE			
Point #	Northing	Easting	Elevation
120	272878.0581	1978324.8762	884.1
121	272887.9130	1978324.5357	884.0
122	272887.7450	1978304.4649	884.0
123	272879.8816	1978326.7263	884.1
124	272874.6221	1978335.0182	884.5
125	272876.8773	1978332.2360	884.4
126	272872.1623	1978277.5455	884.5
127	272870.1032	1978277.5675	884.2
128	272874.0293	1978299.0255	884.3
129	272876.5580	1978301.4456	884.2
150	272879.5149	1978257.4660	884.2

COORDINATE / ELEVATION TABLE			
Point #	Northing	Easting	Elevation
200	272890.1561	1978617.8296	885.4
201	272879.9757	1978618.0723	885.2
202	272881.0126	1978655.0966	885.2
203	272892.1612	1978651.5088	885.2
204	272897.1075	1978651.3080	885.2
205	272892.6076	1978664.7996	884.8
206	272892.3002	1978669.8099	885.0
207	272914.3144	1978662.2035	885.2
208	272914.3540	1978664.2049	884.9
209	272918.0523	1978664.1037	884.9
210	272918.1890	1978669.1018	885.0
211	272914.9554	1978687.1899	885.4
212	272898.7018	1978709.1127	885.9
213	272892.8134	1978709.3089	885.7
214	272893.3232	1978725.8242	885.8
215	272883.2267	1978725.8242	885.6
216	272882.2331	1978695.4861	885.4



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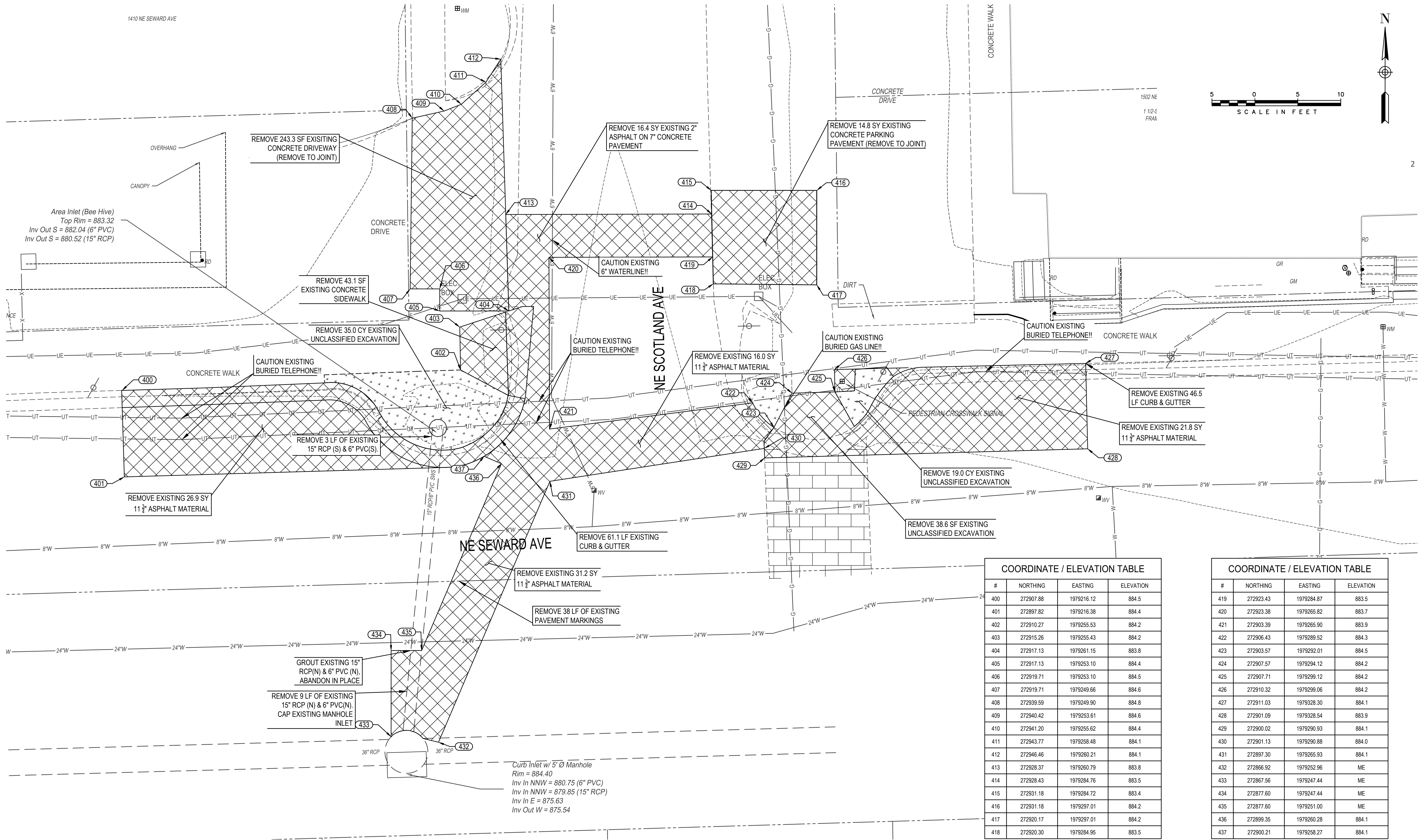
NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

DEMO PLAN

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 05 OF 41
D-01

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:25 AM
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SEWARD & SCOTLAND INTERSECTION

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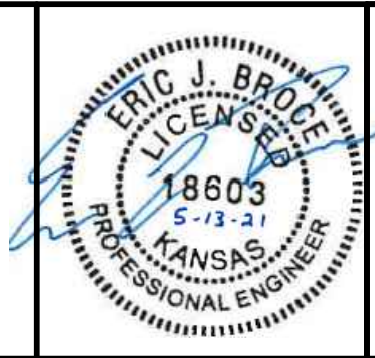
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wood.



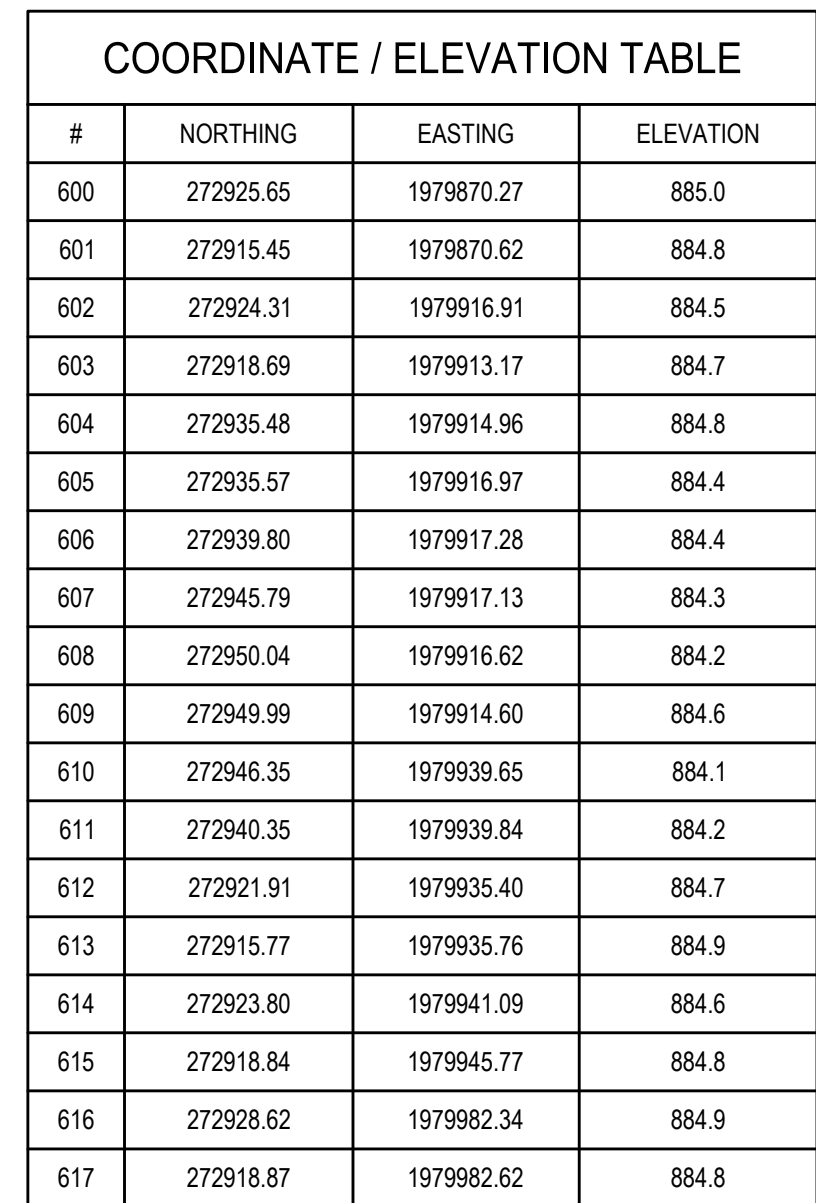
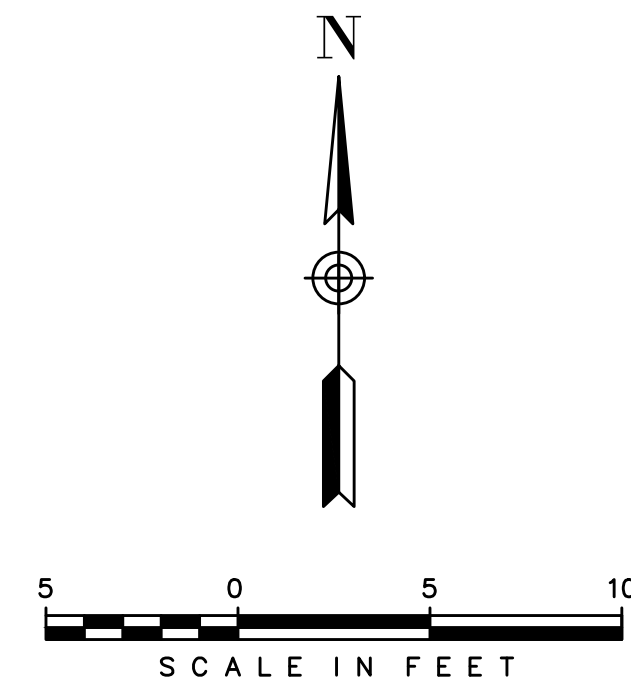
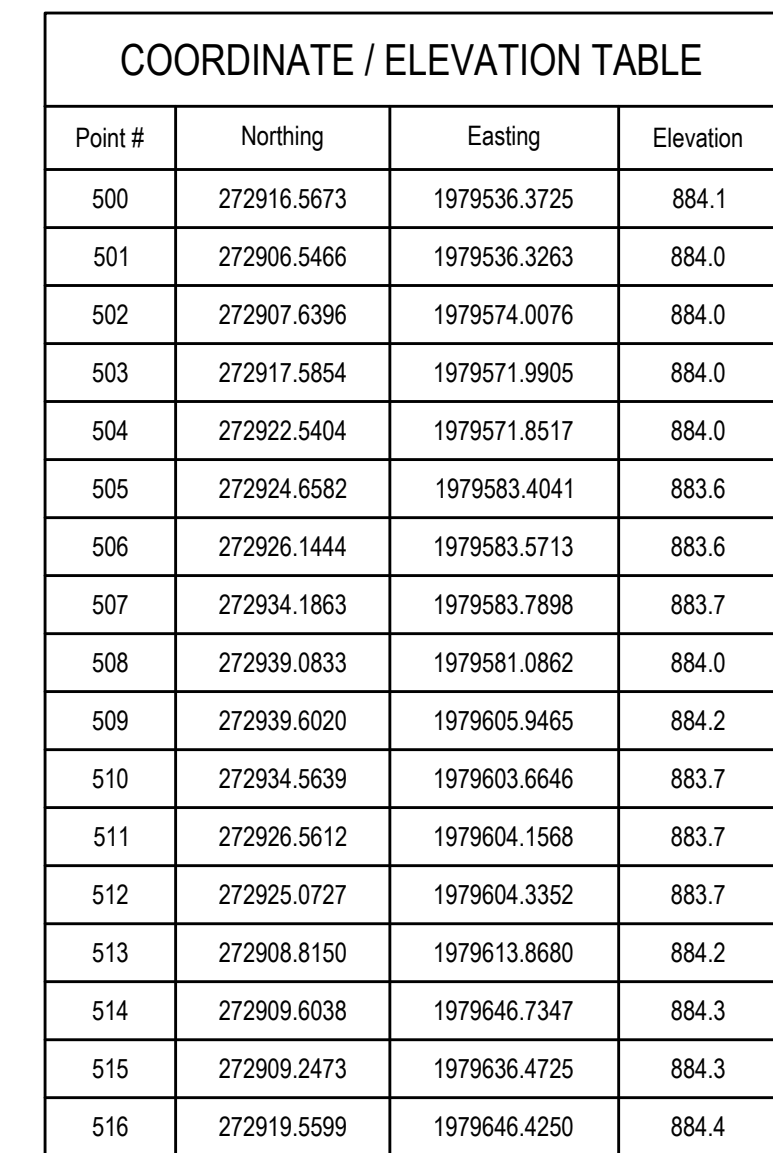
NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



DEMO PLAN

DATE: 05/2021
T-501023.15 /
PROJ.: T-501081.01
SHEET: 07 OF 41
D-03

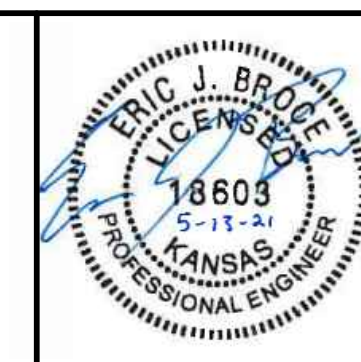
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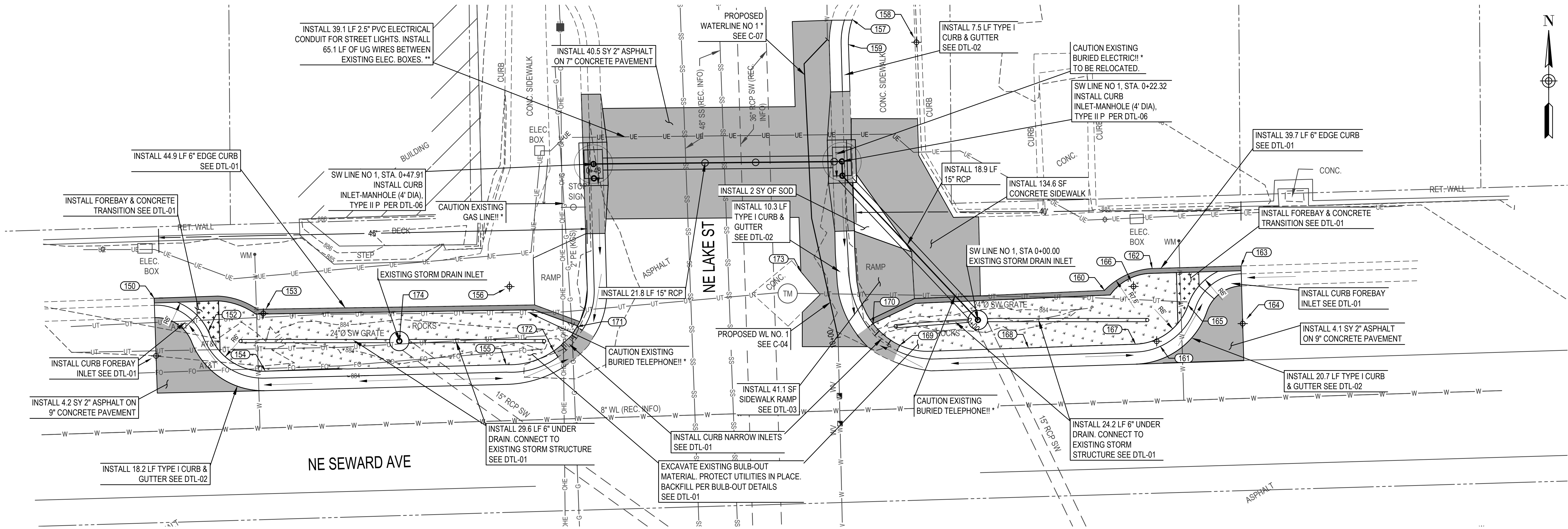
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CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



DATE: 05/2021
T-501023.15 /
PROJ.: T-501081.01
SHEET: 08 OF 41
D-04

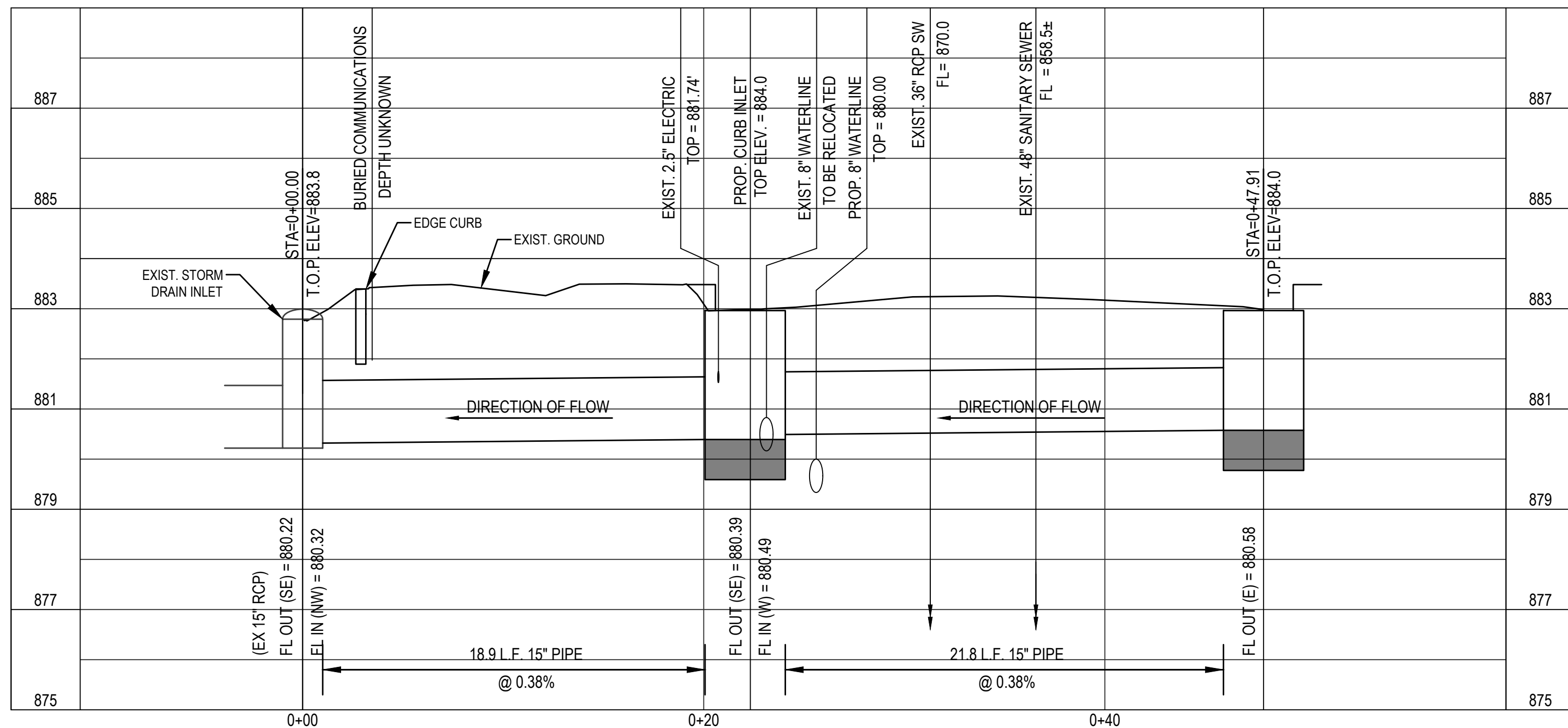


* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL & VERTICAL LOCATIONS, & COORDINATE POTENTIAL CONFLICTS WITH ENGINEER & UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

** CONTRACTOR SHALL INSTALL 2- #6 WIRES AND 1- #6 GROUND WIRE IN THE LENGTH IDENTIFIED.

SEWARD & LAKE INTERSECTION

SW LINE NO 1



COORDINATE / ELEVATION TABLE			
Point #	Northing	Easting	Elevation
150	272879.5149	1978257.4660	884.2
151	272873.5181	1978257.6641	884.0
152	272876.0644	1978263.0970	884.3
153	272877.9280	1978268.8245	884.3
154	272871.9313	1978269.0228	884.5
155	272872.6049	1978294.0830	884.4
156	272880.7204	1978294.4201	884.4
157	272908.4765	1978330.0827	884.6
158	272906.1096	1978336.7537	884.9
159	272905.8774	1978329.6803	884.6
160	272880.3267	1978356.3127	884.5
161	272875.0335	1978361.7415	884.3
162	272882.6017	1978361.2814	884.5
163	272882.8690	1978370.5177	884.6
164	272876.8715	1978370.6910	884.4
165	272878.8023	1978365.0102	884.6
166	272880.7331	1978359.3293	884.1
167	272874.7367	1978359.5370	884.7
168	272874.3511	1978348.4064	884.6
169	272874.6296	1978335.0220	884.3
170	272876.8765	1978332.2366	884.3
171	272876.5580	1978301.4456	884.3
172	272874.0293	1978299.0255	884.3
173	272882.2707	1978324.7295	884.1
174	272875.0577	1978282.9666	883.2

***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-01

NO.	DATE	REVISION	BY	APP'D

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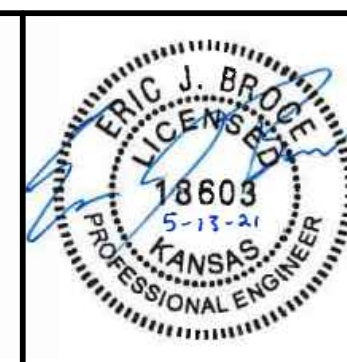
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TOPEKA, KS 66612
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wood.



NE SEWARD AVE BULB-OUT PROJECT

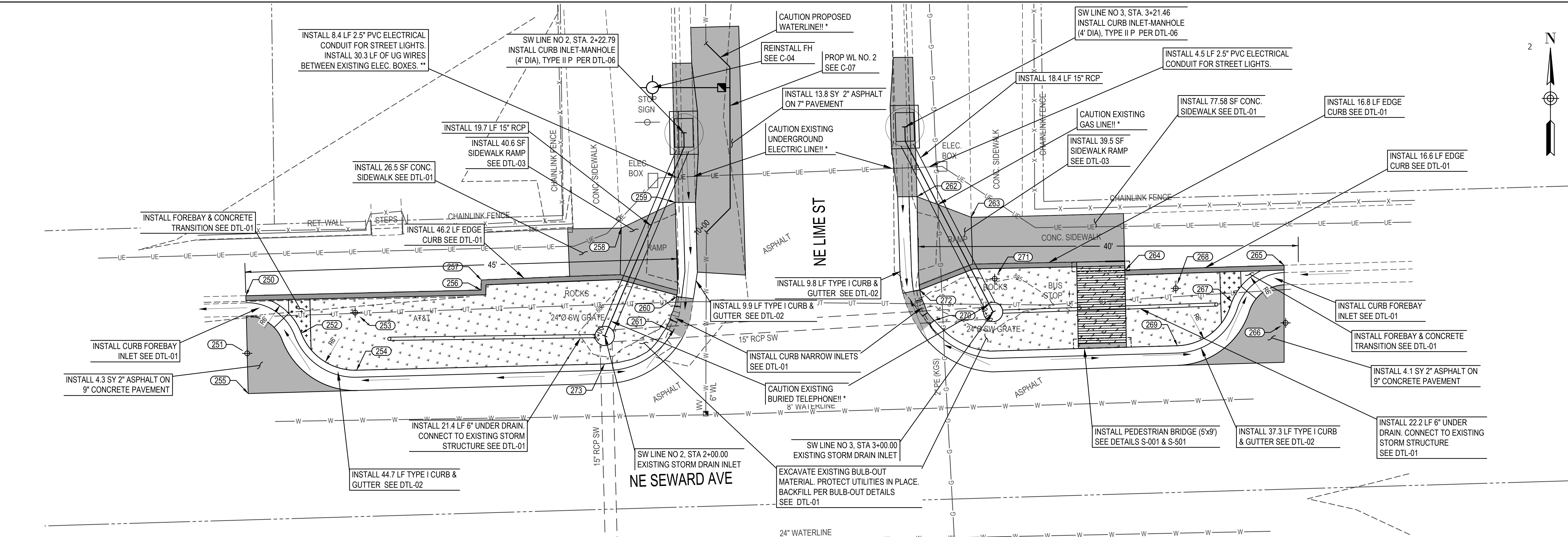
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



PLAN AND PROFILE

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 09 OF 41
C-01

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:26 AM
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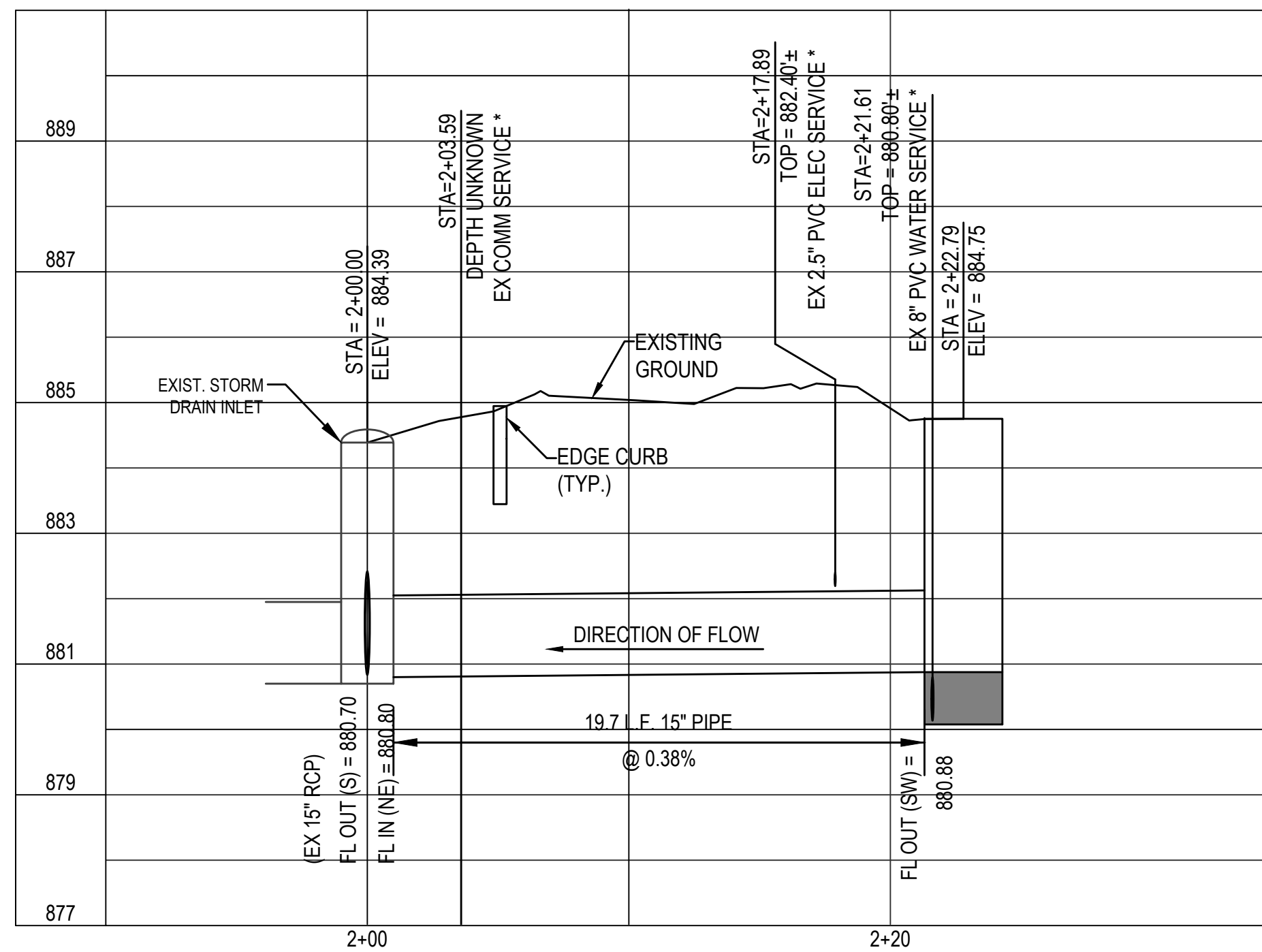


* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL & VERTICAL LOCATIONS, & COORDINATE POTENTIAL CONFLICTS WITH ENGINEER & UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

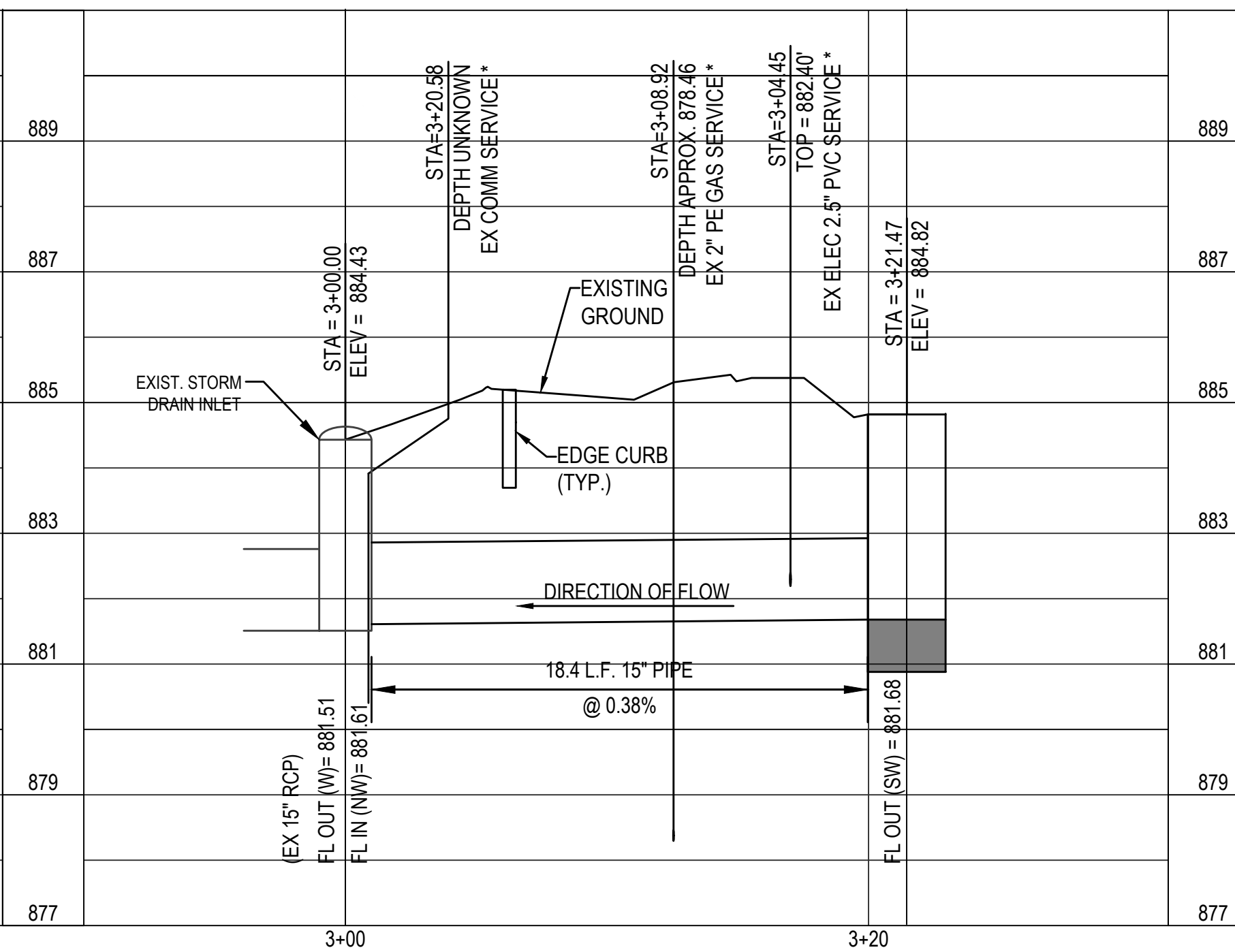
** CONTRACTOR SHALL INSTALL 2- #6 WIRES AND 1- #6 GROUND WIRE IN THE LENGTH IDENTIFIED.

SEWARD & LIME INTERSECTION

SW LINE NO 2



SW LINE NO 3



COORDINATE / ELEVATION TABLE

Point #	Northing	Easting	Elevation
250	272890.1561	1978617.8296	885.4
251	272884.1578	1978617.9726	885.1
252	272886.2532	1978623.5949	885.4
253	272888.4030	1978629.1966	885.0
254	272882.4049	1978629.3502	885.6
255	272879.9757	1978618.0723	885.2
256	272890.7394	1978642.2984	885.4
257	272891.7884	1978642.3261	885.5
258	272897.1876	1978656.8764	885.2
259	272899.8620	1978662.4892	885.2
260	272890.0644	1978662.6396	885.2
261	272886.7519	1978661.5075	885.2
262	272900.4587	1978687.6478	885.4
263	272898.3144	1978693.2723	885.2
264	272892.8134	1978709.3089	885.7
265	272893.3232	1978725.8242	885.7
266	272887.3253	1978725.9859	885.5
267	272889.5204	1978720.4018	885.7
268	272890.9204	1978714.5592	885.3
269	272884.9501	1978714.7306	885.9
270	272887.5798	1978689.4380	885.4
271	272891.9192	1978695.7199	885.0
272	272890.7553	1978687.9344	885.4
273	272883.0526	1978655.1272	885.6

***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-01

NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH
APP'D BY: EJB

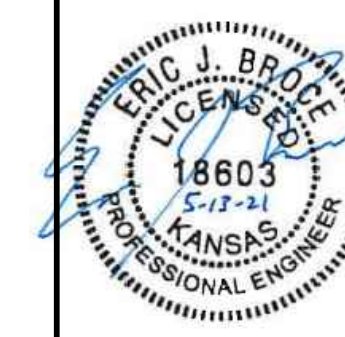
Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



NE SEWARD AVE BULB-OUT PROJECT

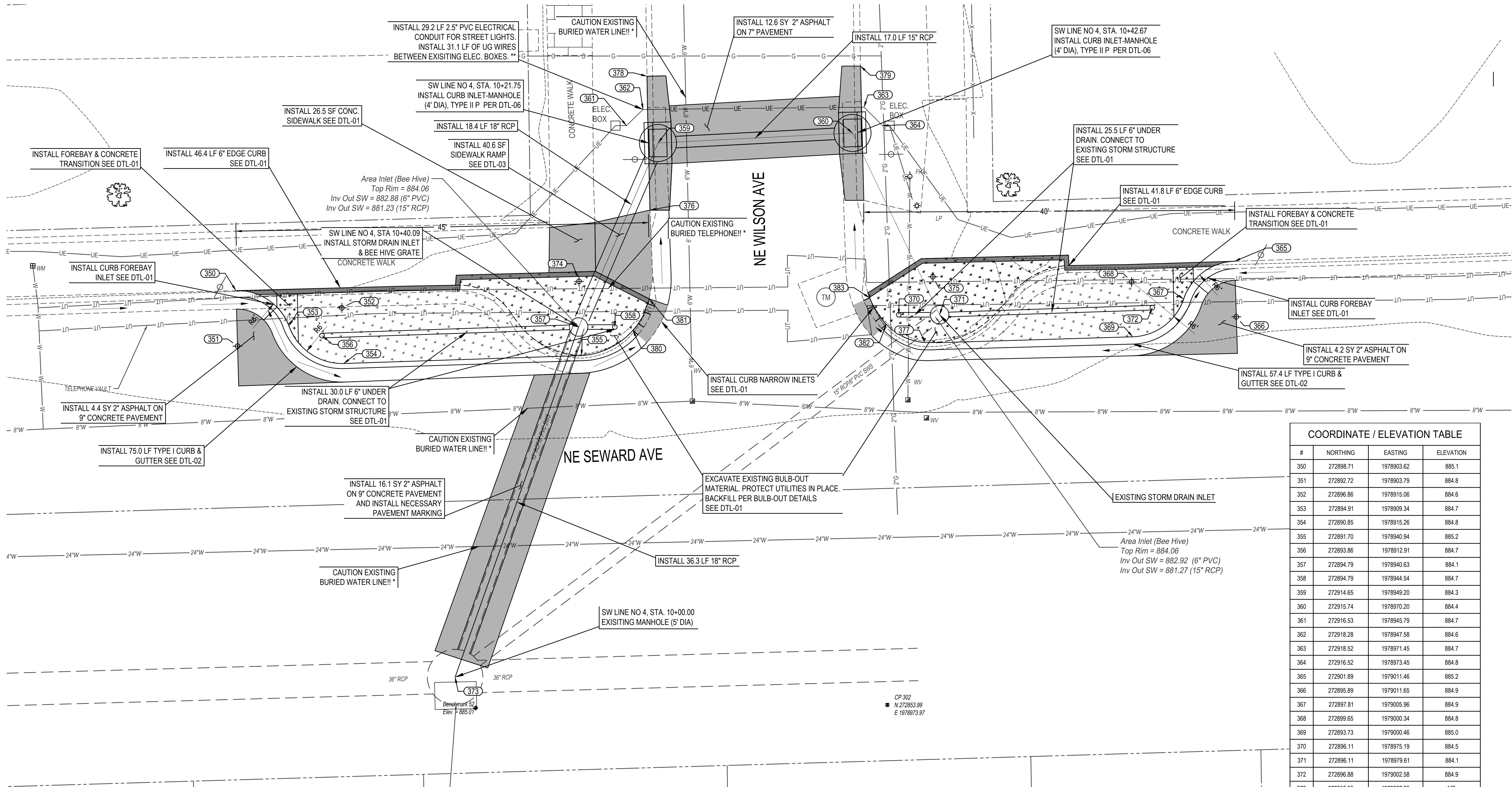
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



PLAN AND PROFILE

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 10 OF 41
C-02

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:26 AM
File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\C-03.dwg

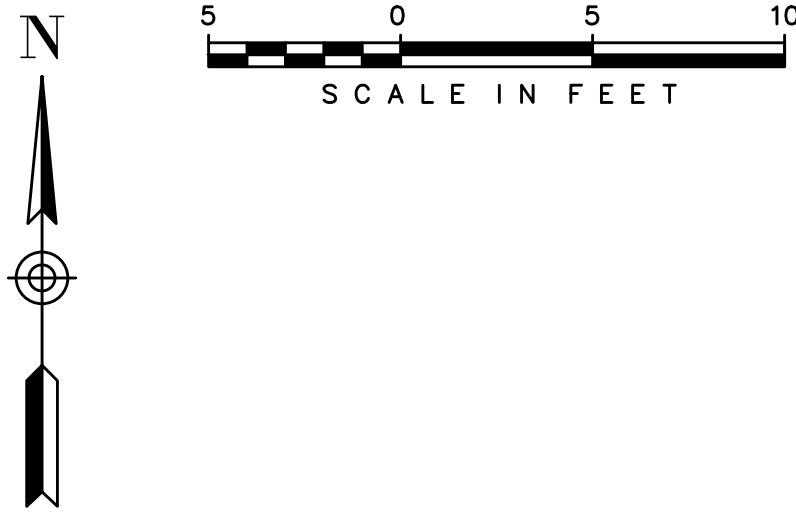


* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL & VERTICAL LOCATIONS, & COORDINATE POTENTIAL CONFLICTS WITH ENGINEER & UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

** CONTRACTOR SHALL INSTALL 2- #6 WIRES AND 1- #6 GROUND WIRE IN THE LENGTH IDENTIFIED.

Δ SAW CUT AT EXISTING JOINT

SEWARD & WILSON INTERSECTION



COORDINATE / ELEVATION TABLE			
#	NORTHING	EASTING	ELEVATION
350	272898.71	1978903.62	885.1
351	272892.72	1978903.79	884.8
352	272896.86	1978915.06	884.6
353	272894.91	1978909.34	884.7
354	272890.85	1978915.26	884.8
355	272891.70	1978940.94	885.2
356	272893.86	1978912.91	884.7
357	272894.79	1978940.63	884.1
358	272894.79	1978944.54	884.7
359	272914.65	1978949.20	884.3
360	272915.74	1978970.20	884.4
361	272916.53	1978945.79	884.7
362	272918.28	1978947.58	884.6
363	272918.52	1978971.45	884.7
364	272916.52	1978973.45	884.8
365	272901.89	1979011.46	885.2
366	272895.89	1979011.65	884.9
367	272897.81	1979005.96	884.9
368	272899.65	1979000.34	884.8
369	272893.73	1979000.46	885.0
370	272896.11	1978975.19	884.5
371	272896.11	1978979.61	884.1
372	272896.88	1979002.58	884.9
373	272896.99	1978927.29	ME
374	272899.71	1978940.66	884.7
375	272900.20	1978978.88	884.6
376	272907.41	1978948.33	884.9
377	272893.12	1978978.04	885.3
378	272921.86	1978948.01	884.5
379	272922.96	1978971.06	884.7
380	272894.42	1978946.48	885.1
381	272897.83	1978948.25	885.0
382	272895.08	1978973.84	885.1
383	272897.94	1978972.05	885.0

***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-02

NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH
APP'D BY: EJB

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.

CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

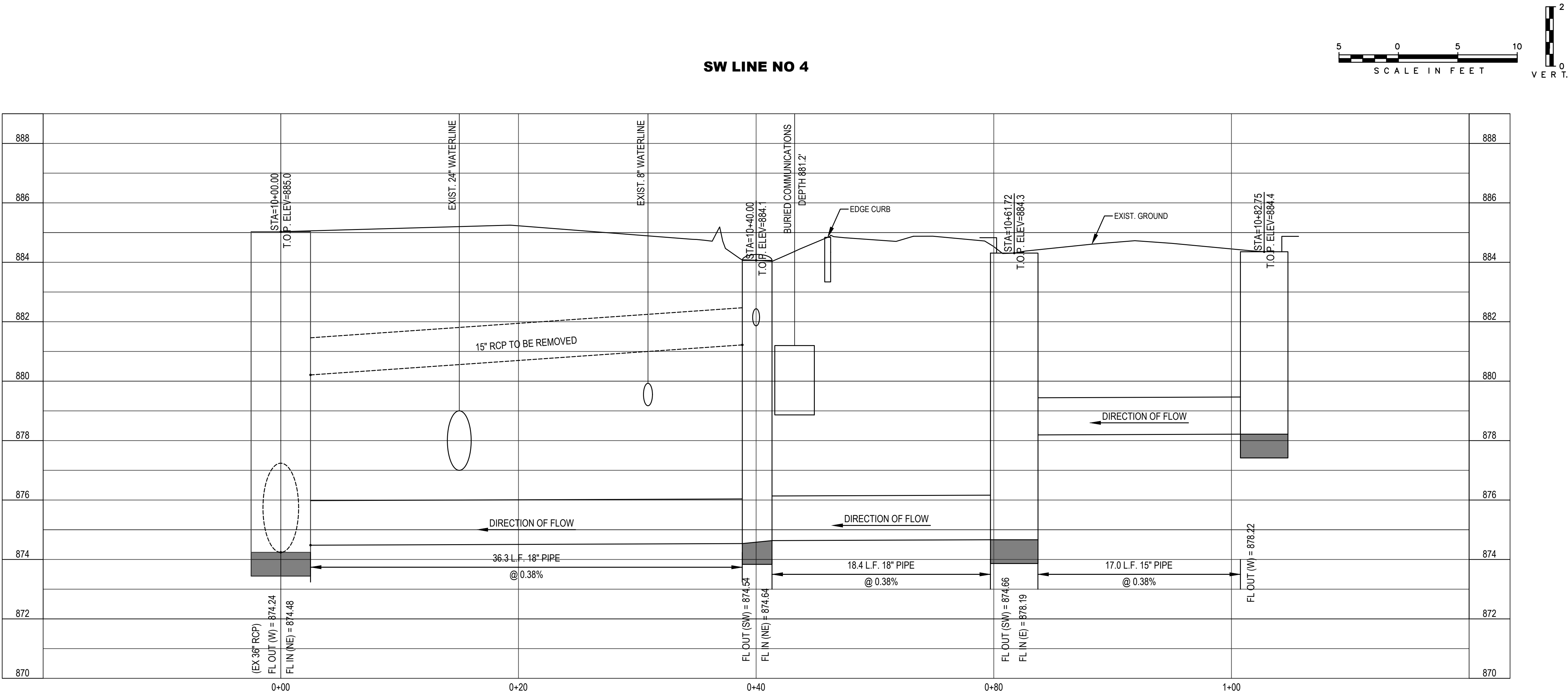
ERIC J. BRIDGES
LICENSED PROFESSIONAL ENGINEER
18663
5-15-21
KANSAS

PLAN

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 11 OF 41

C-03

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:26 AM
File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\C-03-2.dwg



NO.	DATE	REVISION	BY	APP'D

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APP'D BY: EJB

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100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

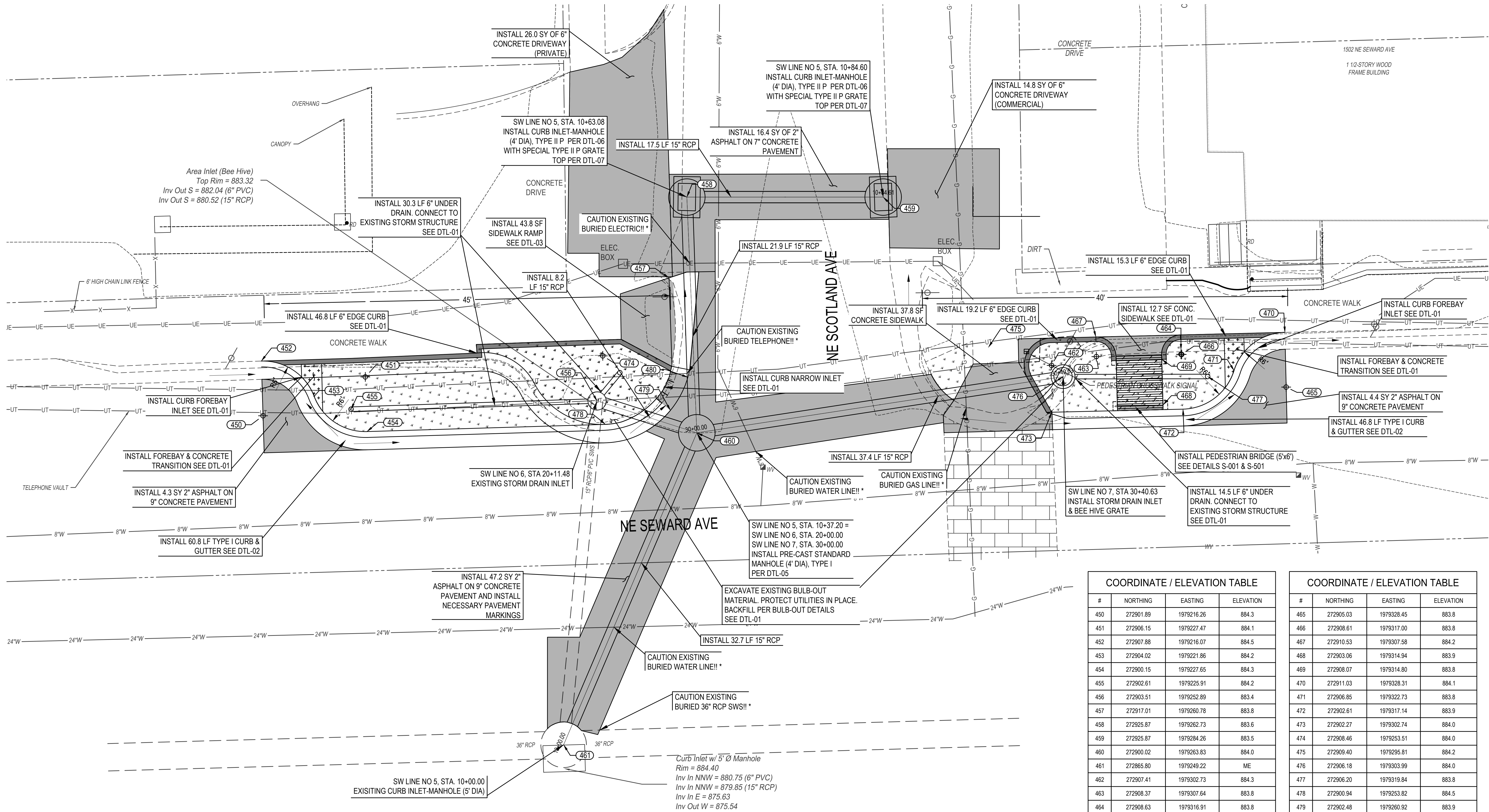


PROFILE

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 12 OF 41

C-03.2

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:27 AM
File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\C-04.dwg



* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL & VERTICAL LOCATIONS, & COORDINATE POTENTIAL CONFLICTS WITH ENGINEER & UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

Δ SAW CUT AT EXISTING JOINT

***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-03

SEWARD & SCOTLAND INTERSECTION



COORDINATE / ELEVATION TABLE			
#	NORTHING	EASTING	ELEVATION
450	272901.89	1979216.26	884.3
451	272906.15	1979227.47	884.1
452	272907.88	1979216.07	884.5
453	272904.02	1979221.86	884.2
454	272900.15	1979227.65	884.3
455	272902.61	1979225.91	884.2
456	272903.51	1979252.89	883.4
457	272917.01	1979260.78	883.8
458	272925.87	1979262.73	883.6
459	272925.87	1979284.26	883.5
460	272900.02	1979263.83	884.0
461	272865.80	1979249.22	ME
462	272907.41	1979302.73	884.3
463	272908.37	1979307.64	883.8
464	272908.63	1979316.91	883.8

COORDINATE / ELEVATION TABLE			
#	NORTHING	EASTING	ELEVATION
465	272905.03	1979328.45	883.8
466	272908.61	1979317.00	883.8
467	272910.53	1979307.58	884.2
468	272903.06	1979314.94	883.9
469	272908.07	1979314.80	883.8
470	272911.03	1979328.31	884.1
471	272906.85	1979322.73	883.8
472	272902.61	1979317.14	883.9
473	272902.27	1979302.74	884.0
474	272908.46	1979253.51	884.0
475	272909.40	1979295.81	884.2
476	272906.18	1979303.99	884.0
477	272906.20	1979319.84	883.8
478	272900.94	1979253.82	884.5
479	272902.48	1979260.92	883.9
480	272906.12	1979262.84	883.8

NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH

APP'D BY: EJB

Wood Environment & Infrastructure Solutions, Inc.

