REQUEST FOR COMMITTEE ACTION

HENDERSON COUNTY

TECHNICAL REVIEW COMMITEE

MEETING: October 3, 2023

SUBJECT: Major Site Plan Review for BRCC Greenhouse

PRESENTER: Matt Champion, Zoning Administrator

ATTACHMENTS: Staff Report

SUMMARY OF REQUEST: Staff requests that the TRC review and take the appropriate action on the application.

 $\frac{Suggested\ Motion:\ I\ move\ that\ the\ TRC\ approve/deny\ the\ major\ site\ plan\ for\ BRCC}{Greenhouse}$



Henderson County, North Carolina Code Enforcement Services

1. Committee Request

1.1. **Applicant:** Blue Ridge Community College

1.2. **Request:** Major Site Plan Approval

1.3. **PINs:** 9578-84-9073 1.4. **Size:** 83.09 acres +/-

1.5. Location: The subject area is located near 245 E Campus Dr off College Dr (SR 1920).

1.6. Supplemental Requirements:

SR 5.7. College or University

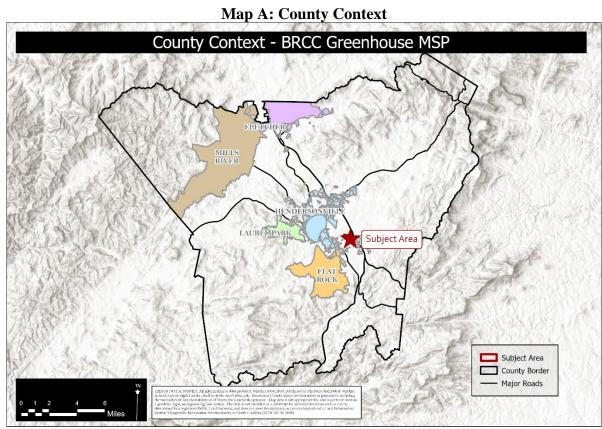
(1) Site Plan. Major Site Plan required in accordance with §42-331 (Major Site Plan Review).

(2) Lighting. Lighting mitigation required.

SR 3.8. Greenhouse

(1) Best management practices for managing irrigation runoff are encouraged. The nutrient level in *stormwater runoff* should be no higher than pre-development levels.

Greenhouse. An enclosed *structure* with transparent or translucent roof and/or wall panels and devoted to the cultivation and protection of plants out of season or climate.



Property Owner: Blue Ridge Community College Applicant: WGLA Assessed Acreage: 83.09 Acres PIN: 9578-84-9073

Current Zoning: Office and Institutional (O&I)





Map B: Aerial Map

Property Owner: Blue Ridge Community College Applicant: WGLA

Assessed Acreage: 83.09 Acres PIN: 9578-84-9073 Current Zoning: Office and Institutional (O&I)



2. <u>Current Conditions</u>

- **2.1 Current Use:** Overall, the subject area is currently used for educational purposes. The portion of the subject area considered as part of this application, contains an existing greenhouse and two separate parking areas for BRCC.
- **2.2 Adjacent Area Uses:** The surrounding properties consist of residential and agricultural uses. Henderson County Early College building is located directly south of the subject area.

3. Current Zoning

- 3.1. **Subject Area Zoning:** The subject area and the rest of the BRCC campus is zoned Office and Institutional (O&I) by Henderson County.
- 3.2. **Adjacent Area Zoning:** The surrounding properties to the north, west, and south are zoned Residential One (R1). Office and Institutional (O&I) zoning is found east of the subject area.
 - 3.2.1. **Office Institutional (OI)**: The purpose of the Office Institutional District (OI) is to foster orderly growth where the principal use of land is a mixture of office, institutional, and residential. The intent of this district is to allow for office, institutional and residential development consistent with the recommendations of the Comprehensive Plan. In accordance with the Comprehensive Plan, the district will allow for and provide office, institutional, and residential development that: (1) is

directed largely to Community Service Centers as defined in the Comprehensive Plan; (2) is compatible with adjacent development and the surrounding community; and (3) will minimize congestion and sprawl. (LDC §42-32)



Map C: Current Zoning

Property Owner: Blue Ridge Community College Applicant: WGLA

Assessed Acreage: 83.09 Acres PIN: 9578-84-9073 Current Zoning: Office and Institutional (O&I)

Floodplain /Watershed Protection The portion of the subject area included in this application is not located in a Special Flood Hazard Area. The property is not in a Water Supply Watershed district.

Utilities Map - BRCC Greenhouse MSP

OUR PROPOSITION

OUR

Map D: Utilities Map

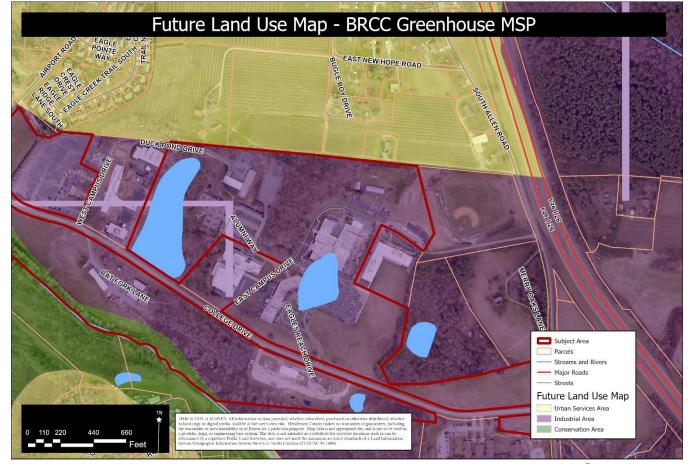
Property Owner: Blue Ridge Community College Applicant: WGLA

Assessed Acreage: 83.09 Acres PIN: 9578-84-9073 Current Zoning: Office and Institutional (O&I)



Solution Water and Sewer The property is and will continue to be served by public utilities. The applicant has provided an estimated water demand calculation for the new structure.

Public Water: City of HendersonvillePublic Sewer: City of Hendersonville



Map E: CCP Future Land Use Map

Property Owner: Blue Ridge Community College Applicant: WGLA

Assessed Acreage: 83.09 Acres PIN: 9578-84-9073 Current Zoning: Office and Institutional (O&I)



6. Staff Comments

Henderson County Comprehensive Plan (CCP): The CCP Future Land Use Map places the Subject Area in the Urban Services Area classification and within an area of Industrial future land use.

- a. Industrial: "Parcels containing facilities wherein raw or pre-processed resources, materials, substances, or components are mechanically, physically, chemically, or otherwise transformed into new products; waste materials are collected, treated, or disposed of; subsurface natural resources are extracted and/or processed; Livestock, cargo, merchandise, materials or hazardous substances are transferred, stored or warehoused for wholesale or other distribution; passengers or passenger vehicles are collected or transferred; water, fuel, or electricity is produced, processed, stored, transferred or transmitted." (CCP, Appendix IV pg. 12)
- 7. <u>Proposal</u> The applicant is proposing to construct a new 4,477SQFT greenhouse and a 748SQFT headhouse. The proposed headhouse will contain a restroom and storage. The proposed greenhouse will be accessible through both ends of the structure. The site will have pedestrian access by way of a new walkway connecting to an existing sidewalk near E Campus Dr. The existing greenhouse and volleyball court will remain and not be impacted by this project. The total area of disturbance is shown as 0.58 acres. The major site plan shows the site being gated during construction.

