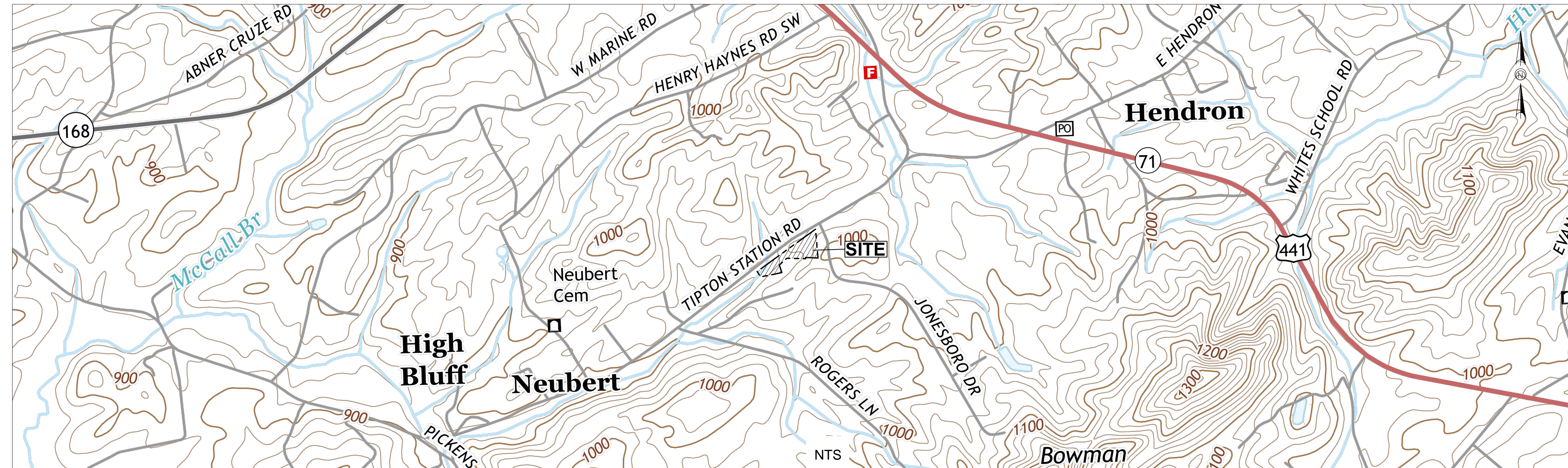


4505 MIDDLEBROOK PIKE
KNOXVILLE, TN 37921



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PARTNERS**

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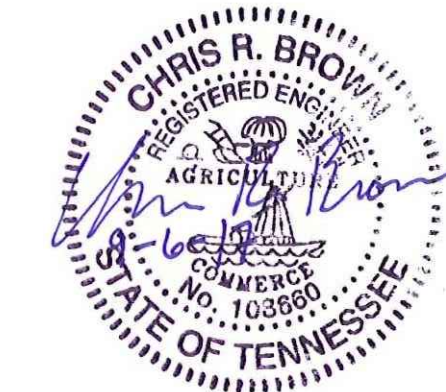
SOUTH KNOX GATE STATION PROJECT - GRADING

DRAWING INDEX

SHT. NO.	DESCRIPTION
42665-D0000	COVER SHEET
42665-D0001	GENERAL NOTES
42665-D0002	SURVEY
42665-D1000	OVERALL SITE PLAN
42665-D1001	SITE PLAN
42665-D1002	GRADING PLAN
42665-D1003	EROSION CONTROL PLAN
42665-D1004	LANDSCAPE PLAN
42665-D2001	EROSION CONTROL DETAILS
42665-D2002	STANDARD DETAILS

NUM	DATE	DESCRIPTION
1	09.06.16	UPDATED SHEET INDEX

ASSET GROUP	
TAX DISTRICT(S)	
COUNTY (IES)	KNOX
STATE (S)	TENNESSEE
REFERENCES	
INV. MAP (S)	
ENGINEERING & CONSTRUCTION	
CIVIL ENGINEER:	GS&P
PERMITTING CONTACT:	CHRIS BROWN
EROSION CONTROL CONTACT:	CHRIS BROWN
CHIEF INSPECTOR:	
DRAWN BY:	CHRIS BROWN
	KUB
FACILITY:	KUB SOUTH KNOX GATE STATION
PROJECT:	SOUTH KNOX GATE STATION PROJECT - GRADING
FIELD BOOK / PAGE:	
SHEET NO.	1 of 2
SCALE:	AS SHOWN
DRAWING NO.:	
SURVEY DATE:	
MAP DATE:	
	42665-D0000



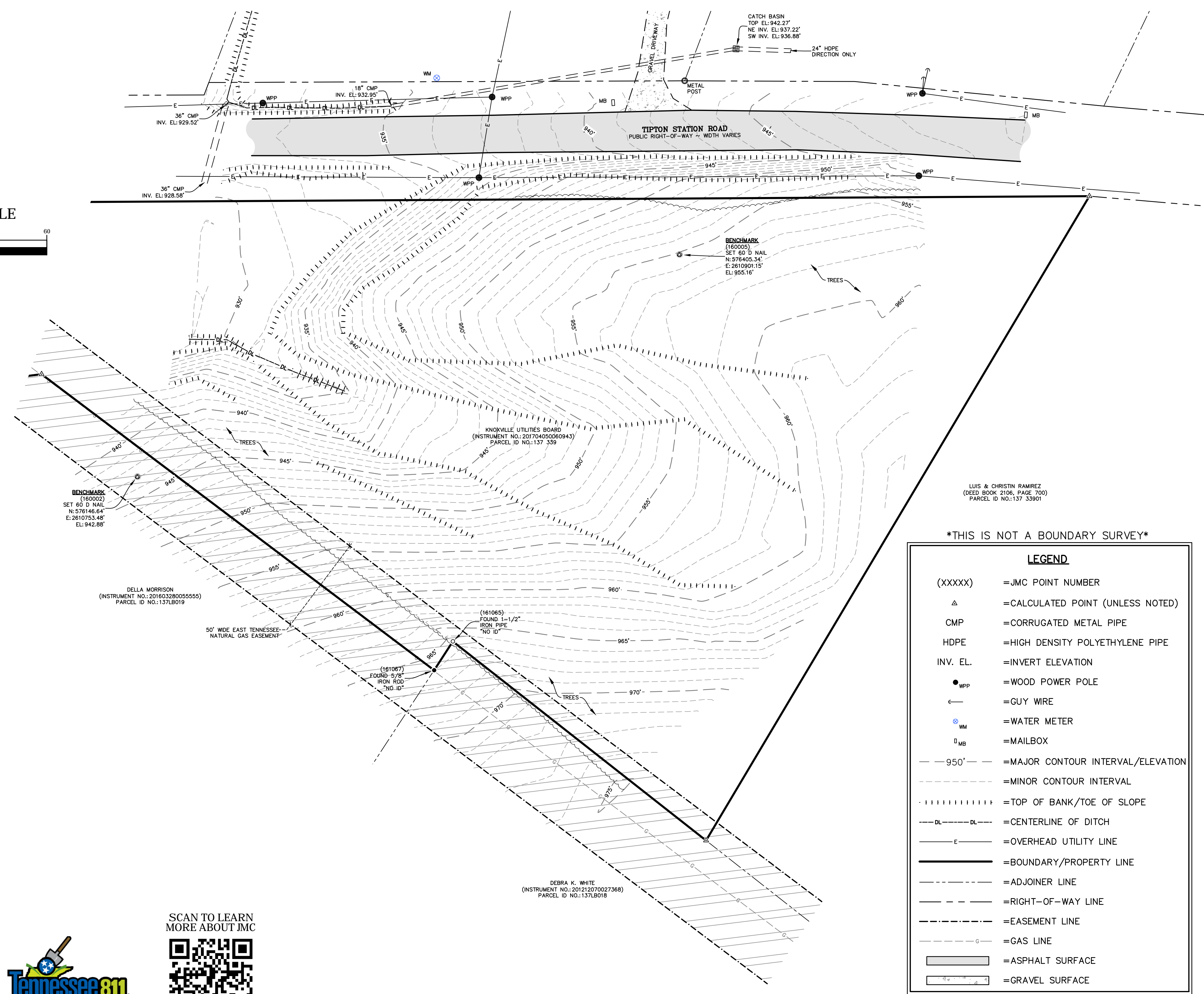
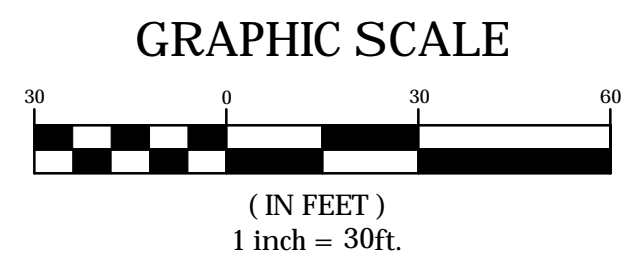
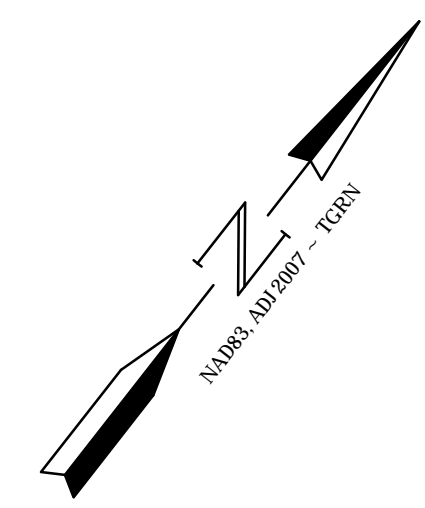
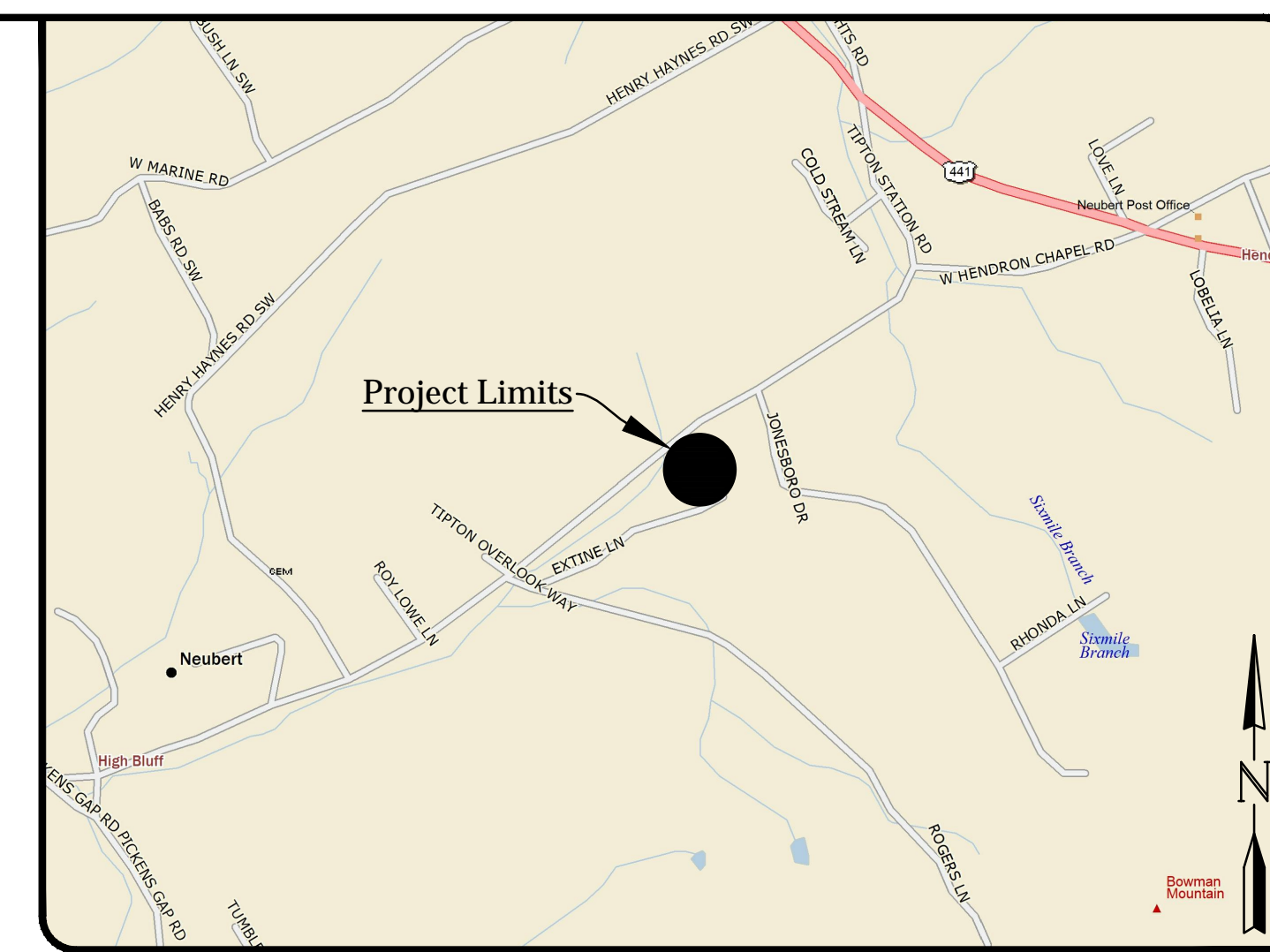
ISSUED FOR BID / AGENCY REVIEW - NOT FOR CONSTRUCTION

KUB CONTROL # 961

k:\42665\01\gate station drawings\42665_d0000.dwg

Topographic Survey for: Gresham Smith & Partners

South Knox Gas Main Gate Station ~ 304 Tipton Station Road, Knoxville ~ Instrument Number 201704050060943 ~ A Parcel of Land Lying in the 9th Civil District of Knox County, Tennessee



THIS IS NOT A BOUNDARY SURVEY

LEGEND	
(XXXXX)	=JMC POINT NUMBER
△	=CALCULATED POINT (UNLESS NOTED)
CMP	=CORRUGATED METAL PIPE
HDPE	=HIGH DENSITY POLYETHYLENE PIPE
INV. EL.	=INVERT ELEVATION
● WPP	=WOOD POWER POLE
←	=GUY WIRE
⊙ WM	=WATER METER
□ MB	=MAILBOX
--- 950' ---	=MAJOR CONTOUR INTERVAL/ELEVATION
-----	=MINOR CONTOUR INTERVAL
-----DL-----DL-----	=TOP OF BANK/TOE OF SLOPE
---DL---	=CENTERLINE OF DITCH
—E—	=OVERHEAD UTILITY LINE
—————	=BOUNDARY/PROPERTY LINE
-----	=ADJOINER LINE
-----	=RIGHT-OF-WAY LINE
-----	=EASEMENT LINE
-----G-----	=GAS LINE
▬	=ASPHALT SURFACE
▬	=GRAVEL SURFACE