100 SE 9TH STREET, SUITE 400

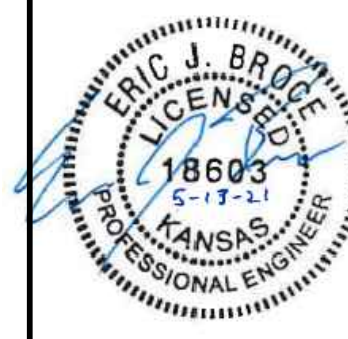
TOPEKA, KS 66612

PHONE: (785) 272-6830



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



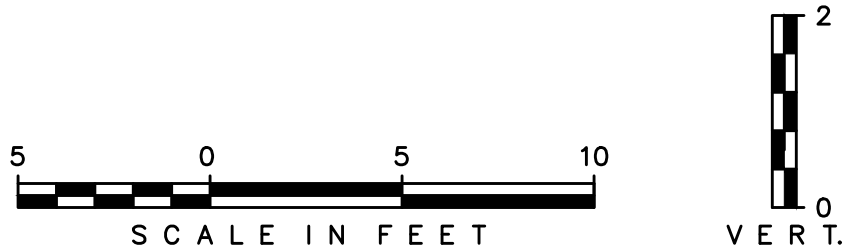
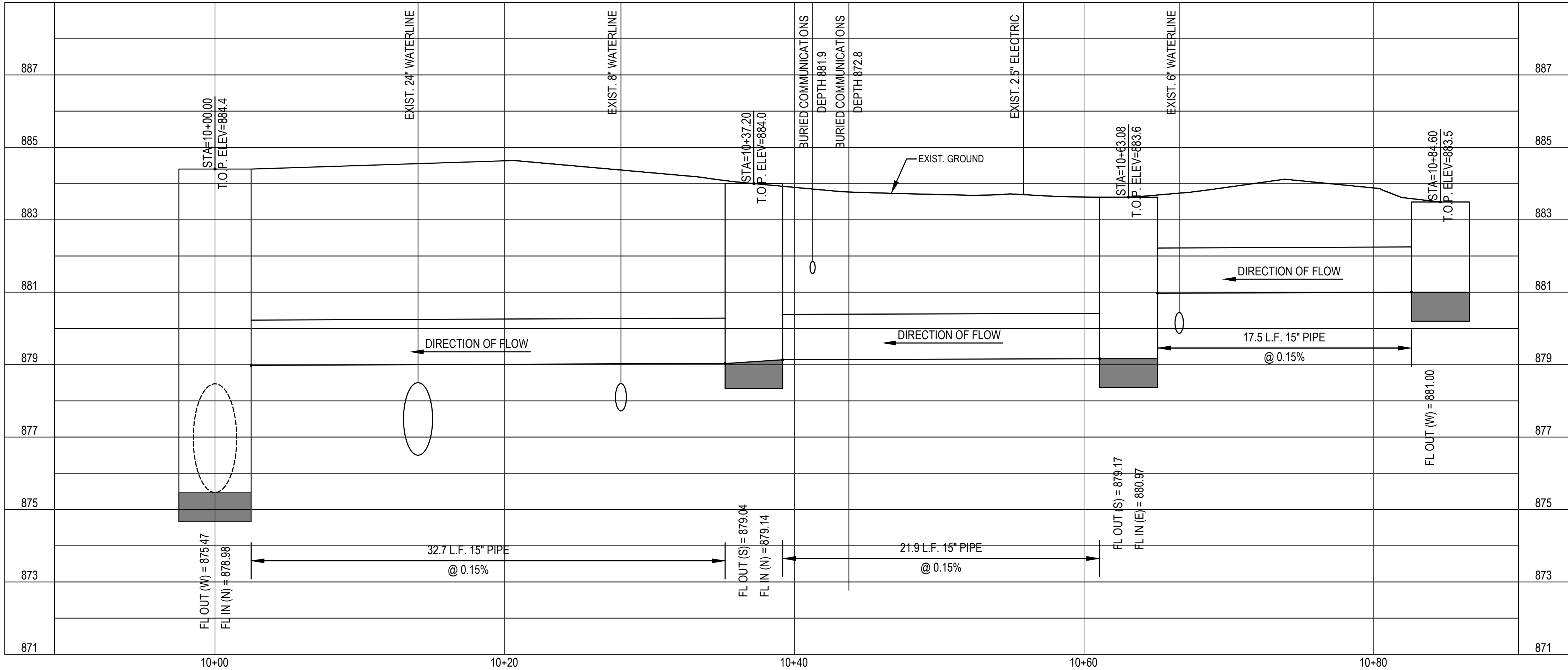
PLAN

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 13 OF 41

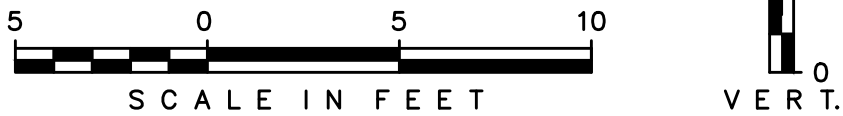
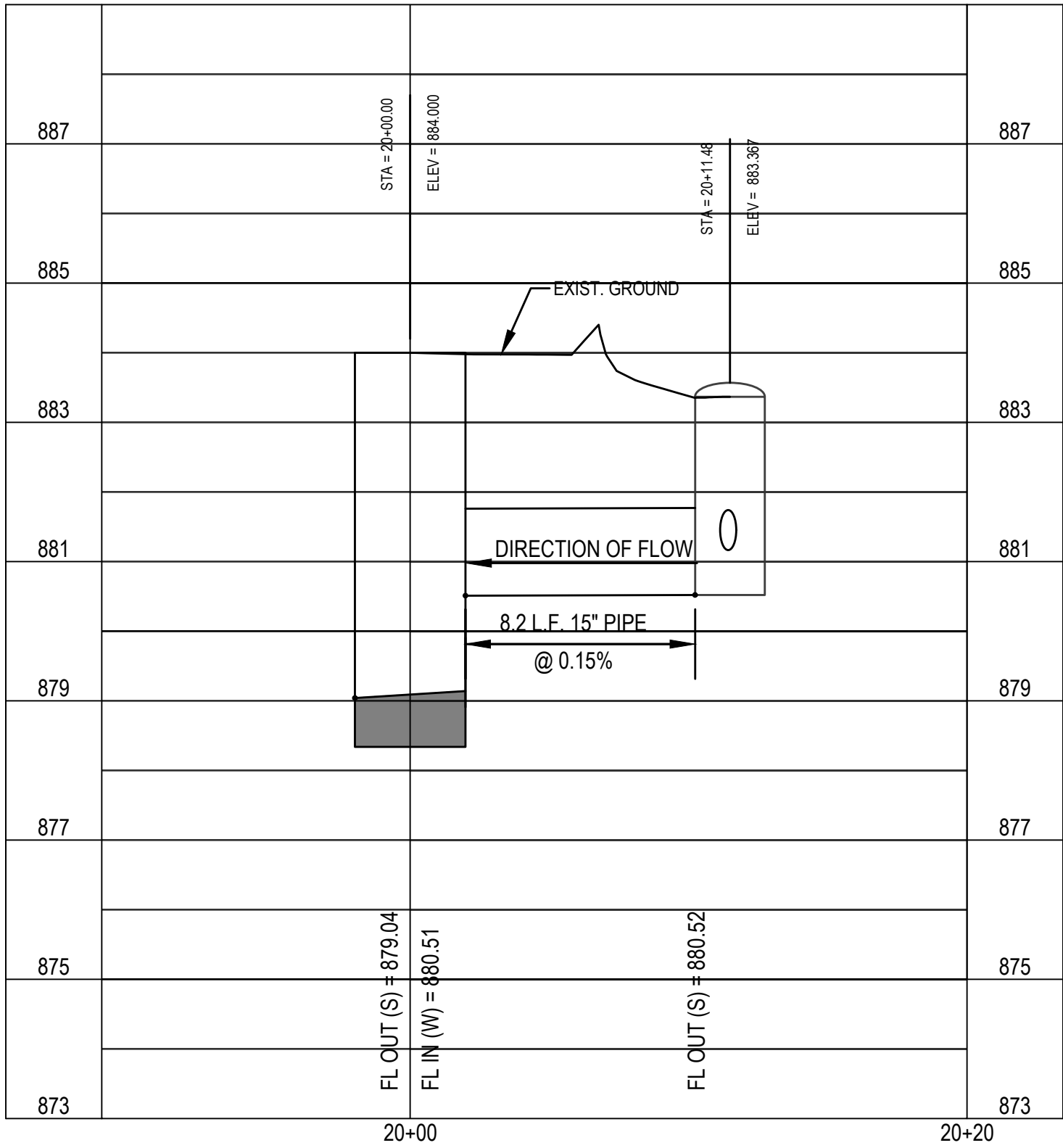
C-04

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:27 AM
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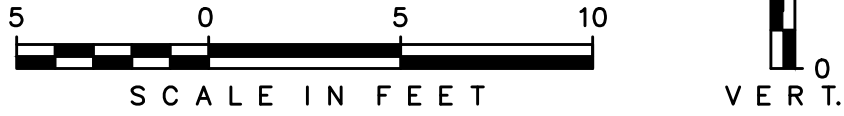
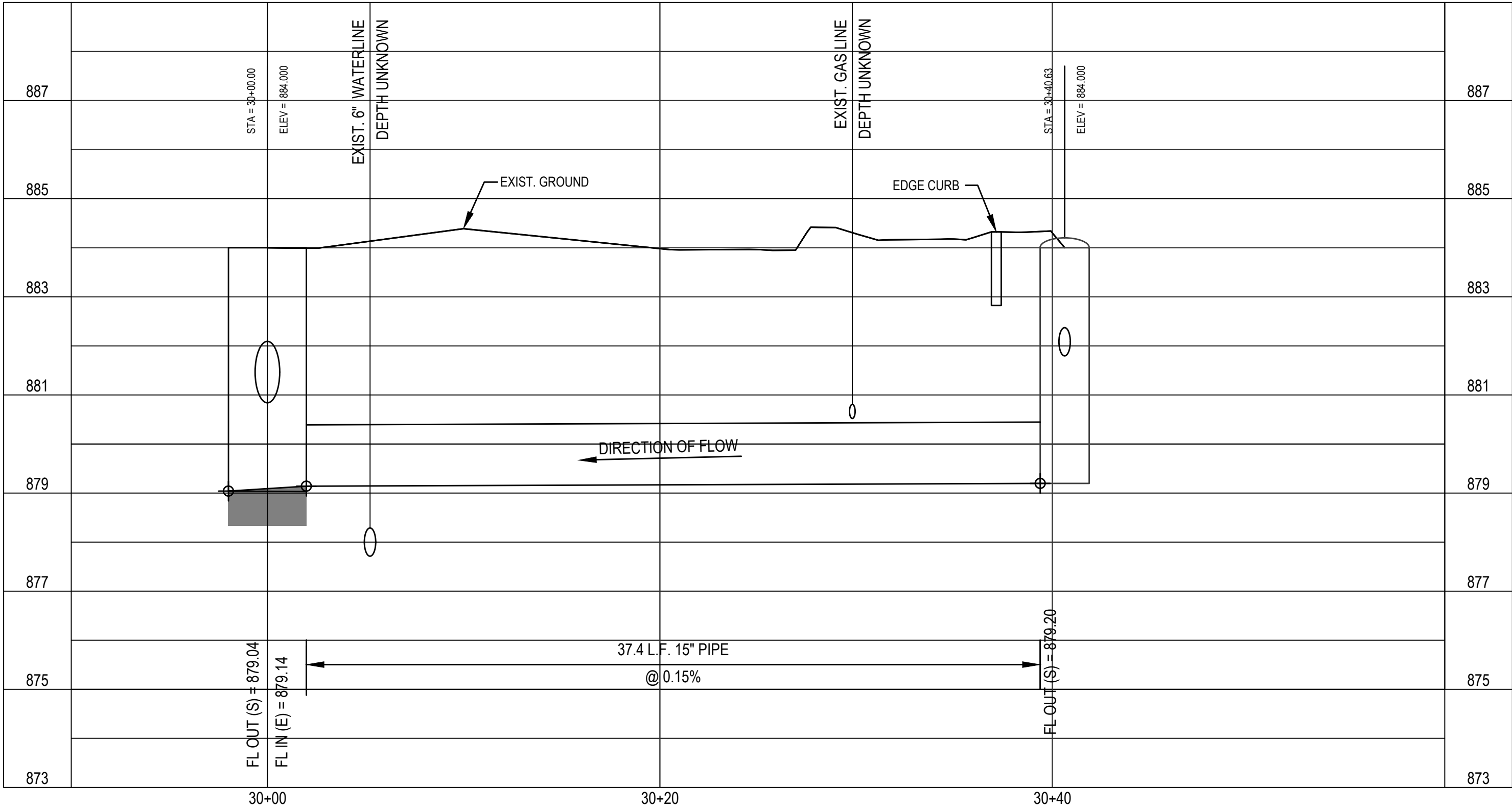
SW LINE NO 5



SW LINE NO 6



SW LINE NO 7



NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH
APP'D BY: EJB

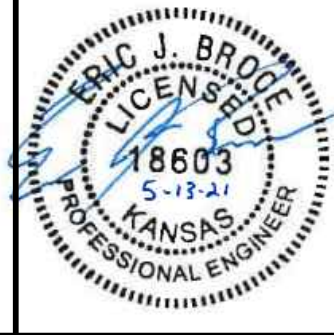
Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



NE SEWARD AVE BULB-OUT PROJECT

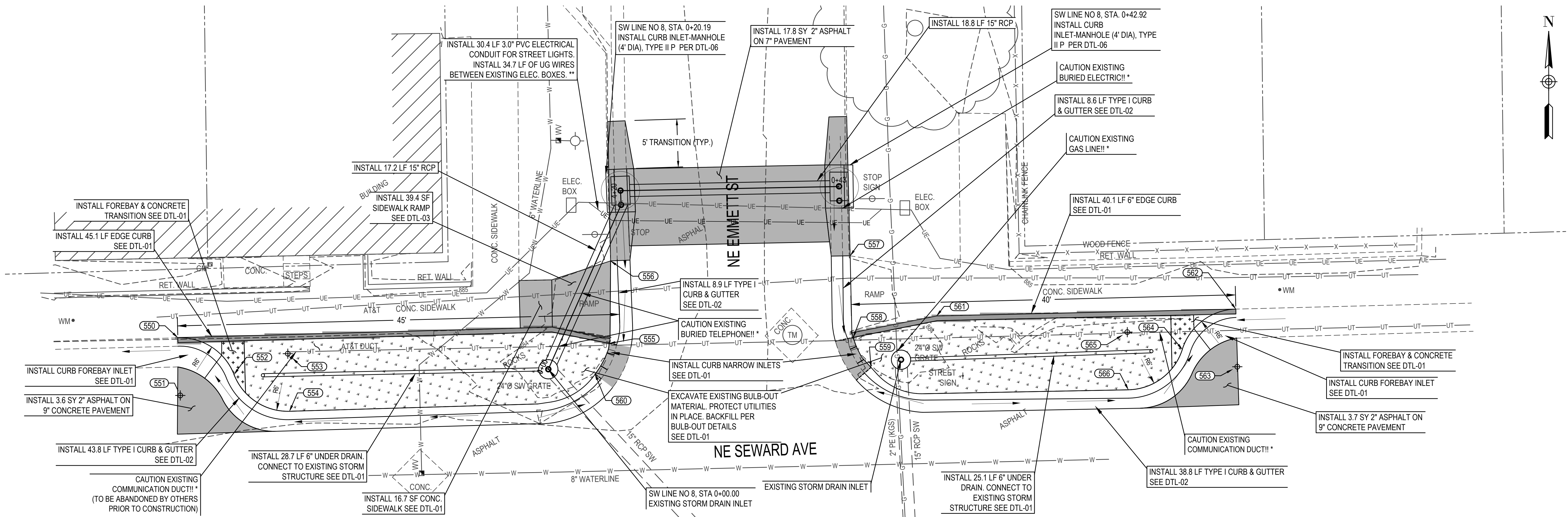
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



PROFILE

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 14 OF 41

C-04.2



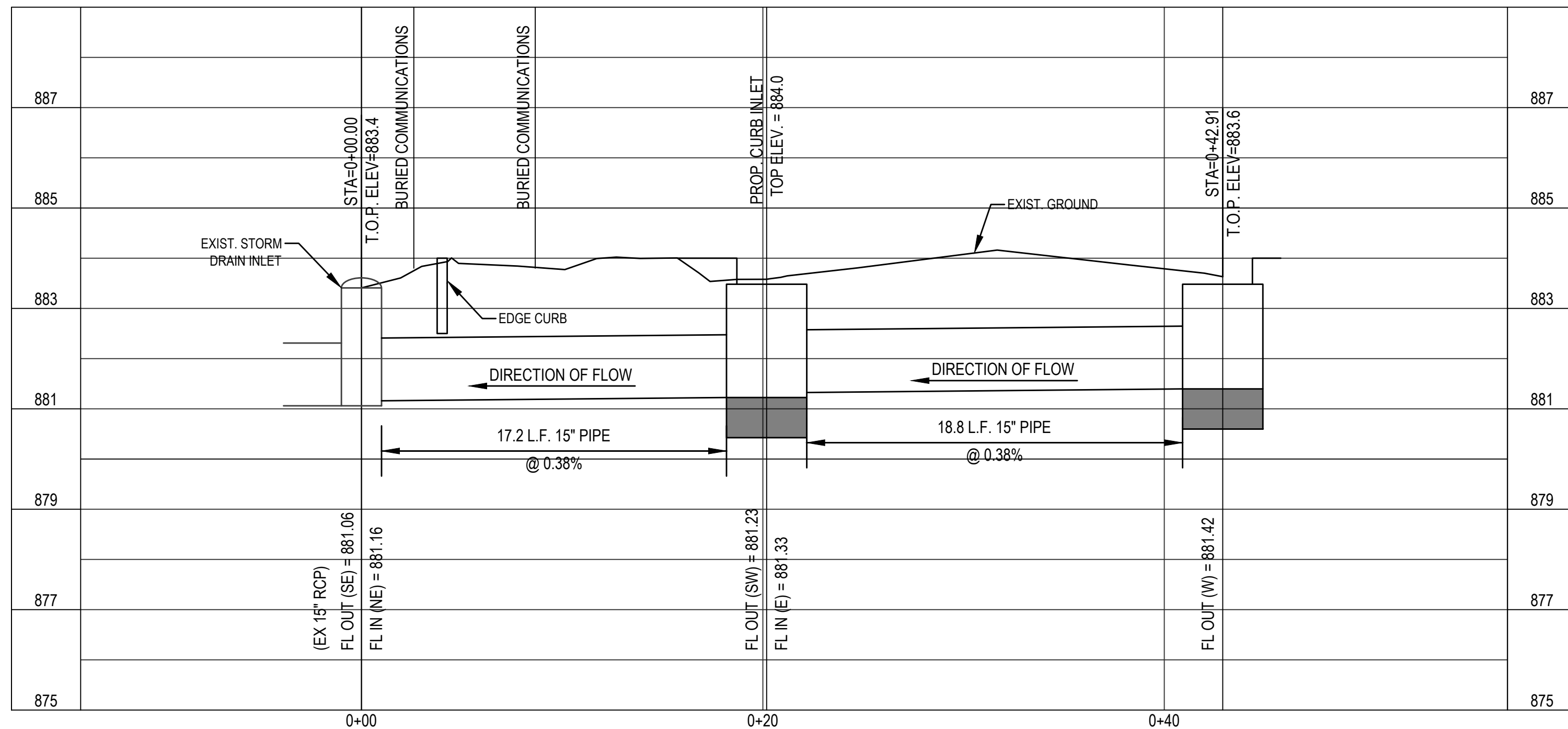
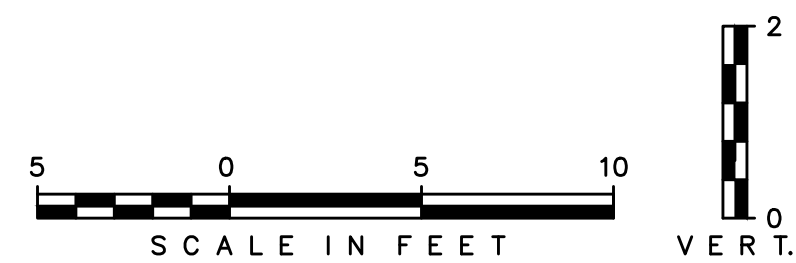
* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL AND VERTICAL LOCATIONS, AND COORDINATE POTENTIAL CONFLICTS WITH ENGINEER AND UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

** CONTRACTOR SHALL INSTALL 2- #6 WIRES AND 1- #6 GROUND WIRE IN THE LENGTH IDENTIFIED.

Δ SAW CUT AT EXISTING JOINT

SEWARD & EMMETT INTERSECTION

SW LINE NO 8



COORDINATE / ELEVATION TABLE			
Point #	Northing	Easting	Elevation
550	272916.5870	1979536.3719	884.0
551	272910.5742	1979536.6312	883.8
552	272912.7501	1979542.2227	884.2
553	272914.9205	1979547.8120	883.7
554	272908.9285	1979547.9888	884.4
555	272915.9925	1979581.2476	884.1
556	272924.5759	1979581.3869	884.0
557	272925.1054	1979606.3097	884.1
558	272916.6164	1979606.6359	884.1
559	272913.4909	1979608.4752	884.1
560	272912.8076	1979579.7633	884.1
561	272918.8501	1979615.3039	884.3
562	272919.5599	1979646.4250	884.4
563	272913.5619	1979646.5779	884.2
564	272915.3620	1979640.8543	884.5
565	272917.1620	1979635.1306	884.1
566	272911.1631	1979635.2420	884.7

***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-04

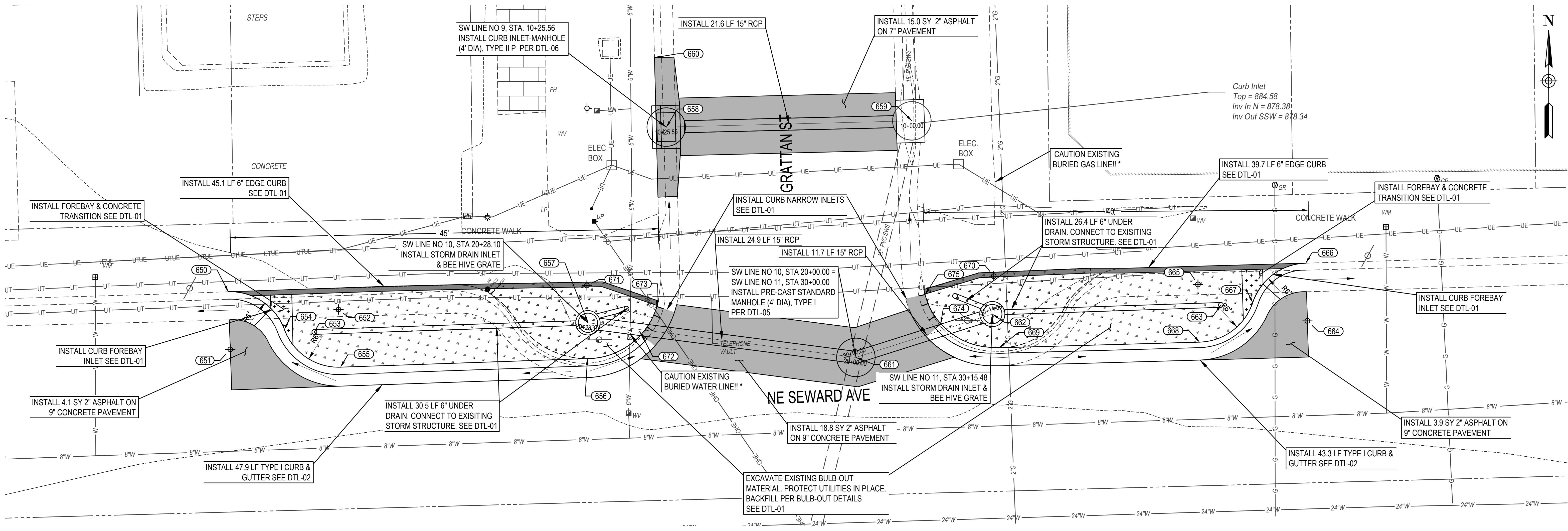
NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH	Wood Environment & Infrastructure Solutions, Inc. 100 SE 9TH STREET, SUITE 400 TOPEKA, KS 66612 PHONE: (785) 272-6830
APP'D BY: EJB	

NE SEWARD AVE BULB-OUT PROJECT
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

PLAN AND PROFILE

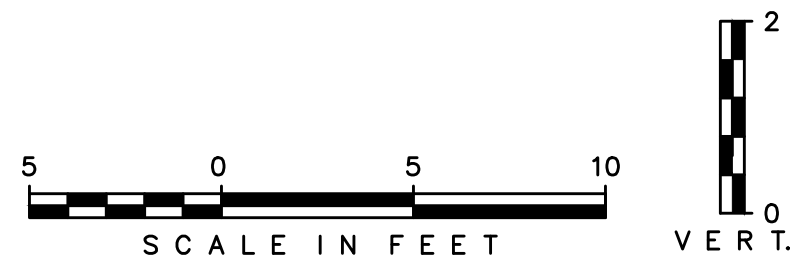
DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 15 OF 41
C-05



* PRIOR TO EXCAVATION, CONTRACTOR SHALL EXCAVATE THE EXISTING UTILITIES TO VERIFY HORIZONTAL & VERTICAL LOCATIONS, & COORDINATE POTENTIAL CONFLICTS WITH ENGINEER & UTILITY COORDINATOR (SEE G-01). DURING CONSTRUCTION, CONTRACTOR SHALL USE PROTECTIVE MEASURES TO PREVENT DAMAGES TO EXISTING UTILITIES.

Δ SAW CUT AT EXISTING JOINT

SEWARD & GRATTAN INTERSECTION

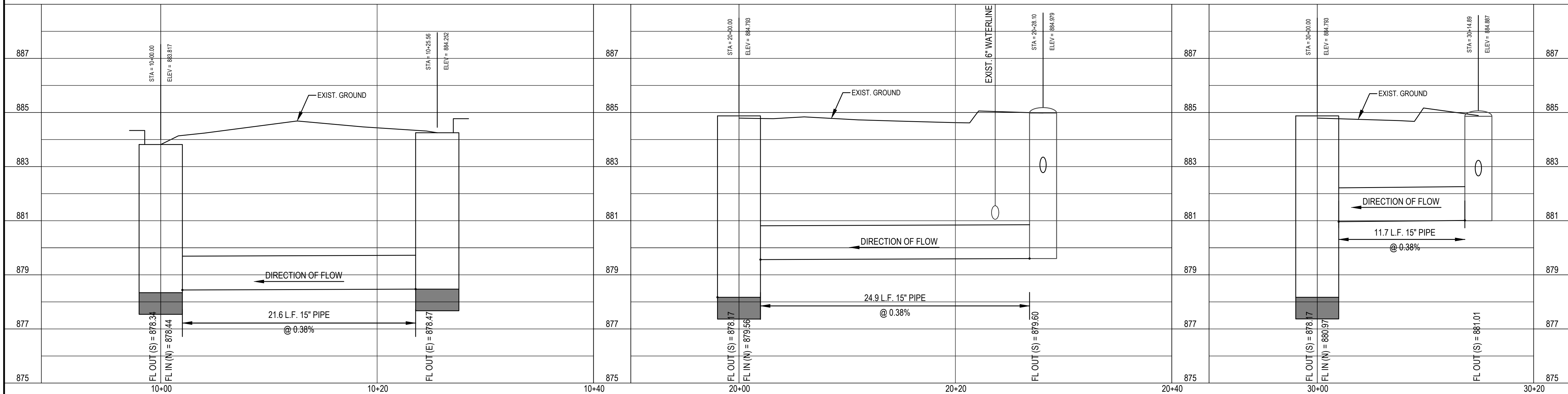


***ADDITIONAL COORDINATE/ELEVATION POINTS CAN BE FOUND ON D-04

SW LINE NO 9

SW LINE NO 10

SW LINE NO 11



COORDINATE / ELEVATION TABLE			
#	NORTHING	EASTING	ELEVATION
650	272925.65	1979870.27	885.0
651	272919.65	1979870.48	884.7
652	272923.81	1979881.73	884.6
653	272921.47	1979879.22	884.7
654	272921.73	1979876.10	884.6
655	272917.81	1979881.94	884.8
656	272918.69	1979907.62	885.3
657	272922.43	1979907.68	885.0
658	272942.77	1979915.83	884.3
659	272943.42	1979941.37	883.8
660	272949.99	1979914.60	884.6
661	272918.83	1979935.55	884.8
662	272923.33	1979949.74	884.9
663	272924.28	1979973.52	884.6
664	272922.63	1979982.51	884.7
665	272926.41	1979971.13	884.5
666	272928.62	1979982.34	884.9
667	272924.52	1979976.82	884.6
668	272920.41	1979971.30	884.7
669	272919.83	1979950.46	0.0
670	272927.27	1979949.89	884.8
671	272926.31	1979907.57	884.9

NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH
APP'D BY: EJB

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.

CITY OF TOPEKA
UTILITIES

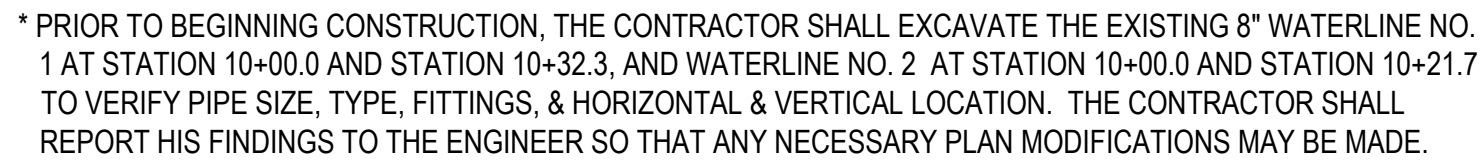
NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

ERIC J. BRIDGES
18603
5-12-21
KANSAS
PROFESSIONAL ENGINEER

PLAN AND PROFILE

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 16 OF 41
C-06



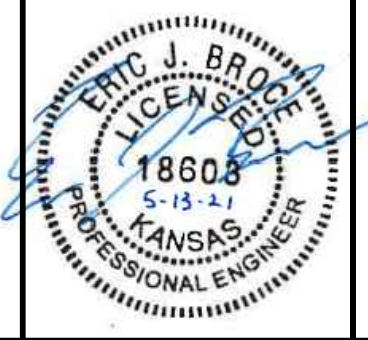
DRAWN BY: JAN / CMH
APP'D BY: EJB

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



WATERLINES PLAN AND PROFILE

DATE: 05/2021
T-501023.15
PROJ.: T-501081.01
SHEET: 17 OF 41

C-07



Profile view of a 6-inch water main line. The vertical axis represents elevation in feet, ranging from 860 to 890. The horizontal axis represents stationing, with labels at 10+00, 10+20, and 10+40. The profile shows a pipe with a 45° bend at station 10+00 and another 45° bend at station 10+20. The pipe is labeled "6\" X 6\" TEE" and "END LINE NO. 2". The elevation of the pipe at station 10+00 is 881.37 feet. The elevation of the pipe at station 10+20 is 881.37 feet. The elevation of the pipe at station 10+40 is 881.37 feet. The profile also shows the existing ground line, labeled "EXIST. GROUND", and the proposed 2.5-foot electric top, labeled "PROP. 2.5' ELEC. TOP=888.50".

Station	Elevation (ft)	Description
881.37*	+00.0	BEGIN LINE NO. 2 W/ 45° BEND
881.37	+00.5	45° BEND
881.37	+16.1	6" X 6" TEE
881.37	+18.2	45° BEND
881.37*	+21.7	END LINE NO. 2

GENERAL STRUCTURAL NOTES

A. CODES AND SPECIFICATIONS:

- 2015 INTERNATIONAL BUILDING CODE (IBC) WITH THE DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT (DHCD) MODIFICATIONS (REF: COMAR 05.02.07).
- AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) 7-10, MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES.
- AMERICAN CONCRETE INSTITUTE (ACI) 301-05, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS AS MODIFIED BY THE CONSTRUCTION DOCUMENTS AND "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318)".
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-10, "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS
- INTERNATIONAL CODE COUNCIL - ACCEPTANCE CRITERIA (ICC AC) 193, ACCEPTANCE CRITERIA FOR POST-INSTALLED FOR MECHANICAL ANCHORS.
- INTERNATIONAL CODE COUNCIL - ACCEPTANCE CRITERIA (ICC AC) 308, ACCEPTANCE CRITERIA FOR POST-INSTALLED ADHESIVE ANCHORS.
- LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES DECEMBER 2009.
- 2010 ADA STANDARDS FOR ACCESSIBLE DESIGN.

B. GENERAL:

- VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK. NOTIFY THE ENGINEER OF RECORD IN WRITING OF CONDITIONS ENCOUNTERED IN THE FIELD CONTRADICTORY TO THOSE SHOWN ON THE STRUCTURAL CONTRACT DOCUMENTS.
- PROVIDE ADEQUATE BRACING FOR NEW & EXISTING STRUCTURES SO THAT THEY WILL BE STABLE DURING ALL STAGES OF CONSTRUCTION. THE STRUCTURES AND FOUNDATIONS ARE DESIGNED FOR A COMPLETED CONDITION ONLY AND THEREFORE REQUIRE ADDITIONAL SUPPORT TO MAINTAIN STABILITY BEFORE COMPLETION. STRUCTURES SHALL BE CONSIDERED COMPLETE WHEN ALL STRUCTURAL MEMBERS ARE COMPLETED AND HAVE ATTAINED THEIR SPECIFIED DESIGN STRENGTH AS SHOWN ON THE DRAWINGS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING, TEMPORARY SUPPORTS, ETC.
- REVIEW OF SUBMITTALS AND/OR SHOP DRAWINGS BY THE DESIGN PROFESSIONAL DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK SHOP DRAWINGS BEFORE SUBMITTAL TO THE DESIGN PROFESSIONAL. THE CONTRACTOR REMAINS SOLELY RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF SHOP DRAWINGS AS THEY PERTAIN TO MEMBER SIZES, DETAILS, AND DIMENSIONS SPECIFIED IN THE CONTRACT DOCUMENTS. CONTRACTOR IS ALSO RESPONSIBLE FOR MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT ALL INVOLVED UTILITIES IN THE VICINITY OF THE WORK BEFORE PROCEEDING WITH ANY EXCAVATION WORK.
- THE CONTRACTOR SHALL PROTECT EXISTING FACILITIES, STRUCTURES, AND UTILITIES FROM DAMAGE DURING CONSTRUCTION.
- SHOP DRAWINGS FOR ALL MATERIALS ARE TO BE SUBMITTED AND REVIEWED PRIOR TO THE START OF THE FABRICATION.
- CONTRACTORS SHALL MAKE NO DEVIATION FROM THE DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE ENGINEER.

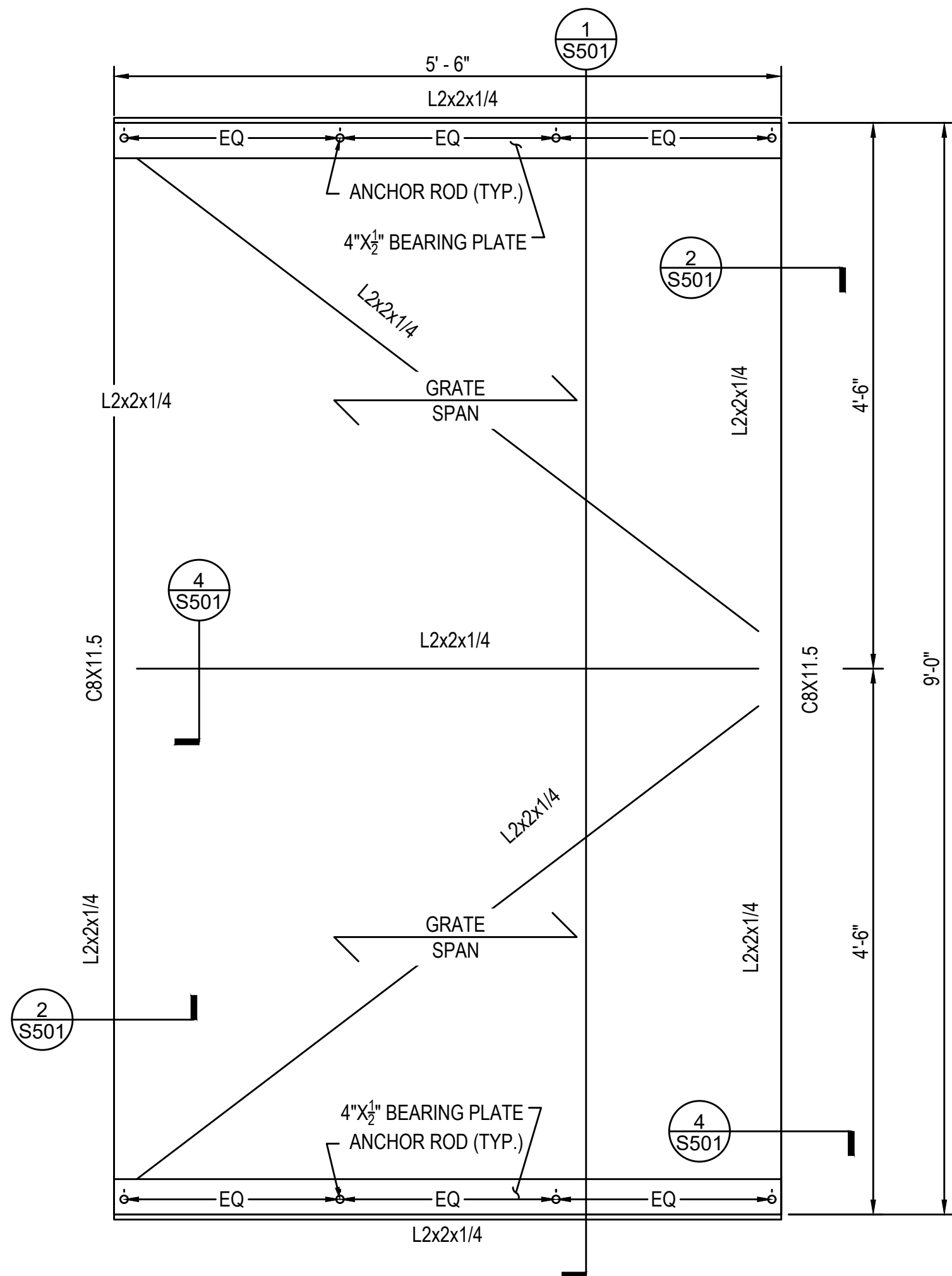
C. REINFORCED CONCRETE NOTES:

- ALL CONCRETE WORK SHALL CONFORM TO ACI 318, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.
- ALL REINFORCING LAP SPLICES IN CONCRETE SHALL CONFORM TO ACI 318 PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE; SPLICE ONLY AS SHOWN OR APPROVED; STAGGER SPLICES WHERE POSSIBLE; USE TENSION SPLICE (CLASS "B") UNLESS NOTED OTHERWISE. DOWELS SHALL MATCH THE SIZE AND SPACING OF THE SPECIFIED REINFORCEMENT AND SHALL BE LAPPED WITH TENSION SPLICES (CLASS "B") UNLESS NOTED OTHERWISE.
- ALL CONCRETE SHALL BE NORMAL WEIGHT AND HAVE THE FOLLOWING MINIMUM 28 DAY STRENGTH:
 - FOUNDATIONS.....4000 PSI
 - SLABS.....4000 PSI
 - ALL OTHER.....4000 PSI
- CONCRETE SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF 0.45.
- THE PROPOSED MATERIALS AND MIX DESIGN SHALL BE FULLY DOCUMENTED AND REVIEWED BY THE OWNER'S TESTING LABORATORY. RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH IS THE CONTRACTOR'S.
- USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT PERMITTED.
- HORIZONTAL CONSTRUCTION JOINTS ARE PERMITTED ONLY WHERE INDICATED. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED BY MECHANICAL MEANS, AND CLEANED.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60 UNLESS NOTED OTHERWISE AND ASTM A 706 FOR REINFORCING BARS TO BE WELDED.
- WELD WIRE FABRIC (W.W.F.) REINFORCING STEEL SHALL CONFORM TO ASTM D-185 UNLESS NOTED OTHERWISE.
- WHEN PLACING CONCRETE UNDER HOT OR COLD WEATHER CONDITIONS COMPLY WITH THE CITY OF TOPEKA SPECIFICATIONS.

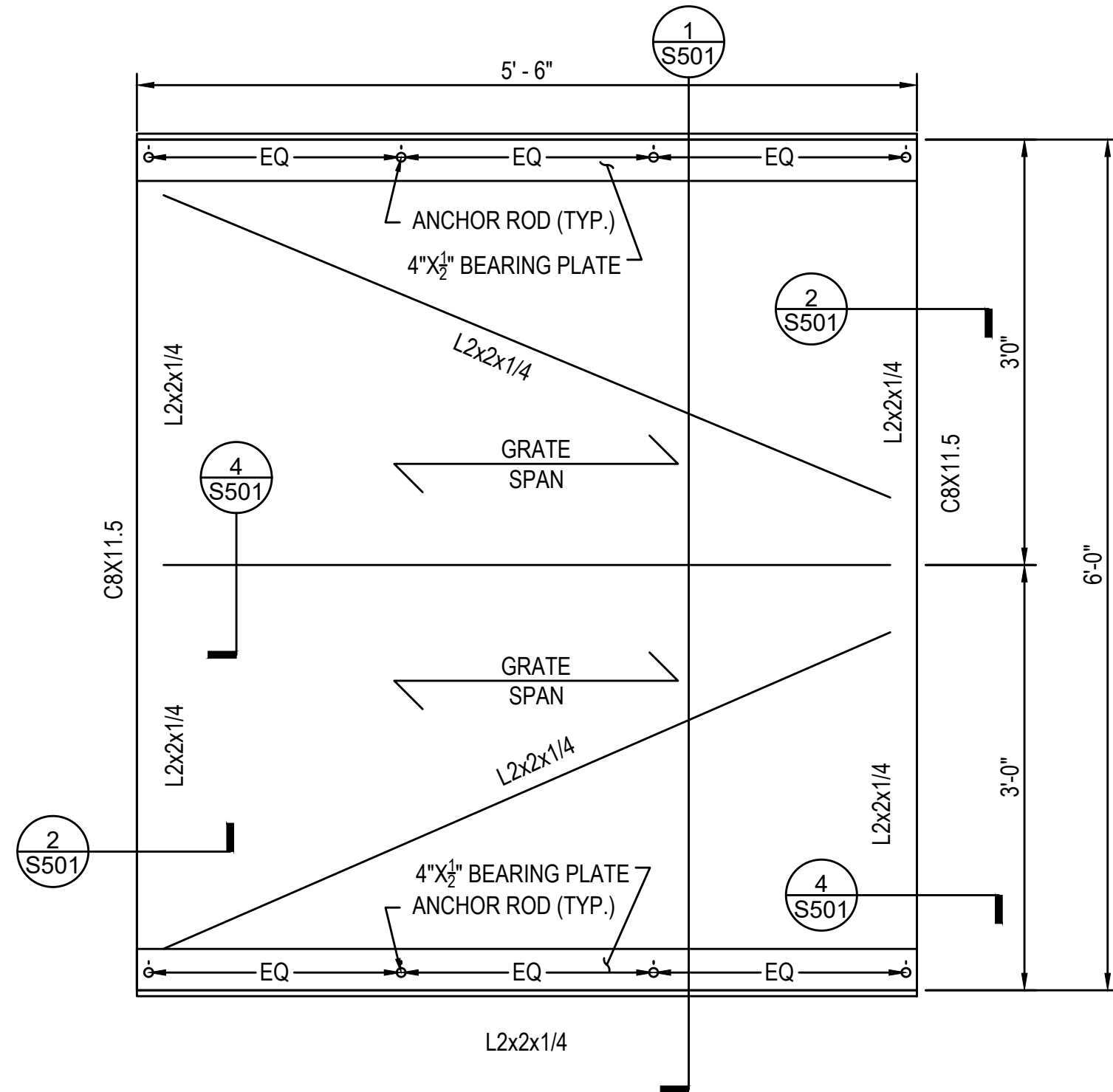
- TIE ALL REINFORCING STEEL AND EMBEDMENTS SECURELY IN PLACE PRIOR TO PLACING CONCRETE. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES. "STICKING" DOWELS INTO WET CONCRETE IS NOT PERMITTED.
- REINFORCING STEEL SHALL HAVE THE FOLLOWING CONCRETE COVER UNLESS NOTED OTHERWISE:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH. . . 3"
SLABS 1 1/2"
- DO NOT WELD OR TACK WELD REINFORCING BARS.
- CHAMFER OR ROUND ALL EXPOSED CORNERS MINIMUM 3/8".
- CONCRETE SHALL HAVE A MAXIMUM WATER CEMENT RATIO OF 0.45.
- GROUT SHALL BE NONSHRINKABLE CONFORMING TO ASTM C1107 AND SHALL HAVE A COMPRESSIVE STRENGTH AT 28 DAYS OF 5,000 PSI IN ACCORDANCE WITH ASTM C827.
- WATER SHALL NOT BE ADDED TO THE CONCRETE AT THE JOBSITE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE THE REQUIREMENTS OF THE CONCRETE SUPPLIER TO ENSURE PUMPABLE AND WORKABLE SIZES WITHOUT THE ADDITION OF WATER AT THE JOBSITE. THE USE OF CONCRETE ADDITIVES SHALL BE AT THE OPTION OF THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER.
- CONCRETE FOR FOOTINGS AND RETAINING WALLS SHALL NOT BE PLACED IN WATER.
- CONCRETE FOR FOOTINGS AND RETAINING WALLS SHALL BE PLACED WITHOUT HORIZONTAL CONSTRUCTION JOINTS EXCEPT WHERE SHOWN OR NOTED. VERTICAL CONSTRUCTION JOINTS AND STOPS IN CONCRETE WORK SHALL BE MADE AT MIDSPAN OR AT POINTS OF MINIMUM SHEAR.
- FOUNDATIONS HAVE BEEN DESIGNED WITH A MINIMUM ALLOWABLE BEARING CAPACITY OF 2,500 PSF.

D. STRUCTURAL STEEL:

- MATERIALS, DESIGN, CONSTRUCTION, AND QUALITY OF THE STEEL WORK SHALL COMPLY WITH THE REQUIREMENTS OF AISC 360-10.
- SHOP DRAWINGS PREPARED IN ACCORDANCE WITH THE LATEST "STRUCTURAL STEEL DETAILING MANUAL" OF THE AISC SHALL BE SUBMITTED FOR APPROVAL. NO FABRICATION SHALL BEGIN UNTIL SHOP DRAWINGS ARE COMPLETED AND APPROVED.
- STEEL SHALL CONFORM TO THE FOLLOWING GRADES: ALL CHANNELS, ANGLES, PLATES, ETC. (UNO): ASTM A36 (FY=36KSI).
- ALL CARBON STEEL SHALL BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A123.
- DO NOT USE GAS CUTTING TORCHES FOR CORRECTING FABRICATION ERRORS IN THE STRUCTURAL FRAMING.



1 S501 INTERSECTION OF SEWARD AVE & LIME AVENUE BRIDGE FRAMING PLAN
SCALE: 1" = 1'



2 S501 INTERSECTION OF SEWARD AVE & SCOTLAND AVENUE BRIDGE FRAMING PLAN
SCALE: 1" = 1'

NO.	DATE	REVISION	BY	APPD

DRAWN BY: JAN / CMH
APPD BY: EJB

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



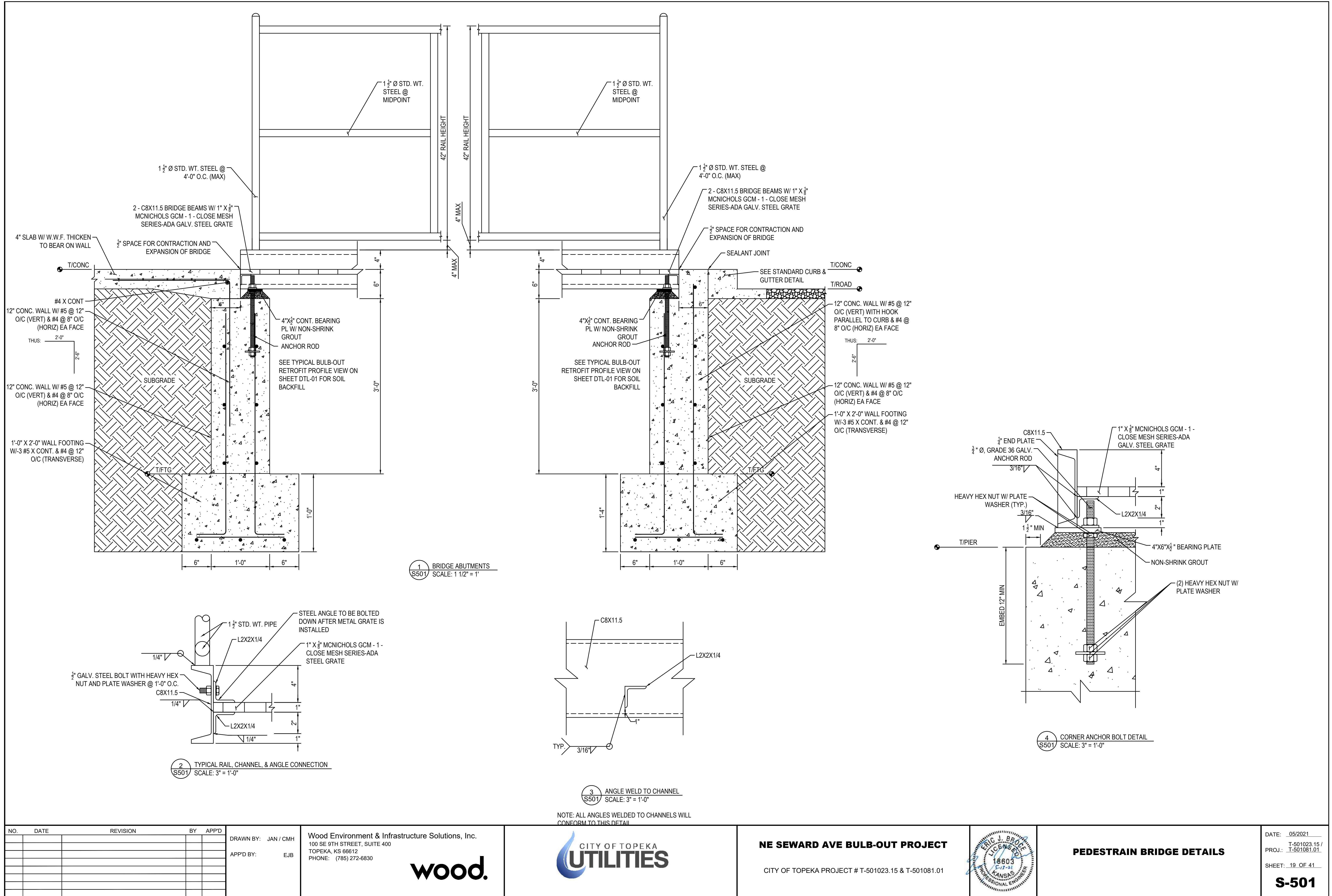
PEDESTRIAN BRIDGE NOTES

DATE: 05/2021

PROJ.: T-501023.15 / T-501081.01

SHEET: 18 OF 41

S-001



NO.	DATE	REVISION	BY	APP'D

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APP'D BY: EJB

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PEDESTRAIN BRIDGE DETAILS

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 19 OF 41
S-501

PHASE 1 - FOR CONSTRUCTION ON THE INTERSECTIONS OF BOTH LAKE AND SEWARD AND LIME AND SEWARD, THE CONTRACTOR SHALL ESTABLISH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH "LANE CLOSURE WITH TWO-WAY LEFT TURN LANE", DETAIL SHOWN ON DTL-12. THE MIDDLE TURN LANE SHALL BE USED FOR WESTBOUND TRAFFIC. THIS SHEET SHALL BE USED FOR REFERENCE ONLY. DURING THIS PHASE, PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS SEWARD AT CHANDLER AND SCOTLAND RESPECTIVELY. ALL TRAFFIC CONTROL ITEMS SHALL REMAIN IN PLACE UNTIL ALL WORK AT THESE INTERSECTIONS HAVE BEEN COMPLETED.

PHASE 2- FOR CONSTRUCTION ON THE EMMETT AND SEWARD AND GRATAN AND SEWARD INTERSECTIONS, THE CONTRACTOR SHALL ESTABLISH TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH "LANE CLOSURE WITH TWO-WAY LEFT TURN LANE", DETAIL SHOWN ON DTL-12. THE MIDDLE TURN LANE SHALL BE USED FOR WESTBOUND TRAFFIC. THIS SHEET SHALL BE USED FOR REFERENCE ONLY. SEE PHASE 1 BELOW. DURING THIS PHASE, PEDESTRIAN TRAFFIC SHALL BE ROUTED ACROSS SEWARD AT SCOTLAND AND FREEMAN RESPECTIVELY. ALL TRAFFIC CONTROL ITEMS SHALL REMAIN IN PLACE UNTIL ALL WORK AT THESE INTERSECTIONS HAVE BEEN COMPLETED.

 = SIGN
 = PEDESTRIAN BARRICADE
 = TYPE III BARRICADE
 = WORK SPACE
 = TRAFFIC CONE

ROAD CLOSED
TO
THRU TRAFFIC
R11-4

ROAD CLOSED
TO
THRU TRAFFIC
R11-4

NE STATE ST

PHASE 1
SEE NOTE

PHASE 3
SEE SHEET T-02

PHASE 2
SEE NOTE

WALK CL
CROSS HE
R9-11a

ROAD
CLOSURE

R11-2

ROAD
CLOSED

SIDEWALK
CLOSED

W1-4 LT:



W20-1

NE SEWARD AVE

NE GREELEY ST

↓
CROSS HERE

[illegible]

DRAWN BY: JAN / CMH

APP'D BY: EJB

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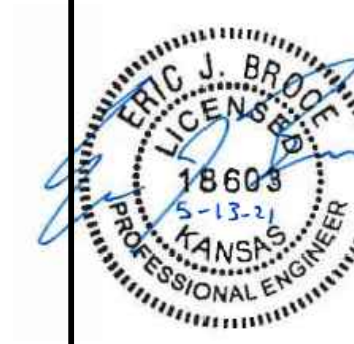
wood.



CITY OF TOPEKA
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NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



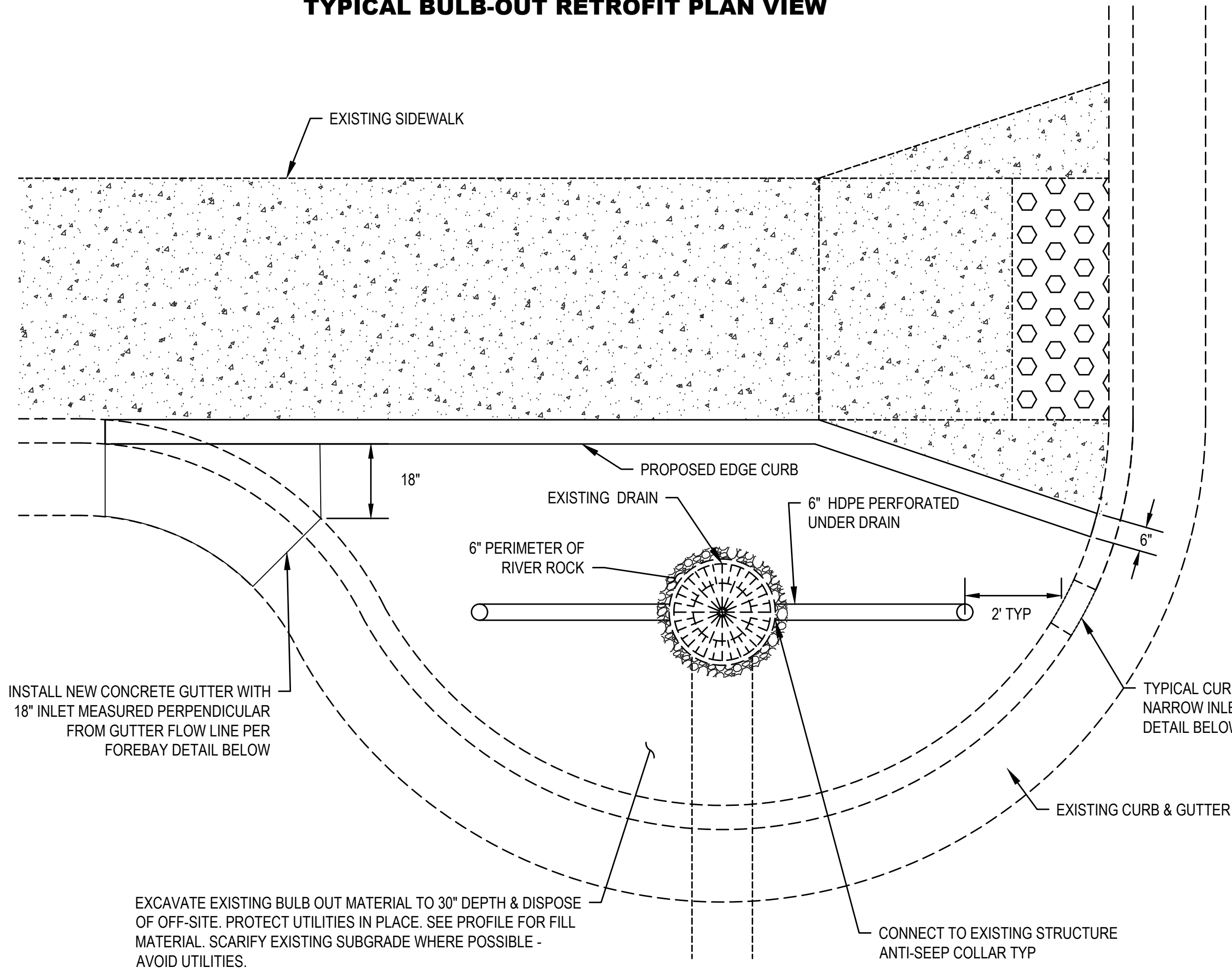
TRAFFIC CONTROL PLAN (PHASE 1 AND PHASE 2)

DATE: 05/2021
PROJ.: T-501023.15
T-501081.01
SHEET: 20 OF 41

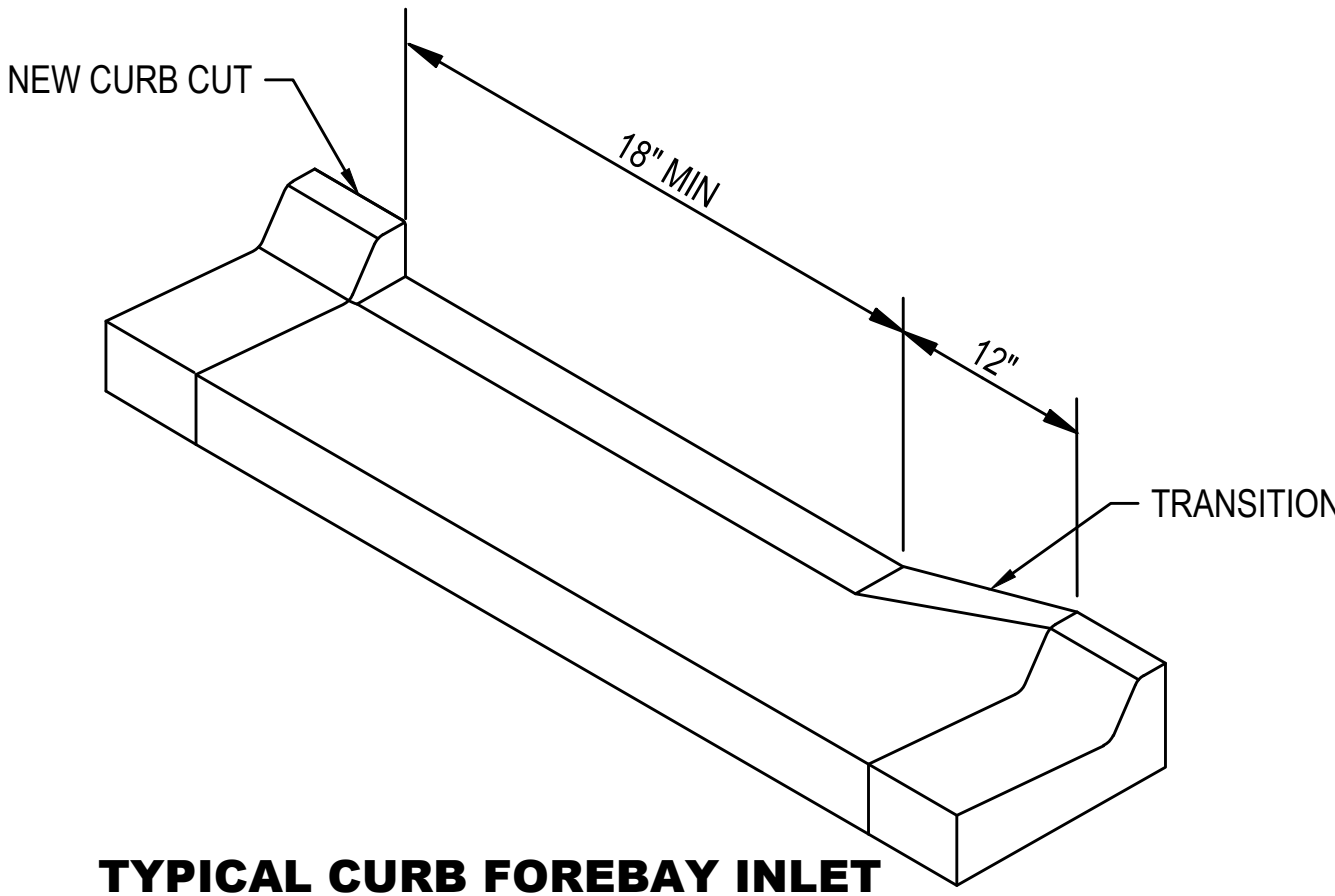
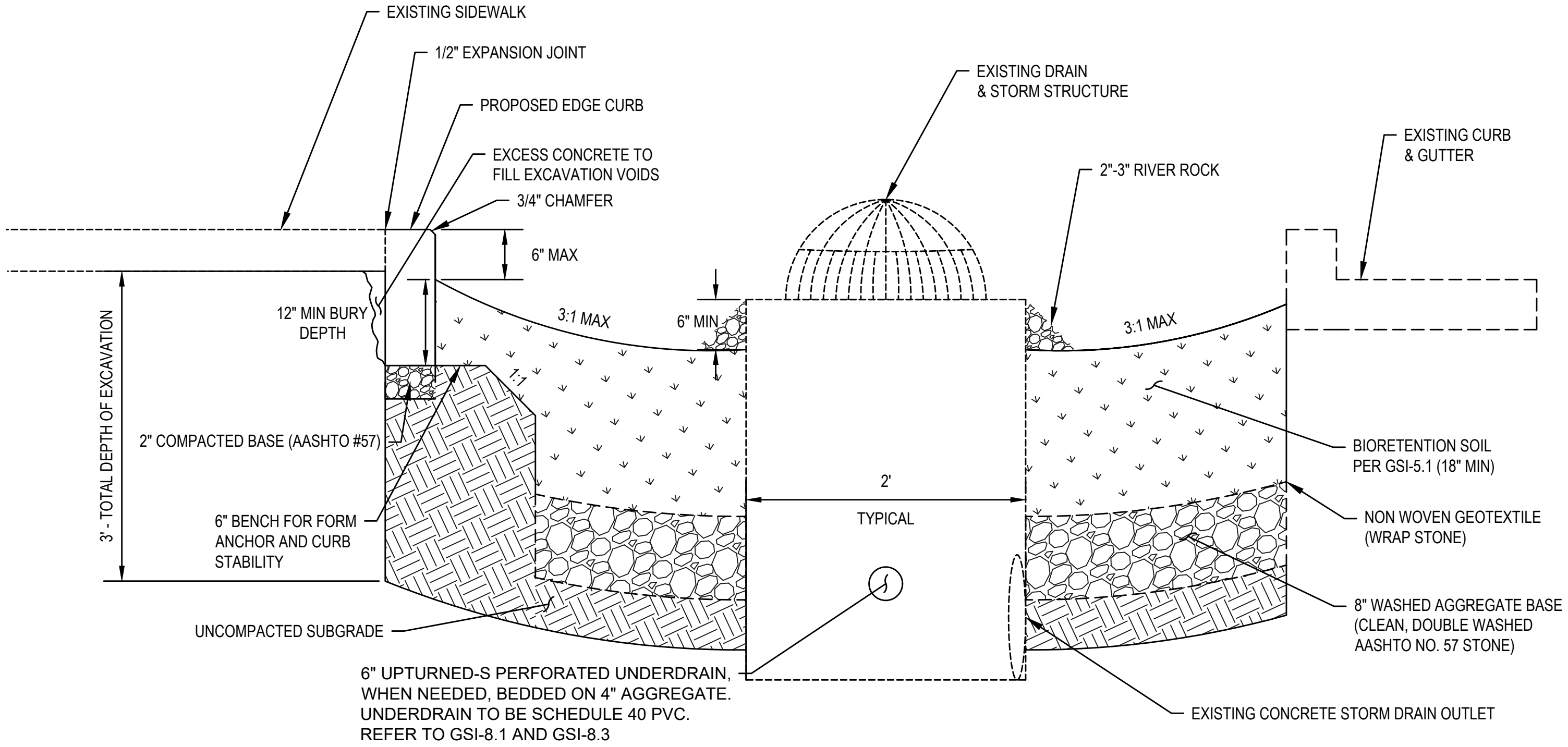
T-01

