

CITY OF CHATTANOOGA, TENNESSEE

DUPONT PUMP STATION AND BASIN IMPROVEMENTS-PHASE 2

CONTRACT B

CONTRACT NO. W-12-026-203

CONSENT DECREE PROGRAM

MAYOR

ANDY BERKE

CITY COUNCIL

DISTRICT 1 - CHIP HENDERSON, VICE-CHAIR
DISTRICT 2 - JERRY MITCHELL
DISTRICT 3 - KEN SMITH
DISTRICT 4 - DARRIN LEDFORD
DISTRICT 5 - RUSSELL GILBERT
DISTRICT 6 - DR. CAROL B. BERZ
DISTRICT 7 - ERSKINE OGLESBY, JR., CHAIR
DISTRICT 8 - ANTHONY BYRD
DISTRICT 9 - DEMETRUS COONROD

DEPARTMENT OF PUBLIC WORKS

JUSTIN C. HOLLAND, ADMINISTRATOR

APPROVED FOR RELEASE

WILLIAM C. PAYNE, P.E., CITY ENGINEER DATE



PREPARED BY:

CDM Smith

651 EAST 4TH STREET SUITE 100
CHATTANOOGA, TN 37403
TEL: (423) 771-4495

NOVEMBER 2019

ISSUED FOR BID

GENERAL / CIVIL



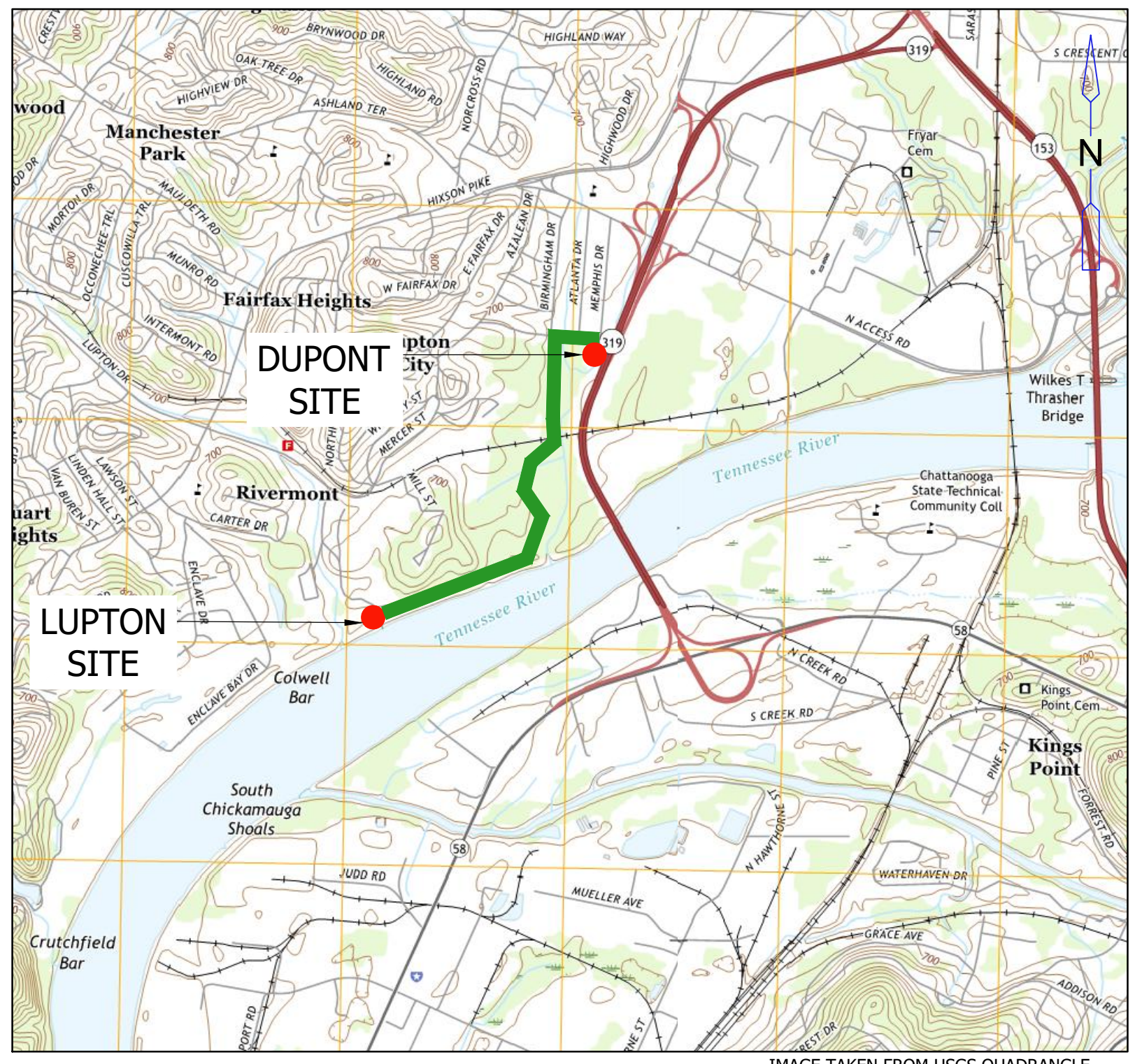
PROJECT INFORMATION

1. PROJECT OWNER: CITY OF CHATTANOOGA, DEPARTMENT OF PUBLIC WORKS, ENGINEERING DIVISION
SUITE 2100, DEVELOPMENT RESOURCE CENTER, 1250 MARKET STREET, CHATTANOOGA, TN 37402
PHONE: (423) 643-6311
2. SITE ADDRESS: DIXIE DRIVE, CHATTANOOGA, TN 37415
3. SITE ZONING: R-1 & M-1
4. TOTAL SITE AREA: 265 ACRES
5. DISTURBED AREA: 4.46 ACRES
6. RECEIVING STREAM: TENNESSEE RIVER

XREFs: [CDMS_2436, CD Program Border] Images: []
 Last saved by: BEELEREW Time: 6/23/2016 11:48:21 AM
 pw:\dpcwapp1\FW_XM1\29699\109746\04 Design Services NM_60%\01 General\10 CADD\G001INDX.dwg PLOT DATE: 11/20/2019 BY: BEELEREW
 CREATED: 11/14/2019 LAST SAVED: 11/20/2019

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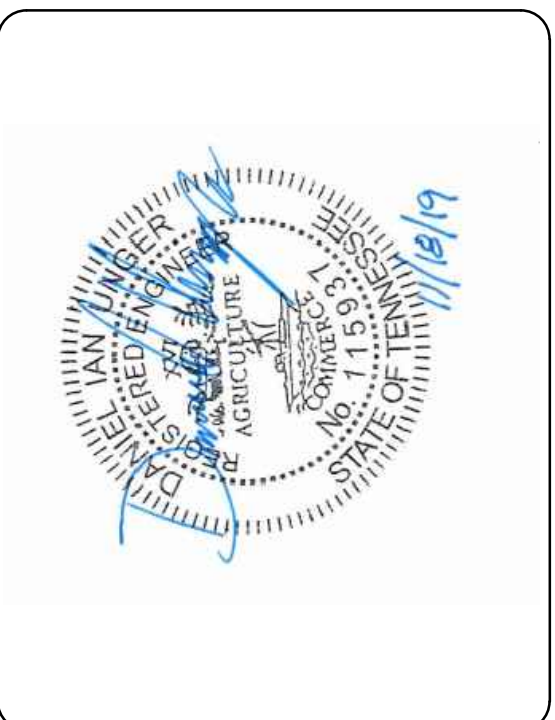
VICINITY MAP
 IMAGE TAKEN FROM USGS QUADRANGLE "CHATTANOOGA" AND "EAST CHATTANOOGA"

NOTES:

- SURVEY WAS COMPLETED BY THE R.L.S. GROUP, LLC ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED. ELEVATIONS BASED ON: STATE OF TENNESSEE GPS CORE STATION NETWORKS AND THEY WERE TRANSFERRED TO SITE BY LEICA VIVA SYSTEM AND REFERENCES NAVD1988.
- THE BOUNDARY LINES SHOWN HEREON ARE AN APPROXIMATE LOCATION ONLY. THE BOUNDARY LINES HAVE BEEN TIED TO THE PROPERTY CORNERS SHOWN, BUT A COMPLETE BOUNDARY SURVEY HAS NOT BEEN COMPLETED BY THIS SURVEY.
- LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE FEATURES AFFECTING HIS WORK. ANYTHING NOT SHOWN ON THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT CONSTITUTE AN EXTRA, UNLESS APPROVED BY THE ENGINEER.
- CONTRACTOR IS TO UTILIZE AREA DESIGNATED ON THESE DRAWINGS FOR LAYDOWN AND STORAGE.
- CONTRACTOR IS TO ENSURE THAT NO DISTURBANCE OCCURS WITHIN THE DESIGNATED STREAM BUFFER EXCEPT FOR PERMITTED STREAM CROSSINGS.
- PER USDA NRCS WEB SOIL SURVEY, EXISTING ON-SITE SOILS (ENTIRE SITE) ARE CLASSIFIED AS STASER LOAM, ETOWAH SILT LOAM, ROANE CHERTY SILT AND WAYNESBORO LOAM. THESE SOILS ARE CLASSIFIED AS HYDROLOGIC SOIL GROUP B AND D. GROUP B SOILS HAVE A MODERATE INFILTRATION RATE WHEN THOROUGHLY WET AND A MODERATE RATE OF WATER TRANSMISSION. GROUP D SOILS HAVE A VERY SLOW INFILTRATION RATE WHEN THOROUGHLY WET AND A VERY SLOW RATE OF WATER TRANSMISSION.
- THIS PROPERTY IS SUBJECT TO A 100-YEAR FLOOD HAZARD ZONE AND FLOODWAY ZONE PER FEMA FIRM MAP #47065C0332G WITH AN EFFECTIVE DATE OF 02/03/2016. THE 100-YEAR FLOOD ELEVATION AT THE SITE IS 659.00. THE BASE FLOOD ELEVATION (BFE) FOR THIS SITE IS 659 FEET ABOVE MEAN SEA LEVEL AS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (658.86, NAVD88).
- LOCATIONS OF SOIL BORINGS ARE SHOWN ON THESE DRAWINGS. CONTRACTOR SHALL REFER TO GEOTECHNICAL REPORT FOR INFORMATION ON THESE BORINGS.

GENERAL NOTES:

- ALL WATER QUALITY BUFFERS, FLOODWAYS, AND OTHER UNDISTURBED AND ASSOCIATED BUFFERS WILL BE STAKED IN THE FIELD (50' O.C. MAX) BY A PROFESSIONAL LAND SURVEYOR PRIOR TO ANY CLEARING OR GRADING.
- INSPECTIONS OF EPSC MEASURES SHALL BE CONDUCTED MINIMUM OF TWICE WEEKLY BY A TDEC LEVEL I CERTIFIED INDIVIDUAL.
- WITHIN WATER QUALITY BUFFER ZONES, THERE WILL BE NO PARKING, STORAGE, STOCKPILING, CONCRETE WASHOUT, DISTURBANCE, ETC. EXCEPT THAT WHICH HAS BEEN APPROVED BY THE CITY OF CHATTANOOGA.
- SITE SHALL BE STABILIZED WITHIN 14 DAYS AFTER CONSTRUCTION ACTIVITIES HAVE CEASED. SLOPES 2:1 OR STEEPER SHALL BE STABILIZED WITHIN 7 DAYS.
- PRIOR TO FINAL ACCEPTANCE BY THE CITY ENGINEER, ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST COMPLY WITH THE CURRENT EDITION OF THE TN EROSION & SEDIMENT CONTROL MANUAL, THE CITY OF CHATTANOOGA BMP MANUAL, AND THE TDEC CONSTRUCTION GENERAL PERMIT.
- COMPLY WITH ALL BUFFER AND TREE PROTECTION REQUIREMENTS AND SCHEDULE A PRE-CONSTRUCTION INSPECTION WITH THE CITY OF CHATTANOOGA'S STORMWATER INSPECTOR, PRIOR TO THE ONSET OF CONSTRUCTION OR LAND DISTURBANCE. AN APPOINTMENT MAY BE SCHEDULED BY CALLING THE STORMWATER INSPECTOR A MINIMUM OF TWO BUSINESS DAYS BEFORE THE DESIRED INSPECTION APPOINTMENT.



**DUPONT PUMP STATION AND
 BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B**
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM

REV	DATE	REVISION DESCRIPTION

THIS LINE _____ IS ONE INCH LONG WHEN PLOTTED FULL SCALE

THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

PROJECT NO: 129699-109746

DATE: NOVEMBER 2019

DISC. LEAD:	DESIGNER:	CHECKER:
DU	VF	CF

SHEET TITLE
 GENERAL

INDEX OF SHEETS

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GENERAL SYMBOLOGY

	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING FENCE
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING GUY WIRE
	EXISTING TELEPHONE MANHOLE
	EXISTING WATER MAIN MANHOLE
	EXISTING CABLE TELEVISION
	EXISTING GAS
	EXISTING WATER
	EXISTING OVERHEAD ELECTRIC LINE
	EXISTING TELEPHONE
	EXISTING UNDERGROUND ELECTRIC LINE
	EXISTING UNDERGROUND TELEPHONE
	FIBER OPTIC CABLE
	EDGE OF PAVEMENT
	EXISTING SANITARY SEWER/MANHOLE
	EXISTING STORM DRAIN/CATCH BASIN
	EXISTING TELEPHONE PEDESTAL
	EXISTING SIGN
	EXISTING WATER VALVE
	EXISTING MAILBOX
	EXISTING FIRE HYDRANT
	EXISTING BUSH
	EXISTING INDEX CONTOURS
	EXISTING DITCH OR STREAM FLOWLINE
	PERMANENT EASEMENT
	NEW UTILITY EASEMENT AREA
	LIMITS OF DISTURBANCE
	MANHOLE
	CASING OR CONCRETE ENCASEMENT
	PIPE TO BE REMOVED
	TEMPORARY DIVERSION CHANNEL
	CHECK DAM
	SILT FENCE
	PROPOSED FENCE
	PROPOSED GUARDRAIL
	BORING LOCATION
	SILT FENCE OUTLET
	LEVEL SPREADER

MATERIAL SYMBOLS

	STONE OR RIP-RAP AS INDICATED
	EARTH
	CONCRETE
	BITUMINOUS PAVEMENT

VALVE AND FITTING SYMBOLOGY

SYMBOL	FEATURE
	AIR RELEASE VALVE
	GATE VALVE
	TEE
	BEND (ANGLE VARIES)
	PLUG
	BLOW-OFF

SECTION CUT SYMBOLS

SECTION NUMBER

SECTION LINE

SHEET WHERE SECTION IS LOCATED
IF THE SECTION IS SHOWN ON THE
SAME SHEET IT IS CUT, THE SHEET
NUMBER MAY BE REPLACED WITH
A DASH.

GENERAL NOTES

- ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED. HORIZONTAL DATUM IS BASED ON NAD 83 (2011). VERTICAL DATUM IS BASED ON NAVD88. COORDINATE SYSTEM IS BASED ON THE TENNESSEE STATE PLANE COORDINATE SYSTEM.
- VEHICLE ACCESS TO THE EXISTING PUMP STATION SHALL BE MAINTAINED AT ALL TIMES.
- LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS, BUT DO NOT PURPORT TO BE ABSOLUTELY CORRECT. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY AND AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY HIS FAILURE TO EXACTLY LOCATE FEATURES AFFECTING HIS WORK. ANYTHING NOT SHOWN ON THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND SHALL NOT CONSTITUTE AN EXTRA, UNLESS APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL CONTACT THE ENGINEER'S OFFICE IMMEDIATELY CONCERNING ANY CONFLICTS ARISING DURING CONSTRUCTION OF ANY IMPROVEMENTS SHOWN ON THESE DRAWINGS.
- LOCATION OF EXISTING UTILITIES ARE APPROXIMATE USING THE BEST AVAILABLE INFORMATION AT THE TIME OF PREPARATION OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL VERIFY ALL UTILITIES AND PROVIDE AT LEAST ONE WEEK NOTICE TO THE INDIVIDUAL UTILITY COMPANIES PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR LOCATING AND PROTECTING EXISTING UTILITIES WHETHER SHOWN OR NOT, AND REPAIRING ALL DAMAGE TO UTILITIES CAUSED BY CONSTRUCTION ACTIVITY.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONSTRUCT HORIZONTAL AND VERTICAL TRANSITION OF PIPES USING 75% OF THE MAXIMUM RECOMMENDED JOINT DEFLECTION BY THE PIPE MANUFACTURER. SHOP DRAWINGS SHALL BE FURNISHED TO THE ENGINEER FOR APPROVAL OF ALL PIPE CONNECTIONS, TRANSITIONS, AND SPECIALS PRIOR TO FABRICATION OR DELIVERY TO JOB SITE.
- THE CONTRACTOR SHALL REPLACE ALL PAVING, STABILIZED EARTH, CURBS, DRIVEWAYS, SOD, SIDEWALKS, MAILBOXES, DRAINAGE CULVERTS, FENCES, ETC., WITH THE SAME TYPE OF MATERIAL THAT WAS REMOVED DURING CONSTRUCTION OR AS APPROVED BY THE ENGINEER. THIS WORK WILL BE PAID FOR UNDER THE APPROPRIATE BID ITEM.
- FIELD SURVEY WAS COMPLETED BY THE R.L.S. GROUP, LLC., AUGUST 2018. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES UNLESS OTHERWISE NOTED. CONTROL VALUES AND NORTH ROTATION IS BASED ON TENNESSEE STATE PLANE COORDINATE SYSTEM, HORIZONTAL NAD 83 (2011) AND VERTICAL NAVD 88.
- SPECIAL PIPE FOUNDATIONS, IF REQUIRED, SHALL BE DETERMINED IN THE FIELD AND THE TYPE REQUIRED WILL BE APPROVED BY THE ENGINEER.
- THE MINIMUM DEPTH OF COVER FOR ALL PIPES SHALL BE 36 INCHES, UNLESS OTHERWISE SHOWN.
- EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE INSTALLED PRIOR TO PERFORMING ANY GROUND DISTURBANCE OR EXCAVATION IN ANY AREA & SHALL BE MAINTAINED DURING WORK AND REMOVED WHEN WORK IS COMPLETED.
- WHERE OPEN CUT METHODS ARE USED, THE TRENCHING AND CONSTRUCTION OPERATIONS SHALL NOT INTERFERE WITH ACCESS TO DRIVES AND ENTRIES.
- GEOTECHNICAL INFORMATION SHOWN ON DRAWINGS IS BASED UPON SURVEY PERFORMED BY TERRACON AND S&M.E.
- ALL MATERIALS AND CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH CITY OF CHATTANOOGA STANDARDS AND SPECIFICATIONS (LATEST EDITION), AND ALL OTHER APPLICABLE GOVERNING AUTHORITIES. ANY DISCREPANCIES FOUND BETWEEN THE CONTRACT DOCUMENTS AND CITY OF CHATTANOOGA STANDARDS AND SPECIFICATIONS AND/OR OTHER APPLICABLE GOVERNING AUTHORITIES SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES.
- REGULAR WORKING HOURS SHALL NOT EXCEED 40 HOURS PER WEEK, 8 HOURS PER DAY (BETWEEN 7:00 A.M. AND 6:00 P.M.), MONDAY THROUGH FRIDAY. OTHER PROVISIONS AND RESTRICTIONS REGARDING LABOR AND WORKING HOURS ARE SPECIFIED IN ARTICLE 6.02 OF THE GENERAL AND SUPPLEMENTARY CONDITIONS.
- BEFORE ANY EXCAVATION, CONTRACTOR SHALL CONTACT THE LOCAL PUBLIC UTILITIES LOCATING SERVICE TO LOCATE UTILITIES A MINIMUM OF 72 HOURS PRIOR TO CONSTRUCTION, EXCLUDING WEEKENDS AND HOLIDAYS, SO EXISTING UTILITY LOCATIONS CAN BE MARKED. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH HAVE OCCURRED THROUGH HIS/HER FAILURE TO LOCATE AND PRESERVE ANY AND ALL EXISTING UTILITIES, STRUCTURES, OR OTHER FEATURES.
- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING TRAFFIC CONTROL, LANE/ROAD CLOSURE STREET CUT PERMITS, AND ANY AND ALL PERMITS NECESSARY TO PERFORM THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR ANY TRAFFIC CONTROL AND/OR STREET CUT FEES IMPOSED BY LOCAL JURISDICTIONS.
- CONTRACTOR TO SUBMIT DETAILED TRAFFIC CONTROL PLAN FOR APPROVAL BY THE GOVERNING AUTHORITY. ALL TDOT TRAFFIC CONTROL SHALL BE PROVIDED IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
- CONTRACTOR SHALL INSTALL SEDIMENT AND EROSION CONTROL MEASURES TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE WORK AREA. REFER TO SPECIFICATION 01 57 13 FOR EROSION AND SEDIMENTATION CONTROL REQUIREMENTS.
- LIMITS OF CONSTRUCTION ARE 15 FEET ON EITHER SIDE OF PIPELINE UNLESS OTHERWISE INDICATED.
- CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF WASTEWATER FLOW IN EXISTING SEWERS DURING CONSTRUCTION. CONTRACTOR IS REQUIRED TO MAINTAIN TRAFFIC FLOW AND ACCESS DURING BYPASS PUMPING.
- IT IS POSSIBLE ADDITIONAL PIPES AND MANHOLES MAY BE INCLUDED AS NOTED IN THE SPECIFICATIONS REGARDING POTENTIAL EXTENSION OF THE CONTRACT.
- THE DIAMETERS, CONSTRUCTION MATERIAL, AND DEPTHS SHOWN HEREIN WERE PROVIDED BY CITY OF CHATTANOOGA GIS DATA AND RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL INFORMATION PRIOR TO BIDDING AND CONSTRUCTION.
- ALL NOTIFICATIONS AND COMMUNICATIONS WITH PROPERTY OWNERS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS.
- FOLLOWING COMPLETION OF THE WORK, THE CONTRACTOR WILL BE RESPONSIBLE FOR RESTORING ALL AREAS TO MATCH OR EXCEED PRE-REHABILITATION CONDITIONS.
- ALL PAVEMENT REPAIRS SHALL BE PERFORMED IN ACCORDANCE WITH THE TDOT AND THE CITY OF CHATTANOOGA STANDARDS. REFER TO DETAIL SHEETS FOR PAVEMENT REPAIRS.
- GEOTEXTILE: EXCEPT WHERE SCREENED GRAVEL AND CRUSHED STONE ARE PLACED ABOVE THE DESIGN GROUNDWATER LEVEL AND/OR AGAINST BEDROCK, A NONWOVEN GEOTEXTILE SHOULD BE USED TO SEPARATE IT FROM THE UNDERLYING SUBGRADE SOILS TO PROTECT AGAINST THE MIGRATION OF FINES INTO THE PIPELINE BEDDING. THE GEOTEXTILE FABRIC SHOULD BE MIRAFI 140N OR EQUIVALENT.

DRAWING, SECTION AND DETAIL TITLES

PLAN
1/4" = 1'-0"

SECTION
3/4" = 1'-0"

DETAIL
3/4" = 1'-0"

SECTION NUMBER

SHEET WHERE CUT IS TAKEN

SHEET WHERE DETAIL IS TAKEN

IF SECTION OR DETAIL IS DRAWN ON THE SAME SHEET THAT IT IS TAKEN FROM, THE SHEET NUMBER MAY BE REPLACED WITH A HYPHEN. IF THE SECTION IS REFERENCED ON MULTIPLE SHEETS, THE SHEET NUMBER SHOWN SHOULD INDICATE THE FIRST SHEET THE SECTION IS TAKEN FROM.