SURVEYOR'S NOTES

- COORDINATES SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN DATUM OF 1983 (NAD 83), ADJUSTMENT 2007, TENNESSEE STATE PLANE COORDINATE SYSTEM, ZONE 4100, TENNESSEE GEODETIC REFERENCE NETWORK AND FURTHER REFERENCED TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION VIRTUAL REFERENCE NETWORK.
- ELEVATIONS SHOWN HEREON ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) AND ARE FURTHER REFERENCED TO THE TENNESSEE DEPARTMENT OF TRANSPORTATION VERTICAL REFERENCE NETWORK.
- ALL ABOVE GROUND IMPROVEMENTS AND UTILITIES WITHIN THE PROJECT LIMITS HAVE BEEN LOCATED AND ARE SHOWN HEREON. THERE HAS BEEN NO ATTEMPT TO LOCATE ANY UNDERGROUND UTILITIES OR IMPROVEMENTS. UNDERGROUND UTILITIES SHOWN HEREON ARE FROM ACTUAL FIELD EVIDENCE. OTHER UTILITIES MAY EXIST AND NOT BE SHOWN OR VARY FROM WHERE SHOWN. NO GUARANTEE IS EXPRESSED OR IMPLIED AS TO THE ACTUAL LOCATION OF ANY UTILITIES SHOWN, WHICH ARE NOT VISIBLE FROM THE SURFACE.
- CONTOURS SHOWN HEREON ARE SHOWN IN 1' CONTOUR INTERVALS AND WERE PRODUCED BY CARLSON SURVEY VERSION 2016.
- THE SURVEY SHOWN HEREON WAS COMPLETED IN THE FIELD AND IN THE OFFICE BY THE CERTIFYING SURVEYOR BETWEEN MAY 23, 2017, AND AUGUST 7, 2017. FIELD WORK WAS COMPLETED ON JUNE 13, 2015.
- A PORTION OF THE PROPERTY SHOWN HEREON IS LOCATED IN FLOOD ZONE "X" ACCORDING TO THE FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP FOR KNOX COUNTY, TENNESSEE AND INCORPORATED AREAS. THIS MAP IS DESIGNATED AS MAP NUMBER 47093C0314F AND HAS AN EFFECTIVE DATE OF MAY 2, 2007.
- THE PROPERTY SHOWN HEREON IS ZONED "A" (AGRICULTURAL) ACCORDING TO KGIS WEBSITE. BUILDING SETBACKS ARE AS FOLLOWS:
 FRONT40' SIDE10' REAR35'
 ALWAYS CONSULT WITH BUILDING AUTHORITIES PRIOR TO CONSTRUCTION. SETBACKS ARE SUBJECT TO CHANGE.
- THIS SURVEY IS CERTIFIED TO THE FOLLOWING:
 GRESHAM SMITH AND PARTNERS
 KNOXVILLE UTILITIES BOARD

CERTIFICATION

(NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL SEAL OF A TENNESSEE LICENSED LAND SURVEYOR)

I HEREBY CERTIFY THAT THE TOPOGRAPHIC SURVEY OF THE PROJECT LIMITS SHOWN HEREON WAS COMPLETED UNDER MY DIRECTION AND SAID SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

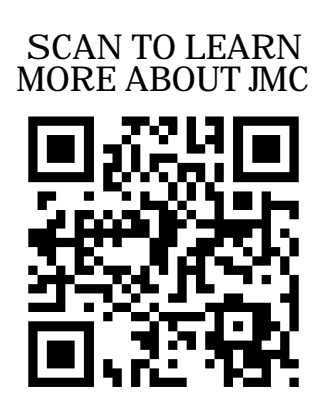
I FURTHER CERTIFY THAT THIS SURVEY MEETS THE MINIMUM TECHNICAL STANDARDS FOR SURVEYS SET FORTH BY THE TENNESSEE STATE BOARD OF EXAMINERS FOR LAND SURVEYORS IN CHAPTER 0820-3, STANDARDS OF PRACTICE, TENNESSEE CODE ANNOTATED. NO SEARCH OF THE PUBLIC RECORDS HAS BEEN MADE BY THIS OFFICE. THE SURVEY IS BASED ON INFORMATION FURNISHED BY CLIENT OR CLIENT'S REPRESENTATIVE.

I HEREBY CERTIFY THAT THIS IS A CATEGORY I SURVEY AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY IS 1:10,000 AS SHOWN HEREON.

AUGUST 7, 2017
 DATE OF SIGNATURE

Joseph M. Polvin
 JOSEPH M. POLVIN
 TENNESSEE REGISTERED LAND SURVEYOR
 CERTIFICATE NO. 2865

South Knox Gas Main Gate Station

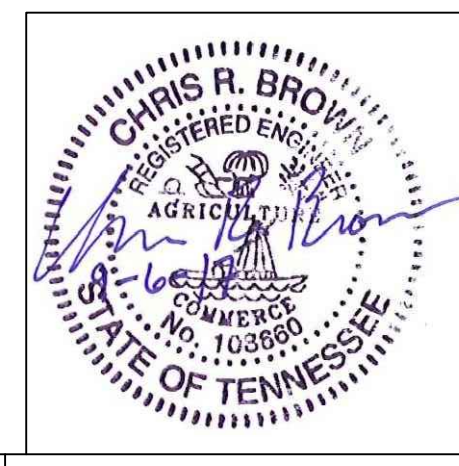
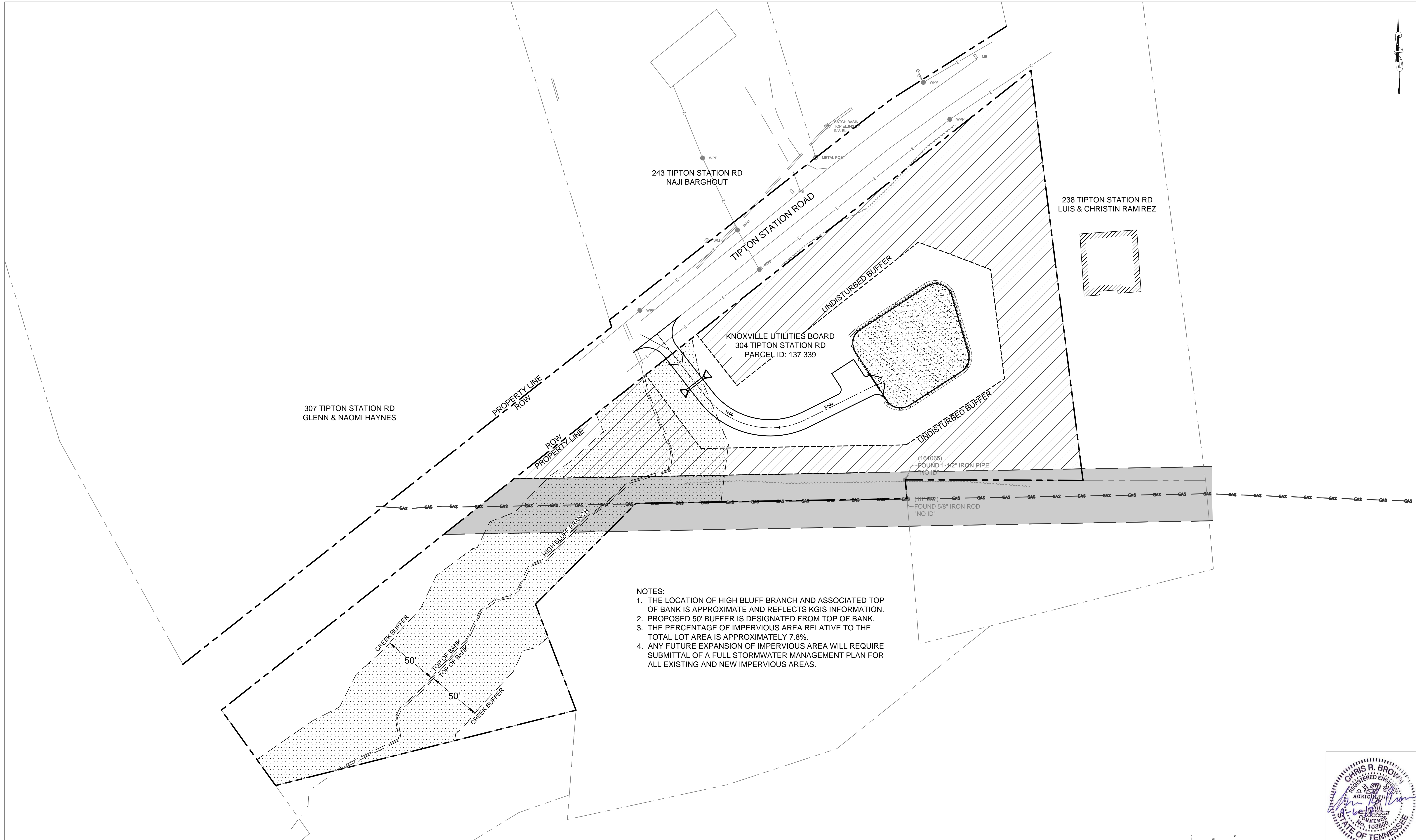


PROFESSIONAL
JMC
 SURVEYING AND MAPPING
 9080 Barbee Lane, Suite #103
 Knoxville, Tennessee 37923
 (865) 200-4366
 www.jmcsurveying.com
 Alabama Certificate No. CA-953-LS

TOPOGRAPHIC SURVEY FOR:
GRESHAM SMITH & PARTNERS
 9TH CIVIL DISTRICT OF KNOX COUNTY
 KNOXVILLE, TENNESSEE

Scale: 1"=30'	Date: 08/2017	File & Drawing No: 17-1008-04
Drawn By: J.R.B.	Checked By: J.M.C.	Sheet 1 of 1

No.	Revisions	Date	By



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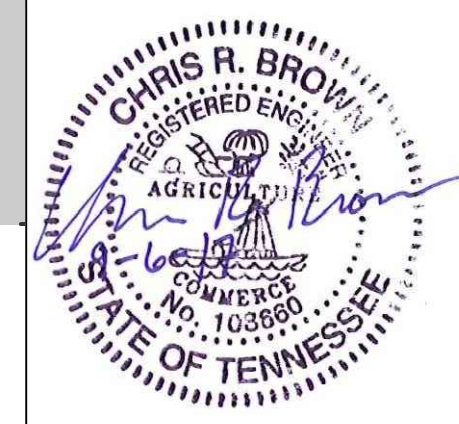
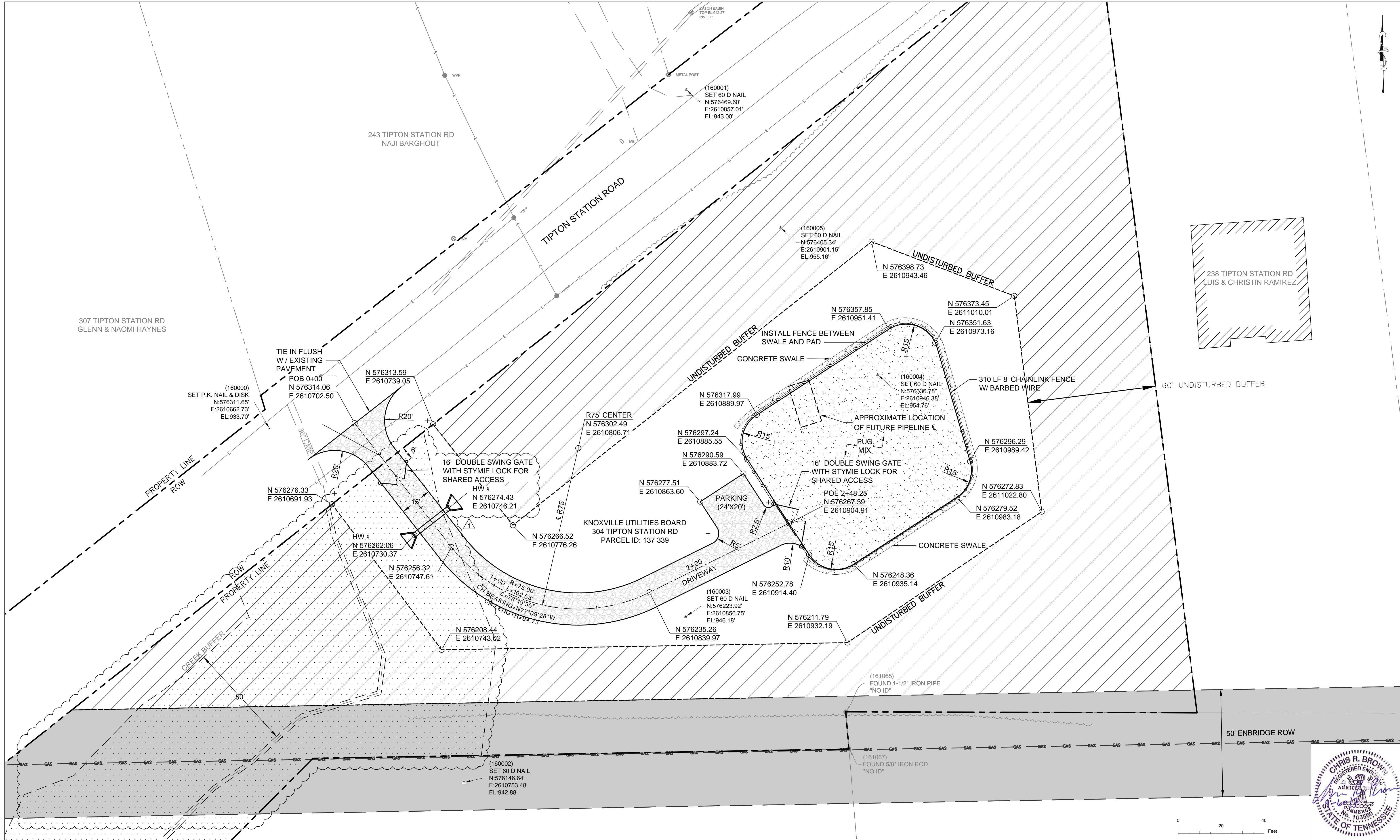
DESIGNED:	NO.	DATE	REVISION	APPR.
CRB	△	09.06.2017	SHEET ADDED PER KNOX COUNTY COMMENTS	CRB
DRAWN:				
CRB				
CHECKED:				
MJM				

