FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN

PROPERTY INFORMATION

TOTAL ACREAGE: ± 14.52 ACRES
PROPERTY ZONE: R-2 AND R-1 RESIDENTIAL
TYPE OF DEVELOPMENT: RESIDENTIAL
PARCEL ID'S: 082OK001, 095CA028, 082OK013, 082OK014, 082OK015
CITY BLOCK # 14430,14430,12120,12161,12162
PROPERTY ADDRESS: S OLIVE ST., BETHEL AVENUE, MCCONNELL ST. AND BEN HUR AVE. KNOXVILLE, TN

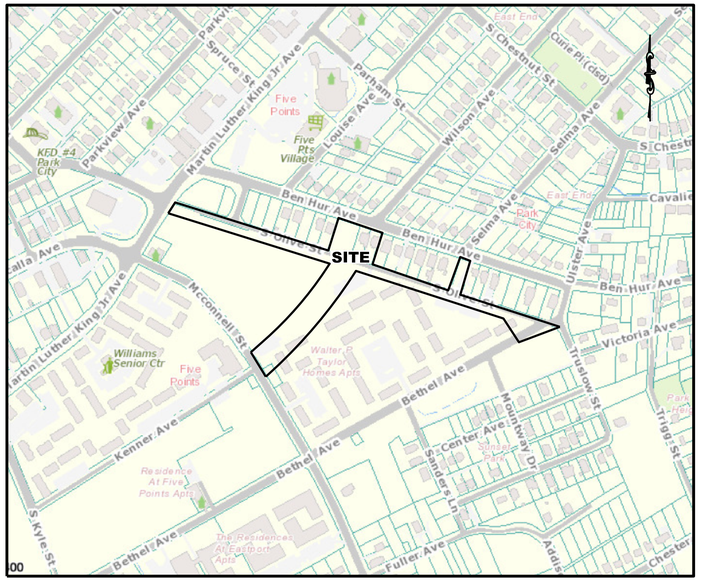
PERSON IDENTIFICATION

OWNER / DEVELOPER
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
901 N. BROADWAY
KNOXVILLE TN 37917
865-403-1117

ENGINEER
CIVIL & ENVIRONMENTAL CONSULTANTS
CONTACT: GUY WANTIEZ
308 CATES STREET
MARYVILLE, TN 37801
865-977-9997
GWANTIEZ@CECINC.COM

Prepared For:

PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION



Site Location Map
NTS

Sheet No.	Title
	COVER
	SURVEY
C011	GENERAL NOTES
C110	DEMOLITION SHEET MAP
C111	SITE DEMOLITION PLAN
C112	SITE DEMOLITION PLAN
C113	SITE DEMOLITION PLAN
C114	SITE DEMOLITION PLAN
C200	SITE SHEET MAP
C201	TRAFFIC SIGNAL TITLE SHEET AND INDEX
C202	TRAFFIC SIGNAL PLAN
C203	TRAFFIC SIGNAL PLAN
C204	TRAFFIC WIRING DIAGRAM
C205	TRAFFIC REMOVAL DIAGRAM
C206	TRAFFIC PAVEMENT MARKING DIAGRAM
C210	TRAFFIC SIGNAL NOTES AND ESTIMATED QUANTITIES
C211	SITE LAYOUT PLAN
C212	SITE LAYOUT PLAN
C213	SITE LAYOUT PLAN
C214	SITE LAYOUT PLAN
C215	ROAD SECTIONS & PROFILES
C310	GRADING SHEET MAP
C311	SITE GRADING PLAN
C312	SITE GRADING PLAN
C313	SITE GRADING PLAN
C314	SITE GRADING PLAN
C410	DRAINAGE SHEET MAP
C411	SITE DRAINAGE PLAN
C412	SITE DRAINAGE PLAN
C413	SITE DRAINAGE PLAN
C414	SITE DRAINAGE PLAN
C510	UTILITY SHEET MAP
C511	SITE UTILITY PLAN
C512	SITE UTILITY PLAN
C513	SITE UTILITY PLAN
C811	DETAILS
C812	DETAILS
C813	DETAILS
C814	DETAILS
C815	DETAILS
C816	WQ UNIT DETAILS
C910	INITIAL EROSION CONTROLS
C911	CONSTRUCTION STAGE EROSION CONTROLS
C912	POST CONSTRUCTION EROSION CONTROLS
C913	DETAILS
S100	STRUCTURAL NOTES
S101	RETAINING WALL PROFILE & DETAILS
	KUB SHEET 1 OF 2
	KUB SHEET 1 OF 2

LIST OF REQUIRED AND PROPOSED IMPROVEMENTS

PROPOSED IMPROVEMENTS
KENNER AVENUE
PAVEMENT
CURB AND GUTTER
SIDEWALK ON BOTH SIDES OF STREET
STORM DRAINAGE
SANITARY SEWER
STREET LIGHTING

S OLIVE STREET
PAVEMENT
CURB AND GUTTER
SIDEWALK ON ONE SIDE OF STREET
STORM DRAINAGE
STREET LIGHTING

WATER AND SEWER SERVICES ARE PROVIDED BY KUB AND ARE AVAILABLE TO ALL LOTS

JUNE 20, 2016
Issue Date

Revision Date

140-828 CV03
Project No.

Set No.

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Civil & Environmental Consultants, In
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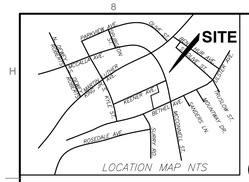

NORTH
(GRID)
(SEE NOTE 1)

LEGEND:

- IRON ROD FOUND
- IRON ROD SET

SCALE IN FEET
0 80 160

OWNER 1
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION
901 N. BROADWAY
KNOXVILLE TN, 37919
865-403-1100

NOTES:

1. GRID NORTH IS BASED ON A BEARING AND DISTANCE OF S27°31'32"E 1157.40' BETWEEN CITY OF KNOXVILLE CONTROL POINTS 394 AND 393 WITH A HORIZONTAL DATUM OF NAD83 (2011). DISTANCES HAVE NOT BEEN REDUCED TO GROUND.
   - CITY CONTROL MONUMENT 394 HAVING PUBLISHED COORDINATES OF N: 605553.089 E: 2590914.780
   - CITY CONTROL MONUMENT 393 HAVING PUBLISHED COORDINATES OF N: 604532.757 E: 2591449.763
2. IRON PIN SET AT ALL CORNERS UNLESS OTHERWISE NOTED ON PLAT.
3. UTILITY LOCATIONS BASED ON VISUAL LOCATIONS AND PLANS PROVIDED BY KUB AND KGIS. LOCATIONS SHOULD BE VERIFIED BEFORE ANY CONSTRUCTION OR EXCAVATION.
4. PROPERTY IS ZONED R-2 AND BUILDING SETBACKS ARE AS FOLLOWS:
   - FRONT: 25'
   - SIDE: NOT LESS THAN 8' BUT SUM OF THE TWO SIDE NOT LESS THAN 20'
   - REAR: 25'
5. SAID DESCRIBED PROPERTY IS NOT LOCATED WITHIN ANY SPECIAL FLOOD ZONE PER MAP NUMBER 47093C0282F PANEL 282 WITH AN EFFECTIVE DATE OF MAY 2, 2007
6. THERE ARE NO EASEMENTS TO RELEASE DUE TO PREVIOUS SUBDIVISION BEING COMPLETED PRIOR TO CURRENT REGULATIONS.
7. 5' DRAINAGE AND UTILITY EASEMENT INSIDE ALL INTERIOR LOT LINES, AND 10' DRAINAGE AND UTILITY EASEMENT INSIDE ALL EXTERIOR LOT LINES INCLUDING ROAD RIGHT OF WAY UNLESS OTHERWISE NOTED.
8. THIS PLAT IS APPROVED FOR THE SUBDIVISION AND TRANSFER OF PROPERTY ANOTHER PLAT MAY BE REQUIRED IF NEW STORMWATER QUALITY AND/OR WATER QUALITY FACILITIES ARE NEEDED FOR FUTURE DEVELOPMENT.
9. PLAT REFERENCE: MAP BOOK 5, PAGE 231 (LOT 4)
10. DEED REFERENCES:
    LOT 1: 1272-551
    LOT 2: NR
    LOT 3: NR
    LOT 4: 200707270008496, 200801240055696, AND 200810290028861

NOTARY CERTIFICATION

STATE OF _____, COUNTY OF_____

ON THIS _____ DAY OF _____, 20_____

BEFORE ME PERSONALLY APPEARED

_____, _____TO ME KNOWN

TO BE THE PERSON(S) DESCRIBED IN, AND WHO EXECUTED THE FOREGOING INSTRUMENT, AND ACKNOWLEDGED THAT HE/SHE EXECUTED THE SAME AS HIS/HER FREE ACT AND DEED. WITNESS MY HAND AND NOTARIAL SEAL, THIS DAY AND YEAR ABOVE.

WRITTEN

_____NOTARY

MY COMMISSION

EXPIRES_____ "SEAL"

CERTIFICATE OF OWNERSHIP AND GENERAL DEDICATION

(I, WE) _____

THE UNDERSIGNED OWNER(S) OF THE PROPERTY SHOWN HEREIN, HEREBY ADOPT THIS AS (MY, OUR) PLAN OF SUBDIVISION AND DEDICATE THE STREETS AS SHOWN TO THE PUBLIC USE FOREVER AND HEREBY CERTIFY THAT (I AM, WE ARE) THE OWNER(S) IN FEE SIMPLE OF THE PROPERTY, AND AS PROPERTY OWNER(S) HAVE AN UNRESTRICTED RIGHT TO DEDICATE RIGHT-OF-WAY AND/OR GRANT EASEMENT AS SHOWN ON THIS PLAT.
SIGNATURE(S)

_____

_____

DATE_____BY_____

ADDRESSING DEPARTMENT CERTIFICATION

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THE SUBDIVISION NAME AND ALL STREET NAMES CONFORM TO THE KNOXVILLE/KNOX COUNTY STREET NAMING AND ADDRESSING ORDINANCE, THE ADMINISTRATIVE RULES OF THE PLANNING COMMISSION, AND THESE REGULATIONS.

SIGNED:_____

DATE:_____

ZONING

ZONING DISTRICT(S) IN WHICH THE LAND BEING SUBDIVIDED IS LOCATED SHALL BE INDICATED AS SHOWN ON THE ZONING MAP BY THE PLANNING COMMISSION AS FOLLOWS:

ZONING SHOWN ON OFFICIAL MAP _____.

CITY OF KNOXVILLE
DEPARTMENT OF ENGINEERING

THE KNOXVILLE ENGINEERING DEPARTMENT HEREBY APPROVES THIS PLAT ON THIS THE

_____DAY OF _____, 20_____.

_____
ENGINEERING DIRECTOR

TAXES AND ASSESSMENTS

THIS IS TO CERTIFY THAT ALL PROPERTY TAXES AND ASSESSMENTS DUE ON THIS PROPERTY HAVE BEEN PAID.
CITY TAX CLERK:

SIGNED:_____DATE:_____

KNOX COUNTY TRUSTEE:

SIGNED:_____DATE:_____

SANITARY SEWER
& TREATMENT FACILITIES

THIS IS TO CERTIFY THAT THIS SUBDIVISION SHOWN HEREON IS APPROVED SUBJECT TO THE INSTALLATION OF SANITARY SEWERS AND TREATMENT FACILITIES, AND THAT SUCH INSTALLATION SHALL BE IN ACCORDANCE WITH STATE AND LOCAL REGULATIONS.

_____
KNOX COUNTY HEALTH DEPARTMENT

DATE_____

CURVE TABLE					
CURVE #	RADIUS	DELTA	LENGTH	CHL	CHB
C1	25.00'	81°45'38"	35.67'	32.72'	N 72°03'25" E
C2	521.00'	12°16'17"	111.58'	111.37'	S 73°11'54" E
C3	279.00'	7°35'30"	36.97'	36.94'	S 75°32'17" E
C4	1489.68'	1°43'03"	44.65'	44.65'	S 72°45'56" E
C5	25.00'	99°30'24"	43.42'	38.16'	S 23°25'18" E
C6	965.00'	28°50'01"	485.63'	480.52'	S 40°44'54" W
C7	25.00'	94°38'05"	41.29'	36.76'	N 77°31'03" W
C8	330.00'	17°14'50"	99.34'	98.96'	N 36°30'44" W
C9	4822.73'	3°02'22"	255.85'	255.82'	N 42°48'32" W
C10	25.00'	77°35'12"	33.85'	31.33'	S 69°07'35" W
C11	25.00'	100°07'20"	43.69'	38.34'	S 08°11'10" E
C12	175.00'	11°32'31"	35.25'	35.19'	S 36°06'15" W
C13	25.00'	113°57'20"	49.72'	41.92'	N 15°06'09" W
C14	175.00'	6°47'36"	20.75'	20.74'	N 38°28'42" E
C15	25.00'	58°57'37"	25.73'	24.61'	N 64°33'43" E
C16	1020.50'	30°13'21"	538.30'	532.08'	N 40°30'57" E
C17	25.00'	82°26'40"	35.97'	32.95'	N 66°37'36" E
C18	28.00'	132°51'14"	64.92'	51.33'	S 05°43'27" E
C19	25.00'	95°58'38"	41.88'	37.15'	N 78°34'09" W
C20	25.00'	86°12'27"	37.62'	34.17'	N 12°31'24" E
C21	25.00'	82°16'34"	35.90'	32.89'	N 12°18'15" E
C22	2049.10'	3°35'08"	128.23'	128.21'	N 58°24'21" E

LINE TABLE		
LINE #	DIRECTION	LENGTH
L1	S 77°01'40" E	135.75'
L2	N 31°02'32" W	66.24'
L3	N 47°43'28" E	42.55'
L4	N 46°00'34" E	40.35'
L5	S 77°08'15" W	63.03'
L6	S 72°04'39" E	95.92'
L7	N 72°04'49" W	105.00'
L8	N 72°12'56" W	48.69'
L9	S 72°04'23" E	13.96'
L10	S 77°03'20" E	415.95'
L11	S 71°43'20" E	49.92'
L12	N 71°43'20" W	49.92'
L13	S 53°26'32" W	50.51'
L14	N 36°43'03" W	79.60'
L15	N 02°10'38" W	63.07'
L16	S 49°13'55" E	50.42'
L17	N 53°26'32" E	32.99'
L18	S 23°13'27" E	38.70'
L19	N 64°17'45" E	33.32'
L20	N 23°12'23" W	40.72'
L21	S 72°19'22" E	53.62'
L22	S 65°58'19" W	30.00'
L23	S 23°59'53" E	47.56'
L24	S 61°01'59" W	100.03'
L25	S 70°15'47" W	11.00'

VARIANCES PREVIOUSLY APPROVED ON MPC MEETING DATED:
1. REDUCE THE RIGHT OF WAY ALONG THE SOUTHWESTERN EDGE OF S OLIVE STREET BETWEEN MARTIN LUTHER KING JR AVE AND BETHEL FROM 25 FEET FROM CENTERLINE TO 21 FEET
2. REDUCE THE TRAVELED WAY ALONG PROPOSED KENNER AVE BETWEEN MCCONNELL ST AND BEN HUR AVE FROM 26 FEET TO 24 FEET
3. REDUCE THE TRAVELED WAY ALONG PROPOSED S OLIVE ST BETWEEN MARTIN LUTHER KING JR AVE AND BEN HUR AVE FROM 26 FEET TO 24 FEET
4. REDUCE THE VERTICAL CURVE K VALUE FROM 25 TO 15 ALONG PROPOSED KENNER AVE
BETWEEN S OLIVE ST AND BEN HUR AVE
5. REDUCE THE INTERSECTION CURVE K VALUE OF S OLIVE ST AT THE INTERSECTION WITH BETHEL AVE FROM 15 TO 10
6. REDUCE THE UTILITY AND DRAINAGE EASEMENTS TO ZERO ON LOT 2
7. REDUCE THE INTERSECTION SPACING BETWEEN MCCONNELL ST AND S OLIVE ST, ALONG MARTIN LUTHER KING JR AVE, FROM 300 FEET TO 260 FEET

MPC FILE #
6-SG-16-F

VARIANCES REQUESTED:
1. VARIANCE TO REDUCE THE INTERSECTION RADIUS OF 25' TO 0' AT THE INTERSECTION OF S. OLIVE STREET AND TRUSLOW STREET.

CERTIFICATION OF FINAL PLAT CONSTRUCTION COMPLETE

I HEREBY CERTIFY THAT I AM A REGISTERED LAND SURVEYOR LICENSED TO PRACTICE SURVEYING UNDER THE LAWS OF THE STATE OF TENNESSEE. I FURTHER CERTIFY THAT THIS PLAN AND ACCOMPANYING DRAWINGS, DOCUMENTS, AND STATEMENTS CONFORM TO ALL APPLICABLE PROVISIONS OF THE KNOXVILLE/KNOX COUNTY SUBDIVISION REGULATIONS EXCEPT AS HAS BEEN ITEMIZED, DESCRIBED AND JUSTIFIED IN A REPORT FILED WITH THE METROPOLITAN PLANNING COMMISSION, OR FOR VARIANCES FOR WHICH APPLICATION HAS BEEN FILED. THE INDICATED
MONUMENTS WERE IN PLACE ON THE

22ND DAY OF APRIL, 2016.

REGISTERED LAND SURVEYOR: H. WADE LOVIN
TENNESSEE REG. NO. 2151

CERTIFICATE OF CATEGORY AND ACCURACY OF SURVEY:

I HEREBY CERTIFY THAT THIS IS A CATEGORY 1 SURVEY AND THE RATIO OF PRECISION OF THE UNADJUSTED SURVEY IS NOT LESS THAN 1:10,000.

REGISTERED LAND SURVEYOR: H. WADE LOVIN

TENN. REG. NO. 2151

H. WADE LOVIN — REGISTERED LAND SURVEYOR — AGRICULTURE ENGINEERING COMMERCE — TENNESSEE No. 2151

Civil & Environmental Consultants, Inc.
308 Cates Street - Maryville, TN 37801
Ph: 865.977.9997 · Fax: 865.977.9919
www.cecinc.com

FINAL PLAT OF FIVE POINTS REDEVELOPMENT -PHASE 2 MAP 82O GROUP K PARCELS 1, 13, AND 14 AND MAP 095C GROUP A PARCEL 28

DRAWN BY:	ZKG	CHECKED BY:	RJM	APPROVED BY:	HWL
DATE:	5-18-16	DWG SCALE:	1"=80'	PROJECT NO:	140-828

DISTRICT 14 OF KNOX COUNTY
CITY BLOCK #14430, 14TH WARD OF THE
CITY OF KNOXVILLE, TENNESSEE

DRAWING NO.:

SHEET 1 OF 1

SITE GENERAL NOTES

1. 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.

2. 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.

3. 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.

4. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL APPLICABLE PERMITS, AND PAY ALL REQUIRED FEES PRIOR TO BEGINNING WORK.

5. ALL WORK PERFORMED BY THE CONTRACTOR SHALL CONFORM TO THE LATEST REGULATIONS OF THE AMERICANS WITH DISABILITIES ACT.

6. 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.

7. EXISTING SITE INFORMATION/TOPOGRAPHIC SURVEY WAS COMPILED FROM SURVEY PREPARED BY CEC, INC., DATED MARCH 18, 2013.

8. 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.

DEMOLITION GENERAL NOTES

1. 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.

2. CLEARING LIMITS SHALL BE PHYSICALLY MARKED IN THE FIELD.

3. 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.

4. 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 SITE UTILITY PLAN.

5. THE BURNING OF CLEARED MATERIAL AND DEBRIS SHALL NOT BE ALLOWED UNLESS CONTRACTOR OBTAINS PRIOR WRITTEN AUTHORIZATION FROM THE LOCAL AUTHORITIES.

6. EROSION AND SEDIMENTATION CONTROL MEASURES AROUND AREAS OF DEMOLITION SHALL BE PROPERLY INSTALLED AND SHALL FUNCTION PROPERLY PRIOR TO INITIALIZATION OF DEMOLITION ACTIVITIES.

7. ASBESTOS OR HAZARDOUS MATERIALS ARE NOT EXPECTED, 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.

8. CONTRACTOR SHALL ADHERE TO ALL LOCAL, STATE, FEDERAL AND OSHA REGULATIONS DURING ALL DEMOLITION ACTIVITIES.

9. 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.

10. 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.

11. 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.

12. PROVIDE NEAT, STRAIGHT, FULL DEPTH, SAW CUTS OF EXISTING PAVEMENT WHERE INDICATED ALONG LIMITS OF PAVEMENT DEMOLITION.

13. 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, UNDER GROUND 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.

14. NO TREES SHALL BE REMOVED, NOR VEGETATION DISTURBED BEYOND THE LIMITS OF CONSTRUCTION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.

15. TREE PROTECTION FENCING SHALL BE IN ACCORDANCE WITH THE KNOXVILLE'S CITY STANDARDS - OR - IN ACCORDANCE WITH THE DETAILED DRAWINGS. DO NOT OPERATE OR STORE EQUIPMENT, NOR HANDLE OR STORE MATERIALS WITHIN THE DRIP LINES OF THE TREES SHOWN TO REMAIN.

16. 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 ENGINEERS RECOMMENDATION. BASE COURSE MATERIALS SHALL NOT BE WORKED INTO THE SUBGRADE AREAS TO RECEIVE LANDSCAPING.

17. THE CONTRACTOR SHALL USE SUITABLE METHODS TO CONTROL DUST AND DIRT CAUSED BY THE DEMOLITION ACTIVITIES.

LAYOUT GENERAL NOTES

1. 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.

2. 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.

3. 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.

4. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN IN ACCORDANCE WITH THE SPECIFICATIONS.

5. SITE WORK CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH TO ALL SURFACES. SITE WORK CONCRETE SHALL BE CLASS "A"（4,000 PSI @ 28 DAYS）UNLESS OTHERWISE NOTED.

6. 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.

7. SITE DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR EDGE OF PAVEMENT UNLESS OTHERWISE NOTED.

8. COORDINATES ARE FOR BUILDING COLUMNS, EXTERIOR BUILDING WALL, CENTER OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB FOR DRAIN INLETS, UNLESS OTHERWISE NOTED.

9. 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.

10. REFER TO THE ARCHITECTURAL DRAWINGS FOR EXACT DIMENSIONS AND LOCATIONS OF UTILITY SERVICE ENTRY LOCATIONS AND PRECISE BUILDING DIMENSIONS.

11. 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 IS 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.

DRAINAGE NOTES

1. DISTANCES SHOWN ON PIPING ARE HORIZONTAL DISTANCES FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE, UNLESS OTHERWISE NOTED.

2. 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.

3. ALL STORMWATER MANAGEMENT FACILITIES, INCLUDING COLLECTION AND CONVEYANCE STRUCTURES SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS.

4. 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.

5. STORM PIPE MATERIAL OPTIONS ARE AS INDICATED IN THE DRAINAGE PLAN.

6. FOR CONSTRUCTION DETAILS SEE C800 SHEETS.

7. ALL PIPES UNDER PAVEMENT SHALL BE BACKFILLED TO TOP OF SUBGRADE WITH CRUSHED STONE.

8. STONE BEDDING AND BACKFILL SHALL BE DONE IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

9. DRAINS SHALL BE INSTALLED IN COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.

10. DRAIN BASINS SHALL BE AS NOTED ON THE DRAINAGE PLAN.

11. STORM DRAIN LATERALS TO BE 6" SCH 40 PVC UNLESS OTHERWISE NOTED.

12. SEE ARCHITECTURAL PLANS FOR DOWNSPOUT CONNECTION DETAIL.

13. CONTRACTOR TO TIE FOUNDATION DRAINS TO PROPOSED STORM PIPING SYSTEM.

UTILITY GENERAL NOTES

1. ALL PROPOSED UTILITY LINES AND EXTENSIONS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE KUB'S SPECIFICATIONS. CONTRACTOR SHALL COORDINATE UTILITY DISCONNECTION'S WITH THE APPROPRIATE AGENCY.

2. 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.

3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION.

4. MAINTAIN MINIMUM 10-FOOT HORIZONTAL AND 18-INCH MINIMUM VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINE, UNLESS OTHERWISE INDICATED.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES, GAS LINES, AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO PAVEMENT CONSTRUCTION.

6. ALL TRENCH SPOILS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED 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.

7. ADJUST ALL EXISTING UTILITY SURFACE FEATURES INCLUDING BUT NOT LIMITED TO CASTINGS, VALVE BOXES, PEDESTALS, CLEANOUTS, ETC. TO MATCH PROPOSED FINISHED GRADES, UNLESS OTHERWISE INDICATED.

8. 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.

9. UTILITY PIPE MATERIAL OPTIONS ARE AS INDICATED IN THE CITY OF KUB'S SPECIFICATIONS.

KNOXVILLE UTILITY BOARD NOTES

WASTEWATER REQUIREMENTS

1. ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KUB'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 KUB.
4. UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY PAVEMENT IS INSTALLED.
5. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM WITH ALL APPLICABLE LOCAL, STATE AND OSHA REGULATIONS.
6. REQUIREMENTS FOR PROPER FILL OPERATIONS MUST MEET OR EXCEED KUB, CITY OF KNOXVILLE AND KNOX COUNTY 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 SERVICE. LATERAL 3/8 INCH STEEL REBAR SHALL BE DRIVEN INTO THE GROUND AT THE END OF EACH SERVICE LATERAL AND PAINTED GREEN. THE BURIED END OF THE REBAR SHALL BE BENT TO FORM A HOOK.
9. SANITARY SEWER FLOW CONTROL (SECTION 025-42) OF KUB STANDARDS AND SPECIFICATIONS REQUIREMENTS ARE TO BE FULLY UNDERSTOOD AND IMPLEMENTED IN THE WASTEWATER PROJECT.

GRAVITY WASTEWATER REQUIREMENTS

1. LASERS 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 SERVICE 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 SERVICE LATERAL SHALL BE A 6-INCH DIAMETER PVC (SDR26) FROM THE MAIN TO THE PROPERTY LINE OR EDGE OF EASEMENT.
6. ALL SEWER LATERALS SHALL INCLUDE 6-INCH TEES OF THE SAME MATERIALS AS THE SEWER MAINS.
7. TWO WAY DIRECTIONAL CLEANOUT TEES WILL BE REQUIRED ON ALL LATERALS. CLEANOUTS SHOULD BE LOCATED AT THE PROPERTY LINE OR EASEMENT LINE IN MOST CASES AND SHALL BE SDR35 MANUFACTURED BY PLASTIC TRENDS, INC.
8. ALL SERVICE LATERALS AND CLEANOUTS SHALL HAVE CAPS WITH SCREWED PLUGS INSTALLED.
9. ALL REQUIREMENTS WITH FLEXIBLE COUPLINGS AND SADDLE TEES PARTS 202 AND 203 IN SECTION 02532 OF KUB STANDARDS AND SPECIFICATIONS ARE TO BE FULLY UNDERSTOOD AND IMPLEMENTED.

KUB WASTEWATER CONSTRUCTION NOTES

1. ROAD RIGHT-OF-WAYS SHALL BE GRADED AND SLOPED TO THE CITY OF KNOXVILLE SPECIFICATIONS OR AS APPROVED BY KUB PRIOR TO STAKING AND INSTALLING WASTEWATER MAINS.
2. THE DEVELOPER'S ENGINEER SHALL STAKE THE PROPOSED WASTEWATER MAIN LAYOUTS PRIOR TO CONSTRUCTION TO ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUT PRIOR TO CONSTRUCTION.
3. CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS. KUB ENGINEERING DEPARTMENT MUST APPROVE MATERIAL SUBMITTALS PRIOR TO CONSTRUCTION.
4. WASTEWATER MAIN INSTALLATION MUST BE INSPECTED BY KUB. CONTACT KUB INSPECTORS AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION AT (865) 558-2786.
5. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPAL UTILITY LICENSE FOR CONSTRUCTION OF WASTEWATER MAINS.
6. A RUBBER BOOT CONNECTOR SHALL BE PROVIDED FOR EACH WASTEWATER MAIN OR LATERAL CONNECTING TO A MANHOLE. EACH TAP TO AN EXISTING MANHOLE MUST BE MECHANICALLY CORED.
7. THE CONTRACTOR MUST INSTALL SERVICE LATERALS TO BE INSTALLED ACROSS STREET BEFORE PAVING STREETS.
8. 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 COMPACTED CLAY AT THREE FEET THICK FROM BOTTOM OF THE TRENCH TO THE TOP OF THE TRENCH. THE PREFERRED LOCATION OF A WATER STOP IS UPSTREAM OF EACH MANHOLE. ALL STREAM CROSSINGS SHALL INCLUDE WATER STOPS ON BOTH SIDES OF THE CROSSINGS.

WATER CONSTRUCTION NOTES

1. ROAD RIGHT-OF-WAY SHALL BE GRADED AND SLOPED TO THE CITY OF KNOXVILLE (COK) SPECIFICATIONS.
2. THE CONTRACTOR'S ENGINEER SHALL STAKE THE PROPOSED WATER MAIN LAYOUTS PRIOR TO CONSTRUCTION TO ALLOW AMPLE TIME FOR KUB'S INSPECTORS TO INSPECT THE LAYOUT PRIOR TO CONSTRUCTION.
3. CONSTRUCTION MATERIALS MUST MEET KUB SPECIFICATIONS.
4. WATER MAIN INSTALLATION MUST BE INSPECTED BY KUB. CONTACT KUB INSPECTORS AT LEAST THREE (3) WORKING DAYS PRIOR TO CONSTRUCTION.
5. CONTRACTOR MUST HAVE A VALID STATE OF TENNESSEE MUNICIPAL UTILITY LICENSE FOR CONSTRUCTION OF WATER MAINS.
6. CONTRACTOR WILL STERILIZE WATER MAINS WHEN INSTALLATION AND TESTING ARE COMPLETE. CONTRACTOR SHALL PROVIDE TAP AS REQUIRED FOR STERLIZING MAINS. WATER QUALITY TESTING WILL BE PROVIDED BY KUB.
7. AIR RELEASE VALVES SHALL BE INSTALLED ON HIGH POINTS ON THE MAINS IN ACCORDANCE WITH PLANS AND/OR AS REQUIRED BY KUB'S INSPECTORS.
8. WATER SERVICE LINES INSTALLED ACROSS STREETS MUST BEEN INSTALLED BY THE CONTRACTOR BEFORE PAVING STREETS.
9. LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.

GENERAL WATER NOTES

1. ALL WATER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH KUB'S STANDARD WATER SYSTEM SPECIFICATIONS AND DETAILS.
2. REQUIREMENTS FOR PROPER TRENCH AND BACKFILL OPERATIONS MUST MEET OR EXCEED KUB, CITY OF KNOXVILLE AND KNOX COUNTY STANDARDS.
3. LOCATION OF ALL EXISTING UTILITIES IS APPROXIMATE. CONTRACTOR SHALL FIELD LOCATE ALL EXISTING UTILITIES PRIOR TO EXCAVATION.
4. PROPOSED WATER MAINS SHALL HAVE 36 INCH MINIMUM DEPTH OF COVER.
5. WATER SERVICES SHALL BE BURIED AT A MINIMUM DEPTH OF 24 INCHES TO PREVENT FREEZING.
6. WATER METERS AND SERVICES ARE TO BE INSTALLED BY THE CONTRACTOR AND THE INSTALLATION SHALL COMPLY WITH KUB STANDARDS.
7. UTILITIES SHALL BE INSTALLED AFTER GRADING HAS BEEN COMPLETED AND APPROVED BEFORE ANY PAVEMENT IS INSTALLED.
8. AFTER COMPLETING EACH SECTION OF THE WATER, ALL DEBRIS AND CONSTRUCTION MATERIALS SHALL BE REMOVED FROM THE WORK SITE AS WELL AS SMOOTHLY GRADING THE DISTURBED GROUND SURFACE ON THE PROJECT.
9. WATER METER ASSEMBLY IS SET APPROXIMATELY ONE INCH ABOVE THE EXISTING OR PROPOSED GRADE TO PREVENT SURFACE DRAINAGE.

GRADING GENERAL NOTES

1. 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.
2. REFER TO AND FOLLOW THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT PREPARED FOR THIS SITE BY GEOSERVICES DATED 8/14/2015. THE CONTRACTOR SHALL ENGAGE A GEOTECHNICAL ENGINEER TO MONITOR EARTHWORK ACTIVITIES AND ADHERE TO THEIR RECOMMENDATIONS DURING CONSTRUCTION.
3. CONTRACTOR SHALL STRICTLY ADHERE TO THE EROSION CONTROL PLAN PREPARED FOR THIS PROJECT. THE EROSION CONTROL 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 SEDIMENT CONTROL STRUCTURES ARE INSTALLED IN ACCORDANCE WITH CONSTRUCTION DRAWINGS AND CONTROLS ARE CERTIFIED BY CITY OF KNOXVILLE.
4. EARTHWORK SHALL INCLUDE CLEARING AND GRUBBING, STRIPPING AND STOCKPILING TOPSOIL, MASS GRADING, EXCAVATION, FILLING, UNDER CUT AND REPLACEMENT, IF REQUIRED, AND COMPACTION.
5. CONTRACTOR TO REFILL UNDERCUT AREAS WITH SUITABLE MATERIAL AND COMPACT AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
6. PLACE TOPSOIL OVER THE SUBGRADE OF UNPAVED, DISTURBED AREAS TO A DEPTH OF 6" MINIMUM.
7. PAVEMENT SLOPES ACROSS ACCESSIBLE PARKING STALLS AND ADJOINING ACCESS AISLES SHALL BE MAXIMUM 2%
8. ALL SLOPES SHALL BE 3:1 MAXIMUM UNLESS NOTED OTHERWISE.
9. ALL AREAS NOT PAVED SHALL BE STABILIZED IN ACCORDANCE WITH THE EROSION CONTROL PLAN, UNLESS NOTED OTHERWISE.
10. ALL EXCESS SOIL MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR UNLESS OTHERWISE DESIGNATED 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.
11. EXISTING CONTOURS VERTICAL DATUM REFERENCE IS NAVD88.
12. 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.
13. CONTRACTOR TO 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.
14. THE PROPOSED ELEVATIONS AND SPOT ELEVATIONS SHOWN ARE FINISH GRADE. PROPER ADJUSTMENT SHOULD BE MADE BY THE CONTRACTOR FOR SUBGRADE.
15. GRADE ALL AREAS AROUND BUILDINGS FOR POSITIVE DRAINAGE AWAY FROM BUILDINGS.
16. THE TOPSOIL STOCKPILE SHALL BE DOZER COMPACTED. THE STOCKPILE SHALL BE SEEDED.

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

GENERAL NOTES

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.: C011

GUY M. WANTIZ REGISTERED ENGINEER AGRICULTURE & ENVIRONMENT COMMERCE No. 110302 STATE OF TENNESSEE 6/17/16

140-828\~CAD\Dwg

C113

C112

C111

C114

NORTH

0 60 120

REVISION RECORD

NO	DATE	DESCRIPTION

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SHEET MAP

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:

C110

GUY M. WANTIEZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

140-828\~CADD\.dwg

FOR CONTINUATION SEE SHEET C112

NORTH

0 20 40

LEGEND

- DEMOLITION
- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- ONE CALL SEWER LINE
- ONE CALL WATERLINE LOCATE
- ONE CALL GAS LINE LOCATE
- EXISTING STORM SEWER

CONTRACTOR NOTE:

EXISTING STORM SYSTEMS TO REMAIN IN SERVICE UNTIL NEW STORM SYSTEM IS IN PLACE AND OFF-SITE WATER CAN BE ROUTED SAFELY TO EXISTING OUTFALL

SAWCUT DEMOLISH AND REMOVE ASPHALT, CURBING AND SIDEWALK.

LIMITS OF REMOVAL OF PARKING

STORM SYSTEM TO REMAIN

LIMIT OF SIDEWALK REMOVAL

DEMOLISH AND REMOVE DRAIN INLET AND STORM PIPING*

TERMINATE STORM PIPE REMOVAL, CAP UPSTREAM DRAIN INLET.

DEMOLISH AND REMOVE DRAIN INLET AND STORM PIPING

LIMIT OF SIDEWALK REMOVAL

SAWCUT DEMOLISH AND REMOVE ASPHALT, CURBING AND SIDEWALK AS NECESSARY TO INSTALL NEW.

LIMIT OF SIDEWALK REMOVAL

SANITARY SEWER MAIN AND MANHOLE TO REMAIN

WATER METER AND HYDRANT TO BE RELOCATED BY KUB

DEMOLISH AND REMOVE BUILDINGS, ASPHALT, CURBING AND SIDEWALKS.

WATER METER AND HYDRANT TO BE RELOCATED BY KUB

DEMOLISH AND REMOVE DRAIN INLET AND STORM PIPING

LIMIT OF SIDEWALK REMOVAL

SAWCUT DEMOLISH AND REMOVE ASPHALT, CURB, GUTTER AND SIDEWALK AS NECESSARY TO INSTALL NEW.