ABBREVIATIONS

A	AIR	FLG	FLOORING	PVC	POLYVINYL CHLORIDE
A/C	AIR CONDITIONING	FM	FORCE MAIN/FLOW METER	PVMT	PAVEMENT
ABDN	ABANDON	FRP	FIBER GLASS REINFORCED PLASTIC	PW	POTABLE WATER
ADDL	ADDITIONAL	FT	FEET/FOOT	QTY	QUALITY OR QUANTITY
ADJ	ADJUSTABLE, ADJUST	FTG	FOOTING/FITTING	R	RADIUS
ADPT	ADAPTER	G	GAS	R/W	RIGHT OF WAY
AER	AEROBIC	GALV	GALVANIZED	RAS	RETURN ACTIVATED SLUDGE
AFG	ABOVE FINISHED GRADE	GPD	GALLONS PER DAY	RCP	REINFORCED CONCRETE PIPE
AHU	AIR HANDLING UNIT	GPM	GALLONS PER MINUTE	RED	REDUCER
AL	ALUMINUM	GRAV	GRAVITY	REF	REFERENCE/REFER
ANA	ANAEROBIC	GRIT	GRIT SLURRY	RFCV	RUBBER FLAPPER CHECK VALVE
ANX	ANOXIC	GSKT	GASKET	RJ	RESTRAINED JOINT
APPROX	APPROXIMATE (LY)	GV	GATE VALVE	RDT	ROTARY DRUM THICKENER
ARCH	ARCHITECT (URAL) (URE)	HB	HOSE BIBB	ROW	RIGHT OF WAY
ASPH	ASPHALT	HEX	HEXAGON	RPM	REVOLUTIONS PER MINUTE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS	HFCA	HARNESSED FLANGED COUPLING ADAPTER	RPZ	REDUCED PRES ZONE PRV
ATC	AUTOMATIC TEMPERATURE CONTROL	HT	HEIGHT	RR	RAILROAD
AUTO	AUTOMATIC	HORIZ	HORIZONTAL	S	SOUTH
AUX	AUXILIARY	HWA	HIGH WATER ALARM	SAN	SANITARY
AVG	AVERAGE	HWL	HIGH WATER LEVEL	SC	SCUM
BF	BLIND FLANGE	HZ	HERTZ	SD	STORM DRAIN
BV	BUTTERFLY VALVE	ID	INSIDE DIAMETER	SDMH	STORM DRAIN MANHOLE
BM	BENCHMARK	IE	INVERT ELEVATION	SE	SECONDARY EFFLUENT
BO	BLOW OFF ASSEMBLY	IN	INCH	SG	SLIDE GATE
BOT	BOTTOM	INF	INFLUENT	SLV	SLEEVE
BTWN	BETWEEN	INV	INVERT	SPR	SPRING
BV	BALL VALVE	JB	JUNCTION BOX	SQ	SQUARE
CAP	CAPACITY	JCT	JUNCTION	SQ FT	SQUARE FEET
CAV	COMBINATION AIR VACUUM VALVE	JT	JOINT	STA	STATION
CB	CATCH BASIN	LB	POUND	STRUC	STRUCTURE (S, URAL)
CHEM	CHEMICAL	LF	LINEAL FEET	SS	SANITARY SEWER
CI	CAST IRON	LG	LENGTH/LONG	SST	STAINLESS STEEL
CL	CENTERLINE	LR	LONG RADIUS	SPL	SAMPLE LINE
CLR	CLEAR	LW	LOW WATER ALARM	STD	STANDARD
CMP	CORRUGATED METAL PIPE	LWL	LOW WATER LEVEL	SWK	SIDEWALK
CO	CLEAN OUT	LWL	LOW WATER LEVEL	SWR	SEWER
COMB	COMBINATION	MAX	MAXIMUM	SYM	SYMMETRICAL
CONC	CONCRETE	MCC	MOTOR CONTROL CENTER		TOP AND BOTTOM
CONST	CONSTRUCTION	MFD	MANUFACTURED	TAN	TANGENCY
CONT	CONTINUOUS/CONTINUATION	MFG	MANUFACTURING	TBM	TEMPORARY BENCHMARK
CPLG	COUPLING	MFR	MANUFACTURER	TENN	TENNESSEE DEPARTMENT OF TRANSPORTATION
CV	CHECK VALVE	MIN	MINIMUM	TECH	TECHNICAL
CU	COPPER	MO	MOTER OPERATED (OR)	TEL	TELEPHONE
CTR	CENTER (ED)	MG/L	MILLIGRAMS PER LITER	TEMP	TEMPERATURE/TEMPORARY
CU FT	CUBIC FOOT (FEET)	MGD	MILLION GALLONS PER DAY	THK	THICK
CY	CUBIC YARD	MH	MANHOLE	TM	TELEMETER OR TIME
DET	DETAIL	MISC	MISCELLANEOUS	TOS	TOP OF STEEL/SLAB
DI/DIP	DUCTILE IRON PIPE	MJ	MECHANICAL JOINT	TOW	TOP OF WALL
DIA	DIAMETER	ML	MIXED LIQUOR	TV	TELEVISION
DIFF	DIFFUSER	MLR	MIXED LIQUOR RECYCLE	TYP	TYPICAL
DN	DOWN	MON	MONUMENT	UGTC	UNDERGROUND TELEPHONE CABLE
DR	DRAIN	MPH	MILES PER HOUR	UNO	UNLESS NOTED OTHERWISE
DS	DIGESTED SLUDGE	MTD	MOUNTED	VAR	VARIOUS/VARIABLE
DWG	DRAWING	N	NORTH	VBR	VACUUM BREAKER
E	EAST	NC	NORMALLY CLOSED	VC	NATIONAL ELECTRIC CODE
EA	EACH	NEC	NATIONAL ELECTRIC CODE	VCP	VITRIFIED CLAY PIPE
ECC	ECCENTRIC	NPW	NON POTABLE WATER	VERT	VERTICAL
EW	EACH WAY	NTS	NOT TO SCALE	VOL	VOLUME
FAC	FACILITY	OC	ON CENTER	VSD	VARIABLE SPEED DRIVE
EF	EACH FACE/EXHAUST FAN	O/E	OR EQUAL	W	WEST
EFFL	EFFLUENT	O/F	OR FLOW	WAS	WASTE ACTIVATED SLUDGE
EL	ELEVATION	OD	OUTSIDE DIAMETER	W/	WITH
ELEC	ELECTRIC(AL)	OH	OVERHEAD (DOOR)	WG	WEIR GATE
ELEV OR EL	ELEVATION	OHE	OVERHEAD ELECTRICAL	WH	WATER HEATER
EMERG	EMERGENCY	OPP	OPPOSITE	WL	WATER LEVEL
ENGR	ENGINEER	PC	POINT OF CURVE (ATURE)	WM	WATER MAIN
EOP	EDGE OF PAVEMENT	PERF	PERFORATED	WS	WATER SURFACE OR WATERSTOP
EQUIV	EQUIVALENT	PI	POINT OF INTERSECTION	WT	WEIGHT
EQ	EQUALIZATION	PIV	POST INDICATING VALVE	WTHPRF	WEATHERPROOF
ETC	AND SO FORTH	PLT	PLANT	WWTP	WASTEWATER TREATMENT PLANT
EXIST	EXISTING	PLW	PLANT WATER	XFER	TRANSFER
EXTD	EXTENDED	PPM	PARTS PER MILLION	YD	YARD
FCA	FLANGED COUPLING ADAPTER	PRES	PRESSURE	YI	YARD INLET
FD	FLOOR DRAIN	PRM	PRIMARY	YR	YARD HYDRANT
FES	FLARED END SECTION	PRV	PRES REDUCING VALVE		
FIG	FIGURE	PS	PUMP STATION		
FH	FIRE HYDRANT	PT	POINT OF TANGENCY		
FL	FLOOR	PV	PLUG VALVE		
FLG	FLANGE(D)				

DUPONT PUMP STATION AND
 BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM

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THIS DRAWING MUST BE USED IN CONJUNCTION WITH THE APPLICABLE OR GOVERNING TECHNICAL SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS.

PROJECT NO: 129699-109746

DATE: NOVEMBER 2019

DISC. LEAD: DU	DESIGNER: VF	CHECKER: CF
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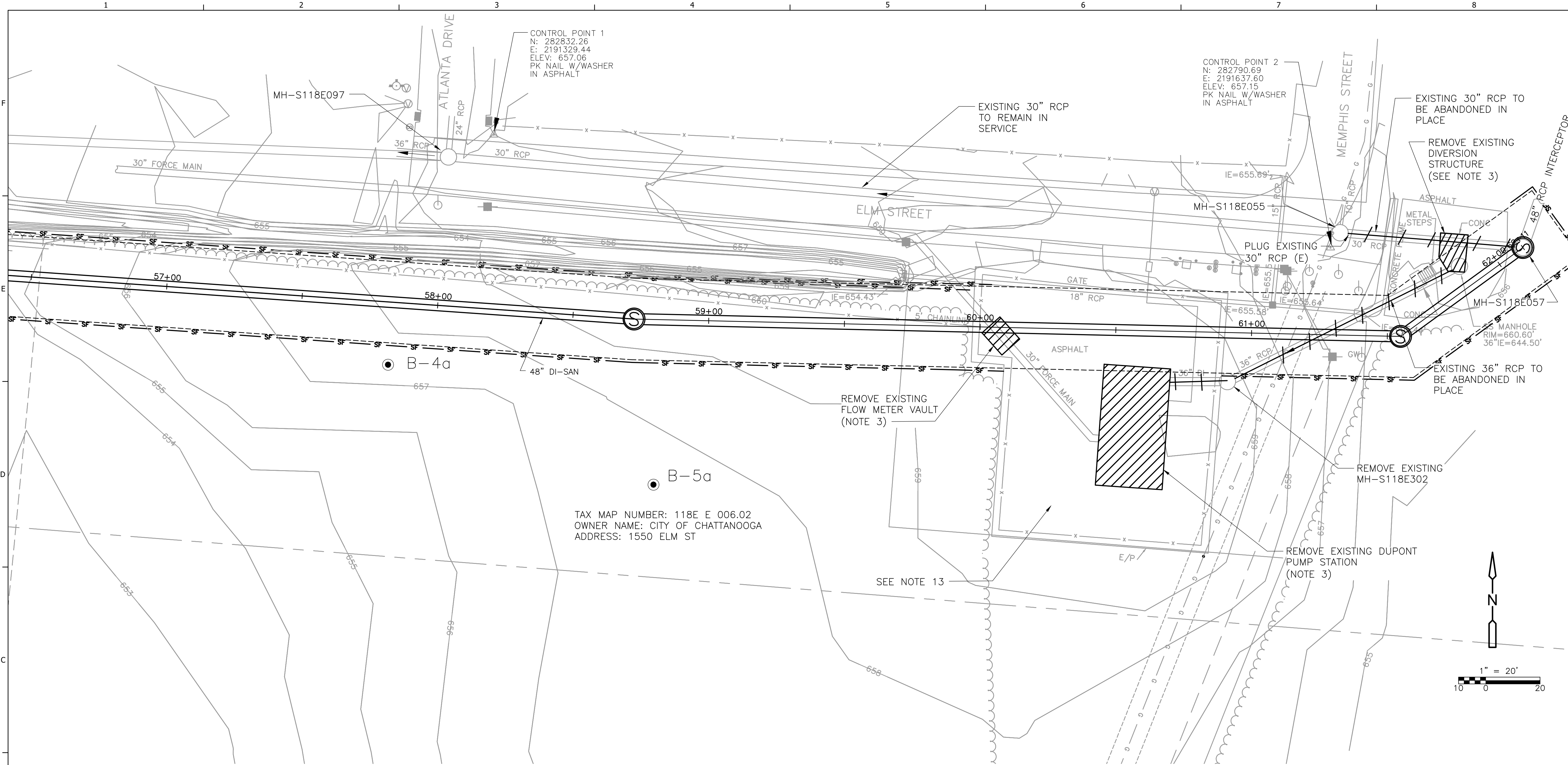
SHEET TITLE: CIVIL

GENERAL SYMBOLS, NOTES AND ABBREVIATIONS

SHEET: G-2

ISSUED FOR BID

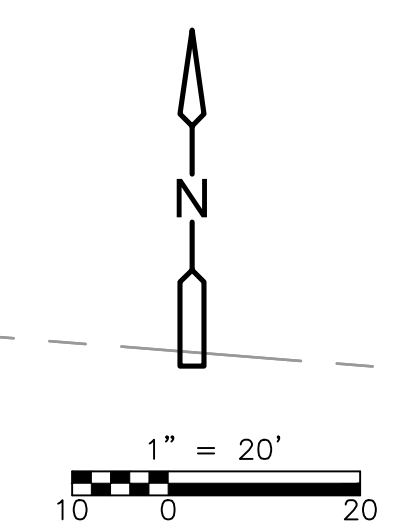
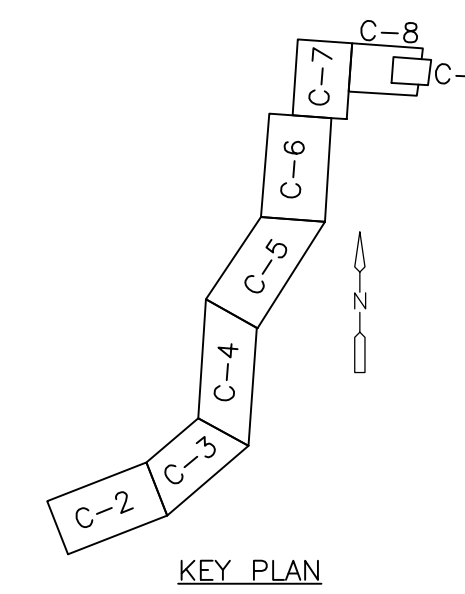
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TAX MAP NUMBER: 118E E 006.02
 OWNER NAME: CITY OF CHATTANOOGA
 ADDRESS: 1550 ELM ST

NOTES:

1. CONTRACTOR IS TO CLEAR EXISTING VEGETATION ALONG THE RIGHT OF WAY FOR THE NEW SEWERS SHOWN ON THESE PLANS. ALL CLEARING IS TO BE DONE IN ACCORDANCE WITH SECTION 31 11 00.
2. CONTRACTOR IS RESPONSIBLE FOR SITE SECURITY DURING CONSTRUCTION PER SECTION 01 56 33 INCLUDING PROTECTION OF THE EXISTING PUMP STATION. DEMOLITION OF EXISTING FENCING SHALL BE DONE IN COORDINATION WITH INSTALLATION OF NEW FENCING TO MAINTAIN SITE SECURITY. CONTRACTOR IS TO INSTALL ANY TEMPORARY FENCING REQUIRED TO MAINTAIN SITE SECURITY AT NO ADDITIONAL COST TO OWNER.
3. STRUCTURES AND ASSOCIATED SEWER LINES ARE TO BE DEMOLISHED AS INDICATED. STRUCTURES SHALL BE REMOVED 3 FEET BELOW EXISTING GRADE AND FILLED IN ACCORDANCE WITH SECTION 31 23 33. CONTRACTOR IS TO COORDINATE INSTALLATION OF NEW PIPELINES AND MANHOLES TO MINIMIZE IMPACTS TO FLOW. EXISTING PIPES SHALL REMAIN INTACT UNTIL NEW FACILITIES ARE READY TO BE PUT INTO SERVICE. BYPASS PUMPING WILL BE REQUIRED WHILE NEW LINE CONNECTIONS ARE BEING MADE AND NEW MANHOLES ARE BEING INSTALLED.
4. WHERE WORK IS PERFORMED ON PUBLIC ROADS, CONTRACTOR SHALL REPAIR PAVEMENT PER CITY STANDARDS.
5. CONTRACTOR SHALL CUT ALL PIPES ON THE OUTSIDE OF THE MANHOLE, AND PLUG WITH BRICK AND MORTAR.
6. CONTRACTOR SHALL BRICK AND MORTAR ALL PIPE OPENINGS INSIDE THE MANHOLE INCLUDING DROP CONNECTIONS, LATERALS, AND EXISTING MANHOLES TO ENSURE A WATERTIGHT STRUCTURE.
7. CONTRACTOR SHALL REMOVE THE MANHOLE RING, LID, AND GRADE RINGS. DISPOSAL OF ALL MANHOLE MATERIALS SHALL BE AT THE DISCRETION OF THE OWNER. PRECAST CONES AND RISERS SHALL ALSO BE REMOVED IF THEY ARE EXPOSED.
8. MANHOLES SHALL BE FILLED WITH BACKFILL MATERIAL AS SPECIFIED IN SECTION 31 23 33, UNCLASSIFIED EXCAVATION AND BACKFILLING FOR UTILITIES.
10. ABANDONED PIPE 12 INCHES AND LARGER SHALL BE FILLED WITH FLOWABLE FILL IF NOT COMPLETELY REMOVED FROM THE GROUND.
11. ABANDONED PIPE UNDERNEATH EXISTING/PROPOSED BUILDINGS SHALL BE FILLED WITH FLOWABLE FILL IF NOT COMPLETELY REMOVED FROM THE GROUND.
12. CONTRACTOR SHALL CUT ALL PIPES ON THE OUTSIDE OF THE MANHOLE, AND PLUG WITH BRICK AND MORTAR.



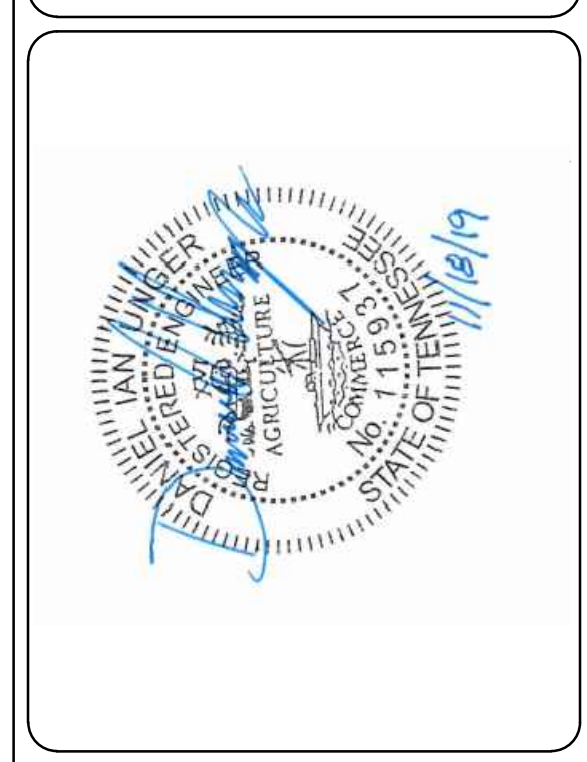
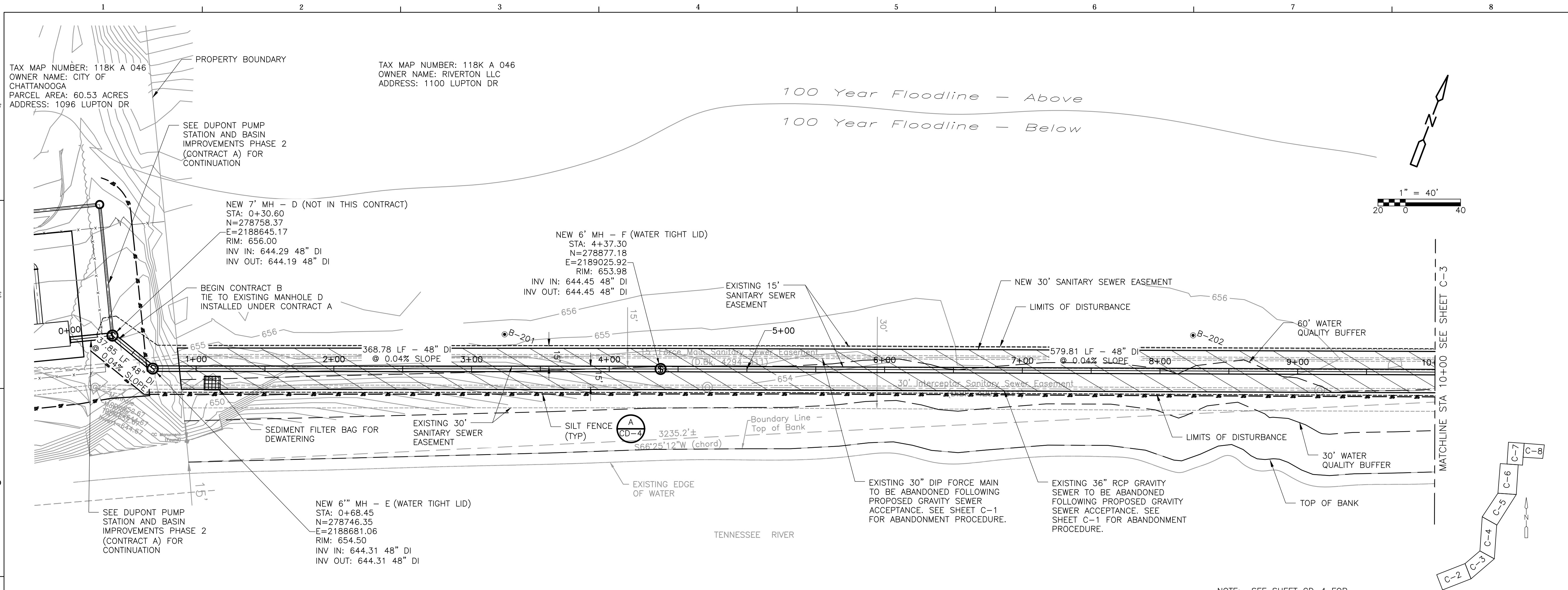
**DUPONT PUMP STATION AND
 BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B**
**CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM**

REV	DATE	REVISION DESCRIPTION

THIS LINE IS ONE INCH LONG WHEN PLOTTED FULL SCALE
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 PROJECT NO: 129699-109746
 DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF

SHEET TITLE: CIVIL
DEMOLITION PLAN
 SHEET: C-1

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DUPONT PUMP STATION AND BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM

REV	DATE	REVISION DESCRIPTION

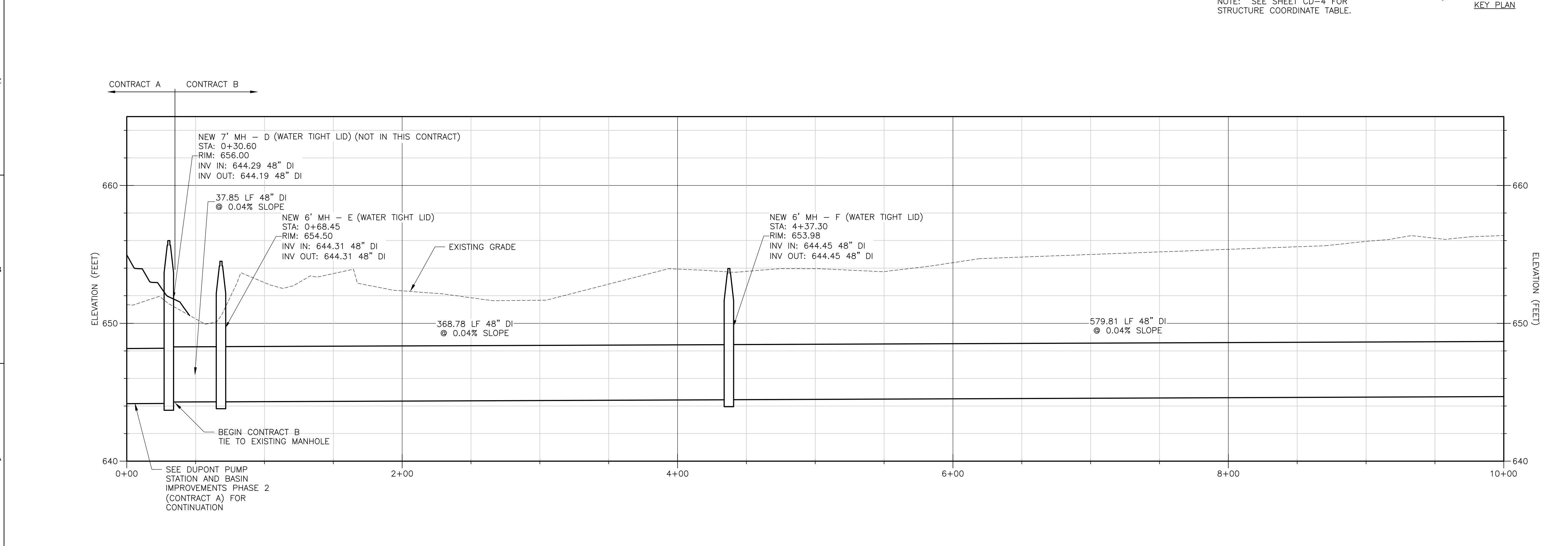
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PROJECT NO: 129699-109746
 DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF