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:29 AM
File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\T-01.dwg

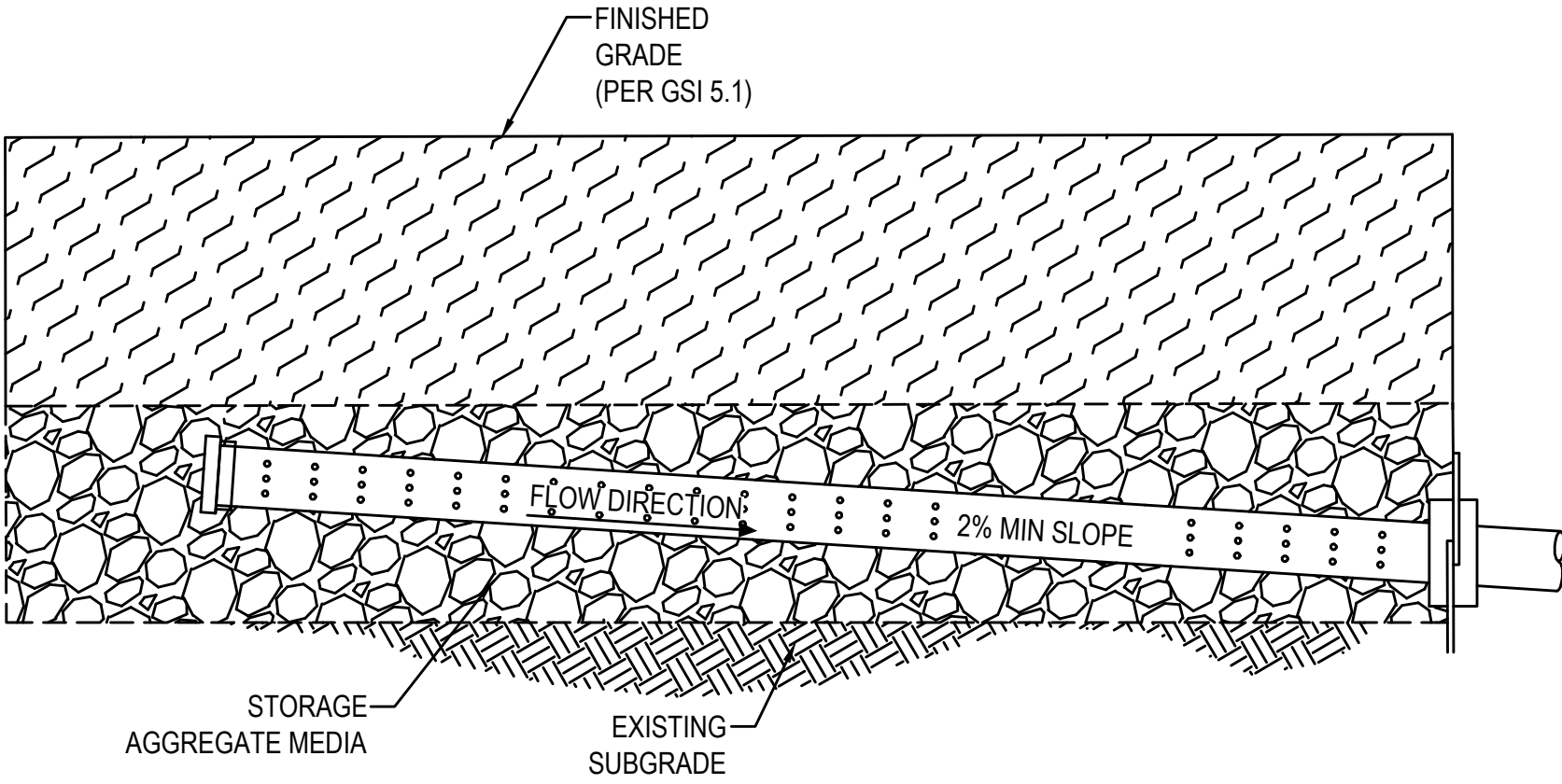
TYPICAL BULB-OUT RETROFIT PLAN VIEW



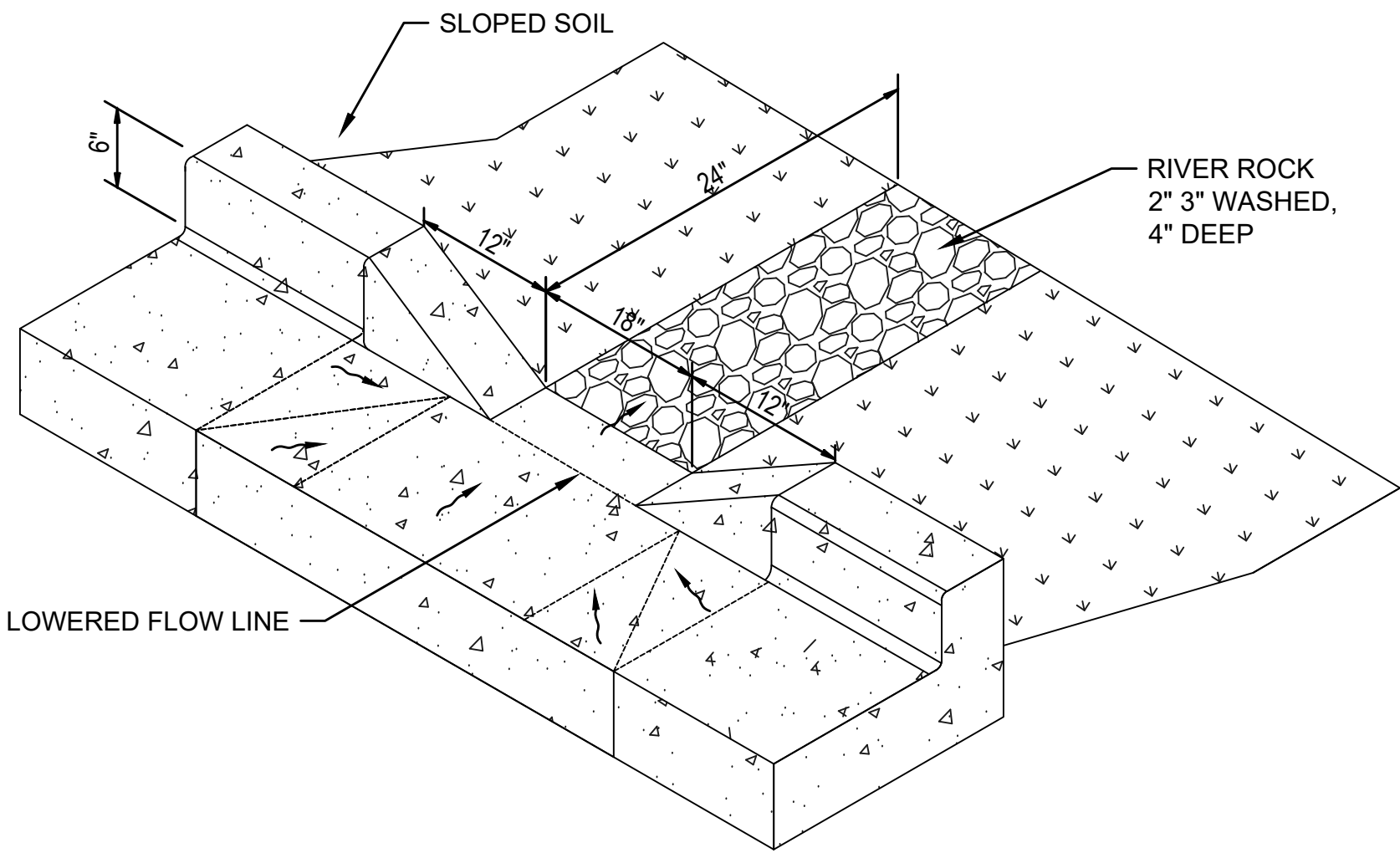
TYPICAL BULB-OUT RETROFIT PROFILE VIEW



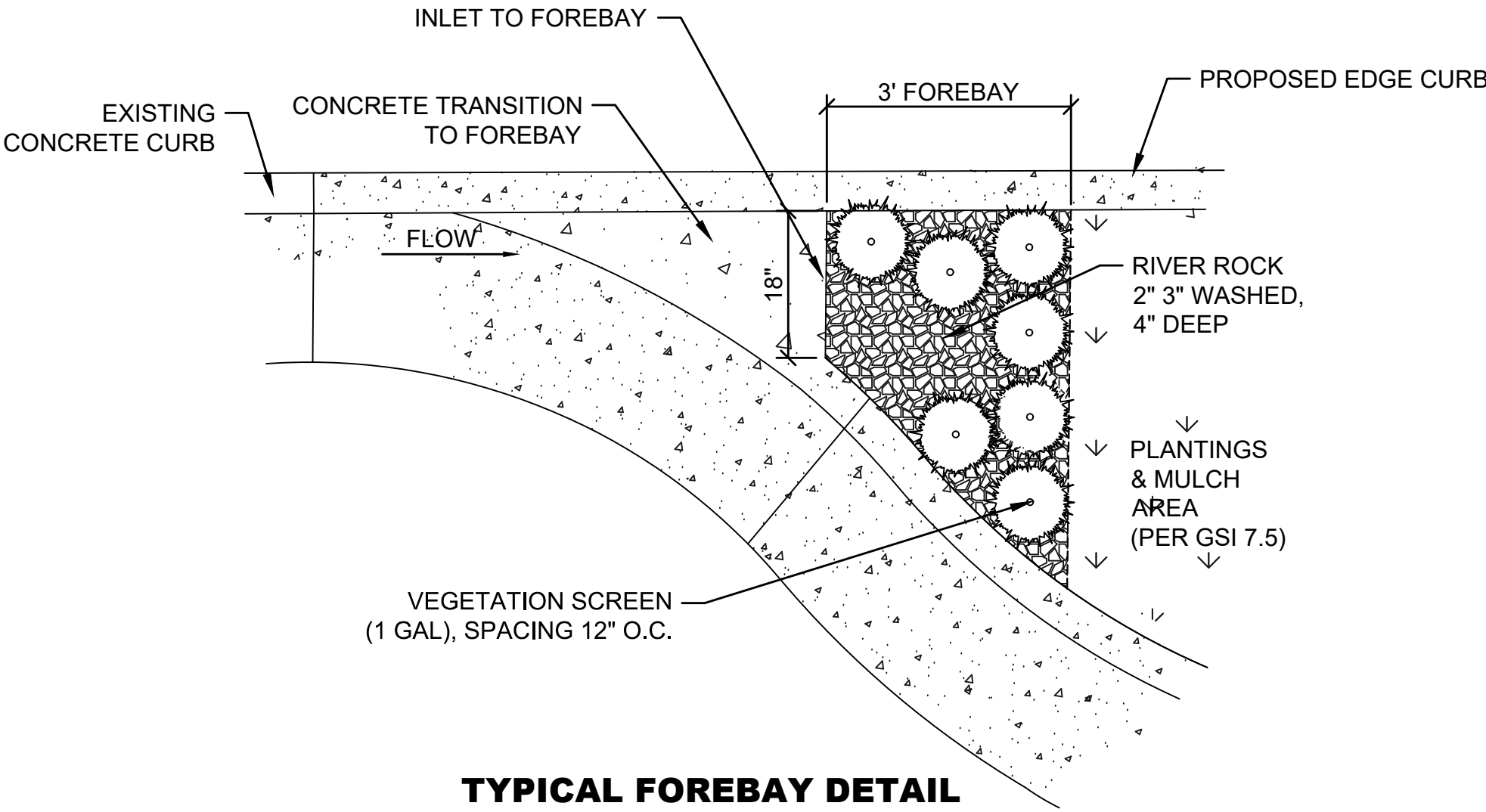
TYPICAL CURB FOREBAY INLET



UNDERDRAIN PROFILE DETAIL



TYPICAL CURB NARROW INLET



TYPICAL FOREBAY DETAIL

NO.	DATE	REVISION	BY	APP'D

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APP'D BY: EJB

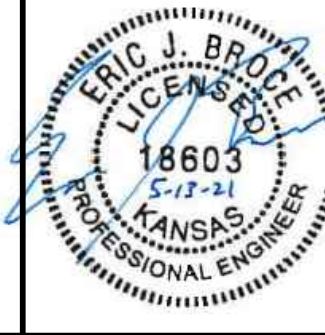
Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
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NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



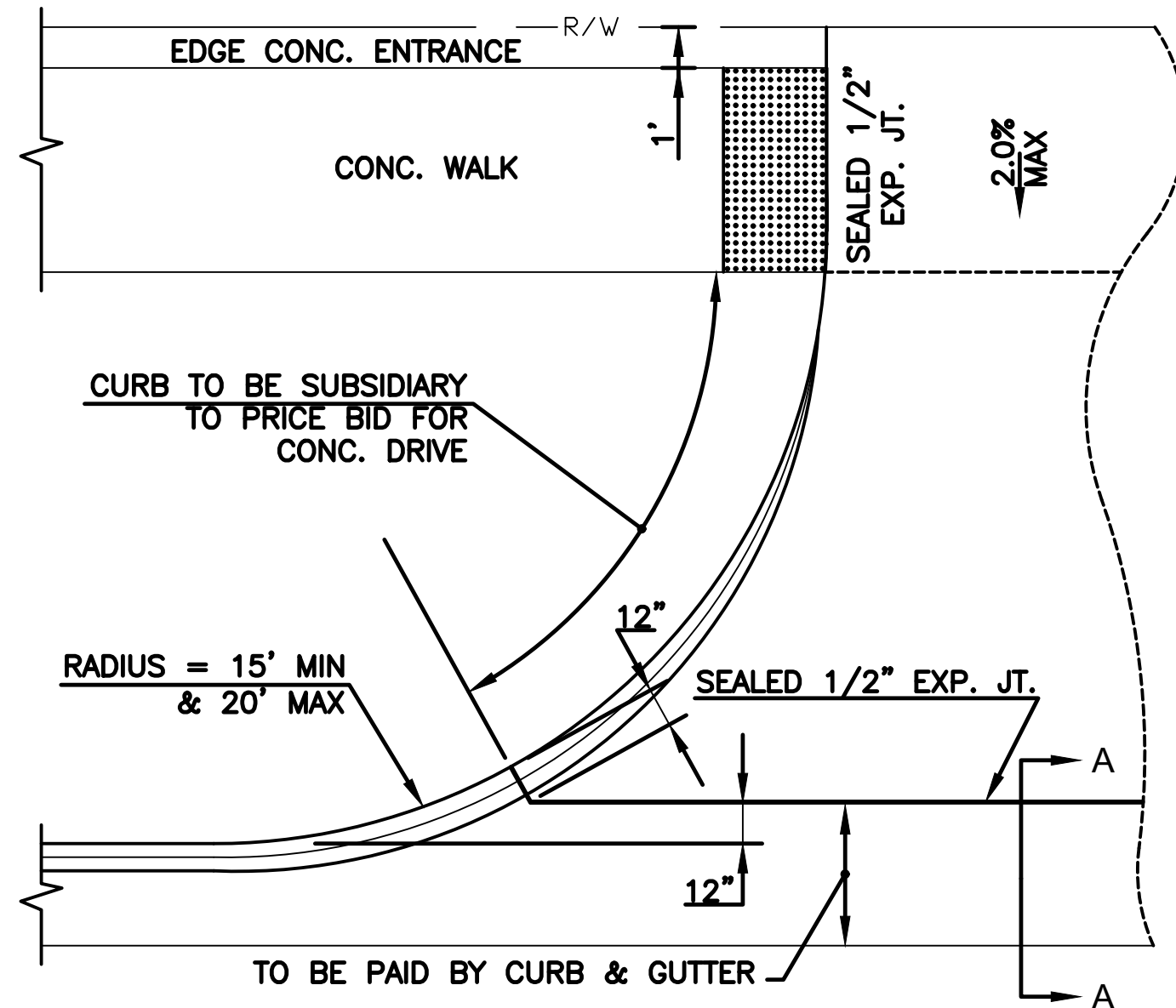
BULB-OUT RETROFIT DETAIL

DATE: 05/2021

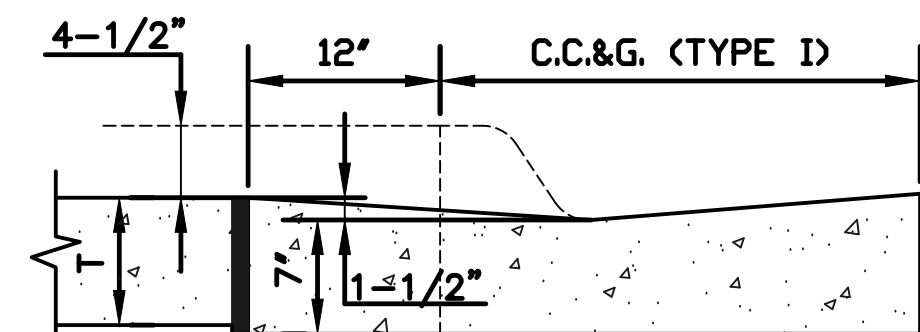
PROJ.: T-501023.15 / T-501081.01

SHEET: 22 OF 41

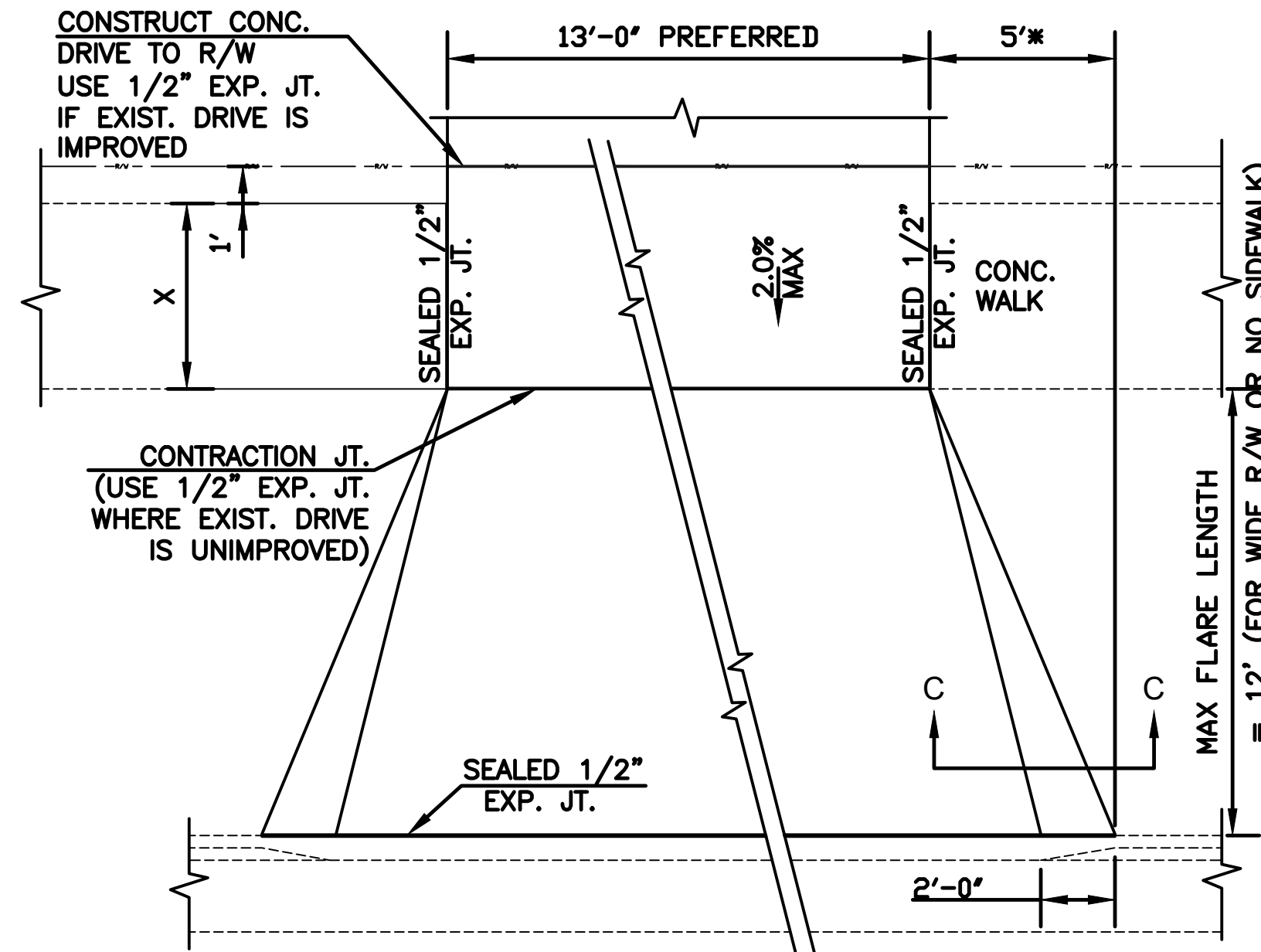
DTL-01



COMMERCIAL DRIVE APPROACH

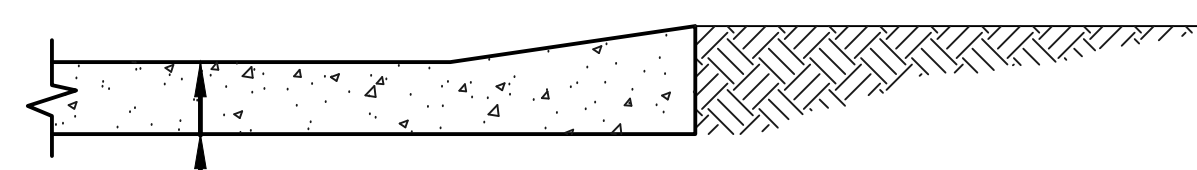


SECTION A - A
T=8" NON-REINFORCED FOR COMMERCIAL DRIVE, ALLEY APPROACH, AND SIDEWALK IN DRIVE ENTRANCE.

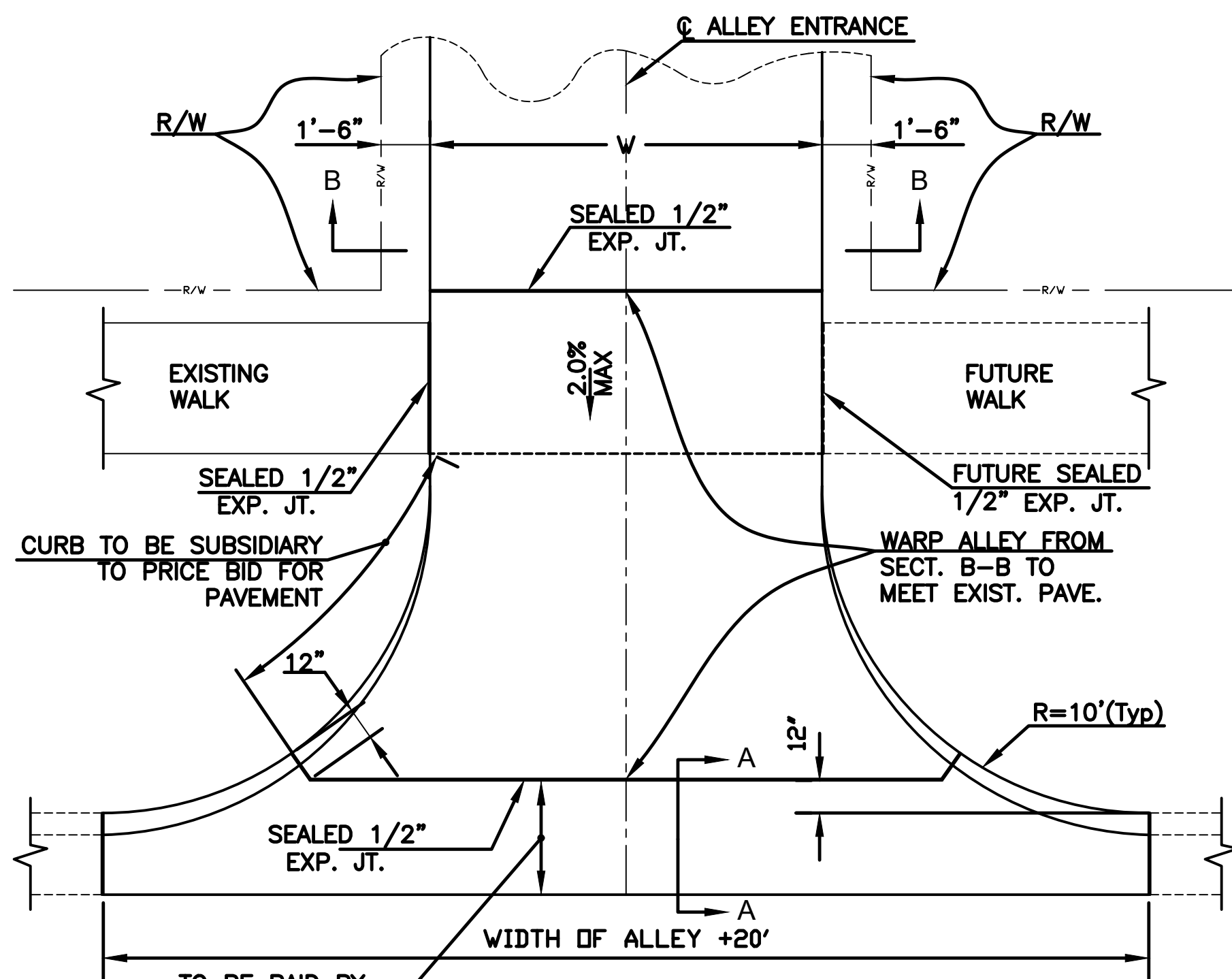


TYPICAL PRIVATE DRIVE APPROACH

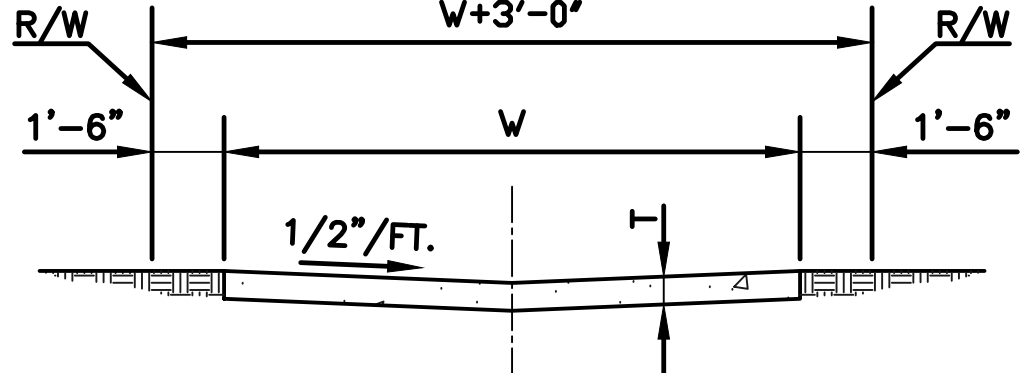
NOTES:
1. A SPECIAL DETAIL WILL BE PROVIDED WHEN SIDEWALK IS CLOSER THAN 6'-0" FROM BACK OF CURB.
2. THEORETICAL CURB HEIGHT OF 6" ABOVE E SHALL BE OBTAINED IN ENTRANCE PAVEMENT.
* FLARE SHALL BE 5 FEET WIDE IN NEW CONSTRUCTION. VARIANCES MAY BE MADE WITH APPROVAL OF THE CITY ENGINEER IN SPECIAL CIRCUMSTANCES FOR THE REPLACEMENT OF EXISTING DRIVEWAYS.



SECTION C - C
T1=6" FOR RESIDENTIAL DRIVE APPROACH AND SIDEWALK IN DRIVE ENTRANCE

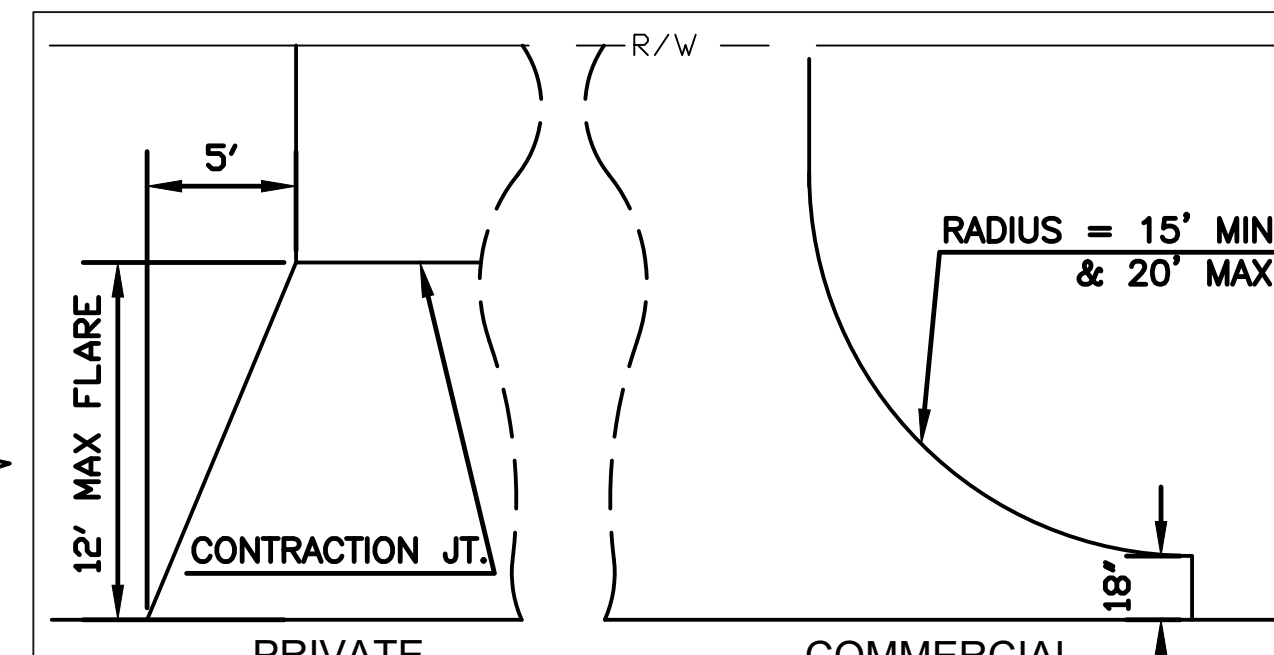


ALLEY APPROACH

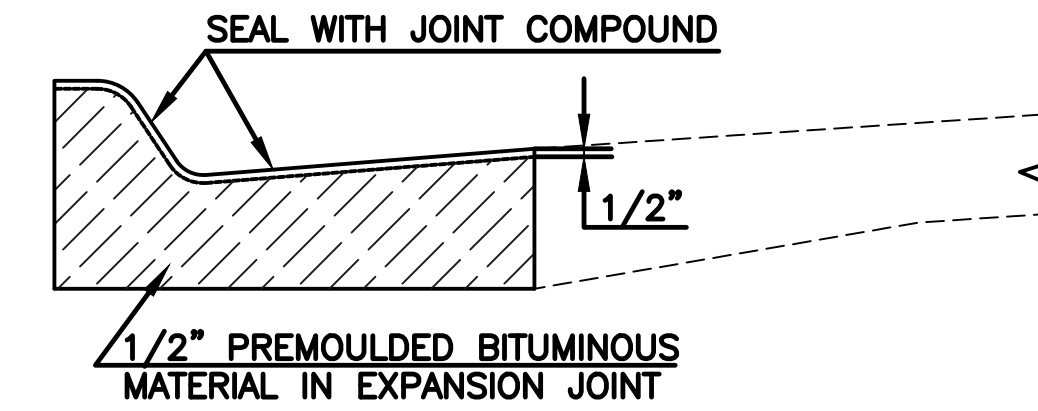


SECTION B - B

NOTES:
1. T=7" REINFORCED CONCRETE
2. WIDTH OF W WILL BE USED THROUGHOUT ON ALL ALLEY PAVING PROJECTS.
3. ALLEY RETURNS SHALL BE THE SAME THICKNESS AS THE ADJACENT STREET THICKNESS.
4. 1/2" EXP. JOINT AT EACH END OF ALLEY RETURN.

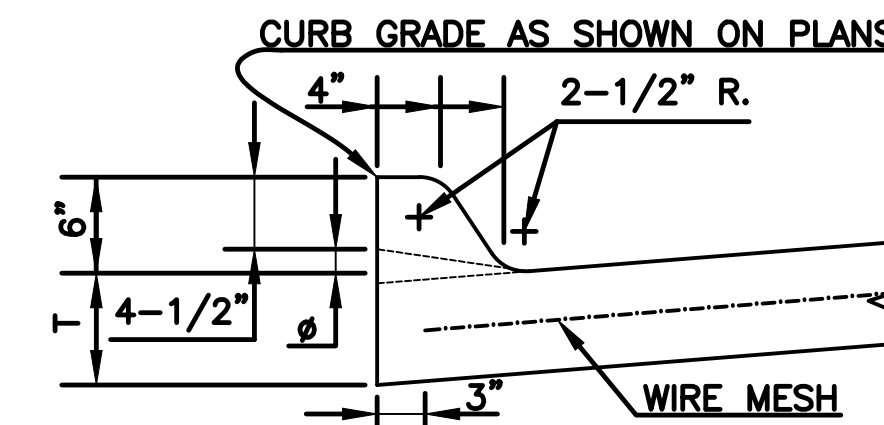


PRIVATE DRIVE APPROACHES ON AN UNIMPROVED ROADWAY

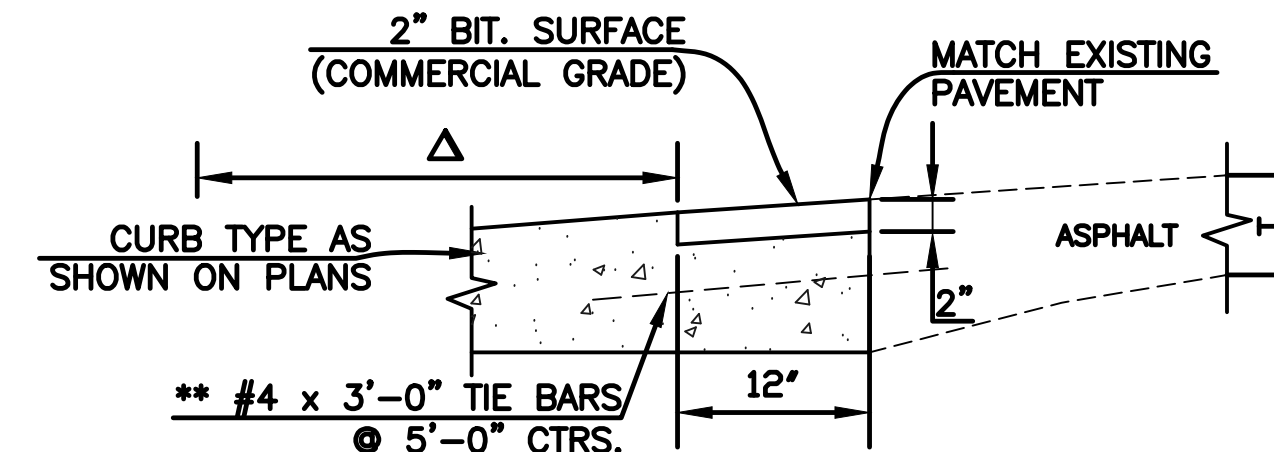


CURB AND GUTTER EXPANSION JOINT DETAILS

NOTES:
1. 1/2" EXPANSION JOINTS TO BE PLACED AT THE END OF ALL INTERSECTION RETURNS.
2. SAND IS NOT AN APPROVED FILL OR SUBGRADE MATERIAL.
3. ALL EXPANSION JOINTS SHALL BE SEALED WITH APPROVED MATERIAL.



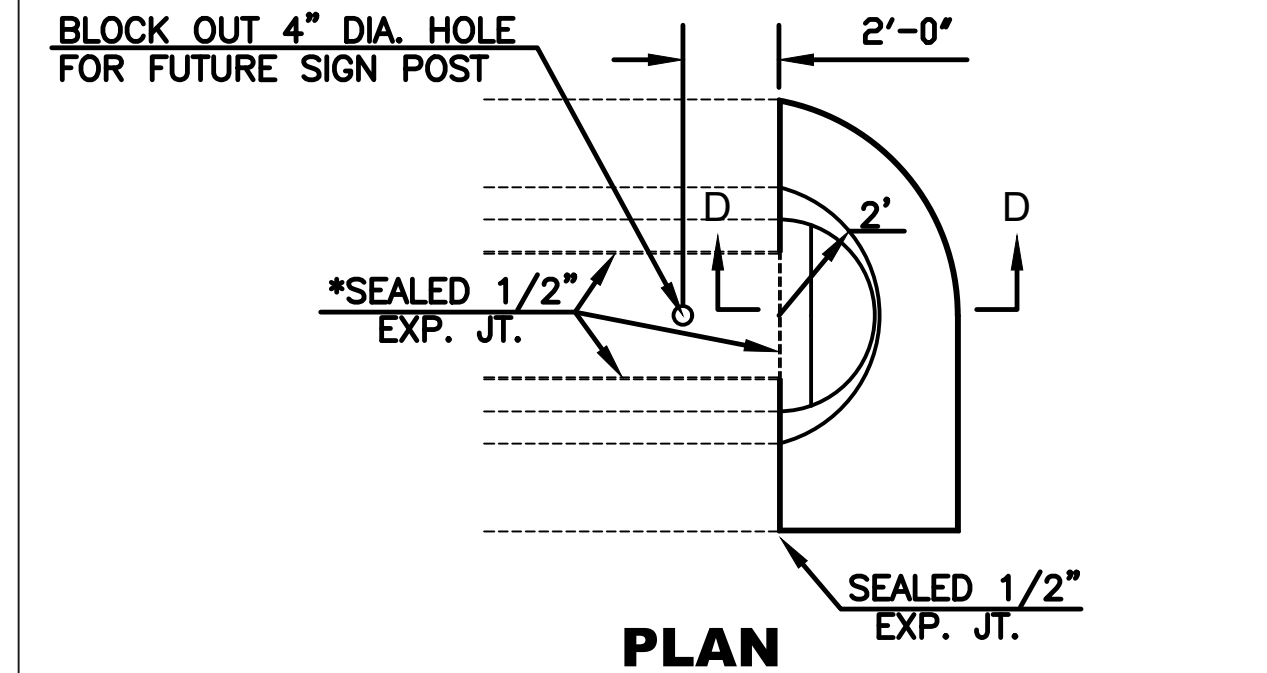
6" INTEGRAL CURB



CC&G (MODIFIED)

NOTE:
CURB AND GUTTER ABUTTING EXISTING ASPHALT

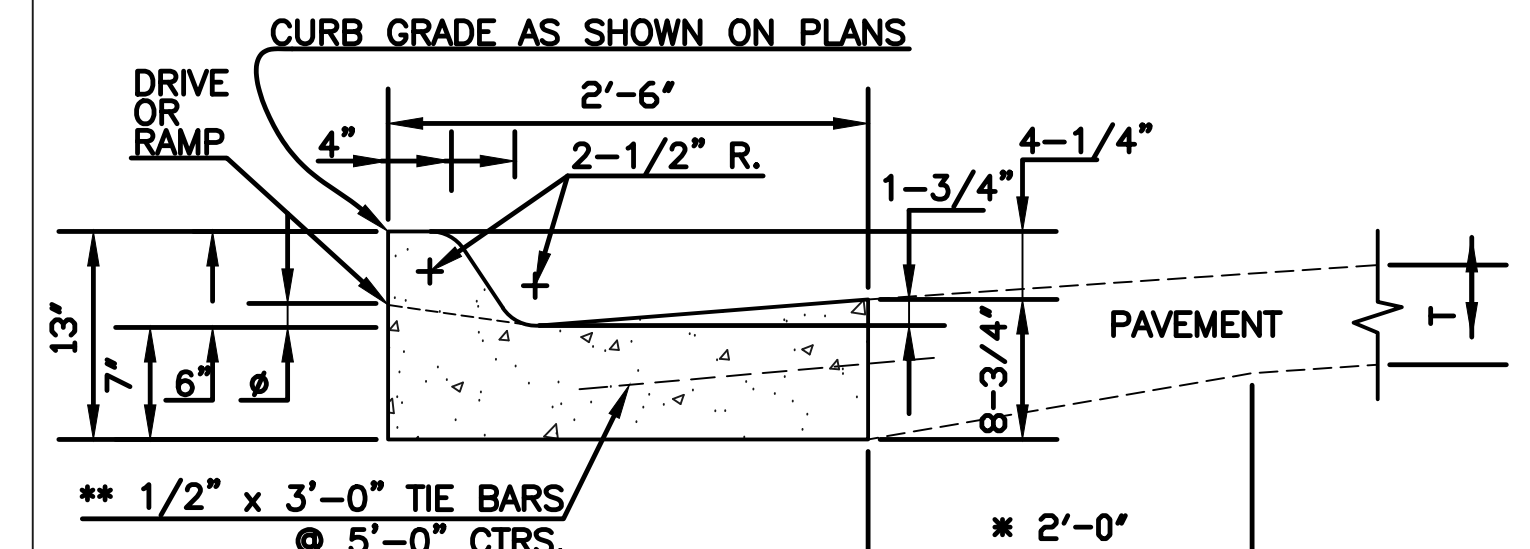
Δ DIMENSION IS FROM BACK OF CURB TO TOE, SEE APPROPRIATE DETAIL FOR CURB TYPE AS SHOWN ON PLANS



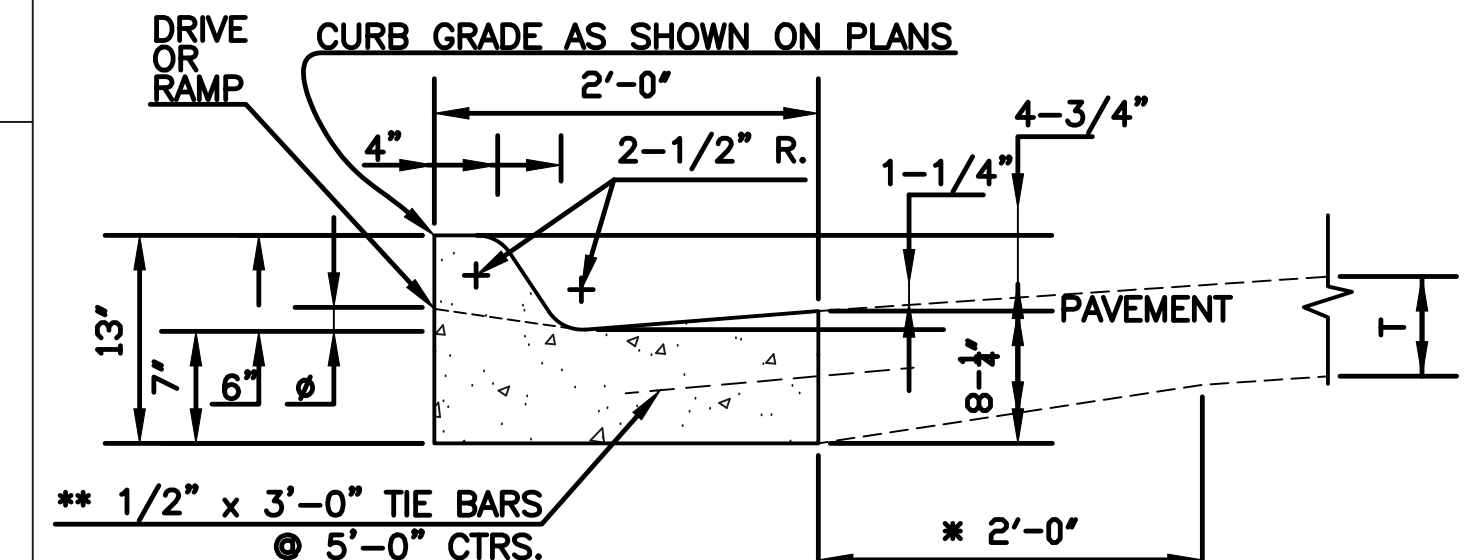
SOLID NOSE DETAILS

NOTE:
PAVEMENT CLASS CONCRETE (AE) NEEDED TO COMPLETE THE MEDIAN NOSE SHALL BE SUBSIDIARY TO THE BID ITEM FOR COMBINED CURB AND GUTTER TYPE III.

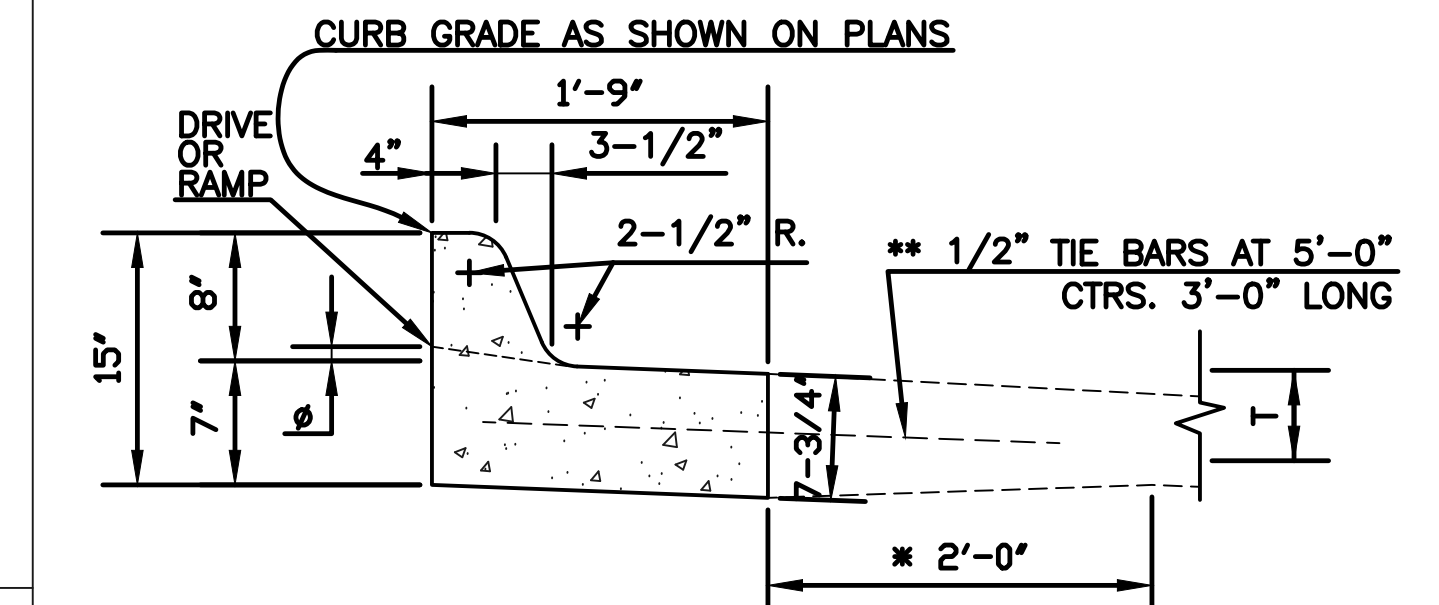
* OMIT SEALED 1/2" EXPANSION JOINT WHEN SURFACE MATERIAL USED IN MEDIAN IS OTHER THAN CONCRETE.



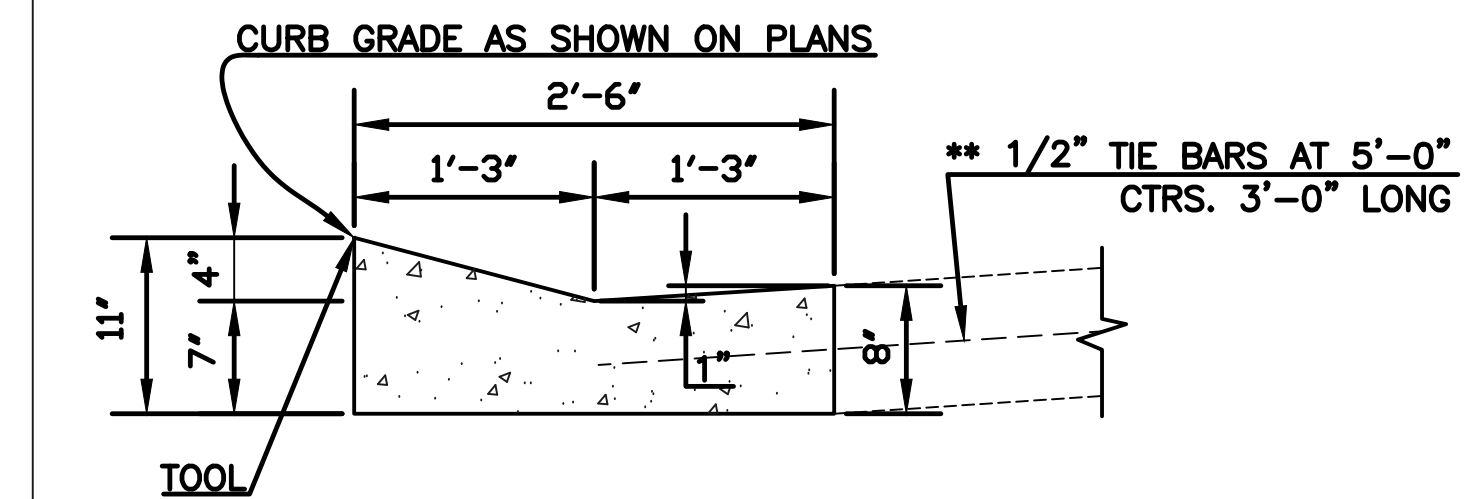
COMBINED CURB & GUTTER-TYPE I



COMBINED CURB & GUTTER-TYPE II



COMBINED CURB & GUTTER-TYPE III



LAYBACK CURB & GUTTER-TYPE IV

NOTES:
1. USE OF LAYBACK CURB AND GUTTER IS RESTRICTED TO STREET CLASSIFICATION OF SUB-COLLECTOR AND LOCAL. LAYBACK CURB AND GUTTER SHALL NOT BE USED IN INTERSECTION CURB RETURNS.
2. FOR CURB AND GUTTER ABUTTING EXISTING ASPHALT, REFER TO CC&G MODIFIED DETAIL

* THE CONTRACTOR HAS THE OPTION OF MAINTAINING OR TRANSITIONING AS SHOWN AT NO ADDITIONAL COST.

**THE TIE BARS MAY BE ELIMINATED WITH ASPHALTIC CONCRETE PAVEMENT CONSTRUCTION.

Ø 1-1/2" FOR DRIVE ENTRANCES AND 3/4" FOR SIDEWALK RAMP

NO.	DATE	REVISION	BY	APP'D
1	Feb. 2008	Mod. Com. Dr. & Alley Appr.	DHS	SB
2	Dec. 2009	Added Dr. Appr. on Unimpr. Rdwy., added flare verge, mod. S/W x-slope & remv. keyed joints from C & G.	DHS	SB
3	March 2010	Eliminated keyed jt. at Com. Drive Appr.	DHS	SB
4	Dec. 2012	Changed to tie bar from rebar	DHS	SB
5	March 2013	C&G payment @ alley appr. & bars to "	DHS	SB
NO.	DATE	REVISION	BY	APP'D

DRAWN BY: *rm/mc*

APP'D BY: *R. Christy*

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CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



CURB & GUTTER
AND
APPROACH DETAILS
(DT-003)

DATE: 05/2021

PROJ.: T-501023.15 / T-501081.01

SHEET: 23 OF 41

DTL-02



MAXIMUM ALLOWABLE DEPTH OF TRENCH (IN FEET)

REINFORCED CONCRETE PIPE (RCP)

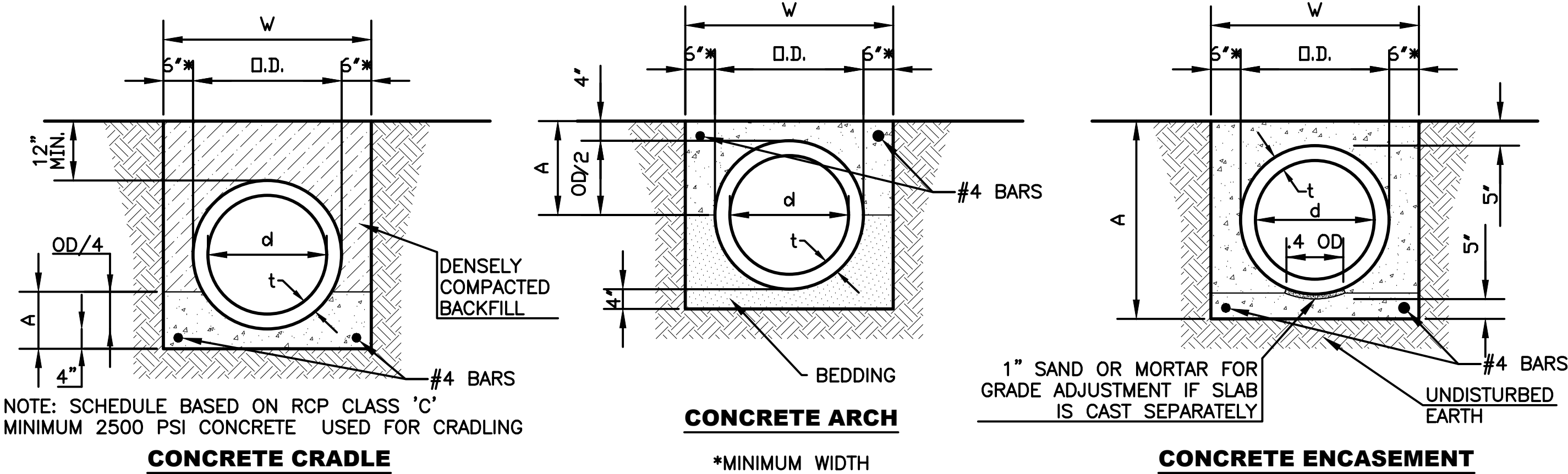
ASTM PIPE CLASS	PIPE DIAMETER (INCHES)				
	12, 15, 18, 21	24, 27, 30, 36	42, 48, 54	60, 66, 72	78, 84
II	8	11	12	15	17
III	11	14	16	18	21
IV	20	22	23	25	27

CORRUGATED STEEL PIPE (CSP), ALUMINIZED STEEL TYPE 2

PIPE DIAMETER (INCHES)	HEIGHT OF COVER ABOVE TOP OF PIPE (FEET) (H-20 LOADING)					
	CSP			CSPA		
	1 - 10	11 - 15	16 - 20	1 - 2	2 - 9	
	2.66x.5	3x1	2.66x.5	3x1	2.66x.5	3x1
12	16 ga.		16 ga.		16 ga.	
15	16 ga.		16 ga.		16 ga.	
18	16 ga.		16 ga.		16 ga.	
21	16 ga.		16 ga.		16 ga.	
24	16 ga.		16 ga.		16 ga.	
27	16 ga.		16 ga.		16 ga.	
30	16 ga.		16 ga.		16 ga.	
33	16 ga.		16 ga.		16 ga.	
36	16 ga.	16 ga.	16 ga.	16 ga.	16 ga.	16 ga.
42	14 ga.	16 ga.	14 ga.	16 ga.	14 ga.	16 ga.
48	14 ga.	16 ga.	14 ga.	16 ga.	14 ga.	16 ga.
54	12 ga.	14 ga.	12ga.	14 ga.	12 ga.	14 ga.
60	10 ga.	14 ga.	10 ga.	14 ga.	10 ga.	14 ga.
66	10 ga.	14 ga.	10 ga.	14 ga.	10 ga.	14 ga.
72	10 ga.	14 ga.	10 ga.	14 ga.	10 ga.	14 ga.
78		14 ga.		14 ga.		14 ga.
84		12 ga.		12 ga.		12 ga.
90		12 ga.		12 ga.		12 ga.
96		12 ga.		12 ga.		12 ga.