SCALE
1"=40'
DATE
SEPTEMBER, 2017



SOUTH KNOX GATE STATION PROJECT - GRADING
FOR
KNOXVILLE UTILITIES BOARD
KNOXVILLE, TN

Project 42665.00
GATE STATION OVERALL SITE PLAN
42665-D1000



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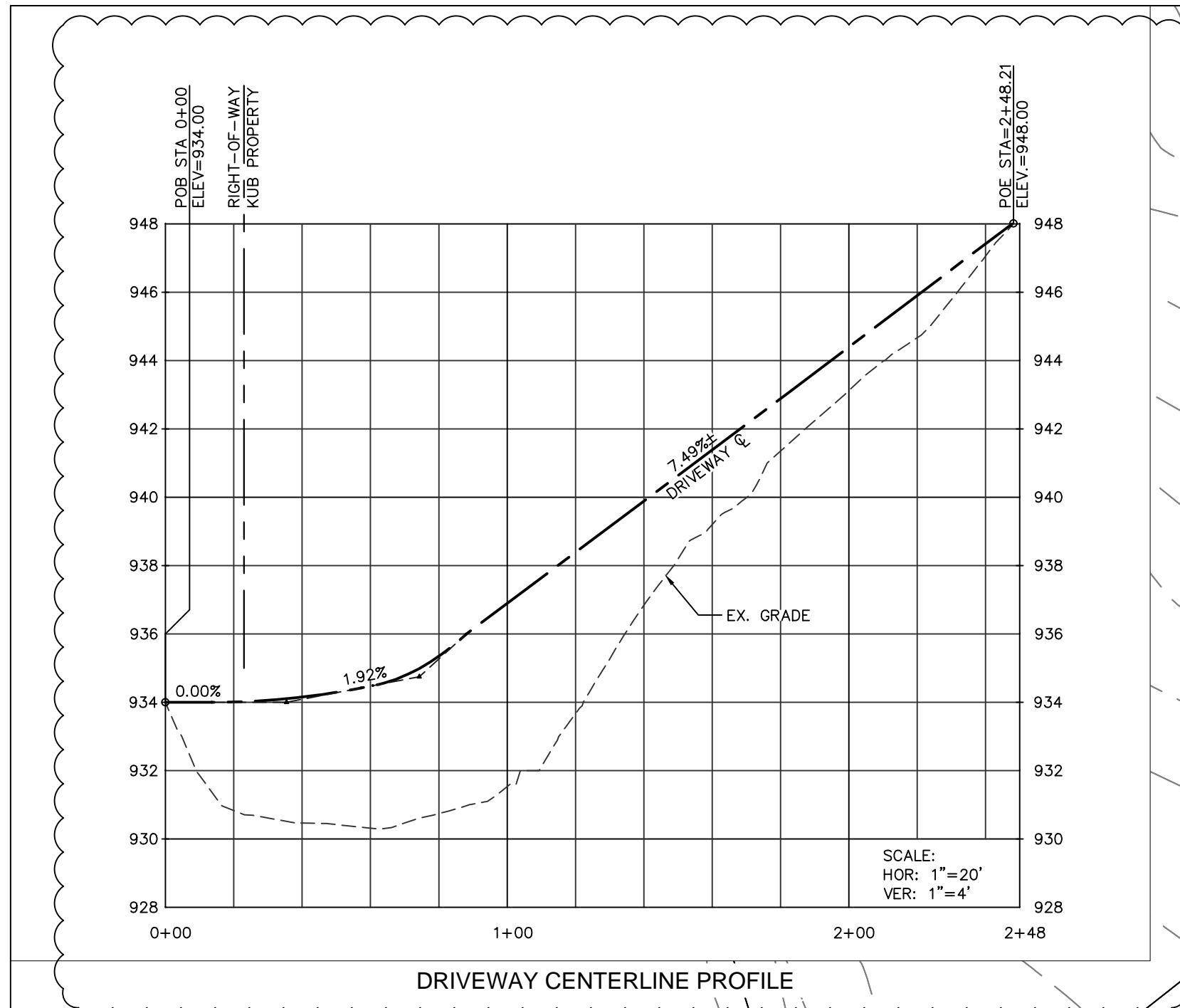
DESIGNED:	NO.	DATE	REVISION	APPR.
CRB	▲	09.06.2017	ADDED 50' CREEK BUFFER	CRB
DRAWN:				
CRB				
CHECKED:				
MJM				

SCALE
 1"=20'
 DATE
 SEPTEMBER, 2017

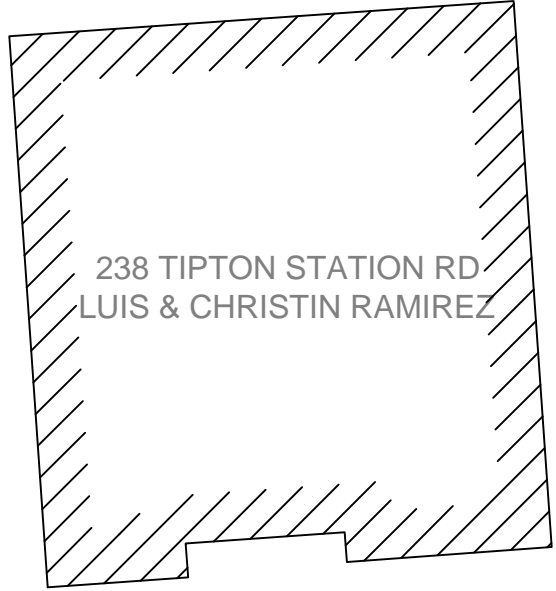
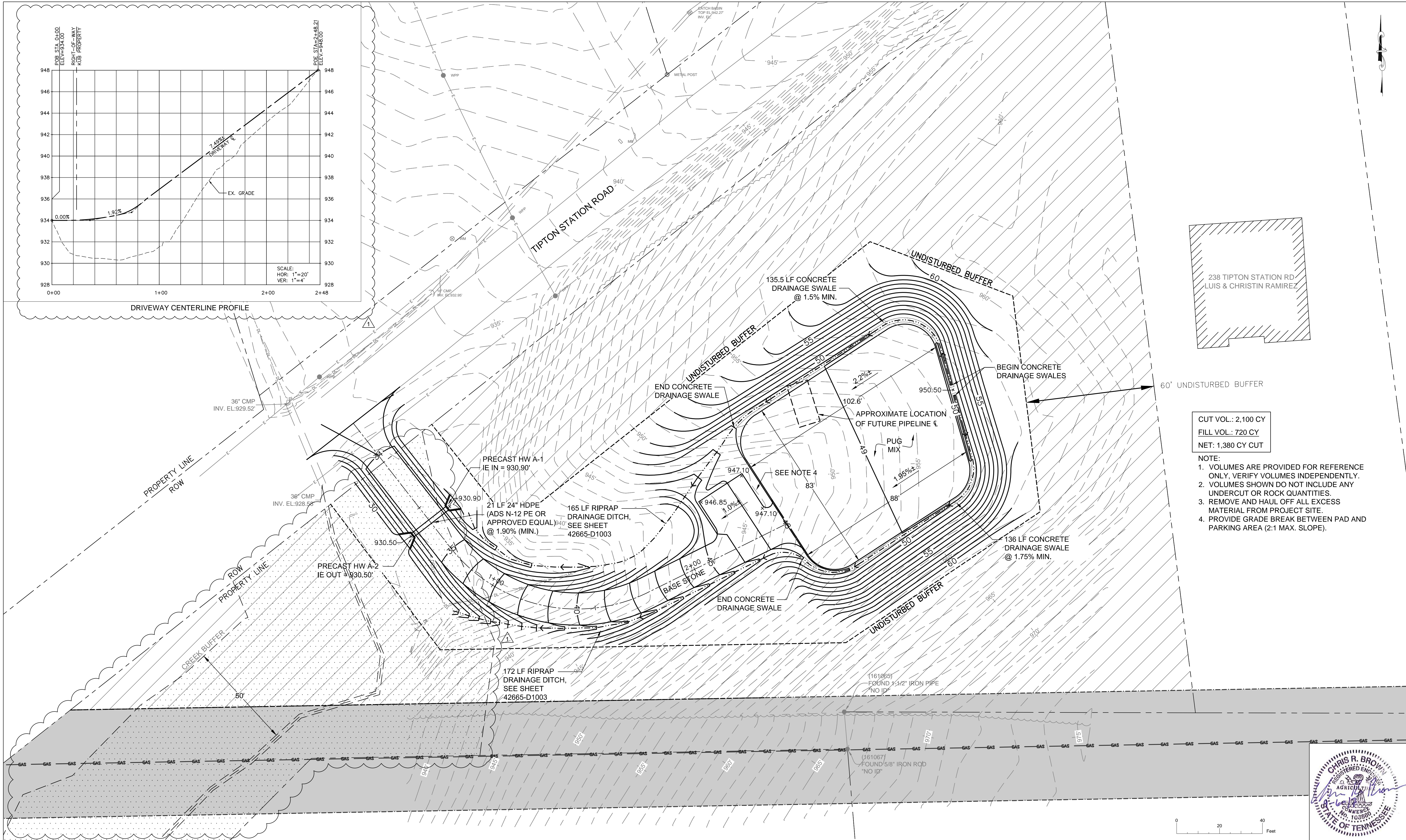


SOUTH KNOX GATE STATION PROJECT - GRADING
 FOR
KNOXVILLE UTILITIES BOARD
 KNOXVILLE, TN

Project
 42665.00
 GATE STATION
 SITE PLAN
42665-D1001

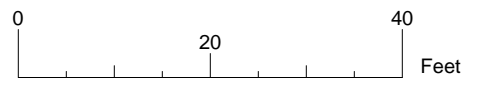


DRIVEWAY CENTERLINE PROFILE



CUT VOL.: 2,100 CY
 FILL VOL.: 720 CY
 NET: 1,380 CY CUT

- NOTE:
1. VOLUMES ARE PROVIDED FOR REFERENCE ONLY, VERIFY VOLUMES INDEPENDENTLY.
 2. VOLUMES SHOWN DO NOT INCLUDE ANY UNDERCUT OR ROCK QUANTITIES.
 3. REMOVE AND HAUL OFF ALL EXCESS MATERIAL FROM PROJECT SITE.
 4. PROVIDE GRADE BREAK BETWEEN PAD AND PARKING AREA (2:1 MAX. SLOPE).



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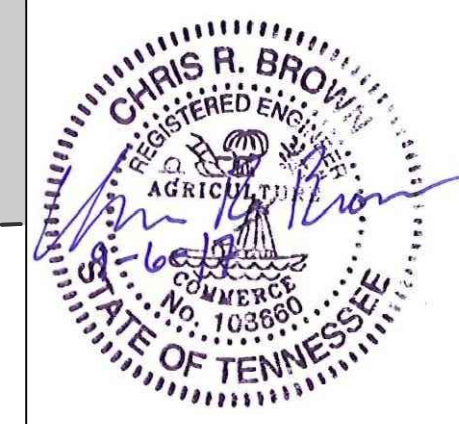
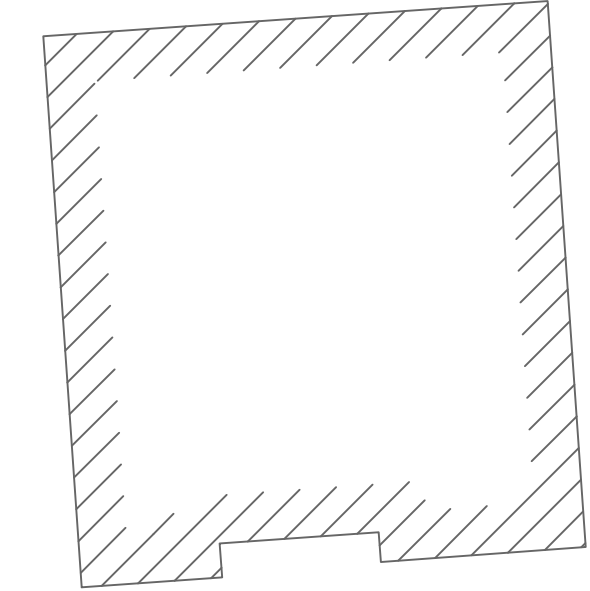
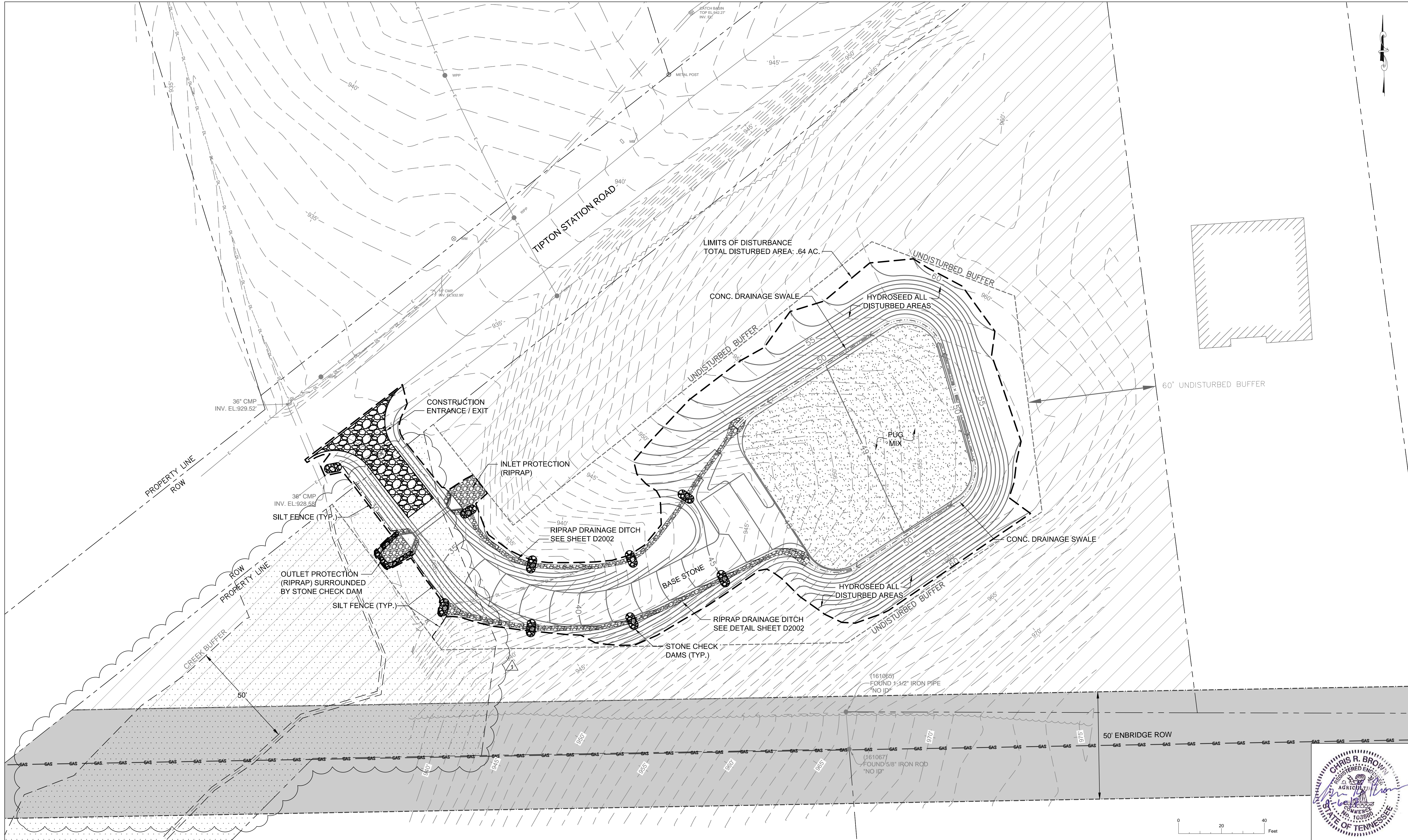
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 www.tnonecall.com
 THREE WORKING DAYS BEFORE YOU DIG