8. <u>Landscaping & Buffering Requirements</u> The subject area is required to buffer the permitter of the property to be developed since the surrounding properties fall within the Residential One (R1) zoning district. The subject area will not be required to install any new vegetation since there is enough existing vegetation to accommodate the buffer requirements. If the vegetation is removed along the northern property line, the applicant will be required to install a B1 Buffer

9. Oblique Aerial Photos

View from East



View from North



View from South



01/06/2022

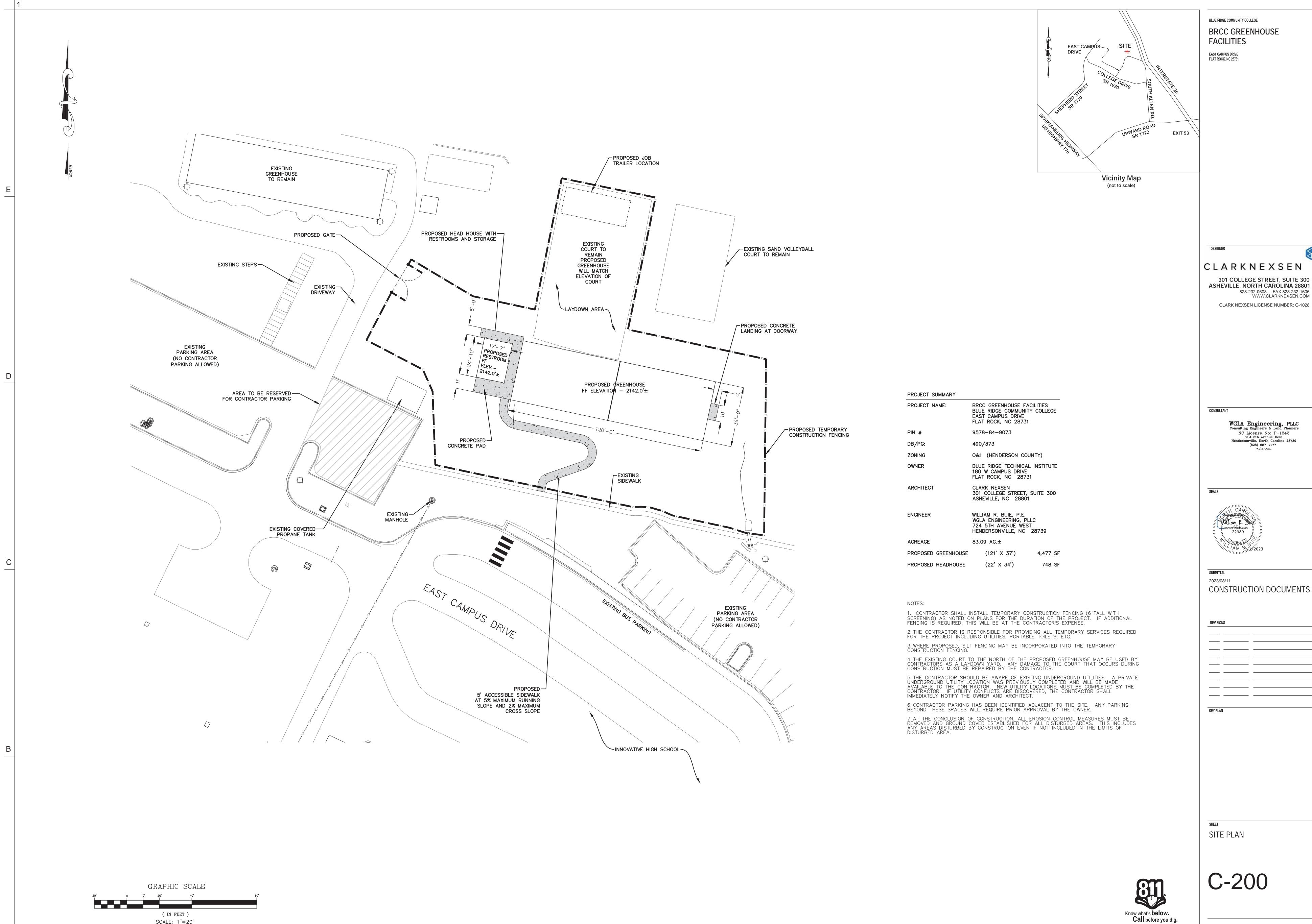
View from West



HENDERSON COUNTY MAJOR SITE PLAN REVIEW APPLICATION

CONTACT INFORMATION Property Owner:			
Name: Blue Ridge Technical Institute		Phone: 828-694-1726	
Complete Address: _180 West Campus Dri	ve Flat Rock, NC 2873		
Applicant:	,		
Name: Blue Ridge Community Collge		Phone: 828-694-1726	
Complete Address: _ 180 West Campus Drive	e Flat Rock, NC 28731		
Agent:			
Name:		Phone:	
Complete Address:			
Agent Form (Circle One): Yes No			
Plan Preparer:			
Name: _ Will Buie - WGLA Engineering, PL	LC	Phone: 828-687-7177 ext 302	
Complete Address: _ 724 5th Avenue West	Hendersonville, NC 28	3739	
PARCEL INFORMATION PIN: _9578-84-9073 Zoning District: _O&I Supplemental Requirement# _N/A Permitted by RightX Special Use PermitN/A	Watershed: N/A): _83.09 ue Ridge Fire	
Location / Property to be developed: Property is Campus Drive adjacent to the existing green house. and a 750 SF +/- head house with rest rooms and storage.	Project will involve con		
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SCALE: 1"=20'