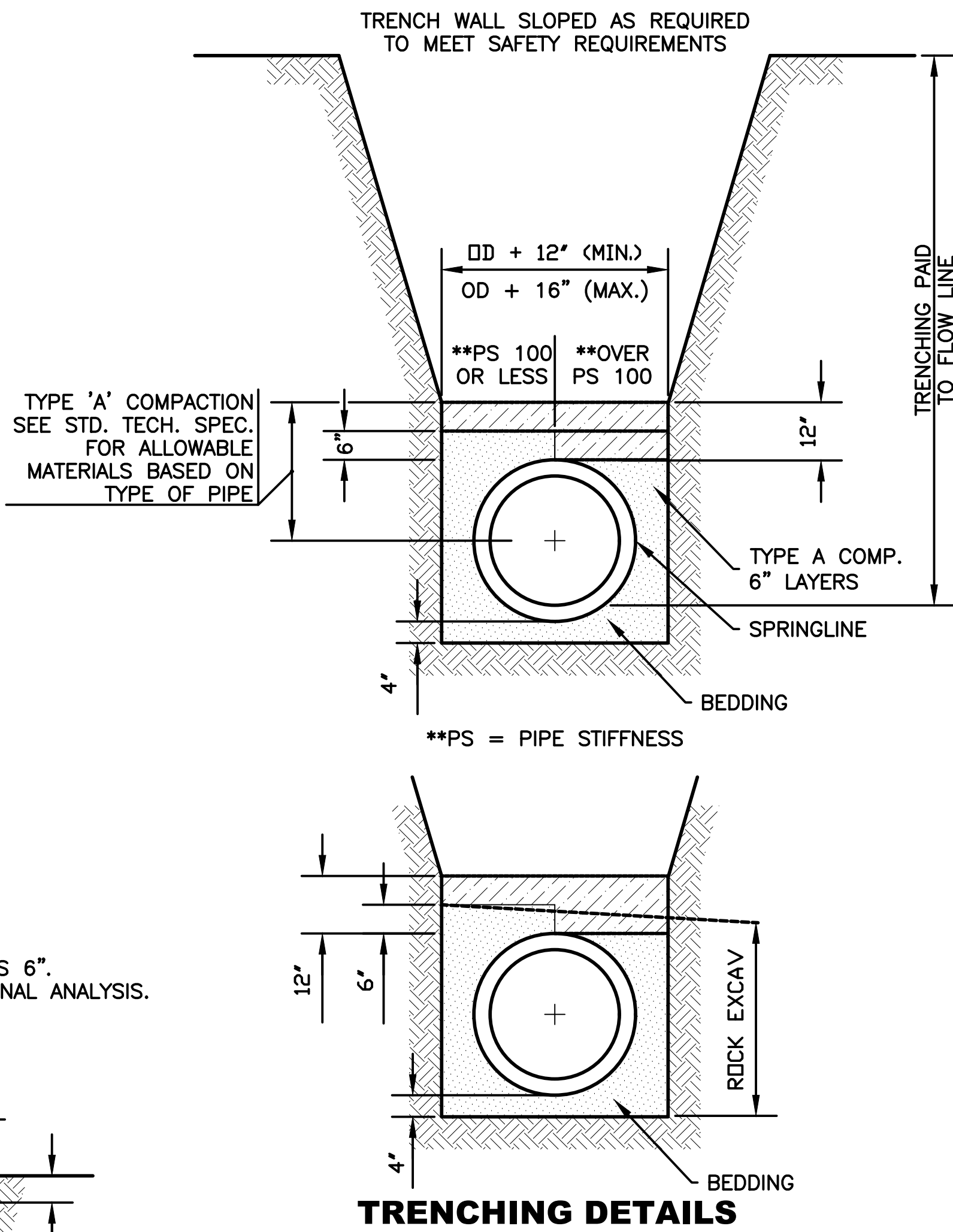
END AREA (SF)	DIMENSIONS: SPAN x RISE	1 - 2	2 - 9
2.66x.5	3x1	2.66x.5	3x1
1.1	17x13	16 ga.	16 ga.
1.6	21x15	16 ga.	16 ga.
2.2	24x18	16 ga.	16 ga.
2.8	28x20	16 ga.	16 ga.
4.4	35x24	14 ga.	14 ga.
6.4	42x29	14 ga.	14 ga.
8.7	49x33	12 ga.	12 ga.
11.4	57x38	12 ga.	12 ga.
14.3	64x43	12 ga.	14 ga.
17.6	71x47	10 ga.	14 ga.
21.3	73x55	14 ga.	14 ga.
25.3	81x59	14 ga.	14 ga.
	87x63	14 ga.	14 ga.
	95x67	12 ga.	12 ga.
	103x71	12 ga.	12 ga.
	112x75	12 ga.	12 ga.

NOTE: MAXIMUM PIPE INTRUSION INTO STRUCTURE IS 6".
UNIQUE STRUCTURES MIGHT REQUIRE ADDITIONAL ANALYSIS.
ENGINEER APPROVAL REQUIRED.



d	t	O.D.	W	CRADLE	ARCH	ENCASE.
IN.	IN.	IN.	IN.	IN. CY/FT	IN. CY/FT	IN. CY/FT
15	2.25	19.5	31.5	8.9 .057	13.8 .073	29.5 .162
18	2.50	23.0	34.0	9.8 .067	15.5 .086	33.0 .190
21	2.75	26.5	38.5	10.6 .077	17.3 .100	36.5 .220
24	3.00	30.0	42.0	11.5 .089	19.0 .114	40.0 .250
27	3.25	33.5	45.5	12.4 .100	20.8 .129	43.5 .282
30	3.50	37.0	49.0	13.3 .113	22.5 .145	47.0 .316
33	3.75	40.5	52.5	14.1 .126	24.3 .162	50.5 .351
36	4.00	44.0	56.0	15.0 .140	26.0 .179	54.0 .387
42	4.50	51.0	63.0	16.8 .169	29.5 .215	61.0 .463
48	5.00	58.0	70.0	18.5 .200	33.0 .254	68.0 .545
54	5.50	65.0	77.0	20.3 .234	36.5 .296	75.0 .632
60	6.00	72.0	84.0	22.0 .270	40.0 .341	82.0 .724

SCHEDULE FOR CONCRETE CRADLE, CONCRETE ARCH, AND CONCRETE ENCASEMENT FOR STORM SEWERS



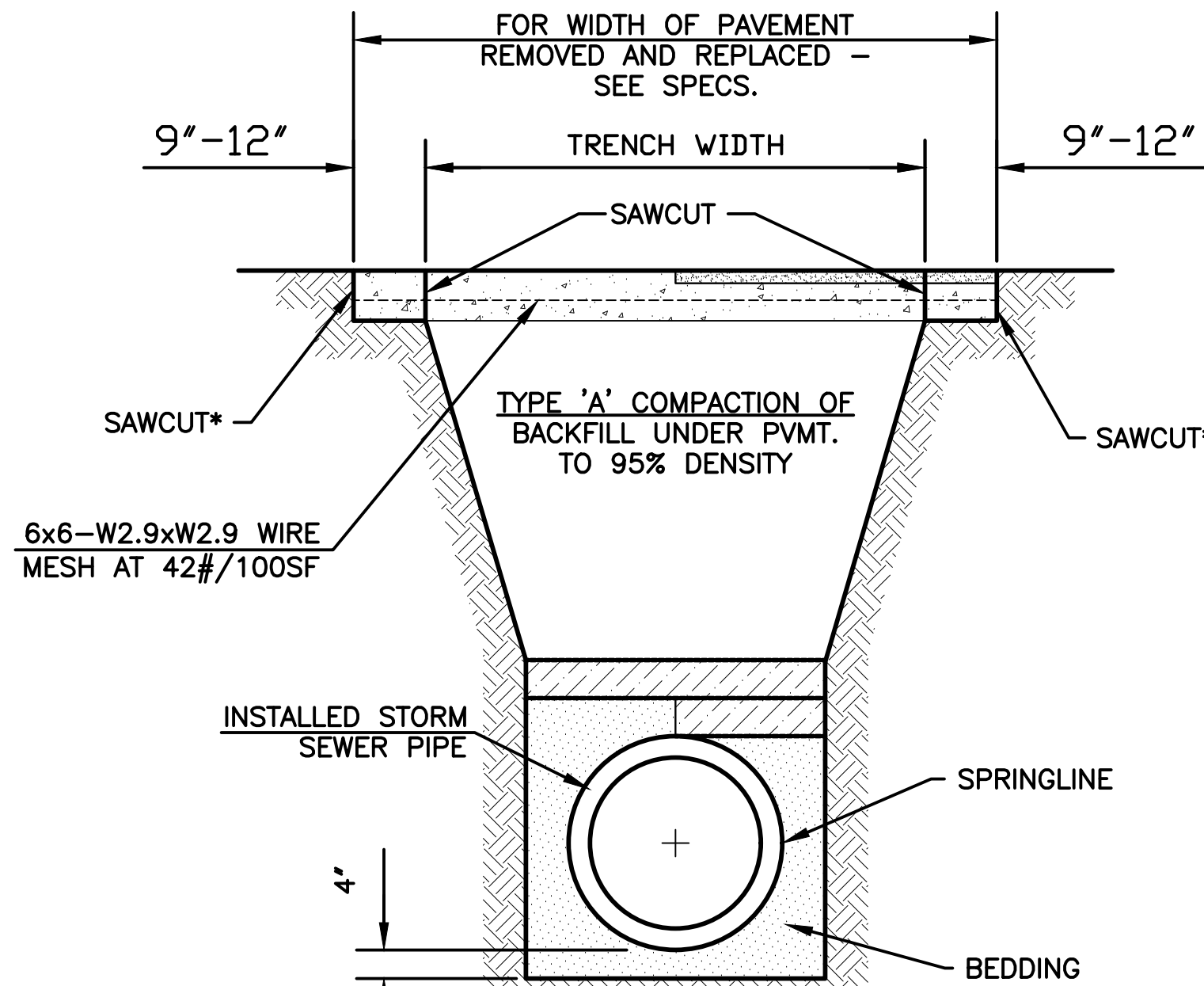
- NOTES:
1. THE TRENCH SHALL BE EXCAVATED TO 4" BELOW BOTTOM OF THE PIPE BARREL & BACKFILLED AS SHOWN ABOVE WITH AN APPROVED BEDDING MATERIAL.
 2. WHEN THE SEWER IS TO BE INSTALLED IN ROCK, THE TRENCH IS TO BE EXCAVATED TO A MINIMUM DEPTH OF 4" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED IN 6" COMPACTED LAYERS WITH AN APPROVED BEDDING MATERIAL AS SHOWN ABOVE. THE ROCK EXCAVATED TO BE PAID AS A SEPARATE BID ITEM. THE EMBEDMENT, IN ALL CASES, TO BE INCLUDED IN THE PRICE BID PER TRENCH, EXCAVATION, AND BACKFILL.

STANDARDS FOR SETTING LINE AND GRADE FOR SEWER CONSTRUCTION:

1. STAKES, SPIKES, SHINERS, OR CROSSES SET BY TRANSIT AT THE SURFACE ON AN OFFSET FROM THE SEWER CENTER LINE.
2. STAKES ARE TO BE SET IN THE TRENCH BOTTOM ON THE SEWER LINE AS THE ROUGH GRADE FOR SEWER IS COMPLETED.
3. ELEVATIONS GIVEN TO THE FINISHED TRENCH GRADE AND SEWER INVERT, WHILE SEWER LAYING PROGRESSES.

STANDARD METHODS FOR TRANSFERRING LINE AND GRADE TO SEWER TRENCH BOTTOM:

1. ELECTRONIC LASER EQUIPMENT-STAKING SHALL BE AT 25' INTERVALS FOR THE FIRST 100' AND EVERY 100' THEREAFTER UNTIL THE NEXT MANHOLE IS REACHED.
2. BATTER BOARDS AND BATTER BOARD SUPPORTS-STAKING SHALL BE EVERY 25'.



INSTALLATION OF SEWER UNDER EXISTING PAVEMENT

PAVEMENT SHALL BE SAWED AND REMOVED WITHOUT DAMAGE TO ADJACENT PAVEMENT.

PAVEMENT PLACEMENT SCHEDULE

SCHEDULE TO BE USED UNLESS OTHERWISE NOTED ON PLANS.

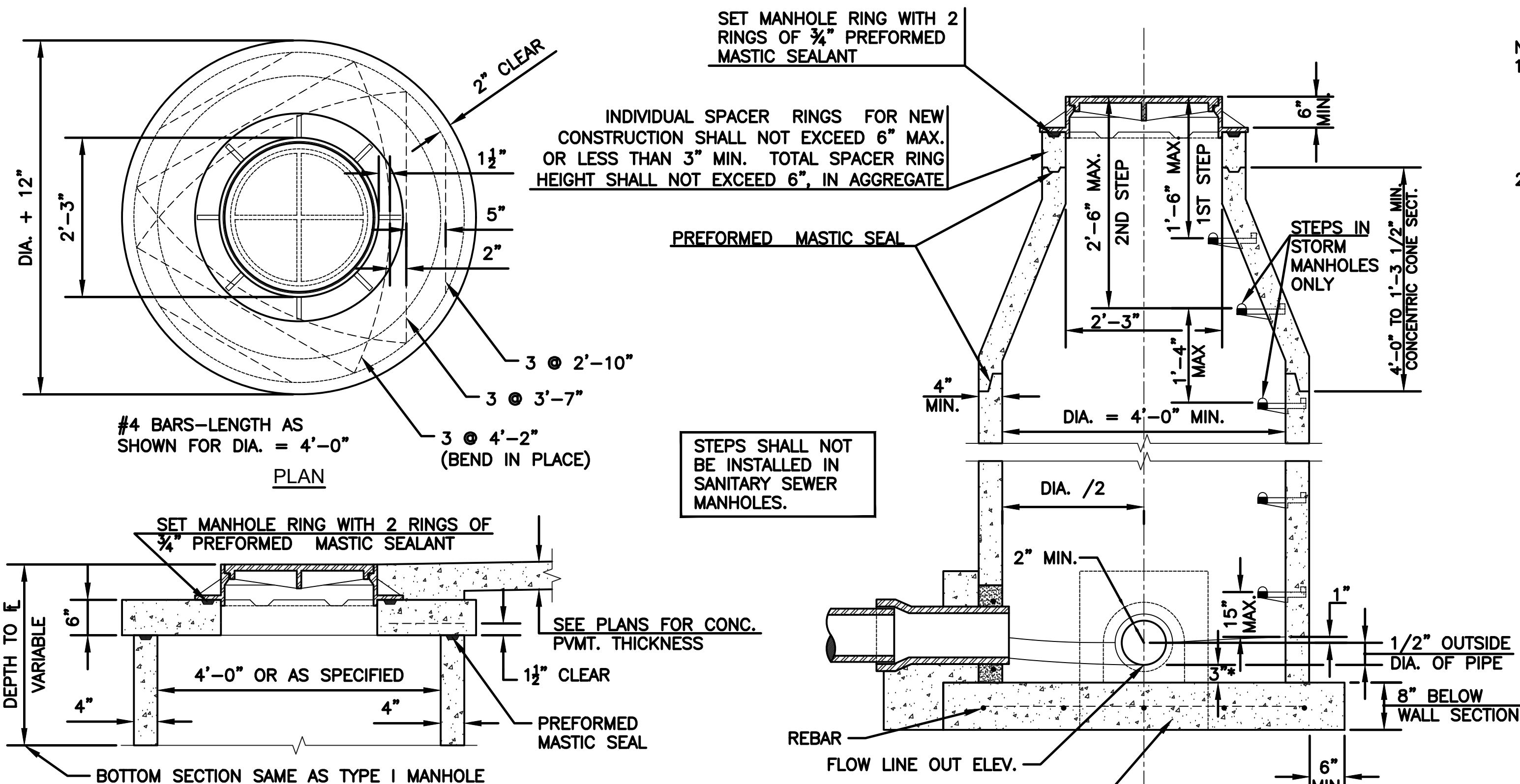
ORIGINAL SURFACE	NEW PAVEMENT
CONCRETE	8" REINFORCED CONCRETE 4,000psi
BRICK OVER CONCRETE	7" REINFORCED CONC.BASE 4,000psi PLUS ONE-COURSE RELAID BRICK.
ASPHALT	MATCH EXISTING PAVEMENT THICKNESS WITH A MINIMUM OF 6" HOT-MIX ASPHALTIC CONCRETE.
ASPHALT OVER CONCRETE	7" REINFORCED CONCRETE BASE 4000 psi PLUS 2" HOT MIX ASPHALTIC CONCRETE. 7" REINFORCED CONCRETE BASE SHALL BE JOINED TO ADJACENT PAVEMENT. SEE "FULL PANEL REPAIR & UTILITY CUTS FOR CONCRETE PAVEMENT" DETAIL AS SHOWN ON MISCELLANEOUS DETAILS I (DT-017). THE WEARING SURFACE WILL CONFORM TO CITY/COUNTY STANDARD SPECIFICATIONS.
BRICK OVER BRICK/SUBGRADE	7" HOT-MIX ASPHALTIC CONCRETE PLUS ONE-COURSE RE-LAID BRICK.

PAVEMENT SHALL BE SAWED AND REMOVED WITHOUT DAMAGE TO ADJACENT PAVEMENT.

* SECOND PAVEMENT CUT TO BE MADE AND PAVEMENT REMOVED AFTER TRENCH IS PROPERLY BACKFILLED.

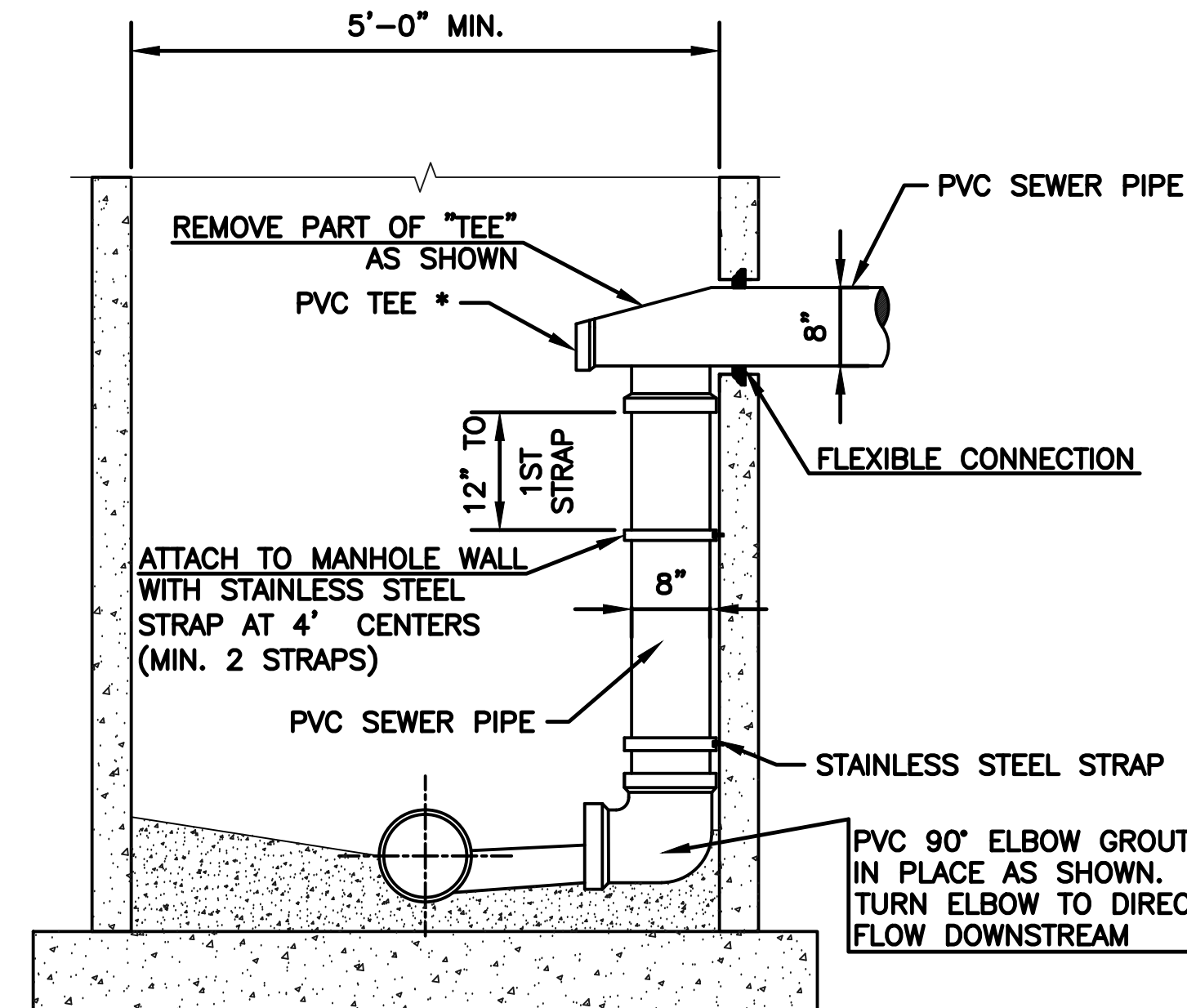
** CONCRETE PAVEMENT SHALL BE JOINED TO ADJACENT CONCRETE PAVEMENT AS PER "FULL PANEL REPAIR AND UTILITY CUTS FOR CONCRETE PAVEMENT" AS SHOWN ON MISCELLANEOUS DETAILS I (DT-017).

- NOTES:
1. THE TRENCH SHALL BE EXCAVATED TO 4" BELOW BOTTOM OF THE PIPE BARREL & BACKFILLED AS SHOWN ABOVE WITH AN APPROVED BEDDING MATERIAL.
 2. WHEN THE SEWER IS TO BE INSTALLED IN ROCK, THE TRENCH IS TO BE EXCAVATED TO A MINIMUM DEPTH OF 4" BELOW THE BOTTOM OF THE PIPE AND BACKFILLED IN 6" COMPACTED LAYERS WITH AN APPROVED BEDDING MATERIAL AS SHOWN. THE ROCK EXCAVATED TO BE PAID AS A SEPARATE BID ITEM. THE EMBEDMENT, IN ALL CASES, TO BE INCLUDED IN THE PRICE BID PER TRENCH, EXCAVATION, AND BACKFILL.



NOTES:

1. STAINLESS STEEL STRAPS (11 GAUGE — .1196") THICK x 1 1/2" WIDE SHALL BE COMPLETELY AROUND THE PIPE AND ATTACHED TO MANHOLE WALL WITH STAINLESS STEEL BOLTS AND ANCHORS. BOLTS SHALL BE 3/8" DIA. x 2" MIN. LENGTH AND ANCHORS SHALL BE 3/8" INSIDE DIA. x 2 1/4" LENGTH. HOLE SHALL BE DRILLED INTO MANHOLE WALL TO A DEPTH OF 2-1/2" AND LARGE ENOUGH IN DIA. TO ACCEPT ANCHORS.
2. THIS DETAIL IS VALID ONLY FOR A SINGLE 8" INSIDE DROP IN A 5' DIA. MANHOLE, RECEIVING AN 8" DIA. SEWER. A SPECIAL DETAIL IS REQUIRED FOR ANY OTHER CONDITIONS.



DETAIL OF MANHOLE CASTINGS

CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF "SPECIFICATIONS FOR GRAY IRON CASTINGS" IN ACCORDANCE WITH A.S.T.M. A 48, CLASS 35B.

MINIMUM TENSILE STRENGTH OF EACH CASTING SHALL BE AT LEAST 30,000 PSI.

AVERAGE WT. COVER 185 LBS., RING 220 LBS. VARIATION IN WEIGHT WILL NOT EXCEED THE SPECIFIED WEIGHTS BY MORE THAN 4%.

CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY MORE THAN 1/16" PER FOOT.

SEATING SURFACES OF CASTINGS SHALL BE MACHINED AS REQUIRED TO PREVENT ROCKING.

ALL CASTINGS SHALL BE FURNISHED IN BARE METAL AND SHALL HAVE MANUFACTURER'S NAME CAST INTO CASTING.

CASTINGS SHALL CONFORM TO THE PROVISIONS OF UNITED STATES CUSTOMS REGULATIONS. CASTING MANUFACTURER SHALL CARRY AT LEAST \$3,000,000 PRODUCT LIABILITY INSURANCE.

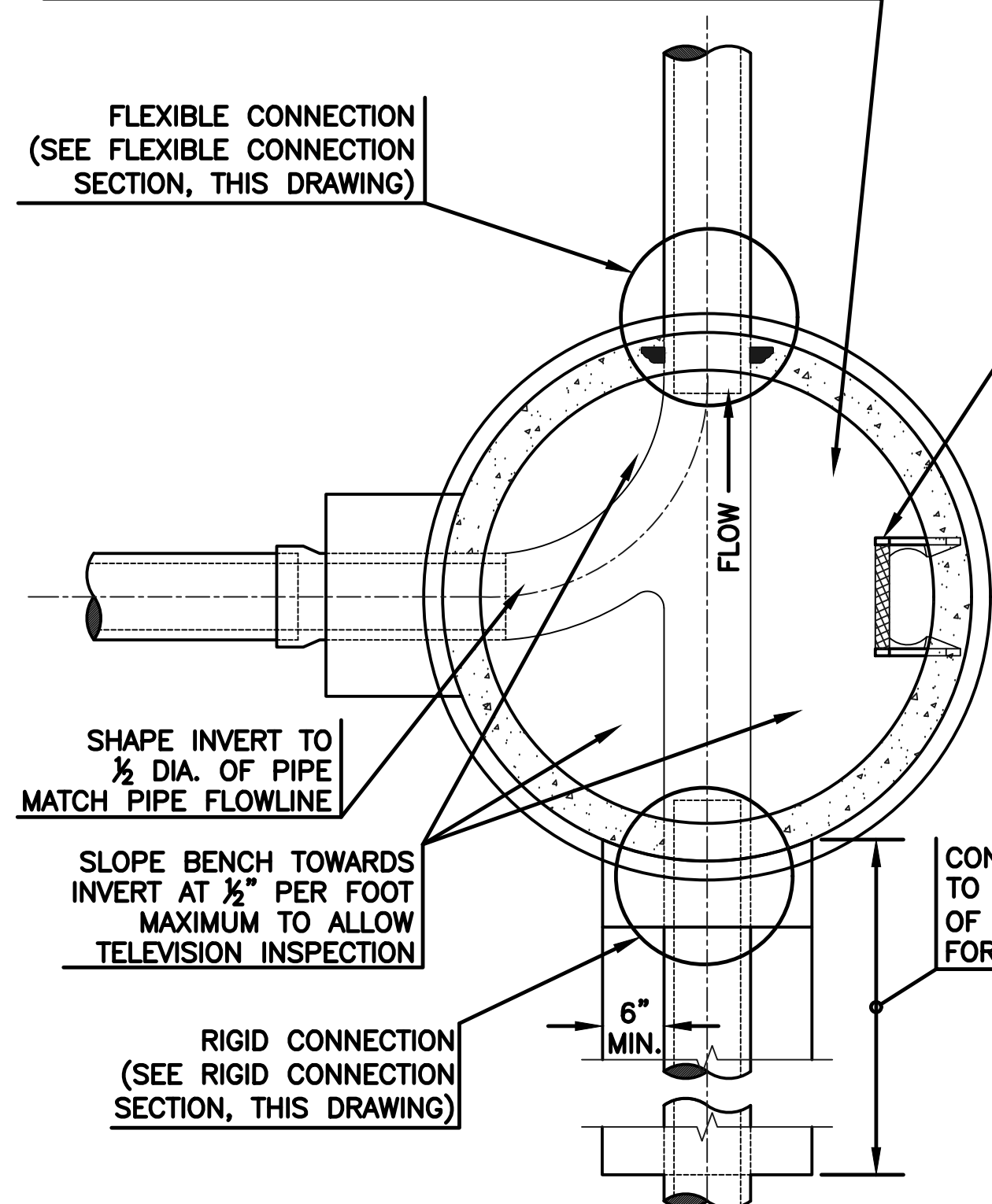
TO INSURE CONFORMANCE TO TENSILE STRENGTH REQUIREMENTS, THE FOLLOWING PROCEDURE WILL BE FOLLOWED FOR EACH LOT OF CASTINGS USED ON CITY OF TOPEKA PROJECTS.

A. ALL CASTINGS SHALL BE JULIAN HEAT DATED.

B. TWO TEST BAR SPECIMENS MUST BE POURED WHEN PRODUCING CITY OF TOPEKA CASTINGS. TEST BAR SPECIMENS SHALL BE DELIVERED TO PURCHASER.

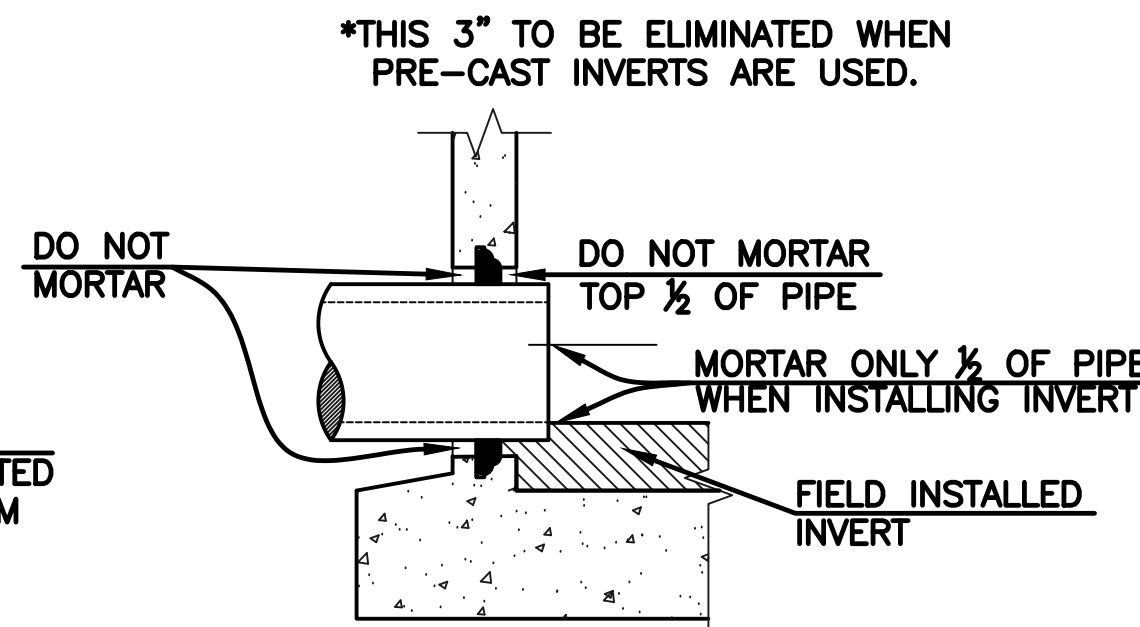
C. TEST REPORT FROM A CITY APPROVED INDEPENDENT LABORATORY VERIFYING TENSILE STRENGTH CHEMISTRY OR BRINELL HARDNESS SHALL ACCOMPANY EACH SHIPMENT OF CASTINGS. IF REQUESTED TEST REPORT SHALL BE PAID FOR BY THE SUPPLIER. THE HEAT DATE(S) ON CASTINGS SHALL CORRESPOND TO THE TENSILE STRENGTH REPORT(S).

PIPE CUT TO SECTION REQUIRED TO BE USED FOR CHANNEL THRU MANHOLE OR A NEATLY FORMED CHANNEL CONFORMING TO SECTION OF PIPE MAY BE USED.



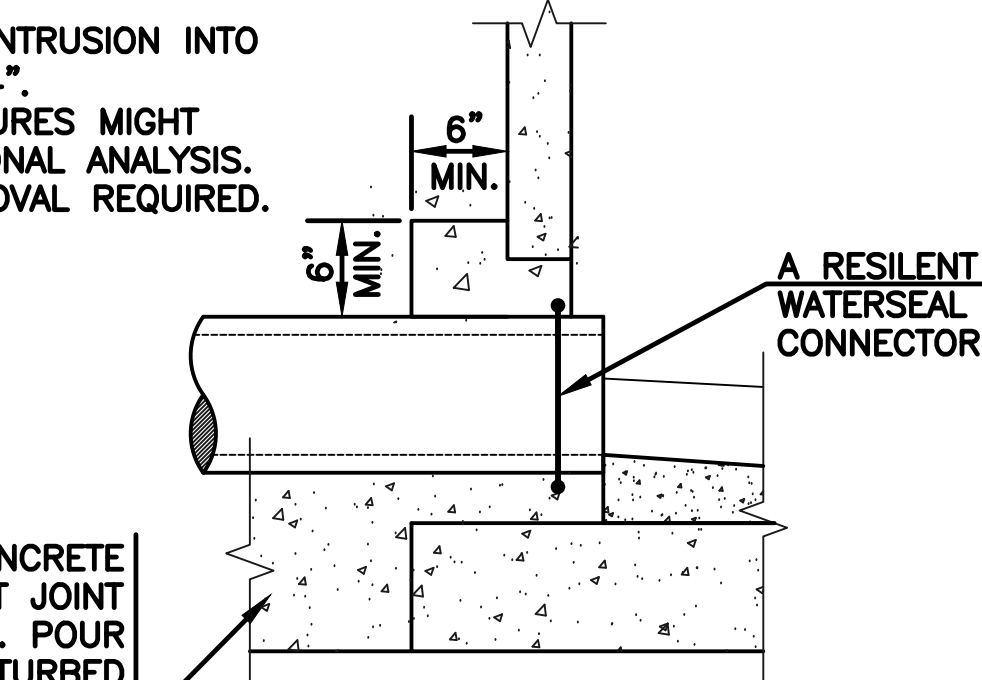
STEPS TO BE ALIGNED VERTICALLY AND LOCATED OVER BENCH IN STORM MANHOLES ONLY

NOTE: MAXIMUM PIPE INTRUSION INTO STRUCTURE IS 4". UNIQUE STRUCTURES MIGHT REQUIRE ADDITIONAL ANALYSIS. ENGINEER APPROVAL REQUIRED.



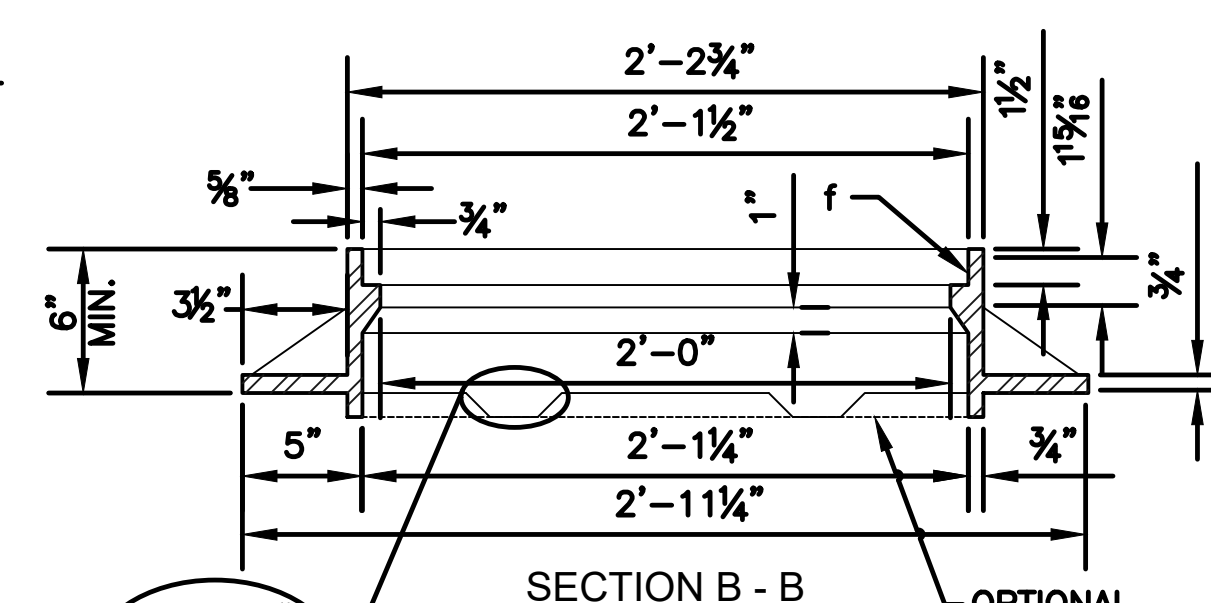
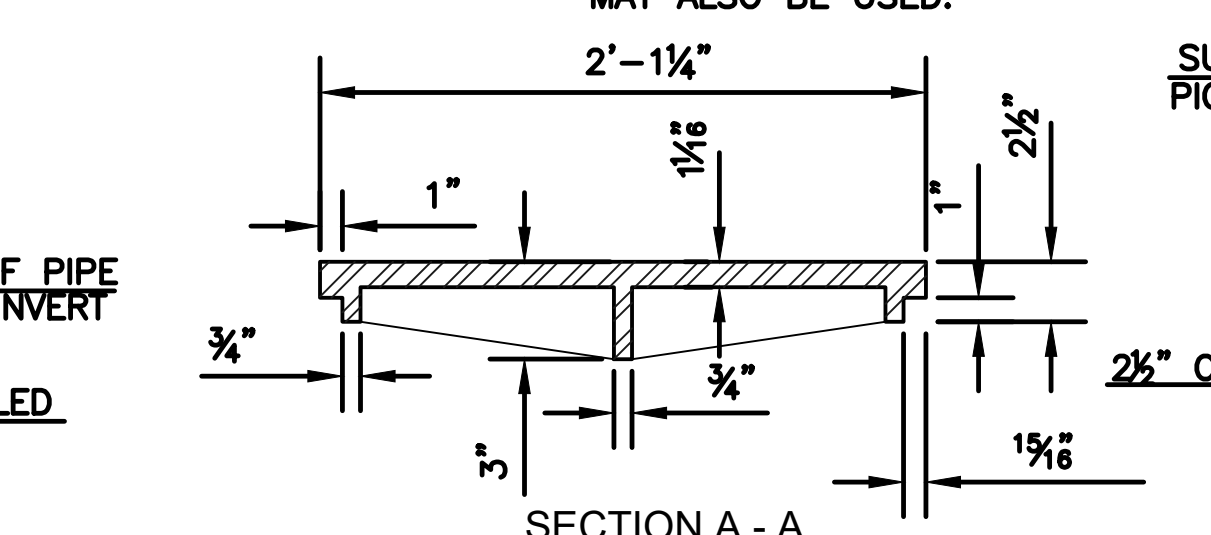
RIGID CONNECTION SECTION

RIGID CONNECTIONS SHALL BE USED FOR CERTAIN EXISTING MANHOLE CONNECTIONS AT ENGINEER'S DISCRETION.



PRE-CAST STANDARD MANHOLE TYPE I

*THIS 3" TO BE ELIMINATED WHEN PRE-CAST INVERTS ARE USED.



ANCHOR TO BE LUGS AT 60 DEG. PTS. OR SOLID RING AROUND PERIMETER.

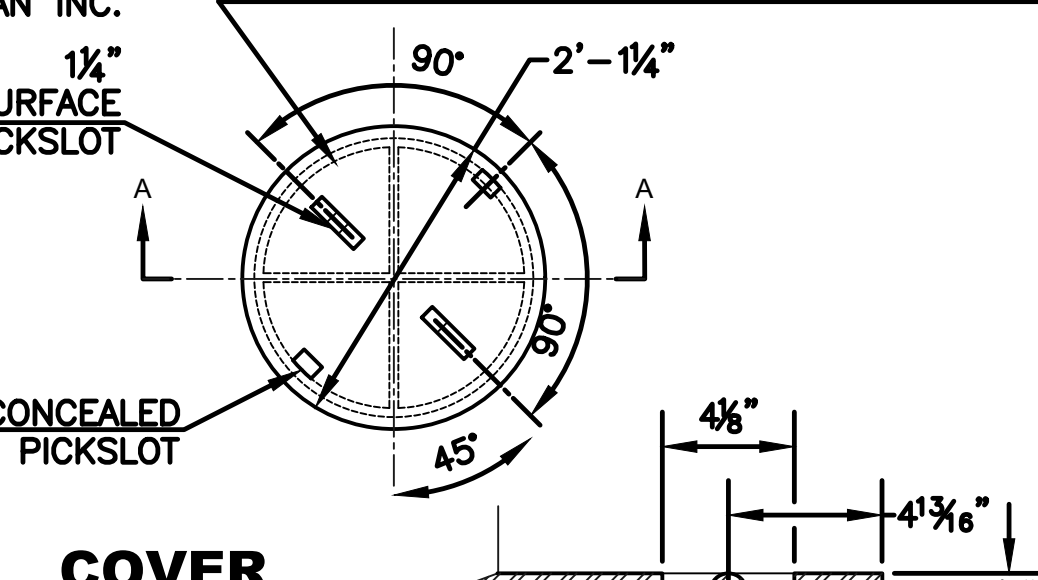
MANHOLE CONSTRUCTION NOTES

ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.

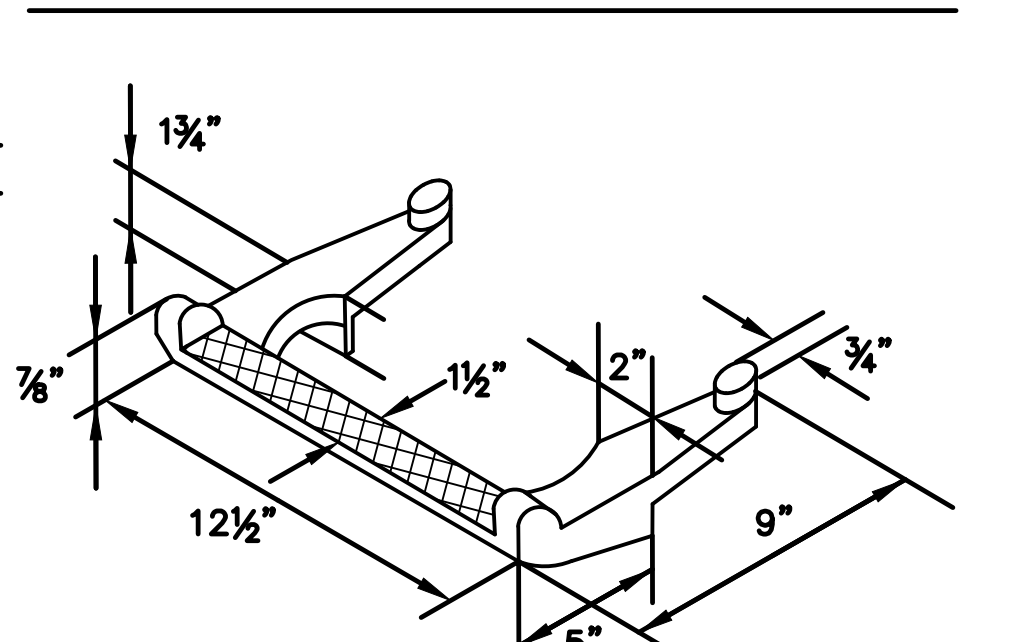
TOP OF 8" FLOOR SLAB TO BE 3" MIN. BELOW FLOW LINE ELEV. OF THE OUTLET PIPE TO INSURE SUFFICIENT MIN. THICKNESS OF SHAPED INVERT.

ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO A.S.T.M. DESIGNATION C478

"CITY OF TOPEKA SANITARY SEWER" CAST IN 2 1/2" BLOCK LETTERS AROUND CIRCUMFERENCE OF ALL COVERS INTENDED FOR WASTE WATER USE OR "CITY OF TOPEKA STORMWATER" IF INTENDED FOR STORMWATER USE



CONCEALED PICKSLOT DETAIL



DETAIL OF CAST IRON MANHOLE STEP

(FOR PRECAST MANHOLE TO BE USED IN STORM SEWER SYSTEMS ONLY)

VESTAL MANUFACTURING NO. 918-P, CLAY AND BAILEY NO. 2115, NEENAH NO. R-1981-1 OR EQUAL AS FURNISHED BY MANUFACTURER OF PRECAST MANHOLE.

COPOLYMER POLYPROPYLENE PLASTIC STEP, PS1-PF or PS2-PF, MANUFACTURED BY M.A. IND. INC. OR APPROVED EQUAL MAY BE USED AS AN ALTERNATE TO DETAILED CASTING. THIS STEP MAY BE CAST IN PLACE OR INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDED INSTALLATION PROCEDURE.

NO.	DATE	REVISION	BY	APP'D
5	June 2018	Ext pipe into MHe, Added max intr note	DHS	JVH
4	March 2014	Added rebar to cast-in-place base dwg	DHS	JH
3	March 2013	Cleaned up text at Pre-Cast MH detail	DHS	SB
2	Dec. 2009	Mod. drop notes & added Storm. to MH	DHS	SB
1	Feb. 2008	Mod. MH Bot. Plan, Rigid Sect. & Inside Dr	DHS	SB
NO.	DATE	REVISION	BY	APP'D

DRAWN BY: *mm/mc*

APP'D BY: *R. Christy*

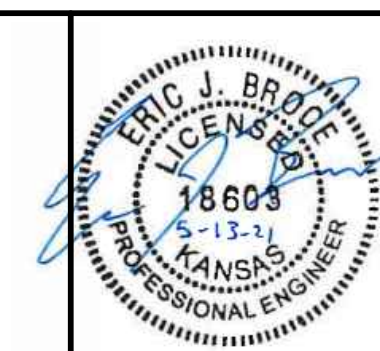
Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.

CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



STANDARD MANHOLE DETAILS

(DT-005)

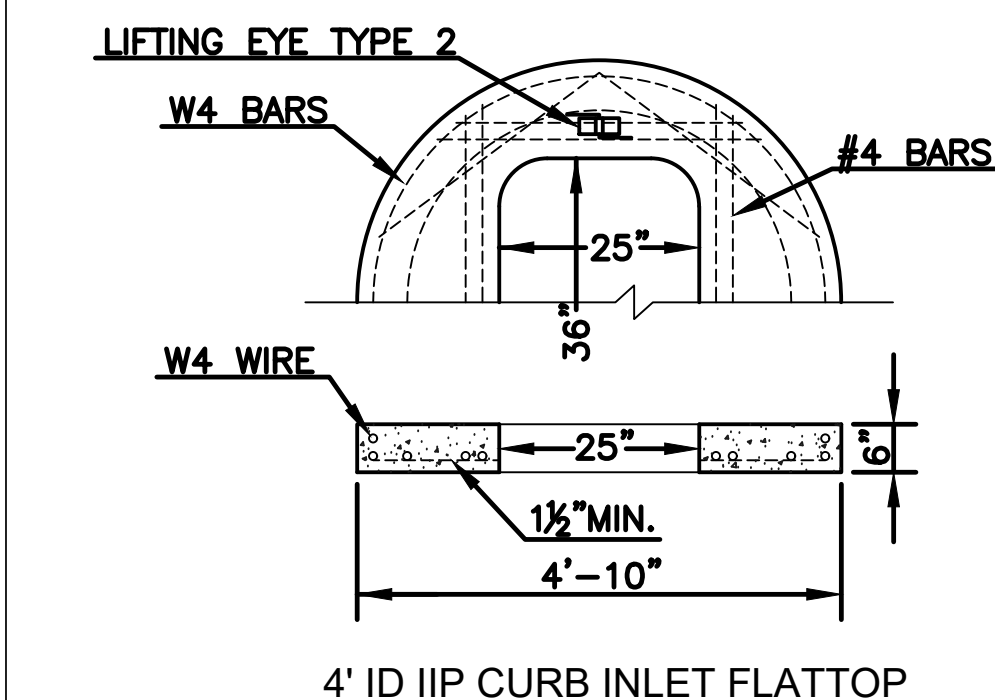
DATE: 05/2021

PROJ.: T-501023.15 / T-501081.01

SHEET: 26 OF 41

DTL-05

PRECAST INLET BOX RISER



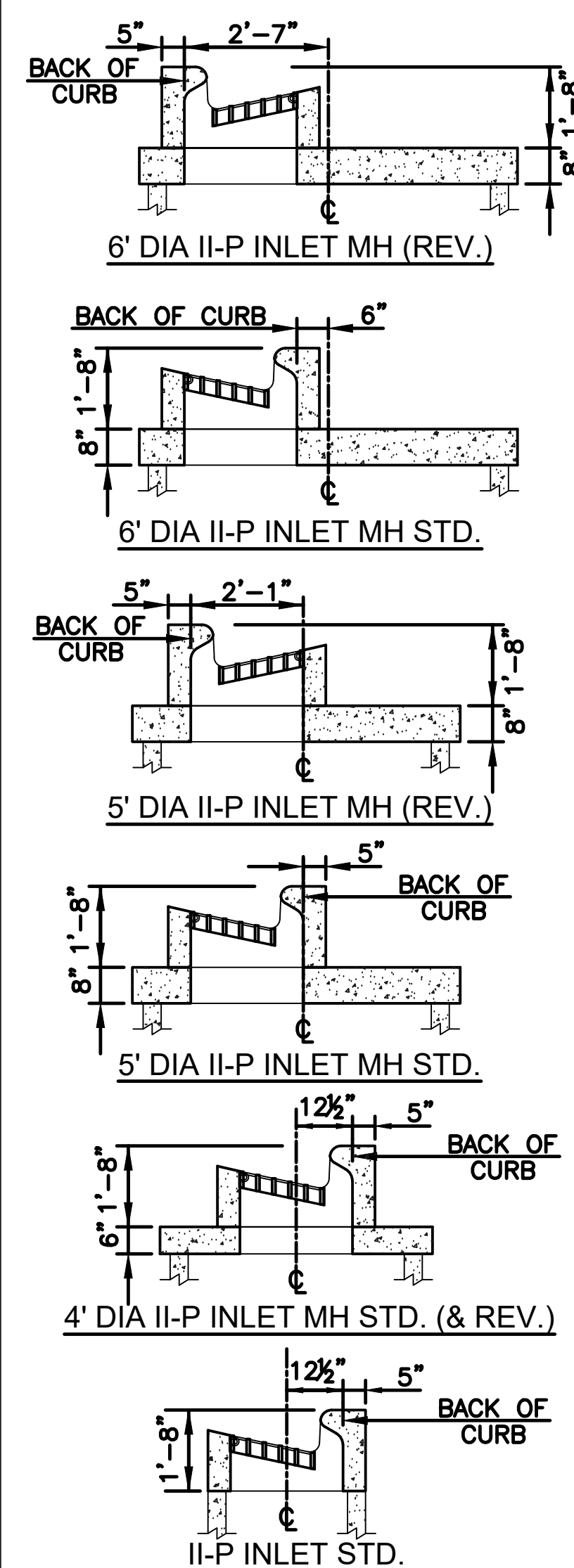
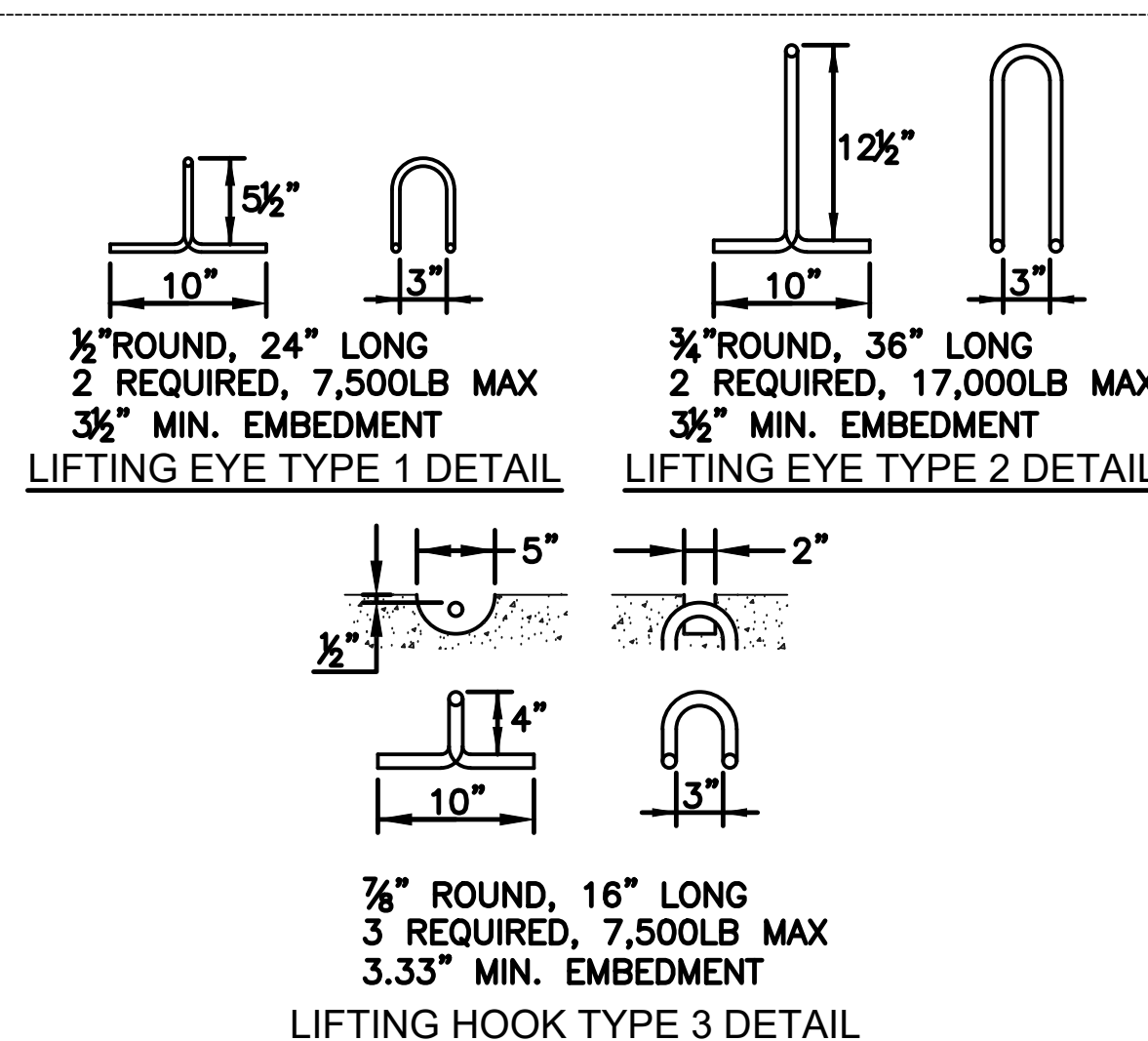
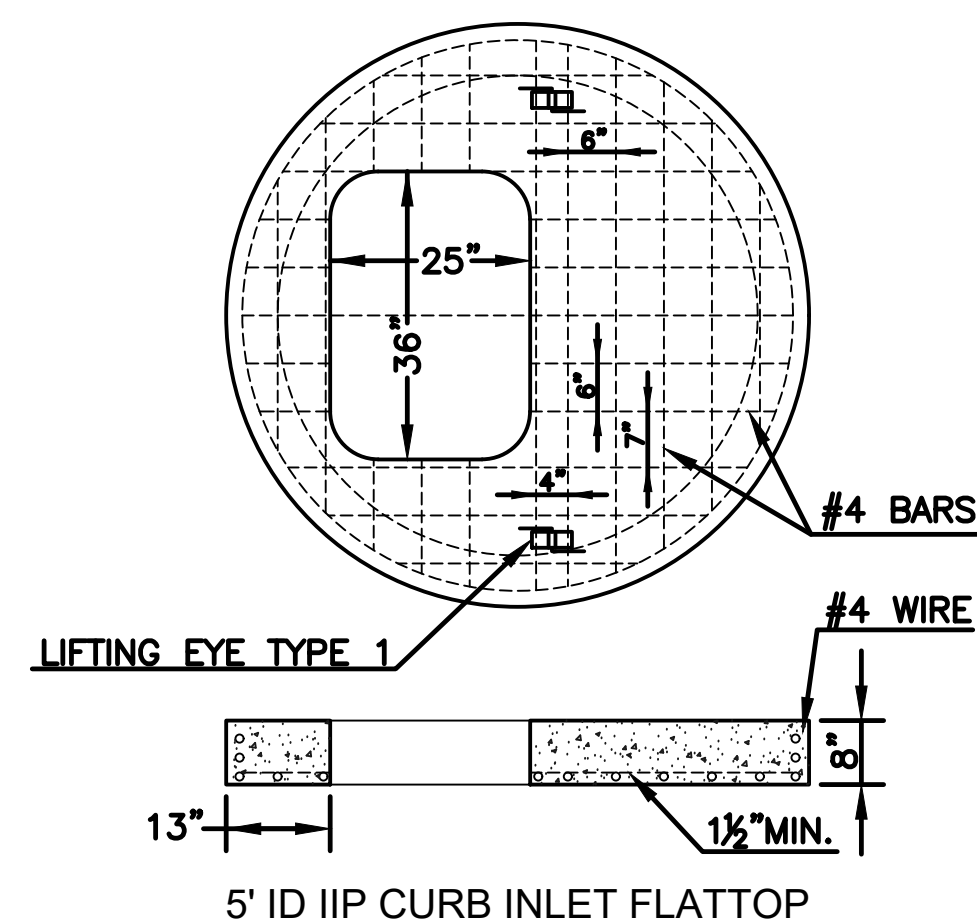
PRECAST INLET MANHOLE TOP NOTES

1. ALL REINFORCING SHALL BE #4 BARS
EXCEPT AS NOTED
2. ALL CLEARANCE SHALL BE 1-1/2" EXCEPT
AS NOTED
3. REQUIRED, 7,500LB MAX
3.33" MIN. EMBEDMENT
- LIFTING HOOK TYPE 3 DETAIL

PRECAST INLET MANHOLE RISER NOTES

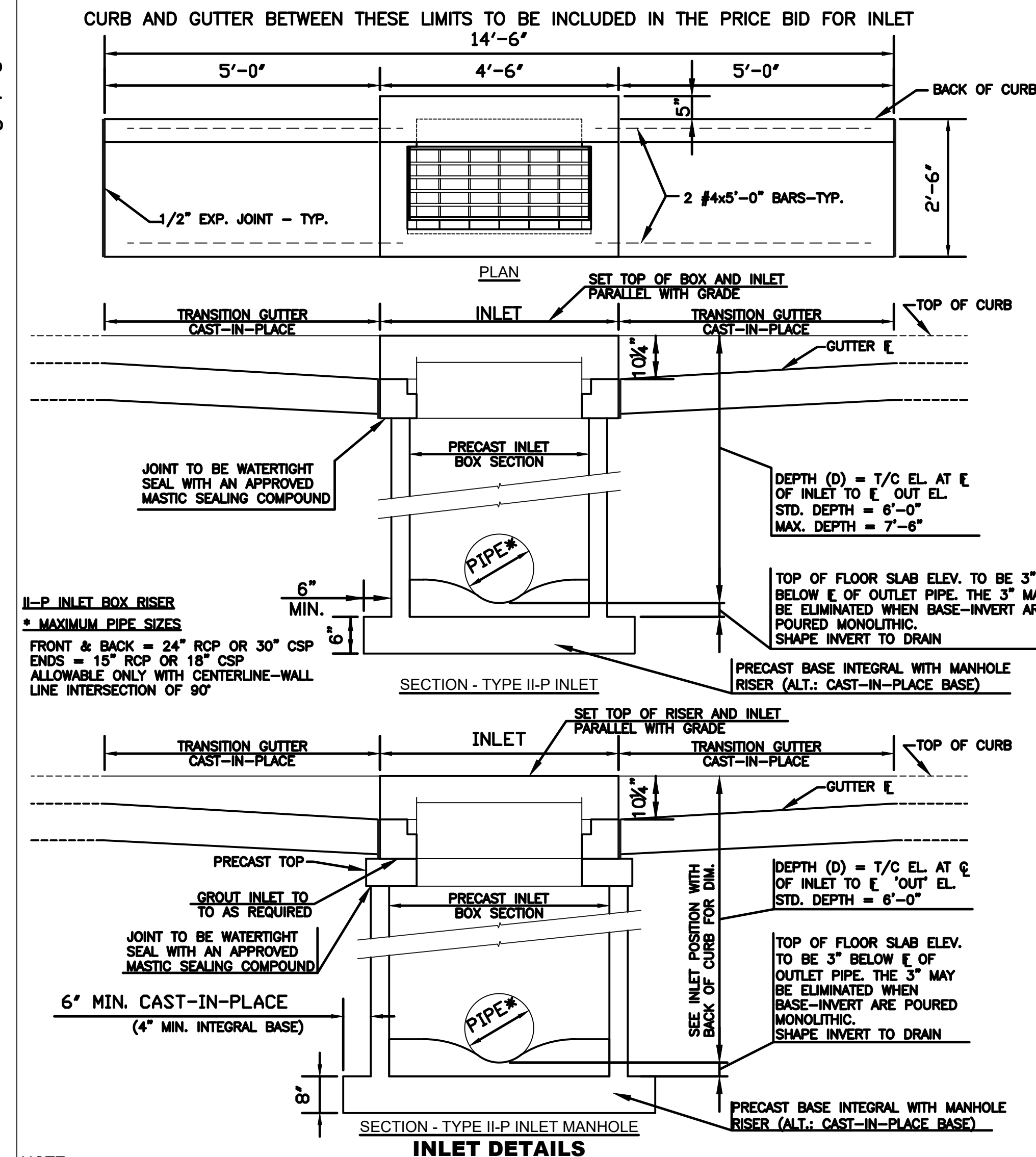
1. ALL MANHOLE RISER SECTIONS SHALL CONFORM TO A.S.T.M. 478-80.
2. ALL MANHOLE CONSTRUCTION SHALL BE WATERTIGHT.
3. STEPS SHALL BE PS1-PF OR PS2-PF AS MANUFACTURED BY M.A. INDUSTRIES INC. OF APPROVED EQUAL AND SHALL BE PLACED TO PROVIDE EASY ACCESS TO MANHOLE AT 16" O.C. MAX. WHILE MAINTAINING VERT. ALIGNMENT.