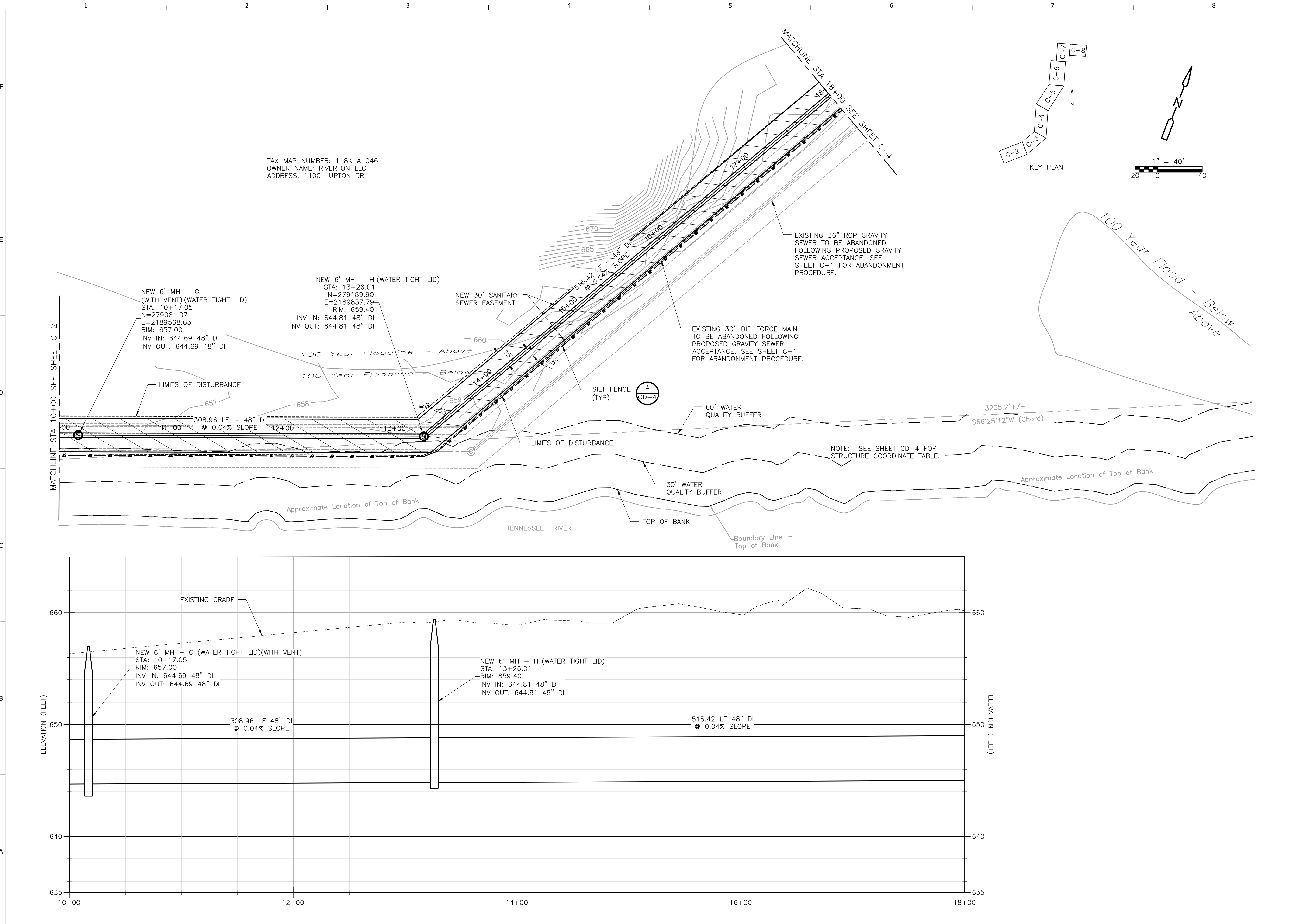
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YARD PIPING PROFILES I

SHEET: C-2

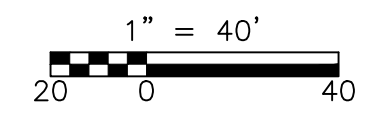
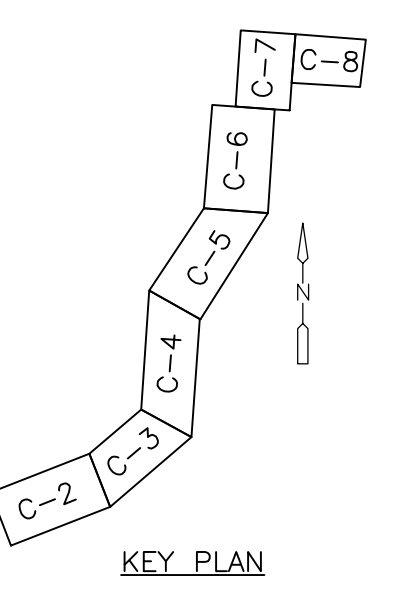
ISSUED FOR BID



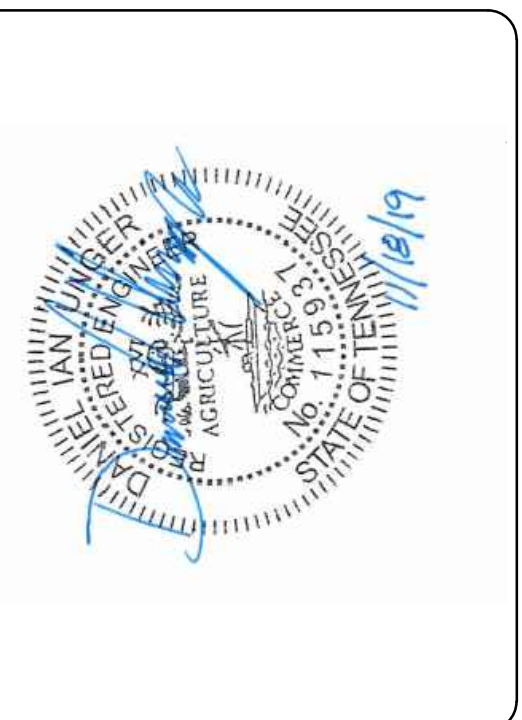
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TAX MAP NUMBER: 118K A 046
 OWNER NAME: RIVERTON LLC
 ADDRESS: 1100 LUPTON DR



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 Chattanooga, TN, 37403
 Tel: (423) 771-4495



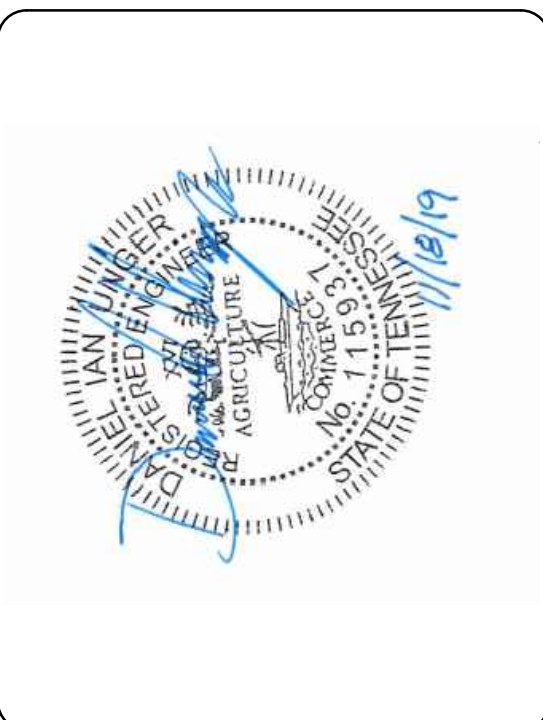
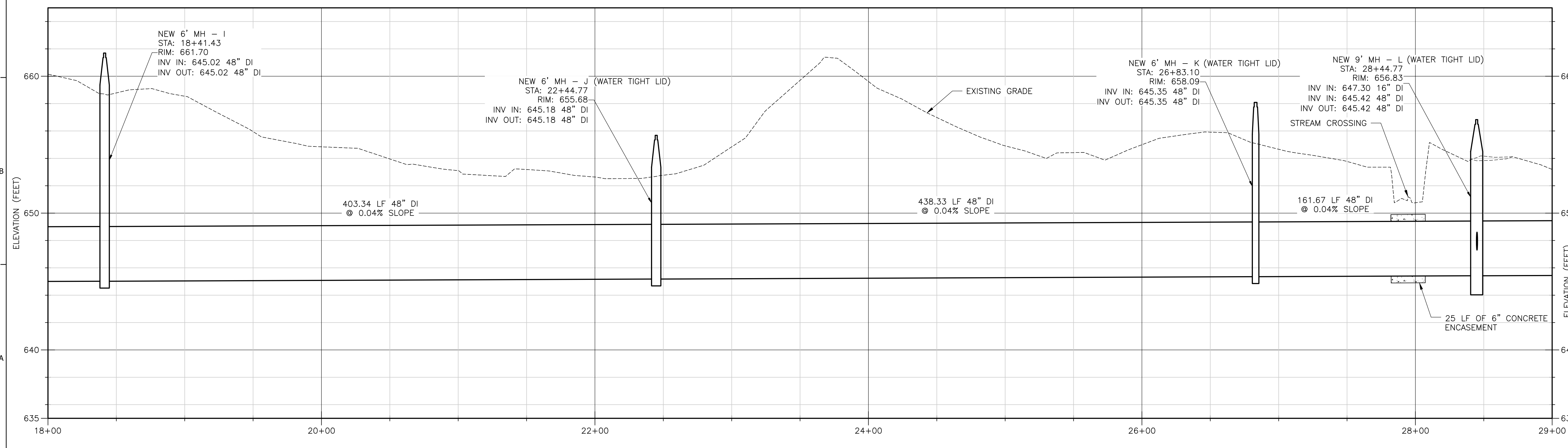
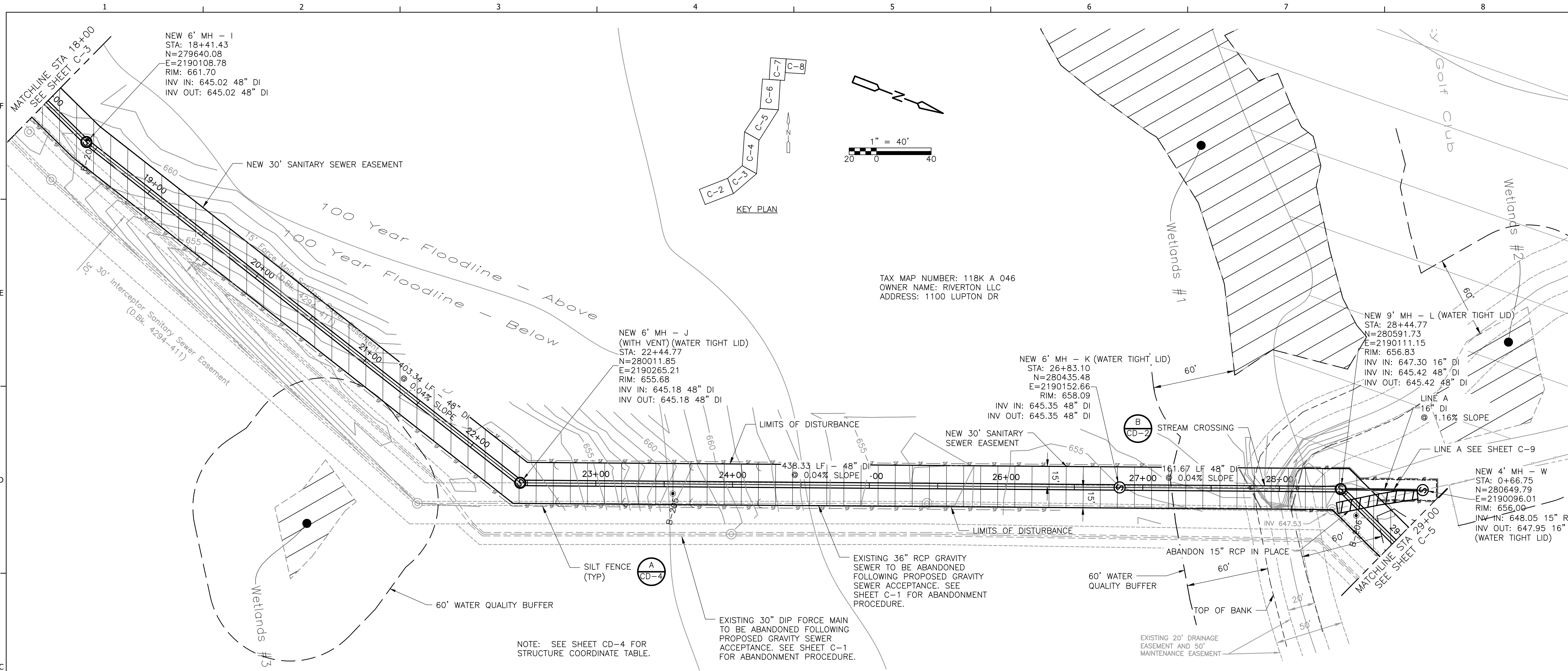
DUPONT PUMP STATION AND
 BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
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REV	DATE	REVISION DESCRIPTION

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 PROJECT NO: 129699-109746
 DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF
 SHEET TITLE: CIVIL
YARD PIPING PROFILES II
 SHEET: C-3

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 PROJECT NO: 129699-109746

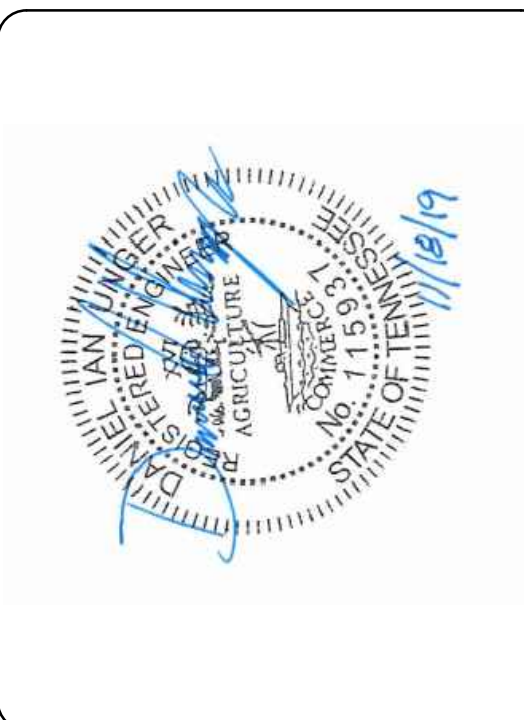
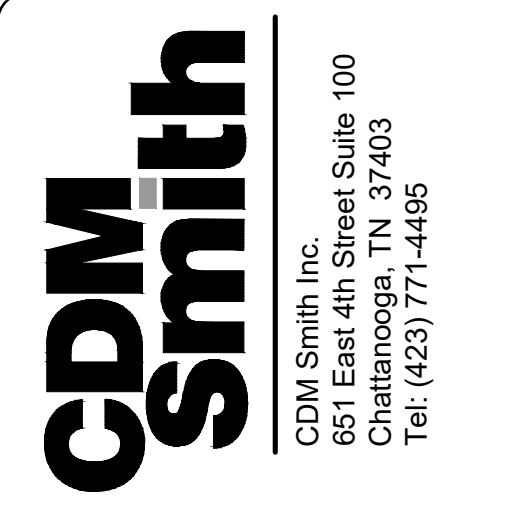
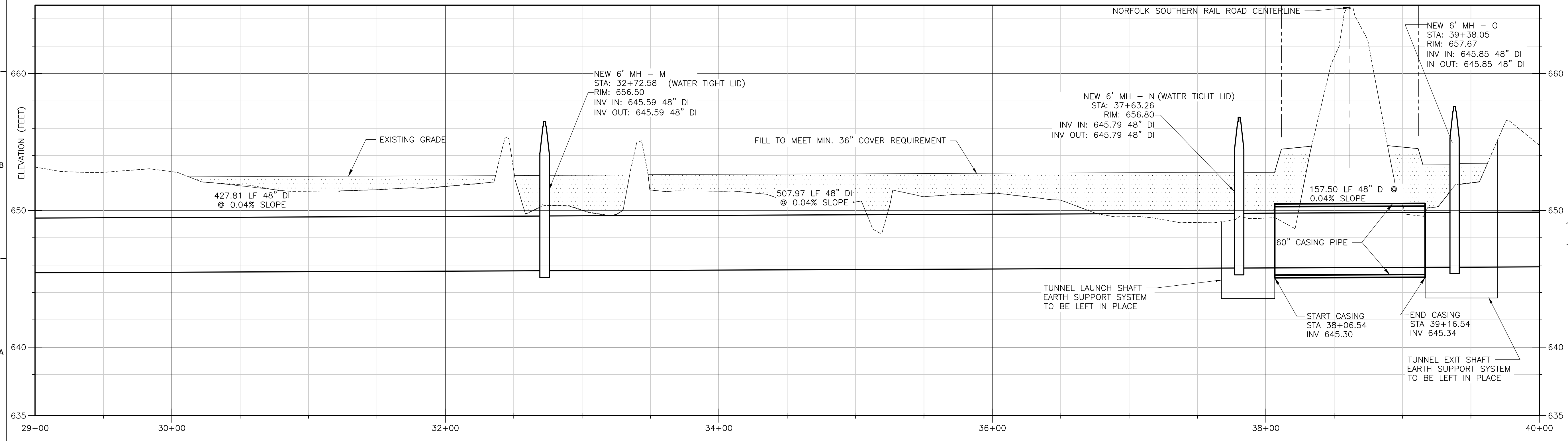
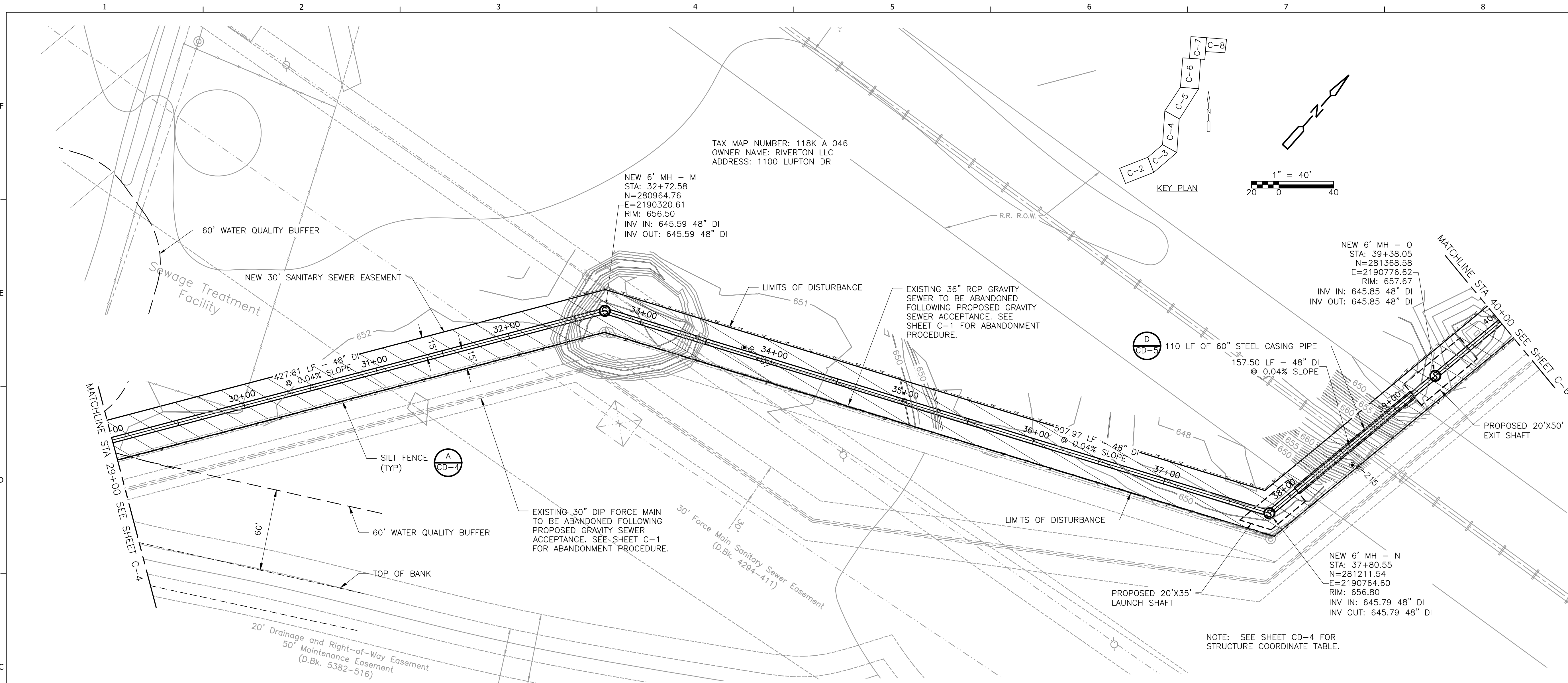
DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF

SHEET TITLE: CIVIL

YARD PIPING PROFILES III

SHEET: C-4
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CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM

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PROJECT NO: 129699-109746

DATE: NOVEMBER 2019

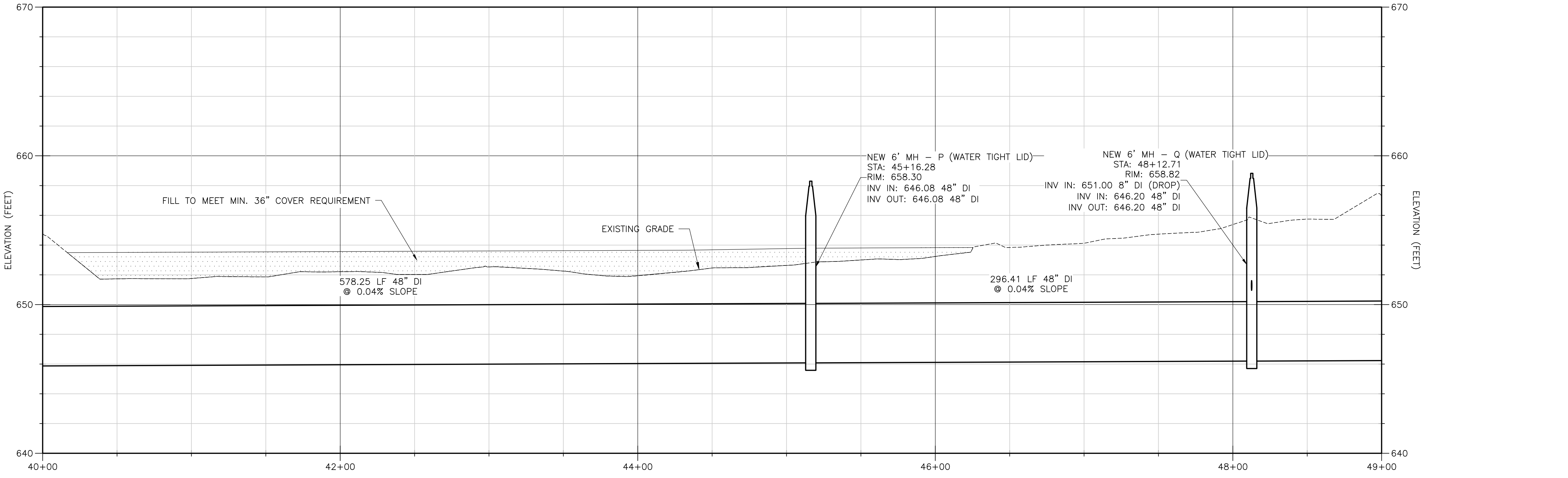
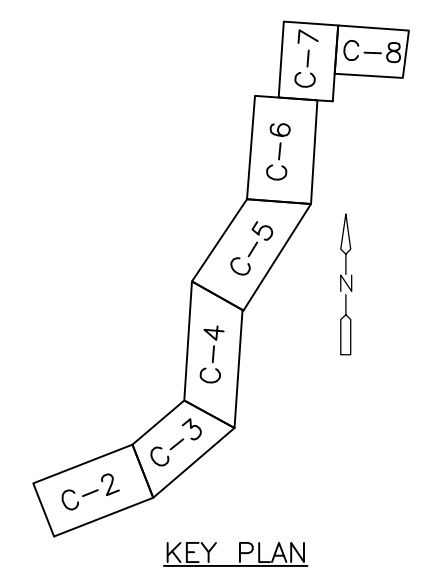
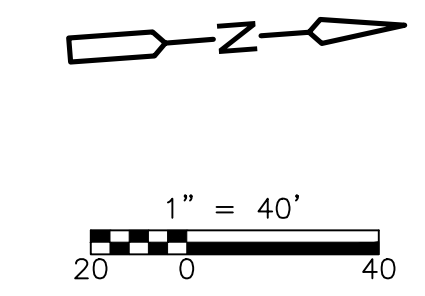
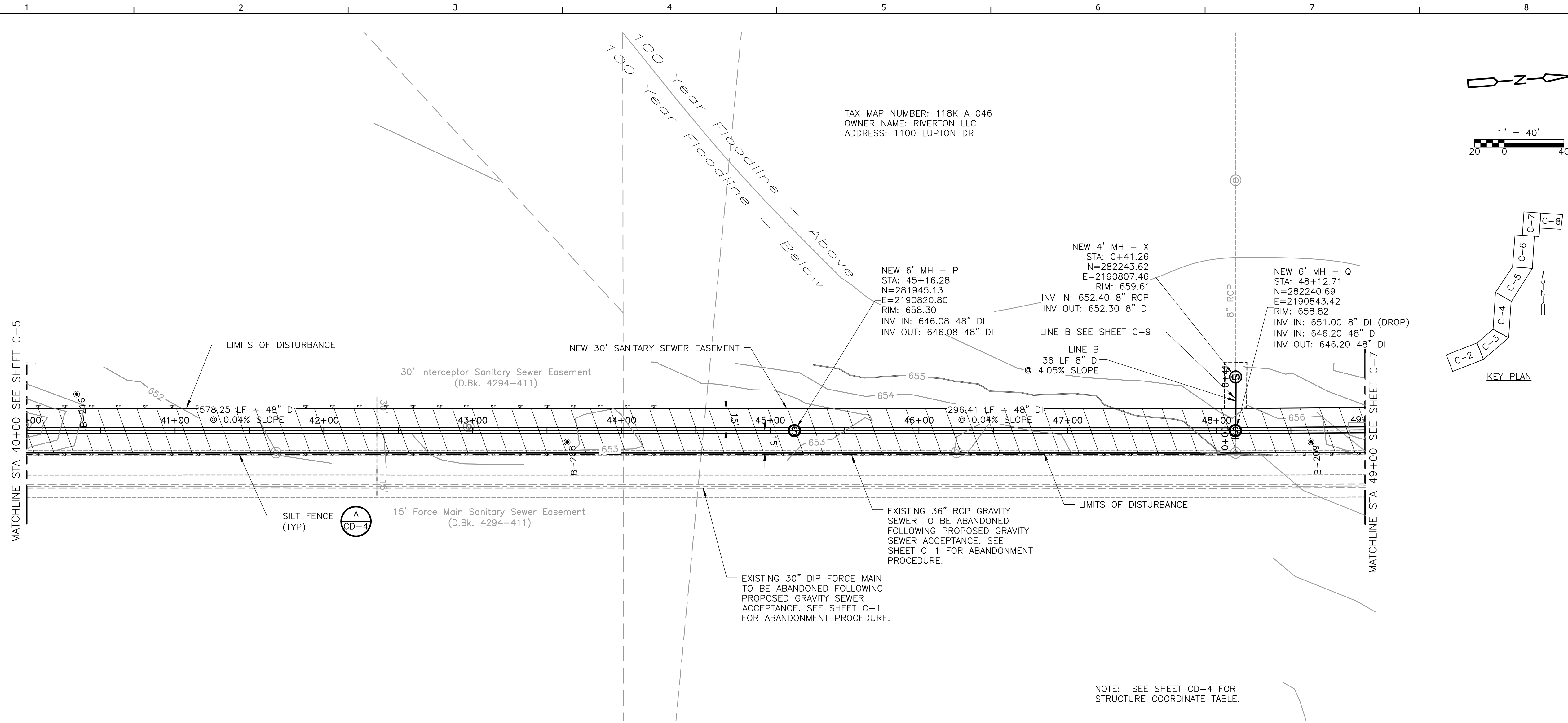
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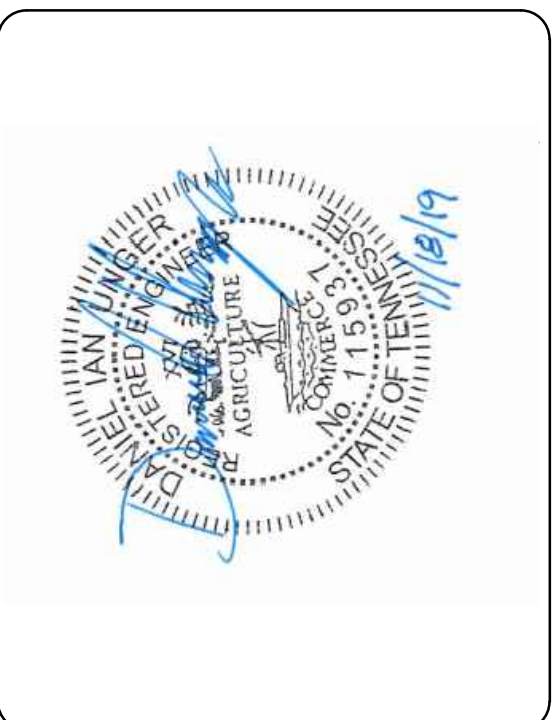
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SHEET C-5