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FIVE POINTS, KNOXVILLE, TN
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DEVELOPMENT CORPORATION

SITE DEMOLITION PLAN

DATE:	JUNE 20, 2016
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APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

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REGISTERED ENGINEER
AGRICULTURE
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.: C111

140-828\~CADD\Dwg

NORTH

0 20 40

LEGEND

- DEMOLITION
- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER

FOR CONTINUATION SEE SHEET C213

DEMOLISH AND REMOVE ASPHALT AND SIDEWALK AS NECESSARY TO INSTALL NEW.

DEMOLISH AND REMOVE ASPHALT AND CURBING FULL REMOVAL OF PAVING SYSTEM AS NECESSARY TO INSTALL NEW PAVEMENT.

DEMOLISH AND REMOVE DRAIN INLETS AND STORM PIPING

ACCESS TO DRIVEWAY TO BE MAINTAINED THROUGHOUT CONSTRUCTION

S. OLIVE ST.

LIMITS OF REMOVAL OF PARKING

TERMINATE STORM PIPE REMOVAL CAP REMAINING LINE

BACKFILL INLET, REMOVE GRATE AND FILL DEPRESSION WITH NEW ASPHALT TO PREVENT PONDING

SAWCUT DEMOLISH AND REMOVE ASPHALT, CURBING AND SIDEWALK.

STORM SYSTEM TO REMAIN

SAWCUT DEMOLISH AND REMOVE SIDEWALKS

SAWCUT DEMOLISH AND REMOVE STEPS AND SIDEWALK. PORCH TO REMAIN

FOR CONTINUATION SEE SHEET C111

FOR CONTINUATION SEE SHEET C114

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GUY M. WANTIZ
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COMMERCE
NO. 110302
STATE OF TENNESSEE
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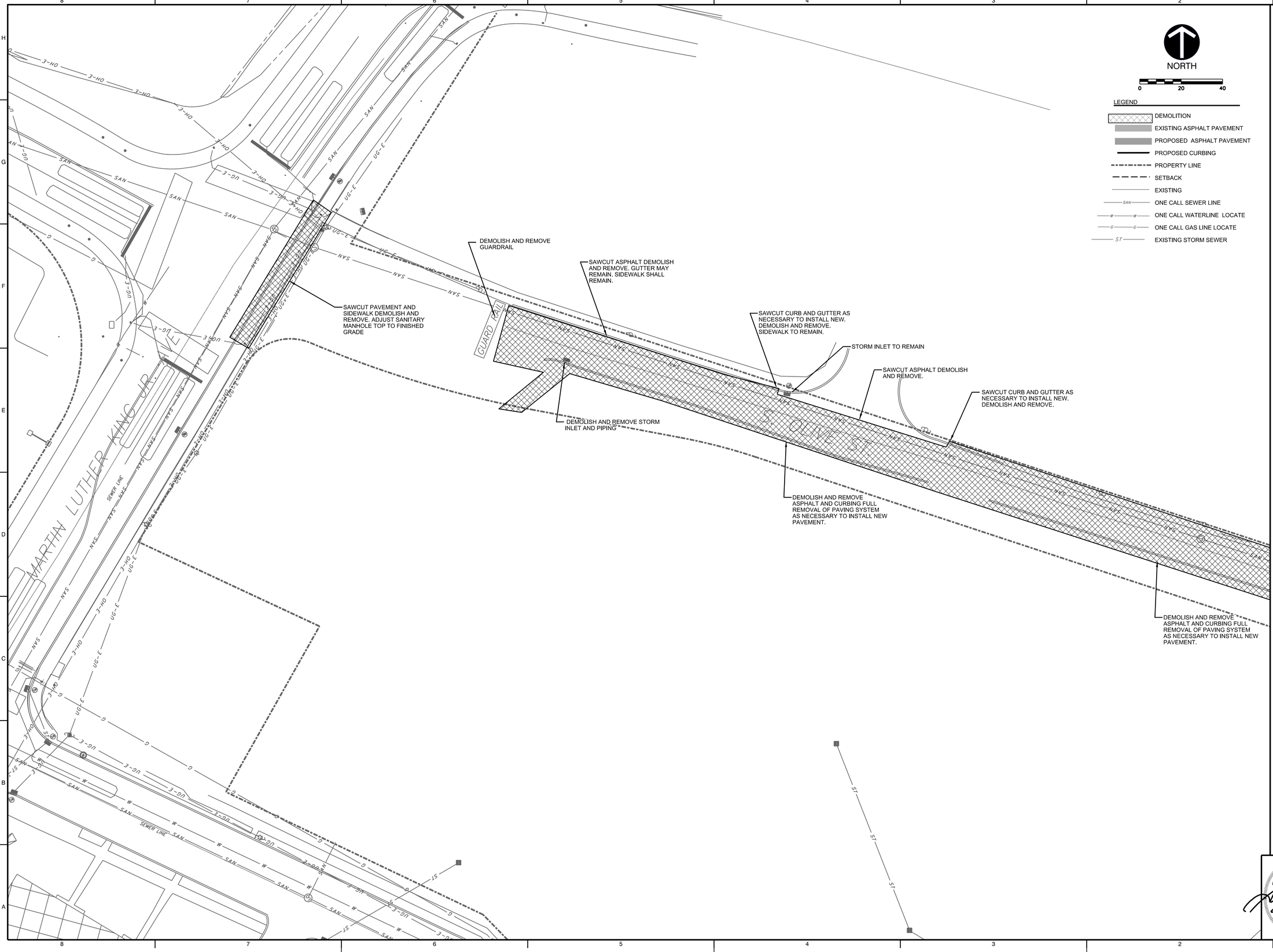
140-828_-CADD\Dwg



FOR CONTINUATION SEE SHEET C112

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SITE DEMOLITION PLAN

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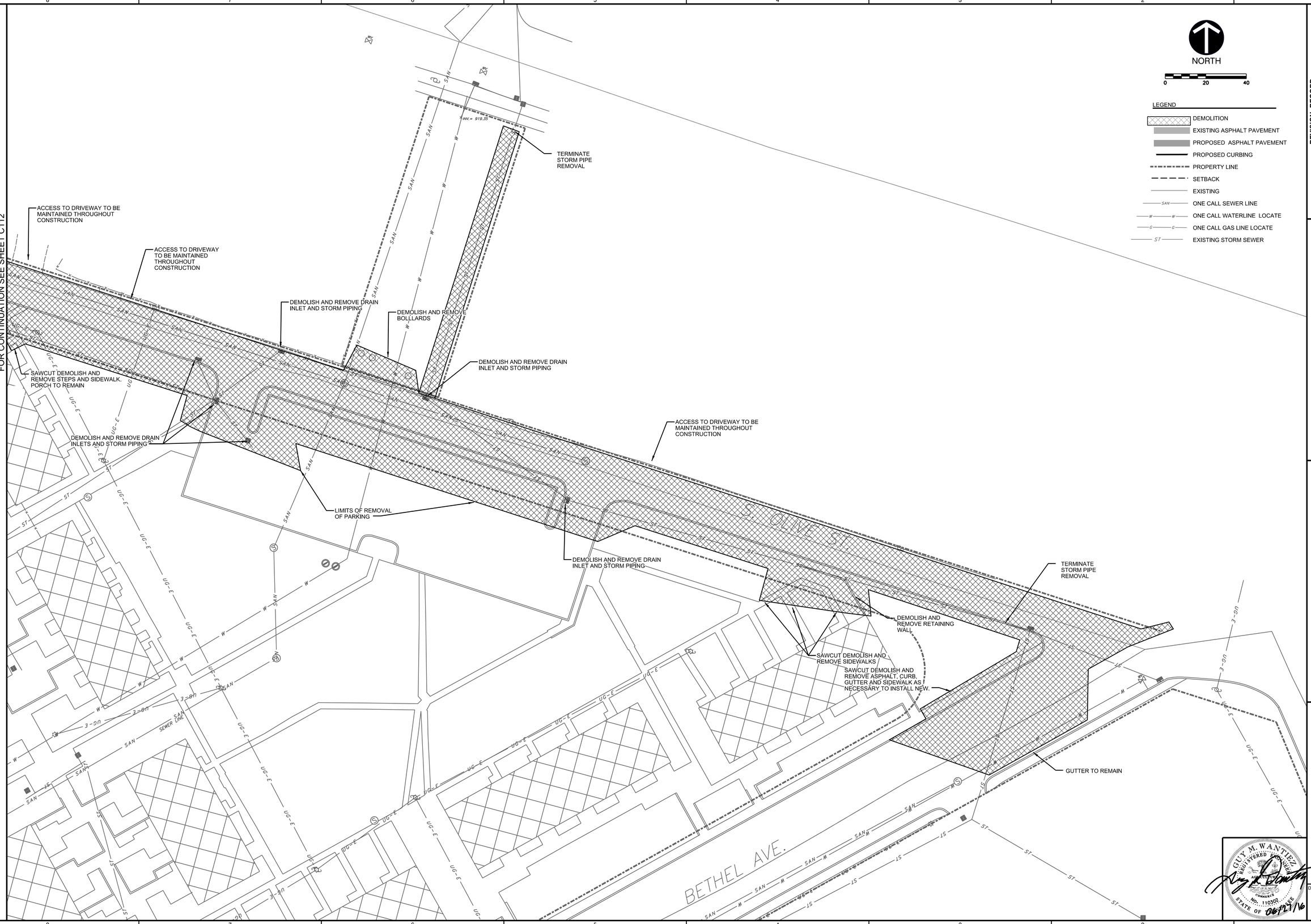
CONSULTANT
NO. 110302
STATE OF TENNESSEE
06/17/16

140-828\~CADD\Dwg



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DWG SCALE:	AS SHOWN
PROJECT NO.:	140-828
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CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:

C114

GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURAL & BIOSYSTEMS ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

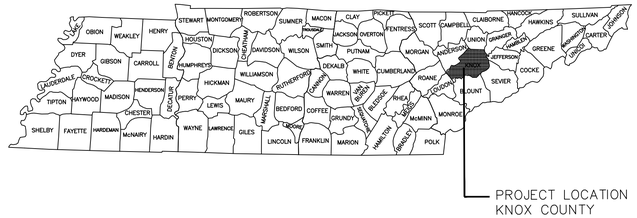
140-828\~CADD\Dwg

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

TRAFFIC SIGNAL PLANS

MARTIN LUTHER KING JR AVENUE AT OLIVE STREET

INDEX OF SHEETS
CONSTRUCTION



T.D.O.T. STANDARD DRAWINGS

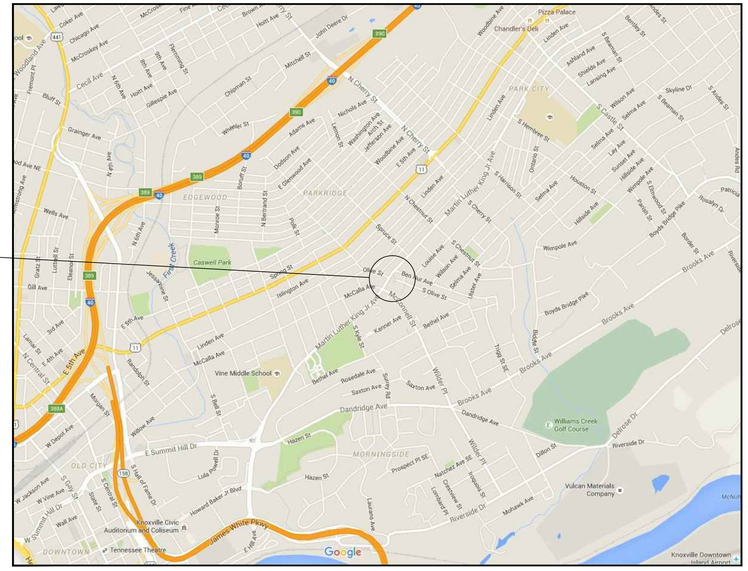
RD–A–1	STANDARD ABBREVIATIONS
RD–L–1	STANDARD LEGEND
RD–L–2	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD–L–3	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RP–H–3	HANDICAP RAMP AND TRUNCATED DOME SURFACE DETAIL
RP–H–5	PARALLEL CURB RAMP
RP–H–9	PARALLEL HANDICAP RAMP FOR 20' THRU 60' RADIUS
T–M–1	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS AND MARKING ABBREVIATIONS
T–M–2	DETAILS OF PAVEMENT MARKINGS FOR CONVENTIONAL ROADS
T–M–4	STANDARD INTERSECTION PAVEMENT MARKINGS
T–S–10	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS, ALUMINUM–STEEL DESIGN
T–SG–2	LOOP LEAD–INS, CONDUIT AND PULL BOXES
T–SG–3	STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
T–SG–5	CONTROLLER CABINET DETAILS
T–SG–7	SIGNAL HEAD ASSEMBLIES AND PEDESTRIAN PUSH BUTTON SIGNS
T–SG–7A	TYPICAL SIGN HEAD PLACEMENT
T–SG–9	DETAILS OF CANTILEVER SIGNAL SUPPORT
T–SG–9A	MISCELLANEOUS SIGNAL DETAILS
T–SG–10	MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS
T–SG–11	MAINTENANCE OF EXISTING SIGNALS DURING HIGHWAY CONSTRUCTION
T–SG–12	TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS
T–WZ–50	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 2 OR 3 LANE MAJOR ROUTES
T–WZ–55	SIDEWALK TRAFFIC CONTROL

CITY OF KNOXVILLE STANDARD DRAWINGS

COK–6	CONCRETE SIDEWALKS
COK–12	TRENCH CUT REPAIRS
COK–13	CURB CUTS AND TACTILE WARNING SYSTEMS
COK–14	LOCAL ROAD CROSS SECTION

NORTH

PROJECT LOCATION



LOCATION MAP

NOT TO SCALE

SPECIAL NOTE

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED: MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND THE PROPOSAL CONTRACT.

SPECIAL NOTE:
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DESIGNED BY RPM TRANSPORTATION CONSULTANTS, LLC

DESIGNER GREGORY P. WISECAVER, PE

P.E. NO. N/A

GREGORY P. WISECAVER — REGISTERED ENGINEER — AGRICULTURE — No. 116445 — STATE OF TENNESSEE — 6/21/16

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

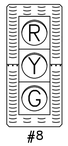
TRAFFIC SIGNAL
TITLE SHEET AND INDEX

DATE:	JUNE 21, 2016	DRAWN BY:	GPW
DWG SCALE:	AS SHOWN	CHECKED BY:	KSP
PROJECT NO:			15-0207
APPROVED BY:			GPW

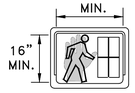
DRAWING NO.: C200

151-222\-CAD\Dwg

SIGNAL HEAD DISPLAYS



#8



#P2–P12

COUNTDOWN TYPE L.E.D PED WITH OVERLAPPING SOLID SYMBOLS

COLOR LEGEND
MAN – WHITE
HAND – PORTLAND ORANGE

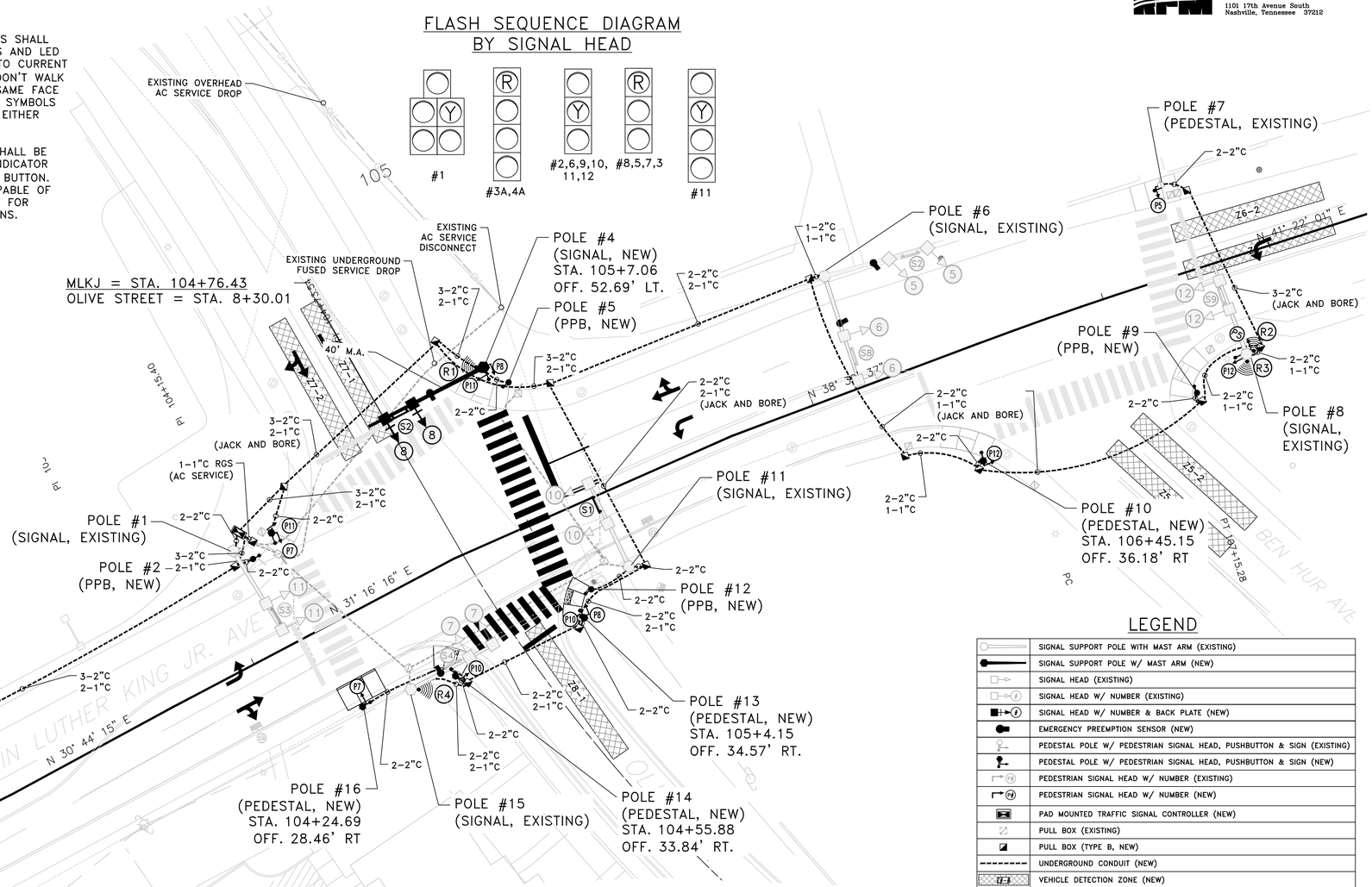
ALL TRAFFIC SIGNAL HEADS SHALL BE 12" WITH BLACK HOUSINGS AND VACUUM FORMED POLYCARBONATE 5INCH LOUVERED BACKPLATES. DISPLAYS SHALL BE LED TYPE, GELCORE, DURALIGHT, OR APPROVED EQUIVALENT.

ALL PEDESTRIAN SIGNAL HEADS SHALL HAVE BLACK COLOR HOUSINGS AND LED TYPE DISPLAYS CONFORMING TO CURRENT ITE STANDARDS, WITH WALK/DON'T WALK SYMBOLS DISPLAYED IN THE SAME FACE WITH COUNTDOWN TIMER. THE SYMBOLS SHALL BE FULLY POPULATED, EITHER GELCORE OR DURALIGHT.

PEDESTRIAN PUSH BUTTONS SHALL BE ADA ACCEPTABLE WITH LED INDICATOR AND 2" VIBRO–TACTILE PUSH BUTTON. PUSH BUTTONS SHALL BE CAPABLE OF PROVIDING AUDIBLE MESSAGES FOR VISUALLY IMPAIRED PEDESTRIANS.

SIGNAL HEAD DISPLAYS (EXISTING)

FLASH SEQUENCE DIAGRAM BY SIGNAL HEAD



LEGEND

	SIGNAL SUPPORT POLE WITH MAST ARM (EXISTING)
	SIGNAL SUPPORT POLE W/ MAST ARM (NEW)
	SIGNAL HEAD (EXISTING)
#1	SIGNAL HEAD W/ NUMBER (EXISTING)
#1	SIGNAL HEAD W/ NUMBER & BACK PLATE (NEW)
	EMERGENCY PREEMPTION SENSOR (NEW)
	PEDESTAL POLE W/ PEDESTRIAN SIGNAL HEAD, PUSHBUTTON & SIGN (EXISTING)
	PEDESTAL POLE W/ PEDESTRIAN SIGNAL HEAD, PUSHBUTTON & SIGN (NEW)
P#	PEDESTRIAN SIGNAL HEAD W/ NUMBER (EXISTING)
P#	PEDESTRIAN SIGNAL HEAD W/ NUMBER (NEW)
	PAD MOUNTED TRAFFIC SIGNAL CONTROLLER (NEW)
	PULL BOX (EXISTING)
	PULL BOX (TYPE B, NEW)
	UNDERGROUND CONDUIT (NEW)
	VEHICLE DETECTION ZONE (NEW)
	OVERHEAD SIGN (EXISTING)
S#	OVERHEAD SIGN W/ NUMBER (NEW)
R#	RADAR DETECTION UNIT W/ NUMBER (NEW)
	PEDESTRIAN PUSH BUTTON POST W/ BUTTON & SIGN (NEW)

NOTE: LEGEND APPLIES TO ALL TRAFFIC SIGNAL DESIGN SHEETS.

PHASING DIAGRAM

	ø1	ø2	ø7	ø8	ø5	ø3	ø4
MCCALLA / MCCONNELL	OL–1, ø1	OL–1, ø2	OL–1	OL–1	OL–1	ø3	ø4
OLIVE	OL–3, OL–2	OL–3, OL–2	ø7, OL–7, OL–3, OL–2	OL–8, ø8, OL–3, OL–2	OL–3, OL–2	OL–3, OL–2	OL–3, OL–2
BEN HUR	OL–5, OL–4	OL–5, OL–4	OL–5, OL–4	OL–5, OL–4	OL–5, ø5, OL–4	OL–5, OL–4	OL–5, OL–4

PHASE MODE: USER (SEQUENTIAL OPERATION)

SEQUENCE OF PHASES: 1–2–7–8–5–3–4
OVERLAPS:
(ø9) OL1=1+2+7+8+5
(ø10) OL2=1+2+3+4
(ø11) OL3=1+2+3+4+5
(ø12) OL4=1+2+3+4+7+8
(ø6) OL5=1+2+3+4+7+8
(ø7) OL6=7
(ø8) OL7=8

RADAR DETECTION ASSIGNMENTS

ZONE ASSIGNMENT	SIZE	RADAR	MODE	DISTANCE FROM STOP LINE
Z1–1	6'x50'	R8	PRESENCE	–5'
Z2–1	6'x50'	R6	PRESENCE	–5'
Z2–2	6'x50'	R6	PRESENCE	–5'
Z3–1	6'x50'	R7	PRESENCE	–5'
Z3–2	6'x50'	R7	PRESENCE	–5'
Z4–1	6'x50'	R5	PRESENCE	–5'
Z5–1	6'x50'	R3	PRESENCE	–5'
Z5–2	6'x50'	R3	PRESENCE	–5'
Z6–1	6'x50'	R2	PRESENCE	–5'
Z6–2	6'x50'	R2	PRESENCE	–5'
Z7–1	6'x50'	R1	PRESENCE	–5'
Z7–2	6'x50'	R1	PRESENCE	–5'
Z8–1	6'x50'	R4	PRESENCE	–5'

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CALL BEFORE YOU DIG 1-800-351-1111 TENNESSEE ONE CALL SYSTEM

NORTH

SCALE IN FEET 0 20' 40'

GREGORY P. WISECUP REGISTERED ENGINEER AGENCY NO. 2702 STATE OF TENNESSEE NO. 115445 6/21/16

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.ceoinc.com

REVISION RECORD

NO	DATE	DESCRIPTION

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

TRAFFIC SIGNAL PLAN

DATE: JUNE 21, 2016 | DRAWN BY: GPW
DWG SCALE: AS SHOWN | CHECKED BY: KSP
PROJECT NO.: 15-0207
APPROVED BY: GPW

DRAWING NO.: C201

151-222\~CADD\Dwg

BASIC TIMING (SECS)

PHASE	MINIMUM INITIAL	VEHICLE INTERVAL	MAX I	MAX II	CLEARANCE		PEDESTRIAN		RECALL
					YELLOW	ALL RED	WALK	FDW	
1	6	2.0	20	20	3.5	2.5	–	–	
2	10	3.0	20	20	4.0	2.0	7.0	11.0	MIN
3	6	3.0	20	20	3.5	2.5	7.0	15.0	
4	6	3.0	20	20	3.5	2.5	7.0	17.0	
5	6	3.0	20	20	3.5	2.5	7.0	13.0	
6*	10	2.0	20	20	4.0	2.0	–	–	
7	6	3.0	12	12	3.5	2.5	7.0	12.0	
8	6	3.0	12	12	3.5	2.5	7.0	17.0	
9*	6	3.0	20	20	4.0	2.0	7.0	20.0	
10*	6	3.0	20	20	4.0	2.0	7.0	11.0	
11*	6	3.0	20	20	4.0	2.0	7.0	17.0	
12*	6	3.0	20	20	4.0	2.0	7.0	17.0	

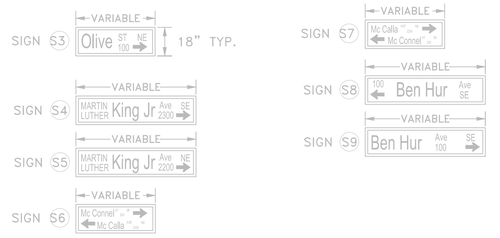
*SEQUENTIAL PHASING (1–2–7–8–5–3–4); PHASES 6, 9, 10, 11, 12 ARE CALLED BY OVERLAPS.

OVERHEAD STREET NAME SIGNS (SNS)

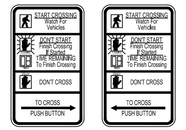
NOTE:
- 8" U.C. LETTERS (MINIMUM)
- 6" L.C. LETTERS (MINIMUM)
- HIGH INTENSITY REFLECTIVE SHEETING
- REFLECTIVE WHITE COPY
- GREEN BACKGROUND

SNS LETTERING SHOWN FOR REFERENCE ONLY. SNS SIZE AND LETTERING TO BE COORDINATED AND DETERMINED BY THE CITY OF KNOXVILLE PRIOR TO FABRICATION AND INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION WITH THE CITY, FABRICATIONS, AND INSTALLATIONS OF SNS'S.

OVERHEAD STREET NAME SIGNS (SNS) (EXISTING)



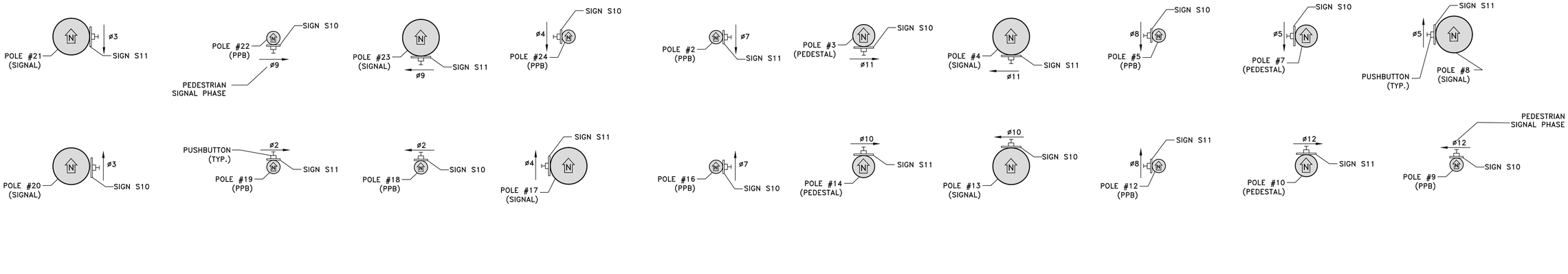
TRAFFIC SIGNS



R10–3e 10"x15" SIGN S10

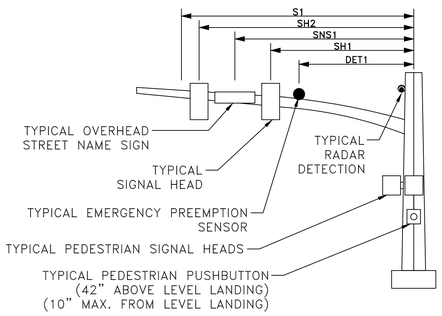
R10–3e 10"x15" SIGN S11

PEDESTRIAN PUSHBUTTON ORIENTATION



MAST ARM DETAILS

N.T.S.



POLE	SH1	SH2	SNS1	DET–1	RADAR
#4	25'–11"	36'–0"	30'–9"	19'–3"	0'–0"
#6(ø5)	–	–	–	16'–6"	–
#6(ø6)	–	–	–	15'–2"	–
#8	–	–	–	–	0'–0"
#11	–	–	22'–8"	–	–
#15	–	–	–	11'–0"	0'–0"
#17	–	–	–	15'–11"	–
#20	–	–	–	26'–8"	0'–0"
#23	–	–	–	15'–5"	–

NOTE: DISTANCES BASED ON SIGNAL POLE LOCATIONS INDICATED ON PLAN. IF FIELD ADJUSTMENTS TO SIGNAL POLE LOCATIONS ARE MADE, SIGNAL HEADS ARE TO BE PLACED IN RELATION TO TRAVEL LANES ACCORDING TO MUTCD AND TDOT STANDARDS.

SIGNAL SUPPORT POLE DATA

POLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEV.	ARM LENGTH (FT.)	FOOTING DEPTH*
3	104+24.92	35.07' LT.	606034.74	2590587.95		N/A	3'
4	104+7.06	52.69' LT.	606116.04	2590619.45		40'	10'
10	106+45.15	36.18' RT.	606172.88	2590774.14		N/A	3'
13	105+4.15	34.57' RT.	606063.02	2590689.09		N/A	3'
14	104+55.88	33.84' RT.	606025.40	2590662.90		N/A	3'
16	104+24.69	28.46' RT.	606001.56	2590643.33		N/A	3'

1. FOOTING DEPTH IS BELOW SURFACE OF GROUND. FOOTING DEPTH CALCULATED UTILIZING TDOT INTERSECTION POLE DESIGNER AND SPECIFIED ACCORDING TO TDOT METHOD. CALCULATION BASED ON AASHTO 4TH EDITION, 90 MPH WIND SPEED.
2. TOP OF FOOTING SHALL BE FOUR INCHES ABOVE FINISHED GROUND ELEVATION.
3. VERTICAL CLEARANCE FROM PAVEMENT TO BOTTOM OF SIGNAL HEAD HOUSING SHALL BE A MINIMUM OF 17.0' AND A MAXIMUM OF 19.0'.
4. POLES SHALL BE PLACED AS CLOSE TO THE LOCATIONS INDICATED AS POSSIBLE. ANY LOCATION CHANGES MUST BE APPROVED BY THE ENGINEER.
5. MAST ARM AND POLE STRENGTH AND RELATED DIMENSIONS SHALL BE DESIGNED BY THE POLE MANUFACTURER FOR THE ARM SPREAD AND LOADINGS REQUIRED BY THIS DESIGN PLAN. THE DESIGN SHALL COMPLY WITH THE REQUIREMENTS OF TDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION AND THE SPECIAL PROVISION REGARDING SECTION 730K – TRAFFIC SIGNALS CITY OF KNOXVILLE 730 GENERAL REQUIREMENTS.
6. ALL STRAIN POLES, MAST ARMS, PEDESTAL POLES, AND PEDESTRIAN PUSH BUTTON POSTS SHALL BE POWDERED COATED BLACK AND MATCH THE EXISTING TAPERED SQUARE–TUBE SIGNAL EQUIPMENT.

CALL BEFORE YOU DIG 1–800–351–1111 TENNESSEE ONE CALL SYSTEM

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GREGORY P. WISBACHER REGISTERED PROFESSIONAL ENGINEER NO. 116445 STATE OF TENNESSEE 5/21/16

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

REVISION RECORD

NO	DESCRIPTION	DATE

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

TRAFFIC SIGNAL PLAN

DATE:	JUNE 21, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	15-0207
DRAWN BY:	GPW
CHECKED BY:	KSP
APPROVED BY:	GPW

DRAWING NO.: C202

151-222\-CADD\Dwg

WIRING DIAGRAM (NEW)
N.T.S.

NORTH

EXISTING OVERHEAD AC SERVICE DROP

EXISTING AC SERVICE DISCONNECT

EXISTING UNDERGROUND FUSED SERVICE DROP

POLE #4 (SIGNAL, NEW) STA. 105+7.06 OFF. 52.69' LT.

POLE #5 (PPB, NEW)

4-12C
3-7C (PED)
6-2CSH (PPB)
4-RADAR CABLE
4-EVP CABLE

40' M.A.

1-2CSH (PPB)

2-7C
1-EVP

3-12C
3-7C (PED)
5-2CSH (PPB)
3-RADAR
3-EVP

1-12C
2-7C (PED)
3-2CSH (PPB)
1-RADAR CABLE
1-EVP CABLE

2-12C
1-7C (PED)
2-2CSH (PPB)
2-RADAR
2-EVP

1-12C
2-EVP

POLE #6 (SIGNAL, EXISTING)

POLE #7 (PEDESTAL, EXISTING)

1-7C (PED)
1-2CSH (PPB)

POLE #9 (PPB, NEW)

1-12C
1-7C (PED)
1-2CSH (PPB)
2-RADAR

POLE #8 (SIGNAL, EXISTING)

1-12C
1-7C (PED)
2-2CSH (PPB)
2-RADAR
1-EVP

POLE #10 (PEDESTAL, NEW) STA. 106+45.15 OFF. 36.18' RT

POLE #11 (SIGNAL, EXISTING)

POLE #1 (SIGNAL, EXISTING)

POLE #2 (PPB, NEW)

1-2C #6 (CONNECT TO EXISTING AC SERVICE)

2-12C
2-7C (PED)
5-2CSH (PPB)
4-RADAR CABLE
3-EVP CABLE

POLE #12 (PPB, NEW)

1-12C
2-7C (PED)
2-2CSH (PPB)
2-RADAR CABLE
1-EVP CABLE

POLE #13 (PEDESTAL, NEW) STA. 105+4.15 OFF. 34.57' RT.

POLE #14 (PEDESTAL, NEW) STA. 104+55.88 OFF. 33.84' RT.