PRECAST INLET MANHOLE RISER & TOP



INLET POSITIONS WITH BACK OF CURB

NOTE:
THE BOTTOM SECTION OF ALL CAST-IN-PLACE MANHOLES AND PRECAST MANHOLES NOT BUILT MONOLITHICALLY WITH THE BASE SHALL BE SET INTO A STEEL REINFORCED (#4 @ 12" E.W.) CONCRETE BASE (4,000 PSI) A MINIMUM OF 4 INCHES. IN THIS CASE, THE BASE THICKNESS SHALL BE INCREASED BY 4 INCHES.

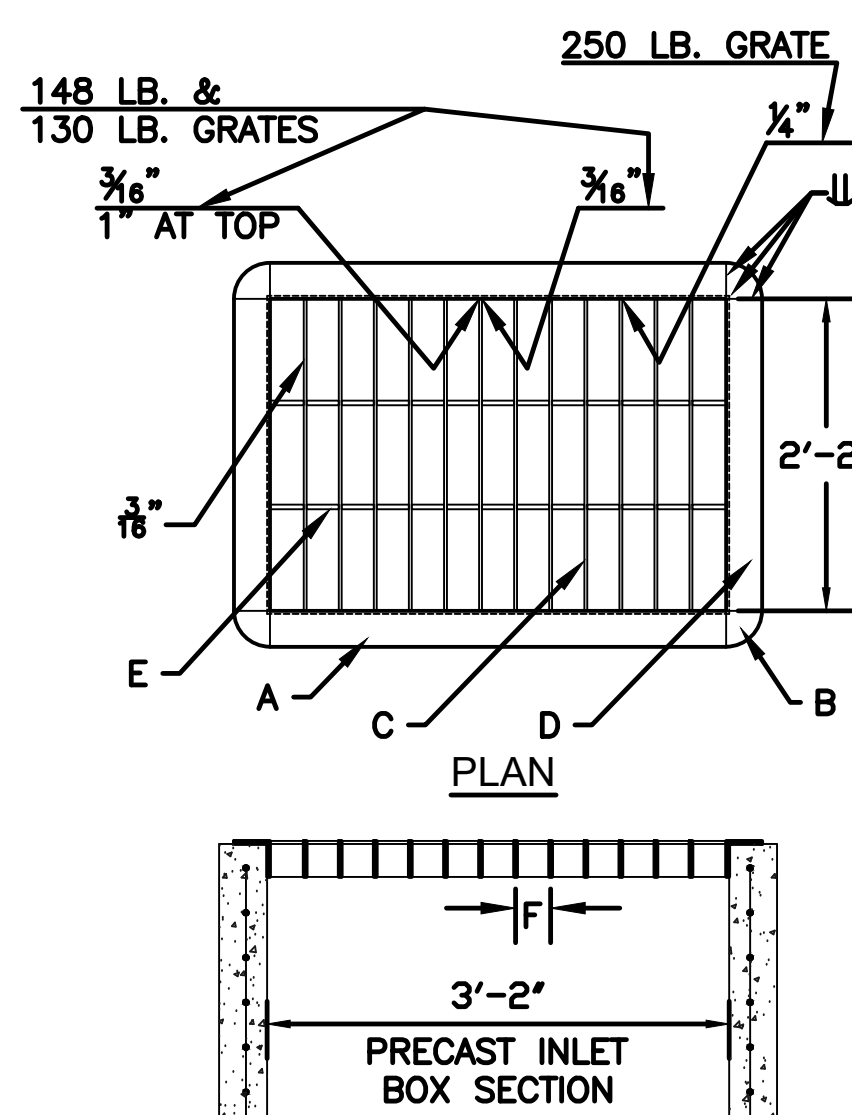


INLET DETAILS

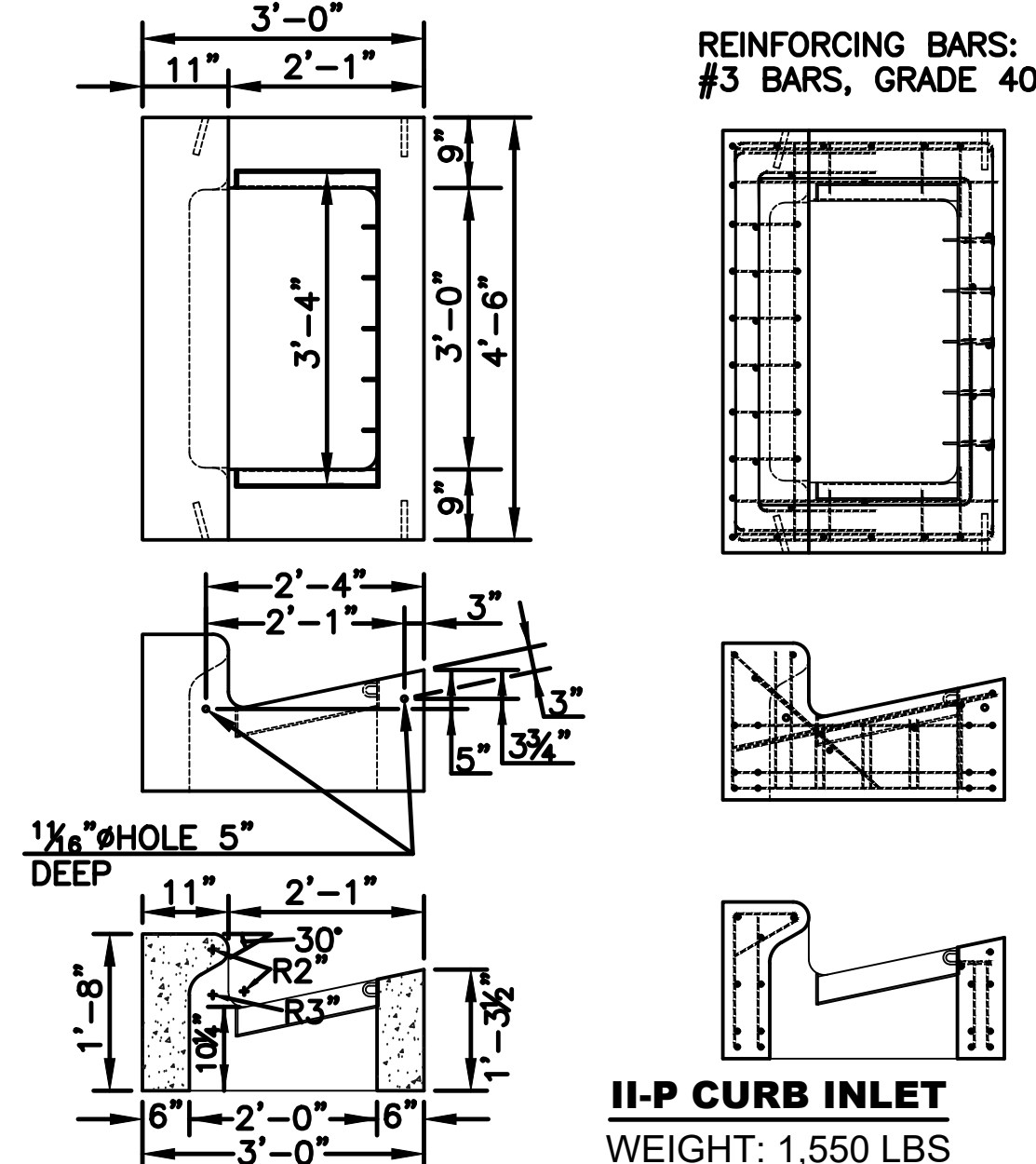
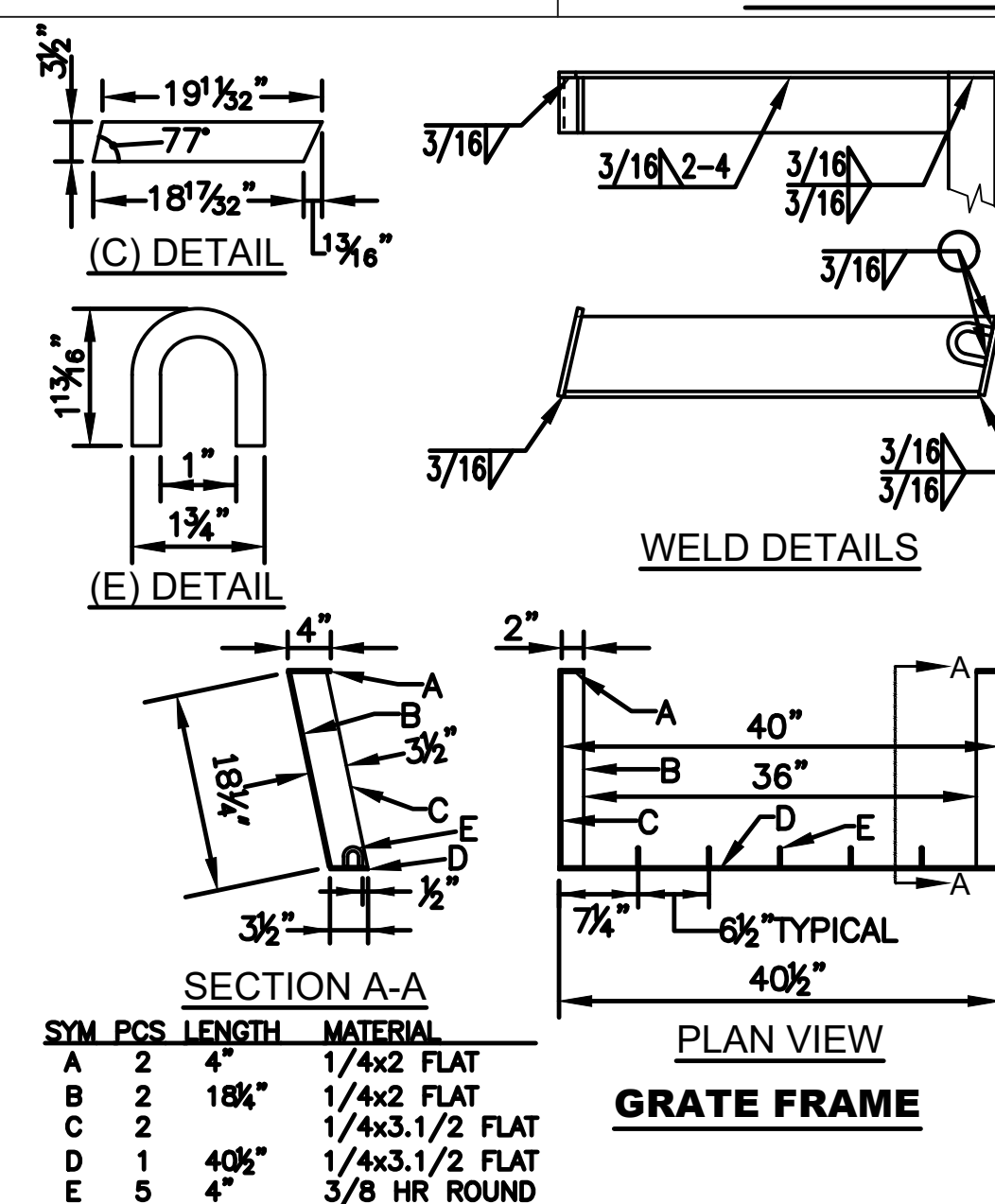
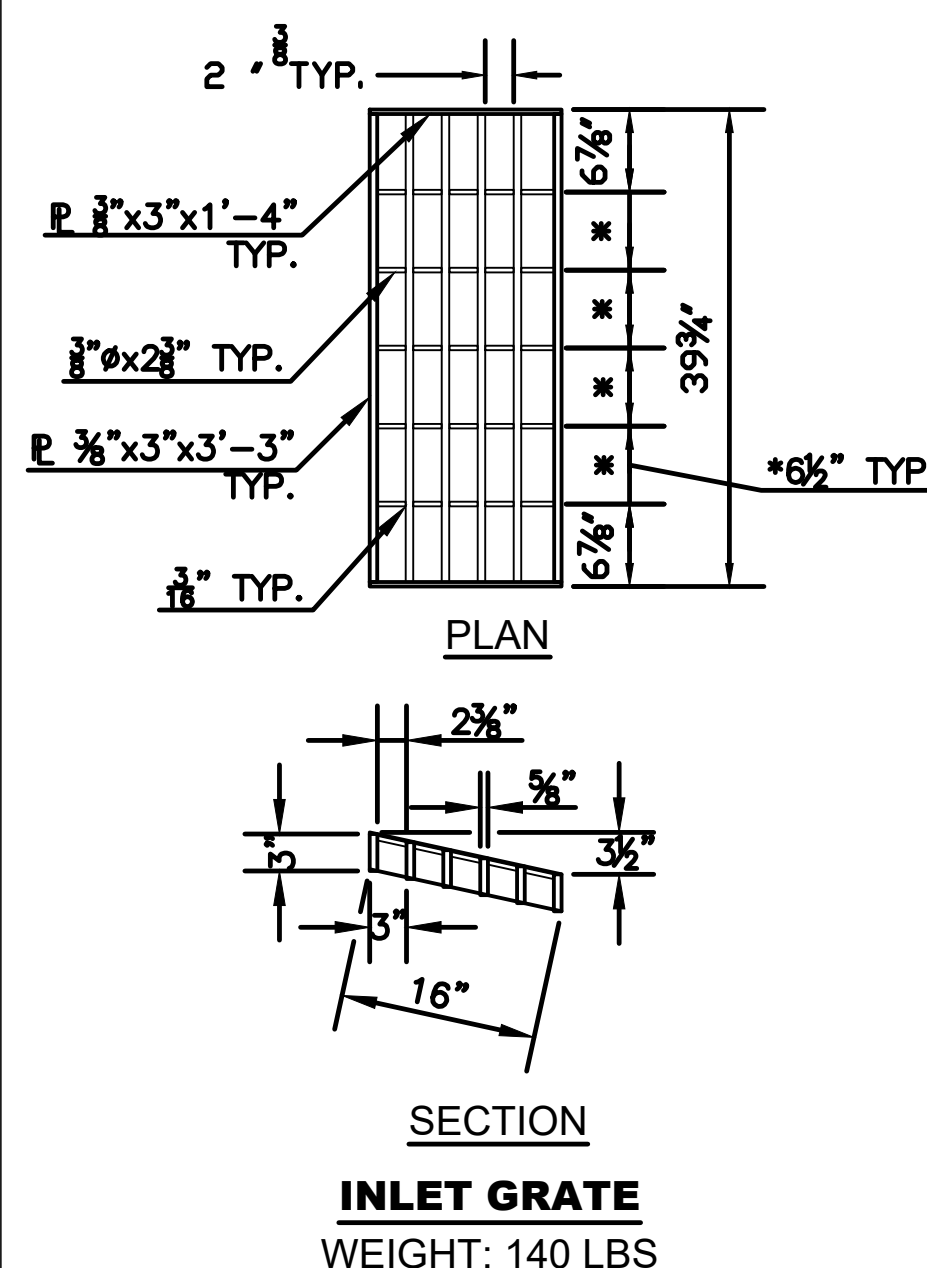
148 LB. PEDESTRIAN GRATE		
A	2 EA.	$\frac{3}{4}" \times 3 \times 3 \times 3' - 1\frac{1}{2}"$
B	4 EA.	$\frac{1}{2}" \times 3 \times 0' - 3"$
C	25 EA.	$\frac{1}{2}" \times 2 \times 2' - 1\frac{1}{8}"$
D	2 EA.	$\frac{3}{4}" \times 3 \times 3 \times 2' - 1\frac{1}{2}"$
E	52 EA.	$\frac{1}{2}" \times 1 \times 2 \times 0' - 1\frac{1}{8}"$
F	1 -	$\frac{1}{4}"$ O.C.

250 LB. TRAFFIC GRATE		
A	2 EA.	$\frac{1}{2}$ 3x3x3'-1 $\frac{1}{8}$ "
B	4 EA.	$\frac{1}{2}$ 3x0'-3"
C	12 EA.	$\frac{1}{2}$ 3x2'-7"
D	2 EA.	$\frac{1}{2}$ 3x3x2'-1"
E	26 EA.	$\frac{1}{8}$ 0'-2 $\frac{1}{8}$ "
F	2 $\frac{7}{8}$ " O.C.	

130 LB. YARD GRATE		
A	2 EA.	$\frac{1}{2} \times 3 \times 3 \times 3' - 1\frac{1}{2}"$
B	4 EA.	$\frac{1}{2} \times 3 \times 0' - 3"$
C	12 EA.	$\frac{1}{2} \times 3 \times 2' - 1\frac{1}{8}"$
D	2 EA.	$\frac{1}{2} \times 3 \times 3 \times 2' - 1\frac{1}{2}"$
E	26 EA.	$\frac{1}{8} \times 0' - 2\frac{1}{8}"$
F	2 $\frac{7}{8}$ " O.C.	



AREA INLET GRATE



- NOTES:
1. CAST IN PLACE CONC. SHALL BE 4000PSI.
 2. PRECAST CONC. SHALL BE 4000 PSI.
 3. REINFORCING WIRE SHALL CONFORM TO ASTM A82.
 4. REINFORCING BARS SHALL CONFORM TO ASTM A615.
 5. GRout ALL PIPES IN PLACE.
 6. GRATES & FRAMES SHALL BE ASTM A36 STEEL COATED WITH BITUMASTIC BLACK SOLUTION (COAL TAR BASE) AS MANUFACTURED BY KOPPERS OR APPROVED EQUAL.
 7. THE INLET TOP SHALL SIT SQUARELY ON TOP OF THE INLET BOTTOM SECTION. THE INLET WALLS SHALL NOT BE OFFSET MORE THAN ONE INCH BETWEEN TOP AND BOTTOM SECTIONS.

[illegible]

DRAWN BY:
rm/mc

APP'D BY:
R. J. [Signature]

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



NE SEWARD AVE BULB-OUT PROJECT

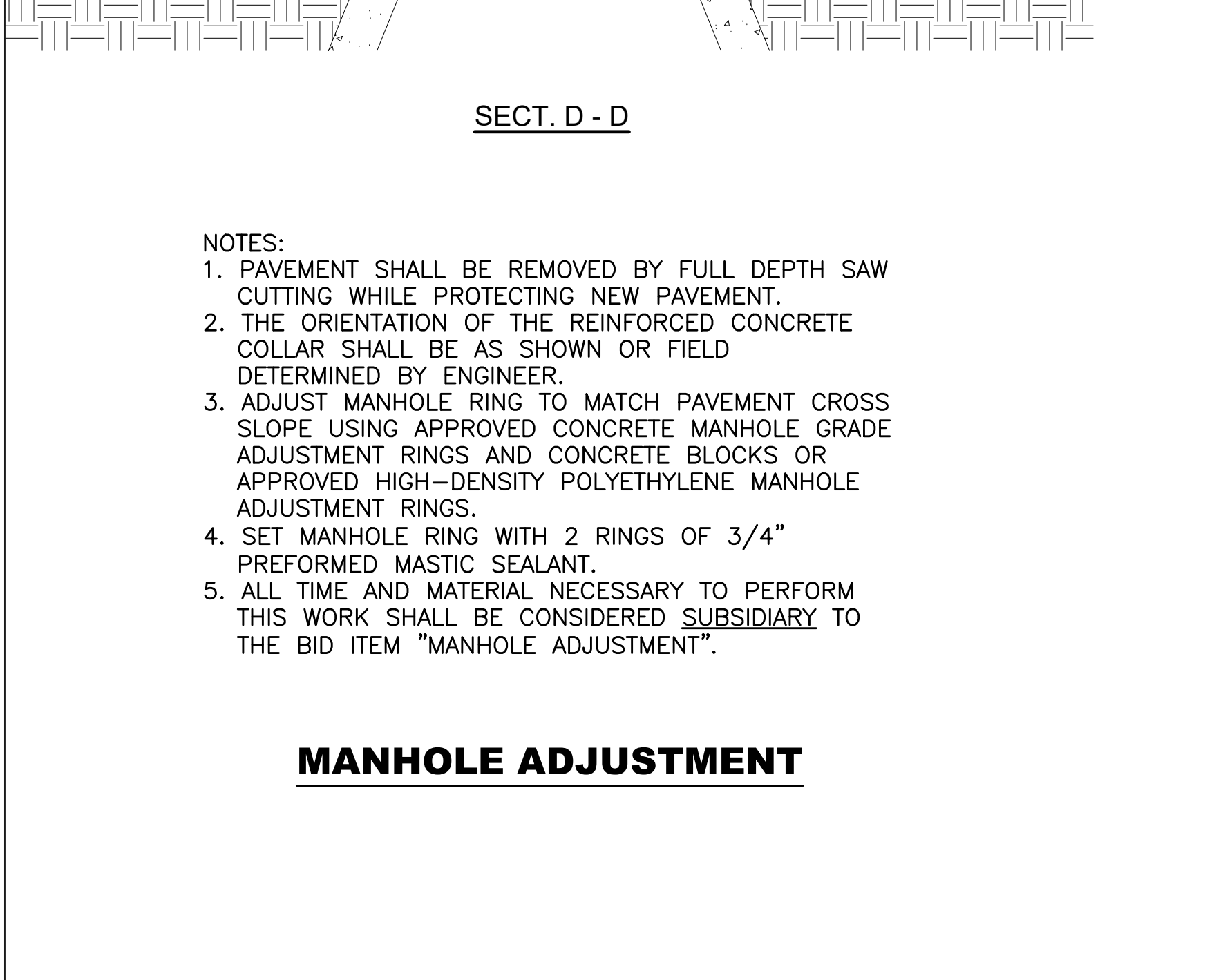
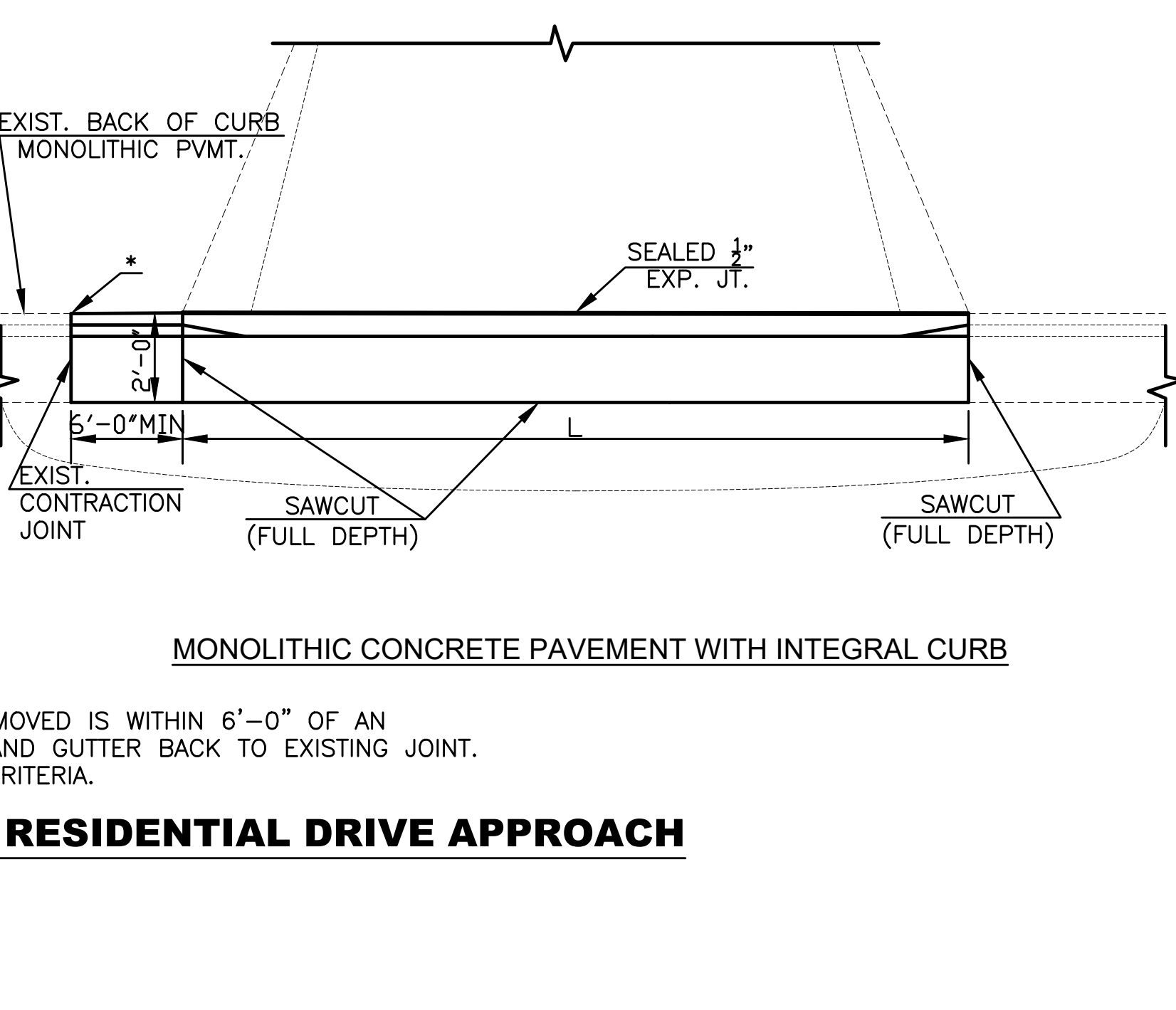
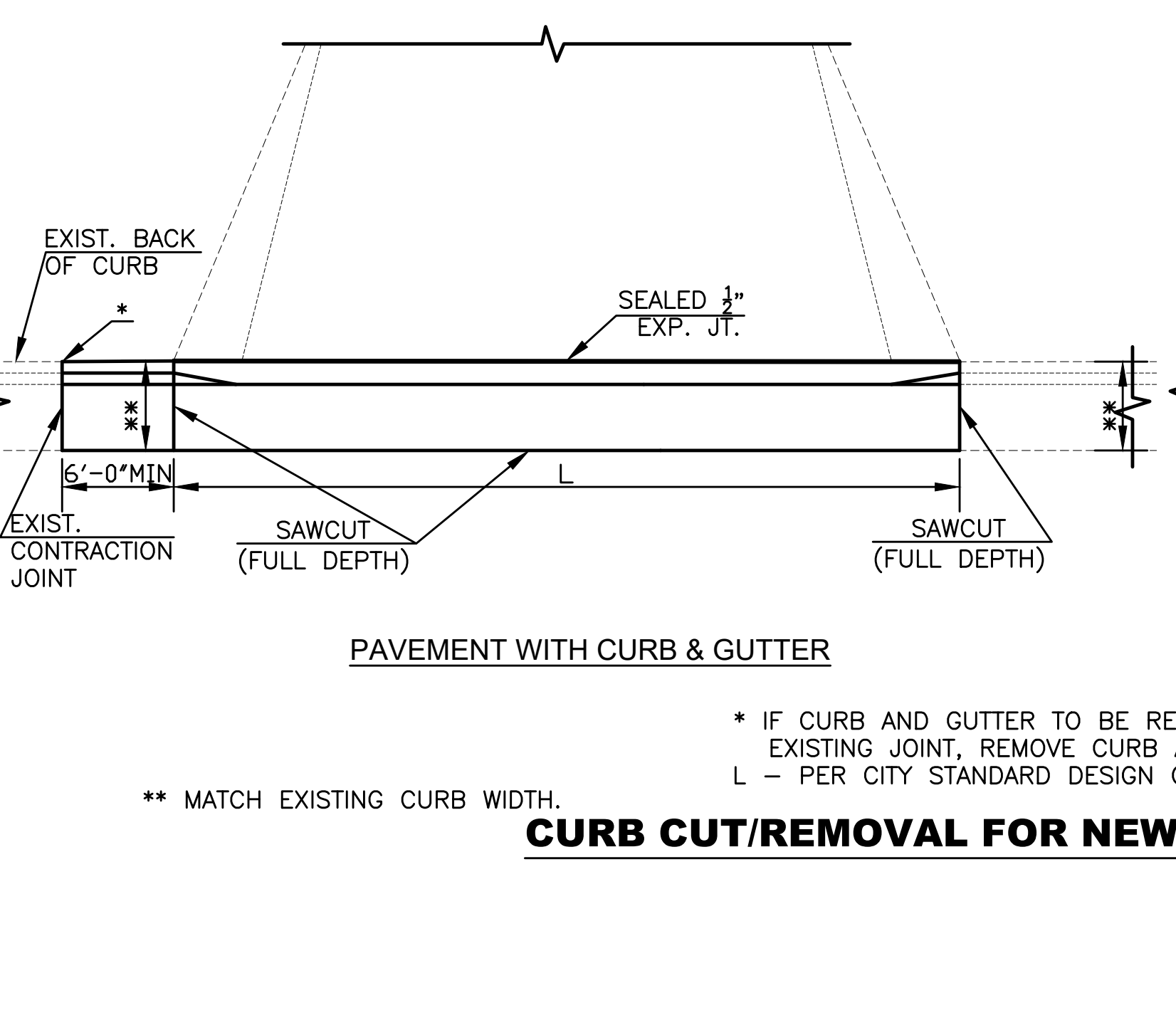
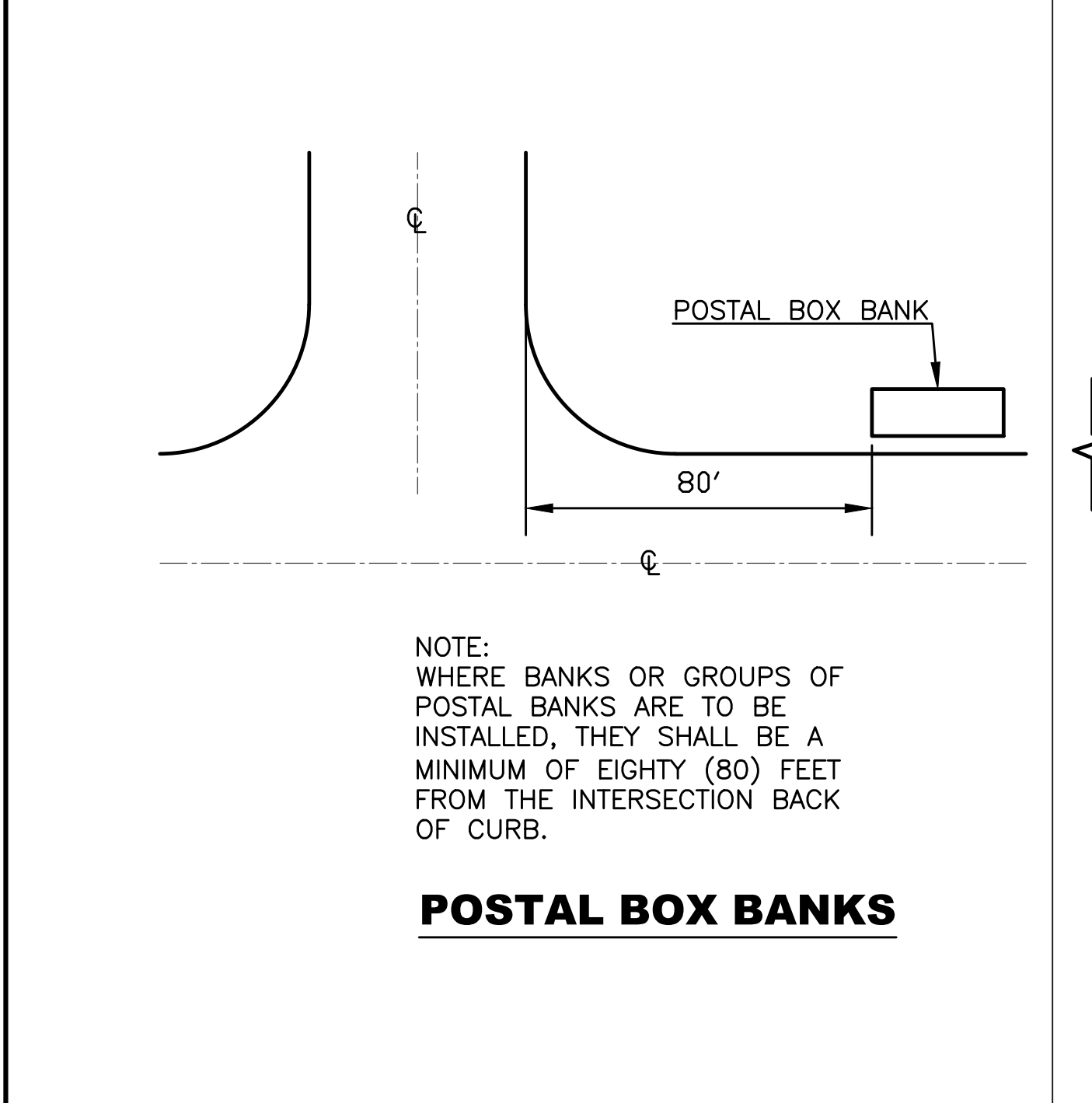
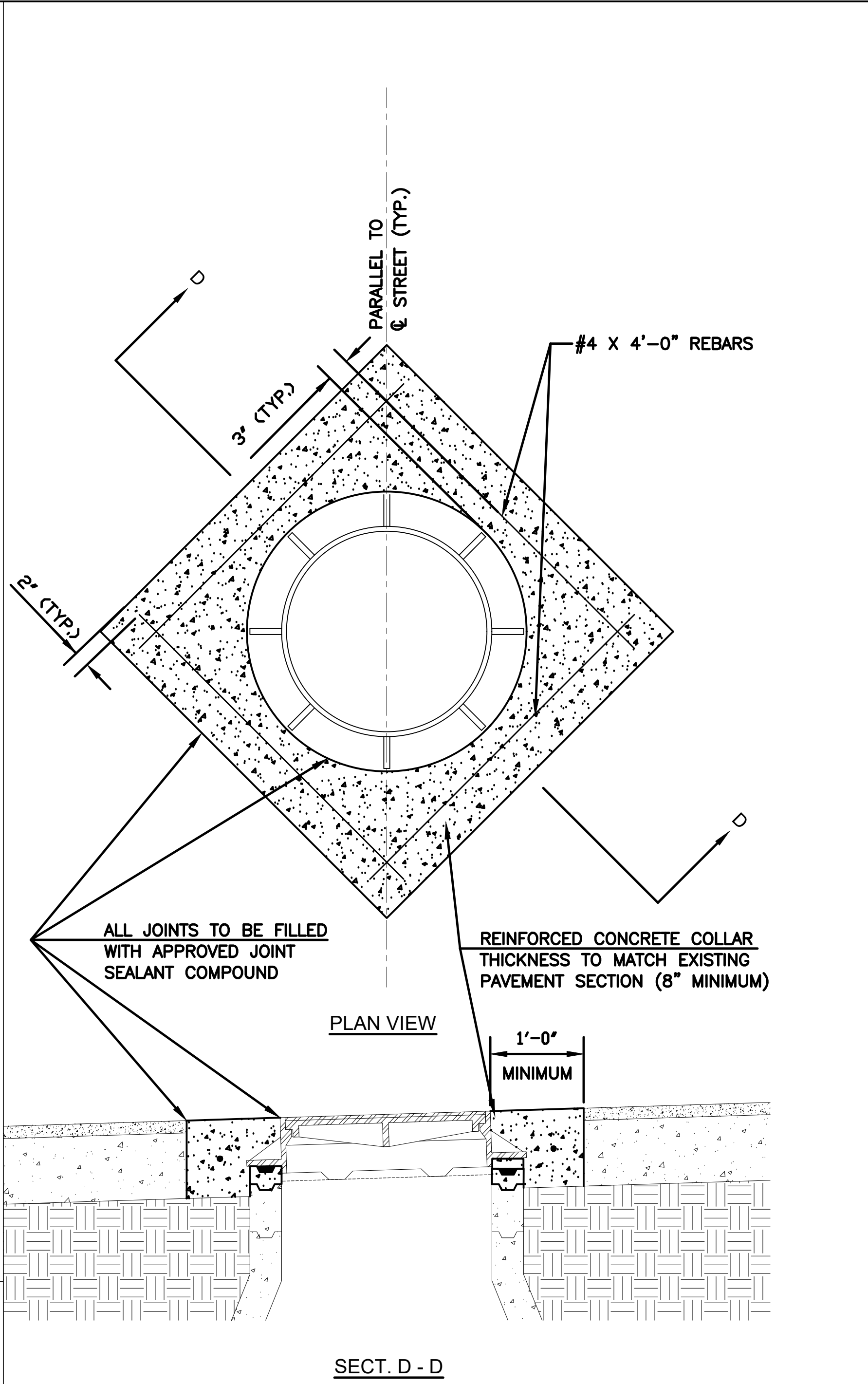
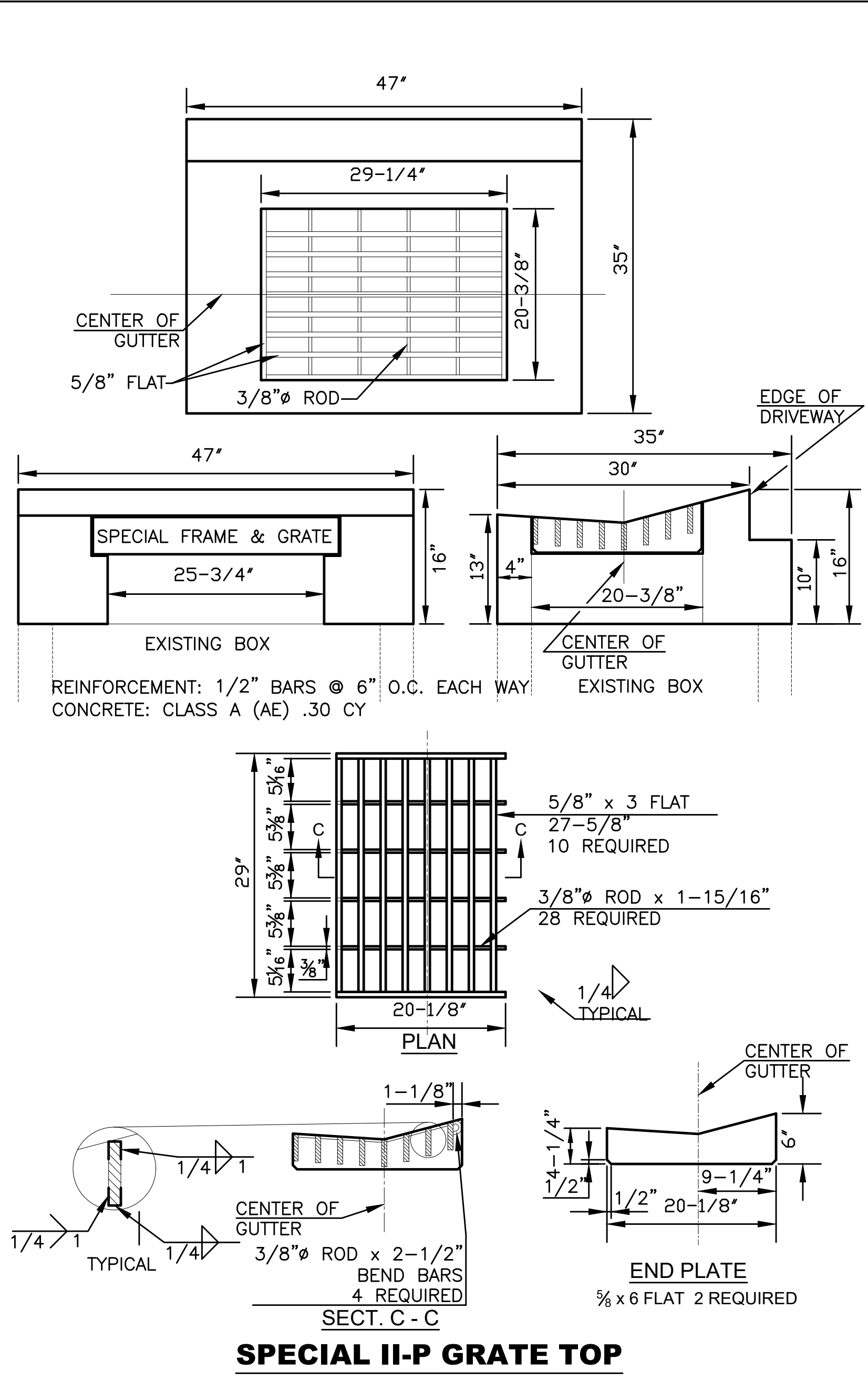
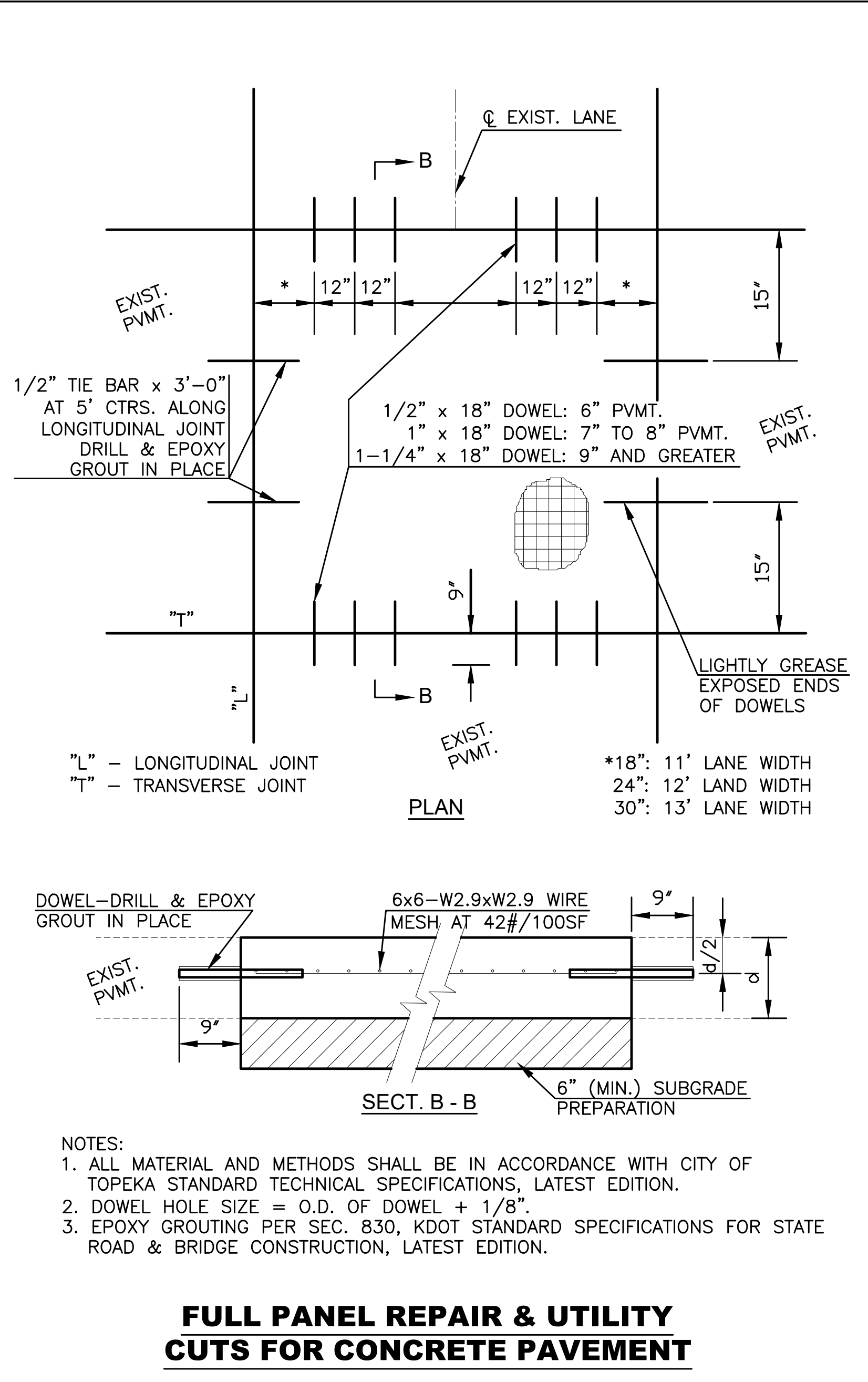
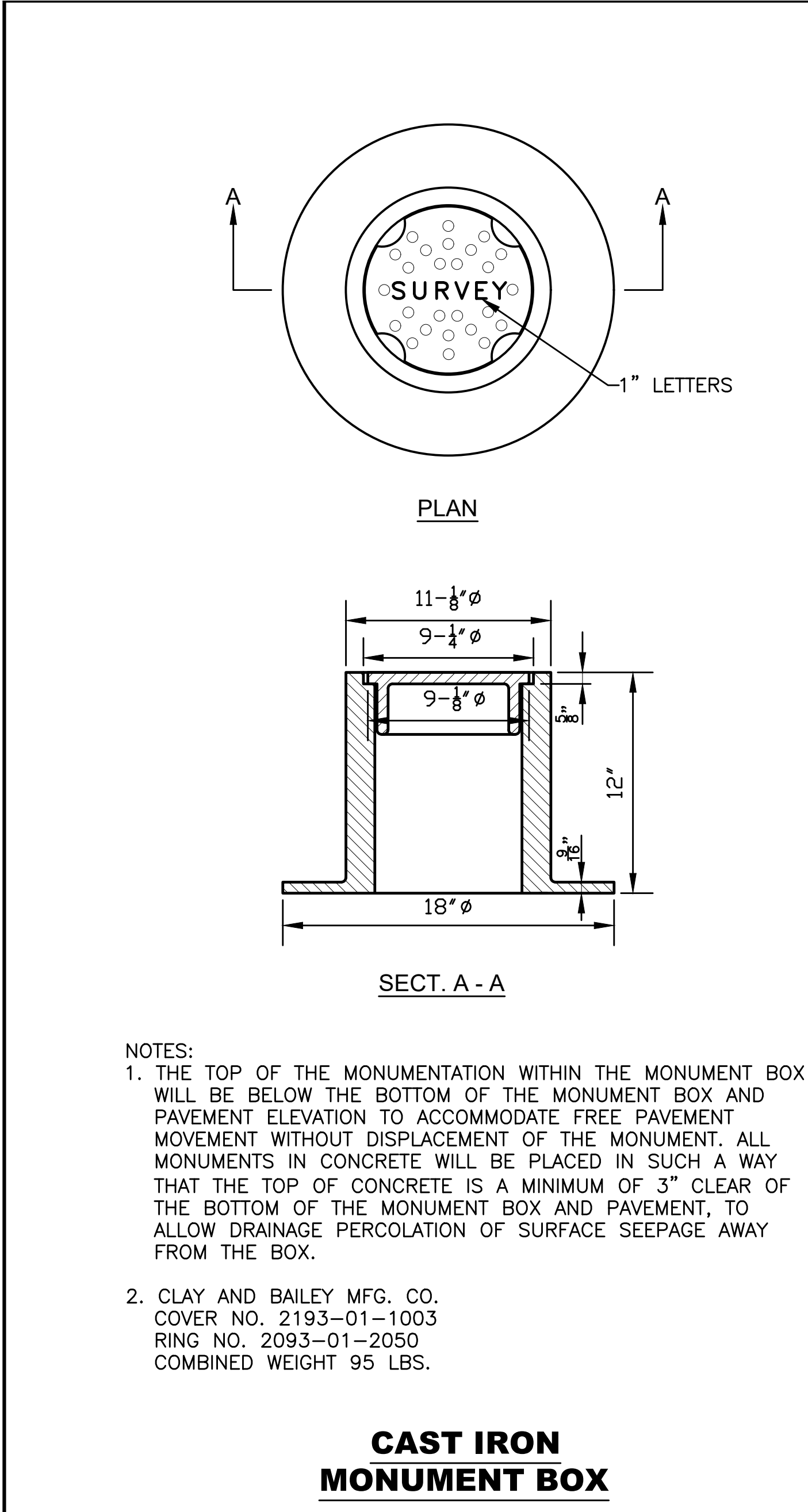
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



TYPE II-P INLET
(PRECAST)
(DT-011)

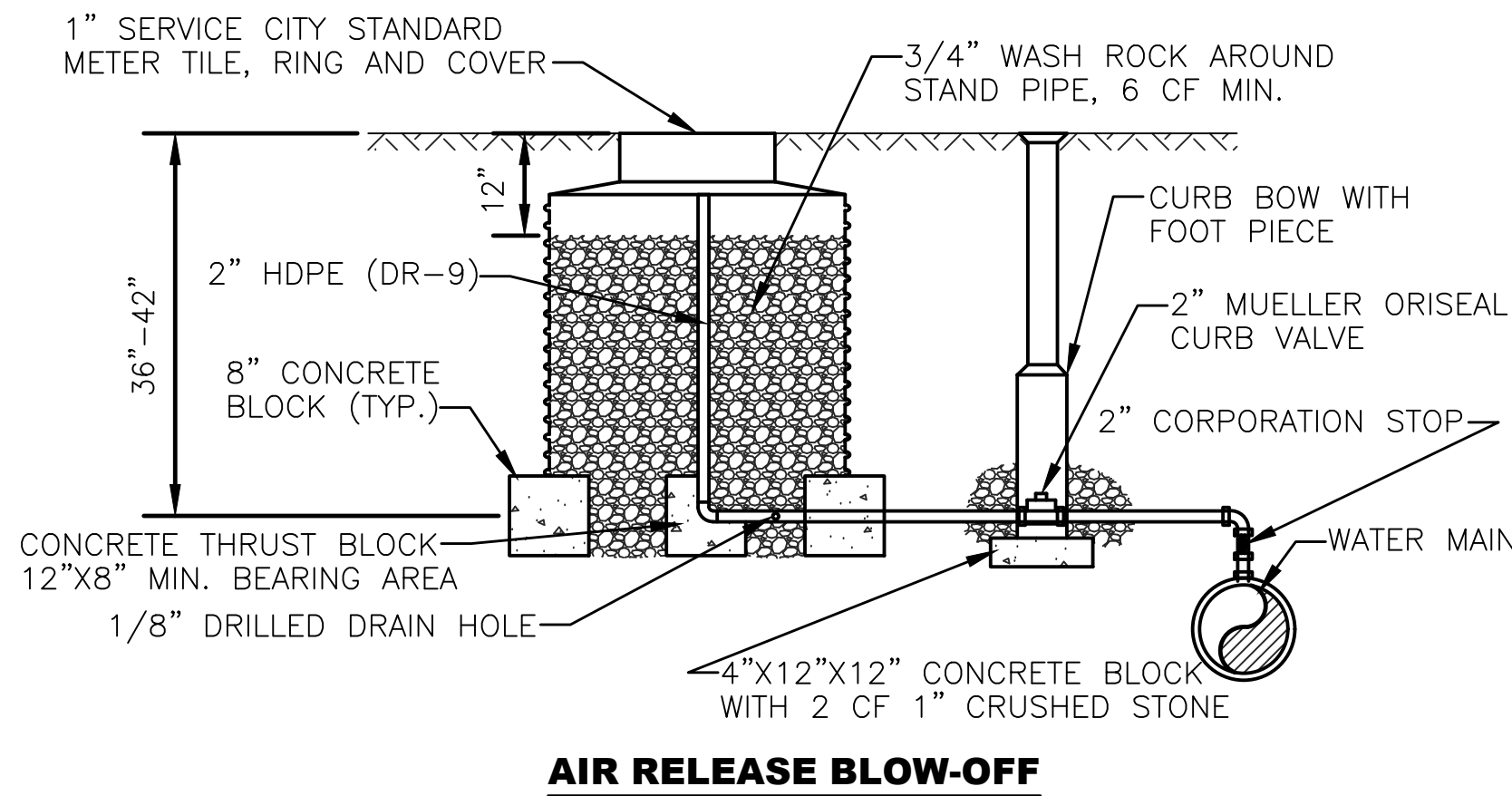
DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 27 OF 41

DTL-06

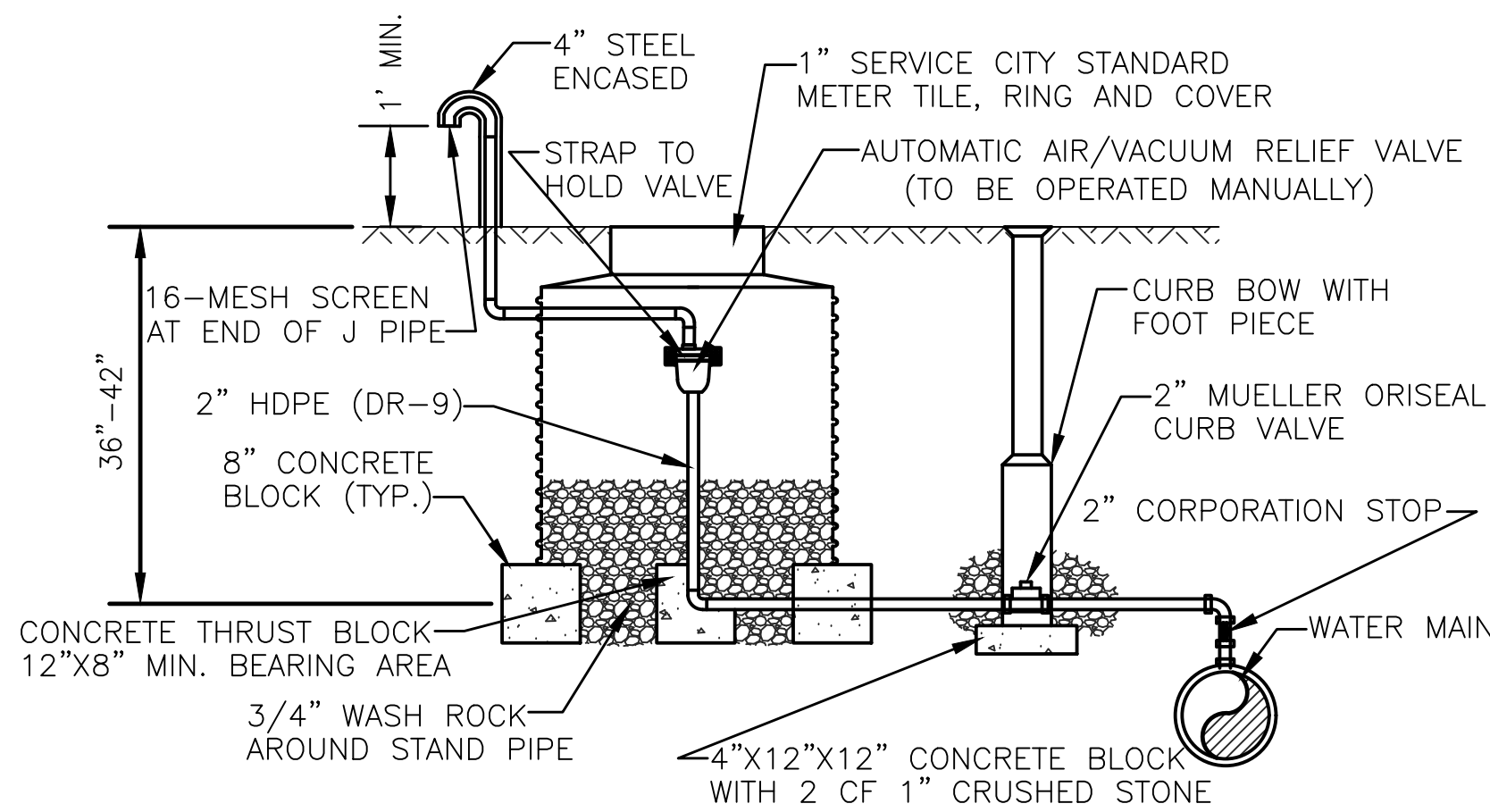


NO.	DATE	REVISION	BY	APP'D	DRAWN BY:	WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC.	CITY OF TOPEKA UTILITIES	NE SEWARD AVE BULB-OUT PROJECT	MISCELLANEOUS DETAILS I (DT-017)	DATE: 05/2021
1	Feb. 2008	Repl. Both Pmnt. w/ Curb Det.'s	DHS	SB	mm/mc	100 SE 9TH STREET, SUITE 400 TOPEKA, KS 66612 PHONE: (785) 272-6830		CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01		T-501023.15 / T-501081.01
2	Dec. 2009	Dowel size & # pmt range and curb det	DHS	SB						
3	Dec. 2012	Changed to tie bar from dowel	DHS	SB						
4	Jan. 2013	Removed Brick S/W & Stone Curb details	DHS	SB						
5	Jan. 2013	Added Manhole Adjustment detail	DHS	SB						
6	March 2013	Added grease to dowels & bar size to "	DHS	SB						
7	Oct. 2017	Updated cast iron monument box	DHS	JPS						

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:31 AM
File: L:\827500407 Seward Avenue Bulb-out Phase 2\06_CAD\Sheets\DTL-07.dwg



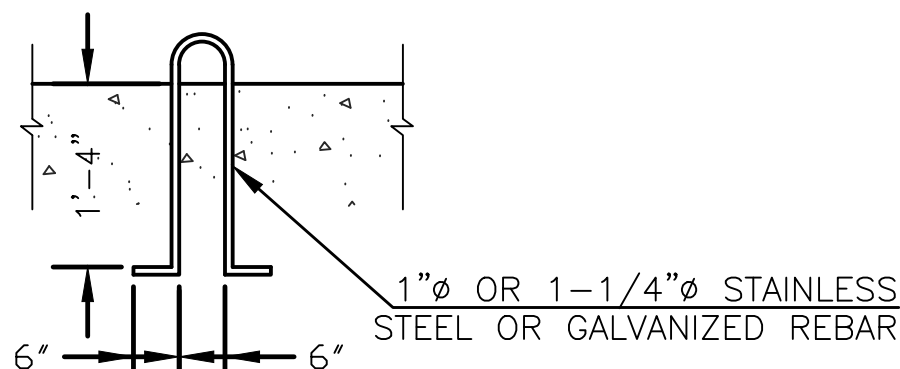
AIR RELEASE BLOW-OFF



AUTOMATIC AIR/VACUUM RELEASE
(OPERATED MANUALLY)

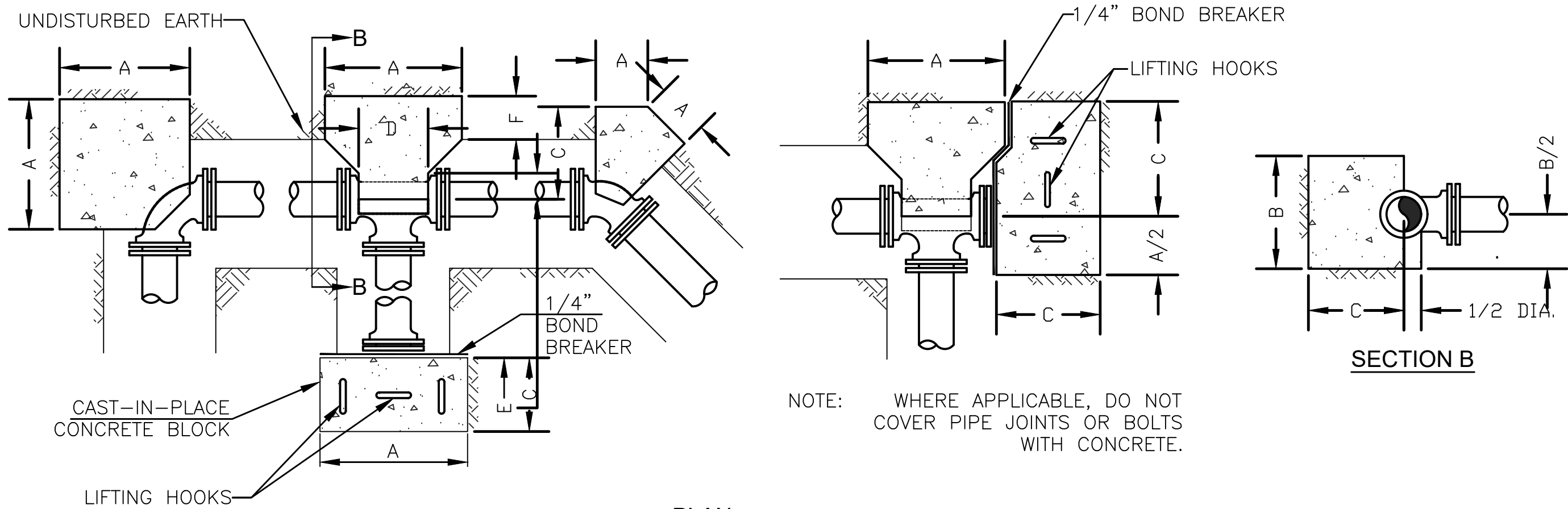
PIPE DIA.	45° VERTICAL BEND						22.5° VERTICAL BEND						11.25° VERTICAL BEND					
	A	B	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
4"	30	30	30	18	12	12	21	21	12	12	12	12	18	18	24	12	12	12
6"	36	36	36	21	24	12	21	21	18	15	18	12	21	21	27	15	18	12
8"	42	42	42	27	36	18	36	36	42	18	24	18	24	24	30	18	24	18
10"	48	48	48	36	39	27	42	42	48	24	30	27	30	30	36	24	30	27
12"	54	54	54	42	48	33	48	48	54	27	36	30	33	33	39	27	36	30

ALL DIMENSIONS ARE IN INCHES.