DESIGNED:	NO.	DATE	REVISION	APPR.	SCALE
CRB	1	09.06.2017	ADDED 50' CREEK BUFFER AND DRIVEWAY PROFILE	CRB	1"=20'
DRAWN:					DATE
CRB					SEPTEMBER, 2017
CHECKED:					
MJM					

KUB

SOUTH KNOX GATE STATION PROJECT - GRADING
 FOR
KNOXVILLE UTILITIES BOARD
 KNOXVILLE, TN

Project 42665.00
 GATE STATION GRADING PLAN
42665-D1002



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CRB	▲	09.06.2017	ADDED 50' CREEK BUFFER	CRB
DRAWN:				
CRB				
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MJM				

SCALE
 1"=20'
 DATE
 SEPTEMBER, 2017

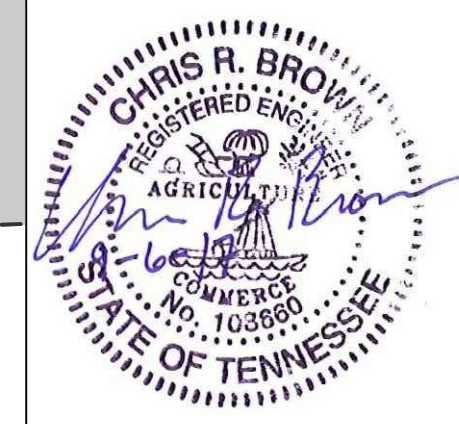


SOUTH KNOX GATE STATION PROJECT - GRADING
 FOR
KNOXVILLE UTILITIES BOARD
 KNOXVILLE, TN

Project 42665.00
 GATE STATION EROSION CONTROL PLAN
42665-D1003



- LANDSCAPE REQUIREMENTS:**
1. PLANT SAVANNAH HOLLY ~2 FEET FROM TOP OF SLOPE, SPACING TO BE 10 FEET ON CENTER.
 2. PLANT JAPANESE CRYPTOMERIA OFFSET BEHIND SAVANNAH HOLLY A MINIMUM OF 5 FEET, SPACING TO BE 10 FEET ON CENTER.
 3. ALL TREES SHALL BE CONTAINER GROWN AND 5-6 FEET TALL.
 4. PLANT AND STAKE TREES IN ACCORDANCE WITH ANSI STANDARDS.
 5. IF PLANTED BETWEEN MARCH TO OCTOBER, TREES MUST BE WATERED WEEKLY.
 6. CONTRACTOR MUST PROVIDE A 1 YEAR WARRANTY FROM DATE OF PLANTING.



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CRB	1	09.06.2017	ADDED 50' CREEK BUFFER	CRB
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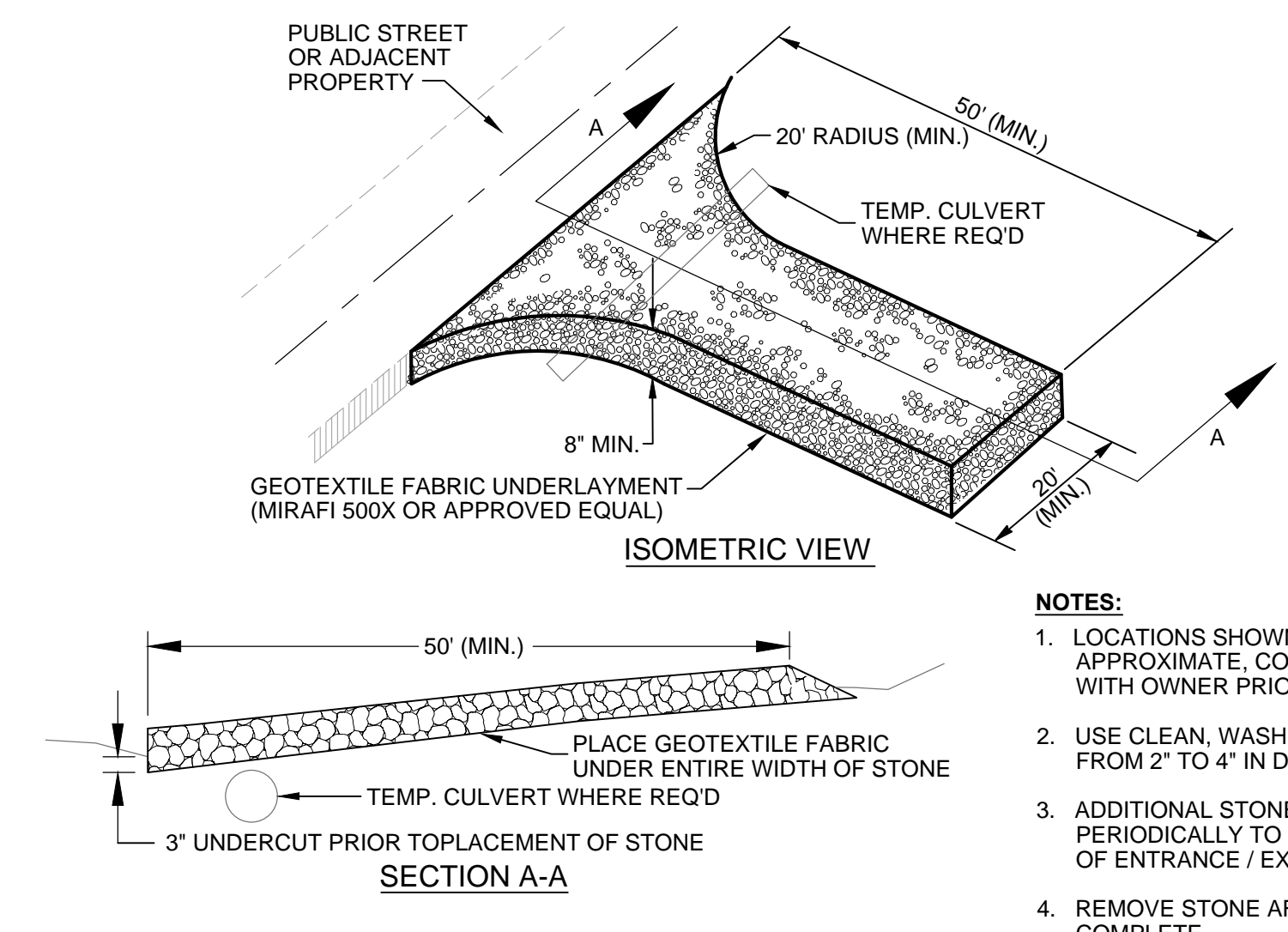


SOUTH KNOX GATE STATION PROJECT - GRADING
 FOR
KNOXVILLE UTILITIES BOARD
 KNOXVILLE, TN

Project 42665.00
 GATE STATION LANDSCAPE PLAN
42665-D1004

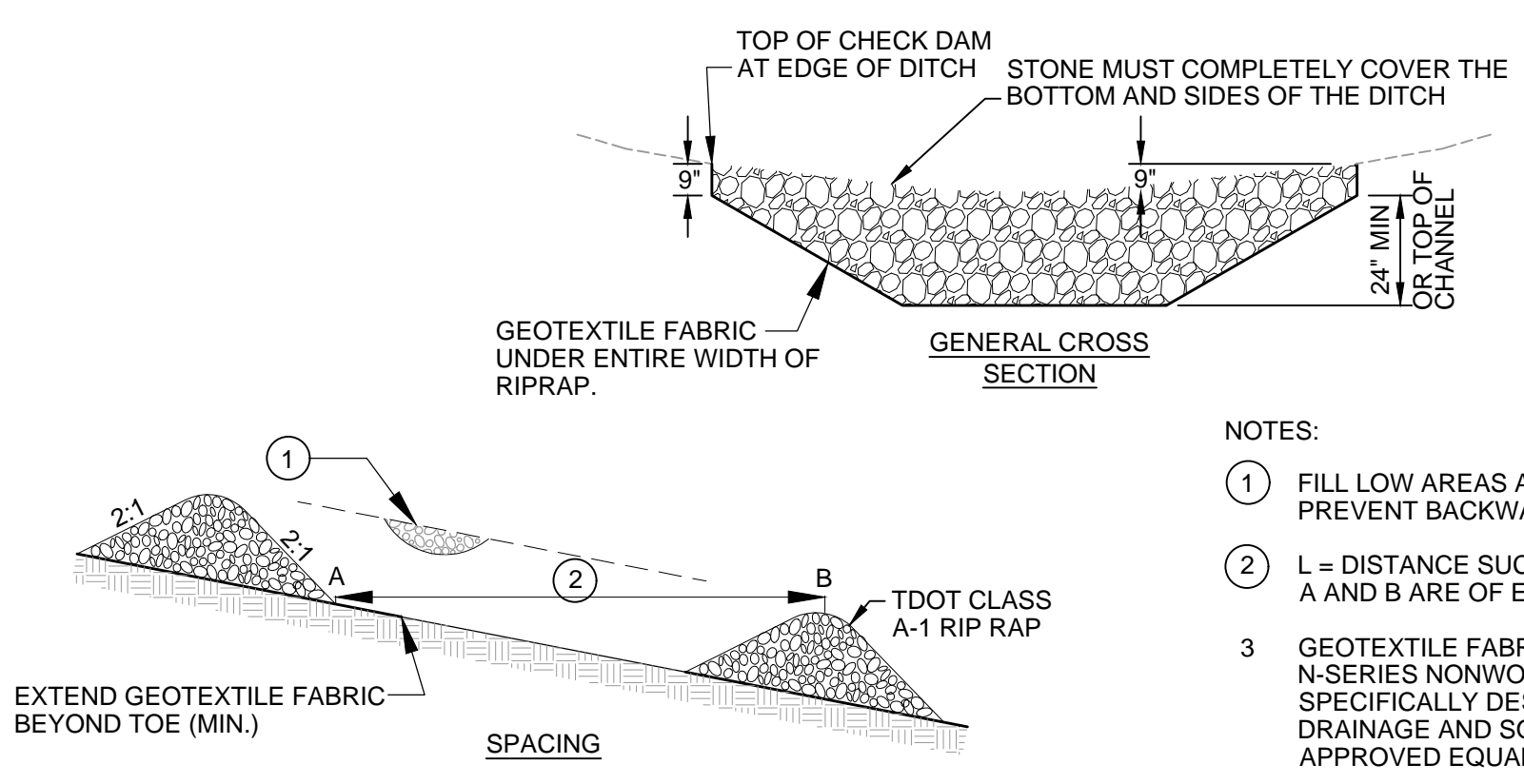
EROSION CONTROL NOTES:

1. QUALITY ASSURANCE SITE ASSESSMENT: THIS PROJECT IS BEING CONSTRUCTED ON PROPERTY WITH NO RECORDED HISTORY OF ILLICIT STORMWATER DISCHARGES AND/OR SPILLS.
2. LAND DISTURBANCE ACTIVITIES FOR THIS PROJECT INCLUDE CLEARING, GRUBBING, AND GRADING. CLEARING ACTIVITIES WILL OCCUR INITIALLY, FOLLOWED BY GRADING OPERATIONS.
3. THE TOTAL DISTURBED AREA FOR THE PROJECT IS APPROXIMATELY 0.64 ACRES.
4. THE RECEIVING WATER FOR THIS PROJECT IS HIGH BLUFF BRANCH, HIGH BLUFF BRANCH IS A 303d LISTED STREAM DUE TO ECOLI. THE PROJECT WILL NOT CROSS HIGH BLUFF BRANCH. NO STREAM ALTERATIONS SHALL OCCUR.
5. INSTALL AND MAINTAIN A RAIN GAUGE FOR THE PROJECT AND KEEP DAILY PRECIPITATION RECORDS AS REQUIRED. IF APPROVED BY THE OWNER, A REFERENCE SITE MAY BE USED IN LIEU OF A RAIN GAUGE TO RECORD DAILY PRECIPITATION AMOUNTS.
6. FILL MATERIALS (BACKFILL) CONSIST OF CLEAN FILL MATERIAL PER THE SPECIFICATIONS.
7. STRUCTURAL PRACTICES PROPOSED TO CONTROL SEDIMENT INCLUDE SILT FENCE, STONE CHECK DAMS, RIP-RAP, AND SEDIMENT LOGS. VEGETATIVE PRACTICES PROPOSED INCLUDE TEMPORARY AND PERMANENT SEEDING AND GEOTEXTILE MATTING.
8. SEQUENCE CONSTRUCTION TO MINIMIZE EXPOSURE TIME TO DISTURBED AREAS. CONTRACTOR IS RESPONSIBLE FOR PREVENTING STORMWATER RUNOFF FROM ENTERING EXPOSED TRENCHES, ANY REPAIRS REQUIRED FOR SUCH NEGLIGENCE SHALL BE MADE AT THE CONTRACTORS EXPENSE.
9. DEWATERING FILTRATION BASINS MUST BE CONSTRUCTED PER TDEC STANDARDS AND PLACED A MINIMUM OF 20 FEET FROM THE TOP OF BANK OF ANY STREAM OR WETLAND. DISCHARGES FROM FILTRATION BASINS AND/OR FILTERS TO WETLANDS ARE NOT ALLOWED.
10. EROSION CONTROL MEASURES SHOWN ON THE DRAWINGS ARE MINIMUM REQUIREMENTS. EMPLOY ADDITIONAL STRUCTURAL AND VEGETATIVE CONTROLS WHERE DETERMINED NECESSARY BY LOCAL AUTHORITIES, ENGINEER, OR OWNER BASED UPON ACTUAL SITE CONDITIONS.
11. EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE DRAWINGS IF DRAINAGE PATTERNS DURING CONSTRUCTION ARE DIFFERENT FROM THE DRAINAGE PATTERNS SHOWN ON THE DRAWINGS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMPLEMENT EROSION CONTROL FOR ALL DRAINAGE PATTERNS CREATED AT VARIOUS STAGES DURING CONSTRUCTION.
12. ESCAPE OF SEDIMENT FROM THE PROJECT SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
13. ALL EROSION CONTROL MEASURES MUST BE ABLE TO CONTROL STORM RUNOFF GENERATED BY A 5-YEAR, 24-HOUR STORM EVENT.
14. ALL EROSION CONTROL MEASURES, DISTURBED AREAS, AND OUTFALL POINTS MUST BE INSPECTED BY A CERTIFIED INSPECTOR AT LEAST TWICE WEEKLY, NO LESS THAN 72 HOURS APART, AND AFTER ANY RAINFALL EVENT. ANY CONTROL MEASURES DEEMED INADEQUATE OR IN DISREPAIR SHALL BE CORRECTED WITHIN 7 DAYS AFTER THE NEED IS IDENTIFIED.
15. FAILURE TO INSTALL, OPERATE, AND MAINTAIN ALL EROSION CONTROL MEASURES MAY RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE PROJECT UNTIL SUCH MEASURES ARE CORRECTED.
16. IF FINES OR PENALTIES ARE LEVIED AGAINST THE PROPERTY OR THE PROPERTY OWNER BECAUSE OF A LACK OF EROSION OR SEDIMENTATION CONTROL, THE CONTRACTOR SHALL BE RESPONSIBLE FOR PAYMENT OF SUCH FINES OR PENALTIES, OR THE COST OF SUCH FINES OR PENALTIES SHALL BE DEDUCTED FROM THE CONTRACT AMOUNT.
17. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLE OR SITE ONTO PUBLIC ROADWAYS OR INTO STORM DRAINS SHALL BE REMOVED BY THE END OF THE DAY.
18. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITIES, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITIES SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITIES. NO DISTURBANCE SHALL OCCUR OUTSIDE THE LIMITS INDICATED ON THE DRAWINGS.
19. ACTIVITIES FOR THE PROJECT MUST BEGIN WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO PREVENT EROSION AND CONTROL SEDIMENT DEPOSITS. ALL EROSION CONTROL MEASURES MUST BE MAINTAINED UNTIL ALL UPSTREAM DISTURBED GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/PARKING AREAS HAVE BEEN PAVED.
20. THE CONTRACTOR SHALL REMOVE ACCUMULATED SILT FROM SEDIMENT BARRIERS AND CHECK DAMS WHICH BECOME SILTED ABOVE ONE-QUARTER OF THEIR ORIGINAL HEIGHT.
21. PROVIDE TEMPORARY VEGETATIVE STABILIZATION AND/OR PERMANENT STABILIZATION WITHIN 14 CALENDAR DAYS OF CONSTRUCTION TEMPORARILY CEASING OR BEING COMPLETED IN ANY GIVEN AREA.
22. TEMPORARY MULCH AND/OR POLYACRYLAMIDE (P.A.M.) SHALL BE APPLIED TO DISTURBED AREAS NOT TO RECEIVE TEMPORARY STABILIZATION WITHIN 14 CALENDAR DAYS OF CONSTRUCTION CEASING IN ANY GIVEN AREA.
23. WHEN CONSTRUCTION BORDERS A DRAINAGE COURSE, THE CONTRACTOR SHALL NOT DEPOSIT ANY BUILDING OR OTHER EXCAVATION SPOIL DIRT, CONSTRUCTION TRASH OR DEBRIS, ETC. IN THE DRAINAGE COURSE.
24. DISCHARGE OF STORM-WATER RUNOFF FROM DISTURBED AREAS TO RECEIVING WATERS SHALL BE CONTROLLED TO THE EXTENT THAT THE TURBIDITY OF THE RECEIVING WATERS DOWNSTREAM OF THE DISCHARGE SHALL NOT EXCEED THE TURBIDITY OF THE RECEIVING WATERS IMMEDIATELY UPSTREAM OF THE STORM-WATER RUNOFF DISCHARGE AT THE TIME OF SUCH DISCHARGE.
25. DISPOSE OF WASTE SOILS, CLEARED AND GRUBBED MATERIALS OFF-SITE THAT CAN NOT BE GROUND TO CHIPS IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
26. IF NECESSARY, PROVIDE A 'CONTAINED' WASHOUT AREA AT CONSTRUCTION ENTRANCES/EXITS TO PREVENT SEDIMENT LADEN DISCHARGES INTO WATERS OF THE STATE.
27. THE FOLLOWING SHALL BE USED FOR ALL EXISTING DITCHES AND SLOPES WHERE STRAW MULCH IS INADEQUATE:
 - A. ALL SIDE SLOPES STEEPER THAN 4:1 SHALL BE COVERED WITH LANDLOK-S1 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
 - B. DITCHES GREATER THAN 5% AND LESS THAN 10% SHALL BE LINED WITH LANDLOK-CS2 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
 - C. DITCHES EXCEEDING 10% SHALL BE LINED WITH LANDLOK-C2 AS MANUFACTURED BY S.I. GEOSOLUTIONS OR APPROVED EQUAL.
28. THE FOLLOWING SHALL BE USED TO TEMPORARILY STABILIZE (SHORT TERM) ALL NEW DITCHES AND SLOPES: POLYPROPYLENE SINGLE NET (STITCHING 2" O.C.), STRAW EROSION CONTROL BLANKETS.
29. SILT FENCE SHALL BE INSTALLED AT TOE OF SLOPES BORDERING THE LIMITS OF DISTURBANCE (2' +/- FROM LIMITS OF SLOPE). TERMINATE SILT FENCE INSTALLATION WITH A J-HOOK.
30. CONTRACTOR MUST KEEP RECORDS OF WEEKLY INSPECTIONS FOR REVIEW BY KNOX COUNTY AND THE TENNESSEE DEPARTMENT OF CONSERVATION.
31. CONSTRUCTION ENTRANCES SHOWN ON THE PLANS ARE SHOWN IN A GENERAL MANNER. THE CONTRACTOR SHALL COORDINATE SPECIFIC LOCATIONS WITH THE OWNER AND PROVIDE ENTRANCES WHERE CONSTRUCTION TRAFFIC ENTERS AND EXITS EXISTING ROADWAYS. MAINTAIN ALL CONSTRUCTION ENTRANCES TO PREVENT TRACKING SEDIMENT ONTO PUBLIC ROADS.



1 TEMPORARY CONSTRUCTION ENTRANCE / EXIT
NOT TO SCALE

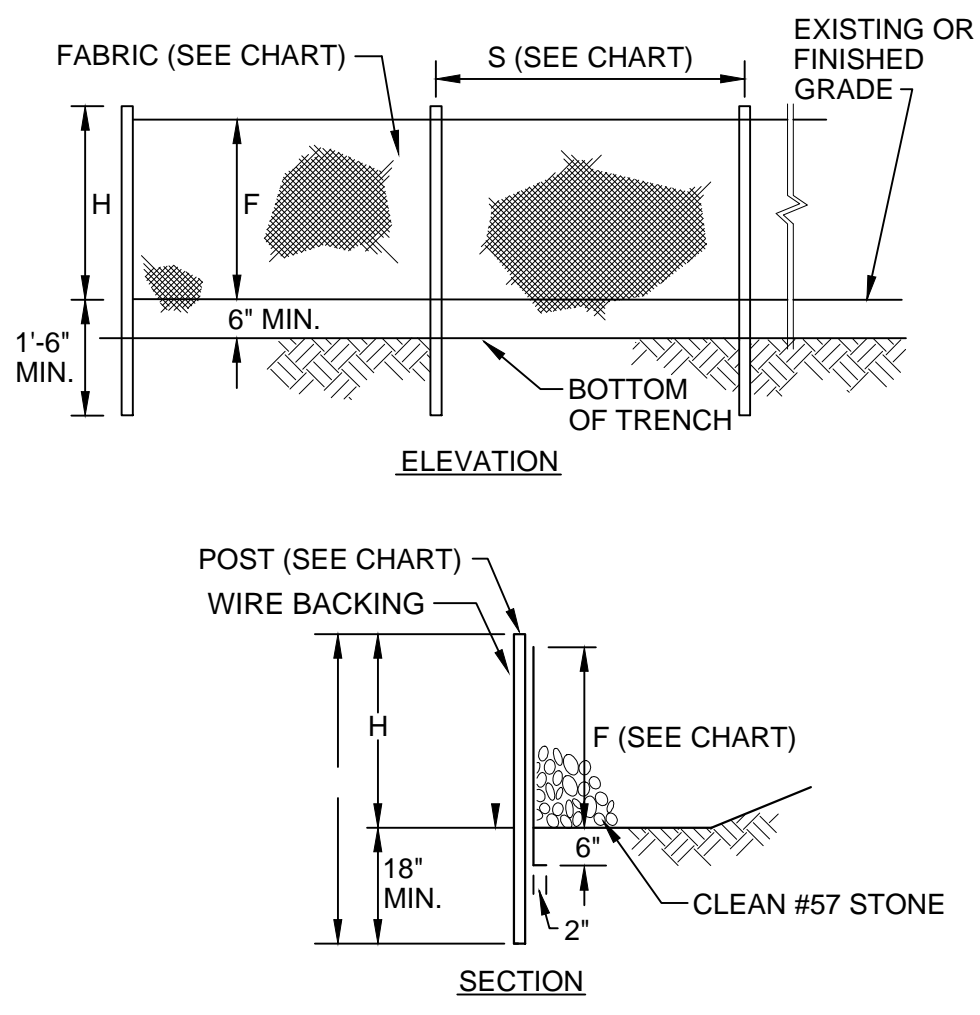
- NOTES:**
1. LOCATIONS SHOWN ON DRAWINGS ARE APPROXIMATE, COORDINATE FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION.
 2. USE CLEAN, WASHED COARSE AGGREGATE FROM 2" TO 4" IN DIAMETER.
 3. ADDITIONAL STONE MAY BE REQUIRED PERIODICALLY TO MAINTAIN PROPER FUNCTION OF ENTRANCE / EXIT.
 4. REMOVE STONE AFTER CONSTRUCTION IS COMPLETE.



2 STONE CHECK DAM
NOT TO SCALE

- NOTES:**
1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH.
 2. L = DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATIONS
 3. GEOTEXTILE FABRIC SHALL BE TENCATE MIRAFI N-SERIES NONWOVEN POLYPROPYLENE SPECIFICALLY DESIGNED FOR SUBSURFACE DRAINAGE AND SOIL SEPARATION OR APPROVED EQUAL.

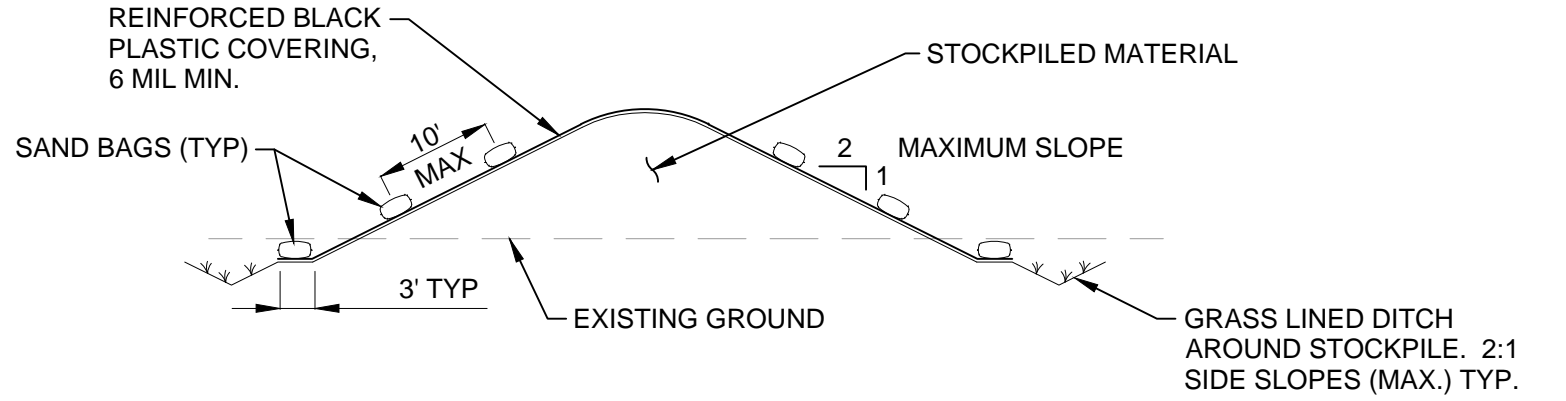
- MAINTENANCE STANDARDS:**
1. REMOVE ANY SEDIMENT DEPOSITS OF MORE THAN 0.5 FEET SO CHANNEL IS RESTORED TO ITS DESIGN CAPACITY.
 2. EXAMINE CHANNEL FOR SIGNS OF SCOURING / EROSION HAS OCCURRED, PROTECT AFFECTED AREAS WITH RIP-RAP AND AN EROSION CONTROL BLANKET.