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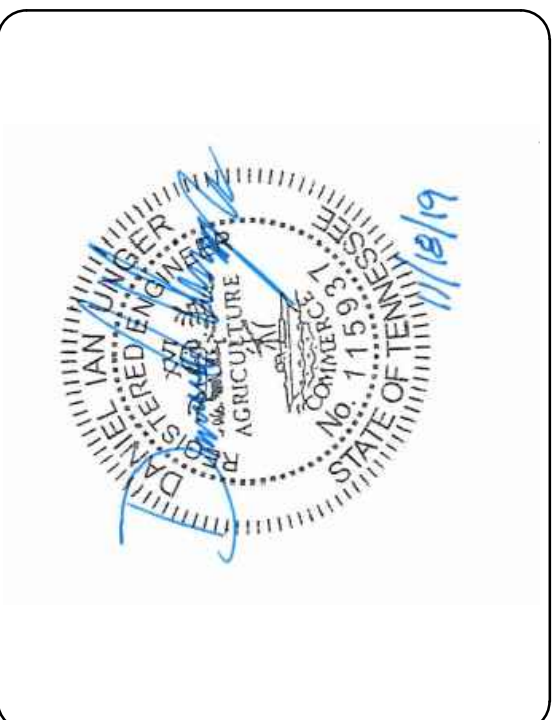
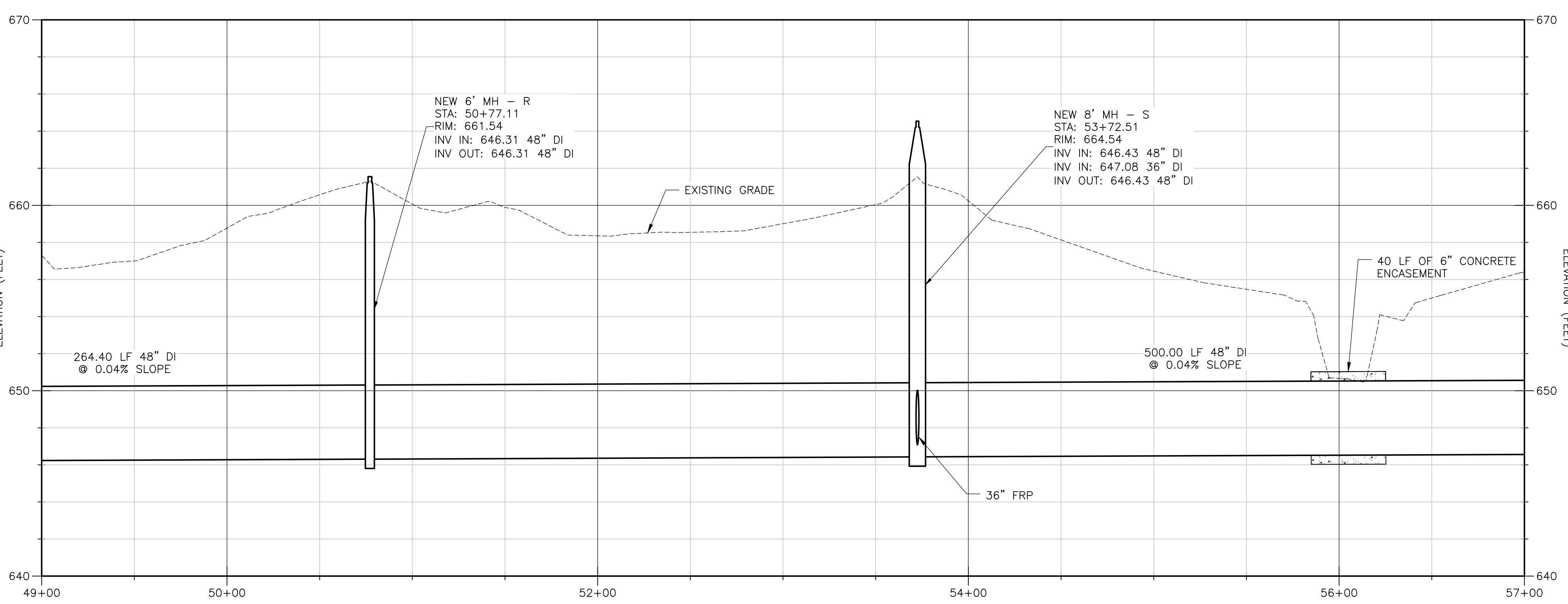
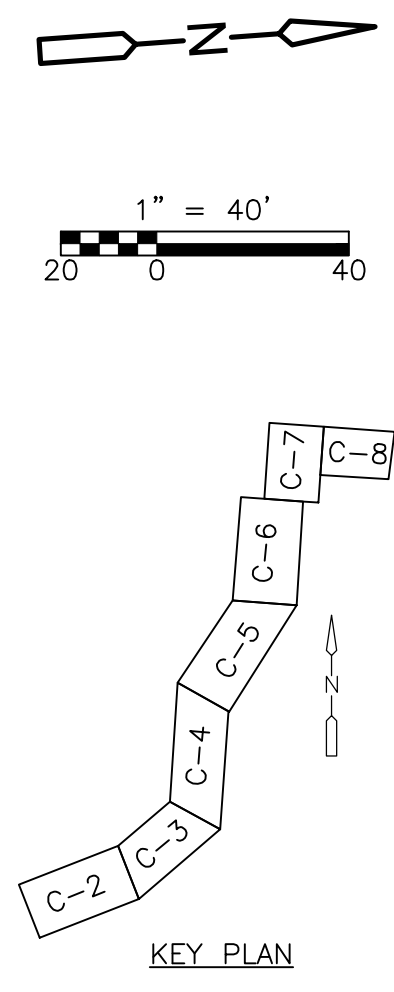
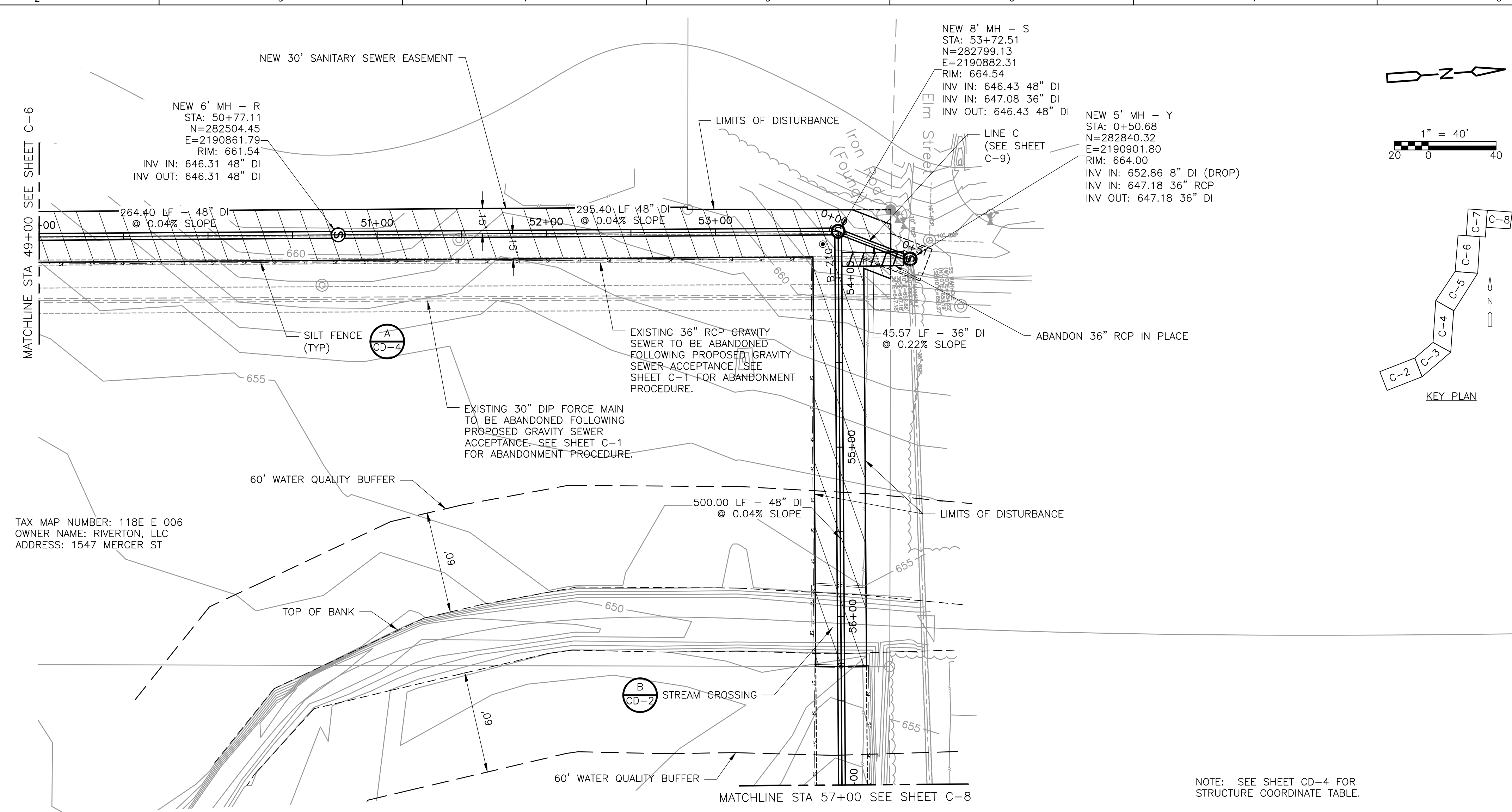
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 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM




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 DATE: NOVEMBER 2019
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 SHEET TITLE: CIVIL
YARD PIPING PROFILES V
 SHEET: C-6

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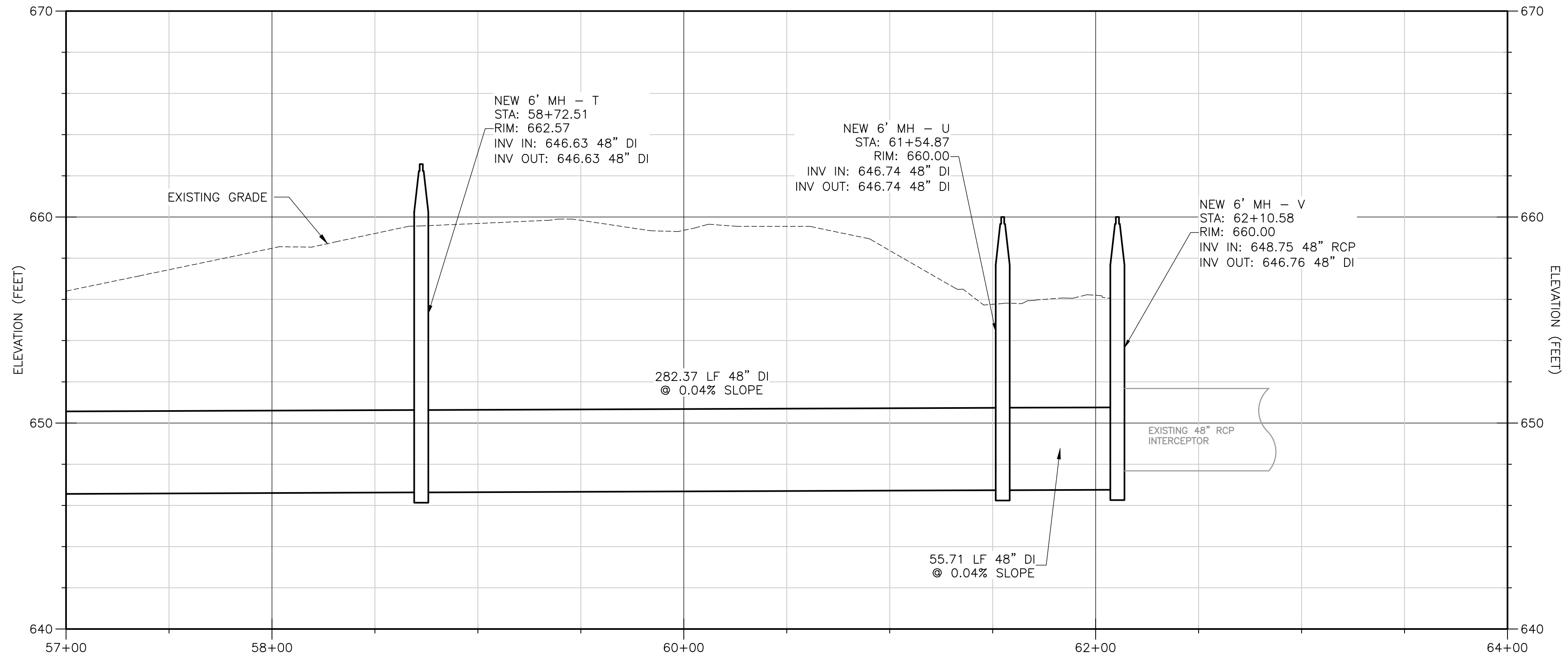
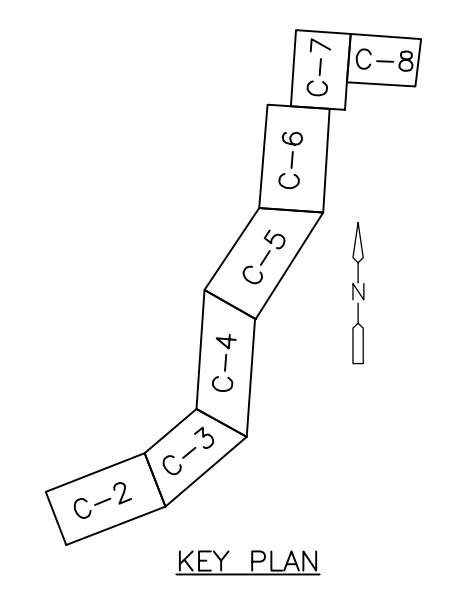
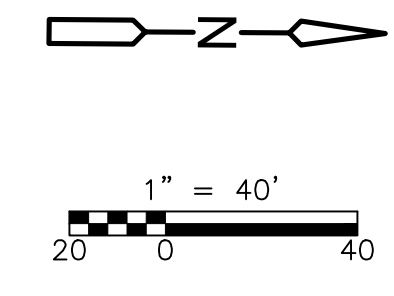
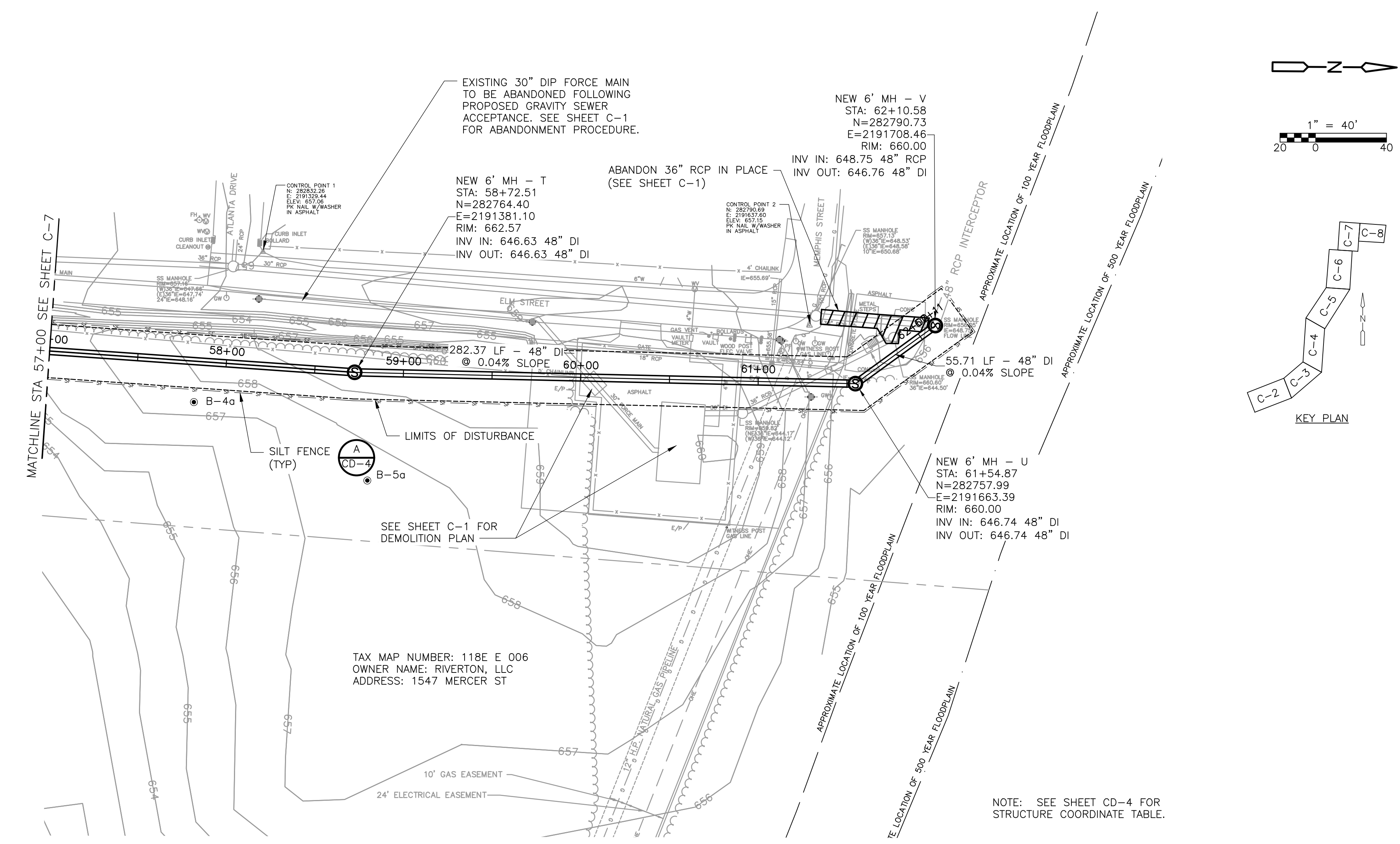
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 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM



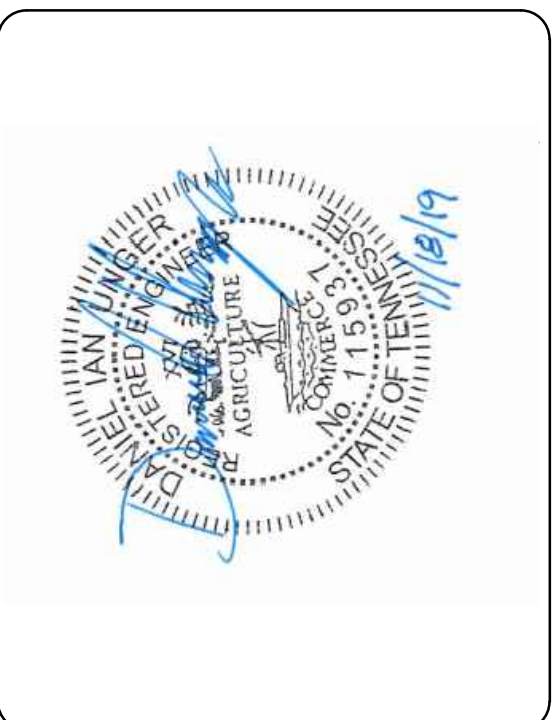
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 DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF
 SHEET TITLE: CIVIL
YARD PIPING PROFILES VI
 SHEET: C-7

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 CITY OF CHATTANOOGA, TN
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PROJECT NO: 129699-109746