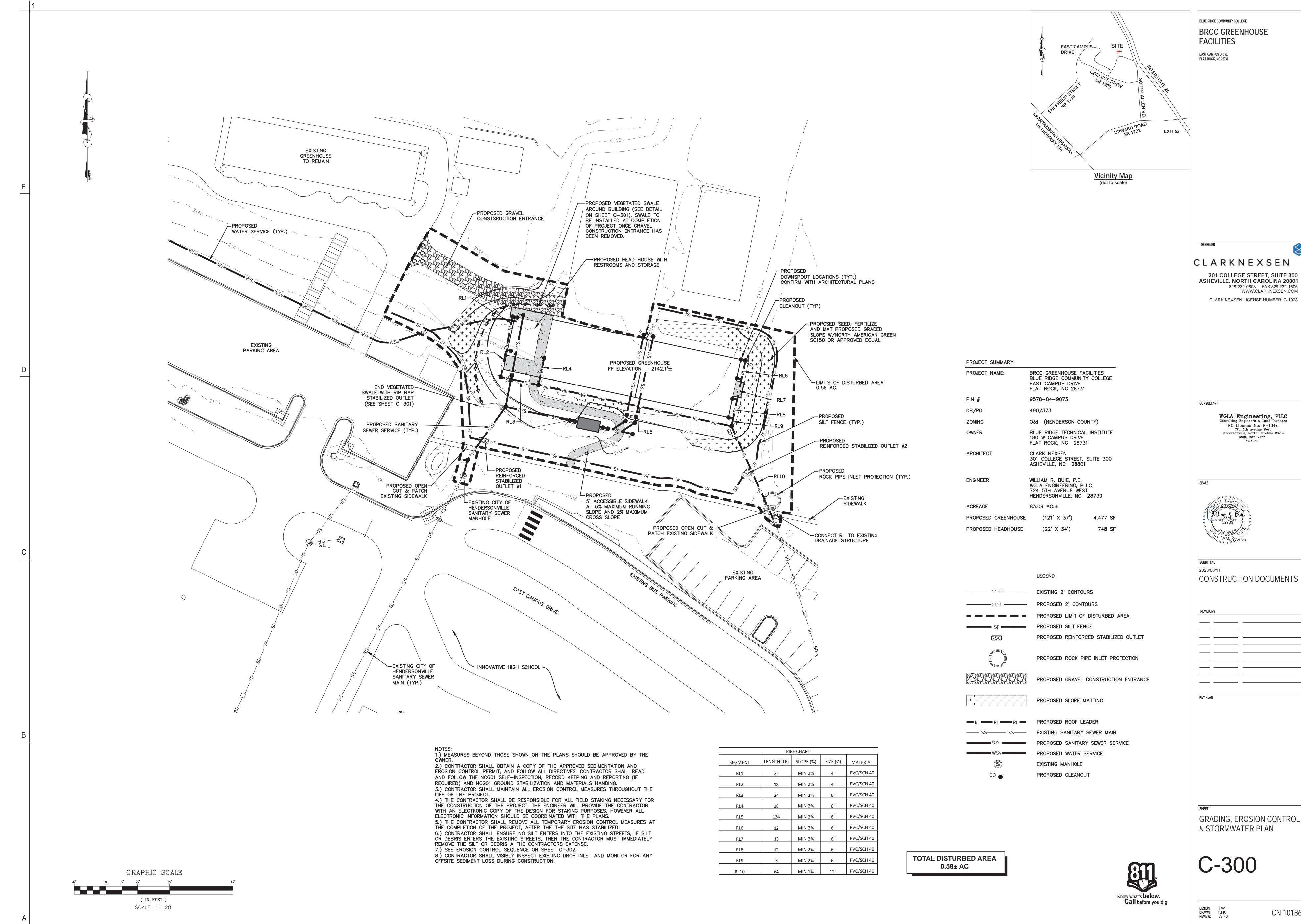


301 COLLEGE STREET, SUITE 300 **ASHEVILLE, NORTH CAROLINA 28801**

WGLA Engineering, PLLC Consulting Engineers & Land Planners

CONSTRUCTION DOCUMENTS

DESIGN: TWT DRAWN: KHC REVIEW: WRB



DocuSign Envelope ID: 13A29668-26CD-4AE0-A559-7228AFF6E9BD

GENERAL NOTES: WATER CONSTRUCTION ON THIS SITE IS AUTHORIZED BY PERMITS ISSUED BY THE NORTH 20. MAINTAIN 18 INCHES VERTICAL SEPARATION BETWEEN STORM DRAIN AND WATER, OR CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND AUTHORIZED BY THE INSTALL FERROUS MATERIAL WATER LINE WITHIN 10 FEET EACH SIDE OF CROSSING. CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND AUTHORIZED BY THE CITY OF HENDERSONMILE. THE WORK IS SUBJECT TO INSPECTIONS AT ALL TIMES BY REPRESENTATIVES OF NCDEQ, THE CITY OF HENDERSONMILE, THE OWNER OR THE ENGINEER. THE PERMITS REQUIRE CERTIFICATION OF COMPLETION OF THE WATER SYSTEMS FINISHED GRADE 21. TAPS GREATER THAN ONE-INCH IN DIAMETER IN EXISTING, ACTIVE WATER MAIN ARE TO BE PERFORMED BY THE CITY UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY. TAPS IN NEW CONSTRUCTION ARE TO BE PERFORMED BY THE CONTRACTOR IN ACCORDANCE WITH 22. ALL WATER METERS WILL BE SET BY CITY STAFF UNLESS THE CONTRACTOR IS GRANTED WRITTEN PERMISSION BY THE CITY. MATERIALS AND INSTALLATION FOR WATER CONSTRUCTION SHALL CONFORM TO THE LATEST VERSIONS OF CITY SPECIFICATION AND DETAILS AND AWWA STANDARDS AND REQUIREMENTS. 22.1. THE CONTRACTOR WILL PROVIDE THE CITY NOTICE OF 10 WORKING DAYS MINIMUM PRIOR TO THE DATE OF METER INSTALLATION. CONTRACTOR SHALL NOTIFY NC811 & APPROPRIATE UTILITIES AGENCIES PRIOR TO UNDISTURBED EARTH-2.2. THE CONTRACTOR WILL PROVIDE A LICENSED PLUMBER DURING THE METER INSTALLATION TO VERIFY LINE SERVICES IN ALL MULTI-METER BOXES. REGULAR WORKING HOURS SHALL BE FROM 7:00 AM TO 5:00 PM MONDAY THROUGH FRIDAY, EXCEPT IN CASES OF EMERGENCY OR OTHERWISE APPROVED IN WRITING BY THE CITY OR AUTHORIZED REPRESENTATIVES. THE CONTRACTOR SHALL ENSURE THE CONSTRUCTION SITE IS SAFE FOR ANY PERSONS WHO MAY BE ON SITE DURING ALL PUBLIC WATER MAIN CONSTRUCTION SHALL BE PERFORMED BY A NORTH CAROLINA LICENSED UTILITY CONTRACTOR. 24. ALL WATER APPURTENANCES ARE TO BE MADE USING LEAD FREE MATERIALS. PIPE, FITTINGS, VALVES, HYDRANTS, PIPE CLAMPS, RESTRAINTS, FLANGES, CASTINGS, REBAR, HATCHES, INLETS, METER BOXES AND ALL OTHER CAST IRON COMPONENTS SHALL BE ALL PERSONS SHALL BE COURTEOUS AND RESPECTFUL TO THE PUBLIC. CURSING OUR FOUL LANGUAGE IS NOT PERMITTED AND WILL NOT BE TOLERATED. THE REQUIREMENTS OF THE NOTES BELOW. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TRAFFIC CONTROL ON ALL ROADWAYS DURING THE PROJECT. THE CONTRACTOR SHALL NOTIFY LOCAL EMERGENCY, SCHOOL AND OTHER NECESSARY AUTHORITIES PRIOR TO ANY STREET CLOSING OR TRAFFIC CHANGE. 25. RESTRAINED JOINTS BY AN APPROVED PIPE MANUFACTURER ARE TO BE USED FOR ALL PUBLIC WATER LINES WHERE THRUST RESTRAINING IS REQUIRED IN ACCORDANCE WITH THI AS SPECIFIED BELOW PLANS AND MANUFACTURER'S SPECIFICATION. CONCRETE THRUST BLOCKS ARE PERMITTE THE CONTRACTOR AT HIS OWN EXPENSE SHALL KEEP THE CONSTRUCTION SITE AND ADJACENT PUBLIC AND PRIVATE ROADWAYS CLEAN DURING THE PROJECT. THE CONTRACTOR ONLY WHERE CONNECTIONS ARE MADE TO EXISTING WATER LINES OR WHERE THE USE O ADJACENT PUBLIC AND PRIVATE KOADWAYS CLEAN DUTING THE TRUE IS ALSO RESPONSIBLE FOR CONTROLLING DUST WITHIN THE PROJECT AREA. 3. ALL FIRE HYDRANTS, VAULTS, BACKFLOW PREVENTERS, HOT BOXES AND WATER METERS ARE TO BE INSTALLED ON RELATIVELY FLAT AREAS OUTSIDE OF PAVEMENT. THE CONTRACTOR IS RESPONSIBLE FOR ALL CONSTRUCTION IN ACCORDANCE WITH THE LINES, GRADES AND ELEVATIONS SHOWN ON THE PLANS OR AS GIVEN BY THE ENGINEER IN THE FIELD. 27. TAMPERING WITH OR ILLEGAL USE OF THE PUBLIC WATER SUPPLY WILL RESULT IN SUSPENSION OF WATER SERVICE, INCLUDING DOMESTIC AND COMMERCIAL, UNTIL FINAL APPROVAL BY THE CITY IS ISSUED. A PERSON FOUND TO BE USING WATER ILLEGALLY SHALL BE SUBJECT TO PENALTIES OR FINES, AS PRESCRIBED AND APPROVED BY CITY CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND THE ELEVATION FOR ALL UTILITIES, DRAINAGE AND OTHER UNDERGROUND FACILITIES BOTH EXISTING AND PROPOSED, AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO 10. CONTRACTOR SHALL PROTECT EXISTING UTILITIES DURING CONSTRUCTION, REPAIRS SHALL BE MADE IN ACCORDANCE WITH APPLICABLE STANDARDS OF APPROPRIATE AGENCIES AT THE TESTING & INSPECTION: NOTIFY THE CITY OF HENDERSONVILLE AND ENGINEER AT LEAST 5 WORKING DAYS BEFORE STARTING CONSTRUCTION OF WATER FACILITIES TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE. THE ENGINEER SHALL PERIODICALLY INSPECT THE PROGRESS OF INSTALLATION AT A MINIMUM AND SHALL COMPLETE A FINAL WATER CERTIFICATION. CONTRACTOR'S EXPENSE. UTILITIES WITH THE LEAST AMOUNT OF SERVICE INTERRUPTION POSSIBLE IN COORDINATION WITH THE CITY OF HENDERSONVILLE. CONTINUOUS SERVICE, PUBLIC HEALTH AND SAFETY ALL CHANGES TO THE APPROVED CONSTRUCTION PLANS AND SUBMITTALS MUST BE APPROVED IN WRITING BY THE CITY PRIOR TO IMPLEMENTATION IN THE FIELD. INSIDERATIONS SHALL EXCEED ALL OTHERS AND CONTRACTOR'S SCHEDULE, PLANS AND WORK SHALL AT ALL TIMES BE SUBJECT TO ALTERATION AND REVISION IF NECESSARY FOR THE CONTRACTOR SHALL FURNISH SECURE AND PROVIDE ALL NECESSARY TESTING MATERIALS, EQUIPMENT, LABOR. THE CONTRACTOR SHALL COORDINATE TESTING, FLUSHING, DISINFECTION, AND BACTERIOLOGICAL SAMPLING WITH CITY INSPECTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TEMPORARY OR PERMANENT RELOCATION OF STRUCTURES AND UTILITIES, INCLUDING BUT NOT LIMITED TO POLES, SIGNS, FENCES, HYDRANTS, VALVES, PIPING, CONDUITS AND DRAINS THAT INTERFERE WITH THE POSITIONING OF THE WORK AS SHOWN ON THE DRAWINGS. 12" MIN. + OUTSIDE DIAMETER OF PIPE 24" MAX. + OUTSIDE DIAMETER OF PIPE . THE ENGINEER OR CONTRACTOR SHALL NOTIFY THE CITY CONSTRUCTION INSPECTORS 72 13. CONTRACTOR SHALL BE REQUIRED TO CONFORM AND COMPLY WITH ALL RESTRICTIONS AND EASEMENT CONDITIONS AND IS RESPONSIBLE FOR ALL RELATED INCIDENTAL COSTS CITY STAFF SHALL BE NOTIFIED PRIOR TO TAPS, TESTING, FLUSHING, DISINFECTION, AND PRESSURE TEST WATER MAINS TO 200 PSI MIN. FOR A MINIMUM OF TWO HOURS IN ACCORDANCE WITH CITY REQUIREMENTS AND AWWA C600. 4. EXISTING WATER SERVICES SHALL BE REPLACED TO THE EXISTING METER UNLESS OTHERWISE APPROVED IN WRITING BY THE CITY. SPLICING OF THE WATER SERVICE ON THE DISINFECT WATER LINES AND PROVIDE ACCEPTABLE BACTERIOLOGICAL TEST FROM A CERTIFIED TESTING LABORATORY IN ACCORDANCE WITH CITY REQUIREMENTS AND AWWA TRENCHES EXCAVATED OUTSIDE EXISTING ROAD AND RAILWAY RIGHTS-OF-WAY SHALL BE BE BACKFILLED WITH COMMON BACKFILL MATERIAL CONSISTING OF EXCAVATED MATERIALS EXCEPT HIGHLY ORGANIC SILTS AND CLAYS AND TAMPED THOROUGHLY. FILL SHALL BE DEPOSITED IN SUCCESSIVE, UNIFORM, APPROXIMATELY HORIZONTAL LAYERS. MATERIAL SHALL BE FREE OF ROOTS, STONES, AND DEBRIS. ALL MATERIAL SHALL HAVE AN IN-PLACE DENSITY OF AT 15. ALL DISTURBED AREAS, INCLUDING BUT NOT LIMITED TO ASPHALT, CONCRETE, DRIVEWAYS, ROADS, LANDSCAPING, SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION THAN THE ORIGINAL SITE. GRASS AND LANDSCAPED AREAS FILL MATERIAL MUST BE REPLACED IN TRENCH TO GRADE AS SOON AS WATERLINE CONSTRUCTION ALLOWS. ADEQUATE SEEDING AND STRAW OR MULCH SHALL THEN BE APPLIED TO THE DISTURBED TRENCH AREA. ADDITIONAL FILL AND SITE RESTORATION MAY BE REQUIRED WITHIN THE WARRANTY PERIOD AT THE CITY'S DISCOSTION. C651. THE CONTRACTOR MAY ELECT TO USE THE CITY'S CERTIFIED TESTING LABORATORY. PRIVATELY OWNED FIRE SYSTEMS SHALL BE APPROVED BY THE APPROPRIATE LOCAL PERMITTING AUTHORITY. THE CITY ENGINEERING OR WATER AND SEWER DEPARTMENTS ARE NOT RESPONSIBLE FOR ENSURING COMPLIANCE WITH APPROPRIATE FIRE PROTECTION LEAST 85% OF MAXIMUM DRY DENSITY (STANDARD PROCTOR) OR AS APPROVED BY THE ENGINEER, COMMON BACKFILL SHALL NOT CONTAIN STONE BLOCKS, BROKEN CONCRETE, MASONRY RUBBLE, OR OTHER SIMILAR MATERIALS. IT SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED DURING FILLING. SNOW, ICE, AND FROZEN SOIL WILL NOT BE PERMITTED. REGULATIONS, THE CITY DOES NOT PROVIDE ANY GUARANTEE OF ITS WATER SYSTEM'S CAPABILITY TO DELIVER WATER FLOW AND RESIDUAL PRESSURE THE FIRE PERMITTING WHERE EXCAVATED MATERIAL, AFTER REMOVAL OF ROCKS, STUMPS, PLANT MATERIAL, AND OTHER EXTRANEOUS MATERIAL AND PROPER DEWATERING, DRYING PROTECTION, AND STORAGE OF THE EXCAVATION BY THE CONTRACTOR, CANNOT BE PREPARED TO MEET THE REQUIREMENTS FOR COMMON BACKFILL, DUE 6, CONTRACTOR SHALL PROVIDE EROSION CONTROL DEVICES TO CONTROL RUNOFF AS REQUIRED. THE CONTRACTOR IS RESPONSIBLE FOR ANY FINES THAT MAY BE LEVIED DUE ALL BACKFLOW PREVENTION ASSEMBLIES SHALL BE USC APPROVED AND REVIEWED BY TO THE NATURE OF THE MATERIAL (E.G., EXCESSIVE ROCK, MUCK, ORGANICS, CLAY, SILT, OR OTHER MATERIAL), AND AS DETERMINED BY THE ENGINEER, THE UNACCEPTABLE EXCAVATION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AND REPLACED BY IMPORTED BACKFILL THE CITY'S. PROTECTION OF THE PUBLIC WATER DISTRIBUTION SYSTEM SHALL BE ASSURED BY INSPECTION OF THE INSTALLATION AND TESTING OF BACKFLOW PREVENTION DEVICES IN ACCORDANCE WITH APPROPRIATE LOCAL, STATE, AND FEDERAL REGULATIONS. IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW ALL APPLICABLE FEDERAL, STATE AND LOCAL HEALTH AND SAFETY REGULATIONS PERTAINING TO CONSTRUCTION OPERATIONS. MEETING THE REQUIREMENTS OF STRUCTURAL BACKFILL. IMPORTED STRUCTURAL BACKFILL SHALL BE FREE OF ORGANICS, ROOTS OR OTHER DELETERIOUS CONSTRUCTION WATER SOURCING MUST BE APPROVED IN WRITING BY THE CITY.

