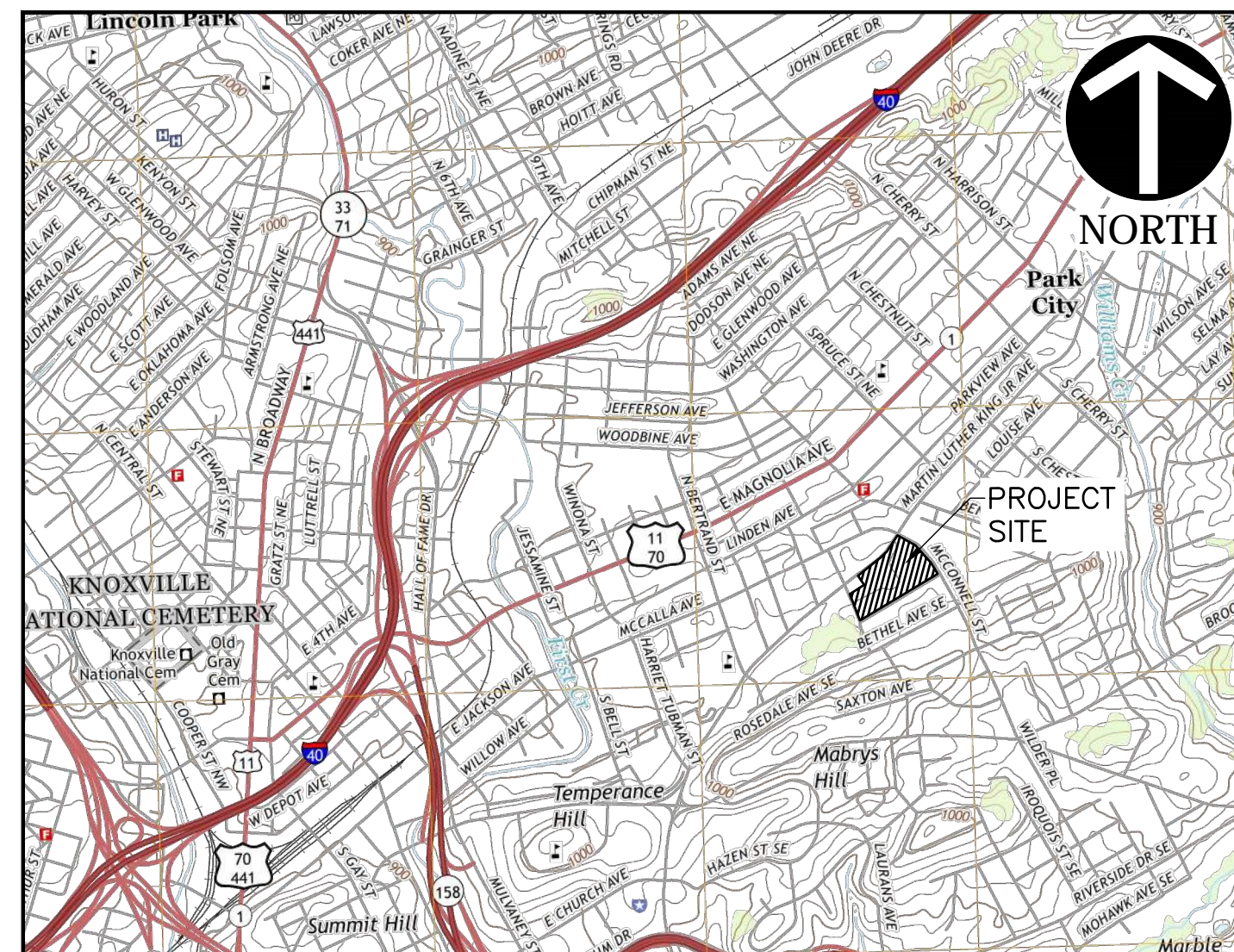


FIVE POINTS NEIGHBORHOOD  
KNOXVILLE, KNOX COUNTY, TN

# CONSTRUCTION DOCUMENTS



USGS 7.5 MIN TOPOGRAPHIC MAP  
KNOXVILLE, TN QUADRANGLE  
1" = 2000'

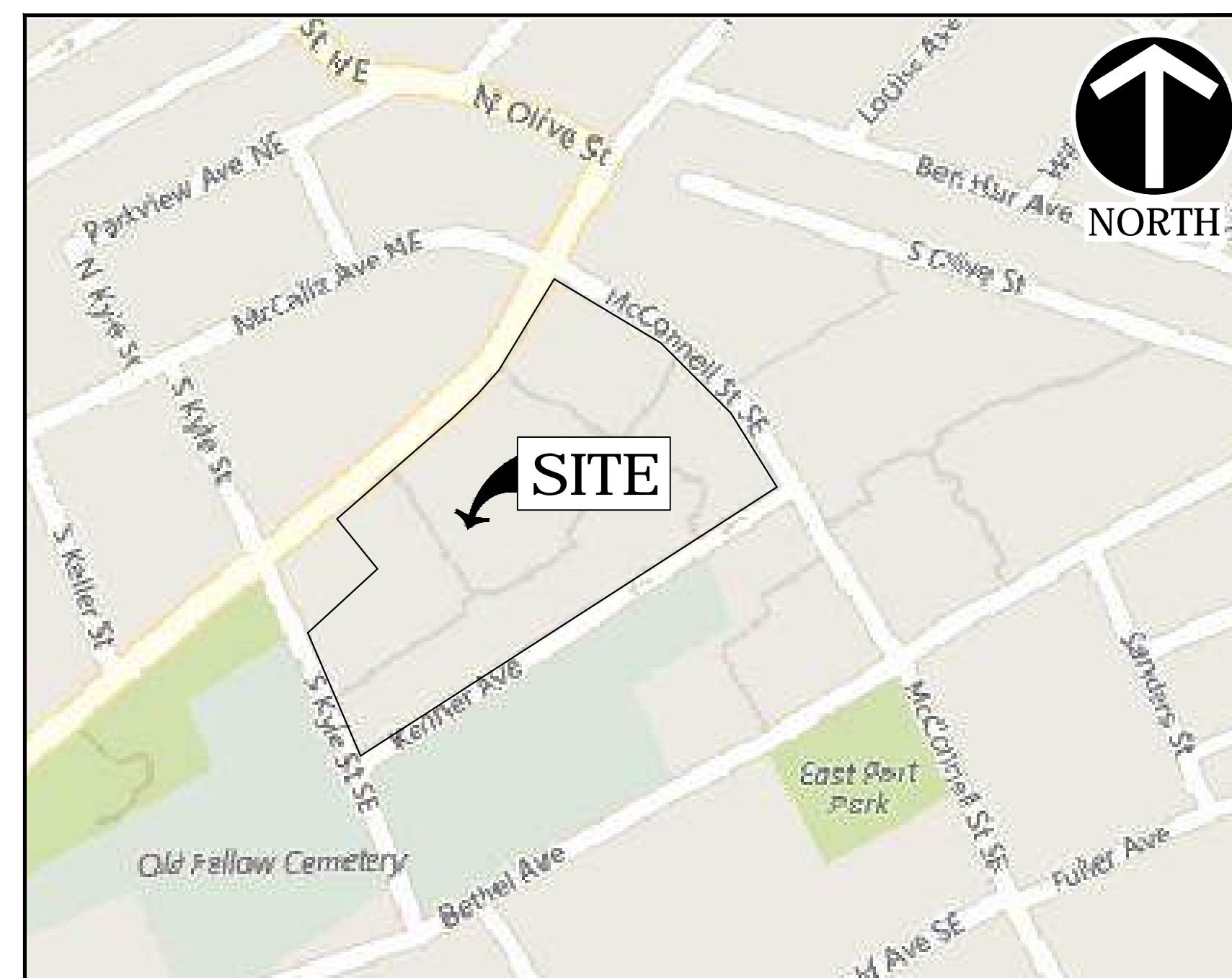


IMAGE TAKEN FROM BING MAPS  
N.T.S.

## WATER SERVICE

## SANITARY SEWER

ELECTRIC SERVICE

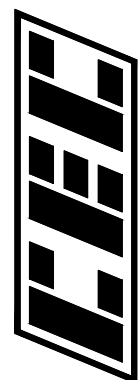
## TELEPHONE SERVICE

KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
901 N. BROADWAY  
KNOXVILLE, TN 37917  
PH: (865) 403-1117

CIVIL & ENVIRONMENTAL CONSULTANTS  
2704 CHEROKEE FARM WAY, STE. 101  
KNOXVILLE, TN 37920  
PH: 865-977-9997  
CONTACT: GREG PRESNELL, PE

PARCEL ID: 095BF022  
ZONING: R-2 RESIDENTIAL  
CITY BLOCK: 14430  
CLT MAP: 95  
TOTAL ACREAGE: ± 11.94 ACRES  
TOTAL DISTURBED AREA: 11.63 ACRES  
TOTAL EXISTING IMPERVIOUS AREA: 5.95 ACRES  
TOTAL POST DEVELOPED IMPERVIOUS AREA: 5.63 ACRES  
PROPERTY ADDRESS: 304 S. KYLE STREET  
KNOXVILLE, TN 37915

C000 COVER SHEET  
C001 PROJECT NOTES  
C100 DEMOLITION PLAN  
C200 OVERALL LAYOUT PLAN  
C201 WEST LAYOUT PLAN  
C202 EAST LAYOUT PLAN  
C300 GRADING PLAN  
C400 DRAINAGE PLAN  
C401 STORM SEWER PROFILES  
C402 STORM SEWER PROFILES  
C403 STORM SEWER PROFILES  
C500 UTILITY PLAN  
C501 SANITARY SEWER PROFILES  
C502 PUBLIC SEWER MAIN EXTENSION  
C503 PUBLIC SEWER MAIN EXTENSION  
C504 PUBLIC WATER MAIN EXTENSION  
C800 DETAILS  
C801 DETAILS  
C802 DETAILS  
C803 DETAILS  
C804 DETAILS  
C805 DETAILS  
C806 DETAILS  
C900 INITIAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN  
C901 INTERIM EROSION PREVENTION AND SEDIMENT CONTROL PLAN  
C902 FINAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN  
C903 EROSION CONTROL DETAILS AND NOTES

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**Civil & Environmental Consultants, Inc.**  
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KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

COVER SHEET

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:	GHP		

DRAWING NO.:  
**C000**



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DEMOLITION GENERAL NOTES

- ALL EXISTING ABOVE AND BELOW GROUND STRUCTURES WITHIN THE LIMITS OF CONSTRUCTION SHALL BE REMOVED UNLESS NOTED OTHERWISE WITHIN THIS CONSTRUCTION SET AND/OR PROJECT SPECIFICATIONS. THIS INCLUDES FOUNDATION SLABS, WALLS AND FOOTINGS, CAVITIES LEFT BY STRUCTURE REMOVAL SHALL BE BACKFILLED WITH SATISFACTORY MATERIALS AND COMPACTED TO 98% OF MAXIMUM DENSITY PER ASTM D-698.
- CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.
- ALL DEMOLITION WASTE AND CONSTRUCTION DEBRIS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE IN A STATE APPROVED WASTE SITE AND IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO THE APPROPRIATE UTILITY COMPANY STANDARDS AND AT THE CONTRACTOR'S EXPENSE.
- ALL UTILITY DISCONNECTION, REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANY/ AGENCY. UTILITY CONTACTS ARE LISTED ON THE COVER SHEET.
- THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.
- EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND MAINTAINED PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.
- ASBESTOS OR HAZARDOUS MATERIALS ARE NOT EXPECTED TO BE ENCOUNTERED. IF FOUND ON SITE, SUCH MATERIALS SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIALS CONTRACTOR. CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY IF HAZARDOUS MATERIALS ARE ENCOUNTERED.
- CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.
- CONTRACTOR SHALL PROTECT ALL CORNER PINS, MONUMENTS, PROPERTY CORNERS AND BENCHMARKS DURING DEMOLITION ACTIVITIES. IF DISTURBED, CONTRACTOR SHALL HAVE DISTURBED ITEMS RESET BY A LICENSED SURVEYOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PROTECT ALL EXISTING UTILITIES, STRUCTURES, AND FEATURES TO REMAIN. ANY ITEMS TO REMAIN THAT HAVE BEEN DISTURBED OR DAMAGED AS A RESULT OF CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT CONTRACTOR'S EXPENSE.
- CONTRACTOR SHALL PROVIDE AND MAINTAIN TRAFFIC CONTROL MEASURES IN ACCORDANCE WITH STATE DEPARTMENT OF TRANSPORTATION REGULATIONS AND AS REQUIRED BY LOCAL AGENCIES WHEN WORKING IN AND/OR ALONG STREETS, ROADS, HIGHWAYS, ETC. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN APPROVAL AND COORDINATE WITH LOCAL AND/OR STATE AGENCIES REGARDING THE NEED, EXTENT AND LIMITATIONS ASSOCIATED WITH INSTALLING AND MAINTAINING TRAFFIC CONTROL MEASURES.
- PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT WHERE INDICATED ALONG LIMITS OF PAVEMENT DEMOLITION.
- ALL UTILITY AND STRUCTURE REMOVAL, RELOCATION, CUTTING, CAPPING AND/OR ABANDONMENT SHALL BE COORDINATED AND PROPERLY DOCUMENTED BY A CERTIFIED PROFESSIONAL, WHEN APPLICABLE, WITH THE APPROPRIATE UTILITY COMPANY, MUNICIPALITY AND/OR AGENCY. DEMOLITION OF REGULATED ITEMS MAY INCLUDE, BUT ARE NOT LIMITED TO: WELLS, ASBESTOS CONTAINING MATERIALS, UNDERGROUND STORAGE TANKS, SEPTIC TANKS AND ELECTRIC TRANSFORMERS. DEMOLITION CONTRACTOR SHALL REFER TO ANY ENVIRONMENTAL STUDIES FOR DEMOLITION RECOMMENDATIONS AND GUIDANCE. AVAILABLE ENVIRONMENTAL STUDIES MAY INCLUDE, BUT ARE NOT LIMITED TO: PHASE I ESA, PHASE II, WETLAND AND STREAM DELINEATION AND ASBESTOS SURVEY. ALL APPLICABLE ENVIRONMENTAL STUDIES SHALL BE MADE AVAILABLE UPON REQUEST.
- NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.
- TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH THE KNOXVILLE'S CITY STANDARDS - OR - IN ACCORDANCE WITH THE DETAILED DRAWINGS. CONTRACTOR SHALL NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS, WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.
- ALL PAVEMENT, BASE COURSES, SIDEWALKS, CURBS, BUILDINGS, FOUNDATIONS, ETC., WITHIN THE AREA TO BE DEMOLISHED SHALL BE REMOVED TO FULL DEPTH. EXISTING BASE COURSE MATERIALS MAY BE WORKED INTO THE NEW PAVEMENT OR BUILDING SUBGRADE PROVIDED THAT THE GRADATION, CONSISTENCY, COMPACTION, SUBGRADE CONDITION, ETC., ARE IN ACCORDANCE WITH THE SPECIFICATIONS AND RECOMMENDATIONS OF ON-SITE GEOTECHNICAL ENGINEER'S RECOMMENDATION. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.
- THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

SITE GENERAL NOTES

- EXISTING CONDITIONS AS DEPICTED ON THESE PLANS ARE GENERAL AND ILLUSTRATIVE IN NATURE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EXAMINE THE SITE AND BE FAMILIAR WITH EXISTING CONDITIONS PRIOR TO BIDDING ON THIS PROJECT. IF CONDITIONS ENCOUNTERED DURING EXAMINATION ARE SIGNIFICANTLY DIFFERENT THAN THOSE SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR AND SUBCONTRACTORS SHALL BE RESPONSIBLE FOR COMPLYING WITH APPLICABLE FEDERAL, STATE AND LOCAL REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS THE OWNER AND OWNER'S REPRESENTATIVE FOR ANY AND ALL INJURIES AND/OR DAMAGES TO PERSONNEL, EQUIPMENT AND/OR EXISTING FACILITIES OCCURRING IN THE COURSE OF THE DEMOLITION AND CONSTRUCTION DESCRIBED IN THE PLANS.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.
- ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.
- CONTRACTOR SHALL REFER TO OTHER PLANS WITHIN THIS CONSTRUCTION SET FOR OTHER PERTINENT INFORMATION. IT IS NOT THE ENGINEER'S INTENT THAT ANY SINGLE PLAN SHEET IN THIS SET OF DOCUMENTS FULLY DEPICT ALL WORK ASSOCIATED WITH THE PROJECT.
- EXISTING SITE INFORMATION/TOPOGRAPHIC SURVEY WAS COMPILED FROM SURVEY PREPARED BY CEC, INC., DATED MARCH 18, 2013.
- BEFORE INSTALLATION OF STORM OR SANITARY SEWER, OR OTHER UTILITY, THE CONTRACTOR SHALL VERIFY ALL CROSSINGS, BY EXCAVATION WHERE NECESSARY, AND INFORM THE OWNER AND THE ENGINEER OF ANY CONFLICTS. THE ENGINEER WILL BE HELD HARMLESS IN THE EVENT HE IS NOT NOTIFIED OF DESIGN CONFLICTS PRIOR TO CONSTRUCTION.

UTILITY GENERAL NOTES

- ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE KNOXVILLE UTILITY BOARD SPECIFICATIONS. CONTRACTOR SHALL COORDINATE UTILITY CONNECTIONS WITH THE APPROPRIATE AGENCY AND KCDC.
- THE CONTRACTOR IS PARTICULARLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF THE EXISTING UTILITIES SHOWN HEREON IS BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS. THE CONTRACTOR SHALL NOT RELY UPON THIS INFORMATION AS BEING EXACT OR COMPLETE. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS. THE CONTRACTOR SHALL CALL THE APPROPRIATE UTILITY COMPANY AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION AND REQUEST FIELD VERIFICATION OF UTILITY LOCATIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO RELOCATE EXISTING UTILITIES CONFLICTING WITH IMPROVEMENTS SHOWN HEREON IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS GOVERNING SUCH OPERATIONS.
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
- MAINTAIN MINIMUM 10-FOOT HORIZONTAL AND 18-INCH MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINES, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC LINES DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.
- ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- ADJUST ALL EXISTING UTILITY SURFACE FEATURES TO REMAIN INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.
- THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS OF ALL IMPROVEMENTS. INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE HORIZONTAL AND VERTICAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED.
- UTILITY PIPE MATERIAL OPTIONS SHALL MEET THE KNOXVILLE UTILITY BOARD'S SPECIFICATIONS.

LAYOUT GENERAL NOTES

- THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO BEGINNING WORK.
- THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, RELOCATE EXISTING UTILITIES AS INDICATED, OR AS NECESSARY FOR CONSTRUCTION.
- PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES, INCLUDING IRRIGATION SLEEVING, PRIOR TO INSTALLATION OF PAVED SURFACES.
- THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.
- SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS "A" (MINIMUM 4,000 PSI @ 28 DAYS) UNLESS OTHERWISE NOTED.
- ALL DAMAGE TO EXISTING PAVEMENT TO REMAIN WHICH RESULTS FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPLACED WITH LIKE MATERIALS AT THE CONTRACTOR'S EXPENSE.
- SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- COORDINATES ARE FOR CENTER OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB FOR DRAIN INLETS, UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL MAINTAIN ONE SET OF AS-BUILT / RECORD DRAWINGS ON THE JOB SITE DURING CONSTRUCTION FOR DISTRIBUTION TO THE OWNER AND/OR OWNER'S REPRESENTATIVE UPON COMPLETION.
- THIS SITE LAYOUT IS SPECIFIC TO THE APPROVALS NECESSARY FOR THE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF KNOXVILLE. NO CHANGES TO THE SITE LAYOUT ARE ALLOWED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER. CHANGES MADE TO THE SITE LAYOUT WITHOUT APPROVAL ARE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR. CHANGES INCLUDE BUT ARE NOT LIMITED TO, INCREASED IMPERVIOUS PAVEMENT, ADDITION/DELETION OF PARKING SPACES, MOVEMENT OF CURB LINES, CHANGES TO DRAINAGE STRUCTURES AND PATTERNS, LANDSCAPING, ETC.

GRADING GENERAL NOTES

- ALL PROPOSED GRADES SHOWN ARE FINAL GRADES, TOP OF GROUND LEVEL, OR TOP OF PAVEMENT, OR GRATE ELEVATION AT THE DRAWDOWN POINT, UNLESS INDICATED OTHERWISE.
- REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE BY XXXXXXXX DATED XX/XX/20XX. THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO MONITOR EARTHWORK ACTIVITIES AND ADHERE TO THEIR RECOMMENDATIONS DURING CONSTRUCTION.
- CONTRACTOR SHALL STRICTLY ADHERE TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND EROSION PREVENTION AND SEDIMENT CONTROL (EPMC) PLAN PREPARED FOR THIS PROJECT. EPMC DEVICES SHALL BE THE FIRST ITEM OF CONSTRUCTION AND SHALL REMAIN FUNCTIONAL UNTIL THE SITE IMPROVEMENTS ARE ACCEPTED BY THE OWNER. SITE GRADING MAY COMMENCE AFTER ALL EPMC DEVICES ARE INSTALLED IN ACCORDANCE WITH CONSTRUCTION DRAWINGS AND CONTROLS HAVE BEEN CERTIFIED BY THE CITY OF KNOXVILLE.
- EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
- CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
- PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A DEPTH OF 6" MINIMUM.
- ALL SLOPES SHALL BE 3:1 MAXIMUM UNLESS NOTED OTHERWISE.
- ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, UNLESS NOTED OTHERWISE.
- ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED AND SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF OFF-SITE AT NO ADDITIONAL COST TO THE OWNER IN ACCORDANCE WITH ALL LOCAL AND STATE CODES AND PERMIT REQUIREMENTS.
- EXISTING CONTOURS VERTICAL DATUM REFERENCE IS NAVD88.
- CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES, PIPES, AND ALL UTILITIES PRIOR TO CONSTRUCTION, AND REPORT ALL DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
- CONTRACTOR SHALL ISSUE ALL PROPER NOTIFICATIONS TO REGULATORY AGENCIES AS REQUIRED BY LAW, AND COMPLY WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL DEVICES, AND SECURE ALL PERMITS PRIOR TO ANY LAND DISTURBANCE ACTIVITY.
- THE PROPOSED ELEVATIONS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE. PROPER ADJUSTMENT SHALL BE MADE BY THE CONTRACTOR FOR SUBGRADE.
- CONTRACTOR SHALL GRADE ALL AREAS FOR POSITIVE DRAINAGE TOWARDS INLETS.
- ALL TOPSOIL STOCKPILES SHALL BE DOZER COMPACTED. STOCKPILES SHALL ALSO BE SEEDED.

DRAINAGE GENERAL NOTES

- DISTANCES SHOWN FOR DRAINAGE PIPES ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THE INSTALLATION, INSPECTION, TESTING AND FINAL ACCEPTANCE OF ALL NEW STORMWATER MANAGEMENT FACILITIES CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH ALL APPLICABLE REGULATING AGENCIES CONCERNING INSTALLATION, INSPECTION AND APPROVAL OF THE STORM DRAINAGE SYSTEM CONSTRUCTION.
- ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES, SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.
- ANY WORK PERFORMED IN THE LOCAL OR STATE RIGHT-OF-WAYS SHALL BE IN ACCORDANCE WITH THE APPLICABLE LOCAL OR STATE REQUIREMENTS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN THE NECESSARY PERMITS FOR THE WORK, SCHEDULE NECESSARY INSPECTIONS, AND PROVIDE THE NECESSARY TRAFFIC CONTROL MEASURES AND DEVICES, ETC., FOR WORK PERFORMED IN THE RIGHT-OF-WAYS.
- STORM PIPE MATERIAL OPTIONS ARE AS INDICATED IN THE DRAINAGE PLAN.
- SEE C800 SHEETS FOR CONSTRUCTION DETAILS.
- ALL DRAINAGE PIPES INSTALLED UNDER PAVEMENT SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE.
- STONE BEDDING AND BACKFILL SHALL BE DONE IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- DRAINS SHALL BE INSTALLED IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- DRAIN BASINS SHALL BE AS NOTED ON THE DRAINAGE PLAN.

PROJECT NOTES

DATE: JULY 26, 2017 | DRAWN BY: CER  
DWG SCALE: GHP  
PROJECT NO: 172-455  
APPROVED BY: GHP

KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN



Civil & Environmental Consultants, Inc.