POLE #15 (SIGNAL, EXISTING)

POLE #16 (PEDESTAL, NEW) STA. 104+24.69 OFF. 28.46' RT

POLE #23 (SIGNAL, EXISTING)

POLE #24 (PPB, NEW)

2-12C
2-7C (PED)
4-2CSH (PPB)
4-RADAR CABLE
3-EVP CABLE

POLE #22 (PPB, NEW)

POLE #21 (SIGNAL, EXISTING)

2-12C
2-7C (PED)
4-2CSH (PPB)
2-RADAR CABLE
2-EVP CABLE

POLE #17 (SIGNAL, EXISTING)

POLE #18 (PPB, NEW)

POLE #19 (PPB, NEW)

POLE #20 (SIGNAL, EXISTING)

2-12C
2-7C (PED)
3-2CSH (PPB)
2-RADAR CABLE
2-EVP CABLE

1-12C
1-7C (PED)
2-2C (PPB)
1-EVP

1-12C
1-7C (PED)
2-2CSH (PPB)
2-RADAR CABLE
1-EVP CABLE

Transportation Consultants, LLC
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Nashville, Tennessee 37212

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INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

TRAFFIC SIGNAL
WIRING DIAGRAM

DATE:	JUNE 21, 2016
DWG SCALE:	AS SHOWN
PROJECT NO.	15-0207
DRAWN BY:	GPW
CHECKED BY:	KSP
APPROVED BY:	GPW

GREGORY P. WISECARVER
REGISTERED ENGINEER
AGRICULTURE
No. 110448
STATE OF TENNESSEE
6/21/16

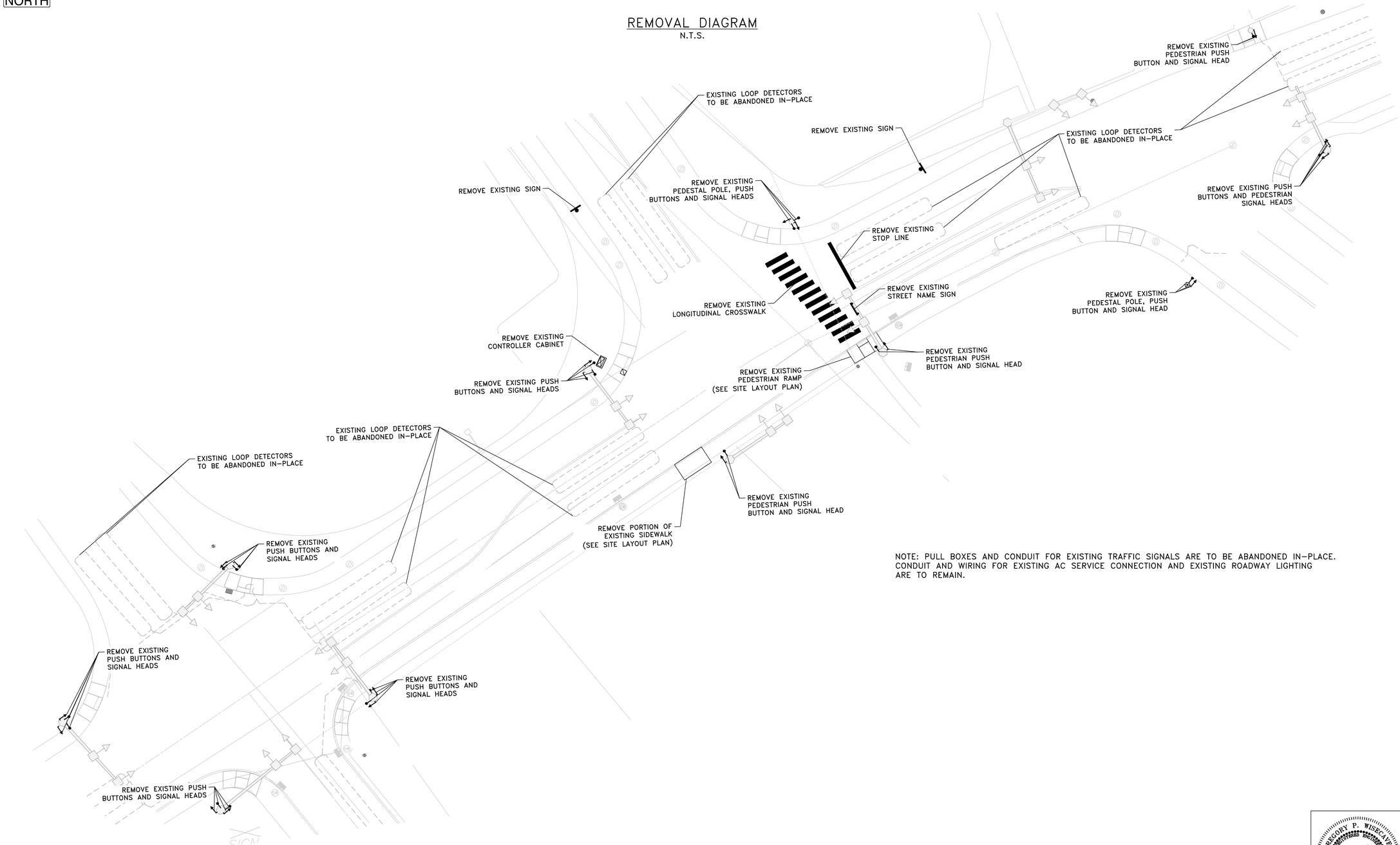
DRAWING NO.:
C203

151-222_CADD\Dwg

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

NORTH

REMOVAL DIAGRAM
N.T.S.



NOTE: PULL BOXES AND CONDUIT FOR EXISTING TRAFFIC SIGNALS ARE TO BE ABANDONED IN-PLACE. CONDUIT AND WIRING FOR EXISTING AC SERVICE CONNECTION AND EXISTING ROADWAY LIGHTING ARE TO REMAIN.

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

TRAFFIC SIGNAL REMOVAL DIAGRAM

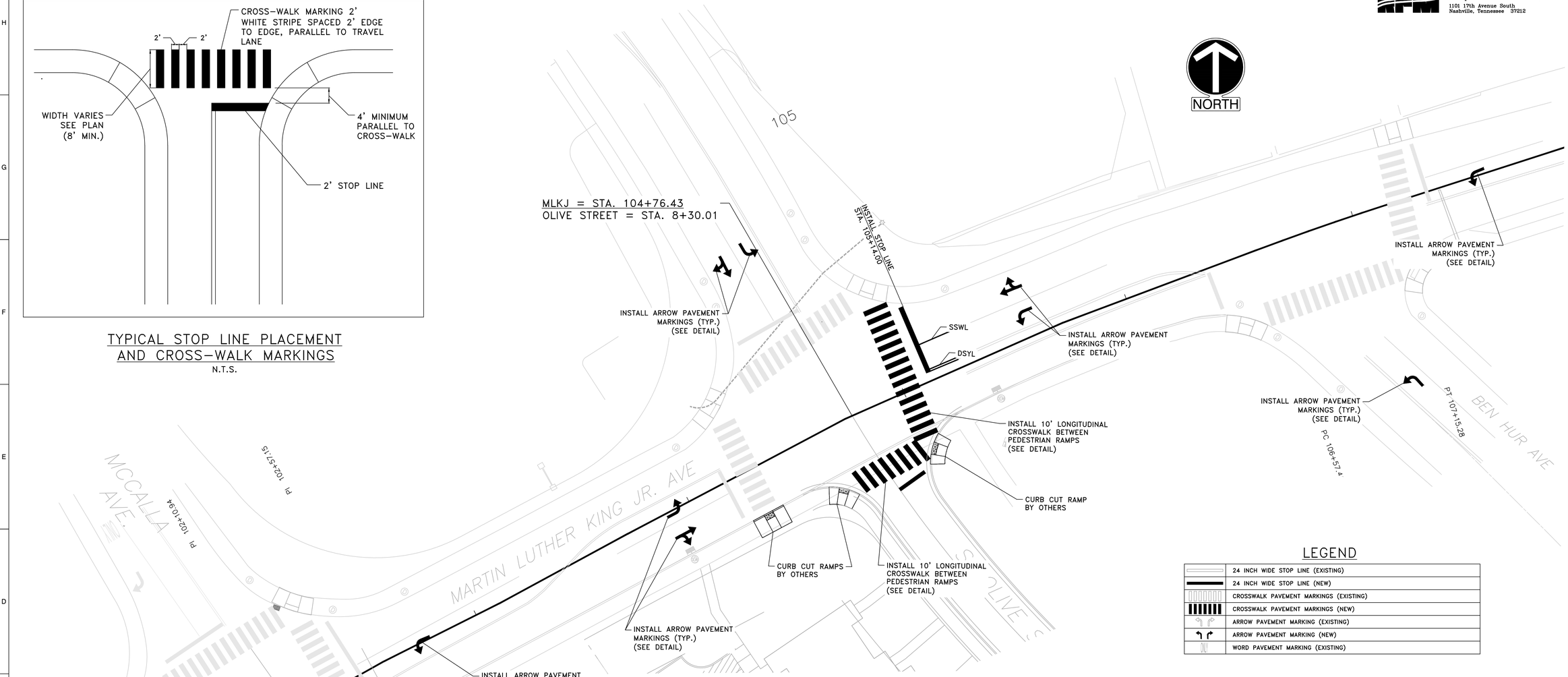
DATE:	JUNE 21, 2016	DRAWN BY:	GPW
DWG SCALE:	AS SHOWN	CHECKED BY:	KSP
PROJECT NO:			15-0207
APPROVED BY:			GPW

GREGORY P. WISEAVER
REGISTERED ENGINEER
AGRICULTURE
No. 116445
STATE OF TENNESSEE
6/21/16

DRAWING NO.:
C204

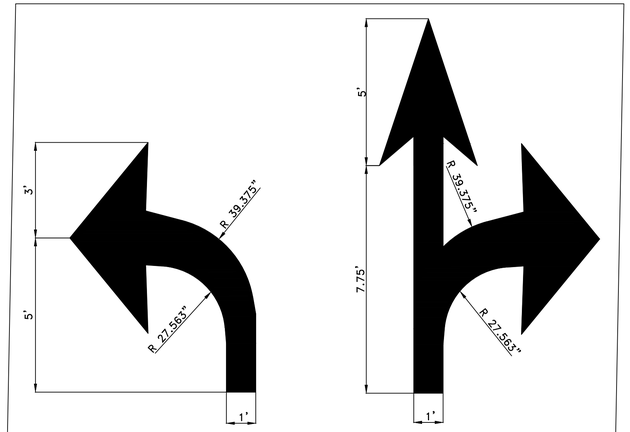
151-222\-CADD\Dwg

TYPICAL STOP LINE PLACEMENT
AND CROSS-WALK MARKINGS
N.T.S.



MARKING ABBREVIATIONS
SSWL – SINGLE SOLID WHITE LINE
DSYL – DOUBLE SOLID YELLOW LINE
4" UNLESS OTHERWISE SPECIFIED

SPECIAL NOTE:
THE BASE SURVEY AND DESIGN INFORMATION FOR ROADWAY AND UTILITIES PRESENTED ON THIS PLAN WERE PROVIDED TO RPM TRANSPORTATION CONSULTANTS, LLC (RPM) BY CIVIL & ENVIRONMENTAL CONSULTANTS, INC (CEC). WHERE AVAILABLE, BASE INFORMATION HAS BEEN SUPPLEMENTED BY PLANS AND/OR FIELD OBSERVATIONS OBTAINED FROM THE CITY OF KNOXVILLE. RPM MAKES NO CLAIMS AS TO THE COMPLETENESS OR ACCURACY OF THE PROVIDED BASE INFORMATION.



NOTE:
1. TURN ARROWS SHALL BE PLACED IN THE STORAGE AREAS AT 35 FOOT INTERVALS FROM THE STOP BAR.

STANDARD ARROW
PAVEMENT MARKINGS
N.T.S.

LEGEND

	24 INCH WIDE STOP LINE (EXISTING)
	24 INCH WIDE STOP LINE (NEW)
	CROSSWALK PAVEMENT MARKINGS (EXISTING)
	CROSSWALK PAVEMENT MARKINGS (NEW)
	ARROW PAVEMENT MARKING (EXISTING)
	ARROW PAVEMENT MARKING (NEW)
	WORD PAVEMENT MARKING (EXISTING)

CALL BEFORE YOU DIG
1-800-351-1111
TENNESSEE ONE CALL SYSTEM

SCALE IN FEET
0 20' 40'

GREGORY P. WISECARVER
REGISTERED ENGINEER
AGRICULTURE
VOLUME
No. 116445
STATE OF TENNESSEE
6/21/16

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.ceainc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

TRAFFIC SIGNAL
PAVEMENT MARKING DIAGRAM

DATE:	JUNE 21, 2016
DRAWN BY:	GPW
DWG SCALE:	AS SHOWN
CHECKED BY:	KSP
PROJECT NO.:	15-0207
APPROVED BY:	GPW

DRAWING NO.:
C205

151-222\-CAD\Dwg

SIGNAL NOTES

1. THIS TRAFFIC SIGNALIZATION PLAN CONSISTS OF A NEW TRAFFIC CONTROL SIGNAL STEEL MAST ARM SIGNAL SUPPORT STRUCTURES AT MLK & OLIVE, NEW UNDERGROUND CONDUIT SYSTEM, AND ADA AUDIBLE PEDESTRIAN PUSHBUTTONS AS SHOWN ON THE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE ENGINEER WITH COPIES OF THE MILL DRAWING AND STRUCTURAL CERTIFICATION FOR ALL SIGNAL SUPPORT STRUCTURES.

2. EQUIPMENT AND INSTALLATION SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE FOLLOWING TENNESSEE DEPARTMENT OF TRANSPORATION PUBLICATIONS:

A) "SPECIAL PROVISIONS" SECTION 730 AND 730K – TRAFFIC SIGNALS.
B) "SPECIAL SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (MARCH 1, 1995)
C) "STANDARD ROADWAY AND STRUCTURE DRAWINGS"

3. THE NEW POLE LOCATION IS SUBJECT TO MINOR CHANGES AS APPROVED BY THE ENGINEER.

4. RADAR DETECTOR LEAD–IN CABLE SHALL BE ONE CONTINUOUS LENGTH WITH NO SPLICES BETWEEN THE DETECTOR AND IN CABINET CONTROL UNIT. EACH DETECTOR SHALL HAVE A SEPARATE LEAD–IN TO THE CONTROLLER CABINET. ALL DETECTOR LEAD–INS SHALL BE LABELED WITH THE APPROPRIATE PHASE AND APPROACH TO WHICH THEY ARE ATTACHED BOTH IN THE PULLBOX AND CONTROLLER CABINET.
5. SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED UNTIL SIGNAL IS OPERATIONAL.
6. SIGNAL HEADS SHALL BE BLACK IN COLOR WITH ALUMINUM TOP SECTION AND TWO POLYCARBONATE BOTTOM SECTIONS HAVING A 12–INCH SIGNAL FACES AND HAVE POLYCARBONATE VACUUM FORMED BACKPLATES WITH LOUVERS.
7. THE SIGNAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE CITY SIGNAL MAINTENANCE SUPERVISOR, ALLEN ARNETT AT 865–215–6730 OR 865–215–6100 TO OBTAIN WIRING COLOR–CODE FOR 12 POSITION QUICK DISCONNECTS REQUIRED BY CITY.
8. THE CONTRACTOR SHALL PROVIDE:

A) A CITY STANDARD EIGHT PHASE CABINET AS PER THE SP730K SPECIFICATIONS,
B) A NAZTEC ATC CONTROLLER AS PER THE SP730K SPECIFICATIONS,
C) A NAZTEC MMU AS PER THE SP730K SPECIFICATIONS,
D) EIGHT LOAD SWITCHES,
E) EIGHT FLASH TRANSFER RELAYS,
F) WAVETRONIX RADAR DETECTION UNIT WITH DETECTORS FOR SEVEN APPROACHES AS PER THE SP730K SPECIFICATIONS,
G) FLASHER AND ANY OTHER EQUIPMENT NECESSARY TO MAKE AN OPERATIONAL TRAFFIC SIGNAL BASED ON THE DESIGN PLANS PROVIDED.
H) CLOSED LOOP SIDE PANEL,
I) FIBER OPTIC SIDE PANELS,
J) BLUE EARTH BATTERY BACKUP POWER SUPPLY AND BATTERIES FOR A COMPLETE SYSTEM, AND
K) SONEM 2000 EMERGENCY VEHICLE PREEMPTION UNIT WITH RECEIVERS FOR SEVEN APPROACHES AS PER THE SP730K.

ALL EQUIPMENT WILL MEET ALL NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION STANDARDS. THE CONTRACTOR SHALL PROVIDE THE ENGINEER WITH COPIES OF THE PAID INVOICES FOR ALL TRAFFIC SIGNAL EQUIPMENT INSTALLED ON THIS PROJECT.

9. ALL SIGNAL CABLE SHALL BE INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION (IMSA) APPROVED CABLE:

A) TRAFFIC SIGNAL CABLE SHALL BE IMSA SPECIFICATION 19–1, 12 CONDUCTOR STRANDED WIRE.
B) PEDESTRIAN SIGNAL CABLE SHALL BE IMSA SPECIFICATION 19–1, 7 CONDUCTOR STRANDED WIRE.
C) PEDESTRIAN PUSHBUTTON AND DETECTOR LOOP LEAD–IN CABLE SHALL BE IMSA SPECIFICATION 50–2, 2 CONDUCTOR STRANDED WIRE.
D) LOOP DETECTOR WIRE SHALL BE IMSA SPECIFICATION 51–3, 1 CONDUCTOR STRANDED WIRE.

10. RADAR DETECTOR LEAD–IN CABLE SHALL BE ONE CONTINUOUS LENGTH WITH NO SPLICES BETWEEN THE DETECTOR AND IN–CABINET CONTROL UNIT. EACH DETECTOR SHALL HAVE A SEPARATE LEAD–IN TO THE CONTROLLER CABINET. ALL DETECTOR LEAD–INS SHALL BE LABELED WITH THE APPROPRIATE PHASE AND APPROACH TO WHICH THEY ARE ATTACHED BOTH IN THE PULLBOX AND CONTROLLER CABINET.

11. ALL UTILITY LOCATIONS, AS SHOWN, ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY. SOME UTILITIES CAN BE LOCATED BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1–800–351–1111.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ELECTRICAL SERVICE TO THE SITE.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE LOCAL UTILITIES FOR ANY "MAKE READY" WORK REQUIRED. MDPW SHALL BE RESPONSIBLE FOR THE ACTUAL COST OF "MAKE READY" WORK.

14. THE CONTRACTOR SHALL INSTALL A 50 AMP, 2 POLE WEATHERPROOF EXTERNAL DISCONNECT ON THE POLE WITH A/C SERVICE CONNECTION. ENCLOSURE SHALL BE METALLIC WITH A 50 AMP SINGLE POLE CIRCUIT BREAKER.

15. CONTRACTOR SHALL INSTALL UNDERGROUND ELECTRIC SERVICE CONNECTION IN A TYPE B PULL BOX LABELED "TRAFFIC SIGNAL". PULL BOX SHALL HAVE A 30 AMP KTK FUSE AND WATER PROOF FUSE HOLDER WITH #6 AWG WIRES COLOR CODED BLACK, WHITE, AND GREEN. POWER SERVICE SHOULD BE INSTALLED IN A 2" CONDUIT FROM KUB VAULT TO CONTROLLER CABINET.

16. ALL EQUIPMENT NECESSARY FOR RADAR DETECTION SHALL BE FURNISHED BY THE CONTRACTOR AND INSTALLED IN THE CABINET. MOUNTING HARDWARE SHALL BE OF THE ASTRO BRACKET TYPE WITH A MINIMUM HEIGHT ADJUSTMENT OF 6 FT.

17. ALL FOUNDATIONS SHALL HAVE A SPARE 2–INCH STUBOUT PARALLEL TO THE ROAD (POLES AND CONTROLLER).

18. THE PROPOSED LOCATIONS FOR THE SIGNAL SUPPORT POLES, AS SHOWN ON THESE PLANS, ARE APPROXIMATE. SOME FIELD ADJUSTMENT MAY BE REQUIRED IN ORDER TO AVOID CONFLICT WITH EITHER OVERHEAD OR UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING AND STAKING THE OPTIMUM LOCATIONS FOR THESE POLES AND FOR RECEIVING APPROVAL FROM THE ENGINEER AND THE APPROPRIATE UTILITIES BEFORE INSTALLATION BEGINS. PROPER ROADSIDE CLEAR ZONES SHALL BE OBSERVED.

19. SHAFTS FOR FOOTINGS SHALL BE DRILLED THROUGH FIRM, UNDISTURBED, UNSATURATED SOIL AND SHALL BE VISUALLY INSPECTED BY THE ENGINEER OR ENGINEERING REPRESENTATIVE PRIOR TO PLACEMENT OF REINFORCEMENT. THE ENGINEER OR ENGINEERING REPRESENTATIVE SHALL BE ADVISED BY THE CONTRACTOR OF ANY GROUND WATER OR LOOSE SOIL ENCOUNTERED DURING DRILLING. FOOTINGS SHALL COMPLY WITH TDOT STANDARD DRAWINGS.

20. SIGNAL HEADS VISIBLE TO DRIVERS BUT NOT OPERATIONAL SHALL BE COMPLETELY COVERED.

21. IF FIELD ADJUSTMENTS RESULT IN CHANGES TO SIGNAL HEAD PLACEMENT, ATTACHMENT HEIGHTS, OR MAST ARM LENGTH, THE ENGINEER SHALL BE ADVISED AND SHOP DRAWINGS SHALL BE RE–EVALUATED TO VERIFY THAT THE CHANGES ARE STRUCTURALLY ACCEPTABLE.

22. PRIOR TO FABRICATION OF THE STREET NAME SIGNS THE CONTRACTOR SHALL CONTACT BILL COLE AT THE CITY OF KNOXVILLE (865–215–6117) TO CONFIRM STREET NAMES, BLOCK NUMBERS, ETC.

23. EXISTING SIGNAL EQUIPMENT CONFLICTING WITH THESE PLANS IS TO BE REMOVED BY THE CONTRACTOR. ALL SALVAGED EQUIPMENT TO BE RETURNED TO THE CITY OF KNOXVILLE.

24. EXISTING SIGNAL EQUIPMENT SHALL REMAIN IN OPERATION UNTIL NEW SIGNAL EQUIPMENT IS COMPLETE AND IN FULL OPERATION.

25. ALL NEW SIGNAL HEADS SHALL BE FABRICATED FROM ALUMINUM. ALL NEW SIGNAL HEADS SHALL BE LED TYPE, GELCORE OR KNOXVILLE APPROVED ALTERNATE. SIGNAL HEAD EQUIPMENT (I.E. FRAME AND ILLUMINATION TYPE) SHALL BE APPROVED BY KNOXVILLE PRIOR TO INSTALLATION. ATTACHMENT TO BE WITH "ASTRO" BRACKETS.

26. CABINET AND CONTROLLER MUST HAVE ALL EQUIPMENT NECESSARY TO PROVIDE SIGNAL COMMUNICATION VIA FIBER OPTIC INTERCONNECT.

27. TRAFFIC SIGNAL SUPPORT POLES SHALL BE DESIGNED IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES, AND TRAFFIC SIGNALS (CURRENT EDITION WITH ADDENDA). WIND LOADS SHALL BE BASED ON A BASIC WIND SPEED OF 90MPH WITH A RECURRENCE INTERVAL OF 50YRS. USE THE FATIGUE CATEGORY AS NOTED ON EACH PROPOSED SIGNAL LAYOUT. FATIGUE LOADS ARE BASED ON THE REQUIREMENTS OF SECTION 11.7 AND THE FOLLOWING LOADS:
GALLOPING – NO DESIGN NECESSARY. VIBRATION DAMPENERS SHALL BE USED ON ALL MAST ARMS 50' OR GREATER.
VORTEX SHEDDING – NOT APPLICABLE ON TRAFFIC SIGNAL SUPPORTS WITH A TAPER OF AT LEAST 0.14 IN/FT.
NATURAL WIND GUST – THE YEARLY MEAN WIND SPEED FOR NATURAL WIND GUSTS SHALL BE 11.2MPH.
TRUCK INDUCED GUST – NO DESIGN NECESSARY.
THE TRAFFIC SIGNAL SUPPORT POLES SHALL BE TAPERED SQUARE–TUBE POLES AND MAST ARMS OF THE SAME STYLE AS THE EXISTING SIGNAL EQUIPMENT.

28. ALL CONDUITS SHALL BE SCHEDULE 80 PVC UNLESS OTHERWISE NOTED. CONDUIT SHALL BE LAID AT A MINIMUM DEPTH OF 24 INCHES BELOW FINISHED GRADE AND SHALL COMPLY WITH TDOT TRENCHING DETAILS AND CONDUIT PLACEMENT. THE CONTRACTOR SHALL SEAL ALL OPEN CONDUIT ENTRANCE HOLES, WITH OR WITHOUT CABLES, WITH CONDUIT DUCT SEAL PUTTY OR CONDUIT PLUGS. WHERE CABLE ENTER THE CONDUIT, THE SEALANT SHALL BE APPLIED AFTER INSTALLING THE CABLE. THESE LOCATIONS SHALL CONSIST OF CONDUIT ENDS AND PULL BOXES, CABINET BASES AND WEATHER–HEADS.

29. THE PLAN SHEETS HAVE BEEN DEVELOPED WITH EXISTING DATA AVAILABLE FROM MULTIPLE SURVEYS AND FIELD VISITS. ALL ITEMS INCLUDED AND SHOWN HEREIN ARE BELIEVED TO REFLECT EXISTING CONDITIONS TO A REASONABLE DEGREE OF ACCURACY. HOWEVER, THE CONTRACTOR HAS FINAL RESPONSIBILITY TO VERIFY ALL EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO, UNDERGROUND UTILITIES, PROPERTY LINES AND DRAINAGE STRUCTURES.

30. ALL PAVEMENT MARKINGS SHOWN ON THE PLANS, E.G., STOP BARS, LANE LINES, GUIDE LINE, ETC., SHALL BE IN PLACE PRIOR TO ACTIVATION OF THE TRAFFIC SIGNAL START UP FLASH SEQUENCE.

31. THE CONTRACTOR SHALL PROVIDE THE CITY NOTICE OF WHEN THE SIGNAL WORK IS TO BEGIN AND AN EMERGENCY CONTACT FOR SIGNAL MAINTENANCE UNTIL SUCH TIME AS THE CITY ASSUMES MAINTENANCE RESPONSIBILITIES AFTER PROJECT APPROVAL.

32. IT IS THE RESPONSIBILITY OF THE SIGNAL CONTRACTOR TO MAINTAIN THE TRAFFIC SIGNALS ON THIS PROJECT UNTIL THE FINAL INSPECTION IS COMPLETE, ALL DESCREPANCIES CORRECTED, AND THE SIGNALS ACCEPTED FOR MAINTENANCE BY THE CITY.

33. THE SIGNAL CONTRACTOR SHALL PROVIDE THE CITY WITH AS–BUILT DRAWINGS OF THE NEW INSTALLATIONS.

ESTIMATED SIGNAL QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	QUANTITY
(1)	712–01	TRAFFIC CONTROL	HR	120
	713–15	REMOVAL OF SIGNS, POSTS, AND FOOTINGS	EACH	2
	713–16.21	SIGNS (STREET NAME SIGN)	EACH	2
(4)	714–06.05	SERVICE CABLE (3 CONDUCTOR, #6 AWG)	L.F.	20
	716–02.03	PLASTIC PAVEMENT MARKING (CROSS–WALK)	L.F.	100
	716–02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	40
	716–02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	10
	716–04.01	PLASTIC PAVEMENT MARKING (STRAIGHT–TURN ARROW)	EACH	1
	716–08.03	REMOVAL OF PAVEMENT MARKING (CROSS–WALK)	L.F.	60
	716–08.05	REMOVAL OF PAVEMENT MARKING (STOP LINE)	L.F.	25
	716–12.01	ENHANCED FLATLINE THERMO PVMT MRKNG (4 IN LINE)	L.M.	50
	717–01	MOBILIZATION	LS	1
	725–03.50	RADAR DETECTION SYSTEM (WAVETRONIX SMARTSENSOR)	EACH	8
	730–01.02	REMOVAL OF SIGNAL EQUIPMENT	EACH	1
(12)	730–02.09	SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)	EACH	2
	730–03.21	INSTALL PULL BOX (TYPE B – TRAFFIC)	EACH	21
(2)	730–05.01	ELECTRICAL SERVICE CONNECTION	EACH	1
	730–08.03	SIGNAL CABLE – 7 CONDUCTOR	L.F.	3,325
	730–08.05	SIGNAL CABLE – 12 CONDUCTOR	L.F.	1,959
(15)	730–12.01	CONDUIT 1" DIAMETER (PVC)	L.F.	1,117
(15)	730–12.01	CONDUIT 1" (JACK & BORE)	L.F.	747
(16)	730–12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	1,822
(16)	730–12.02	CONDUIT 2" (JACK & BORE)	L.F.	1,261
(4)	730–12.07	CONDUIT 1" DIAMETER (RGS)	L.F.	10
	730–13.03	VEHICLE DETECTOR (4–CHANNEL, RACK MOUNT)	EACH	4
(10)	730–13.06	VEHICLE DETECTOR (EMERGENCY VEHICLE PRIORITY CONTROL)	EACH	7
	730–14.01	SHIELDED DETECTOR CABLE	L.F.	3,713
(9)	730–15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	1
(3)(14)	730–23.30	PEDESTAL POLE (PEDESTRIAN)	EACH	4
(3)(7)(11)(14)	730–23.72	CANTILEVER SIGNAL SUPPORT (1 ARM @ 40')	EACH	1
(8)	730–26.02	PEDESTRIAN PUSHBUTTON WITH 15" SIGN (ADA TACTILE)	EACH	20
(13)	730–26.05	COUNTDOWN PEDESTRIAN SIGNAL	EACH	11
(3)(14)	730–26.06	PEDESTRIAN PUSHBUTTON POST	EACH	8

FOOTNOTES:

(1) ITEM INCLUDES ALL TRAFFIC CONTROL FOR INSTALLATION OF TRAFFIC SIGNAL AS NOTED ON THE PLAN SHEETS AND AS REQUIRED TO COMPLETE THE PROJECT.

(2) THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY TO OBTAIN THE ESTIMATE FOR ANY CHANGES BY THE UTILITY FOR PROVIDING ELECTRICAL SERVICE TO THE CONTROLLER THESE CHARGES SHALL BE INCLUDED IN THE PRICE FOR ITEM NO. 730–05.01 FOR PAYMENT BY THE BY THE CABINET AS INDICATED ON PLANS.

(3) ITEM INCLUDES SUPPORT POLE, INSTALLATION OF SUPPORT POLE AND FOUNDATION.

(4) QUANTITY MAY INCREASE OR DECREASE DURING SITE CONSTRUCTION AS NEEDED FOR ELECTRICAL

(5) RADAR DETECTION UNITS FOR STOP LINE DETECTION SHALL BE WAVETRONIX SMARTSENSOR MATRIX OR APPROVED EQUAL. DETECTION UNIT SHALL INCLUDE INSTALLATION, WIRING, AND ALL COMPONENTS NECESSARY TO PROVIDE A FULLY OPERATIONAL SYSTEM.

(6) ITEM INCLUDES MOUNTING OF SIGN OVERHEAD ON MAST ARM. OVERHEAD SIGNS TO BE MOUNTED USING ASTROBRACKET CABLE CLAMPS. SCREWING SIGNS TO MAST ARMS WILL NOT BE ACCEPTABLE.

(7)ITEM TO INCLUDE VIBRATION DAMPENING DEVICE PER TDOT STD DWG. T–SG–9.

(8) ITEM INCLUDES FURNISHING AND INSTALLING PEDESTRIAN PUSHBUTTONS AND SIGNS. ITEM TO BE ADA POLARA NAVIGATOR AUDIBLE PEDESTRIAN PUSHBUTTONS OR APPROVED EQUAL.

(9) CABINET SHALL BE PER SIGNAL NOTE 7, AND SHALL INCLUDE NAZTEC ATC CONTROLLER, NAZTEC MMU, AND BLUE EARTH UPS OR APPROVED EQUALS.

(10) ITEM INCLUDES FURNISHING AND INSTALLING A SONEM 2000 EMERGENCY PREEMPT UNIT AND ALL WIRING AND SENSORS NEEDED TO PROVIDE EMERGENCY VEHICLE PREEMPTION FOR SEVEN APPROACHES.

(11) ITEM INCLUDES MAST ARM MOUNTING HARDWARE. SIGNAL HEADS TO BE MOUNTED TO MAST ARM USING ASTROBRACKET SIGNAL HARDWARE.

(12) ITEM TO INCLUDE GELCORE OR DURALIGHT VEHICULAR SIGNAL LEDS, OR APPROVED EQUAL.

(13) ITEM TO INLCUDE 16"X18" HOUSINGS WITH LED FULLY POPULATED COUNTDOWN PEDESTRIAN SIGNA EITHER GELCORE OR DURALIGHT OR APPROVED EQUAL.

(14) MAST ARM SIGNAL POLES AND PEDESTAL POLES SHALL BE POWDER COATED BLACK AND OF A DECORATIVE TYPE MATCHING THE EXISTING TAPERED SQUARE–TUBE SIGNAL EQUIPMENT.

(15) EMERGENCY VEHICLE PREEMPTION CABLES AND RADAR DETECTION CABLES TO EACH HAVE 1" CONDUIT

(16) ITEM INCLUDES SPARE 2" CONDUIT FOR FUTURE SIGNAL CABLE.