CONSTRUCTION WATER CONNECTIONS SHALL BE PAIRED WITH AN IRRIGATION METER AND APPROVED BACKFLOW PREVENTION ASSEMBLY. THIS ASSEMBLY INSTALLATION MUST BE TESTED BY A LICENSED PLUMBER AND TEST RESULTS SUBMITTED TO THE CITY BEFORE USE OF CONSTRUCTION WATER. MATERIALS AND SHALL NOT CONTAIN MORE THAN FIVE PERCENT (BY WEIGHT) ORGANIC MATERIAL, HAVE A PLASTICITY INDEX (PI) GREATER THAN 25, OR HAVE A MAXIMUM DRY DENSITY LESS THAN 90 POUNDS PER CUBIC FOOT. IMPORTED STRUCTURAL FILL SHOULD CONSIST OF MATERIAL CLASSIFIED AS ML, CL, SC, OR SM, OR BETTER PER ASTM D-2487 AND BE CAPABLE OF BEING COMPACTED TO 85% STANDARD PROCTOR. 18. ALL WATER MAINS SHALL HAVE 3 FEET MINIMUM COVER. 19. INSTALL FERROUS PIPING FOR BOTH WATER AND SEWER WITHIN 10 FT. OF A CROSSING THE WATER LINE SHALL HAVE A MINIMUM OF 3' OF COVER AT FINISHED GRADE. 10. SECURE FINAL WRITTEN ACCEPTANCE FROM THE CITY OF HENDERSONVILLE PRIOR 19.1. SEWER LINE CROSSES OVER WATER, OR ACTIVATION OF THE SYSTEM. WATER SERVICE WILL NOT BE PROVIDED UNTIL WRITTEN ACCEPTANCE OF THE SYSTEM IS ISSUED BY THE CITY. 19.2. VERTICAL CLEARANCE BETWEEN WATER AND SEWER IS LESS THAN 18 INCHES. WOVEN POLYESTER WITH WATER BLOCKING YARNS ENCAPSULATED IN 30 MIL. BLUE HDPE JACKET PROVIDING CORROSION RESISTANCE, FLEXIBILITY, IMPACT STRENGTH AND 1800 LBS. TENSILE STRENGTH. TRACER WIRE WILL NOT CONDUCT AN ELECTRICAL CURRENT WHEN STRUCK BY LIGHTNING AND IS DESIGNED FOR DIRECT BURY AND DIRECTIONAL BORING APPLICATIONS. WHEN SPLICES AND LATERAL CONNECTIONS ARE MADE, ONLY GEL FILLED CONNECTORS 19.3. MAINTAIN 10 FEET HORIZONTAL SEPARATION BETWEEN SEWER AND WATER MAINS UNLESS LAID IN SEPARATE TRENCHES WITH THE BOTTOM OF THE WATER LINE AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER LINE OR USE FERROUS MATERIAL FOR BOTH THE ENGINEER SHALL SUPPLY THE CITY WITH FINAL AS-BUILT DRAWINGS AND COMPLETE ALL PROJECT CLOSE OUT REQUIREMENTS. DESIGNED FOR WIRE WITH WOVEN POLYESTER FIBER CORE ARE TO BE USED. TRACER WIRE AND CONNECTORS SHALL BE TRACE-SAFE® WATER BLOCKING TRACER WIRE AND RELATED CONNECTORS, MANUFACTURED BY NEPTCO, INC., OR EQUIVALENT APPROVED BY ENGINEER, AND PRODUCED IN THE UNITED TRACER WIRE SHALL BE EXTENDED ALONG ALL WATER LINES, FITTINGS, VALVES, SERVICES, AND HYDRANTS. LOCATING CLIPS SHALL BE PROVIDED AT ALL MALVES, HYDRANT VALVES AND METER BOXES. THE CONTRACTOR SHALL DUCT TAPE TRACER WIRE ON CROWN OF WATER LINE EVERY FIVE FEET. THE STANDARD WATER DETAILS ARE FOR THE SOLE USE OF PROJECTS DIRECTLY FOR, OR THOSE PROJECTS IN WHICH OWNERSHIP WIL BE TRANSFERRED TO THE CITY OF HENDERSONVILLE. THESE TYPICALS ARE INTENDED TO SHOW THE CITY OF HENDERSONVILLE'S EXPECTATIONS FOR THE GENERAL LAYOUT, ARRANGEMENT, AND THE QUALITY OF EQUIPMENT AND MATERIALS FOR WATER DISTRIBUTION SYSTEM ITEMS AND THEIR RELATED APPURTENANCES. IT REMAINS THE SOLE RESPONSIBILITY OF THE ENGINEER IN RESPONSIBLE CHARGE (ERC) OF EACH APPLICATION TO DETERMINE, DESIGN TO, AND CERTIFY TO THE DESIGN PARAMETERS FOR EACH INSTALLATION. THE ERC MUST ALSO ENSURE THE DESIGN COMPLIES WITH THE MINIMUM DESIGN CRITERIA OF NC DIVISION OF ENVIRONMENTAL QUALITY AND ALL LOCAL AND STATE LAWS AND REGULATIONS. DATE: 03/14/2019 DATE: 01/12/2019 WD DWG. NO. 2 WD DWG, NO. 1 SCALE: NOT TO SCALE WATER DETAILS City of Hendersonville Engineering Department City of Hendersonville Engineering Department 305 Williams Street 305 Williams Street **OUTSIDE PAVEMENT GENERAL NOTES** endersonville, NC 28792 (828) 697-3000 (office) (828) 697-3000 (office) www.cityofhendersonville.org 6/21/2019 10:13:20 AM 5/21/2019 10:13:21 AM PAVEMENT REPLACEMENT SECTIONS FOR COMPACTION