2704 Cherokee Farm Way - Suite 101 - Knoxville, TN 37920  
Ph: 865.977.9667 - Fax: 865.977.9919  
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REVISION RECORD

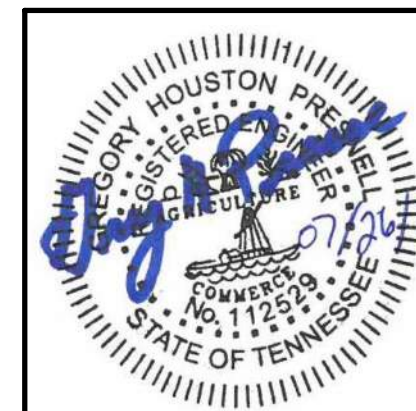
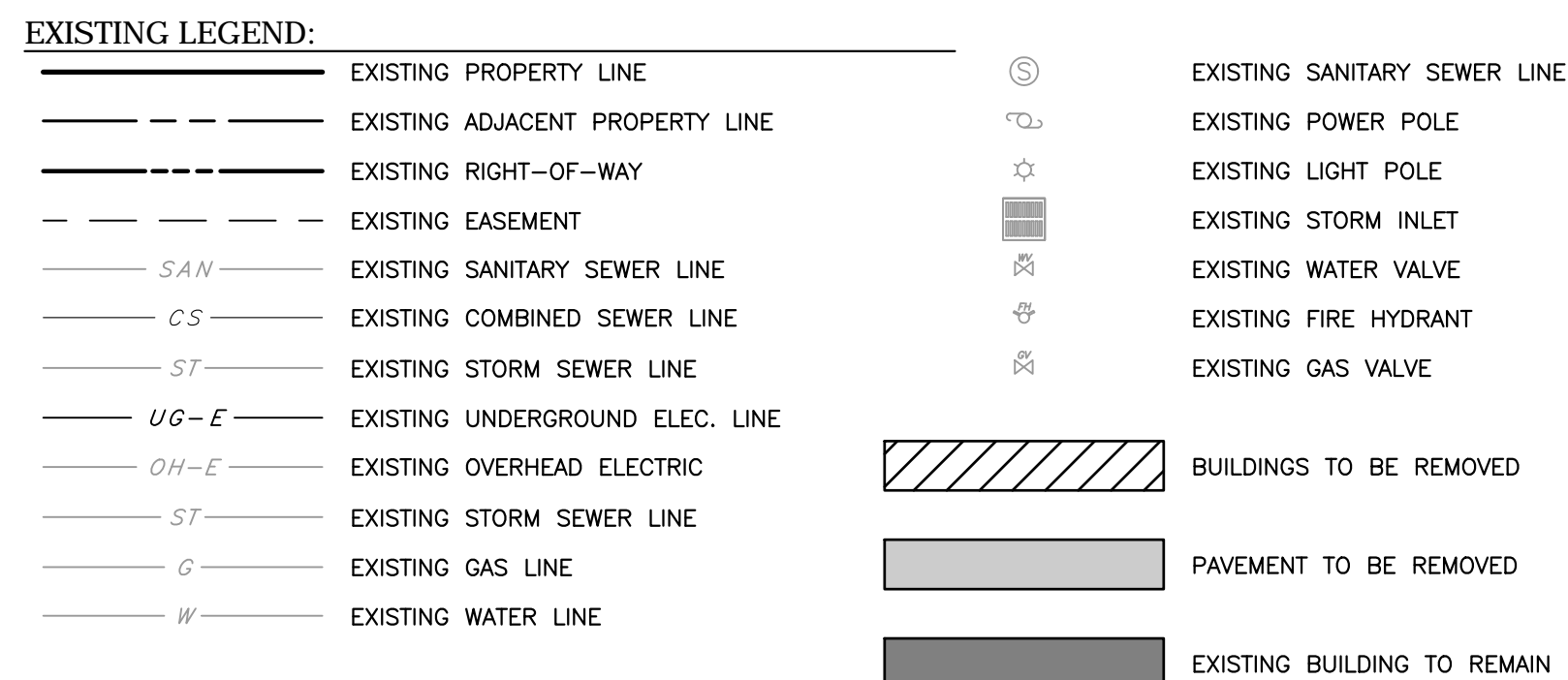
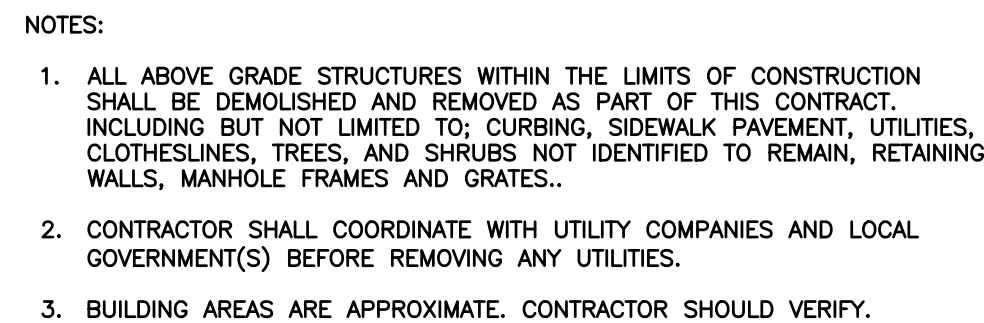
NO	DATE	DESCRIPTION

DRAWING NO.:

C001





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Ph: 865.977.9697 · Fax: 865.977.9919  
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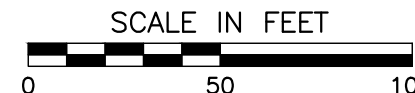
KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

DEMOLITION PLAN

DEMOLITION PLAN	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO:	172-455
APPROVED BY:	GHP
CER:	GHP

DRAWING NO.:  
**C100**





## OVERALL LAYOUT PLAN

DATE:	JULY 26, 2017	DRAWN BY:	CER
DMG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO.:	172-455		
APPROVED BY:	GHP		

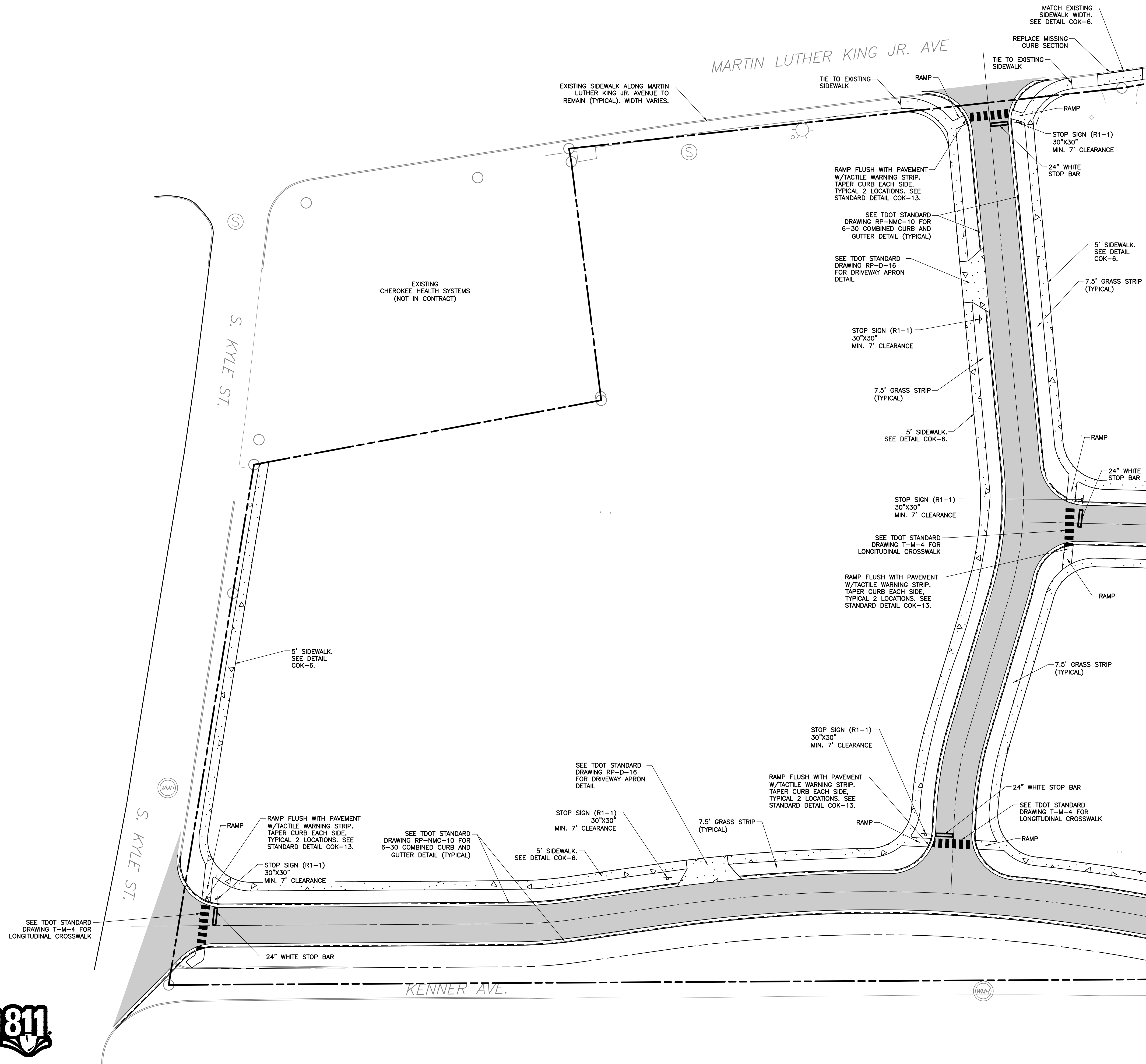
DRAWING NO.:

# C200





NORTH



LEGEND:

	EXISTING PROPERTY LINE
	EXISTING ADJACENT PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	EXISTING EASEMENT
	EXISTING SANITARY SEWER LINE
	EXISTING COMBINED SEWER LINE
	EXISTING STORM SEWER LINE
	EXISTING UNDERGROUND ELEC. LINE
	EXISTING OVERHEAD ELECTRIC
	EXISTING STORM SEWER LINE
	EXISTING GAS LINE
	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING STORM INLET
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	PROPOSED PAVEMENT

REVISION RECORD

DESCRIPTION

NO. DATE

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KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

WEST LAYOUT PLAN

DRAWING NO.:

C201






















DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO.:	172-455	APPROVED BY:	GHP



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<b>LEGEND:</b>	
	EXISTING PROPERTY LINE
	EXISTING ADJACENT PROPERTY LINE
	EXISTING RIGHT-OF-WAY
	PROPOSED RIGHT-OF-WAY
	EXISTING EASEMENT
 SAN	EXISTING SANITARY SEWER LINE
 CS	EXISTING COMBINED SEWER LINE
 ST	EXISTING STORM SEWER LINE
 UG-E	EXISTING UNDERGROUND ELEC. LINE
 OH-E	EXISTING OVERHEAD ELECTRIC
 ST	EXISTING STORM SEWER LINE
 G	EXISTING GAS LINE
 W	EXISTING WATER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING POWER POLE
	EXISTING LIGHT POLE
	EXISTING STORM INLET
	EXISTING WATER VALVE
	EXISTING FIRE HYDRANT
	EXISTING GAS VALVE
	PROPOSED PAVEMENT

[illegible]

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KNOXVILLE'S COMMUNITY  
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FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

EAST LAYOUT PLAN

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:	GHP		

DRAWING NC

C202



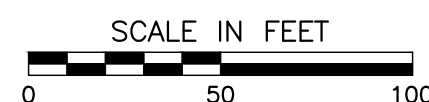
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**Know what's below.  
Call before you dig.**

PROPOSED PAVEMENT



# C300

REVISION RECORD	
Nº	DATE DESCRIPTION











KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

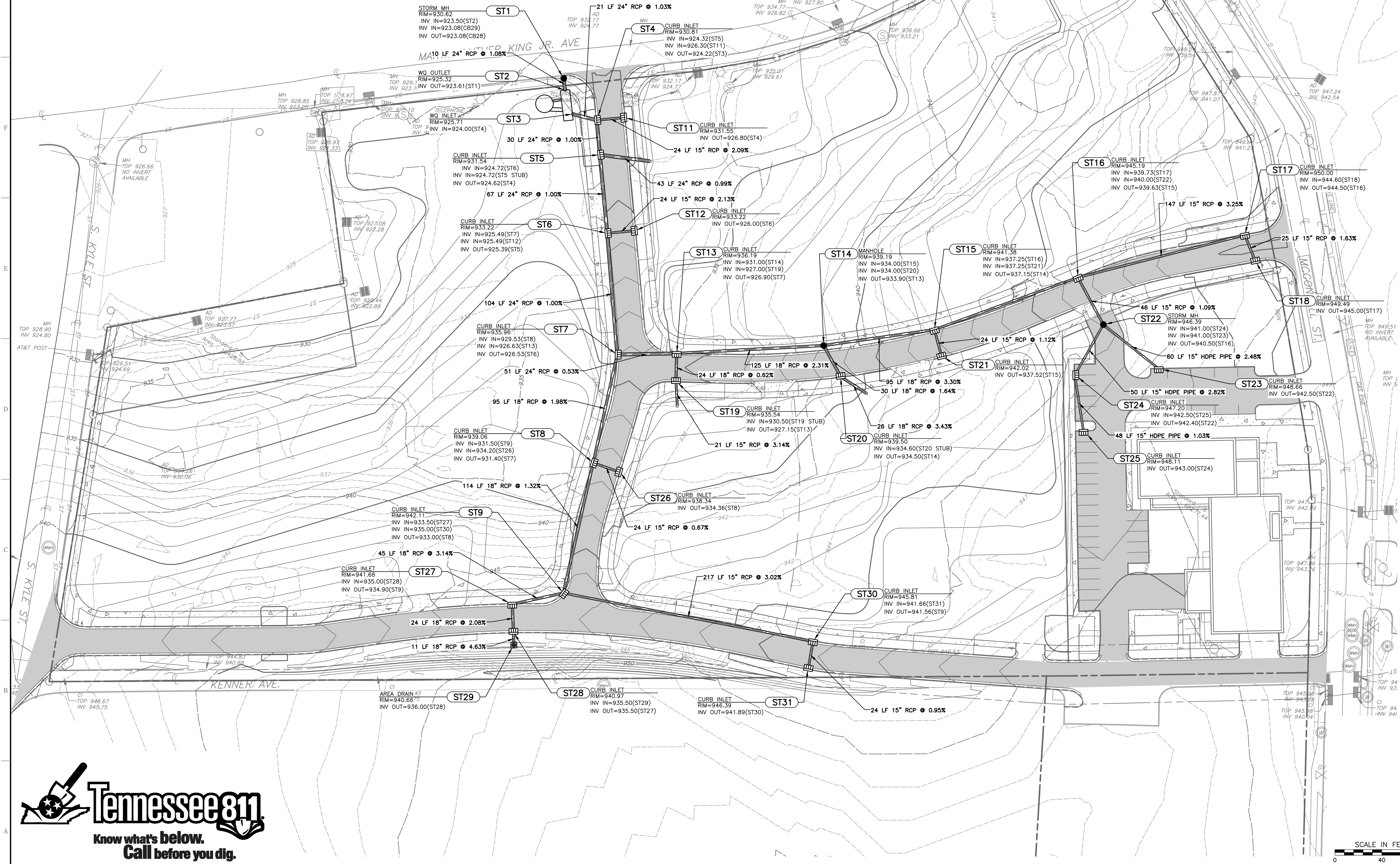
DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:	GHP		





LEGEND:

- | LEGEND:      |                                 |   |                        |
|--------------|---------------------------------|---|------------------------|
| —————        | EXISTING PROPERTY LINE          | <b>830</b>  | PROPOSED MAJOR CONTOUR |
| -----        | EXISTING ADJACENT PROPERTY LINE | -----   | PROPOSED MINOR CONTOUR |
| —————        | EXISTING RIGHT-OF-WAY           | -----   | EXISTING MAJOR CONTOUR |
| -----        | PROPOSED RIGHT-OF-WAY           | -----   | EXISTING MINOR CONTOUR |
| — — — — —    | EXISTING EASEMENT               |  | PROPOSED CURB INLET    |
| ——— SAN ———  | EXISTING SANITARY SEWER LINE    |  | EXISTING POWER POLE    |
| ——— CS ———   | EXISTING COMBINED SEWER LINE    |  | EXISTING LIGHT POLE    |
| ——— ST ———   | EXISTING STORM SEWER LINE       |  | EXISTING STORM INLET   |
| ——— UG-E ——— | EXISTING UNDERGROUND ELEC. LINE |  | EXISTING WATER VALVE   |
| ——— OH-E ——— | EXISTING OVERHEAD ELECTRIC      |  | EXISTING FIRE HYDRANT  |
| ——— ST ———   | EXISTING STORM SEWER LINE       |  | EXISTING GAS VALVE     |
| ——— G ———    | EXISTING GAS LINE               |  |                        |
| ——— W ———    | EXISTING WATER LINE             |   | PROPOSED PAVEMENT      |
| ⊙            | EXISTING SANITARY SEWER LINE    |   |                        |

[illegible]

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KNOXVILLE, KNOX COUNTY, TN

DRAINAGE PLAN

DATE:	JULY 26, 2017	DRAWN BY:	CER
DDWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:	GHP		

DRAWING NO.:

# C400

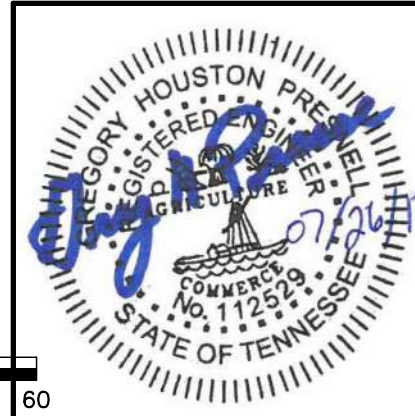
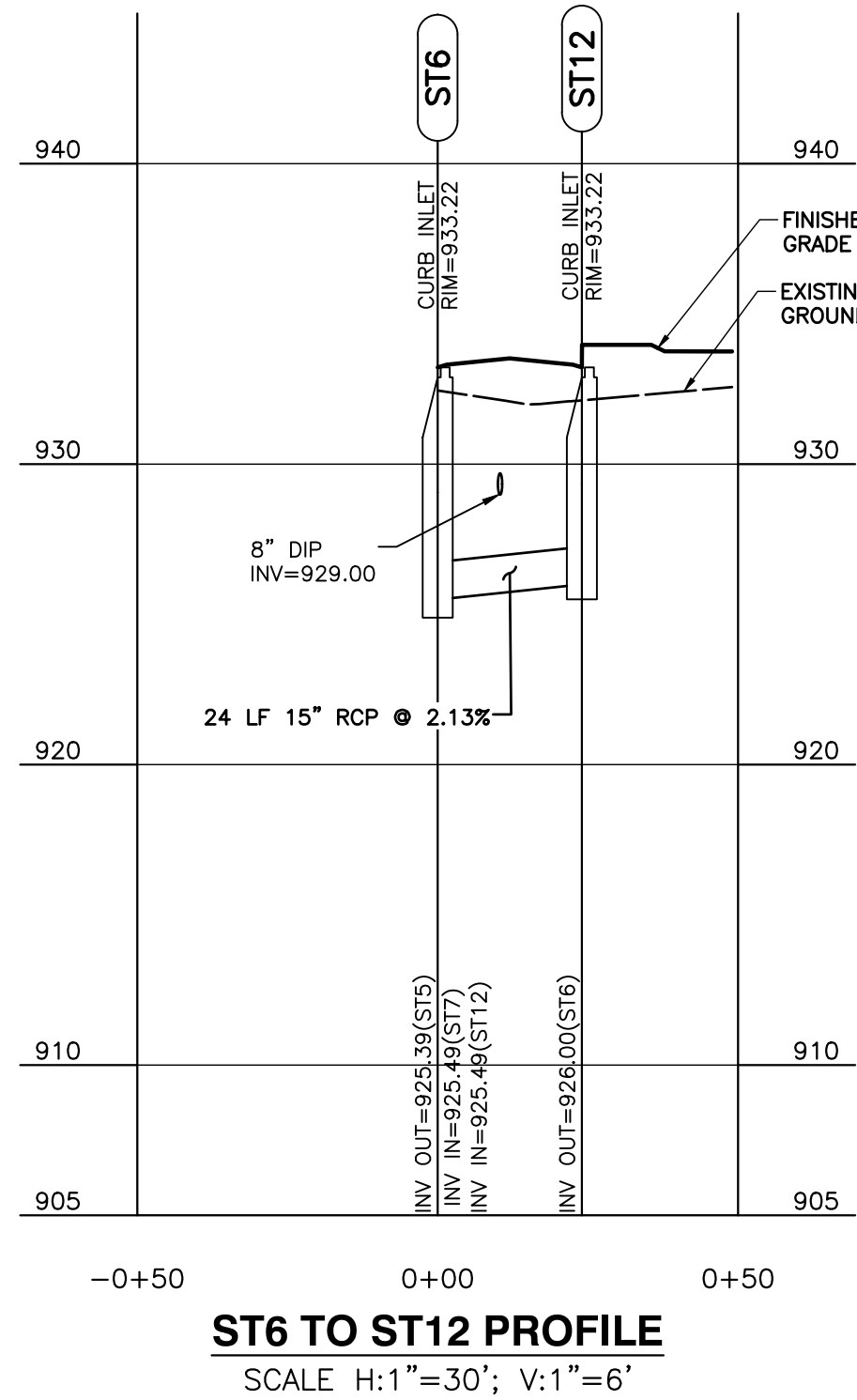
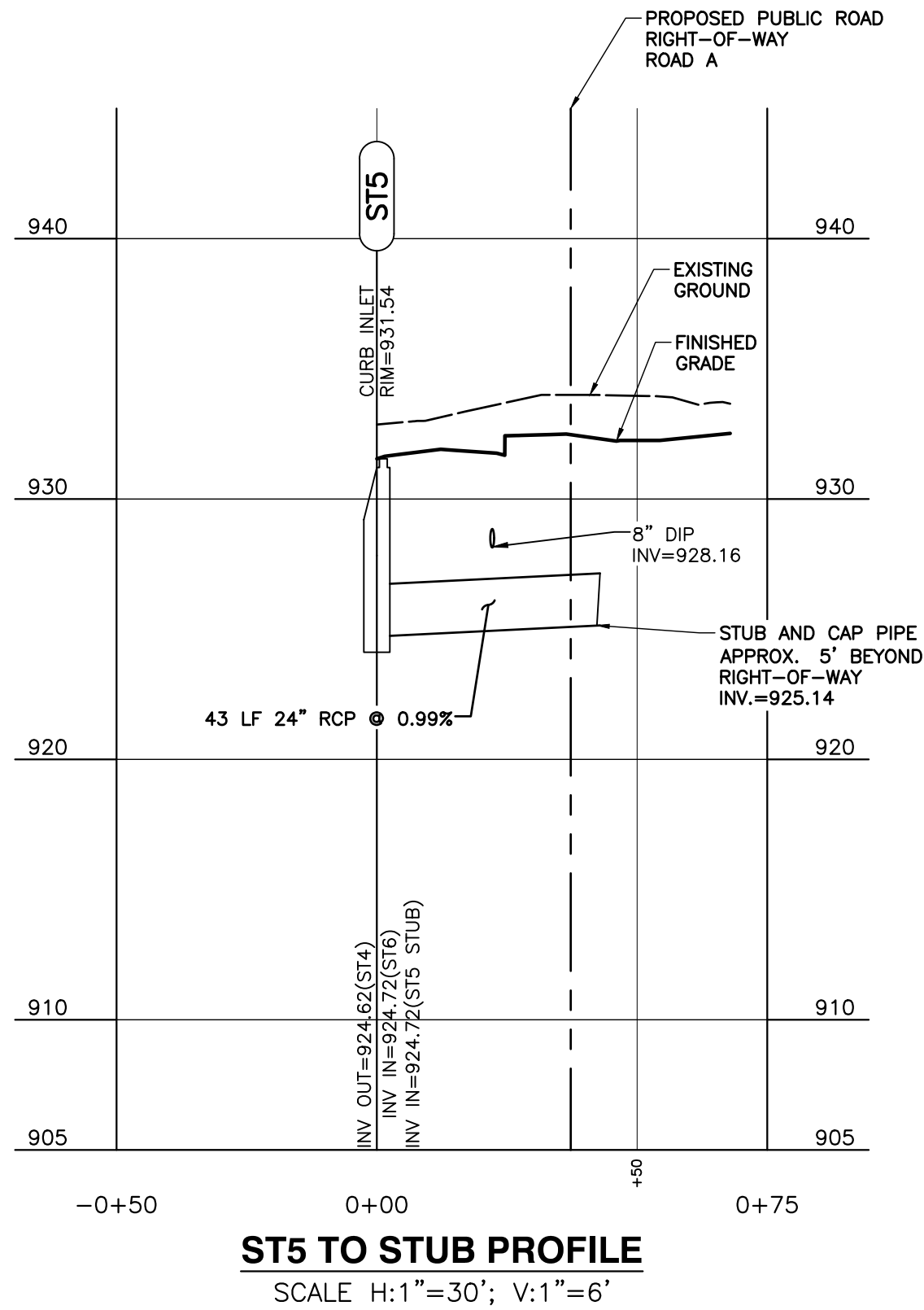
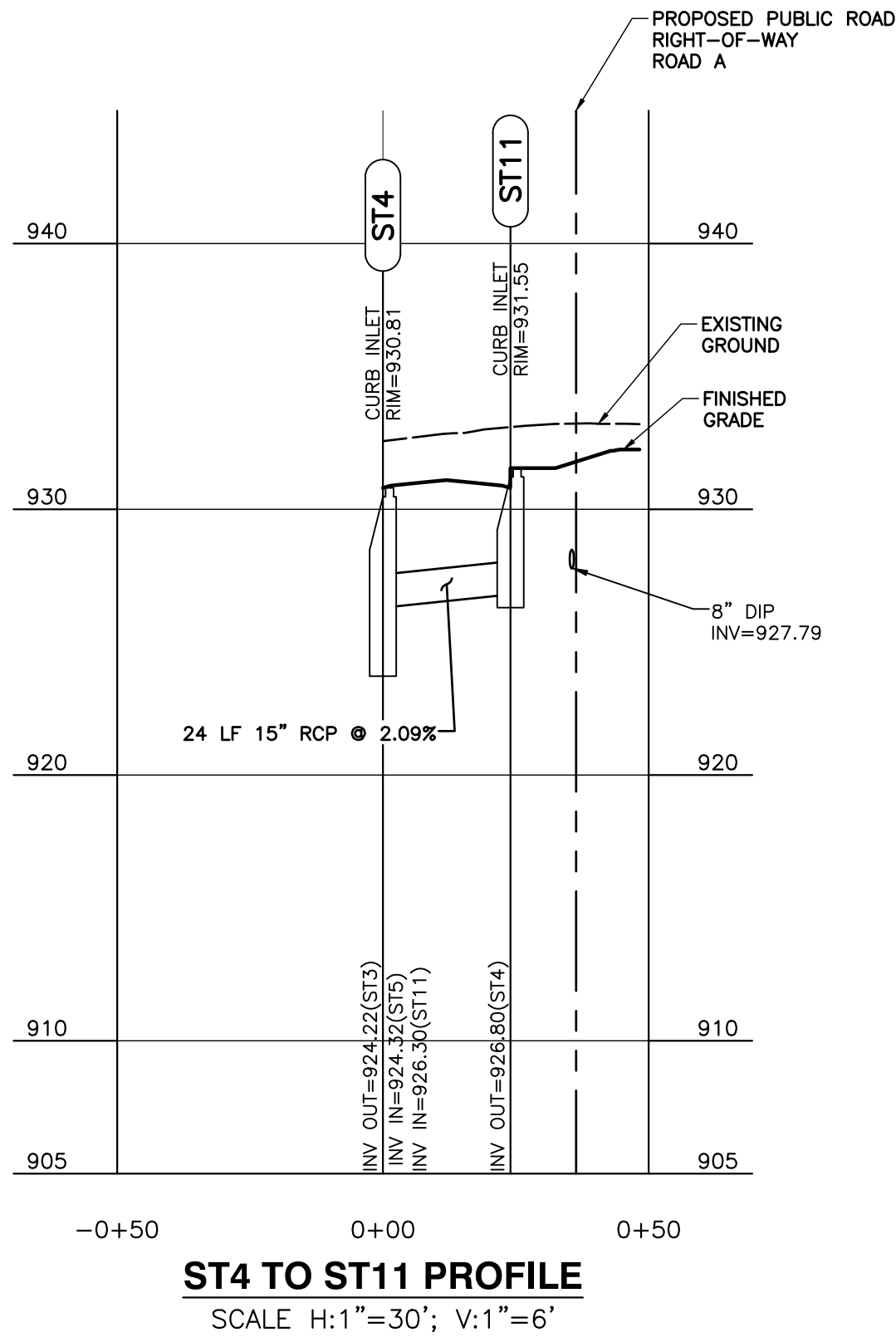
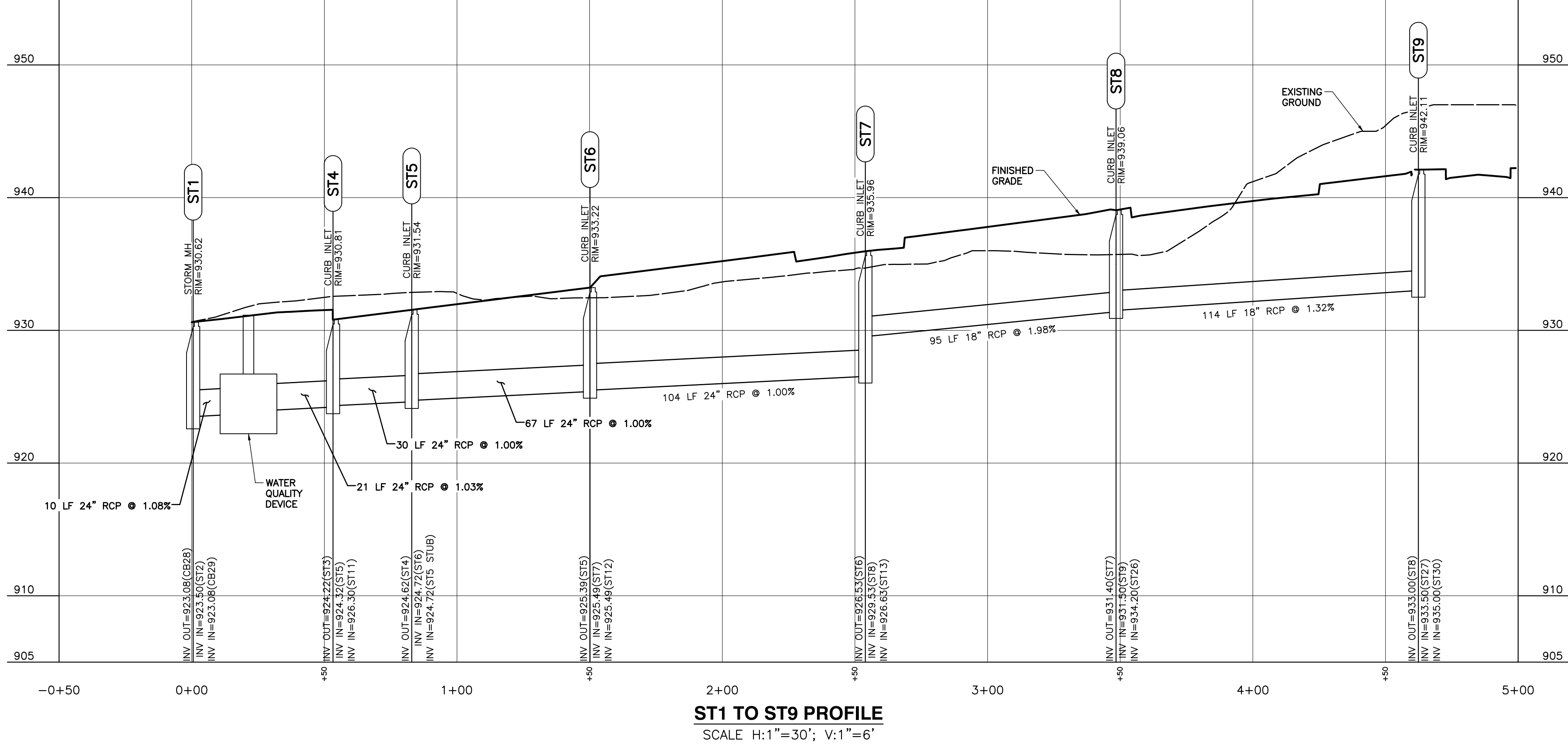


