

# THE LEARNING CENTER ROLESVILLE

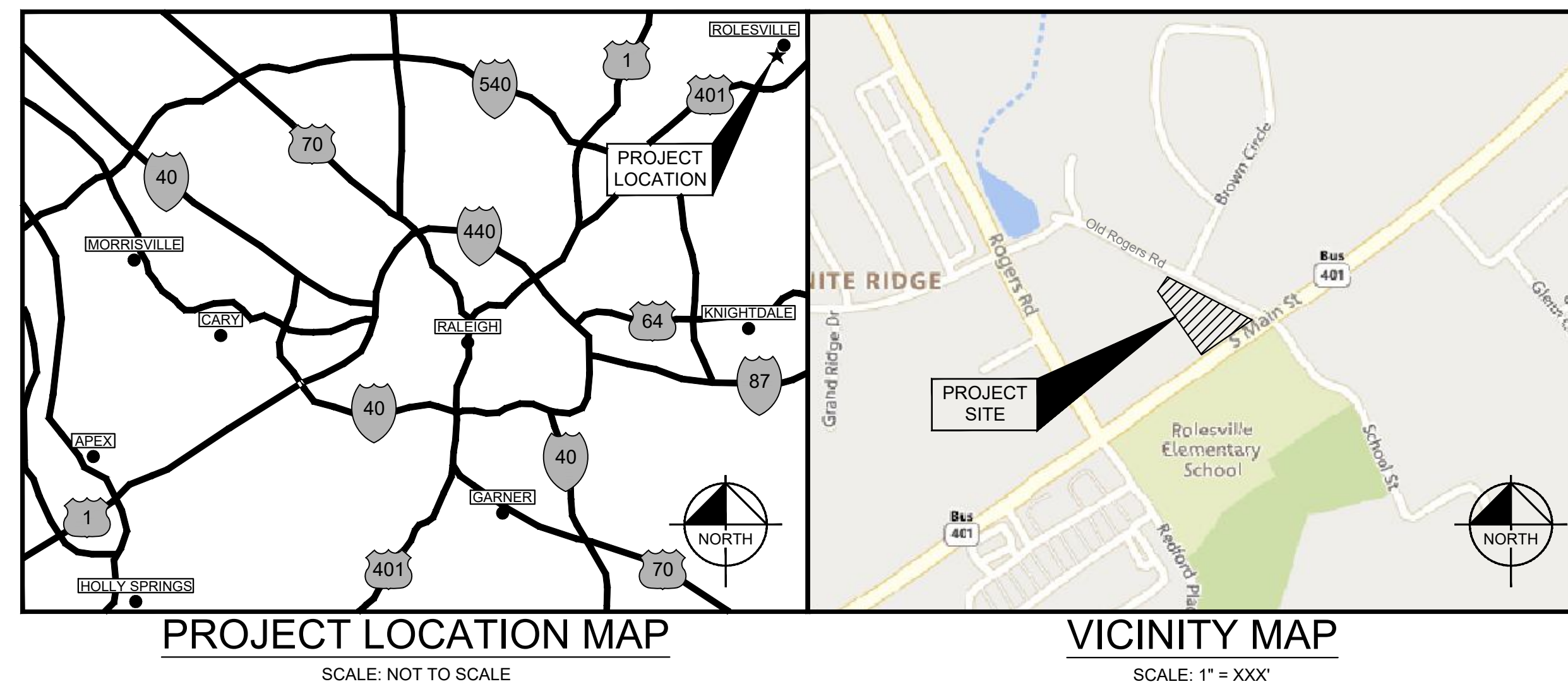
302 SOUTH MAIN STREET  
ROLESVILLE, NC 27571

A DEVELOPMENT BY:  
ROLESVILLE, LLC.

PROJECT NO.: SDP-23-07  
DATE: OCTOBER 02, 2023

## SITE DATA TABLE

PIN:	1759808293
TOTAL SITE AREA:	1.25 AC
EXISTING ZONING:	GENERAL COMMERCIAL (GC)
BUFFERS:	REQUIRED: 30' STREET BUFFER (S MAIN ST) 10' STREET BUFFER (OLD ROGERS RD) 25' TYPE 3 PERIMETER BUFFER (REAR)  PROVIDED: 10' STREET BUFFER* (S MAIN ST) 10' STREET BUFFER (OLD ROGERS RD) 7' PERIMETER BUFFER (REAR)**
PROPERTY SETBACKS:	REQUIRED: FRONT: 20' SIDE: 15' REAR: 35' CORNER: 25'  PROVIDED: FRONT: 7* SIDE: 15' REAR: 35' CORNER: 25'
WATERSHED:	SANFORD CREEK
RIVER BASIN:	NEUSE
CURRENT USE:	VACANT
PROPOSED USE:	COMMERCIAL
CURRENT IMPERVIOUS:	8,680 SF
PROPOSED IMPERVIOUS:	34,457 SF
PARKING:	MIN. REQUIRED: (2.5 SPACES/1,000 SF) $\frac{10,000 \text{ SF}}{25} = 25 \text{ SPACES}$  MAX. ALLOWED: (5 SPACES/1,000 SF) $\frac{10,000 \text{ SF}}{20} = 50 \text{ SPACES}$  PROVIDED: 33 SPACES
ACCESSIBLE PARKING:	REQUIRED: 2 SPACES PROVIDED: 2 SPACES
BICYCLE PARKING:	MIN. REQUIRED: (1 SPACE/5,000 SF) $\frac{10,000 \text{ SF}}{5} = 2 \text{ SPACES}$  PROVIDED: 2 SPACES
TREE COVERAGE DATA:	SEE SHEET L1.0
BUILDING HEIGHT:	22'
BUILDING SQUARE FOOTAGE:	10,000 SF
OPEN SPACE: (PER LDO SEC. 6.2.1.D.3)	MIN. REQUIRED: 5% $\frac{10,000 \text{ SF}}{20} = 3,327 \text{ SF}$  PROVIDED: 6,150 SF
*PER LDO SEC. 3.2.1.C, THE PROJECT IS PROPOSING A 65% REDUCTION TO THE REQUIRED 30' BUILDING SETBACK ALONG S MAIN ST. THE PROJECT WILL MEET THIS REQUIREMENT BY PROVIDING THE ITEMS LISTED IN LDO 3.2.1.C.1-3, 3.2.1.C.4, AND 3.2.1.C.6. THESE INCLUDE MIN. BUILDING AND ACTIVE SPACE FRONTAGE OF TWO-THIRDS STREET FRONTAGE, MAX. VEHICULAR SURFACE AREA OF ONE-THIRD STREET FRONTAGE, 10' SIDEWALK, ENHANCED LANDSCAPING, AND AN ART INSTALLATION.	
**THE PROJECT INTENDS TO REQUEST A VARIANCE WITH THE BOARD OF ADJUSTMENT TO ADDRESS THE REDUCTION IN THE 25' TYPE 3 PERIMETER BUFFER.	
COMPLIANCE WITH 6.8.4.B.2 IS ACHIEVED WITH PATIO, PEDESTRIAN PLAZA WITH BENCHES, LARGE POTTED PLANT, AND ENHANCED PAVING AREA.	



## PROJECT OWNERS & CONSULTANTS

<b>OWNER/DEVELOPER</b> ROLESVILLE, LLC 11018 RUSHMORE DRIVE, SUITE 160 CHARLOTTE, NORTH CAROLINA 28277 CONTACT: MARLAINE KLINTWORTH PHONE: (919) 868-4472 EMAIL: mvkcommercial@gmail.com	<b>LANDSCAPE ARCHITECT</b> KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE ST., SUITE 600 RALEIGH, NORTH CAROLINA 27601 CONTACT: ADAM FULLERTON, M.L.A. ASLA PHONE: (919) 553-2937 EMAIL: adam.fullerton@kimley-horn.com
<b>CIVIL ENGINEER</b> KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE ST., SUITE 600 RALEIGH, NORTH CAROLINA 27601 CONTACT: CHRIS BOSTIC, P.E. PHONE: (919) 553-2927 EMAIL: chris.bostic@kimley-horn.com	<b>SURVEYOR</b> CMP PROFESSIONAL LAND SURVEYORS, PC 333 S. WHITE ST WAKE FOREST, NORTH CAROLINA 27587 CONTACT: MICHAEL A. MOSS, PLS PHONE: (919) 556-3148 EMAIL: mike@cnppls.com

**SURVEY NOTE:**  
EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

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**Kimley»Horn**

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DATE: 05/01/2024 JAA

TOWN COMMENTS: 03/01/2024 JAA

TOWN COMMENTS: 01/02/2024 JAA

REVISIONS: BY

RHA PROJECT: 013031004

DATE: 09/29/2023

SCALE: AS SHOWN

DESIGNED BY: JAA

DRAWN BY: JAA

CHECKED BY: COB

COVER SHEET

THE LEARNING CENTER ROLESVILLE

PREPARED FOR ROLESVILLE, LLC.

TOWN OF ROLESVILLE NORTH CAROLINA

SHEET NUMBER

**C0.0**





Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: CO.1. GENERAL NOTES. May 01, 2024. 05:22:04pm. K:\RAL\_LDE\013031004\_Rolesville\_Layout\_CO.1.GENERAL NOTES.dwg. K:\RAL\_LDE\013031004\_Rolesville\_Layout\_CO.1.GENERAL NOTES.dwg. This document, together with the concepts and designs presented herein, is an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

## GENERAL NOTES:

- WORK IN THIS PROJECT SHALL CONFORM TO THESE PLANS, THE LATEST EDITIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION (NCDOT) ROAD AND BRIDGE SPECIFICATIONS, THE NCDOT ROAD AND BRIDGE STANDARDS, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK, THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, THE TOWN OF ROLESVILLE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS, THE FINAL GEOTECHNICAL REPORT, AND GENERAL DESIGN STANDARDS. IN THE EVENT OF CONFLICT BETWEEN ANY OF THESE STANDARDS, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT SHALL GOVERN. ALL UTILITIES TO BE DEDICATED TO THE CITY OF RALEIGH MUNICIPAL WATER AND/OR SANITARY SEWER SYSTEM SHALL BE CONSTRUCTED AND TESTED TO CONFORM TO STATE OF NORTH CAROLINA STATE BOARD OF HEALTH WATERWORKS AND/OR SEWAGE REGULATIONS AND THE CITY OF RALEIGH DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS.
- THE TERM "CONTRACTOR" AS REFERENCED HERE-IN SHALL ALSO INCLUDE THE SUBCONTRACTOR OR PRINCIPAL TRADE CONTRACTOR, UNDER CONTRACT TO THE GENERAL CONTRACTOR TO PROVIDE LABOR, MATERIALS, AND/OR SERVICES TO THE PROJECT.
- THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL JOBSITE SAFETY, INCLUDING BUT NOT LIMITED TO TRENCH SAFETY, DURING ALL PHASES OF CONSTRUCTION.
- THE LOCATION AND SIZE OF EXISTING UTILITIES AS SHOWN IS APPROXIMATE ONLY. THE CONTRACTOR IS RESPONSIBLE FOR HORIZONTALLY AND VERTICALLY LOCATING AND PROTECTING ALL PUBLIC OR PRIVATE UTILITIES (SHOWN OR NOT SHOWN) WHICH LIE IN OR ADJACENT TO THE CONSTRUCTION SITE. AT LEAST 48 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE NORTH CAROLINA 811 UTILITIES LOCATION SERVICE (NC811) AT 1-800-632-4949 FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
- THE CONTRACTOR SHALL SALVAGE AND PROTECT ALL EXISTING POWER POLES, SIGNS, MANHOLES, TELEPHONE RISERS, WATER VALVES, ETC. DURING ALL CONSTRUCTION PHASES. THE CONTRACTOR SHALL REPAIR, AT HIS OWN EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- TRAFFIC CONTROL WITHIN ALL VEHICULAR AREAS IS THE RESPONSIBILITY OF THE CONTRACTOR, SHALL BE IN CONFORMANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES," AND AS FURTHER DIRECTED BY CITY AND STATE INSPECTORS.
- ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS, SPECIFICATIONS, AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH INCONSISTENCIES OR AMBIGUITIES. WORK DONE BY THE CONTRACTOR AFTER HIS DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
- CONSTRUCTION STAKEOUT FOR THIS PROJECT SHALL BE PER A DIGITAL (CAD) FILE PROVIDED BY THE ENGINEER. THE CONTRACTOR SHALL NOTIFY THE LEAD ARCHITECT IMMEDIATELY OF ANY DISCREPANCIES FOUND BETWEEN THE DIGITAL FILE AND THE CRITICAL STAKING DIMENSIONS SHOWN ON THIS PLAN. ANY MODIFICATIONS MADE BY OTHERS TO THE DIGITAL FILE PROVIDED BY THE ENGINEER SHALL RENDER IT VOID.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ARRANGE THE MEETING WITH THE TOWN OF ROLESVILLE ENGINEERING DIVISION, THE OWNER, AND ENVIRONMENTAL CONSULTANT.
- CONTRACTOR IS RESPONSIBLE FOR VERIFYING OR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
- THE FRAMES AND COVERS OF ALL EXISTING AND PROPOSED DRAINAGE, SANITARY SEWER, WATER MAIN, GAS, AND WIRE UTILITY STRUCTURES SHALL BE ADJUSTED TO MATCH PROPOSED FINISHED ELEVATIONS AND SLOPES.
- ROADWAYS AND BUILDINGS MUST BE CAPABLE OF SUPPORTING FIRE APPARATUS DURING CONSTRUCTION.
- EXISTING INFORMATION SHOWN TAKEN FROM A TOPOGRAPHIC SURVEY DATED FEBRUARY 23, 2023 AND PROVIDED BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, N.C. 27588, PHONE: 919-556-3148.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NC DOT AND TOWN OF ROLESVILLE STANDARDS, SPECIFICATIONS, & DETAILS IF APPLICABLE.

## SANITARY SEWER

- SANITARY SEWER SERVICES SHALL BE SCHEDULE 40 PVC.
- CLEANOUT SYMBOLS SHOWN ON THESE PLANS REPRESENT LOCATION OF SURFACE ACCESS POINT. CONTRACTOR SHALL LOCATE WYE APPROPRIATELY BASED ON PIPE DEPTH.
- SANITARY SEWER CLEAN-OUTS LOCATED IN PAVEMENT AREAS SHALL BE HEAVY-DUTY TRAFFIC BEARING CASTINGS.

## WATER

- WATERLINES, LARGER THAN 2" SHALL BE DUCTILE IRON PIPE MEETING THE REQUIREMENTS OF ANSI-AWWA C151 PRESSURE CLASS 350. WATERLINES 3/4" TO 2" SHALL BE TYPE "K" SOFT COPPER.
- ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL CONSTRUCTION.
- NATIONAL STANDARD THREADS SHALL BE INSTALLED ON FIRE HYDRANTS.
- ALL FIRE HYDRANTS AND FDC CONNECTIONS TO HAVE STORZ TYPE CONNECTION PER CITY OF RALEIGH FIRE DEPARTMENT STANDARDS.

## BACKFLOW PREVENTION:

- THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPARTMENT CONNECTION POINTS OR OTHER WATER-USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS REQUIRED BACKFLOW PREVENTER.
- EACH BACKFLOW PREVENTER ASSEMBLY IS REQUIRED TO BE TESTED BY AN APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM INTO SERVICE. CONTRACTOR SHALL PERFORM TESTING IN ACCORDANCE WITH THE CITY OF RALEIGH ENGINEERING DEPARTMENT.

## CONSTRUCTION NOTES

- THE CONTRACTOR SHALL CONDUCT THE WORK IN A SAFE MANNER AND WITH A MINIMUM AMOUNT OF INCONVENIENCE TO TRAFFIC.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SHALL ADHERE TO THE PROVISIONS OF THE MUTCD (MOST CURRENT EDITION).
- PRIOR TO CONSTRUCTION BEGINNING, ALL SIGNAGE AND TRAFFIC CONTROL SHALL BE IN PLACE.
- THE CONTRACTOR SHALL HAVE A COMPLETE SET OF CONTRACT DOCUMENTS AS WELL AS ALL APPROVALS AND EASEMENTS ON THE JOB SITE AT ALL TIMES.
- THE CONTRACTOR SHALL REPAIR ALL DRIVEWAYS, DRIVEWAY PIPES, CURB AND GUTTER, SIDEWALKS AND STREET TO EXISTING CONDITION OR BETTER.

## PAVING/CURBING

- WHERE PROPOSED CURB AND GUTTER TIES TO EXISTING CURB OR CURB AND GUTTER, A TRANSITION OF 10' SHALL BE MADE TO CONFORM TO THE EXISTING HEIGHTS AND SHAPES.
- BEFORE ANY EARTHWORK IS DONE, THE CONTRACTOR SHALL STAKE OUT AND MARK THE LIMITS OF PAVEMENT AND OTHER ITEMS ESTABLISHED IN THE PLANS. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY ENGINEERING AND SURVEYING FOR LINE AND GRADE CONTROL POINTS RELATED TO EARTHWORK.
- ALL PAVEMENT SUB GRADES (EVEN WHEN ROCK IS ENCOUNTERED) SHALL BE SCARIFIED TO A DEPTH OF 8 INCHES AND COMPACTED TO A MINIMUM DENSITY OF 98 PERCENT OF ASTM D-698 DENSITY AT OPTIMUM MOISTURE CONTENT UNLESS OTHERWISE SHOWN IN THE CONSTRUCTION DOCUMENTS OR AS DIRECTED BY THE CERTIFIED MATERIALS TESTING AGENT. FILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 8" LIFTS.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AND MISCELLANEOUS STRIPING AS SHOWN ON THE PLANS. ALL ROADWAY PAVEMENT MARKINGS SHALL BE THERMOPLASTIC AND ADHERE TO NCDOT STANDARDS.
- THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
- ALL CURB JOINTS SHALL EXTEND THROUGH THE CURB. MINIMUM LENGTH OF OFFSET JOINTS AT RADIUS POINTS IS 1.5 FEET. ALL JOINTS SHALL BE SEALED WITH JOINT SEALANT.
- TESTING OF MATERIALS REQUIRED FOR THE CONSTRUCTION OF THE PAVING IMPROVEMENTS SHALL BE PERFORMED BY AN APPROVED AGENCY FOR TESTING MATERIALS. THE TESTING LABORATORY AND THE PAYMENT OF SUCH TESTING SERVICES SHALL BE MADE BY THE OWNER. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY THAT THE CERTIFIED MATERIAL TESTING AGENCY HAS PERFORMED THE WORK AND THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE CITY'S SPECIFICATIONS AND/OR THE PROJECT SPECIFICATIONS, WHICHEVER IS MORE STRINGENT.
- ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES ON PUBLIC STREETS SHALL CONFORM TO MUTCD, NCDOT, AND TOWN OF ROLESVILLE STANDARDS.

## STORM DRAINAGE

- THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DIMENSIONS SHOWN, INCLUDING THE HORIZONTAL AND VERTICAL LOCATION OF CURB INLETS AND GRATE INLETS AND ALL UTILITIES CROSSING THE STORM SEWER.
- THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
- THE TOWN OF ROLESVILLE INSPECTOR SHALL INSPECT ALL "PUBLIC" CONSTRUCTION. THE CONTRACTOR'S PRICE SHALL INCLUDE ALL INSPECTION FEES.
- ALL RCP STORM SEWER MAINS AND LATERALS SHALL BE MINIMUM CLASS III REINFORCED CONCRETE PIPE.
- ALL PVC PIPE USED IN DRAINAGE SYSTEM SHALL BE MINIMUM SDR-35 OR APPROVED EQUAL.
- ALL PVC TO RCP CONNECTIONS SHALL BE CONSTRUCTED WITH CONCRETE COLLARS.
- THE LOCATIONS OF STORM SEWER STRUCTURES SHOWN ON THESE PLANS (AND PROVIDED IN ASSOCIATED CAD FILES) ARE APPROXIMATE. THE CONTRACTOR SHALL STAKE ALL CURB INLET STRUCTURES SUCH THAT INLET TOPS ALIGN HORIZONTALLY WITH PROPOSED CURB LOCATIONS (PER DETAIL, IF PROVIDED). WHERE PROPOSED STORM SEWERS TIE TO EXISTING STRUCTURES, PIPES, ETC., THE CONTRACTOR SHALL FIELD ADJUST PROPOSED STORM SEWERS TO MATCH THE LOCATIONS OF THESE EXISTING FEATURES.
- RIM ELEVATIONS FOR STORM CATCH BASINS ARE MEASURED TO THE GUTTER FLOW LINE.

## TRAFFIC CONTROL NOTES

- WITHIN THE SIGHT TRIANGLES AND SIGHT EASEMENTS SHOWN ON THESE PLANS, NO OBSTRUCTION SHALL BE LOCATED IN WHOLE OR PART BETWEEN (2) FEET AND (8) FEET IN HEIGHT ABOVE THE CURB LINE ELEVATION OR THE NEAREST TRAVELED WAY, IF NO CURBING EXISTS. OBSTRUCTIONS INCLUDE, BUT ARE NOT LIMITED TO, ANY BERM, FOLIAGE, FENCE, WALL, SIGN, PARKED VEHICLE OR OTHER OBJECT.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE AND/OR N.C.D.O.T. STANDARDS AND SPECIFICATIONS.
- REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) FOR DETAILS OF STANDARD TRAFFIC CONTROL SIGNS AND STANDARDS.

## SEEDBED PREPARATION

- CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF AVAILABLE.
- RIPE THE ENTIRE AREA TO SIX INCHES DEEP.
- REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND UNIFORM.
- APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE MIXTURE BELOW).
- CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.
- SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK AFTER SEEDING.
- MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- INSPECT ALL SEEDED AREAS AND MAKE NECESSARY REPAIRS OR RESEEDINGS WITHIN THE PLANTING SEASON, IF POSSIBLE. IF STAND SHOULD BE MORE THAN 60% DAMAGED, RE-ESTABLISH FOLLOWING THE ORIGINAL LIME, FERTILIZER AND SEEDING RATES.
- CONSULT SAEC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- \*AGRICULTURAL LIMESTONE - 2 TONS/ ACRE (3 TONS/ACRE IN CLAY SOILS) FERTILIZER - 1,000 LBS. / ACRE -10-10-10 SUPERPHOSPHATE- 500 LBS/ ACRE -20% ANALYSIS MULCH -2 TONS / ACRE - SMALL GRAIN STRAW ANOTHER - ASPHALT EMULSION @ 300 GALS./ ACRE

## SEEDING SCHEDULE

DATE	TYPE	PLANTING RATE
<b>SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1)</b>		
AUG 15 - NOV 1	TALL FESCUE	300 LBS/ACRE
NOV 1 - MAR 1	TALL FESCUE & ABRUZZI RYE	300 LBS/ACRE
MAR 1 - APR 15	TALL FESCUE	300 LBS/ACRE
APR 15 - JUN 30	HULLED COMMON BERMUDAGRASS	25 LBS/ACRE
JUL 1 - AUG 15	TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUDAN HYBRIDS	120 LBS/ACRE 35 LBS/ACRE 30 LBS/ACRE
<b>SLOPES (3:1 TO 2:1)</b>		
MAR 1 - JUN 1	SERICA LESPEDEZA (SCARIFIED) AND ADD TALL FESCUE	50 LBS/ACRE 120 LBS/ACRE
MAR 1 - JUN 30	OR ADD WEEPING LOVEGRASS OR ADD HULLED COMMON BERMUDAGRASS	10 LBS/ACRE 25 LBS/ACRE
JUN 1 - SEP 1	***TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUDAN HYBRIDS	120 LBS/ACRE 35 LBS/ACRE 30 LBS/ACRE
SEP 1 - MAR 1	SERICA LESPEDEZA (UNHULLED- UNSCARIFIED) AND TALL FESCUE	70 LBS/ACRE 120 LBS/ACRE
(NOV 1 - MAR 1)	ADD ABRUZZI RYE	25 LBS/ACRE

CONSULT CONSERVATION ENGINEER OR SOIL CONSERVATION SERVICE FOR ADDITIONAL INFORMATION CONCERNING OTHER ALTERNATIVES FOR VEGETATION OF DENuded AREAS. THE ABOVE VEGETATION RATES ARE THOSE WHICH DO WELL UNDER LOCAL CONDITIONS; OTHER SEEDING RATE COMBINATIONS ARE POSSIBLE.

\*\*\*TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED PERMANENT VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING. OTHERWISE FESCUE MAY BE SHADED OUT.

\*NOTE: THIS SEEDING SCHEDULE IS FOR EROSION AND SEDIMENT CONTROL ONLY. SEE LANDSCAPE PLAN FOR FINAL SEEDING.

THE CONTRACTOR SHALL PROVIDE GROUND COVER ON DESIGNATED AREAS AND SLOPES GREATER THAN 3:1 WITHIN 7 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. CONTRACTOR SHALL PROVIDE GROUND COVER IN 14 DAYS ON ALL OTHER AREAS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. PERMANENT GROUND COVER FOR ALL DISTURBED AREAS SHALL BE PROVIDED WITHIN 15 WORKING DAYS OR 90 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION.

NURSE CROP: WHEN SEEDING BERMUDA GRASS SEED CONTRACTOR SHALL ADD 25 LB/AC OF ANNUAL RYE GRASS AS NURSE CROP UNTIL PERMANENT ESTABLISHMENT OF BERMUDA GRASS

## EROSION CONTROL NOTES

- UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL HANDBOOK.
- THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCEQ) AND WAKE COUNTY EROSION AND SEDIMENT CONTROL REGULATIONS.
- ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCDENR EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
- APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO OFF-SITE BORROW OR WASTE AREAS, STAGING OR STORAGE AREAS), THE CONTRACTOR SHALL PREPARE AND SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND TO THE WAKE COUNTY FOR APPROVAL. CONTRACTOR SHALL PAY ALL FEES REQUIRED AND SHALL INSTALL NECESSARY MEASURES AT NO SEPARATE PAYMENT. THE CONTRACTOR SHALL PROVIDE THE OWNER AND THE ENGINEER A COPY OF THE AMENDED PERMIT.
- EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY, AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
- STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NORTH CAROLINA SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
- CONTRACTOR TO ENSURE THAT SEDIMENT LADEN RUNOFF DOES NOT LEAVE SITE LIMITS OR ENTER PROTECTED AREAS. ANY SEDIMENT DEPOSITED BEYOND DISTURBED AREA WITHIN SITE LIMITS SHALL BE REMOVED.
- ROLLED EROSION CONTROL PRODUCTS (RECP'S) SHOULD BE USED TO AID PERMANENT VEGETATED STABILIZATION OF SLOPES GREATER THAN 10' OR GREATER ANCHOR MULCH SHOULD ALSO BE USED WHEN MULCH CANNOT BE ADEQUATELY TACKED AND WHERE IMMEDIATE GROUND COVER IS REQUIRED TO PREVENT EROSION DAMAGE.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 21 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
- WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
- TEMPORARY CONSTRUCTION ENTRANCES SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREAS. TWO TO THREE INCH STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.
- ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPLSLOPE LAND DISTURBANCE TAKES PLACE.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING Dewatering OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED BY CONTRACTOR ONCE STABILIZATION OR A SUFFICIENT GROUND COVER HAS BEEN ESTABLISHED OR AS DIRECTED BY THE ENGINEER. WAKE COUNTY INSPECTOR'S FINAL APPROVAL IS REQUIRED.
- STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING UPON FIELD CONDITIONS.
- LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.
- ANY GRADING BEYOND THE DENuded LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE WAKE COUNTY EROSION CONTROL ORDINANCE, AND IS SUBJECT TO A FINE.
- GRADING MORE THAN 12,000 SF WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE WAKE COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.

## ABBREVIATIONS

\*NOT ALL ABBREVIATIONS MAY BE USED FOR THIS PROJECT.

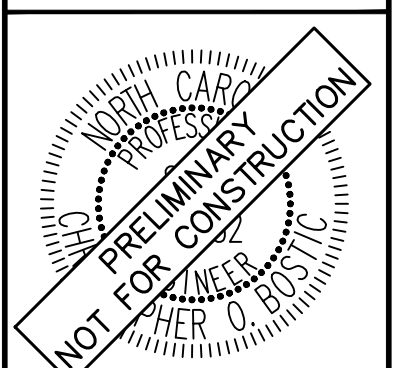
CB - CATCH BASIN  
YI - YARD INLET  
CO - CLEAN OUT  
DI - DROP INLET  
EX - EXISTING  
FES - FLARED-END-SECTION  
JB - JUNCTION BOX  
LOD - LIMITS OF DISTURBANCE  
PVC - POLYVINYL CHLORIDE  
RCP - REINFORCED CONCRETE PIPE  
TYP. - TYPICAL

SURVEY NOTE:  
EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

NO.	REVISIONS	DATE	BY
1	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
3	TOWN COMMENTS	01/02/2024	JAA

**Kimley»Horn**

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421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



RHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

## GENERAL NOTES

**THE LEARNING CENTER ROLESVILLE**

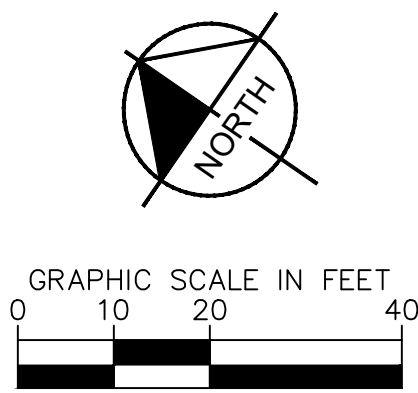
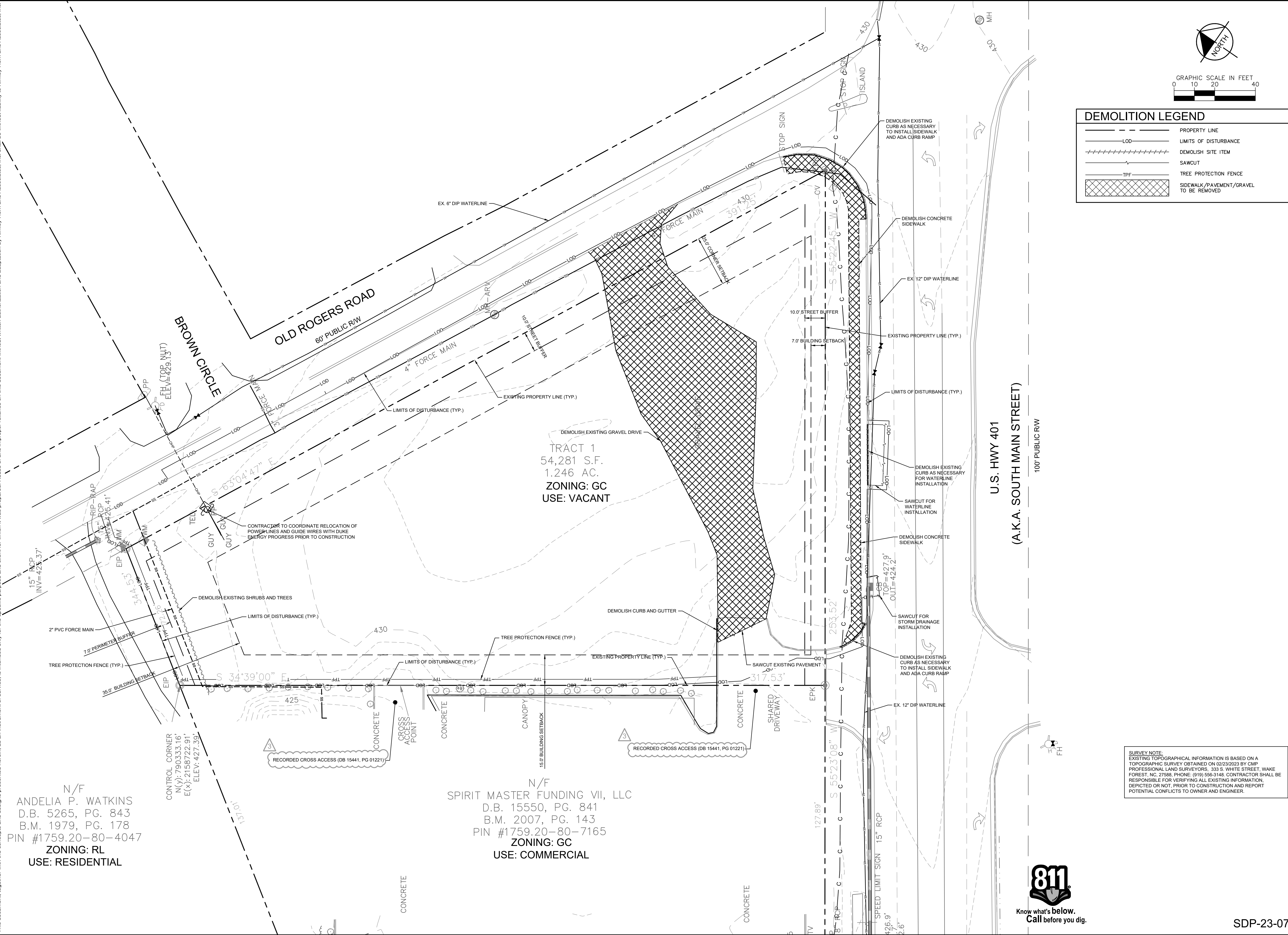
PREPARED FOR  
**ROLESVILLE, LLC.**  
TOWN OF ROLESVILLE NORTH CAROLINA



Know what's below.  
Call before you dig.



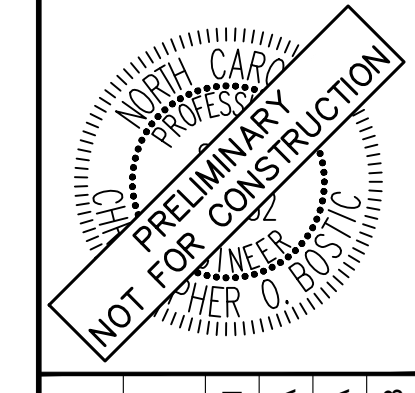
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DEMOLITION LEGEND	
	PROPERTY LINE
	LIMITS OF DISTURBANCE
	DEMOLISH SITE ITEM
	SAWCUT
	TREE PROTECTION FENCE
	SIDEWALK/PAVEMENT/GRAVEL TO BE REMOVED

No.	REVISIONS	DATE	BY
7			
6			
5			
4			
3	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
1	TOWN COMMENTS	01/02/2024	JAA

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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



KHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

**EXISTING CONDITIONS & DEMOLITION PLAN**

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE NORTH CAROLINA

**SURVEY NOTE:**  
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Plotted By: Alexander, Jamal Sheet Set: THE LEARNING CENTER ROLESVILLE, Layout: C2.0 SITE PLAN, May 01, 2024, 08:53:17pm, K:\RAL\_LDEV\013031004\_Rolesville\_Learning\_Center\PT0\_CAD Files\PlanSheets\C2.0 SITE PLAN.dwg  
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Company: The Learning Experience  
 Project: VWP-V-L30740-TFT-DBZ-CGL-EM4W-DIM-UNV  
 Type: HE

**VWP** VWP Architectural Wall Pack  
**Williams**

**DETAILS**

**DETAILS**

**DETAILS**

**VWP** VWP Architectural Wall Pack  
**Williams**

**DETAILS**

**DETAILS**

**DETAILS**

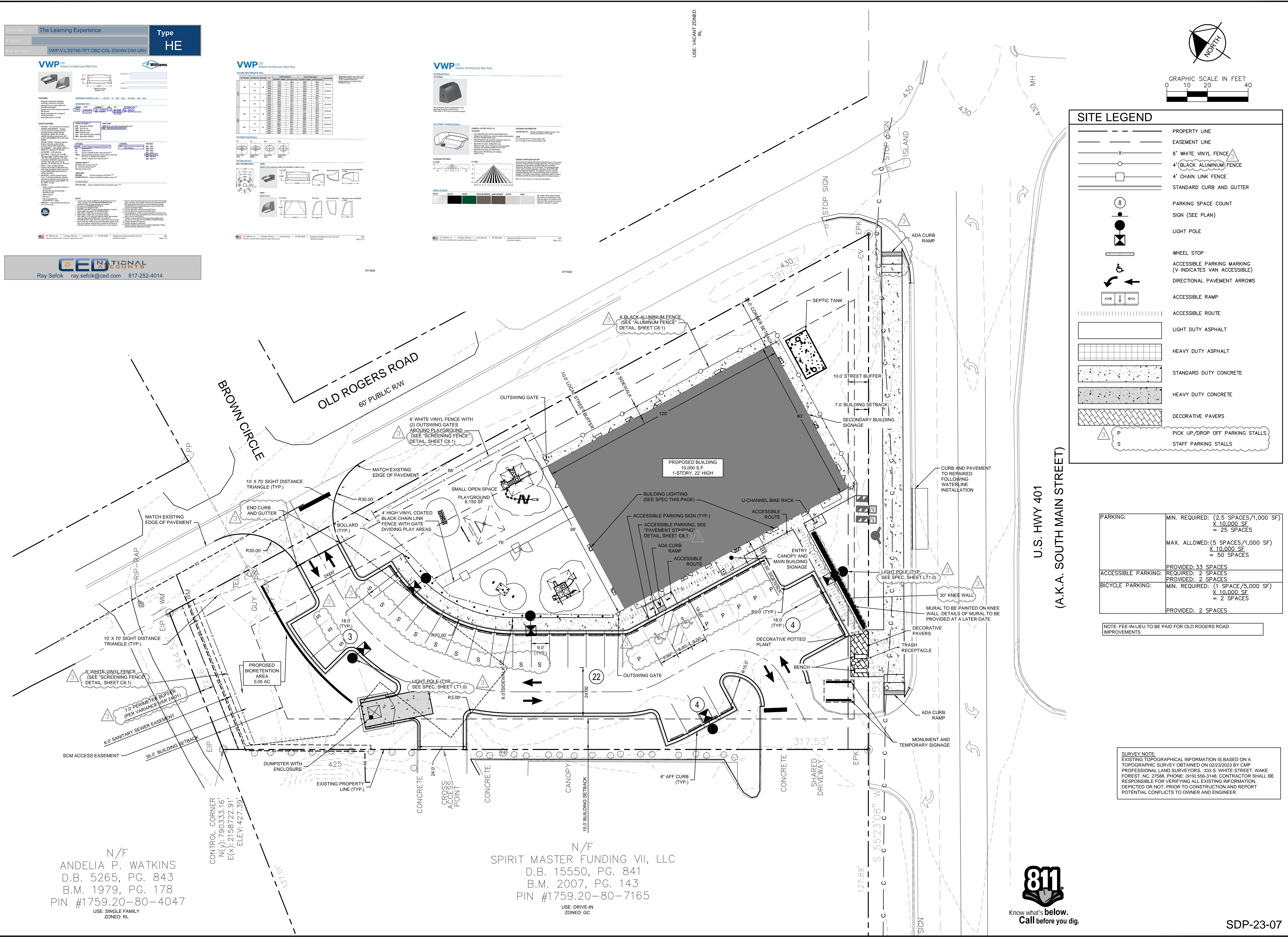
**VWP** VWP Architectural Wall Pack  
**Williams**

**DETAILS**

**DETAILS**

**DETAILS**

**ED**  
 Ray Sefcik ray.sefcik@ced.com 817-252-4014



**SITE LEGEND**

- PROPERTY LINE
- EASEMENT LINE
- 6" WHITE VINYL FENCE
- 4" BLACK ALUMINUM FENCE
- 4' CHAIN LINK FENCE
- STANDARD CURB AND GUTTER
- PARKING SPACE COUNT SIGN (SEE PLAN)
- LIGHT POLE
- WHEEL STOP
- ACCESSIBLE PARKING MARKING (V INDICATES VAN ACCESSIBLE)
- DIRECTIONAL PAVEMENT ARROWS
- ACCESSIBLE RAMP
- ACCESSIBLE ROUTE
- LIGHT DUTY ASPHALT
- HEAVY DUTY ASPHALT
- STANDARD DUTY CONCRETE
- HEAVY DUTY CONCRETE
- DECORATIVE PAVERS
- PICK UP/DROP OFF PARKING STALLS
- STAFF PARKING STALLS

PARKING:	MIN. REQUIRED: (2.5 SPACES/1,000 SF)	$\frac{2.5 \times 10,000 \text{ SF}}{1,000 \text{ SF}} = 25 \text{ SPACES}$
	MAX. ALLOWED: (5 SPACES/1,000 SF)	$\frac{5 \times 10,000 \text{ SF}}{1,000 \text{ SF}} = 50 \text{ SPACES}$
ACCESSIBLE PARKING:	PROVIDED: 33 SPACES	REQUIRED: 2 SPACES
BICYCLE PARKING:	PROVIDED: 2 SPACES	REQUIRED: 2 SPACES
	MIN. REQUIRED: (1 SPACE/5,000 SF)	$\frac{1 \times 10,000 \text{ SF}}{5,000 \text{ SF}} = 2 \text{ SPACES}$
	PROVIDED: 2 SPACES	

NOTE: FEE-IN-LIEU TO BE PAID FOR OLD ROGERS ROAD IMPROVEMENTS

**SURVEY NOTE:**  
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N/F  
 ANDELIA P. WATKINS  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047  
 USE: SINGLE FAMILY ZONED: RL

N/F  
 SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165  
 USE: DRIVE-IN ZONED: GC



SDP-23-07

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 421 FAYETTEVILLE STREET, SUITE 400, RALEIGH, NC 27601

**SITE PLAN**

THE LEARNING CENTER ROLESVILLE  
 PREPARED FOR ROLESVILLE, LLC.  
 TOWN OF ROLESVILLE NORTH CAROLINA

NO.	REVISIONS	DATE	BY
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

KHA PROJECT: 013031004  
 DATE: 09/29/2023  
 SCALE: AS SHOWN  
 DESIGNED BY: JAA  
 DRAWN BY: JAA  
 CHECKED BY: COB

SHEET NUMBER: C2.0

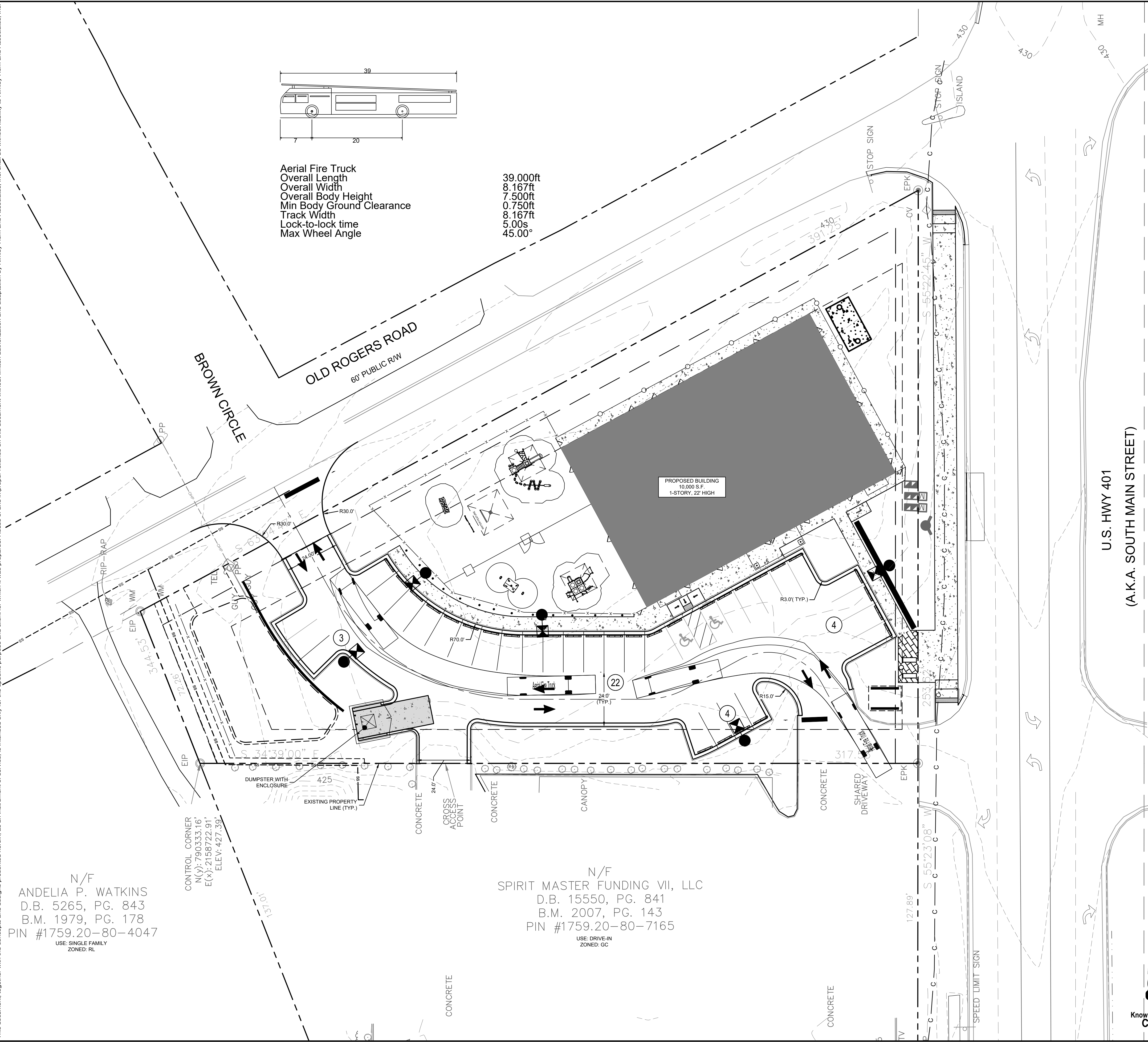
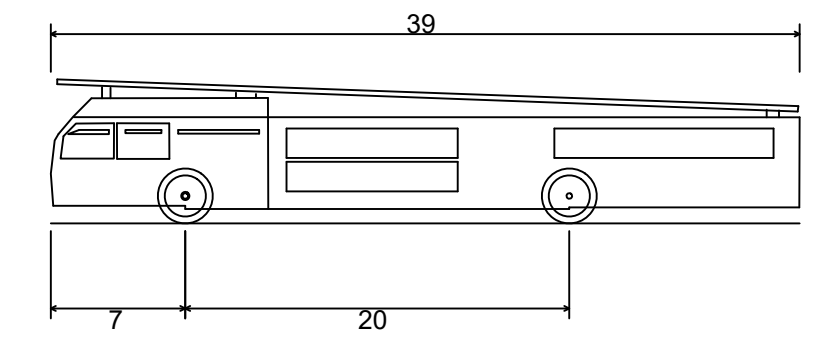


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N/F  
**ANDELIA P. WATKINS**  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047  
 USE: SINGLE FAMILY  
 ZONED: RL

N/F  
**SPIRIT MASTER FUNDING VII, LLC**  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165  
 USE: DRIVE-IN  
 ZONED: GC

**Aerial Fire Truck**  
 Overall Length 39.000ft  
 Overall Width 8.167ft  
 Overall Body Height 7.500ft  
 Min Body Ground Clearance 0.750ft  
 Track Width 8.167ft  
 Lock-to-lock time 5.00s  
 Max Wheel Angle 45.00°

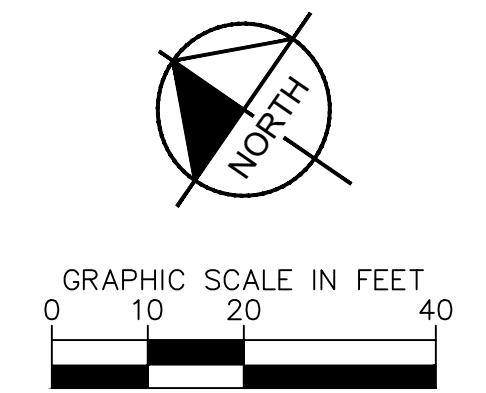


### SITE LEGEND

	PROPERTY LINE
	EASEMENT LINE
	6' WHITE VINYL FENCE
	4' BLACK ALUMINUM FENCE
	4' CHAIN LINK FENCE
	STANDARD CURB AND GUTTER
	PARKING SPACE COUNT
	SIGN (SEE PLAN)
	LIGHT POLE
	WHEEL STOP
	ACCESSIBLE PARKING MARKING (V INDICATES VAN ACCESSIBLE)
	DIRECTIONAL PAVEMENT ARROWS
	ACCESSIBLE RAMP
	ACCESSIBLE ROUTE
	LIGHT DUTY ASPHALT
	HEAVY DUTY ASPHALT
	STANDARD DUTY CONCRETE
	HEAVY DUTY CONCRETE
	DECORATIVE PAVERS
	PICK UP/DROP OFF PARKING STALLS
	STAFF PARKING STALLS

PARKING:	MIN. REQUIRED: (2.5 SPACES/1,000 SF) X 10,000 SF = 25 SPACES
	MAX. ALLOWED: (5 SPACES/1,000 SF) X 10,000 SF = 50 SPACES
ACCESSIBLE PARKING:	REQUIRED: 2 SPACES PROVIDED: 2 SPACES
BICYCLE PARKING:	MIN. REQUIRED: (1 SPACE/5,000 SF) X 10,000 SF = 2 SPACES
	PROVIDED: 2 SPACES

**SURVEY NOTE:**  
 EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.



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 421 FAYETTEVILLE STREET, SUITE 800, RALEIGH, NC 27601

No.	REVISIONS	DATE	BY
7			
6			
5			
4			
3	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
1	TOWN COMMENTS	01/02/2024	JAA

**TRUCK ROUTING EXHIBIT**

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE NORTH CAROLINA

KHA PROJECT: 013031004  
 DATE: 09/29/2023  
 SCALE: AS SHOWN  
 DESIGNED BY: JAA  
 DRAWN BY: JAA  
 CHECKED BY: COB

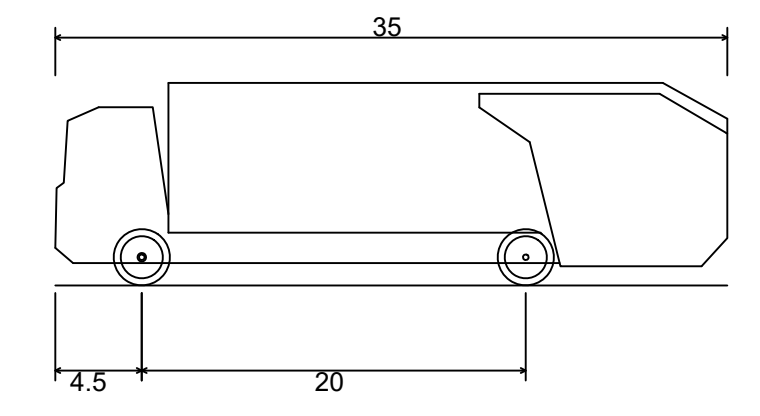
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**C2.1**



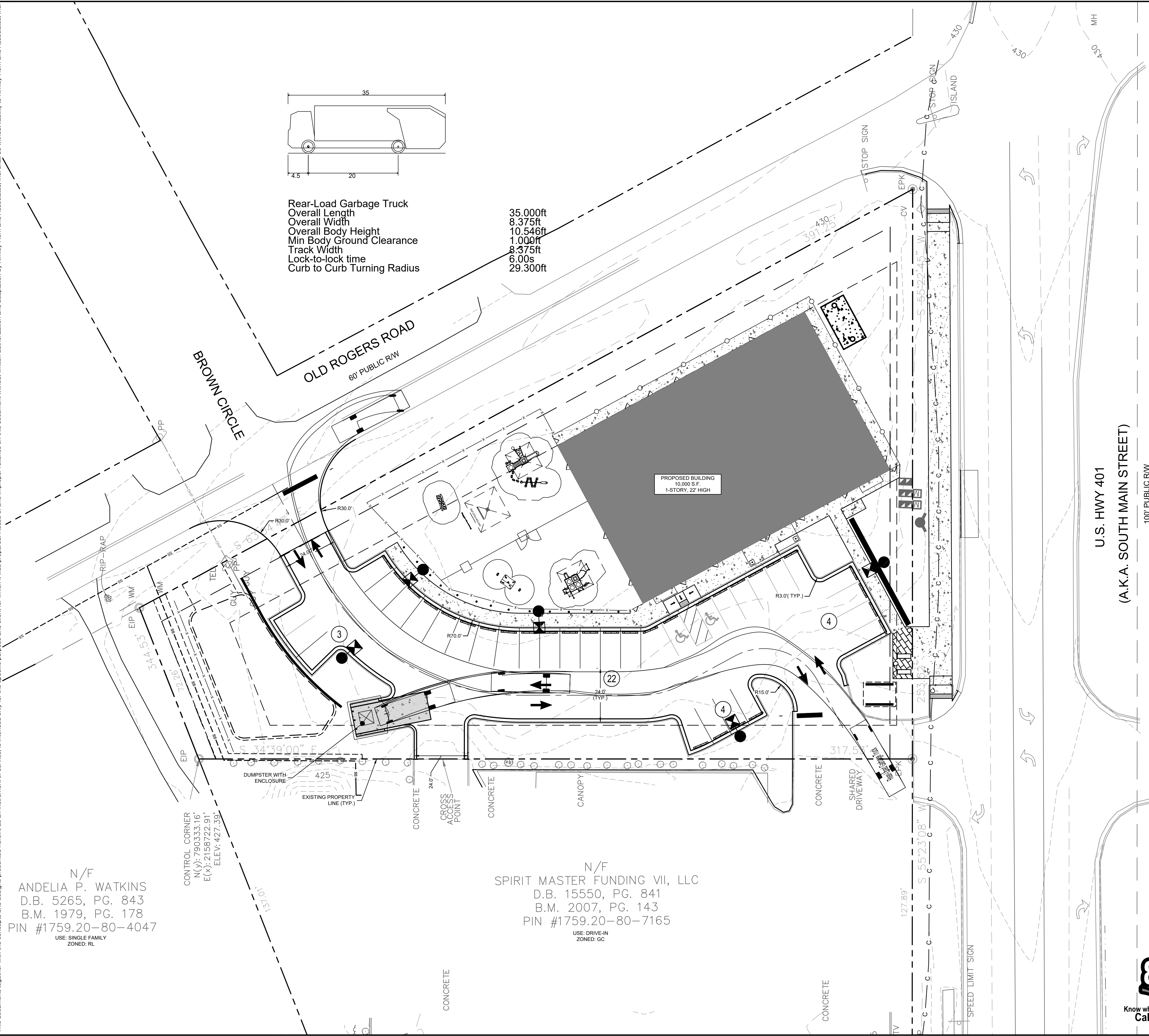
Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: C2.2 TRUCK ROUTING EXHIBIT. May 01, 2024. 05:22:23pm. K:\REAL\_LDEV\013031004\_Rolesville\_Leaning\_Corner\PP10\_CAD\_Files\PlanSheets\C2.1 TRUCK ROUTING EXHIBIT.dwg  
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N/F  
 ANDELIA P. WATKINS  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047  
 USE: SINGLE FAMILY  
 ZONED: RL