REQUIREMENTS UNDER SUBGRADE,
SEE NOTE 4 BELOW. UNDISTURBED EARTH-BACKFILL SHALL MEET REQUIREMENTS OF NOTE 3 BELOW. BACKFILL PLACED IN MAXIMUM 8" LOOSE LIFTS, AT 95% CONTINUOUS TRACER WIRI AS SPECIFIED BELOW WATER LINE THIS TRENCH BACKFILL DETAIL APPLIES TO AREAS UNDER PAVEMENT, CURB, GUTTER, SIDEWALK OR AREAS WHERE THE TRENCH IS COMPACTION OF THE BACKFILL SHALL BE ACHIEVED THROUGH THE USE OF AN APPROVED VIBRATORY PLATE TAMPER OR ROLLER. COMPACTION TESTING OF THE BACKFILL SHALL BE PROVIDED, DIRECTED AND COORDINATED BY THE OWNER. INTERVALS OF TESTING SHALL BE AT THE TOTAL DISCRETION OF THE OWNER AND MAY BE CHANGED AT ANY TIME. IF A TEST DOES NOT PASS, THE CONTRACTOR SHALL REMOVE THE DEFECTIVE BACKFILL, REDO THE WORK AND THE AREA WILL BE RETESTED. THE CONTRACTOR SHALL BE AWARE OF THE LEVEL OF COMPACTION REQUIRED. IF THE WORK IS SUSPECT TO BE DEFECTIVE BY THE OWNER, THE WORK SHALL BE RETESTED. THE WATER CONTENT OF THE BACKFILL MATERIAL SHALL ALSO BE TESTED AND RECORDED FOR EACH TEST COMPLETED. THE CONTRACTOR WILL BE ALLOWED TO ADD WATER TO THE BACKFILL MATERIAL IN ORDER TO OBTAIN THE OPTIMUM WATER CONTENT. HOWEVER, THE CONTRACTOR WILL NOT BE ALLOWED TO UTILIZE THE ADDITION OF WATER AS A MEANS OF COMPACTION. FURTHERMORE, SHOULD THE BACKFILL MATERIAL BE FOUND TO HAVE WATER CONTENT RATIOS WHICH IN THE OPINION OF THE ENGINEER OR THE OWNER PREVENTS THE APPROPRIATE COMPACTION OF THE TRENCH, THE CONTRACTOR SHALL REMOVE ALL DEFECTIVE MATERIAL AND UNDERTAKE THE NECESSARY CORRECTIVE WORK. 4. THE TOP TWELVE INCHES OF THE FINAL BACKFILL SHALL BE COMPACTED TO 98% STANDARD PROCTOR, 5. THE WATER LINE SHALL HAVE A MINIMUM OF 3' OF COVER AT FINISHED GRADE. TRACER WIRE WILL BE A 19 GAUGE, TIN COATED, COPPER CONDUCTOR WITH POLYETHYLENE INSULATION. CORE MATERIAL COMPRISED OF HIGH-TENACITY, WOVEN POLYESTER WITH WATER BLOCKING YARNS ENCAPSULATED IN 30 MIL. BLUE HDPE JACKET PROVIDING CORROSION RESISTANCE, FLEXIBILITY, IMPACT STRENGTH AND 1800 LBS. TENSILE STRENGTH. TRACER WIRE WILL NOT CONDUCT AN ELECTRICAL CURRENT WHEN STRUCK BY LIGHTNING AND IS DESIGNED FOR DIRECT BURY AND DIRECTIONAL BORING APPLICATIONS. WHEN SPLICES AND LATERAL CONNECTIONS ARE MADE, ONLY GEL FILLED CONNECTORS DESIGNED FOR WIRE WITH WOVEN POLYESTER FIBER CORE ARE TO BE USED. TRACER WIRE AND CONNECTORS SHALL BE TRACE—SAFE® WATER BLOCKING TRACER WIRE AND ENDITION OF FOLING THE PROPOSED BY MADELIFED BY MEDITION OF FOLING THE PROPOSED BY MEDITION OF FOLING THE PROPOSED BY MADELIFED BY MEDITION OF FOLING THE PROPOSED BY MEDITION OF TH