GREGORY P. WISECARVER — NO. 116445 — STATE OF TENNESSEE — 6/21/16

Transportation Consultants, LLC
1101 17th Avenue South
Nashville, Tennessee 37212

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

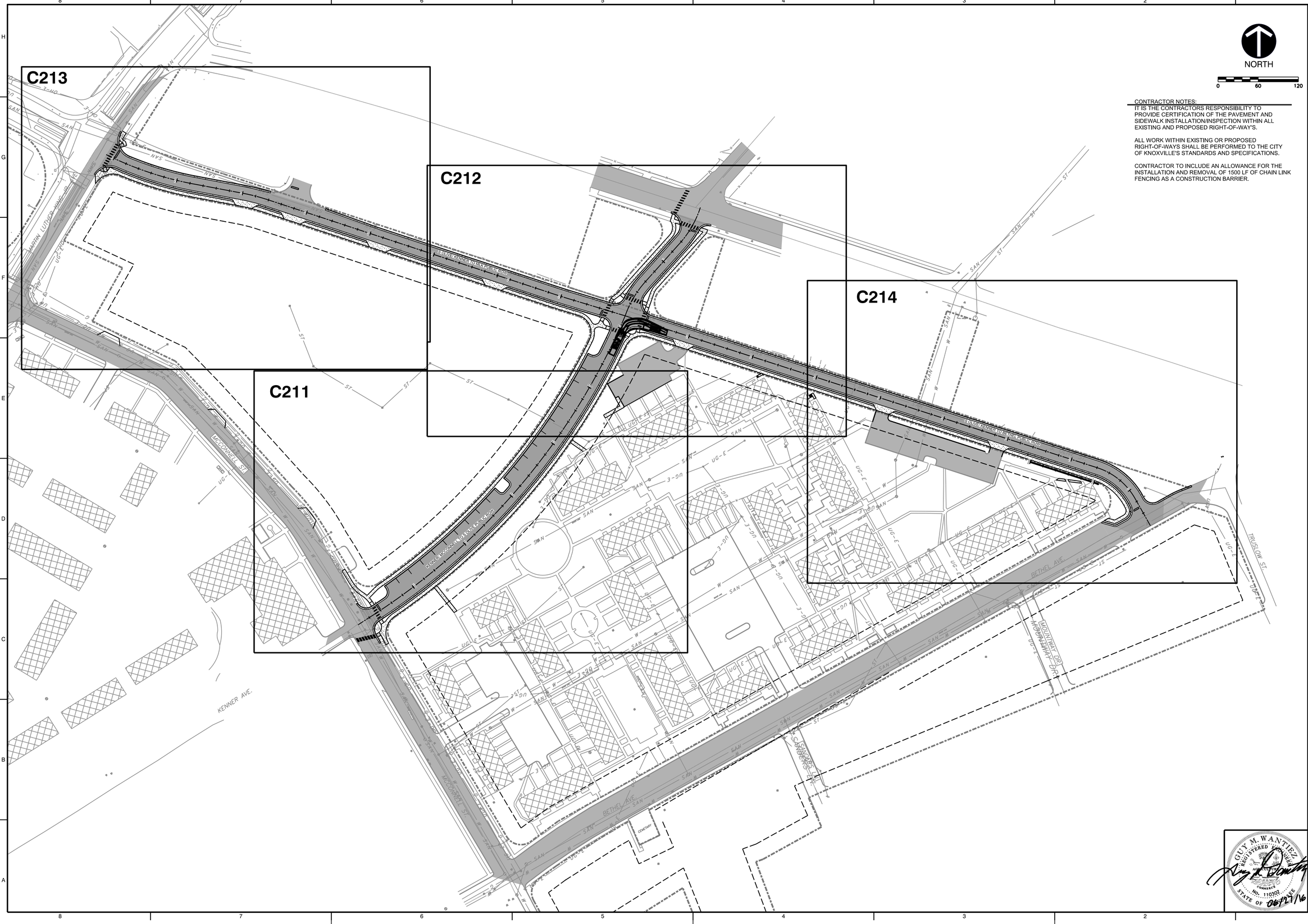
FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

TRAFFIC SIGNAL NOTES
AND ESTIMATED QUANTITIES

DATE: JUNE 21, 2016 | DRAWN BY: GPW
DWG SCALE: AS SHOWN | CHECKED BY: KSP
PROJECT NO: 15-0207
APPROVED BY: GPW

DRAWING NO.: C206

151–222\–CADD\Dwg



REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

SHEET MAP

DATE:	JUNE 20, 2016
DRAWN BY:	GMW
DWG SCALE:	AS SHOWN
CHECKED BY:	JCT
PROJECT NO:	140-828
APPROVED BY:	GMW

GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/21/16

DRAWING NO.:
C210

140-828\~CADD\.dwg

FOR CONTINUATION SEE SHEET C212

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — ONE CALL WATERLINE LOCATE
- G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER

SEE TDOT STANDARD DRAWING RP-NMC-10 TYPE "A" FOR DETATCHED CURB DETAIL

KENNER MCCONNELL TO S OLIVE PUBLIC ROW

5+00

4+00

3+00

2+00

1+00

R 1000'

5' SIDEWALK

2' GRASS STRIP TYP ALL PERIMETER SIDEWALKS

35

20.5

22.5'

26'

12'

24'

R 5'

22.8' TYP

6' TYP

30" CURB AND GUTTER SEE DETAIL

BEGIN EXTRUDED CURB

1" ASPH ON REA

24'

5'

18'

61'

SIDEWALK

27.6'

END EXTRUDED CURB

24.14'

47.97'

TIE TO EXISTING SIDEWALK

REPLACE MISSING CURB & GUTTER SECTION

(1) STOP SIGN R1-1 30" X 30" MIN. 7' CLEARANCE

RAMP

PC STA 2+24

R 55'

R 40'

R 15'

R 10'

24" WHITE STOP BAR

SEE TDOT STANDARD DRAWING RP-NMC-10 6-30 FOR COMBINED CURB AND GUTTER DETAIL

SEE COK 6 & 13 DETAILS

RAMP FLUSH WITH PAVEMENT W/TACTILE WARNING STRIP TAPER CURB EA SIDE TYPICAL 3 LOCATIONS

"CONTINENTAL" SOLID WHITE STRIPING TYPICAL ALL PEDESTRIAN CROSSING LOCATIONS

PC STA 1+00

(1) PEDESTRIAN SIGN W11-2 30" X 30" MIN. 7' CLEARANCE

TIE TO EXISTING SIDEWALK

(1) PEDESTRIAN SIGN W11-2 30" X 30"

SEWER LINE

140-828\~CADD\Dwg

REVISION RECORD

NO	DESCRIPTION	DATE

CEC
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE LAYOUT PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO.:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

GUY M. WANTIEZ REGISTERED ENGINEER No. 110302 STATE OF TENNESSEE 06/29/16

DRAWING NO.:
C211

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER

FOR CONTINUATION SEE SHEET C213

SEE TDOT STANDARD DRAWING RP-NMC-10 6-30 FOR COMBINED CURB AND GUTTER DETAIL

ADJUST MANHOLE TOP TO MEET NEW GRADE

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

3+00

2+00

1+00

6+00

5+00

S OLIVE/ KENNER TO MLK PUBLIC ROW

5' SIDEWALK

24'

22.5'

R 1000'

PT STA 1+11.09

PC STA 0+86.09

RAMP FLUSH WITH PAVEMENT W/TACTILE WARNING STRIP AT EA ROAD CROSSING TAPER CURB EA SIDE TYP. (8) LOCATIONS

R 15'

R 30'

"CONTINENTAL" SOLID WHITE STRIPING TYPICAL ALL PEDESTRIAN CROSSING LOCATIONS

RAMP

POE PT STA 6+19.78

POB PT STA 1+00.00

PC STA 0+00.00

R 20'

(1) STOP SIGN R1-1 30" X 30" MIN. 7' CLEARANCE TYP. (4) LOCATIONS

TAPER CURB EA SIDE OF DRIVEWAY

R 26.5'

24" WHITE STOP BAR TYP. (4) LOCATIONS

SEE COK 6 & 13 DETAILS FOR ALL LANDINGS AND SIDEWALKS

KENNER/ MCCONNELL TO S OLIVE PUBLIC ROW

R 100'

MATCH EXISTING

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

BEGIN EXTRUDED CURB

1" ASPHALT OVERLAY ON REAMAING PARKING AREA

SEE TDOT STANDARD DRAWING RP-NMC-10 TYPE "A" FOR DETATCHED CURB DETAIL

SIDEWALK

END EXTRUDED CURB

81'

16'

27.6'

TIE TO EXISTING SIDEWALK

LANDING FLUSH WITH PAVEMENT W/TACTILE WARNING STRIP TAPER CURB EA SIDE

PC STA 2+36.98

PT STA 2+98.83

8" SOLID WHITE TYP. ALL CROSSWALKS

24" WHITE STOP BAR

R 15'

R 150'

SEE COK 6 & 13 DETAILS

KENNER/ S OLIVE TO BEN HUR PUBLIC ROW

PT STA 0+59.37

(1) STOP SIGN R1-1 30" X 30" MIN. 7' CLEARANCE

SEE TDOT STANDARD DRAWING RP-NMC-10 6-30 FOR COMBINED CURB AND GUTTER DETAIL

ADJUST MANHOLE TOP TO MEET NEW GRADE

SEE TDOT STANDARD DRAWING RP-NMC-10 6-30 FOR COMBINED CURB AND GUTTER DETAIL

TAPER CURB EA SIDE OF DRIVEWAY

(3) 6" RISER STEPS NO HANDRAIL

3' SIDEWALK

(5) 7" RISER STEPS EXTEND HANDRAIL ALONG PERIMETER OF SIDEWALK

NEW SIDEWALK MATCH EXISTING WIDTH TURNDOWN EDGE TO MEET GRADE

EXTEND EXISTING PORCH 4'

FOR CONTINUATION SEE SHEET C214

FOR CONTINUATION SEE SHEET C211

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

SITE LAYOUT PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

GUY M. WANTIZ REGISTERED ENGINEER AGRICULTURE COMMERCE No. 110302 STATE OF TENNESSEE 06/22/16

DRAWING NO.: C212

140-828_-CADD\Dwg

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER

NEW SIGNAL POLE BY OTHERS

TIE TO EXISTING SIDEWALK AND REMOVE ADA RAMP

SEE COK 6 & 13 DETAILS

NEW CROSSWALK CONTROLS BY OTHERS

RAMP FLUSH WITH PAVEMENT W/TACTILE WARNING STRIP

POE PT STA 6+30.01

SEE SIGNAL PLANS FOR STRIPING AT THIS INTERSECTION

SEE COK 6 & 13 DETAILS

RAMP FLUSH WITH PAVEMENT W/TACTILE WARNING STRIP

NEW CROSSWALK CONTROLS BY OTHERS

TIE TO EXISTING SIDEWALK

S OLIVE/KENNER TO MLK PUBLIC ROW

R 500'

PC STA 6+74.35

PT STA 6+00.89

PC STA 5+61.14

(1) STOP SIGN R1-1 30" X 30" MIN. 7' CLEARANCE

24" WHITE STOP BAR

TIE TO EXISTING CURBING AND GUTTER

TIE TO EXISTING CURBING AND GUTTER

7+00

6+00

5+00

4+00

R 300'

24'

5' SIDEWALK

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

ADJUST MANHOLE TOP TO MEET NEW GRADE

MARTIN LUTHER KING JR. BLVD

FOR CONTINUATION SEE SHEET C212

REVISION RECORD

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DEVELOPMENT CORPORATION

SITE LAYOUT PLAN

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GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURE
CONNECT
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C213

140-828\~CAD\Dwg

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER

FOR CONTINUATION SEE SHEET C212

TAPER CURB EA SIDE OF DRIVEWAY

(5) 7" RISER STEPS
EXTEND HANDRAIL ALONG PERIMETER OF SIDEWALK

NEW SIDEWALK MATCH EXISTING WIDTH TURNDOWN EDGE TO MEET GRADE

EXTEND EXISTING PORCH 4'

5' SIDEWALK

TIE TO EXISTING CURB

MATCH EXISTING

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

ADJUST MANHOLE TOP TO MEET NEW GRADE

S OLIVE/ KENNER TO BETHEL PUBLIC ROW

ADJUST MANHOLE TOP TO MEET NEW GRADE

TAPER CURB EA SIDE OF DRIVEWAY

SEE TDOT STANDARD DRAWING RP-D-16 FOR DETAIL

(1) STOP AHEAD SIGN
W3-1a 30" X 30"
MIN. 7' CLEARANCE

EXTRUDED CURB

TIE TO EXISTING CURB

1" ASPHALT OVERLAY ON REAMAING PARKING AREA

5' SIDEWALK

TIE TO EXISTING SIDEWALK

RETAINING WALL SEE DETAIL

TIE TO EXISTING SIDEWALK

SIDEWALK

TIE TO EXISTING SIDEWALK

TIE TO EXISTING SIDEWALK

PC STA 7+40.45

PT STA 8+14.97

INSTALL 200 FT NORTH ON ULSTER AVE.
(1) STOP AHEAD SIGN
W3-1a 30" X 30"
(1) NEW SIGN
W16-15P

(1) STOP SIGN
R1-1 30" X 30"
(1) ONCOMING TRAFFIC DOES NOT STOP
W4-4bP 24" X 12"

(1) STOP SIGN
R1-1 30" X 30"
MIN. 7' CLEARANCE

24" WHITE STOP BAR

(1) STOP SIGN
R1-1 30" X 30"
MIN. 7' CLEARANCE

POE STA 8+66.25

BETHEL AVE.

S. OLIVE ST.

SEWER LINE

R 100'
R 15'
R 5'

NO	DATE	REVISION RECORD DESCRIPTION

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FIVE POINTS PHASE 2
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FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE LAYOUT PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO.:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:
C214

GUY M. WANTIZ
REGISTERED ENGINEER
No. 110192
STATE OF TENNESSEE
06/27/16

140-828\ - CADD\Dwg

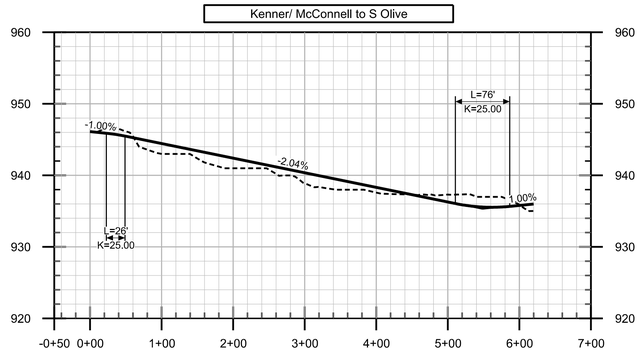
0 100 200

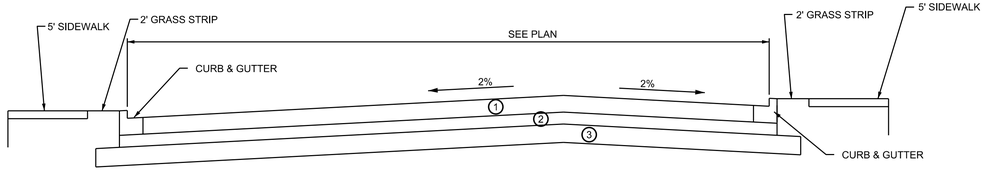
VERTICAL PROFILE TEN TIMES HORIZONTAL

LEGEND

EXISTING GRADE

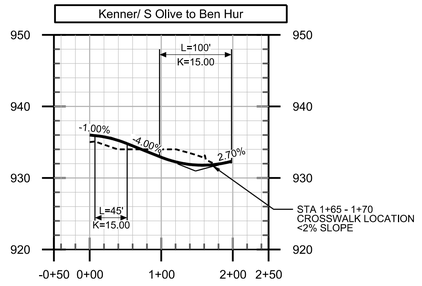
PROPOSED GRADE

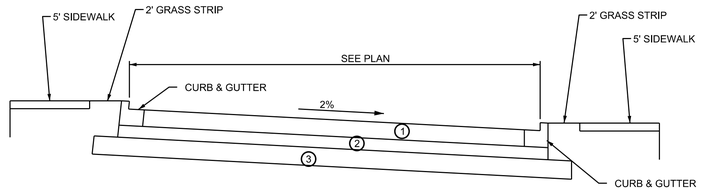




LOCAL STREET PAVEMENT SCHEDULE
1. 1.5 INCH ASPHALTIC CONCRETE WEARING SURFACE (GRADING D)
2. 2.5 INCH ASPHALTIC CONCRETE BINDER/LEVELER COURSE (GRADING B)
3. 8 INCH MINERAL AGGREGATE BASE TYPE A. GRADING D.

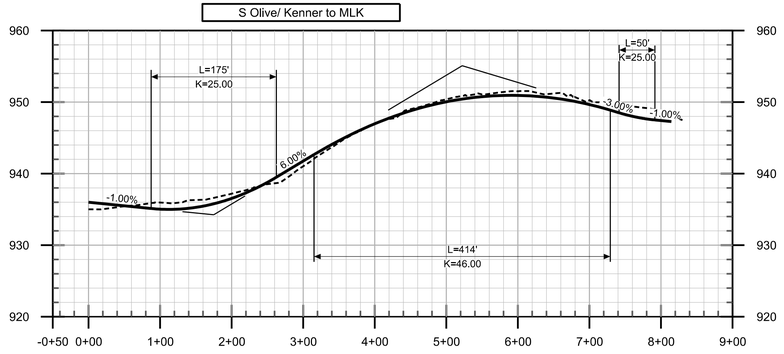
KENNER/ MCCONNELL TO S OLIVE
LOCAL STREET SECTION
N.T.S.

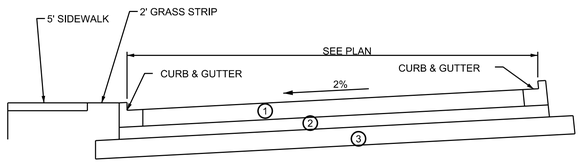




LOCAL STREET PAVEMENT SCHEDULE
1. 1.5 INCH ASPHALTIC CONCRETE WEARING SURFACE (GRADING D)
2. 2.5 INCH ASPHALTIC CONCRETE BINDER/LEVELER COURSE (GRADING B)
3. 8 INCH MINERAL AGGREGATE BASE TYPE A. GRADING D.

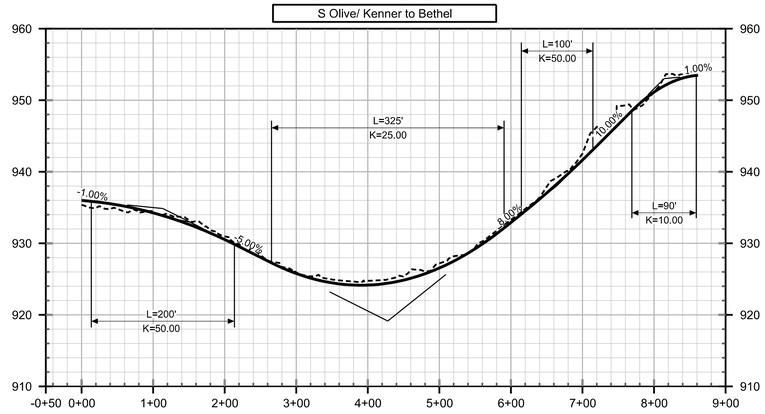
KENNER/ S OLIVE TO BEN HUR
LOCAL STREET SECTION
N.T.S.

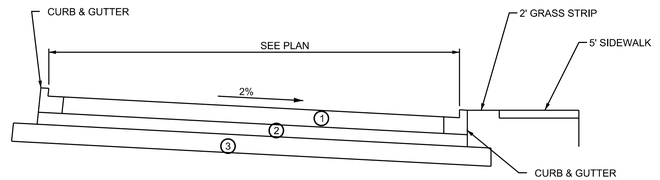




LOCAL STREET PAVEMENT SCHEDULE
1. 1.5 INCH ASPHALTIC CONCRETE WEARING SURFACE (GRADING D)
2. 2.5 INCH ASPHALTIC CONCRETE BINDER/LEVELER COURSE (GRADING B)
3. 8 INCH MINERAL AGGREGATE BASE TYPE A. GRADING D.

S OLIVE/ KENNER TO MLK
LOCAL STREET SECTION
N.T.S.





LOCAL STREET PAVEMENT SCHEDULE
1. 1.5 INCH ASPHALTIC CONCRETE WEARING SURFACE (GRADING D)
2. 2.5 INCH ASPHALTIC CONCRETE BINDER/LEVELER COURSE (GRADING B)
3. 8 INCH MINERAL AGGREGATE BASE TYPE A. GRADING D.

S OLIVE/ KENNER TO BETHEL
LOCAL STREET SECTION
N.T.S.

GUY M. WANTIZ
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
NO. 110302
STATE OF TENNESSEE
06/23/16

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

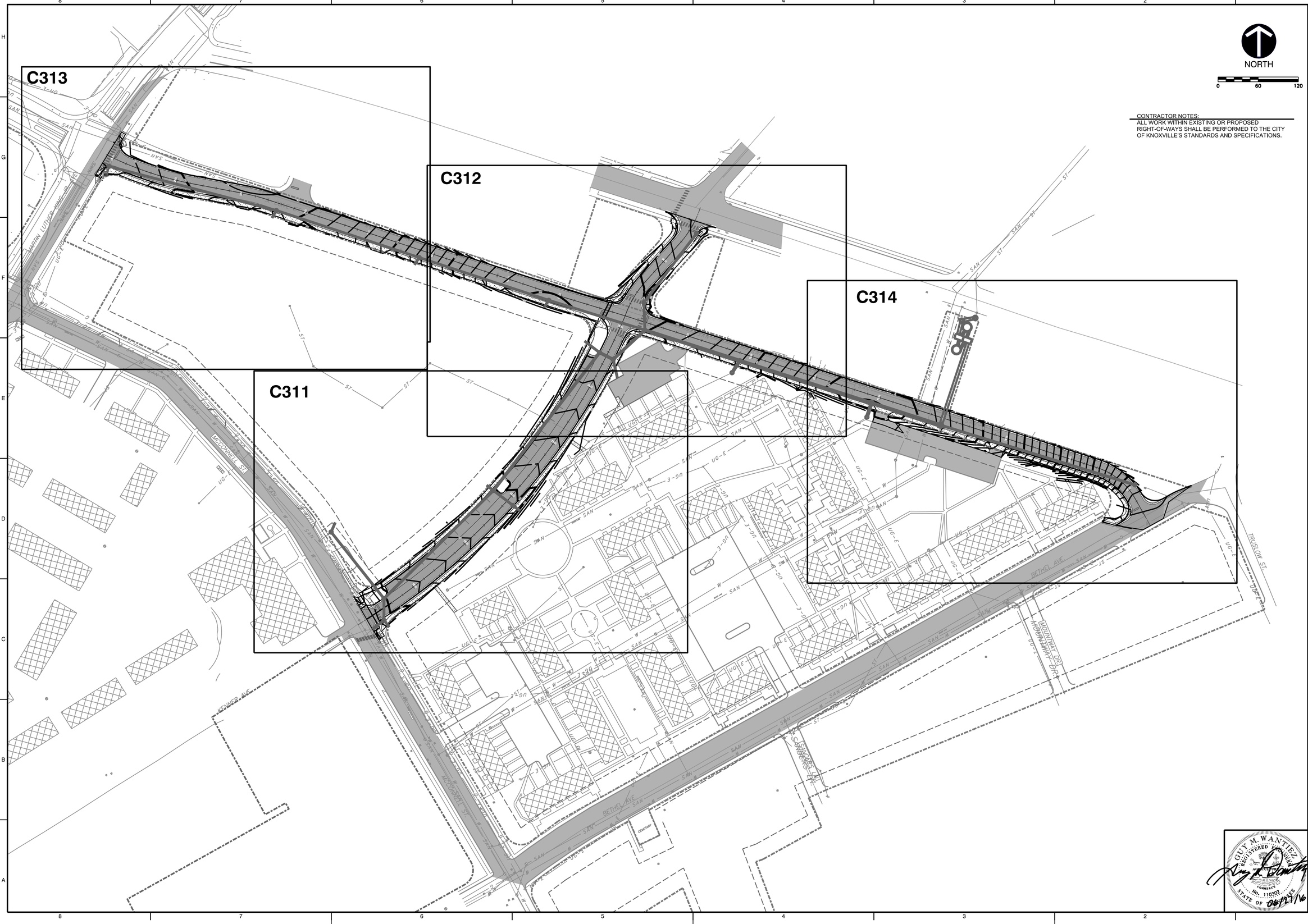
FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

ROAD SECTIONS & PROFILES

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

DRAWING NO.:
C215

140-828_CADD\Dwg



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DEVELOPMENT CORPORATION

GRADING SHEET MAP

DATE:	JUNE 20, 2016
DRAWN BY:	GMW
DWG SCALE:	AS SHOWN
CHECKED BY:	JCT
PROJECT NO:	140-828
APPROVED BY:	GMW

GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/21/16

DRAWING NO.:
C310

140-828\~CADD\.dwg

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- ONE CALL SEWER LINE
- ONE CALL WATERLINE LOCATE
- ONE CALL GAS LINE LOCATE
- EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER

FOR CONTINUATION SEE SHEET C312

CROSSWALK
< 2% CROSS SLOPE

REVISION RECORD

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FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE GRADING PLAN

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO.:			140-828
APPROVED BY:			GMW

GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C311

140-828\~CADD\Dwg

REVISION RECORD

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FIVE POINTS PHASE 2
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SITE GRADING PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

DRAWING NO.:
C312

GUY M. WANTIEZ
REGISTERED ENGINEER
TENNESSEE
NO. 110302
STATE OF
06/27/16

140-828\~CADD\Dwg

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 955 — PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- W — PROPOSED WATERLINE
- 8" PVC — PROPOSED SANITARY SEWER

CROSSWALK
< 2% CROSS SLOPE

MARTIN LUTHER KING JR. BLVD

W. CLINCH AVE

S. GAY ST.

S. CENTRAL ST.

S. OLIVE ST.

SEWER LINE

7+00

6+00

5+00

4+00

3+00

2+00

1+00

FOR CONTINUATION SEE SHEET C312

REVISION RECORD

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DEVELOPMENT CORPORATION

SITE GRADING PLAN

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GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C313

140-828\~CAD\Dwg

FOR CONTINUATION SEE SHEET C212

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- ONE CALL SEWER LINE
- ONE CALL WATERLINE LOCATE
- ONE CALL GAS LINE LOCATE
- EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- PROPOSED WATERLINE
- PROPOSED SANITARY SEWER

BETHEL AVE.

3+00 4+00 5+00 6+00 7+00 8+00

R 15'

REVISION RECORD

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FIVE POINTS, KNOXVILLE, TN
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DEVELOPMENT CORPORATION

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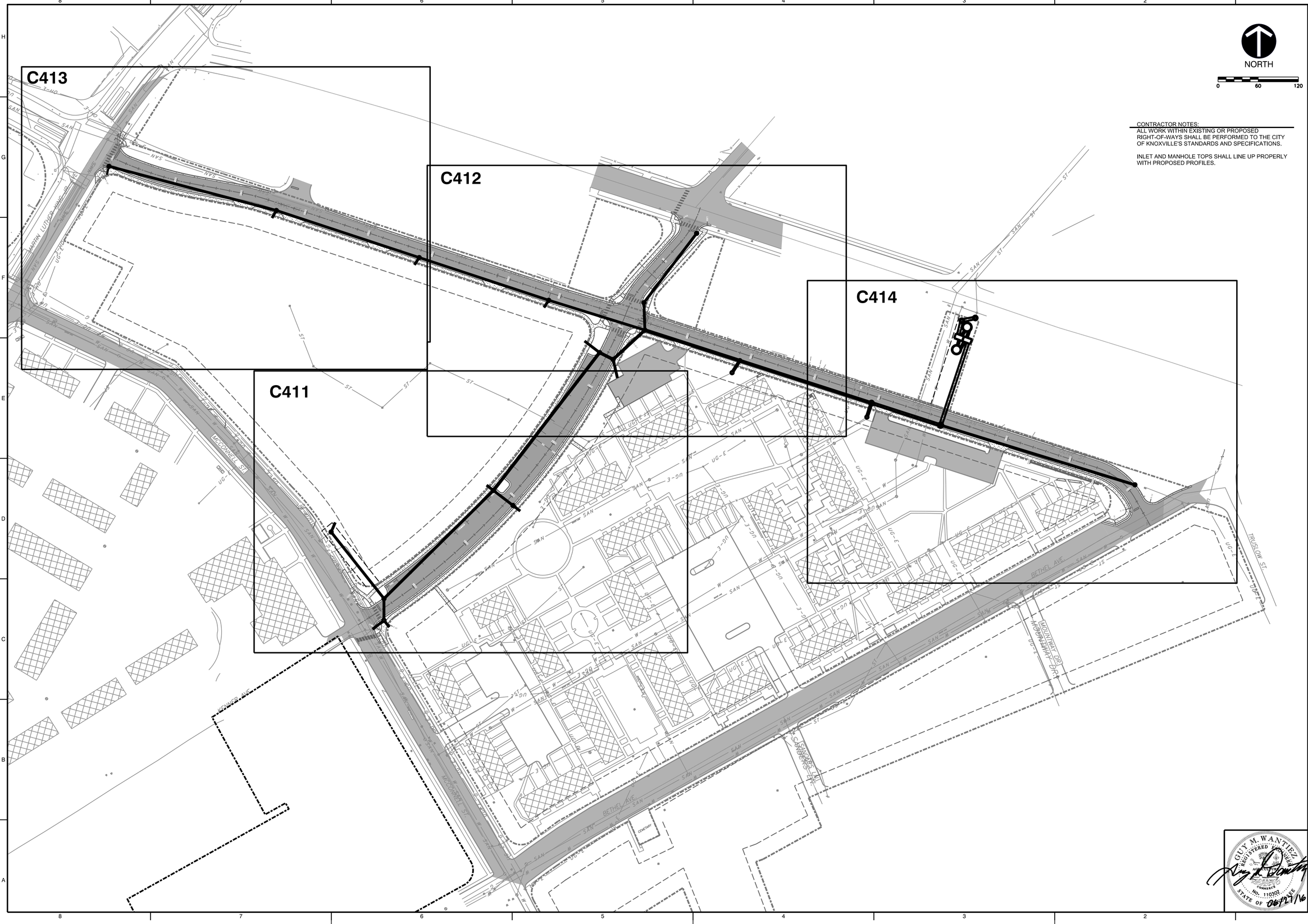
GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C314

140-828\~CADD\Dwg



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FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

DRAINAGE SHEET MAP

DATE:	JUNE 20, 2016
DRAWN BY:	GMW
DWG SCALE:	AS SHOWN
CHECKED BY:	JCT
PROJECT NO:	140-828
APPROVED BY:	GMW

DRAWING NO.:

C410

GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/21/16

140-828\~CADD\.dwg

NORTH

0 20 40

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
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- ST — EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 955 — PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- W — PROPOSED WATERLINE
- 8" PVC — PROPOSED SANITARY SEWER

FOR CONTINUATION SEE SHEET C412

STUB OUT (2) LENGTHS 15" RCP @ %2% SLOPE CAP AND STAKE FOR FUTURE CONNECTION

PROP STORM INV. = 932.66 EX STORM INV. = 930.74

STUB OUT (2) LENGTHS 15" RCP @ %2% SLOPE CAP AND STAKE FOR FUTURE CONNECTION

CB53

CB61

STUB OUT (2) LENGTHS 15" RCP @ %2% SLOPE CAP AND STAKE FOR FUTURE CONNECTION

REMOVE AND REPLACE EXISTING AREA DRAIN INTERCEPT EXISTING DRAIN LINE

AD71

20' EASEMENT

PROP STORM INV. = 938.05 EX STORM INV. = 938.09

EXISTING STORM BASIN TO BE REMOVED 2 FEET BELOW FINISHED GRADE. PLUG EXISTING PIPES. FILL BASE OF INLET WITH FLOWABLE FILL TO A LEVEL ABOVE EXISTING PIPES. REMAINING BASIN TO BE BACKFILLED WITH 57 STONE TO ROADWAY BASE COURSE AND ABANDONED IN PLACE.

CB54

PROP STORM INV. = 939.67 EX STORM INV. = 939.14

INTERCEPT EXISTING LINE. REMOVE EXISTING BASIN EXISTING LINE BE CAPPED AND ABANDONED IN PLACE.

JMH55

STUB OUT (2) LENGTHS 15" RCP @ %2% SLOPE CAP AND STAKE FOR FUTURE CONNECTION

NOTE:
CONTRACTOR TO TIE FOUNDATION DRAINS TO PROPOSED STORM PIPING SYSTEM.

STORM BASIN NOTES:
BASING SIZES ACCORDING TO LARGEST CONNECTING PIPE SIZE SEE COK 8 FOR SIZES

CURB INLET FRAMES AND GRATES TO BE TYPE COK-10
JMH BASINS TO HAVE TDOT D-MH-4 TYPE C FRAME AND SOLID TOP AD'S TO HAVE TDOT D-MH-4 TYPE A FRAME AND GRATE

ALL DRAINAGE COVERS AND GRATES SHALL HAVE THE ENVIRONMENTAL MESSAGE "NO DUMPING DRAINS TO RIVER" CAST INTO THE FRAME OR LID

GUY M. WANTZ REGISTERED ENGINEER AGRICULTURE & ENVIRONMENT COMMERCE NO. 110302 STATE OF TENNESSEE 06/23/16

REVISION RECORD

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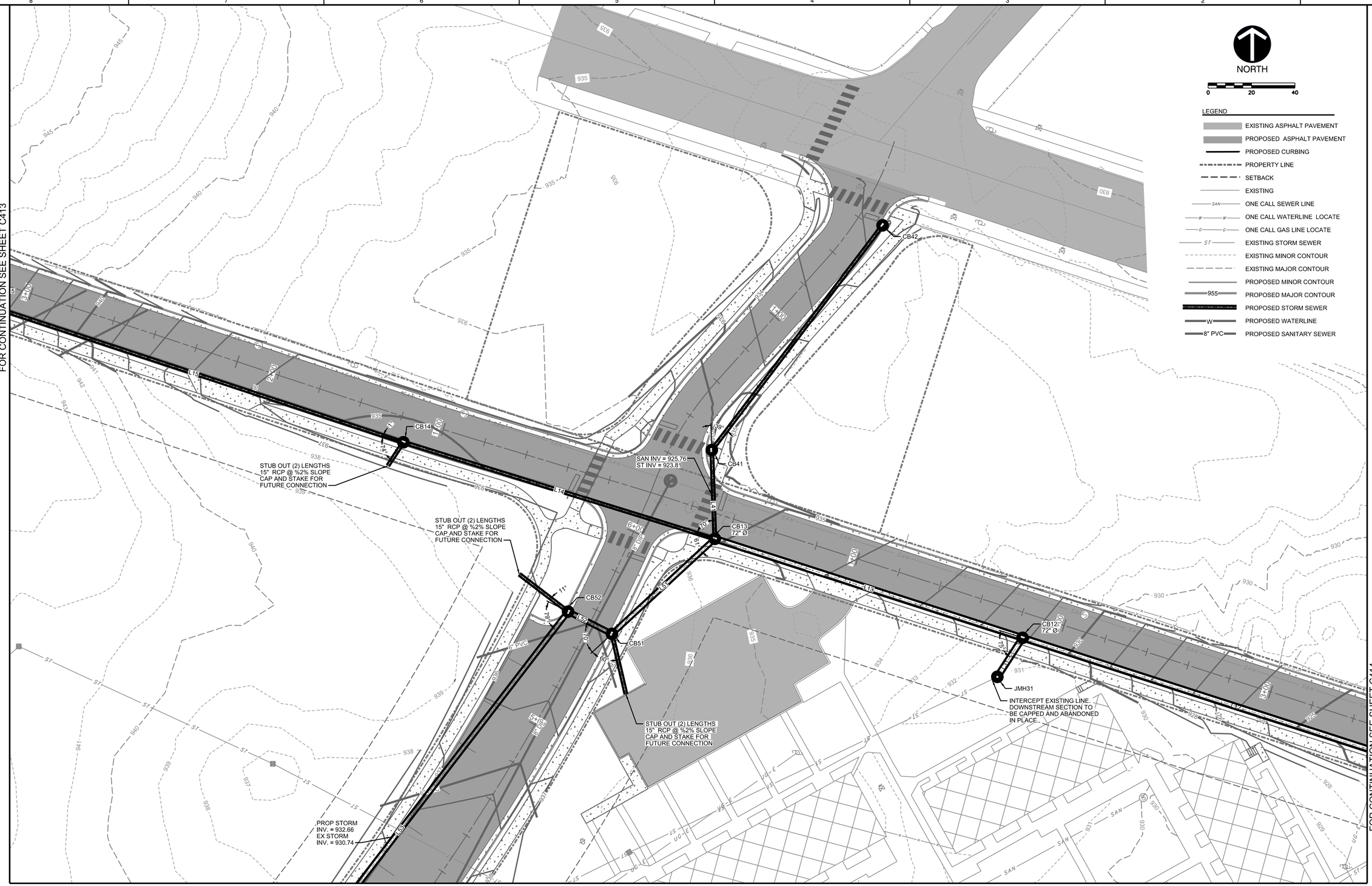
FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE DRAINAGE PLAN

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO.:			140-828
APPROVED BY:			GMW

DRAWING NO.:
C411

140-828\~CADD\Dwg



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INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

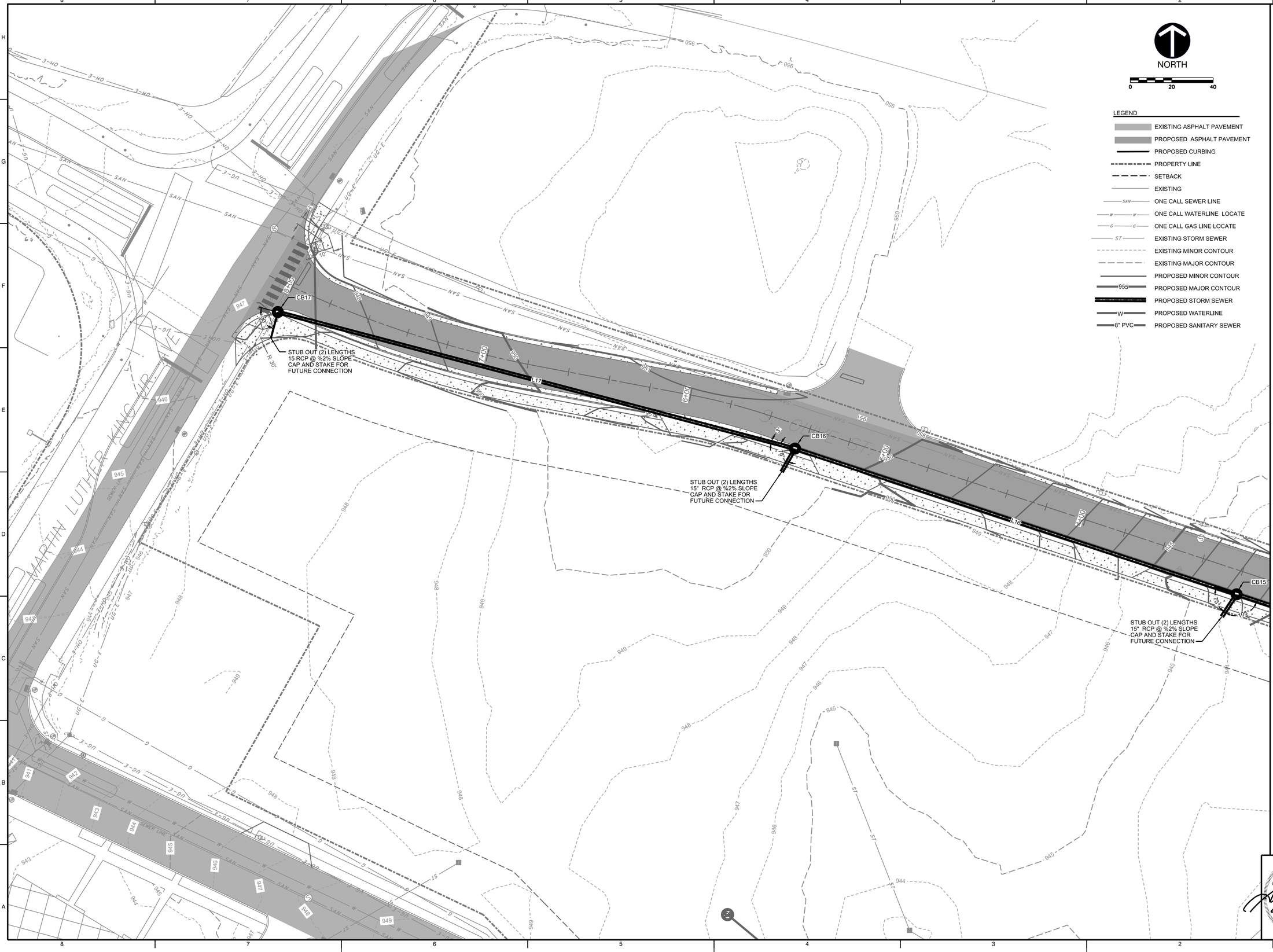
SITE DRAINAGE PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:
C412

GUY M. WANTZ
REGISTERED ENGINEER
AGENT OF RECORD
COMMERCE
NO. 110302
STATE OF TENNESSEE
06/27/16

140-828\C400\dwg



FOR CONTINUATION SEE SHEET C412

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE DRAINAGE PLAN

DATE:	JUNE 20, 2016
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PROJECT NO:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURAL & BIOSYSTEMS
CONNECT
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C413

140-828\~CAD\Dwg

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- SAN — ONE CALL SEWER LINE
- W — W — ONE CALL WATERLINE LOCATE
- G — G — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 955 — PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- W — PROPOSED WATERLINE
- 8" PVC — PROPOSED SANITARY SEWER

NORTH

0 20 40

FOR CONTINUATION SEE SHEET C412

TRENCH BOXES OR SHORING REQUIRED TO PREVENT DISTURBANCE TO 24" WATER LINE. TRENCH NOT TO EXTEND WITHIN EASEMENT, 7.5' OFF CENTERLINE

EX CB
INV = 911.06

JMH82
84" Ø

CB81
84" Ø
INTERCEPT EXISTING LINE

D12
HYDRO INTERNATIONAL
DOWNSTREAM DEFENDER
SEE DETAIL

TRENCH BOXES OR SHORING REQUIRED TO PREVENT DISTURBANCE TO ADJOINING PARCEL

DISTRIBUTION AND BYPASS JUNCTION BOX

D12
HYDRO INTERNATIONAL
DOWNSTREAM DEFENDER
SEE DETAIL

30' EASEMENT

TRENCH BOXES OR SHORING REQUIRED TO PREVENT DISTURBANCE TO ADJOINING PARCEL

CAP ABANDONED LINE

CB11
84" Ø

SAN INV = 919.81
ST INV = 915.02

JMH21

SAN INV = 920.15

CB2
96" Ø

INTERCEPT EXISTING LINE. DOWNSTREAM SECTION TO BE DEMOLISHED AND REMOVED.