N/F  
 SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165  
 USE: DRIVE-IN  
 ZONED: GC



**Rear-Load Garbage Truck**  
 Overall Length 35.000ft  
 Overall Width 8.375ft  
 Overall Body Height 10.546ft  
 Min Body Ground Clearance 1.000ft  
 Track Width 8.375ft  
 Lock-to-lock time 6.00s  
 Curb to Curb Turning Radius 29.300ft

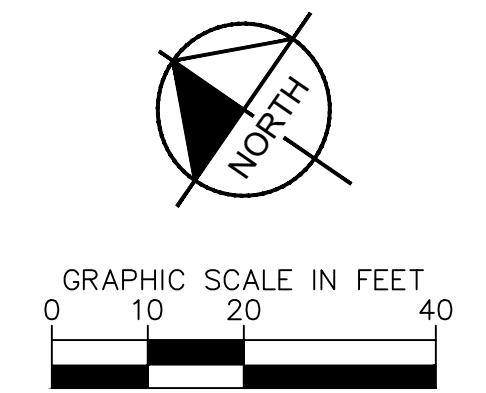


### SITE LEGEND

	PROPERTY LINE
	EASEMENT LINE
	6' WHITE VINYL FENCE
	4' BLACK ALUMINUM FENCE
	4' CHAIN LINK FENCE
	STANDARD CURB AND GUTTER
	PARKING SPACE COUNT
	SIGN (SEE PLAN)
	LIGHT POLE
	WHEEL STOP
	ACCESSIBLE PARKING MARKING (V INDICATES VAN ACCESSIBLE)
	DIRECTIONAL PAVEMENT ARROWS
	ACCESSIBLE RAMP
	ACCESSIBLE ROUTE
	LIGHT DUTY ASPHALT
	HEAVY DUTY ASPHALT
	STANDARD DUTY CONCRETE
	HEAVY DUTY CONCRETE
	DECORATIVE PAVERS
	PICK UP/DROP OFF PARKING STALLS
	STAFF PARKING STALLS

PARKING:	MIN. REQUIRED: (2.5 SPACES/1,000 SF) X 10,000 SF = 25 SPACES
	MAX. ALLOWED: (5 SPACES/1,000 SF) X 10,000 SF = 50 SPACES
ACCESSIBLE PARKING:	PROVIDED: 33 SPACES REQUIRED: 2 SPACES
BICYCLE PARKING:	MIN. REQUIRED: (1 SPACE/5,000 SF) X 10,000 SF = 2 SPACES PROVIDED: 2 SPACES

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**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE  
 NORTH CAROLINA

**Kimley»Horn**  
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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601

KHA PROJECT	013031004	DATE	09/29/2023	SCALE	AS SHOWN	DESIGNED BY	JAA	DRAWN BY	JAA	CHECKED BY	COB
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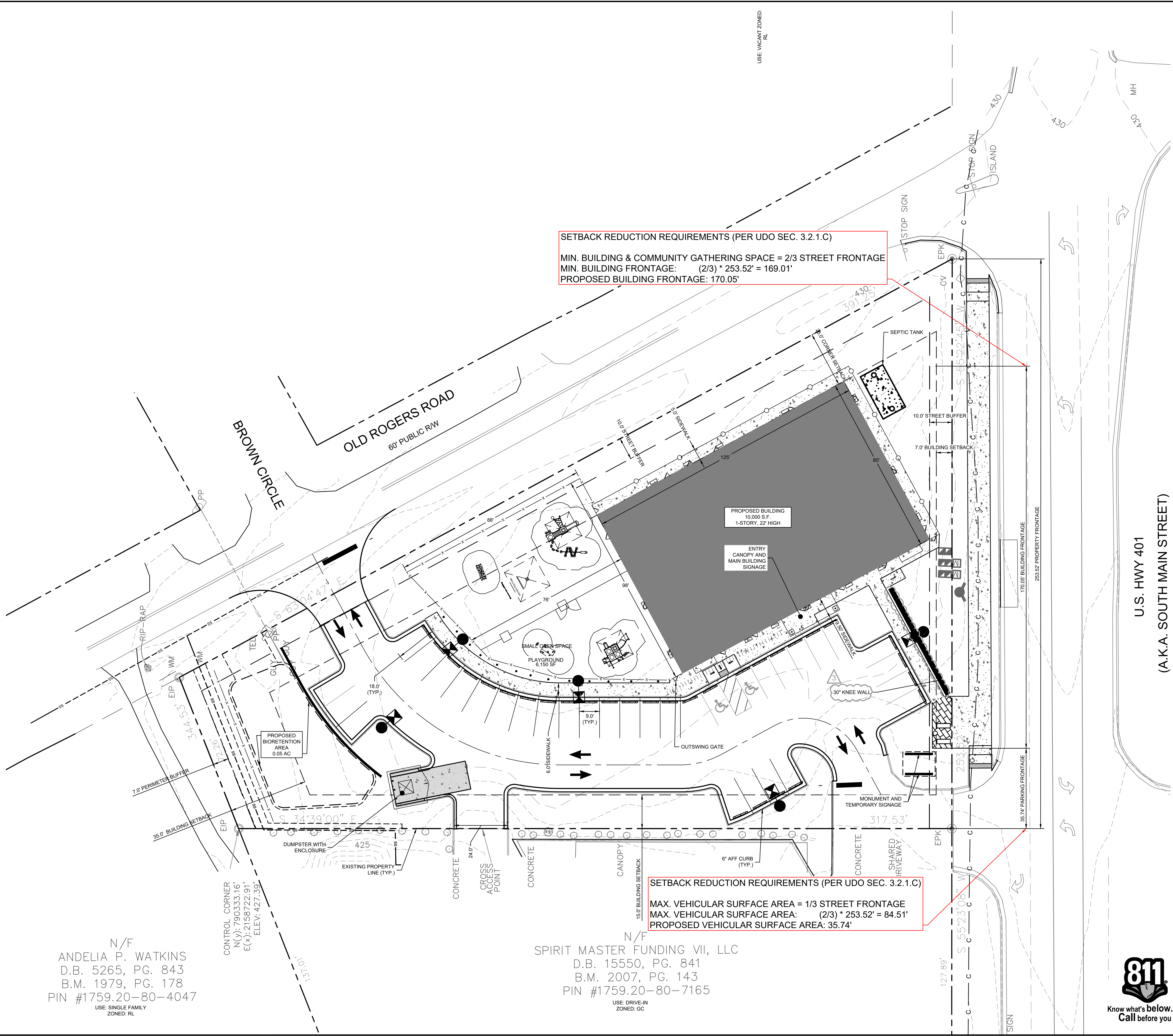
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TOWN COMMENTS	TOWN COMMENTS	TOWN COMMENTS	TOWN COMMENTS	TOWN COMMENTS	TOWN COMMENTS	TOWN COMMENTS	REVISIONS
05/01/2024	03/01/2024	03/01/2024	03/01/2024	03/01/2024	03/01/2024	03/01/2024	DATE
JAA	JAA	JAA	JAA	JAA	JAA	JAA	BY

**TRUCK ROUTING EXHIBIT**

SHEET NUMBER  
**C2.2**



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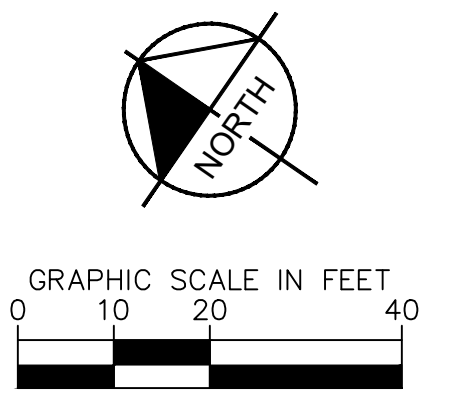


**SETBACK REDUCTION REQUIREMENTS (PER UDO SEC. 3.2.1.C)**  
 MIN. BUILDING & COMMUNITY GATHERING SPACE = 2/3 STREET FRONTAGE  
 MIN. BUILDING FRONTAGE: (2/3) \* 253.52' = 169.01'  
 PROPOSED BUILDING FRONTAGE: 170.05'

**SETBACK REDUCTION REQUIREMENTS (PER UDO SEC. 3.2.1.C)**  
 MAX. VEHICULAR SURFACE AREA = 1/3 STREET FRONTAGE  
 MAX. VEHICULAR SURFACE AREA: (2/3) \* 253.52' = 84.51'  
 PROPOSED VEHICULAR SURFACE AREA: 35.74'

N/F  
 ANDELIA P. WATKINS  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047  
 USE: SINGLE FAMILY  
 ZONED: RL

N/F  
 SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165  
 USE: DRIVE-IN  
 ZONED: GC



SITE LEGEND	
	PROPERTY LINE
	EASEMENT LINE
	6' WHITE VINYL FENCE
	4' BLACK ALUMINUM FENCE
	4' CHAIN LINK FENCE
	STANDARD CURB AND GUTTER
	PARKING SPACE COUNT
	SIGN (SEE PLAN)
	LIGHT POLE
	WHEEL STOP
	ACCESSIBLE PARKING MARKING (V INDICATES VAN ACCESSIBLE)
	DIRECTIONAL PAVEMENT ARROWS
	ACCESSIBLE RAMP
	ACCESSIBLE ROUTE
	LIGHT DUTY ASPHALT
	HEAVY DUTY ASPHALT
	STANDARD DUTY CONCRETE
	HEAVY DUTY CONCRETE
	DECORATIVE PAVERS
	PICK UP/DROP OFF PARKING STALLS
	STAFF PARKING STALLS

NOTE: FEE-IN-LIEU TO BE PAID FOR OLD ROGERS ROAD IMPROVEMENTS

**SURVEY NOTE:**  
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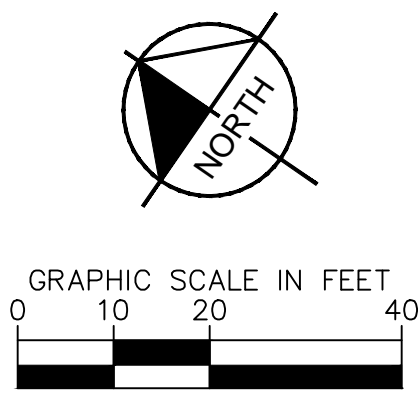
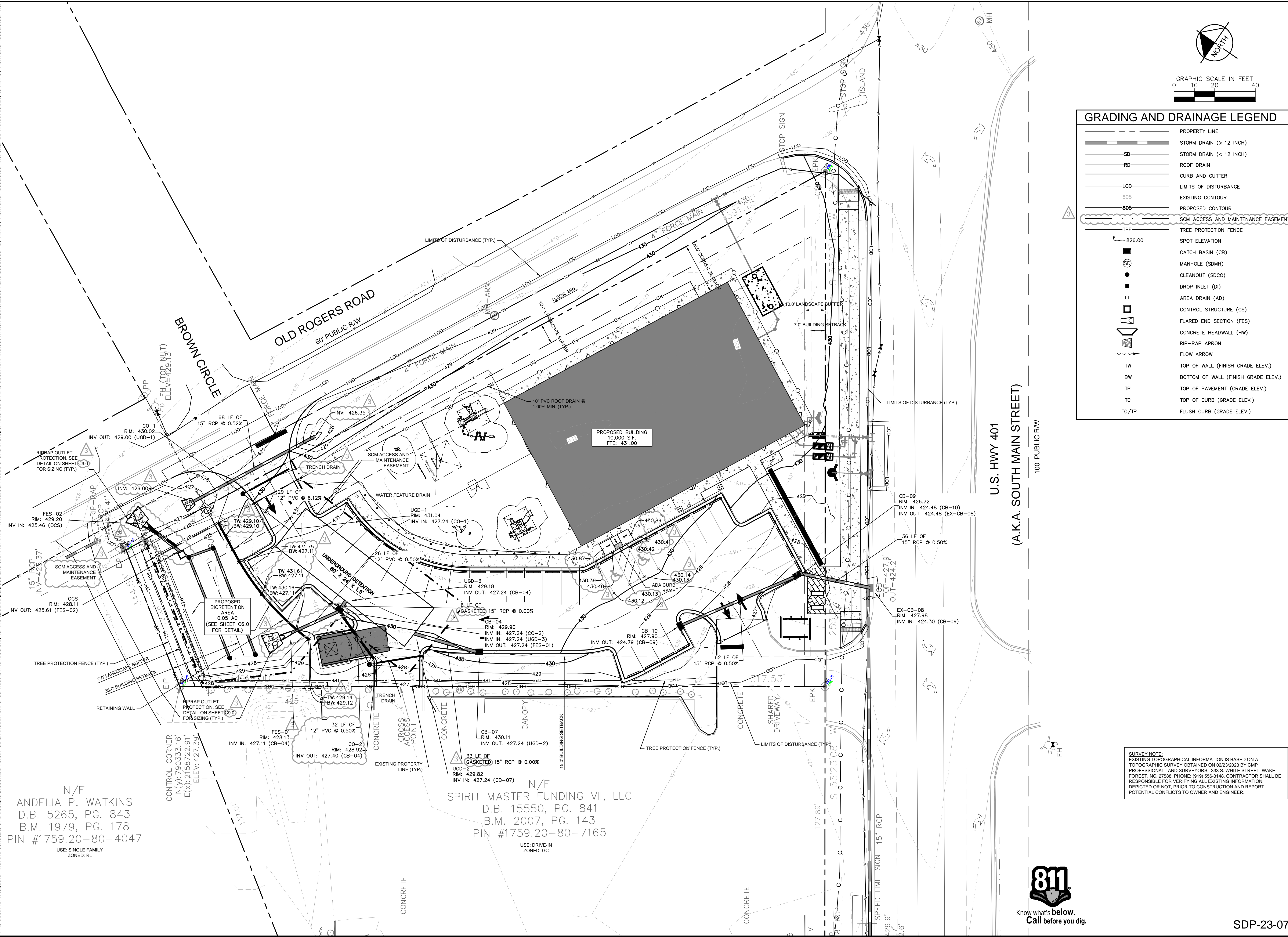


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		TOWN COMMENTS 03/01/2024 JAA	TOWN COMMENTS 01/02/2024 JAA
KHA PROJECT 013031004		DATE 09/29/2023	CHECKED BY COB
SCALE AS SHOWN		DESIGNED BY JAA	DRAWN BY JAA
<b>BUILD-TO EXHIBIT</b>		SHEET NUMBER <b>C2.3</b>	
		THE LEARNING CENTER ROLESVILLE PREPARED FOR <b>ROLESVILLE, LLC.</b> TOWN OF ROLESVILLE NORTH CAROLINA	

SDP-23-07



Plotted By: Alexander, Jamal Sheet Set: THE LEARNING CENTER ROLESVILLE, Layout: C3.0 GRADING PLAN, May 01, 2024, 08:19:37pm, K:\REAL\_LDE\013031004\_Rolesville Learning\_Center\10\_CAD Files\Sheets\C3.0 GRADING PLAN.dwg  
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GRADING AND DRAINAGE LEGEND	
	PROPERTY LINE
	STORM DRAIN (≥ 12 INCH)
	STORM DRAIN (< 12 INCH)
	ROOF DRAIN
	CURB AND GUTTER
	LIMITS OF DISTURBANCE
	EXISTING CONTOUR
	PROPOSED CONTOUR
	SCM ACCESS AND MAINTENANCE EASEMENT
	TREE PROTECTION FENCE
	SPOT ELEVATION
	CATCH BASIN (CB)
	MANHOLE (SDMH)
	CLEANOUT (SDCO)
	DROP INLET (DI)
	AREA DRAIN (AD)
	CONTROL STRUCTURE (CS)
	FLARED END SECTION (FES)
	CONCRETE HEADWALL (HW)
	RIP-RAP APRON
	FLOW ARROW
	TOP OF WALL (FINISH GRADE ELEV.)
	BOTTOM OF WALL (FINISH GRADE ELEV.)
	TOP OF PAVEMENT (GRADE ELEV.)
	TOP OF CURB (GRADE ELEV.)
	FLUSH CURB (GRADE ELEV.)

**Kimley»Horn**

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 #F-0102 WWW.KIMLEY-HORN.COM PHONE: 919-677-2000 FAX: 919-677-2050  
 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601

No.	REVISIONS	DATE	BY
7			
6			
5			
4			
3	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
1	TOWN COMMENTS	01/02/2024	JAA

NORTH CAROLINA  
 PRELIMINARY  
 NOT FOR CONSTRUCTION  
 SHEET NO. C3.0

KHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

## GRADING PLAN

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE, NORTH CAROLINA

SHEET NUMBER **C3.0**

**SURVEY NOTE:**  
 EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.



SDP-23-07

N/F  
 ANDELIA P. WATKINS  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047  
 USE: SINGLE FAMILY ZONED: RL

N/F  
 SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165  
 USE: DRIVE-IN ZONED: GC

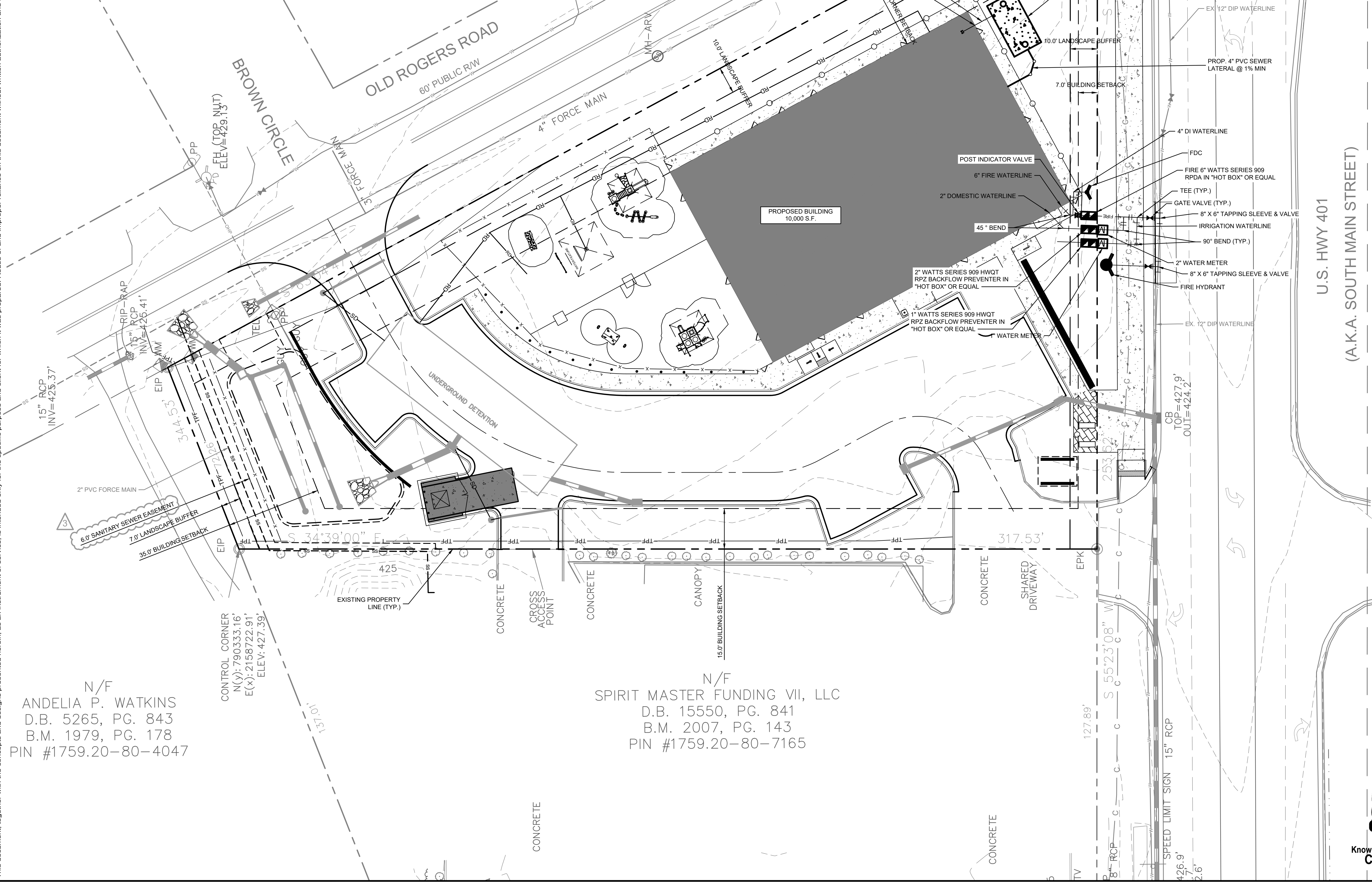


Plotted By: Barnes, Michael. Sheet: THE LEARNING CENTER ROLESVILLE. Layout: C4.0 UTILITY PLAN. May 01, 2024. 05:22:43pm. K:\RAL\_LDE\013031004\_Rolesville\_Layout\Center\P10\_CAD Files\Plan\Sheets\C4.0 UTILITY PLAN.dwg. This document, together with the concepts and designs presented herein, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

### STANDARD UTILITY NOTES

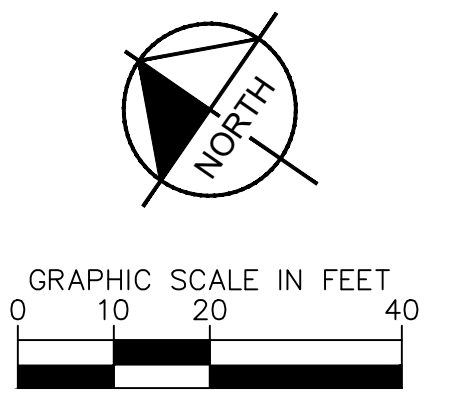
- ALL MATERIALS AND CONSTRUCTION METHODS SHALL BE IN ACCORDANCE WITH CITY OF RALEIGH DESIGN STANDARDS & SPECIFICATIONS
- UTILITY SEPARATION REQUIREMENTS:
  - A DISTANCE OF 10' SHALL BE MAINTAINED BETWEEN SANITARY SEWER & ANY PRIVATE OR PUBLIC WATER SUPPLY SOURCE SUCH AS AN IMPOUNDED RESERVOIR USED AS A SOURCE OF DRINKING WATER. IF ADEQUATE LATERAL SEPARATION CANNOT BE ACHIEVED, FERROUS SANITARY SEWER PIPE SHALL BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS. HOWEVER, THE MINIMUM SEPARATION SHALL NOT BE LESS THAN 25' FROM A PRIVATE WELL OR 50' FROM A PUBLIC WELL.
  - WHEN INSTALLING WATER &/OR SEWER MAINS, THE HORIZONTAL SEPARATION BETWEEN UTILITIES SHALL BE 10'. IF THIS SEPARATION CANNOT BE MAINTAINED DUE TO EXISTING CONDITIONS, THE VARIATION ALLOWED IS THE WATER MAIN IN A SEPARATE TRENCH WITH THE ELEVATION OF THE WATER MAIN AT LEAST 18" ABOVE THE TOP OF THE SEWER & MUST BE APPROVED BY THE PUBLIC UTILITIES DIRECTOR. ALL DISTANCES ARE MEASURED FROM OUTSIDE DIAMETER TO OUTSIDE DIAMETER.
  - WHERE IT IS IMPOSSIBLE TO OBTAIN PROPER SEPARATION, OR ANYTIME A SANITARY SEWER PASSES OVER A WATER MAIN, DIP MATERIALS OR STEEL ENCASUREMENT EXTENDED 10' ON EACH SIDE OF CROSSING MUST BE SPECIFIED & INSTALLED TO WATERLINE SPECIFICATIONS.
  - 5.0' MINIMUM HORIZONTAL SEPARATION IS REQUIRED BETWEEN ALL SANITARY SEWER & STORM SEWER FACILITIES, UNLESS DIP MATERIAL IS SPECIFIED FOR SANITARY SEWER.
  - MAINTAIN 18" MIN. VERTICAL SEPARATION AT ALL WATER MAIN & RCP STORM DRAIN CROSSINGS; MAINTAIN 24" MIN. VERTICAL SEPARATION AT ALL SANITARY SEWER & RCP STORM DRAIN CROSSINGS. WHERE ADEQUATE SEPARATIONS CANNOT BE ACHIEVED, SPECIFY DIP MATERIALS & A CONCRETE CRADLE HAVING 6" MIN. CLEARANCE.
  - ALL OTHER UNDERGROUND UTILITIES SHALL CROSS WATER & SEWER FACILITIES WITH 18" MIN. VERTICAL SEPARATION REQUIRED.
- ANY NECESSARY FIELD REVISIONS ARE SUBJECT TO REVIEW & APPROVAL OF AN AMENDED PLAN &/OR PROFILE BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL MAINTAIN CONTINUOUS WATER & SEWER SERVICE TO EXISTING RESIDENCES & BUSINESSES THROUGHOUT CONSTRUCTION OF PROJECT. ANY NECESSARY SERVICE INTERRUPTIONS SHALL BE PRECEDED BY A 24 HOUR ADVANCE NOTICE TO THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT.
- 3.0' MINIMUM COVER IS REQUIRED ON ALL WATER MAINS & SEWER FORCE

- MAINS. 4.0' MINIMUM COVER IS REQUIRED ON ALL REUSE MAINS.
- IT IS THE DEVELOPER'S RESPONSIBILITY TO ABANDON OR REMOVE EXISTING WATER & SEWER SERVICES NOT BEING USED IN REDEVELOPMENT OF A SITE UNLESS OTHERWISE DIRECTED BY THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT. THIS INCLUDES ABANDONING TAP AT MAIN & REMOVAL OF SERVICE FROM ROW OR EASEMENT.
- INSTALL 2" WATER SERVICES WITH METERS LOCATED AT ROW OR WITHIN A 2'x2' WATERLINE EASEMENT IMMEDIATELY ADJACENT. NOTE: IT IS THE APPLICANT'S RESPONSIBILITY TO PROPERLY SIZE THE WATER SERVICE FOR EACH CONNECTION TO PROVIDE ADEQUATE FLOW & PRESSURE.
- INSTALL 4" PVC SEWER SERVICES @ 2.0% MINIMUM GRADE WITH CLEANOUTS LOCATED AT ROW OR EASEMENT LINE & SPACED EVERY 75' LINEAR FEET MAXIMUM.
- PRESSURE REDUCING VALVES ARE REQUIRED ON ALL WATER SERVICES EXCEEDING 80 PSI; BACKWATER VALVES ARE REQUIRED ON ALL SANITARY SEWER SERVICES HAVING BUILDING DRAINS LOWER THAN 1.0' ABOVE THE NEXT UPSTREAM MANHOLE
- ALL ENVIRONMENTAL PERMITS APPLICABLE TO THE PROJECT MUST BE OBTAINED FROM NCDWQ, USACE &/OR FEMA FOR ANY RIPARIAN BUFFER, WETLAND &/OR FLOODPLAIN IMPACTS (RESPECTIVELY) PRIOR TO CONSTRUCTION.
- NCDOT ENCROACHMENT AGREEMENTS ARE REQUIRED FOR ANY UTILITY WORK (INCLUDING MAIN EXTENSIONS & SERVICE TAPS) WITHIN STATE ROW PRIOR TO CONSTRUCTION.
- CROSS-CONNECTION CONTROL PROTECTION DEVICES ARE REQUIRED BASED ON DEGREE OF HEALTH HAZARD INVOLVED AS LISTED IN APPENDIX-B OF THE RULES GOVERNING PUBLIC WATER SYSTEMS IN NORTH CAROLINA. THESE GUIDELINES ARE THE MINIMUM REQUIREMENTS. THE DEVICES SHALL MEET AMERICAN SOCIETY OF SANITARY ENGINEERING (ASSE) STANDARDS OR BE ON THE UNIVERSITY OF SOUTHERN CALIFORNIA APPROVAL LIST. THE DEVICES SHALL BE INSTALLED AND TESTED (BOTH INITIAL AND PERIODIC TESTING THEREAFTER) IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS OR THE LOCAL CROSS-CONNECTION CONTROL PROGRAM, WHICHEVER IS MORE STRINGENT.
- THE STATE OF NORTH CAROLINA AND C.O.R. PUBLIC WORKS DEPT. SHALL BE NOTIFIED IN WRITING PRIOR TO UTILITY INSTALLATION AND FOR SCHEDULING INSPECTIONS.



N/F  
ANDELIA P. WATKINS  
D.B. 5265, PG. 843  
B.M. 1979, PG. 178  
PIN #1759.20-80-4047

N/F  
SPIRIT MASTER FUNDING VII, LLC  
D.B. 15550, PG. 841  
B.M. 2007, PG. 143  
PIN #1759.20-80-7165



UTILITY LEGEND	
---	PROPERTY LINE
W	WATER LINE
FW	FIRE LINE
SS	SANITARY SEWER LINE
E	ELECTRIC
FO	FIBER OPTIC
G	GAS
P	POWER
T	TELECOMMUNICATION
C	CABLE
LP	LIGHT POLE
WM	WATER METER
GV	GATE VALVE
PC	POINT OF CONNECTION
BVP	BACKFLOW PREVENTOR
PB	PIPE TEE/BENDS
R	REDUCER
FH	FIRE HYDRANT (FH)
FDC	FIRE DEPARTMENT CONNECTION (FDC)
SSCO	SANITARY SEWER CLEANOUT (SSCO)
SSMH	SANITARY SEWER MANHOLE (SSMH)
SGT	SANITARY SEWER GREASE TRAP

### STANDARD UTILITY NOTES (CONT.)

- TRAFFIC CONTROLS FOR ANY UTILITY WORK WITHIN THE PUBLIC RIGHT-OF-WAY SHALL BE IN COMPLIANCE WITH STANDARDS OF THE NORTH CAROLINA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- IN THE EVENT AN ITEM IS NOT COVERED BY THESE PLANS, THEN THE STANDARDS AND SPECIFICATIONS CONTAINED IN THE CITY OF RALEIGH PUBLIC UTILITIES DEPARTMENT HANDBOOK COVERING SUCH ITEMS SHALL APPLY.
- IF CITY OF RALEIGH WATER AND SANITARY SEWER PERMITS ARE REQUIRED, CONTRACTOR IS RESPONSIBLE FOR ALL PERMIT FEES.
- LOCATIONS AND SIZES OF EXISTING WATER AND SEWER LINES SHOWN ON THESE PLANS WITHIN THE PROPERTY LIMITS OF THE SITE ARE ASSUMED BASED ON SURVEY OF SURFACE FEATURES (MANHOLES, VALVES, VAULTS, METERS, ETC.) PREPARED BY GSC SURVEYING, INC., 4072 BARRETT DRIVE, RALEIGH, N.C. 27609. IT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF THE EXISTING UTILITIES PRIOR TO COMMENCING WORK. ANY DEVIATIONS FROM WHAT IS INDICATED ON THESE PLANS SHALL BE REPORTED TO THE DEVELOPER AND ENGINEER, IN WRITING, IMMEDIATELY.
- CONTRACTOR SHALL PROVIDE A MEANS TO KEEP ALL NEW PIPING ISOLATED FROM EXISTING PIPING UNTIL ALL NEW PIPING HAS BEEN TESTED, AND ACCEPTED FOR SERVICE.
- EXISTING UTILITIES SHALL BE PROTECTED DURING ALL CONSTRUCTION.
- THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE UTILITIES. ALL PUBLIC PIPE, STRUCTURES, AND FITTINGS SHALL BE INSPECTED BY THE CITY INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING DISINFECTION AND PRESSURE TESTING OF ALL MAINS. THE CONTRACTOR'S BID PRICE SHALL INCLUDE ALL INSPECTION FEES.
- UTILITY WORK SHALL BE INSPECTED AND ACCEPTED BY CITY OF RALEIGH PRIOR TO PLACING INTO SERVICE.
- THERE SHALL BE A MINIMUM 3' CLEAR DISTANCE AROUND ALL FIRE HYDRANTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING "AS-BUILT" PLANS, PER CITY OF RALEIGH REQUIREMENTS, TO THE ENGINEER SHOWING THE LOCATION OF WATER AND SEWER SERVICES AND ANY DEVIATIONS FROM PLANS MADE DURING CONSTRUCTION. THE ENGINEER WILL PROVIDE THESE RECORD PLANS TO THE CITY OF RALEIGH.

**SURVEY NOTE:**  
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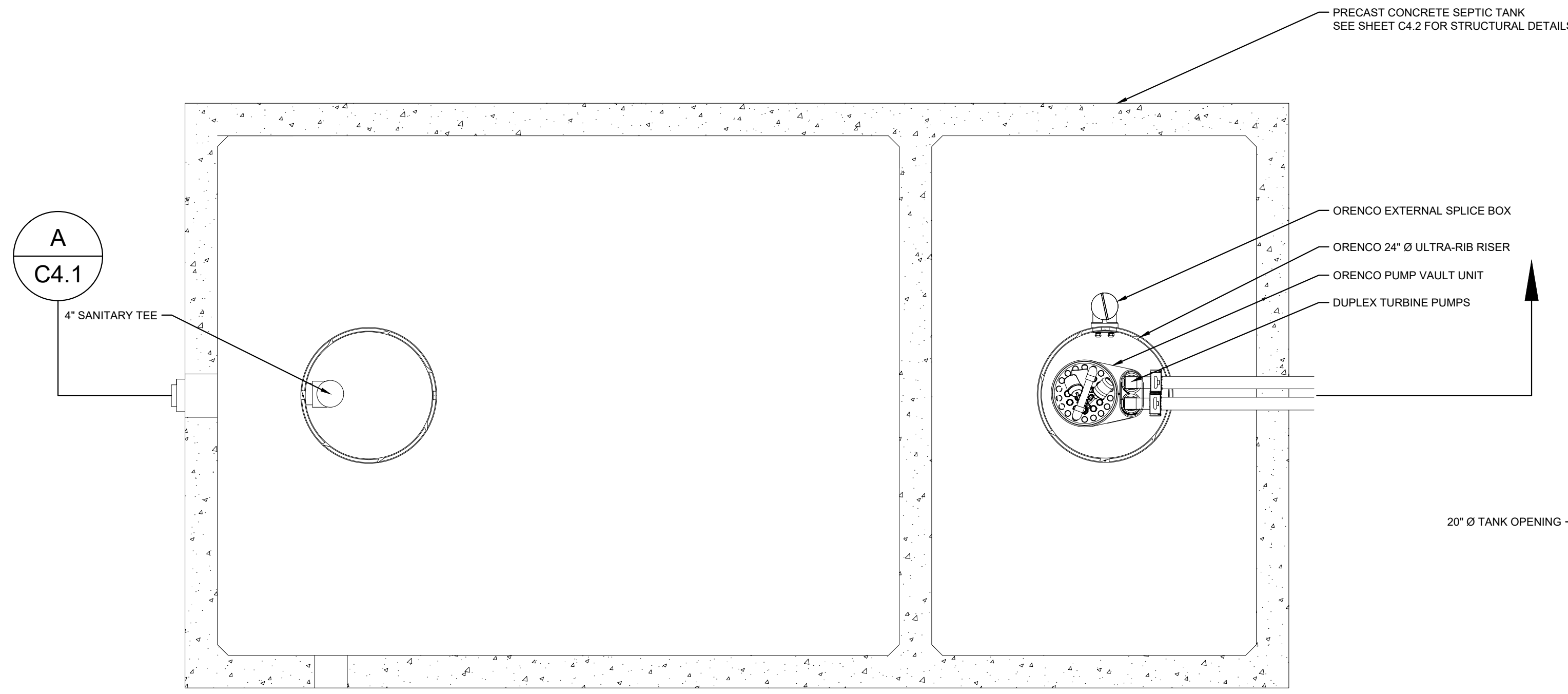
		TOWN COMMENTS 05/01/2024 JAA		REVISIONS DATE
		TOWN COMMENTS 03/01/2024 JAA		
KHA PROJECT 013031004		DATE 09/29/2023		CHECKED BY COB
SCALE AS SHOWN		DESIGNED BY JAA		
DRAWN BY JAA		SHEET NUMBER C4.0		PROJECT TITLE UTILITY PLAN
PREPARED FOR THE LEARNING CENTER ROLESVILLE		TOWN OF ROLESVILLE NORTH CAROLINA		



Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: C4.1. MECHANICAL PLAN. May 01, 2024. 05:22:50pm. K:\RAL\_LDEV\013031004\_Rolesville\_Learning\_Center\PI\0\_CAD Files\Plan\Sheet\C4.1\_MECHANICAL PLAN.dwg. This document, together with the concepts and designs presented herein, is an instrument of service, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.

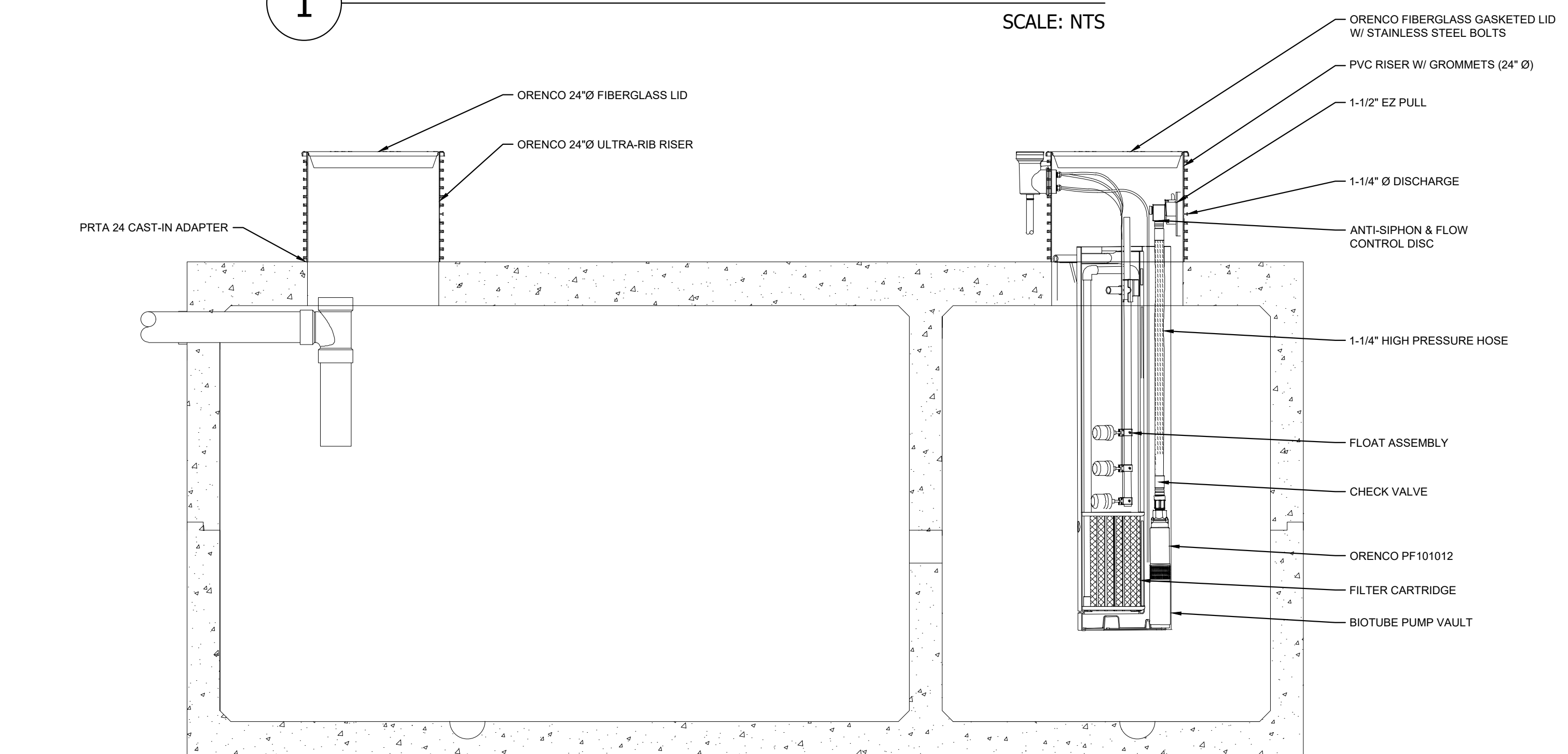
NOTES:  
 1) PROPOSED STEP SYSTEM SHALL BE EQUIPPED WITH A "VERICOMM DAX RO" CONTROL PANEL OR APPROVED EQUAL. CONTACT MICHAEL CLAYTON (MCLAYTON@AQWA.NET, 252-292-1667) FOR STEP SYSTEM SPECIFICATIONS.

PUMP STATION GENERAL INFORMATION	
AVERAGE DAILY FLOW	4,400 GPD
TANK DIMENSIONS	20'x10'x7'-9" (INSIDE DIMENSIONS), 10,000 GAL MIN.
DISCHARGE PIPING	1.25" Ø SCH 80 PVC
HORSEPOWER	1 HP (NON-OVERLOADING OVER ENTIRE PUMP CURVE)
VOLTAGE/PHASE/CYCLES	240 V / 1 PHASE / 60 HZ
PUMP	ORENCO PF101012
PRIMARY LEVEL SENSING METHOD	FLOATS (3)



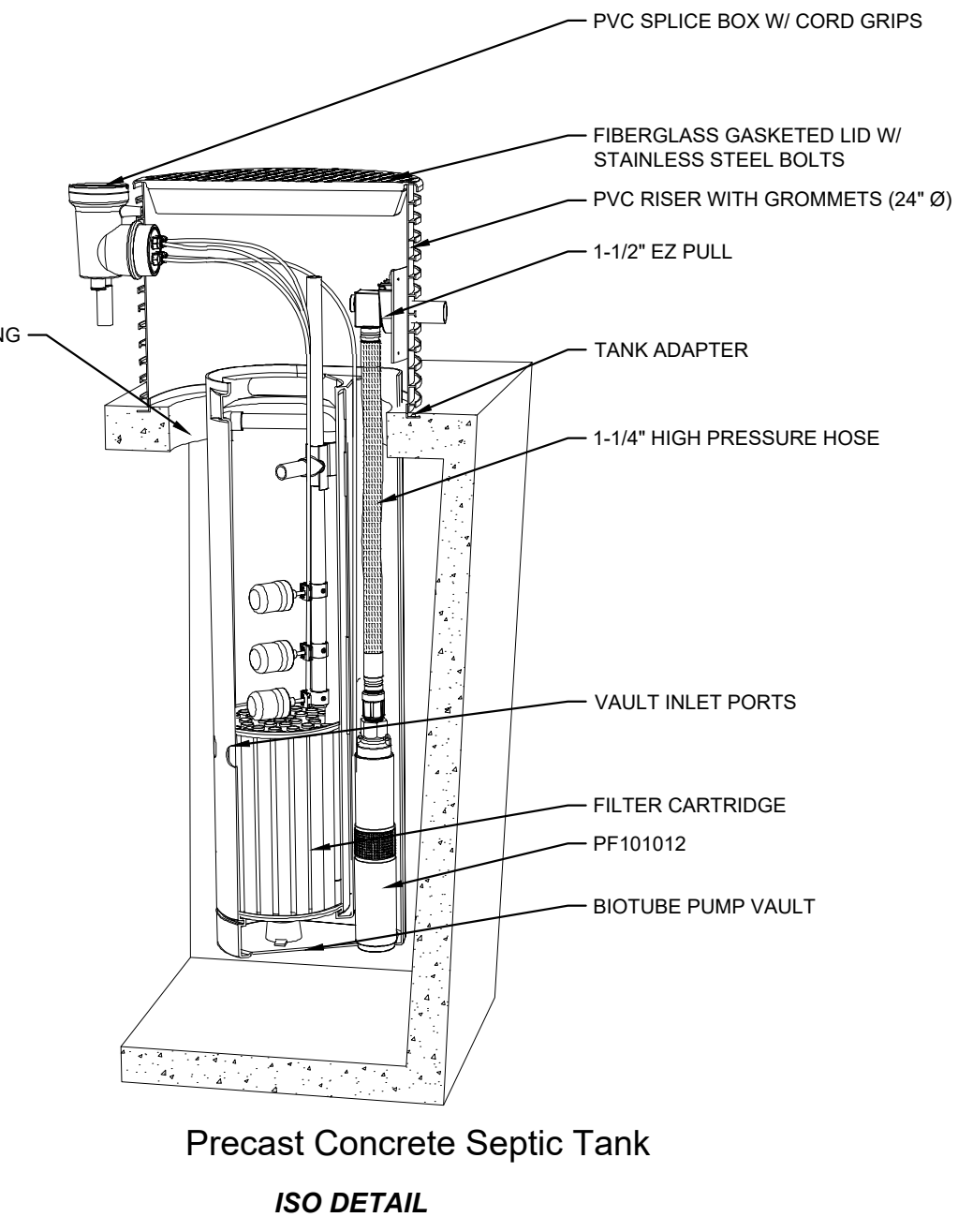
**1** MECHANICAL PLAN VIEW

SCALE: NTS



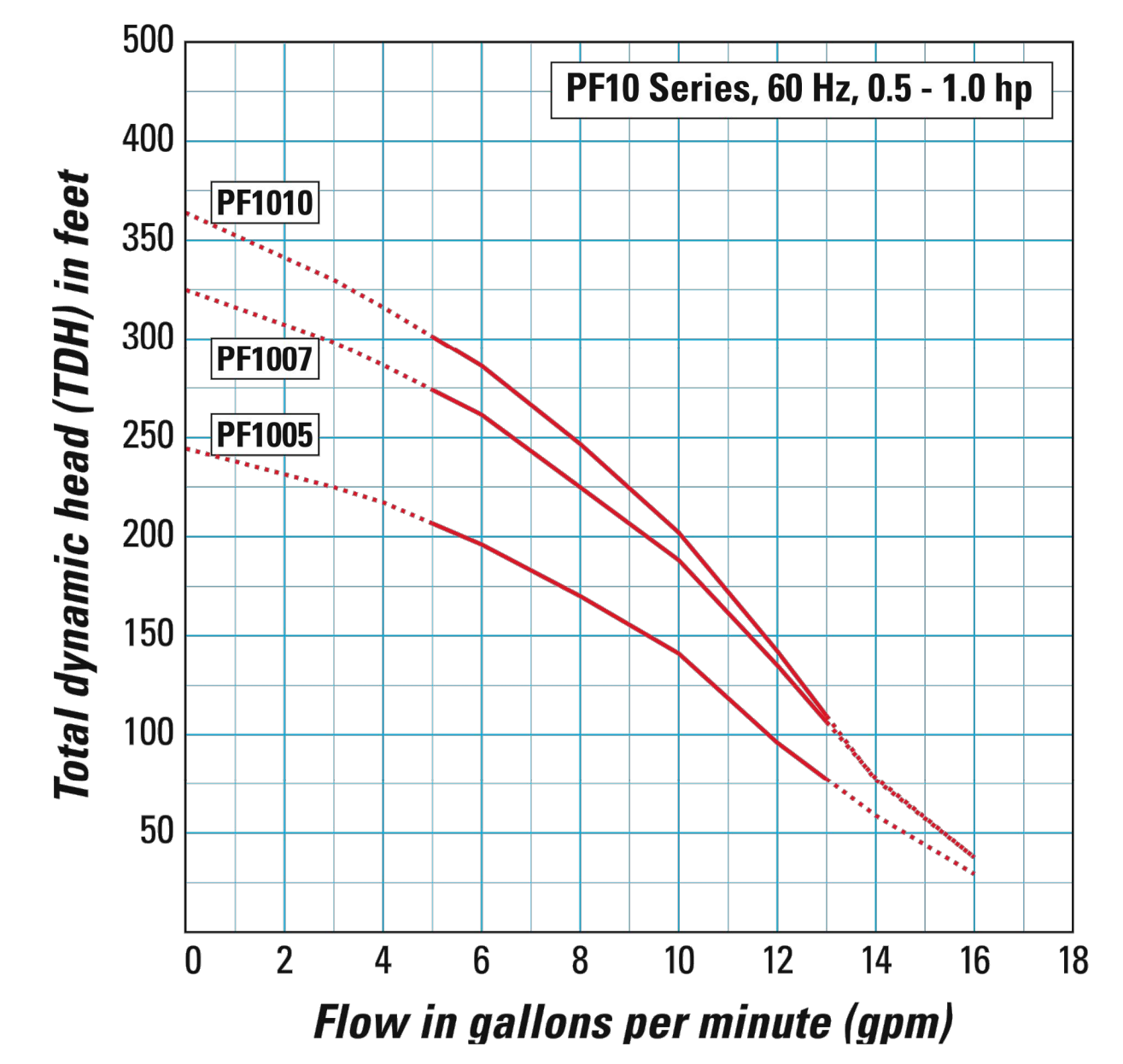
**A** MECHANICAL SECTION VIEW

SCALE: NTS



Precast Concrete Septic Tank  
ISO DETAIL

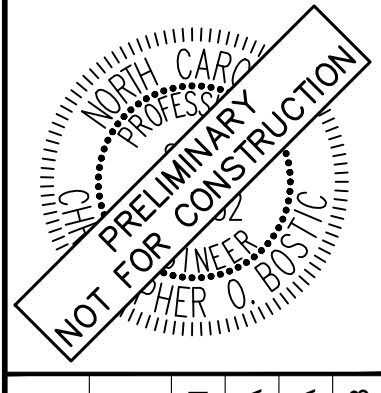
**Pump Curves**



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3	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
1	TOWN COMMENTS	01/02/2024	JAA

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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



KHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

**MECHANICAL PLAN**

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE NORTH CAROLINA

SHEET NUMBER  
**C4.1**









Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: C5.0. EROSION CONTROL PLAN - PHASE 1. May 01, 2024. 05:23:03pm. K:\RAL\_LDEV\013031004\_Rolesville\_Leaning\_Center\PT0\_CAD Files\PlanSheets\C5.01 EROSION CONTROL PLAN.dwg  
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### SELF MONITORING AND INSPECTION NOTIFICATION

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2008 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS BECAME EFFECTIVE OCTOBER 1, 2010. TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, A COMBINED FORM IS NOW AVAILABLE. THE NEW FORM WAS DEVELOPED TO SATISFY THE REQUIREMENTS OF THE SEDIMENTATION POLLUTION CONTROL ACT AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES, NCD 010006, BEGINNING AUGUST 1, 2013. THE DIVISION OF ENERGY, MINERAL AND LAND RESOURCES IS RESPONSIBLE FOR ADMINISTERING BOTH THE SPCA AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. NCD 010000. THE COMBINED FORM SHOULD MAKE IT EASIER TO COMPLY WITH SELF-INSPECTION REQUIREMENTS. THE COMBINED SELF-MONITORING FORM IS AVAILABLE AS A PDF AND WORD DOCUMENT FROM THE LAND QUALITY WEB SITE, [HTTP://PORTAL.NCENR.ORG/WEB/EROSION](http://portal.ncdenr.org/web/erosion). IF YOU HAVE QUESTIONS, PLEASE CONTACT THE LAND QUALITY SECTION AT NCDEQ REGIONAL OFFICE.