ONE (1) 1"Ø HOOK FOR 16" AND SMALLER PIPING
TWO (2) 1-1/4"Ø HOOKS FOR 18" AND 24" PIPING
FOUR (4) 1-1/4"Ø HOOKS FOR 30" AND LARGER PIPING

LIFTING HOOK DETAIL

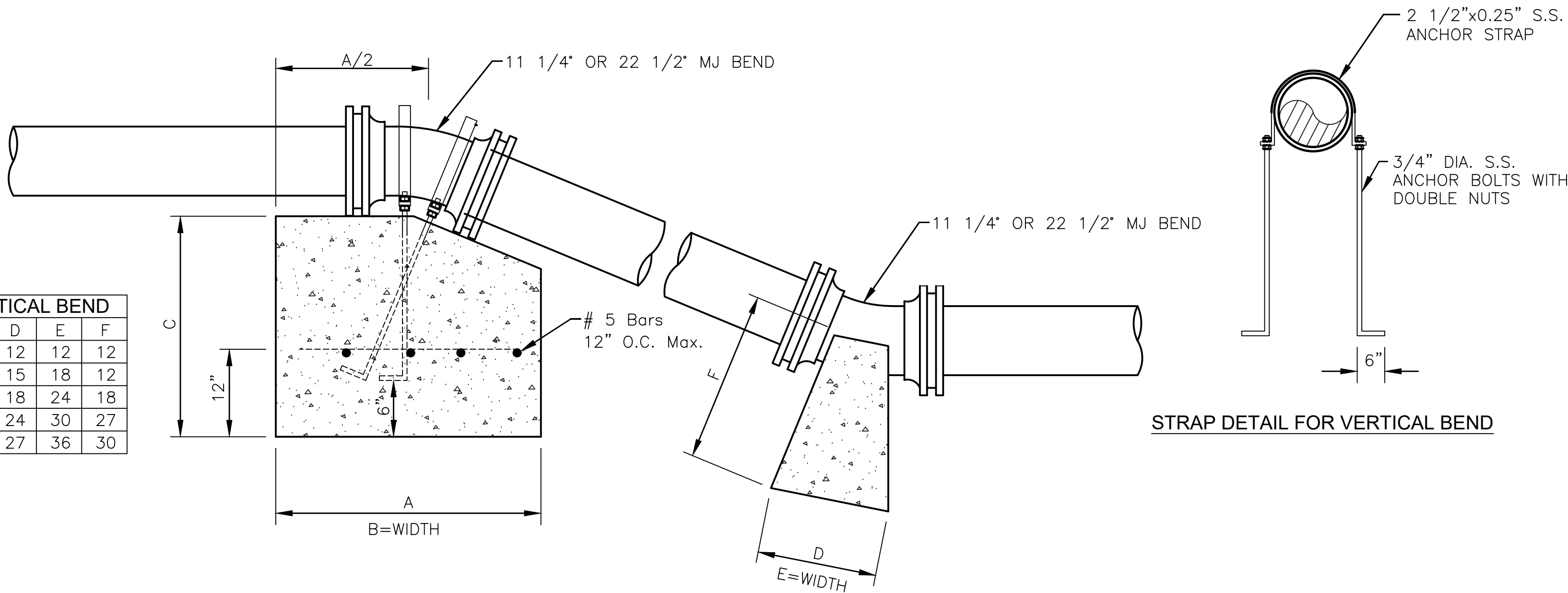


PLAN

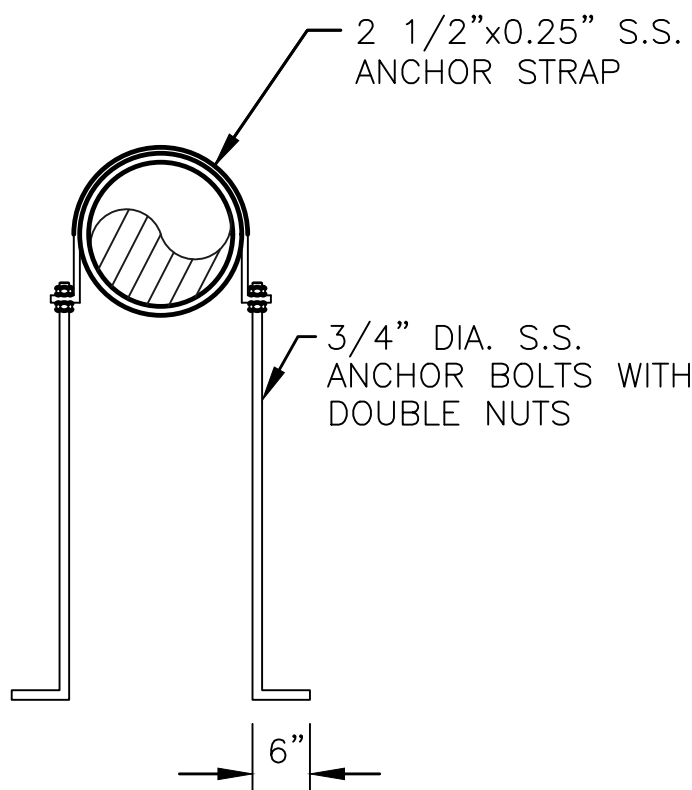
PIPE DIA.	TEES						PLUGS			90° BEND			45° BEND			22.5° BEND			11.25° BEND		
	A	B	C	D	E	F	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
4"	13	22	9	13	—	—	13	22	9	18	12	9	9	12	12	6	12	12	—	—	—
6"	24	30	16	16	6	6	24	30	12	24	18	16	10	24	12	7	18	12	—	—	—
8"	34	32	21	18	7	6	34	32	18	30	26	21	13	36	18	9	24	18	9	24	18
10"	40	42	23	22	8	6	40	42	24	35	34	24	18	38	27	12	30	27	12	30	27
12"	48	52	27	24	9	6	48	52	24	42	42	30	21	48	33	14	36	30	10	42	24
16"	54	54	32	30	12	6	54	54	24	50	42	36	24	48	40	15	42	34	10	42	24
18"	60	60	34	32	12	6	60	60	24	54	48	38	27	54	44	17	46	37	10	42	24
20"	72	66	36	36	24	10	72	66	24	72	66	24	36	66	48	18	66	42	15	48	30
24"	96	72	36	44	19	8	96	72	24	82	60	60	44	60	72	22	60	54	15	48	36
30"	108	96	60	50	20	12	108	96	24	108	72	84	54	72	84	28	72	64	17	60	36
36"	108	108	60	56	23	12	108	108	24	108	108	80	68	84	96	34	84	69	20	72	36

ALL DIMENSIONS ARE IN INCHES.
BLOCKING DESIGNED FOR 150 PSI WORKING PRESSURE AND 1500 PSF SOIL BEARING.
BLOCKING FOR REDUCED BRANCH TEES SHALL BE BASED ON BRANCH DIAMETER.
MAINTAIN MINIMUM "F" DIMENSION.

CONCRETE BLOCKING DETAILS



11 1/4°, 22 1/2°, OR 45° VERTICAL BEND BLOCKING DETAIL



STRAP DETAIL FOR VERTICAL BEND

NO.	DATE	REVISION	BY	APP'D
1	6/5/18	Corrected table values	DHS	PB

EDITED BY: DHS
APP'D BY: PB

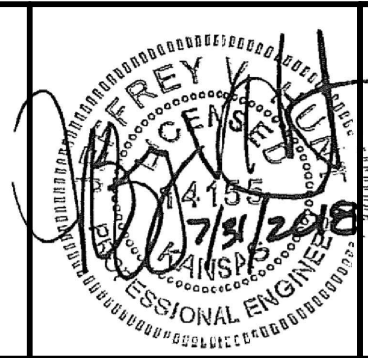
Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



WATER DETAILS I
(DT-023)

DATE: 05/2021

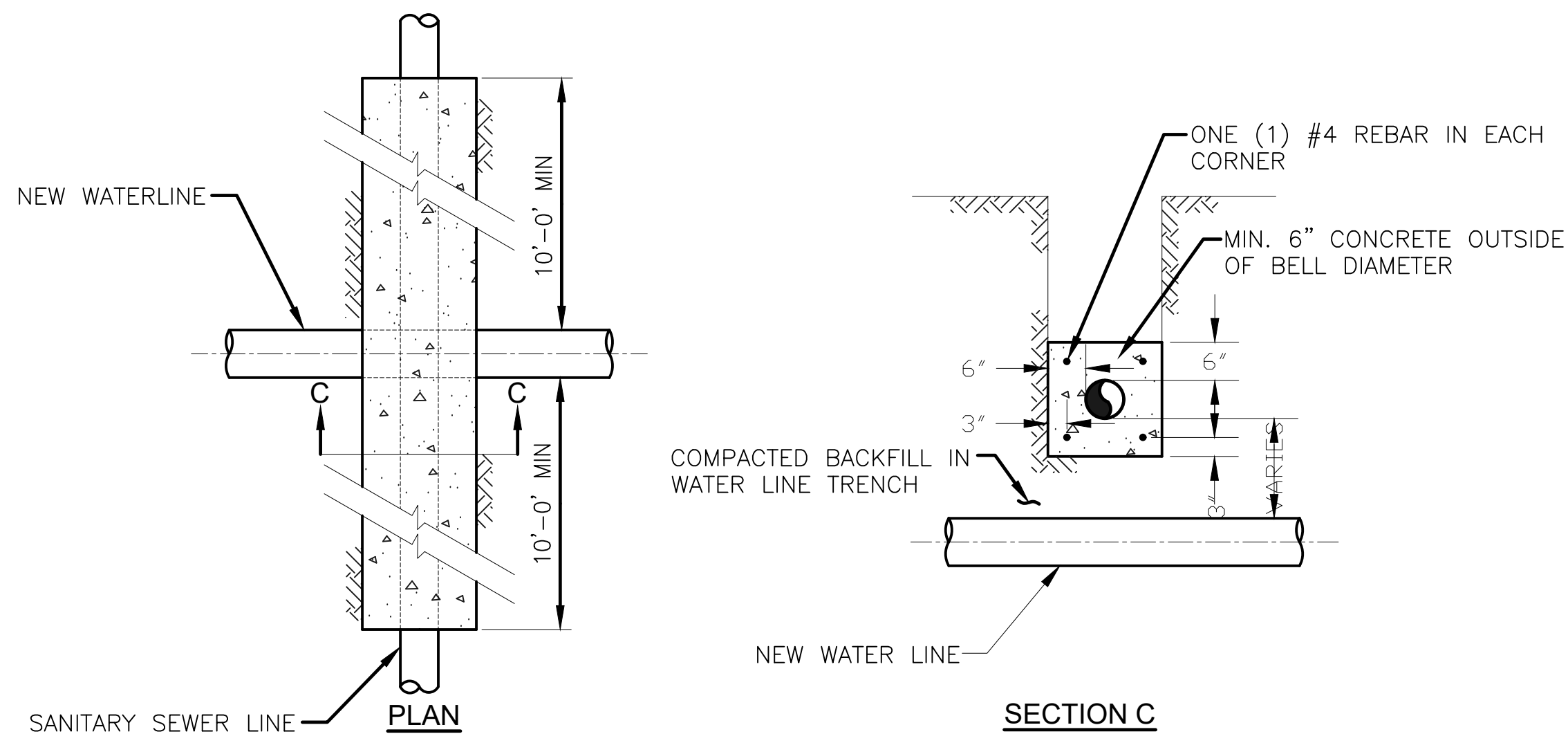
PROJ.: T-501023.15 /

T-501081.01

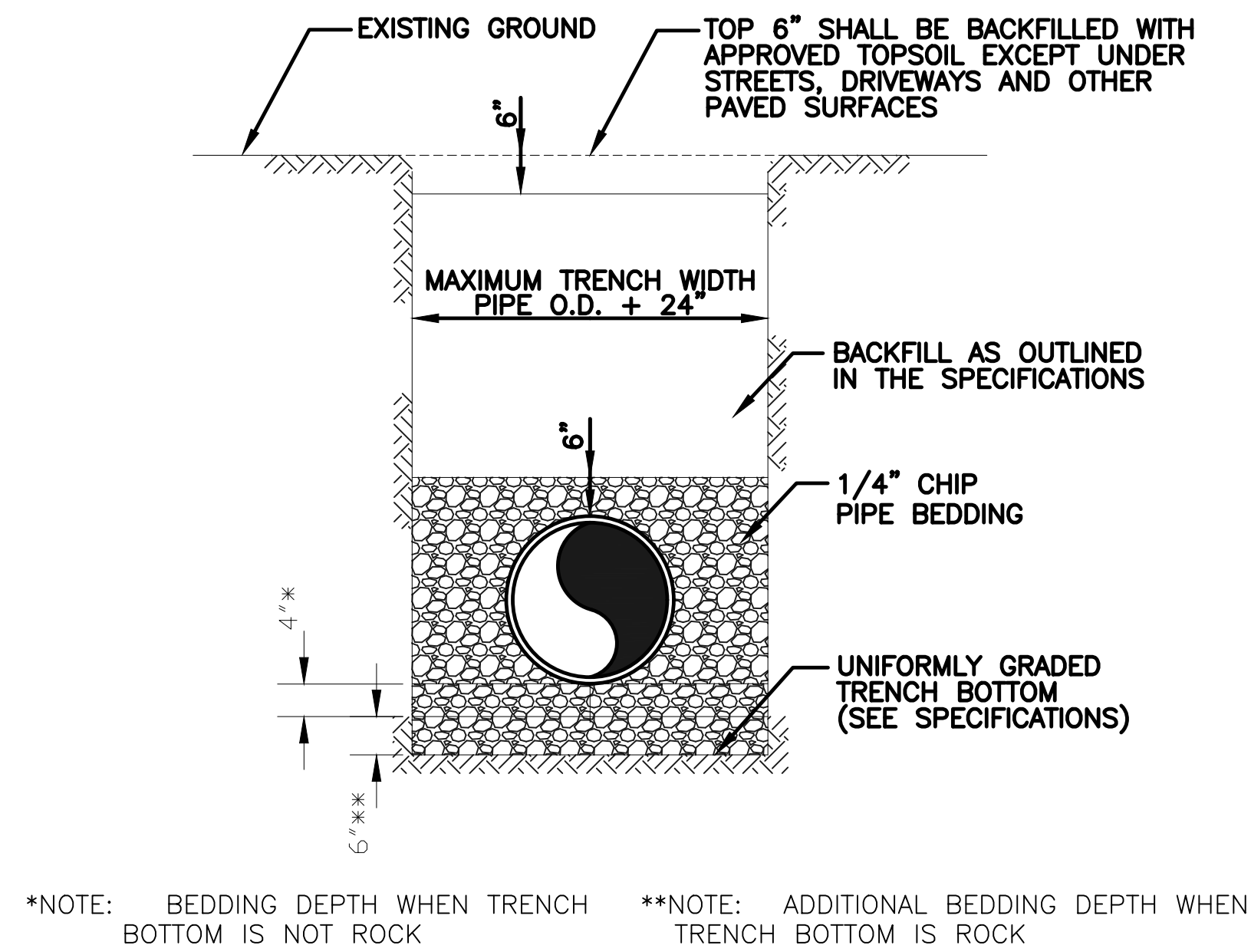
SHEET: 29 OF 41

DTL-08

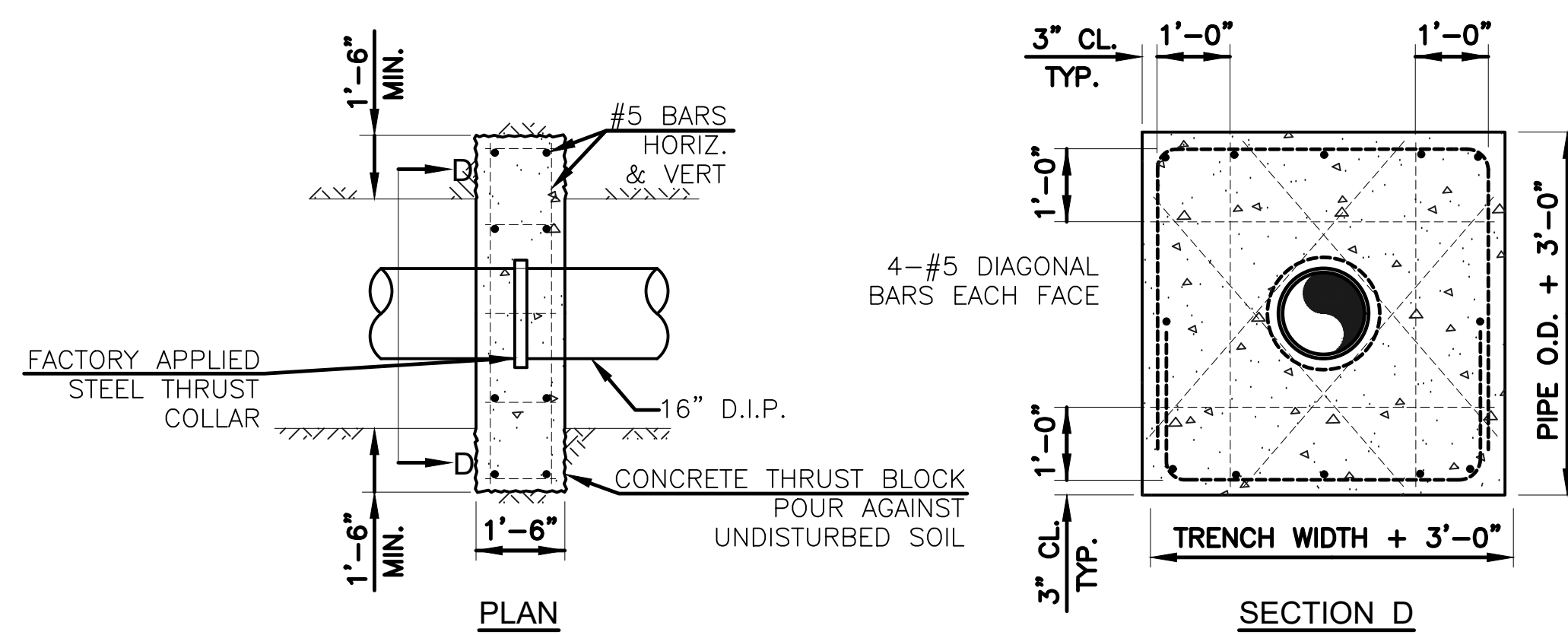
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File: L:\8275000407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\DTL-08.dwg



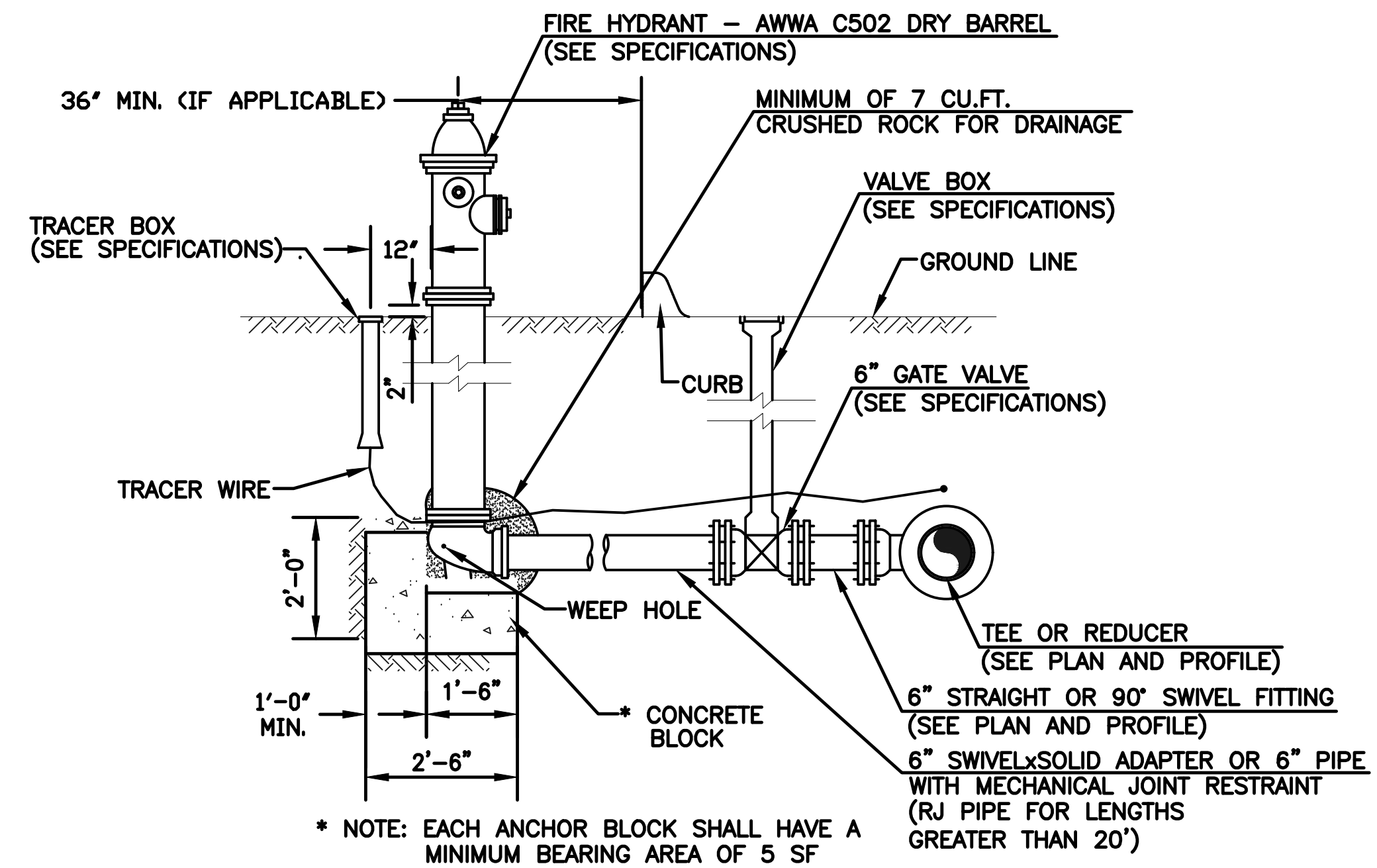
**CONCRETE ENCASEMENT
SANITARY SEWER LINE CROSSING DETAIL**



TYPICAL TRENCH & PIPE BEDDING DETAIL



16\"/>



FIRE HYDRANT SETTING

NO.	DATE	REVISION	BY	APP'D
1	6/9/17	Updated Standard	DHS	PB

EDITED BY:	DHS
APP'D BY:	PB

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CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

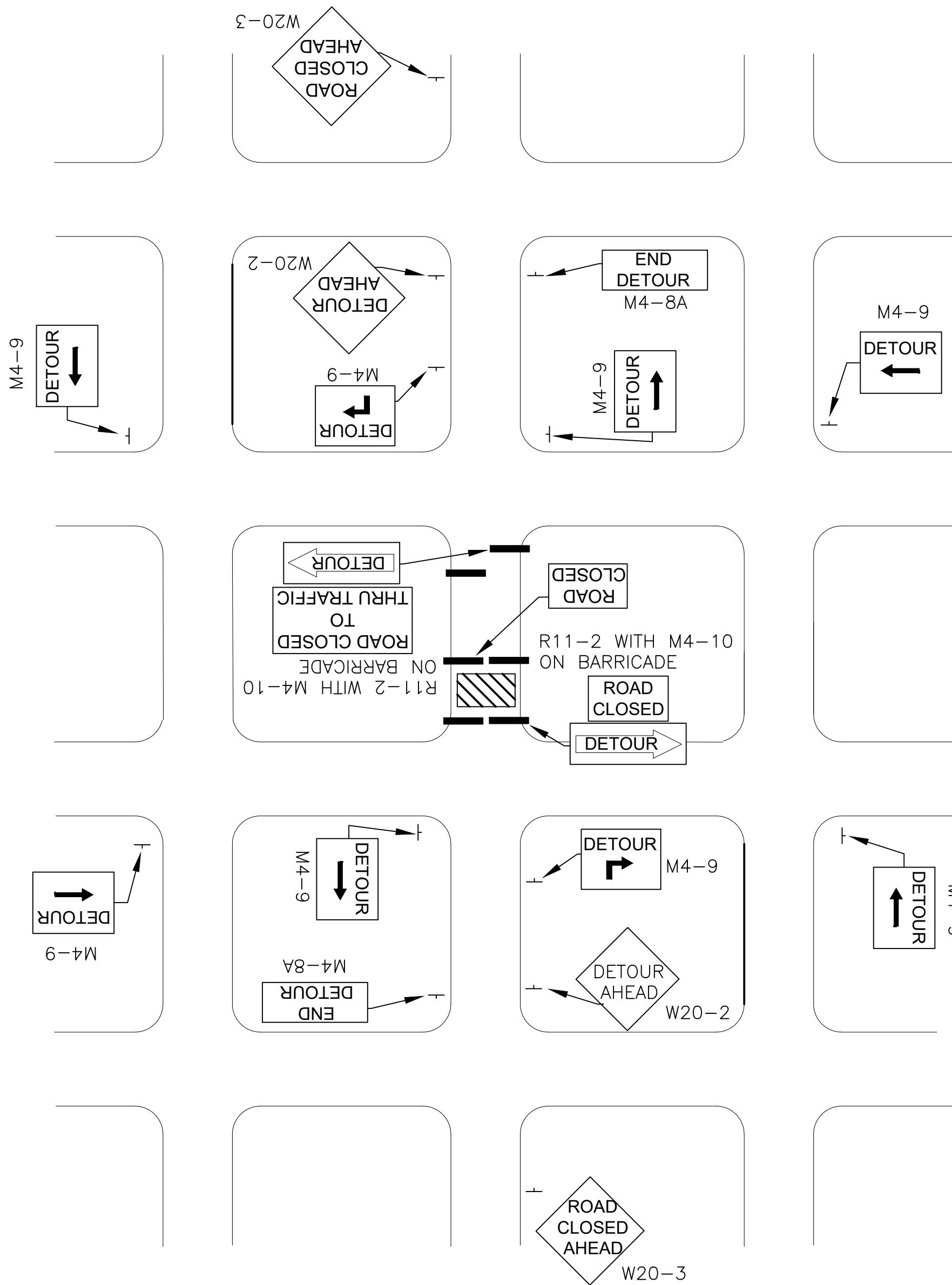
Professional Engineer
7/11/2018

WATER DETAILS 2
(DT-024)

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 30 OF 41

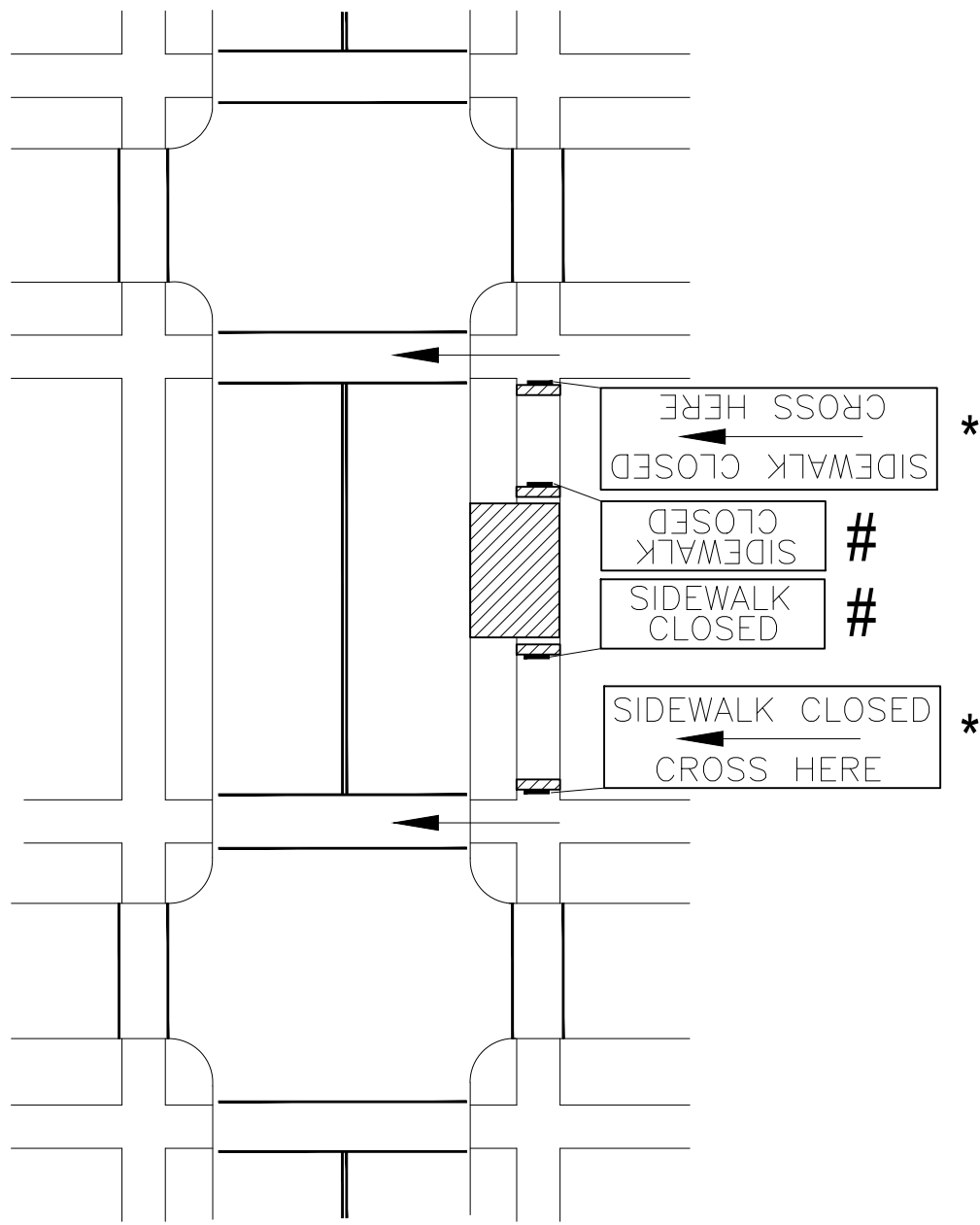
DTL-09

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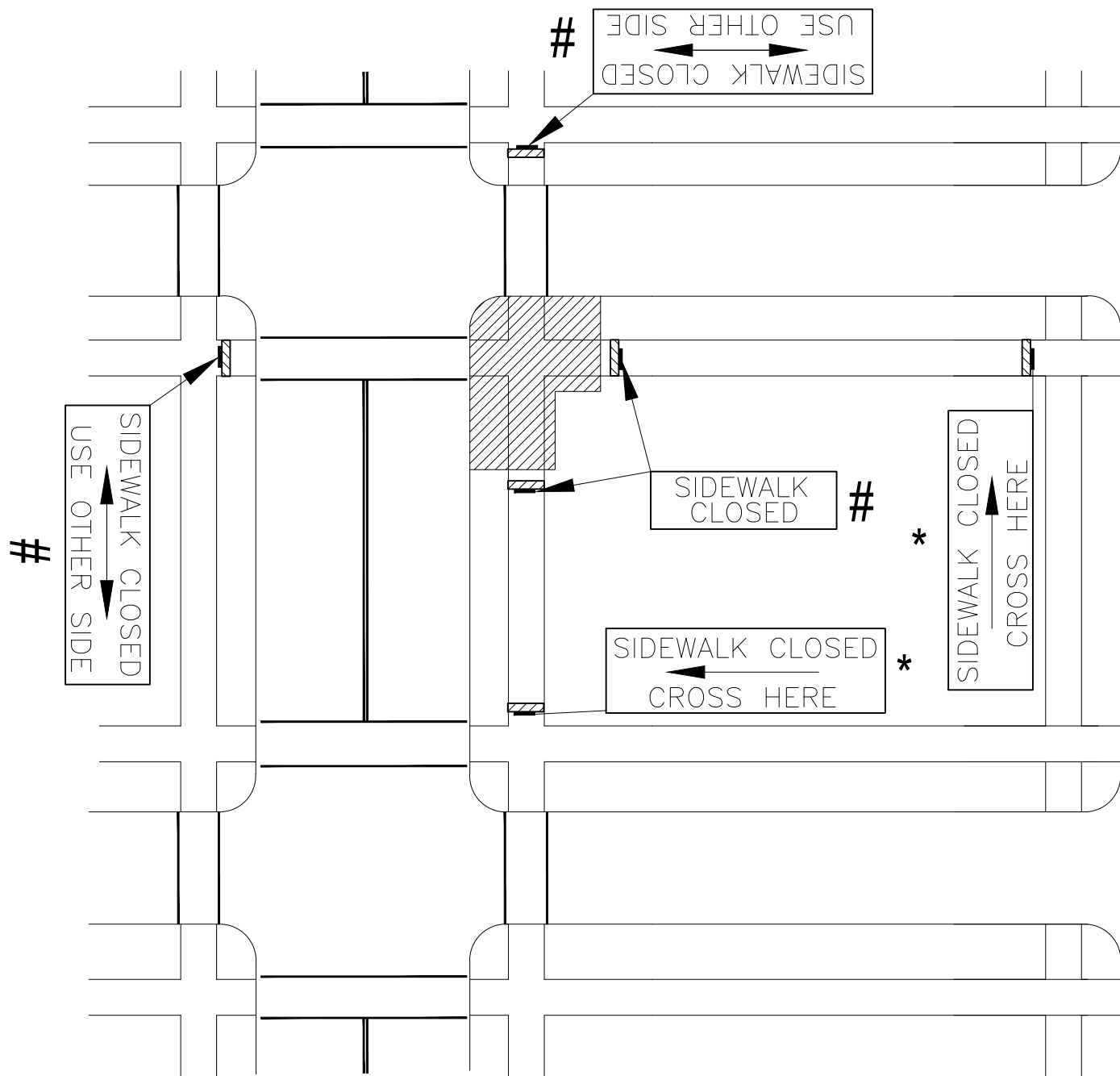


DETOUR SIGNING-STREET CONSTRUCTION IN A STREET GRID

STREET NAME SIGN (D-3) TO BE PLACED ABOVE THE
DETOUR SIGN (M4-9) TO INDICATE THE NAME OF THE
ROADWAY FOR WHICH THE DETOUR WAS ESTABLISHED.



MID-BLOCK SIDEWALK CLOSURE WITH PEDESTRIAN DETOUR



CORNER SIDEWALK CLOSURE WITH PEDESTRIAN DETOUR

* ADVANCE SIGNS TO BE PLACED ON TYPE I OR TYPE II
BARRICADES. PLACE SO THAT AT LEAST 48" OF SIDEWALK
IS AVAILABLE FOR PEDESTRIAN USE.

SIGNS TO BE PLACED ON CONTINUOUS DETECTABLE
DEVICES. DEVICE CAN BE TYPE I, TYPE II, TYPE III OR
OTHER TYPE WALLS OR RAILS AS PER MUTCD. THEY WILL
HAVE ORANGE AND WHITE STRIPES. THE BOTTOM EDGING
WILL BE AT LEAST 6 INCHES IN WIDTH AND PLACED A
MAXIMUM OF 2 1/2 INCHES ABOVE THE SIDEWALK, SO
AS TO BE DETECTABLE BY PEDESTRIANS WITH LONG CANE.

GENERAL NOTES:

ALL DEVICES SHALL COMPLY WITH THE MOST CURRENT OFFICAL EDITION
OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

72-HOUR NOTICE TO CITY IS REQUIRED BEFORE WORK IS
STARTED. CONTACT 785-368-3842 FOR TRAFFIC DISRUPTION
PERMIT.

72-HOUR NOTICE IS REQUIRED IF TRAFFIC SIGNALS ARE
TO BE MODIFIED AS PART OF TRAFFIC CONTROL. CONTACT
785-368-3913.

UNLESS OTHERWISE NOTED, ALL TRAFFIC CONTROL DEVICES
SHALL BE PROVIDED AND MAINTAINED BY THE CONTRACTOR.

SIGNS AND TRAFFIC CONTROL DEVICES NEED TO BE PROPERLY
MAINTAINED FOR CLEANLINESS, VISIBILITY, AND CORRECT POSITIONING.

CONTRACTOR SHALL OBTAIN UTILITY LOCATES PRIOR TO
INSTALLING SIGNPOSTS.

SIGNS LEFT IN PLACE THREE OR FEWER DAYS CAN BE MOUNTED
AT ONE FOOT. SIGNS LEFT IN PLACE GREATER THAN THREE
DAYS NEED TO BE MOUNTED AT SEVEN FEET. IF THERE ARE NO
SIDEWALKS, NO PEDESTRIANS, AND NO PARKING, MOUNTING
MOUNTING HEIGHT CAN BE REDUCED TO FIVE FEET. IF SECONDARY
SIGN IS NEEDED MINIMUM MOUNTING HEIGHT MAY BE ONE FOOT LOWER.

ALL SIGNS SHALL TO BE REMOVED, COVERED, OR TURNED AWAY
FROM TRAFFIC WHEN NOT IN USE.

CONTRACTOR MAY BE REQUIRED TO ADD SNOW FENCE TO PROHIBIT
PEDESTRIANS FROM ENTERING THE WORK AREA. FENCING SHOULD
NOT CREATE A SIGHT DISTANCE RESTRICTION FOR ROAD USERS.

ALL WORKERS SHALL WEAR HIGH VISIBILITY APPAREL MEETING ANSI
107-2004 CLASS 2 OR 3.

TRAFFIC CONTROL DEVICES SHALL MEET NCHRP REPORT 350 (AND
SUPPLEMENTS) OR MASH 2009. NCHRP TESTED DEVICES ARE
GRANDFATHERED. NEW DEVICES WILL BE MASH 2009 TESTED.

WHEN ROAD WORK CREATES A DIFFERENCE IN ELEVATION BETWEEN
ADJACENT LANES THAT ARE OPEN TO TRAVEL, UNEVEN LANE SIGNS,
(W8-11) 36"x36" SHALL BE ADDED. THEY SHALL BE PLACED AT
BEGINNING AND AT INTERVALS EQUAL TO APPROXIMATELY 1000', BOTH
DIRECTIONS IF APPLICABLE.

A BUMP SIGN (W8-1) 36"x36" SHALL BE INSTALLED TO GIVE WARNING
OF A 2" OR MORE RISE OR DEPRESSION IN THE PROFILE OF THE
ROADWAY. USE AT BEGINNING AND END OF MILLING EVEN IF WEDGE
IS IN PLACE.

FORMULAS FOR DETERMINING TAPER LENGTH

SPEED (S)	TAPER LENGTH (L) IN FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

WHERE: L = TAPER LENGTH IN FEET
W = WIDTH OF LANE OR OFFSET IN FEET
S = POSTED SPEED LIMIT PRIOR TO WORK STARTING

SPEED LIMIT	TAPER (L) 11' LANE	TAPER (L) 12' LANE	SIGN SPACING (X)
20mph	75	80'	100'
25mph	115	125'	100'
30mph	165	180'	100'
35mph	225	245'	100'
40mph	295	320'	100'
45mph	495	540'	350'

EXCEPT AS NOTED (DOWNSTREAM TAPER, FLAGGER OPERATIONS, YIELD
OPERATION), SPACE CHANNELIZER @ SPEED LIMIT. IF SPEED LIMIT IS
40mph SET DEVICES AT 40'.

LEGEND

= SIGN	= ARROW PANEL BOARD
= TYPE III BARRICADE	= WORK SPACE
= REFLECTORIZED DRUMS OR FLUORESCENT ORANGE CONES OR SLIMLINE CHANNELIZERS	= FLAGGER

NO.	DATE	REVISION	BY	APP'D
1	01/30/12	UPDATE SPECIFICATIONS	KAP	LGV
2	02/27/12	ADD ADA DETECTABLE WARNING NOTES	KAP	LGV
3	12/09/15	UPDATE MUTCD NOTE & TAPER CHART	KAP	TC

DRAWN BY: K.PELTON
APP'D BY: T.CODER

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

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NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



TRAFFIC CONTROL
DETOUR SIGNING, SIDEWALK CLOSURES,
TAPER LENGTH & GENERAL NOTES
(DT-118)

DATE: 05/2021

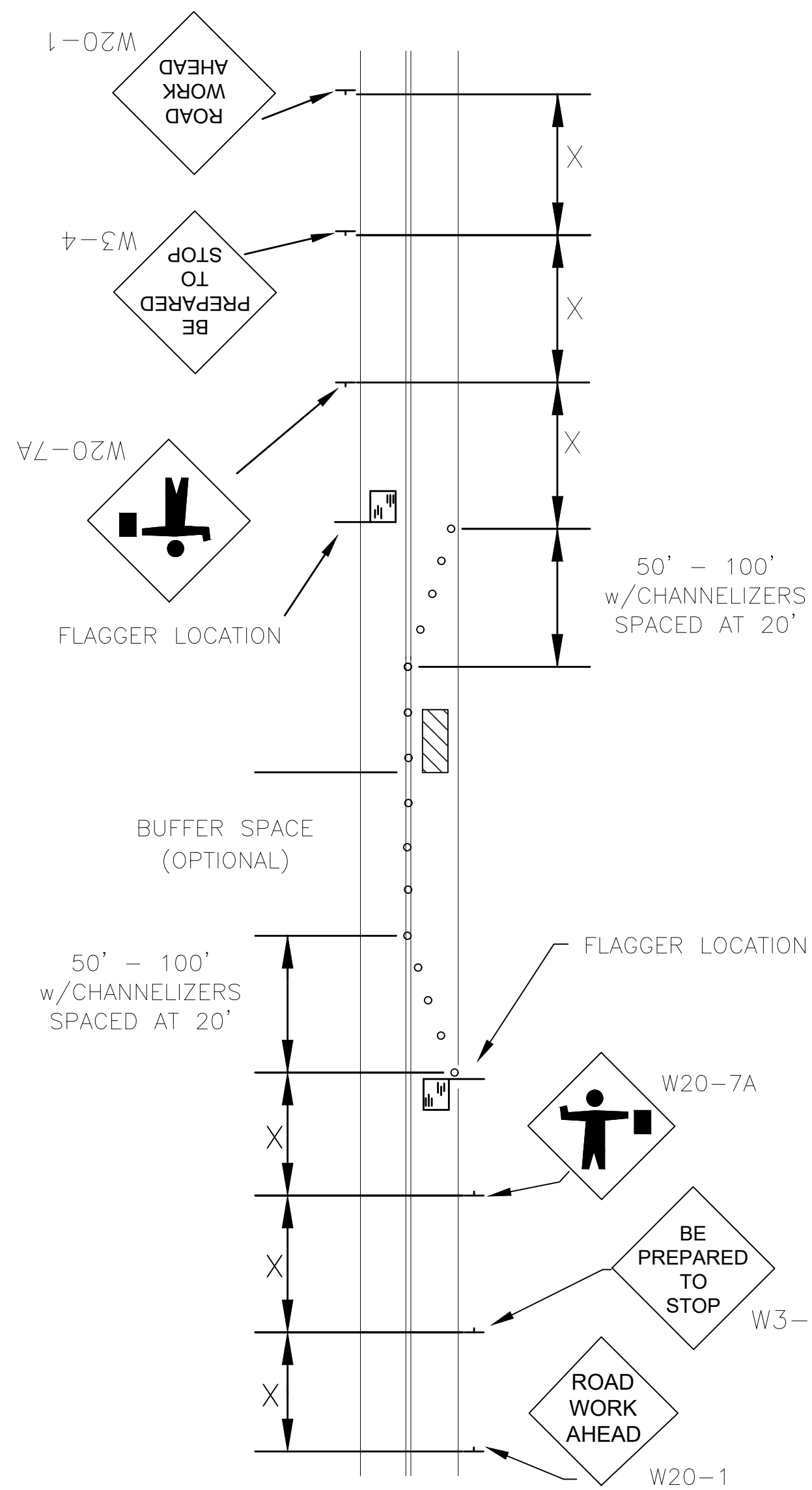
PROJ.: T-501023.15 /

T-501081.01

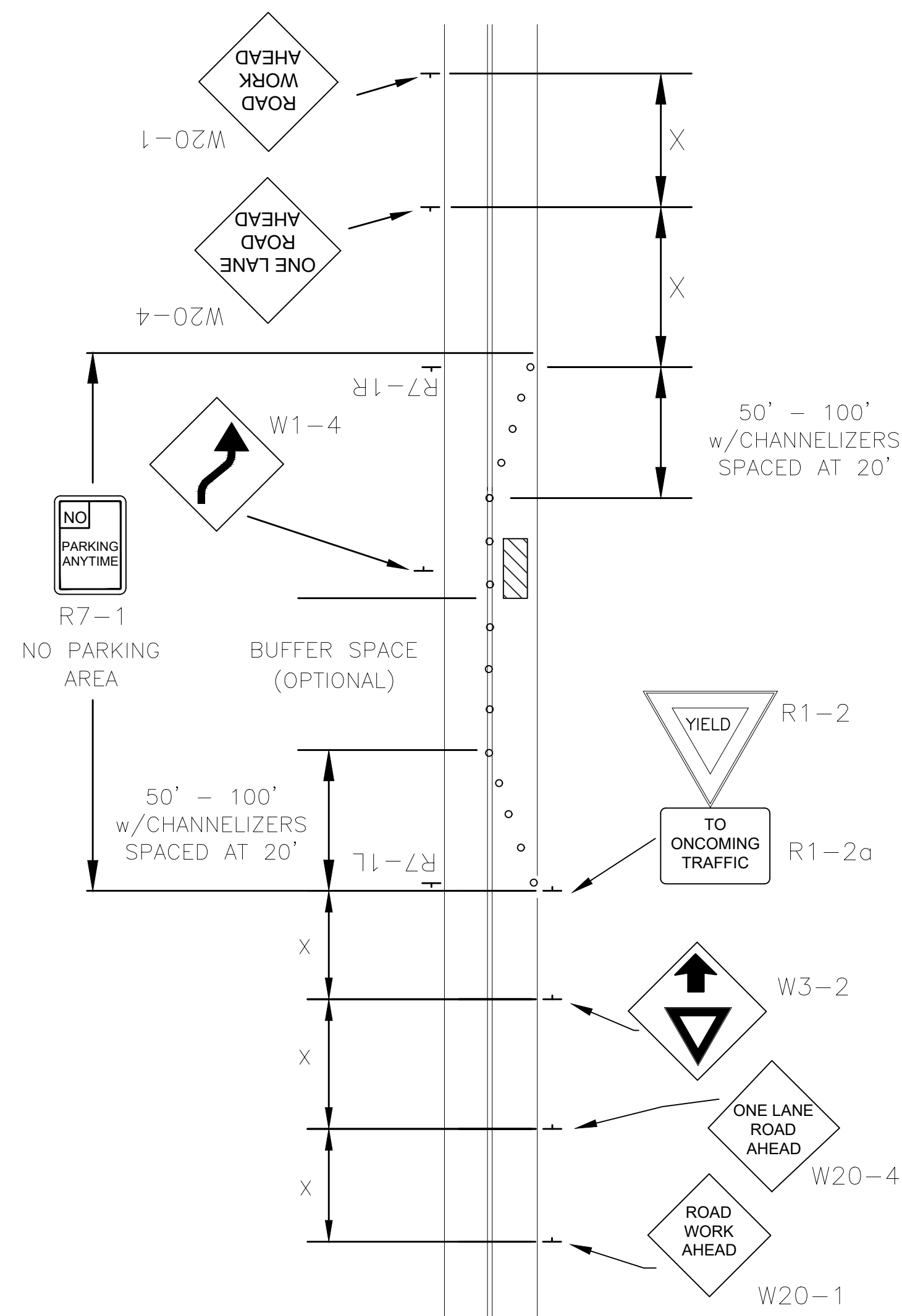
SHEET: 31 OF 41

DTL-10

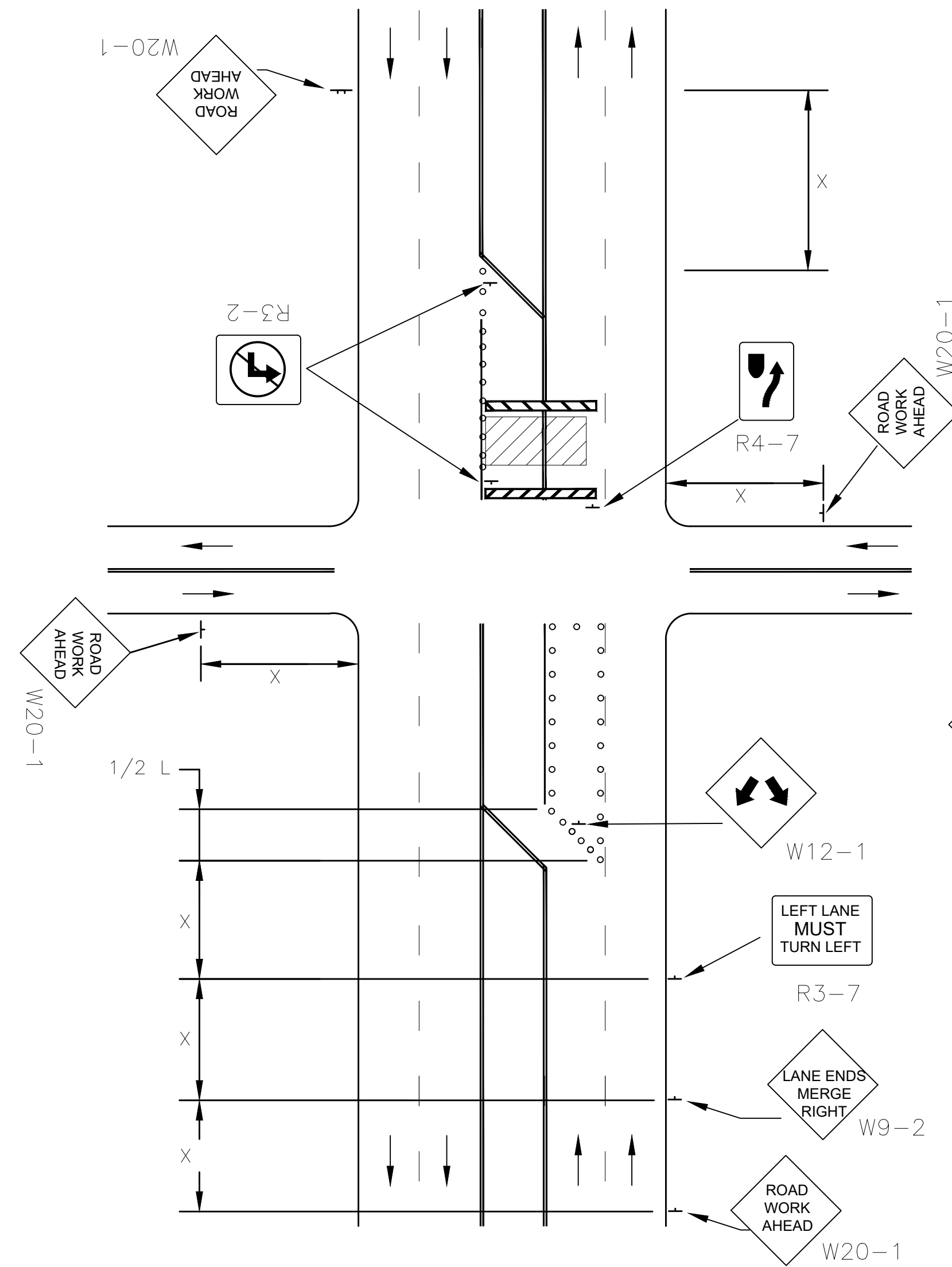
Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:32 AM
File: L:\827500407 Seward Avenue Bulb-out Phase 2\05_CAD\Sheets\DTL-110.dwg