DATE: NOVEMBER 2019

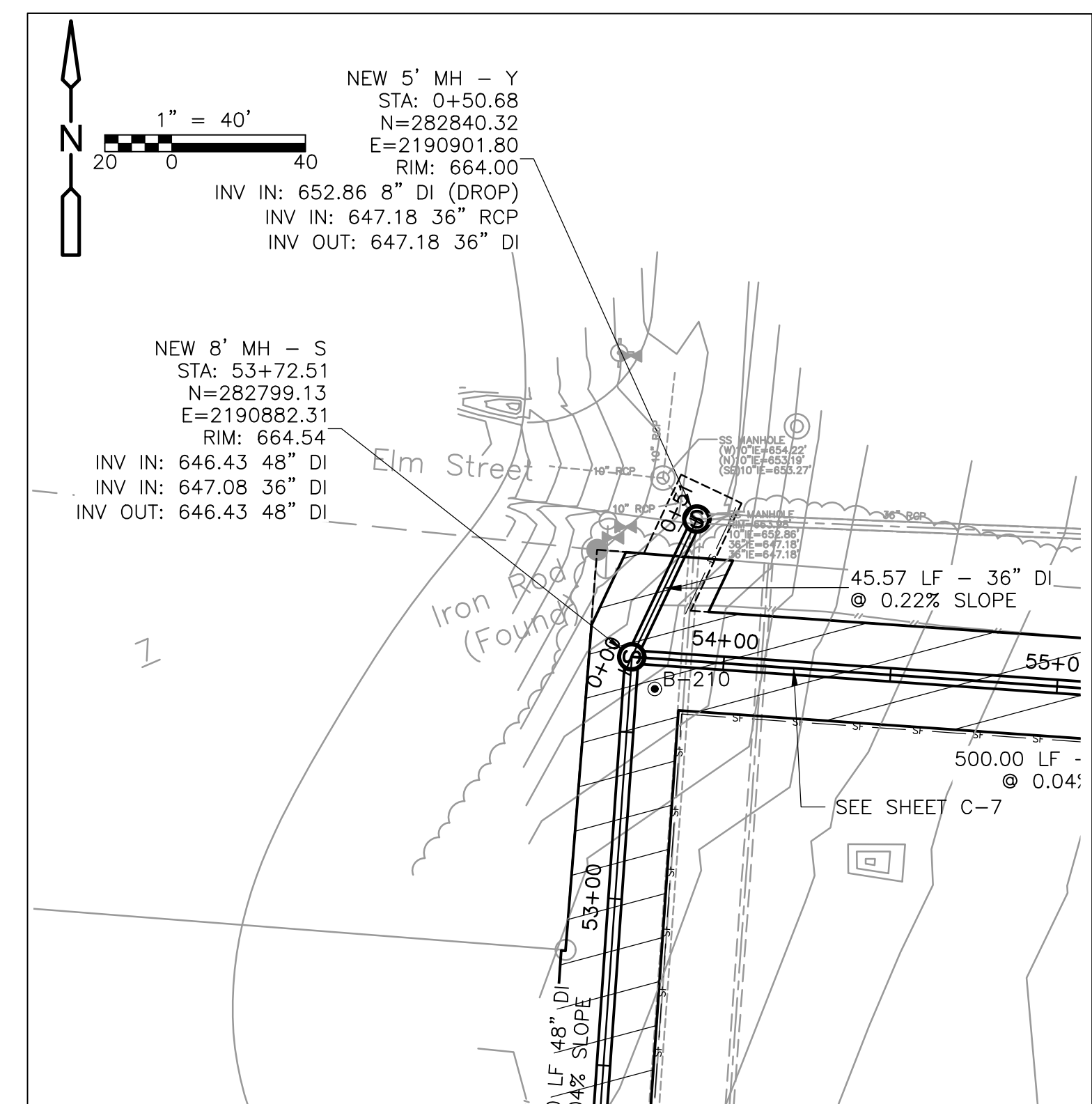
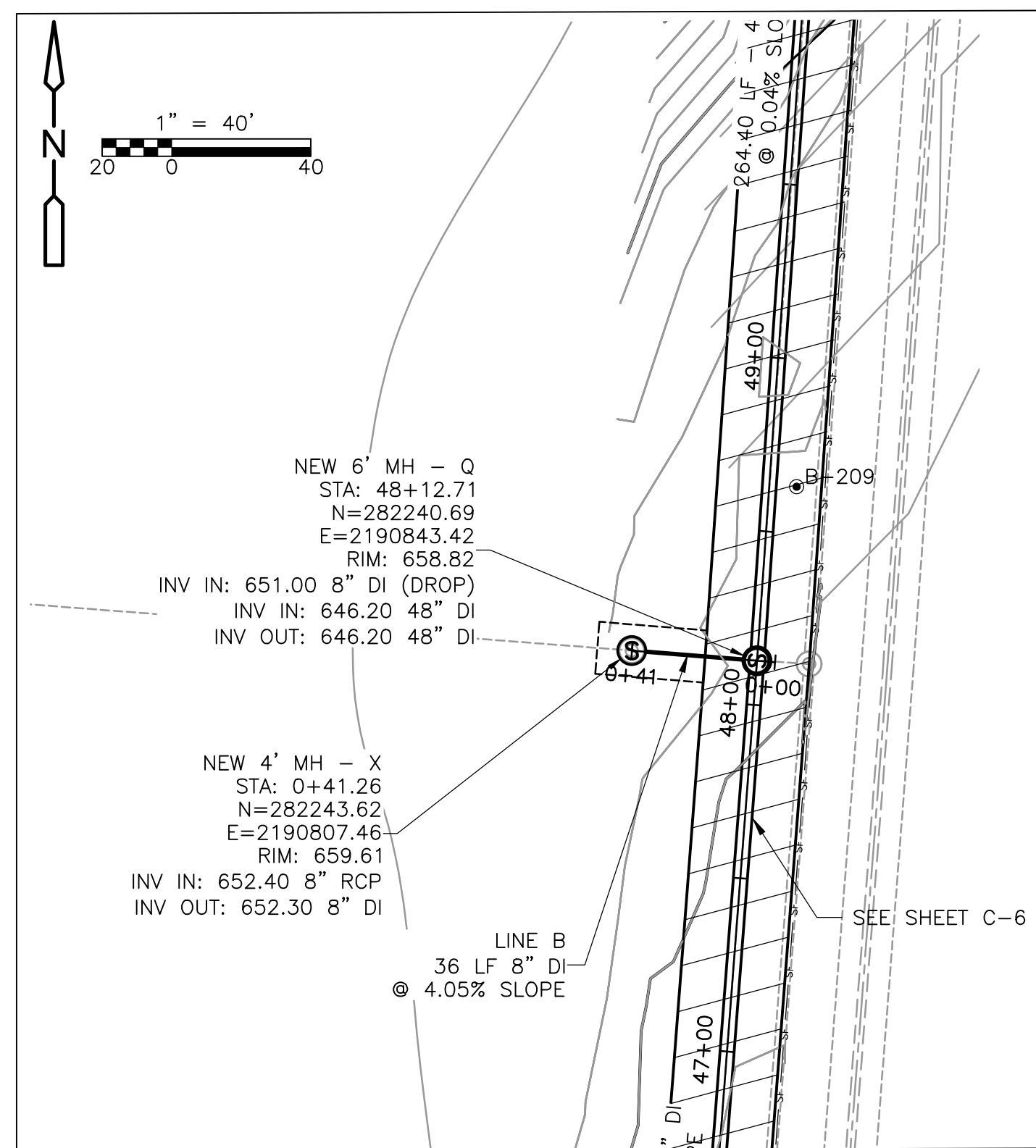
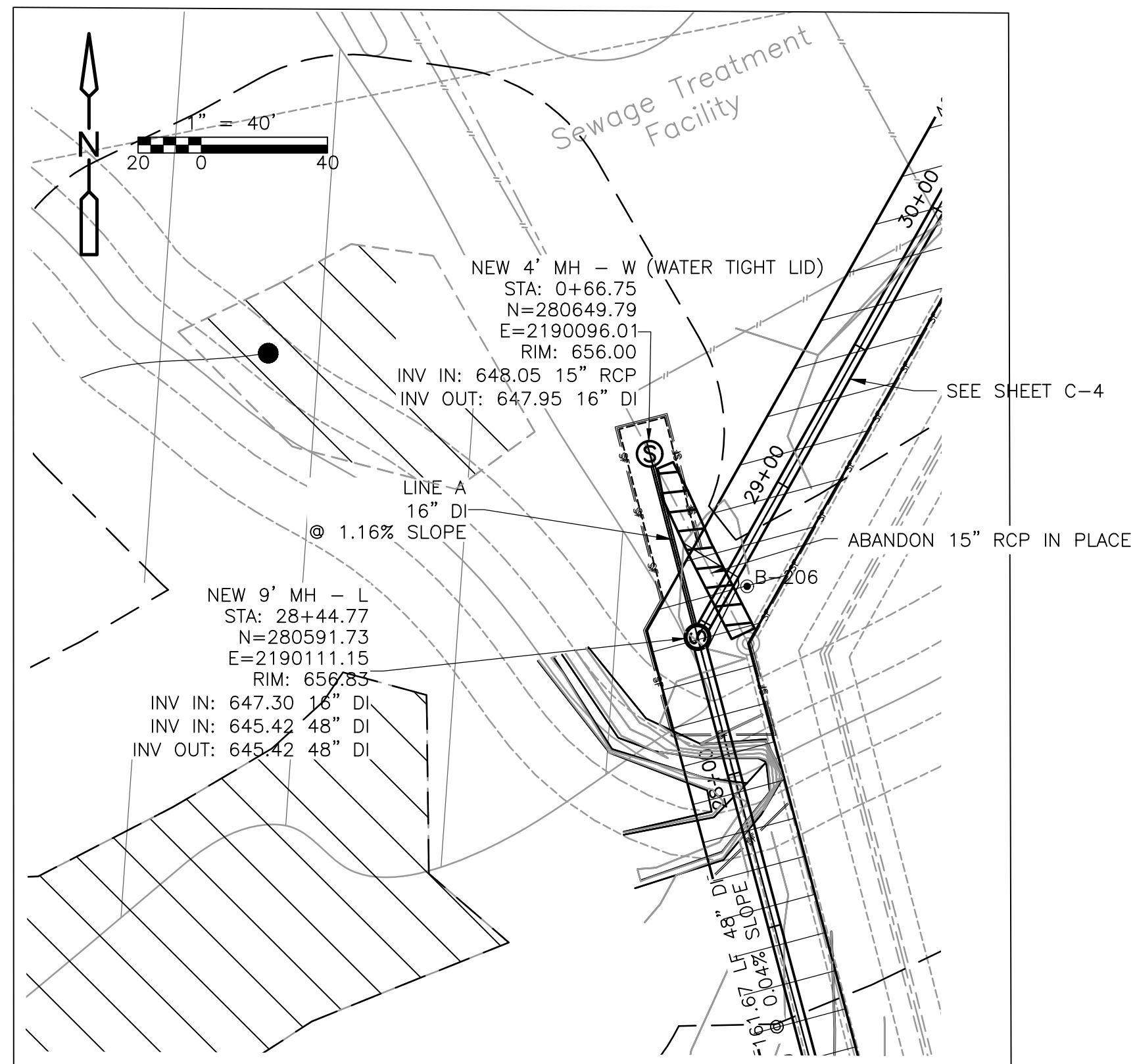
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SHEET TITLE
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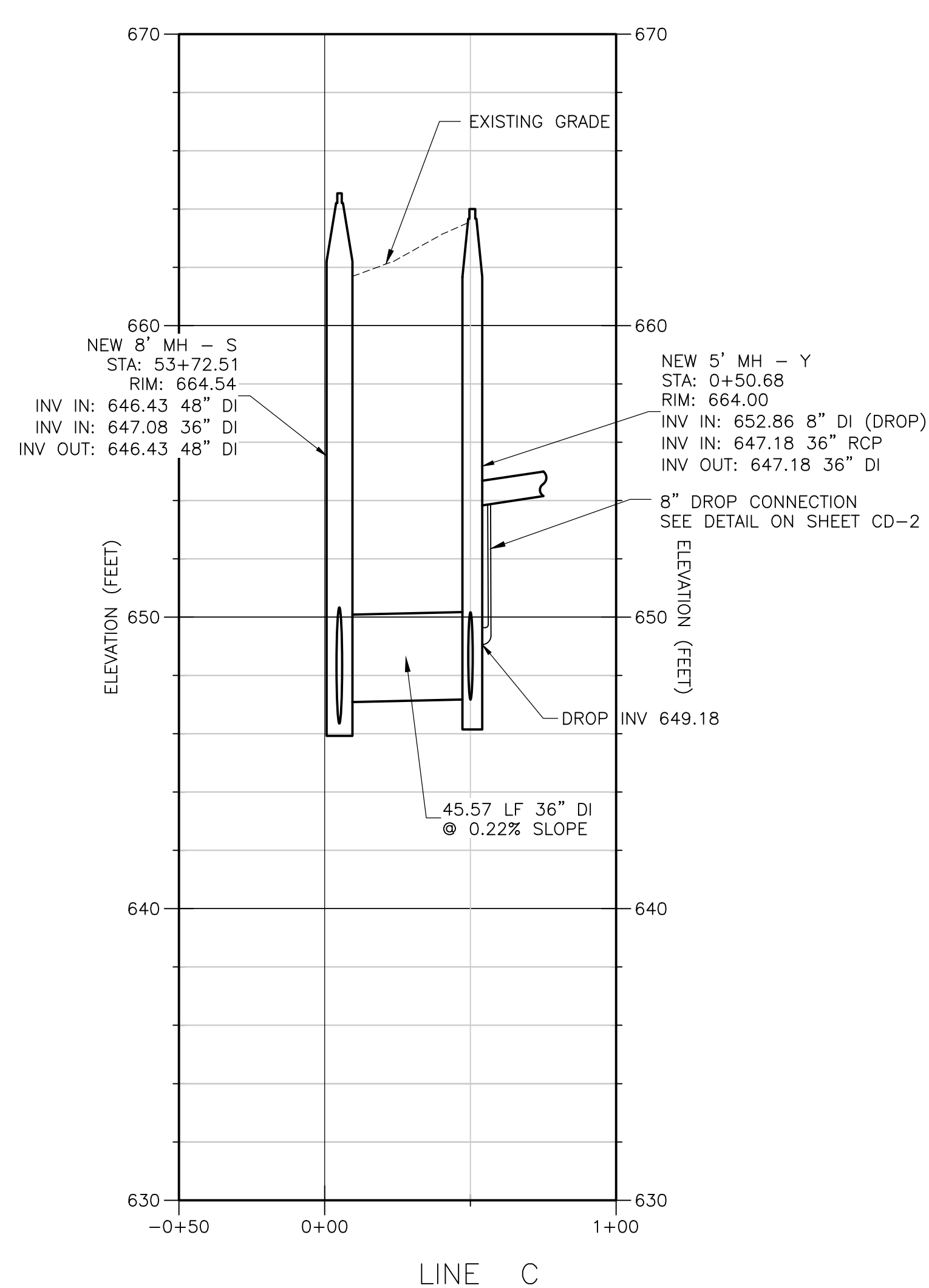
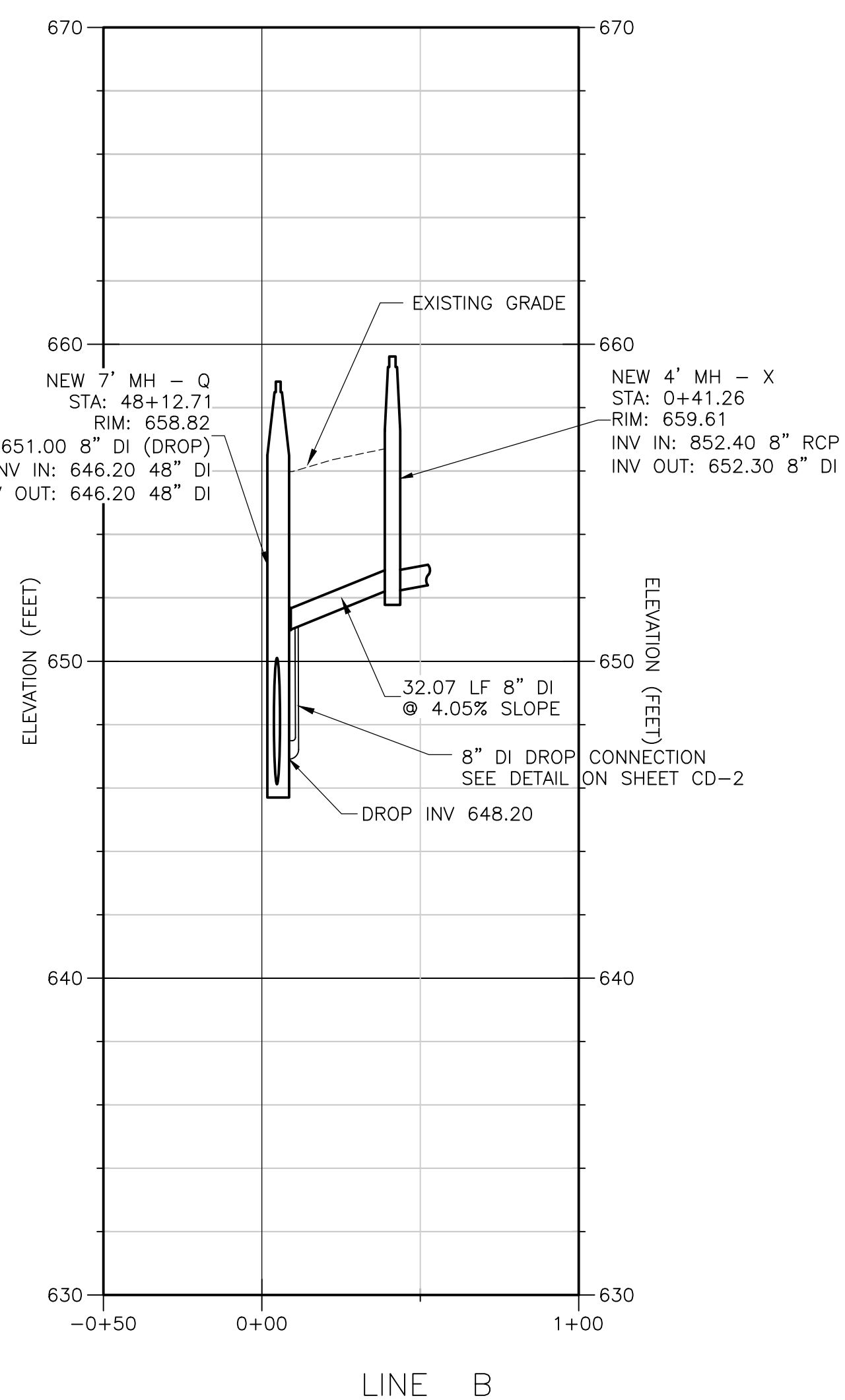
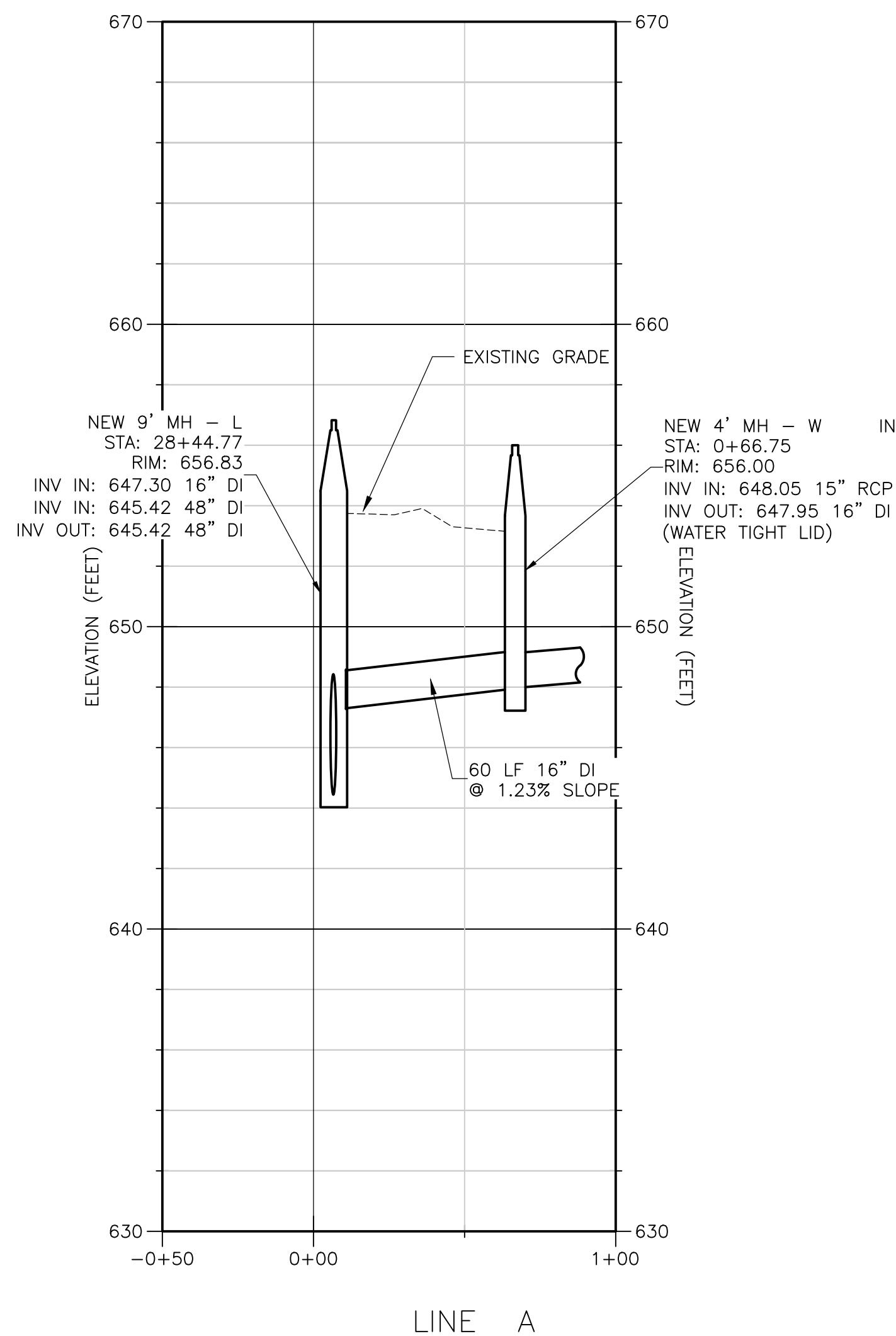
YARD PIPING PROFILES VII

SHEET
 C-8

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NOTE: SEE SHEET CD-4 FOR STRUCTURE COORDINATE TABLE.



DUPONT PUMP STATION AND BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM



REV	DATE	REVISION DESCRIPTION

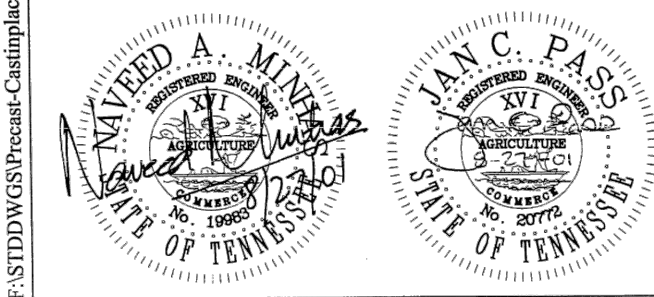
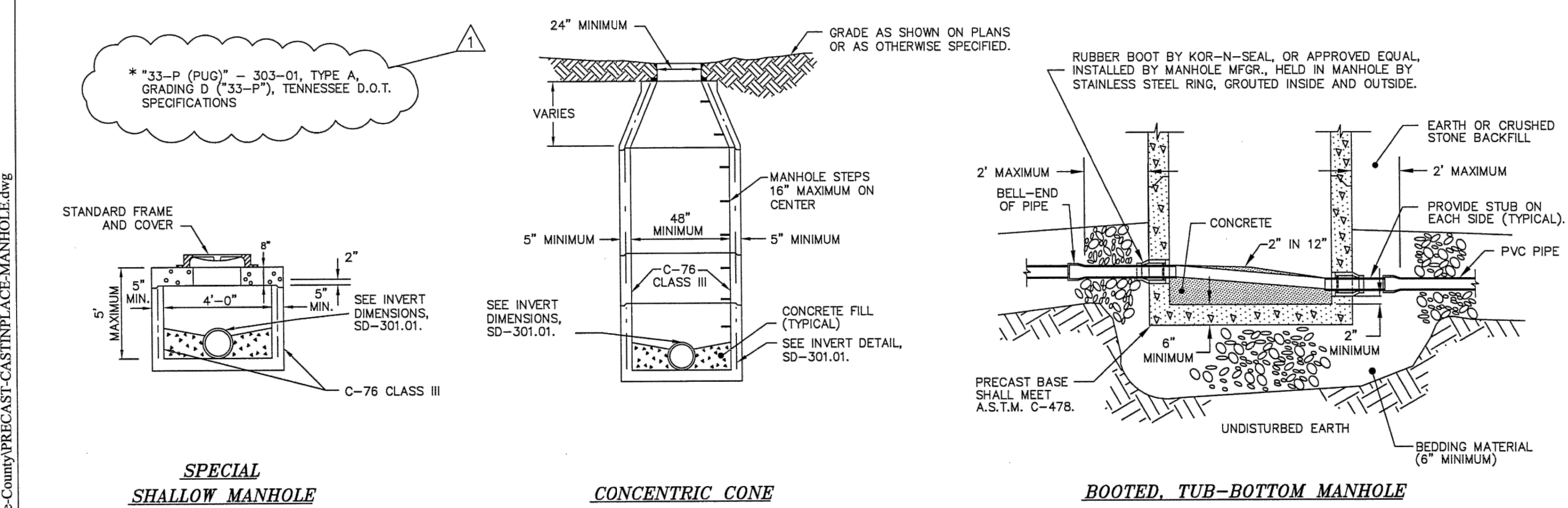
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PROJECT NO: 129699-109746
DATE: NOVEMBER 2019
DISC. LEAD: DU DESIGNER: VF CHECKER: CF
SHEET TITLE: CIVIL
YARD PIPING PROFILES VIII
SHEET: C-9