### MAINTENANCE NOTES:

DURING THE DEVELOPMENT OF A SITE, THE DEVELOPER SHALL INSTALL AND MAINTAIN ALL TEMPORARY AND PERMANENT STORMWATER CONTROL MEASURES AS REQUIRED BY THE APPROVED PLAN OR ANY PROVISION OF THIS ARTICLE. THE ACT OR ANY ORDER ADOPTED PURSUANT TO THIS ARTICLE OR THE ACT AFTER SITE DEVELOPMENT, THE DEVELOPER SHALL INSTALL AND/OR MAINTAIN ALL NECESSARY PERMANENT STORMWATER CONTROL MEASURES SPECIFIED IN THE APPROVED PLAN, EXCEPT THOSE MEASURES INSTALLED WITHIN A ROAD OR STREET RIGHT-OF-WAY OR EASEMENT ACCEPTED FOR MAINTENANCE BY A GOVERNMENTAL AGENCY. CONVEYANCE OF THE PROPERTY SHALL NOT TERMINATE THE ORIGINAL DEVELOPER'S OBLIGATIONS UNDER THIS ARTICLE UNTIL SUCH TIME AS A REPLACEMENT PERMIT IS APPROVED BY THE COUNTY ENGINEER, OR DESIGNEE. THE ORIGINAL DEVELOPER SHALL INCLUDE IN THE DEED CONVEYING THE PROPERTY NOTICE OF THE EXISTENCE OF THE STORMWATER CONTROL MEASURES AND THE PURCHASER'S OBLIGATIONS TO MAINTAIN AND INSPECT THEM AND TO OBTAIN A PERMIT AND OTHERWISE COMPLY WITH THE TERMS OF THIS ARTICLE. REFER TO THE EROSION CONTROL DETAILS SHEET FOR ADDITIONAL MAINTENANCE NOTES. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

- CONSTRUCTION ENTRANCE:**  
INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOP DRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNOFF-PRODUCING RAINS. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.
- SILT FENCE:**  
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- SILT FENCE GRAVEL OUTLET:**  
INSPECT SEDIMENT FENCE GRAVEL OUTLETS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. ANY RIP RAP DISPLACED MUST BE REPLACED IMMEDIATELY.
- BLOCK AND GRAVEL INLET PROTECTION:**  
INSPECT THE BARRIER OF AFTER EACH RAIN AND MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND ANY UNSTABLE SOIL, AND EITHER SALVAGE OR DISPOSE OF IT PROPERLY. BRING THE DISTURBED AREA TO PROPER GRADE, THEN SMOOTH AND COMPACT IT. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

### NPDES GROUND COVER REQUIREMENTS

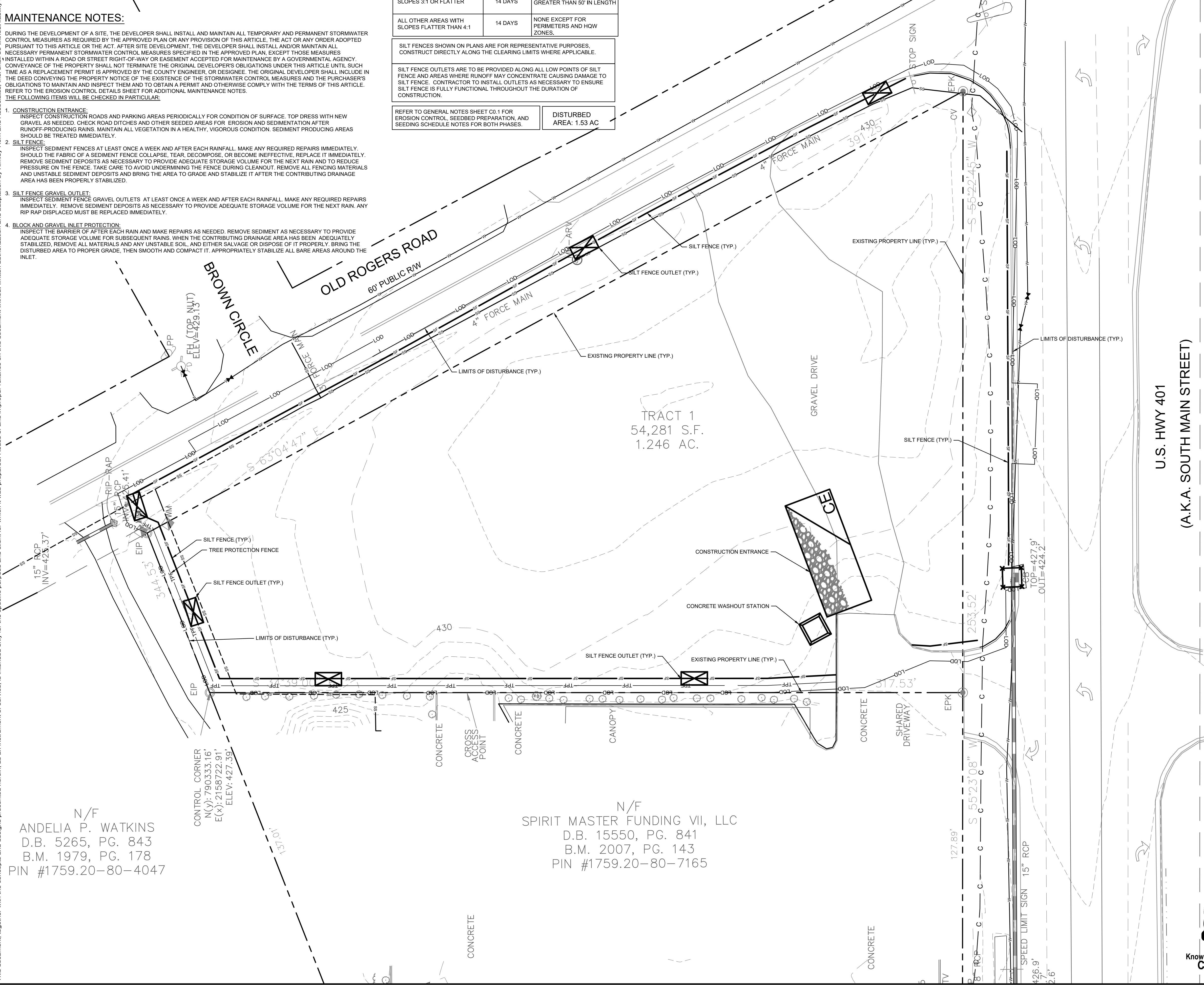
SITE AREA DESCRIPTION	STABILIZATION	TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES, SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1. 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE EXCEPT FOR PERIMETERS AND HQW ZONES.

SILT FENCES SHOWN ON PLANS ARE FOR REPRESENTATIVE PURPOSES, CONSTRUCT DIRECTLY ALONG THE CLEARING LIMITS WHERE APPLICABLE.

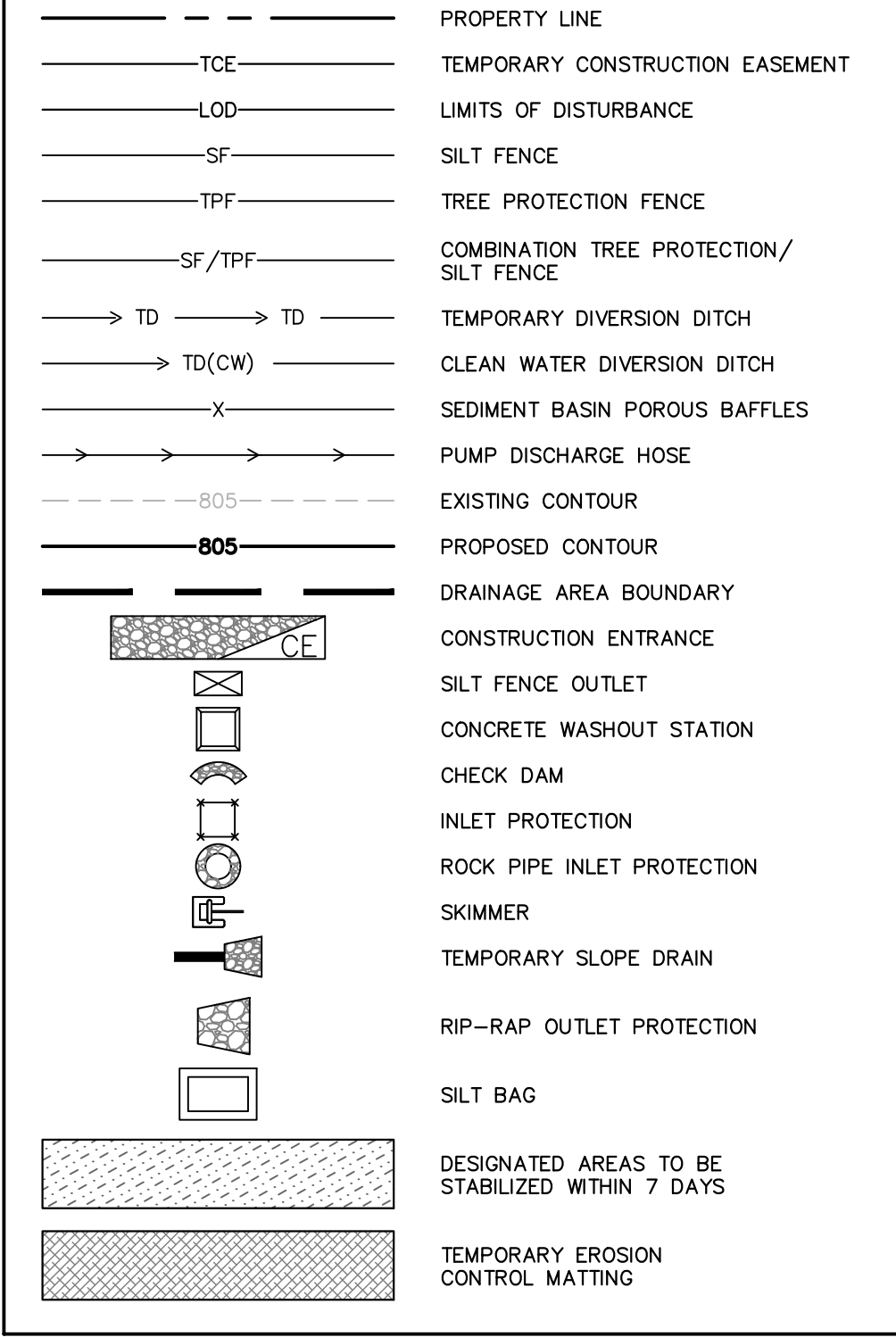
SILT FENCE OUTLETS ARE TO BE PROVIDED ALONG ALL LOW POINTS OF SILT FENCE AND AREAS WHERE RUNOFF MAY CONCENTRATE CAUSING DAMAGE TO SILT FENCE. CONTRACTOR TO INSTALL OUTLETS AS NECESSARY TO ENSURE SILT FENCE IS FULLY FUNCTIONAL THROUGHOUT THE DURATION OF CONSTRUCTION.

REFER TO GENERAL NOTES SHEET C0.1 FOR EROSION CONTROL, SEEDBED PREPARATION, AND SEEDING SCHEDULE NOTES FOR BOTH PHASES.

**DISTURBED AREA: 1.53 AC**



### EROSION CONTROL LEGEND



### PHASE 1 CONSTRUCTION SEQUENCE:

- THE FOLLOWING PHASE 1 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.
- SCHEDULE AN ON-SITE PRE-CONSTRUCTION CONFERENCE WITH WAKE COUNTY ENVIRONMENTAL CONSULTANT TO DISCUSS EROSION CONTROL MEASURES.
- OBTAIN LAND-DISTURBING PERMIT FROM WAKE COUNTY.
- INSTALL TEMPORARY CONSTRUCTION ENTRANCE, SILT FENCE, INLET PROTECTION, TREE PROTECTION, AND OTHER MEASURES AS SHOWN ON PLANS, CLEARING ONLY AS NECESSARY TO INSTALL THESE DEVICES (SEE LOD FOR INITIAL CLEARING LIMITS).
- CALL FOR ON-SITE INSPECTION BY WAKE COUNTY ENVIRONMENTAL CONSULTANT ONCE ALL EROSION CONTROL MEASURES ARE INSTALLED. OBTAIN CERTIFICATE OF COMPLIANCE FROM WAKE COUNTY.
- ONCE CERTIFICATE OF COMPLIANCE HAS BEEN OBTAINED, APPLY FOR NCDEQ #NOI ON NCDEQ WEBSITE.
- UPON APPROVAL, CLEARING AND DEMOLITION MAY BEGIN. MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY. EROSION CONTROL MEASURES SHALL BE RESTORED TO ORIGINAL DIMENSIONS WHEN SEDIMENT ACCUMULATES TO 50% OF DESIGN DEPTH.
- INSPECT AND REPAIR EROSION CONTROL MEASURES AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7) CALENDAR DAYS.
- FOR PHASED EROSION CONTROL PLANS, CONTRACTOR SHALL MEET WITH EROSION CONTROL INSPECTOR PRIOR TO COMMENCING EACH PHASE OF EROSION CONTROL MEASURES. SEED AND MULCH DENUDED AREA WITHIN 15 CALENDAR DAYS AFTER ANY PHASE OF GRADING. MAINTAIN SOIL EROSION CONTROL MEASURES UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND WAKE COUNTY EROSION CONTROL ORDINANCE.
- REFER TO SHEET C0.1 - GENERAL NOTES FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE.

**SURVEY NOTE:**  
 EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27888. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

N/F  
 ANDELIA P. WATKINS  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047

N/F  
 SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 143  
 PIN #1759.20-80-7165



		TOWN COMMENTS 05/01/2024 JAA 03/01/2024 JAA 01/02/2024 JAA	REVISIONS No. DATE BY
		KHA PROJECT 013031004 DATE 09/29/2023 SCALE AS SHOWN DESIGNED BY JAA DRAWN BY JAA CHECKED BY COB	
THE LEARNING CENTER ROLESVILLE PREPARED FOR ROLESVILLE, LLC. TOWN OF ROLESVILLE NORTH CAROLINA		EROSION CONTROL PLAN - PHASE 1 SHEET NUMBER C5.0	



**SELF MONITORING AND INSPECTION NOTIFICATION**

THE SEDIMENTATION POLLUTION CONTROL ACT WAS AMENDED IN 2006 TO REQUIRE THAT PERSONS RESPONSIBLE FOR LAND-DISTURBING ACTIVITIES INSPECT A PROJECT AT EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. RULES DETAILING THE DOCUMENTATION OF THESE INSPECTIONS BECAME EFFECTIVE OCTOBER 1, 2010. TO SIMPLIFY DOCUMENTATION OF SELF-INSPECTION REPORTS AND NPDES SELF-MONITORING REPORTS, A COMBINED FORM IS NOW AVAILABLE. THE NEW FORM WAS DEVELOPED TO SATISFY THE REQUIREMENTS OF THE SEDIMENTATION POLLUTION CONTROL ACT AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES, NCG 0100.00, BEGINNING AUGUST 1, 2013. THE DIVISION OF ENERGY, MINERAL, AND LAND RESOURCES IS RESPONSIBLE FOR ADMINISTERING BOTH THE SPCA AND THE NPDES STORMWATER PERMIT FOR CONSTRUCTION ACTIVITIES. NCG 0100.00, THE COMBINED FORM SHOULD MAKE IT EASIER TO COMPLY WITH SELF-INSPECTION REQUIREMENTS. THE COMBINED SELF-MONITORING FORM IS AVAILABLE AS A PDF AND WORD DOCUMENT FROM THE LAND QUALITY WEB SITE, [HTTP://PORTAL.NC DENR.ORG/WEB/LR/EROSION](http://portal.ncdenr.org/web/lr/erosion) IF YOU HAVE QUESTIONS, PLEASE CONTACT THE LAND QUALITY SECTION AT NCDEQ REGIONAL OFFICE.

**MAINTENANCE NOTES:**

DURING THE DEVELOPMENT OF A SITE, THE DEVELOPER SHALL INSTALL AND MAINTAIN ALL TEMPORARY AND PERMANENT STORMWATER CONTROL MEASURES AS REQUIRED BY THE APPROVED PLAN OR ANY PROVISION OF THIS ARTICLE. THE ACT OR ANY ORDER ADOPTED PURSUANT TO THIS ARTICLE OR THE ACT, AFTER SITE DEVELOPMENT, THE DEVELOPER SHALL INSTALL AND/OR MAINTAIN ALL NECESSARY PERMANENT STORMWATER CONTROL MEASURES SPECIFIED IN THE APPROVED PLAN, EXCEPT THOSE MEASURES INSTALLED WITHIN A ROAD OR STREET RIGHT-OF-WAY OR EASEMENT ACCEPTED FOR MAINTENANCE BY A GOVERNMENTAL AGENCY. CONVEYANCE OF THE PROPERTY SHALL NOT TERMINATE THE ORIGINAL DEVELOPER'S OBLIGATIONS UNDER THIS ARTICLE UNTIL SUCH TIME AS A REPLACEMENT PERMIT IS APPROVED BY THE COUNTY ENGINEER, OR DESIGNEE. THE ORIGINAL DEVELOPER SHALL INCLUDE IN THE DEED CONVEYING THE PROPERTY NOTICE OF THE EXISTENCE OF THE STORMWATER CONTROL MEASURES AND THE PURCHASER'S OBLIGATIONS TO MAINTAIN AND INSPECT THEM AND TO OBTAIN A PERMIT AND OTHERWISE COMPLY WITH THE TERMS OF THIS ARTICLE. REFER TO THE EROSION CONTROL DETAILS SHEET FOR ADDITIONAL MAINTENANCE NOTES. THE FOLLOWING ITEMS WILL BE CHECKED IN PARTICULAR:

- CONSTRUCTION ENTRANCE:**  
INSPECT CONSTRUCTION ROADS AND PARKING AREAS PERIODICALLY FOR CONDITION OF SURFACE. TOP DRESS WITH NEW GRAVEL AS NEEDED. CHECK ROAD DITCHES AND OTHER SEEDED AREAS FOR EROSION AND SEDIMENTATION AFTER RUNOFF-PRODUCING RAINS. MAINTAIN ALL VEGETATION IN A HEALTHY, VIGOROUS CONDITION. SEDIMENT PRODUCING AREAS SHOULD BE TREATED IMMEDIATELY.
- SILT FENCE:**  
INSPECT SEDIMENT FENCES AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. SHOULD THE FABRIC OF A SEDIMENT FENCE COLLAPSE, TEAR, DECOMPOSE, OR BECOME INEFFECTIVE, REPLACE IT IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE. TAKE CARE TO AVOID UNDERMINING THE FENCE DURING CLEANOUT. REMOVE ALL FENCING MATERIALS AND UNSTABLE SEDIMENT DEPOSITS AND BRING THE AREA TO GRADE AND STABILIZE IT AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
- SILT FENCE GRAVEL OUTLET:**  
INSPECT SEDIMENT FENCE GRAVEL OUTLETS AT LEAST ONCE A WEEK AND AFTER EACH RAINFALL. MAKE ANY REQUIRED REPAIRS IMMEDIATELY. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. ANY RIP RAP DISPLACED MUST BE REPLACED IMMEDIATELY.
- BLOCK AND GRAVEL INLET PROTECTION:**  
INSPECT THE BARRIER OF AFTER EACH RAIN AND MAKE REPAIRS AS NEEDED. REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR SUBSEQUENT RAINS. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN ADEQUATELY STABILIZED, REMOVE ALL MATERIALS AND ANY UNSTABLE SOIL AND EITHER SALVAGE OR DISPOSE OF IT PROPERLY. BRING THE DISTURBED AREA TO PROPER GRADE, THEN SMOOTH AND COMPACT IT. APPROPRIATELY STABILIZE ALL BARE AREAS AROUND THE INLET.

**NPDES GROUND COVER REQUIREMENTS**

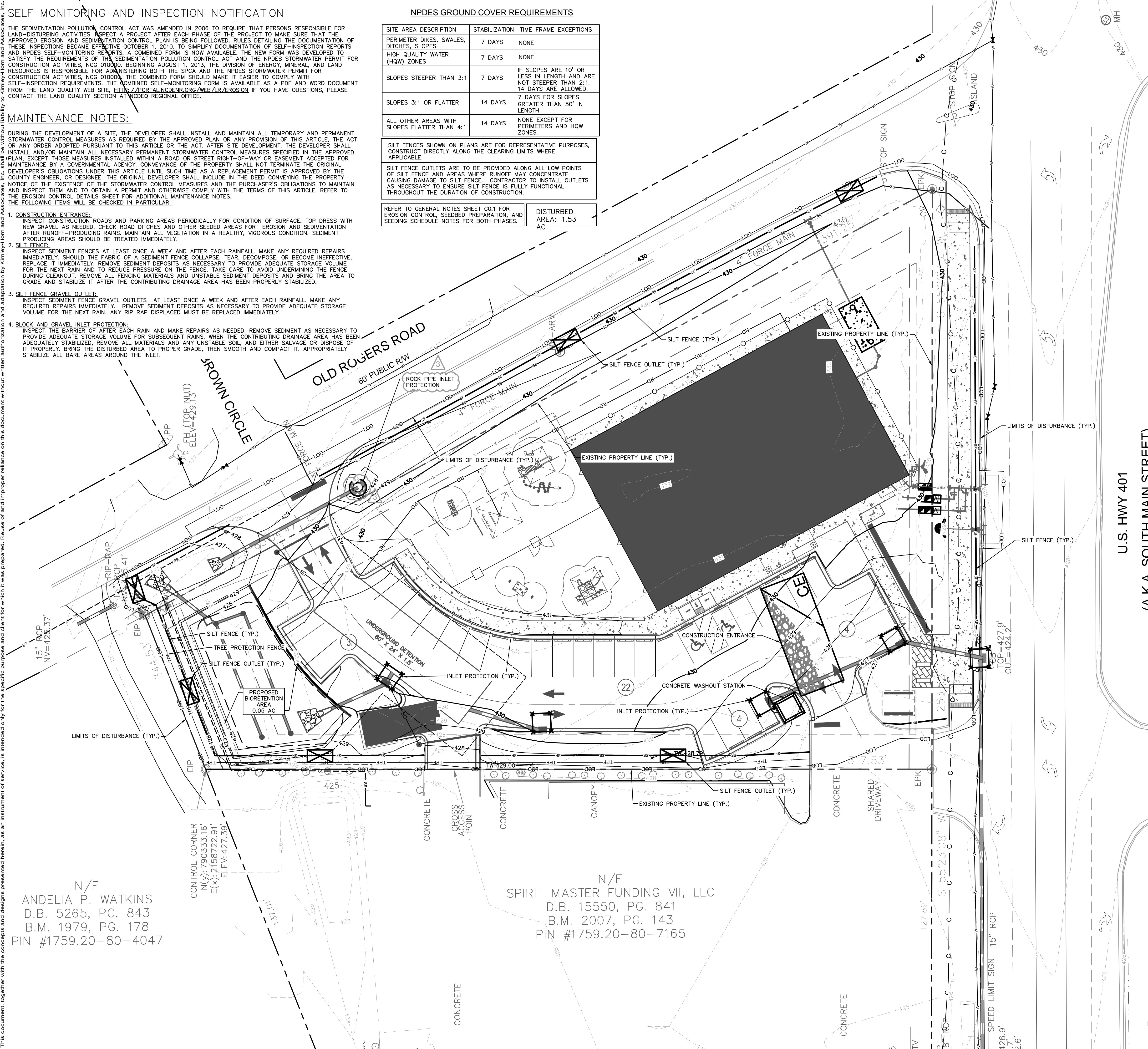
SITE AREA DESCRIPTION	STABILIZATION	TIME FRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES, SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE EXCEPT FOR PERIMETERS AND HQW ZONES.

SILT FENCES SHOWN ON PLANS ARE FOR REPRESENTATIVE PURPOSES. CONSTRUCT DIRECTLY ALONG THE CLEARING LIMITS WHERE APPLICABLE.

SILT FENCE OUTLETS ARE TO BE PROVIDED ALONG ALL LOW POINTS OF SILT FENCE AND AREAS WHERE RUNOFF MAY CONCENTRATE CAUSING DAMAGE TO SILT FENCE. CONTRACTOR TO INSTALL OUTLETS AS NECESSARY TO ENSURE SILT FENCE IS FULLY FUNCTIONAL THROUGHOUT THE DURATION OF CONSTRUCTION.

REFER TO GENERAL NOTES SHEET C0.1 FOR EROSION CONTROL, SEEDING PREPARATION, AND SEEDING SCHEDULE NOTES FOR BOTH PHASES.

DISTURBED AREA: 1.53 AC



**EROSION CONTROL LEGEND**

- PROPERTY LINE
- - - TCE TEMPORARY CONSTRUCTION EASEMENT
- - - LOD LIMITS OF DISTURBANCE
- - - SF SILT FENCE
- - - TPF TREE PROTECTION FENCE
- - - SF/TPF COMBINATION TREE PROTECTION/SILT FENCE
- - - TD TEMPORARY DIVERSION DITCH
- - - TD(CW) CLEAN WATER DIVERSION DITCH
- - - X SEDIMENT BASIN POROUS Baffles
- - - PUMP DISCHARGE HOSE
- - - 805 EXISTING CONTOUR
- - - 805 PROPOSED CONTOUR
- - - DRAINAGE AREA BOUNDARY
- - - CE CONSTRUCTION ENTRANCE
- - - SILT FENCE OUTLET
- - - CONCRETE WASHOUT STATION
- - - CHECK DAM
- - - INLET PROTECTION
- - - ROCK PIPE INLET PROTECTION
- - - SKIMMER
- - - TEMPORARY SLOPE DRAIN
- - - RIP-RAP OUTLET PROTECTION
- - - SILT BAG
- - - DESIGNATED AREAS TO BE STABILIZED WITHIN 7 DAYS
- - - TEMPORARY EROSION CONTROL MATTING

- PHASE 2 CONSTRUCTION SEQUENCE:**
- THE FOLLOWING PHASE 2 CONSTRUCTION SEQUENCE IS FURNISHED AS A GENERAL GUIDE FOR PREPARATION OF A SEQUENCE OF CONSTRUCTION EVENTS.
  - MAINTAIN CONSTRUCTION ENTRANCE AND SILT FENCE.
  - CALL FOR ON-SITE INSPECTION BY INSPECTOR ONCE ALL PHASE 2 EROSION CONTROL MEASURES ARE INSTALLED. OBTAIN CERTIFICATE OF COMPLIANCE FROM WAKE COUNTY.
  - CONTRACTOR IS TO CUT AND/OR FILL AREAS TO BRING THE SITE TO THE PROPOSED GRADES SHOWN ON THE GRADING AND DRAINAGE PLANS. GRADING ACTIVITY SHALL BE LIMITED TO WITHIN THE CLEARING LIMITS. MAINTAIN ALL EROSION CONTROL MEASURES AS NECESSARY.
  - PROVIDE GROUND COVER ON SLOPES GREATER THAN 3:1 WITHIN 7 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. PROVIDE GROUND COVER TO ALL OTHER AREAS WITHIN 14 DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING OR INACTIVITY.
  - INSTALL STORM DRAINAGE AND PROTECT INLETS WITH BLOCK AND GRAVEL INLET CONTROLS, SEDIMENT TRAPS, OR OTHER APPROVED MEASURES AS SHOWN ON THE PLAN.
  - STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC. SEED AND MULCH DENUDE AREAS PER GROUND STABILIZATION TIME FRAMES.
  - INSPECT AND REPAIR EROSION CONTROL MEASURES AFTER EVERY RAINFALL EVENT OF 1/2" OR GREATER OR EVERY SEVEN (7) CALENDAR DAYS.
  - ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NC DENR EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPARTMENT OF AGRICULTURE, AND WAKE COUNTY EROSION CONTROL ORDINANCE.
  - REFER TO SHEET C0.1 - GENERAL NOTES FOR GENERAL EROSION CONTROL NOTES AND MAINTENANCE.
  - ALL EROSION CONTROL MEASURES TO REMAIN IN PLACE UNTIL +/- 80% STABILIZATION IS ACHIEVED.
  - ONCE CONSTRUCTION IS COMPLETE AND ENTIRE SITE IS STABILIZED, CALL FOR FINAL INSPECTION BY WAKE COUNTY ENVIRONMENTAL CONSULTANT. IF APPROVED, REMOVE REMAINING EROSION CONTROL MEASURES. ALL REMAINING PERMANENT EROSION CONTROL DEVICES SHOULD NOW BE INSTALLED.
  - WHEN VEGETATION HAS BECOME ESTABLISHED, CALL FOR A FINAL INSPECTION BY WAKE COUNTY ENVIRONMENTAL CONSULTANT. OBTAIN A CERTIFICATE OF COMPLETION.

**SURVEY NOTE:**  
EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

N/F  
ANDELIA P. WATKINS  
D.B. 5265, PG. 843  
B.M. 1979, PG. 178  
PIN #1759.20-80-4047

N/F  
SPIRIT MASTER FUNDING VII, LLC  
D.B. 15550, PG. 841  
B.M. 2007, PG. 143  
PIN #1759.20-80-7165



SDP-23-07

**Kimley»Horn**  
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#F-0102 WWW.KIMLEY-HORN.COM PHONE: 919-677-2000 FAX: 919-677-2050  
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601

**THE LEARNING CENTER ROLESVILLE**  
EROSION CONTROL PLAN - PHASE 2  
PREPARED FOR ROLESVILLE, LLC.  
TOWN OF ROLESVILLE NORTH CAROLINA