3 SILT FENCE
NOT TO SCALE

	POST SIZE, MATERIAL AND SPACING	
	TYPE A	TYPE C
MIN. LENGTH = L	4'-0"	4'-0"
MIN. HEIGHT = H	2'-0"	2'-0"
MAX. SPACING = S	6'-0"	4'-0"
MATERIAL	2" x 4" PINE OR 1.3 LB./FT. STEEL	1.3 LB./FT. STEEL
FABRIC MATERIAL AND WIDTH		
	TYPE A	TYPE C
TENSILE STRENGTH (SEE MNL. (1)) (ASTM D-4753)	WARP - 120 FILL - 100	WARP - 200 FILL - 100
ELONGATION (% MAX.) (ASTM D-4753)	40	40
ACS (APPARENT OPENING SIZE) (MAX. SIZE) (ASTM D-4753)	#30	#30
FLOW RATE (GAL./MIN./SQ. FT.) (50% @ 10" MAX.)	25	70
ULTRAVIOLET STABILITY (2) (ASTM D-4632 AFTER 500 HOURS WEATHERING IN ACCORDANCE WITH ASTM D-4632)	70	70
BURSTING STRENGTH (PSI MIN.) (ASTM D-772 DETERMINED BURSTING STRENGTH TESTER)	175	175
MINIMUM FABRIC WIDTH (INCHES) - 4'-0"	36	36

- NOTES:**
1. USE TYPE AS NOTED ON PLAN.
 2. SILT FENCE SHALL BE INSTALLED USING A MECHANICAL TRENCHING MACHINE.
 3. FABRIC, IN AREAS WHERE ROCK PROHIBITS PROPER EMBEDMENT, SHALL BE SECURED BY PLACING CLEAN CRUSHED STONE OR SAND ALONG THE BASE OF THE FENCE. 20 POUNDS OF STONE OR SAND, PER FOOT (MIN.)
 4. ATTACH FABRIC TO STEEL POSTS WITH WIRE OR POCKETS.
 5. CONTRACTOR SHALL PERIODICALLY REMOVE ACCUMULATED SEDIMENT. WHEN SEDIMENT DEPTH REACHES 1/2 OF THE FENCE HEIGHT.
 6. TERMINATE SILT FENCE ALONG SLOPES USING A J-HOOK STYLE CONFIGURATION.

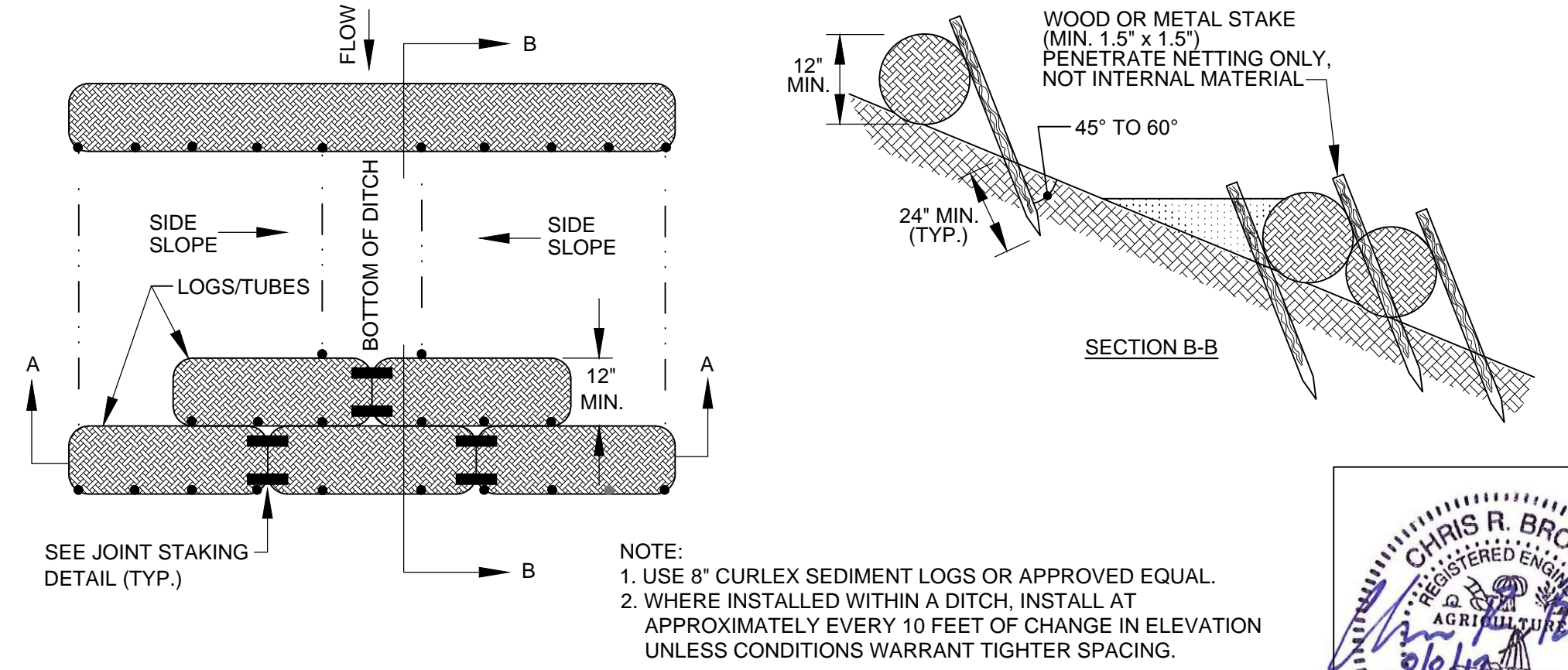


4 TEMPORARY STOCKPILE COVERING
NOT TO SCALE

- NOTES:**
1. ONLY COVER TEMPORARY STOCKPILES PRIOR TO FORECASTED SIGNIFICANT RAIN EVENTS AS DIRECTED BY THE OWNER.
 2. TAPE OR WEIGHT DOWN ALL SEAMS FULL LENGTH. ALL SEAMS SHALL HAVE A MINIMUM 12" OVERLAP.
 3. SEAMS PARALLEL TO THE SLOPE CONTOUR SHALL HAVE THE UPHILL SHEET OVERLAP THE DOWN HILL SHEET.
 4. NO SURFACE RUN-OFF SHALL BE ALLOWED TO RUN UNDER THE PLASTIC COVERING.
 5. DRAINAGE FROM AREAS COVERED BY REINFORCED PLASTIC SHEETING SHALL BE CONTROLLED SUCH THAT NO DISCHARGE OCCURS DIRECTLY ONTO UNCONTROLLED DISTURBED AREAS OF THE CONSTRUCTION SITE.
 6. ALL SAND BAGS SHALL BE MAINTAINED IN PLACE WITH ROPE.

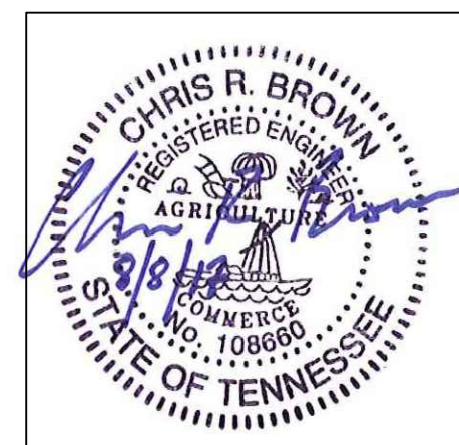
- HYDROSEED ALL DISTURBED AREAS**
- TEMPORARY SEEDING NOTES:**
1. JAN. 1 - MAY 1: ITALIAN RYE 33-1/3%, KOREAN, LESPEDEZA 33-1/3%, SUMMER OATS 33-1/3%
 - MAY 1 - JULY 15: 100% SUDAN-SORGHUM CROSSES or 100% STARR MILLET
 - JULY 15 - JAN. 1: BALBOA RYE 66-2/3%, ITALIAN RYE 33-1/3%
- PERMANENT SEEDING NOTES:**
1. DISTURBED AREAS SHALL BE SEEDDED WITH THE FOLLOWING: PERMANENT LAWN: 85% KENTUCKY 31 AT THE RATE OF 5 LBS PER 1,000 SQUARE FEET. 15% WINTER RYE FOR TEMPORARY NURSE CROP AT THE RATE OF 1.5 LBS PER 1,000 S.F. SEED SHALL CONFORM TO ALL STATE REQUIREMENTS. FERTILIZER WITH 10 POUNDS OF 10-10-10 PER 1,000 SQUARE FEET. MULCH WITH CLEAN WHEAT OR OAT STRAW AT THE RATE OF ONE BALE PER 1,000 S.F.
 2. SEEDED AREAS ARE TO BE INSTALLED USING THE CURRENT BEST PRACTICE METHODS FOR SEEDING OF KENTUCKY 31 FESCUE FOR EASTERN TENNESSEE.
 3. PERMANENT SEEDING IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETED AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA.