STRAIGHT BALL SERVICE VALVE STRAIGHT DUAL CARTRIDGE CHECK VALVE METER SIZE | METER BOX SIZE ORD CB111-233-NL FORD CB111-444-L-T-NL FORD YBL-T FORD B81-344W-NL HHC81-444-NI * REQUIRES REDUCER L84-34G NL 2' OFF R/W OR EASEMENT MUST NOT BE LOCATED IN DITCH OR ON SLOPE 1419-12 BODY BLACK 2 MSHL METER BOX (DEPENDENT ON METER SIZE-SEE TABLE) LID: OLDCASTLE CARSON 14194058, FISH COVER CENTERED -FINISHED GRADE STRAIGHT BALL SERVICE VALVE -DI WATER MAIN (DEPENDENT ON METER SIZE-SEE TABLE 6"-#57 WASHED STONE 1" FLEXIBLE SERVICE PIPE FORD F1000-NL CORPORATION STOP SMITH BLAIR 313 DOUBLE BALE -SERVICE SADDLE W/ 304 STAINLESS STEEL BALE, NUTS AND WASHERS **ELEVATION VIEW** NOTES: 1. THE CITY OF HENDERSONVILLE SHALL INSTALL WATER METERS. STRAIGHT DUAL CARTRIDGE CHECK VALVE NO METERS WILL BE INSTALLED NOR WATER SERVICE PROVIDED, UNTIL A WRITTEN FINAL ACCEPTANCE OF THE SYSTEM IS ISSUED BY THE CITY. (DEPENDENT ON METER SIZE-SEE TABLE) 3. METER BOX SHALL BE BITUMINOUS COATED, CAST IRON BASE, INNER BARREL, AND OUTER BARREL WITH . EXTEND TRACER WIRE FROM MAIN TO METER BOX. WIRE NOT SHOWN FOR CLARITY, TRACER WIRE WILL BE A 19 GAUGE, TIN COATED, COPPER CONDUCTOR WITH POLYETHYLENE INSULATION. CORE MATERIAL COMPRISED OF HIGH-TENACITY, WOVEN POLYESTER WITH WATER BLOCKING YARNS MATERIAL COMPRISED OF HIGH-TENACHTY, WOVEN POLYESTER WITH WATER BLOCKING YARNS ENCAPSULATED IN 30 MIL. BLUE HDPE JACKET; PROVIDING CORROSION RESISTANCE, FLEXIBILITY, IMPACT STRENGTH AND 1800 LBS. TENSILE STRENGTH. TRACER WIRE WILL NOT CONDUCT AN ELECTRICAL CURRENT WHEN STRUCK BY LIGHTNING AND IS DESIGNED FOR DIRECT BURY AND DIRECTIONAL BORING APPLICATIONS. WHEN SPLICES AND LATERAL CONNECTIONS ARE MADE, ONLY GEL FILLED CONNECTORS DESIGNED FOR WIRE WITH WOVEN POLYESTER FIBER CORE ARE TO BE USED. TRACER WIRE SHALL BE TERMINATED IN METER BOX AT MOUNTED TRACE-SAFE® LOCATING CLIP, MOUNTED A MAXIMUM OF 3" FROM TOP OF BOX WITH 304 SS BOLT. TRACER WIRE AND CONNECTORS SHALL BE TRACE—SAFE® WATER BLOCKING TRACER WIRE AND RELATED CONNECTORS, MANUFACTURED BY NEPTCO, INC., OR EQUIVALENT APPROVED BY ENGINEER, AND CONTRACTOR SHALL INSTALL PRESSURE REDUCING VALVE, AS REQUIRED IN DRAWINGS. ALL PRESSURE REDUCING VALVES SHALL BE ZURN WILKINS MODEL NR3XL OR EQUAL. DIAMETER DEPENDENT ON METER SIZE. WATER PRV SHALL BE LEAD-FREE.

1.) PRIOR TO CONNECTING TO THE EXISTING WATERLINE, THE NEW WATER LINE WILL BE PRESSURE TESTED,

2.) ALL WATER FOR FILLING AND FLUSHING OF NEW WATER LINE WILL BE DRAWN THROUGH THE DOUBLE

4.) CONTRACTOR WILL BE REQUIRED TO HAVE WATER METER TESTED TO MEET ACCURACY STANDARDS OF AWWA C700, BY THE CITY OF HENDERSONVILLE WATER MAINTENANCE DIVISION ANNUALLY. METER MUST BEAR A

COORDINTOR WITH THE CITY OF HENDERSONVILLE (GRACIE ERWIN) (828-697-3057) TO GET APPROVAL FOR THE

3.) THE COSTS FOR PROVIDING DOUBLE CHECK VALVE ASSEMBLY AND SLEEVE NECESSARY FOR FINAL

CERTIFICATION TAG AT ALL TIMES. 5.) CONTRACTOR SHALL CONTACT THE ENVIRONMENTAL SERVICES

DISINFECTED AND A CLEAR WATER SAMPLE OBTAINED.

CONNECTION WILL BE INCIDENTAL TO THE WATER LINE INSTALLATION.

MAKE AND MODEL FOR THE BACKFLOW PREVENTION ASSEMBLY TO BE USED.

CHECK VALVE ASSEMBLY.

CLARKNEXSEN

BLUE RIDGE COMMUNITY COLLEGE

FACILITIES

EAST CAMPUS DRIVE

FLAT ROCK, NC 28731

BRCC GREENHOUSE

ASHEVILLE, NORTH CAROLINA 28801 828-232-0608 FAX 828-232-1606 WWW.CLARKNEXSEN.COM CLARK NEXSEN LICENSE NUMBER: C-1028

301 COLLEGE STREET, SUITE 300

CONSULTANT

WGLA Engineering, PLLC Consulting Engineers & Land Planners NC License No: P-1342 724 5th Avenue West Hendersonville, North Carolina 28739 (828) 687-7177 wgla.com



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Know what's **below.**

DESIGN: TWT DRAWN: KHC REVIEW: WRB

Call before you dig.

PROPOSED EXTENSION(S). 3.) THE CONTRACTOR SHOULD BE AWARE OF THE EXISTING UTILITIES ON THE SITE INCLUDING BUT NOT LIMITED TO WATER MAINS, ELECTRICAL LINES, PHONE

2.) HENDERSONVILLE WATER AND SEWER DEPARTMENT MAINTENANCE OF WATER SYSTEM ENDS AT THE METER FOR THE SERVICES.

1.) THE SPECIFICATIONS AND REQUIREMENTS OF THE HENDERSONVILLE WATER AND SEWER DEPARTMENT SUPERSEDE ALL OTHERS IN THE INSTALLATION OF THE

LINES, ETC. THE CONTRACTOR SHALL COORDINATE WITH THE APPROPRIATE AGENCIES TO LOCATE THE UTILITIES PRIOR TO CONSTRUCTION.

4.) THE CONSTRUCTION SITE MUST BE PROPERLY SIGNED AND SECURED TO LIMIT ACCESS FOR NON-CONSTRUCTION PERSONNEL. 5.) DURING NON-WORKING HOURS, THE SITE SHOULD BE SECURED SO THAT NO OPEN TRENCHES OR OTHER HAZARDS ARE ACCESSIBLE.