**811**  
Know what's below.  
Call before you dig.

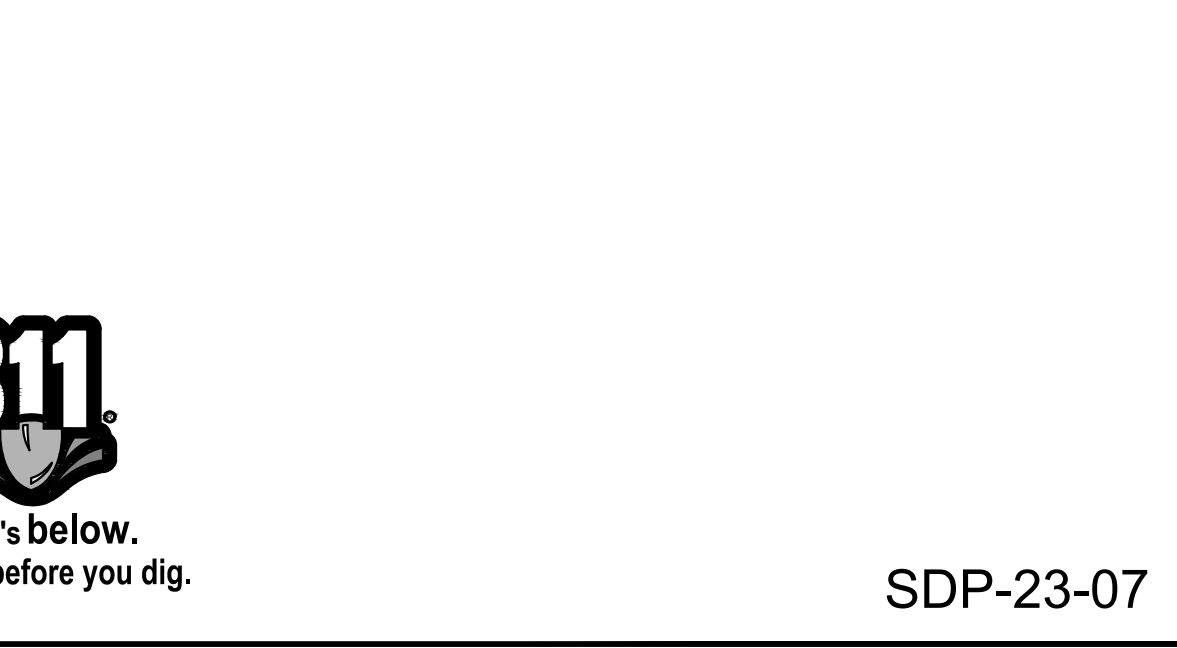
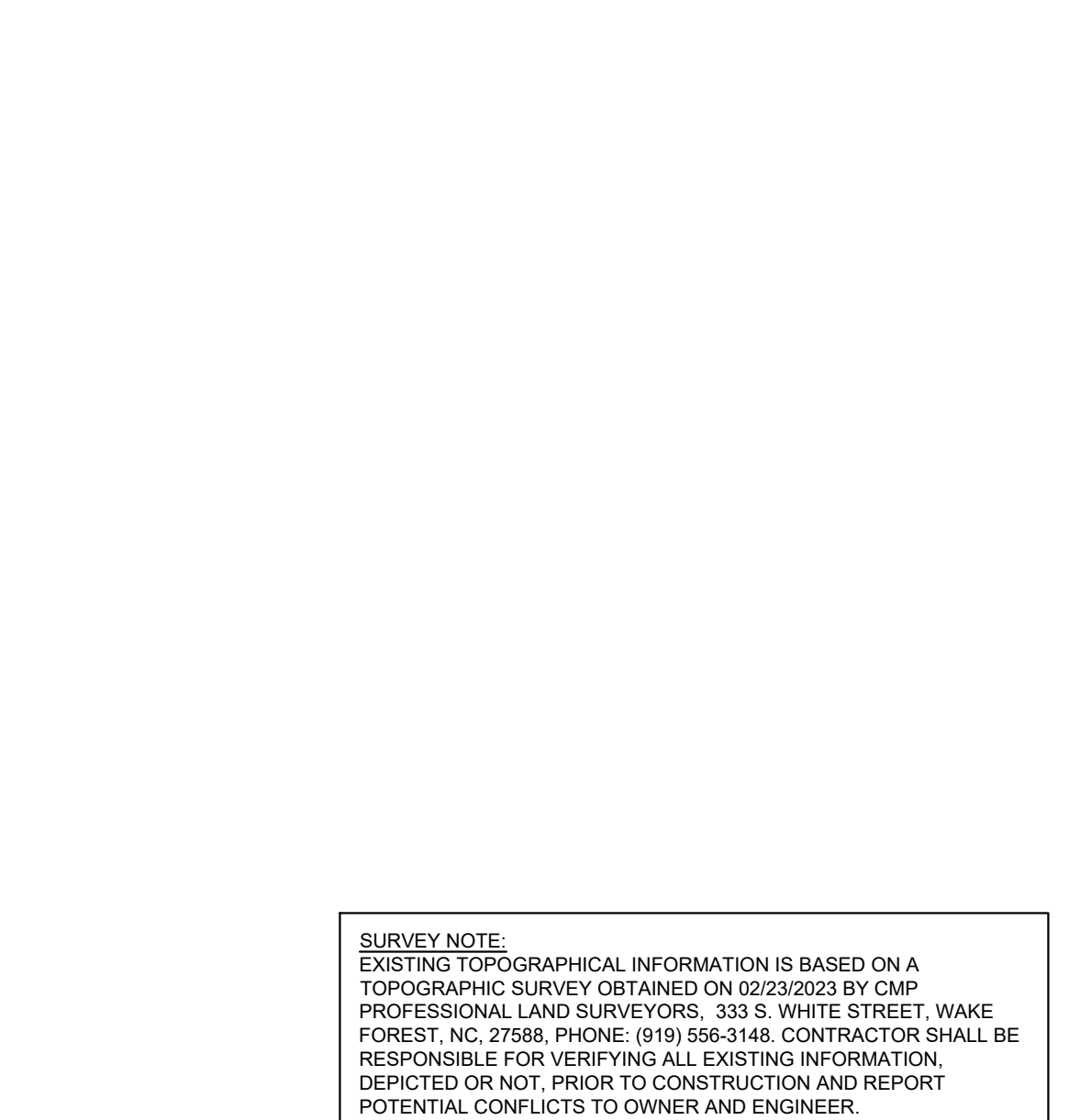
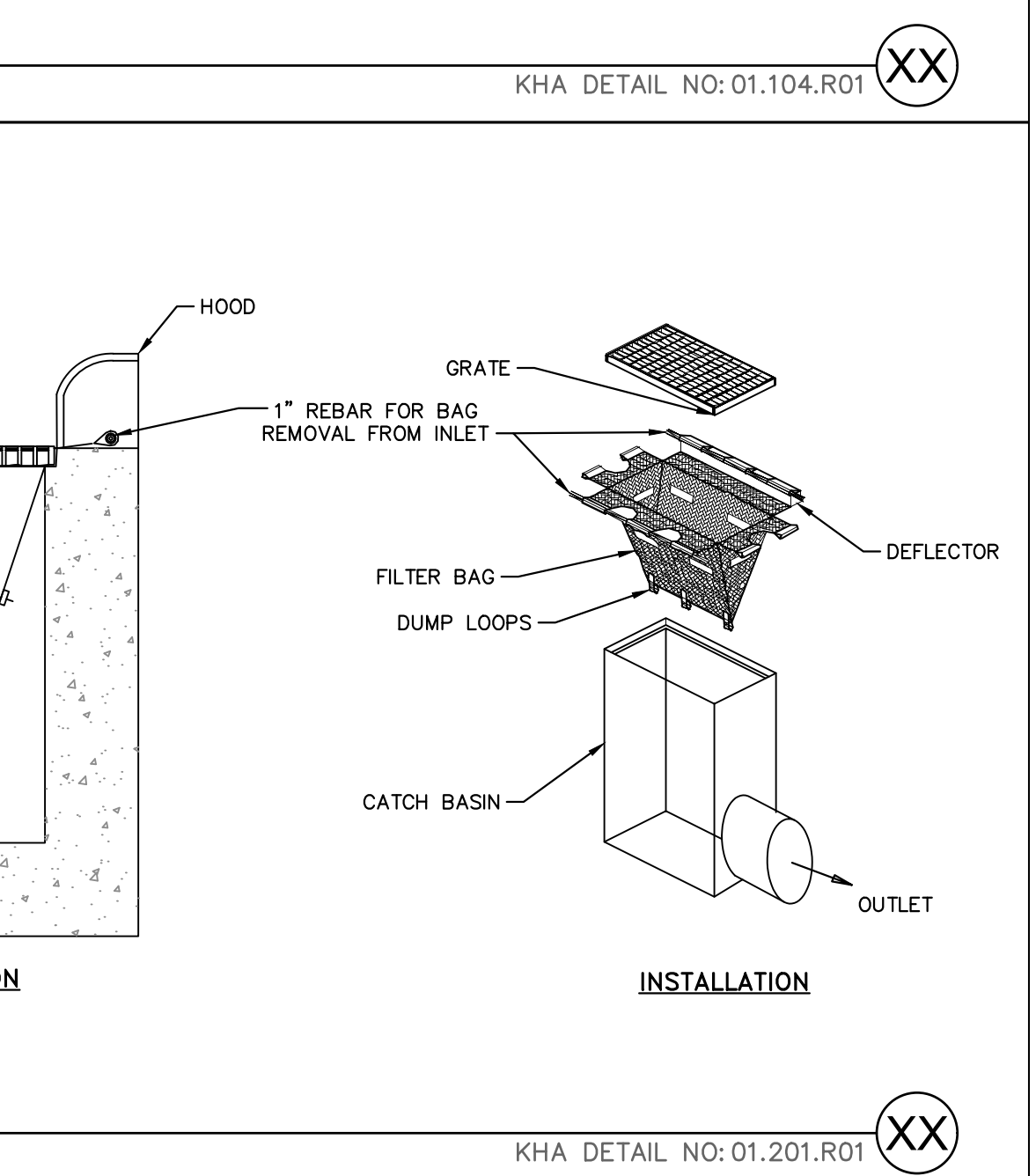
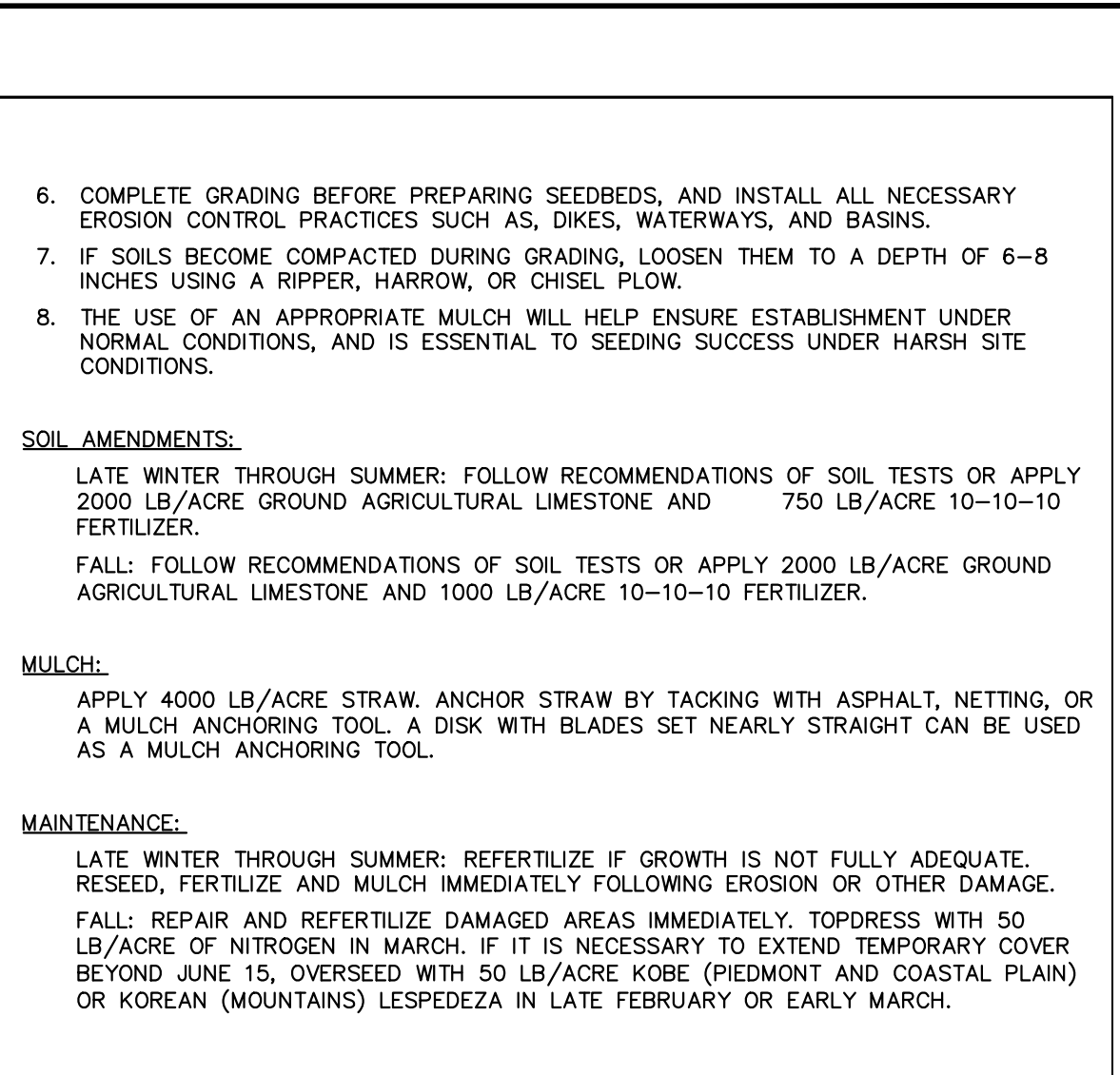
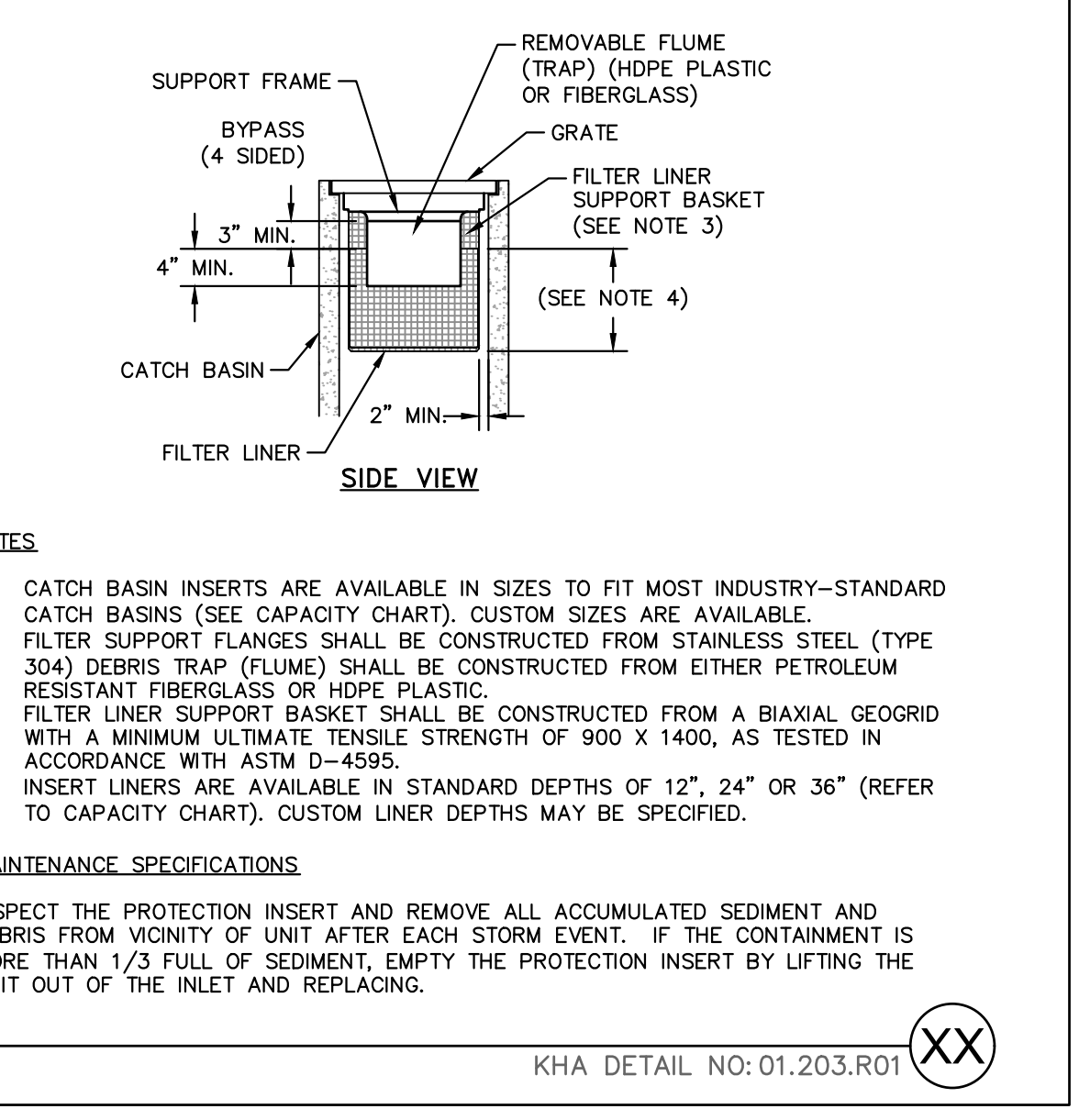
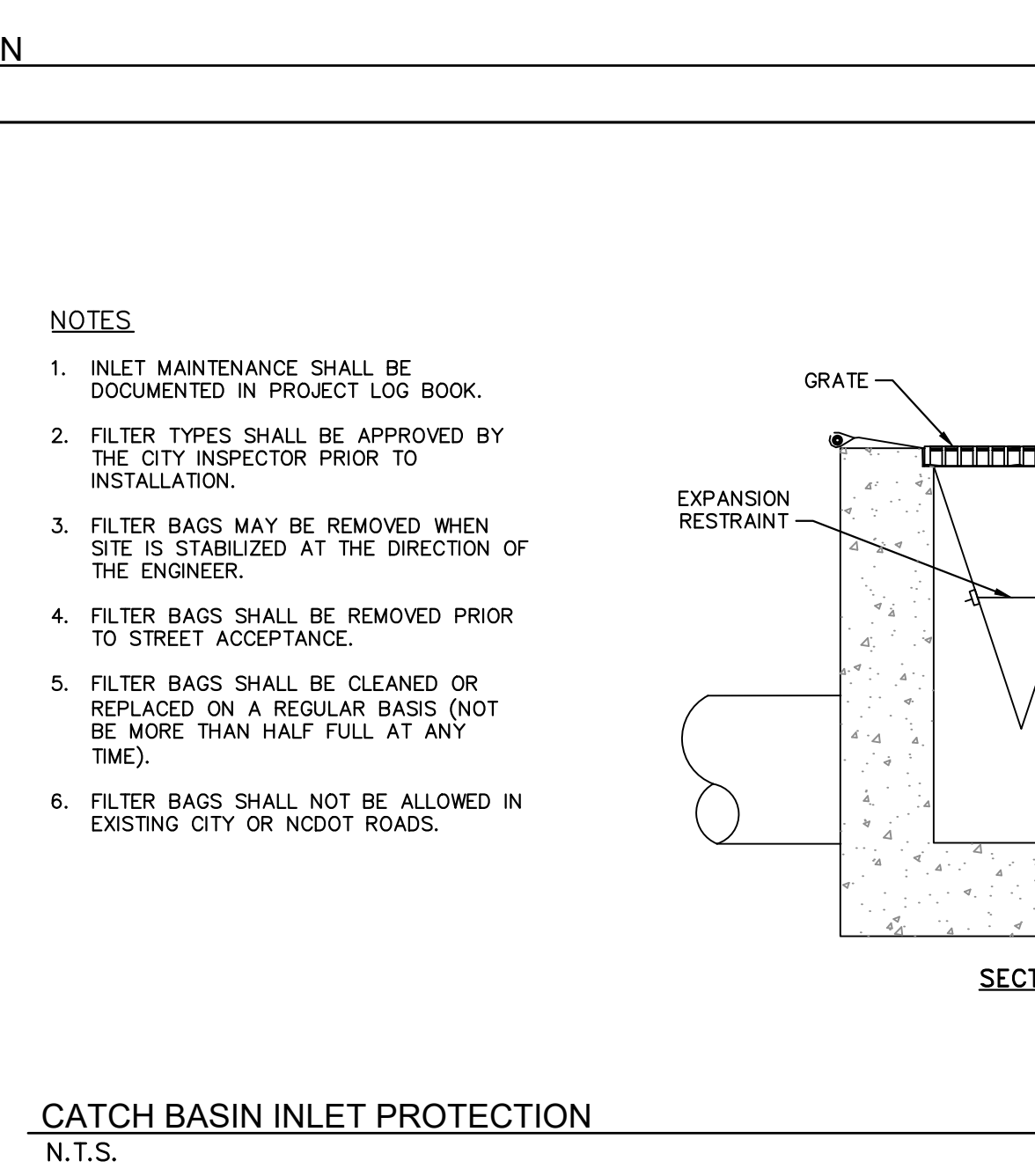
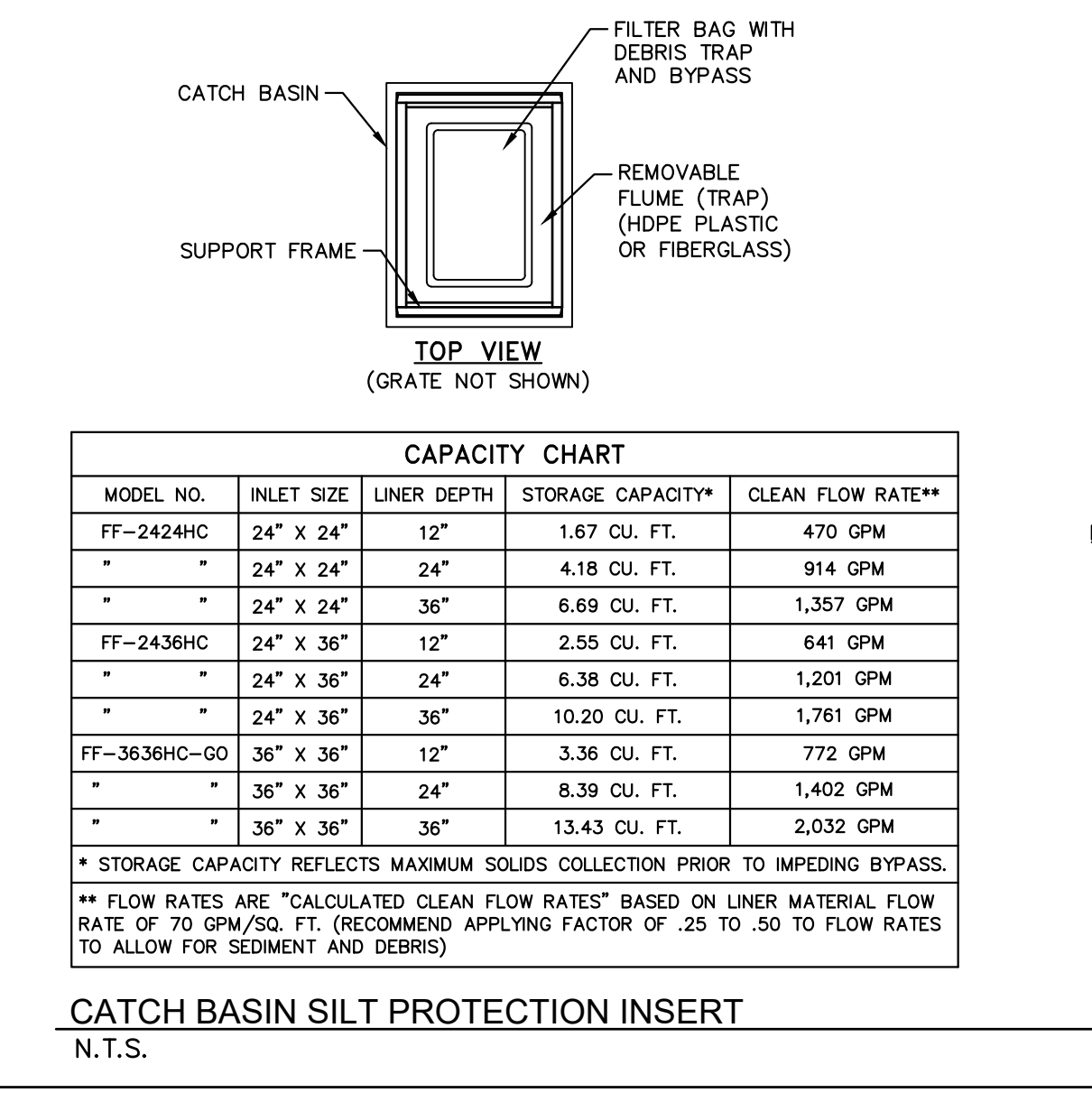
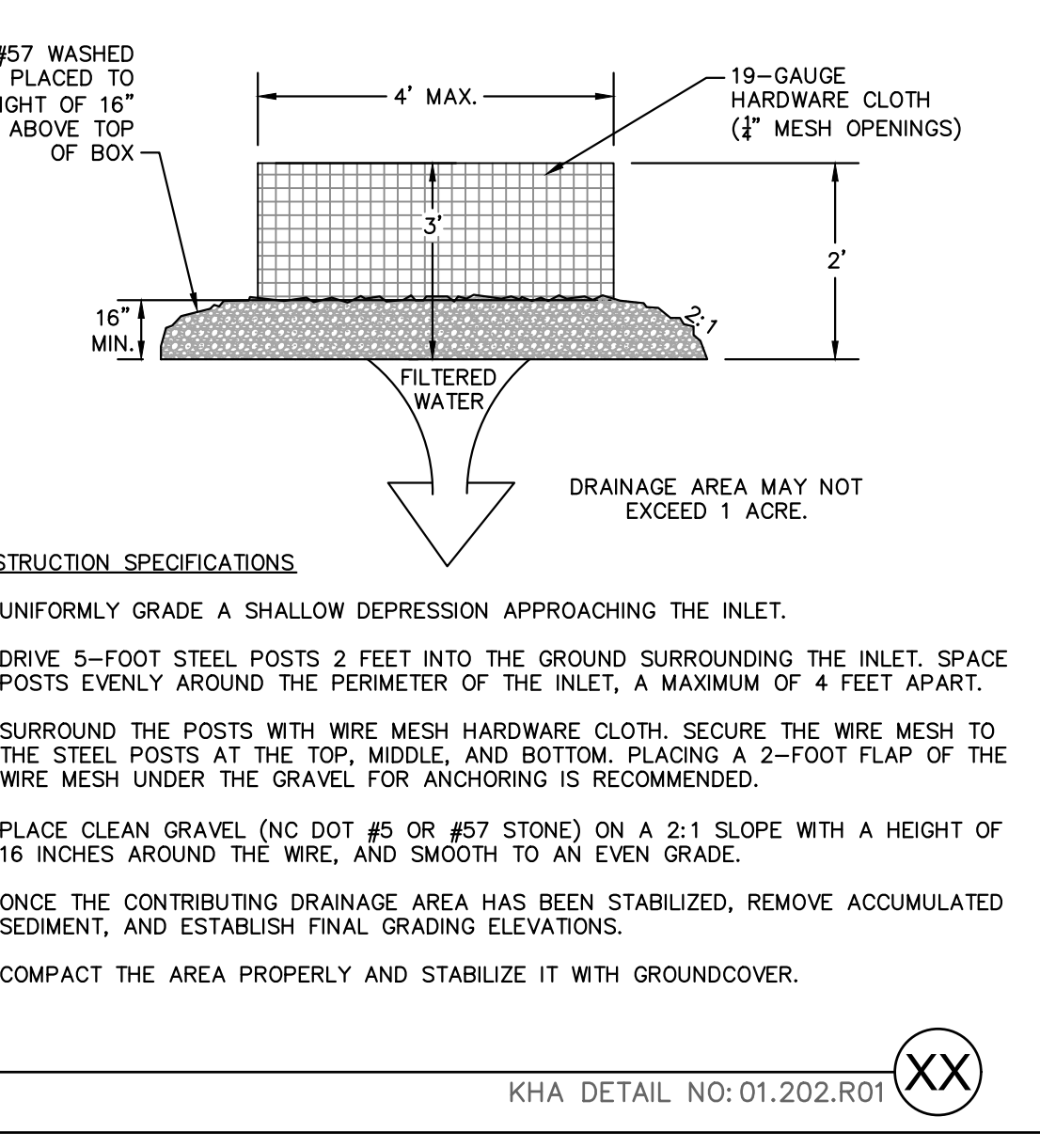
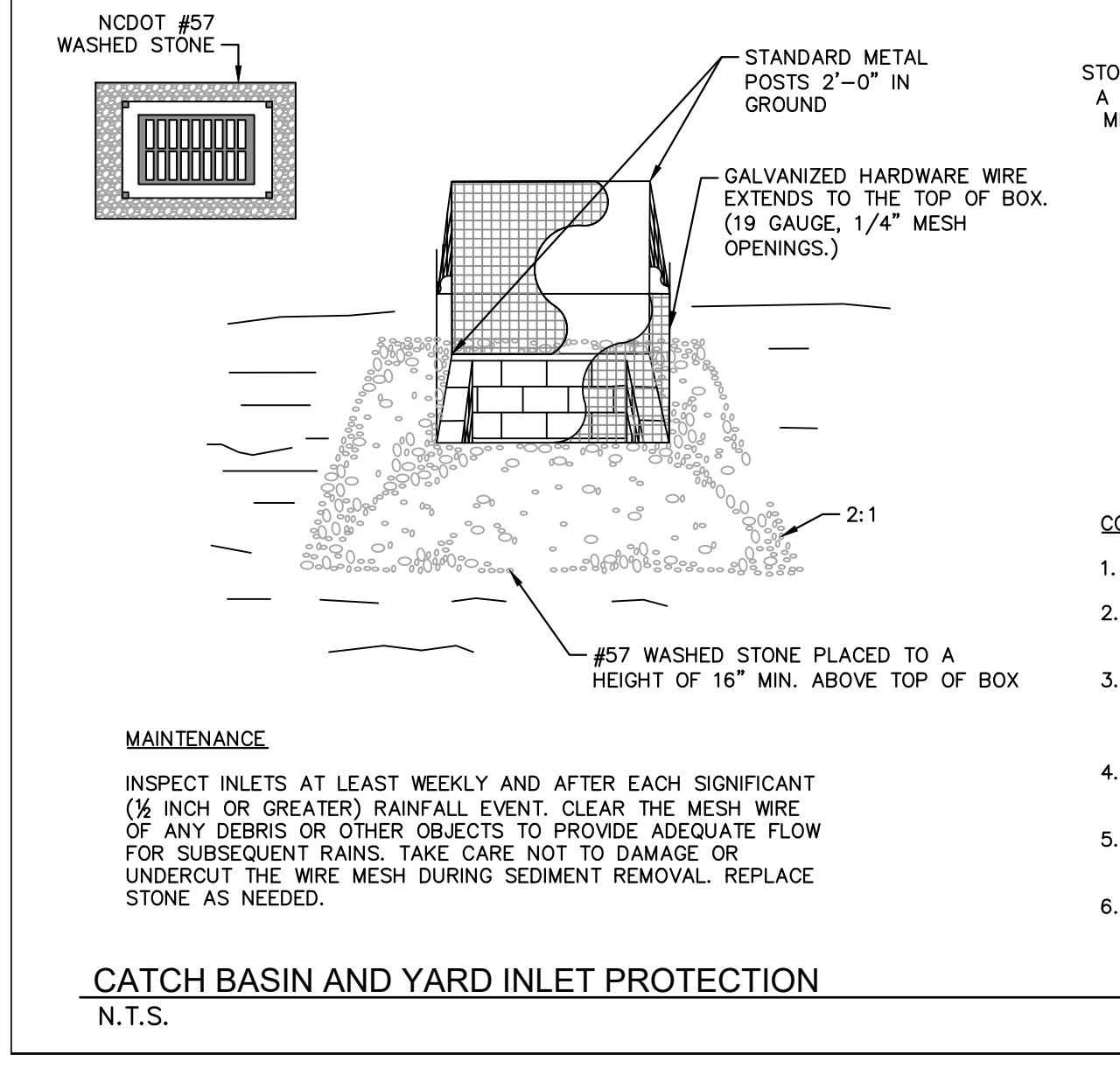
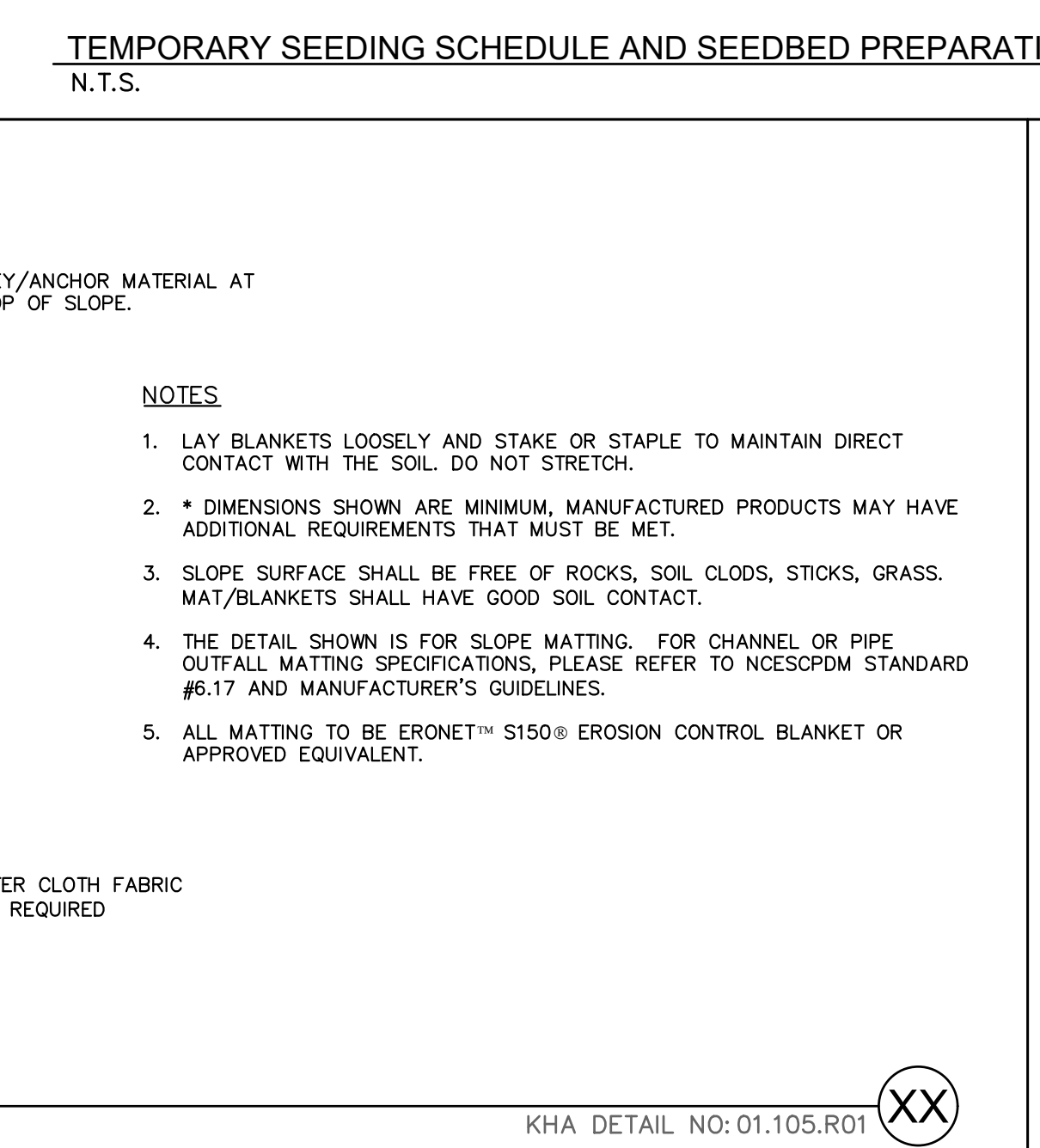
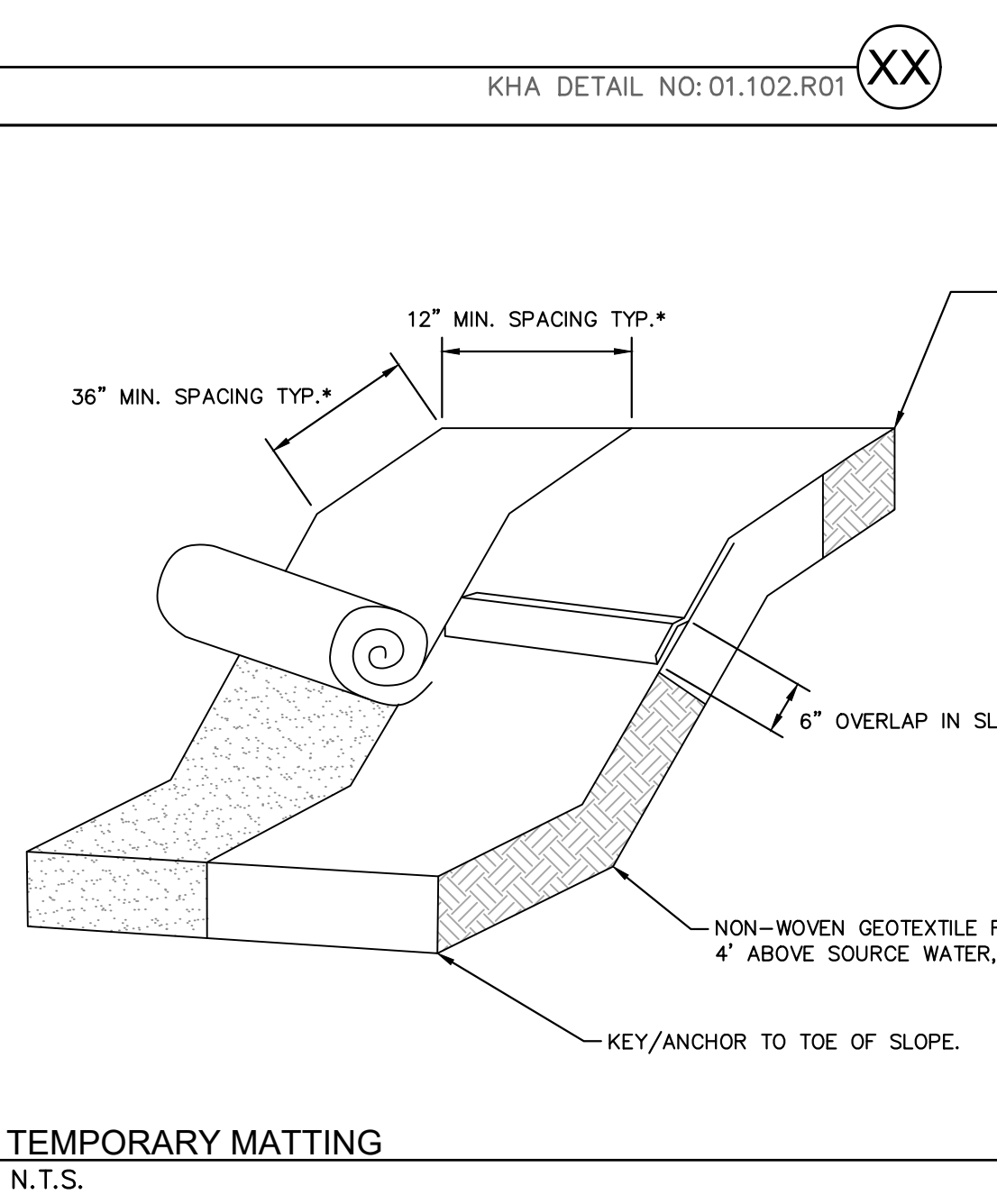
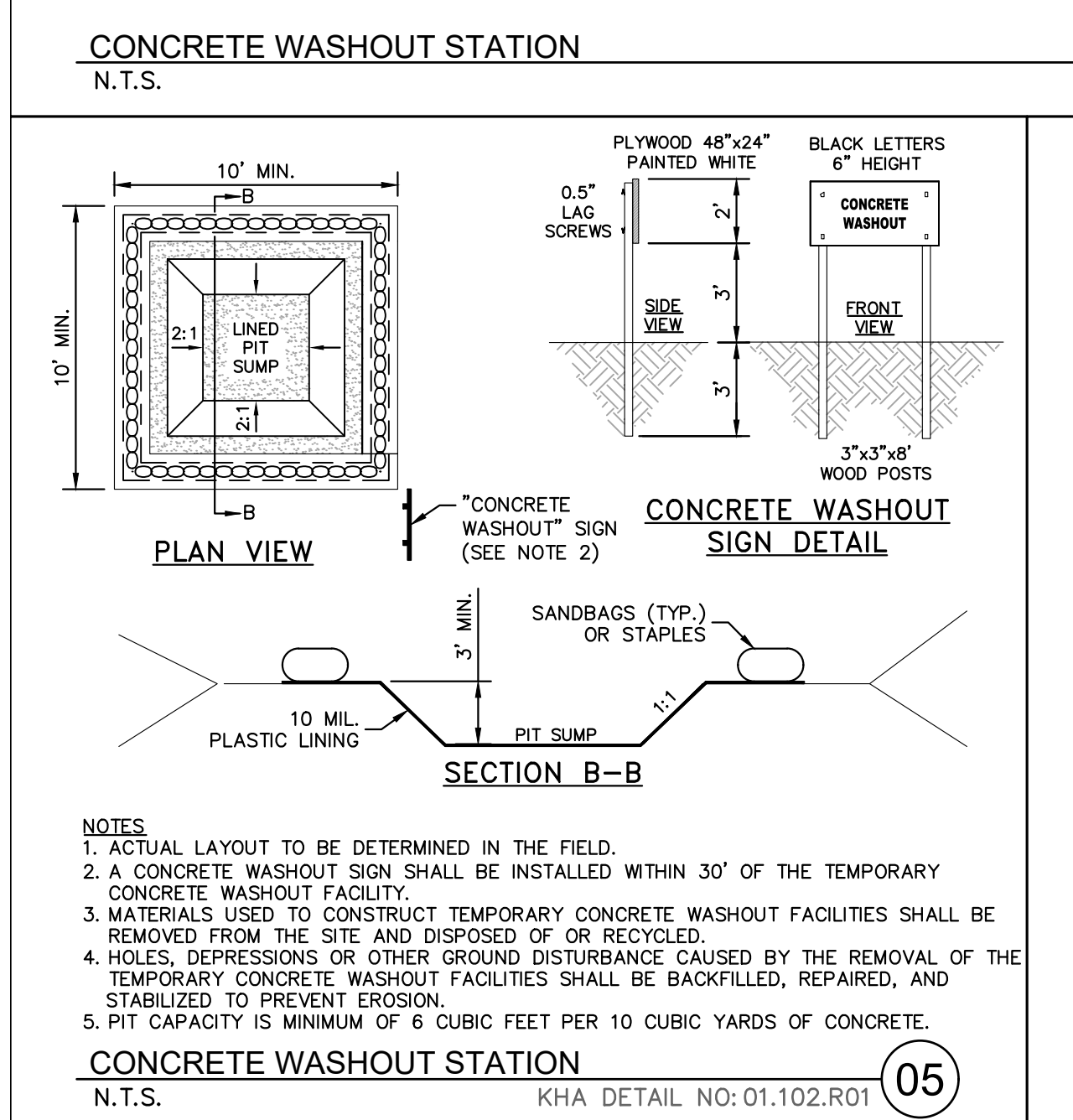
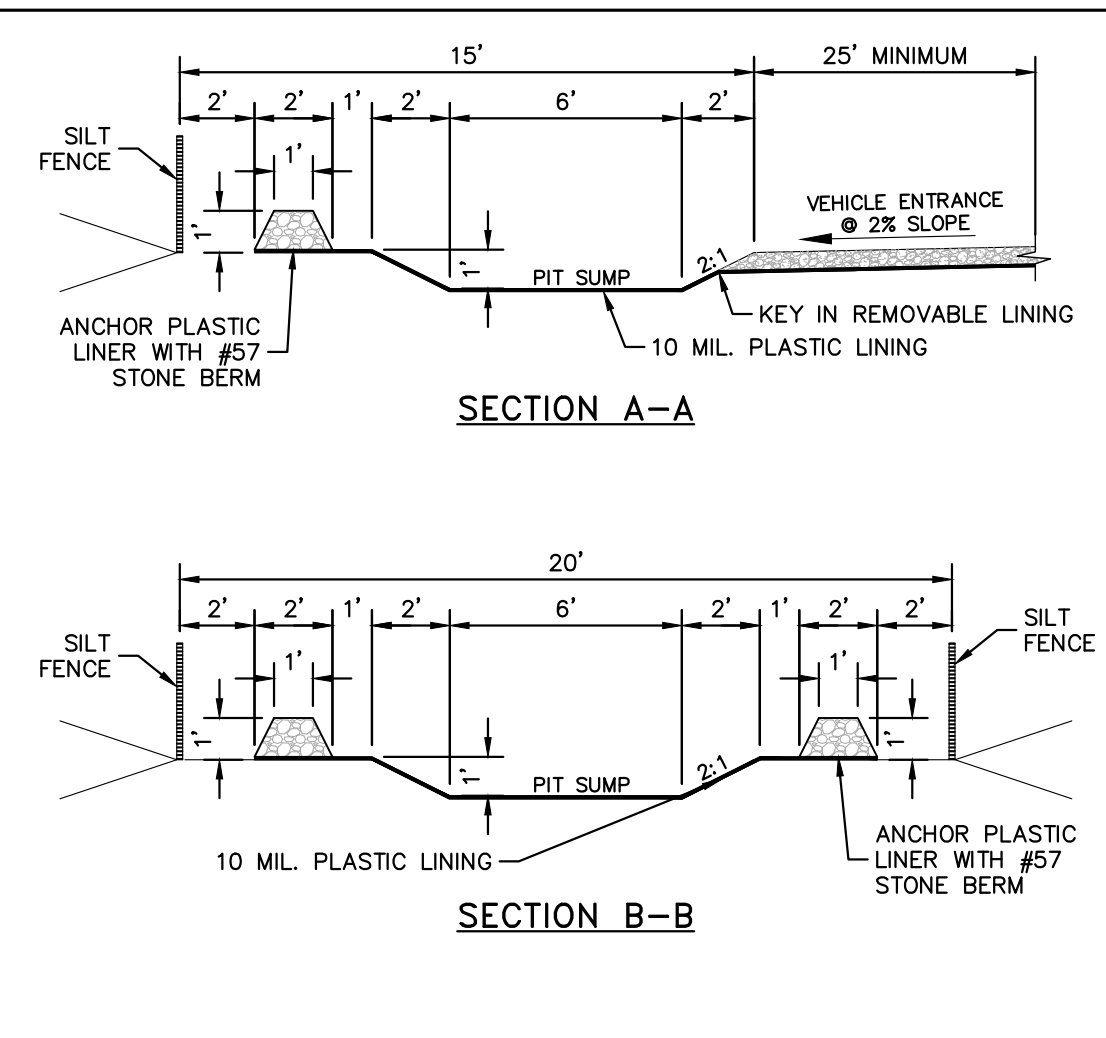
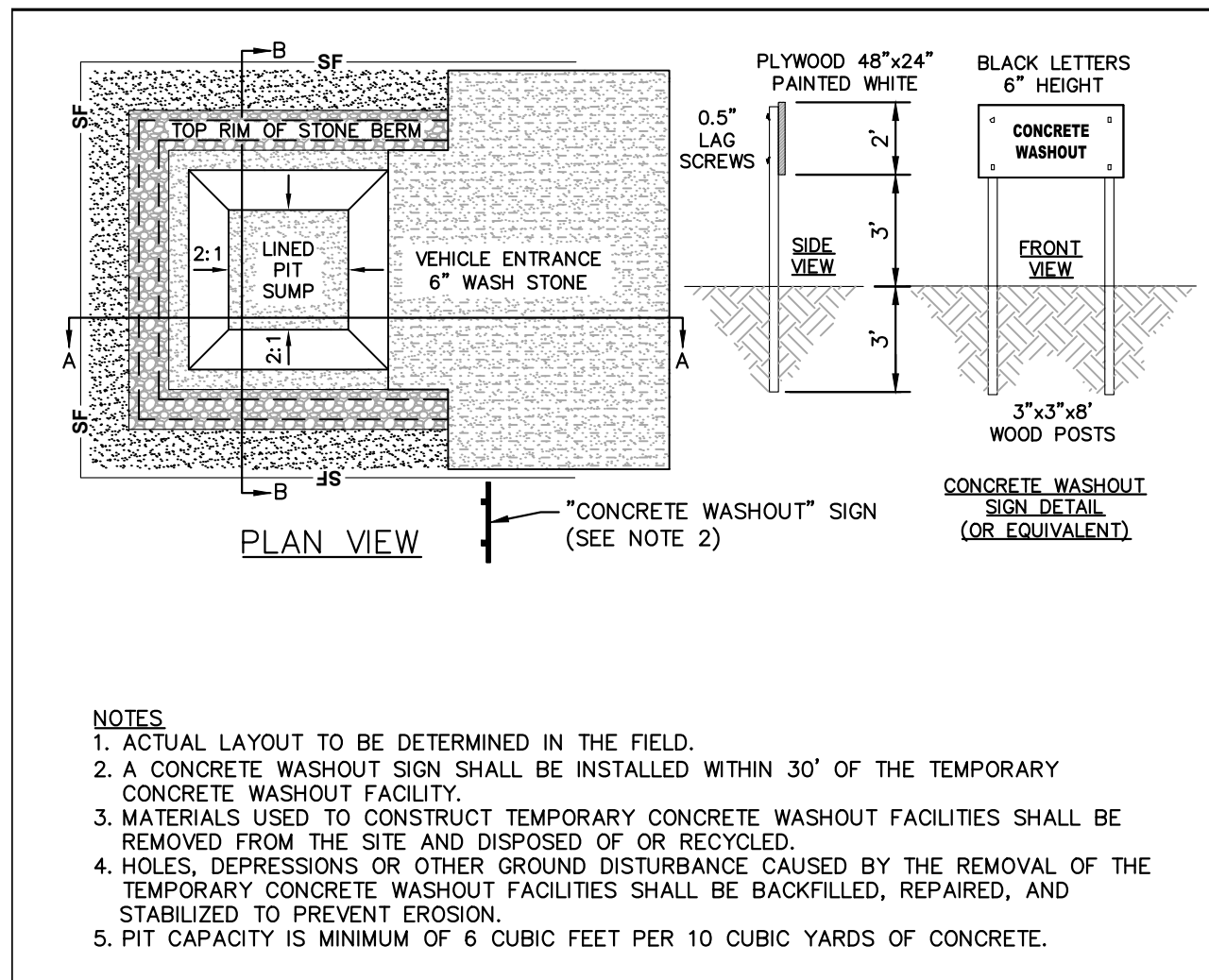
SHEET NUMBER **C5.1**

NO.	REVISIONS	DATE	BY
1	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
3	TOWN COMMENTS	01/02/2024	JAA

KHA PROJECT 013031004  
DATE 09/29/2023  
SCALE AS SHOWN  
DESIGNED BY JAA  
DRAWN BY JAA  
CHECKED BY COB



Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE EROSION CONTROL DETAILS. May 01, 2024. 05:23:10pm. K:\B\AL\_LDE\013031004\_Rolesville Learning Center\PI10\_CAD Files\Sheets\CS.7 EROSION CONTROL DETAILS.dwg  
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#F-0102 WWW.KIMLEY-HORN.COM PHONE: 919.677.2000 FAX: 919.677.2050  
421 FAYETTEVILLE STREET, SUITE 800, RALEIGH, NC 27601

**THE LEARNING CENTER ROLESVILLE EROSION CONTROL DETAILS**

PREPARED FOR  
**ROLESVILLE, LLC.**

NORTH CAROLINA

KHA PROJECT: 013031004  
DATE: 09/29/2023  
SCALE: AS SHOWN  
DESIGNED BY: JAA  
DRAWN BY: JAA  
CHECKED BY: COB

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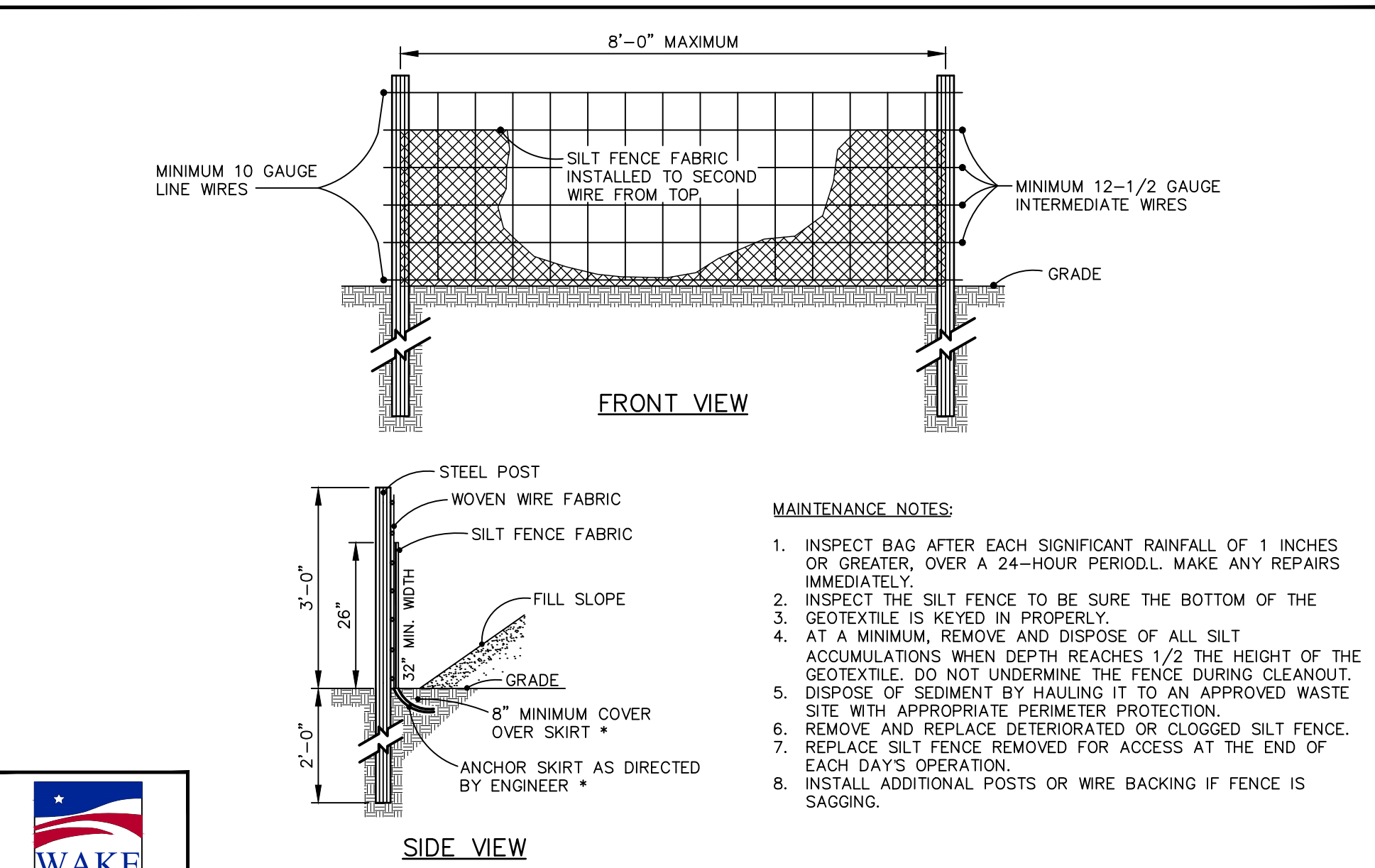
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Plotted By: Barnes, Michael, Sheet Set: THE LEARNING CENTER ROLESVILLE EROSION CONTROL DETAILS, May 01, 2024, 05:23:12pm, K:\B\AL\_LDE\013031004\_Rolesville Learning Center\10\_CAD Files\SheetSet\CS7 EROSION CONTROL DETAILS.dwg  
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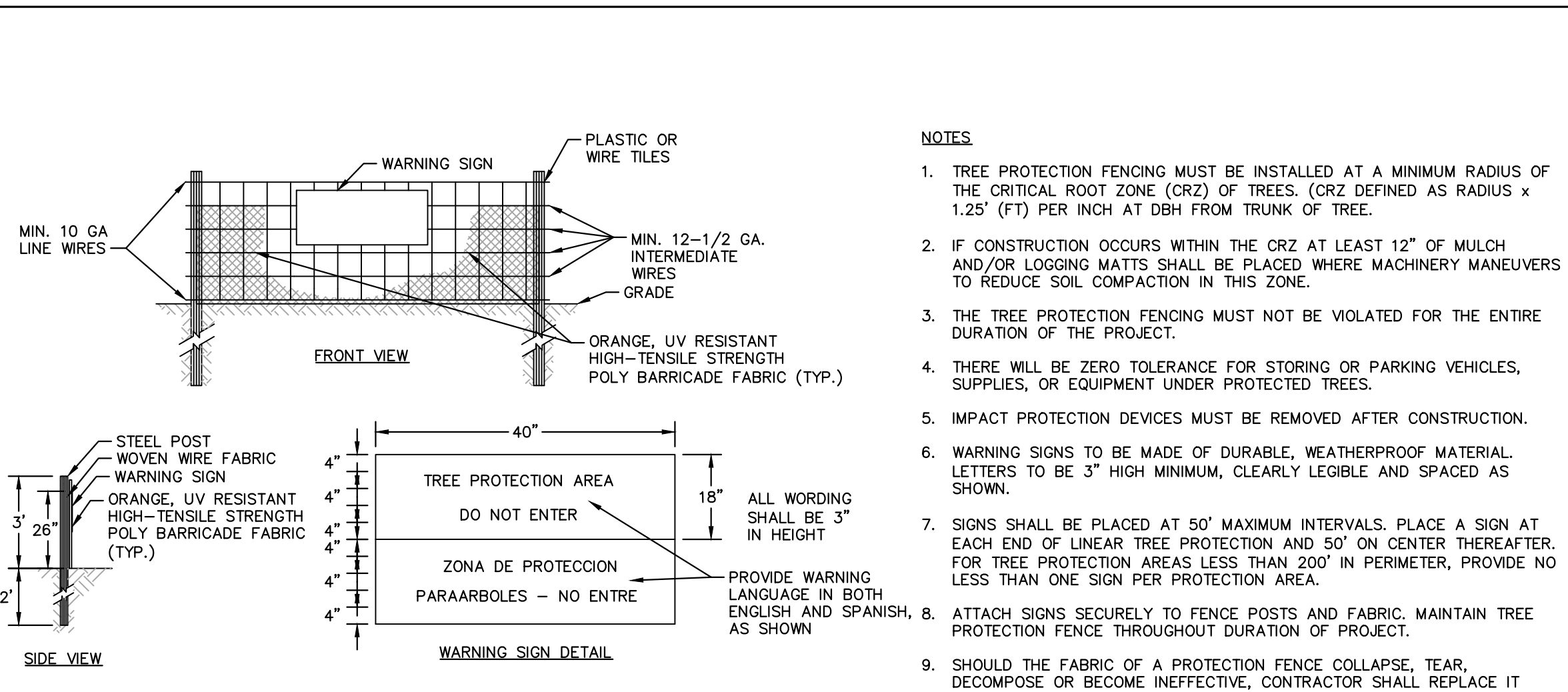


- MAINTENANCE NOTES:**
1. INSPECT BAG AFTER EACH SIGNIFICANT RAINFALL OF 1 INCHES OR GREATER, OVER A 24-HOUR PERIOD. MAKE ANY REPAIRS IMMEDIATELY.
  2. INSPECT THE SILT FENCE TO BE SURE THE BOTTOM OF THE GEOTEXTILE IS KEYED IN PROPERLY.
  4. AT A MINIMUM, REMOVE AND DISPOSE OF ALL SILT ACCUMULATIONS WHEN DEPTH REACHES 1/2 THE HEIGHT OF THE GEOTEXTILE. DO NOT UNDERMINE THE FENCE DURING CLEANOUT.
  5. DISPOSE OF SEDIMENT BY HAULING IT TO AN APPROVED WASTE SITE WITH APPROPRIATE PERMITTER PROTECTION.
  6. REMOVE AND REPLACE DETERIORATED OR CLOGGED SILT FENCE.
  7. REPLACE SILT FENCE REMOVED FOR ACCESS AT THE END OF EACH DAY'S OPERATION.
  8. INSTALL ADDITIONAL POSTS OR WIRE BACKING IF FENCE IS SAGGING.

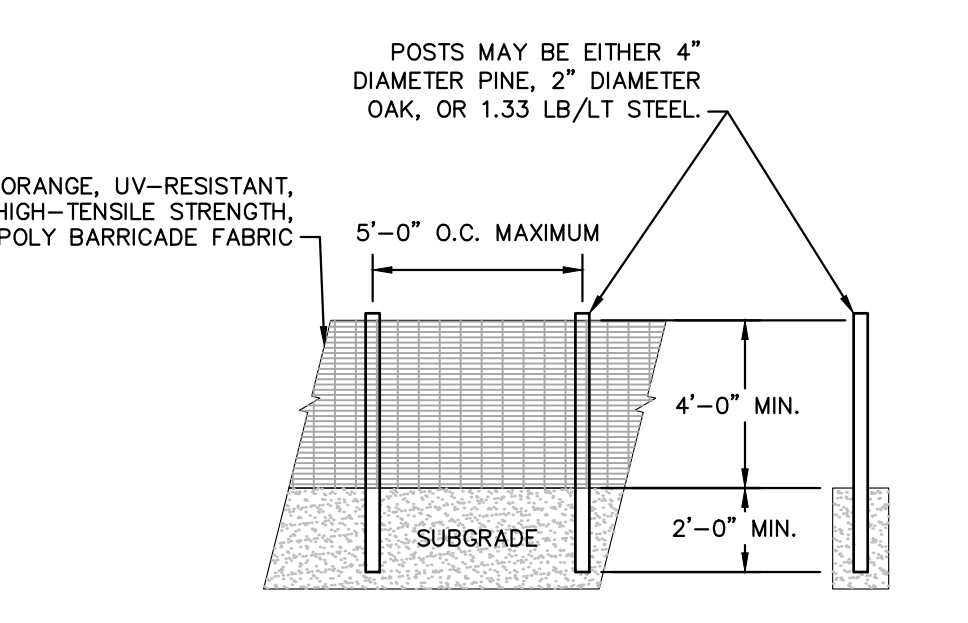


**STANDARD TEMPORARY SILT FENCE**

EFFECTIVE: 01/31/08

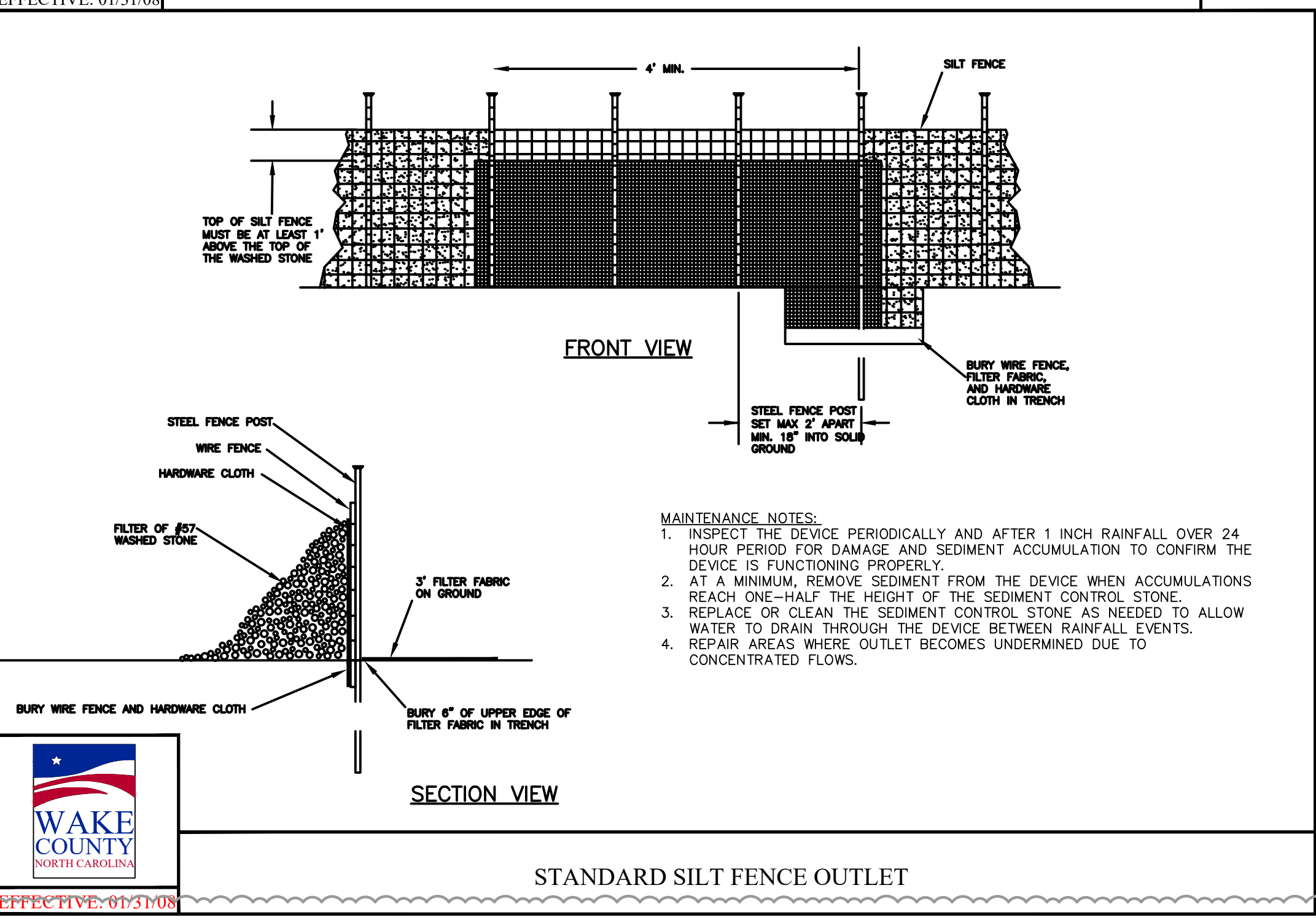


- NOTES:**
1. TREE PROTECTION FENCING MUST BE INSTALLED AT A MINIMUM RADIUS OF THE CRITICAL ROOT ZONE (CRZ) OF TREES. (CRZ DEFINED AS RADIUS x 1.25' (FT) PER INCH AT DBH FROM TRUNK OF TREE).
  2. IF CONSTRUCTION OCCURS WITHIN THE CRZ AT LEAST 12" OF MULCH AND/OR LOGGING MATS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
  3. THE TREE PROTECTION FENCING MUST NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT.
  4. THERE WILL BE ZERO TOLERANCE FOR STORING OR PARKING VEHICLES, SUPPLIES, OR EQUIPMENT UNDER PROTECTED TREES.
  5. IMPACT PROTECTION DEVICES MUST BE REMOVED AFTER CONSTRUCTION.
  6. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH MINIMUM, CLEARLY LEGIBLE AND SPACED AS SHOWN.
  7. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 200' IN PERIMETER, PROVIDE NO LESS THAN ONE SIGN PER PROTECTION AREA.
  8. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE THROUGHOUT DURATION OF PROJECT.
  9. SHOULD THE FABRIC OF A PROTECTION FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, CONTRACTOR SHALL REPLACE IT PROMPTLY.



**MAINTENANCE SPECIFICATIONS:**  
SHOULD THE FABRIC OF A PROTECTION FENCE COLLAPSE, TEAR, DECOMPOSE OR BECOME INEFFECTIVE, REPLACE IT PROMPTLY.

**ORANGE SAFETY FENCE**  
N.T.S. KHA DETAIL NO: 01.301.R01 XX

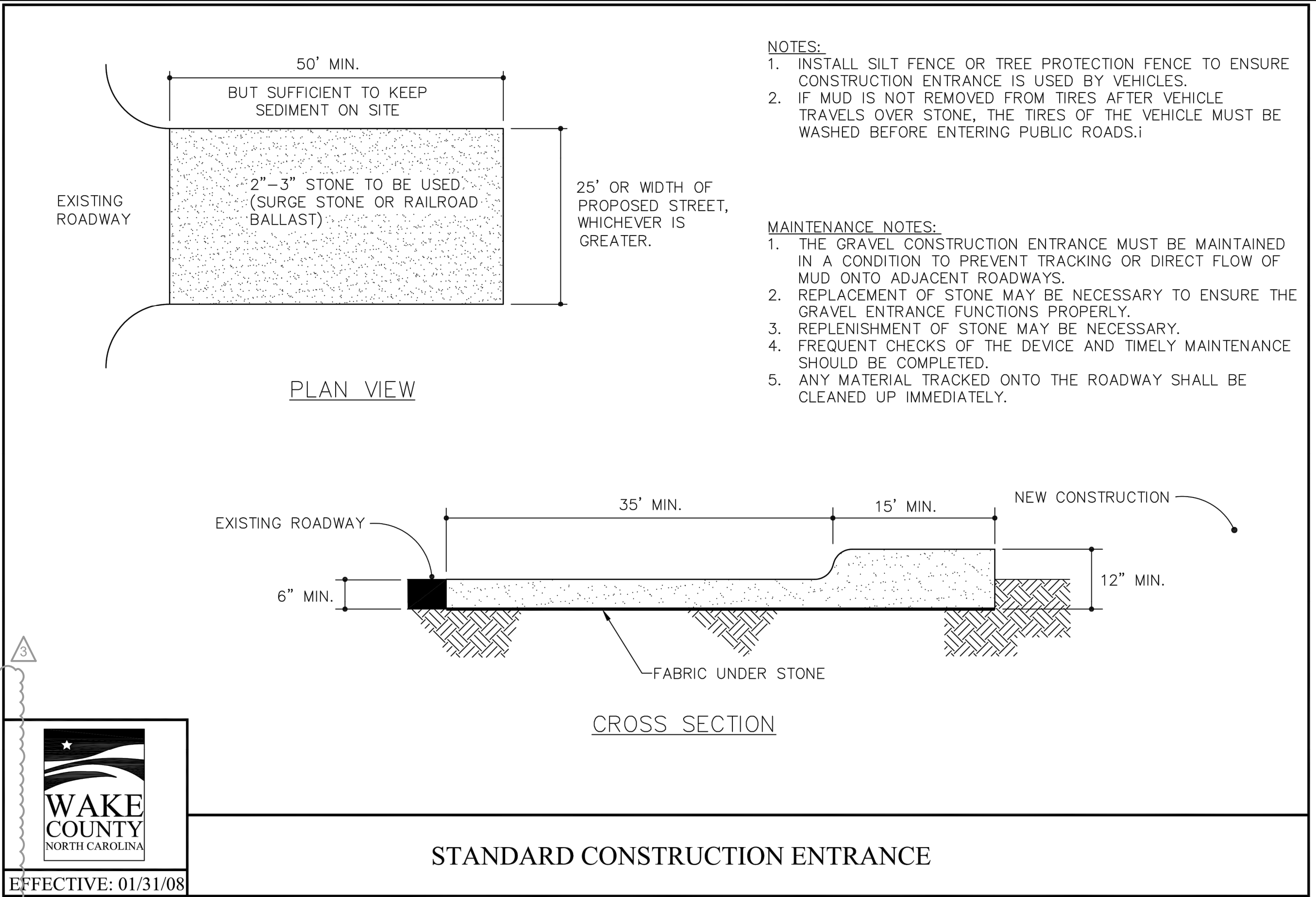


- MAINTENANCE NOTES:**
1. INSPECT THE DEVICE PERIODICALLY AND AFTER 1 INCH RAINFALL OVER 24 HOURS FOR DAMAGE AND SEDIMENT ACCUMULATION TO CONFIRM THE DEVICE IS FUNCTIONING PROPERLY.
  2. AT A MINIMUM, REMOVE SEDIMENT FROM THE DEVICE WHEN ACCUMULATIONS REACH ONE-HALF THE HEIGHT OF THE SEDIMENT CONTROL STONE.
  3. REPLACE OR CLEAN THE SEDIMENT CONTROL STONE AS NEEDED TO ALLOW WATER TO DRAIN THROUGH THE DEVICE BETWEEN RAINFALL EVENTS.
  4. REPAIR AREAS WHERE OUTLET BECOMES UNDERMINED DUE TO CONCENTRATED FLOWS.



**STANDARD SILT FENCE OUTLET**

EFFECTIVE: 01/31/08

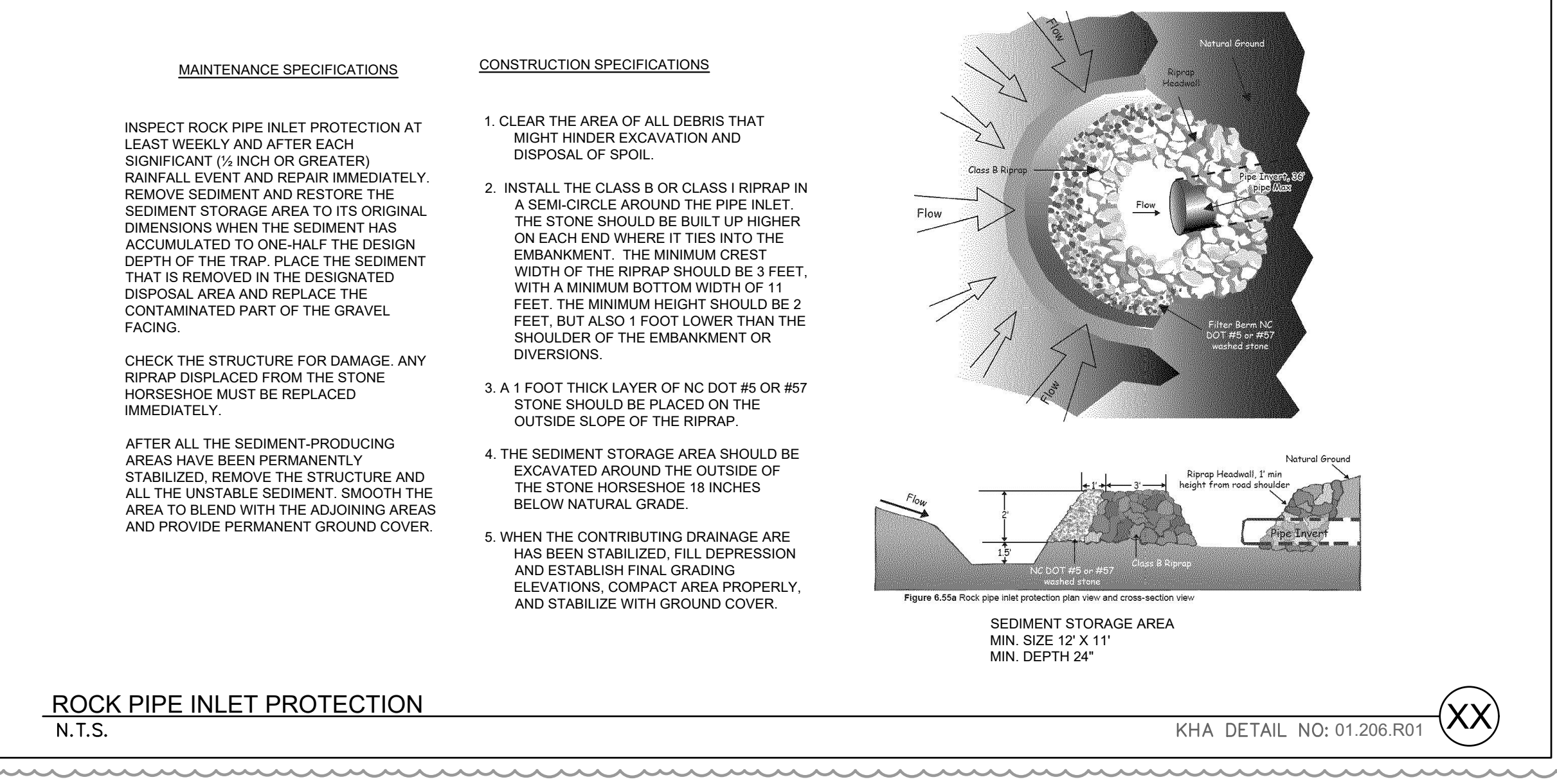


- NOTES:**
1. INSTALL SILT FENCE OR TREE PROTECTION FENCE TO ENSURE CONSTRUCTION ENTRANCE IS USED BY VEHICLES.
  2. IF MUD IS NOT REMOVED FROM TIRES AFTER VEHICLE TRAVELS OVER STONE, THE TIRES OF THE VEHICLE MUST BE WASHED BEFORE ENTERING PUBLIC ROADS.
- MAINTENANCE NOTES:**
1. THE GRAVEL CONSTRUCTION ENTRANCE MUST BE MAINTAINED IN A CONDITION TO PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO ADJACENT ROADWAYS.
  2. REPLACEMENT OF STONE MAY BE NECESSARY TO ENSURE THE GRAVEL ENTRANCE FUNCTIONS PROPERLY.
  3. REPLENISHMENT OF STONE MAY BE NECESSARY.
  4. FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE SHOULD BE COMPLETED.
  5. ANY MATERIAL TRACKED ONTO THE ROADWAY SHALL BE CLEANED UP IMMEDIATELY.