POTHOLE EXISTING WATERLINE. IMMEDIATELY REPORT ANY CONFLICT TO THE ENGINEER

CB3

REPLACE GRATE INLET WITH SOLID COVER

INTERCEPT EXISTING LINE. DOWNSTREAM SECTION TO BE CAPPED AND ABANDONED IN PLACE.

BETHEL AVE.

PIPE TABLE

Line ID	Line type	Inlet Up	Inlet Down	LineLength	Pipe Size	Pipe Slope	Inv Elev Up	Inv Elev Dn	Grnd/ Rim Up	Grnd/ Rim Dn	MH Depth Up
				(ft)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)
L1	RCP	CB2	WQ UNIT	134	48	1.22	915.42	913.78	926.22	922.46	10.80
L2	RCP	CB3	CB2	303	24	6.89	942.11	921.22	951.71	926.22	9.60
L11	RCP	CB11	CB2	108	48	1.14	916.65	915.42	923.90	926.22	7.25
L12	RCP	CB12	CB11	206	30	1.46	921.90	918.90	931.15	923.90	9.25
L13	RCP	CB13	CB12	149	30	1.12	923.57	921.90	935.07	931.15	11.50
L41	RCP	CB41	CB13	41	15	1.22	924.07	923.57	935.04	935.07	10.97
L42	RCP	CB42	CB41	149	15	1.06	927.97	926.39	931.47	935.04	3.50
L14	RCP	CB14	CB13	150	18	1.30	930.51	928.56	934.76	935.07	4.25
L15	RCP	CB15	CB14	204	15	3.39	937.43	930.51	942.68	934.76	5.25
L16	RCP	CB16	CB15	225	15	1.12	939.96	937.43	950.46	942.68	10.50
L17	RCP	CB17	CB16	258	15	1.10	942.81	939.96	947.06	950.46	4.25
L51	RCP	CB51	CB13	65	24	1.14	929.81	929.07	935.31	935.07	5.50
L52	RCP	CB52	CB51	23	24	2.17	930.31	929.81	935.31	935.31	5.00
L53	RCP	CB53	CB52	260	24	1.18	933.38	930.31	939.88	935.31	6.50
L54	RCP	CB54	CB53	230	18	2.67	939.52	933.38	944.77	939.88	5.25
L71	RCP	AD71	CB54	127	15	2.35	942.51	939.52	944.91	944.77	2.40
L55	RCP	JMH55	CB54	30	15	1.53	939.98	939.52	945.50	944.77	5.52
L21	HDPE	JMH21	CB11	22	36	6.86	921.16	919.65	926.00	923.90	4.84
L31	HDPE	JMH31	CB12	21	18	1.38	925.44	925.15	931.50	931.15	6.06
L61	RCP	CB61	CB53	37	30	1.54	936.20	935.63	940.20	939.88	4.00

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INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

SITE DRAINAGE PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	
APPROVED BY:	
DRAWN BY:	GMW
CHECKED BY:	JCT
	140-828
	GMW

GUY M. WANTIEZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C414

140-828\~C400\.dwg

CONTRACTOR NOTES:
ALL WORK WITHIN EXISTING OR PROPOSED RIGHT-OF-WAYS SHALL BE PERFORMED TO KUB'S STANDARDS AND SPECIFICATIONS.

C501

C502

C503

40 20 0 20 40
SCALE: 1" = 40'

NORTH
0 40 80

LEGEND

- PROPOSED CURBING
- EXISTING PROPERTY LINE
- SETBACK
- EXISTING
- SEWER LINE — ONE CALL SEWER LINE
- WATER LINE — ONE CALL WATERLINE LOCATE
- GAS LINE — ONE CALL GAS LINE LOCATE
- ST — EXISTING STORM SEWER
- L8-XX-HDPE — PROPOSED STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 955 — PROPOSED MAJOR CONTOUR
- 4" W — PROPOSED DOMESTIC WATER LINE
- 6" FW — PROPOSED FIRE WATER LINE
- 6" SAN — PROPOSED SANITARY SEWER LINE

KUB TO RELOCATE MASTER METER, TAP FEE TO BE PAID BY OWNER

CONTRACTOR TO RECONNECT EXISTING WATER SYSTEM TO KUB METER LOCATION

RELOCATE EXISTING HYDRANT, CONTRACTOR TO COORDINATE CONNECTION WITH KUB DURING RELOCATION OF METER

REVISION RECORD

NO	DATE	DESCRIPTION

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Civil & Environmental Consultants, Inc.
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FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

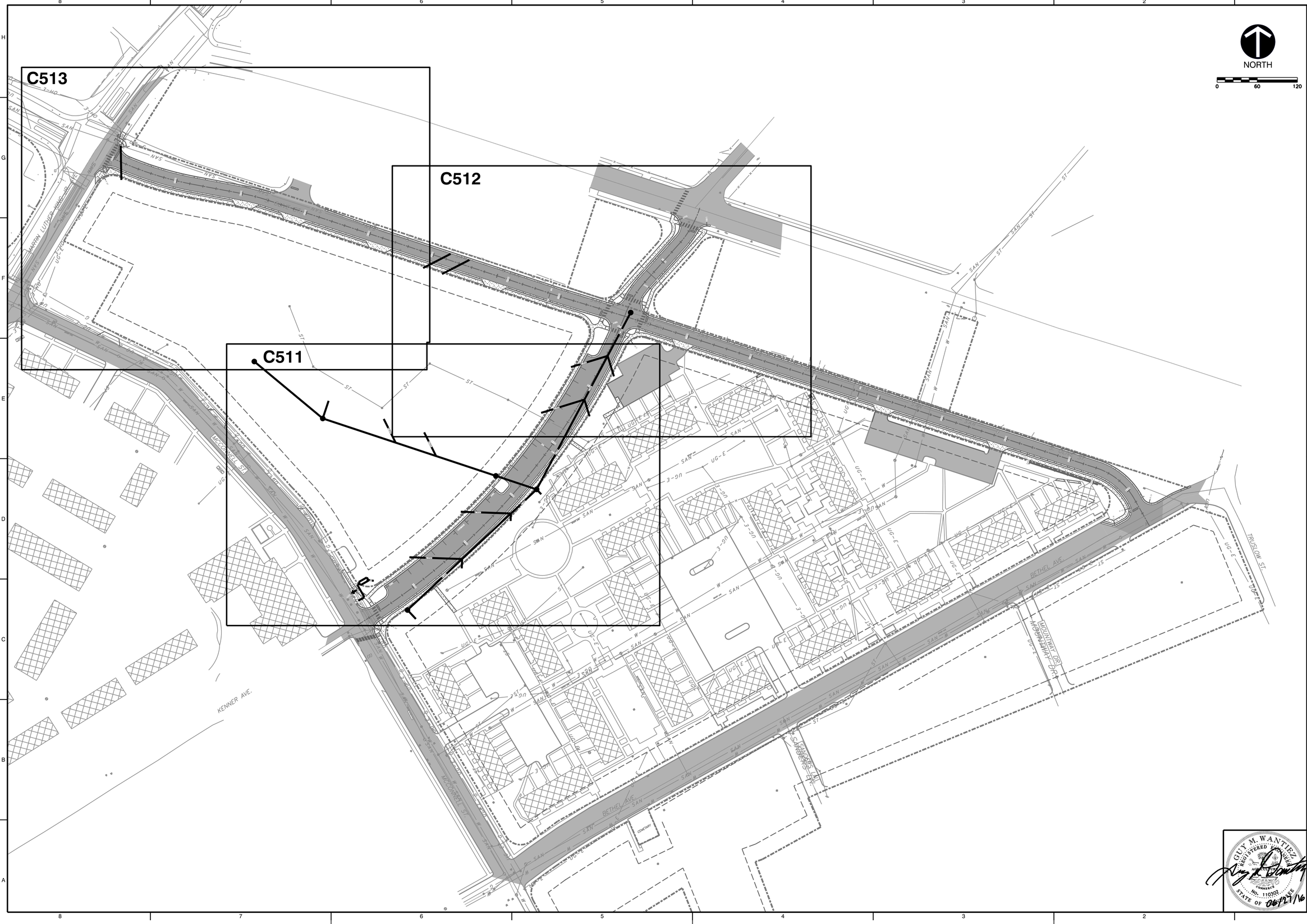
SITE UTILITY PLAN

DATE:	JUNE 20, 2016
DRAWN BY:	GMW
DWG SCALE:	AS SHOWN
CHECKED BY:	JCT
PROJECT NO:	140-828
APPROVED BY:	GMW

GUY M. WANTIEZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/21/16

DRAWING NO.:
C500

140-828\~CADD\Dwg



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FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

UTILITY SHEET MAP

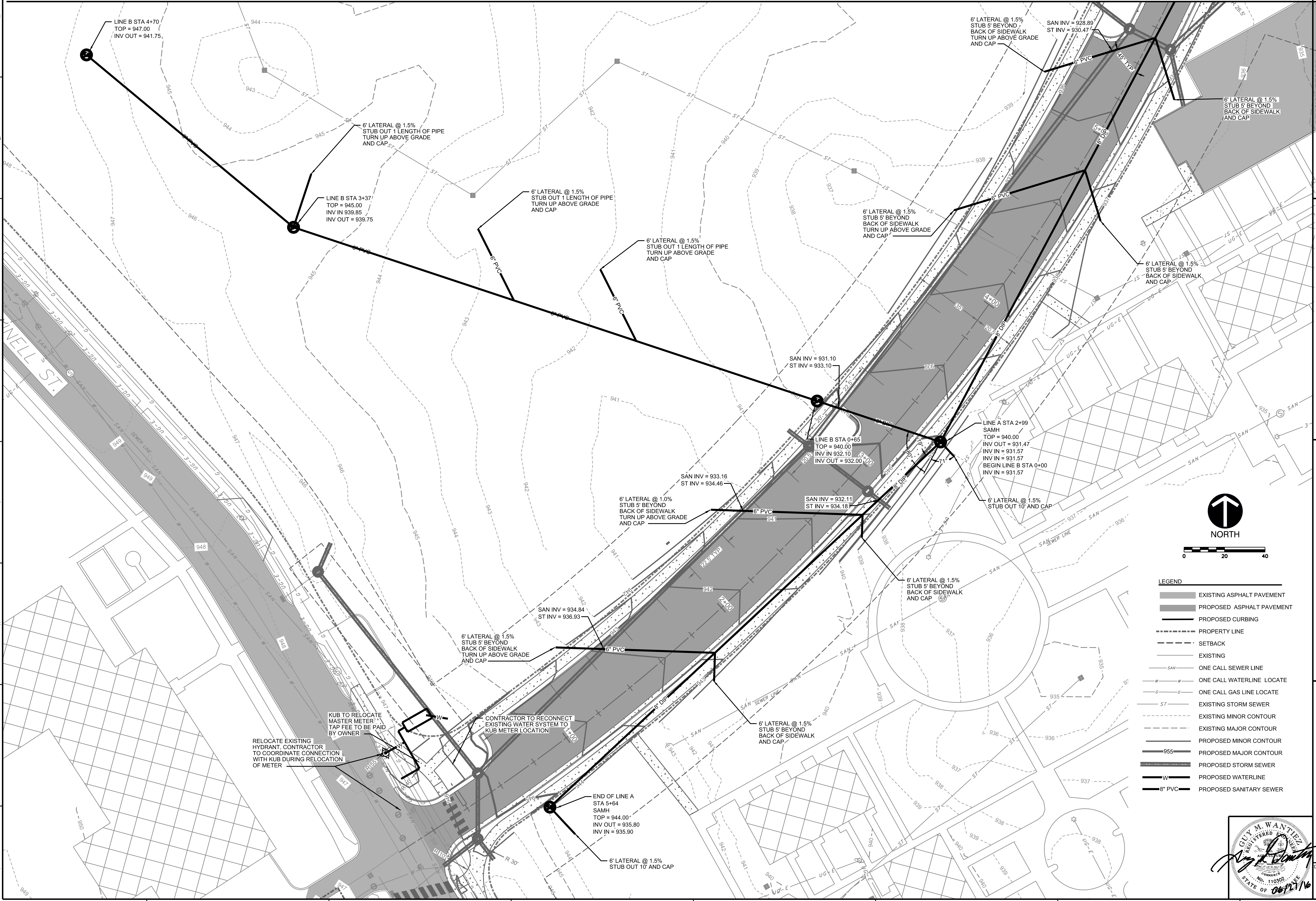
DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO.:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

DRAWING NO.:
C510

GUY M. WANTZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/22/16

140-828\~CADD\Dwg

FOR CONTINUATION SEE SHEET C512



REVISION RECORD

NO	DATE	DESCRIPTION

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FIVE POINTS PHASE 2
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FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

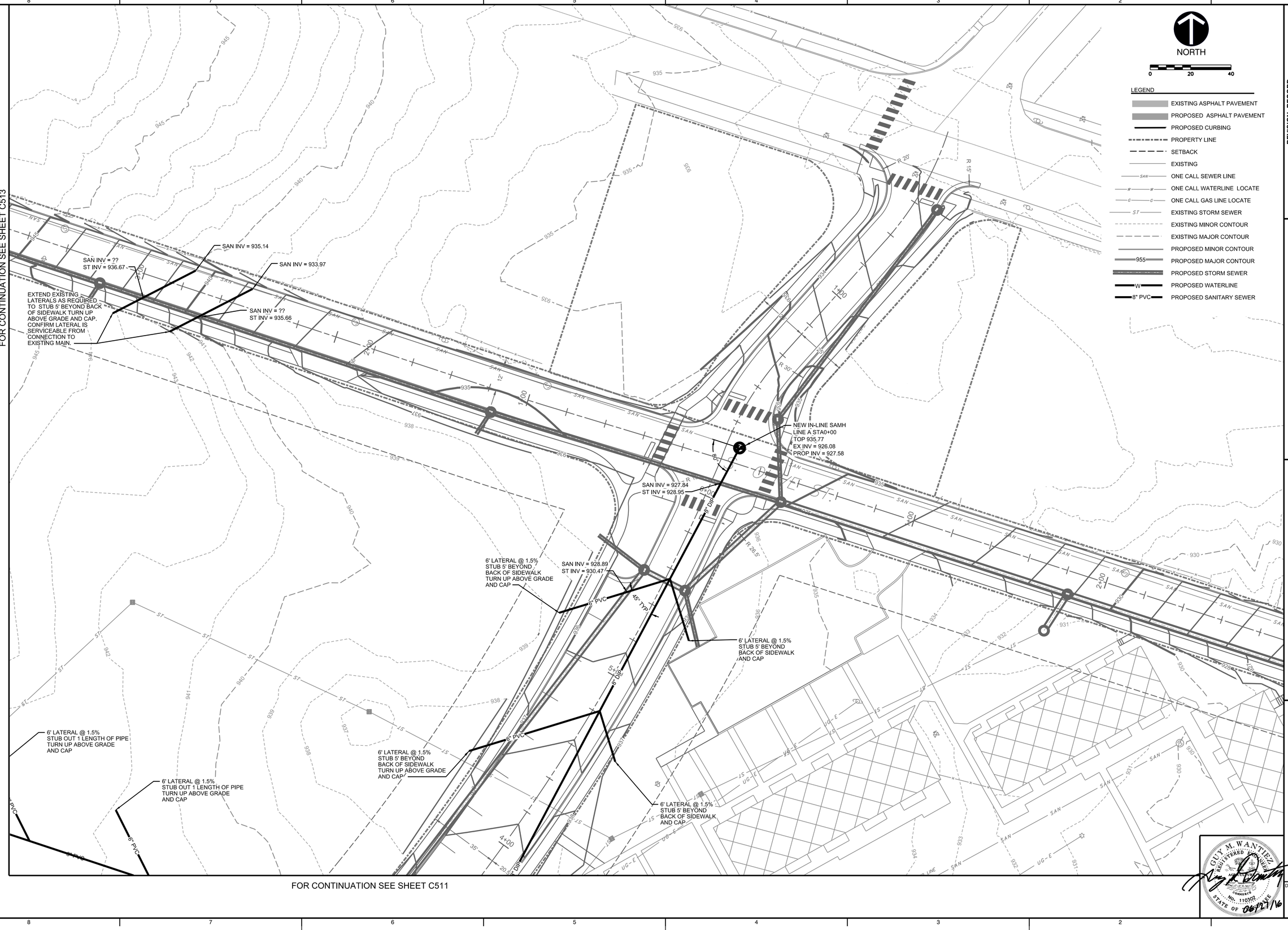
SITE UTILITY PLAN

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

GUY M. WANTIEZ
NO. 110302
06/27/16

DRAWING NO.:
C511

140-828\-CADD\Dwg



REVISION RECORD

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FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

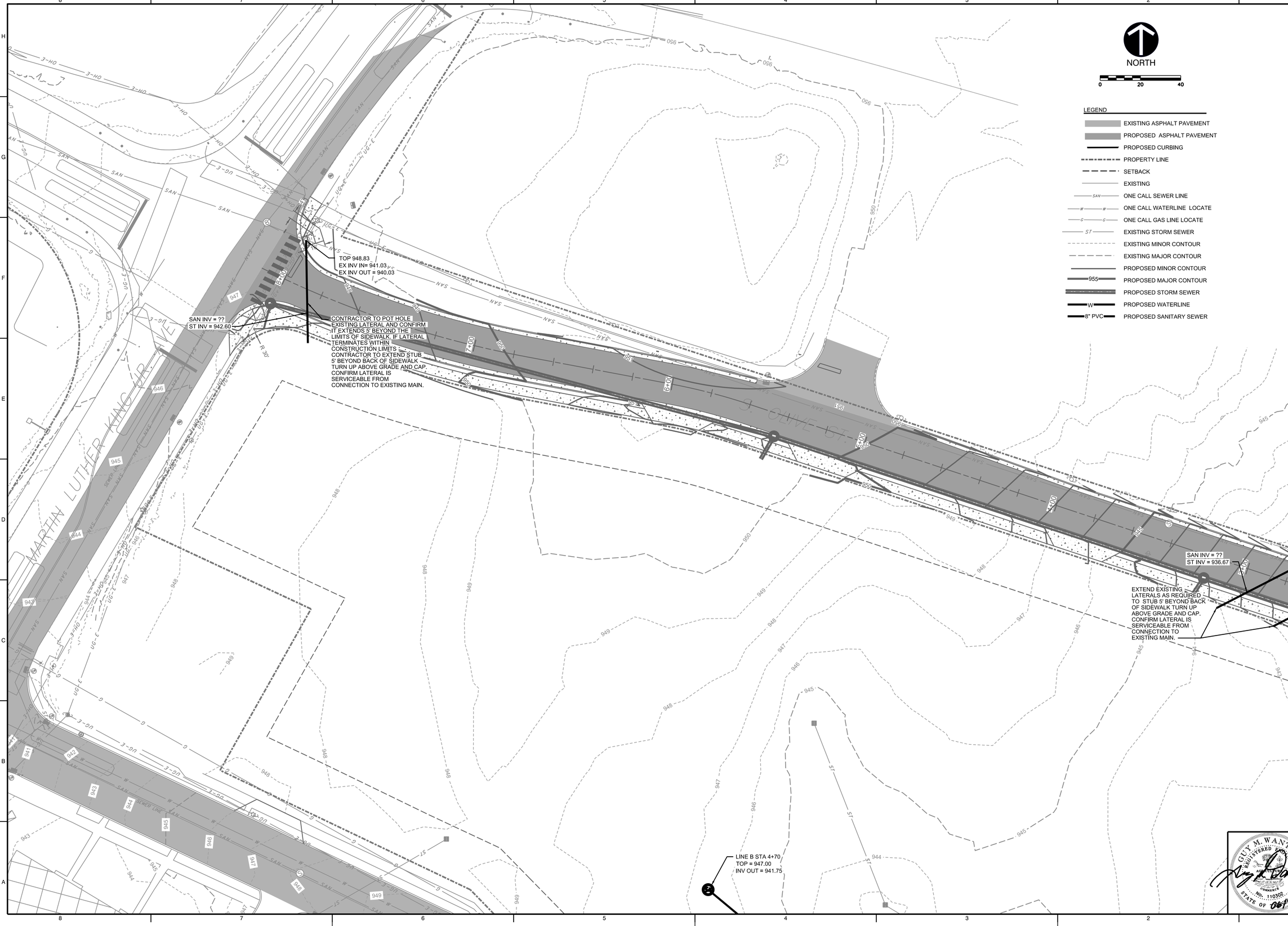
SITE UTILITY PLAN

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

GUY M. WANTIZ
REGISTERED ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C512

140-828\~CAD\Dwg



140-828\~CAD\Dwg

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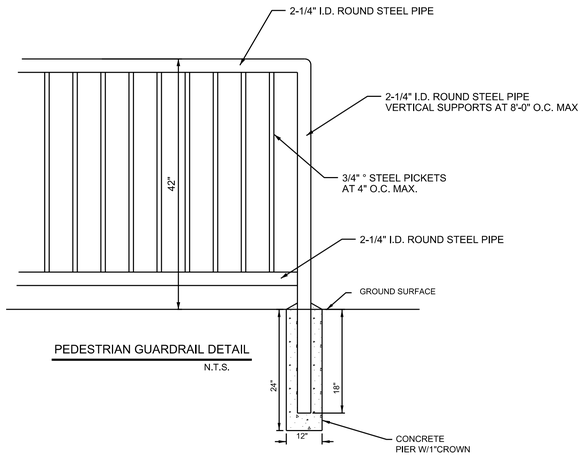
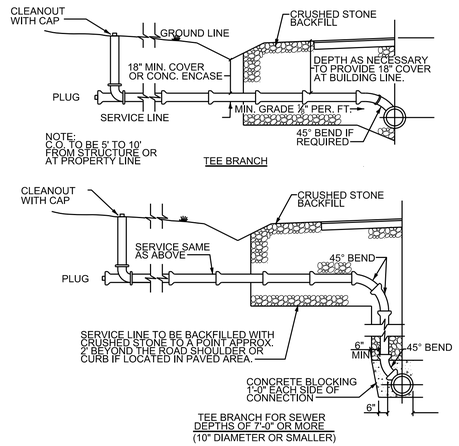
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C513



PEDESTRIAN GUARDRAIL DETAIL

N.T.S.



LATERALS

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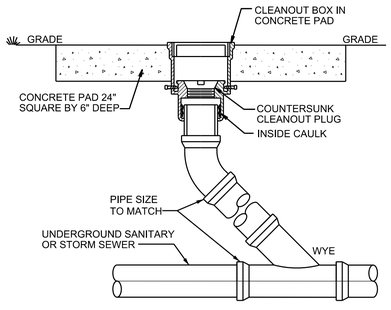

CLEAN-OUT DETAIL

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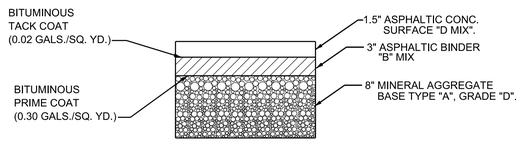
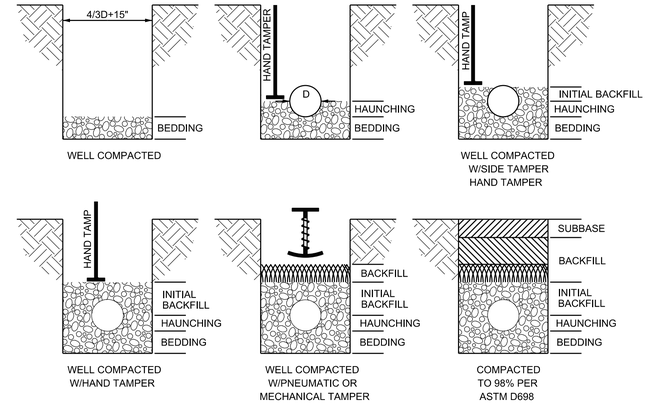


LOCAL STREET PAVEMENT SECTION

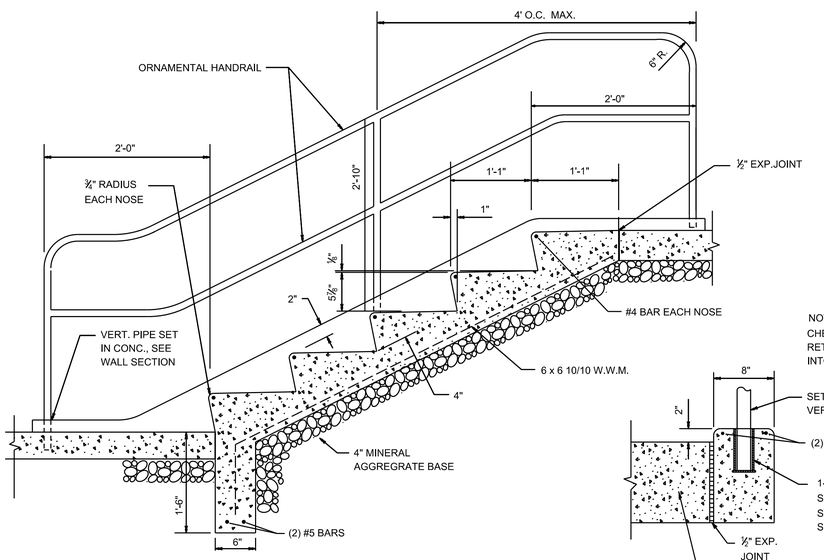
N.T.S.



LAYER	DEPTH	MATERIAL
BEDDING	6" MIN.	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE
HAUNCHING	VARIES	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE, TAMPED IN 6" MAXIMUM LAYERS.
INITIAL BACKFILL	VARIES	CLASS I FOR FLEXIBLE PIPE, CLASS I-IV FOR RIGID PIPE
BACKFILL	VARIES	CLASS I-IV FOR ALL PIPE, 75% OF BACKFILL MATERIAL MAY CONTAIN BROKEN STONES NOT EXCEEDING 6" IN DIAMETER- TAMPED IN 6" MAXIMUM LAYERS
SUBBASE	12"	CLASS I-IV FOR ALL PIPE - EXCEPT USE T.D.O.T. MINERAL AGGREGATE BASE TYPE A, ACROSS OR ALONG EXISTING PAVEMENT

TRENCH BACKFILLING & COMPACTION IN UNIMPROVED AND IMPROVED AREAS

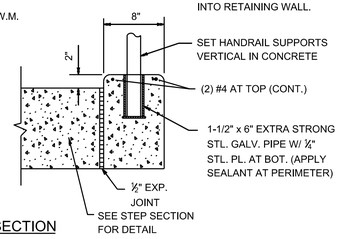
N.T.S.



STAIR SECTION

NOTES:

1. MINIMUM TREAD WIDTH = 11"
   MINIMUM RISER HEIGHT = 4"
   MAXIMUM RISER HEIGHT = 7"
2. 48" LONG LANDING THE FULL WIDTH OF THE STAIRS TO BE PROVIDED AT THE TOP AND BOTTOM OF THE STAIRS THAT DOES NOT EXCEED 2% SLOPE IN ANY DIRECTION.
3. HANDRAIL SHALL EXTEND 12" BEYOND TOP TREAD AND 1 TREAD DEPTH BEYOND THE BOTTOM RISER.
4. THE POSTS SHALL BE SET IN CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI AND THE CONCRETE SHALL BE ALLOWED TO SET A MINIMUM OF 48 HOURS PRIOR TO LOADING.

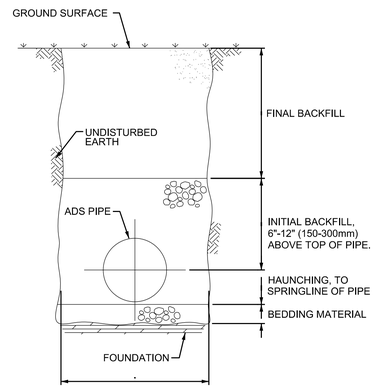


CHEEK WALL SECTION

NOTE:
CHEEK WALL NOT REQUIRED AT RETAINING WALL, MOUNT HANDRAIL INTO RETAINING WALL.

CONCRETE STAIR DETAIL

N.T.S.



TYPICAL TRENCH CROSS-SECTION

NOTE:
DETAIL FOR ADS N-12 PIPE ONLY.
REFER TO MANUFACTURES INSTALLATION SPECIFICATIONS FOR OTHER PIPE USED.

1. FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH A FOUNDATION OF CLASS I OR II MATERIAL AS DEFINED IN ASTM D2321, "STANDARD PRACTICE FOR INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS," LATEST EDITION; AS AN ALTERNATIVE AND AT THE DISCRETION OF THE ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A WOVEN GEOTEXTILE FABRIC.
2. BEDDING: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.

   UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100-600mm) CORRUGATED POLYETHYLENE PIPE (CPEP); 6" (150mm) FOR 30"-60" (750-1500mm) CPEP.
3. HAUNCHING AND INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III AND INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
4. UNLESS OTHERWISE SPECIFIED BY THE ENGINEER, MINIMUM TRENCH WIDTHS SHALL BE AS FOLLOWS:

NOMINAL Ø in (mm)	MIN. RECOMMENDED 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)

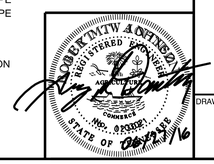
5. MINIMUM COVER: MINIMUM RECOMMENDED DEPTHS OF COVER FOR VARIOUS LIVE LOADING CONDITIONS ARE SUMMARIZED IN THE FOLLOWING TABLE. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TAKEN FROM THE TOP OF PIPE TO THE GROUND SURFACE.

SURFACE LIVE LOADING CONDITION	MINIMUM RECOMMENDED COVER, in (mm)
H25 (FLEXIBLE PAVEMENT)	* 12 (300), 24 (600) FOR 60" (1500) PIPE
H25 (RIGID PAVEMENT)	12 (300), 24 (600) FOR 60" (1500) PIPE
E80 RAILWAY	24 (600)
HEAVY CONSTRUCTION	48 (1200)

* TOP OF PIPE TO BOTTOM OF BITUMINOUS PAVEMENT SECTION

TRENCH INSTALLATION DETAIL

N.T.S.



REVISION RECORD

NO	DATE	DESCRIPTION

CEC
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FIVE POINTS PHASE 2
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FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

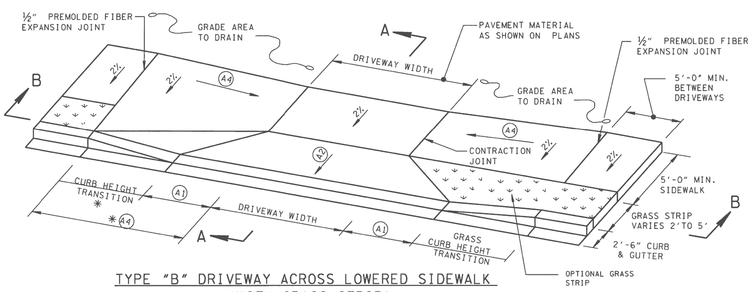
DETAILS

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO.:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

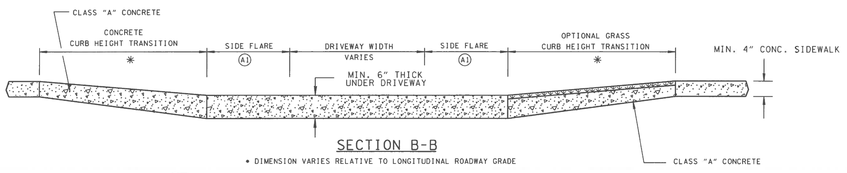
DRAWING NO.:
C811

140-828\~CADD\Dwg

140-828\~CADD\Dwg

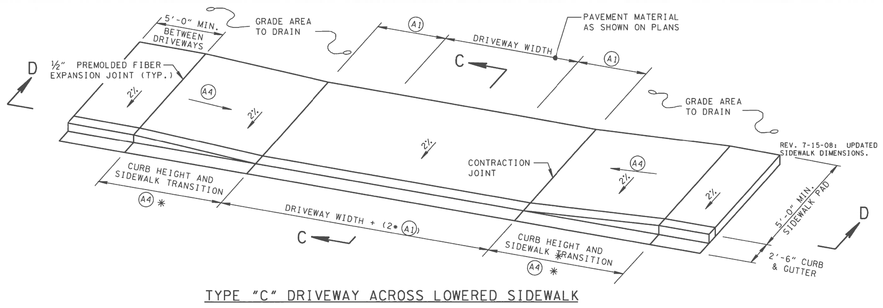


TYPE "B" DRIVEWAY ACROSS LOWERED SIDEWALK
(WITH GRASS STRIP)



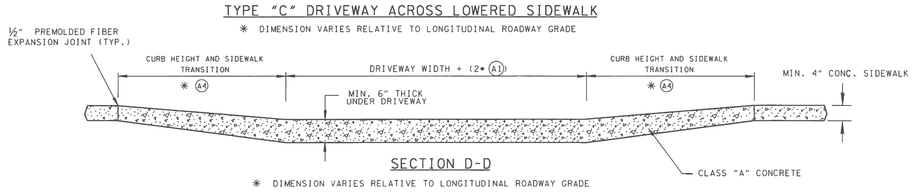
SECTION B-B

* DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE



TYPE "C" DRIVEWAY ACROSS LOWERED SIDEWALK

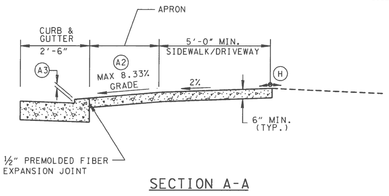
* DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE



SECTION D-D

* DIMENSION VARIES RELATIVE TO LONGITUDINAL ROADWAY GRADE

REV. 7-15-08: UPDATED SIDEWALK DIMENSIONS.



SECTION A-A

GENERAL NOTES

(A) 5'-0" MINIMUM SIDEWALK WITH A MAXIMUM CROSS SLOPE OF 2% THROUGH DRIVEWAYS.

(B) DESIGNER TO CHECK GUTTER FLOW DEPTH AT DRIVEWAY LOCATIONS TO ASSURE THAT THE DESIGN FLOW DOES NOT OVERTOP THE SIDEWALK AREA. IF OVERTOPPING OCCURS PLACE AN INLET AT THE USTREAM SIDE OF THE DRIVEWAY OR PERFORM OTHER DESIGN MITIGATION.

(C) THE CROSS SLOPE OF THE LANDING AREA SHALL NOT EXCEED 2% IN THE SIDEWALK AREA.

(D) DRIVEWAYS TO BE BUILT COMPLETE OR IN PART AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

(E) ALL CONCRETE DRIVEWAYS TO BE 6" UNIFORM THICKNESS, UNLESS OTHERWISE SHOWN ON PLANS.

(F) EXPANSION JOINTS TO BE PLACED AS INDICATED ON THE PLANS EXCEPT JOINT AT BACK OF DRIVEWAY WHICH WILL BE PLACED WHEN DRIVEWAY ABUTS A RIGID DRIVEWAY OR A BUILDING.

(G) THE ROADWAY DESIGNER SHALL CONSIDER THE USE OF A CATCH BASIN ON EITHER SIDE OF THE DRIVEWAY. CAREFUL CONSIDERATION TO THE PLACEMENT OF CATCH BASINS SHALL BE TAKEN IF THE DRIVEWAY IS IN A VERTICAL SAG CURVE.

(H) ALGEBRAIC DIFFERENCE NOT TO EXCEED 10.0%.

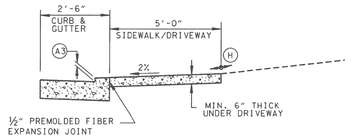
FOOTNOTES

(A1) SIDE FLARE WIDTH SHOULD BE A MINIMUM 7'-0" FOR COMMERCIAL DRIVEWAYS. SIDE FLARE WIDTH SHOULD BE A MINIMUM 3'-6" FOR RESIDENTIAL DRIVEWAYS.