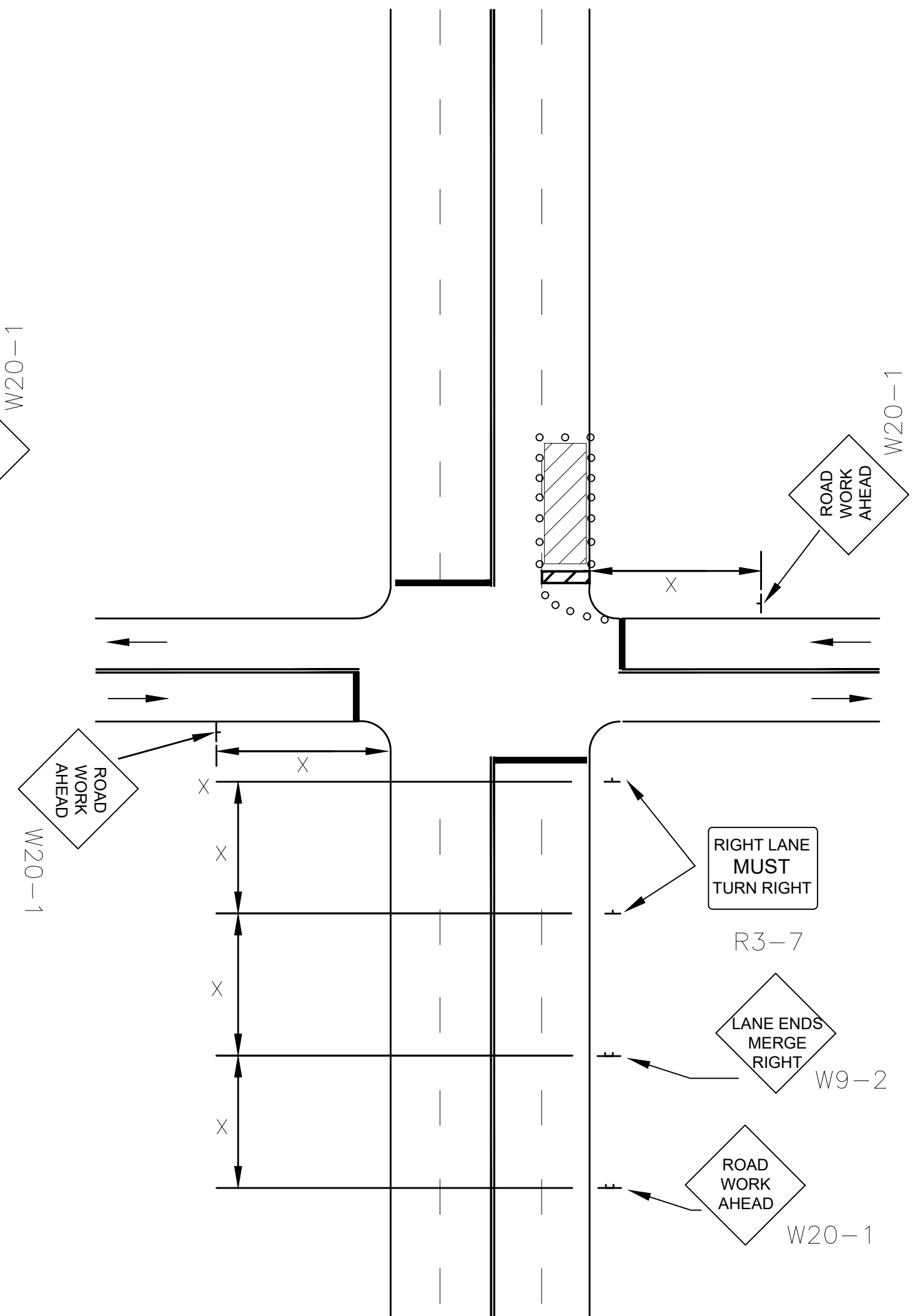
**LANE CLOSURE ON TWO-LANE ROAD
W/ FLAGGER, DAYTIME ONLY**



**LANE CLOSURE ON TWO-LANE ROAD
WITH LOW TRAFFIC VOLUMES
(PRIOR APPROVAL REQUIRED)**



**MULTIPLE LANE CLOSURE AT AN
INTERSECTION**



**RIGHT -HAND LANE CLOSURE ON THE
FAR SIDE OF AN INTERSECTION**

REFER TO SHEET DT-118 FOR TAPER LENGTH(L) AND SIGN SPACING(X) VALUES

NO.	DATE	REVISION	BY	APP'D
1	01/30/12	UPDATE SPECIFICATIONS	KAP	LGV
2	08/06/15	REMOVE W4-7 & REPLACE WITH W9-2	KAP	TLC

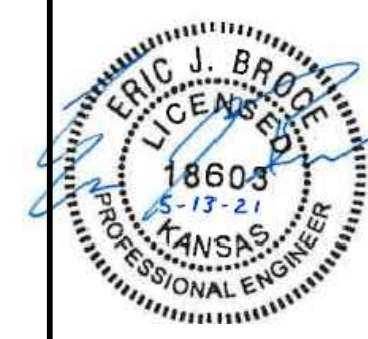
DRAWN BY: K.PELTON
APP'D BY: T.CODER

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PHONE: (785) 272-6830

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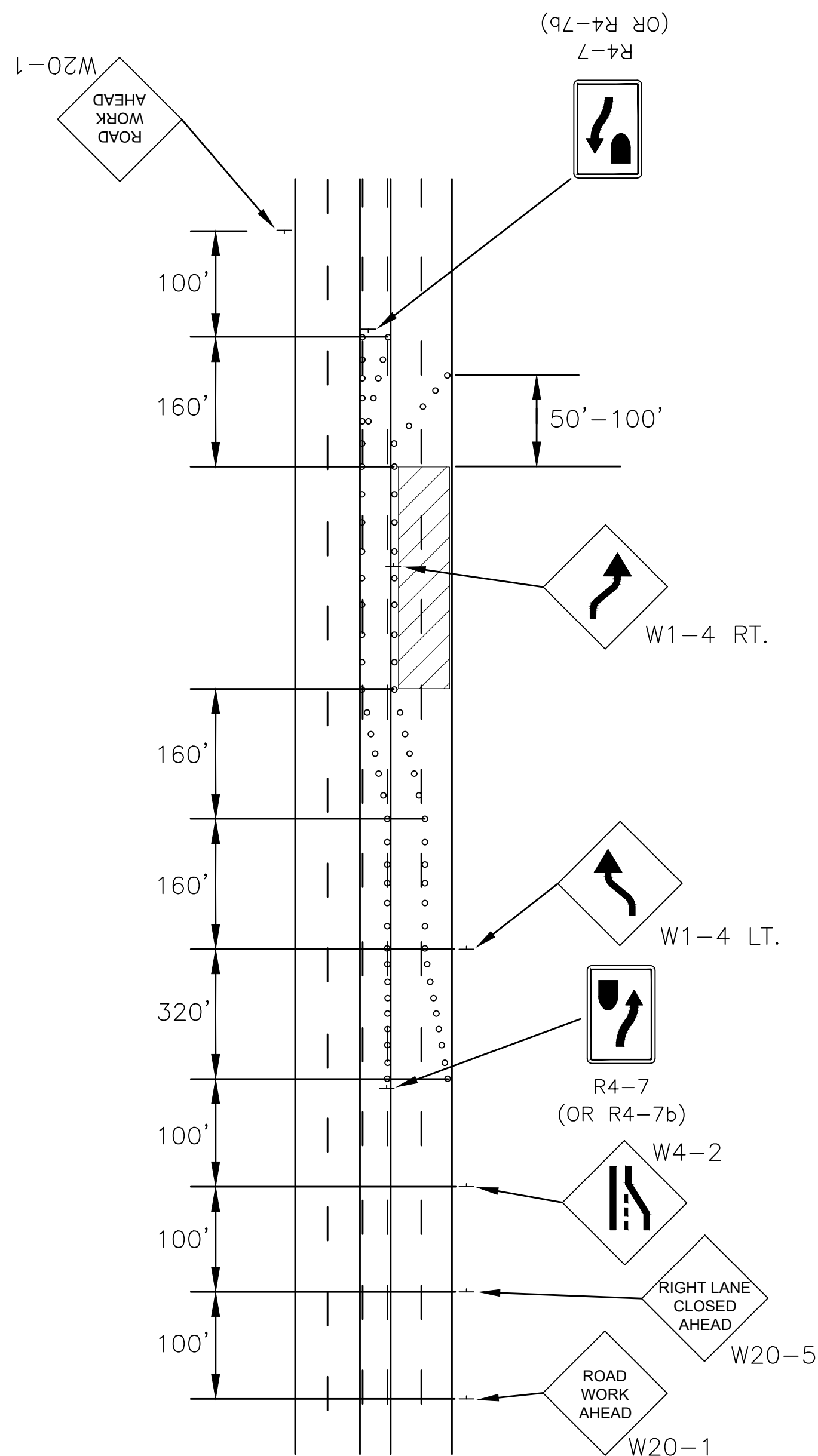
NE SEWARD AVE BULB-OUT PROJECT
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



TRAFFIC CONTROL
LANE CLOSURES
(DT-119)

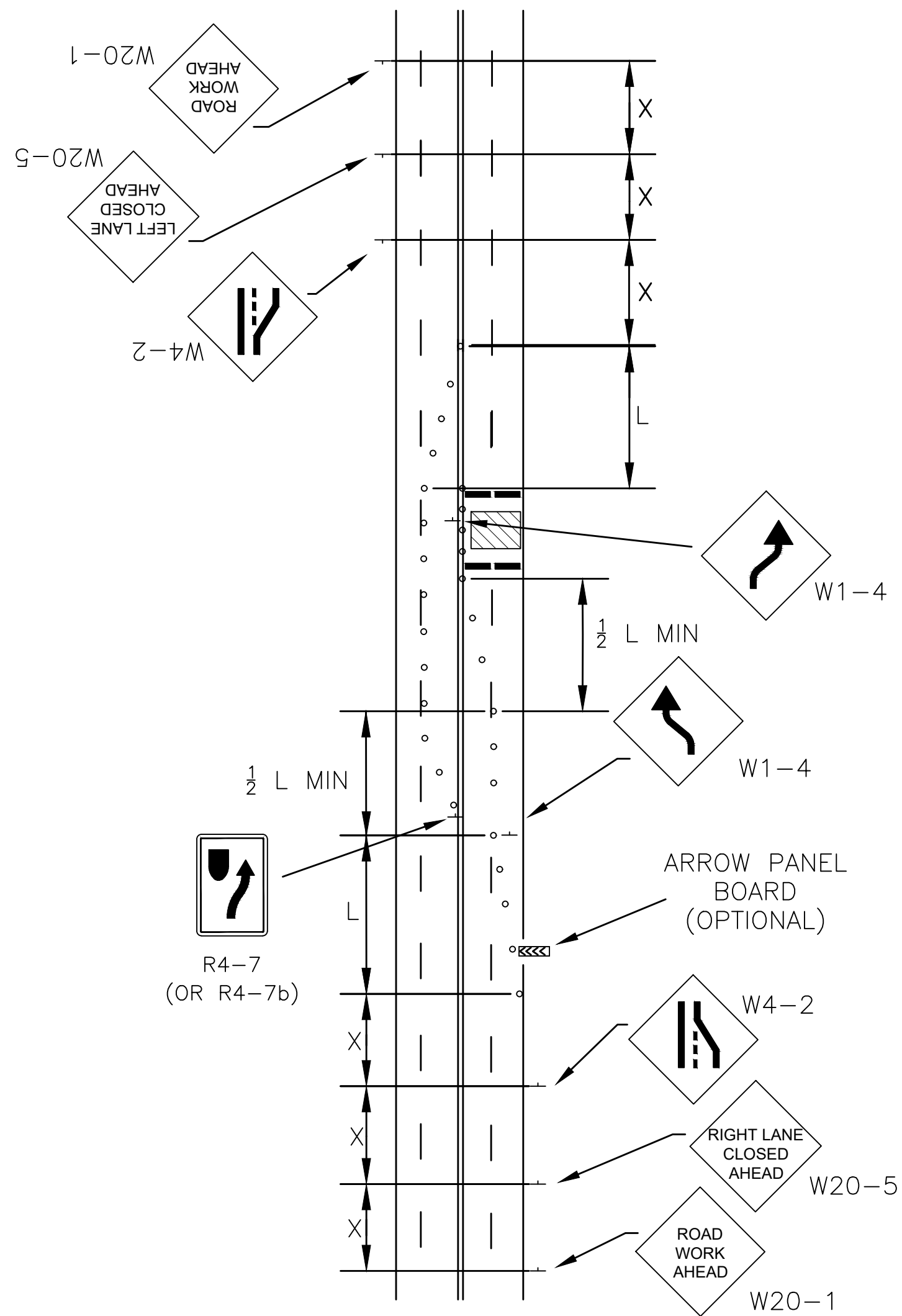
DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 32 OF 41
DTL-11

Last Saved by: joseph.nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:32 AM
File: L:\827500407 Seward Avenue Bulb-out Phase 2\06_CAD\Sheets\DTL-11.dwg

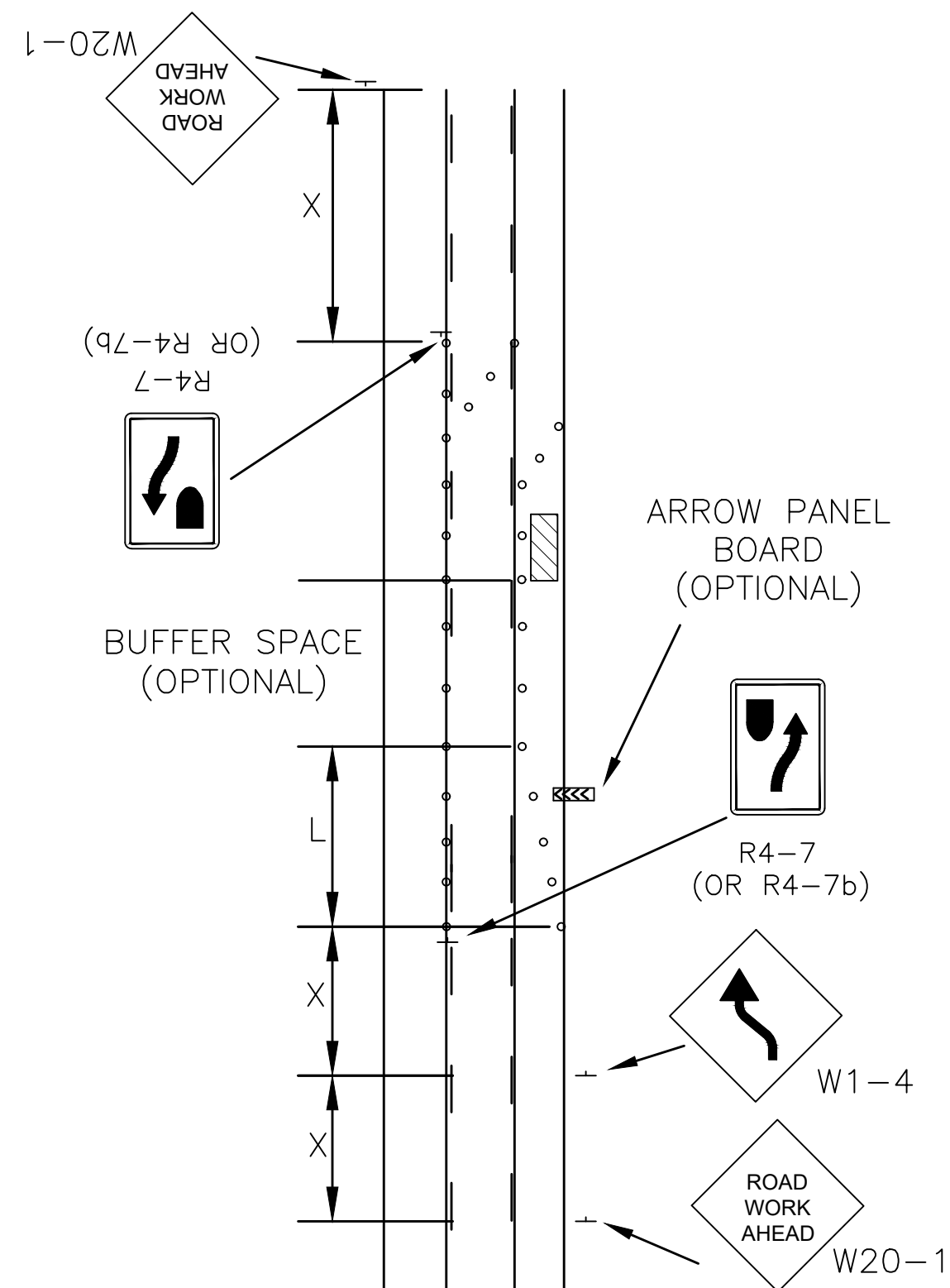


**FIVE LANE ROADWAY
w/ TWO LANES CLOSED**

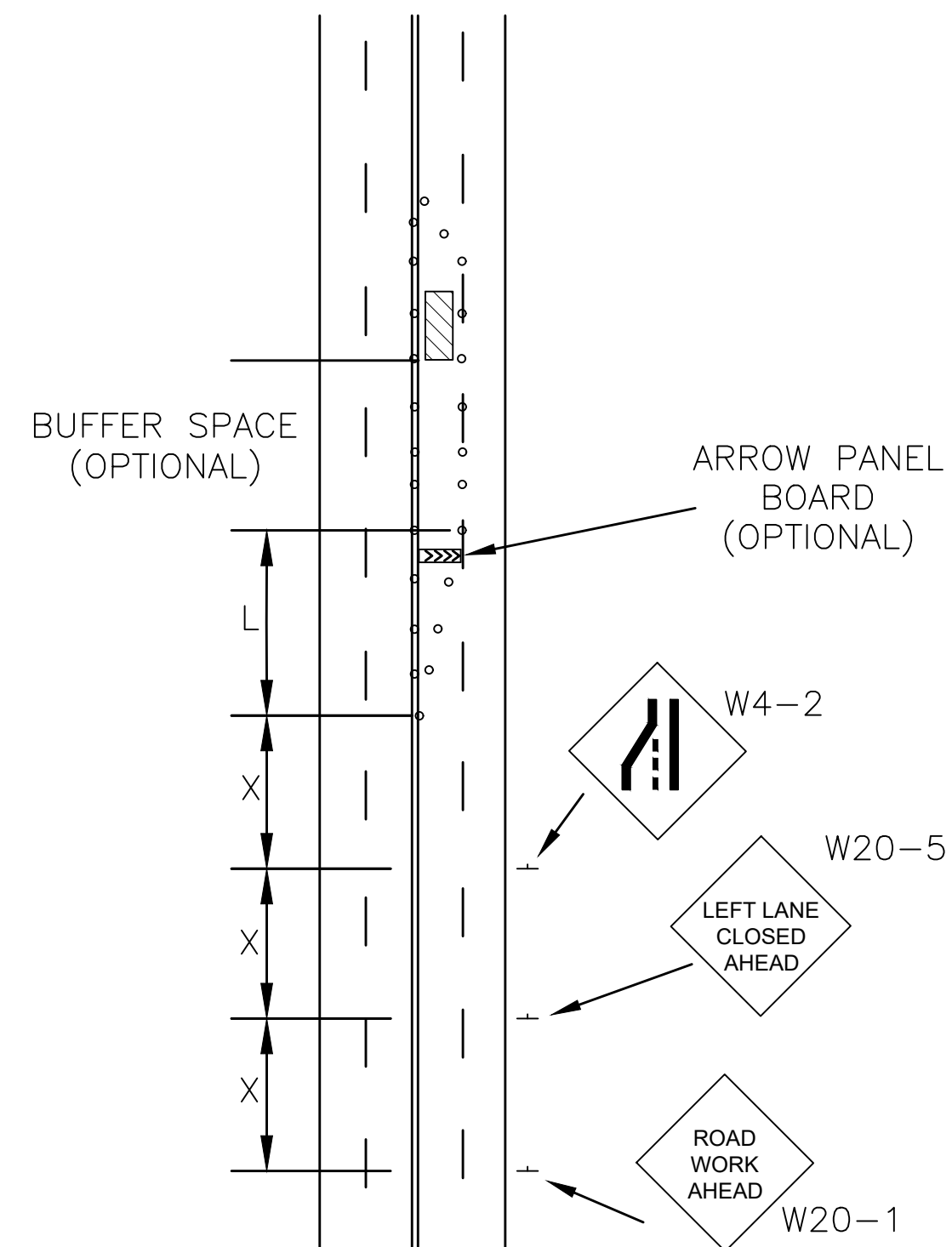
(BASED ON SPEED LIMIT OF 40mph
AND LANE WIDTH OF 12")



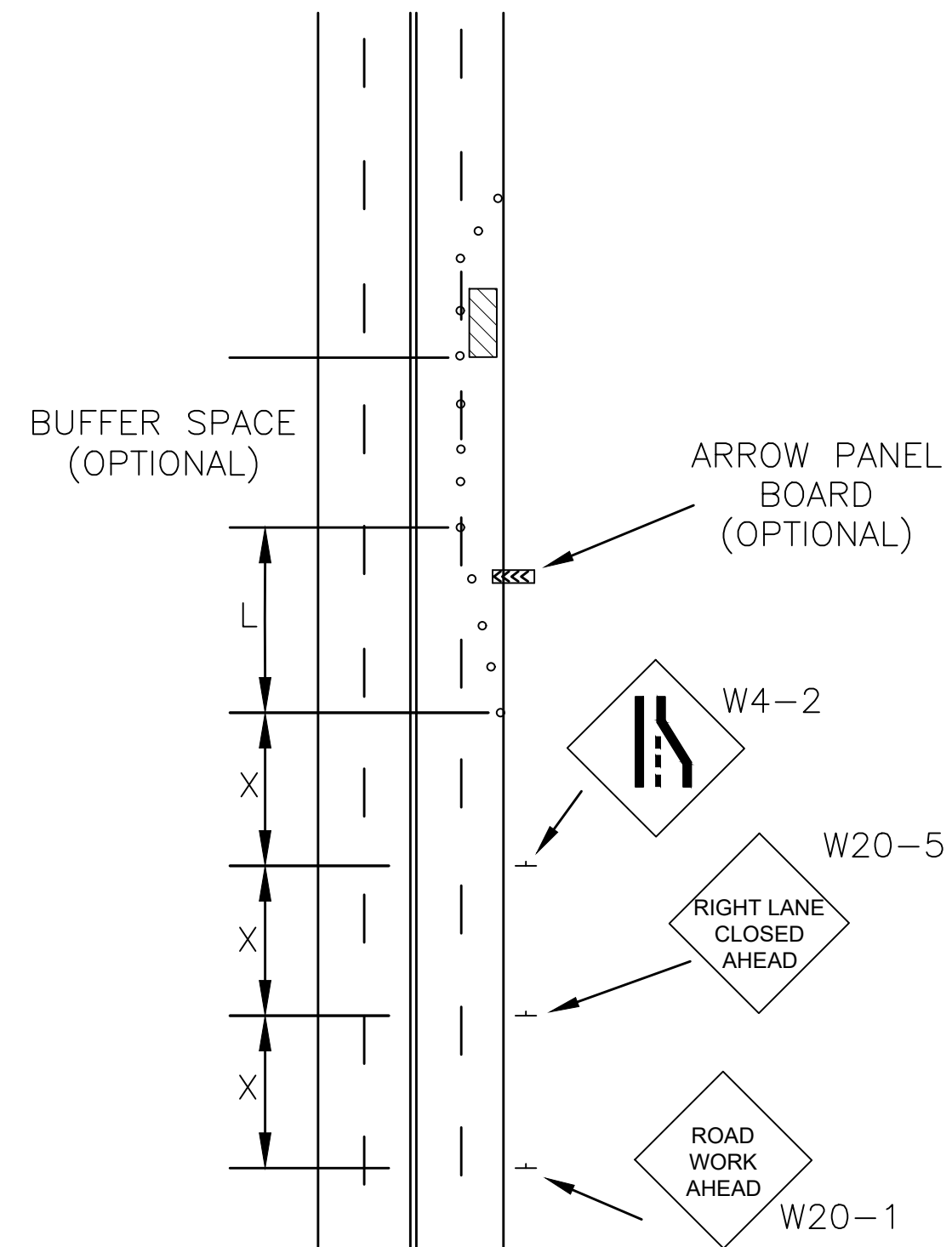
**4-LANE UNDIVIDED ROADWAY-HALF
ROADWAY IS CLOSED**



**LANE CLOSURE WITH
TWO-WAY
LEFT TURN LANE**



**LEFT LANE CLOSURE
ON 4-LANE ROADWAY**



**RIGHT LANE CLOSURE
ON 4-LANE ROADWAY**

REFER TO SHEET DT-118 FOR TAPER LENGTH(L) AND SIGN SPACING(X) VALUES

NO.	DATE	REVISION	BY	APP'D
1	01/30/12	UPDATE SPECIFICATIONS	KAP	TC
2	12/09/15	ADD NOTE ABOUT TAPER CHART	KAP	TC

DRAWN BY: K.PELTON
APP'D BY: T.CODER

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100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830

wood.

CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

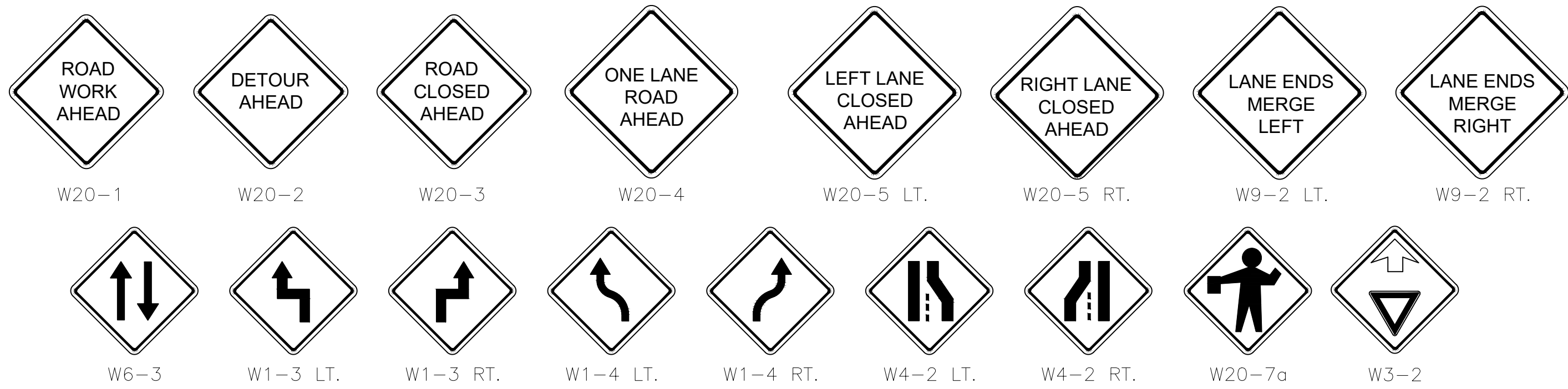
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

ERIC J. BRODERICK
LICENSED PROFESSIONAL ENGINEER
18603
5-13-21
KANSAS

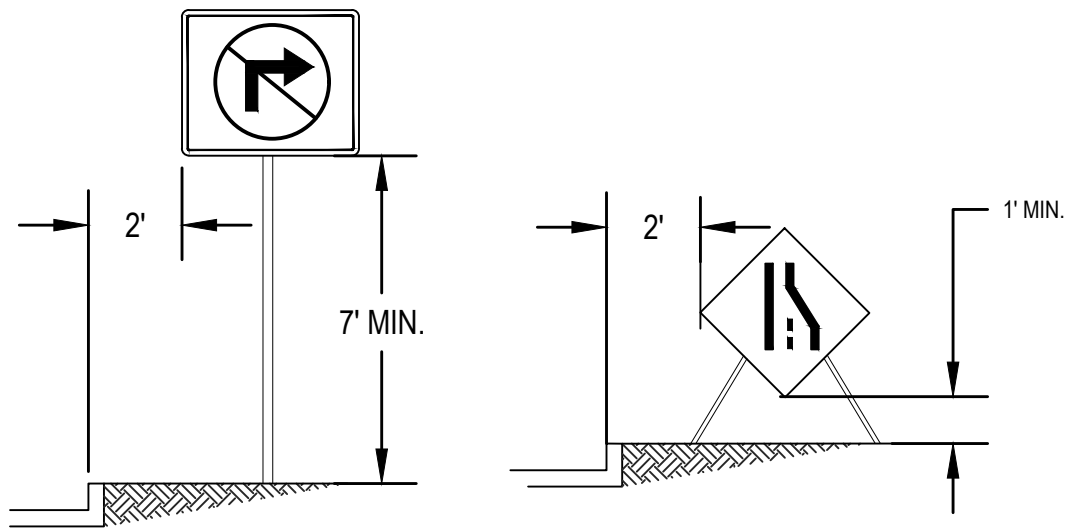
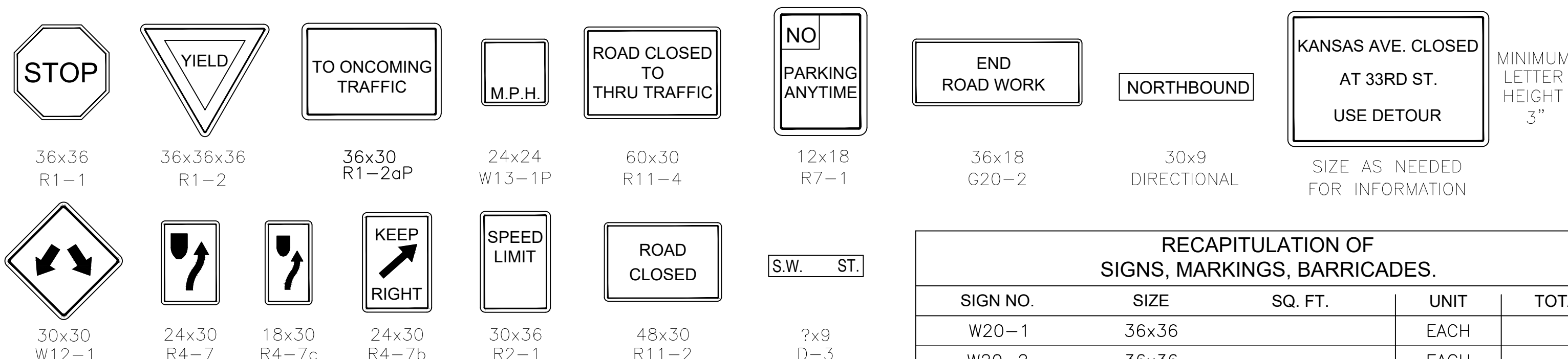
TRAFFIC CONTROL
LANE CLOSURES
(DT-120)

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 33 OF 41
DTL-12

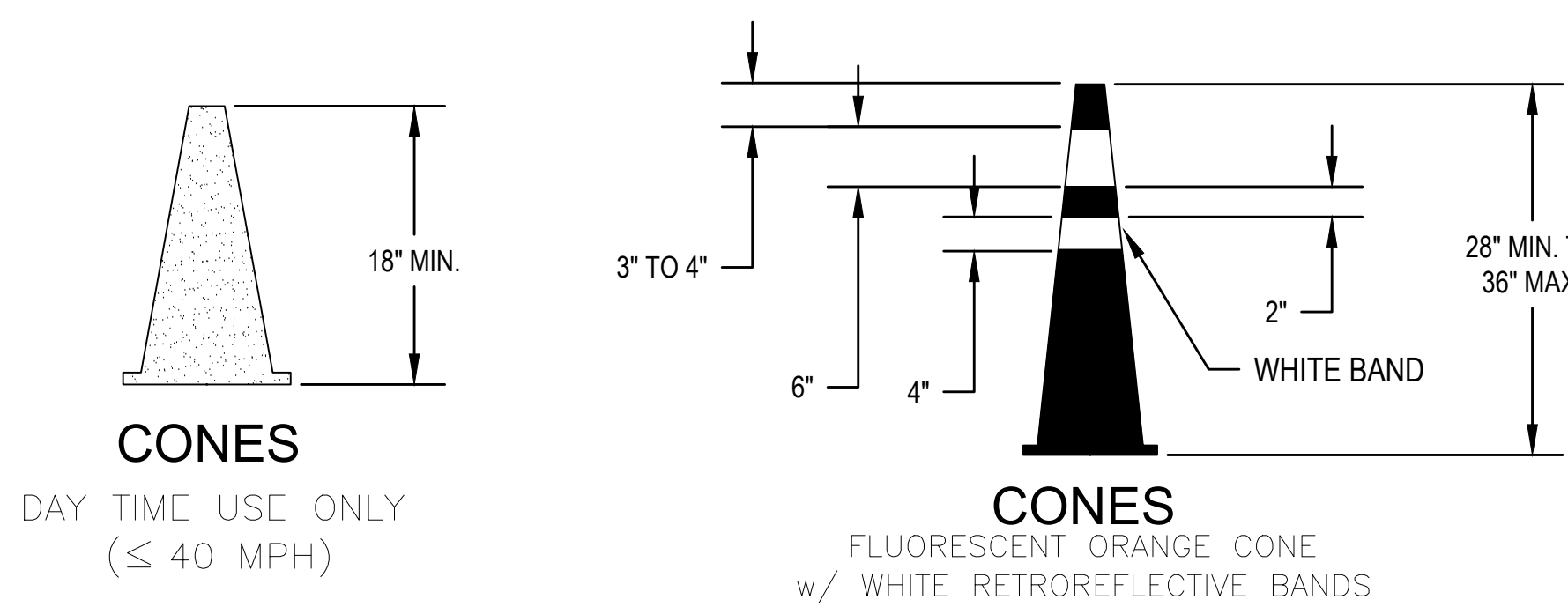
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File: L:\8275000407 Seward Avenue Bulb-out Phase 2\06_CAD\Sheets\DTL-12.dwg



UNLESS OTHERWISE NOTED ALL WARNING SIGNS TO BE 36"x36"

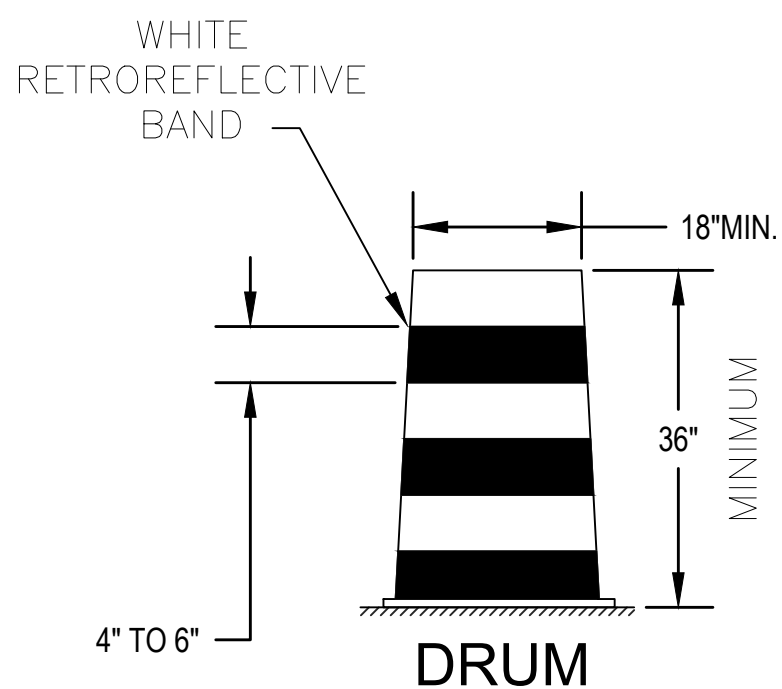


HEIGHT AND LOCATION OF SIGNS

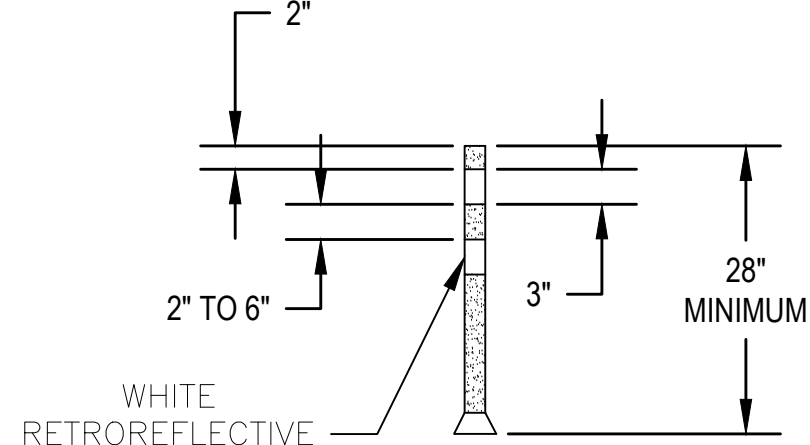


CONES

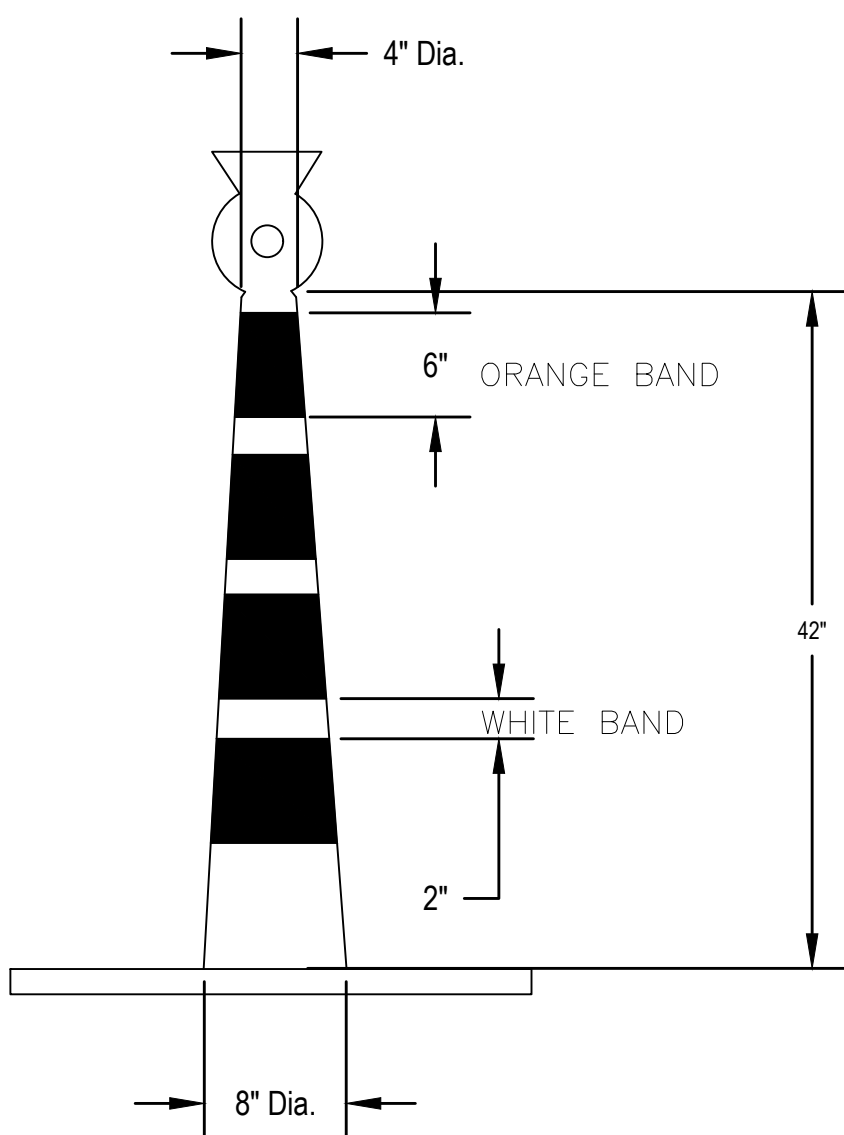
FLUORESCENT ORANGE CONE
w/ WHITE RETROREFLECTIVE BANDS



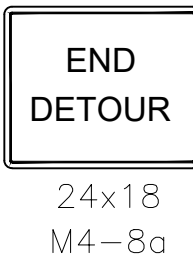
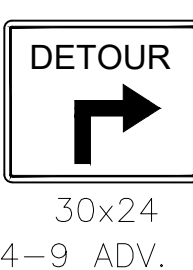
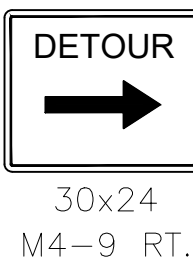
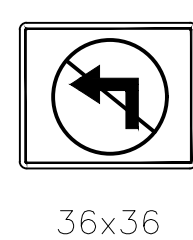
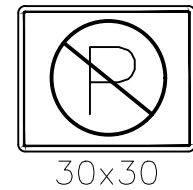
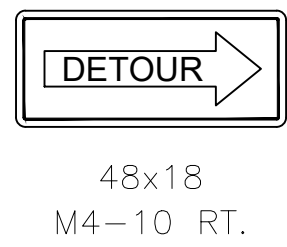
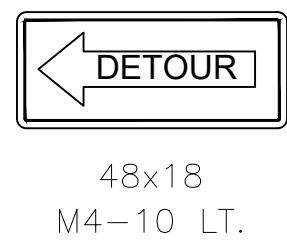
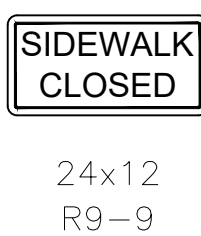
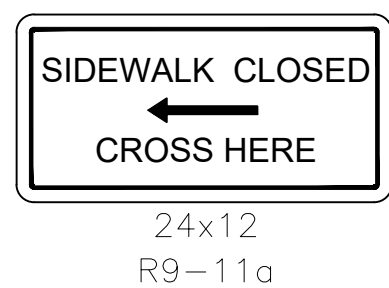
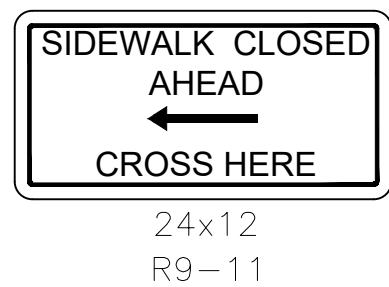
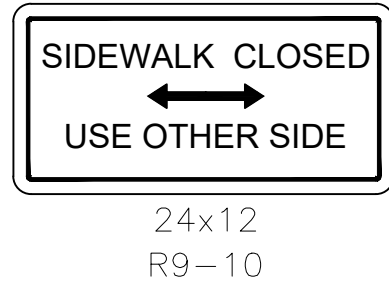
DRUM



TUBULAR MARKERS



SLIMLINE
CHANNELIZER



RECAPITULATION OF SIGNS, MARKINGS, BARRICADES.				
SIGN NO.	SIZE	SQ. FT.	UNIT	TOTAL
W20-1	36x36		EACH	
W20-2	36x36		EACH	
W20-3	36x36		EACH	
W20-4	36x36		EACH	
W20-5	36x36		EACH	
W9-2	36x36		EACH	
W3-1a	36x36		EACH	
W12-1	30x30		EACH	
W1-3	36x36		EACH	
W1-4	36x36		EACH	
W4-2	36x36		EACH	
W20-7a	36x36		EACH	
R1-1	30x36		EACH	
R1-2	36x36x36		EACH	
R1-2aP	36x30		EACH	
W13-1P	24x24		EACH	
R11-4	60x30		EACH	
R7-1	12x18		EACH	
G20-2	36x18		EACH	
D-3	?x9		EACH	
DIRECTIONAL	30x9		EACH	
INFORMATIONAL	AS NEEDED		EACH	
R4-7	24x30		EACH	
R4-7b	24x30		EACH	
R4-7c	18x30		EACH	
R2-1	30x36		EACH	
R11-2	48x30		EACH	
R3-1	36x36		EACH	
R3-2	36x36		EACH	
R3-7	36x36		EACH	
R8-3	30x30		EACH	
R9-8	36x18		EACH	
R9-9	24x12		EACH	
R9-10	24x12		EACH	
R9-11	24x12		EACH	
R9-11a	24x12		EACH	
M4-8a	30x24		EACH	
M4-9 ADV.	30x24		EACH	
M4-9	30x24		EACH	
M4-10	48x18		EACH	
CONSTRUCTION BARRICADES TYPE I OR II			EACH	
CONSTRUCTION BARRICADES TYPE III			EACH	
REFLECTIVE DRUMS			EACH	
REFLECTIVE VERTICAL PANELS			EACH	
SEQUENCING ARROW PANEL BOARD			EACH	
PEDESTRIAN BARRICADE			EACH	
			EACH	
			EACH	
			EACH	
			EACH	
			EACH	
			EACH	

NO.	DATE	REVISION	BY	APP'D
1	01-30-12	UPDATE SPECIFICATIONS	KAP	LGV

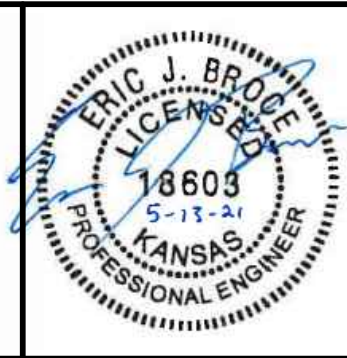
DRAWN BY: K.PELTON
APP'D BY: *Joseph Nestelroad*

Wood Environment & Infrastructure Solutions, Inc.
100 SE 9TH STREET, SUITE 400
TOPEKA, KS 66612
PHONE: (785) 272-6830



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



TRAFFIC CONTROL
SIGNS, MARKINGS & BARRICADES
(DT-121)

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 34 OF 41

DTL-13



STORM WATER MANAGEMENT - EROSION AND SEDIMENT CONTROL

GENERAL

THIS PLAN OUTLINES STORM WATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL PRACTICES TO BE FOLLOWED BY THE CONTRACTOR DURING ALL PHASES OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE RESPONSIBLE TO PREVENT SOIL OR SEDIMENT LOSS FROM THE CONSTRUCTION SITE AND CANNOT LEAVE THE SITE UNTIL ALL PERMANENT EROSION CONTROL, SEDIMENT CONTROL, AND STORM WATER MANAGEMENT PRACTICES ARE IN PLACE, INSPECTED AND HAVE BEEN FOUND TO BE SATISFACTORY, AND UNTIL ALL TEMPORARY PRACTICES HAVE BEEN PROPERLY REMOVED.

STORM WATER MANAGEMENT

THIS PROJECT HAS BEEN DESIGNED TO PROVIDE POSITIVE POST-CONSTRUCTION CONTROL OF EXCESS STORM WATER GENERATED ON THE SITE THROUGH THE USE OF CURBS, GUTTERS, PIPING, STORM WATER BASINS (WHEN DESIGNED) AND STORM WATER OUTLETS. DURING THE COURSE OF CONSTRUCTION, THE CONTRACTOR OR DEVELOPER WILL INSTALL AND MAINTAIN STORM WATER MANAGEMENT STRUCTURES IN A MANNER TO MAXIMIZE STORM WATER CONTROL.

EROSION AND SEDIMENT CONTROL

THIS PROJECT IS DESIGNED TO MINIMIZE OFF-SITE EFFECT OF SOIL EROSION AND RESULTING SEDIMENT LOSS THROUGH THE USE OF PROPER CONSTRUCTION TECHNIQUES, INCLUDING INSTALLING BOTH TEMPORARY AND PERMANENT MANAGEMENT PRACTICES. ALL SOIL DISTURBING ACTIVITIES PERFORMED BY THE CONTRACTOR WILL BE ACCOMPLISHED IN SUCH A MANNER AS TO PREVENT THE LOSS OF SEDIMENT IN STORM WATER AND TRACKING OF SOIL FROM VEHICLE TRAFFIC FROM THE CONSTRUCTION SITE. TO ACCOMPLISH THIS, THE FOLLOWING SPECIFIC STEPS WILL BE TAKEN DURING CONSTRUCTION:

- OVERALL PLAN AND CONTRACTOR RESPONSIBILITY**
- CONTRACTOR SHALL ACQUIRE A LAND DISTURBANCE ACTIVITY PERMIT PRIOR TO CONSTRUCTION.
 - CONTRACTOR SHALL PROVIDE TEMPORARY EROSION AND POLLUTION CONTROL AS SHOWN ON THE DRAWING AND AS DIRECTED BY THE ENGINEER. EROSION FENCE AND BEST MANAGEMENT PRACTICES SHALL REMAIN IN PLACE UNTIL THE PROJECT IS COMPLETED AND GRASS IS ESTABLISHED.
 - THE BID ITEMS 'INLET PROTECTION AREA', & 'INLET PROTECTION CURB' INCLUDES INSTALLATION, MAINTENANCE, REMOVAL AND OTHER BEST MANAGEMENT PRACTICES TO EFFECTIVELY CONTROL SEDIMENT AND PREVENT ITS MIGRATION FOR THE DURATION OF THE PROJECT. THIS ITEM SHALL BE MONITORED AND ANY EXCESS SEDIMENT SHALL BE REMOVED AND EROSION FENCE OR OTHER BEST MANAGEMENT PRACTICES SHALL BE ADJUSTED AS REQUIRED.
 - THE CONTRACTOR SHALL KEEP A WRITTEN LOG OF WHEN CONSTRUCTION ACTIVITIES BEGIN, EROSION AND SEDIMENT CONTROLS ARE INSTALLED, INSPECTED AND REPAIRED. COPIES OF LOG SHALL BE FURNISHED TO THE ENGINEER.
 - THE ENGINEER AND CONTRACTOR SHALL MONITOR EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE PROJECT. THIS PLAN MAY BE UPDATED AS CONSTRUCTION PROGRESSES WITH APPROVAL OF ENGINEER.
 - IMMEDIATELY AFTER MOBILIZATION AND PRIOR TO STARTING ANY SOIL DISTURBING ACTIVITIES, THE CONTRACTOR SHALL INSTALL THE PERIMETER EROSION, SEDIMENT CONTROL MEASURES, AND TEMPORARY SEDIMENT BASIN(S). IT IS RECOGNIZED THAT SOME SITE CLEARING AND PREPARATION MAY BE REQUIRED TO PROPERLY INSTALL SUCH MEASURES.
 - THE RECOMMENDED SEQUENCE OF CONSTRUCTION ACTIVITIES AND OF THE INSTALLATION AND REMOVAL OF EROSION AND SEDIMENT CONTROL MEASURES IS AS FOLLOWS: PERIMETER CONTROL MEASURES (SILT FENCE, TEMPORARY SEDIMENT BASIN) INCLUDING AREAS DRAINING TO A DRAINAGE WAY SUCH AS A STREAM, GRAVEL CONSTRUCTION ENTRANCE(S), CONSTRUCTION OF STORM SEWER, INLET PROTECTION, STREETS, FINAL GRADING, SEEDING, FERTILIZING AND MULCHING ON ALL SLOPES AND DISTURBED AREAS, CONSTRUCTION AND INDIVIDUAL SITE CONTROL MEASURES, REMOVAL OF TEMPORARY PRACTICES, REMOVAL OF PERIMETER CONTROLS AND SITE CLEANUP.
 - PERIMETER SILT FENCE, STRAW WATTLES, AND TEMPORARY SEDIMENT BASIN(S) SHALL BE CONSTRUCTED IN ACCORDANCE WITH DETAILS SHOWN HEREON. INSTALL SILT FENCE OR STRAW WATTLES WHERE REPRESENTED ON PLAN SLOPE CONTROL, AROUND INLETS, ALONG ROADWAYS, AREAS DRAINING TO A DRAINAGE WAY SUCH AS A STREAM AND OTHER LOCATIONS AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE SITE. MEASURES WILL BE KEPT IN PLACE UNTIL GRASS OR DESIRED LANDSCAPING IS ESTABLISHED.
 - STRAW WATTLE OR REINFORCED SILT FENCE INLET PROTECTION AT EACH INLET SHALL BE INSTALLED AFTER COMPLETION OF INLETS AND DITCHES. PROTECTION SHALL REMAIN IN PLACE AT INLETS UNTIL PAVEMENT IS CONSTRUCTED AND IN DITCHES UNTIL PERMANENT GRASS OR LANDSCAPING IS ESTABLISHED. IN ADDITION, STRAW WATTLES OR SILT FENCE WILL BE PLACED ALONG STREETS, AS NEEDED, TO REDUCE SEDIMENT IN THE STREETS.
 - EROSION CONTROL PERIMETER FENCE, STRAW WATTLE PROTECTION BARRIERS AND TEMPORARY SEDIMENT BASIN(S) SHALL BE INSPECTED AND MAINTAINED BY THE CONTRACTOR NOT LESS THAN WEEKLY AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR MORE. MAINTENANCE SHALL INCLUDE BUT IS NOT LIMITED TO SEDIMENT REMOVAL, SILT FENCE AND STRAW WATTLE REPAIR AND/OR REPLACEMENT.