**STANDARD CONSTRUCTION ENTRANCE**

EFFECTIVE: 01/31/08



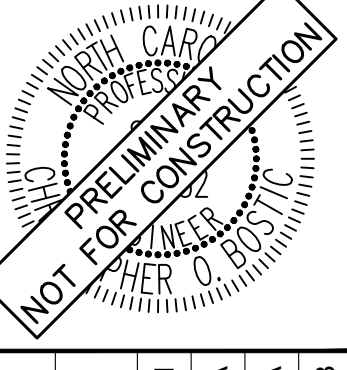
- MAINTENANCE SPECIFICATIONS:**
- INSPECT ROCK PIPE INLET PROTECTION AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT AND REPAIR IMMEDIATELY. REMOVE SEDIMENT AND RESTORE THE SEDIMENT STORAGE AREA TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. PLACE THE SEDIMENT THAT IS REMOVED IN THE DESIGNATED DISPOSAL AREA AND REPLACE THE CONTAMINATED PART OF THE GRAVEL FACING.
- CHECK THE STRUCTURE FOR DAMAGE. ANY RIPRAP DISPLACED FROM THE STONE HORSESHOE MUST BE REPLACED IMMEDIATELY.
- AFTER ALL THE SEDIMENT-PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, REMOVE THE STRUCTURE AND ALL THE UNSTABLE SEDIMENT. SMOOTH THE AREA TO BLEND WITH THE ADJOINING AREAS AND PROVIDE PERMANENT GROUND COVER.
- CONSTRUCTION SPECIFICATIONS:**
1. CLEAR THE AREA OF ALL DEBRIS THAT MIGHT HINDER EXCAVATION AND DISPOSAL OF SPOIL.
  2. INSTALL THE CLASS B OR CLASS I RIPRAP IN A SEMI-CIRCLE AROUND THE PIPE INLET. THE STONE SHOULD BE BUILT UP HIGHER ON EACH END WHERE IT TIES INTO THE EMBANKMENT. THE MINIMUM CREST WIDTH OF THE RIPRAP SHOULD BE 3 FEET, WITH A MINIMUM BOTTOM WIDTH OF 11 FEET. THE MINIMUM HEIGHT SHOULD BE 2 FEET, BUT ALSO 1 FOOT LOWER THAN THE SHOULDER OF THE EMBANKMENT OR DIVERSIONS.
  3. A 1 FOOT THICK LAYER OF NC DOT #5 OR #57 STONE SHOULD BE PLACED ON THE OUTSIDE SLOPE OF THE RIPRAP.
  4. THE SEDIMENT STORAGE AREA SHOULD BE EXCAVATED AROUND THE OUTSIDE OF THE STONE HORSESHOE 18 INCHES BELOW NATURAL GRADE.
  5. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, FILL DEPRESSION AND ESTABLISH FINAL GRADING ELEVATIONS. COMPACT AREA PROPERLY, AND STABILIZE WITH GROUND COVER.

**ROCK PIPE INLET PROTECTION**  
N.T.S.

KHA DETAIL NO: 01.206.R01 XX

No.	REVISIONS	DATE
7		
6		
5		
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KHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

**THE LEARNING CENTER ROLESVILLE EROSION CONTROL DETAILS**

**THE LEARNING CENTER ROLESVILLE**  
PREPARED FOR  
**ROLESVILLE, LLC.**  
TOWN OF ROLESVILLE NORTH CAROLINA

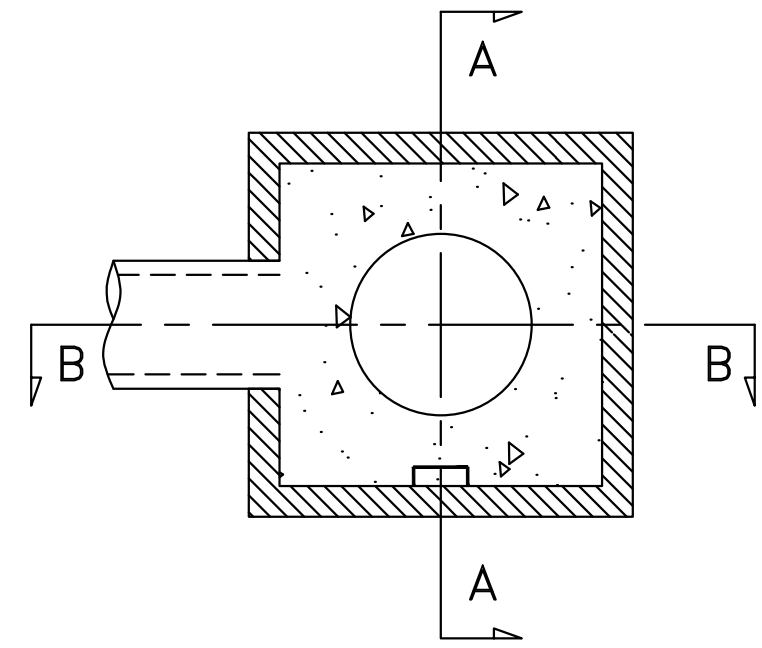
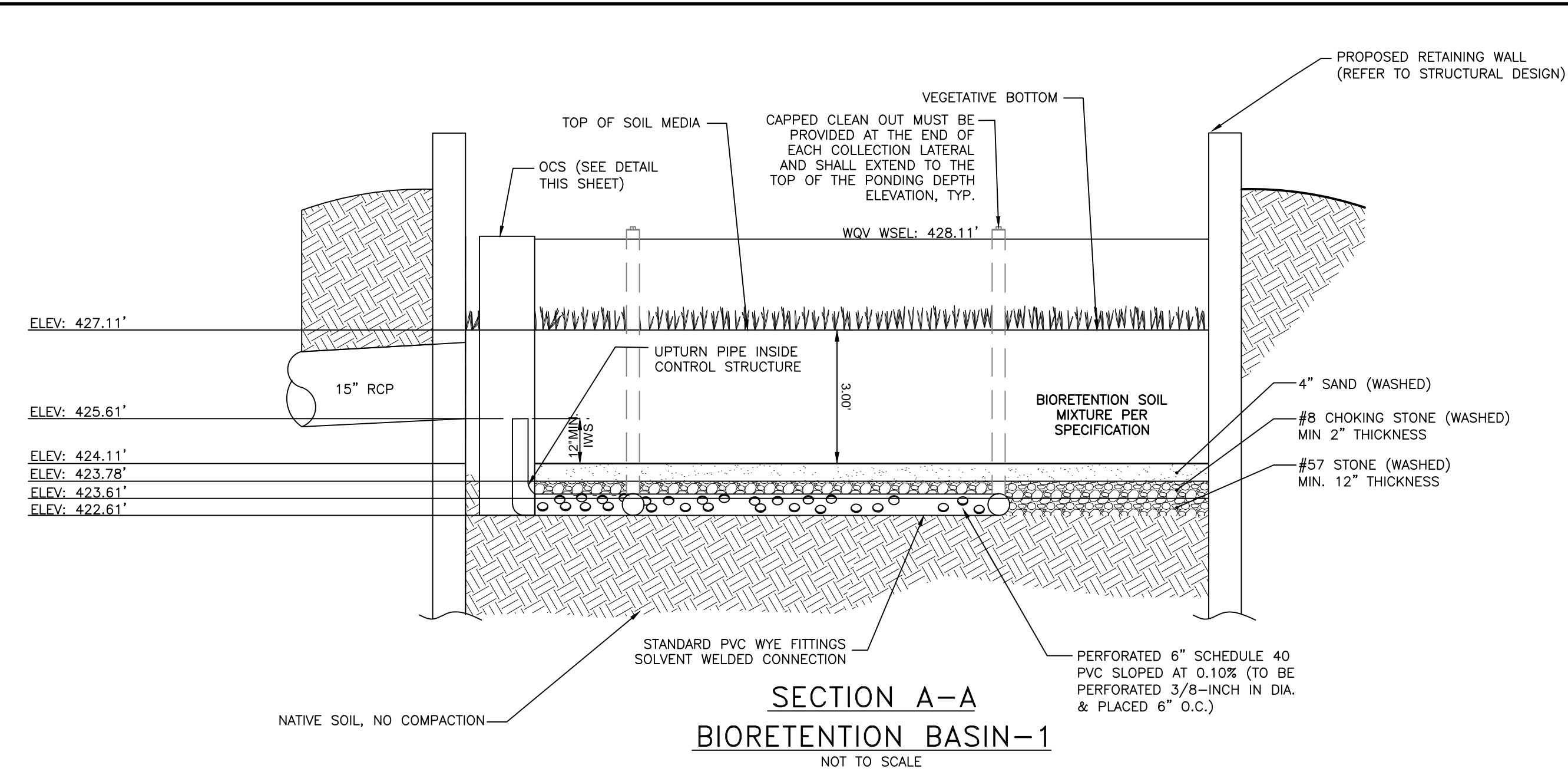
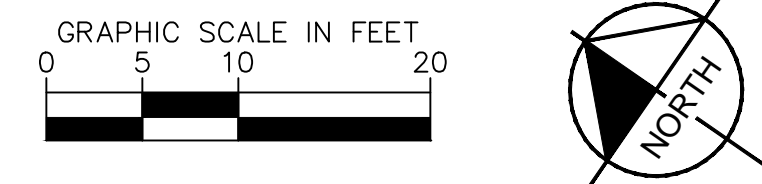
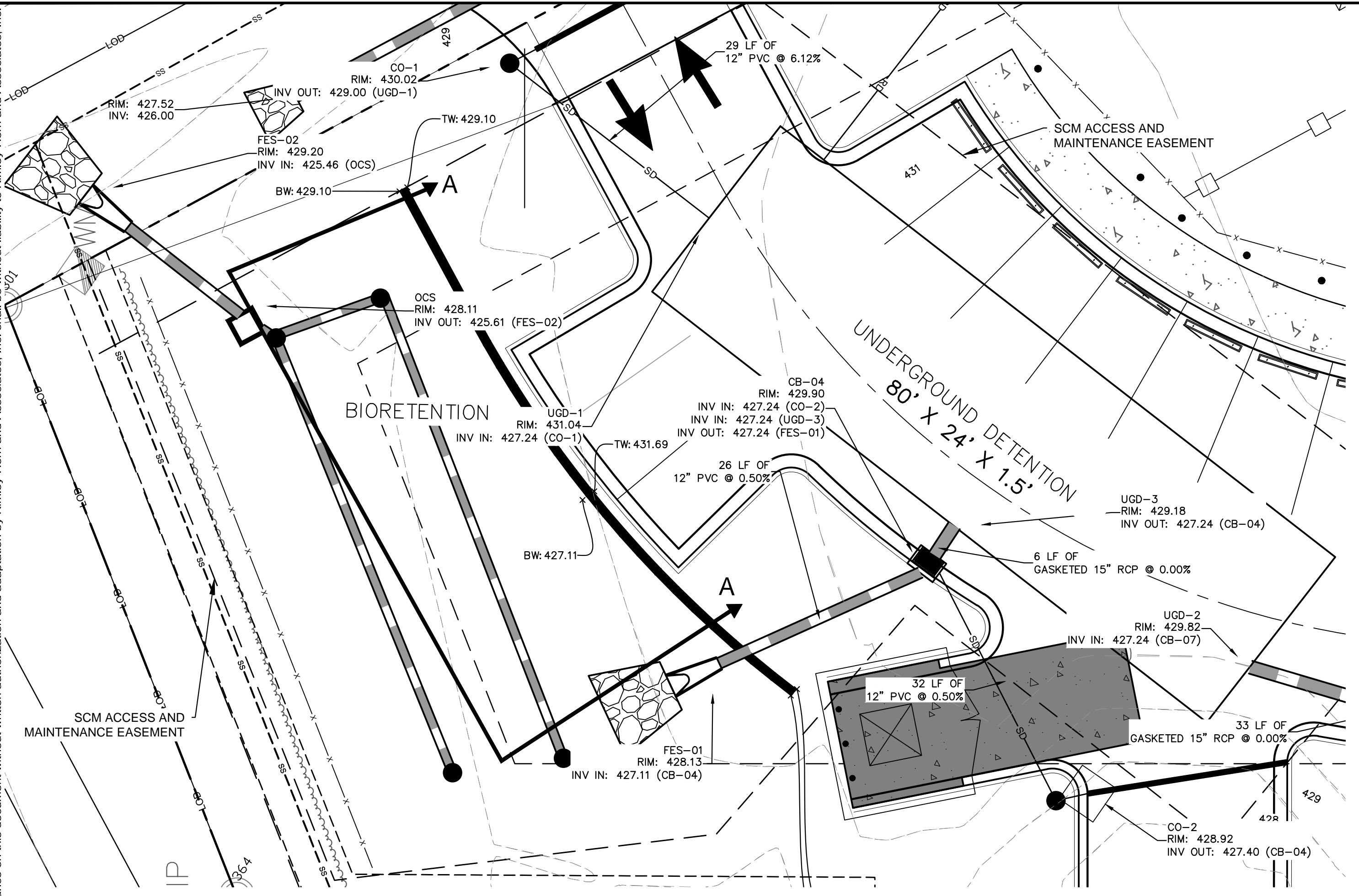
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SDP-23-07



Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: C6.0 UNDERGROUND DETENTION AND BIORETENTION DETAILS. May 01, 2024, 08:05:01pm. K:\RAL\_LDEV\013003\004\_Rolesville\_Layouting\_Center\PTD\_CAD Files\PlanSheets\C6.0 UNDERGROUND DETENTION AND BIORETENTION DETAILS.dwg. This document, together with the concepts and designs presented herein, is an instrument of service, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



**NOTES:**  
 PONDING DEPTH: 12"  
 UNDERDRAIN TO BE 3/8" PERF. @ 6" O.C., 4 HOLES PER ROW, SLOPED AT 0.10%; MINIMUM OF 3" OF GRAVEL OVER AND ON EITHER SIDE OF PIPES; GRAVEL NOT NECESSARY UNDER PIPES.  
 UNDERDRAIN PIPES AND CLEANOUTS SHOULD BE LOCATED IN THE QUANTITY AND ELEVATION FOUND ON THE GRADING AND DRAINAGE PLAN.  
 SANDY LOAM/LOAMY SAND; FINES SHOULD BE LIMITED TO TWENTY PERCENT OR LESS PASSING THROUGH A #200 SIEVE.  
 SEASONAL HIGH WATER TABLE NOT ENCOUNTERED AT BIO-RETENTION LOCATION BEFORE BORING TERMINATION AT A DEPTH OF 10.0'  
 SOD FOR BIO-RETENTION MUST NOT HAVE BEEN GROWN IN SOIL THAT HAS AN IMPERMEABLE LAYER, SUCH AS CLAY.

**BIORETENTION SOIL MIXTURE**

ITEM	PERCENT BY WEIGHT	MATERIAL
SAND	85-88%	MEDIUM TO COARSE WASHED SAND
FINES	8-12%	SILT AND CLAY
ORGANIC MATTER	3-5%	PINE BARK FINES

- BIORETENTION MAINTENANCE NOTES:**
- BIORETENTION AREA SHOULD DRAIN DOWN IN 12 HOURS AFTER A 1" STORM. IF WATER PONDS LONGER, MAINTENANCE IS REQUIRED.
  - REMOVE SEDIMENT FROM UPSTREAM DRAINAGE AREAS SO BIORETENTION DOES NOT CLOG.
  - REMOVE TRASH REGULARLY.

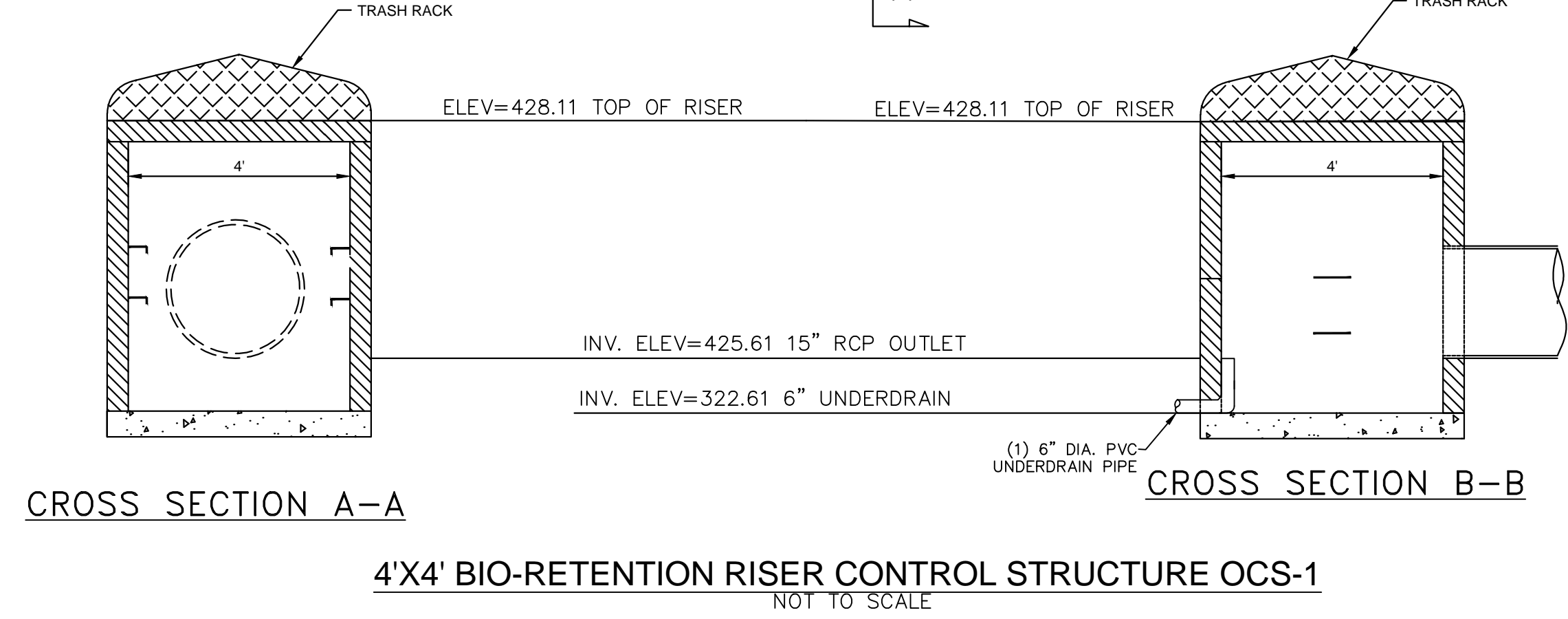
**Bioretention Soil Mixture (BSM):** shall be placed and graded using low ground-contact pressure equipment or by excavators and/or backhoes operating on the ground adjacent to the bioretention facility. No heavy equipment shall be used within the perimeter of the bioretention facility before, during, or after the placement of the BSM. The BSM shall be placed in horizontal layers not to exceed 12 inches for the entire area of the bioretention facility. The BSM shall be compacted by saturating the entire area of the bioretention facility after each lift of BSM is placed until water flows from the underdrain. Water for saturation shall be applied by spraying or sprinkling. An appropriate sediment control device shall be used to treat any sediment-laden water discharged from the underdrain. If the BSM becomes contaminated during the construction of the facility, the contaminated material shall be removed and replaced with uncontaminated material at no additional cost to the Owner. Final grading of the BSM shall be performed after a 24-hour setting period. Final elevations shall be within 2 inches of elevations shown on the Contract Plans.

The Bioretention Soil Mixture (BSM) shall be a uniform mix, free of stones, stumps, roots or other similar objects larger than two inches excluding mulch. No other materials or substances shall be mixed or dumped within the bioretention area that may be harmful to plant growth, or prove a hindrance to the planting or maintenance operations.

Prior to placing the underdrain and the BSM, the bottom of the excavation shall be roto-tilled to a minimum depth of 6 inches to alleviate any compaction of the facility bottom. Any substitute method for roto-tilling must be approved by the Engineer prior to use. Any ponded water shall be removed from the bottom of the facility and the soil shall be friable before roto-tilling.

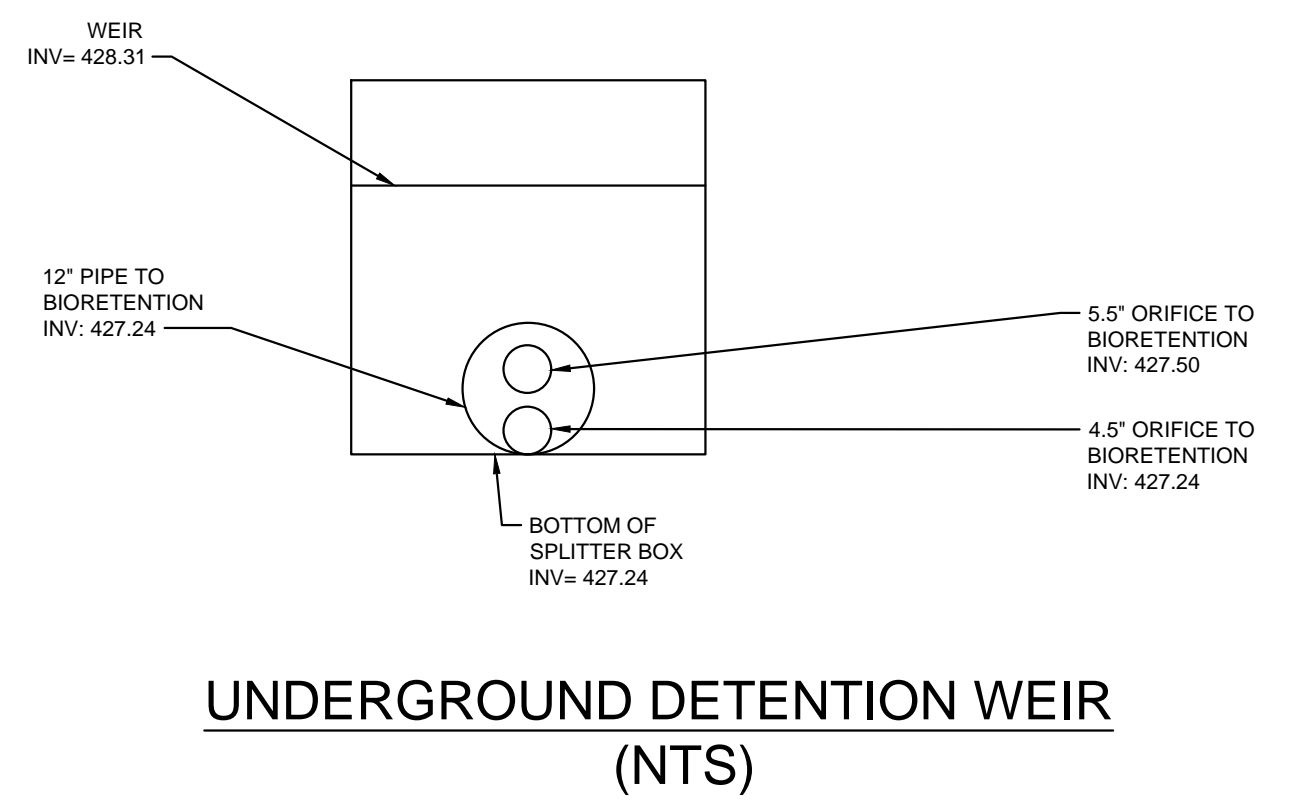
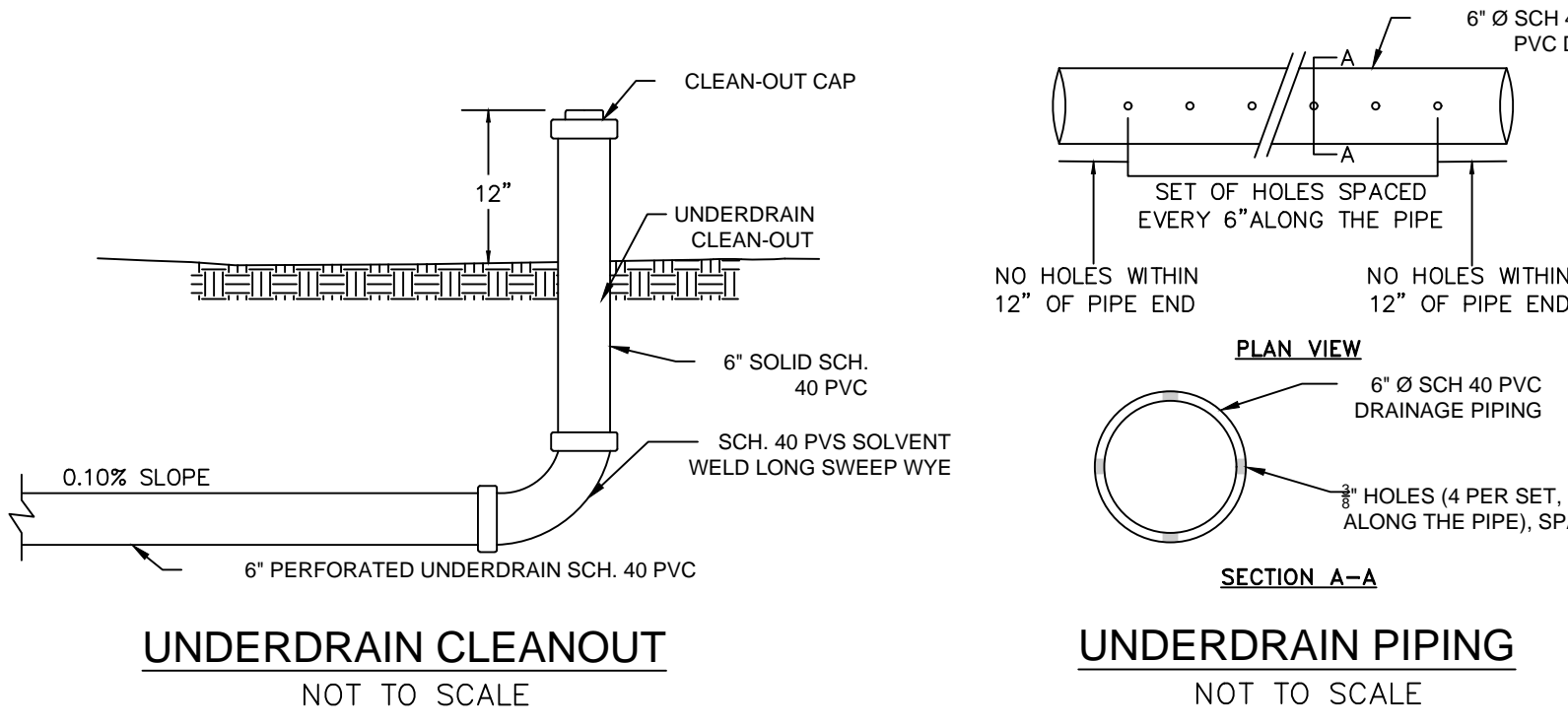
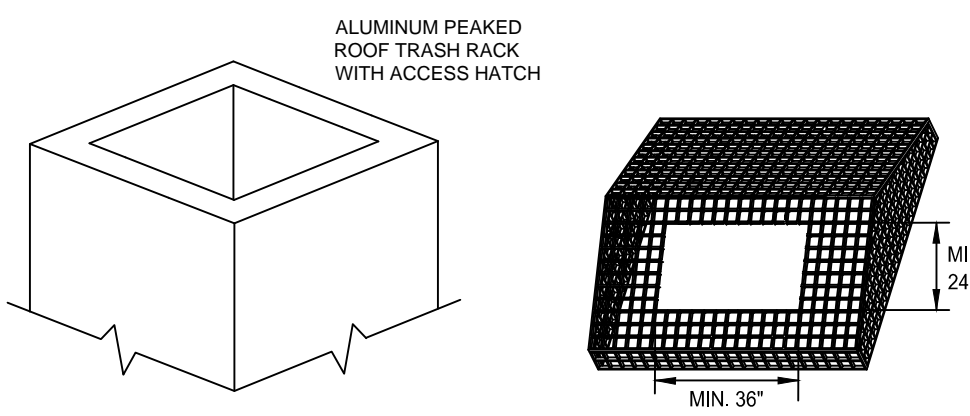
Native grasses shall be used in bioretention area.  
 Grassed sod must not be grown in soil with an impermeable (clay) layer.  
 BSM must have a P-index of 10 to 30.

**NOTE:**  
 OUTLET/RISER STRUCTURE TO BE CONSTRUCTED OF REINFORCED CONCRETE, TYPICAL.



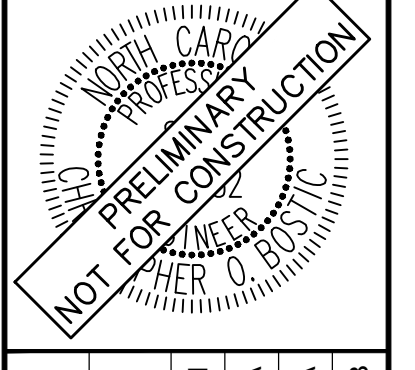
**GENERAL NOTES:**

- PRINCIPAL SPILLWAY PIPES SHALL BE A MINIMUM OF 15 INCHES IN DIAMETER, SHALL BE REINFORCED CONCRETE, AND SHALL HAVE A MINIMUM PIPE STRENGTH CONFORMING TO AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) C-76, CLASS III STANDARDS.
- THE RUBBER GASKETED JOINT PIPE SHALL ALSO BE WRAPPED WITH A LAYER OF GEOTEXTILE FILTER FABRIC ON THE OUTSIDE OF THE PIPE AT EACH JOINT. THE FABRIC SHALL MEET NCDOT SPECIFICATIONS FOR TYPE II FILTER FABRIC. SEE SECTION 1056 (TABLE 1056-1) IN THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION'S 2012 EDITION OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES. THE FABRIC WRAP SHALL BE BETWEEN TWO AND THREE FEET WIDE, SHALL BE CENTERED OVER EACH PIPE JOINT, AND SHALL COVER A MINIMUM OF ONE-FOOT LENGTH OF EACH PIPE SEGMENT.
- RISER STRUCTURES CONSTRUCTED WITH MULTIPLE BARREL SECTIONS SHALL HAVE WATER-TIGHT JOINTS, AND EACH SECTION SHALL BE BOLTED TO ADJACENT SECTIONS WITH STAINLESS STEEL STRIPS AND HARDWARE.
- CLOSED SYSTEM RISER STRUCTURES (RISER STRUCTURES WHICH OUTLET INTO A CLOSED CONVEYANCE SYSTEM) WITH MULTIPLE BARREL SECTIONS SHALL HAVE GASKETED JOINTS, AND EACH SECTION SHALL BE BOLTED TO ADJACENT SECTIONS WITH STAINLESS STEEL STRIPS AND HARDWARE.
- A CONCRETE CURTAIN WALL A MINIMUM OF EIGHTEEN INCHES (18") IN DEPTH OR TO THE BOTTOM OF THE RIP-RAP ENERGY DISSIPATION, WHICHEVER IS GREATER, IS REQUIRED FOR THE INLET AND OUTLET PIPE ENDWALLS. THE CURTAIN WALL SHALL BE A MINIMUM OF SIX INCHES (6") IN WIDTH AND SHALL BE INTEGRAL TO THE DESIGN AND CONSTRUCTION (E.G. THERE MUST BE A BOND BETWEEN THE CURTAIN WALL AND THE FES/ENDWALL).
- AN AS-BUILT ACCEPTABLE TO THE CITY OF DURHAM SHALL BE PROVIDED FOR THIS BIO-RETENTION CELL. ONLY COVER ITEMS AND PROCEED TO THE NEXT STEP IN THE CONSTRUCTION SEQUENCE AFTER INSPECTION AND APPROVAL FROM THE OWNER'S CERTIFYING AGENT OR THE CITY INSPECTOR.
- BIORETENTION AREA TO BE COMPLETELY FREE OF SEDIMENT ACCUMULATED FROM TEMPORARY SEDIMENT TRAP PRIOR TO INSTALLATION OF BIO-RETENTION FILTER MEDIA. BIO-RETENTION FILTER MEDIA SHALL NOT BE INSTALLED UNTIL ENTIRE DRAINAGE AREA TO THE BIO-RETENTION AREA IS FULLY STABILIZED. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL AND REPLACEMENT OF FILTER MEDIA IF CONTAMINATION WITH SILT/FINES OCCURS.



No.	REVISIONS	DATE	BY
1	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
3	TOWN COMMENTS	01/02/2024	JAA

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 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



KHA PROJECT	0130031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

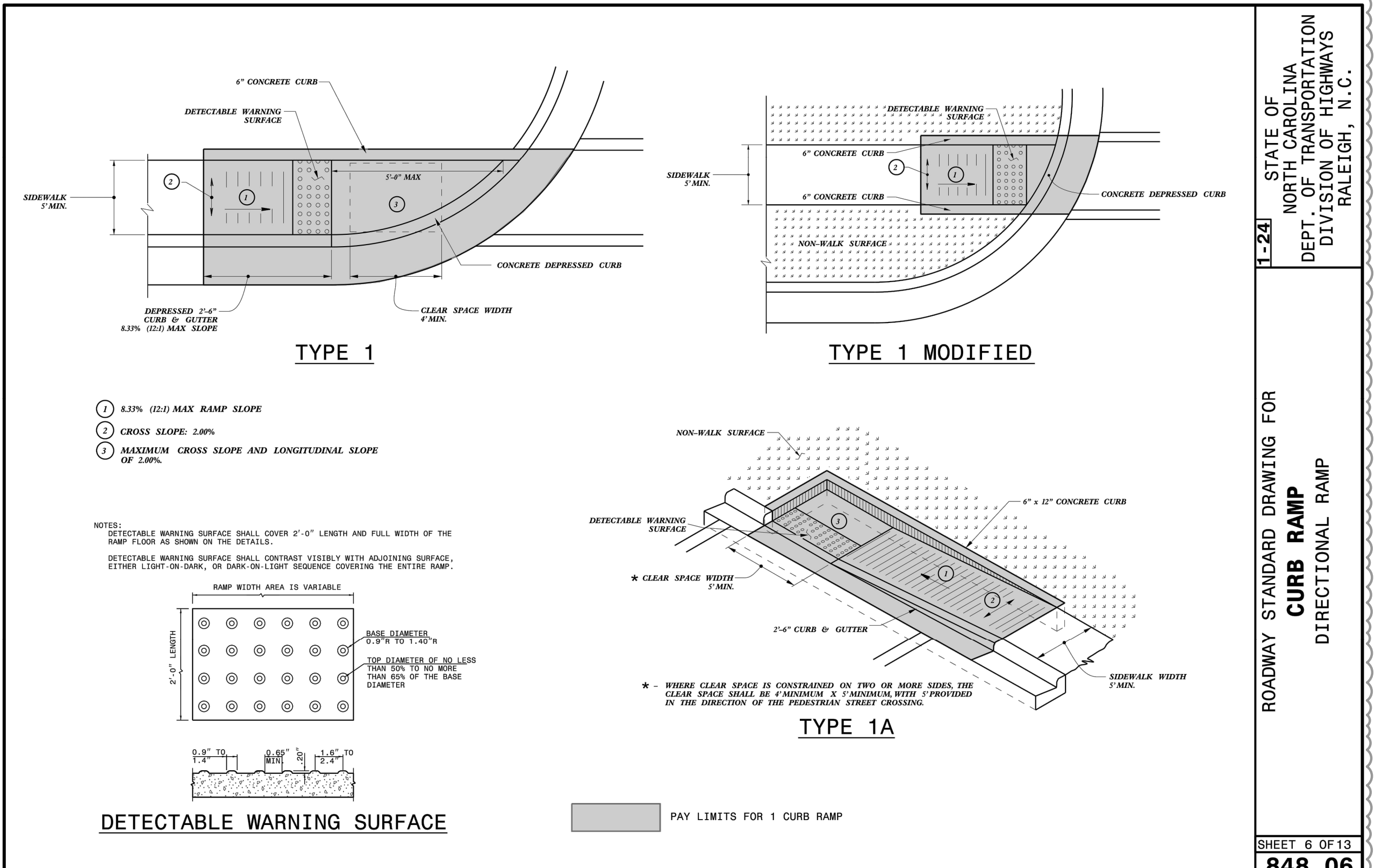
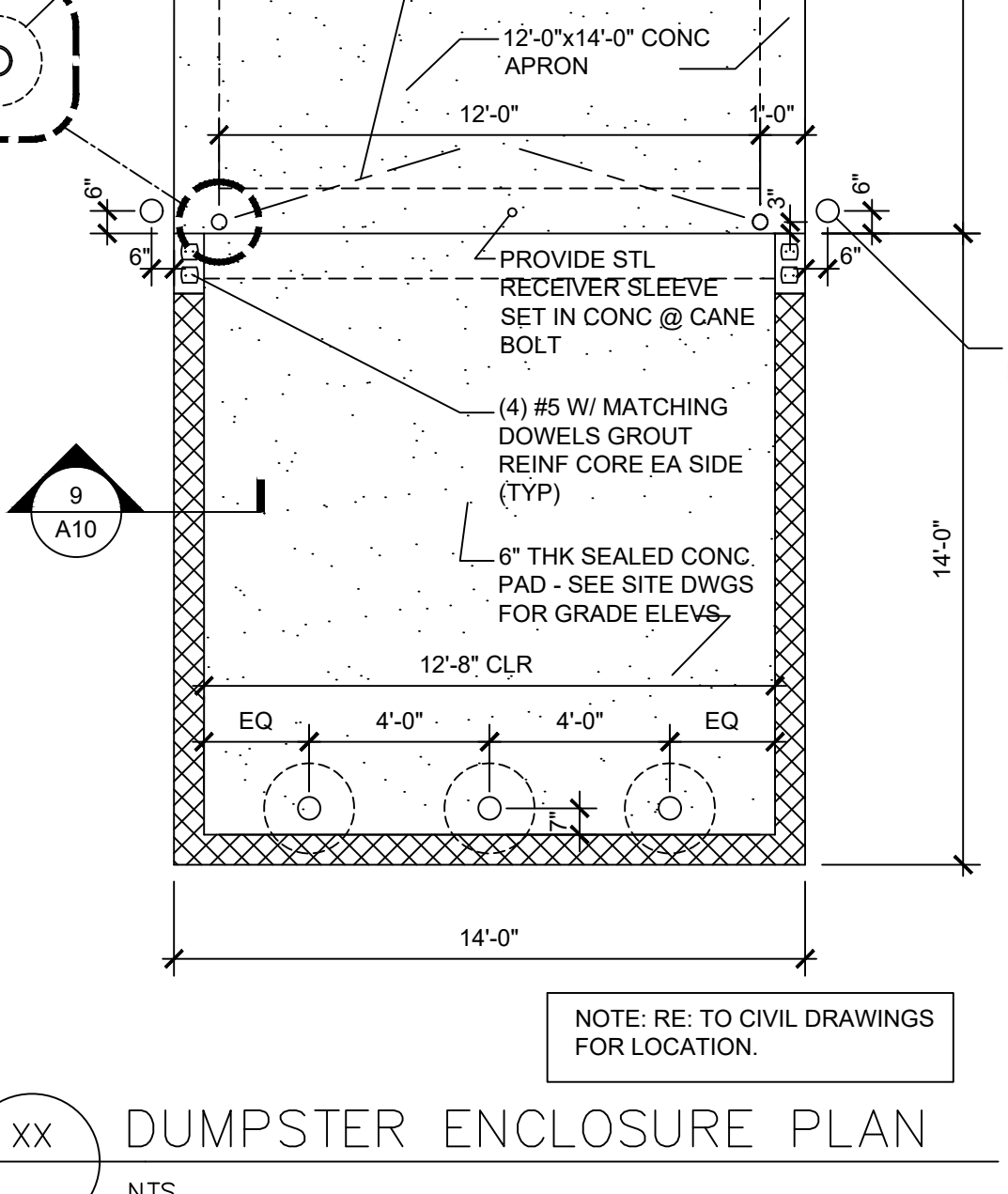
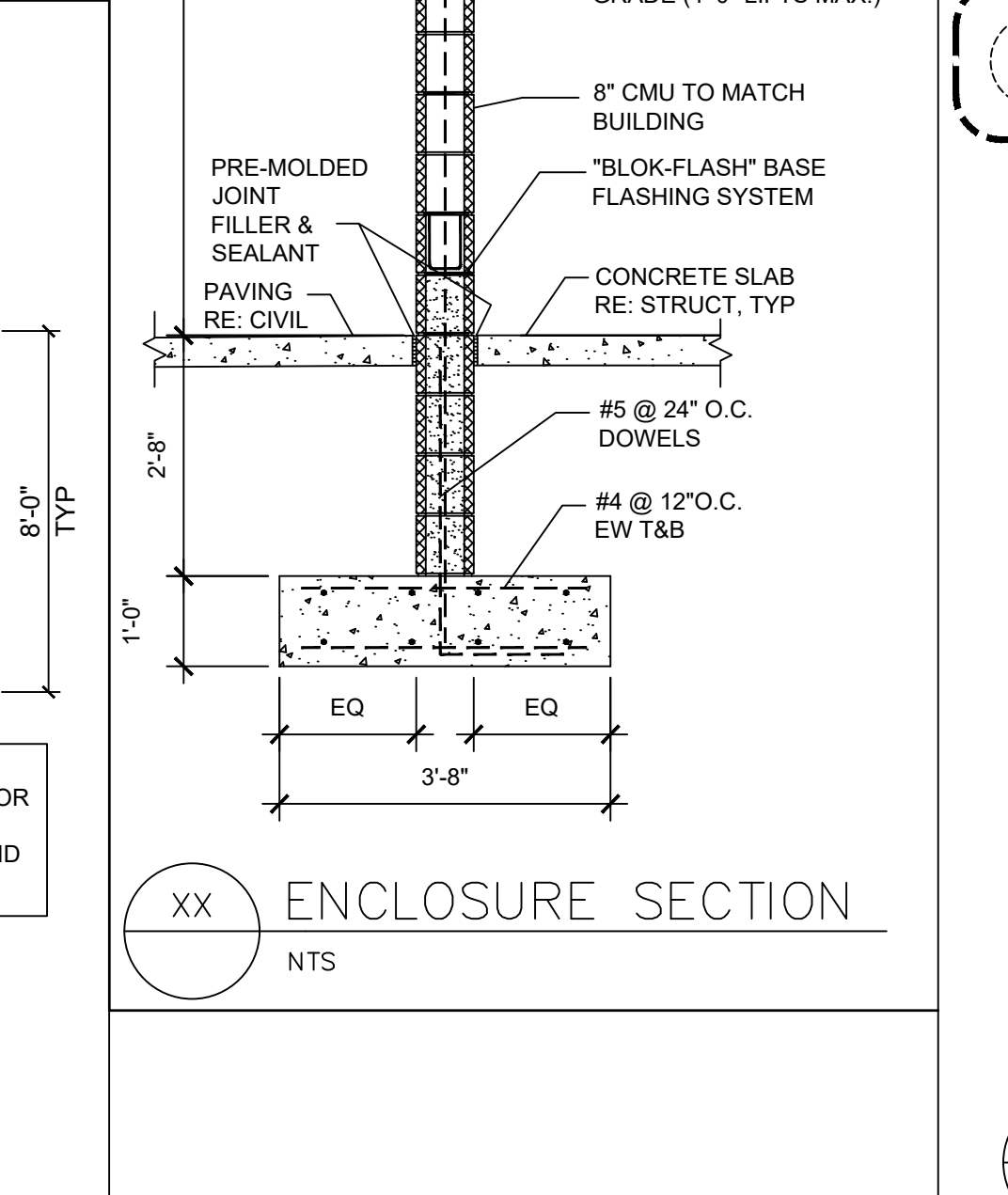
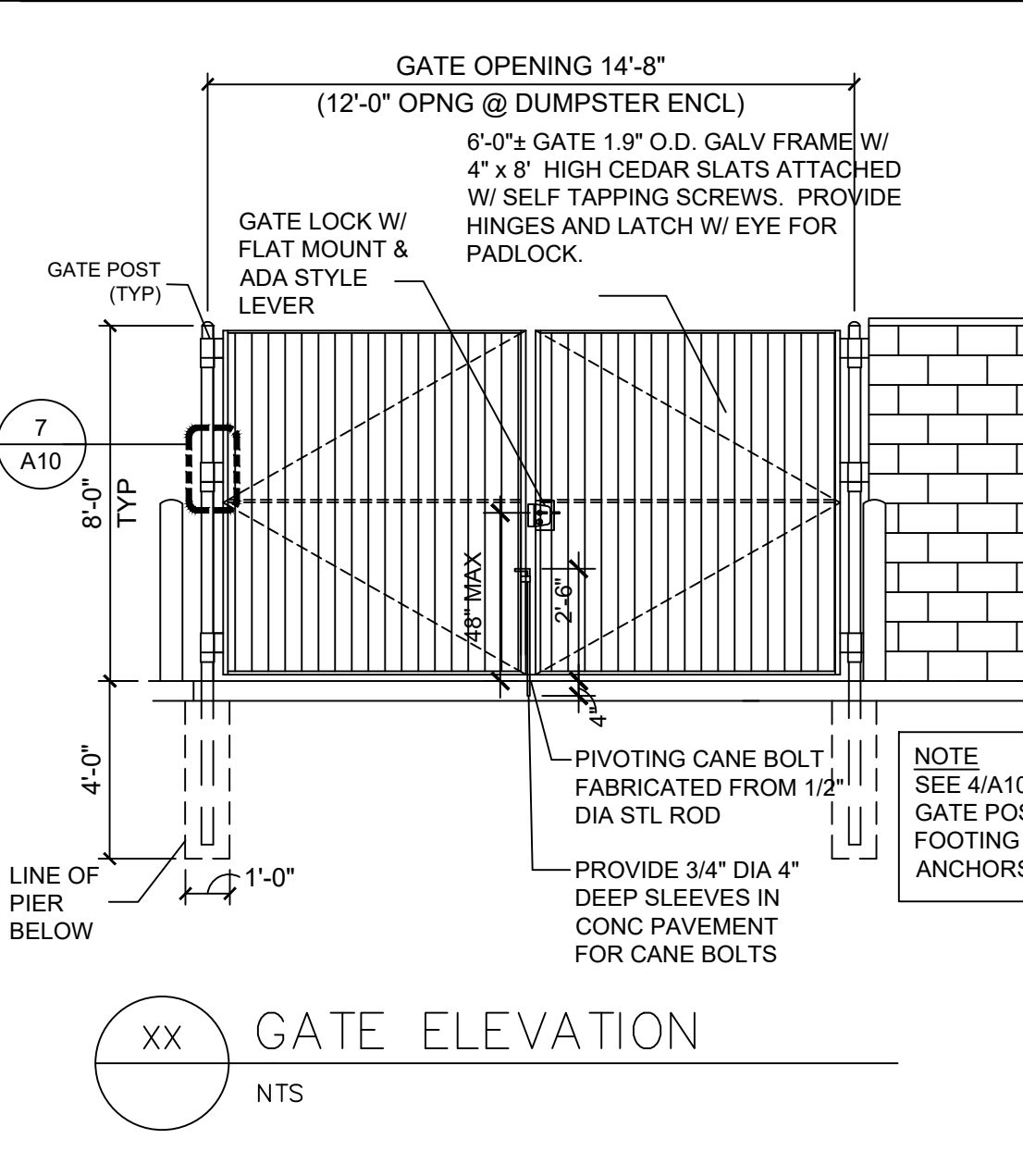
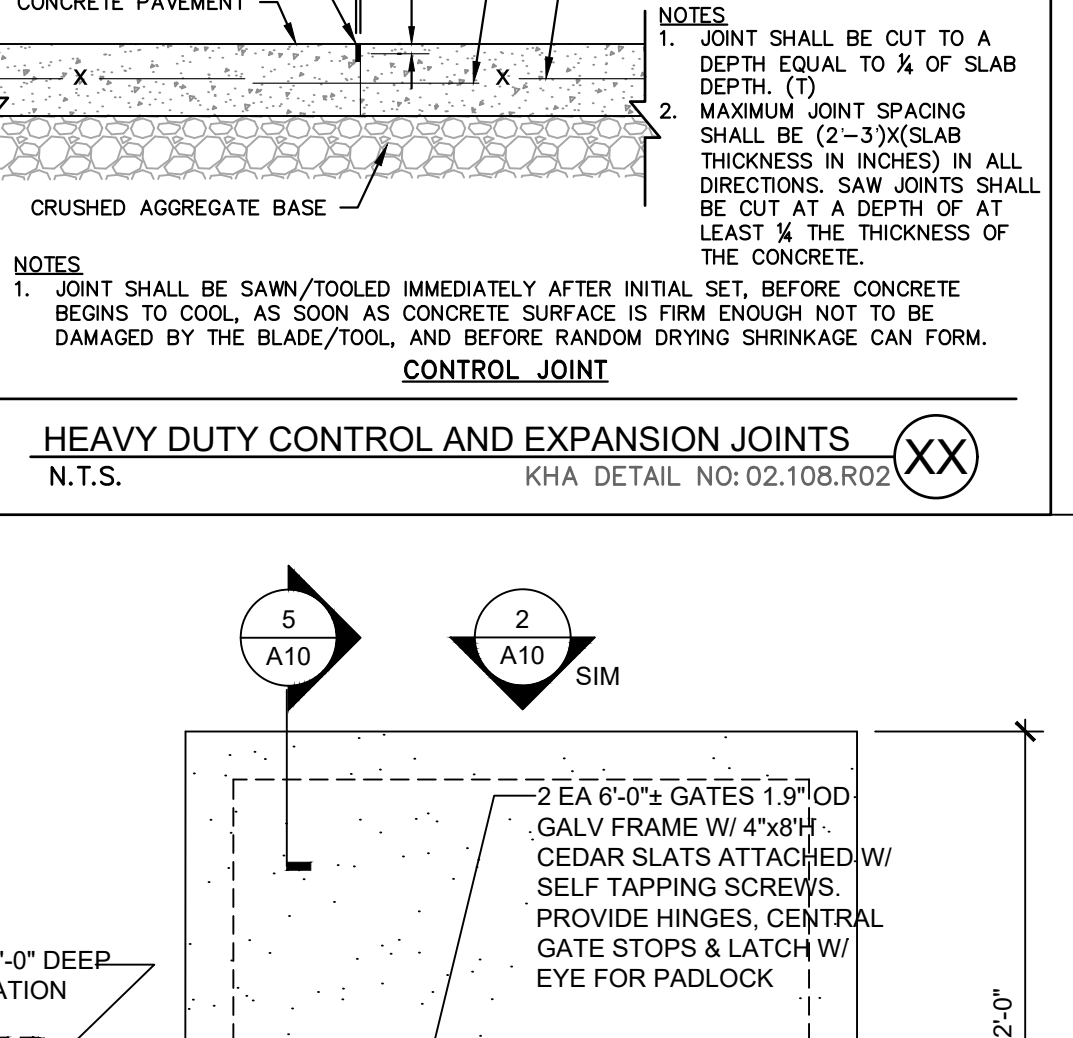
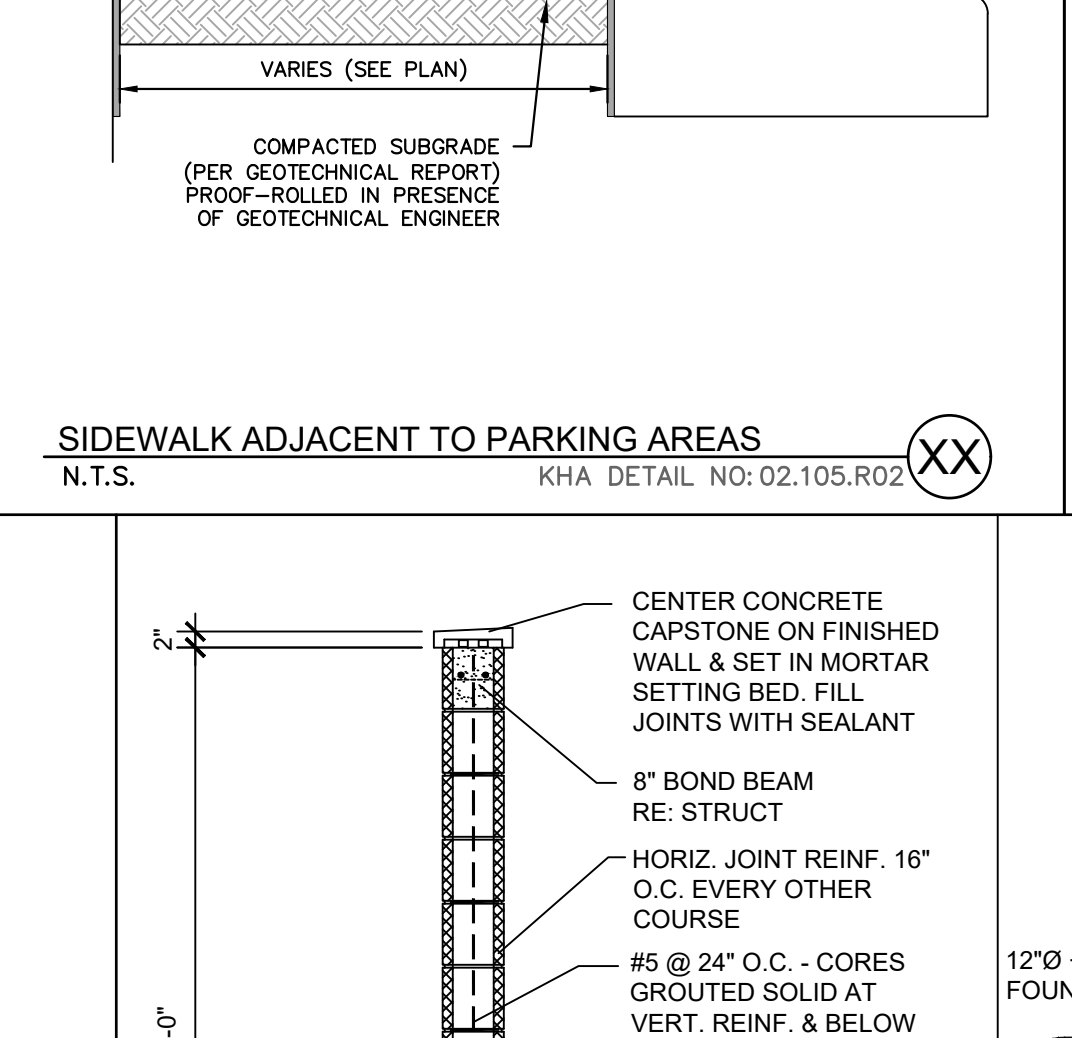
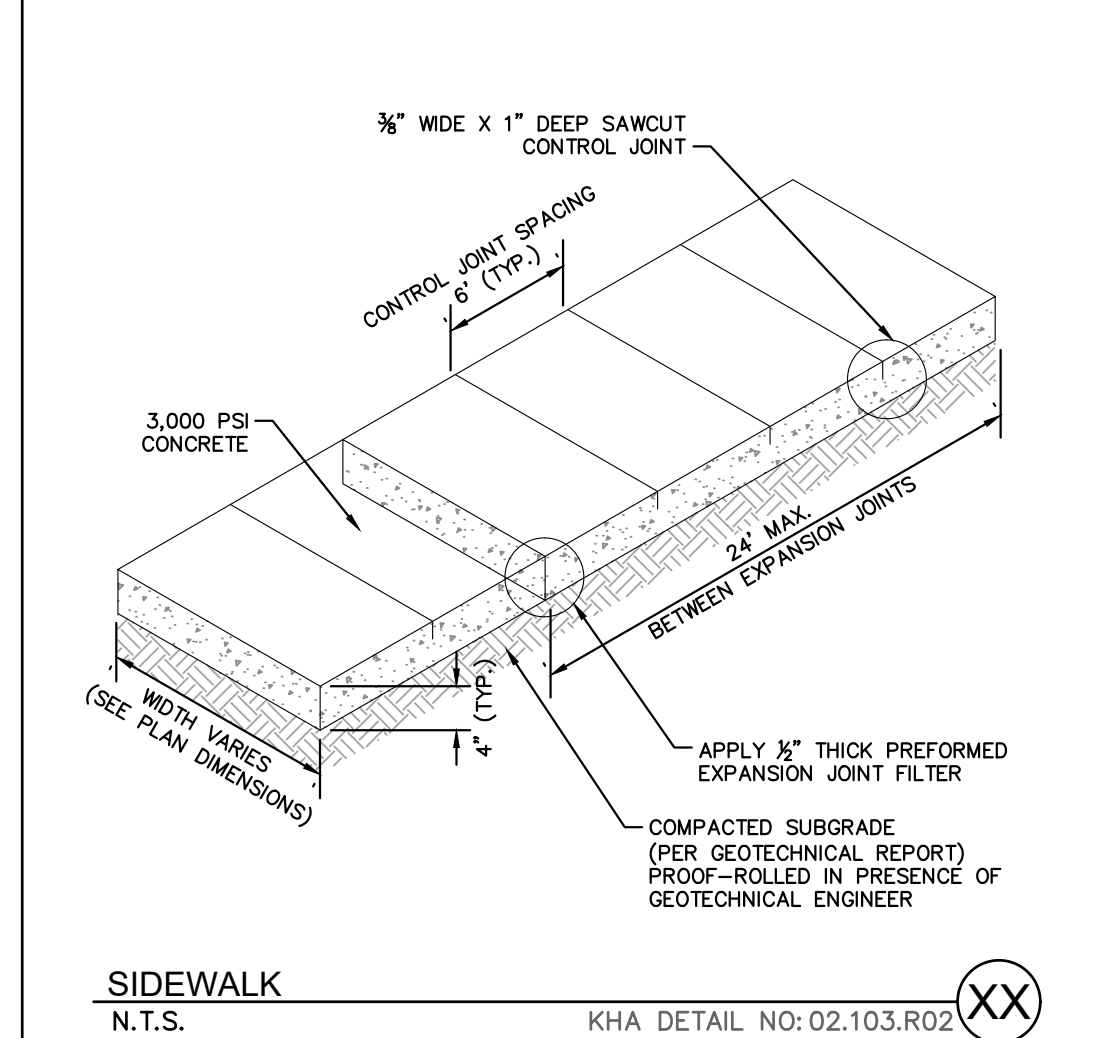
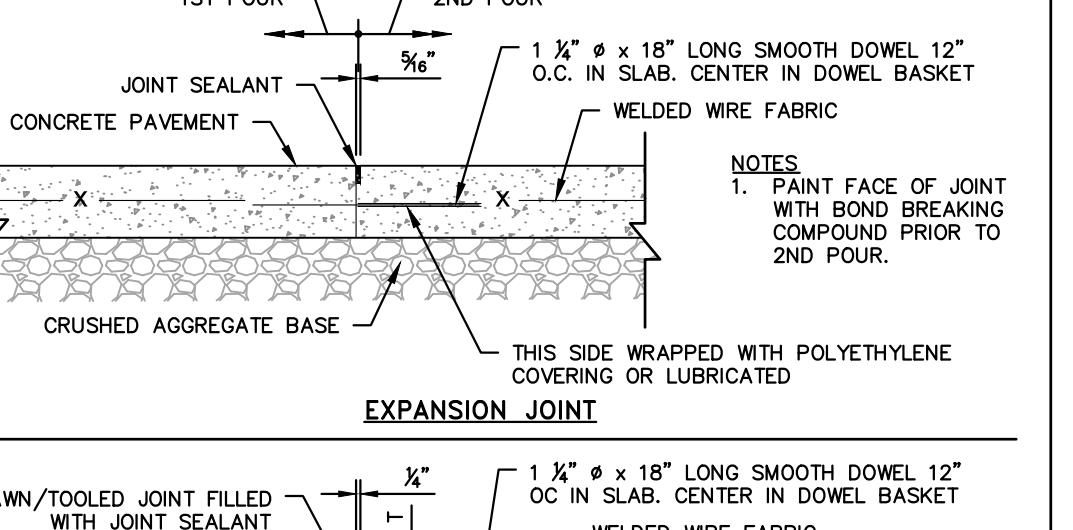
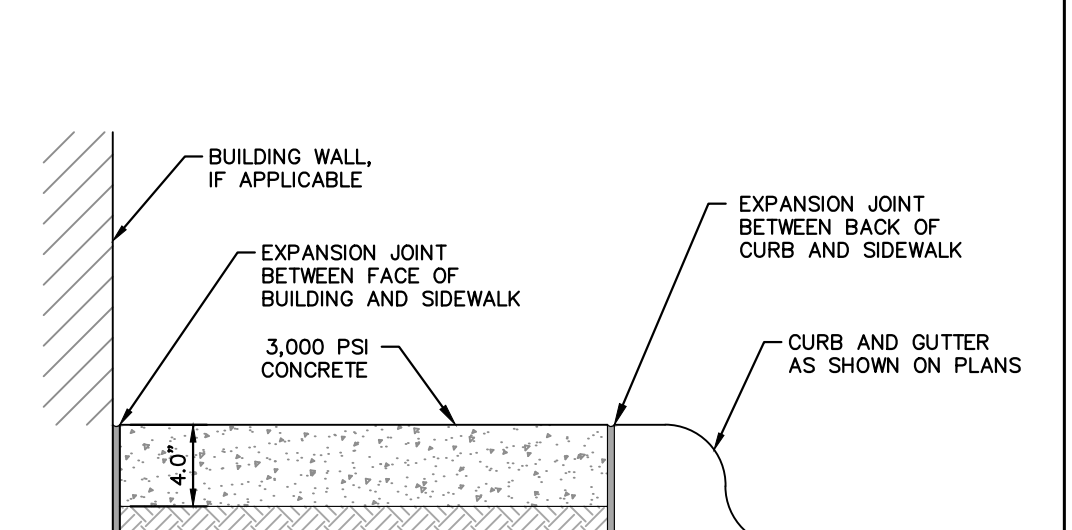
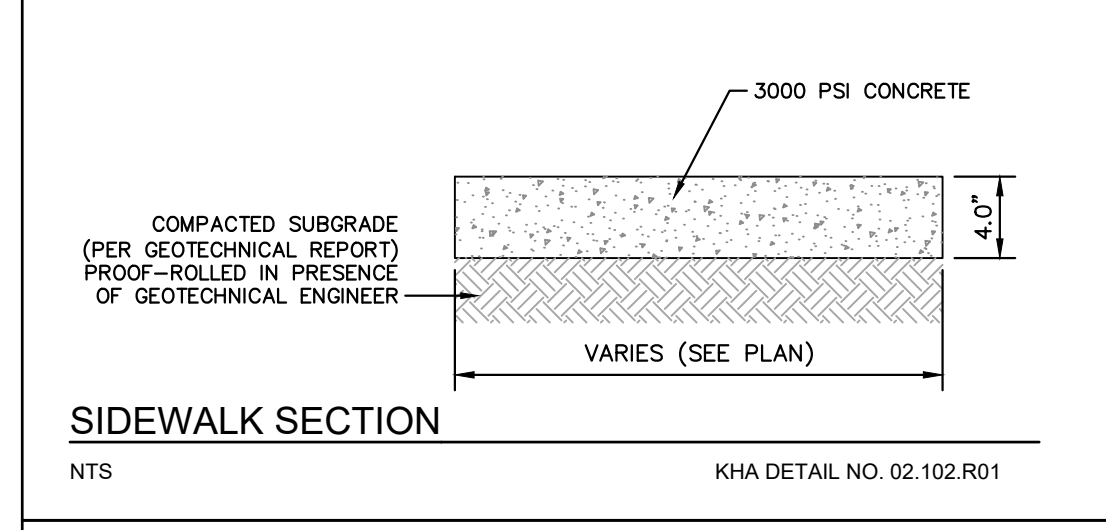
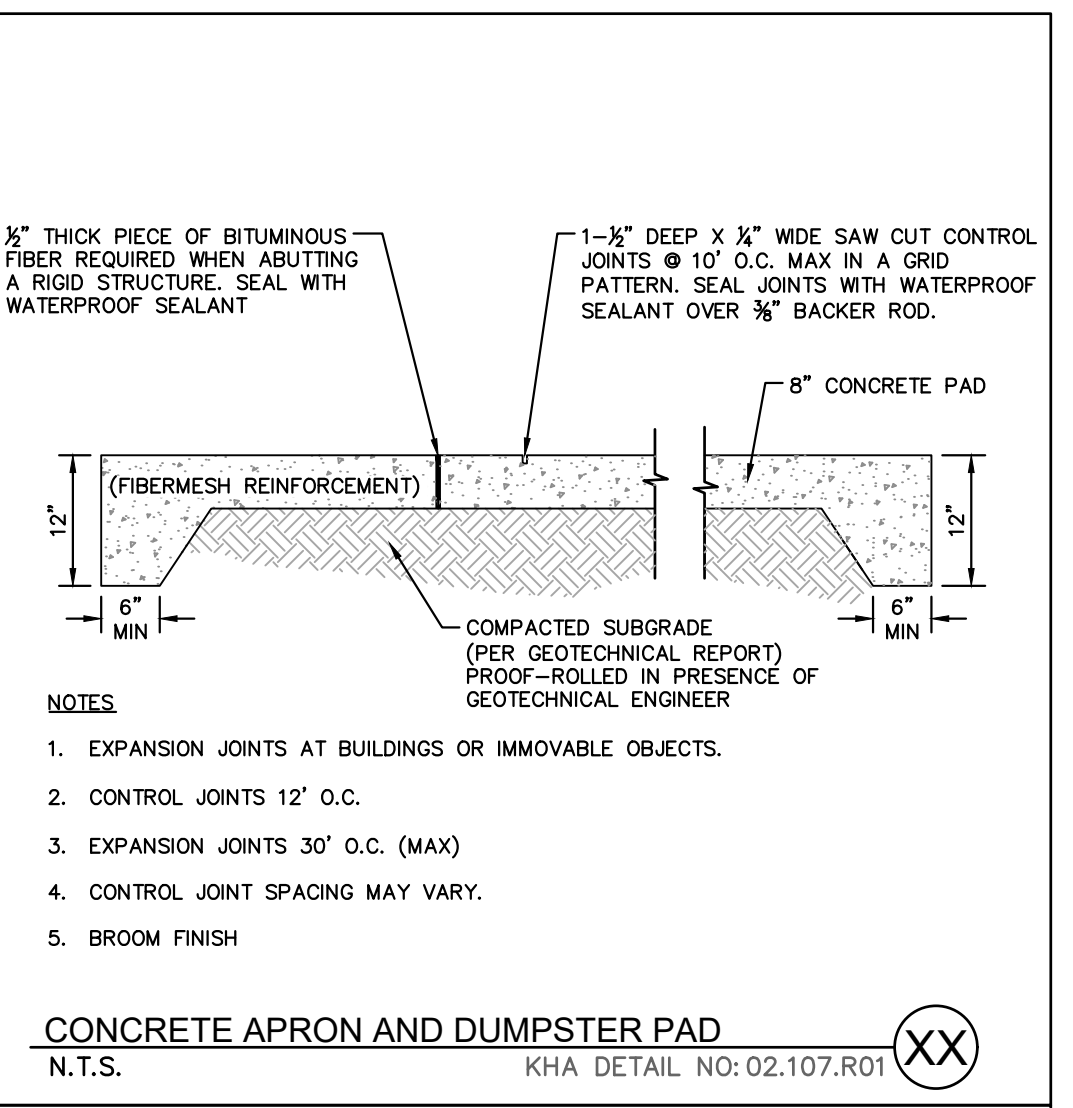
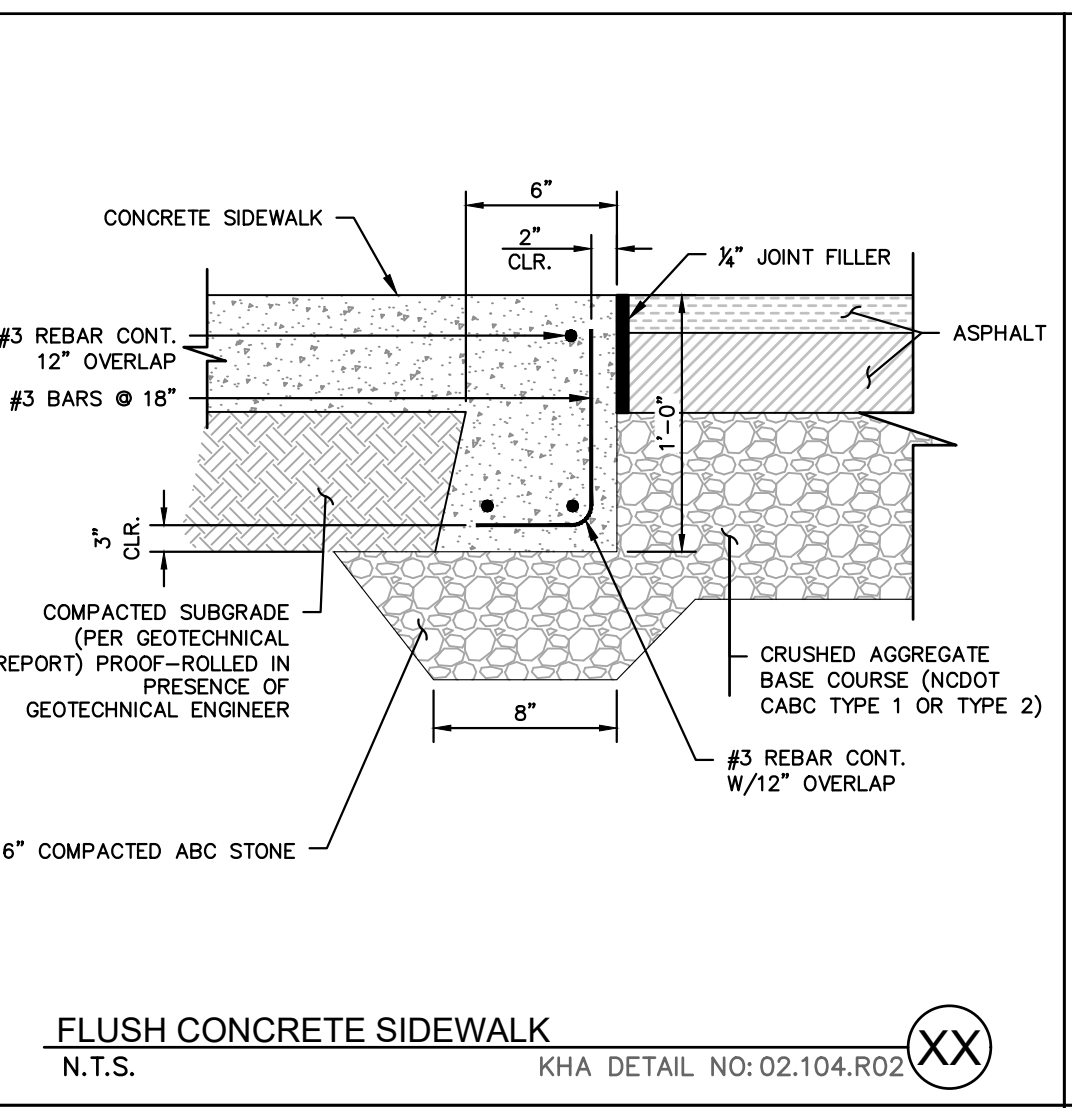
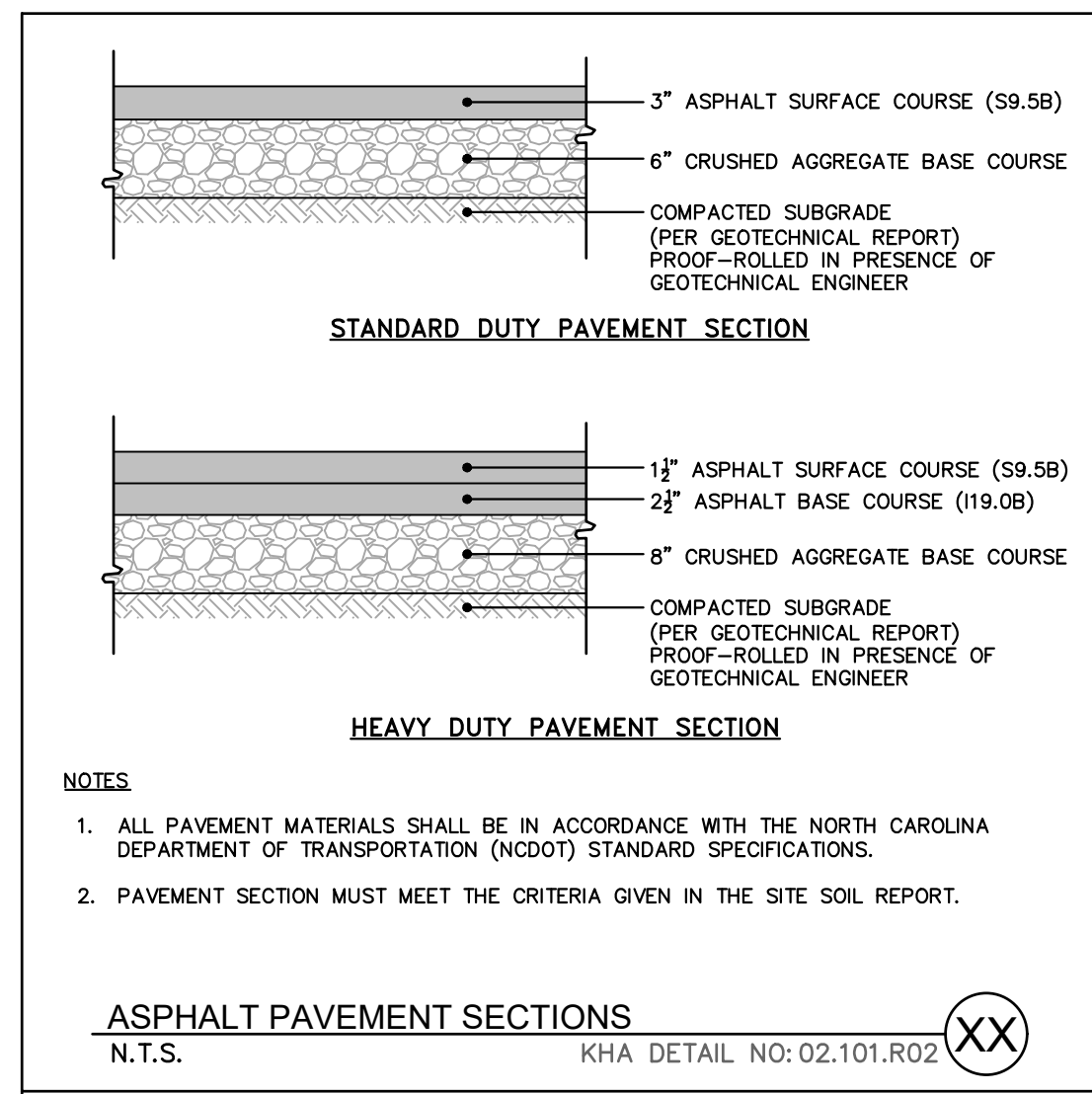
**UNDERGROUND DETENTION AND BIORETENTION DETAILS**