(A2) DRIVEWAY RAMP GRADE VARIES, 8.33% MAX APRON GRADE FOR RESIDENTIAL DRIVEWAYS. 6.0% MAX APRON GRADE FOR COMMERCIAL DRIVEWAYS.

(A3) HEIGHT OF LOWERED CURB SHALL BE 2.25 INCHES. SEE STD. DWG. RP-NMC-10.

(A4) THE SLOPE OF THE SIDEWALK AND/OR CURB HEIGHT TRANSITION VARIES TO A MAXIMUM OF 8.33% LENGTH OF TRANSITION IS RELATIVE TO THE LONGITUDINAL ROADWAY GRADE.



SECTION C-C

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

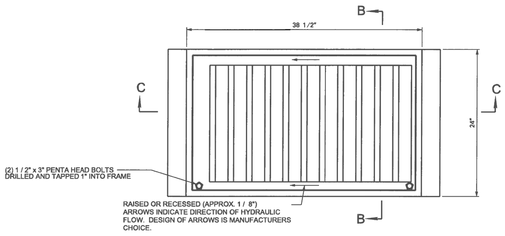
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

DETAILS OF LOWERED STANDARD CONCRETE DRIVEWAYS

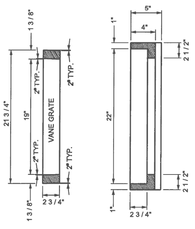
2-15-07 | RP-D-16

REVISIONS			
No.	DATE	BY	BRIEF DESCRIPTION
1	19-MAR-15	K.M.	ADDED PENTA HEAD BOLTS

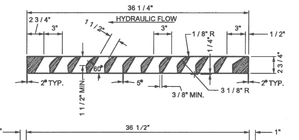
FRAME AND GRATE DETAILS

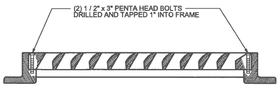


PLAN VIEW



SECTION B-B

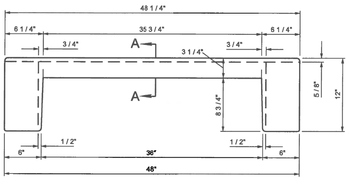




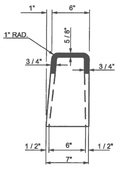
SECTION C-C

CURB INLET DETAILS

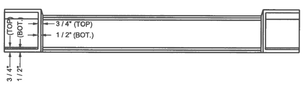
PLAN VIEW



FRONT



SECTION A-A



BOTTOM

NOTES:

1. RAISED LETTERING FOR CASTINGS SHALL HAVE A MINIMUM HEIGHT OF 1 / 2".
2. ALL CASTINGS SHALL CONFORM TO ASTM A48 CLASS 30.
3. ENVIRONMENTAL STATEMENT ON CURB INLET SHALL BE AS NOTED OR EQUIVALENT.
4. CASTINGS SHALL BE TREATED WITH TWO COATS OF BITUMINOUS PAINT.
5. FOR CLEARNESS, ALL CORNERS ARE SHOWN ON THIS DRAWING BY STRAIGHT LINES WITH THE EXCEPTION OF THE 1" RADIUS AT THE TOP OF FACE OF CURB. ALL INSIDE CORNERS SHOULD BE MADE WITH 1 / 2" X 1 / 2" FILLETS OR 3 / 4" RADIUS FILLETS FOR EASE IN MOULDING.

CITY OF KNOXVILLE
DEPARTMENT OF ENGINEERING

STANDARD DETAIL FOR
TYPE 'B'
CAST IRON FRAME,
GRATE AND INLET
FOR COK-9 AND
FOR TDOT CATCH BASINS,
Nos. 10, 12, 14, 16 AND 17

DRAWN: NAM
DATE: 16-NOV-01
CHECKED: RLT
APPROVED: STH

COK-10

DRAWING NO.
C812

DETAILS

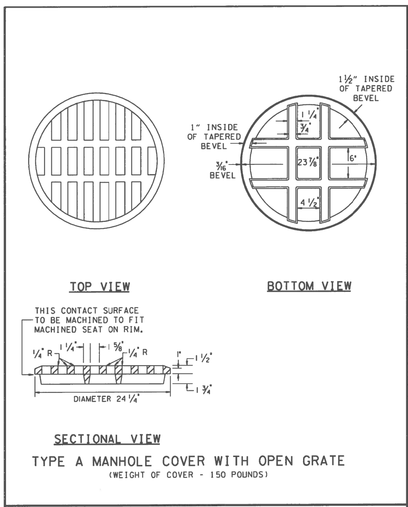
DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

REVISION RECORD		
NO	DATE	DESCRIPTION

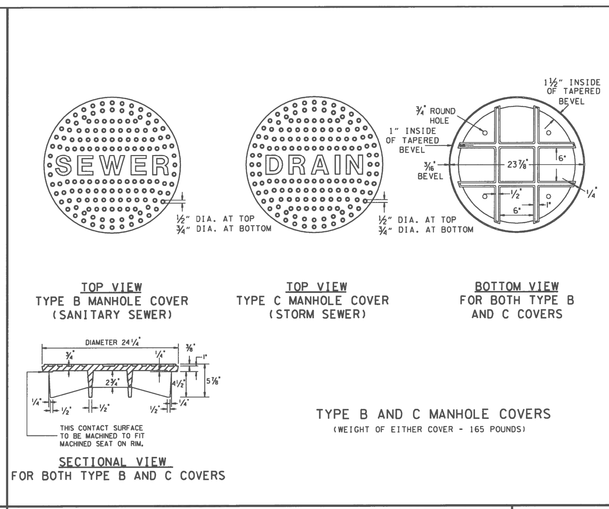
140-828\-CADD\Dwg



SECTIONAL VIEW

TYPE A MANHOLE COVER WITH OPEN GRATE

(WEIGHT OF COVER - 150 POUNDS)

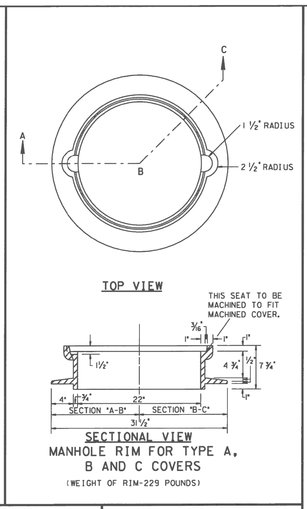


SECTIONAL VIEW

FOR BOTH TYPE B AND C COVERS

TYPE B AND C MANHOLE COVERS

(WEIGHT OF EITHER COVER - 165 POUNDS)



SECTIONAL VIEW

MANHOLE RIM FOR TYPE A, B AND C COVERS

(WEIGHT OF RIM-229 POUNDS)

REV. 1-15-73: USE OF ALUMINUM STEPS RESTRICTED.

REV. 1-01-76: CHANGED DRAWING NUMBER FROM S-M-3 TO D-MH-4 (CASTINGS DETAILS ADAPTED FROM OLD DRAWING NUMBER S-M-2a).

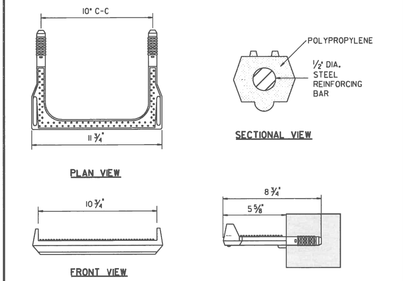
REV. 7-17-81: CORRECTED THICKNESS ON ALUMINUM STEP. DELETED NOTE REGARDING STEP SUBSTITUTION.

REV. 7-11-88: ADDED POLYETHYLENE COATED ALUMINUM STEPS.

REV. 2-14-91: REDREW AND REORGANIZED SHEET. ADDED STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC MANHOLE SAFETY STEP.

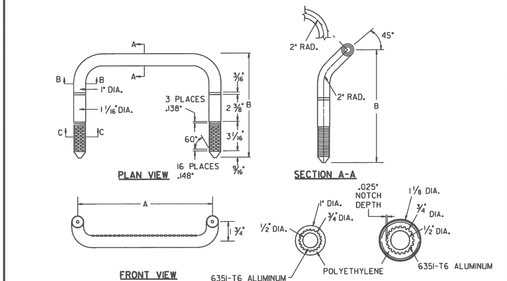
☐ REV. 5-27-01: GENERAL REVISION.

☐ REV. 8-01-12: GENERAL REVISION.



MATERIAL SPECIFICATIONS
THE POLYPROPYLENE, CONFORMING TO AN ASTM D-4101 SPECIFICATION, IS INJECTION MOLDED AROUND A 1/2" ASTM A-615 GRADE 60 STEEL REINFORCING BAR. THIS STEP EASILY MEETS THE REQUIREMENTS OF ASTM C-478, AASHTO M-199 AND OSHA INSTRUCTION STD 1-1.9.

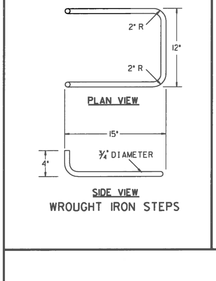
10 INCH PLASTIC MANHOLE STEP



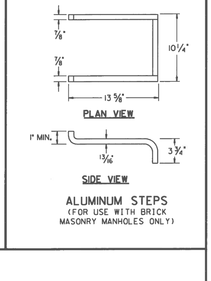
WIDTH OF STEP TABLE	
DIMENSION A	DIMENSION B
12"	8¾"
14"	8¾"
16"	8¾"
16"	9⅞"

MATERIAL SPECIFICATIONS
① ALUMINUM: 6351-T6, CSA-S157-1969(CSA-HA5)
② POLYETHYLENE: LOW DENSITY, VIRGIN MATERIAL.

POLYETHYLENE COATED ALUMINUM STEPS

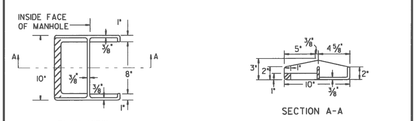


WROUGHT IRON STEPS



ALUMINUM STEPS

(FOR USE WITH BRICK MASONRY MANHOLES ONLY)



CAST-IRON STEPS

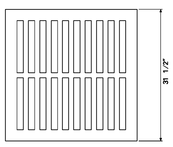
☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

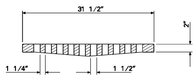
STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD NO.3
MANHOLE CASTINGS AND STEPS

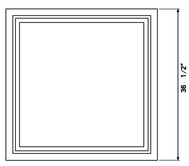
NOT TO SCALE | AUG. 72 | D-MH-4

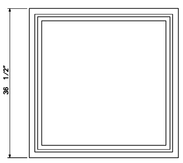
FRAME AND GRATE CASTING

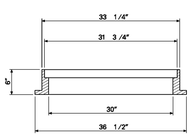




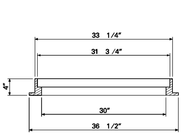
TYPE A and B







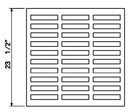
TYPE A

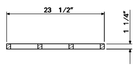


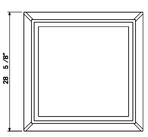
TYPE B

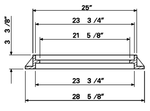
FRAME AND GRATE CASTING

TYPE C

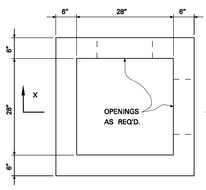


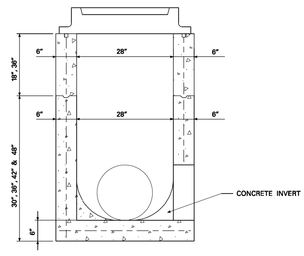






REVISIONS			
No.	DATE	BY	BRIEF DESCRIPTION
1	08-NOV-01	RLT	Addition of notes 7 and 8.
2	06-MAY-06	JAC	Addition of note 9.





NOTES:

1. ALL CASTINGS SHALL CONFORM TO ASTM A48 CLASS 30.
2. ALL GRATES AND FRAMES SHALL BE APPROVED FOR HS-20 TRAFFIC LOADING.
3. EACH SECTION OF THE PRECAST STRUCTURE SHALL HAVE NOT MORE THAN THREE HOLES FOR THE PURPOSE OF HANDLING AND LAYING.
4. LIFTING DEVICE HOLES SHALL BE TAPERED AND PLUGGED WITH STOPPERS OR MORTARED AFTER INSTALLATION.
5. CONCRETE INVERTS SHALL BE CONSTRUCTED IN THE FIELD AS TO PROVIDE POSITIVE FLOW.
6. CASTINGS SHALL BE TREATED WITH TWO COATS OF BITUMINOUS PAINT.
7. MINIMUM CONCRETE STRENGTH 4,000 POUNDS PER SQUARE INCH.
8. STEEL REINFORCEMENT MINIMUM OF 0.14 SQUARE INCH PER SQUARE FOOT.
9. ENVIRONMENTAL STATEMENT SHALL BE PLACED ON ALL GRATES "NO DUMPING DRAINS TO RIVER" OR EQUIVILENT WITH A MINIMUM RAISED LETTER HEIGHT OF 1/2".

CITY OF KNOXVILLE
DEPARTMENT OF ENGINEERING

STANDARD DETAIL FOR
AREA DRAIN

DRAWN: MLF
DATE: 06-NOV-01
CHECKED: RLT
APPROVED: DTI

COK-1

CONTINUED ON DRAWING NO.

C813

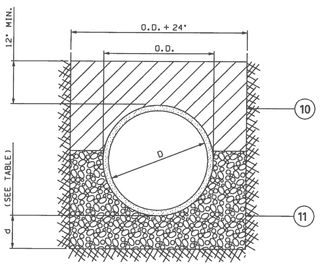
DETAILS

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

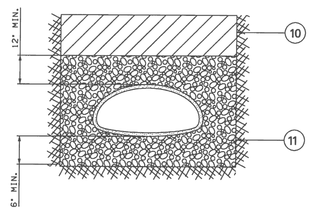
FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

REVISION RECORD		
NO	DATE	DESCRIPTION



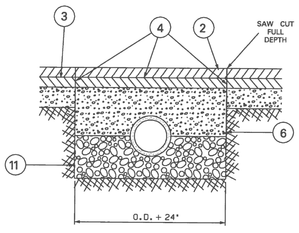
CLASS B



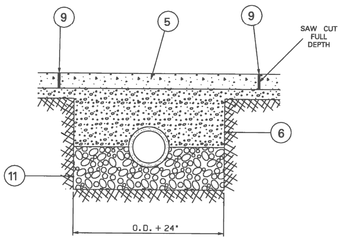
CLASS B

TRENCH BEDDING

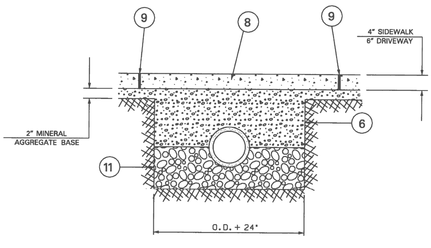
D	d (MIN.)
27" AND SMALLER	3"
38" TO 60"	4"
66" AND LARGER	6"
DEPTH OF BEDDING MATERIAL BELOW PIPE	



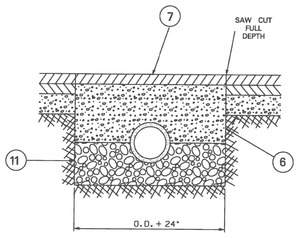
ASPHALT STREET REPAIR



CONCRETE STREET REPAIR



CONCRETE SIDEWALK / DRIVEWAY REPAIR



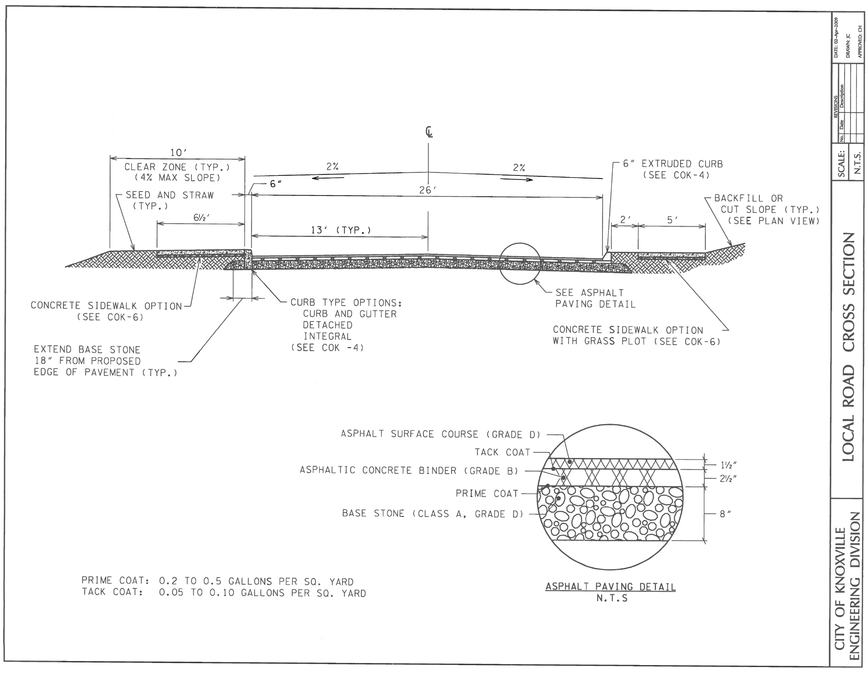
TEMPORARY ASPHALT STREET REPAIR

REVISIONS			
No.	DATE	BY	BRIEF DESCRIPTION

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. COMPACTED BACKFILL SHALL BE IN ACCORDANCE WITH SECTION 20.0. BACKFILL MATERIAL IN THE ROADWAY OR WITHIN FIVE (5) FEET OF THE ROADWAY, UNDER CURBS, GUTTERS, AND SIDEWALKS SHALL MEET THE REQUIREMENTS OF SECTION 5.0 (MINERAL AGGREGATE BASE).
11. BEDDING MATERIAL, GRADING SIZE NO. 57 OR NO. 67, SHALL BE IN ACCORDANCE WITH SECTION 20.0.
12. 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 00% (PLUS ANY OVERLAY). THUS, THE TOTAL DEPTH SHALL BE 1.5 TIMES THE CONCRETE THICKNESS PLUS THE ASPHALT OVERLAY THICKNESS.

CITY OF KNOXVILLE DEPARTMENT OF ENGINEERING	DRAWN: JC DESIGNED: SSP DATE: 22-MAR-01 CHECKED: RLT APPROVED: STH
STANDARD DETAIL FOR STORM PIPE BEDDING AND BACKFILL	COK-5



PRIME COAT: 0.2 TO 0.5 GALLONS PER SQ. YARD
TACK COAT: 0.05 TO 0.10 GALLONS PER SQ. YARD

ASPHALT PAVING DETAIL
N.T.S

CITY OF KNOXVILLE
ENGINEERING DIVISION

LOCAL ROAD CROSS SECTION

SCALE: N.T.S.

REVISIONS		
No.	DATE	DESCRIPTION

DRAWN: JC
DESIGNED: SSP
DATE: 22-MAR-01

DRAWING NO.
C814

DETAILS

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

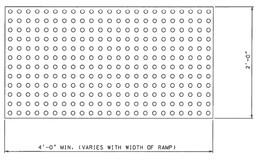
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

REVISION RECORD		
NO	DATE	DESCRIPTION

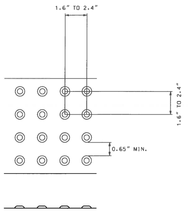
140-828\~CADD\Dwg

TACTILE WARNING SYSTEMS

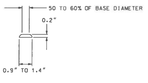
TRUNCATED DOMES



TRUNCATED DOME PLAN VIEW



TRUNCATED DOME SPACING

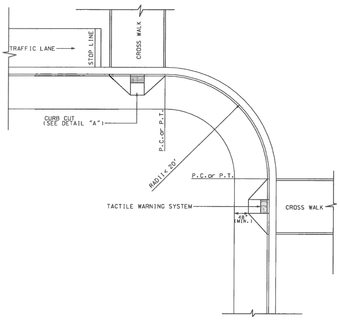


TRUNCATED DOME SECTION

NOTES:

1. WIDTH OF DETECTABLE WARNING AREA SHALL BE A MINIMUM OF 4 FEET AND VARY WITH WIDTH OF RAMP.
2. LENGTH OF DETECTABLE WARNING AREA SHALL BE 2 FEET REGARDLESS OF SECTION WIDTH.
3. TACTILE WARNING SYSTEMS SHALL BE LOCATED AT THE BACK OF CURB.
4. DETECTABLE WARNING DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL TO PERMIT WHEELS TO ROLL BETWEEN DOMES.
5. DETECTABLE WARNING AREA SHALL BE COLORED DARK GRAY OR BLACK IN ALL LOCATIONS.
6. ARMOR-TILE OR ADA SOLUTIONS SURFACE APPLIED TACTILE WARNING SYSTEMS OR AN EQUIVALENT SHALL BE PLACED ON EXISTING CURB CUTS.
7. SURFACE APPLIED SYSTEMS SHALL HAVE BEVELED EDGES TO ELIMINATE TRIP HAZARDS.
8. ARMOR-TILE OR ADA SOLUTIONS TACTILE WARNING CAST-IN-PLACE SYSTEMS OR AN EQUIVALENT SHALL BE USED IN THE CONSTRUCTION OF NEW CURB CUTS.

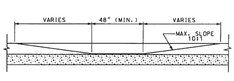
CURB CUT DETAILS



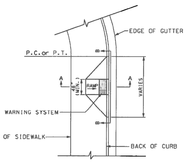
TANGENT PLAN VIEW

1. SIDEWALK WIDTH ≥ 10' SEE DETAIL A
2. SIDEWALK WIDTH < 10' SEE DETAIL B
3. FOR RADII < 20' SEE TANGENT PLAN VIEW FOR CURB CUT LOCATIONS
4. FOR RADII ≥ 20' SEE RADIUS PLAN VIEW OR TANGENT PLAN VIEW FOR CURB CUT LOCATIONS

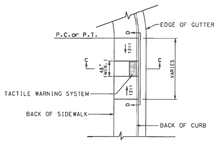
RADIUS PLAN VIEW



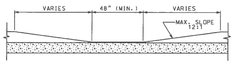
SECTION B–B



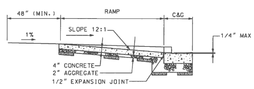
DETAIL A



DETAIL B



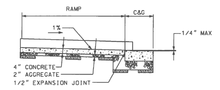
SECTION D–D



SECTION A–A

NOTES:

1. DETAILS SHOWN ON THIS PLAN APPLY TO ALL CONSTRUCTION OR RECONSTRUCTION OF STREETS,CURBS OR SIDEWALKS.
2. CURB CUT RAMPS ARE TO BE LOCATED AS SHOWN ON THE PLANS.
3. RAMPS SHALL BE PROVIDED AT ALL CORNERS OF STREET INTERSECTIONS AND ALLEYS WHERE THERE IS EXISTING OR PROPOSED SIDEWALK AND CURB.
4. SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY A COARSE BROOMING, TRANSVERSE TO THE SLOPE OF THE RAMPS.
5. CARE SHALL BE TAKEN TO ENSURE A UNIFORM GRADE ON THE RAMP FREE OF SAGS AND SHORT GRADE CHANGES.
6. DRAINAGE STRUCTURES SHALL NOT BE PLACED IN LINE WITH RAMPS.
7. THE NORMAL GUTTER LINE PROFILE SHALL BE MAINTAINED THROUGH THE AREA OF THE RAMP.
8. CROSSWALK AND STOPLINE MARKINGS IF USED, SHALL BE SO LOCATED AS TO STOP TRAFFIC SHORT OF RAMP CROSSINGS.
9. COST OF THE LOWERED CURB AND GUTTER TO BE INCLUDED IN THE UNIT PRICE OF CONCRETE COMBINED CURB & GUTTER OR CONCRETE CURB.
10. COST OF THE CONCRETE RAMP TO BE INCLUDED IN THE UNIT PRICE OF CONCRETE SIDEWALK



SECTION C–C

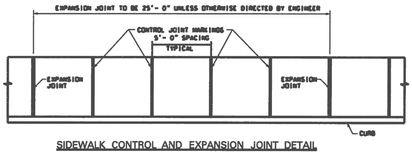
CITY OF KNOXVILLE DEPARTMENT OF ENGINEERING	DRAWN: RW DESIGNED: RLT DATE: 9-SEPT-08 CHECKED: RLT APPROVED: DTH
STANDARD DETAIL FOR CURB CUTS AND TACTILE WARNING SYSTEMS	COK-13

REVISIONS

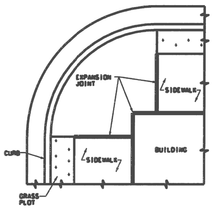
No.	DATE	BY	BRIEF DESCRIPTION
1	9-8-08	RLT	CHANGE NOTES
2	01-20-11	JHC	CHANGE SIDEWALK CROSS SLOPE

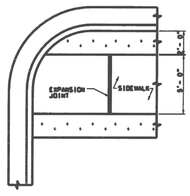
P:\Standard Details\COK\CURB CUTS\COK-04.Full - .dgn rw 01-FEB-2012 plan, tables\700.block.mf

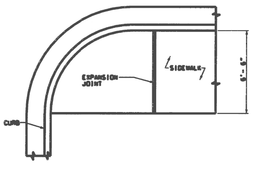
JOINT DETAILS

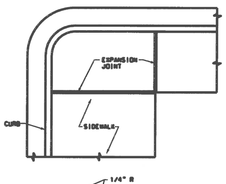


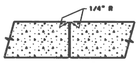
SIDEWALK CONTROL AND EXPANSION JOINT DETAIL



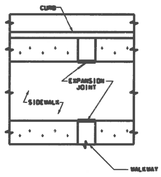






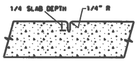


DETAIL OF EXPANSION JOINT



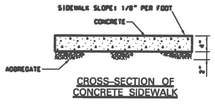
EXPANSION JOINTS

EXPANSION JOINTS TO BE PLACED AS DIRECTED BY THE ENGINEER WHERE THE SIDEWALK IS IN CONTACT WITH THE STREET RETURNS ON BUILDING LINES PRODUCED AT STREET INTERSECTIONS, WHERE WALKS LEAD TO HOUSE ENTRANCES, AT FIXED OBJECTS AND OTHER LOCATIONS WHERE STRESSES MAY DEVELOP. COST OF ALL EXPANSION JOINTS TO BE INCLUDED IN UNIT PRICE BID FOR SIDEWALK. EXPANSION JOINTS SHALL BE PLACED AT TOP OF SLOPE IN CONTACT WITH BUILDINGS AND RETAINING WALLS. 12' JOINTS TO BE USED AT OTHER LOCATIONS.

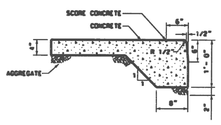


DETAIL OF CONTROL JOINT

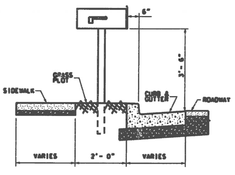
SIDEWALK DETAILS



CROSS-SECTION OF CONCRETE SIDEWALK



CROSS-SECTION OF CONCRETE SIDEWALK WITH INTEGRAL CURB



MAILBOX PLACEMENT FOR CONCRETE SIDEWALK

NOTES:

1. WHERE NECESSARY TO REMOVE PARTS OF EXISTING SIDEWALKS OR RAMPS, THE RESULTING EDGES SHALL BE CUT TO A NEAT LINE, AND ANY OFFSETS IN SUCH LINES SHALL BE MADE AT RIGHT ANGLES.
2. COST OF THE MINERAL AGGREGATE BASE SHALL BE INCLUDED IN THE UNIT PRICE FOR SIDEWALK.
3. MINERAL AGGREGATE BASE SHALL BE CRUSHED STONE, CLASS A AGGREGATE GRADING D.
4. ALL SIDEWALKS SHALL BE CONSTRUCTED AS TO PROVIDE POSITIVE DRAINAGE.

CITY OF KNOXVILLE DEPARTMENT OF ENGINEERING	DRAWN: MLR DESIGNED: RLT DATE: 19-SEP-17 CHECKED: RLT APPROVED: DTH
STANDARD DETAIL FOR CONCRETE SIDEWALKS	COK-6

REVISIONS

No.	DATE	BY	BRIEF DESCRIPTION
1	10-JAN-05	RLT	Modified cross-section of concrete sidewalk. Minor revisions.
2	7-SEPT-06	RLT	Revised cross-section of concrete sidewalk. Revised notes for sidewalk and sidewalk ramps.
3	29-MAR-06	DF	Changed sidewalk cross slope from ¼" per foot to ⅛" per foot. Changed location of Concrete Sidewalk.

R:\Standard Details\COK\SIDEWALKS\COK-06.dgn

DRAWING NO. C815	DETAILS		
DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

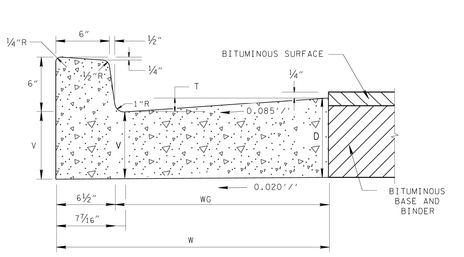
FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

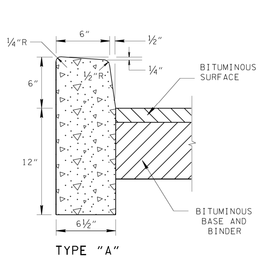
REVISION RECORD

NO.	DATE	DESCRIPTION

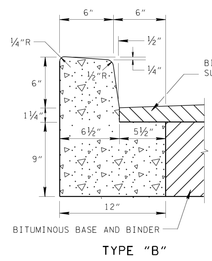
140-828\-CADD\Dwg



6" CONCRETE COMBINED CURB AND GUTTER

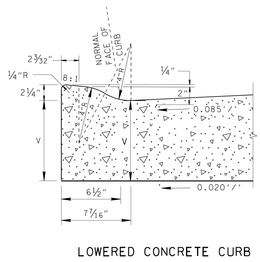


TYPE "A"



TYPE "B"

6" DETACHED CONCRETE CURBS



LOWERED CONCRETE CURB

REV. 11-1-69; REDREW SHEET.

REV. 7-1-72; CHANGED DEPARTMENT NAME.

REV. 11-10-72; CHANGED NOTE REGARDING JOINTS IN CURBS AND GUTTERS.

REV. 1-1-76; CHANGED DRAWING NO. FROM P-C-15(68) TO RP-C-15.

REV. 7-17-81; CHANGED ITEM NUMBER TO AGREE WITH NEW SPECIFICATION BOOK.

☒ REV. 10-26-91; DREW NEW SHEET INCLUDING INFORMATION PREVIOUSLY ON DRAWING NO. RP-C-15 REGARDING SIX-INCH NONMOUNTABLE DETACHED CONCRETE CURBS AND SIX-INCH MOUNTABLE CONCRETE COMBINED CURB AND GUTTER.

☒ REV. 10-26-93; CHANGED BOTTOM SLOPE OF 6" COMBINED CURB AND GUTTER FROM 0.085'/' TO 0.020'/'. UNDER QUANTITIES FOR COMBINED CURB AND GUTTER BLOCK CHANGED ALL QUANTITIES. CHANGED SIZE AND SPACING OF EXPANSION JOINT. ADDED GENERAL NOTE FOR CONTRACTION JOINT.

☒ REV. 10-26-97; CORRECTED LABELING OF PAVEMENT ON DETAILS.

☒ REV. 2-28-02; CHANGED SHEET NAME. CHANGED REFERENCE TO CURB FROM NONMOUNTABLE TO VERTICAL.

☒ REV. 7-29-03; CORRECTED DRAWING NUMBER.

6" CONCRETE COMBINED CURB AND GUTTER TABLE

TYPE	TOTAL WIDTH (W) IN INCHES	WIDTH OF GUTTER (WG) IN INCHES	VERTICAL DROP (T) IN INCHES	VERTICAL DEPTH (D) OF GUTTER	VERTICAL DEPTH (V) OF GUTTER AT FLOW LINE
6-30	30	23½	2	AS NOTED ON TYPICAL X-SECTIONS	D - 1.53"
6-36	36	29½	2½		D - 1.91"
6-42	42	35½	3		D - 2.29"

VERTICAL DEPTH (V) MUST ALWAYS EXCEED SIX (6) INCHES.

QUANTITIES FOR DETACHED CURB

HEIGHT OF CURB	CUBIC YARD PER LINEAR FOOT	
	TYPE "A"	TYPE "B"
LOWERED CURB	0.02534	0.03281
6"	0.02950	0.03973

LOWERED CONCRETE CURB NOTES

(1) TO BE BUILT AS COMBINED CURB AND GUTTER, DETACHED CURB OR INTEGRAL CURB AS NOTED ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

(2) FOR DETACHED CURB, OMIT RADIUS AT FLOW LINE.

(3) TO BE USED FOR PROPOSED RAMP OPENINGS.

QUANTITIES FOR COMBINED CURB AND GUTTER

HEIGHT OF CURB	DEPTH (D) OF GUTTER IN INCHES	TOTAL WIDTH (W) IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	TOTAL WIDTH (W) IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	TOTAL WIDTH (W) IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	TOTAL WIDTH (W) IN INCHES	CUBIC YARDS PER LINEAR FOOT	DEPTH (D) OF GUTTER IN INCHES	TOTAL WIDTH (W) IN INCHES	CUBIC YARDS PER LINEAR FOOT
LOWERED CURB	8	30	0.05711	9	30	0.06483	10	30	0.07254	11	30	0.08026	12	30	0.08799
	8	36	0.07085	9	36	0.08011	10	36	0.08934	11	36	0.09860	12	36	0.10786
	8	42		9	42	0.09631	10	42	0.10711	11	42	0.11791	12	42	0.12872
6"	8	30	0.06409	9	30	0.07181	10	30	0.07953	11	30	0.08724	12	30	0.09496
	8	36	0.07780	9	36	0.08706	10	36	0.09632	11	36	0.10558	12	36	0.11484
	8	42		9	42	0.10329	10	42	0.11409	11	42	0.12489	12	42	0.13570

GENERAL NOTES

(A) FOR SPECIFICATIONS SEE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION, SECTION 702 - CEMENT CONCRETE CURB, GUTTER AND COMBINED CURB AND GUTTER.

(B) THE FRONT FACE OF THE CONCRETE CURBS FOR ALL DEGREES OF CURVATURE SHALL CONFORM TO THE CONTOUR OF THE CURVE AND NO CHORD SECTIONS WILL BE PERMITTED.

(C) CONCRETE EXPANSION JOINT MATERIAL IS TO BE ¾" PREMOLDED FIBER IN ACCORDANCE WITH SECTION 905 - JOINT MATERIALS OF THE STANDARD SPECIFICATIONS.

(D) EXPANSION JOINTS ARE TO BE PLACED AS FOLLOWS:

1. AT TANGENT POINTS OF CIRCULAR CURBS
2. BETWEEN CURBS AND ABUTTING RIGID OBJECTS
3. AT OTHER PLACES WHERE STRESSES MAY DEVELOP
4. SO AS TO LINE UP WITH PAVEMENT JOINTS WHERE THE ADJACENT PAVEMENT IS CONCRETE
5. MAXIMUM SPACING IS TO BE 100 FEET

(E) CONTRACTION JOINTS ARE TO BE SPACED AT 10 FEET. THE SPACING OF 10 FEET MAY BE REDUCED FOR CLOSURES, BUT NOT LESS THAN 6 FEET.

(F) EDGES OF JOIN'S SHALL BE FINISHED ON ONE-QUARTER INCH RADII.

(G) ALL COST OF JOINTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS.

(H) THE UNIT PRICE BID FOR CONCRETE CURB, CONCRETE CURB AND GUTTER AND CONCRETE PAVEMENT WILL INCLUDE ANY CIRCULAR SECTION REQUIRED TO BE BUILT CONFORMING TO SECTIONS SHOWN ON THIS SHEET.