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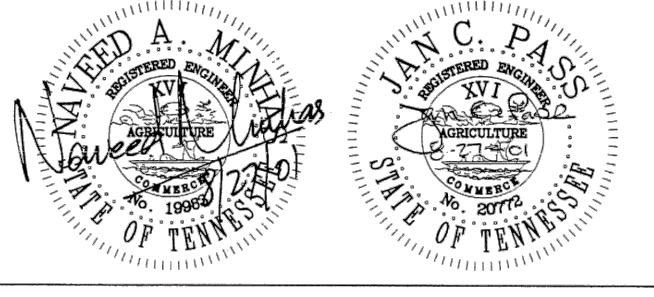
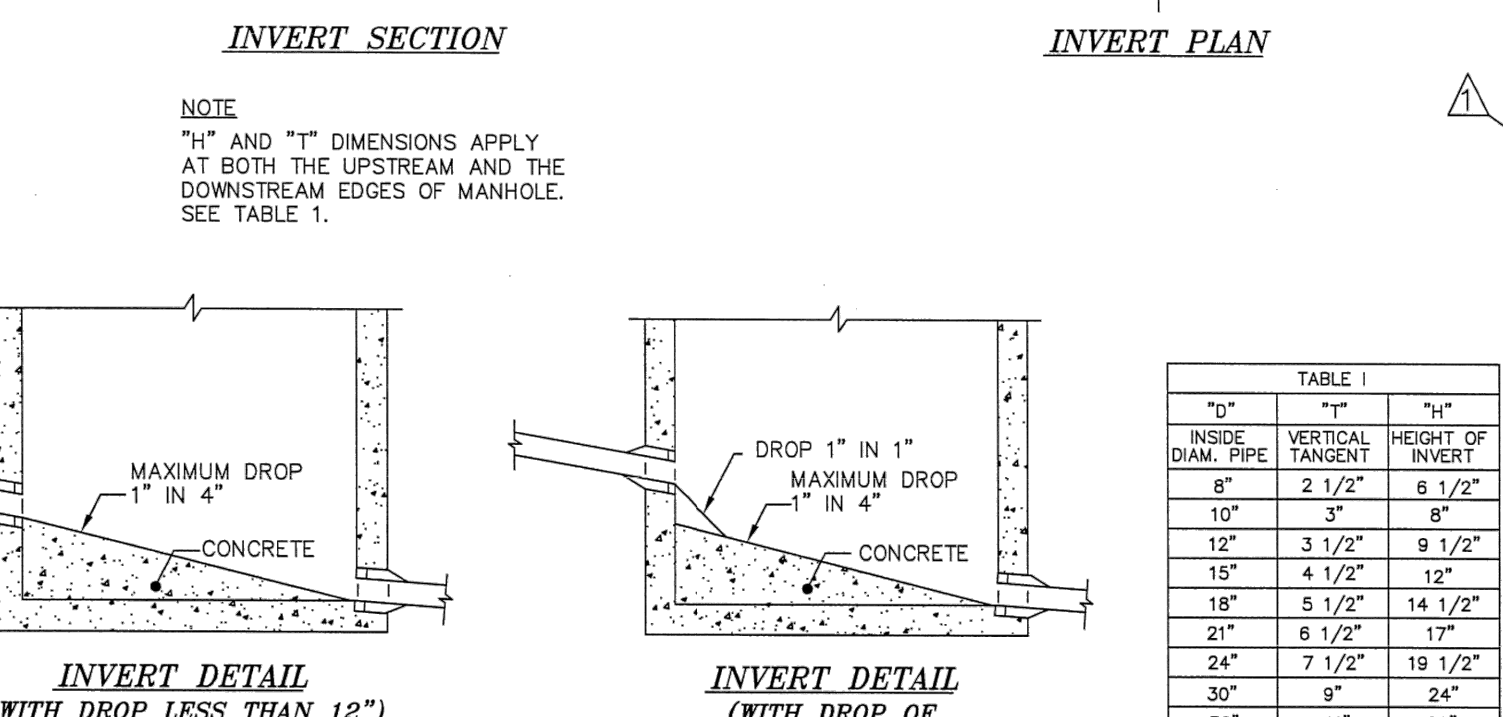
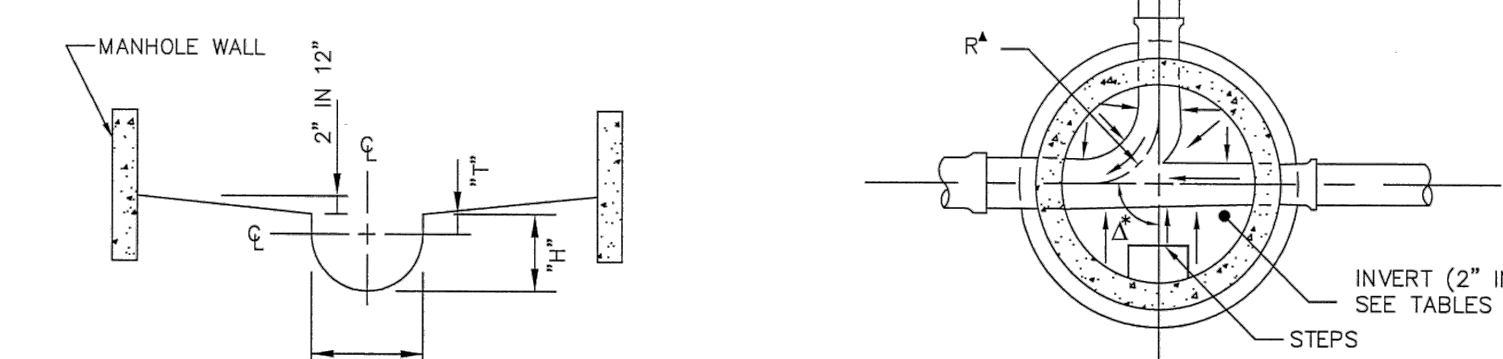
CREATED: 10/16/2019 LAST SAVED: 11/20/2019 BY: BEELEREW PLOT DATE: 11/20/2019

1 2 3 4 5 6 7 8

- NOTES**
1. ALL MATERIALS, DESIGN, MANUFACTURE, PHYSICAL TEST REQUIREMENTS, FINISH, MARKING, INSPECTION, REJECTION, AND REPAIRS SHALL MEET A.S.T.M. C478 FOR PRECAST, REINFORCED CONCRETE MANHOLE RISERS AND TOPS EXCEPT AS MAY BE MODIFIED IN THESE SPECIFICATIONS.
 2. SIZE AND LOCATE PIPE CUTOUTS AS REQUIRED.
 3. MANHOLE STEPS - SEE MANHOLE STEPS DETAIL ON STANDARD NUMBER SD-301.04.
 4. END-OF-LINE MANHOLES THAT HAVE FUTURE EXTENSIONS AND THAT ARE LOCATED IN PAVEMENT SHALL BE BACKFILLED WITH FLOWABLE FILL OR 33-P* STONE (PUG). THE BACKFILL SHALL BE COMPACTED TO 6-INCH LIFTS, AND SHALL EXTEND TEN (10) FEET FROM THE MANHOLE ALONG EACH TRENCH.
 5. A MAXIMUM OF TWO CONCRETE RINGS MAY BE USED FOR ELEVATION ADJUSTMENT OF THE MANHOLE.
 6. AN ECCENTRIC CONE MANHOLE SHALL NOT BE USED.



CITY OF CHATTANOOGA AND HAMILTON COUNTY			
SANITARY/STORM MANHOLE (PRECAST)			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-300.01



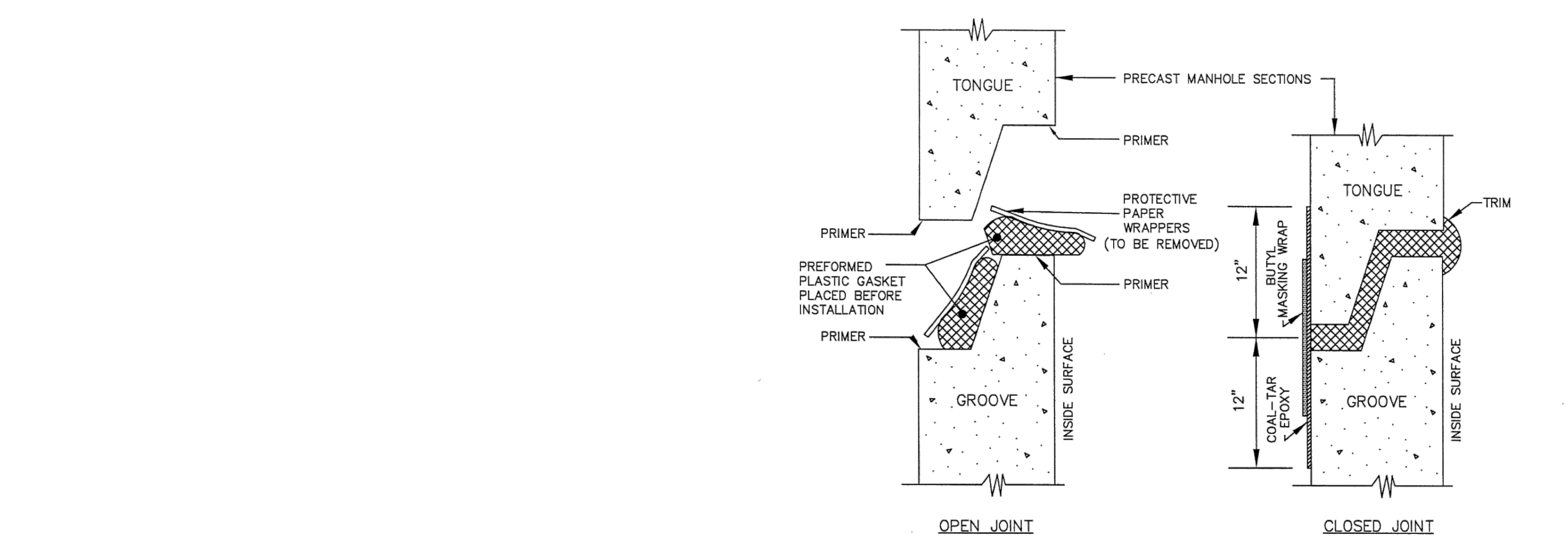
CITY OF CHATTANOOGA AND HAMILTON COUNTY			
SANITARY/STORM MANHOLE DETAILS			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-301.01

TABLE II
GOVERNING DIMENSIONS FOR MANHOLE INVERTS

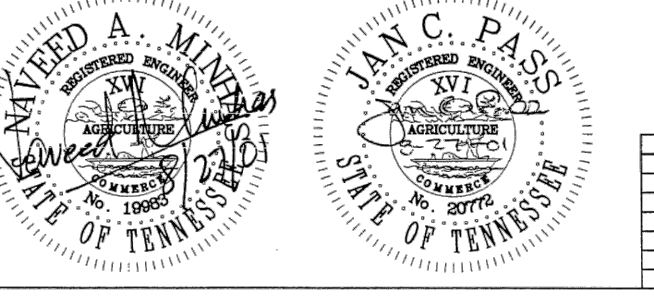
PIPE SIZE	ANGLE	BASE DIAM.	R*
8" THRU 12"	0° TO 60°	4"	1'-6"
15"	0° TO 60°	4"	1'-10"
18"	0° TO 60°	4"	1'-10"
18"	60° TO 90°	4"	2'-3"
21"	0° TO 60°	4"	2'-7"
21"	60° TO 90°	5"	2'-4"
24"	0° TO 60°	4"	3'-0"
24"	45° TO 90°	5"	2'-3"
30"	0° TO 60°	5"	3'-5"
30"	60° TO 90°	6"	2'-8"
36"	0° TO 30°	6"	4'-0"
LARGER THAN 36"	0° TO 90°	SEE PLANS	

TABLE I

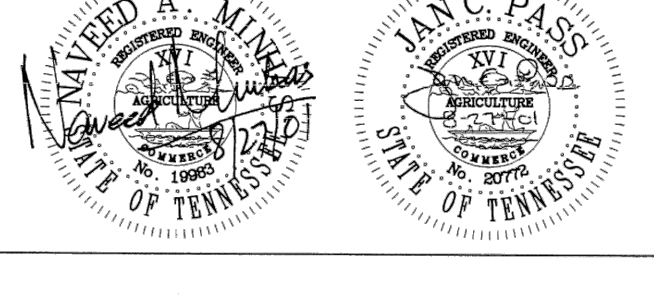
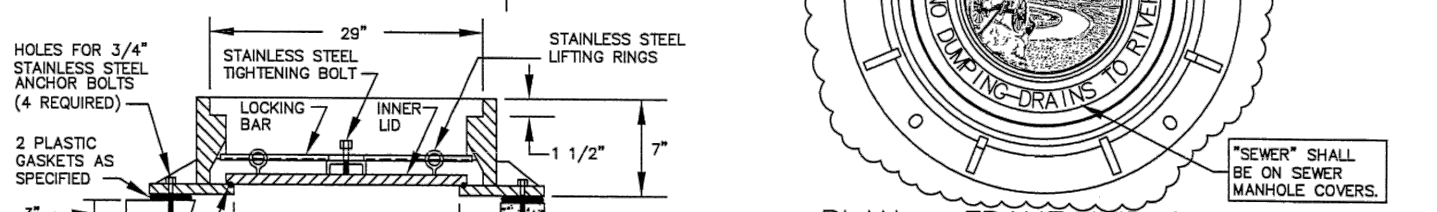
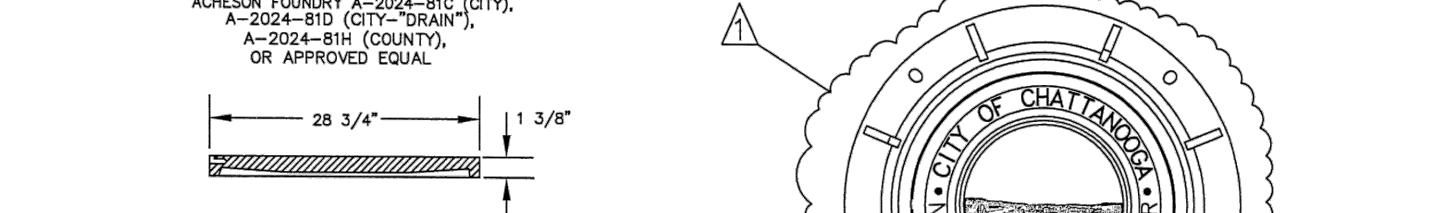
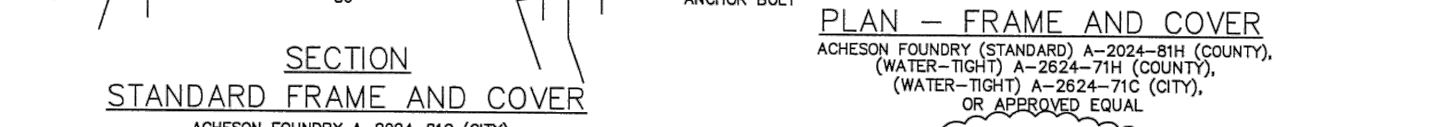
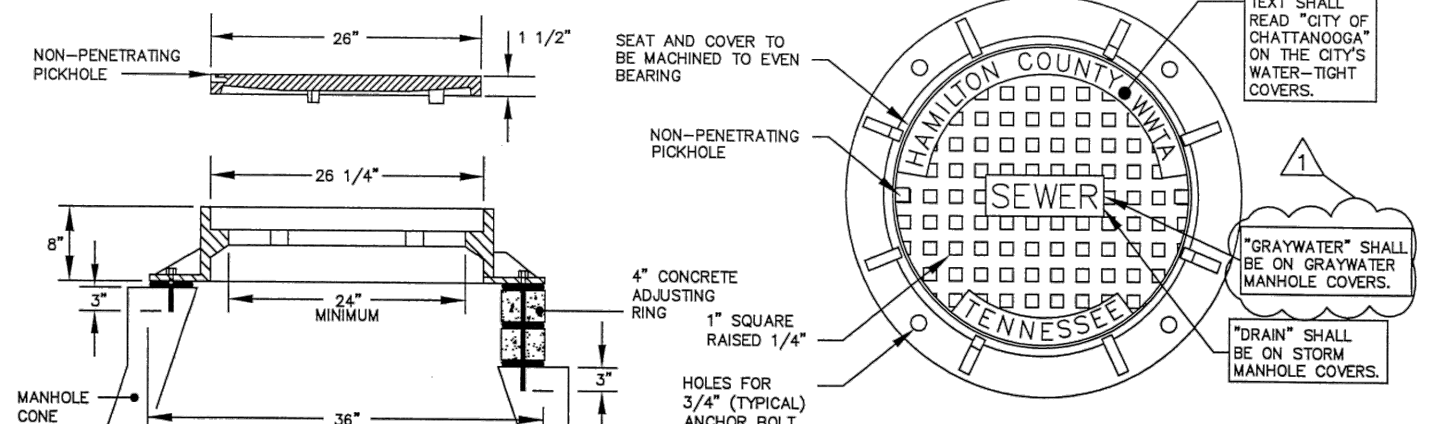
"D"	"H"	"H"
INSIDE DIAM. PIPE	VERTICAL TANGENT	HEIGHT OF INVERT
6"	2 1/2"	6 1/2"
10"	3"	8"
12"	3 1/2"	9 1/2"
15"	4 1/2"	12"
18"	5 1/2"	14 1/2"
21"	6 1/2"	17"
24"	7 1/2"	19 1/2"
30"	9"	24"
36"	11"	29"



- NOTES**
1. CLEAN ALL DEBRIS FROM JOINTS PRIOR TO GASKET APPLICATION.
 2. TRIM PROTRUDING GASKET INSIDE AND OUTSIDE.



CITY OF CHATTANOOGA AND HAMILTON COUNTY			
SANITARY/STORM MANHOLE DETAILS			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-301.04

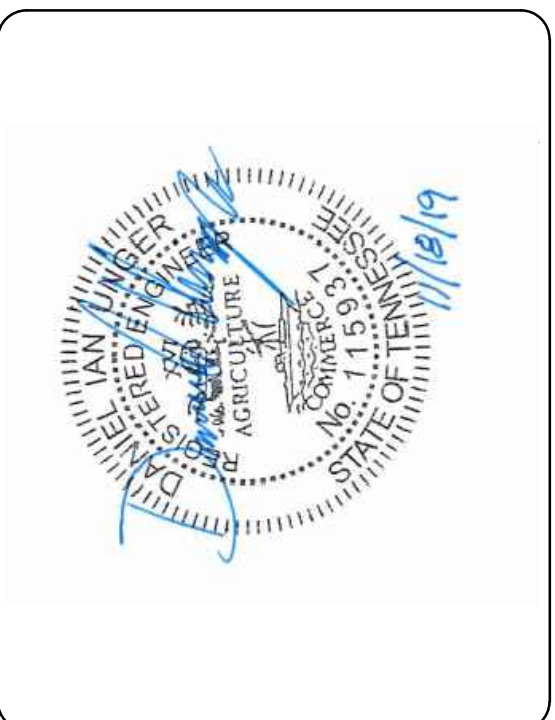


CITY OF CHATTANOOGA AND HAMILTON COUNTY			
SANITARY/STORM MANHOLE DETAILS			
1	REVISIONS AS MARKED OR CLOUDED	8/24/01	DATE OF ORIGINAL ISSUE
0	INITIAL ISSUE	12/10/99	DECEMBER 10, 1999
NO.	REVISION	DATE	STANDARD NUMBER: SD-301.03

SPECIFIED MINIMUM WEIGHTS

	STANDARD	WATERTIGHT
COVER	165 LBS.	190 LBS.
FRAME	185 LBS.	400 LBS.
TOTAL	350 LBS.	590 LBS.

- NOTES**
1. THE MANUFACTURER SHALL CERTIFY THE TRAFFIC BEARING CAPACITY OF FRAMES AND COVERS.
 2. MANHOLES IN PAVED AREAS MAY NOT REQUIRE ANCHOR BOLTS.
 3. BEARING SURFACES BETWEEN COVER AND FRAME SHALL BE MACHINED TO PREVENT ROCKING.



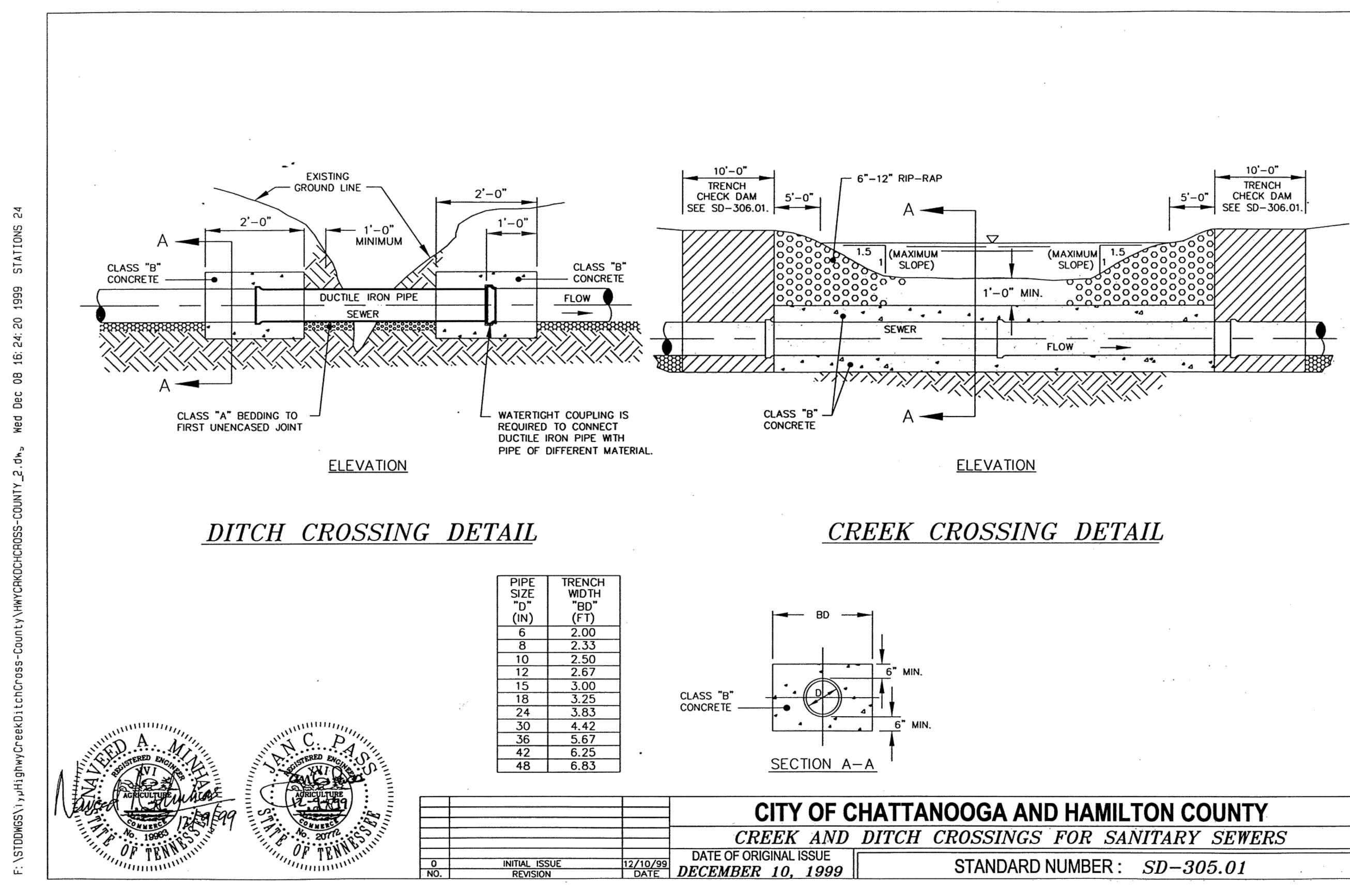
DUPONT PUMP STATION AND BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
CITY OF CHATTANOOGA, TN
CONSENT DECREE PROGRAM

REV	DATE	REVISION DESCRIPTION

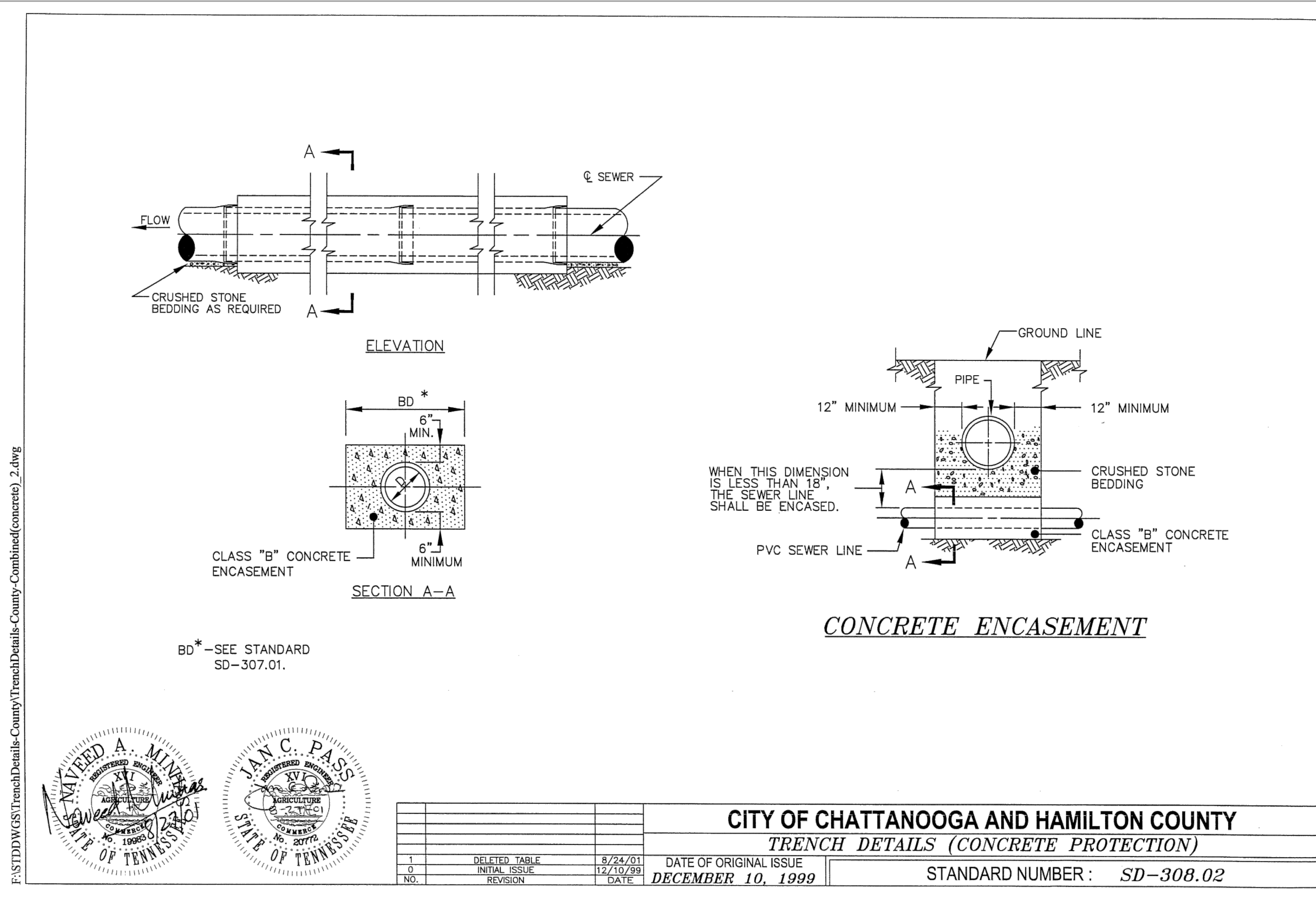
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PROJECT NO: 129699-109746
DATE: NOVEMBER 2019
DISC. LEAD: DU DESIGNER: VF CHECKER: CF