THE LEARNING CENTER ROLESVILLE  
 PREPARED FOR ROLESVILLE, LLC.  
 TOWN OF ROLESVILLE NORTH CAROLINA





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- NOTES**
- CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
  - LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
  - COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
  - SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
  - REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
  - TERMINATE PARKING A MINIMUM OF 20' FROM THE BACK OF PEDESTRIAN CROSSWALK.
  - CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
  - CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
  - ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
  - CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
  - CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
  - CONSTRUCT CLEAR SPACES FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT CLEAR SPACES FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. IF CONSTRAINED ON TWO OR MORE SIDES, THE CLEAR SPACE SHALL BE 4' MINIMUM X 5' MINIMUM, WITH 5' PROVIDED IN THE DIRECTION OF THE PEDESTRIAN STREET CROSSING.
  - TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGH THE ISLAND.
  - SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'x5' CLEAR SPACE AT THE TOP OF RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
  - CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP, WHERE THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE, OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
  - PLACE A 1/2" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01.
  - PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
  - DETECTABLE WARNING SURFACES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
  - DETECTABLE WARNING SURFACES WILL CONTRAST VISIBLY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



**SURVEY NOTE:**  
EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27888. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION. DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.		ROADWAY STANDARD DRAWING FOR CURB RAMP DIRECTIONAL RAMP		SHEET 6 OF 13		848.06	
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.		ROADWAY STANDARD DRAWING FOR CURB RAMP NOTES		SHEET 13 OF 13		848.06	
KHA PROJECT 013031004		DATE 09/29/2023		SCALE AS SHOWN		DESIGNED BY JAA	
DRAWN BY JAA		CHECKED BY COB		TOWN COMMENTS 05/01/2024 JAA		TOWN COMMENTS 03/01/2024 JAA	
TOWN COMMENTS 01/02/2024 JAA		REVISIONS		DATE		BY	
TOWN COMMENTS 01/02/2024 JAA		TOWN COMMENTS 03/01/2024 JAA		TOWN COMMENTS 01/02/2024 JAA		TOWN COMMENTS 05/01/2024 JAA	

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**NOT FOR CONSTRUCTION**

**SITE DETAILS**

**THE LEARNING CENTER ROLESVILLE**  
PREPARED FOR ROLESVILLE, LLC.  
TOWN OF ROLESVILLE NORTH CAROLINA

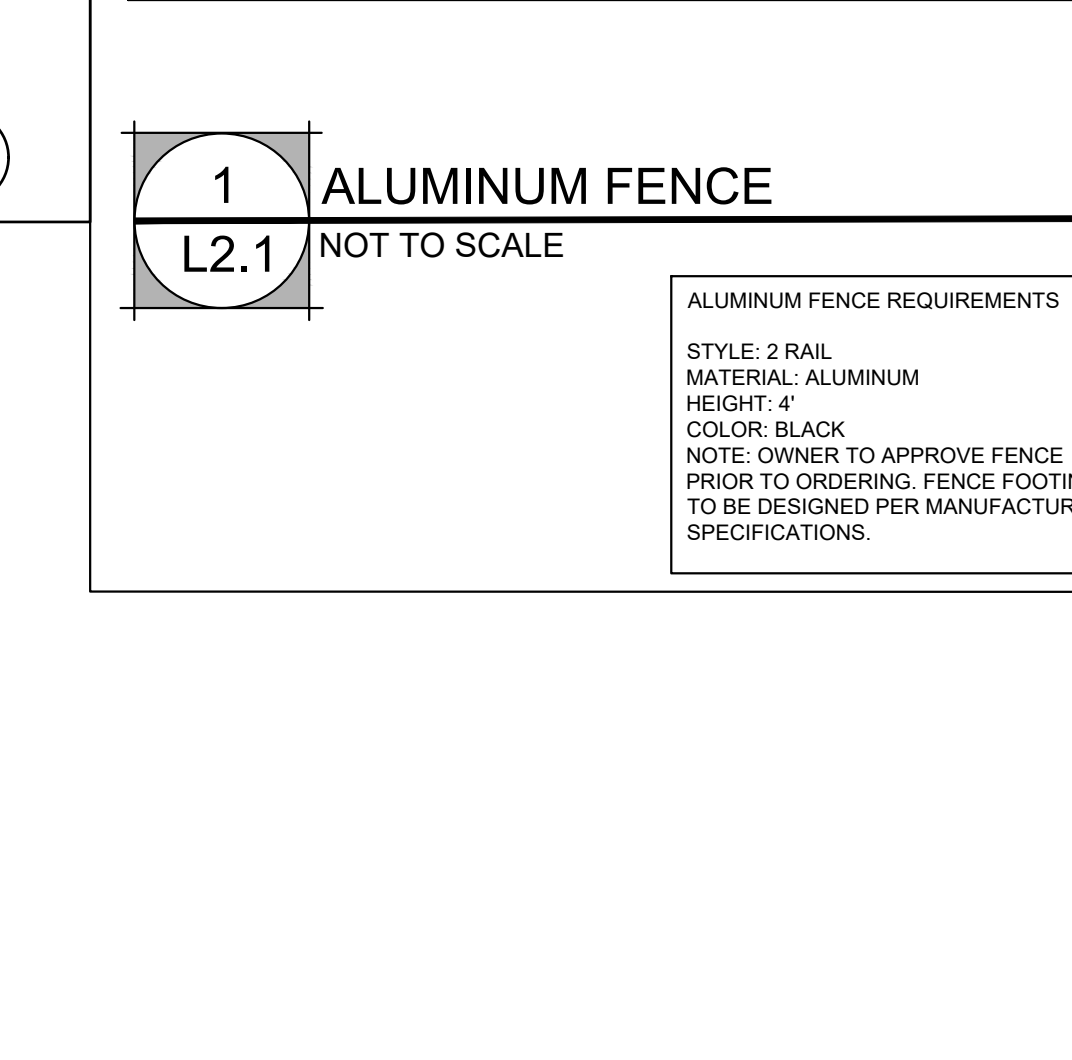
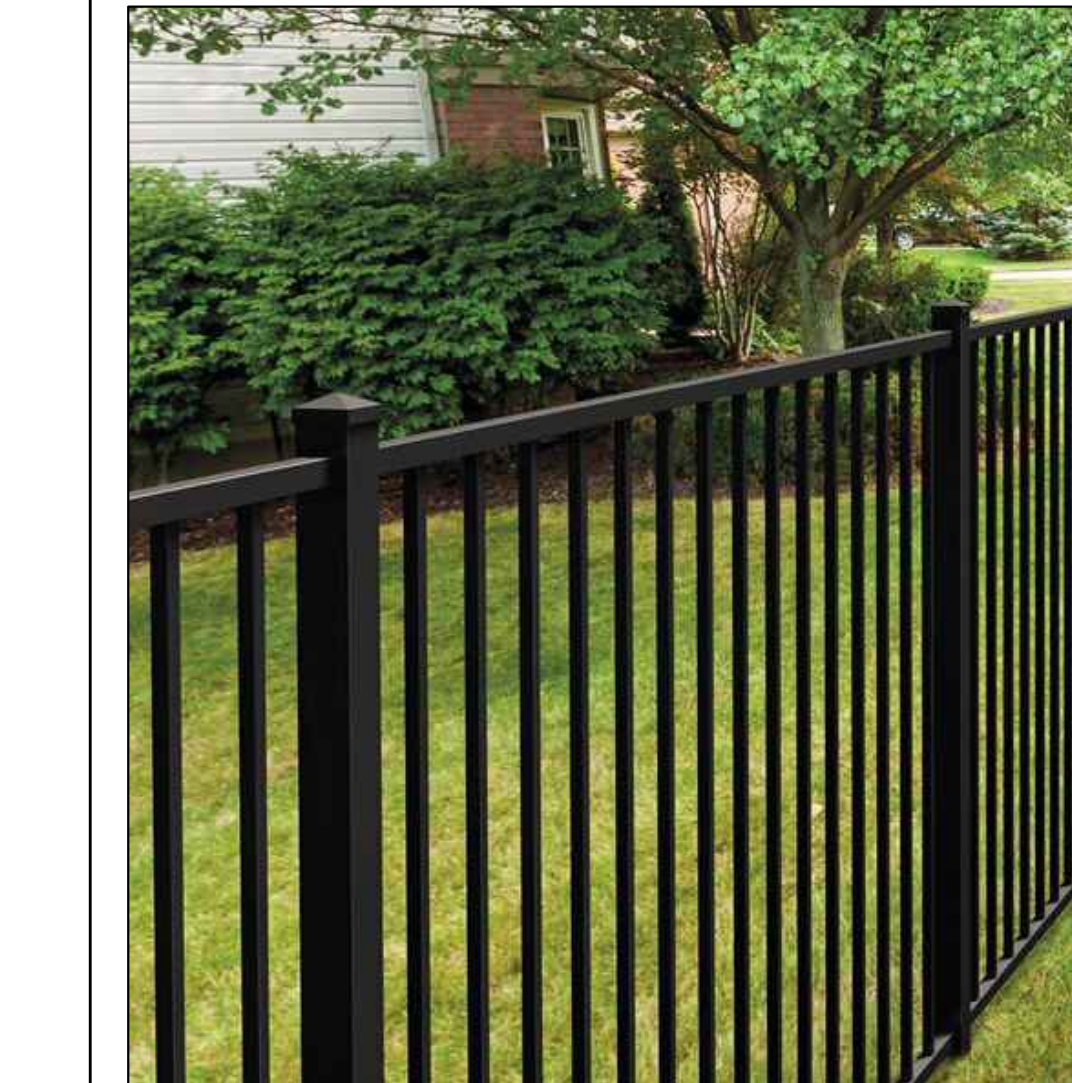
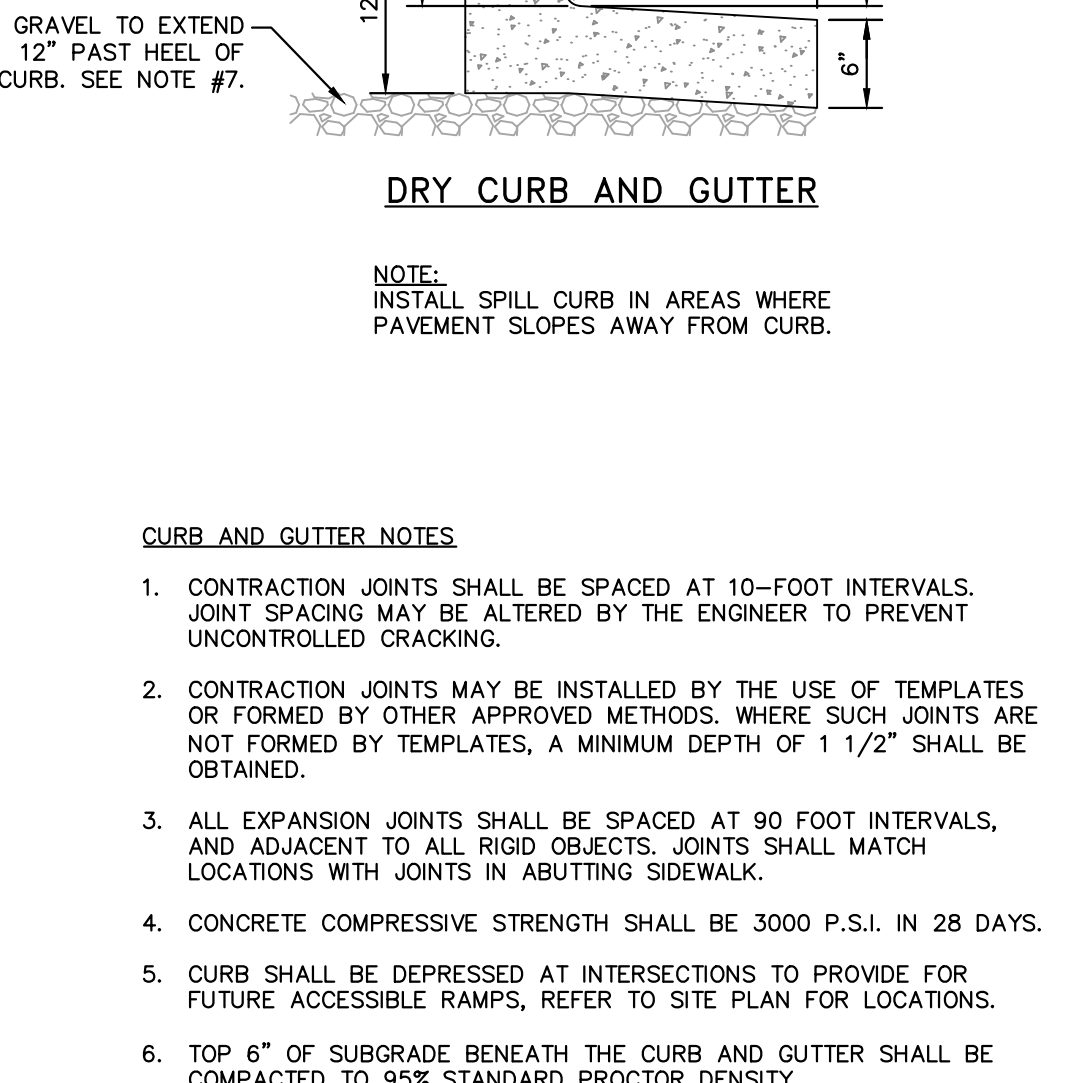
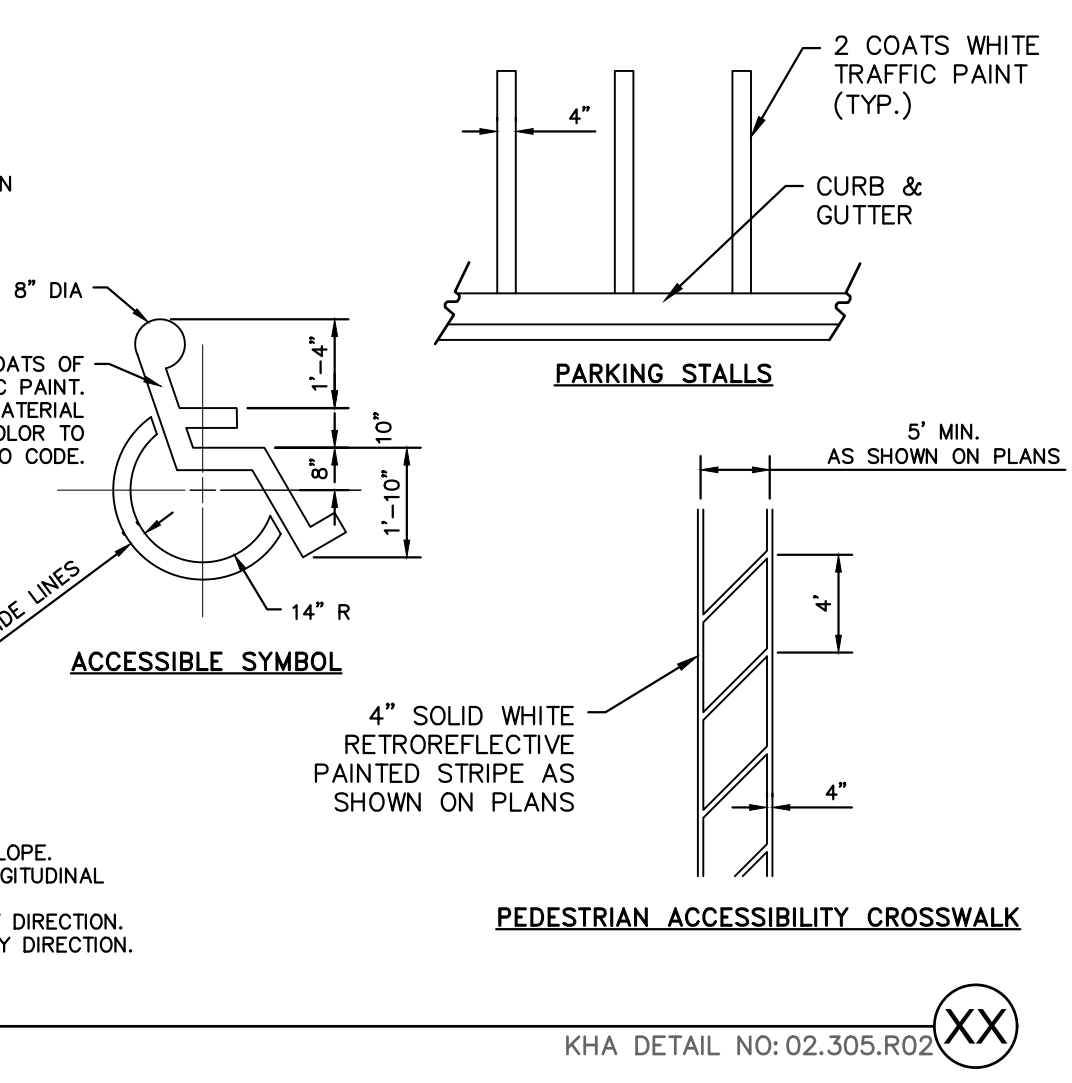
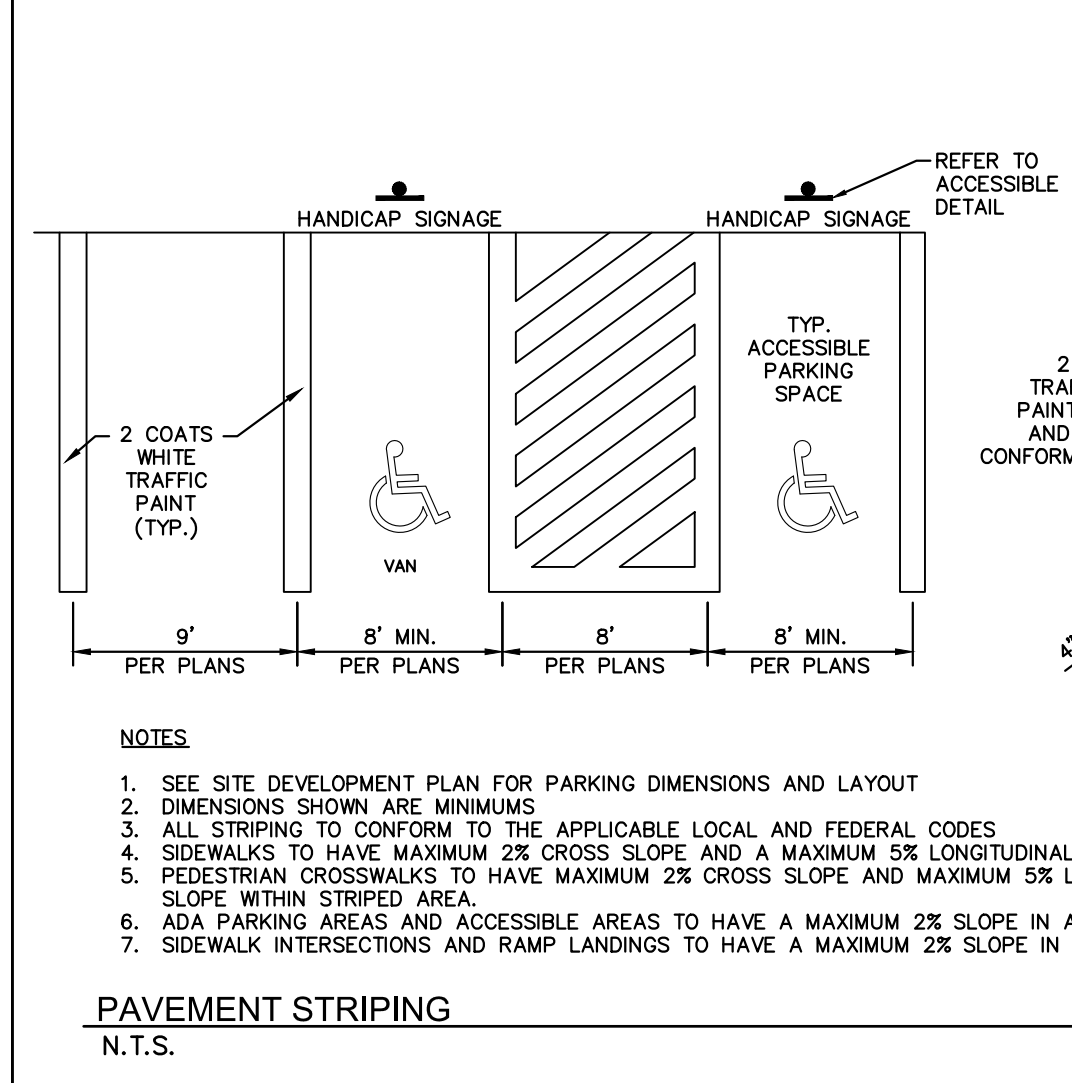
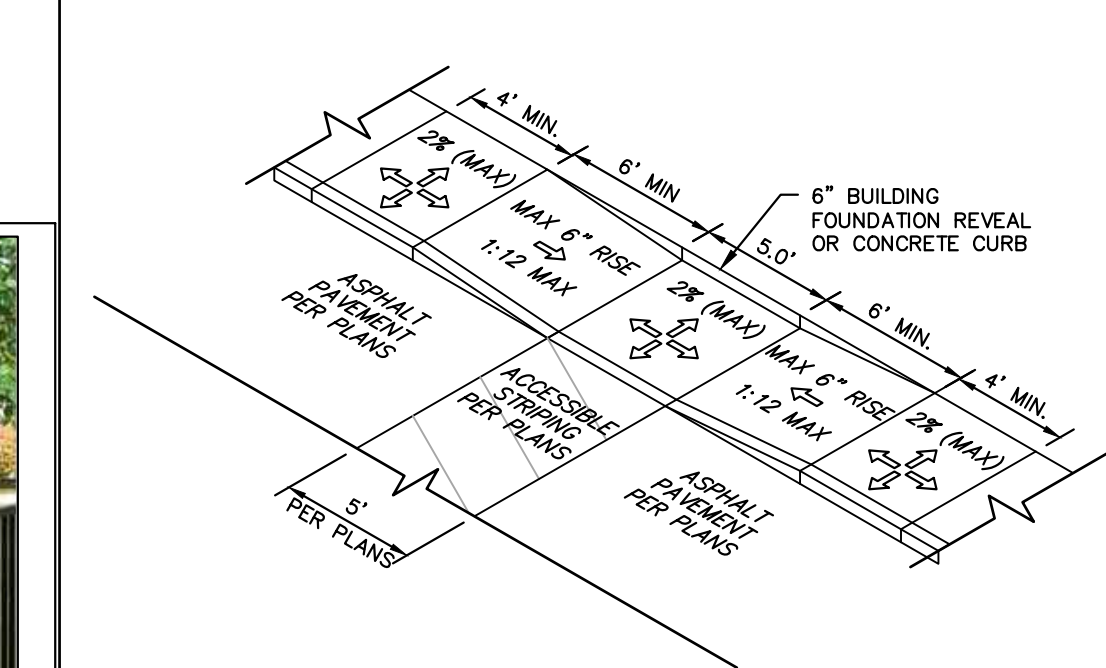
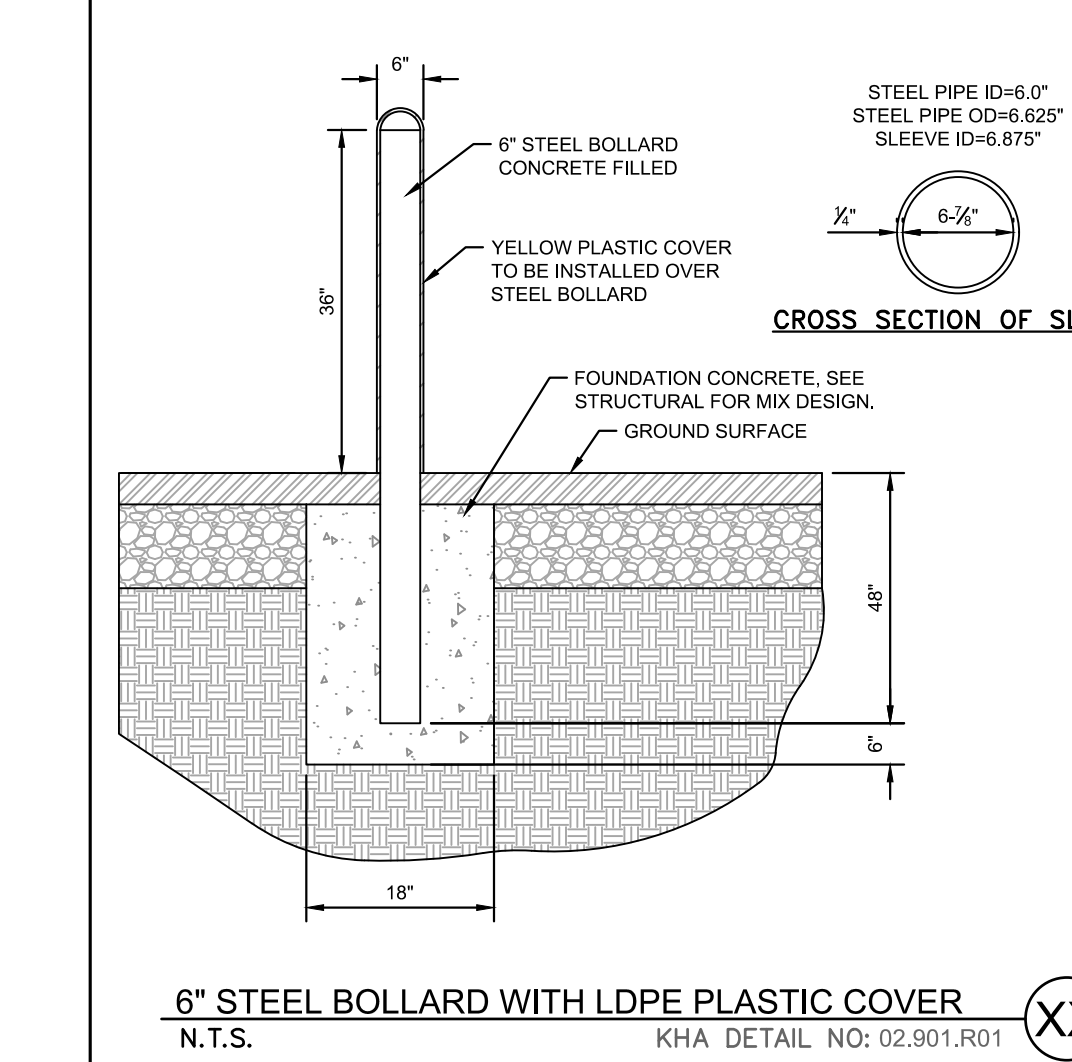
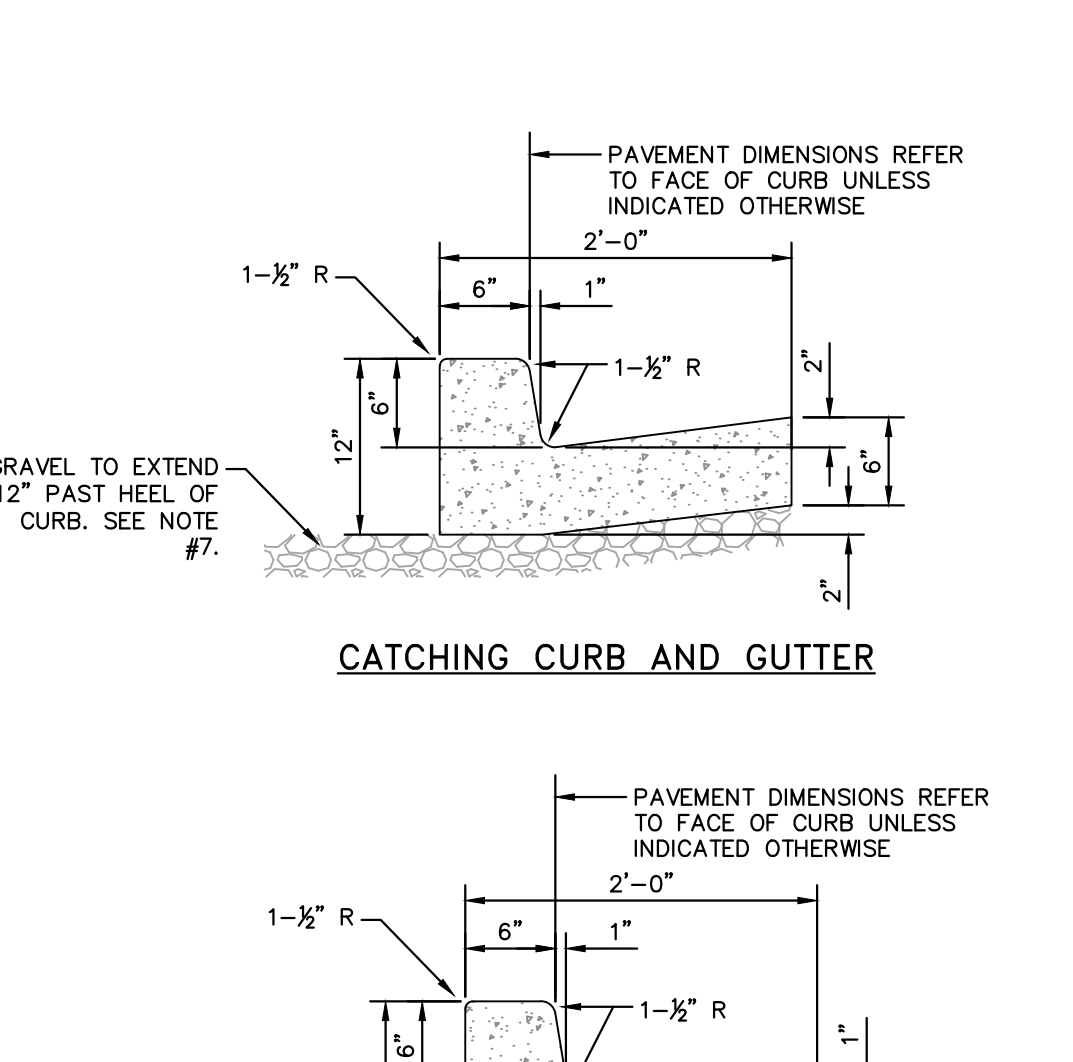
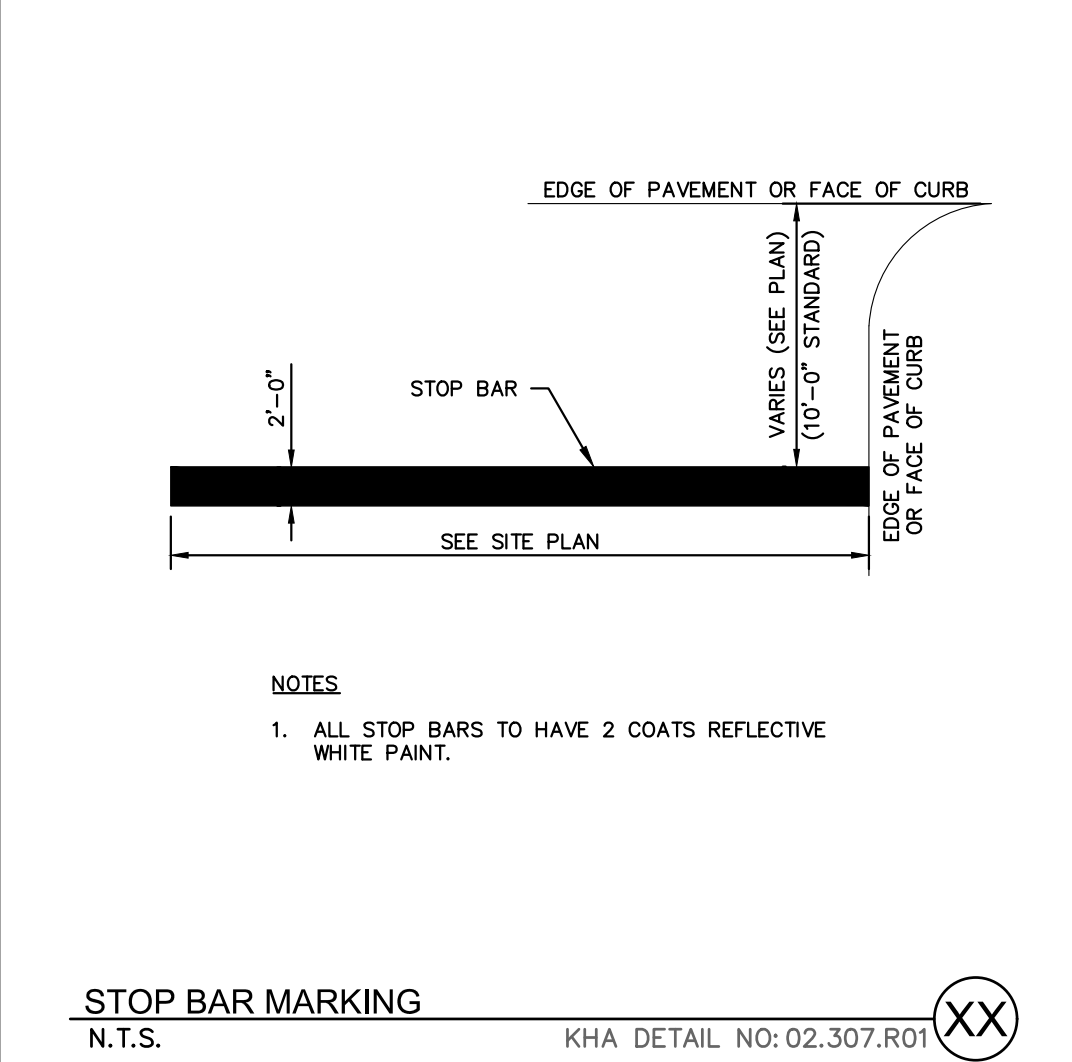
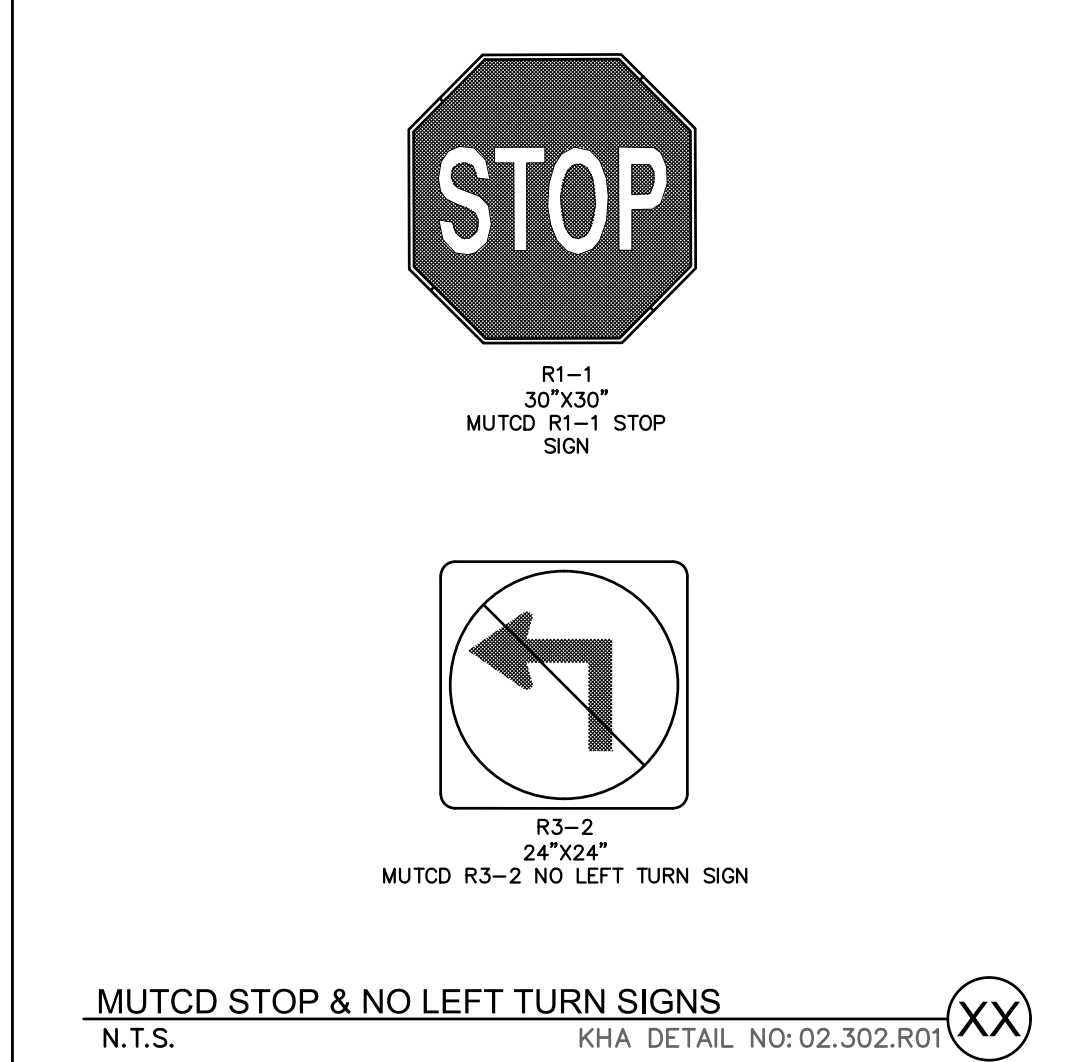
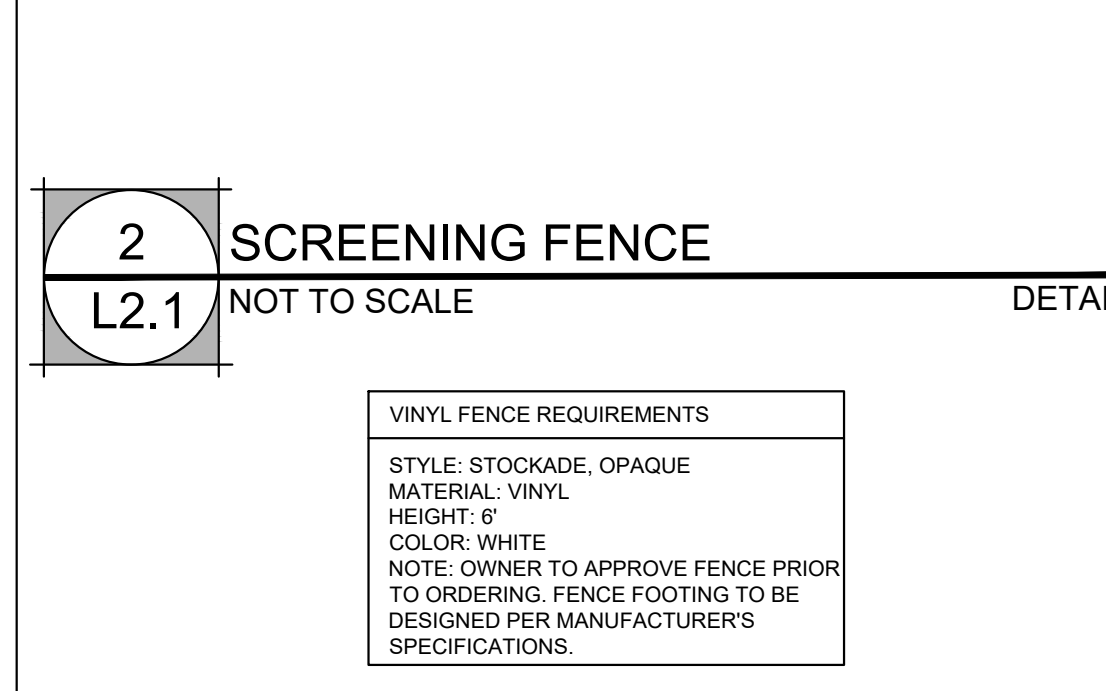
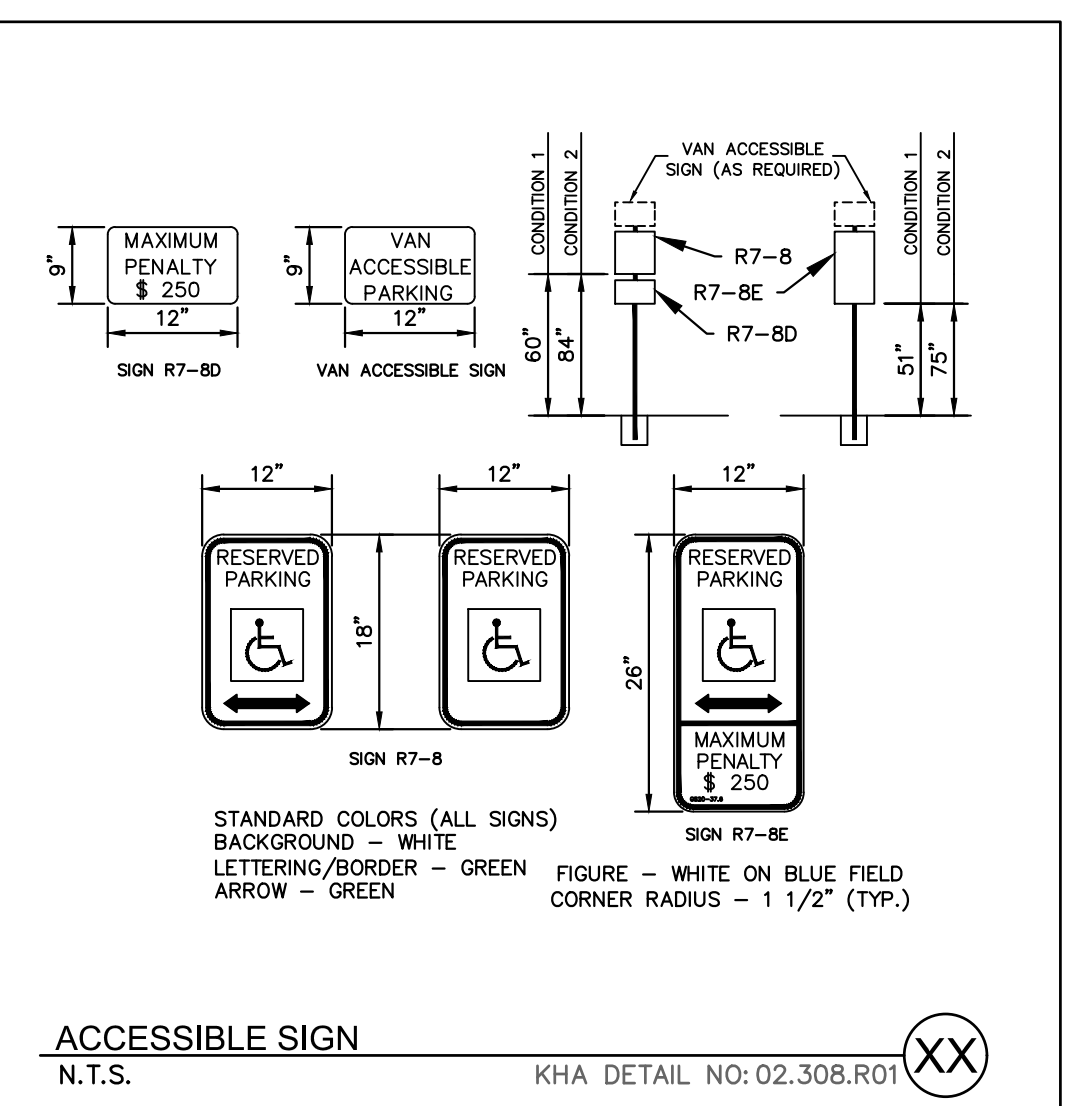
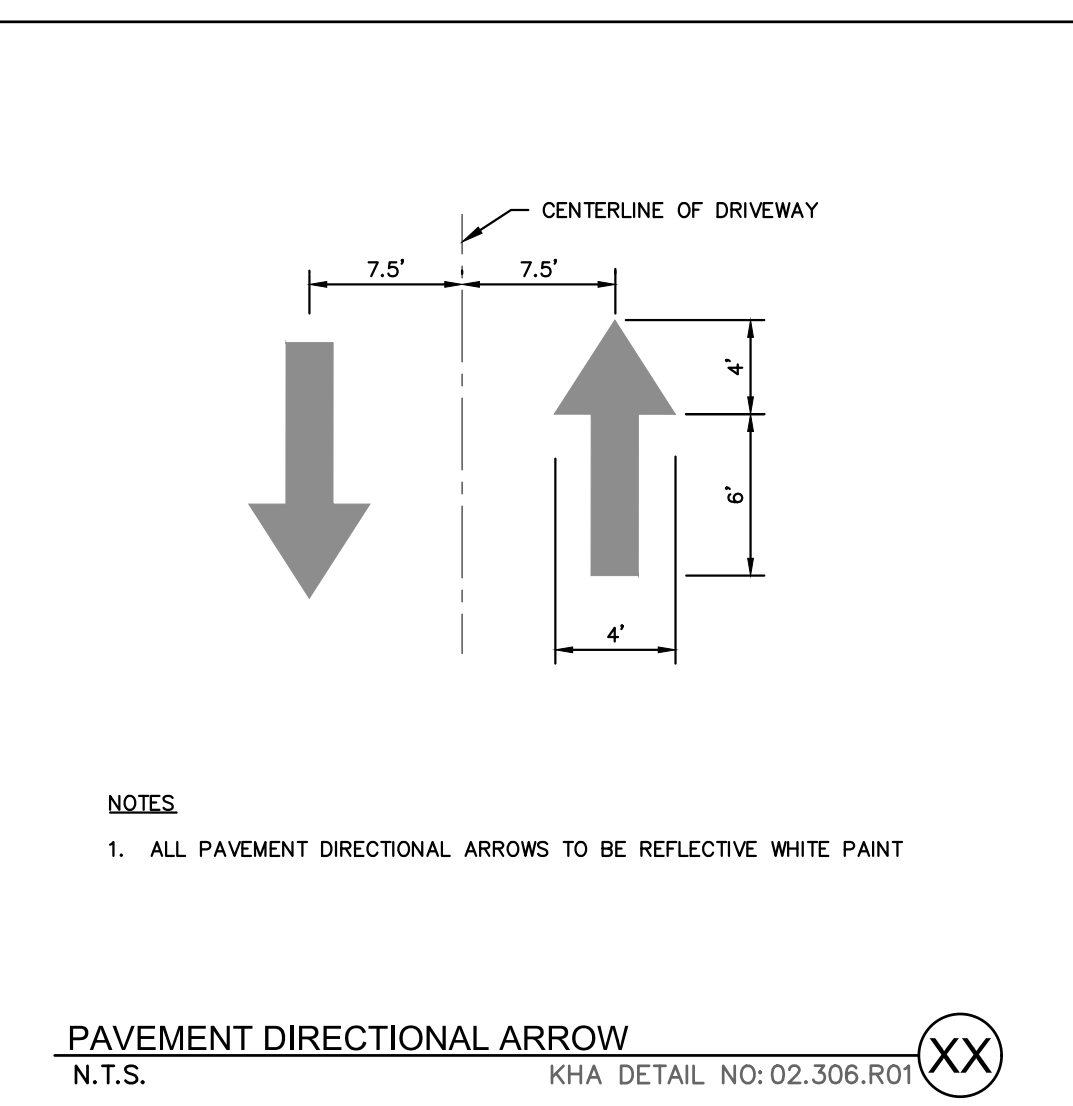
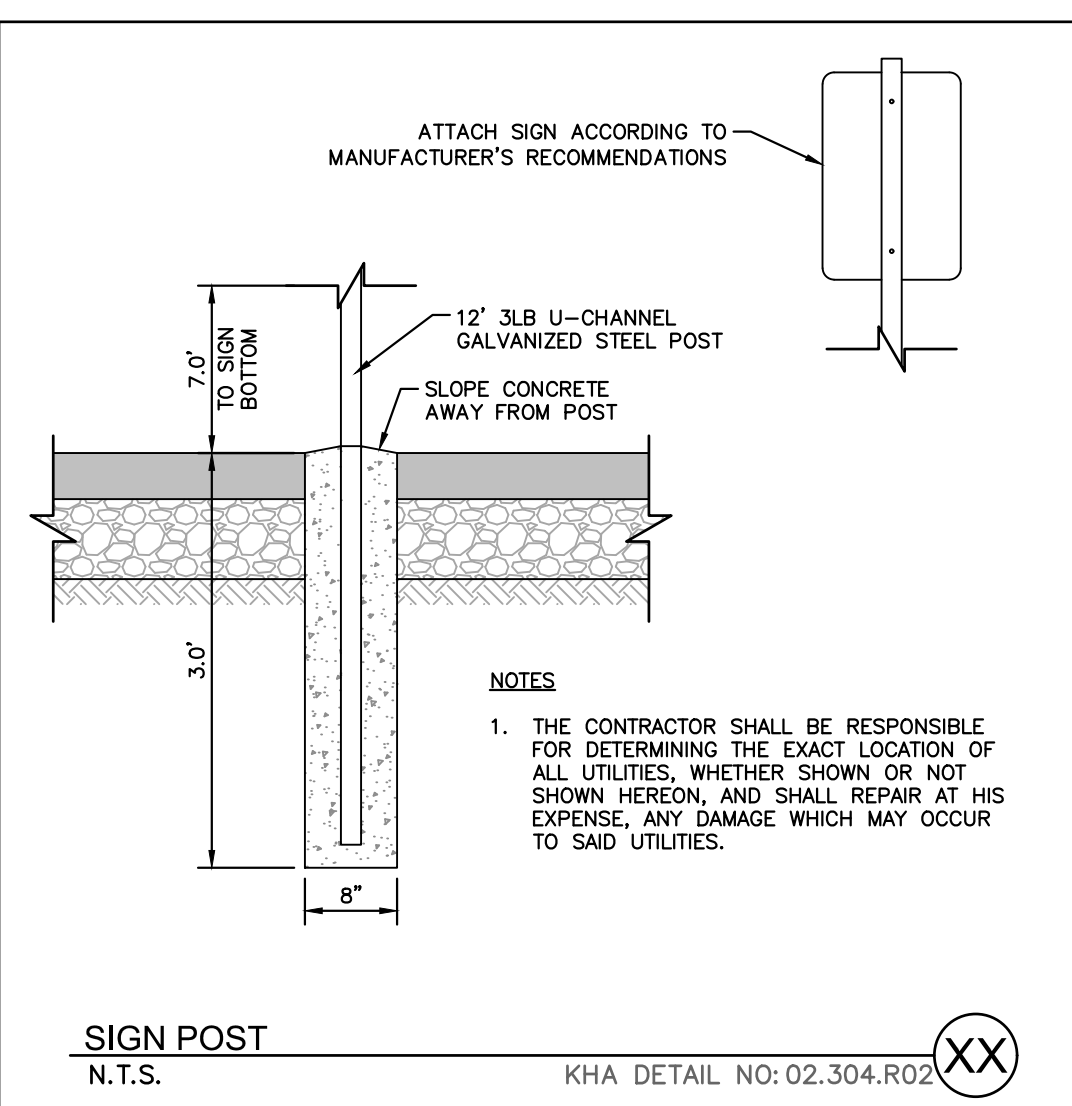
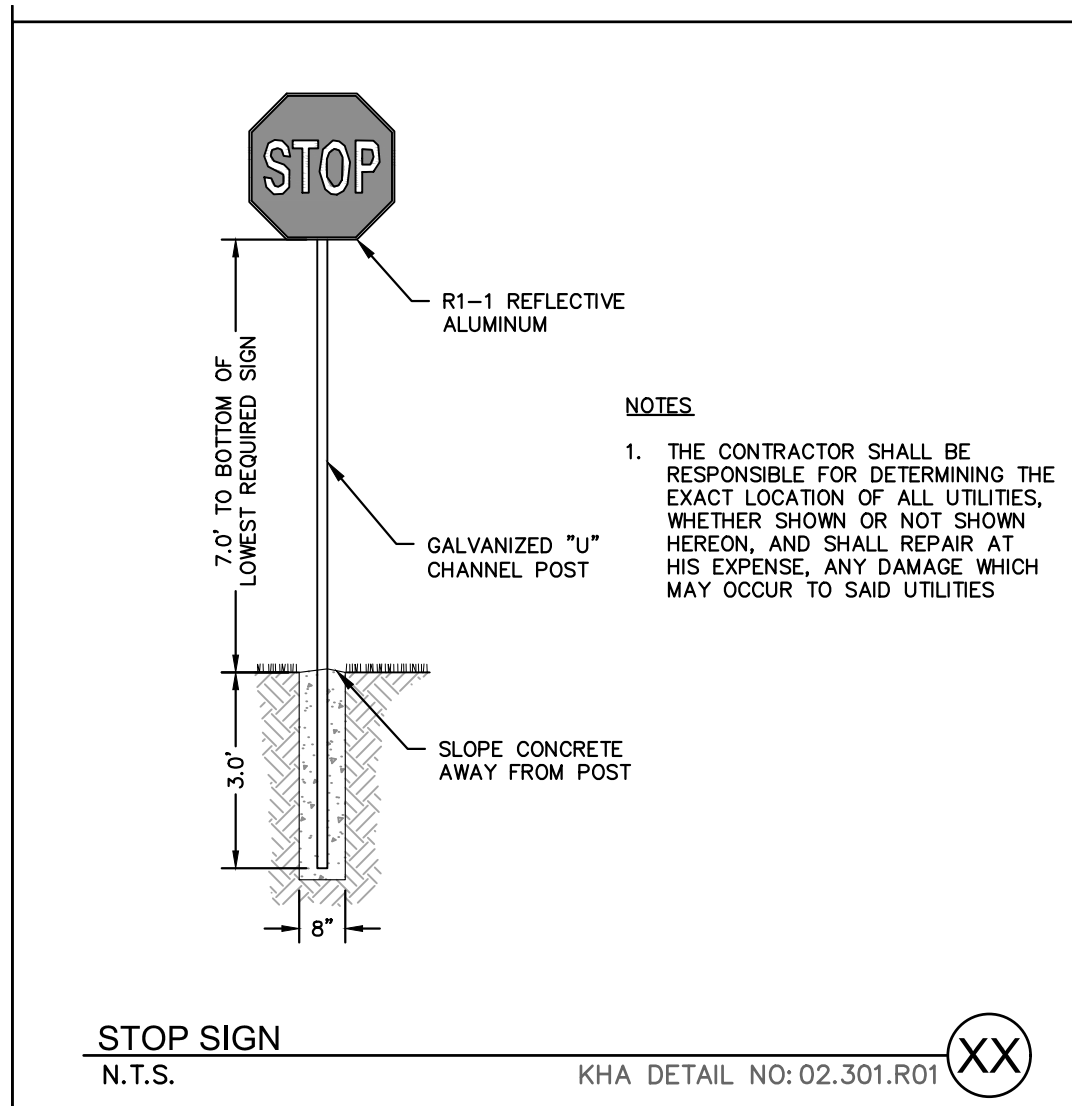
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Know what's below. Call before you dig.