6.) THE CONTRACTOR SHALL COORDINATE THE CONNECTIONS TO THE EXISTING WATER MAINS WITH THE HENDERSONVILLE WATER AND SEWER DEPARTMENT. 7.) ANYWHERE "RESTRAINED JOINT" PIPING IS SHOWN OR REQUIRED BY THE CITY, THE CONTRACTOR HAS THE OPTION TO USE MEGA—LUGS, FIELD LOCK GASKETS

OR ACTUAL RESTRAINED JOINT PIPE. 8.) ALL WATER LINES SHALL HAVE A MINIMUM COVER OF 30" TO THE TOP OF THE PROPOSED WATER LINE. 12" OF SEPARATION SHALL BE MAINTAINED BETWEEN ALL POTABLE WATER LINES AND STORMWATER PIPES.

9.) CONTRACTOR SHLL PROVIDE ELECTRICAL SERVICE TO HOT BOX. 10.) ALL SANITARY SEWER SERVICES SHALL BE INSTALLED AT 2.08% MIN. SLOPE.

RELATED CONNECTORS, MANUFACTURED BY NEPTCO, INC., OR EQUIVALENT APPROVED BY ENGINEER, AND PRODUCED IN THE UNITED

BE PROVIDED AT ALL VALVES, HYDRANT VALVES AND METER BOXES. THE CONTRACTOR SHALL DUCT TAPE TRACER WIRE ON CROWN OF WATER LINE EVERY FIVE FEET.

WATER TRENCH CONSTRUCTION

UNDER PAVEMEN

WD DWG. NO. 3

RELATIONSHIP OF WATER

& SEWER MAINS

Contractor is required to comply

Governing Public Water Systems,

See Section No. 6200.6 in the City

with the North Carolina

Administrative Code, Rules

Title 15a NCAC 18C.0906.

of Hendersonville Technical

Specifications.

11.) CONCRACTOR SHALL COORDINATE WATER AND SEWER CONNECTIONS TO PROPOSED HEAD HOUSE WITH PLUMBING PLANS.

12) ALL SANITARY SEWER SERVICE LINES SHALL HAVE 4" PVC/SCH 40 CLEANOUTS W/P107 LIDS INSTALLED AT ALL BENDS AND FUTURE THAN 75' O.C.

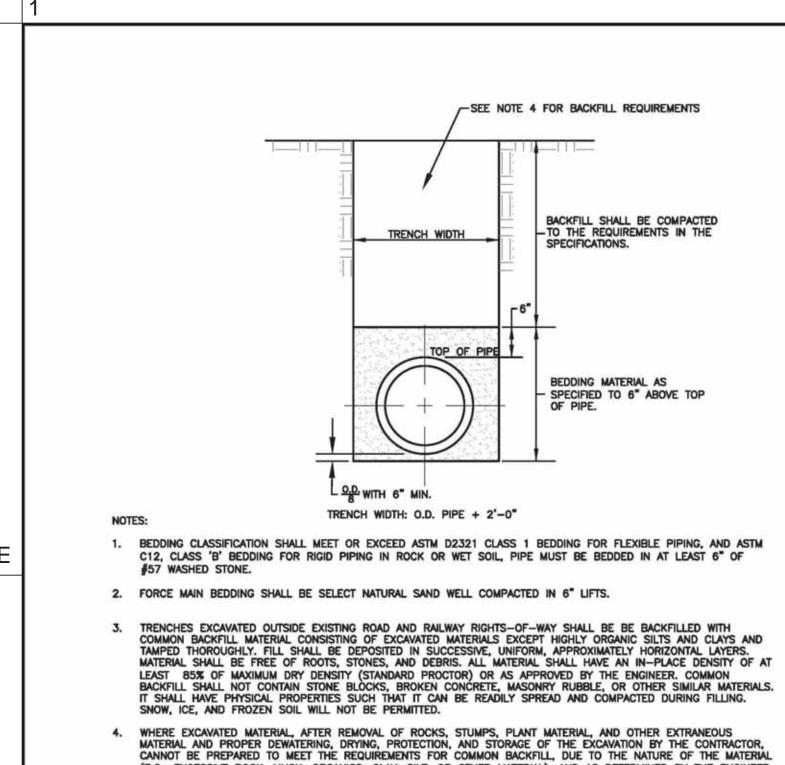
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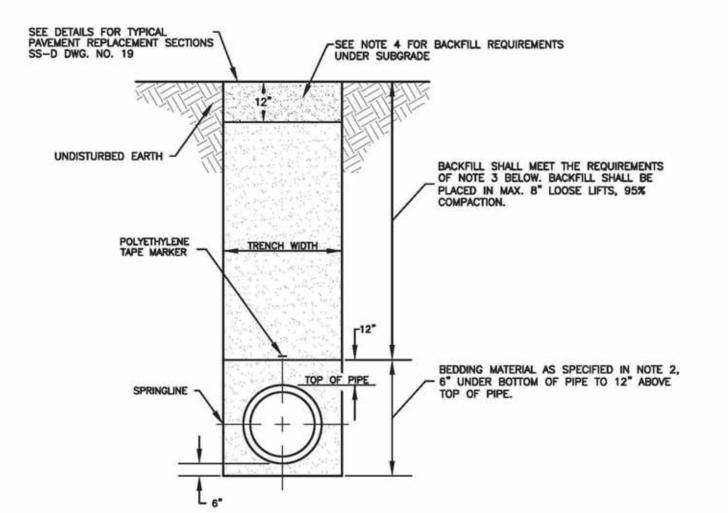
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BEDDING CLASSIFICATION SHALL MEET OR EXCEED ASTM D2321 CLASS 1 BEDDING FOR FLEXIBLE PIPING, AND ASTM C12, CLASS 'B' BEDDING FOR RIGID PIPING IN ROCK OR WET SOIL, PIPE MUST BE BEDDED IN AT LEAST 6" OF

- (E.G., EXCESSIVE ROCK, MUCK, ORGANICS, CLAY, SILT, OR OTHER MATERIAL), AND AS DETERMINED BY THE ENGINEER, THE UNACCEPTABLE EXCAVATION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AND REPLACED BY IMPORTED BACKFILL MEETING THE REQUIREMENTS OF STRUCTURAL BACKFILL, IMPORTED STRUCTURAL BACKFILL SHALL BE FREE OF ORGANICS, ROOTS OR OTHER DELETERIOUS MATERIALS AND SHALL NOT CONTAIN MORE THAN FIVE PERCENT (BY WEIGHT) ORGANIC MATERIAL, HAVE A PLASTICITY INDEX (PI) GREATER THAN 25, OR HAVE A MAXIMUM DRY DENSITY LESS THAN 90 POUNDS PER CUBIC FOOT. IMPORTED STRUCTURAL FILL SHOULD CONSIST OF MATERIAL CLASSIFIED AS ML, CL, SC, OR SM, OR BETTER PER ASTM D-2487 AND BE CAPABLE OF BEING COMPACTED TO 85% STANDARD PROCTOR.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL COMPACTION REQUIREMENTS.