- CONSTRUCTION ENTRANCE(S) SHALL BE MAINTAINED BY THE CONTRACTOR IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAYS AND PAVED STREETS. THIS MAY INCLUDE PERIODIC TOP DRESSING WITH ADDITIONAL CRUSHED STONE AS CONDITIONS WARRANT. REPAIR OF ENTRANCE(S), CLEANING ON A DAILY BASIS OF RIGHT-OF-WAYS AND PAVED STREETS THAT HAVE BEEN SOILED BY CONSTRUCTION ACTIVITIES SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- IF ADDITIONAL INGRESS AND EGRESS TO THE CONSTRUCTION SITE IS REQUIRED OVER ENTRANCE(S) SHOWN HEREON, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER THE LOCATION AND CONSTRUCTION DETAILS OF THESE ADDITIONAL ENTRANCES. USAGE OF NON-STABILIZED ENTRANCES WILL NOT BE PERMITTED.
- DURING ALL SOIL DISTURBING ACTIVITIES, THE CONTRACTOR WILL TAKE APPROPRIATE STEPS USING ACCEPTED CONSTRUCTION METHODS TO MINIMIZE THE TIME OF EXPOSURE OF UNPROTECTED SOIL AND OTHER CONSTRUCTION MATERIALS TO RAINFALL.
- NO GROUND SHALL BE LEFT OPEN FOR MORE THAN 14 DAYS OF NON-ACTIVITY WITHOUT BEING MULCHED AND/OR SEEDED.
- SOIL STOCKPILED FOR MORE THAN 7 DAYS SHALL HAVE SILT FENCE OR STRAW WATTLES PLACED ON THE DOWNHILL SLOPE TO TRAP SEDIMENT.
- CONCRETE WASHOUT FACILITIES SHALL BE PROVIDED BY CONTRACTOR, AND SHOULD NOT BE PLACED WITHIN 50 FT OF STORM DRAINS UNLESS APPROVED BY THE ENGINEER. CONCRETE WASHOUT FACILITY MUST BE APPROVED BY ENGINEER'S REPRESENTATIVE AND MUST BE PROPERLY MAINTAINED FOR DURATION OF PROJECT. WASHOUT SHALL CONFORM TO COT TECHNICAL SPECIFICATIONS SECTION 4.20 D.
- WHENEVER SOIL, ROCK, VEGETATION OR OTHER MATERIALS ARE EXPORTED FOR PLACEMENT IN AREAS OFF OF THE CONSTRUCTION SITE COVERED IN THIS PLAN, THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THAT EPA STORM WATER PERMITTING REQUIREMENTS ARE MET. PRIOR TO THE REMOVAL OF ANY MATERIALS FROM THE SITE THE CONTRACTOR WILL FURNISH THE ENGINEER WITH WRITTEN AGREEMENT, SIGNED BY EACH LANDOWNER WHO WILL RECEIVE EXPORTED MATERIALS, STATING THAT THEY ACCEPT THE MATERIAL AND THAT RECEIVING SITE IS PROPERLY PERMITTED, WHEN REQUIRED.
- TOTAL DISTURBED AREA: 9377 SF

LEGEND

-  SOIL STOCKPILE AREA
-  CONCRETE WASHOUT
-  AREA INLET PROTECTION
-  CURB INLET PROTECTION

NO.	DATE	REVISION	BY	APP'D

DRAWN BY: JAN / CMH
APP'D BY: EJB

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TOPEKA, KS 66612
PHONE: (785) 272-6830



NE SEWARD AVE BULB-OUT PROJECT

CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



EROSION CONTROL PLAN

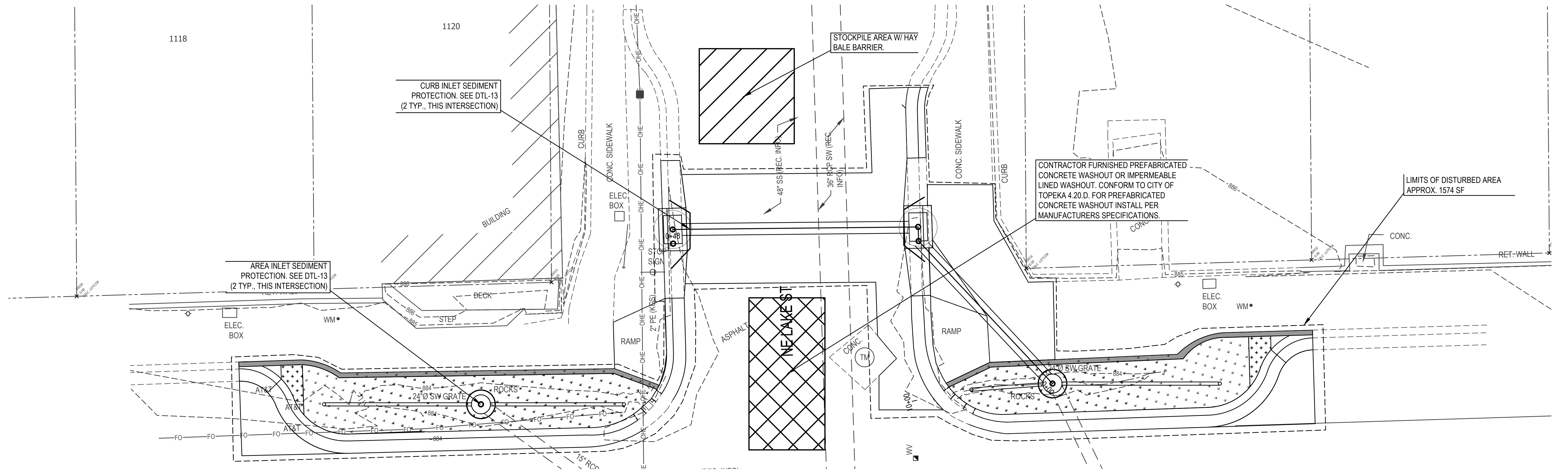
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DATE: 05/2021

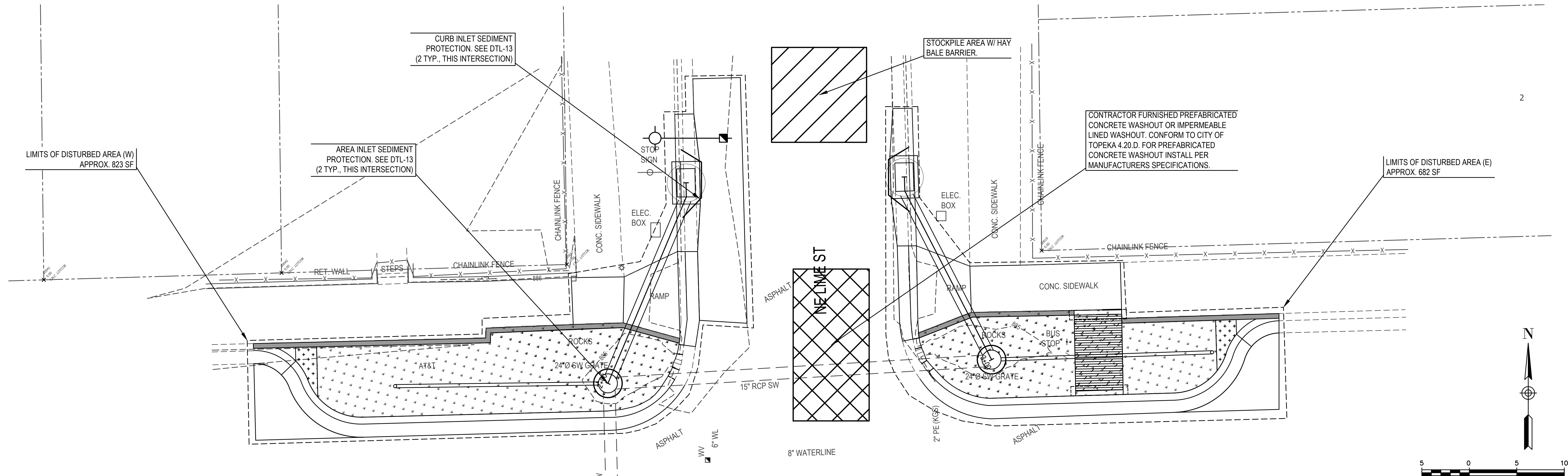
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SHEET: 35 OF 41

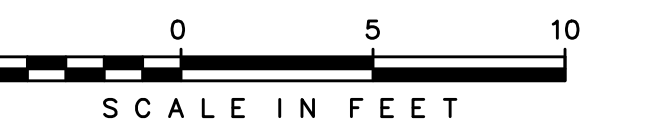
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SEWARD & LAKE INTERSECTION



SEWARD & LIME INTERSECTION



2

NO.	DATE	REVISION	BY	APP'D

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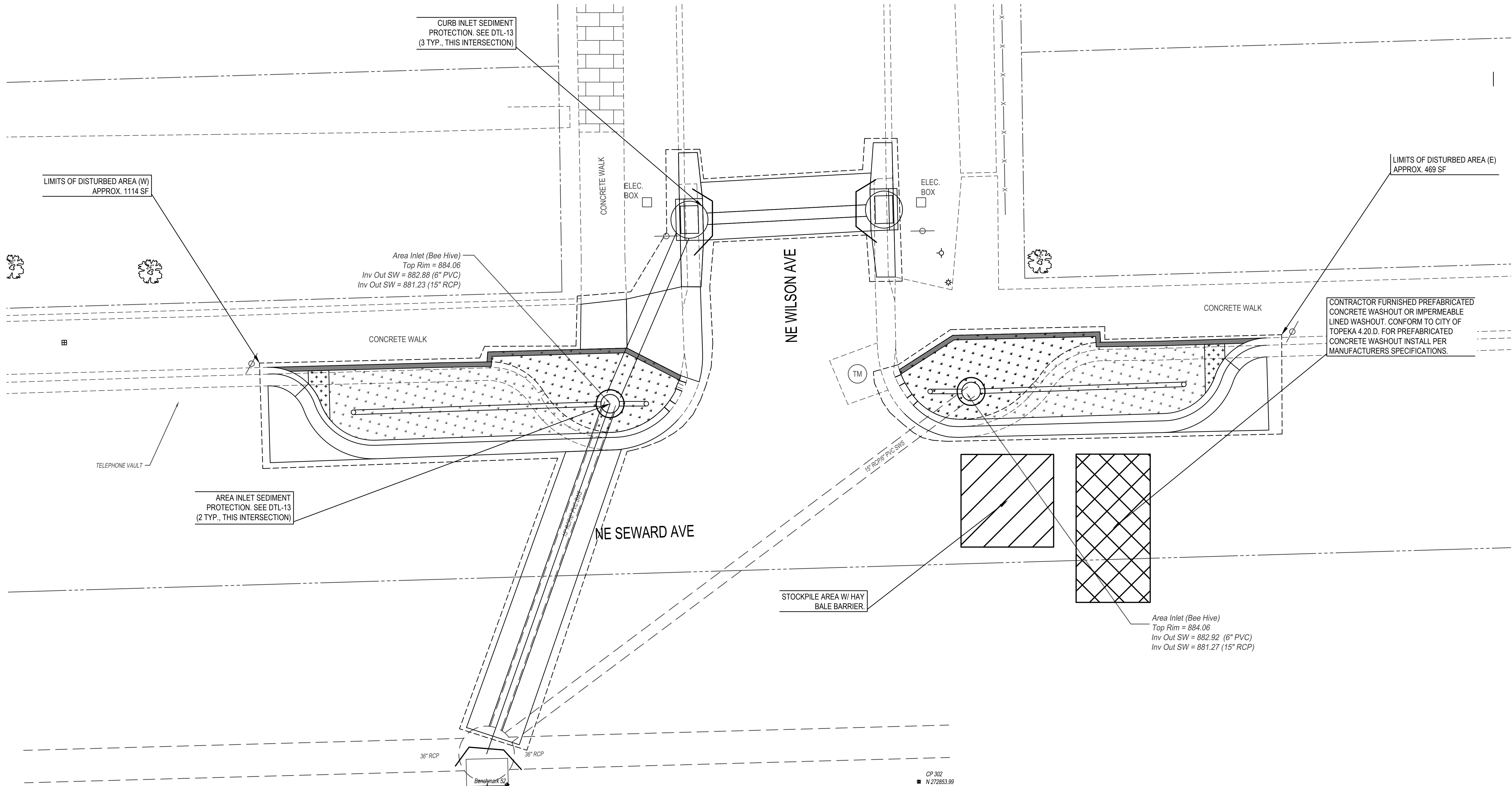
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CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



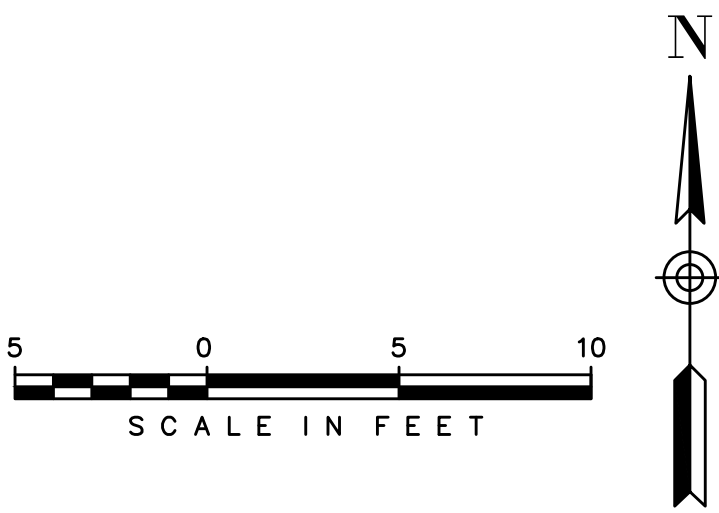
EROSION CONTROL PLAN
SHEET: 36 OF 41
EC-01

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 36 OF 41
EC-01

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SEWARD & WILSON INTERSECTION

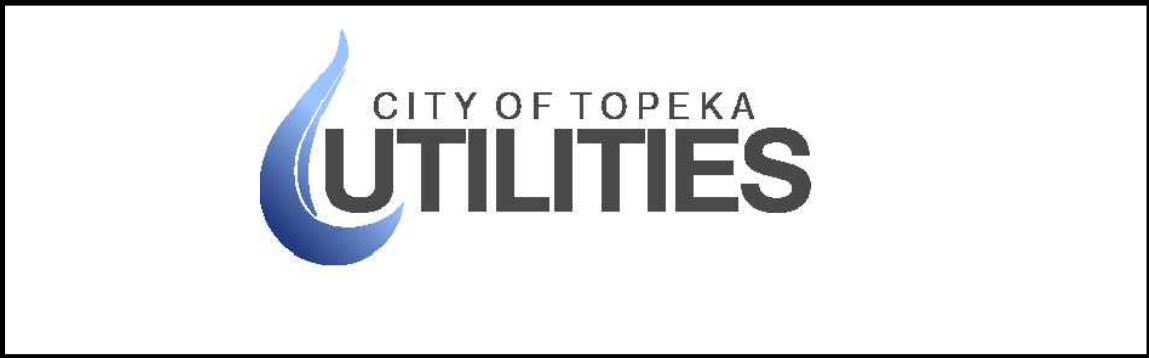


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APP'D BY: EJB

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CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

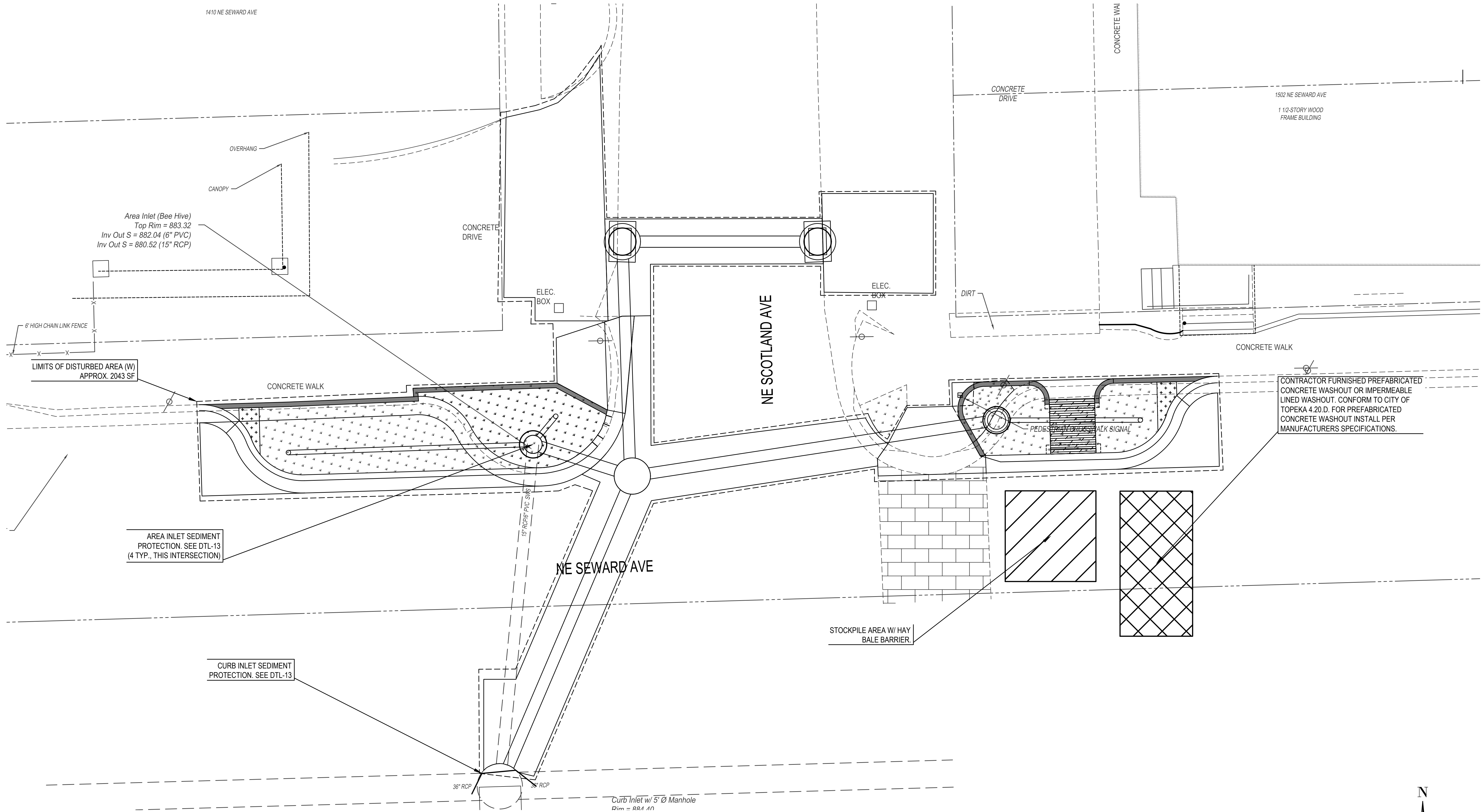


EROSION CONTROL PLAN

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 37 OF 41

EC-02

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SEWARD & SCOTLAND INTERSECTION



NO.	DATE	REVISION	BY	APP'D

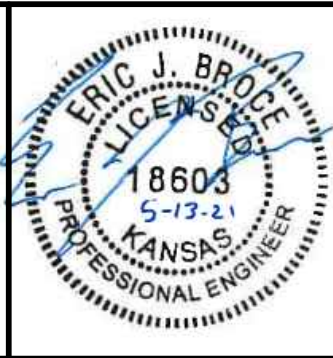
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CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

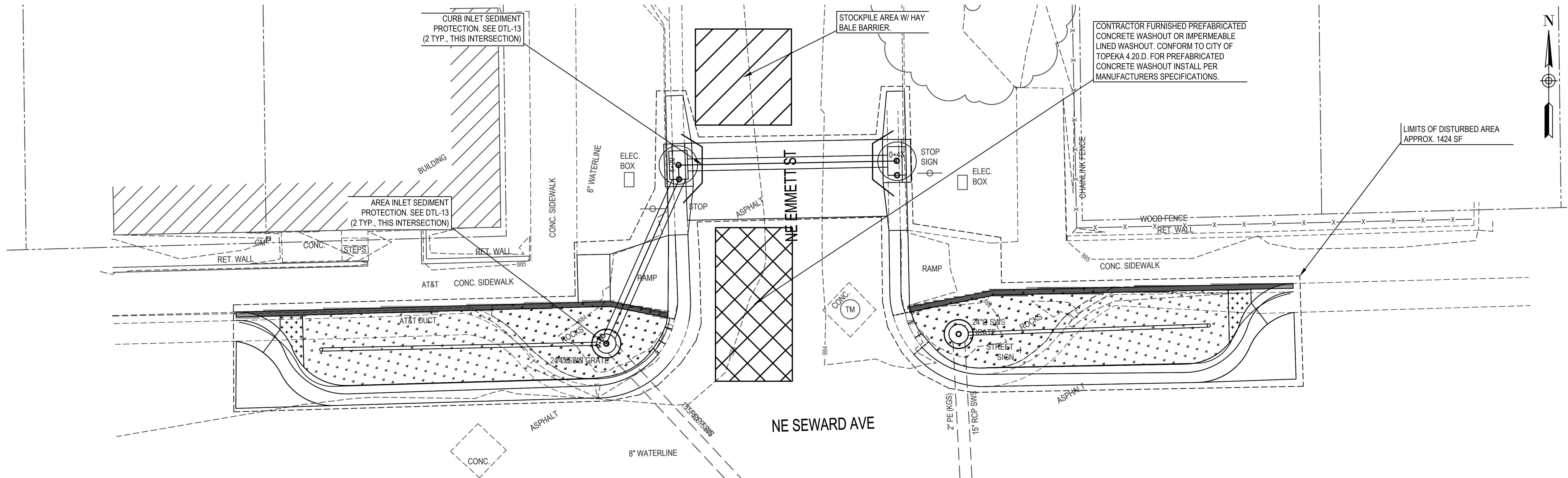


EROSION CONTROL PLAN

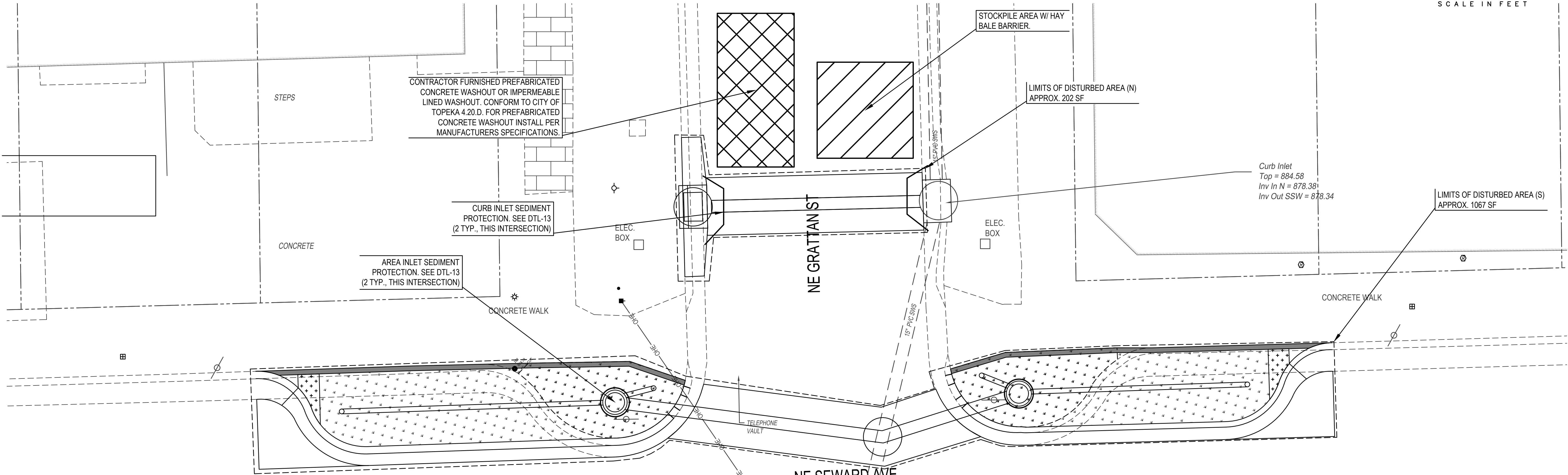
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SHEET: 38 OF 41

EC-03

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SEWARD & EMMETT INTERSECTION



SEWARD & GRATTAN INTERSECTION

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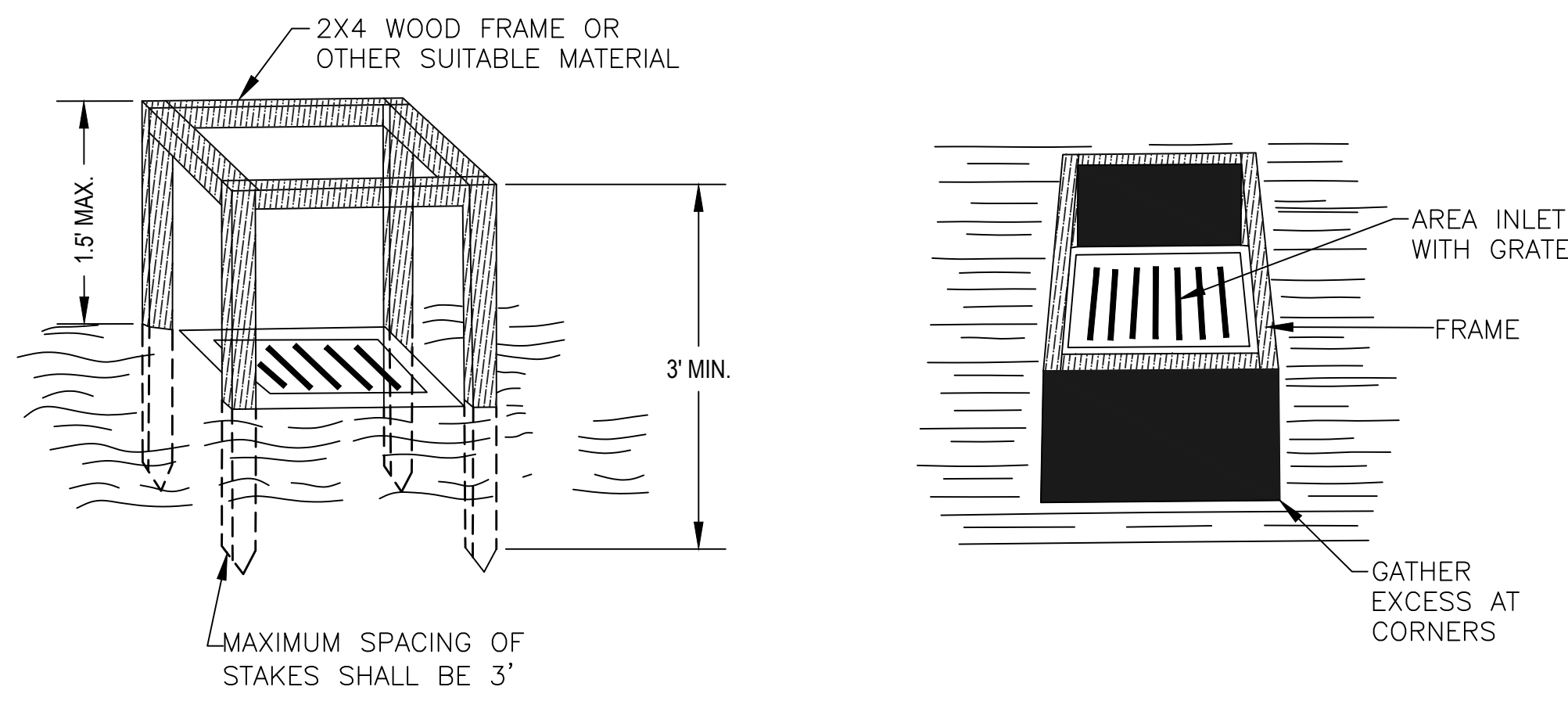
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



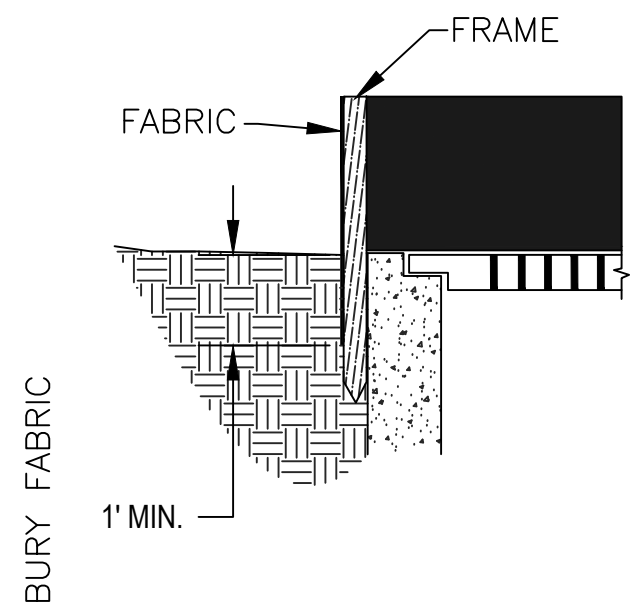
EROSION CONTROL PLAN

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 39 OF 41

EC-04



TOP VIEWS



PROFILE VIEW

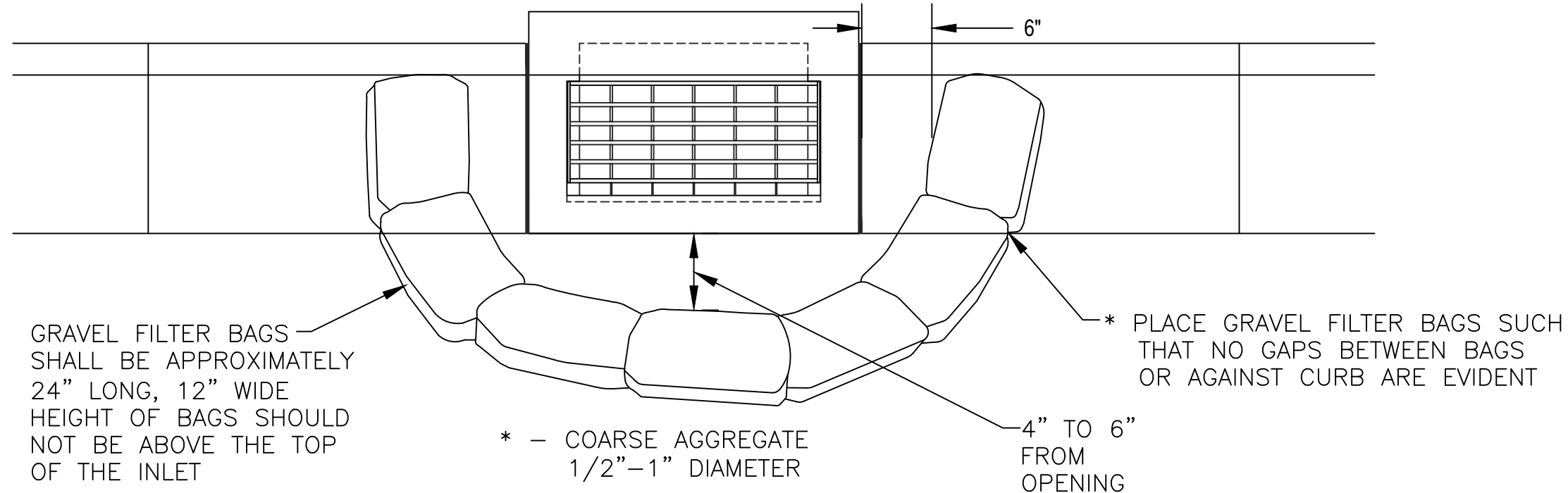
- NOTES:
1. BASE OF FABRIC SHALL BE BURIED AT LEAST 1' BELOW GROUND SURFACE AND BACKFILLED WITH CRUSHED STONE OR COMPACTED MATERIAL.
 2. WIRE MESH FENCE MAY BE USED TO SUPPORT FABRIC. TOP OF FENCE SHOULD BE LEVEL WITH FRAME AND BOTTOM BURIED 6" BELOW GROUND.
 3. MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON DOWN-SLOPE SIDE OF STRUCTURE TO PREVENT BYPASS FLOW.
 4. STRAW BALES OR GRAVEL FILLED FILTER BAGS MAY BE USED IN LIEU OF FABRIC. IF STRAW BALES ARE USED, TWO 4' (MINIMUM) LONG, 2" X 2" HARDWOOD STAKES SHALL BE DRIVEN THROUGH EACH BALE AND SET BACK 12" TO 24" FROM INLET. IF FILTER BAGS ARE USED, PLACE BAGS SUCH THAT NO GAPS ARE EVIDENT.

AREA INLET PROTECTION

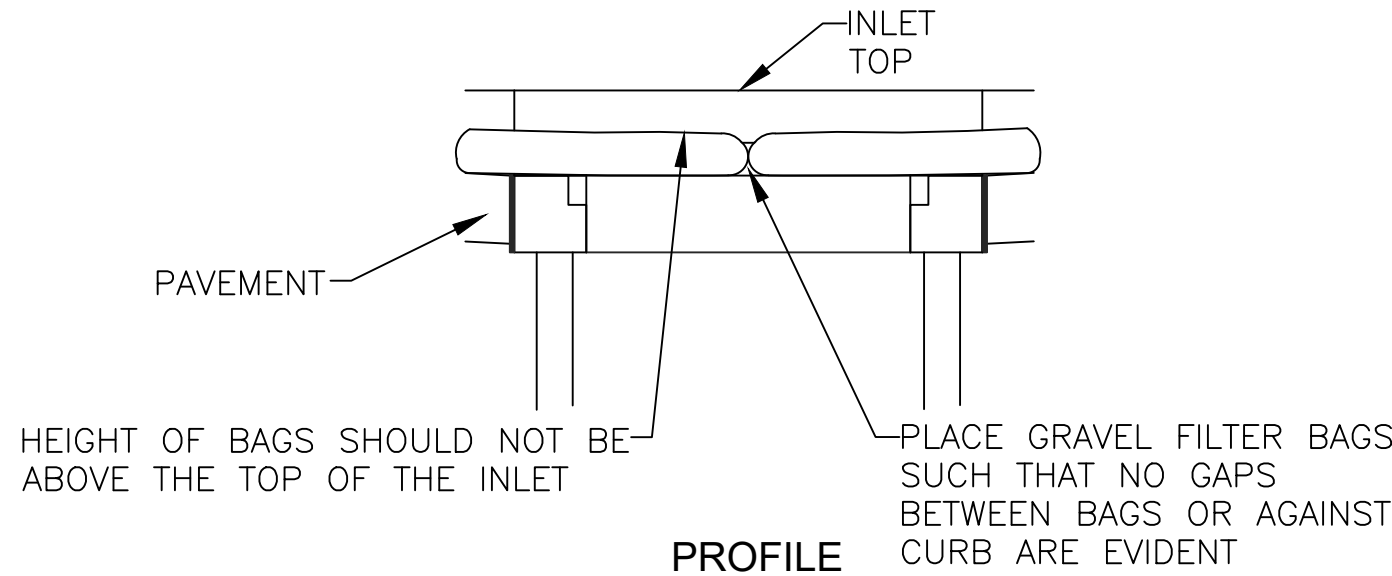
- GENERAL NOTES:
1. ANY EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION OF AN EARTH DISTURBANCE OPERATION SHALL BE INSTALLED BEFORE ANY EARTH DISTURBANCE OPERATIONS TAKE PLACE.
 2. THE CONTRACTOR SHALL INSPECT THE LAND DISTURBANCE SITE AFTER EACH SIGNIFICANT RAINFALL EVENT WITHIN A 24-HOUR PERIOD AND ASSURE THAT ALL EROSION AND SEDIMENT CONTROL MEASURES ARE IN WORKING CONDITION PRIOR TO ANY FORECASTED RAINFALL. SEDIMENT REMOVAL AND ALL NECESSARY REPAIRS SHALL BE MADE TO MAINTAIN THE INTEGRITY OF THE EROSION AND SEDIMENT CONTROL MEASURES. SEDIMENT SHALL BE REMOVED ONCE IT REACHES HALF OF THE INSTALLED HEIGHT OF MEASURE.
 3. THE CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING ALL PHASES OF CONSTRUCTION UNTIL OWNER ACCEPTS WORK AS COMPLETE. THE CONTRACTOR SHALL PROVIDE TEMPORARY SEEDING, BERMS, SILT FENCE, SEDIMENT TRAPS OR OTHER MEANS TO PREVENT SEDIMENT FROM REACHING STREAMS, PUBLIC RIGHT-OF-WAY OR ADJACENT PROPERTY.
 4. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE REMOVED ONCE 70 PERCENT OF THE PERMANENT COVER IS ESTABLISHED.
 5. THE CONTRACTOR SHALL TEMPORARILY SEED AND MULCH ALL DISTURBED AREAS IF THERE HAS BEEN NO CONSTRUCTION ACTIVITY ON THEM FOR A PERIOD OF 14 CALENDAR DAYS. IF THE ENGINEER DETERMINES THAT A SITE HAS A POTENTIAL FOR EROSION, STABILIZATION OF SOIL MAY BE REQUIRED. TEMPORARY SEED MIXTURE SHALL BE APPROVED BY THE ENGINEER OR AS FOLLOWS:

TYPE: APPLICATION RATE:
WINTER WHEAT 120 LBS PER ACRE
RYEGRASS 75 LBS PER ACRE

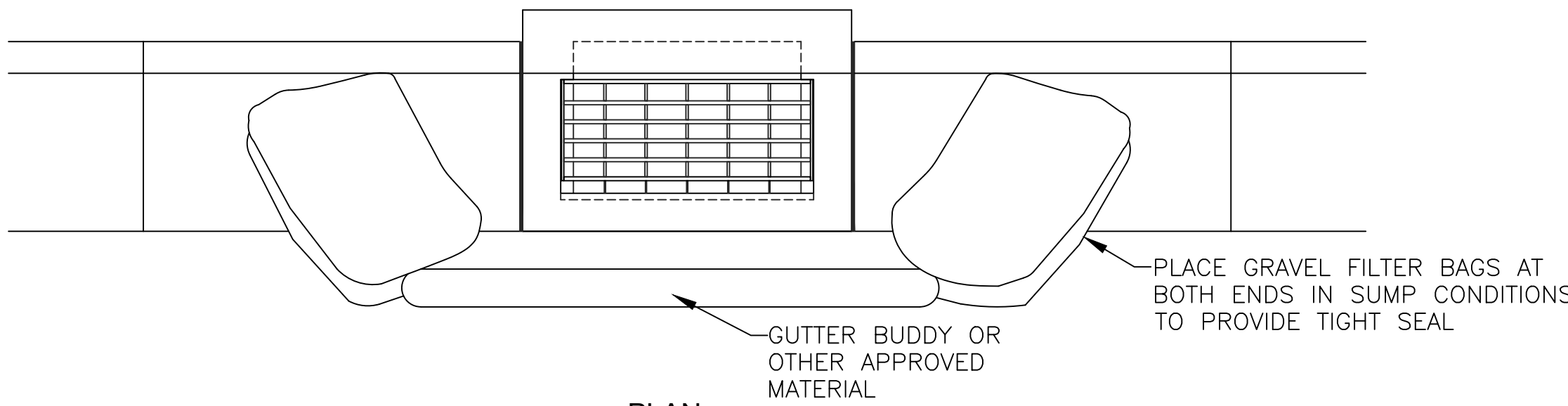
REPAIRS AND RESEEDING SHALL BE PERFORMED BY THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER. IF VEGETATIVE MEASURES ARE NOT EFFECTIVE, NON-VEGETATIVE OPTION MAY BE REQUIRED.



PLAN



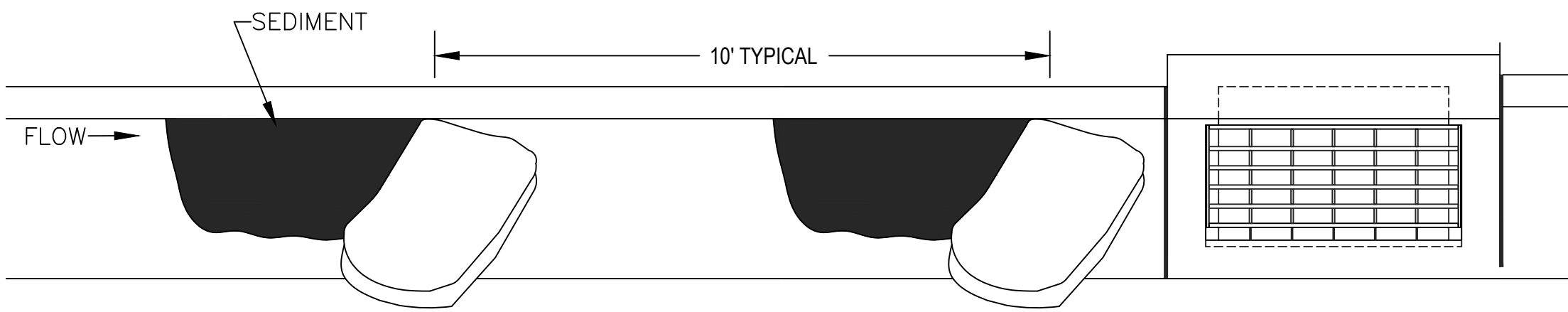
PROFILE



PLAN

SUMP CONDITIONS

NOTE:
DO NOT BLOCK INLET OPENING – STORMWATER MUST BE ALLOWED TO FLOW TO DRAIN AND NOT BYPASS TO DOWNSTREAM.



PLAN

IN GRADE CONDITIONS

- NOTES:
1. OTHER APPROVED CURB INLET SEDIMENT FILTERS MAY BE USED.
 2. IMMEDIATELY FOLLOWING INLET CONSTRUCTION AND PRIOR TO CONSTRUCTION OF CURB AND INLET THROAT, PROTECT INLET OPENING AROUND PERIMETER. SEE AREA INLET DETAIL THIS PAGE.
 3. CONTRACTOR TO CLEAN OUT SEDIMENT AFTER EACH SIGNIFICANT RAINFALL EVENT.
 4. DURING CONSTRUCTION GRAVEL FILTER BAGS SHALL BE REPLACED PRIOR TO DEGRADATION.
 5. ANY SEDIMENT OR GRAVEL DEPOSITED IN INLET SHALL BE REMOVED PROMPTLY.

CURB INLET SEDIMENT PROTECTION

NO.	DATE	REVISION	BY	APP'D
1	March 2013	Revised Notes	DHS	JDH
2	May 2015	Added & Updated Notes	DHS	JDH

DRAWN BY: DHS
APP'D BY: JDH

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CITY OF TOPEKA
UTILITIES

NE SEWARD AVE BULB-OUT PROJECT

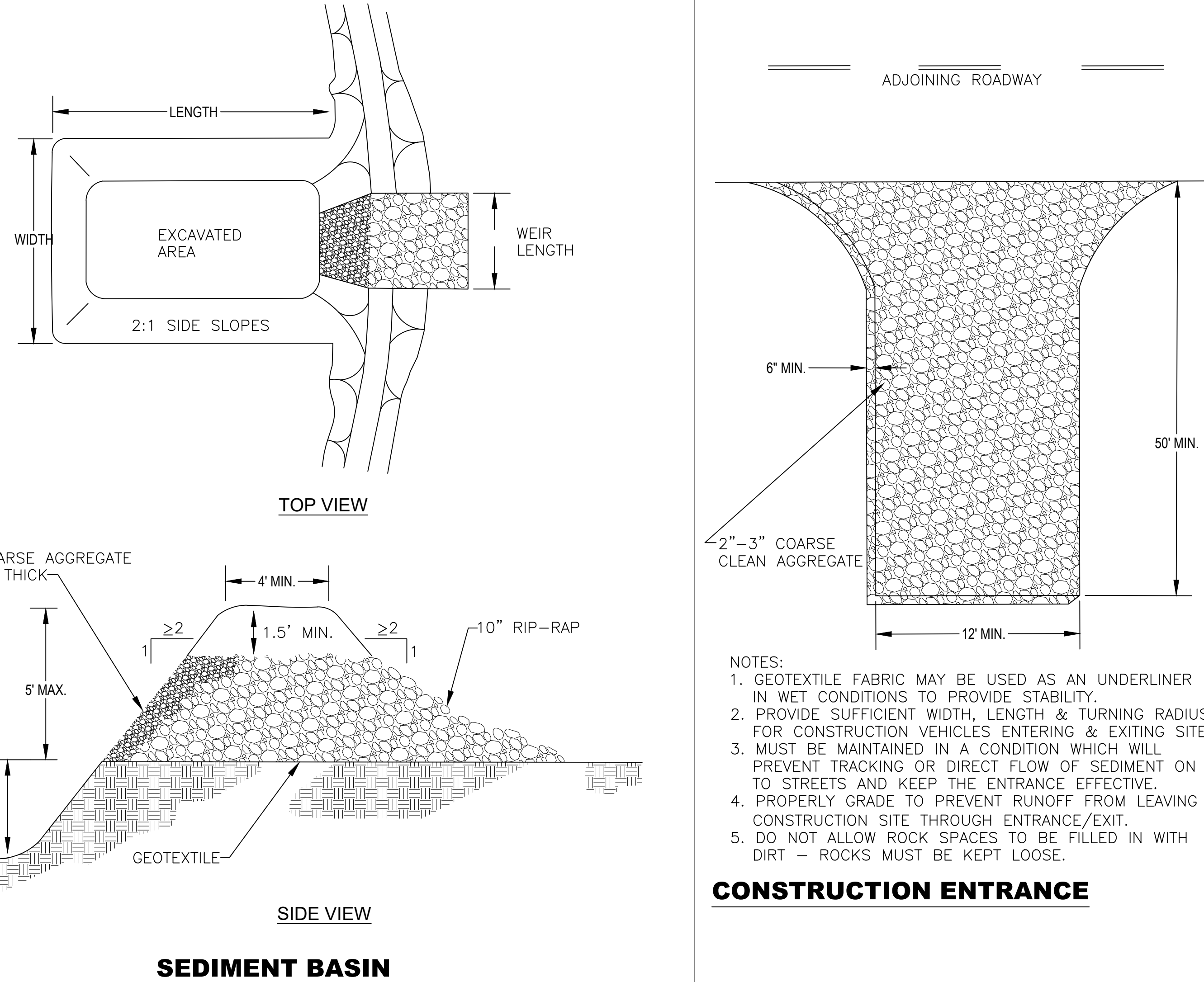
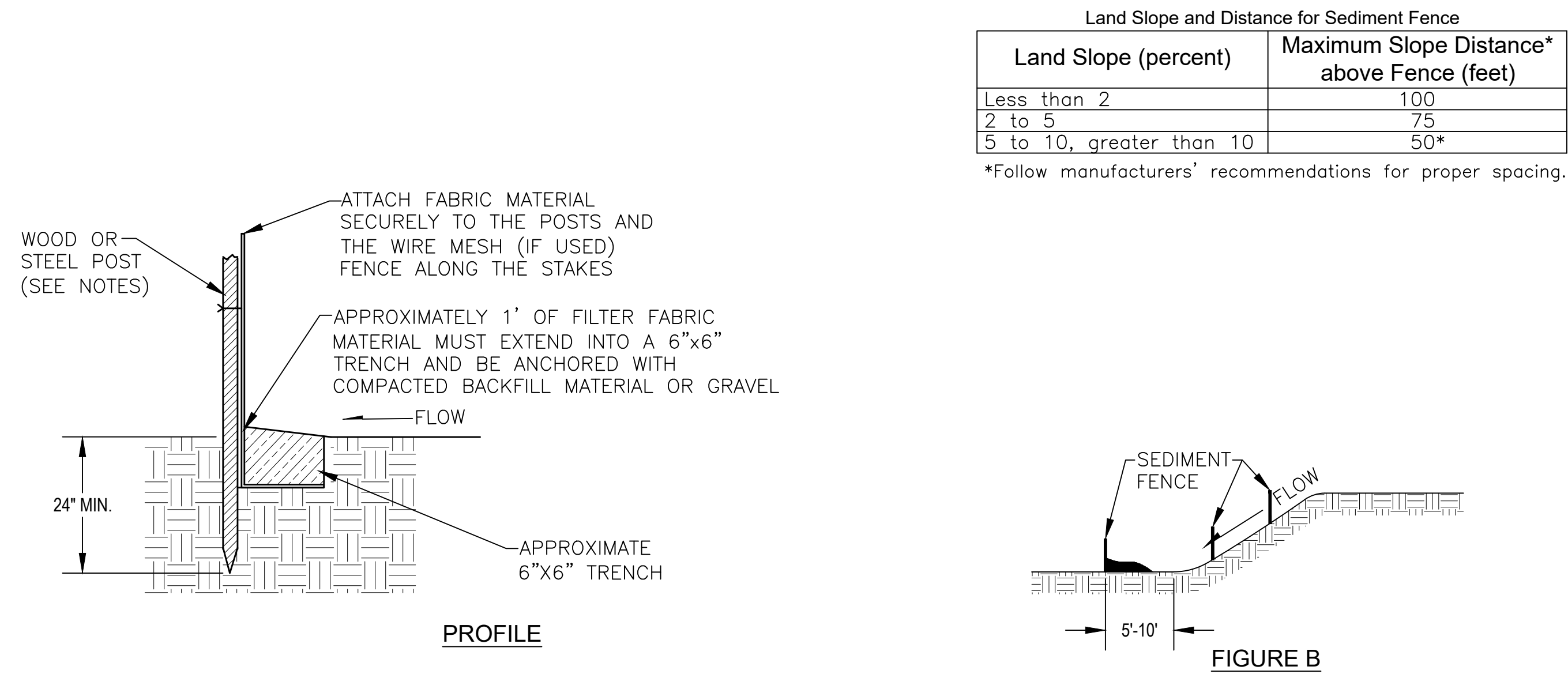
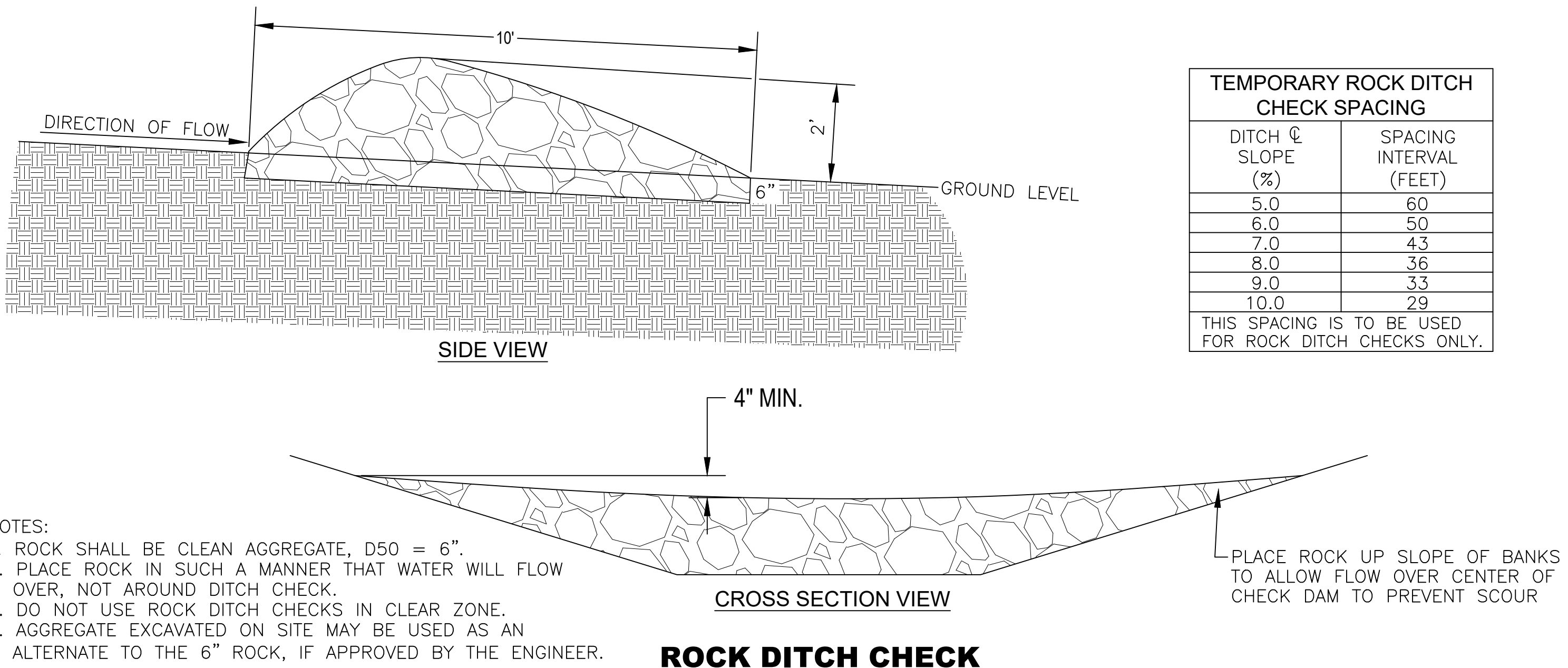
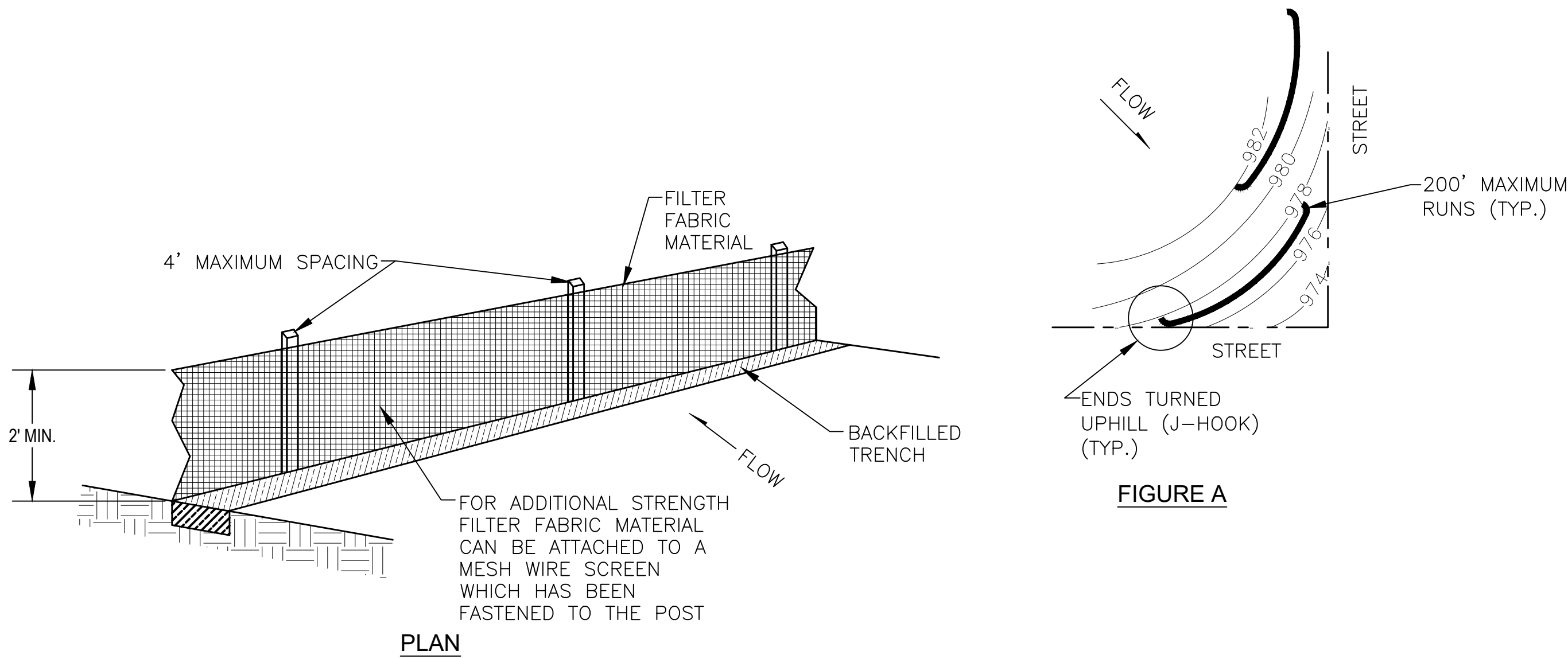
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01

ERIC J. BRIDGES
LICENSED PROFESSIONAL ENGINEER
18603
5-12-21
KANSAS

EROSION & POLLUTION CONTROL
INLET PROTECTION AND GENERAL NOTES
(DT-020)

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 40 OF 41
DTL-14

Last Saved by: Joseph.Nestelroad Plotted By: Nestelroad, Joseph Plot Date/Time: 5/13/2021 8:34 AM
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- NOTES:
1. THE USE OF HAY/STRAW BALES IS THE CONTRACTOR'S OPTION. IF HAY BALES ARE USED PLACE TIGHTLY TOGETHER WITH 2"x2"x4' (MIN.) LENGTH WOOD STAKES IN OUTER 1/3 SECTIONS OF BALES. BALES SHOULD EMBEDDED INTO THE SOIL A MINIMUM OF 6" WITHIN A MAXIMUM DRAINAGE AREA OF 1 ACRE OR LESS.
 2. THE SEDIMENT FENCES SHALL BE PLACED ALONG CONTOUR LINES, WITH A SHORT SECTION TURNED UPGRADE (J-HOOK) AT EACH END OF THE BARRIERS TO HOLD WATER AND SEDIMENT (SEE FIGURE A).
 3. AREAS THAT CONTAIN LARGER CONCENTRATIONS OF WATER SHALL BE LIMITED TO LENGTHS OF SILT FENCES TO NO LONGER THAN 200' (SEE FIGURE A). LIMIT TO 1/4 ACRE PER 100' OF FENCE. FURTHER RESTRICT AREA BY LAND SLOPE TABLE ABOVE.
 4. AREAS SHOULD BE BROKEN UP WITH INTERIOR SEDIMENT FENCE TO MINIMIZE WATER CONCENTRATIONS AND LONG SLOPES (SEE FIGURE B).
 5. SEDIMENT FENCES INSTALLED AT TOE OF SLOPE SHALL BE PLACED 5' TO 10' AWAY (DOWNSTREAM) TO CREATE SEDIMENT STORAGE (SEE FIGURE B).
 6. DEPTH OF WATER CONCENTRATIONS SHOULD NOT EXCEED 1.5' AT ANY POINT ALONG THE FENCE.
 7. PLACE SILT FENCE ONLY WHERE OVERLAND OR SHEET FLOW DISCHARGES OCCUR.
 8. SILT FENCES SHOULD NOT BE USED IN CONCENTRATED FLOW CHANNELS, OR AS INLET PROTECTION DEVICES IF FLOODING CONDITIONS COULD OCCUR.
 9. DO NOT USE HAY OR STRAW BALES WITH WIRE TIES.
 10. WHEN SEDIMENT REACHES 1/2 HEIGHT OF SILT FENCE OR SIMILAR CONTROL MEASURE, THE CONTRACTOR SHALL REMOVE THE SEDIMENT.

SILT FENCE

- NOTES:
1. GEOTEXTILE FABRIC MAY BE USED AS AN UNDERLINER IN WET CONDITIONS TO PROVIDE STABILITY.
 2. PROVIDE SUFFICIENT WIDTH, LENGTH & TURNING RADIUS FOR CONSTRUCTION VEHICLES ENTERING & EXITING SITE.
 3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF SEDIMENT ON TO STREETS AND KEEP THE ENTRANCE EFFECTIVE.
 4. PROPERLY GRADE TO PREVENT RUNOFF FROM LEAVING CONSTRUCTION SITE THROUGH ENTRANCE/EXIT.
 5. DO NOT ALLOW ROCK SPACES TO BE FILLED IN WITH DIRT - ROCKS MUST BE KEPT LOOSE.

CONSTRUCTION ENTRANCE

NO.	DATE	REVISION	BY	APP'D
1	Dec. 2009	Modified Stake Depth & Spacing	DHS	JDH
2	March 2013	Repl. Sed. Trap & Added Land Slope Table	DHS	JDH
3	May 2015	Updated Notes & Added Rock Ditch Check	DHS	JDH

DRAWN BY: DHS
APP'D BY: JDH

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CITY OF TOPEKA UTILITIES

NE SEWARD AVE BULB-OUT PROJECT
CITY OF TOPEKA PROJECT # T-501023.15 & T-501081.01



EROSION & POLLUTION CONTROL SILT FENCE, SEDIMENT BASIN, CONSTRUCTION ENTRANCE, AND ROCK DITCH CHECK (DT-021)

DATE: 05/2021
PROJ.: T-501023.15 / T-501081.01
SHEET: 41 OF 41
DTL-15