SDP-23-07

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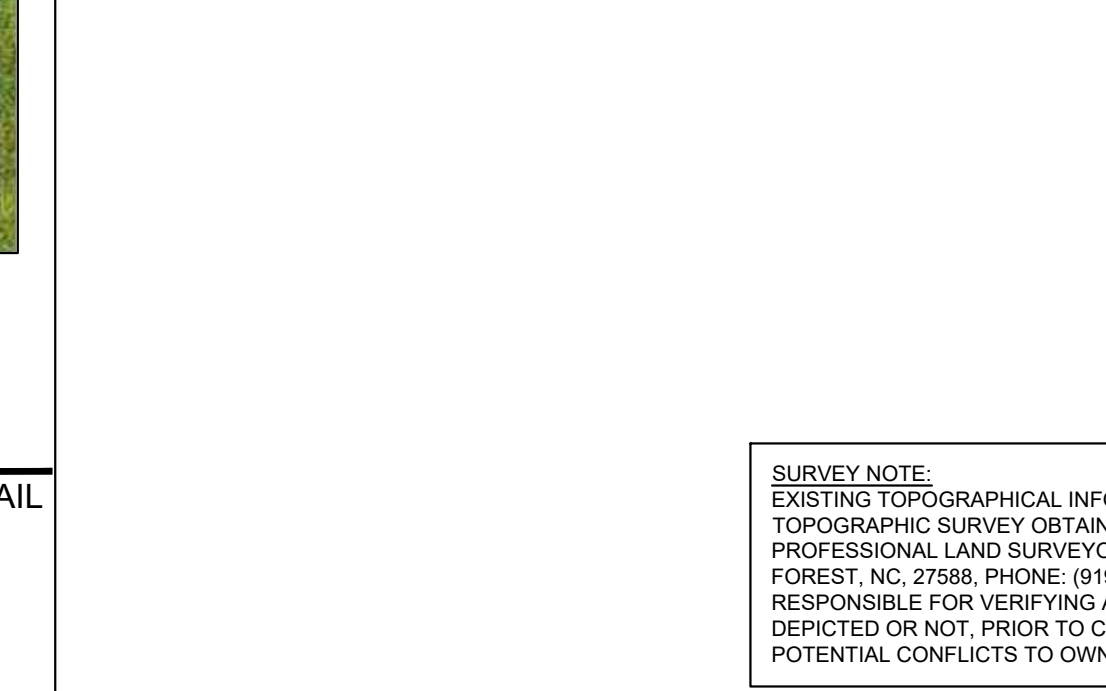


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**NOTES**

- ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH THE LOCAL, STATE, AND FEDERAL REGULATIONS WHICH ARE MORE STRINGENT.
- CURB RAMPS SHALL BE CONCRETE WITH STRENGTH OF 3,000 PSI.
- INSTALL 1/4" EXPANSION JOINT FILLER MATERIAL BETWEEN A NEW CURB RAMP AND THE EXISTING SIDEWALKS.
- WATER PONDING WITHIN THE CURB RAMP LIMITS IS NOT ALLOWED.
- NO GRADE BREAK IS ALLOWED ALONG THE RAMP SURFACE.
- CROSS SLOPE OF THE CURB RAMP SURFACE SHALL BE LESS THAN 2%.



**Kimley >>> Horn**

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**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE  
 NORTH CAROLINA

**SITE DETAILS**

KHA PROJECT	013031004	DATE	09/29/2023	SCALE	AS SHOWN	DESIGNED BY	JAA	DRAWN BY	JAA	CHECKED BY	COB
KHA COMMENTS		05/01/2024		JAA		TOWN COMMENTS		03/01/2024		JAA	
REVISIONS		01/02/2024		JAA		TOWN COMMENTS		01/02/2024		JAA	
DATE		BY		DATE		BY		DATE		BY	





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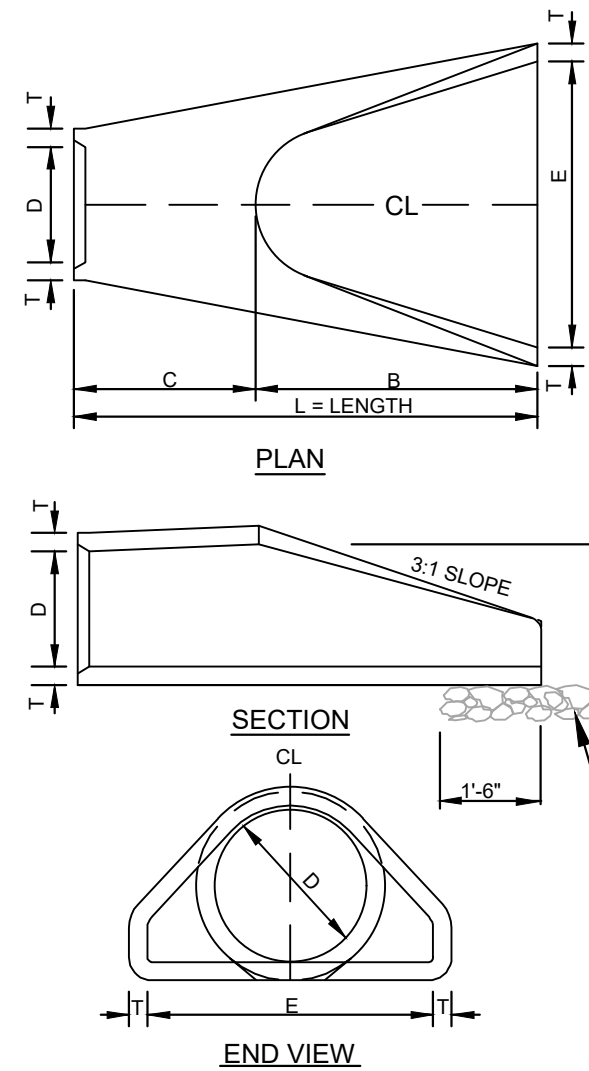


TABLE OF DIMENSIONS table with columns D, T, A, B, C, E, L, W, T and rows of dimensions for various pipe sizes.

GENERAL NOTES:

- 1. SEE FORMER NCDOT STANDARD 310.01 FOR DETAILS.
2. REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF REINFORCED CONCRETE PIPE OF LIKE DIAMETER PER AASHTO M170.
3. ALL CONCRETE TO BE 3000 P.S.I COMPRESSIVE STRENGTH MIN.
4. PROVIDE TONGUE OR SPIGOT JOINT AT INLET END SECTION.
5. PROVIDE GROOVE OR BELL JOINT AT OUTLET END SECTION.
6. THE DIMENSIONS FOR END SECTIONS SHALL SUBSTANTIALLY AGREE WITH THE TABLE. MINOR VARIATIONS WILL BE PERMITTED BASED ON THE MANUFACTURER'S STANDARD SPECIFICATIONS.
7. NOT TO BE USED IN NCDOT MAINTAINED RIGHT OF WAY.

CONCRETE FLARED END SECTION N.T.S.

KHA DETAIL NO: 01.905.R01 XX

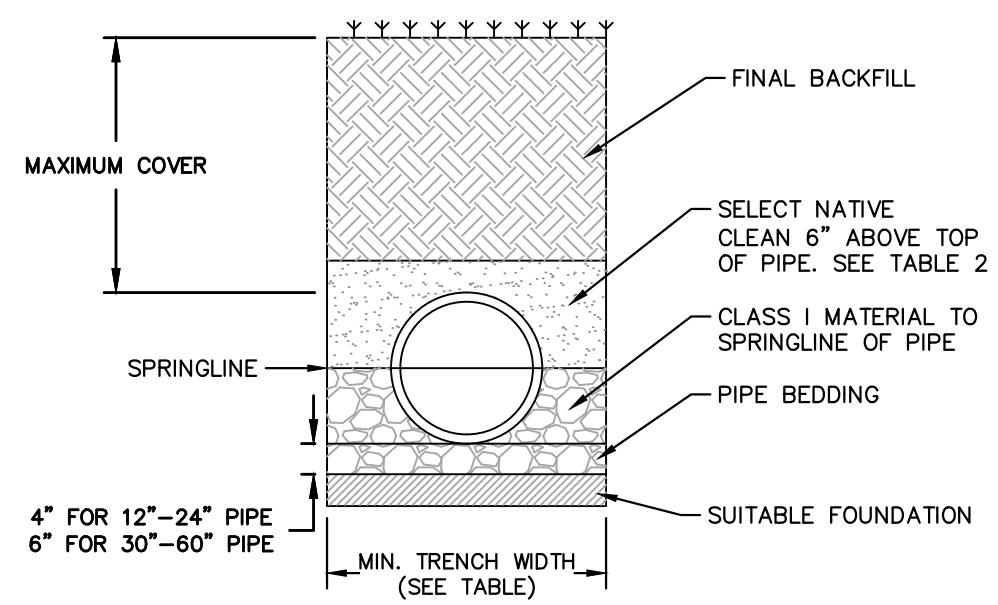


TABLE 2, MAXIMUM COVER FOR ADS HP STORM PIPE, ALTERNATE INSTALLATION, IR (ys=120)

TABLE 1, RECOMMENDED MINIMUM TRENCH WIDTHS table with columns PIPE DIAM, MIN. TRENCH WIDTH, and rows of pipe diameters and corresponding trench widths.

TABLE 2, MAXIMUM COVER FOR ADS HP STORM PIPE, ALTERNATE INSTALLATION, IR (ys=120) table with columns PIPE DIAM, CLASS II, CLASS III, CLASS IV and rows of pipe diameters and cover heights.

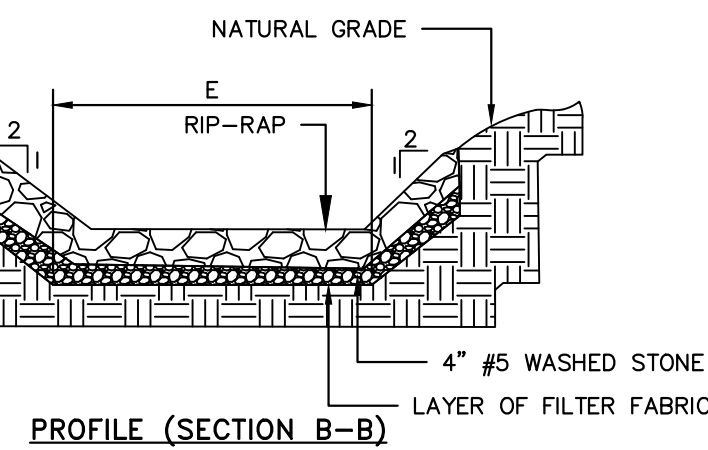
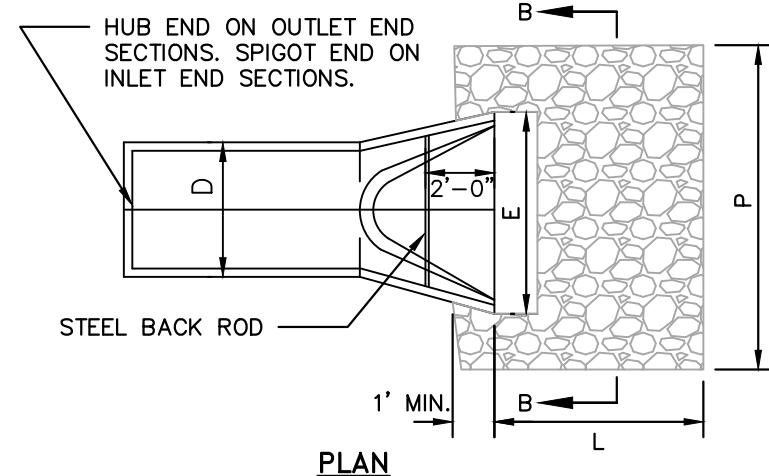
FILL HEIGHT TABLE GENERATED ASSUMING DRY CONDITIONS, OUTSIDE OF WATER TABLE. FOR INSTALLATION WITHIN THE WATER TABLE, CONTACT APPLICATIONS ENGINEERING.

NOTES:

- 1. MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE PINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
2. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS I/IV MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
3. FOUNDATION WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER, THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
4. BEDDING SUITABLE MATERIAL SHALL BE CLASS I. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-1500mm).
5. BACKFILL FOR PIPES OUTSIDE OF PAVEMENT CLASS I MATERIAL TO BE USED FOR BACKFILL UP TO THE SPRINGLINE OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER. CLASS I MATERIAL MUST BE COMPACTED IN 6" (200mm) LIFTS.
6. MINIMUM COVER MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS IS 12" (300mm) FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION.
7. SELECT NATIVE CLEAN BACKFILL SHALL BE WELL PLACED, MODERATELY COMPACTED (85% SPD) CLASS IV OR BETTER PER ASTM D2321 WITH NO FOREIGN DEBRIS INCLUDING ROCKS, LARGE CLUMPS ORGANIC MATERIAL, OR FROZEN MATERIAL.
8. HP STORM ALTERNATE TRENCH DETAIL ONLY APPLIES TO BACKFILL INSTALLATIONS IN NON-TRAFFIC APPLICATIONS PER TN 2.04A. ALTERNATE TRENCH USE MUST BE APPROVED BY DESIGN ENGINEER. DETAIL DOES NOT SUPERSEDE ADS STANDARD DETAIL STD-108.

HP STORM TRENCH INSTALLATION DETAIL N.T.S.

KHA DETAIL NO: 03.101.R01 XX



PROFILE (SECTION B-B)

SIZING CHART table with columns STRUCTURE, Q-FULL (CFS), E (FT), P (FT), D (IN), STONE THICKNESS (IN), STONE DIAMETER (IN), STONE CLASS, VELOCITY (FPS) and rows for DRIVEWAY CULVERT, FES-1, and FES-2.

NOTES:

- 1. THE LENGTHS OF THE RIP-RAP APRONS WERE DETERMINED BY USING THE NEW YORK DOT DISSIPATOR METHOD, AS OUTLINED IN SECTION 8.08 OF THE NCDOT EROSION CONTROL MANUAL.
2. RIP-RAP APRONS DESIGNED FOR FULL FLOW CAPACITY

NOTES:

- 1. END OF THE PIPE OR CULVERT AT THE DISCHARGE OUTLET AT A MAXIMUM SLOPE OF 2:1 AND A HEIGHT NOT LESS THAN TWO THIRDS THE PIPE DIAMETER OR CULVERT HEIGHT.
2. THERE SHALL BE NO OVERFLOW FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIP-RAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF OR TOE WALL AT THE DOWNSIDE END.
3. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL.
4. MAXIMUM TAPER TO RECEIVING CHANNEL 5:1.
5. ALL SUBGRADE BELOW THE STRUCTURE TO BE COMPACTED TO 95% OR GREATER.
6. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
7. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.

MAINTENANCE NOTES:

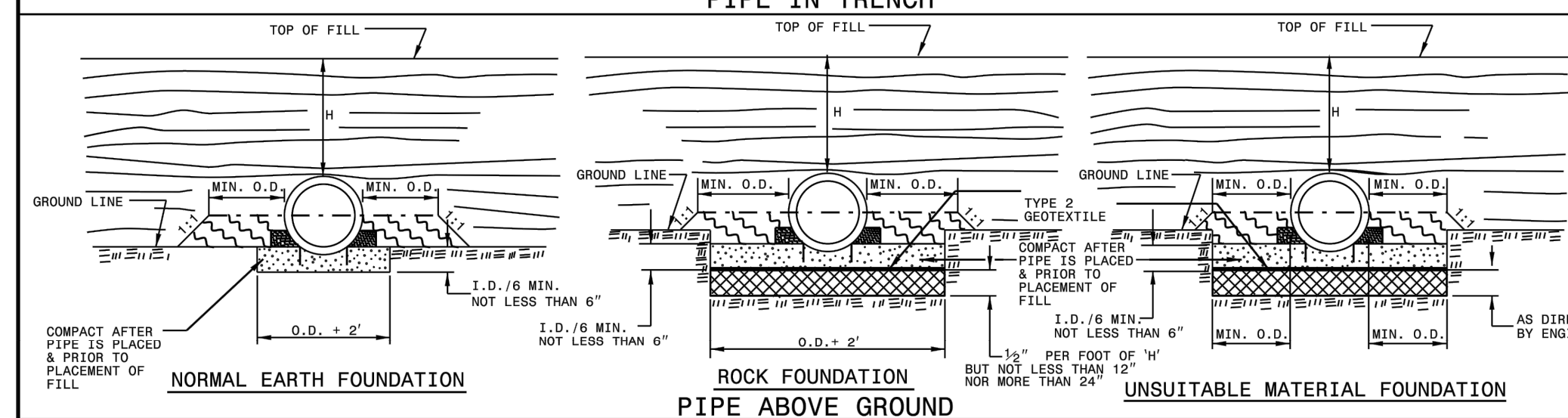
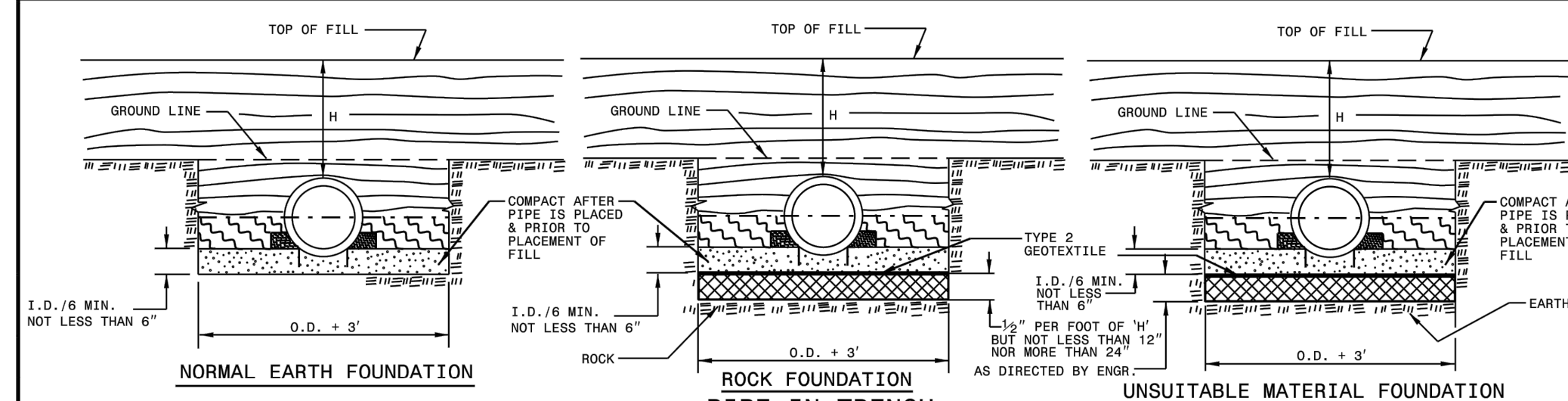
IN GENERAL, ONCE A RIPRAP INSTALLATION HAS BEEN PROPERLY DESIGNED AND INSTALLED IT REQUIRES VERY LITTLE MAINTENANCE. RIPRAP SHOULD BE INSPECTED PERIODICALLY FOR SCOUR OR DISLODGED STONES. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.

CONSTRUCTION SPECIFICATIONS:

- 1. ENSURE THAT THE SUBGRADE FOR THE FILTER AND RIPRAP FOLLOWS THE REQUIRED LINES AND GRADES SHOWN IN THE PLAN. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO THE DENSITY OF THE SURROUNDING UNDISTURBED MATERIAL. LOW AREAS IN THE SUBGRADE ON UNDISTURBED SOIL MAY ALSO BE FILLED BY INCREASING THE RIPRAP THICKNESS.
2. THE RIPRAP AND GRAVEL FILTER MUST CONFORM TO THE SPECIFIED GRADING LIMITS SHOWN ON THE PLANS.
3. FILTER CLOTH, WHEN USED, MUST MEET DESIGN REQUIREMENTS AND BE PROPERLY PROTECTED FROM PUNCHING OR TEARING DURING INSTALLATION. REPAIR ANY DAMAGE BY REMOVING THE RIPRAP AND PLACING ANOTHER PIECE OF FILTER CLOTH OVER THE DAMAGED AREA. ALL CONNECTING JOINTS SHOULD OVERLAP SO THE TOP LAYER IS ABOVE THE DOWNSIDE LAYER A MINIMUM OF 1 FOOT. IF THE DAMAGE IS EXTENSIVE, REPLACE THE ENTIRE FILTER CLOTH.
4. RIPRAP MAY BE PLACED BY EQUIPMENT, BUT TAKE CARE TO AVOID DAMAGING THE FILTER.
5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE DIAMETER.
6. RIPRAP MAY BE FIELD STONE OR ROUGH QUARRY STONE. IT SHOULD BE HARD, ANGULAR, HIGHLY WEATHER-RESISTANT AND WELL GRADED.
7. CONSTRUCT THE APRON ON ZERO GRADE WITH NO OVERFILL AT THE END. MAKE THE TOP OF THE RIPRAP AT THE DOWNSIDE END LEVEL WITH THE RECEIVING AREA OR SLIGHTLY BELOW IT.
8. ENSURE THAT THE APRON IS PROPERLY ALIGNED WITH THE RECEIVING STREAM AND PREFERABLY STRAIGHT THROUGHOUT ITS LENGTH. IF A CURVE IS NEEDED TO FIT SITE CONDITIONS, PLACE IT IN THE UPPER SECTION OF THE APRON.
9. IMMEDIATELY AFTER CONSTRUCTION, STABILIZE ALL DISTURBED AREAS WITH VEGETATION.

RIP-RAP APRON AT FLARED END SECTION N.T.S.

KHA DETAIL NO: 03.205.R02 XX



GENERAL NOTES:

- I.D. = THE MAXIMUM HORIZONTAL INSIDE DIAMETER DIMENSION.
O.D. = THE MAXIMUM HORIZONTAL OUTSIDE DIAMETER DIMENSION.
H = THE FILL HEIGHT MEASURED VERTICALLY AT ANY POINT ALONG THE PIPE FROM THE TOP OF THE PIPE TO THE TOP OF THE EMBANKMENT AT THAT POINT.
DO NOT OPERATE HEAVY EQUIPMENT OVER ANY PIPE CULVERT UNTIL THE PIPE CULVERT HAS BEEN PROPERLY BACKFILLED AND COVERED WITH AT LEAST 3 FEET OF APPROVED MATERIAL.
SELECT BACKFILL MATERIAL CLASS III OR CLASS II, BELOW SPRINGLINE.
APPROVED SUITABLE LOCAL MATERIAL ABOVE SPRINGLINE.
UNDISTURBED EARTH MATERIAL.
SELECT MATERIAL CLASS V OR VI FOR FOUNDATION CONDITIONING. ENCAPSULATE WITH TYPE 2 GEOTEXTILE AS DIRECTED BY THE ENGINEER.

FLEXIBLE PIPE

Round Corrugated Steel Pipe table with columns Diameter, Minimum cover, Maximum Height of Cover (feet) and rows for various pipe diameters and cover heights.

Round Corrugated Aluminum Pipe table with columns Diameter, Minimum cover, Maximum Height of Cover (feet) and rows for various pipe diameters and cover heights.

\*\* FOR DIFFERENT CORRUGATIONS AND ARCH PIPES REFER TO ROADWAY DESIGN MANUAL OR MANUFACTURERS SPECIFICATION.

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- HDPE - (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 60"
(Maximum fill) 20' for pipe diameters ≤ 24"
17' for pipe diameters ≥ 30" and ≤ 60"
PVC - (Minimum fill) 2' for pipe diameters ≥ 12" and ≤ 36"
(Maximum fill) 30' for pipe diameters ≥ 12" and ≤ 36"

\* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

RIGID PIPE

- RCP - (Minimum fill) 1' for Class IV & Class V
2' for Class III & Class II
(Maximum fill) 10' - Class II pipe
20' - Class III pipe
30' - Class IV pipe
40' - Class V pipe

(For fills > 40' & < 80' use LRFD Direct Design Method)

\* FILL HEIGHT IS MEASURED FROM THE TOP OF THE PIPE TO THE BOTTOM OF THE PAVEMENT STRUCTURE

REFER TO THE FOLLOWING FOR PIPE SPECIFICATIONS

- RCP - AASHTO M170

NOTES: FILL HEIGHTS SHOWN WERE CALCULATED USING AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

1' MINIMUM COVER FOR ALL SIDE DRAIN PIPE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR METHOD OF PIPE INSTALLATION RIGID PIPE

SHEET 2 OF 3 300.01

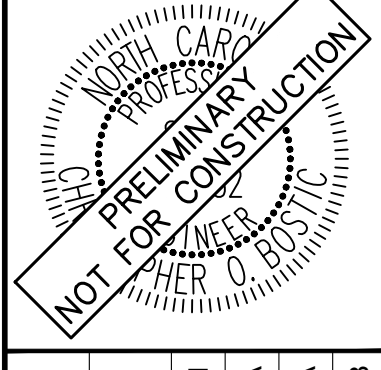
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR METHOD OF PIPE INSTALLATION FILL HEIGHT TABLES

SHEET 3 OF 3 300.01

Revision table with columns NO., DATE, and REVISIONS.

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Project information table with columns KHA PROJECT, DATE, SCALE, DESIGNED BY, DRAWN BY, CHECKED BY and rows for project details.