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Structure Table				
Structure Name	RIM E.	INVERT IN	INVERT OUT	REMARKS
CB28	929.10	CB28 to ST1 = 920.55	CB28 to ST1 = 920.55	EXISTING
CB29	930.76	CB29 to CB32 = 923.61	CB29 to CB32 = 923.61	EXISTING
CB32	0.43	CB29 to CB32 = 924.77	CB29 to CB32 = 924.77	EXISTING
ST1	930.62	ST1 to ST2 = 923.50	ST1 to ST2 = 923.50	STORM MH
ST2	925.32	ST1 to ST2 = 923.61	ST1 to ST2 = 923.61	WQ OUTLET
ST3	925.71	ST3 to ST4 = 924.00	ST3 to ST4 = 924.00	WQ INLET
ST4	930.81	ST3 to ST4 = 924.22	ST3 to ST4 = 924.22	CURB INLET
ST5	931.54	ST4 to ST5 = 924.62	ST4 to ST5 = 924.62	CURB INLET
ST5 STUB	1.05	ST5 to STUB = 925.14	ST5 to STUB = 925.14	STUB
ST6	933.22	ST5 to ST6 = 925.39	ST5 to ST6 = 925.39	CURB INLET
ST7	935.96	ST6 to ST7 = 926.53	ST6 to ST7 = 926.53	CURB INLET
ST8	939.06	ST7 to ST8 = 931.40	ST7 to ST8 = 931.40	CURB INLET
ST9	942.11	ST8 to ST9 = 933.00	ST8 to ST9 = 933.00	CURB INLET
ST11	931.55	ST4 to ST11 = 926.80	ST4 to ST11 = 926.80	CURB INLET
ST12	933.22	ST6 to ST12 = 926.00	ST6 to ST12 = 926.00	CURB INLET
ST13	936.19	ST7 to ST13 = 926.90	ST7 to ST13 = 926.90	CURB INLET
ST14	939.19	ST13 to ST14 = 933.90	ST13 to ST14 = 933.90	MANHOLE
ST15	941.38	ST14 to ST15 = 937.15	ST14 to ST15 = 937.15	CURB INLET
ST16	945.19	ST15 to ST16 = 939.63	ST15 to ST16 = 939.63	CURB INLET
ST17	950.00	ST16 to ST17 = 944.50	ST16 to ST17 = 944.50	CURB INLET
ST18	949.49	ST17 to ST18 = 945.00	ST17 to ST18 = 945.00	CURB INLET
ST19	935.54	ST13 to ST19 = 927.15	ST13 to ST19 = 927.15	CURB INLET
ST19 STUB	932.96	ST19 to STUB = 931.15	ST19 to STUB = 931.15	STUB
ST20	939.50	ST14 to ST20 = 934.50	ST14 to ST20 = 934.50	CURB INLET
ST20 STUB	939.28	ST20 to STUB = 935.50	ST20 to STUB = 935.50	STUB
ST21	942.02	ST15 to ST21 = 937.52	ST15 to ST21 = 937.52	CURB INLET
ST22	946.39	ST16 to ST22 = 940.50	ST16 to ST22 = 940.50	STORM MH
ST23	948.66	ST22 to ST23 = 942.50	ST22 to ST23 = 942.50	CURB INLET
ST24	947.20	ST24 to ST25 = 942.50	ST24 to ST25 = 942.50	CURB INLET
ST25	948.11	ST24 to ST25 = 943.00	ST24 to ST25 = 943.00	CURB INLET
ST26	938.34	ST8 to ST26 = 934.36	ST8 to ST26 = 934.36	CURB INLET
ST27	941.66	ST9 to ST27 = 934.90	ST9 to ST27 = 934.90	CURB INLET
ST28	940.97	ST27 to ST28 = 935.50	ST27 to ST28 = 935.50	CURB INLET
ST29	940.66	ST28 to ST29 = 936.00	ST28 to ST29 = 936.00	AREA DRAIN
ST30	945.81	ST30 to ST31 = 941.66	ST30 to ST31 = 941.66	CURB INLET
ST31	946.39	ST30 to ST31 = 941.89	ST30 to ST31 = 941.89	CURB INLET

Pipe Table				
Pipe Name	Size (in)	Length (ft)	Slope	MATERIAL
CB28 to ST1	36	166.1	1.52%	EXISTING
CB29 to CB32	36	80.0	1.45%	EXISTING
ST1 to CB29	36	34.6	1.52%	EXISTING
ST1 to ST2	24	10.2	1.08%	RCP
ST3 to ST4	24	21.2	1.03%	RCP
ST4 to ST5	24	29.7	1.00%	RCP
ST4 to ST11	15	24.0	2.09%	RCP
ST5 to ST6	24	67.2	1.00%	RCP
ST5 to STUB	24	42.9	0.99%	RCP
ST6 to ST7	24	103.8	1.00%	RCP
ST6 to ST12	15	24.0	2.13%	RCP
ST7 to ST8	18	94.5	1.98%	RCP
ST7 to ST13	24	50.7	0.53%	RCP
ST8 to ST9	18	114.0	1.32%	RCP
ST8 to ST26	15	24.0	0.67%	RCP
ST9 to ST27	18	44.6	3.14%	RCP
ST9 to ST30	15	216.9	3.02%	RCP
ST13 to ST14	18	125.5	2.31%	RCP
ST13 to ST19	18	24.0	0.62%	RCP
ST14 to ST15	18	95.4	3.30%	RCP
ST14 to ST20	18	30.5	1.64%	RCP
ST15 to ST16	15	130.2	1.83%	RCP
ST15 to ST21	15	24.1	1.12%	RCP
ST16 to ST17	15	146.8	3.25%	RCP
ST16 to ST22	15	45.7	1.09%	RCP
ST17 to ST18	15	24.6	1.63%	RCP
ST19 to STUB	15	20.8	3.14%	RCP
ST20 to STUB	18	26.0	3.43%	RCP
ST22 to ST23	15	60.4	2.48%	HDPE PIPE
ST22 to ST24	15	49.6	2.82%	HDPE PIPE
ST24 to ST25	15	48.4	1.03%	HDPE PIPE
ST27 to ST28	18	24.0	2.08%	RCP
ST28 to ST29	18	10.8	4.63%	RCP
ST30 to ST31	15	24.0	0.95%	RCP



REVISION RECORD

NO	DATE	DESCRIPTION

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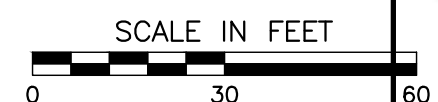
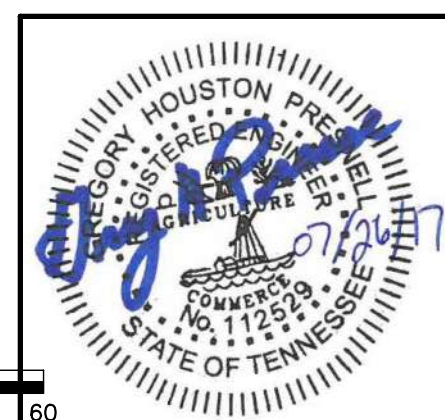
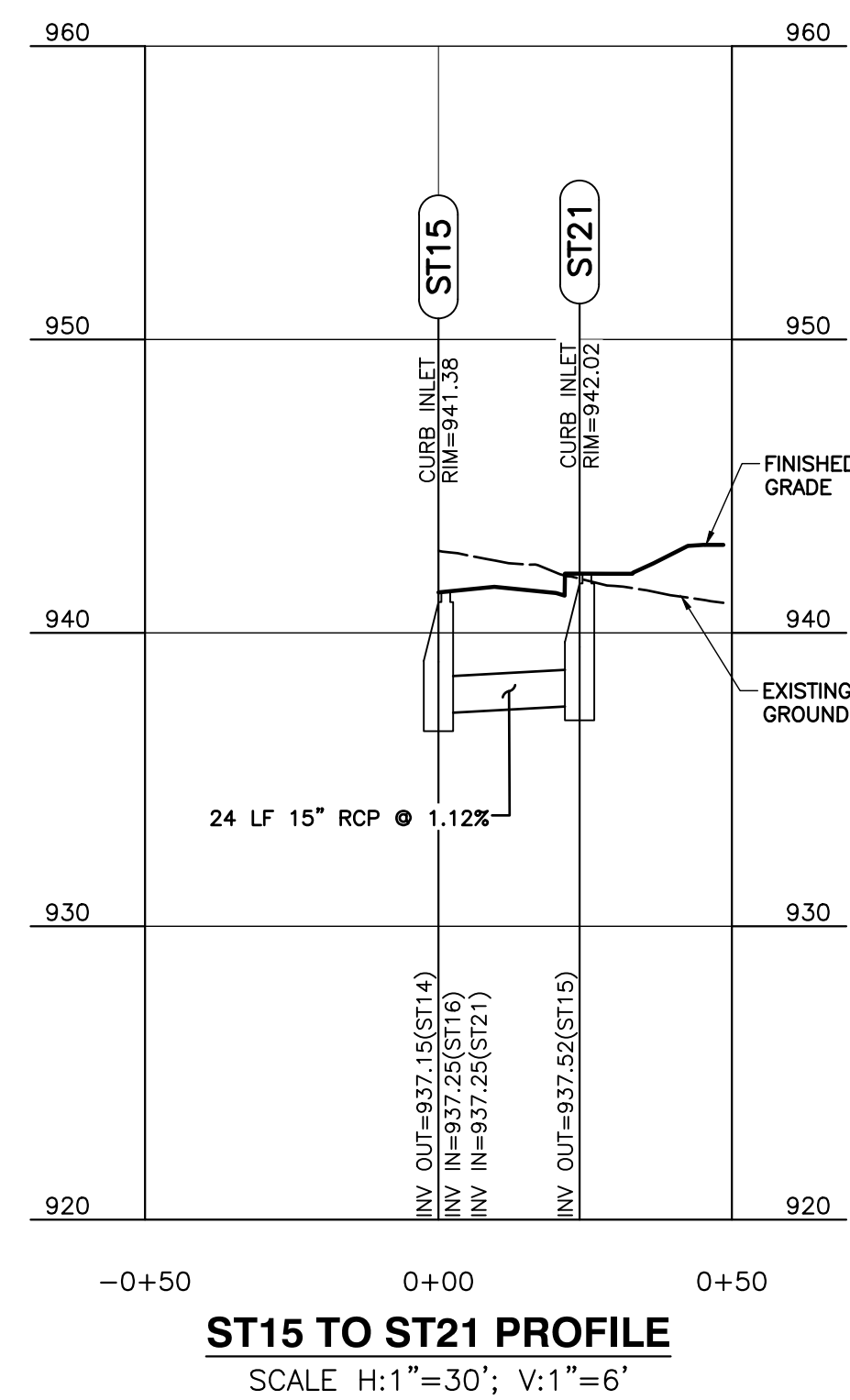
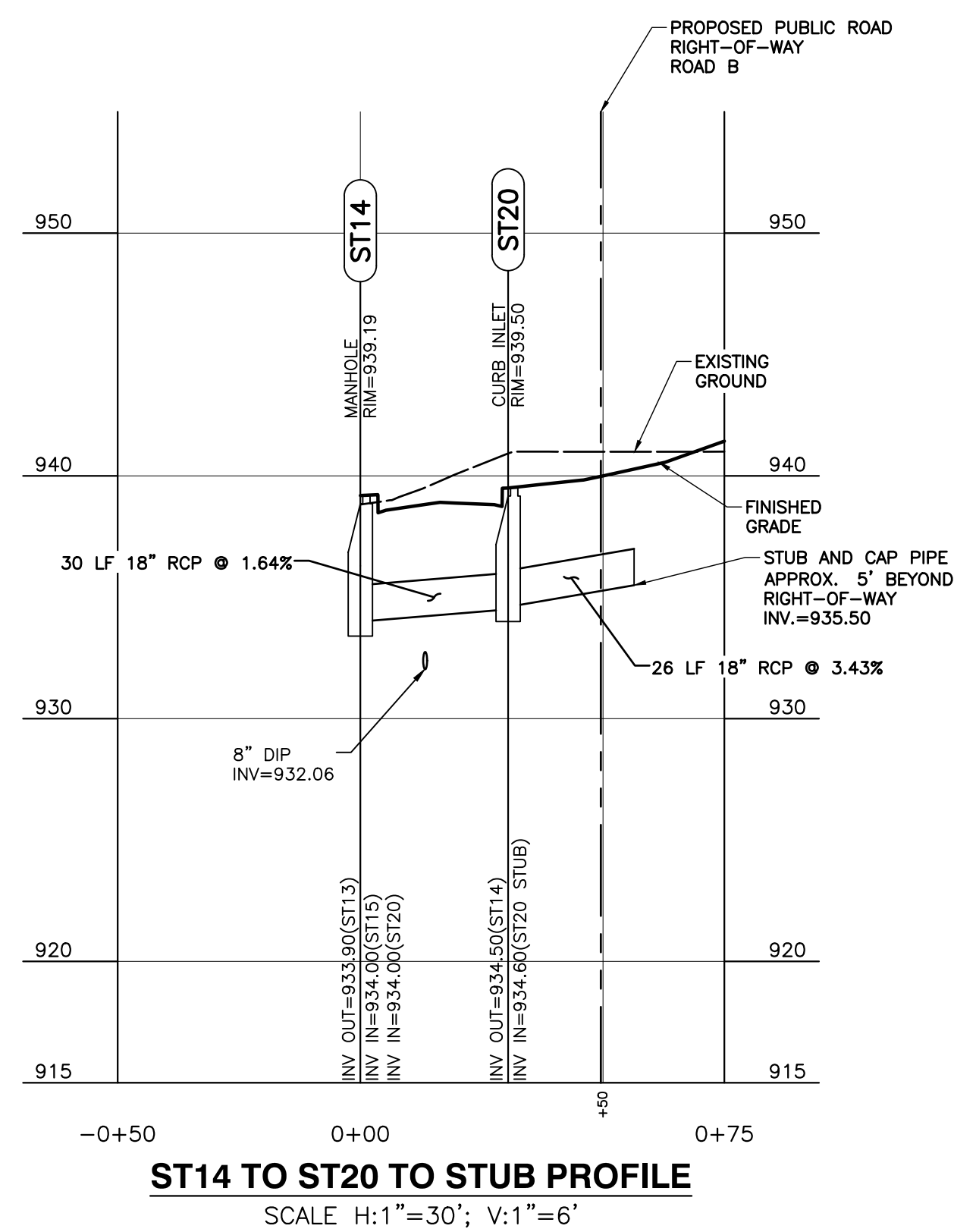
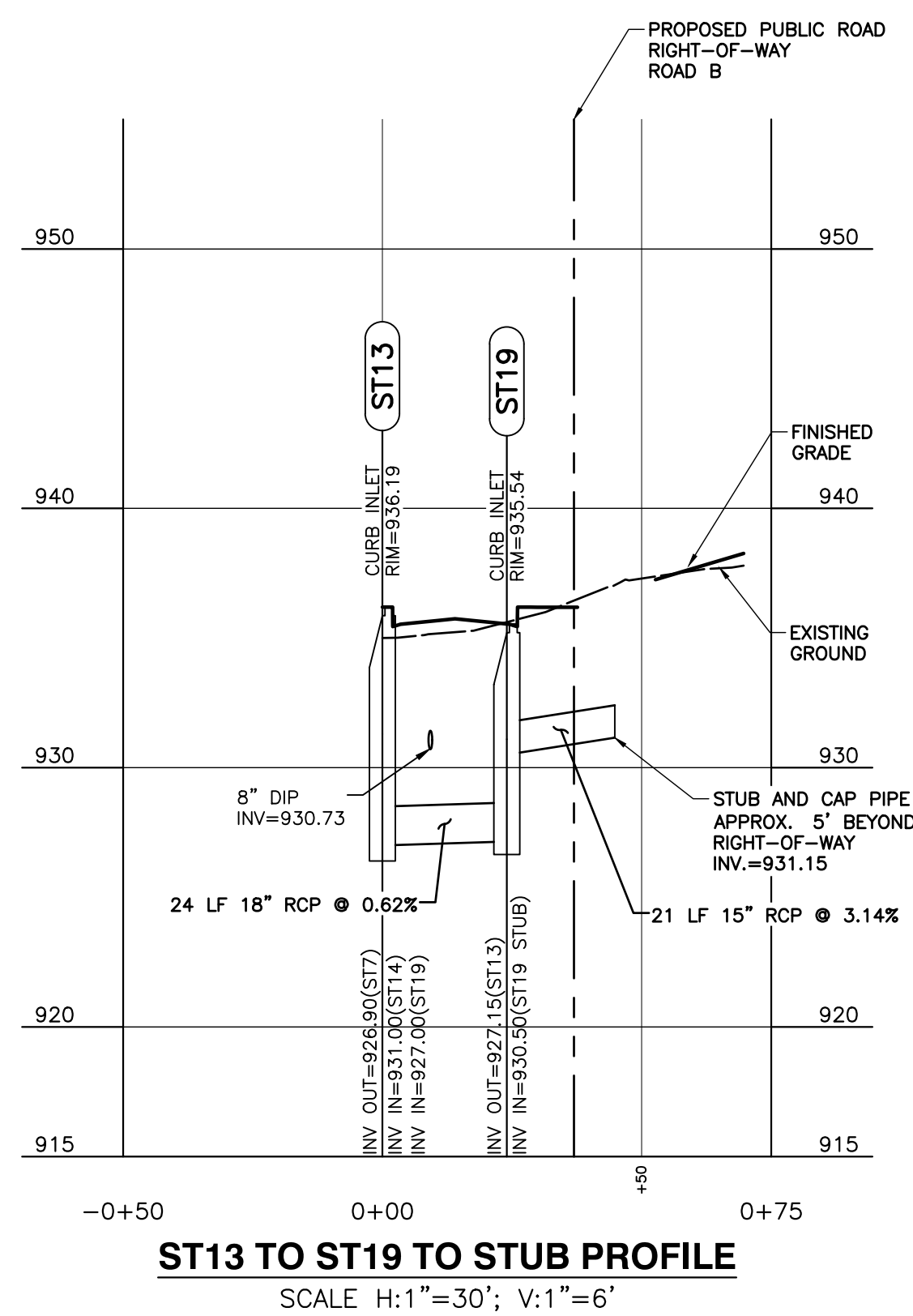
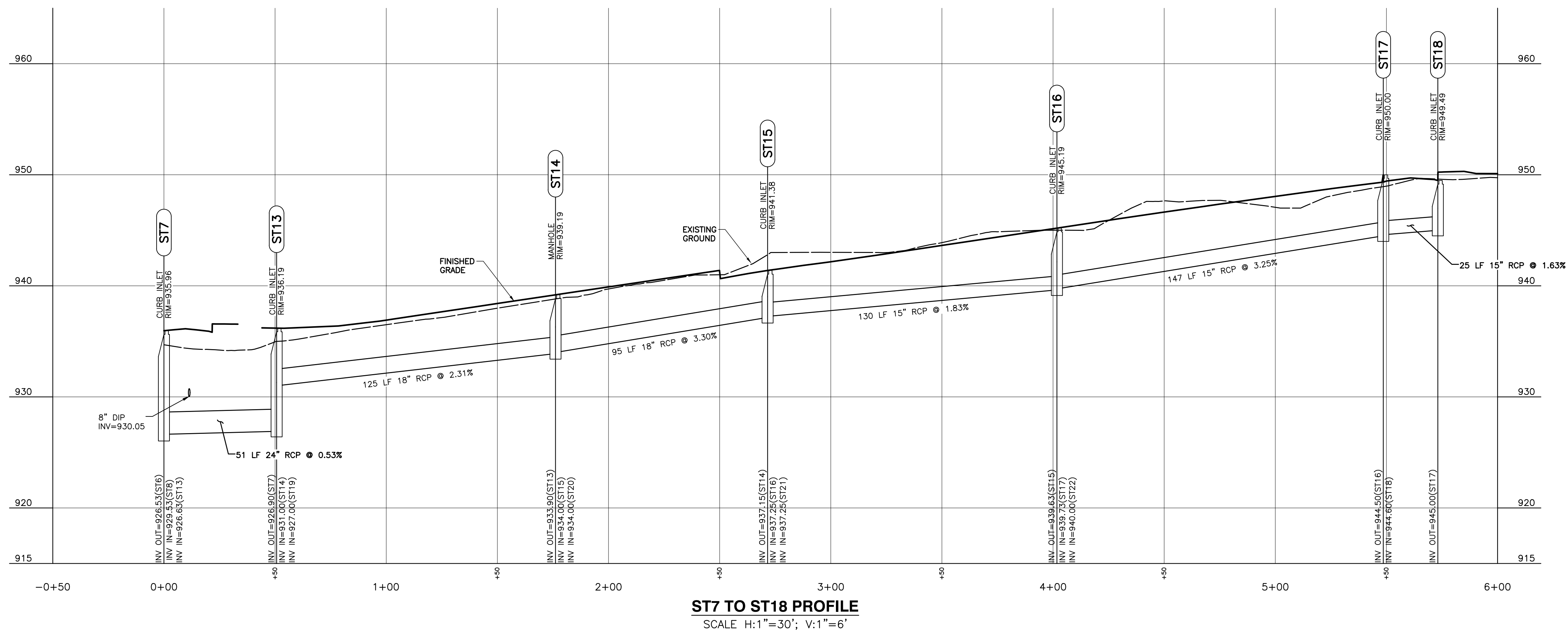
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INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