(I) PAYMENT WILL BE AS FOLLOWS:

ITEM NO. 702-01 CONCRETE CURB PER CUBIC YARD
ITEM NO. 702-02 CONCRETE GUTTER PER CUBIC YARD
ITEM NO. 702-03 CONCRETE COMBINED CURB AND GUTTER PER CUBIC YARD

LEGEND

D- VERTICAL DEPTH OF GUTTER

T- VERTICAL DROP IN GUTTER FROM FRONT EDGE TO FACE OF CURB

W- TOTAL WIDTH OF COMBINED CURB AND GUTTER

WG- WIDTH OF GUTTER

☐ MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

STANDARD VERTICAL (NONMOUNTABLE) CONCRETE CURBS AND CONCRETE CURBS AND GUTTERS

10-26-91 | RP-NMC-10

DRAWING NO.
C816

DETAILS

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

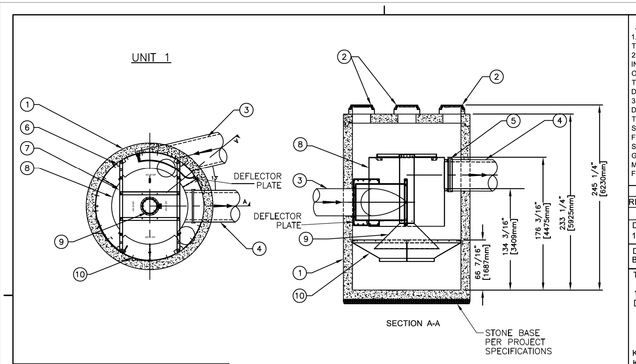
FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

CEC
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

REVISION RECORD

NO.	DATE	DESCRIPTION

140-828\~CADD\Dwg



Notes
1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING DOWNSTREAM DEFENDER MANHOLE.
3. TYPICALLY DOWNSTREAM DEFENDERS WILL BE DELIVERED TO THE PROJECT SITE WITH A TOP SLAB ELEVATION 12'± BELOW FINISHED GRADE. PURCHASER SHALL BE RESPONSIBLE FOR GRADE RINGS OR BLOCK AND MORTAR NECESSARY TO MEET FINAL GRADE.

REVISION HISTORY			
REV	BY	DATE	DESCRIPTION
			Deflector Plate
Date 10/6/15		Scale 1/8" = 1'-0"	
Drawn BL	Checked	Approved	

Title
12-FT DIAMETER DOWNSTREAM DEFENDER

KCDC
KNOXVILLE, TN

Parts List		
ITEM	DESCRIPTION	SIZE
1	PRECAST MANHOLE (BY HYDRO VIA PRECASTER)	144 in
2	FRAME AND COVER	24 in
3	INLET PIPE (BY OTHERS) *	36 in
4	OUTLET PIPE (BY OTHERS) *	36 in
5	PIPE COUPLING (BY OTHERS)	
6	LEDGER ANGLE	
7	SUPPORT FRAME	
8	DIP PLATE	
9	CENTER SHAFT AND CONE	
10	BENCHING SKIRT	
11	OUTLET PIPE STUB *	36 in

CAPACITIES:

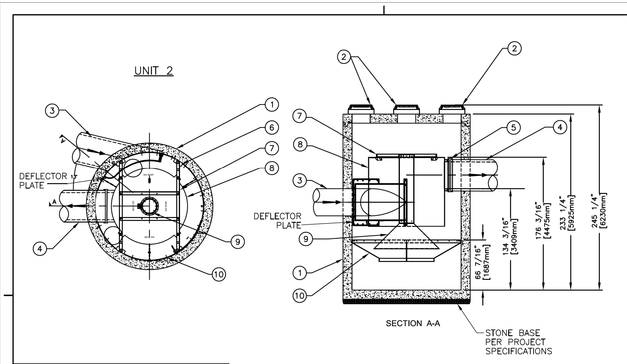
1. Peak treatment flow: 38.0 cfs (1076 l/s)
2. Sediment storage capacity: 14.70 Cu. yd. (11.24 cu. m.)
3. Oil storage capacity: 1770 Gal. (6700 liters)

ADDITIONAL DESIGN INFORMATION:

1. The outlet pipe stub is a roto-molded product with an I.D. of 36 in. that cannot be modified. To avoid the use of a reducer or expander on the outlet a 36 in. outlet pipe should be used if possible. The orientation of the outlet pipe can be adjusted to suit site conditions.
2. Maximum pipe size is 36 in. The inlet pipe invert should be placed one inlet pipe diameter below the outlet pipe invert. The I.D. of the inlet pipe should be placed tangent to the I.D. of the manhole. The orientation of the inlet pipe can be adjusted to suit site conditions. Headloss at 38.0 cfs with a 36 in. inlet: 16 in. (406 mm). Headloss will increase with smaller inlet pipes.
3. Sediment shall be stored in a zone that is isolated form the main flow path and protected from re-entrainment by the benching skirt.
4. Dimensions are general and Intended for guidance only.

Hydro International
Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
sformwardinquiry@hydro-int.com

CAD Ref: D12GA
ProjectNo.
DrawingNo. D12GA Rev. B



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			Deflector Plate
Date 10/6/15		Scale 1/8" = 1'-0"	
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KCDC
KNOXVILLE, TN

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CAD Ref: D12GA
ProjectNo.
DrawingNo. D12GA Rev. B

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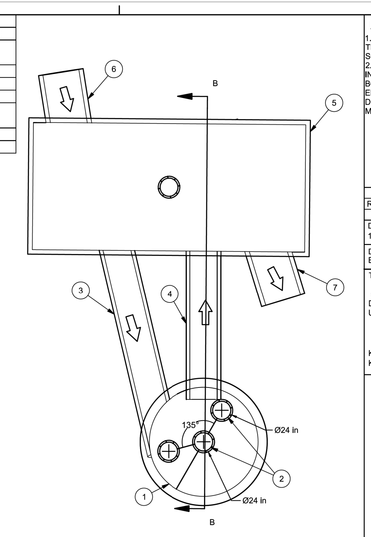
6	MAIN PIPE (BY OTHERS)	48 in
7	BYPASS PIPE (BY OTHERS)	48 in



Notes
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2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING DOWNSTREAM DEFENDER MANHOLE.

REVISION HISTORY			
REV	BY	DATE	DESCRIPTION
	BL	5/18/16	
Date 10/6/2015		Scale 1/4" = 1'-0"	
Drawn BL	Checked	Approved	

Title
12FT DIAMETER DOWNSTREAM DEFENDER UNIT 1

KCDC
Knoxville, TN

94 Hutchins Drive
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Tel: (207) 756-6200
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Email: hiltech@hil-tech.com

CAD Ref: D10S2.1
Project No. 15-12401
DrawingNo. D10S2.1 Rev.

Parts List		
ITEM	DESCRIPTION	SIZE
1	PRECAST MANHOLE (BY HYDRO VIA PRECASTER)	144 in
2	FRAMES AND COVERS	
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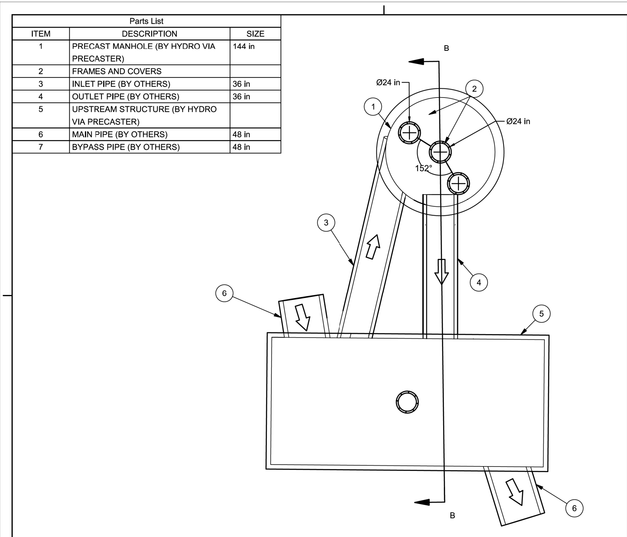

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REV	BY	DATE	DESCRIPTION
	BL	10/6/15	FIRST ISSUE
Date 10/6/2015		Scale 1/4" = 1'-0"	
Drawn BL	Checked	Approved	

Title
12FT DIAMETER DOWNSTREAM DEFENDER UNIT 2

KCDC
Knoxville, TN

94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
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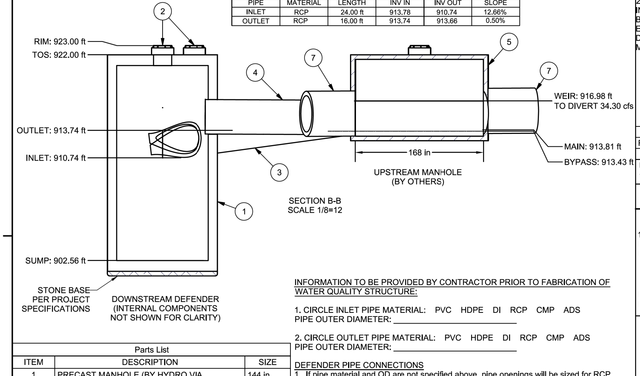
Email: hiltech@hil-tech.com

CAD Ref: D10S2.2
Project No. 15-12401
DrawingNo. D10S2.2 Rev.

Pipe Details					
PIPE	MATERIAL	LENGTH	INV IN	INV OUT	SLOPE
INLET	RCP	24.00 ft	913.78	910.74	12.66%
OUTLET	RCP	16.00 ft	913.74	913.66	0.50%



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Date 10/6/2015		Scale 1/4"=1'0"	
Drawn BL	Checked	Approved	

Title
12-FT DIAMETER DOWNSTREAM DEFENDER UNIT 1

KCDC
Knoxville, TN

94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
Email: hiltech@hil-tech.com

INFORMATION TO BE PROVIDED BY CONTRACTOR PRIOR TO FABRICATION OF WATER QUALITY STRUCTURE:

1. CIRCLE INLET PIPE MATERIAL: PVC HDPE DI RCP CMP ADS
PIPE OUTER DIAMETER: _____

2. CIRCLE OUTLET PIPE MATERIAL: PVC HDPE DI RCP CMP ADS
PIPE OUTER DIAMETER: _____

DEFENDER PIPE CONNECTIONS
1. If pipe material and OD are not specified above, pipe openings will be sized for RCP.
2. Large diameter coupling required to connect outlet pipe to overflow stub.

OVERFLOW PIPE STUB DIMENSIONS:
O.D. = 36.00 in
I.D. = 30.00 in
STUB LENGTH = 6.00 in

3. Inlet pipe enters unit tangent to inside of Defender manhole. Cut Pipe off at 30 degree angle. (See installation instructions.)
4. Grout Inlet and outlet pipes with non-shrink grout to ensure a watertight connection.
5. Backfill structures and pipes per project specifications.

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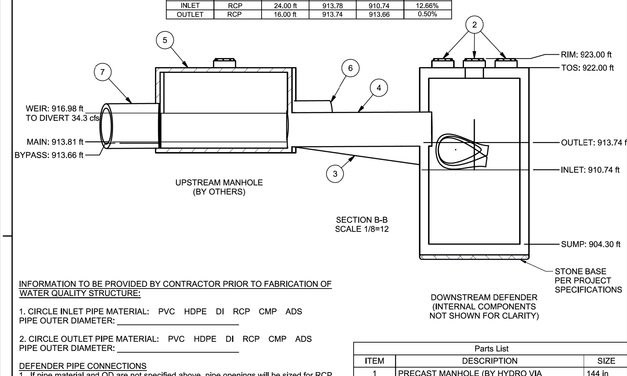
CAD Ref: D10S3.1
Project No. 15-12401
DrawingNo. D10S3.1 Rev.

Pipe Details					
PIPE	MATERIAL	LENGTH	INV IN	INV OUT	SLOPE
INLET	RCP	24.00 ft	913.78	910.74	12.66%
OUTLET	RCP	16.00 ft	913.74	913.66	0.50%



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REV	BY	DATE	DESCRIPTION
	BL	10/6/15	FIRST ISSUE
Date 10/6/2015		Scale 1/4"=1'0"	
Drawn BL	Checked	Approved	

Title
12-FT DIAMETER DOWNSTREAM DEFENDER UNIT 2

KCDC
Knoxville, TN

94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
Email: hiltech@hil-tech.com

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PIPE OUTER DIAMETER: _____

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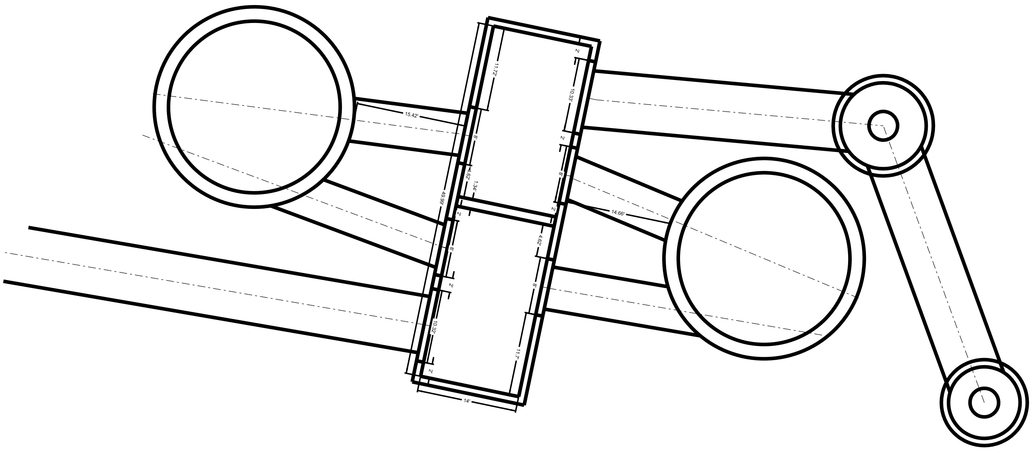
7	BYPASS PIPE (BY OTHERS)	48 in

CAD Ref: D10S3.2
Project No. 15-12401
DrawingNo. D10S3.2 Rev.



ROBERT T. JOHNSON
REGISTERED
No. 92302
STATE OF TENNESSEE
PROFESSIONAL ENGINEER

DRAWING NO.
C817

WQ UNIT DETAILS

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

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REVISION RECORD

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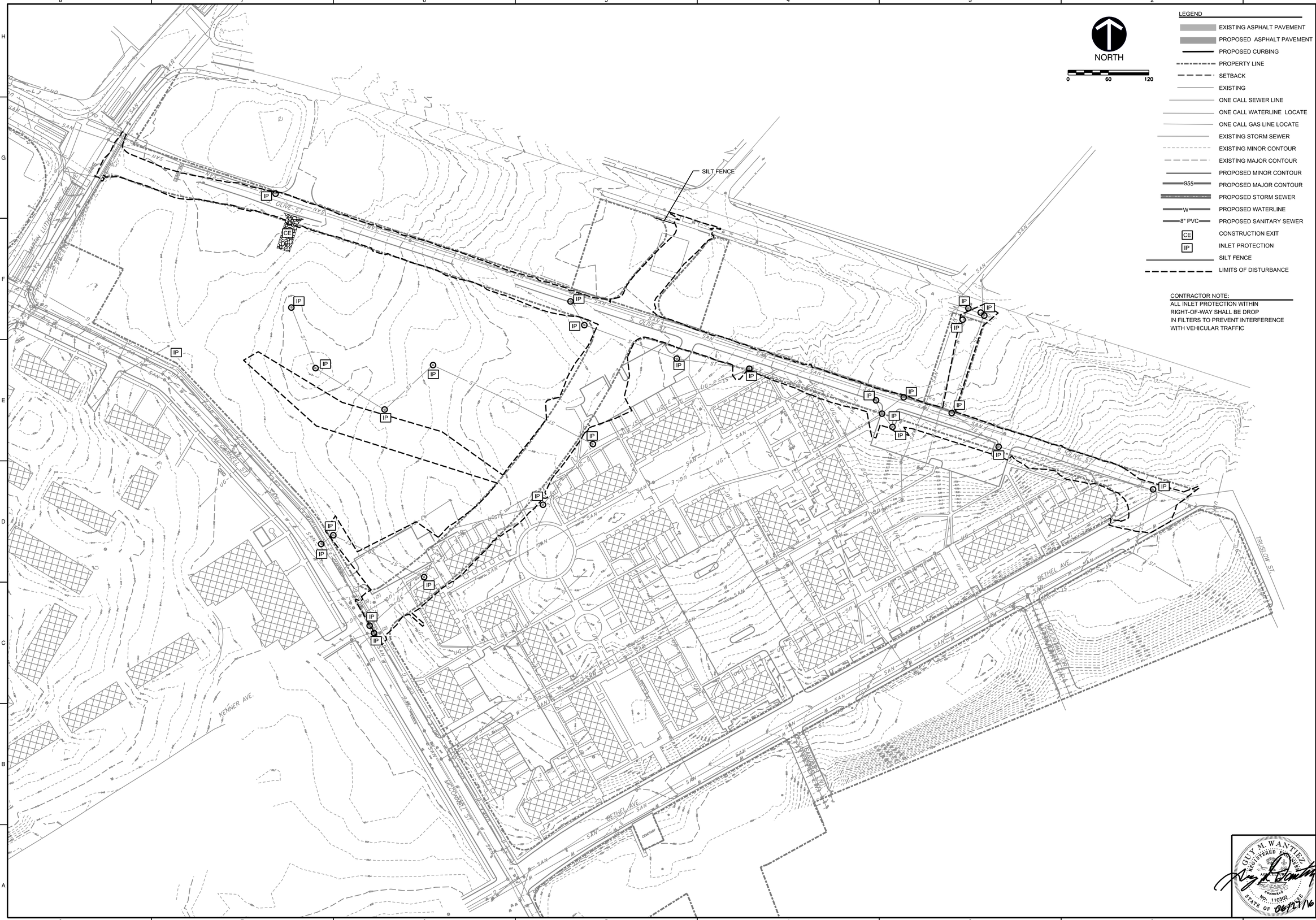

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
- ONE CALL SEWER LINE
- ONE CALL WATERLINE LOCATE
- ONE CALL GAS LINE LOCATE
- EXISTING STORM SEWER
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- 955 PROPOSED MAJOR CONTOUR
- PROPOSED STORM SEWER
- W PROPOSED WATERLINE
- 8" PVC PROPOSED SANITARY SEWER
- CE CONSTRUCTION EXIT
- IP INLET PROTECTION
- SILT FENCE
- LIMITS OF DISTURBANCE

CONTRACTOR NOTE:
ALL INLET PROTECTION WITHIN RIGHT-OF-WAY SHALL BE DROP IN FILTERS TO PREVENT INTERFERENCE WITH VEHICULAR TRAFFIC

REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2 INFRASTRUCTURE IMPROVEMENTS FIVE POINTS, KNOXVILLE, TN PREPARED FOR KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

INITIAL EROSION CONTROLS

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
APPROVED BY:	GMW
DRAWN BY:	GMW
CHECKED BY:	JCT

DRAWING NO.:
C910

GUY M. WANTIZ
REGISTERED ENGINEER
TENNESSEE
No. 110302
STATE OF
06/23/16

140-828_-CADD\Dwg

NORTH

0 60 120

LEGEND

- EXISTING ASPHALT PAVEMENT
- PROPOSED ASPHALT PAVEMENT
- PROPOSED CURBING
- PROPERTY LINE
- SETBACK
- EXISTING
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- SILT FENCE
- LIMITS OF DISTURBANCE

SILT FENCE

REVISION RECORD

NO	DATE	DESCRIPTION

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308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

CONSTRUCTION STAGE
EROSION CONTROLS

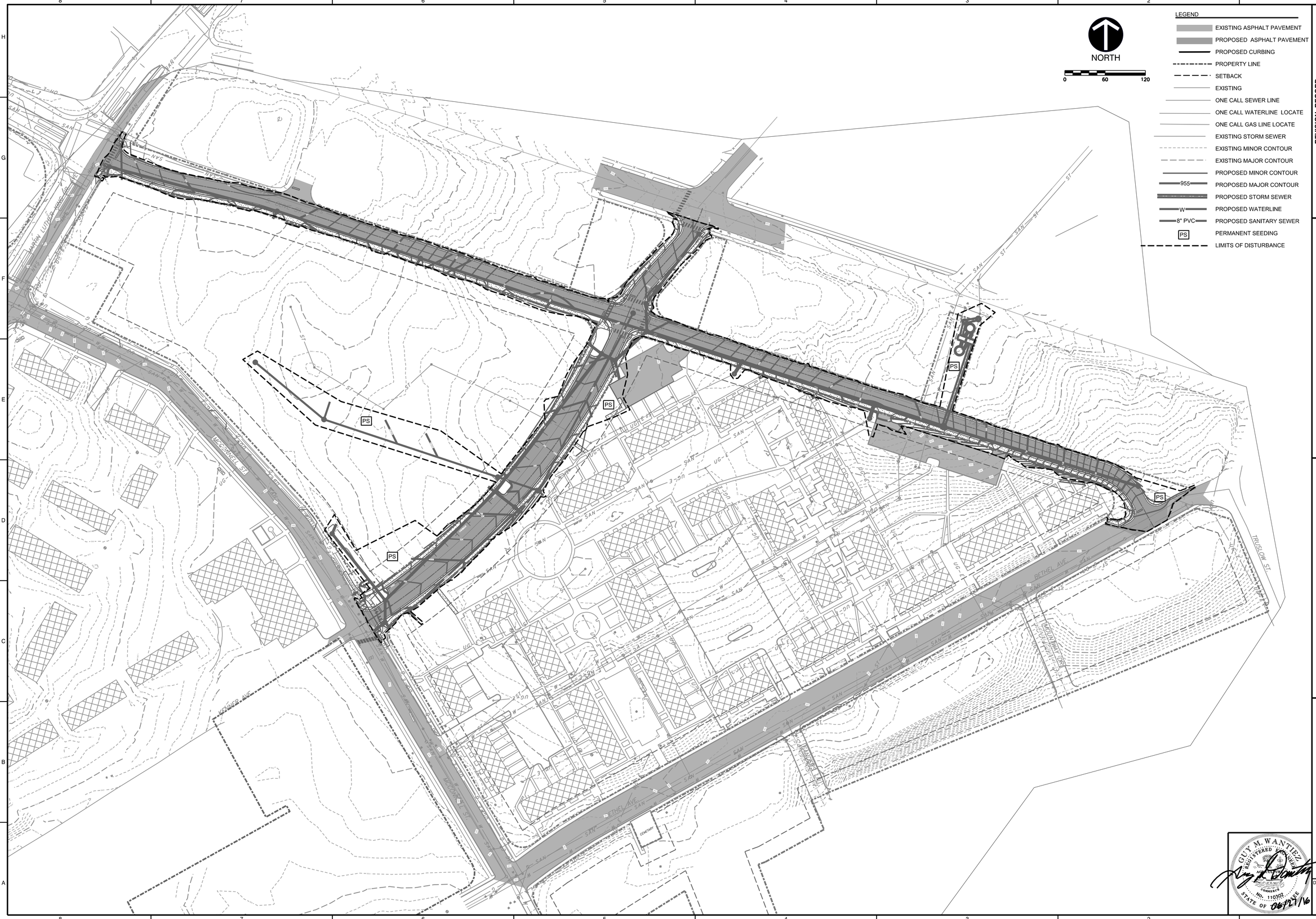
DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:

C911

GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURE
No. 110302
STATE OF TENNESSEE
06/21/16

140-828\~CADD\Dwg



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INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

POST CONSTRUCTION EROSION CONTROLS

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

GUY M. WANTZ
REGISTERED ENGINEER
AGRICULTURAL & BIOSYSTEMS
ENGINEER
No. 110302
STATE OF TENNESSEE
06/23/16

DRAWING NO.:
C912

140-828\~CAD\Dwg

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

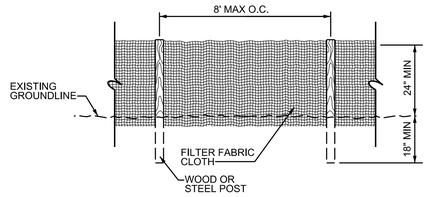
TEMPORARY SEEDING MIXTURES

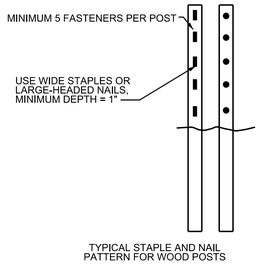
SEEDING DATES	GRASS SEED	PERCENTAGES
JANUARY 1 TO MAY 1	ITALIAN RYE	50%
	SUMMER OATS	50%
MAY 1 TO JULY 15	SUDAN-SORGHURM	100%
MAY 1 TO JULY 15	STARR MILLET	100%
JULY 15 TO JANUARY 1	BALBOA RYE	67%
	ITALIAN RYE	33%

SOURCE TDOT STANDARDS SPECIFICATIONS

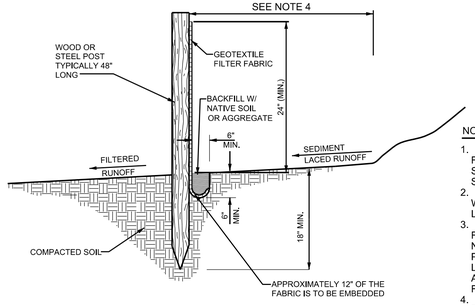
SEEDING SCHEDULE
N.T.S.

PS





TYPICAL STAPLE AND NAIL PATTERN FOR WOOD POSTS



NOTES:

1. FILTER CLOTH SHALL MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATION FOR GEOTEXTILES AASHTO DESIGNATION: M288, SEDIMENT CONTROL, SELF SUPPORTED.
2. WOOD POSTS ARE TYPICALLY 2"X2" OAK AND OTHER HARD WOODS. A LARGER POST IS NECESSARY FOR SOFT WOODS (4"X4").
3. FASTENERS FOR WOOD POSTS SHOULD BE EITHER WIRE STAPLES OR NAILS. THERE SHALL BE A MINIMUM OF 5 FASTENERS FOR EACH WOOD POST. USE MINIMUM SIZE 17-GAUGE STAPLES WITH A MINIMUM EMBEDDED LENGTH OF 1 INCH INTO THE WOOD AND A MINIMUM WIDTH OF 3/4 INCH ACROSS. TYPICAL NAIL SIZE IS 1 INCH LONG WITH OVERSIZED NAIL HEAD. FABRIC SHALL NOT BE ATTACHED TO EXISTING TREES.
4. PLACE SILT FENCE AT LEAST 5 TO 7 FEET AWAY FROM STEEP OR LONG SLOPES TO IMPOUND STORMWATER RUNOFF.

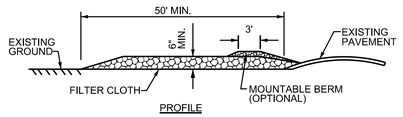
SILT FENCE
N.T.S.

SF SF

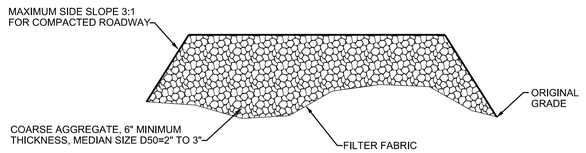
SF

EROSION & SEDIMENT CONTROL NOTES

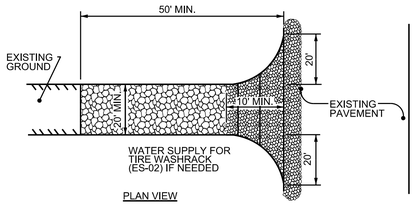
1. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON PROJECT SITE. THIS INDIVIDUAL MUST HAVE COMPLETED THE "FUNDAMENTALS OF EROSION PREVENTION AND SEDIMENT CONTROL LEVEL I" COURSE. A COPY OF THE CERTIFICATION OR TRAINING RECORD FOR INSPECTOR CERTIFICATION SHOULD BE KEPT ON SITE.
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.
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 STREAM CHANNEL.
9. STOCKPILED SOIL SHALL BE PROTECTED AND LOCATED FAR ENOUGH FROM STREAMS AND DRAINAGE WAYS SO THAT RUNOFF CANNOT CARRY SEDIMENT DOWNSTREAM.
10. VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED, OR DISTURBED MORE THAN 15 CALENDAR DAYS PRIOR TO GRADING.
11. TEMPORARY SOIL STABILIZATION WITH APPROPRIATE ANNUAL VEGETATION SHALL BE APPLIED ON AREAS THAT WILL REMAIN UNFINISHED FOR MORE THAN 15 CALENDAR DAYS. STEEP SLOPES (SLOPES GREATER THAN 35%) SHALL BE TEMPORARILY STABILIZED NOT LATER THAN 7 DAYS AFTER CONSTRUCTION ACTIVITY ON THE SLOPE HAS TEMPORARILY OR PERMANENTLY CEASED.
12. PERMANENT SOIL STABILIZATION WITH PERENNIAL VEGETATION SHALL BE APPLIED AS SOON AS PRACTICAL AFTER FINAL GRADING. 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.
14. WHERE APPROPRIATE, SURFACE WATER FLOWING TOWARD CONSTRUCTION AREA SHALL BE DIVERTED AROUND THE CONSTRUCTION AREA USING DIKES, TO REDUCE EROSION POTENTIAL.
15. PLACEMENT AND MAINTENANCE OF CHECK DAMS SHALL BE AS SPECIFIED ON PLANS AS REQUIRED IN THE TENNESSEE EROSION AND SEDIMENT CONTROL HANDBOOK.
16. ALL ROCK SHALL BE CLEAN, HARD ROCK CONTAINING NO SAND, DUST, OR ORGANIC MATERIAL.
17. REFER TO THE TENNESSEE EROSION CONTROL HANDBOOK FOR MAINTENANCE REQUIREMENTS OF EROSION AND SEDIMENT CONTROL MEASURES.
18. 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.
19. CONSTRUCTION EXIT – CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION EXIT PRIOR TO ANY EARTHWORK OPERATIONS, CONSTRUCTION EXIT SHALL BE LOCATED AT THE EXIT SITE. 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.
20. CONTRACTOR IS RESPONSIBLE FOR CLEANING OUT AND PROPER DISPOSAL OF ALL DEBRIS WITHIN THE STORM DRAINAGE STRUCTURES, INCLUDING SILT FROM FLUMES, PIPES, ETC., PRIOR TO COMPLETION OF THE PROJECT.
21. ADDITIONAL PROTECTION IN ADDITION TO THE ABOVE SHALL BE PROVIDED THAT WILL PREVENT SILT FROM LEAVING THE SITE DUE TO UNFORESEEN CONDITIONS OR ACCIDENTS.
22. STREAMS SHALL NOT BE USED AS TRANSPORTATION ROUTES FOR EQUIPMENT. IF A STREAM CROSSING MUST BE MADE, IT MUST BE LIMITED TO ONE POINT. A STABILIZED PAD OF CLEAN AND PROPERLY SIZED SHOT ROCK MUST BE USED AT THE CROSSING POINT.
23. THE GRADING CONTRACTOR AND BUILDING CONTRACTOR WILL REFRAIN FROM DOING ANY WORK OUTSIDE OF THE DELINEATED LIMITS OF DISTURBANCE.
24. CONTRACTOR TO PROVIDE SEDIMENT CLEAN OUT STAKE FOR EACH SEDIMENT TRAP/BASIN THAT SHOWS 50% CAPACITY OF TRAP/BASIN. SEDIMENT TRAP/BASIN TO BE CLEANED OUT WHEN SEDIMENT REACHES THE PREDETERMINED MARK ON STAKE.
25. ROADS SHALL BE STABILIZED BY APPLYING STONE ONCE FINAL GRADE IS ACHIEVED.
26. ALL SILT FENCE IS TO BE TYPE A EXCEPT WHERE SPECIFIED DIFFERENTLY.
27. EROSION CONTROL MATTING TO BE JUTE MESH AND INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATION.



PROFILE



SECTION A-A



PLAN VIEW

CONSTRUCTION SPECIFICATIONS

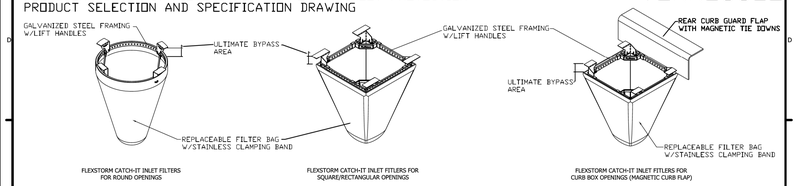
1. THE LENGTH OF THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 50 FEET.
2. THE THICKNESS OF THE STONE FOR THE STABILIZED ENTRANCE SHALL NOT BE LESS THAN 6 INCHES.
3. THE WIDTH OF THE ENTRANCE SHALL NOT BE LESS THAN THE FULL WIDTH OF THE ENTRANCE WHERE INGRESS OR EGRESS OCCURS OR 20 FEET, WHICH EVER 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

FLEXSTORM CATCH-IT FILTERS FOR TEMPORARY INLET PROTECTION
PRODUCT SELECTION AND SPECIFICATION DRAWING

TENNESSEE



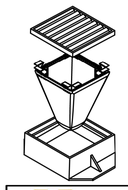
FLEXSTORM CATCH-IT INLET FILTERS FOR ROUND OPENINGS

FLEXSTORM CATCH-IT INLET FITLERS FOR SQUARE/RECTANGULAR OPENINGS

FLEXSTORM CATCH-IT INLET FITLERS FOR CURB BOX OPENINGS (MAGNETIC CURB FLAP)

Product selection for FLEXSTORM CATCH-IT Filters (Temporary Inlet Protection)

TDOT Standard	JR HOE Catalog	JBS Catalog #	Inlet Type	Grate Size	Opening Size	Bag Cap. (ft³)	FX Flow Ratings (CFS)	ADS P/N
TDOT std. #12, #10, #25, #41		3123	Curb Box (CB)	36.25 x 21.75	32.0 x 17.75	3.4	2.0	62LCBFX
TDOT std. #18		3061	Square/Rect (SQ)	24.875 x 26.25 (x2)	48 x 24	6.2	3.8	62XLSQFX
	HOE 518	4254	Square/Rect (SQ)	24 x 36	22 x 34	3.5	2.4	62LSQ2436FX
	HOE 525	3080	Curb Box (CB)	35.5 x 17.5	33.0 x 16.0	3.8	2.2	62LCBEXTFX
Nashville, TN std. CB		3300	Curb Box (CB)	31.375 x 21.375	29.5 x 19.0	3.3	2.0	62LCBFX
	HOE 280	4075	Square/Rect (SQ)	24 x 24	22 x 22	2.2	1.8	62MS22QFX
Memphis TN std. #10	HOE 320	4190	Square/Rect (SQ)	25.75 x 25.75	23.75 x 23.75	3.1	1.9	62MSQFX
		4220/4330	Square/Rect (SQ)	27.75 x 27.75	26 x 26	5.0	2.3	62LSQFX
Metro Nashville std.	HOE 568	4300/4310/4315	Square/Rect (SQ)	31.5 x 31.5	30.0 x 30.0	5.4	2.5	62XLSQFX
TDOT std. #42	HOE 595	4200/4260	Square/Rect (SQ)	35.5 x 35.5	33.25 X 33.25	6.1	2.6	62XLSQFX



FLEXSTORM INLET FILTERS
CATCH-IT

*FLOW RATINGS SHOWN ARE 50% MAXIMUM

NOTES:

1. ALL FRAMING IS CONSTRUCTED OF CORROSION RESISTANT STEEL FRAMING FOR PROLONGED PRODUCT LIFE.
2. TOTAL BYPASS CAPACITY WILL VARY WITH EACH SIZED DRAINAGE STRUCTURE. FLEXSTORM DESIGNS FRAMING BYPASS TO MEET OR EXCEED THE DESIGN FLOW OF THE PARTICULAR DRAINAGE STRUCTURE. CONCRETE STRUCUTRES MAY REQUIRE ADDITIONAL REVIEW.
3. UPON ORDERING THE ADS P/N CONFIRMATION OF THE DOT CALLOUT, FLEXSTORM ITEM CODE, CASTING MAKE AND MODEL, OR DETAILED DIMENSIONAL FORMS MUST BE PROVIDED.
4. FOR WRITTEN SPECIFICATIONS AND MAINTENANCE GUIDELINES VISIT WWW.INLETFILTERS.COM

INSTALLATION:

1. REMOVE GRATE
2. DROP FLEXSTORM INLET FILTER ONTO LOAD BEARING LIP OF CASTING OR CONCRETE STRUCTURE
3. REPLACE GRATE

ALL PRODUCTS MANUFACTURED BY INLET & PIPE PROTECTION, INC
A DIVISION OF ADS, INC.
WWW.INLETFILTERS.COM
(866) 287-8655 PH
(630) 355-3477 FX
INFO@INLETFILTERS.COM

SIZE	DWG NO	REV
C	C-TN-SUBMIT	A
SCALE	SHEET 1 OF 1	

STORM INLET INSERT DETAIL
N.T.S.