SHEET TITLE CIVIL
CIVIL DETAILS
SHEET CD-1
ISSUED FOR BID

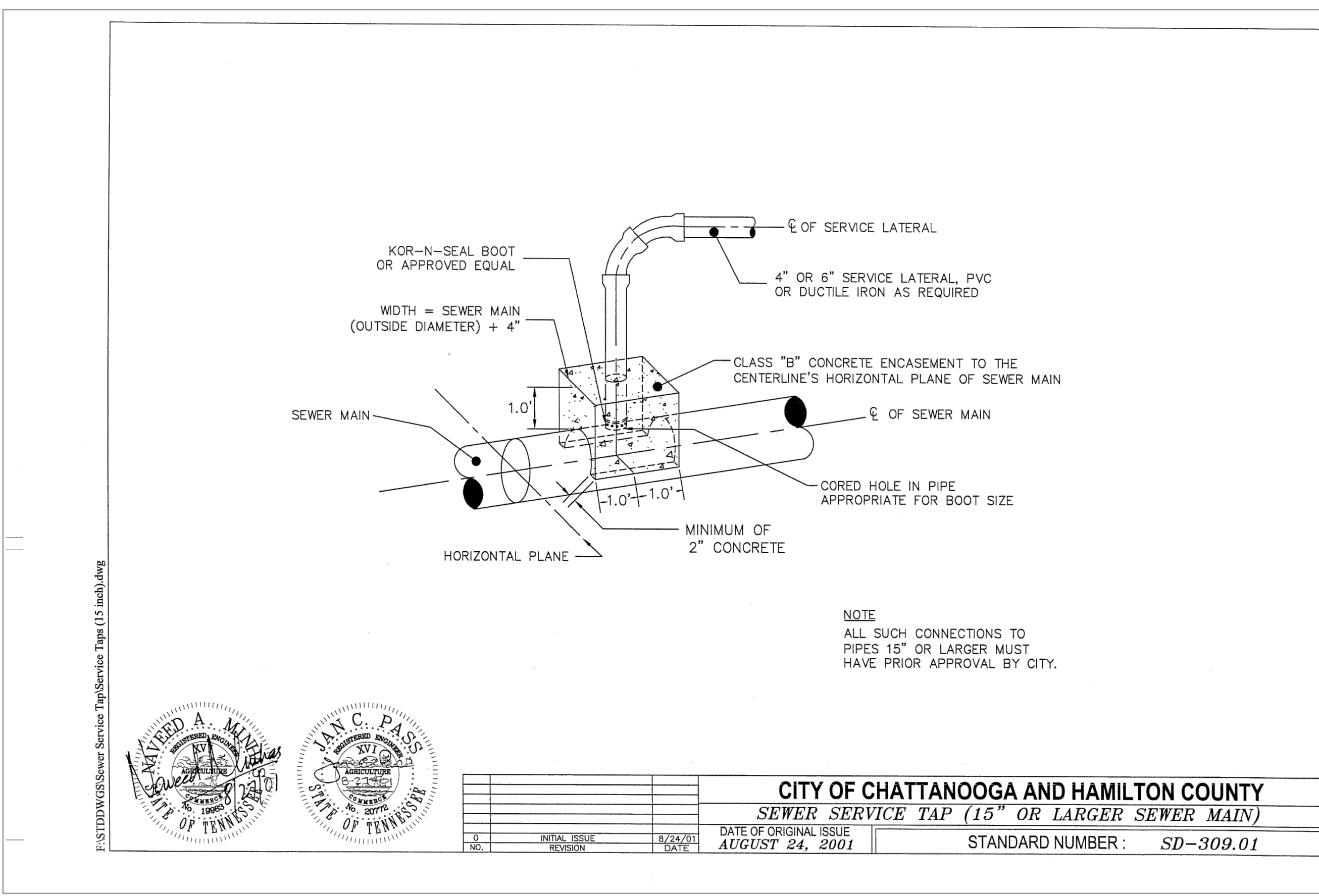
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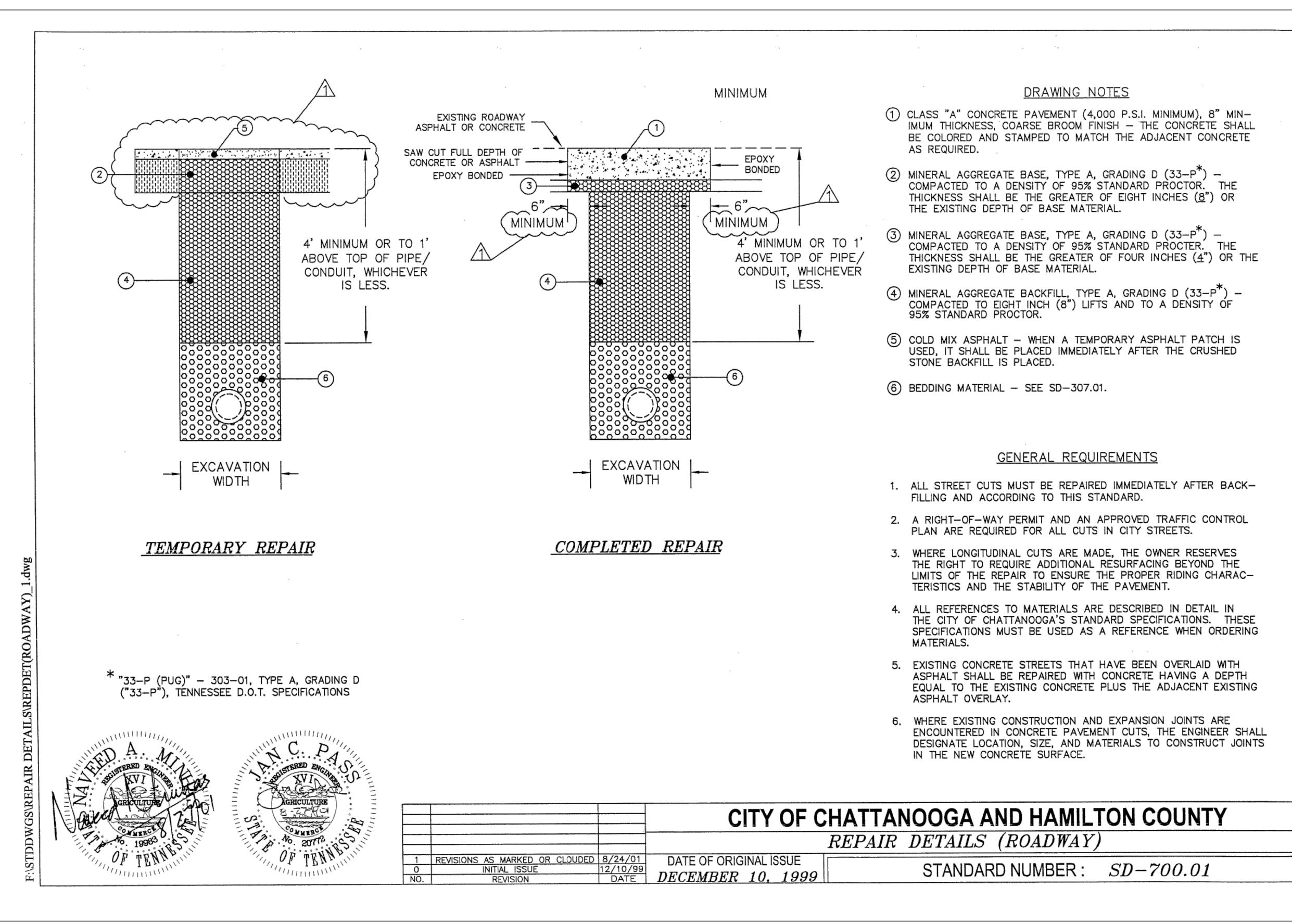
CITY OF CHATTANOOGA AND HAMILTON COUNTY
 CREEK AND DITCH CROSSINGS FOR SANITARY SEWERS
 STANDARD NUMBER: SD-305.01



CITY OF CHATTANOOGA AND HAMILTON COUNTY
 TRENCH DETAILS (CONCRETE PROTECTION)
 STANDARD NUMBER: SD-308.02



CITY OF CHATTANOOGA AND HAMILTON COUNTY
 SEWER SERVICE TAP (15" OR LARGER SEWER MAIN)
 STANDARD NUMBER: SD-309.01



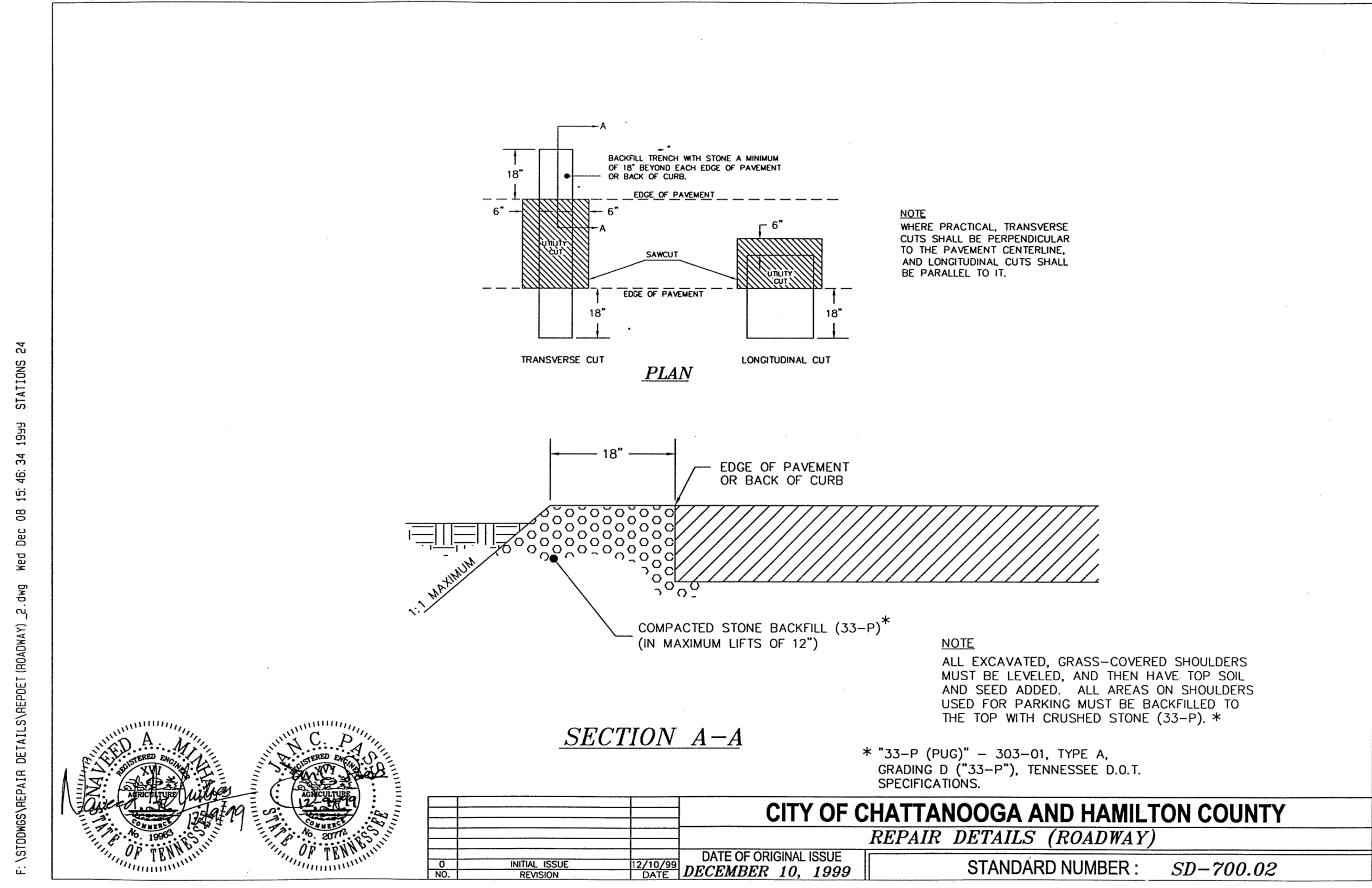
CITY OF CHATTANOOGA AND HAMILTON COUNTY
 REPAIR DETAILS (ROADWAY)
 STANDARD NUMBER: SD-700.01

CDM Smith
 CDM Smith Inc.
 651 East 4th Street Suite 100
 Chattanooga, TN 37403
 Tel: (423) 771-4495

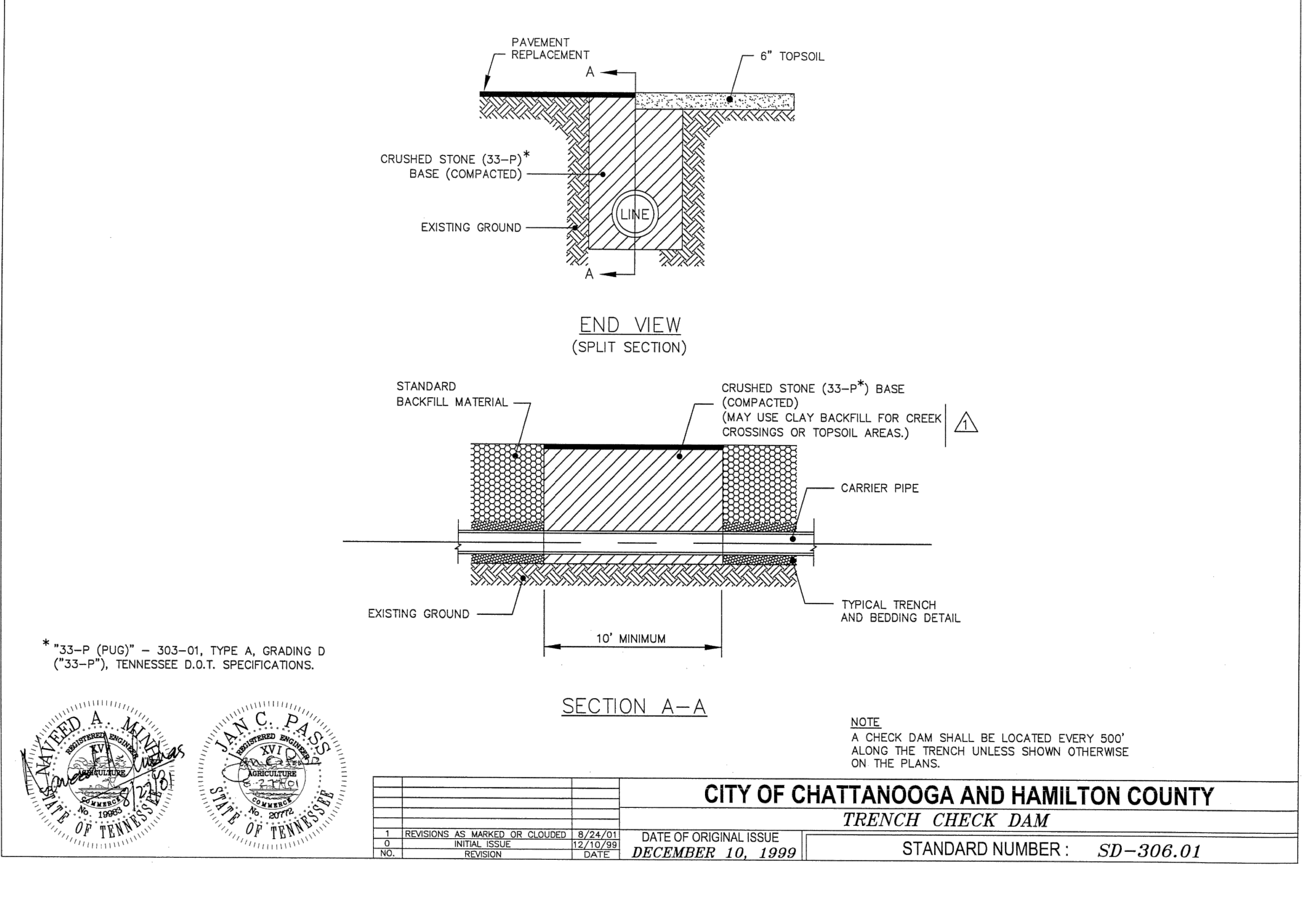
DUPONT PUMP STATION AND BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
 CITY OF CHATTANOOGA, TN
 CONSENT DECREE PROGRAM

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 PROJECT NO: 129699-109746
 DATE: NOVEMBER 2019
 DISC. LEAD: DU DESIGNER: VF CHECKER: CF
 SHEET TITLE: CIVIL
 CIVIL DETAILS
 SHEET: CD-3
 ISSUED FOR BID

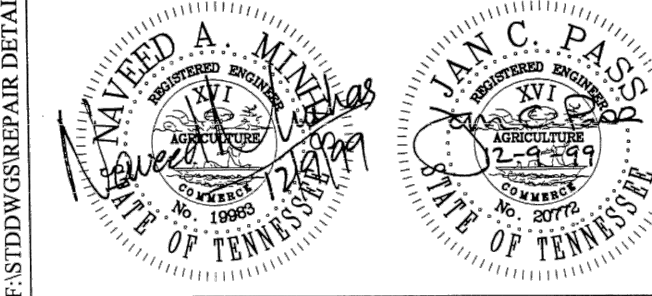
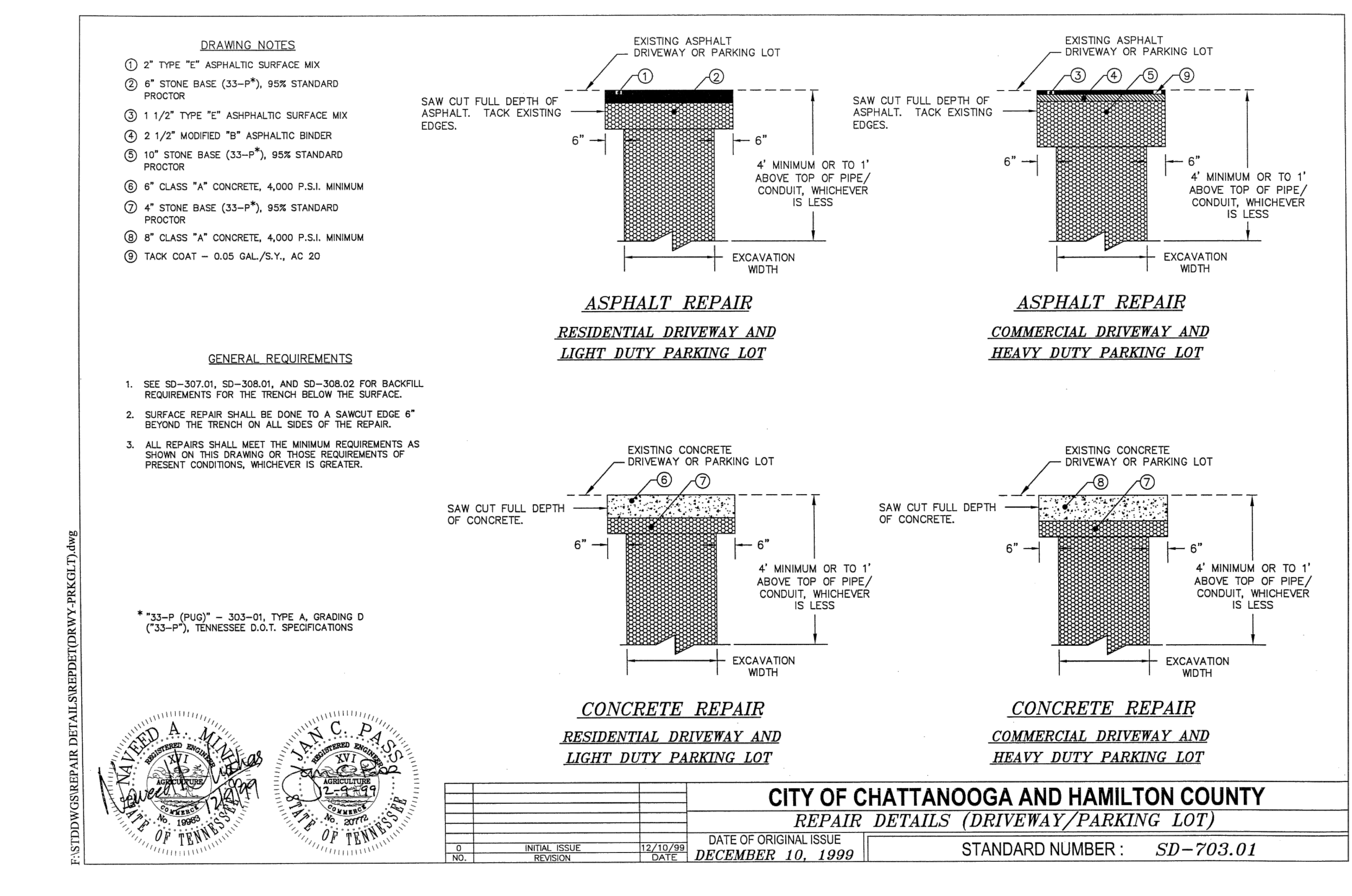
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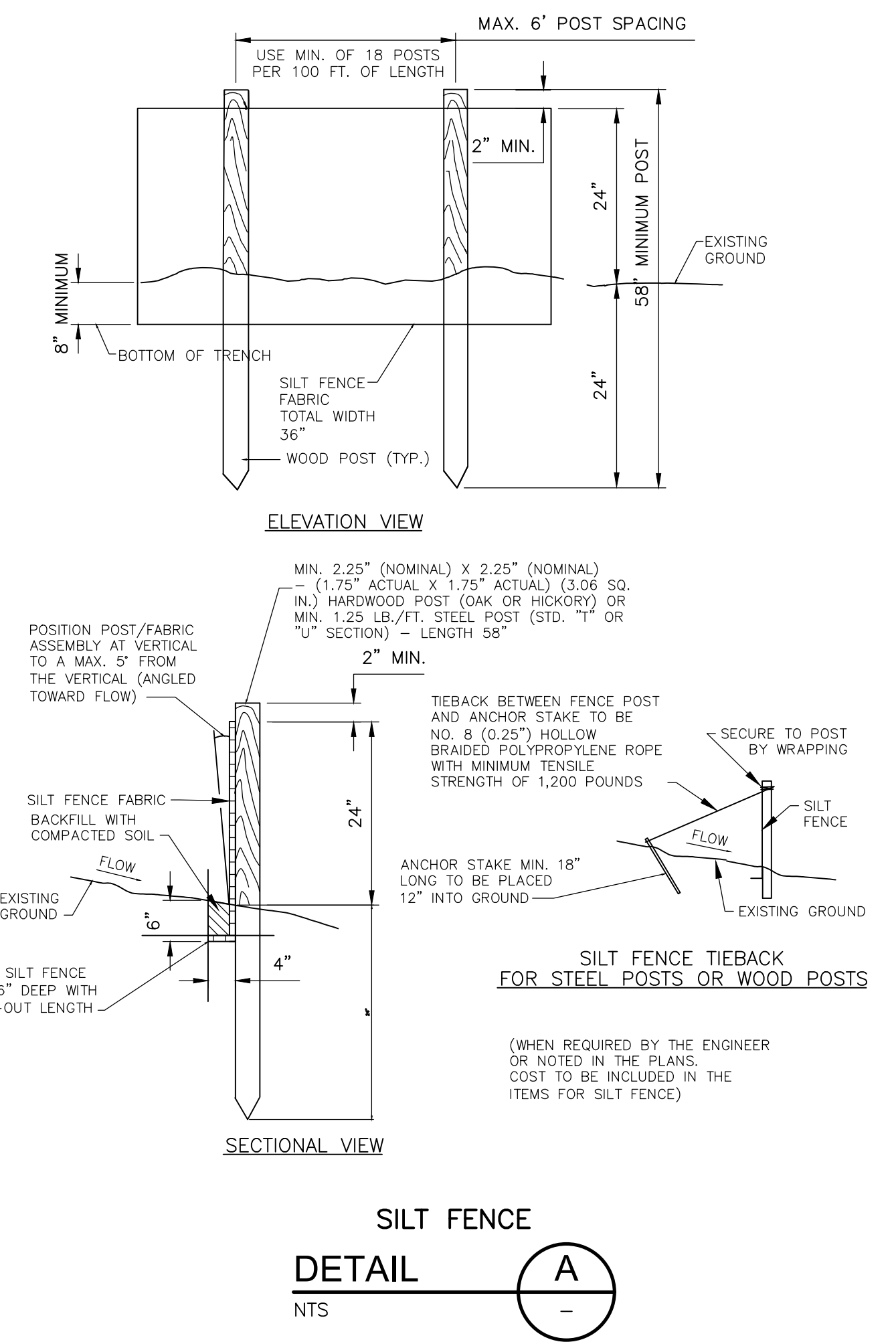
CITY OF CHATTANOOGA AND HAMILTON COUNTY		REPAIR DETAILS (ROADWAY)	
NO.	REVISION	DATE	STANDARD NUMBER
0	INITIAL ISSUE	12/10/99	SD-700.02
DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999	