STORM SEWER PROFILES

DRAWING NO.: C401

DATE	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455	APPROVED BY:	GHP



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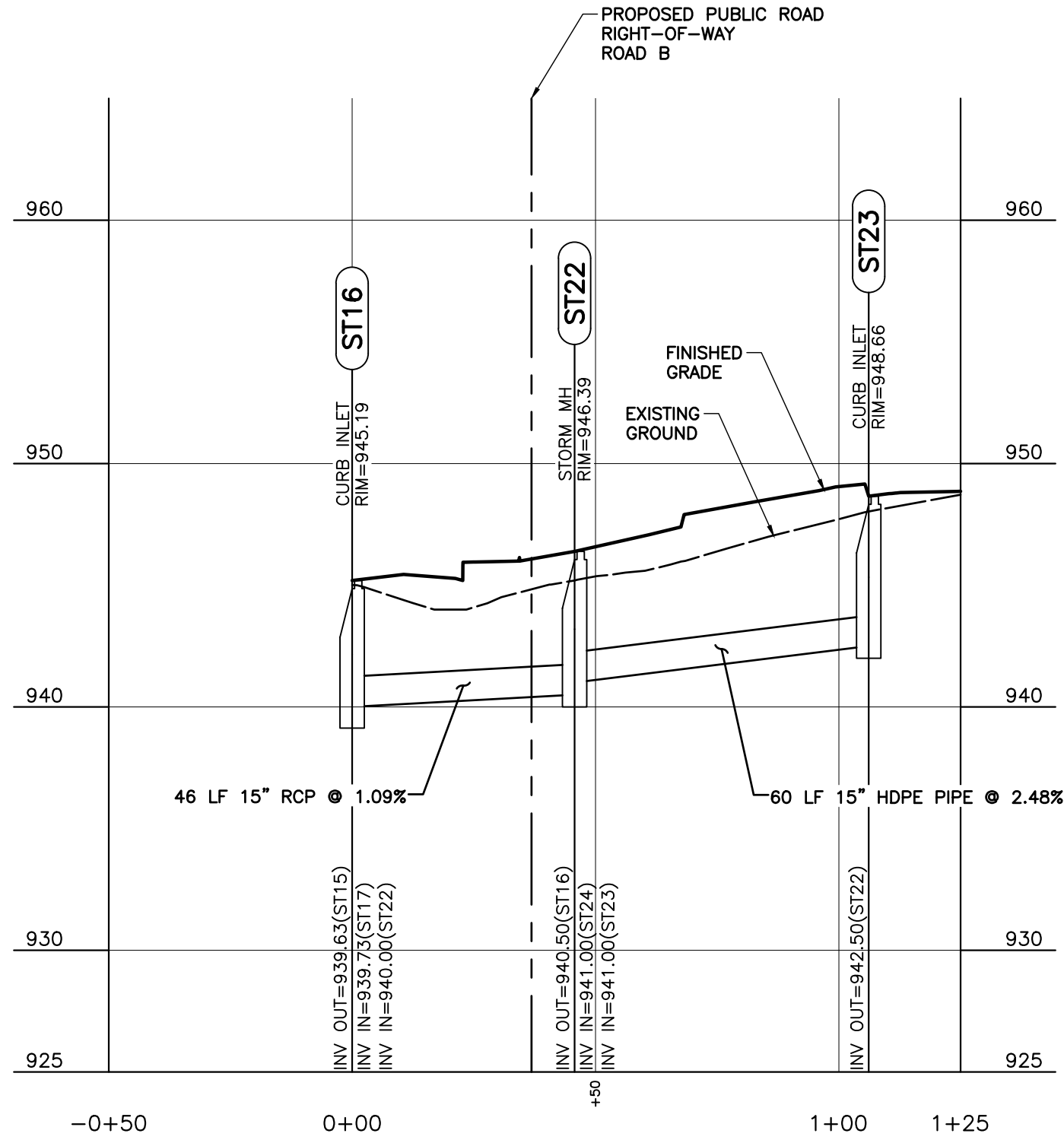
## STORM SEWER PROFILES

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:	GHP		

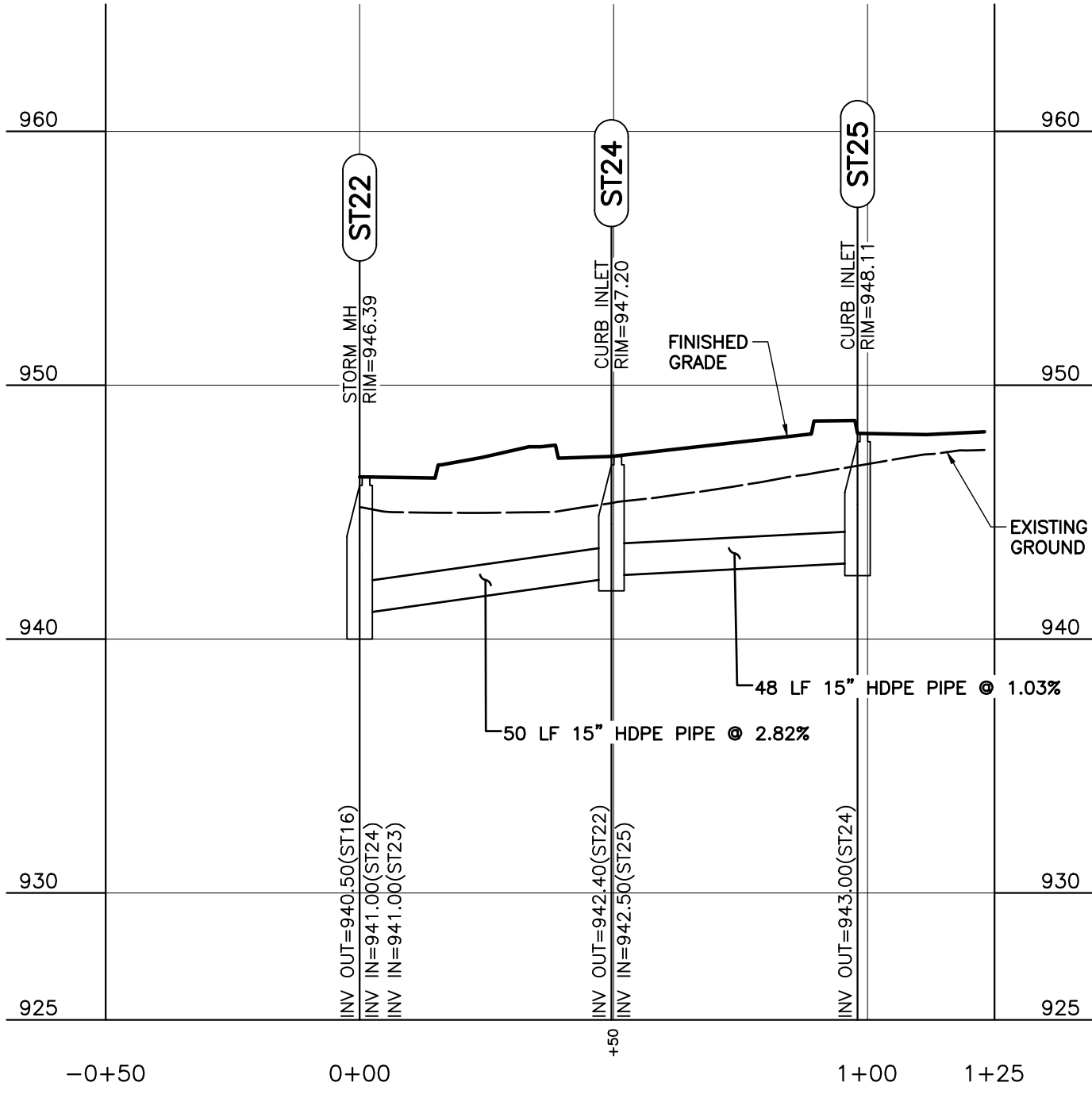
DRAWING NO.:

**C402**

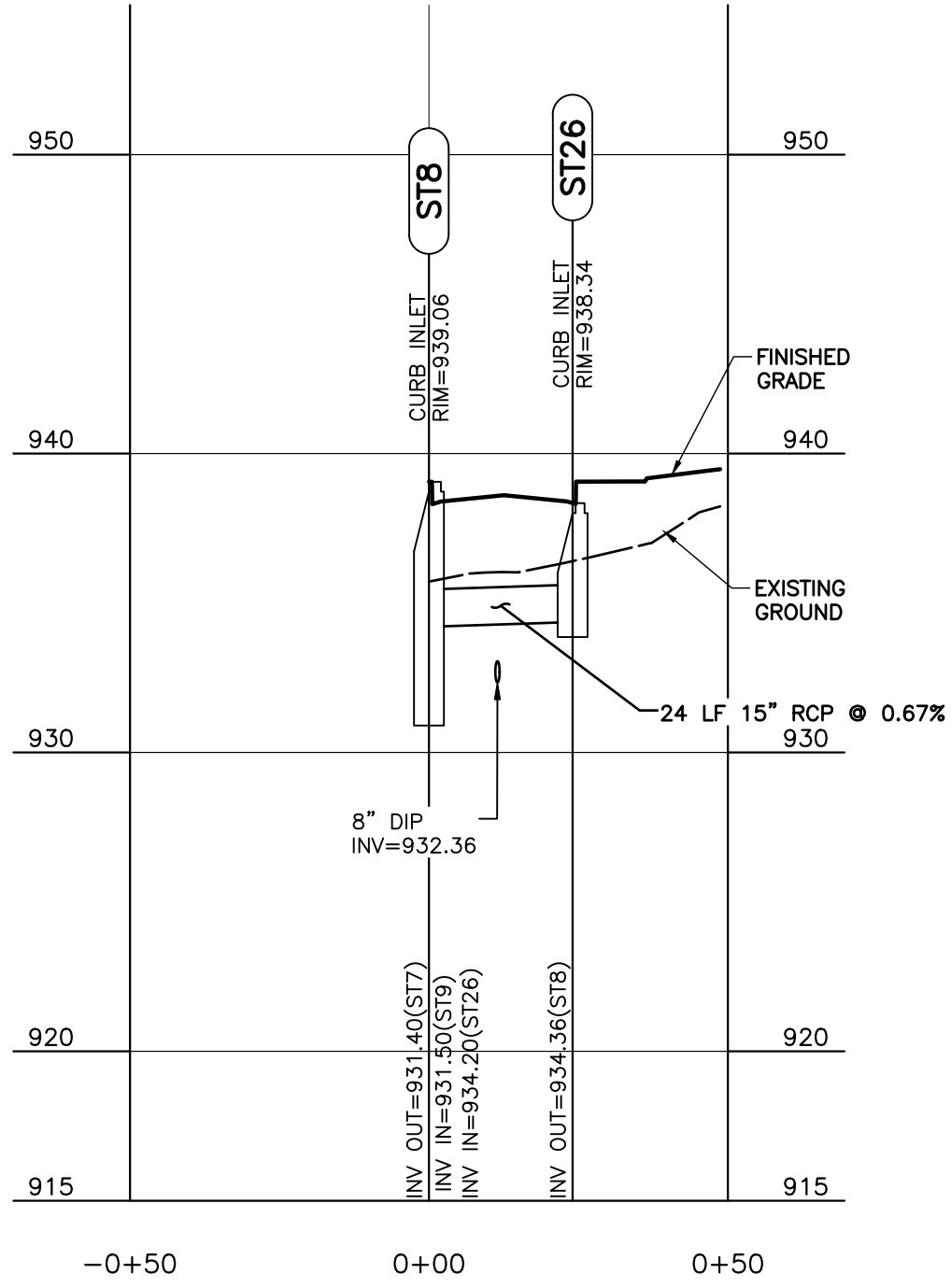




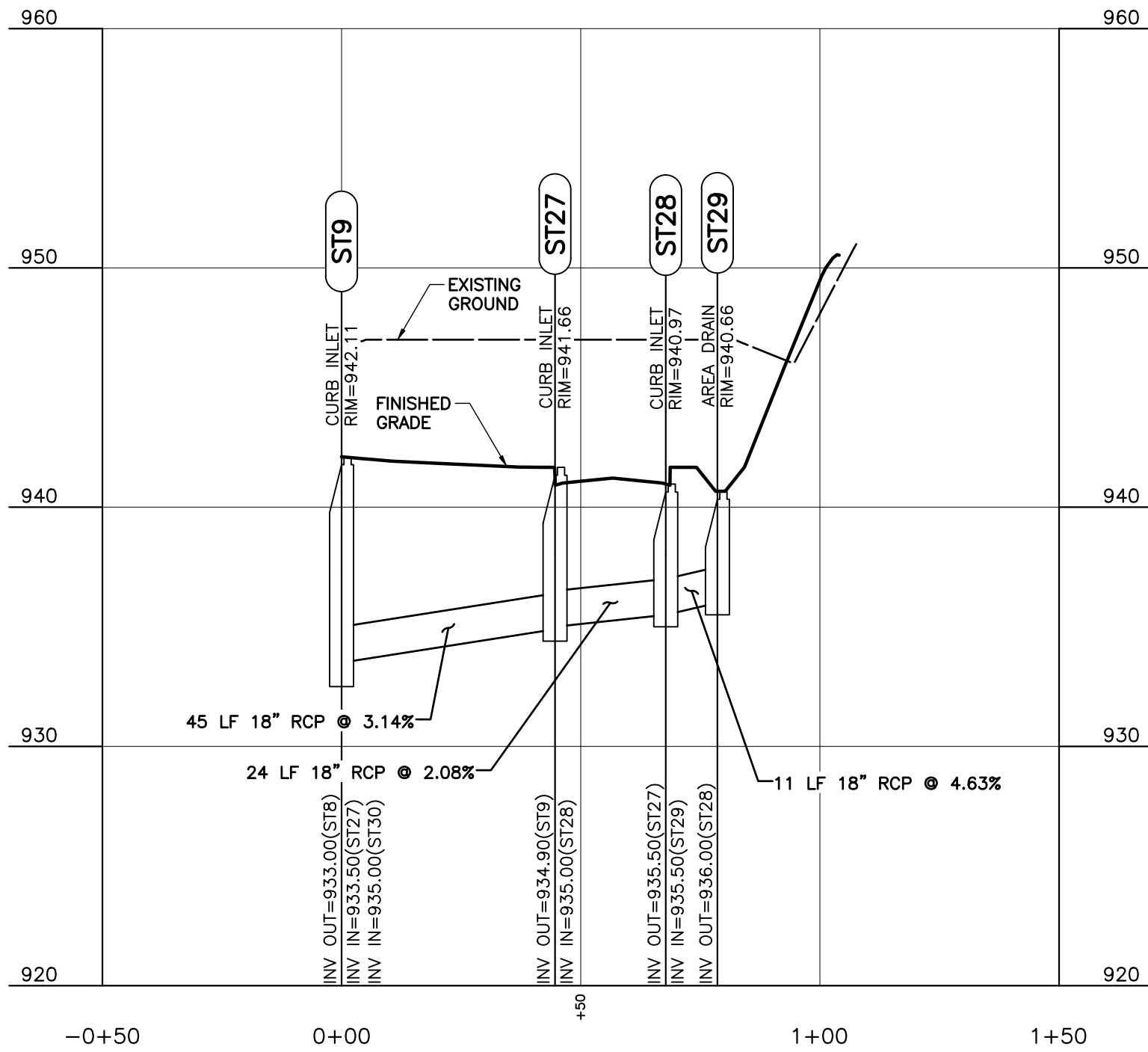
ST16 TO ST23 PROFILE  
SCALE H:1"=30'; V:1"=6'



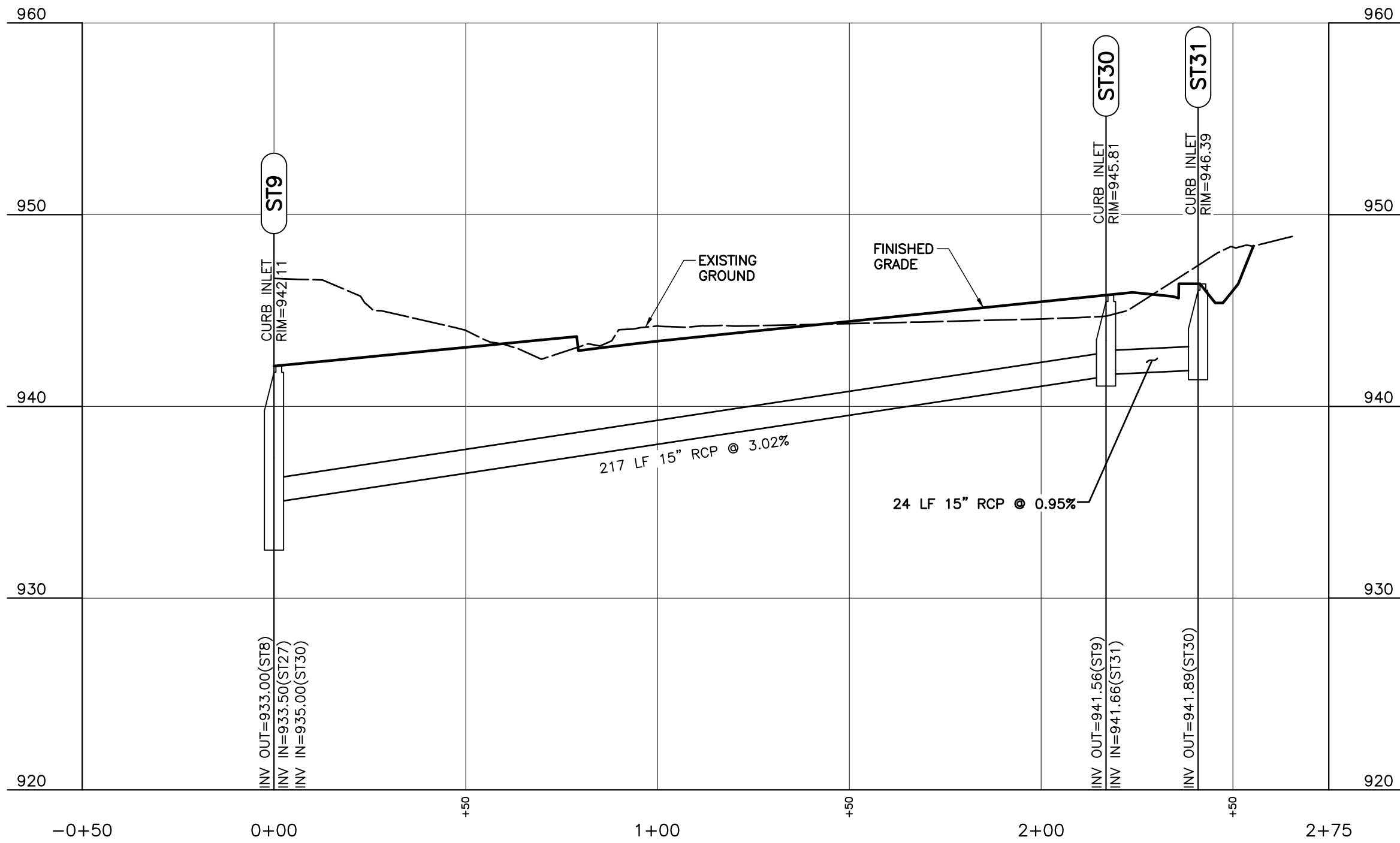
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SCALE H:1"=30'; V:1"=6'



ST8 TO ST26 PROFILE  
SCALE H:1"=30'; V:1"=6'



ST9 TO ST29 PROFILE  
SCALE H:1"=30'; V:1"=6'



ST9 TO ST31 PROFILE  
SCALE H:1"=30'; V:1"=6'



REVISION RECORD	
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**FIVE POINTS PHASE 3**  
**INFRASTRUCTURE IMPROVEMENTS**  
**KNOXVILLE, KNOX COUNTY, TN**