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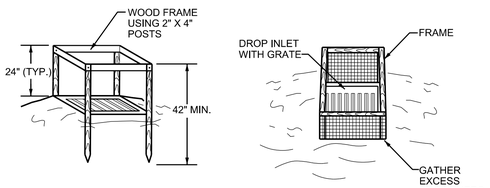
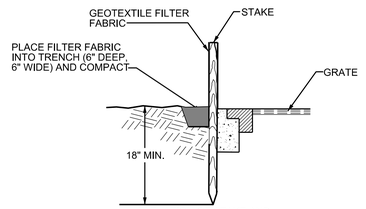


PERSPECTIVE VIEWS



ELEVATION OF STAKE AND FABRIC ORIENTATION

SILT FENCE DROP INLET DETAIL
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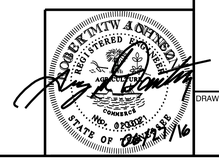


REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

DETAILS & NOTES

DATE:	JUNE 20, 2016
DWG SCALE:	AS SHOWN
PROJECT NO:	140-828
DRAWN BY:	GMW
CHECKED BY:	JCT
APPROVED BY:	GMW

DRAWING NO.:
C913

140-828\~CADD\Dwg

CONCRETE MASONRY UNITS:

MATERIALS:

MASONRY WALLS SHALL CONSIST OF ASTM C-90, GRADE N-1, HOLLOW CONCRETE MASONRY UNITS MASONRY SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH, f'm = 1,500 PSI MORTAR SHALL COMPLY WITH ASTM C-270 AND SHALL BE TYPE S (1,800 PSI)

MASONRY SHALL BE LAID IN A RUNNING BOND PATTERN UNLESS OTHERWISE NOTED. NO CONTINUOUS VERTICAL JOINTS ARE PERMITTED AT WALL CORNERS, INTERSECTIONS, AND OPENING EDGES. SAW TOOTH BLOCK EACH ALTERNATING COURSE AT THESE LOCATIONS TO ACHIEVE MONOLITHIC CONSTRUCTION.

VERTICAL REINFORCEMENT: LOCATION, SIZE AND SPACING SHALL BE AS INDICATED ON THE STRUCTURAL DRAWINGS. WALLS SHALL BE REINFORCED FULL HEIGHT IN GROUT FILLED CELLS AT ALL WALL CORNERS, INTERSECTIONS, ENDS, AND ADJACENT TO OPENINGS.

VERTICAL REINFORCEMENT SHALL BE CENTERED IN GROUT FILLED CELLS UNLESS NOTED OTHERWISE. REINFORCEMENT SHALL BE HELD SECURELY IN POSITION AT THE TOP AND BOTTOM OF WALL.

GROUTING: CONTRACTOR SHALL SUBMIT PROPOSED GROUT MIX DESIGN FOR ENGINEER REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. GROUT SLUMP SHALL BE BETWEEN 8 AND 11 INCHES. USE OF SUPERPLASTICIZER IS PROHIBITED. CELLS WHICH ARE TO RECEIVE GROUT SHALL BE VERTICALLY ALIGNED WITH A CLEAR, UNOBSTRUCTED AND CONTINUOUS VERTICAL SPACE. CELLS SHALL BE FILLED COMPLETELY AND VIBRATION CONSOLIDATED. GROUTING OPERATIONS SHALL BE CONTINUOUS AND SHALL NOT BE STOPPED FOR A PERIOD EXCEEDING ONE HOUR. WALL SHALL BE CONSTRUCTED IN MAXIMUM 5'-0" LIFTS BETWEEN GROUT POURS.

FOUNDATIONS/RETAINING WALLS

GEOTECHNICAL PARAMETERS FOR THE DESIGN OF FOUNDATIONS/RETAINING WALLS WERE NOT PROVIDED FOR THIS PROJECT. ASSUMPTIONS, AS OUTLINED ON THIS DRAWING, WERE USED FOR DESIGN. SHOULD GEOTECHNICAL INFORMATION BE OBTAINED, RE-EVALUATION OF THE DESIGNS WILL BE REQUIRED.

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE WHETHER OR NOT ADDITIONAL GEOTECHNICAL INFORMATION IS REQUIRED AND TO PROVIDE SUCH INFORMATION AS THEY DEEM NECESSARY.

THERE WILL BE NO BACKFILLING OPERATIONS UNTIL THE WALLS HAVE REACHED THEIR 28-DAY DESIGN STRENGTH, UNLESS NOTED OTHERWISE OR APPROVED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE SHORING OR SLOPING OF EXCAVATIONS TO MEET OSHA REQUIREMENTS. DESIGN OF SHORING IS THE CONTRACTORS RESPONSIBILITY. EXCAVATIONS SHALL BE IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

GENERAL NOTES

THESE GENERAL NOTES REPRESENT AND/OR SUMMARIZE KEY PROJECT INFORMATION FOR THE DRAWING USER'S CONVENIENCE. HOWEVER, ADDITIONAL DRAWING NOTES AND PROJECT SPECIFICATIONS SHOULD BE REVIEWED FOR FURTHER DETAILS AND REQUIREMENTS.

ALL REFERENCES TO REFERENCE STANDARDS HEREIN ARE TO MOST RECENT ISSUE IN EFFECT AS OF THE DATE OF THESE DOCUMENTS, UNLESS NOTED OTHERWISE IN PROJECT SPECIFICATIONS OR ON THE DRAWINGS.

ELEVATIONS SHOWN ARE RELATIVE TO THE SITE TOPOGRAPHIC SURVEY.

WORK THESE DRAWINGS WITH THOSE PREPARED BY OTHER DISCIPLINES. WHERE CONFLICTS ARE DISCOVERED, NOTIFY THE ENGINEER OF RECORD FOR RESOLUTION.

THE CONTRACTOR SHALL REVIEW AND VERIFY DIMENSIONS SHOWN IN ALL PLANS AND REVIEW ALL FIELD CONDITIONS THAT MAY AFFECT THE INSTALLATION OF THE STRUCTURES. SHOULD DISCREPANCIES BE DISCOVERED, NOTIFY THE ENGINEER OF RECORD FOR RESOLUTION BEFORE COMMENCING THE WORK.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL BUILDING PERMITS AND SCHEDULING/ACCOMMODATING ALL REQUIRED INSPECTIONS PERTAINING TO THE BUILDING PERMITS.

THE STRUCTURES SHOWN ON THESE DRAWINGS ARE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE CONSTRUCTION IS FULLY COMPLETED. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION. THIS INCLUDES THE ADDITION OF WHATEVER SHORING, TEMPORARY BRACING, ETC. THAT MAY BE NECESSARY. SUCH MATERIAL SHALL REMAIN THE CONTRACTOR'S PROPERTY AFTER COMPLETION OF THE PROJECT.

THE FOLLOWING ABBREVIATIONS MAY BE USED ON THE DESIGN DRAWINGS:

@- AT
c/c- CENTER-TO-CENTER
CLR- CLEAR
CONC- CONCRETE
CONT- CONTINUOUS
FT / '- FOOT, FEET
HORIZ- HORIZONTAL
IN / "- INCH
MAX- MAXIMUM
MIN- MINIMUM
N.T.S.- NOT TO SCALE
PSF- POUNDS PER SQUARE FOOT
PSI- POUNDS PER SQUARE INCH
REV.- REVISED/REVISION
TRAN- TRANSVERSE
TYP- TYPICAL
VERT- VERTICAL
w/- WITH

STRUCTURAL CONCRETE

THE FOLLOWING REFERENCES (CURRENT EDITION) WERE FOLLOWED FOR DESIGN OF STRUCTURAL CONCRETE AND/OR SHALL BE FOLLOWED FOR PLACEMENT OF STRUCTURAL CONCRETE:

a. ACI 318 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
b. ACI SP-66 ACI DETAILING MANUAL
c. CRSI MSP-2-01 MANUAL OF STANDARD PRACTICE
d. CRSI REINFORCING BAR DETAILING
e. CRSI PLACING REINFORCING BARS

MATERIALS:

STRUCTURAL CONCRETE:

MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS (F'c) FOR ALL CONCRETE SHALL BE 3,000 PSF.

ALL CONCRETE AGGREGATE SHALL COMPLY WITH ASTM C33 (NORMAL WEIGHT).

REINFORCEMENT:

REINFORCING BARS: ASTM A615, GRADE 60

ACCESSORIES:

BAR SUPPORTS CLASS 1, MAXIMUM PROTECTION (CRSI MANUAL OF STANDARD PRACTICE) FOR ALL SLABS AND BEAMS WITH SOFFITS EXPOSED TO VIEW.

ADMIXTURES:

ONLY USE IF APPROVED BY ARCHITECT/STRUCTURAL ENGINEER.

REINFORCEMENT DETAILING:

ALL REINFORCING STEEL DETAILS SHALL BE IN ACCORDANCE WITH THE ACI CODE REQUIREMENTS (ACI 318 - CURRENT EDITIONS).

REINFORCING STEEL PLACING DRAWINGS AND BAR LISTS SHALL CONFORM TO THE ACI OR CRSI DETAILING MANUALS. ALL BAR AND MESH SUPPORTS MUST BE CLEARLY DETAILED.

CONCRETE COVER FOR REINFORCING SHALL BE INDICATED ON THE APPLICABLE REINFORCING STEEL SHOP DRAWINGS. HOWEVER, NO REINFORCING IN AREAS EXPOSED TO EARTH, WEATHER, OR WATER SHALL HAVE COVER LESS THAN TWO INCHES.

SPECIFIED COVER FOR REINFORCING:

FOOTINGS: 3.0"

PROVIDE CORNER BARS AT ALL CONCRETE FOOTING AND WALL CORNERS TO BE LAPPED WITH THE HORIZONTAL BARS, CORNER BARS ARE TO MATCH THE HORIZONTAL BARS IN SIZE, GRADE AND SPACING UNLESS OTHERWISE SHOWN.

HOOKS AND BENDS SHALL BE ACI STANDARD UNLESS OTHERWISE INDICATED.

CONTINUOUS REINFORCING BARS SHALL BE PROVIDED WITH TENSION LAPS AT ALL SPLICES, U.N.O., INCLUDING CORNER BARS. ALL STEEL REINFORCING LAPS SHALL BE TENSION B LAPS TYPICAL, UNLESS NOTED OTHERWISE.

MECHANICAL SPLICES SHALL NOT BE PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE ENGINEER

REINFORCING STEEL FABRICATION AND PLACEMENT SHALL BE IN ACCORDANCE WITH CRSI MANUAL OF STANDARD PRACTICE AND CRSI PLACING REINFORCING BARS (LATEST EDITIONS).

REINFORCING STEEL IN FOOTINGS SHALL BE ASSEMBLED IN MAT GRILLES EQUALLY SPACED AND SECURELY WIRED TOGETHER BEFORE THE CONCRETE IS POURED.

WALL FOOTING DOWELS ARE TO HAVE A FULL TENSION LAP SPLICE WITH THE WALL STEEL UNLESS NOTED OTHERWISE.

ALL REINFORCING SHALL BE HELD SECURELY IN POSITION WITH STANDARD ACCESSORIES IN CONCRETE.

NO REINFORCING STEEL SHALL BE FIELD BENT WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER. FIELD BENDING OF PLAIN REINFORCEMENT, IF PERMITTED, SHALL BE PERFORMED USING AN APPROVED AND APPROPRIATE SIZED PORTABLE HYDRAULIC DEVICE THAT MAKES ACI STANDARD RADIUS BENDS. NO OTHER FIELD BENDING METHOD SHALL BE PERMITTED.

WELDING, INCLUDING TACK WELDING, FOR REINFORCING STEEL IS PROHIBITED. WELDING OF REINFORCING STEEL AND HIGH STRENGTH BOLTS (A325, A490) WILL BE PERMITTED ONLY BY WRITTEN APPROVAL OF THE ENGINEER.

FORMWORK:

DESIGN FORMWORK FOR THE LOADS, LATERAL PRESSURE AND ALLOWABLE STRESSES OUTLINED IN ACI 347.

FORMWORK SHALL BE SHORED ADEQUATELY TO ENSURE THAT IT WILL NOT MOVE DURING POURING OR CURING OF THE CONCRETE.

WALL DESIGN PARAMETERS:

NOTE: NO GEOTECHNICAL INFORMATION WAS PROVIDED FOR THIS ANALYSIS. ASSUMPTIONS OF GEOTECHNICAL PARAMETERS FOR EXISTING SOILS WERE MADE BASED ON TYPICAL VALUES FOR THIS AREA, BUT THESE VALUES SHOULD BE VERIFIED BY A GEOTECHNICAL ENGINEER.

DESIGN REFERENCES:
IBC 2012
ASCE/SEI 7-10 MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
ACI 318-11 BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE
ACI 530 BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES.

DESIGN METHODS:

WALL DESIGN USING RAM ELEMENTS RETAINING WALL MODULE
RANKINE DESIGN METHOD

SOIL PARAMETERS:

BEARING CAPACITY: 3,000 psf

RETAINED: φ= 30°, c = 0, g = 110 pcf
FOUNDATION: φ= 30°, c = 0, g = 110 pcf

SURCHARGE: 100 psf (YARDS AND TERRACES, PEDESTRIANS) OVER HEEL

250 psf (SIDEWALKS SUBJECT TO VEHICLE LOADS) OVER TOE

FACTORS OF SAFETY
SLIDING 1.5, OVERTURNING 2.0, BEARING 3.0

REVISION RECORD

NO	DATE	DESCRIPTION

CEC
Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

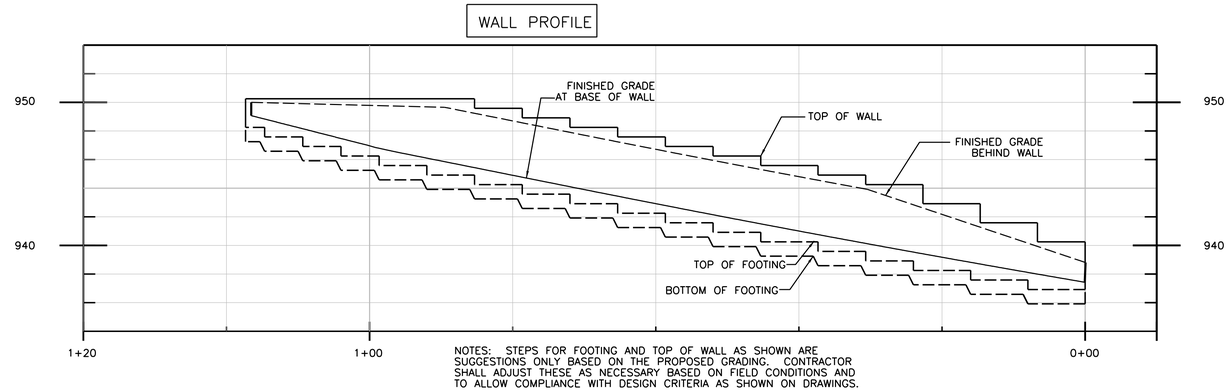
STRUCTURAL NOTES

DATE:	JUNE 20, 2016	DRAWN BY:	GMW
DWG SCALE:	AS SHOWN	CHECKED BY:	JCT
PROJECT NO:			140-828
APPROVED BY:			GMW

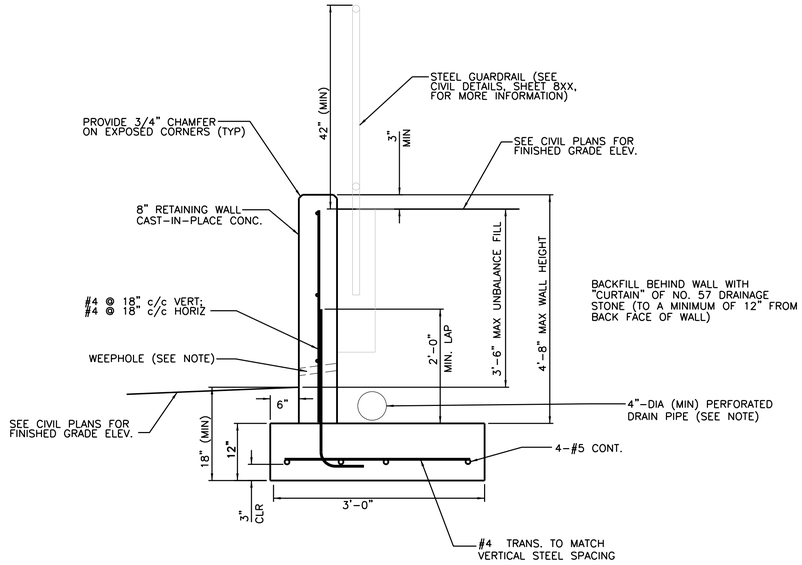
ROBERT T. JOHNSON
REGISTERED ENGINEER
AGRICULTURE
COMMERCE
No. 023021
STATE OF TENNESSEE
06/27/16

DRAWING NO.:
S100

140-828\~CADD\Dwg



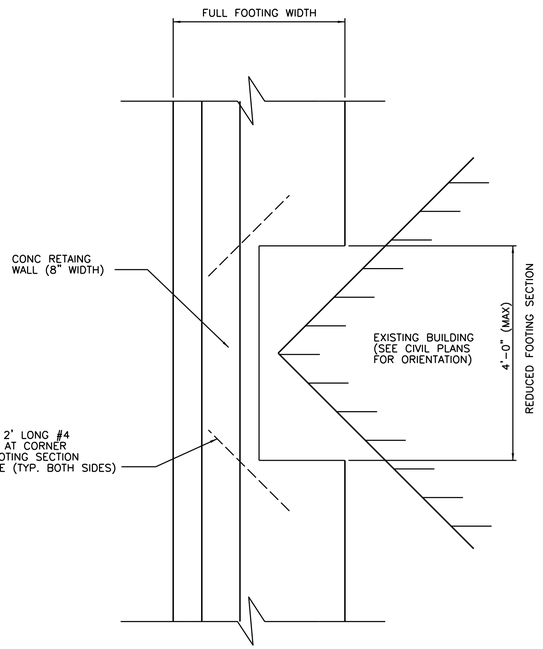
NOTES: STEPS FOR FOOTING AND TOP OF WALL AS SHOWN ARE SUGGESTIONS ONLY BASED ON THE PROPOSED GRADING. CONTRACTOR SHALL ADJUST THESE AS NECESSARY BASED ON FIELD CONDITIONS AND TO ALLOW COMPLIANCE WITH DESIGN CRITERIA AS SHOWN ON DRAWINGS.



NOTE: WHERE GRADE AND FINISHED FEATURES ALLOW, DRAIN PIPE SHALL BE ROUTED TO DAYLIGHT. OTHERWISE, PROVIDE WEEPHOLES @ 8' c/c.

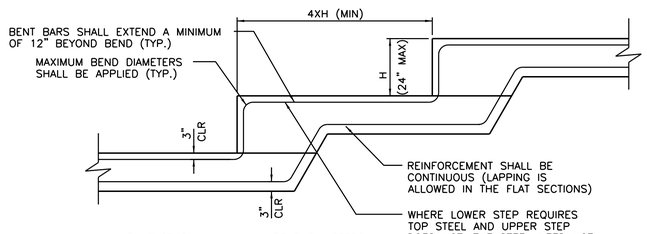
CONC RETAINING WALL

NTS



WALL FOOTING AT BUILDING CORNER

NTS



MINIMUM LAP LENGTHS:

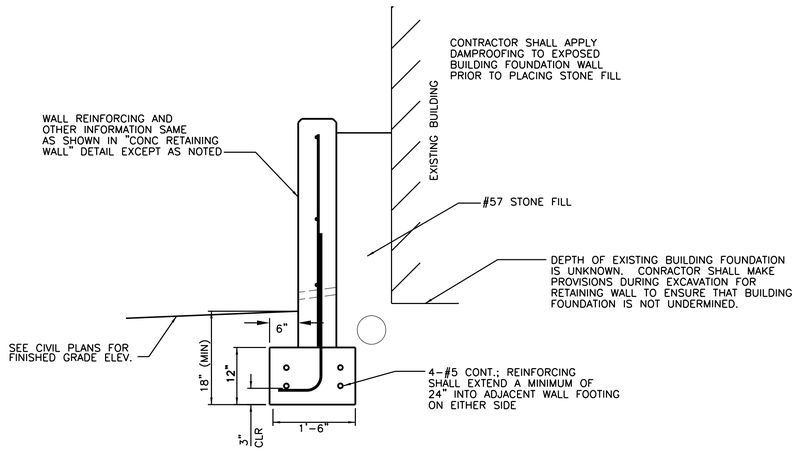
#4-29"
#5-36"
#6-43"

MINIMUM BEND DIAMETERS:

#4-3"
#5-3.75"
#6-4.5"

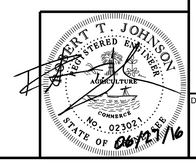
WALL FOOTING STEP DETAIL

NTS



REDUCED SECTION RETAINING WALL

NTS



REVISION RECORD

NO	DATE	DESCRIPTION

Civil & Environmental Consultants, Inc.
308 CATES STREET, MARYVILLE, TN 37801
(865) 977-9997
www.cecinc.com

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN
PREPARED FOR
KNOXVILLE'S COMMUNITY
DEVELOPMENT CORPORATION

RETAINING WALL PROFILE AND DETAILS

DATE:	JUNE 20, 2016	DRAWN BY: GMW
DWG SCALE:	AS SHOWN	CHECKED BY: JCT
PROJECT NO:		140-828
APPROVED BY:		GMW

DRAWING NO.:

S101

140-828_-CADD\Dwg

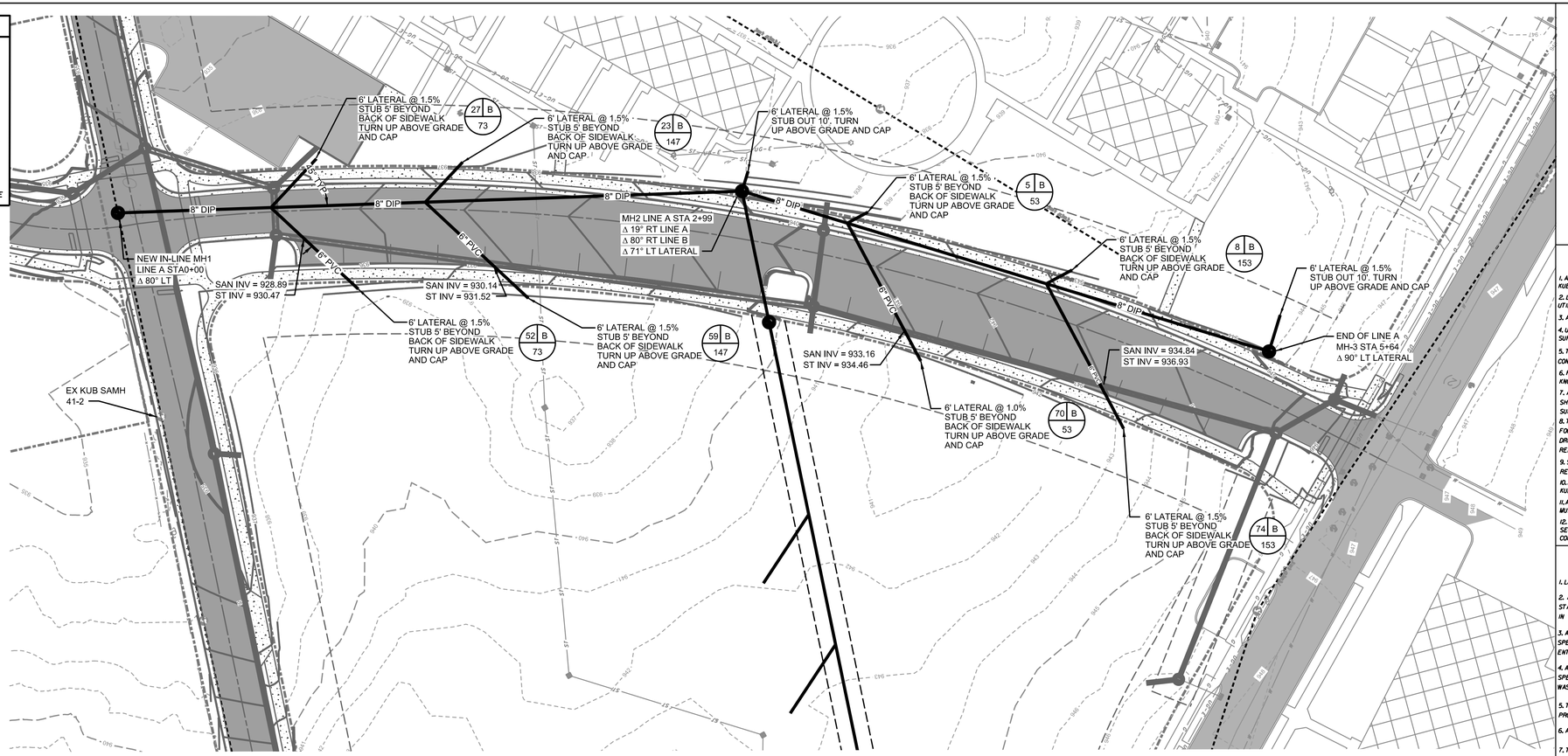
LEGEND

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

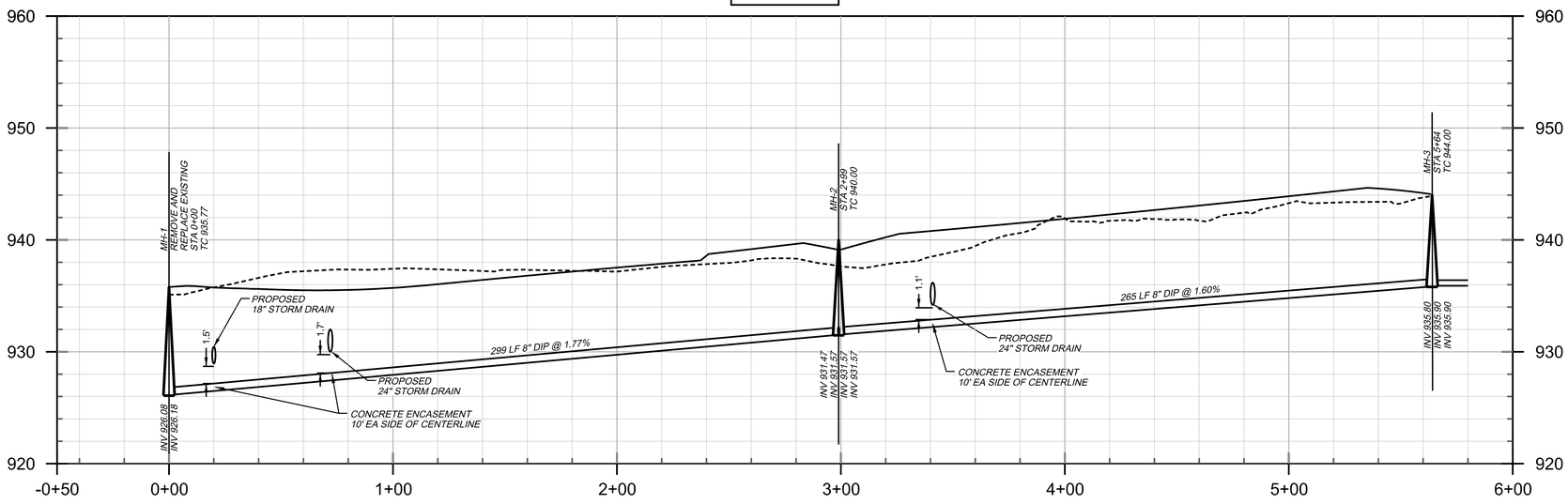
WHERE:
A = FT LENGTH OF THE LATERAL FROM THE MAIN TO THE PROPERTY LINE
B = FT OF DEPTH WHERE THE LATERAL TAPS INTO THE SEWER MAIN (NOT NECESSARY UNTIL ASBUILTS)
C = FT FROM THE NEAREST DOWNSTREAM MANHOLE

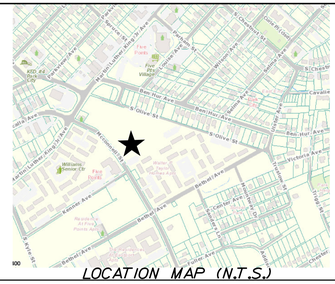
MANHOLES	6
8" DIP	564 LF
8" SDR 26	406 LF
6" LATERALS	492 LF

NORTH
0 30 60
VERTICAL IS 5 TIMES HORIZONTAL



Line A





GRAVITY SEWER NOTES:

1. ALL SANITARY SEWER LINES AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH THE KUB'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 SURFACE COVER IS FINALIZED TO INCLUDE PAVING,CONCRETE DRIVEWAYS,ETC.
5. TRENCH DESIGN AND SAFETY FOR PIPELINE CONSTRUCTION IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL CONFORM WITH 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 ½INCH DIAMETER STEEL REBAR SHALL BE DRIVEN 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 02542 OF KUB STANDARDS AND SPECIFICATIONS) REQUIREMENTS ARE FULLY UNDERSTOOD AND IMPLEMENTED IN THE WASTEWATER PROJECT.
10. ANY FIELD CHANGES TO APPROVED PLANS MUST BE APPROVED BY THE APPROPRIATE KUB REPRESENTATIVE BEFORE CONSTRUCTION.
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 2-02532-B, SECTION 02542 OF KUB STANDARDS AND SPECIFICATIONS. SEWER SERVICE LATERALS SHALL NOT BE CONNECTED TO SERVICE RISERS OR LATERAL COMPONENTS OF CLEANOUT.

GRAVITY WASTEWATER REQUIREMENTS:

1. LASERS 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.
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5. THE MINIMUM WASTEWATER LATERAL HAS A 6-INCH DIAMETER PVC (SDR 26) FROM THE MAIN TO THE PROPERTY LINE OR EDGE OF EASEMENT.
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GUY M. WANTZ
REGISTERED ENGINEER
AGREEMENT NO.
POWER OF
No. 110308
STATE OF TENNESSEE
06/10/16

PE STAMP GOES HERE

TDEC APPROVAL STAMP GOES HERE

ENGINEER
CEC
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DEVELOPER
KNOXVILLE'S COMMUNITY DEVELOPMENT CORPORATION

DESIGNED	GMW
DRAWN	GMW
CHECKED	JCT

NO.	DATE	REVISION	APPR.

SCALE
AS-SHOWN
DATE
06/01/16

KUB

FIVE POINTS PHASE 2
INFRASTRUCTURE IMPROVEMENTS
FIVE POINTS, KNOXVILLE, TN

SHEET 1
OF
2 SHEETS

LEGEND

- EXISTING SANITARY MANHOLE
- PROPOSED SANITARY MANHOLE
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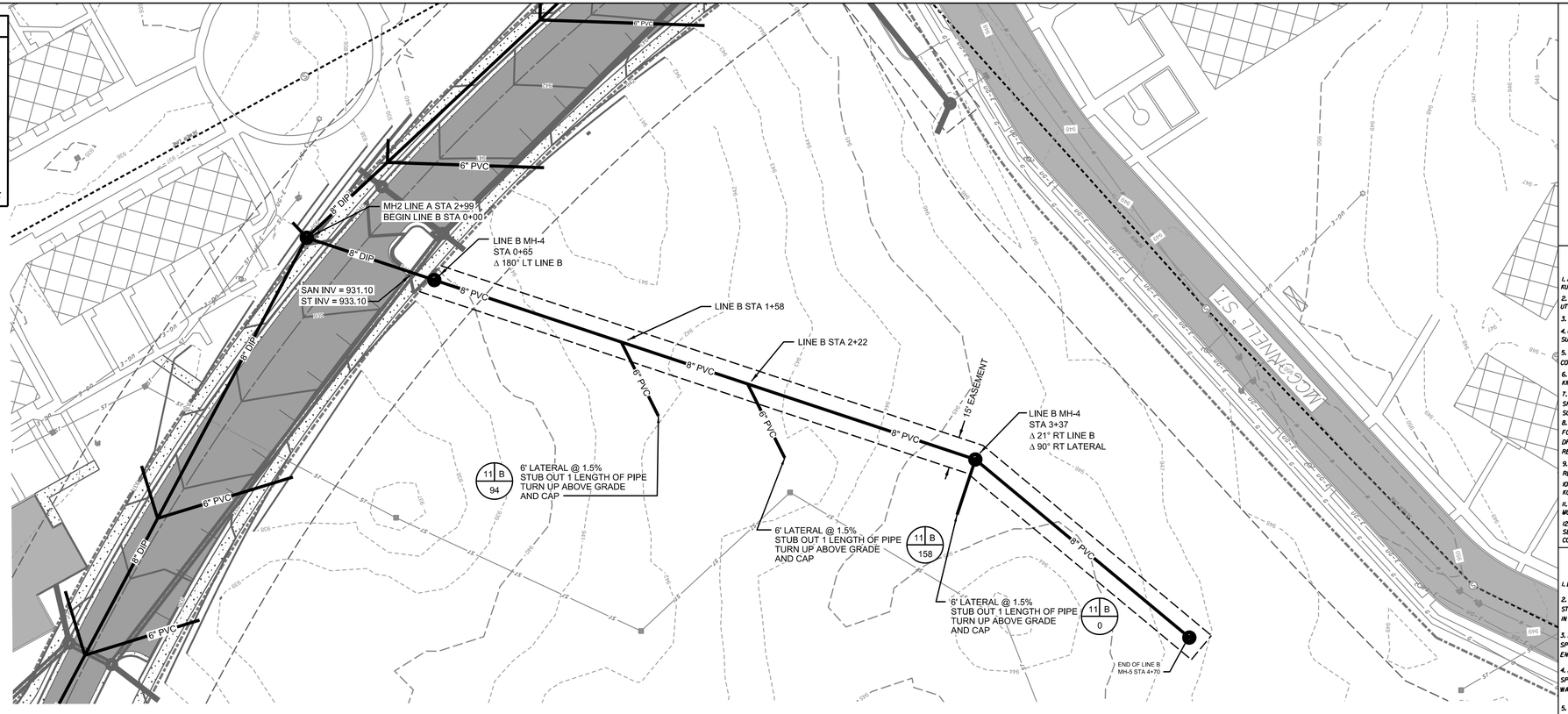

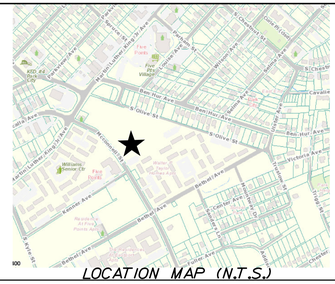

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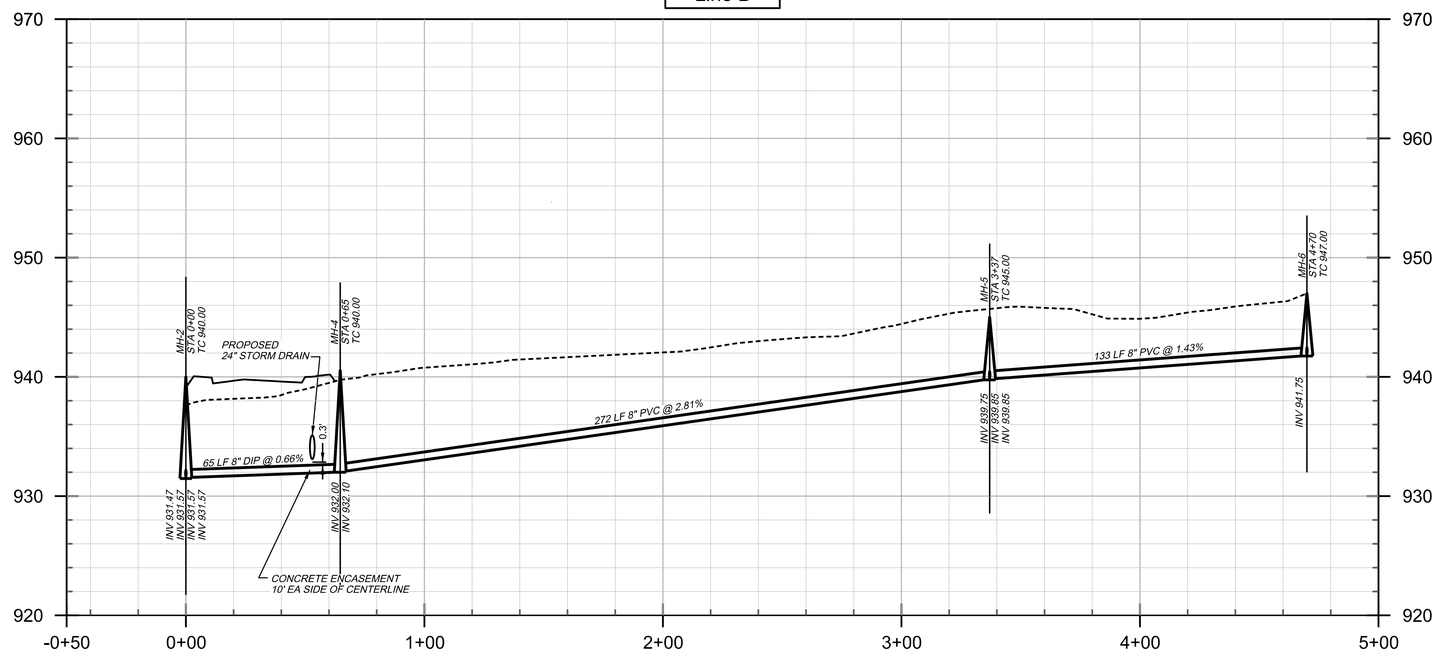
Line B



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