CITY OF CHATTANOOGA AND HAMILTON COUNTY			
TRENCH CHECK DAM			
NO.	REVISION	DATE	STANDARD NUMBER
0	INITIAL ISSUE	12/10/99	SD-306.01
DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999	



CITY OF CHATTANOOGA AND HAMILTON COUNTY		REPAIR DETAILS (DRIVEWAY/PARKING LOT)	
NO.	REVISION	DATE	STANDARD NUMBER
0	INITIAL ISSUE	12/10/99	SD-703.01
DATE OF ORIGINAL ISSUE		DECEMBER 10, 1999	



SILT FENCE
DETAIL
NTS

STRUCTURE TABLE		
STRUCTURE NAME	STRUCTURE NORTHING	STRUCTURE EASTING
D	278758.3743	2188645.1689
E	278746.3455	2188681.0591
F	278877.1843	2189025.9169
G	279081.0718	2189568.6283
H	279189.9011	2189857.7908
I	279640.0758	2190108.7822
J	280011.8461	2190265.2123
K	280435.4814	2190152.6617
L	280591.7295	2190111.1500
M	280964.7626	2190320.6054
N	281211.5438	2190764.5997
O	281368.5845	2190776.6195
P	281945.1266	2190820.8028
Q	282240.6915	2190843.4206
R	282504.4498	2190861.7867
S	282799.1346	2190882.3053
T	282764.4042	2191381.0977
U	282757.9887	2191663.3904
V	282790.7329	2191708.4599
Y	282840.3233	2190901.7957

CDM Smith
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DUPONT PUMP STATION AND
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 CITY OF CHATTANOOGA, TN
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REV	DATE	REVISION DESCRIPTION

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PROJECT NO: 129699-109746

DATE: NOVEMBER 2019

DISC. LEAD: DU	DESIGNER: VF	CHECKER: CF
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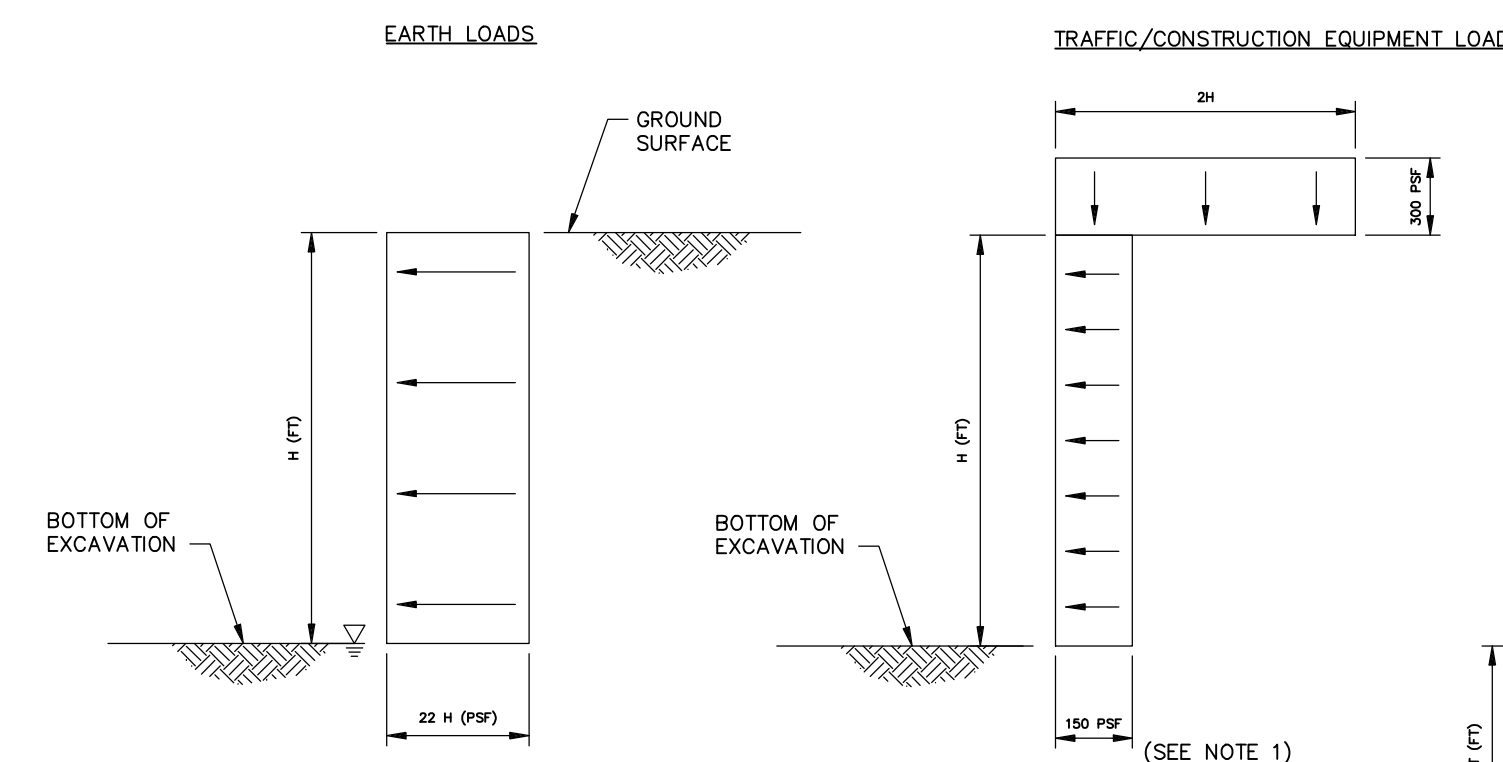
SHEET TITLE: CIVIL

CIVIL DETAILS

SHEET: CD-4

ISSUED FOR BID

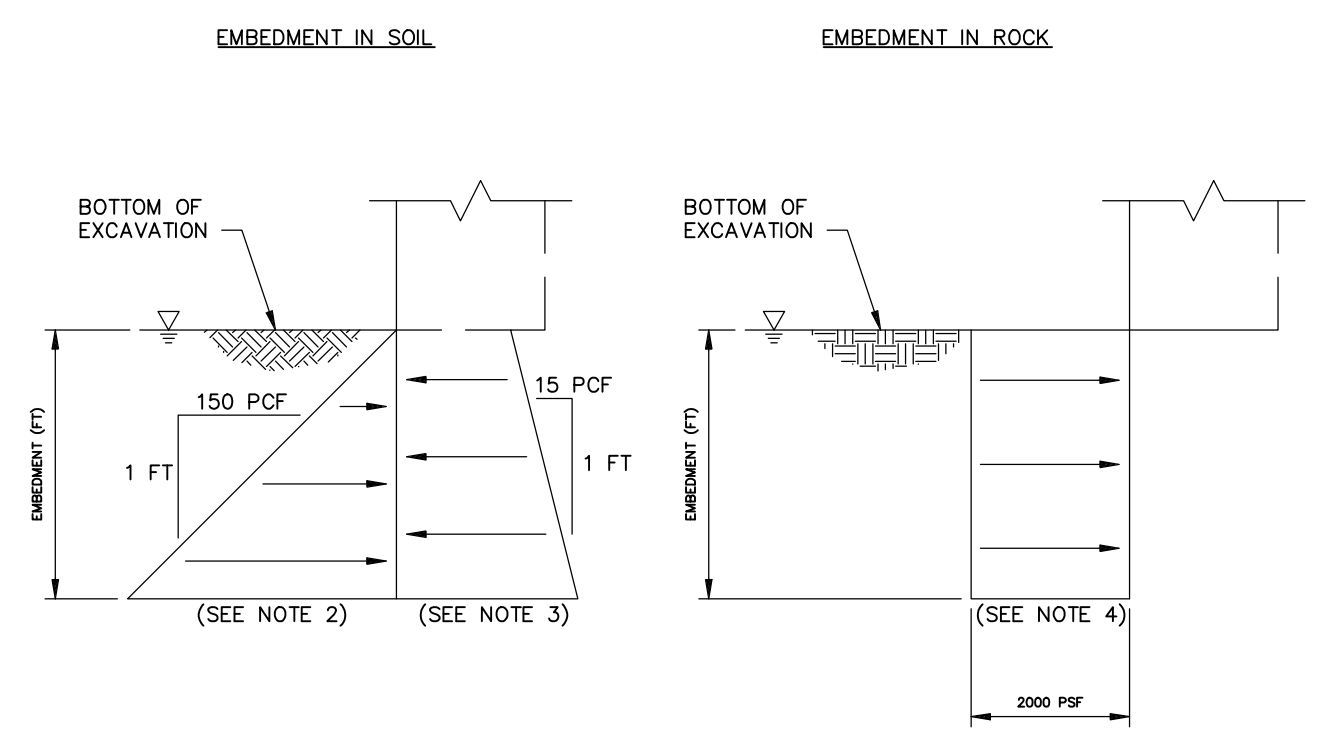
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- NOTES:**
1. THE TRAFFIC/EQUIPMENT LOAD SHOWN IS CONSIDERED TO BE THE MINIMUM DESIGN LOAD. THE SUPPORT OF EXCAVATION SYSTEMS SHOWN SHOULD BE REDESIGNED BY THE CONTRACTOR IF HIS/HER CONSTRUCTION PROCEDURES OR EQUIPMENT WILL RESULT IN LOADING WHICH EXCEEDS THIS MINIMUM.
 2. PASSIVE EARTH LOADS SHALL BE APPLIED OVER 3b, WHERE b IS EQUAL TO THE DRIVEN SOLDIER PILE WIDTH OR PRE-DRILLED HOLE DIAMETER, BUT NO GREATER THAN THE SOLDIER PILE SPACING FOR SOLDIER PILE AND LAGGING WALL SYSTEMS. PASSIVE EARTH LOADS SHALL BE ASSUMED TO BE CONTINUOUS FOR STEEL SHEET PILE WALL SYSTEMS.
 3. EARTH LOADS BELOW THE BOTTOM OF THE EXCAVATION SHALL BE APPLIED OVER b, WHERE b IS EQUAL TO THE DRIVEN SOLDIER PILE WIDTH OR PRE-DRILLED HOLE DIAMETER, FOR SOLDIER PILE AND LAGGING WALL SYSTEMS. EARTH LOADS BELOW THE BOTTOM OF THE EXCAVATION SHALL BE ASSUMED TO BE CONTINUOUS FOR STEEL SHEET PILE WALL SYSTEMS.
 4. PASSIVE RESISTANCE FROM BEDROCK SHALL BE DETERMINED IN ACCORDANCE WITH AASHTO, FIGURE 5.6.2A.
 5. DESIGN LOADS ABOVE ASSUME NO GROUNDWATER ABOVE THE BOTTOM OF THE EXCAVATION. IF GROUNDWATER IS PRESENT ABOVE THE BOTTOM OF THE EXCAVATION THE EARTH LOADS SHOULD BE REVISED TO ACCOUNT FOR WATER PRESSURES.

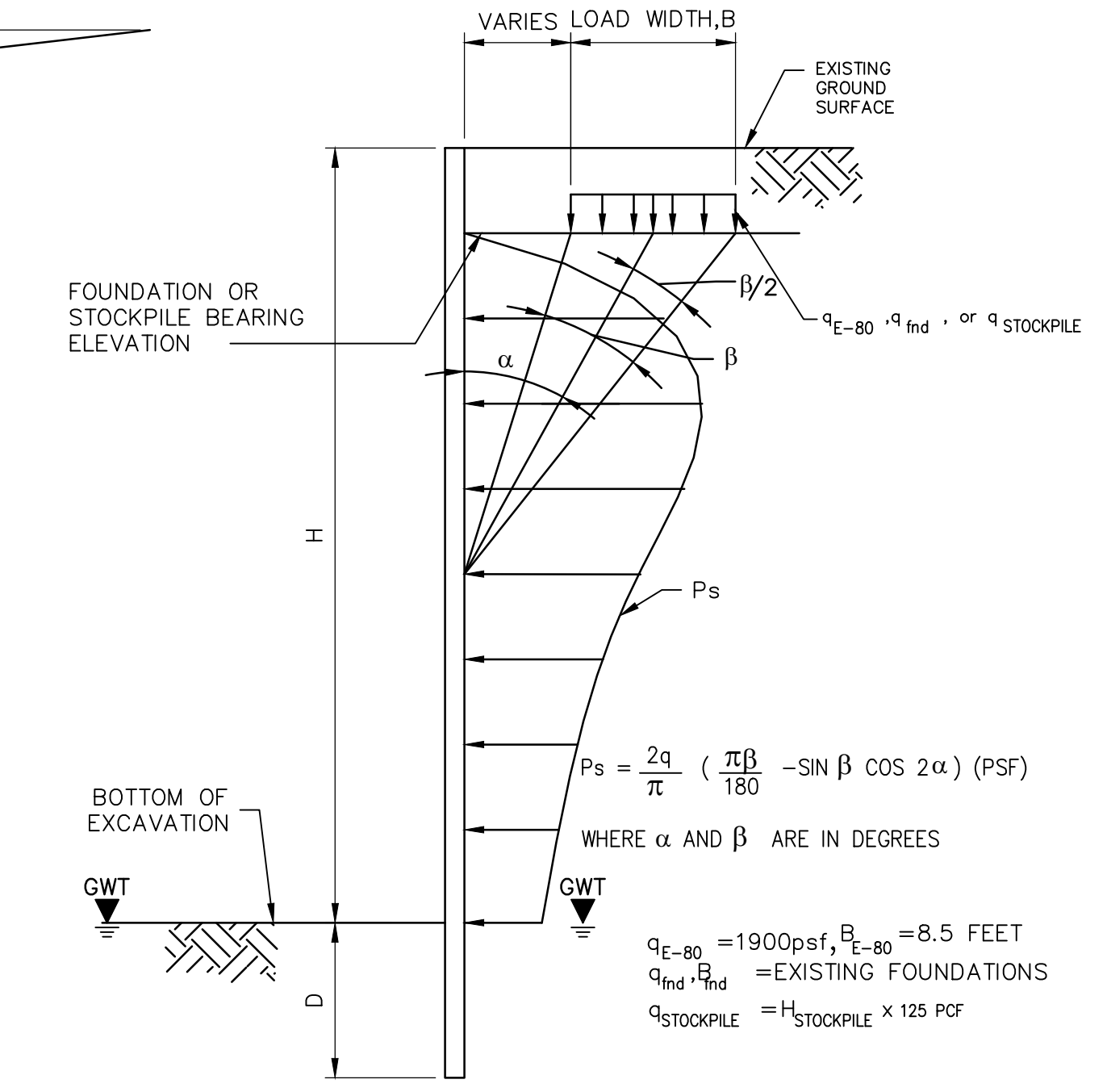
MINIMUM DESIGN LOADS FOR SUPPORT OF EXCAVATION

DETAIL B
NTS



NOTE:
Z=VERTICAL HEIGHT OF UPWARD SLOPE ABOVE THE SUPPORTED EXCAVATION TO A POINT WHERE THE GROUND SURFACE BECOMES FLATTER THAN 5H:1V.

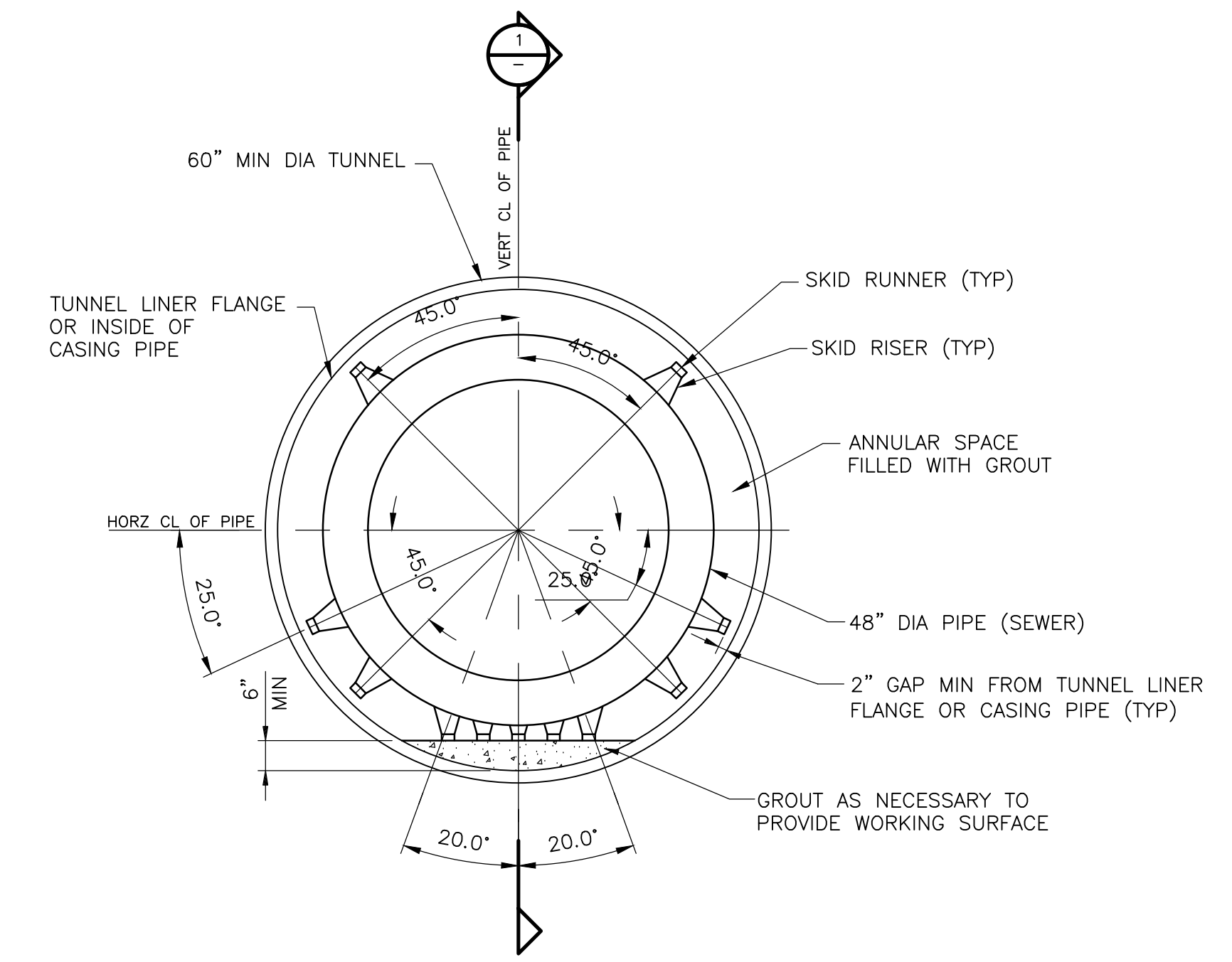
SURCHARGE DUE TO SLOPING GROUND



ACTIVE RAILROAD (E-80), FOUNDATION, AND STOCKPILE SURCHARGE

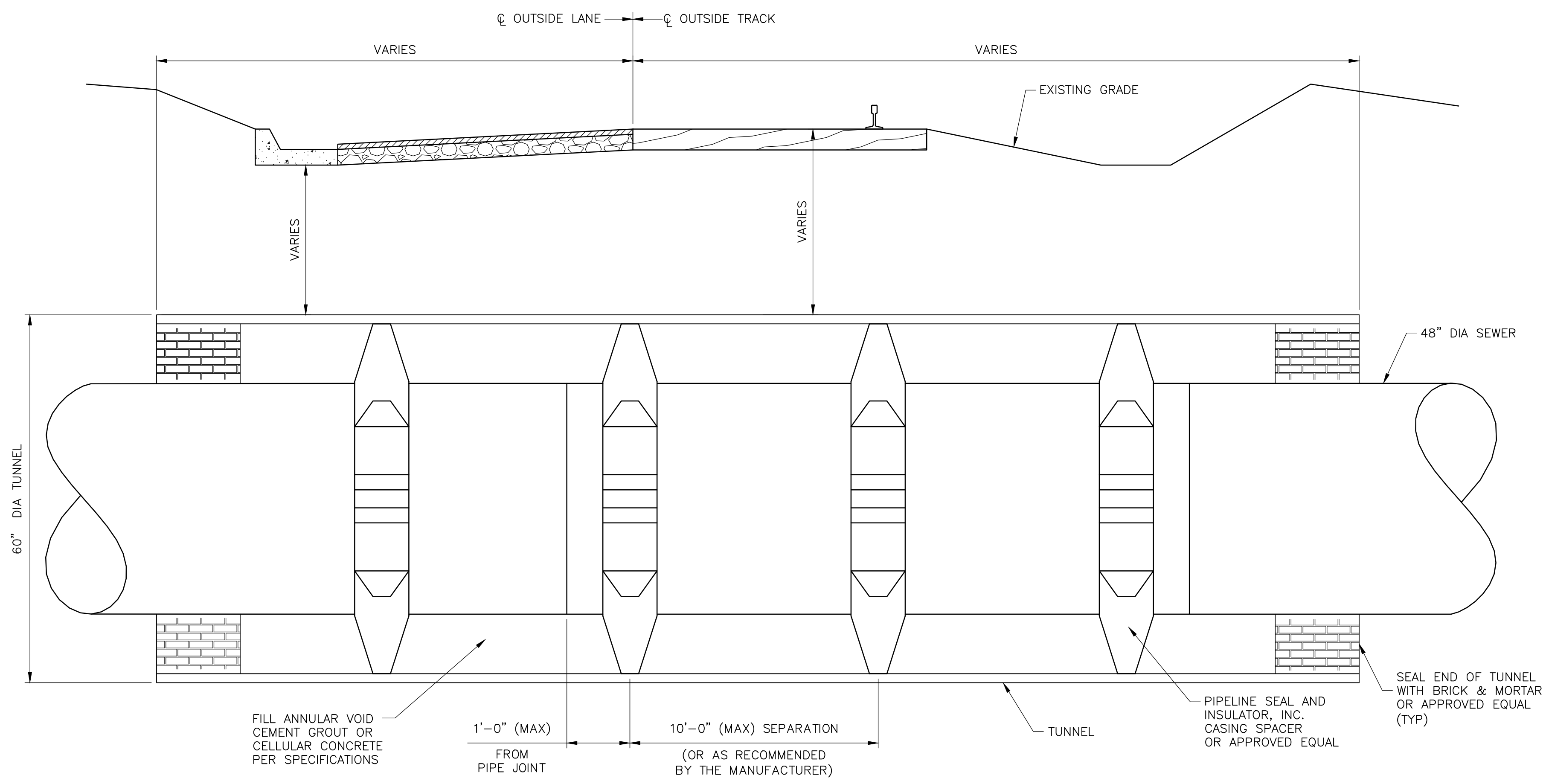
SURCHARGE PRESSURES

DETAIL C
NTS



48" SEWER WITH 60" TUNNEL

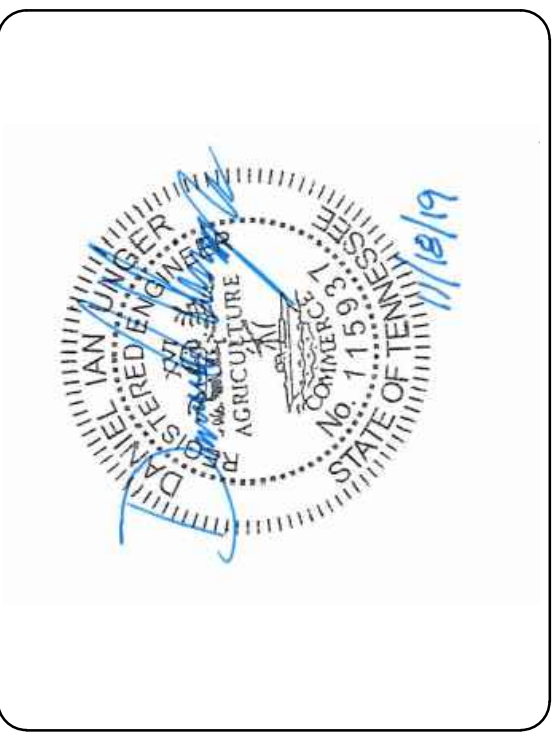
DETAIL D
NTS



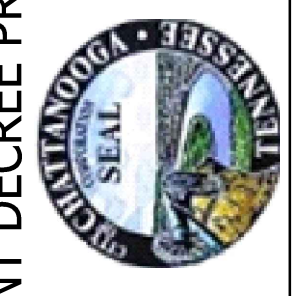
ROAD OR RAILROAD CROSSING

SECTION 1
NTS

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DUPONT PUMP STATION AND BASIN IMPROVEMENTS - PHASE 2 - CONTRACT B
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CONSENT DECREE PROGRAM



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SHEET TITLE: CIVIL
CIVIL DETAILS
SHEET: CD-5