**STORM SEWER PROFILES**

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455	APPROVED BY:	GHP

DRAWING NO.: **C403**





KENNER AVE

SCALE IN FEET



0 30

DRAWING NO.:  
**C500**

## UTILITY PLAN

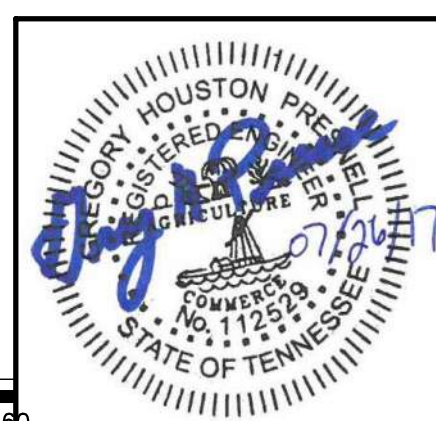
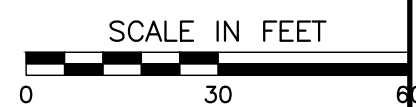
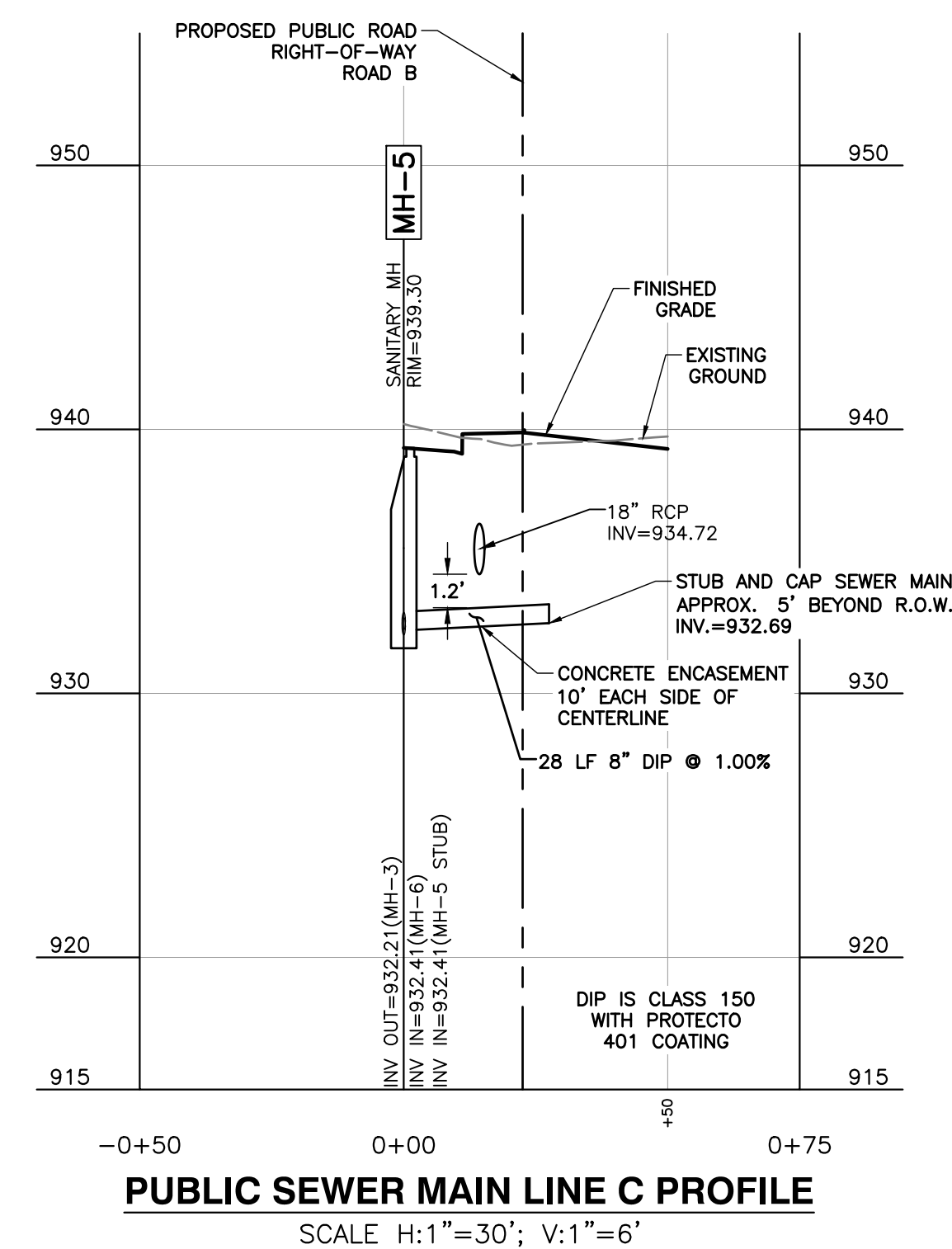
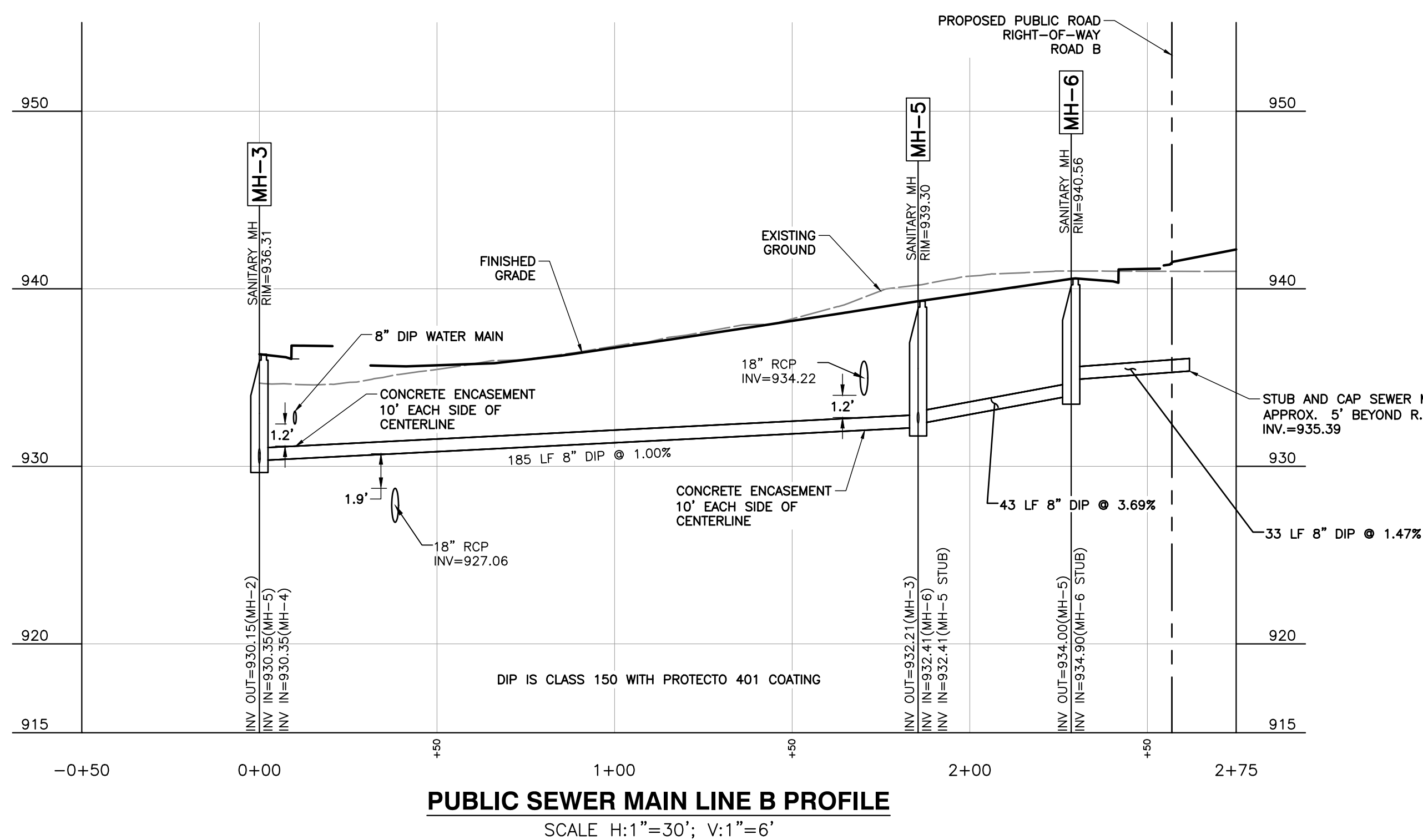
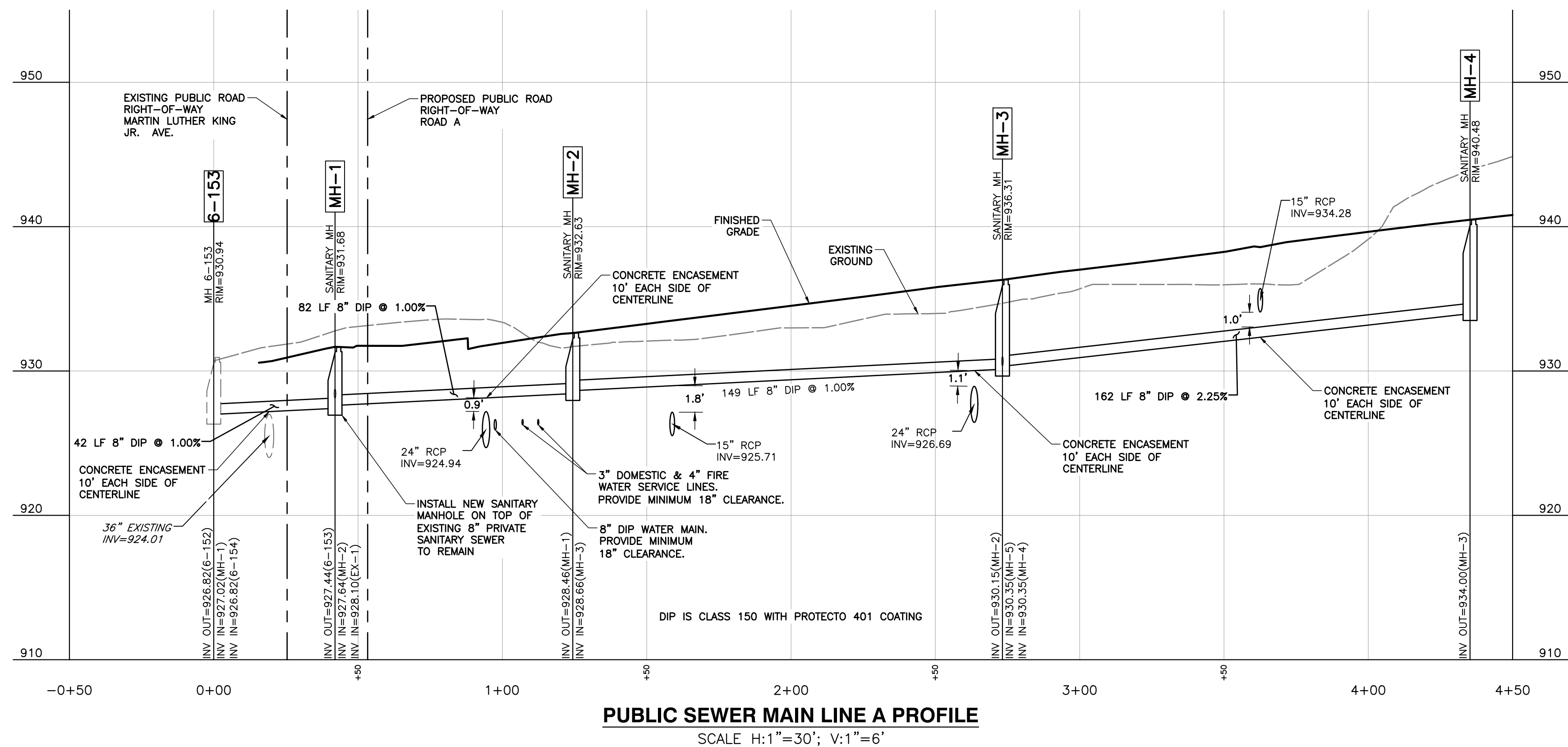
DRAWING NO.:  
**C500**





Structure Table				
Structure Name	RM E.	INVERT IN	INVERT OUT	REMARKS
6-152	929.19	6-152 to 6-153 = 923.74		MH 6-152
6-153	930.54	6-153 to MH-1 = 927.02 6-153 to 6-154 = 926.82	6-152 to 6-153 = 926.82	MH 6-153
6-154	934.90		6-153 to 6-154 = 927.80	MH 6-154
EX-1	932.62		MH-1 to EX-1 = 929.61	EXISTING MH
MH-1	931.68	MH-1 to MH-2 = 927.64 MH-1 to EX-1 = 928.10	6-153 to MH-1 = 927.44	SANITARY MH
MH-2	932.63	MH-2 to MH-3 = 928.66	MH-1 to MH-2 = 928.46	SANITARY MH
MH-3	936.31	MH-3 to MH-5 = 930.35 MH-3 to MH-4 = 930.35	MH-2 to MH-3 = 930.15	SANITARY MH
MH-4	940.48		MH-3 to MH-4 = 934.00	SANITARY MH
MH-5	939.30	MH-5 to MH-6 = 932.41 MH-5 to STUB = 932.41	MH-3 to MH-5 = 932.21	SANITARY MH
MH-5 STUB	933.41		MH-5 to STUB = 932.68	STUB
MH-6	940.56	MH-6 to STUB = 934.90	MH-5 to MH-6 = 934.00	SANITARY MH
MH-6 STUB	937.61		MH-6 to STUB = 935.39	STUB

Pipe Name	Size (in)	Length (ft)	Slope	MATERIAL
6-152 to 6-153	8	211.8	1.45%	EXISTING
6-153 to 6-154	8	180.9	0.54%	EXISTING
6-153 to MH-1	8	42.0	1.00%	DIP
MH-1 to EX-1	8	73.9	2.04%	EXISTING
MH-1 to MH-2	8	82.4	1.00%	DIP
MH-2 to MH-3	8	184.8	1.00%	DIP
MH-3 to MH-4	8	162.0	2.25%	DIP
MH-3 to MH-5	8	185.5	1.00%	DIP
MH-5 to MH-6	8	43.1	3.69%	DIP
MH-6 to STUB	8	27.5	1.00%	DIP
MH-6 to STUB	8	33.3	1.47%	DIP

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SANITARY SEWER PROFILES	
JULY 26, 2017	DRAWN BY:
AS SHOWN	CHECKED BY:

DRAWING NO.:

**C501**



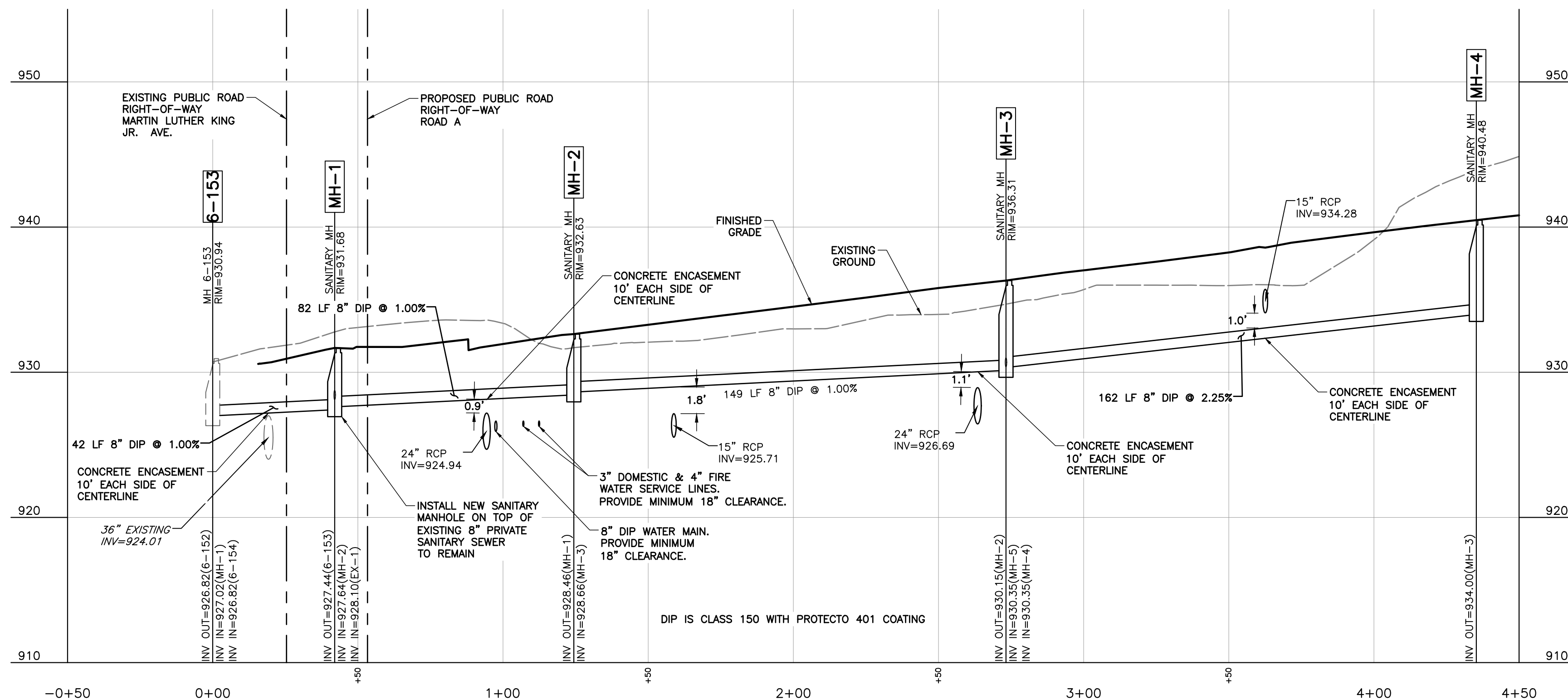
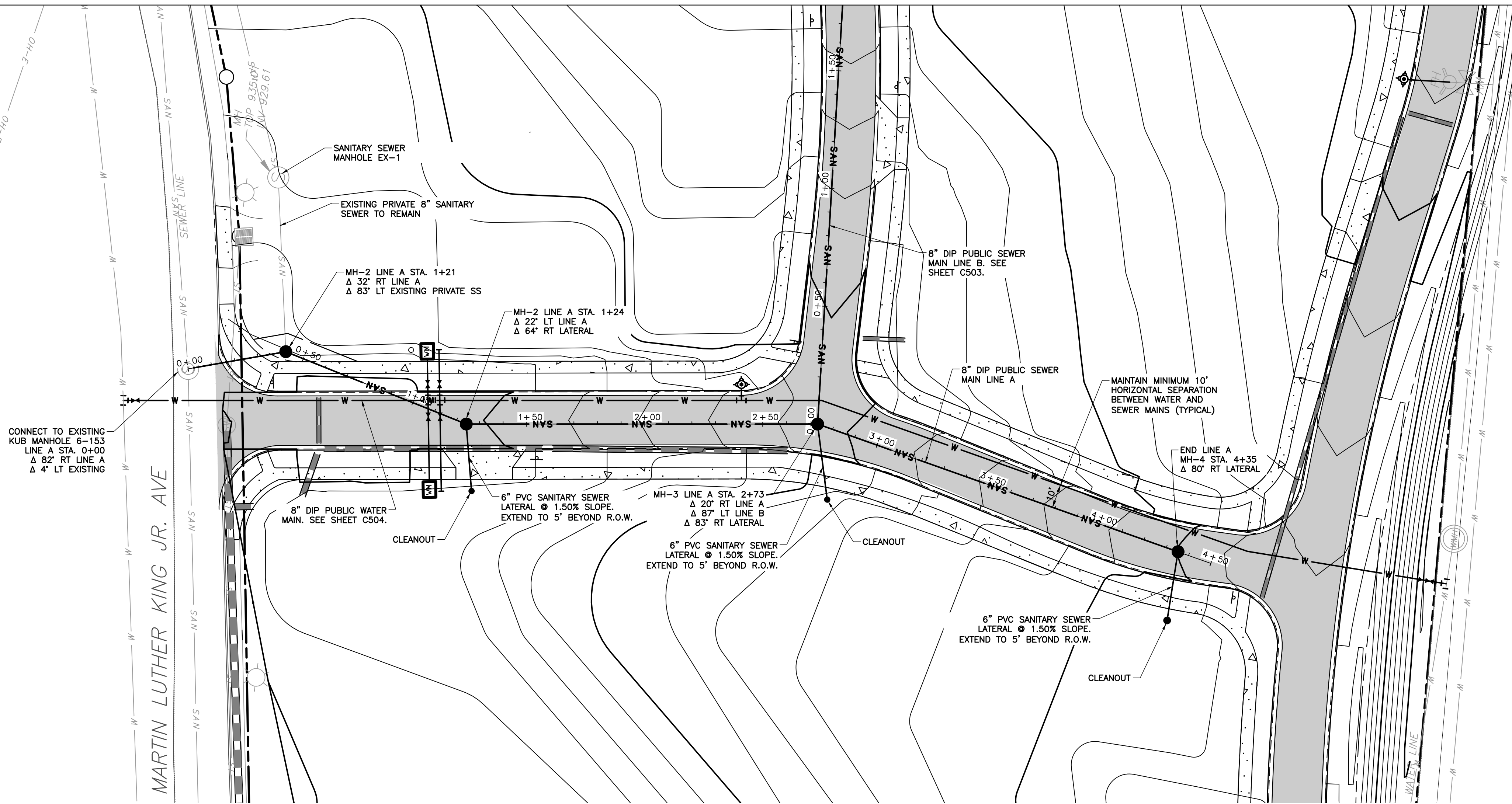
# LEGEND

	EXISTING SANITARY MANHOLE
	PROPOSED SANITARY MANHOLE
	EXISTING SANITARY LINE
	PROPOSED SANITARY LINE
	WATER STOP

WHERE:

- A = \*FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
- B = \*FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL ABSOLUTS)
- C = \*FT FROM THE NEAREST DOWNSTREAM MANHOLE

PROPERTY UNITS	
MANHOLES	6
8" DIP	725 LF
6" LATERALS	92 LF
CLEANOUTS	3



## PUBLIC SEWER MAIN LINE A PROFILE



LOCATION MAP (N.T.S.)

KUB WASTEWATER CONSTRUCTION NOTES:

1. ROAD RIGHT-OF-WAYS SHALL BE GRADED AND SLOPED TO REQUIRED SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WASTEWATER MAINS.
2. THE DEVELOPERS AUTHORIZED REPRESENTATIVE SHALL STAKE THE PROPOSED WASTEWATER MAIN LAYOUT, PROPERTIES, EASEMENTS AND EIGHTH CORNERS, ETC. PRIOR TO CONSTRUCTION TO ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. KUB WILL BE STAFFED TO STAKE THE REQUIRED PINS TO APPROVAL OF PLANS.
3. CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS. KUB REPRESENTATIVES MUST APPROVE MATERIALS SUBMITTALS PRIOR TO CONSTRUCTION.
4. WASTEWATER MAIN INSTALLATION MUST BE INSPECTED BY KUB. CONTRACTOR MUST FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786. TRENCHES SHALL BE LEFT OPEN AND NOT BACKFILL UNTIL INSPECTION OF PLANS.
5. CONTRACTOR MUST FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786 TO INSPECT FROM CLEANOUT TO STRUCTURE WHEN PROJECT IS LOCATED OUTSIDE OF CITY OF KNOXVILLE LIMITS.
6. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPALITY LICENSE FOR CONSTRUCTION OF WASTEWATER MAINS.
7. AN A-LOCK OR Z-LOCK GASKET SHALL BE PROVIDED FOR EACH WASTEWATER MAIN OR LATERAL CONNECTING TO A MAIN MANHOLE. EACH TAP TO AN EXISTING MANHOLE MUST BE MECHANICALLY CORED AND WELDED BOOTED.
8. CONTRACTOR MUST INSTALL LATERALS INSTALLED AROUND STREETS BEFORE ANY SURFACE COVER IS FINISHED TO PREVENT CRAWLING DRIVEWAYS, ETC.
9. WATER STOPS SHALL BE INSTALLED IN SEWER LINE TRENCHES NO MORE THAN 500 FEET APART TO PREVENT WATER FROM DRAINING THROUGH THE GRAVEL BEDDING. THE STOPS SHALL CONSIST OF TWO (2) FEET OF 4" X 4" WOOD OR 2" X 4" POLYMER CONCRETE. THE STOPS SHALL BE TWO (2) FEET TO THE TOP OF THE TRENCH. THE STOPS SHALL BE CUT A MINIMUM DEPTH OF TWO (2) FEET INTO BOTH THE TRENCH AND THE EXISTING MANHOLE. THE STOPS SHALL BE CUT TO THE TOP OF THE EXISTING MANHOLE. A LINE STRENGTH CROSSINGS SHALL INCLUDE WATER STOPS ON BOTH SIDES OF CROSSING.

KUB GENERAL WASTEWATER NOTES:

1. ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KNOXVILLE UTILITIES BOARD'S STANDARD SEWER SYSTEM SPECIFICATIONS AND DETAILS.
2. LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
3. ALL PIPE SHALL BE INSTALLED IN THE PRESENCE OF THE OWNER.
4. UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY FINISHED COVER IS FINISHED. COVER SHALL BE 18" MINIMUM, ETC.
5. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
6. REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED CITY OF KNOXVILLE, KNOX COUNTY, AND TDOT STANDARDS.
7. AFTER COMPLETING EACH SECTION OF THE SEWER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE AS WELL AS SMOOTHLY GRADING THE DISTURBED GROUND SURFACE ON THE PROJECT SITE.
8. THE CONTRACTOR SHALL OBTAIN PLASTIC WARNING TAPE FOR WASTEWATER MAINS AND BURY IT ONE FOOT ABOVE THE ENTIRE LENGTH OF EACH LATERAL, A 3/8-INCH DIAMETER STEEL REBAR SHALL BE SET INTO THE GROUND AT THE END OF EACH LATERAL, AND PAINTED GREEN. THE BURIED END OF THE REBAR SHALL BE BENT TO FORM A HOOK.
9. SANITARY SEWER FLOW CONTROL (SECTION 02546 OF KOB STANDARDS AND SPECIFICATIONS) REQUIREMENTS ARE FULLY UNDERSTOOD AND IMPLEMENTED IN THE WASTEWATER PROJECT.
10. THE APPROPRIATE KOB REPRESENTATIVE BEFORE CONSTRUCTION MUST APPROVE ANY FIELD CHANGES TO APPROVED PLANS.
11. A COPY OF THE LATEST APPROVED SET OF UTILITY PLANS DESIGNATED BY THE KUB REB STAMP MUST BE PRESENT DURING ALL TIMES OF CONSTRUCTION OF THE APPROPRIATE UTILITIES.
12. SEWER SERVICE LATERALS SHALL BE CONNECTED TO CLEANSOUT AS DEPICTED IN FIGURE 2023S-B.6. SECTION 02546 OF KOB STANDARDS AND SPECIFICATIONS. SEWER SERVICE LATERALS SHALL NOT BE CONNECTED TO SERVICE LATERALS OR LATERAL COMPONENTS OF CLEANSOUT.