5 TEMPORARY & PERMANENT SEEDING
NOT TO SCALE

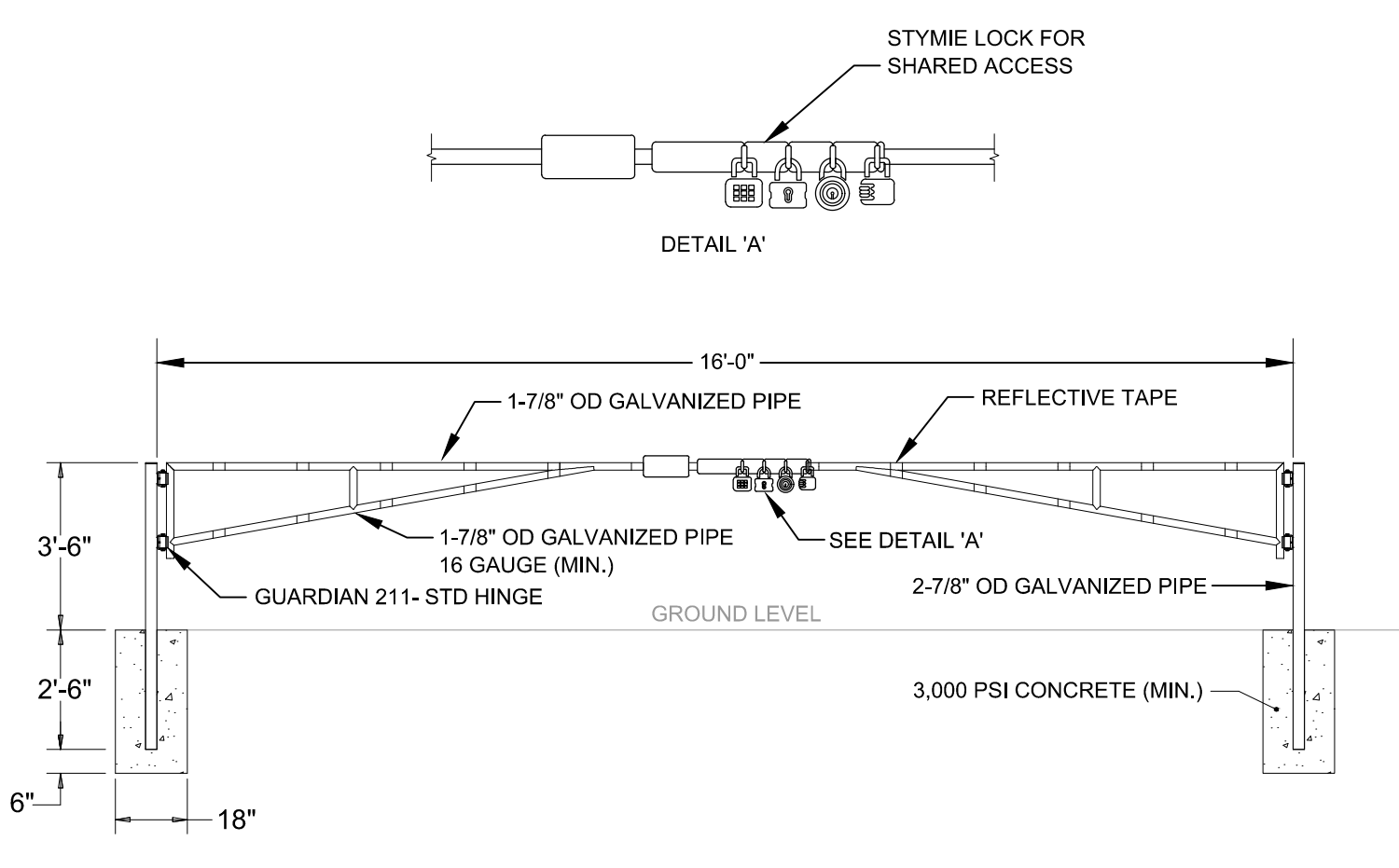


6 SEDIMENT LOG DETAIL
NOT TO SCALE

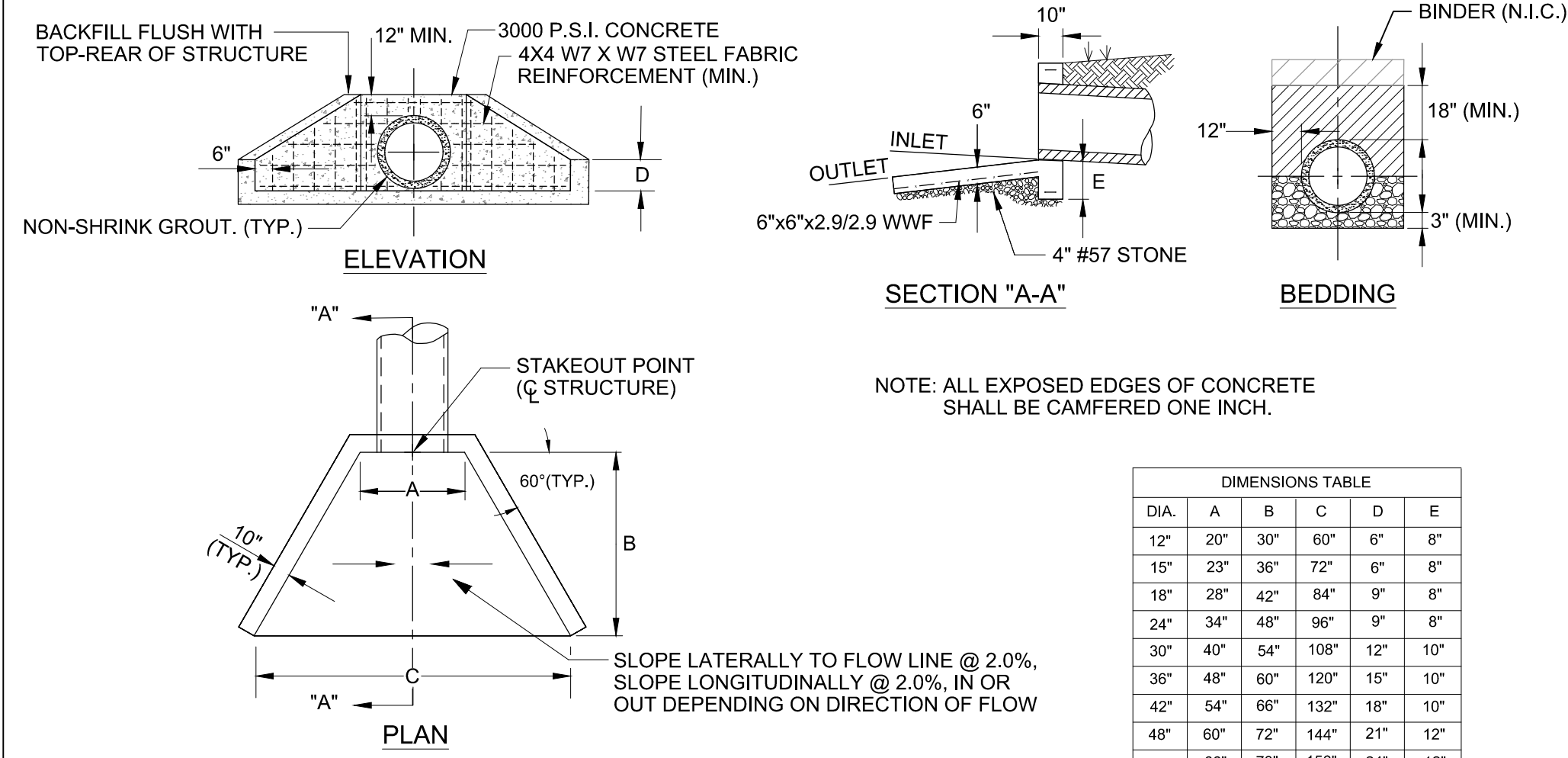
- NOTE:**
1. USE 8" CURLEX SEDIMENT LOGS OR APPROVED EQUAL.
 2. WHERE INSTALLED WITHIN A DITCH, INSTALL AT APPROXIMATELY EVERY 10 FEET OF CHANGE IN ELEVATION UNLESS CONDITIONS WARRANT TIGHTER SPACING.



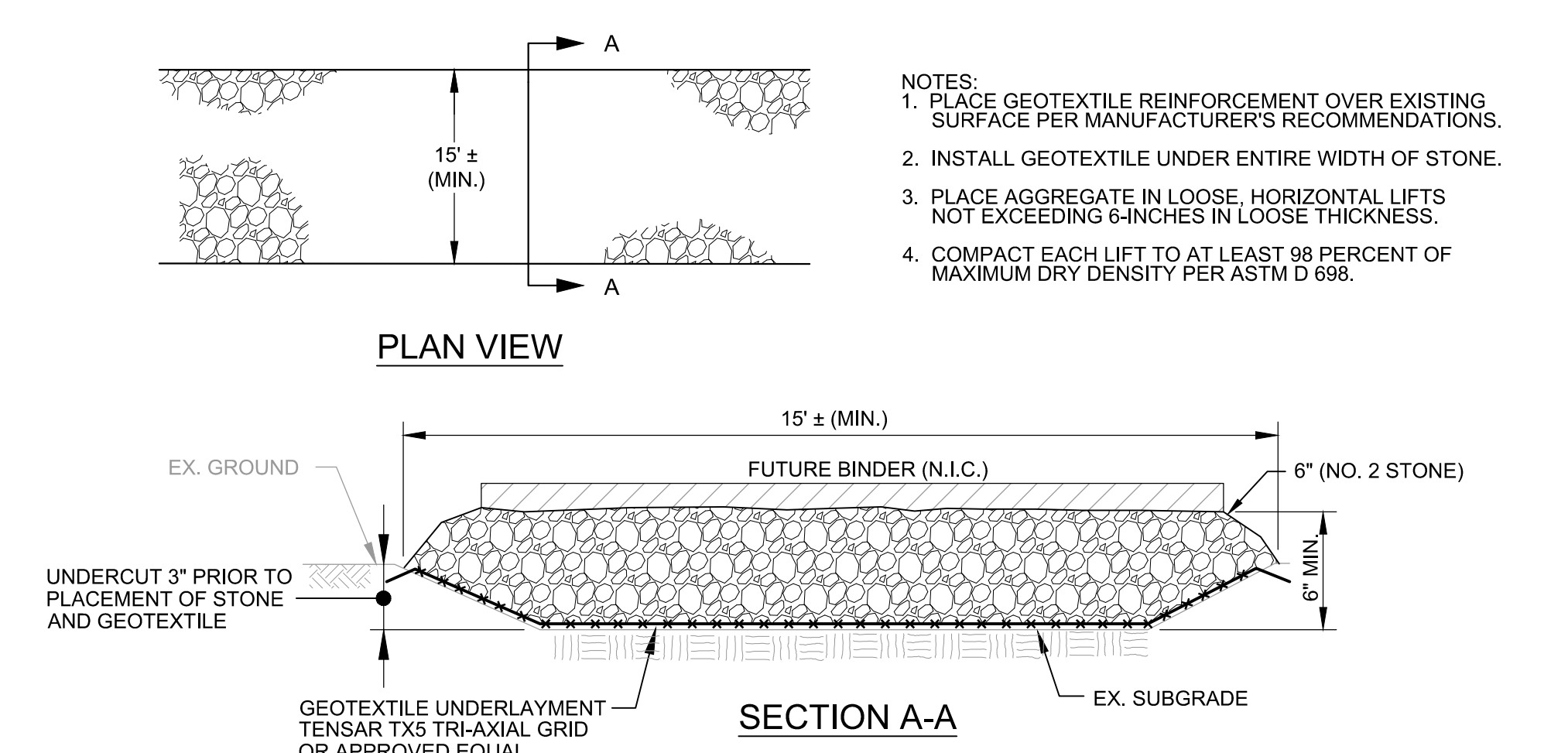
ISSUED FOR BID / AGENCY REVIEW NOT FOR CONSTRUCTION KUB CONTROL # 961



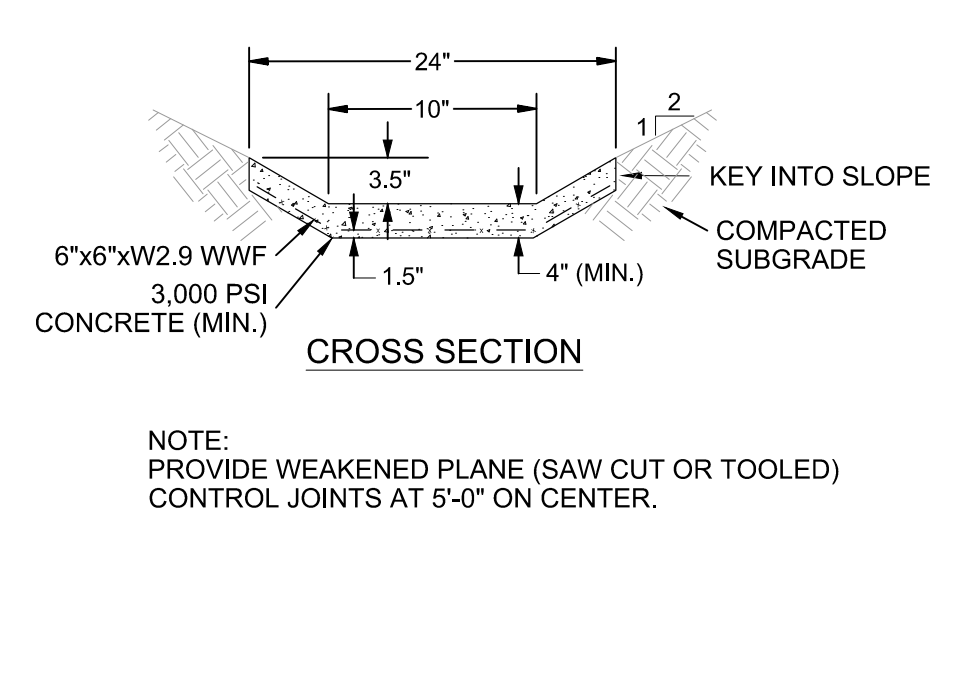
1 DRIVEWAY 16' DOUBLE SWING GATE
NOT TO SCALE



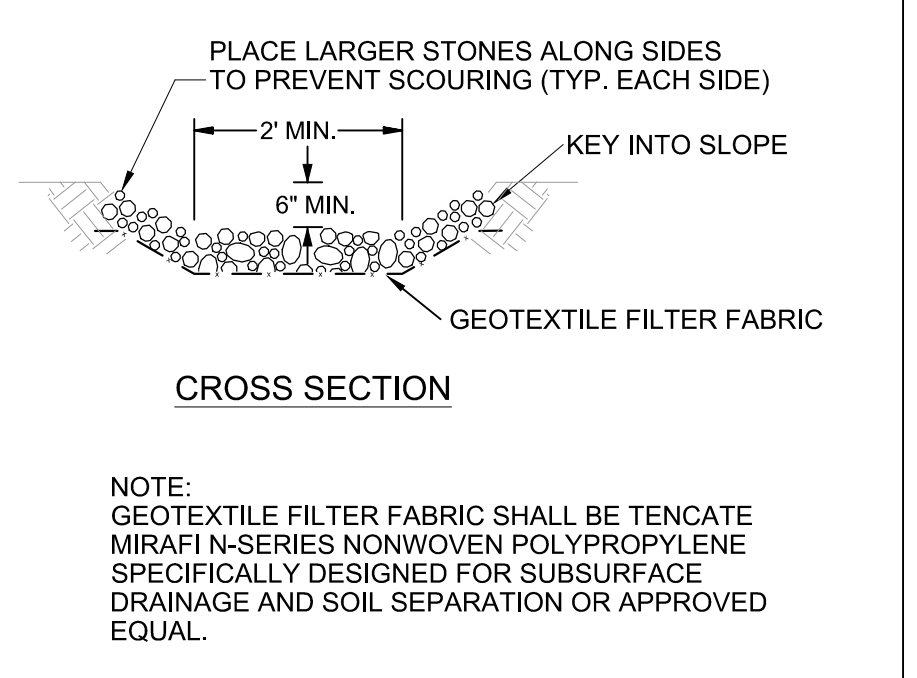
2 PRECAST CONCRETE HEADWALL
NOT TO SCALE