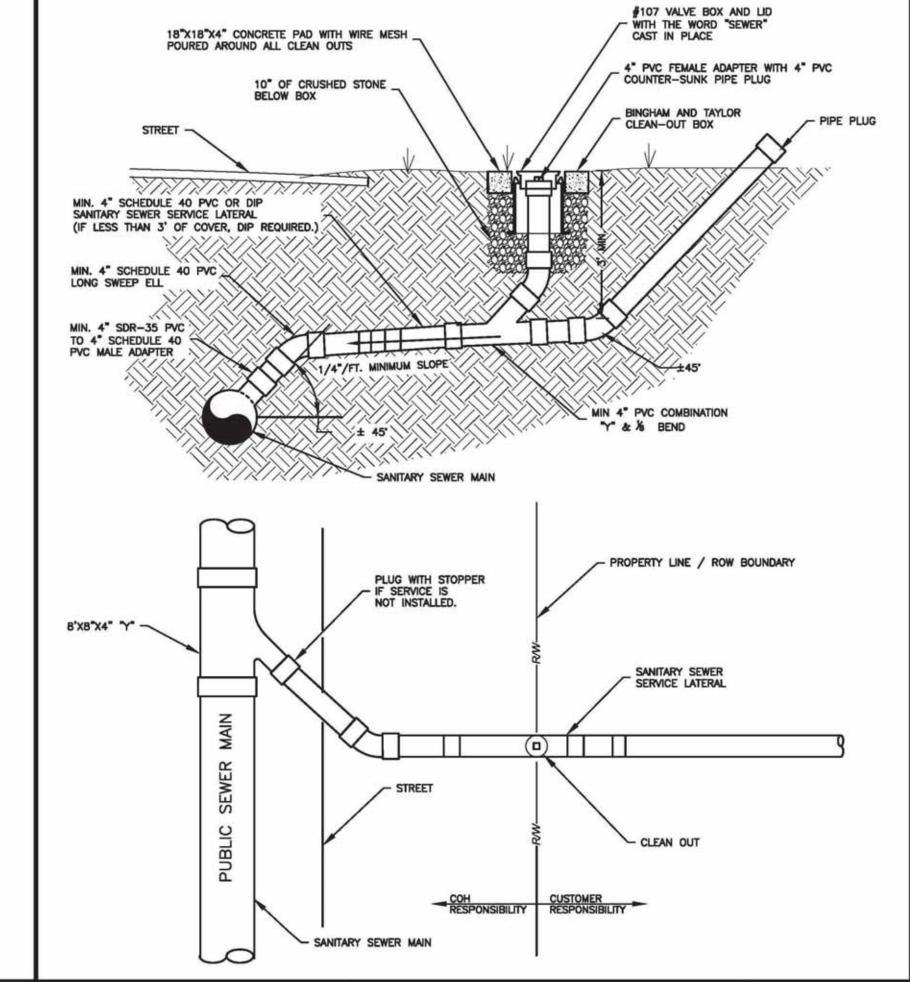


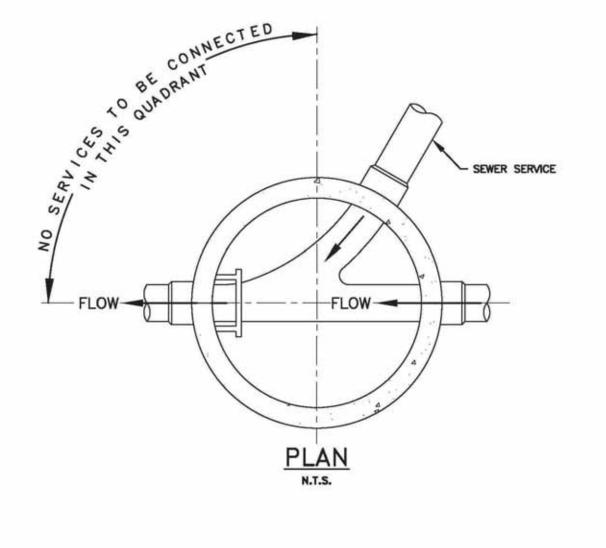
1. THIS TRENCH BACKFILL DETAIL APPLIES TO AREAS UNDER PAVEMENT. CURB AND GUTTER, AND SIDEWALK.

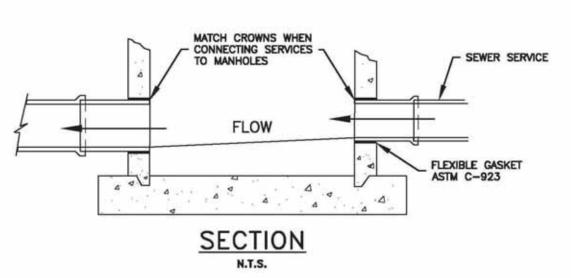
- BEDDING CLASSIFICATION SHALL MEET OR EXCEED ASTM D2321 CLASS 1 BEDDING FOR FLEXIBLE PIPING, AND ASTM C12, CLASS B BEDDING FOR RIGID PIPING.
- COMMON BACKFILL MATERIAL SHALL CONSIST OF EXCAVATED MATERIALS EXCEPT HIGHLY ORGANIC SILTS AND CLAYS, FILL SHALL BE DEPOSITED IN SUCCESSIVE, UNIFORM, APPROXIMATELY HORIZONTAL LAYERS NOT EXCEEDING EIGHT (8) INCHES IN DEPTH FOR THE FULL WIDTH. MATERIAL SHALL BE FREE OF ROOTS, STONES, AND DEBRIS AND CAPABLE OF BEING COMPACTED TO 95% STANDARD PROCTOR. COMMON BACKFILL SHALL NOT CONTAIN STONE BLOCKS, BROKEN CONCRETE, MASONRY RUBBLE, OR OTHER SIMILAR MATERIALS. IT SHALL HAVE PHYSICAL PROPERTIES SUCH THAT IT CAN BE READILY SPREAD AND COMPACTED DURING FILLING. SNOW, ICE, AND FROZEN SOIL WILL NOT BE PERMITTED.

TRENCH WIDTH: OUTSIDE DIAMETER OF PIPE + 2'-0"

- WHERE EXCAVATED MATERIAL, AFTER REMOVAL OF ROCKS, STUMPS, PLANT MATERIAL, AND OTHER EXTRANEOUS MATERIAL AND PROPER DEWATERING, DRYING, PROTECTION, AND STORAGE OF THE EXCAVATION BY THE CONTRACTOR, CANNOT BE PREPARED TO MEET THE REQUIREMENTS FOR COMMON BACKFILL, DUE TO THE NATURE OF THE MATERIAL (E.G., EXCESSIVE ROCK, MUCK, ORGANICS, CLAY, SILT, OR OTHER MATERIAL), AND AS DETERMINED BY THE ENGINEER, THE UNACCEPTABLE EXCAVATION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF BY THE CONTRACTOR AND REPLACED BY IMPORTED BACKFILL MEETING THE REQUIREMENTS OF STRUCTURAL BACKFILL. IMPORTED STRUCTURAL BACKFILL SHALL BE FREE OF ORGANICS, ROOTS OR OTHER DELETERIOUS MATERIALS AND SHALL. NOT CONTAIN MORE THAN FIVE PERCENT (BY WEIGHT) ORGANIC MATERIAL, HAVE A PLASTICITY INDEX (PI) GREATER THAN 25, OR HAVE A MAXIMUM DRY DENSITY LESS THAN 90 POUNDS PER CUBIC FOOT. IMPORTED STRUCTURAL FILL SHOULD CONSIST OF MATERIAL CLASSIFIED AS ML, CL, SC, OR SM, OR BETTER PER ASTM D-2487 AND BE CAPABLE OF BEING COMPACTED TO 95% STANDARD PROCTOR.
- 4. THE TOP 12 INCHES OF FINAL BACKFILL FOR ROAD OR STREET SUBGRADE SHALL BE COMPACTED TO 98% STANDARD PROCTOR. 5. THE CONTRACTOR IS RESPONSIBLE FOR MEETING ALL COMPACTION REQUIREMENTS.







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TRENCH CONSTRUCTION OUTSIDE PAVEMENT

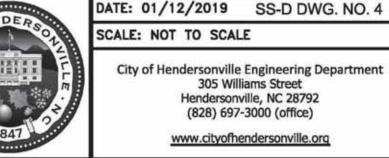
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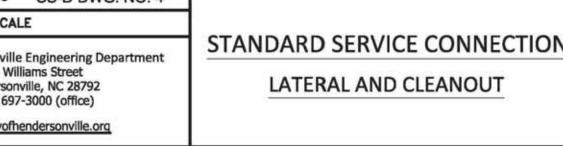
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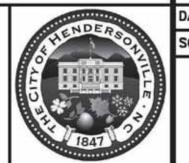
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TRENCH CONSTRUCTION **UNDER PAVEMENT**

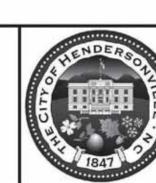






DATE: 01/12/2019 SS-D DWG. NO. 5 SCALE: NOT TO SCALE City of Hendersonville Engineering Department 305 Williams Street Hendersonville, NC 28792 (828) 697-3000 (office) www.cityofhendersonville.org

SERVICE CONNECTIONS AT MANHOLES



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