KUB GRAVITY SEWER NOTES:

1. LATERALS SHALL BE USED TO INSTALL ALL WASTEWATER LINES.
2. ALL REQUIREMENTS FOR INSTALLATION OF GRAVITY SEWER PART 3 IN SECTION 02332 OF KUB STANDARDS AND SPECIFICATIONS ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
3. ALL REQUIREMENTS FOR SEWER LATERALS (PART 3 IN SECTION 02332 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
4. ALL REQUIREMENTS FOR TESTING OF GRAVITY SEWERS (PART 3 IN SECTION 02332 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
5. THE MINIMUM WASTEWATER LATERAL HAS A 6 INCH DIAMETER PVC (SDR 26) FROM THE MAIN TO THE PROPERTY LINE OR EDGE OF EASEMENT.
6. ALL SEWER LATERALS SHALL INCLUDE 6 INCH TEES OF THE SAME MATERIAL AS THE SEWER MAINS.
7. TWO WAY DIRECTIONAL CLEANOUT TEES WILL BE REQUIRED ON ALL LATERALS. CLEANOUTS SHOULD BE THE SAME SIZE LINE OR EASEMENT LINE IN MOST CASES AND SHALL BE SDR 35 MANUFACTURED BY PLASTIC TREES, INC.
8. ALL LATERALS AND CLEANOUTS SHALL HAVE CAPS WITH SCREWED PLUGS INSTALLED.
9. ALL SEWER APPURTENANCES ARE REQUIRED TO HAVE WATERTIGHT FITTINGS.
10. ALL REQUIREMENTS WITH FLEXIBLE COUPLINGS AND SADDLE TEES (PARTS 202 AND 203 IN SECTION 02332 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE FULLY UNDERSTOOD AND IMPLEMENTED.



PE STAMP GOES HERE

TDEC APPROVAL STAMP GOES HERE

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**cec**  
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DEVELOPER  
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901 N BROADWAY ST  
KNOXVILLE, TN 37917  
865-403-1150

DESIGNED	CER
DRAWN	CER
CHECKED	GHP

NO.	DATE


REVISION

APPR.
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SCALE  
AS-SHOWN  
DATE  
07/31/17



PUBLIC SEWER MAIN EXTENSION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

SHEET 1






OF

C502

SHEETS



# LEGEND

	EXISTING SANITARY MANHOLE
	PROPOSED SANITARY MANHOLE
	EXISTING SANITARY LINE
	PROPOSED SANITARY LINE
	WATER STOP

WHERE:

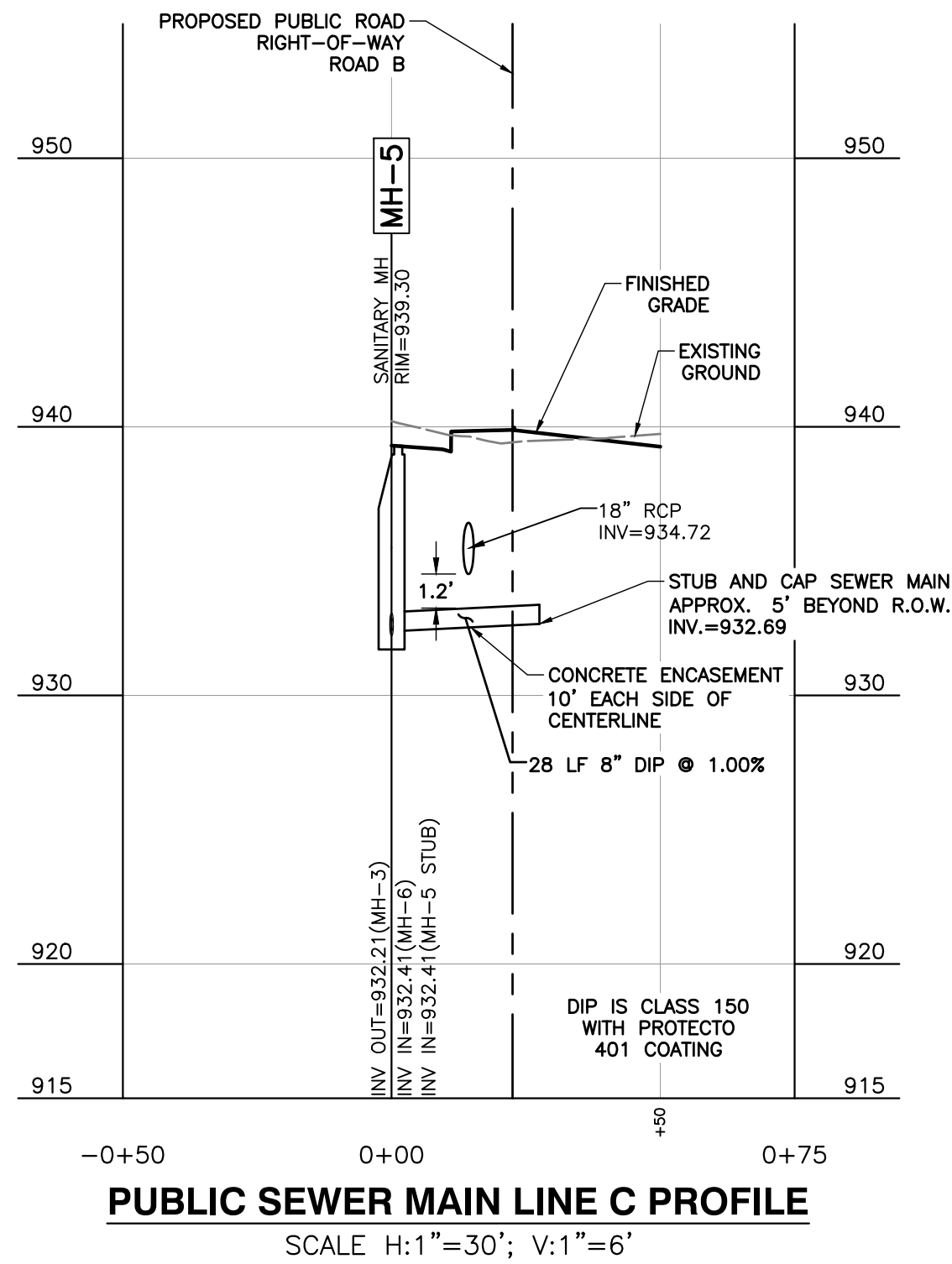
- A = \*FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
- B = \*FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL ABSOLUTS)
- C = \*FT FROM THE NEAREST DOWNSTREAM MANHOLE



1. ROAD RIGHT-OF-WAYS SHALL BE GRADED AND SLOPED TO REQUIRED SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WASTEWATER MAINS.
2. THE DEVELOPERS AUTHORIZED REPRESENTATIVE SHALL STAKE THE PROPOSED WASTEWATER MAINS, INCLUDING PRIORITIES AND EASEMENTS, AND THE KUB CONTRACTOR TO CONSTRUCTION OR ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. KUB WILL BE RESPONSIBLE FOR STATIONING AND ELEVATION APPROVAL MARKS.
3. CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS. KUB REPRESENTATIVES MUST APPROVE MATERIALS SUBMITTALS PRIOR TO CONSTRUCTION.
4. WASTEWATER MAIN INSTALLATION MUST BE INSPECTED BY KUB CONTRACT KUB FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786. TRENCHES SHALL BE LEFT OPEN AND PROTECTED UNTIL INSPECTION AND APPROVAL MARKS.
5. CONTRACT KUB FIELD SERVICES AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT 558-2786 TO INSPECT FROM CLEANOUT TO STRUCTURE WHEN PROJECT IS LOCATED OUTSIDE OF CITY OF KNOXVILLE LIMITS.
6. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPAL UTILITY LICENSE FOR WASTEWATER MAINS.
7. AN 18" X 40" X 24" LOCK GASKET SHALL BE PROVIDED FOR EACH WASTEWATER MAN OR LATERAL CONNECTING TO A MAIN MANHOLE. EACH TAP TO AN EXISTING MANHOLE MUST BE MECHANICALLY CORED TO A MINIMUM OF 500 FEET.
8. THE CONTRACTOR MUST INSTALL LATERALS INSTALLED ACROSS STREETS BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.
9. WATER STOPS SHALL BE INSTALLED IN SEVERAL LINE TRENCHES NO MORE THAN 500 FEET APART TO PREVENT WATER FROM DRAINING THROUGH THE GRAVEL BEDDING. THE WATER STOP SHALL CONSIST OF TWO (2) WATER STOPS AT LEAST THREE (3) FEET APART. ONE WATER STOP SHALL BE LOCATED TO THE TOP OF THE TRENCH. THE STOPS SHALL BE CUT A MINIMUM DEPTH OF TWO (2) FEET INTO BOTH SIDES OF THE TRENCH. THE PREVENTED WATER FROM DRAINING THROUGH THE GRAVEL BEDDING. AT EACH MANHOLE, ALL STREAM CROSSINGS SHALL INCLUDE WATER STOPS ON BOTH SIDES OF CROSSING.

1. ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KNOXVILLE UTILITIES BOARD'S STANDARD SEWER SYSTEM SPECIFICATIONS AND DETAILS.
2. LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
3. ALL PIPE SHALL BE INSTALLED IN THE PRESENCE OF THE OWNER.
4. UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY OTHER COVER IS FINISHED TO BE USED FOR HIGHWAYS.
5. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM TO ALL APPLICABLE LOCAL, STATE, AND OSHA REGULATIONS.
6. REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED CITY OF KNOXVILLE, KNOX COUNTY, AND TDOT STANDARDS.
7. AFTER COMPLETING EACH SECTION OF THE SEWER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE AS WELL AS SMOOTHLY GRADING THE DISTURBED GROUND SURFACE ON THE PROJECT SITE.
8. THE CONTRACTOR SHALL OBTAIN PLASTIC WARNING TAPE FOR WASTEWATER MAINS AND BURY IT ONE FOOT ABOVE THE ENTIRE LENGTH OF EACH LATERAL. A 3/8-INCH DIAMETER STEEL REBAR SHALL BE SET AT THE END OF EACH LATERAL AND PAINTED GREEN. THE BURIED END OF THE REBAR SHALL BE BENT TO FORM A HOOK.
9. SANITARY SEWER FLOW CONTROL (SECTION 02540 OF KUP STANDARDS AND SPECIFICATIONS) SHALL BE FULLY UNDERSTOOD AND IMPLEMENTED IN THE WASTEWATER PROJECT.
10. THE APPROPRIATE KUB REPRESENTATIVE BEFORE CONSTRUCTION MUST APPROVE ANY FIELD CHANGES TO APPROVED PLANS.
11. A COPY OF THE LATEST APPROVED SET OF UTILITY PLANS DESIGNATED BY THE KUB RED STAMP MUST BE PRESENT DURING ALL TIMES OF CONSTRUCTION OF THE APPROPRIATE UTILITIES.
12. SEWER SERVICE LATERALS SHALL BE CONNECTED TO CLEANOUT AS DEPICTED IN FIGURE 0-20532-B.8. THE STANDARD OF KUB STANDARDS FOR LATERALS SHALL BE USED. LATERALS SHALL NOT BE CONNECTED TO SEWER RISERS OR LATERAL COMPONENTS OF CLEANOUT.

1. USERS SHALL BE USED TO INSTALL ALL WASTEWATER LINES.
2. ALL REQUIREMENTS FOR INSTALLATION OF GRAVITY SEWER (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
3. ALL REQUIREMENTS FOR SEWER LATERALS (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
4. ALL REQUIREMENTS FOR TESTING OF GRAVITY SEWERS (PART 3 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE UNDERSTOOD BY THE CONTRACTOR AND FULLY IMPLEMENTED IN THE ENTIRE WASTEWATER PROJECT.
5. THE MINIMUM WASTEWATER LATERAL HAS A 6-INCH DIAMETER PVC (SDR 26) FROM THE MAIN TO THE PROPERTY LINE OR EDGE OF CASSIDEMAN DRIVE.
6. ALL SEWER LATERALS SHALL INCLUDE 6-INCH TEES OF THE SAME MATERIAL AS THE SEWER MAINS.
7. TWO WAY DIRECTIONAL CLEANOUT TEES WILL BE REQUIRED ON ALL LATERALS. CLEANOUTS SHOULD BE MADE UP OF THE PROPERTY LINE TO THE SEWER LINE IN MOST CASES AND SHALL BE SDR 35 MANUFACTURED BY PLASTIC TREND.
8. ALL LATERALS AND CLEANOUTS SHALL HAVE CAPS WITH SCREWED PLUGS INSTALLED.
9. ALL SEWER APPURTENANCES ARE REQUIRED TO HAVE WATERTIGHT FITTINGS.
10. ALL REQUIREMENTS WITH FLEXIBLE COUPLINGS AND SADDLE TEES (PARTS 802 AND 203 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS) ARE TO BE FULLY UNDERSTOOD AND IMPLEMENTED.



C503






SHEETS




PUBLIC SEWER MAIN EXTENSION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN



# LEGEND

	EXISTING SANITARY MANHOLE
	PROPOSED SANITARY MANHOLE
	EXISTING SANITARY LINE
	PROPOSED SANITARY LINE
	WATER STOP

WHERE:

	A = *FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
	B = *FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL ASSESS)
	C = *FT FROM THE NEAREST DOWNSTREAM MANHOLE

PROPERTY UNITS	
8" DIP	563 LF
6" DIP	111 LF
4" DIP	104 LF
3" DIP	90 LF
8" VALVES	1
6" VALVES	1
4" VALVES	3
3" VALVES	3
REDUCERS	1
CROSSES	2
FIRE HYDRANTS	1
TEES	2



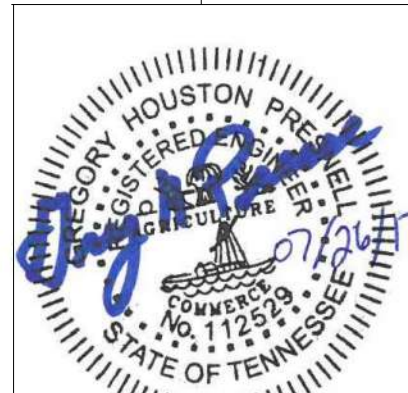
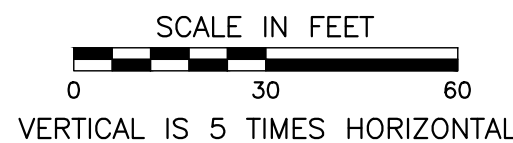
LOCATION MAP (N.T.S.)

KUB WATER CONSTRUCTION NOTES:

1. ROAD RIGHT-OF-WAYS OR UTILITY EASEMENTS SHALL BE TO FINISHED GRADE AND SLOPED TO MEET REQUIRED SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WATER MAINS.
2. THE DEVELOPERS AUTHORIZED REPRESENTATIVE SHALL STAKE THE PROPOSED WATER MAIN LAYOUTS, PROPOSED MANHOLE LOCATIONS, AND PROPOSED VALVE LOCATIONS TO CONSTRUCTION OR APPROVAL OF PLANS OR BOTH TO ALLOW AMPLI TIME FOR KUBS INSPECTORS TO INSPECT THE LAYOUTS PRIOR TO CONSTRUCTION. KUB WILL DETERMINE IF STAKING MAY BE REQUIRED PRIOR TO APPROVAL OF PLANS.
3. CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS, KUB REPRESENTATIVES MUST APPROVE MATERIALS TO BE UTILIZED FOR CONSTRUCTION.
4. WATER MAIN INSTALLATION MUST BE INSPECTED BY KUB, KUB FIELD SERVICES AT LEAST THREE (3) DAYS PRIOR TO CONSTRUCTION AT 558-2786. TRENCHES SHALL BE LEFT OPEN AND NOT BACKFILLED UNTIL INSPECTED BY KUB.
5. CONTRACTOR WILL STERILIZE WATER MAINS WHEN INSTALLATION AND TESTING ARE COMPLETE. CONTRACTOR SHALL PROVIDE TAPING REQUIRED FOR STERILIZING MAINS, WATER QUALITY SAMPLING AND TESTING WILL BE PERFORMED BY KUB.
6. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MANHOLE UTILITY LICENSE FOR CONSTRUCTION OF WATER MAINS ON SITE AT ALL TIMES.
7. AIR RELEASE VALVES SHALL BE INSTALLED ON HIGH POINTS ON THE MAINS IN ACCORDANCE WITH THE PLANS AND/OR AS REQUESTED BY KUB.
8. THE CONTRACTOR MUST HAVE WATER SERVICE LINES INSTALLED ACROSS STREETS BEFORE ANY SURFACE COVER IS FINALIZED TO INCLUDE PAVING, CONCRETE DRIVEWAYS, ETC.

KUB GENERAL WATER NOTES:

1. ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KNOWVILLE UTILITIES BOARD'S STANDARD WATER SYSTEM SPECIFICATIONS AND DETAILS.
2. REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED CITY OF KNOWVILLE, HAWK COUNTY, AND TROT STANDARDS.
3. LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
4. WATER SERVICES SHALL BE BURIED AT A MINIMUM DEPTH OF 24 INCHES TO PREVENT FREEZING.
5. MINIMUM 36 INCHES DEPTH OF COVER FOR WATER MAINS.
6. UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY SURFING COURSE IS FINALIZED TO INCLUDE CURB, CONCRETE DRIVEWAYS, ETC.
7. AFTER COMPLETING EACH SECTION OF THE WATER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE. THE DISTURBED GROUND SURFACE SHALL BE SMOOTHLY GRADED.
8. ALL WATER VALVES SHALL CONFORM TO KUB STANDARDS AND SPECIFICATIONS.
9. KUB PERSONNEL WILL TEST WATER SERVICE TO THE EXISTING PUBLIC ROW OR EASEMENT FROM THE EXISTING SYSTEM FOR THE PROPOSED WATER SYSTEM.
10. HORIZONTAL SEPARATION BETWEEN WATER AND SEWER MAINS IS A MINIMUM OF 10 FEET.
11. WATER MAINS ARE NOT INSTALLED IN THE SAME TRENCH WITH OTHER UTILITIES UNLESS APPROVED THROUGH KUB ENGINEERING IN WRITING.
12. ANY FIELD CHANGES TO APPROVED PLANS MUST BE APPROVED BY THE APPROPRIATE KUB REPRESENTATIVE BEFORE CONSTRUCTION.
13. A COPY OF THE LATEST APPROVED SET OF UTILITY PLANS DESIGNATED BY THE KUB/DECD RECORDS DIVISION IS PRESENT DURING THE TIMES OF CONSTRUCTION OF THE APPROPRIATE UTILITIES.



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TDEC APPROVAL STAMP GOES HERE

ENGINEER

**Civil & Environmental Consultants, Inc.**  
2704 CHEROKEE FARM WAY, SUITE 101, KNOXVILLE, TN 37920  
(865) 977-9997  
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KNOXVILLE, TN 37917  
865-403-1150

DESIGNED

DRAWN

CHECKED

NO.	DATE

REVISION

APPR.

SCALE

AS-SHOWN

DATE \_\_\_\_\_



PUBLIC WATER MAIN EXTENSION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

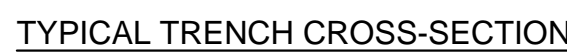
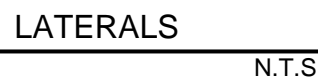
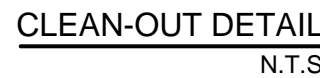
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SHEET 4

OF

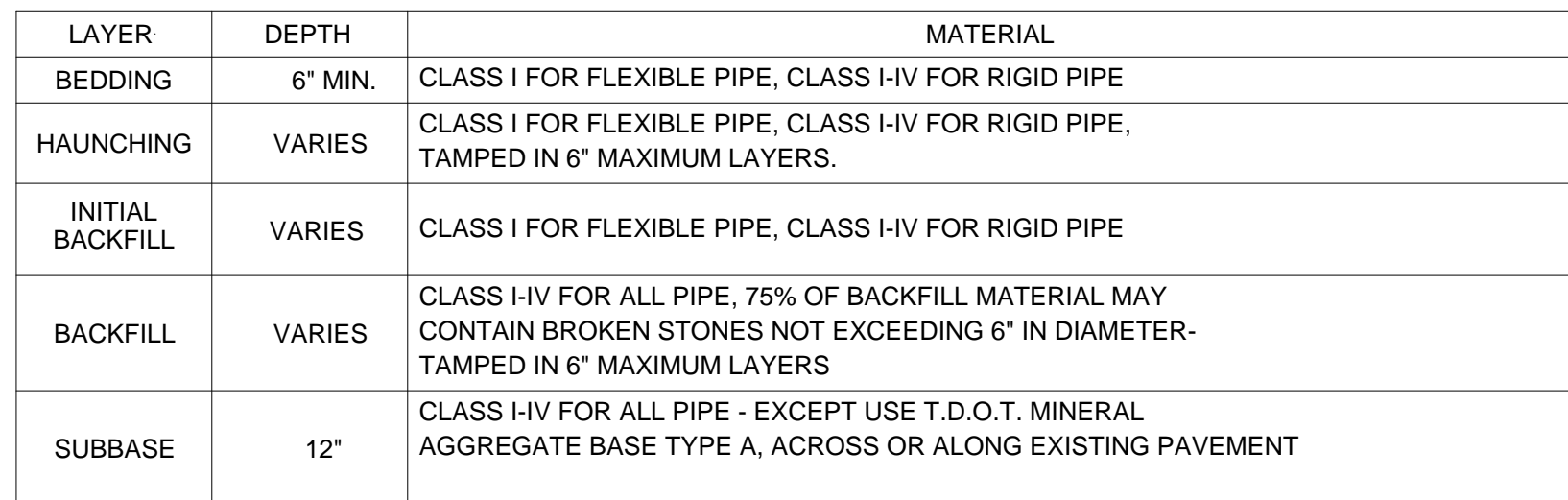
1 SHEETS





TRENCH INSTALLATION DETAIL

N.T.S



TRENCH BACKFILLING & COMPACTION IN UNIMPROVED AND IMPROVED AREAS  
N.T.S.