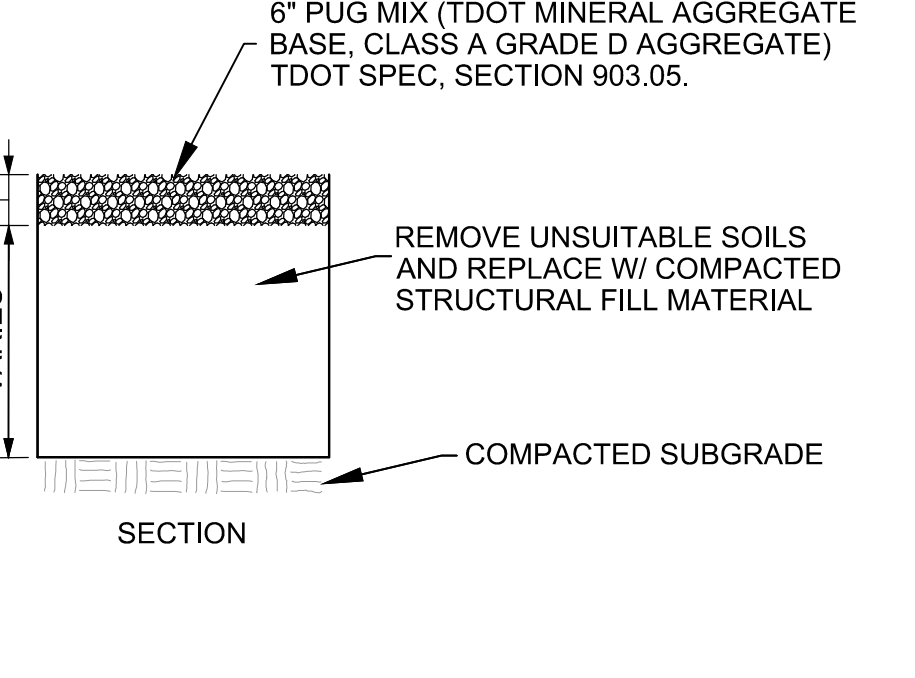
3 DRIVEWAY CROSS SECTION
NOT TO SCALE



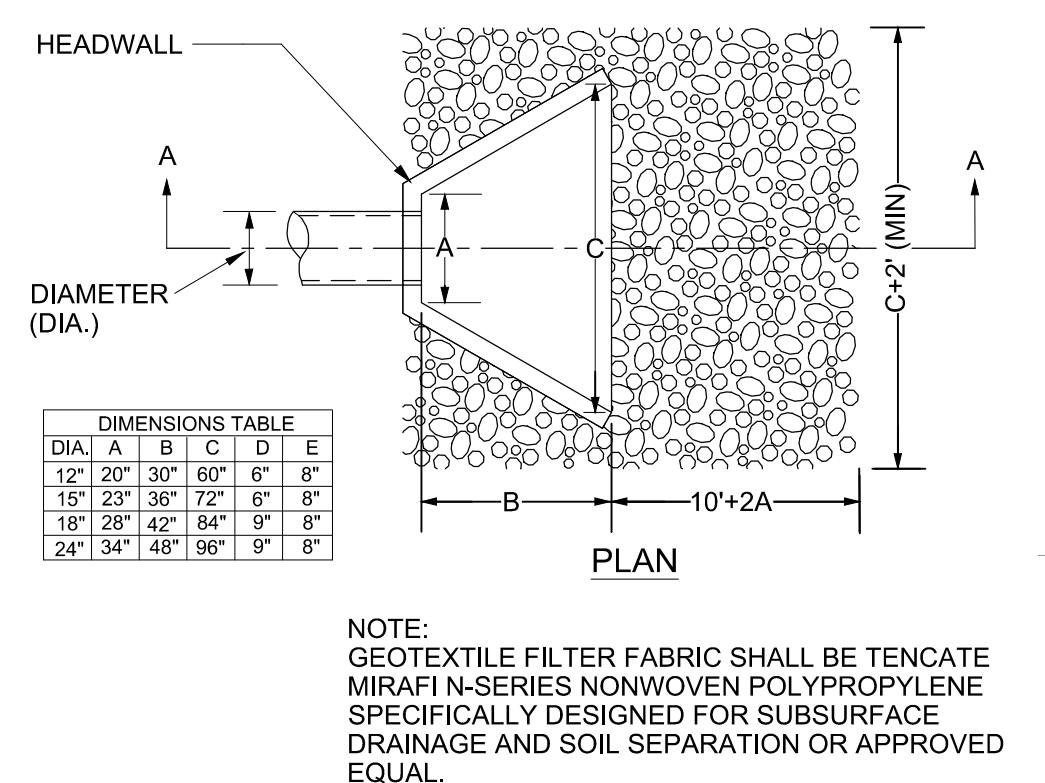
4 CONCRETE DRAINAGE SWALE
NOT TO SCALE



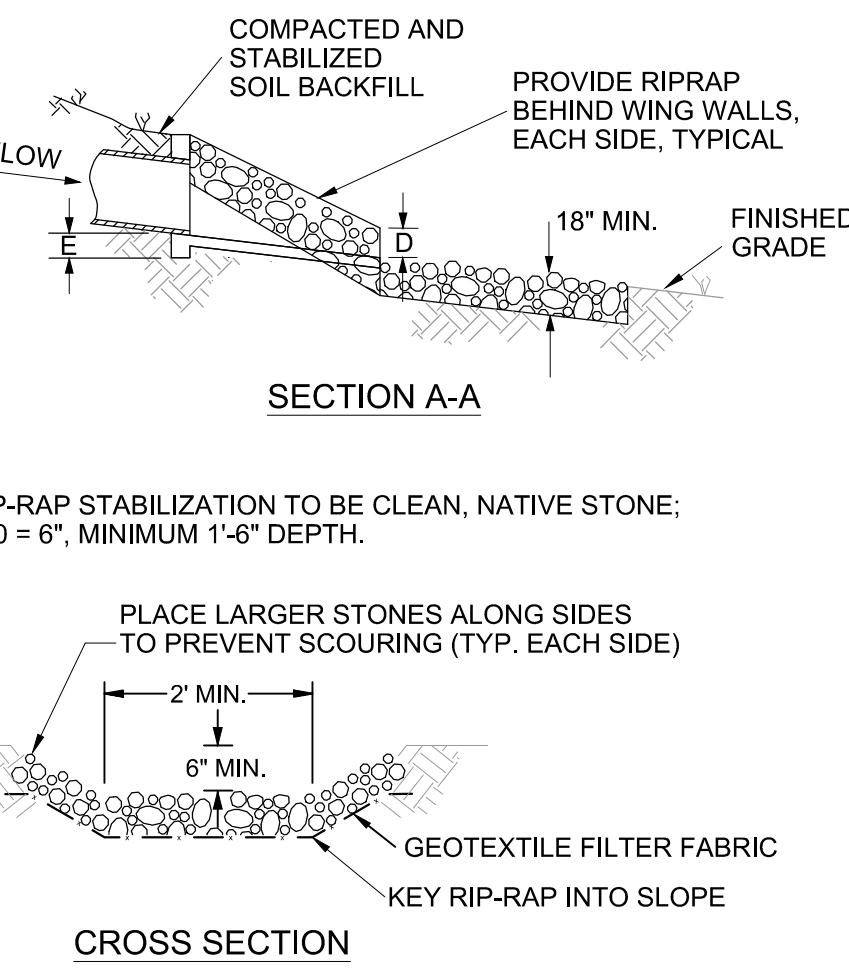
5 RIPRAP DRAINAGE DITCH
NOT TO SCALE



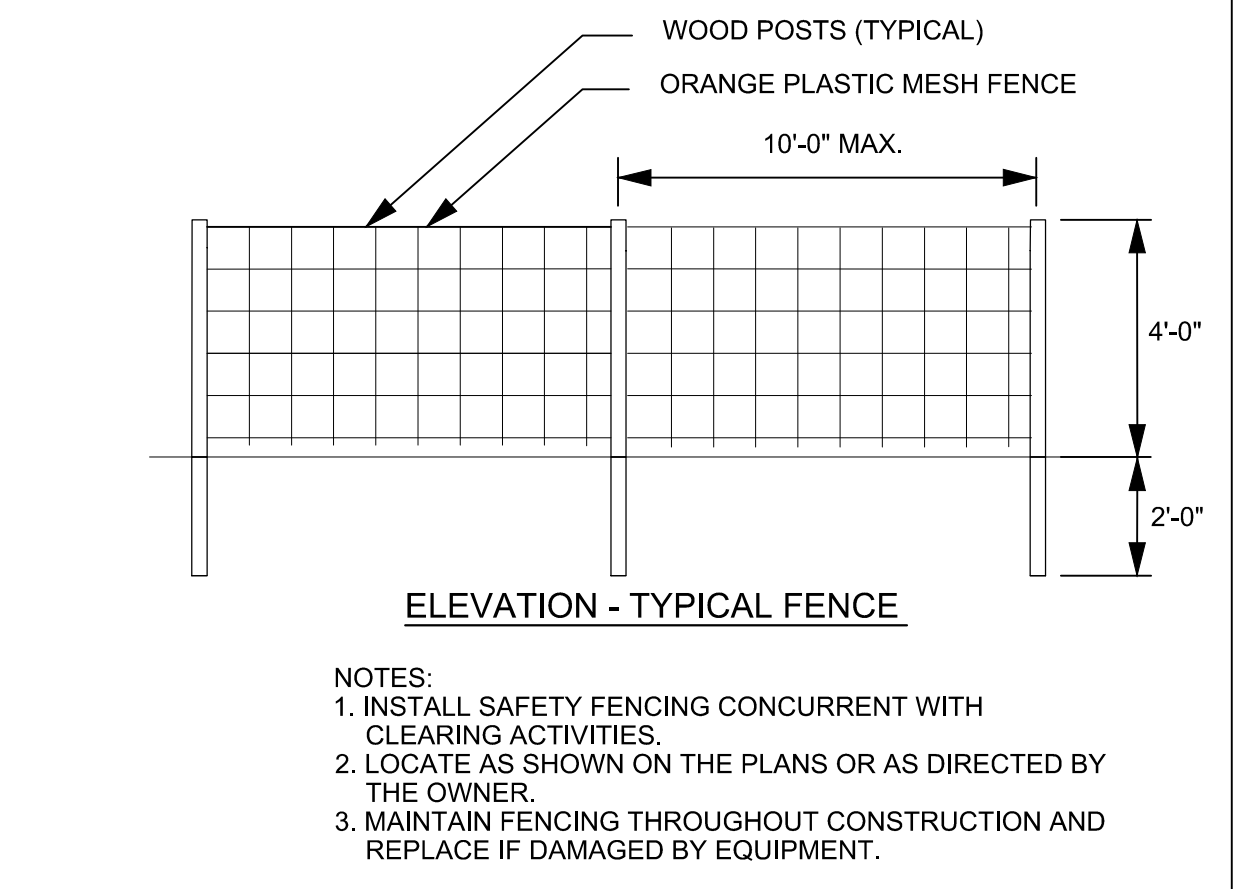
6 GATE STATION PAD SECTION
NOT TO SCALE



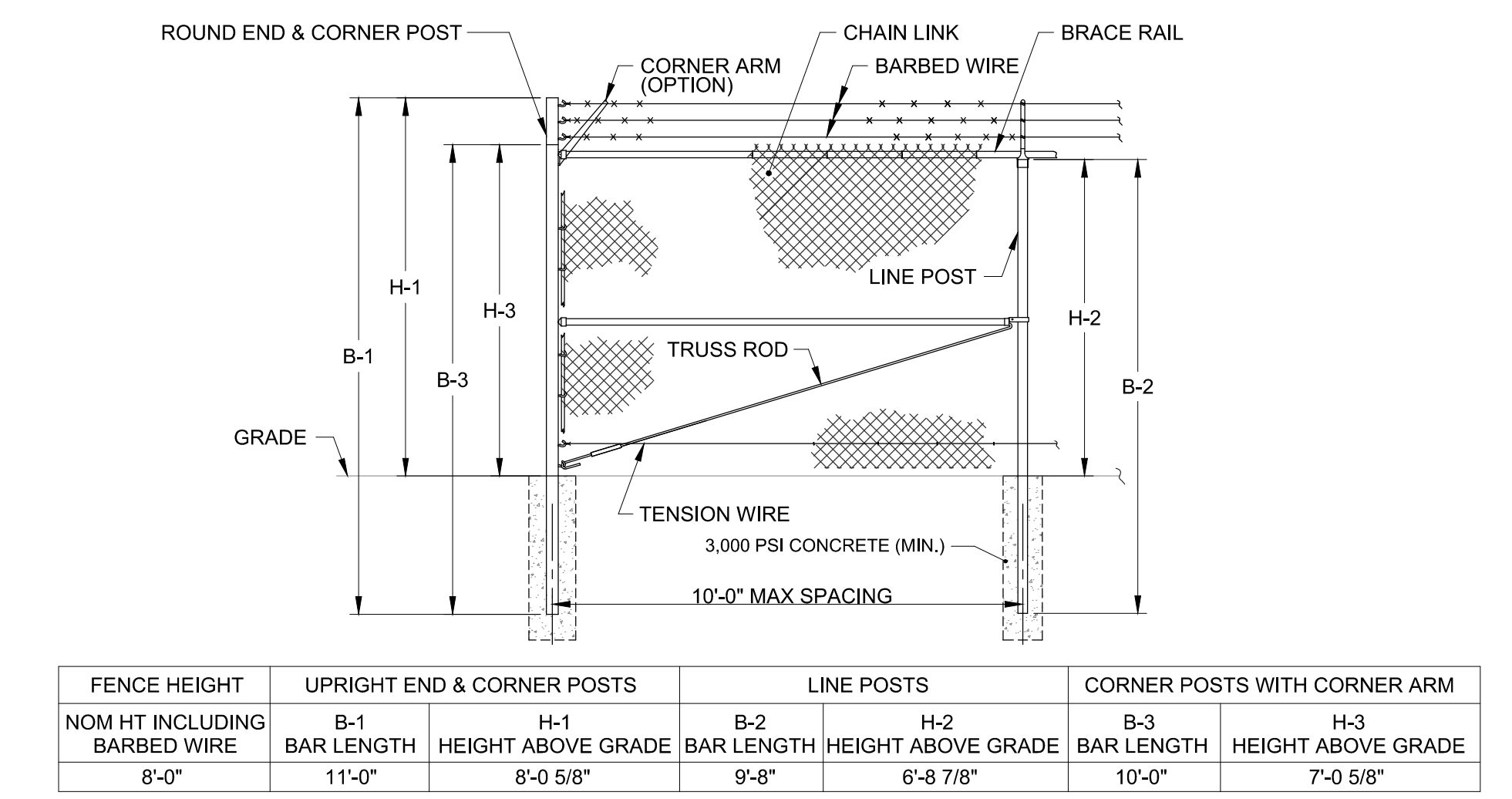
7 OUTLET PROTECTION (RIPRAP)
NOT TO SCALE



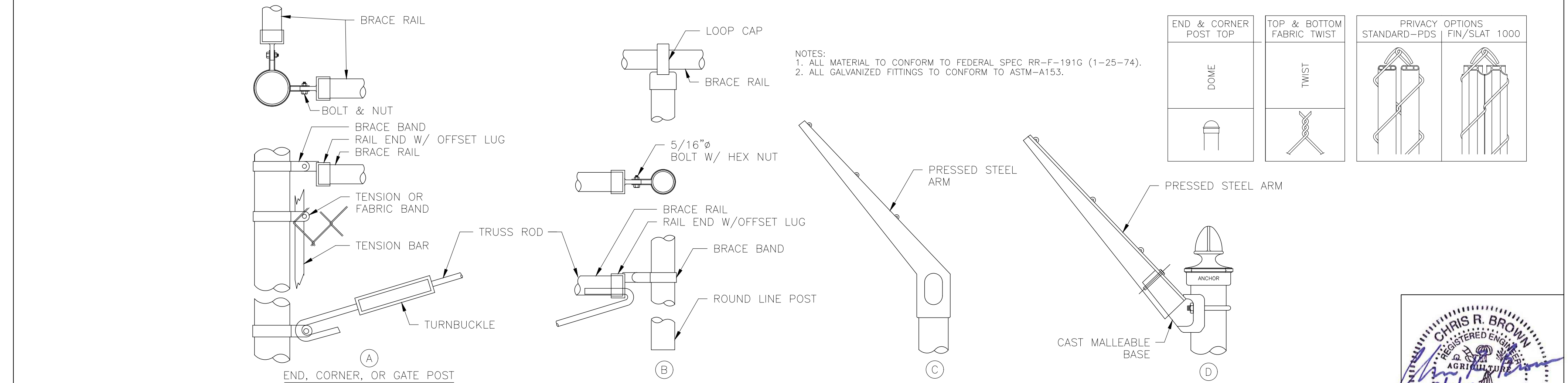
8 RIPRAP STABILIZATION
NOT TO SCALE



9 ORANGE SAFETY FENCE (TYP.)
NOT TO SCALE



10 8' CHAINLINK FENCE W/TOP RAIL & 3 STRAND BARBED WIRE
NOT TO SCALE



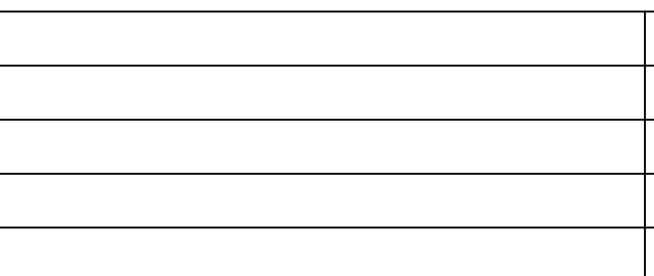
11 ROUND TERMINAL POSTS
NOT TO SCALE

GRESHAM SMITH AND PARTNERS
2095 Lakeside Centre Way
Suite 120
Knoxville, Tennessee 37922

DESIGNED:	CRB
DRAWN:	CRB
CHECKED:	MJM

NO.	DATE	REVISION	APPR.

SCALE	NTS
DATE	AUGUST, 2017



SOUTH KNOX GATE STATION PROJECT - GRADING
FOR
KNOXVILLE UTILITIES BOARD
KNOXVILLE, TN

Project 42665.00
STANDARD DETAILS
42665-D2002

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