- | NOMINAL Ø<br>in (mm) | MIN. RECOMMENDED<br>TRENCH WIDTH, in (mm) |
|----------------------|---|
| 4 (100)              | 21 (530)                                  |
| 6 (150)              | 23 (580)                                  |
| 8 (200)              | 25 (630)                                  |
| 10 (250)             | 28 (710)                                  |
| 12 (300)             | 31 (790)                                  |
| 15 (375)             | 34 (860)                                  |
| 18 (450)             | 39 (990)                                  |
| 24 (600)             | 48 (1220)                                 |
| 30 (750)             | 66 (1680)                                 |
| 36 (900)             | 78 (1980)                                 |
| 42 (1050)            | 83 (2110)                                 |
| 48 (1200)            | 89 (2260)                                 |
| 60 (1500)            | 102 (2590)                                |

- \* TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION

[illegible]

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[www.eecinc.com](http://www.eecinc.com)

KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

## DETAILS

	JULY 26, 2017	DRAWN BY:	CER
	AS SHOWN	CHECKED BY:	GHP
			172-455
			GHP

DRAWING NO.:

# C800













[www.cecinc.com](http://www.cecinc.com)

REVISION RECORD	
NO	DATE DESCRIPTION

[illegible]CITY OF KNOXVILLE  
DEPARTMENT OF ENGINEERINGSTANDARD DETAIL FOR  
CONCRETE SIDEWALKS

0-100

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## RADIUS PLAN VIEW

REVISIONS			
NO.	DATE	BY	REVISION
1	10/2/78	RL	CHANGE NOTES
2	10/2/78	JAC	CHANGE MINIMUM CROSS SLOPE
3	10/2/78	JAC	CHANGE DETECTABLE MINIMUM CULVERT

CITY OF KNOXVILLE  
DEPARTMENT OF ENGINEERING

STANDARD DETAIL FOR  
CURB CUTS AND  
TACTILE WARNING SYSTEMS

PROJECT NO. 2017-0000000000  
SHEET NO. 0000000000  
DATE 00/00/00

COK-13

OX-13



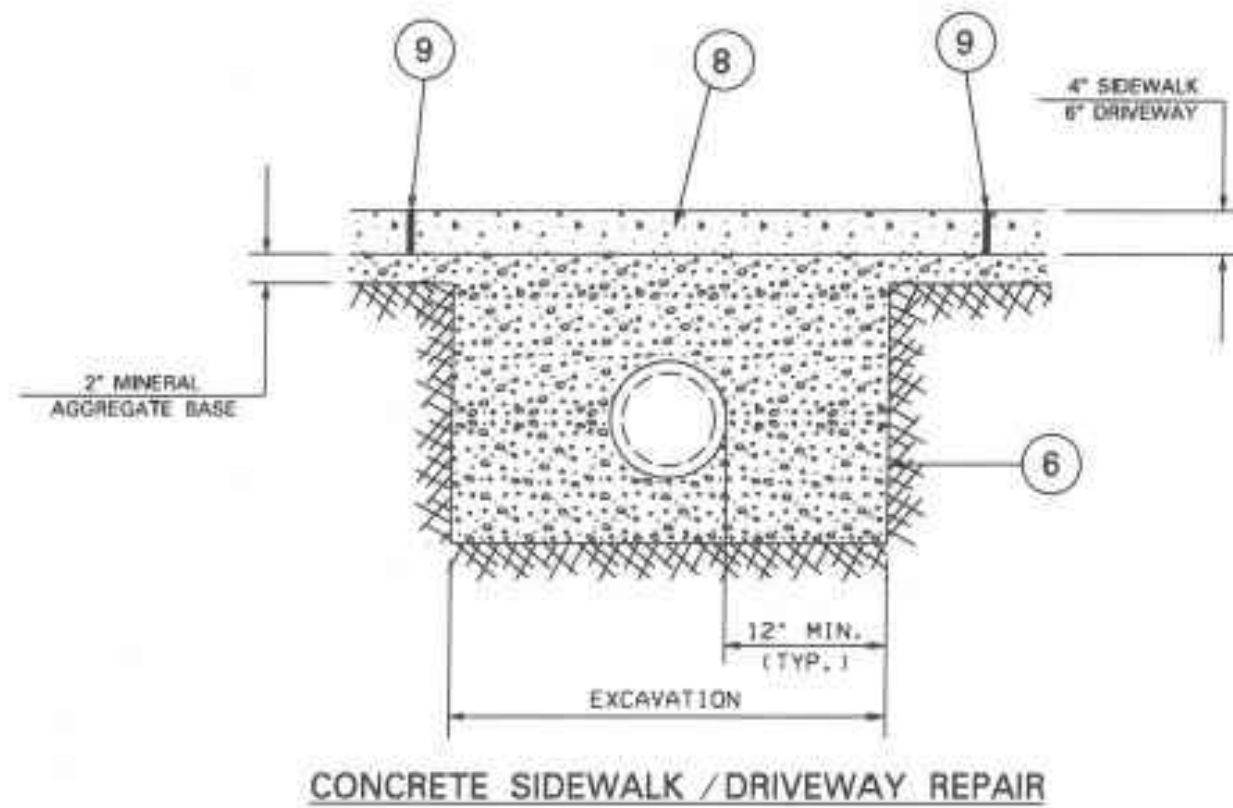
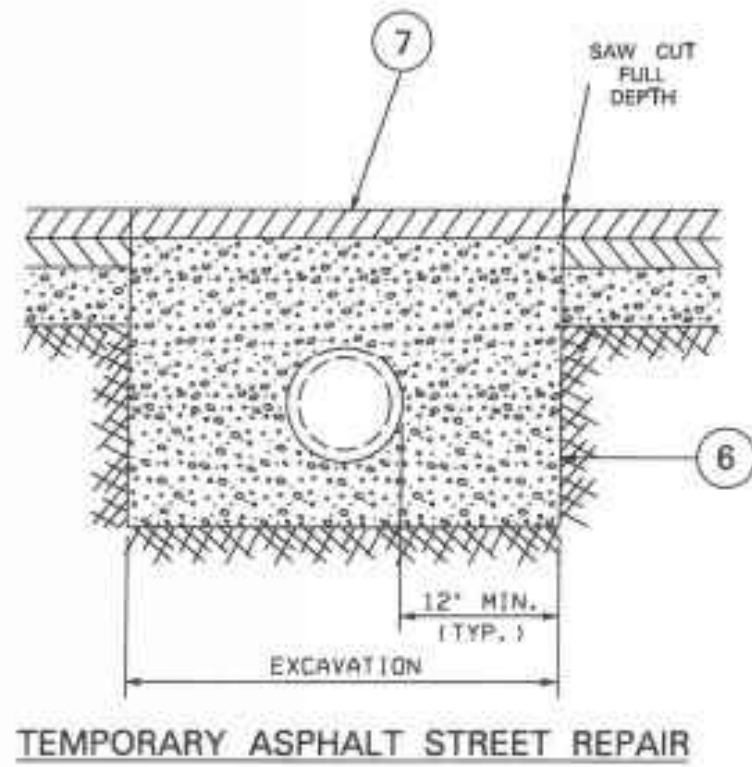
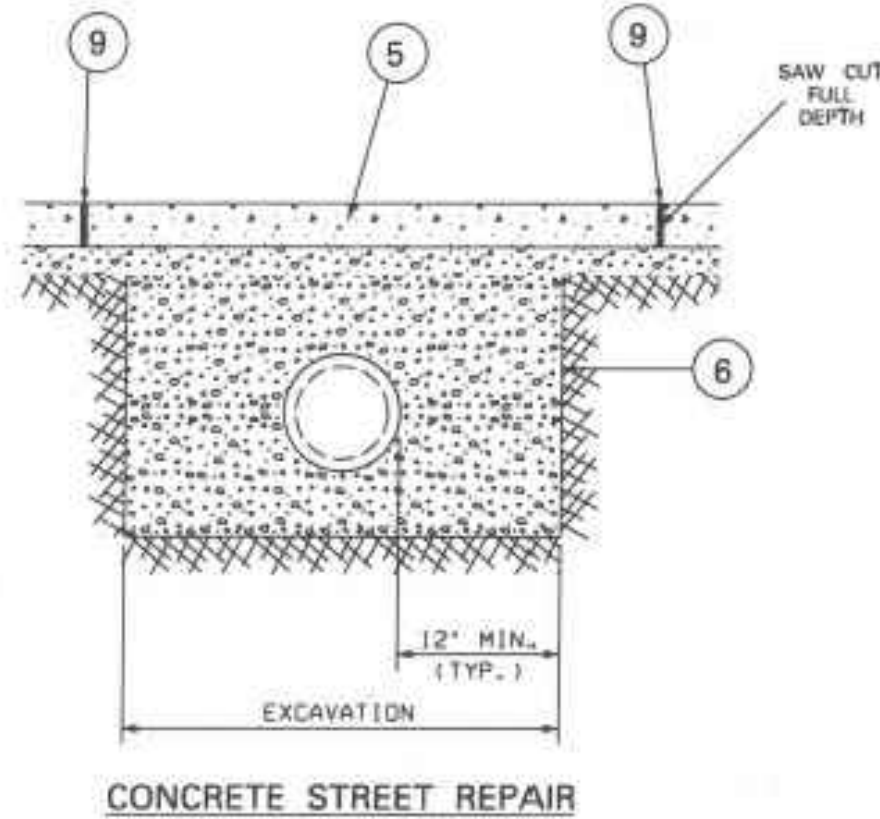
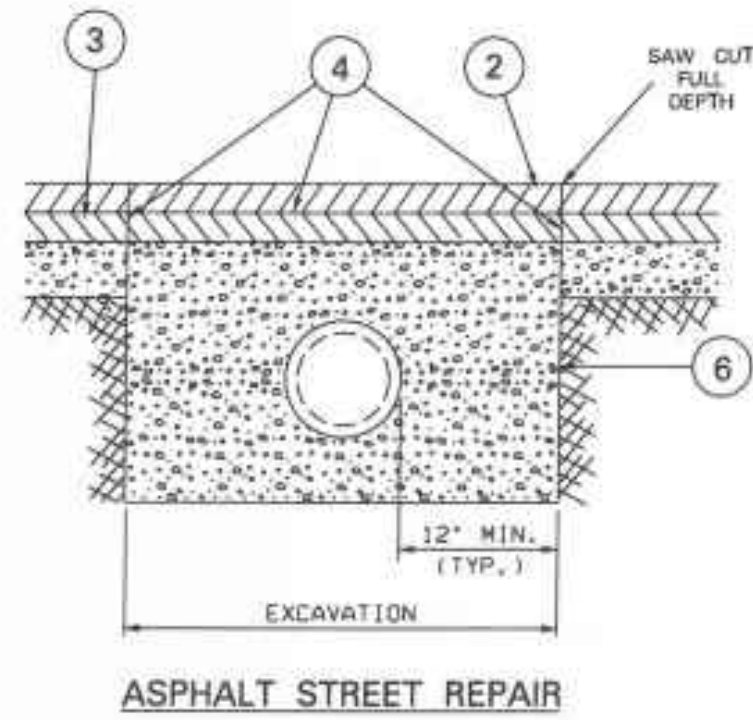






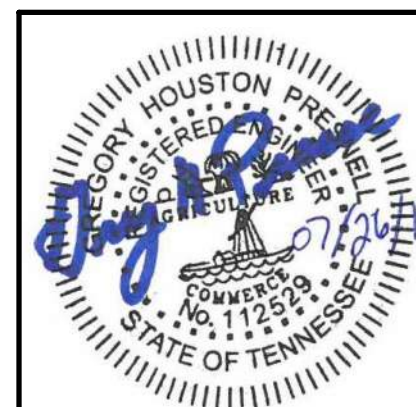


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#### NOTES:

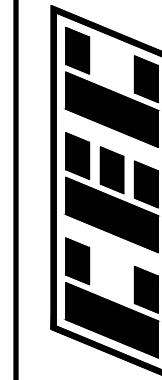
1. ALL SECTIONS NOTED BELOW REFERENCE THE CITY OF KNOXVILLE STANDARD SPECIFICATIONS UNLESS OTHERWISE SPECIFIED.
2. ASPHALTIC CONCRETE SURFACE, GRADING D, SECTION 10.0. MATCH EXISTING DEPTH OR MINIMUM THICKNESS OF ONE AND ONE-HALF (1.5) INCHES.
3. BITUMINOUS PLANT MIX BASE, GRADING B, B-M, OR C, SECTION 9.0. MATCH EXISTING DEPTH OR MINIMUM THICKNESS OF TWO AND ONE-HALF (2.5) INCHES. THE ENTIRE FOUR (4) INCH MINIMUM DEPTH MAY BE ASPHALTIC CONCRETE SURFACE GRADING D, BUT SHALL BE COMPACTED IN TWO LIFTS.
4. TACK COAT, SECTION 7.0.
5. PORTLAND CEMENT CONCRETE PAVEMENT, SECTION 11.0. JOINTS SHALL BE DOWELED AS DETAILED IN SECTION 11.0.
6. MINERAL AGGREGATE BASE, CLASS A AGGREGATE GRADING D, SECTION 5.0. COMPACTED IN SIX (6) INCH LIFTS TO 100% OF THE STANDARD PROCTOR DENSITY AT 2% LESS THAN OPTIMUM MOISTURE CONTENT AS DETERMINED BY AASHTO T99, METHOD D. APPROXIMATELY 140 PCF FOR LIMESTONE.
7. WHEN A TEMPORARY ASPHALT PATCH IS USED, IT SHALL BE PLACED IMMEDIATELY AFTER THE MINERAL AGGREGATE BACKFILL. ALL TEMPORARY REPAIRS MUST BE REPLACED PERMANENTLY WITHIN 90 DAYS.
8. CONCRETE SIDEWALKS, DRIVEWAYS, AND MEDIAN STRIP, SECTION 13.0.
9. LIMITS OF REMOVAL SHALL BE FROM THE NEAREST EXPANSION OR CONTRACTION JOINT.
10. EXISTING CONCRETE STREETS THAT HAVE BEEN OVERLAID WITH ASPHALT SHALL BE REPAIRED WITH ASPHALT. THE DEPTH OF THE ASPHALT REPLACING THE CONCRETE SHALL BE INCREASED 50% (PLUS ANY OVERLAY). THUS, THE TOTAL DEPTH SHALL BE 1.5 TIMES THE CONCRETE THICKNESS PLUS THE ASPHALT OVERLAY THICKNESS.



#### DETAILS

DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455		
APPROVED BY:			GHP

KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN



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#### REVISION RECORD

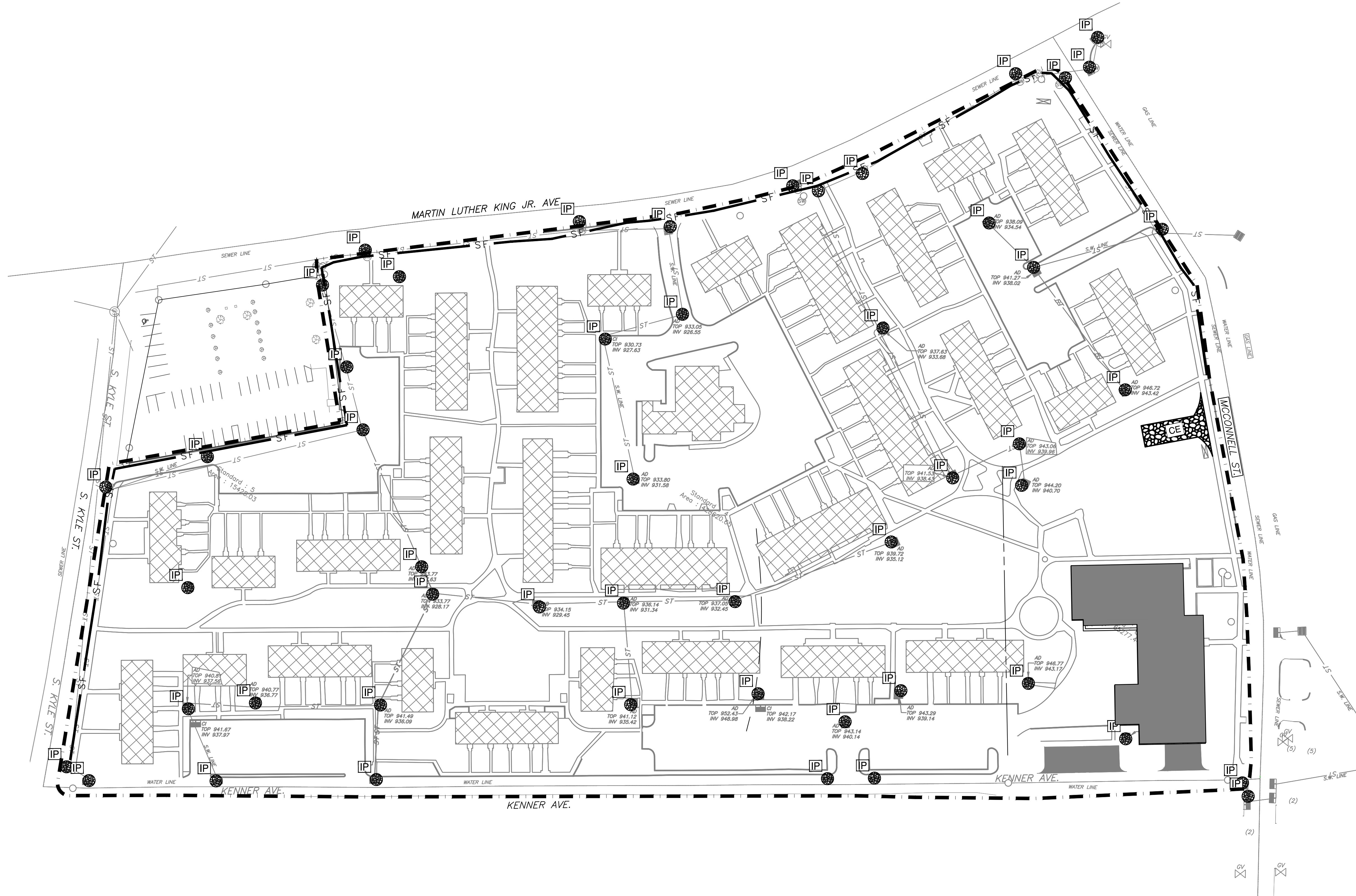
DESCRIPTION

NO. DATE

DRAWING NO.:

C806





- LEGEND:**
- EXISTING PROPERTY LINE
  - EXISTING STORM SEWER LINE
  - LIMITS OF DISTURBANCE
  - SILT FENCE
  - EXISTING SANITARY SEWER LINE
  - EXISTING COMBINED SEWER LINE
  - EXISTING STORM SEWER LINE
  - EXISTING UNDERGROUND ELEC. LINE
  - EXISTING OVERHEAD ELECTRIC
  - EXISTING GAS LINE
  - EXISTING WATER LINE
  - EXISTING STORM INLET
  - INLET PROTECTION
  - CONSTRUCTION EXIT
  - EXISTING SANITARY SEWER LINE
  - EXISTING POWER POLE
  - EXISTING LIGHT POLE
  - EXISTING WATER VALVE
  - EXISTING FIRE HYDRANT
  - EXISTING GAS VALVE
  - EXISTING BUILDING TO REMAIN
  - BUILDINGS TO BE REMOVED



REVISION RECORD	
NO.	DATE

**Civil & Environmental Consultants, Inc.**  
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**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION**  
**FIVE POINTS PHASE 3**  
**INFRASTRUCTURE IMPROVEMENTS**  
**KNOXVILLE, KNOX COUNTY, TN**

**INITIAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN**

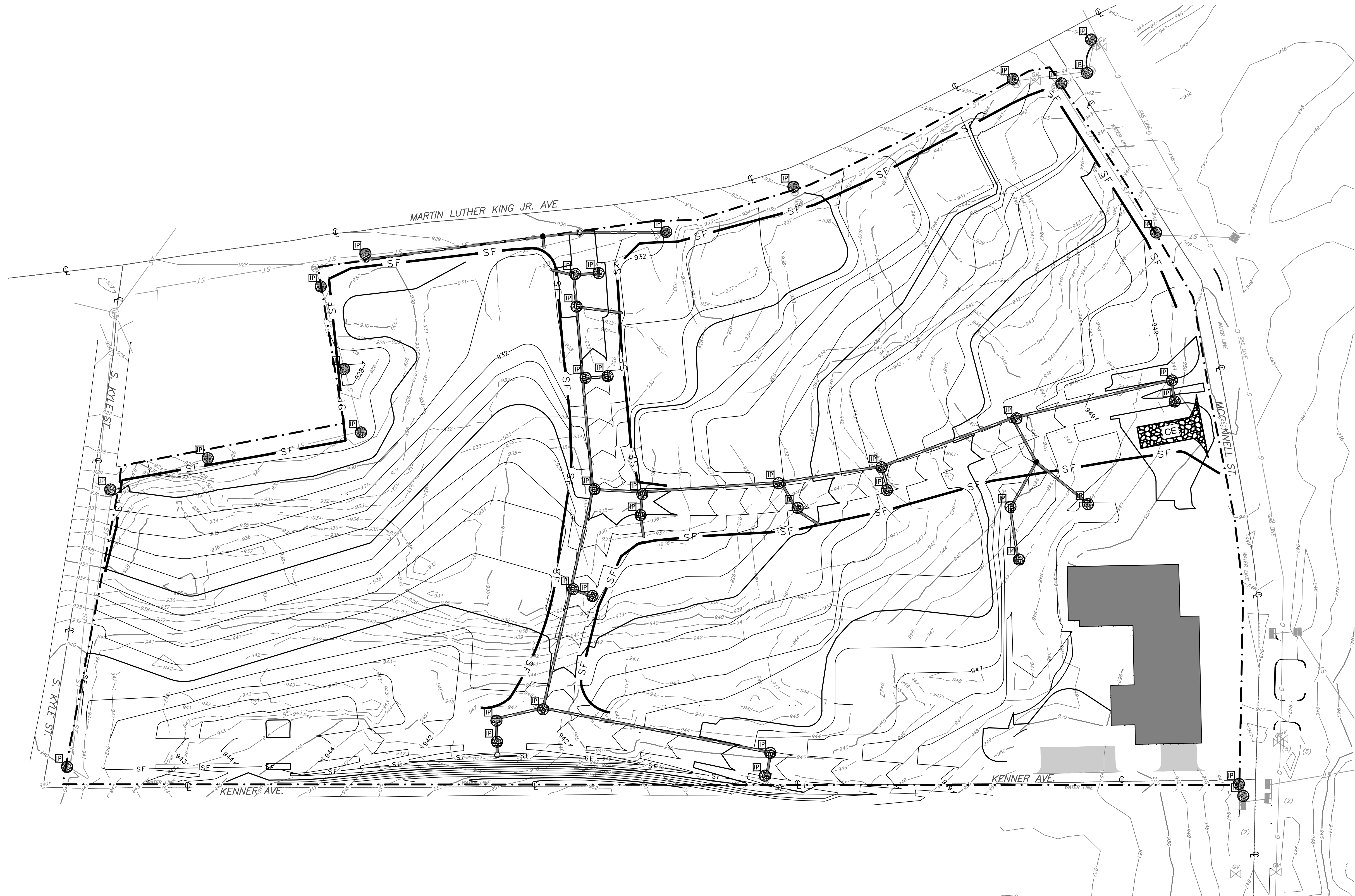
DATE:	JULY 26, 2017	DRAWN BY:	CER
DWG SCALE:	AS SHOWN	CHECKED BY:	GHP
PROJECT NO:	172-455	APPROVED BY:	GHP

DRAWING NO.: **C900**

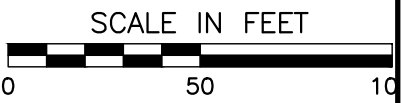


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- LEGEND:**
- LIMITS OF DISTURBANCE
  - EXISTING ADJACENT PROPERTY LINE
  - EXISTING RIGHT-OF-WAY
  - EXISTING EASEMENT
  - SF SILT FENCE
  - CS EXISTING COMBINED SEWER LINE
  - ST EXISTING STORM SEWER LINE
  - UG-E EXISTING UNDERGROUND ELEC. LINE
  - OH-E EXISTING OVERHEAD ELECTRIC
  - ST EXISTING STORM SEWER LINE
  - G EXISTING GAS LINE
  - W EXISTING WATER LINE
  - IP INLET PROTECTION
  - PP EXISTING POWER POLE
  - LP EXISTING LIGHT POLE
  - SI EXISTING STORM INLET
  - WV EXISTING WATER VALVE
  - FH EXISTING FIRE HYDRANT
  - GV EXISTING GAS VALVE



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NO.	DATE

INTERIM EROSION PREVENTION AND SEDIMENT CONTROL PLAN	
DATE:	JULY 26, 2017
DWG SCALE:	AS SHOWN
PROJECT NO.:	172-455
APPROVED BY:	GHP

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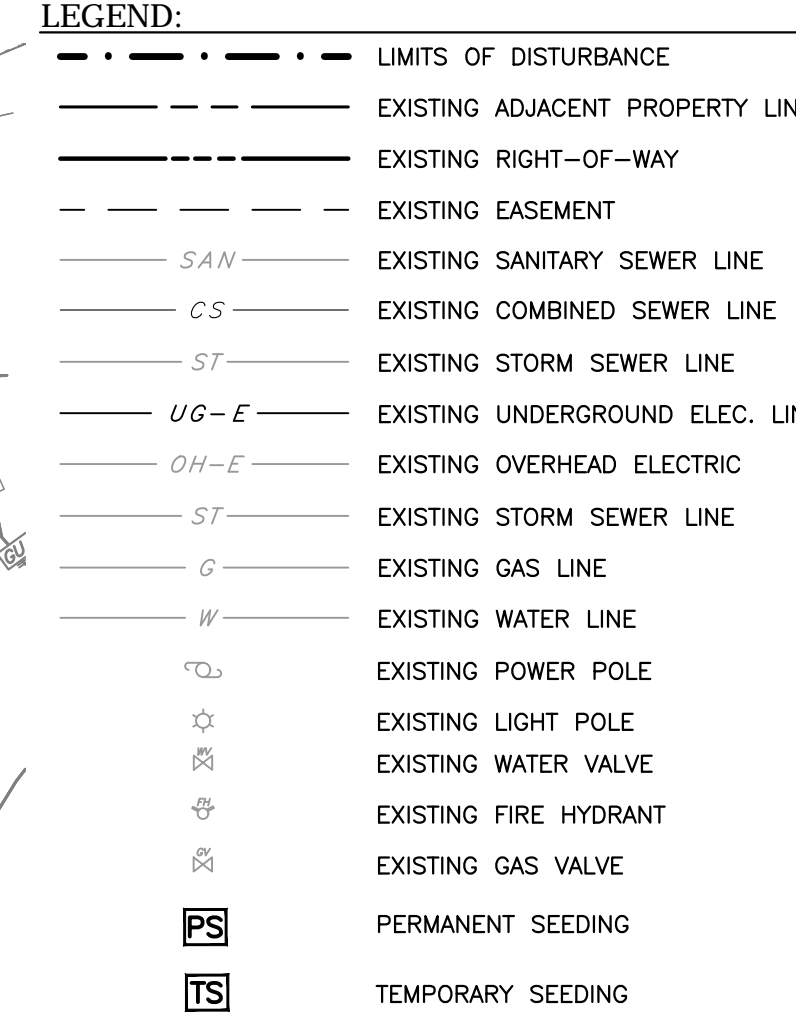
**KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION  
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DRAWING NO.: **C901**





NORTH

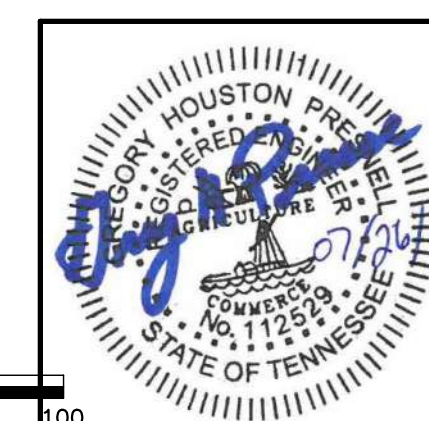
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KNOXVILLE'S COMMUNITY  
DEVELOPMENT CORPORATION  
FIVE POINTS PHASE 3  
INFRASTRUCTURE IMPROVEMENTS  
KNOXVILLE, KNOX COUNTY, TN

# FINAL EROSION PREVENTION AND SEDIMENT CONTROL PLAN

DATE:	JULY 26, 2017	DRAWN BY:	CER
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PROJECT NO:	172-455		
APPROVED BY:	GHP		

DRAWING NO.:  
**C902**



2: |2017|172-455|-C400|Dmg|172455-C101-C902.dmg|C902 (2) |LS:(7/24/2017 - cerobinson) - LP: 7/26/2017 5:26 PM



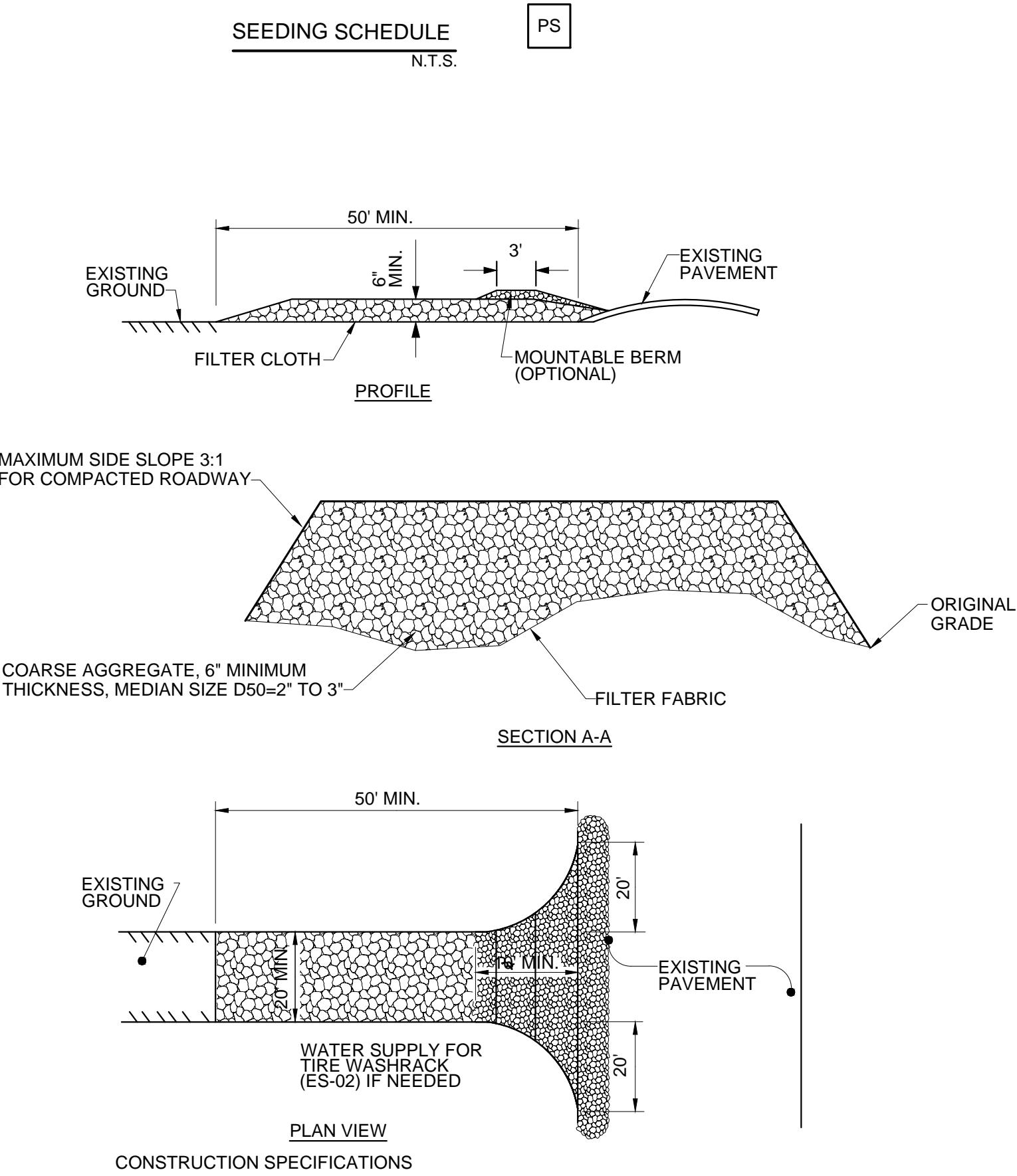
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PERMANENT SEEDING MIXTURES		
SEEDING DATES	GRASS SEED	PERCENTAGES
FEBRUARY 1 TO JULY 1	KENTUCKY 31 FESCUE	88%
	ENGLISH RYE	12%
JUNE 1 TO AUGUST 15	KENTUCKY 31 FESCUE	60%
	ENGLISH RYE	25%
	GERMAN MILLET	15%
AUGUST 1 TO DECEMBER 1	KENTUCKY 31 FESCUE	70%
	ENGLISH RYE	20%
	WHITE CLOVER	10%
DECEMBER 1 TO FEBRUARY 1	KENTUCKY 31 FESCUE	83%
	ENGLISH RYE	17%

SOURCE: TDOT STANDARDS SPECIFICATIONS

TEMPORARY SEEDING MIXTURES		
SEEDING DATES	GRASS SEED	PERCENTAGES
JANUARY 1 TO MAY 1	ITALIAN RYE	50%
	SUMMER OATS	50%
MAY 1 TO JULY 15	SUDAN-SORGHUM	100%
MAY 1 TO JULY 15	STARR MILLET	100%
JULY 15 TO JANUARY 1	BALBOA RYE	67%
	ITALIAN RYE	33%

SOURCE: TDOT STANDARDS SPECIFICATIONS

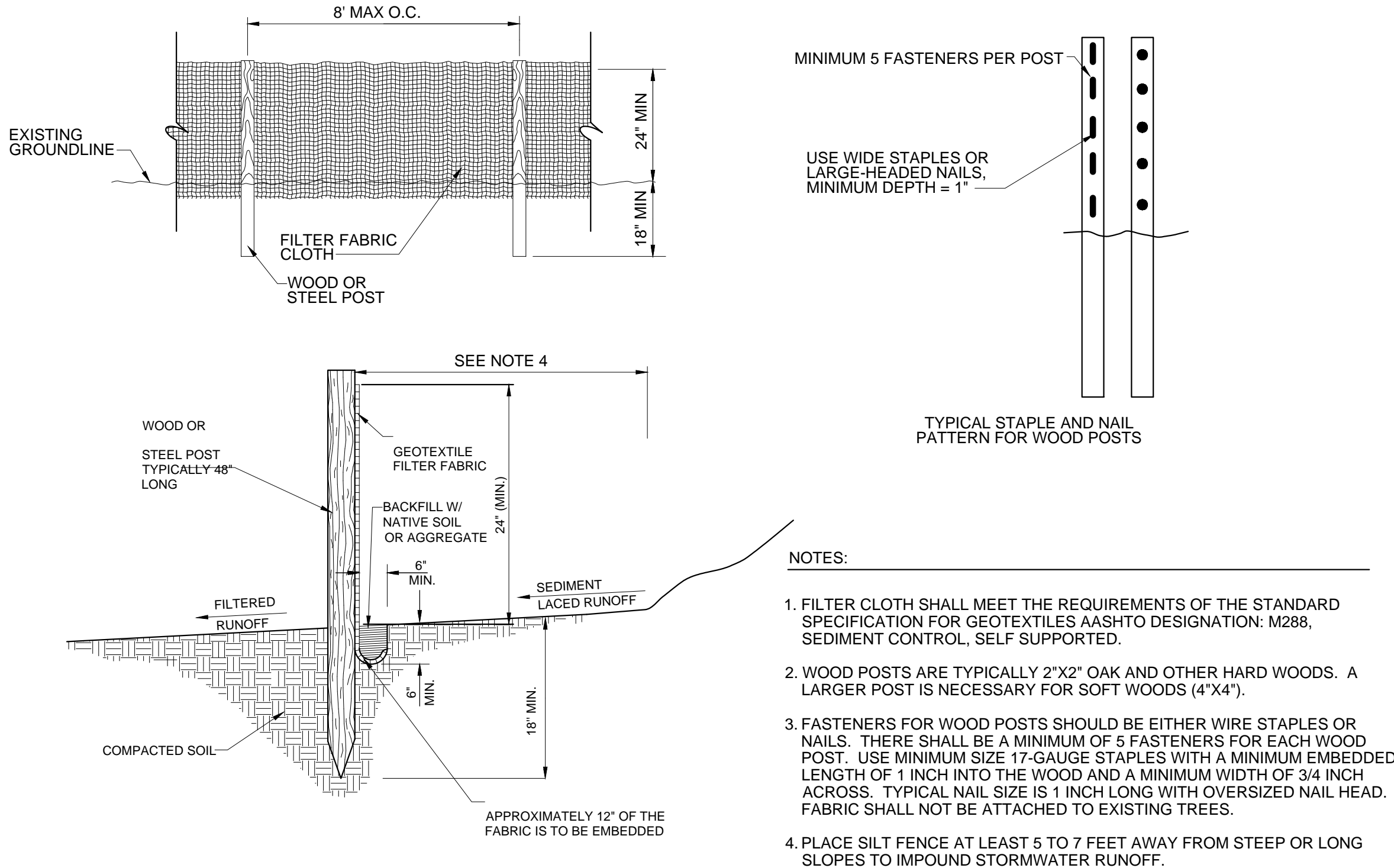


CONSTRUCTION SPECIFICATIONS

1. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET.
2. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
3. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 20 FEET, WHICH EVER IS GREATER.
4. GEOTEXTILE FILTER CLOTH SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING THE STONE.
5. ALL SURFACE WATER THAT IS FLOWING TO OR DIVERTED TOWARD THE CONSTRUCTION ENTRANCE SHALL BE PIPED BENEATH THE ENTRANCE. IF PIPING IS IMPRACTICAL, A BERM WITH 5:1 SLOPES THAT CAN BE CROSSED BY VEHICLES MAY BE SUBSTITUTED FOR THE PIPE.
6. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, WASHED, OR TRACKED ONTO PUBLIC RIGHT-OF-WAY MUST BE REMOVED PROMPTLY.

CONSTRUCTION EXIT DETAIL N.T.S.

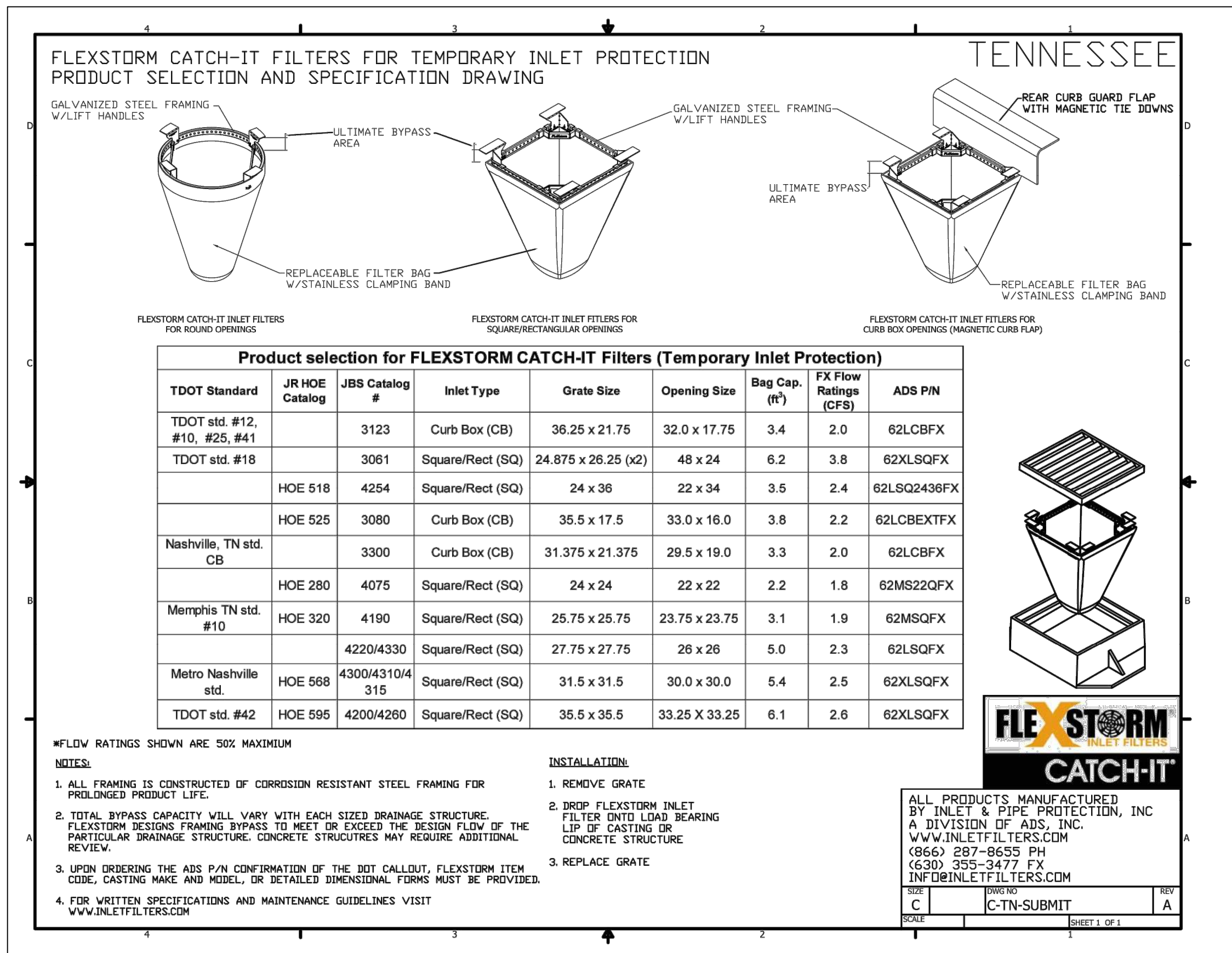
CE



SILT FENCE N.T.S.

\* SF \* SF \*

SF



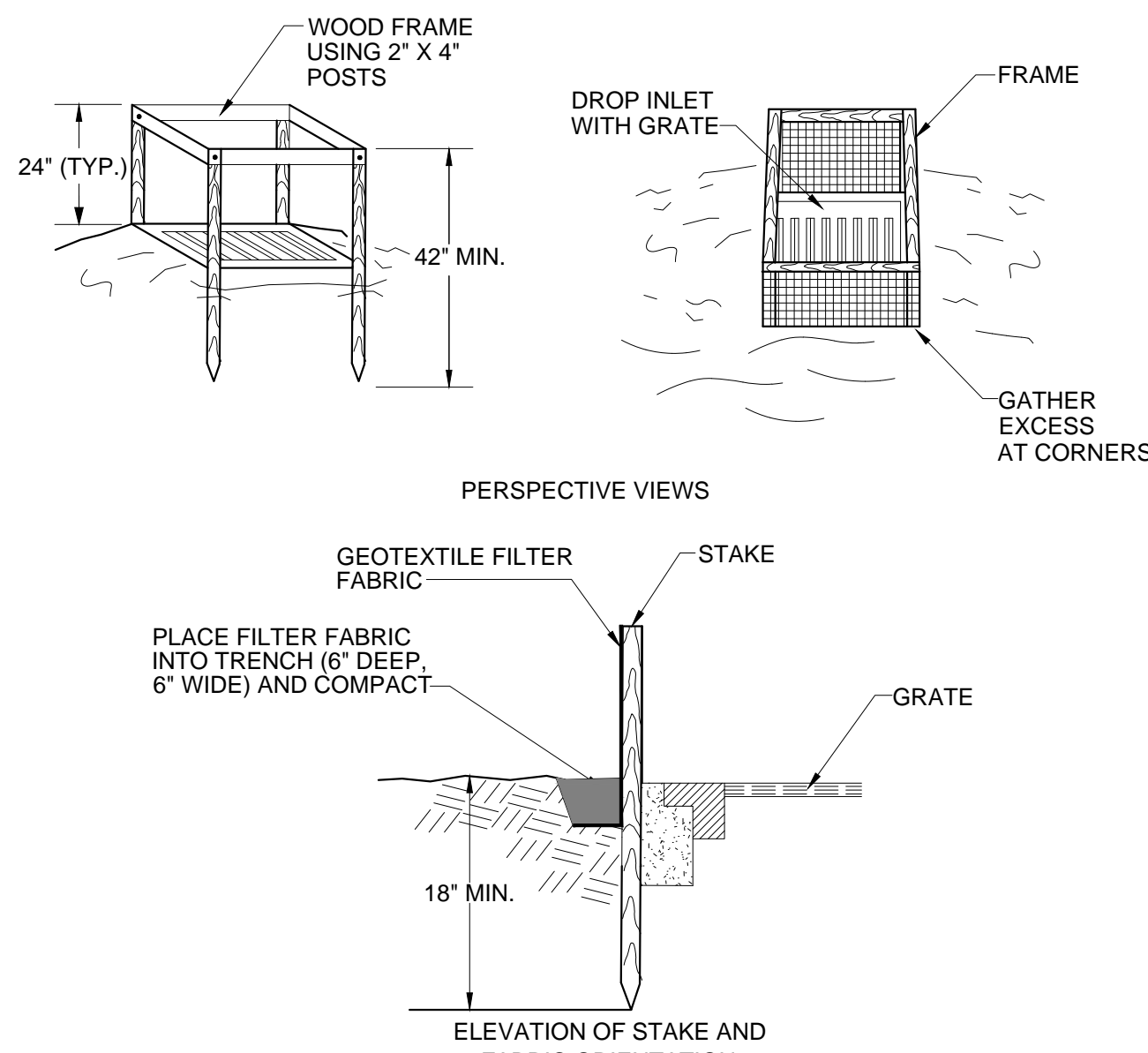
STORM INLET INSERT DETAIL N.T.S.

IP

EROSION AND SEDIMENT CONTROL NOTES:

1. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON PROJECT SITE. THIS INDIVIDUAL MUST HAVE COMPLETED THE "FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL" COURSE OR AN EQUIVALENT COURSE.
2. REFER TO THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK FOR DESIGN CRITERIA AND GUIDELINES FOR EROSION CONTROL MEASURES.
3. CLEARING AND GRUBBING MUST BE HELD TO THE MINIMUM NECESSARY FOR GRADING AND EQUIPMENT OPERATION.
4. CONSTRUCTION MUST BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF CLEARED SURFACE AREA.
5. CONSTRUCTION STAGING AND PHASING IS CRITICAL TO REDUCING SEDIMENT RUNOFF FROM SITE.
6. EROSION CONTROL MEASURES MUST BE IN PLACE AND FUNCTIONAL BEFORE EARTH MOVING OPERATIONS BEGIN, AND MUST BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
7. ALL EROSION CONTROL MEASURES SHALL BE CHECKED TWICE WEEKLY AND AFTER EACH RAINFALL. CHECK DAILY DURING PROLONGED RAINFALL.
8. CONSTRUCTION DEBRIS MUST BE KEPT FROM ENTERING THE STORM MANAGEMENT SYSTEM.
9. STOCKPILED SOIL SHALL BE PROTECTED AND LOCATED FAR ENOUGH FROM STREAMS AND DRAINAGEWAYS SO THAT RUNOFF CANNOT CARRY SEDIMENT DOWNSTREAM.
10. VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED MORE THAN 10 CALENDAR DAYS PRIOR TO GRADING.
11. TEMPORARY SOIL STABILIZATION WITH APPROPRIATE ANNUAL VEGETATION IS REQUIRED WHEN GRADING OPERATIONS ARE TEMPORARILY HALTED FOR OVER 14 DAYS AND ON SOIL STOCKPILES.
12. PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION IS REQUIRED WHEN GRADING OPERATIONS ARE COMPLETE AND/OR CONSTRUCTION OPERATIONS WILL NOT IMPACT THE DISTURBED AREA. CONTRACTOR SHALL INSPECT THE SITE PERIODICALLY TO REPAIR AND RE-ESTABLISH VEGETATION TO DAMAGED AREAS.
13. STAKED AND ENTRENCHED SILT FENCE MUST BE INSTALLED ALONG THE BASE OF ALL FILLS AND CUTS, ON THE DOWNHILL SIDES OF STOCKPILED SOIL, AND ALONG STREAM BANKS IN CLEARED AREAS TO PREVENT EROSION INTO STREAMS. SILT FENCE MAY BE REMOVED AT THE BEGINNING OF THE WORK DAY, BUT MUST BE REPLACED AT THE END OF THE WORK DAY OR PRIOR TO FORECASTING RAIN EVENTS.
14. WHERE APPROPRIATE, SURFACE WATER FLOWING TOWARD CONSTRUCTION AREA SHALL BE DIVERTED AROUND THE CONSTRUCTION AREA USING DIKES, TO REDUCE EROSION POTENTIAL.
15. ALL ROCK SHALL BE CLEAN, HARD ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIAL.
16. CONTRACTOR SHALL MAINTAIN SILT FENCES AND OTHER EROSION CONTROL DEVICES FOR THE DURATION OF THE PROJECT, TO ENSURE EFFECTIVENESS, UNTIL ACCEPTED

- BY THE OWNER, AT NO ADDITIONAL EXPENSE TO THE OWNER, IF CONSTRUCTION ACTIVITIES CEASE DUE TO WEATHER RELATED CAUSES, THEN THE CONTRACTOR WILL ENSURE THAT THE SITE IS PROPERLY STABILIZED AND ALL EROSION CONTROL DEVICES ARE MAINTAINED AND FUNCTIONAL DURING THOSE PERIODS OF INACTIVITY.
17. CONSTRUCTION EXIT -- CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION EXIT PRIOR TO ANY EARTHWORK OPERATIONS. CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD TO PUBLIC RIGHTS-OF-WAYS. ALL MATERIAL SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES OR SITE ONTO ADJACENT ROADWAYS SHALL BE REMOVED IMMEDIATELY FROM THE ROADWAY.
  18. CONTRACTOR IS RESPONSIBLE FOR CLEANING OUT AND PROPER DISPOSAL OF ALL DEBRIS WITHIN THE STORM DRAINAGE STRUCTURES, INCLUDING SILT FROM FLUMES, PIPES, ECT., PRIOR TO COMPLETION OF THE PROJECT.
  19. MEASURES SHOWN FOR SEDIMENT AND EROSION CONTROL REPRESENT THE MINIMUM ANTICIPATED. ADDITIONAL PROTECTION SHALL BE PROVIDED AS NECESSARY THAT WILL PREVENT SEDIMENT FROM LEAVING THE SITE DUE TO UNFORESEEN CONDITIONS OR ACCIDENTS.
  20. THE GRADING CONTRACTOR AND BUILDING CONTRACTOR WILL REFRAIN FROM DOING ANY WORK OUTSIDE OF THE DELINEATED LIMITS OF DISTURBANCE.
  21. ROADS SHALL BE STABILIZED BY APPLYING STONE ONCE SUBGRADE ELEVATION IS ACHIEVED.
  22. ALL SILT FENCE IS TO BE TYPE A EXCEPT WHERE SPECIFIED DIFFERENTLY.
  23. EROSION CONTROL MATTING TO BE JUTE MESH(OR APPROVED EQUAL) AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.



SILT FENCE DROP INLET DETAIL N.T.S.

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EROSION CONTROL DETAILS AND NOTES

KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION  
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