STORM DETAILS

THE LEARNING CENTER ROLESVILLE PREPARED FOR ROLESVILLE, LLC. TOWN OF ROLESVILLE NORTH CAROLINA

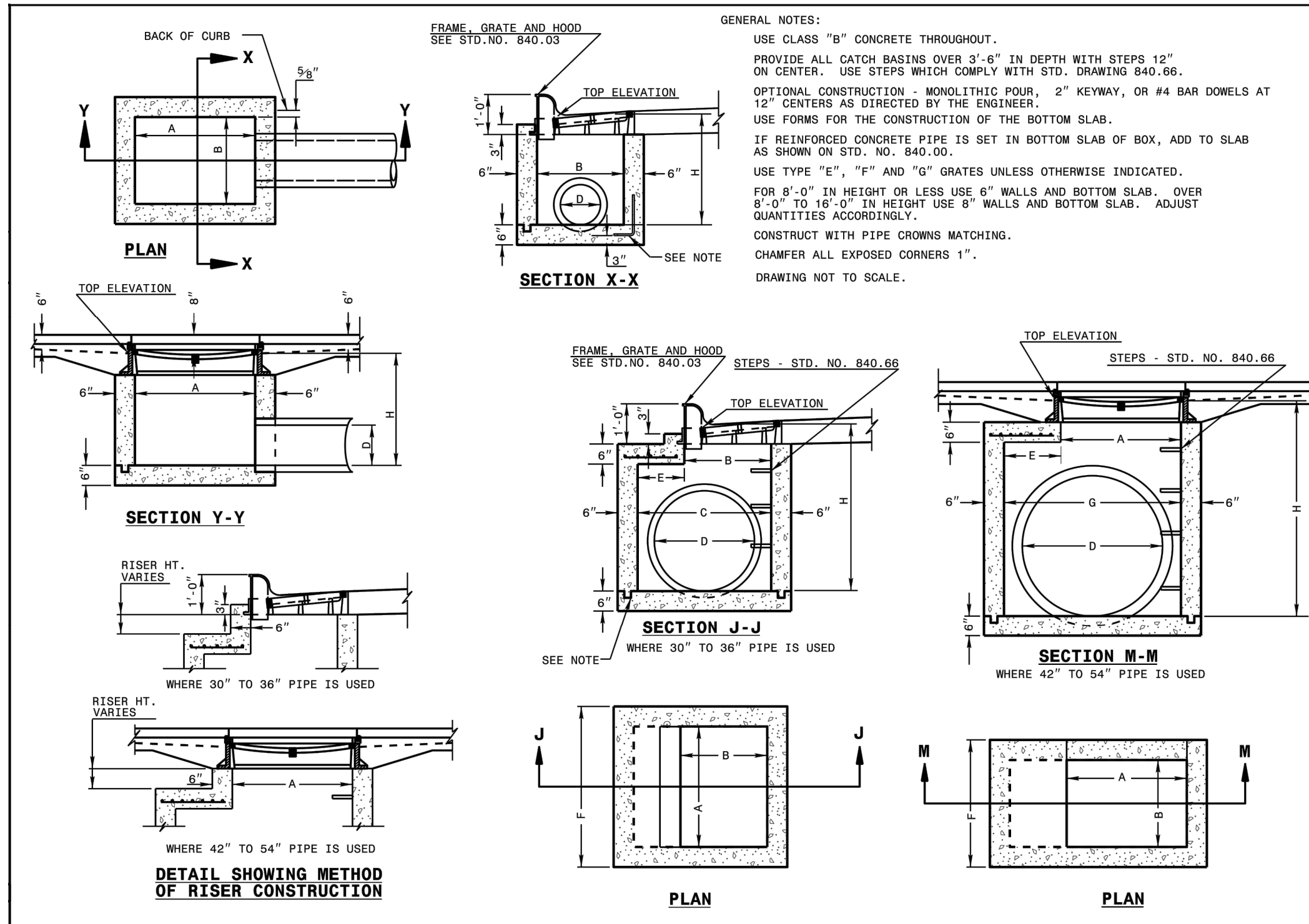
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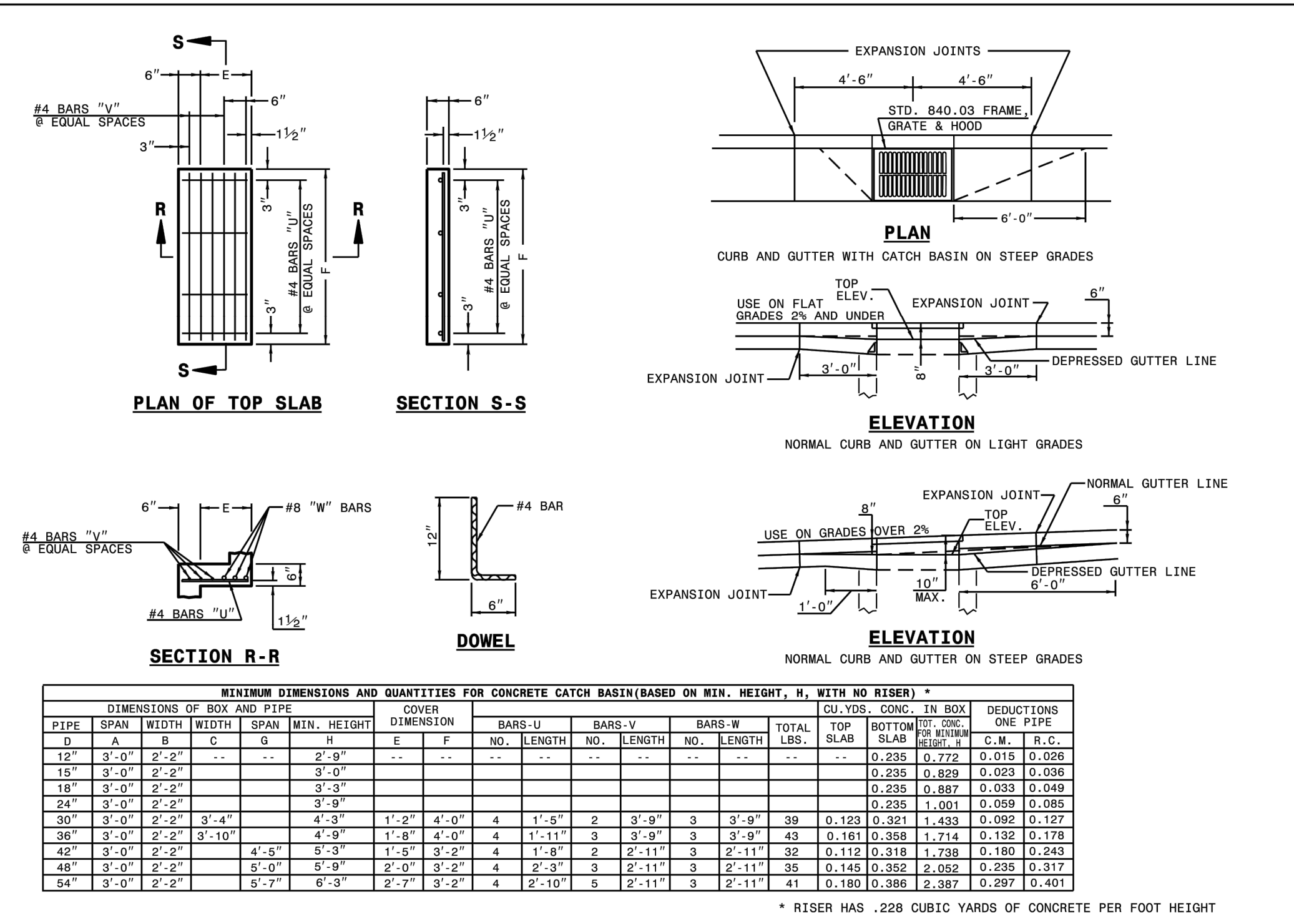
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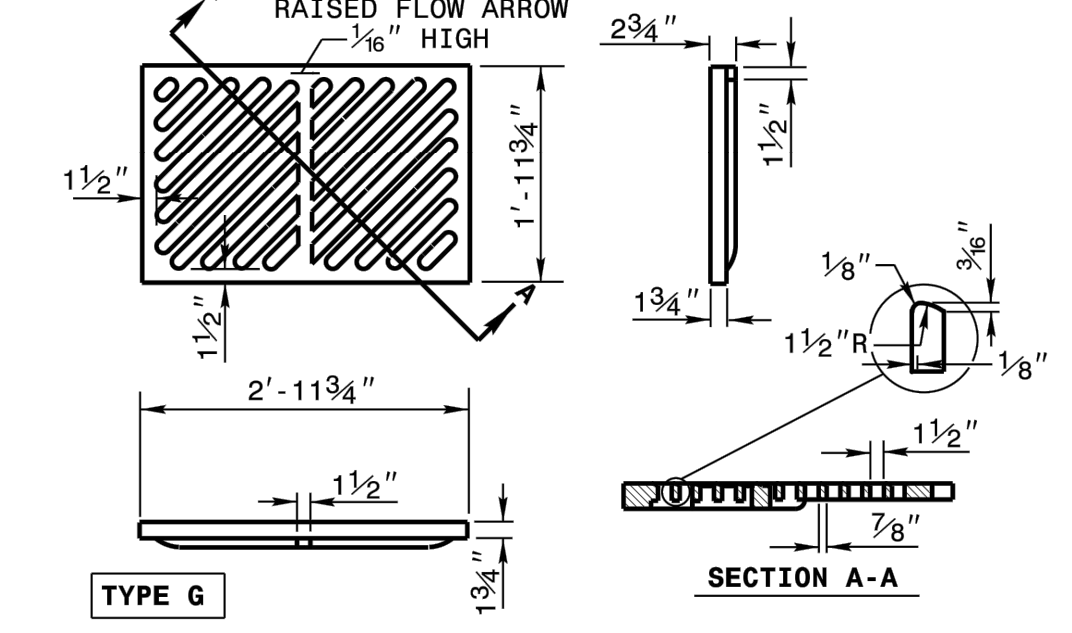
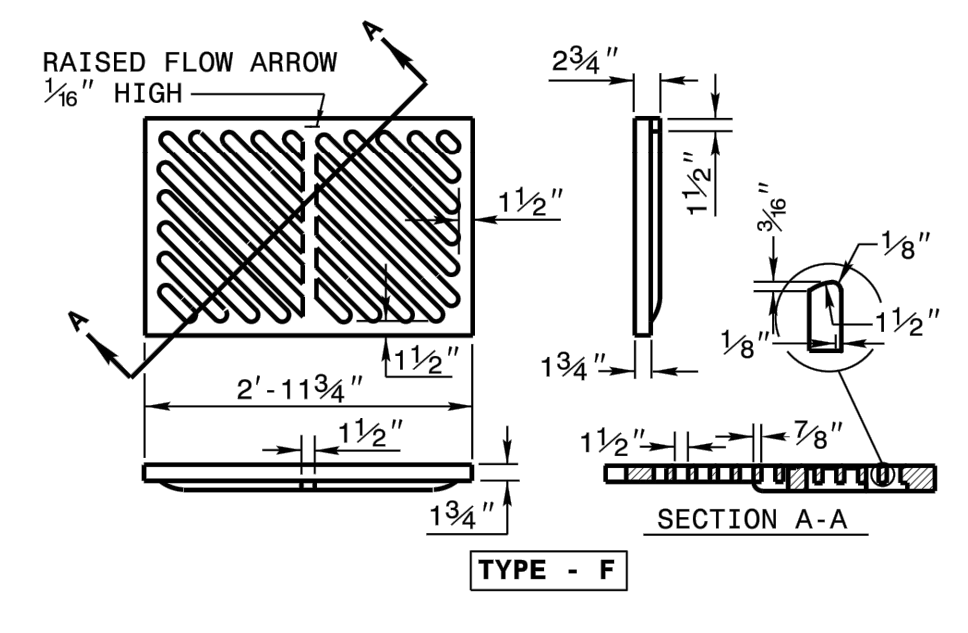
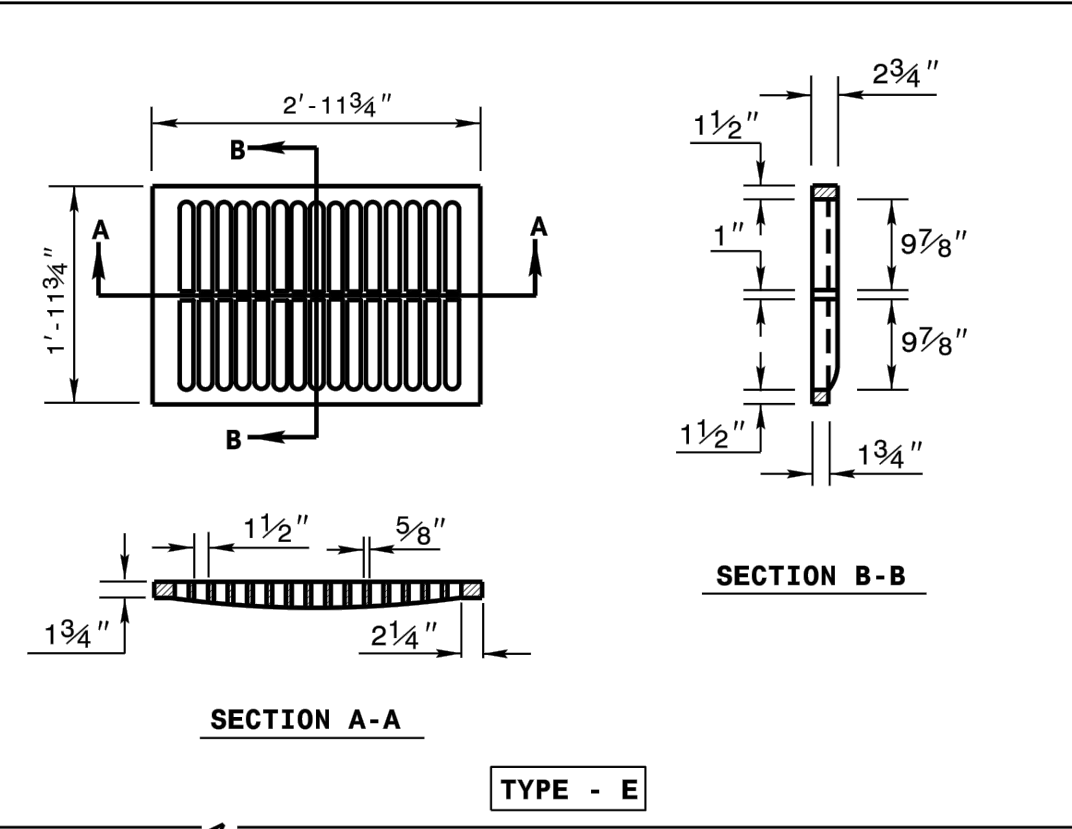
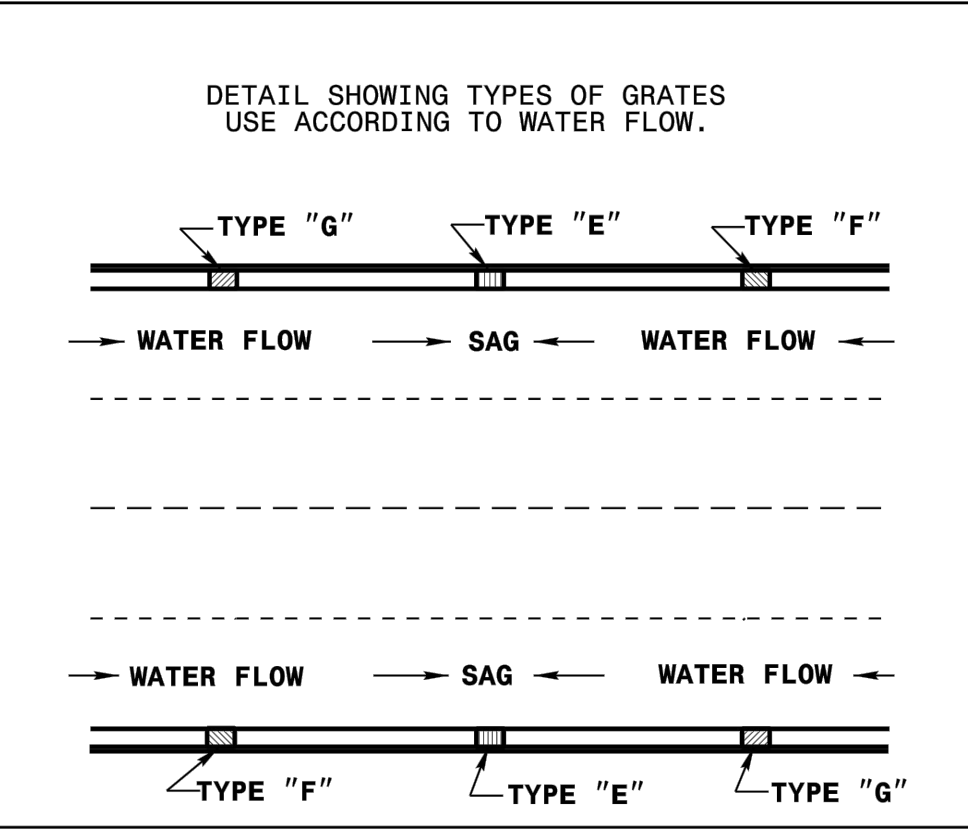
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STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 1 OF 2  
**840.02**



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**



STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR FRAME, GRATES, AND HOOD FOR USE ON STANDARD CATCH BASIN  
 SHEET 2 OF 2  
**840.03**

**SURVEY NOTE:**  
 EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC. 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION. DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.



SDP-23-07

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE NORTH CAROLINA

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**STORM DETAILS**

KHA PROJECT 013031004  
 DATE 09/29/2023  
 SCALE AS SHOWN  
 DESIGNED BY JAA  
 DRAWN BY JAA  
 CHECKED BY COE

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 1 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 1 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
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**840.02**

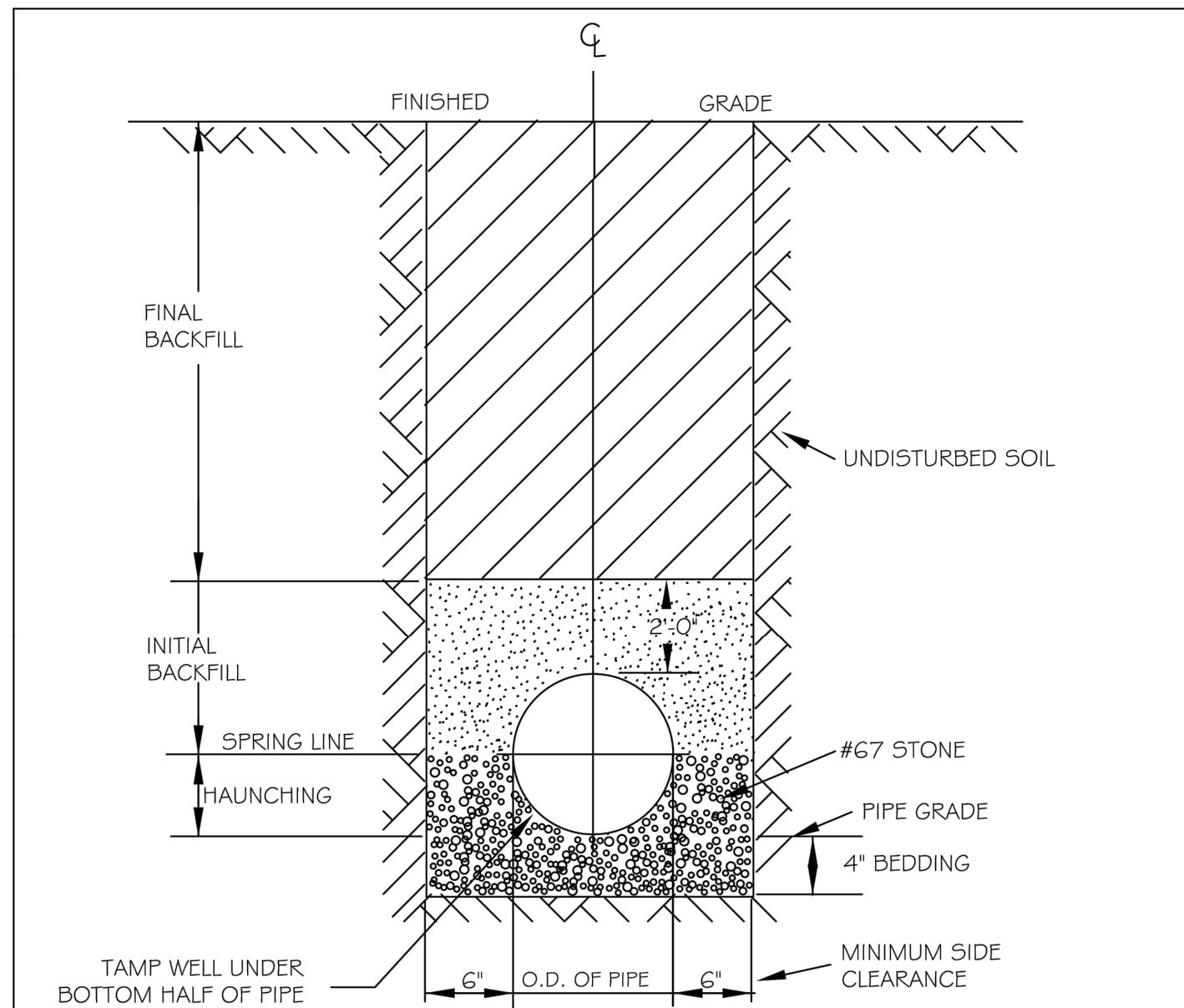
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 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 1 OF 2  
**840.02**

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.  
 ROADWAY STANDARD DRAWING FOR CONCRETE CATCH BASIN 12" THRU 54" PIPE  
 SHEET 2 OF 2  
**840.02**



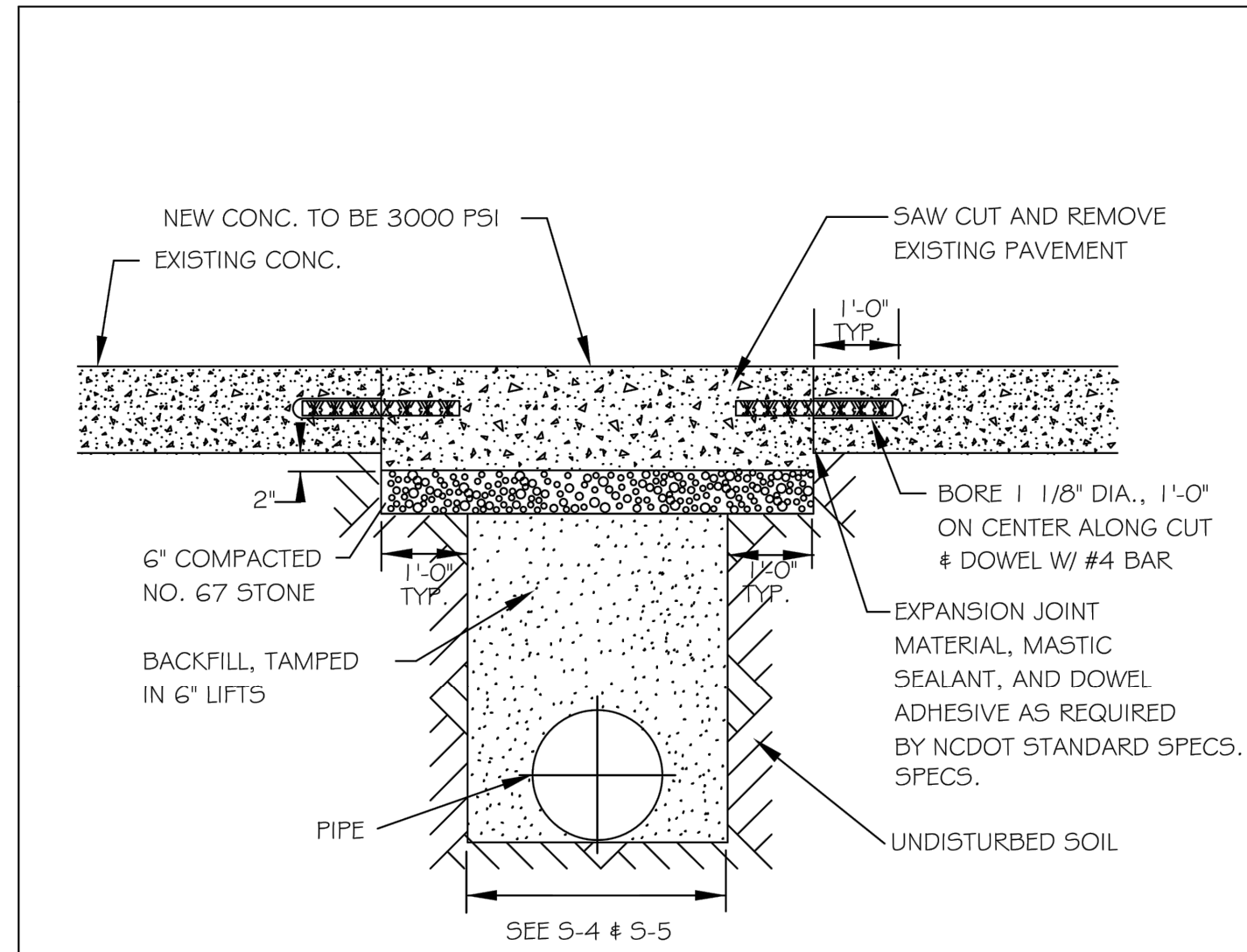
Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: C10.0 SANITARY SEWER DETAILS. May 01, 2024. 05:23:44pm. K:\RAL\_LDEV\013031004\_Rolesville\_Layout\_Center\10\_CAD Files\PlanSheets\C10.1 SANITARY SEWER DETAILS.dwg  
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TYPICAL TRENCH BOTTOM DIMENSIONS FOR SDR 35 PVC GRAVITY PIPE

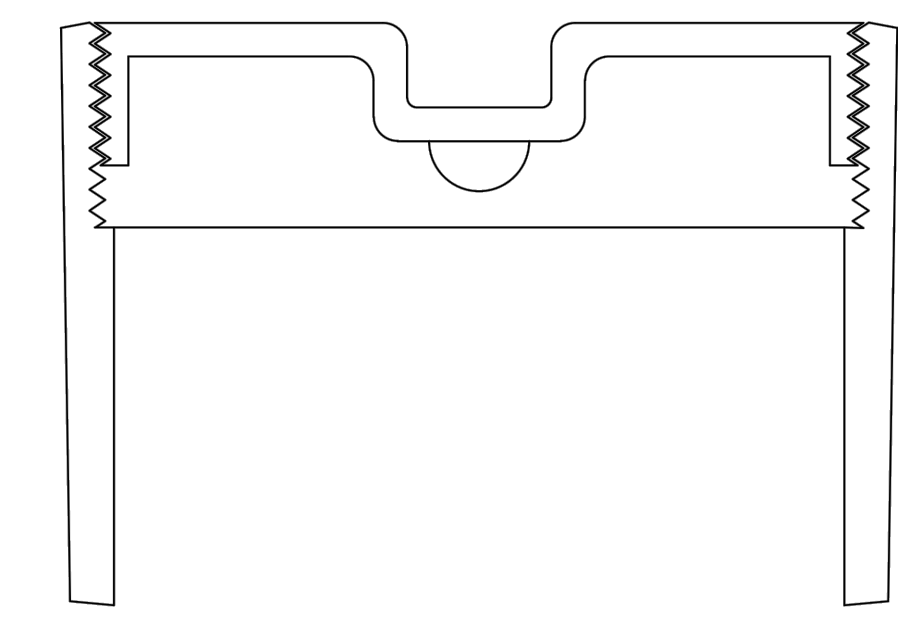
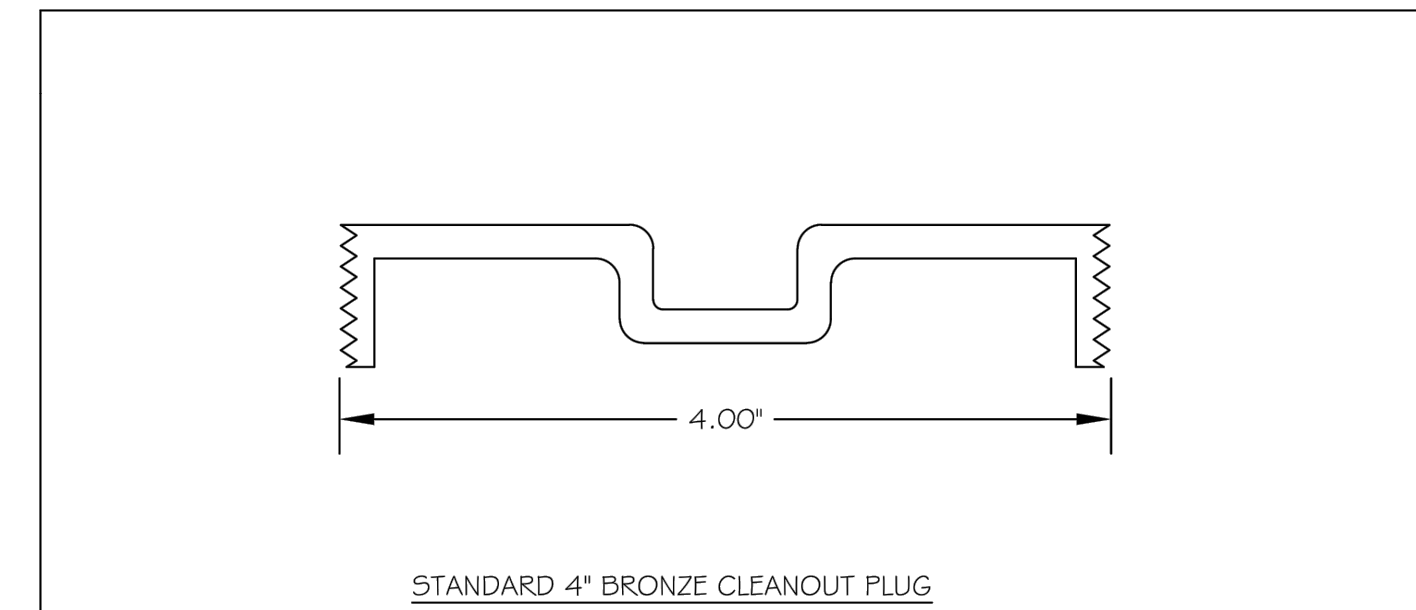
- NOTES:
1. FOR TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
  2. NO ROCKS OR BOULDERS 4\"/>

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS AND BACKFILLING REQUIREMENTS FOR PVC GRAVITY SEWER MAIN				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-5	TO NOTES	3-1-87	D.W.C.	9-3-99
		7-2-82	RRH	3-30-00



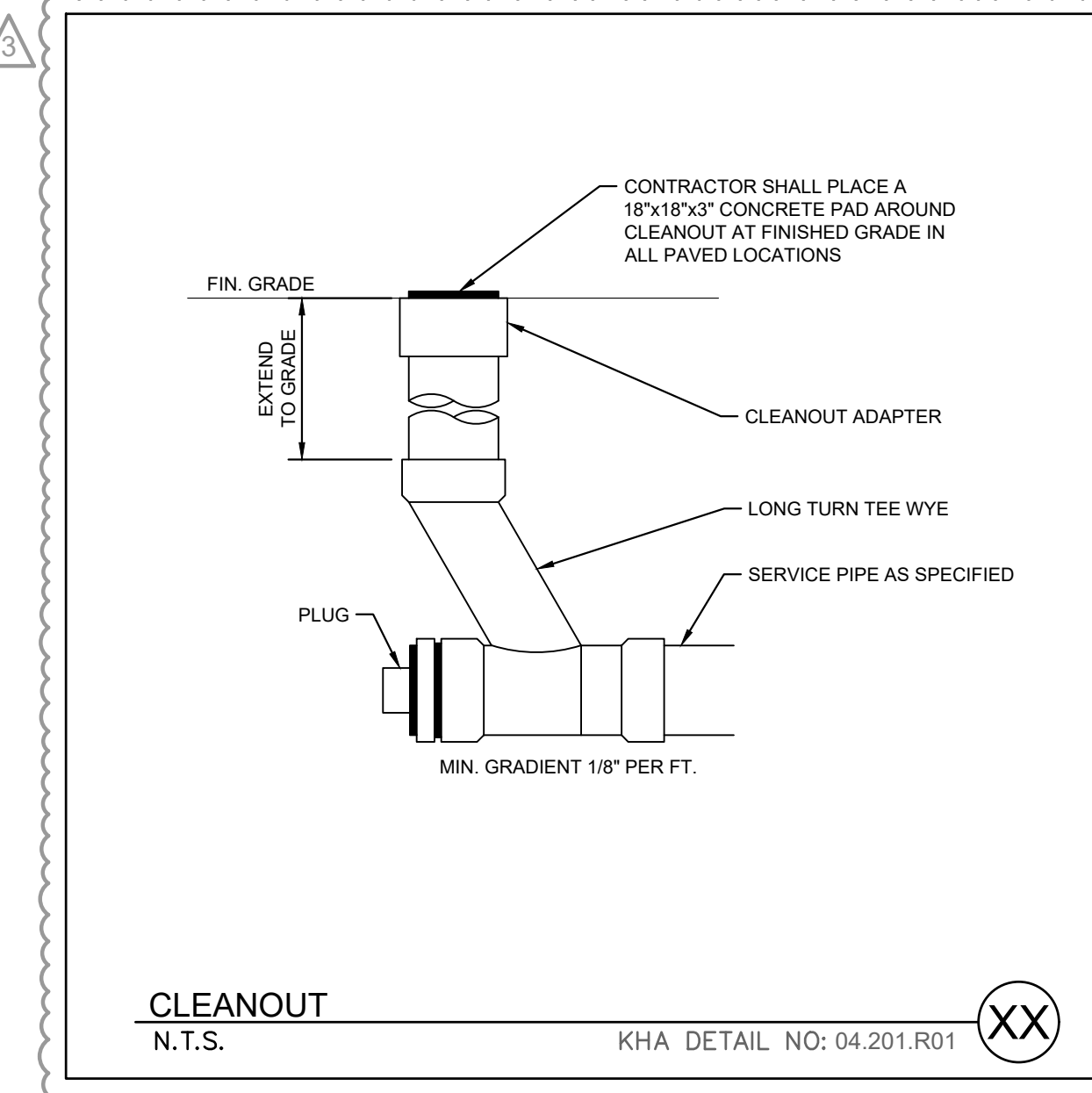
- NOTES:
1. See City of Raleigh standards for trenches and pipe bedding (S-4 & S-5) for additional details.
  2. Pavement cuts over 5'-0\"/>

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
STANDARD CONCRETE PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
S-2	D.W.C.	6-23-99	A.B.B.	4-19-04
	RRH	3-30-00	J.P.S	10-8-10



- STYLES ACCEPTED:
- INVERTED NUT
  - RAISED NUT

CITY OF RALEIGH				
DEPARTMENT OF PUBLIC UTILITIES				
4\"/>				
S-34	D.W.C.	3-1-87	RRH	3-30-00
		3-27-98		

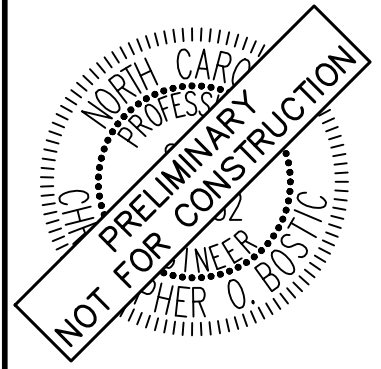


CLEANOUT N.T.S. KHA DETAIL NO: 04.201.R01 XX

**SURVEY NOTE:**  
 EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588. PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

No.	REVISIONS	DATE	BY
7			
6			
5			
4			
3	TOWN COMMENTS	05/01/2024	JAA
2	TOWN COMMENTS	03/01/2024	JAA
1	TOWN COMMENTS	01/02/2024	JAA

**Kimley»Horn**  
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 WWW.KIMLEY-HORN.COM PHONE: 919.677.2000 FAX: 919.677.2050  
 #F-0102 WWW.KIMLEY-HORN.COM PHONE: 919.677.2000 FAX: 919.677.2050  
 421 FAYETTEVILLE STREET, SUITE 800, RALEIGH, NC 27601



KHA PROJECT	013031004
DATE	09/29/2023
SCALE	AS SHOWN
DESIGNED BY	JAA
DRAWN BY	JAA
CHECKED BY	COB

**SANITARY SEWER DETAILS**

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 TOWN OF ROLESVILLE NORTH CAROLINA

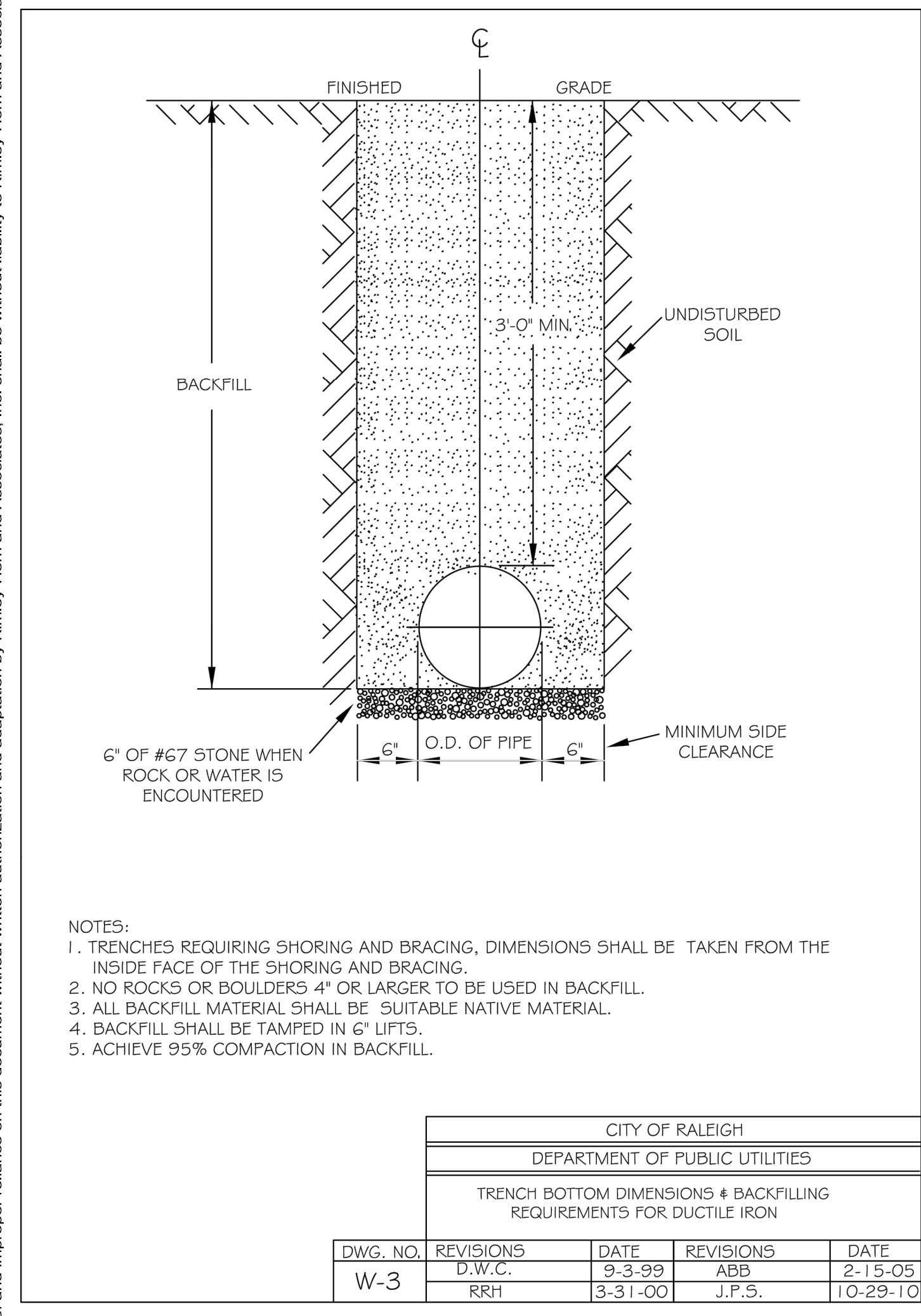
SHEET NUMBER  
**C10.0**



SDP-23-07

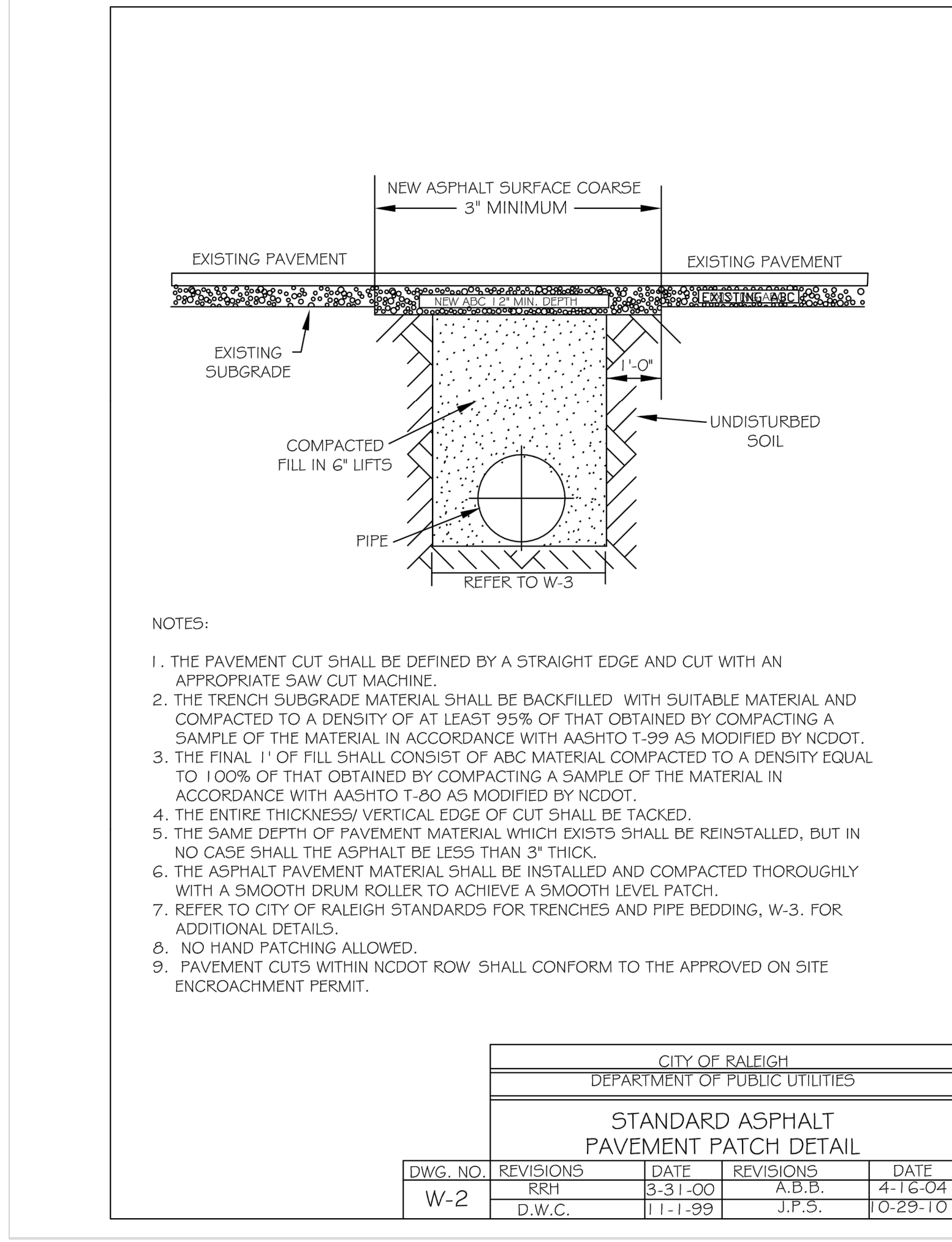


Plotted By: Barnes, Michael. Sheet: THE LEARNING CENTER ROLESVILLE. Layout: C11.0 WATER DETAILS. May 01, 2024. 05:23:52pm. K:\RAL\_LDE\013031004\_Rolesville\_Layouts\CenterP10\_CAD Files\PlanSheets\C11.3 WATER DETAILS.dwg  
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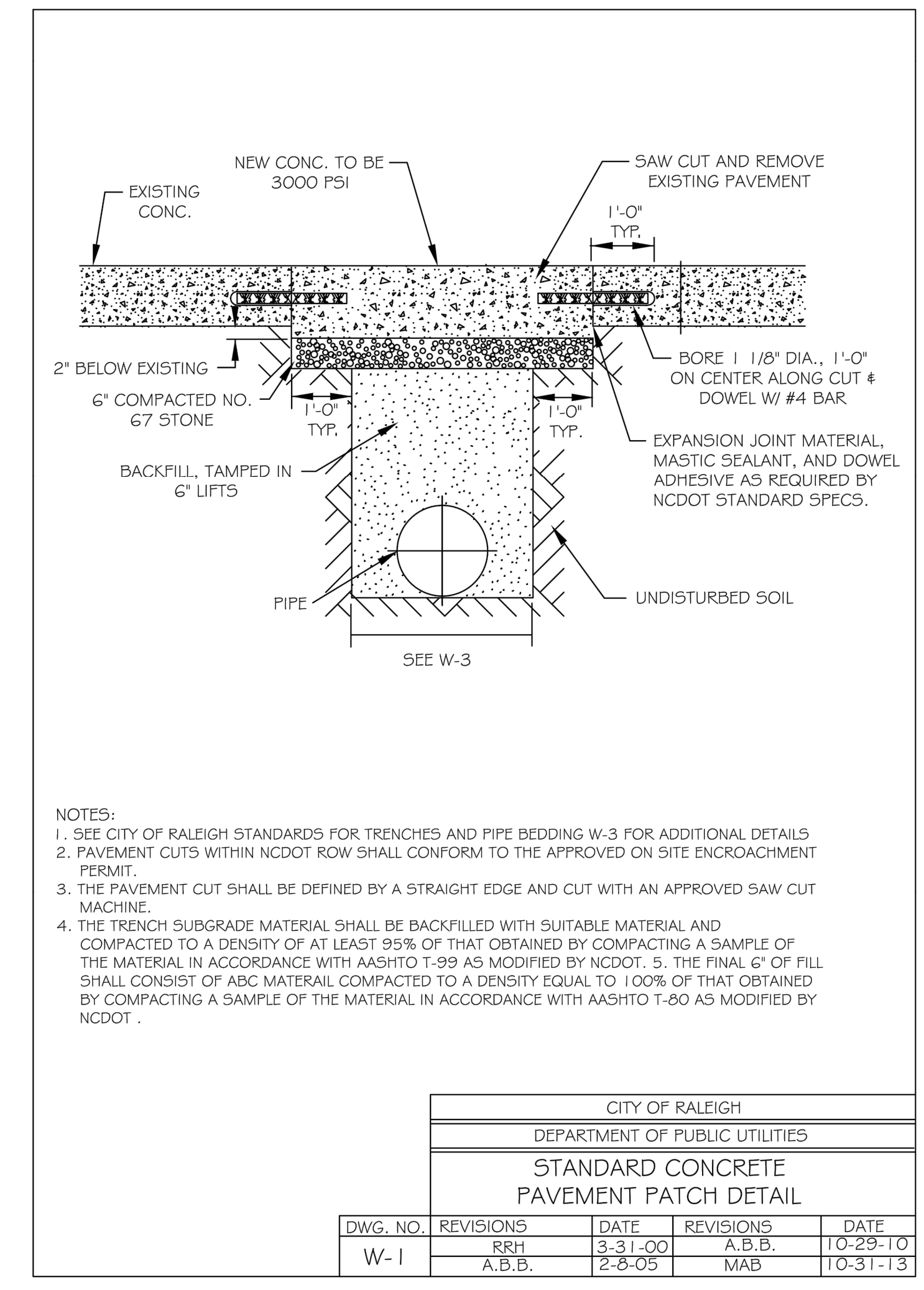
- NOTES:
- TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE INSIDE FACE OF THE SHORING AND BRACING.
  - NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.
  - ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.
  - BACKFILL SHALL BE TAMPED IN 6" LIFTS.
  - ACHIEVE 95% COMPACTION IN BACKFILL.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
TRENCH BOTTOM DIMENSIONS & BACKFILL REQUIREMENTS FOR DUCTILE IRON				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-3	D.W.C.	9-3-99	ABB	2-15-05
	RRH	3-31-00	J.P.S.	10-29-10



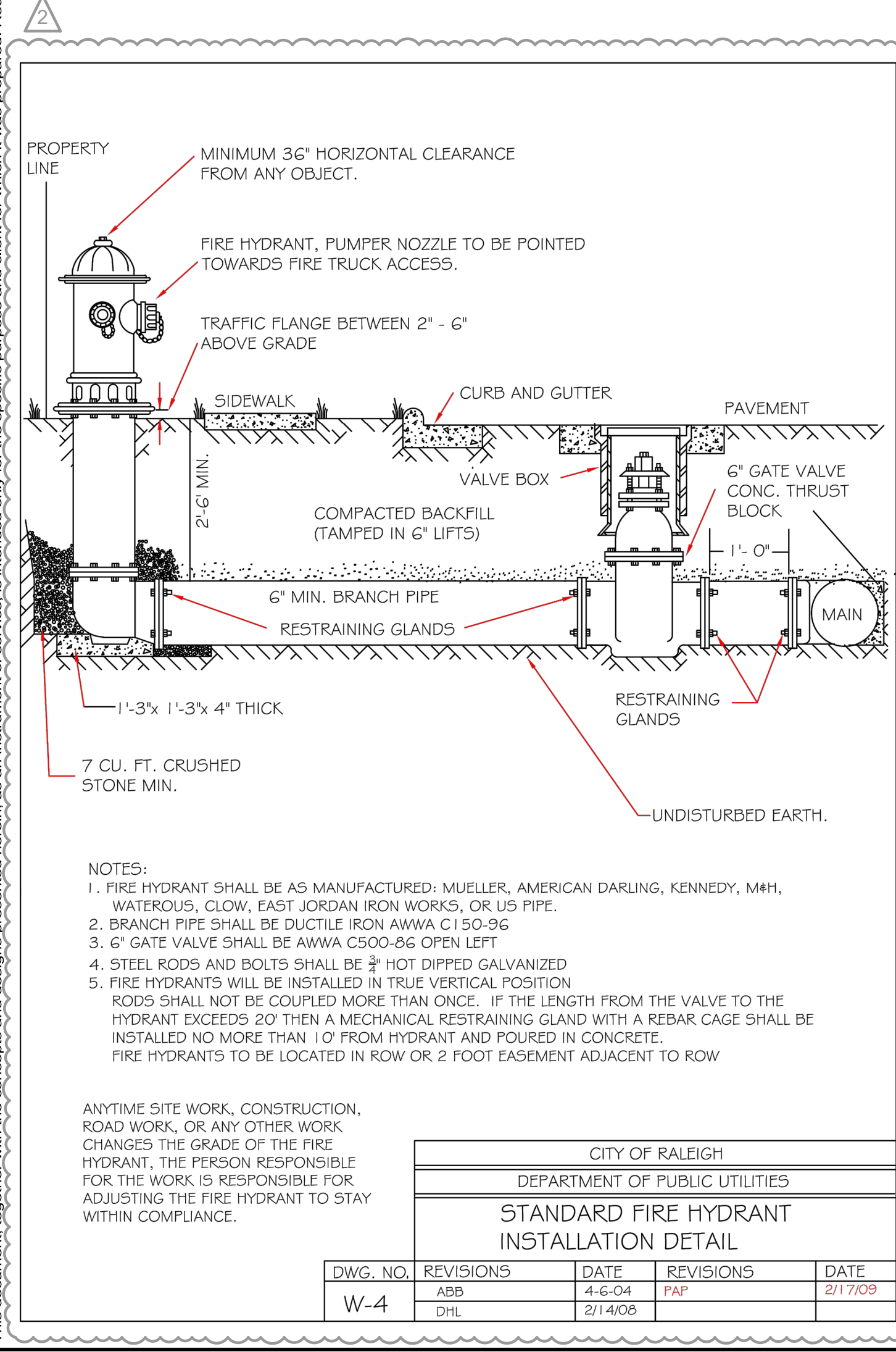
- NOTES:
- THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROPRIATE SAW CUT MACHINE.
  - THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT.
  - THE FINAL 1" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.
  - THE ENTIRE THICKNESS/ VERTICAL EDGE OF CUT SHALL BE TACKED.
  - THE SAME DEPTH OF PAVEMENT MATERIAL WHICH EXISTS SHALL BE REINSTALLED, BUT IN NO CASE SHALL THE ASPHALT BE THINER THAN 3" THICK.
  - THE ASPHALT PAVEMENT MATERIAL SHALL BE INSTALLED AND COMPACTED THOROUGHLY WITH A SMOOTH DRUM ROLLER TO ACHIEVE A SMOOTH LEVEL PATCH.
  - REFER TO CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING, W-3, FOR ADDITIONAL DETAILS.
  - NO HAND PATCHING ALLOWED.
  - PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD ASPHALT PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-2	RRH	3-31-00	A.B.B.	4-16-04
	D.W.C.	11-1-99	J.P.S.	10-29-10



- NOTES:
- SEE CITY OF RALEIGH STANDARDS FOR TRENCHES AND PIPE BEDDING W-3 FOR ADDITIONAL DETAILS.
  - PAVEMENT CUTS WITHIN NCDOT ROW SHALL CONFORM TO THE APPROVED ON SITE ENCROACHMENT PERMIT.
  - THE PAVEMENT CUT SHALL BE DEFINED BY A STRAIGHT EDGE AND CUT WITH AN APPROVED SAW CUT MACHINE.
  - THE TRENCH SUBGRADE MATERIAL SHALL BE BACKFILLED WITH SUITABLE MATERIAL AND COMPACTED TO A DENSITY OF AT LEAST 95% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-99 AS MODIFIED BY NCDOT. 5. THE FINAL 6" OF FILL SHALL CONSIST OF ABC MATERIAL COMPACTED TO A DENSITY EQUAL TO 100% OF THAT OBTAINED BY COMPACTING A SAMPLE OF THE MATERIAL IN ACCORDANCE WITH AASHTO T-80 AS MODIFIED BY NCDOT.

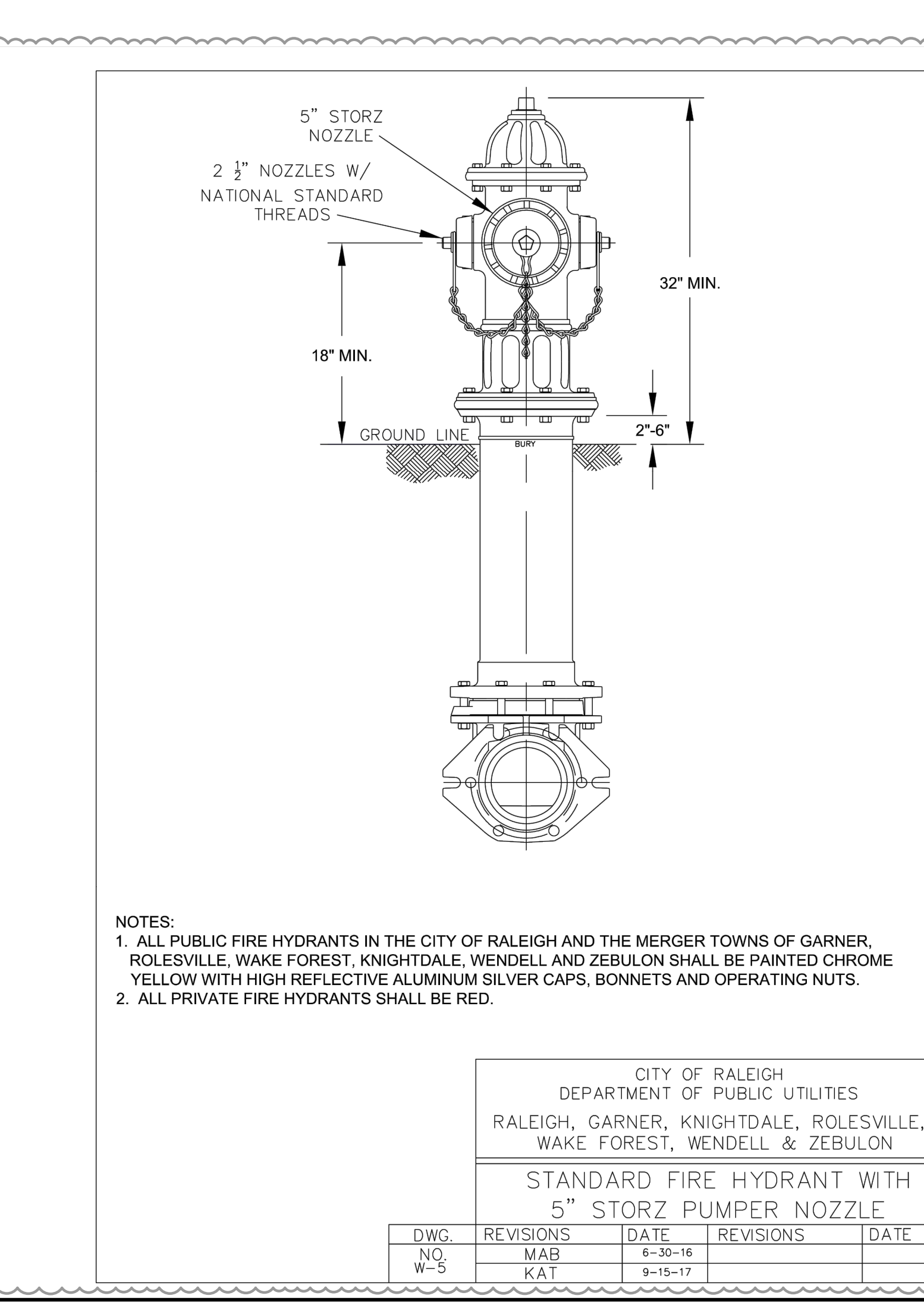
CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD CONCRETE PAVEMENT PATCH DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-1	RRH	3-31-00	A.B.B.	10-29-10
	A.B.B.	2-8-05	MAB	10-31-13



- NOTES:
- FIRE HYDRANT SHALL BE AS MANUFACTURED: MUELLER, AMERICAN DARLING, KENNEDY, M&H, WATEROUS, CLOW, EAST JORDAN IRON WORKS, OR US PIPE.
  - BRANCH PIPE SHALL BE DUCTILE IRON AWWA C150-96
  - 6" GATE VALVE SHALL BE AWWA C500-96 OPEN LEFT
  - STEEL RODS AND BOLTS SHALL BE 1/2" HOT DIPPED GALVANIZED
  - FIRE HYDRANTS WILL BE INSTALLED IN TRUE VERTICAL POSITION
- RODS SHALL NOT BE COUPLED MORE THAN ONCE. IF THE LENGTH FROM THE VALVE TO THE HYDRANT EXCEEDS 20' THEN A MECHANICAL RESTRAINING GLAND WITH A REBAR CAGE SHALL BE INSTALLED NO MORE THAN 1' FROM HYDRANT AND POURED IN CONCRETE.
- FIRE HYDRANTS TO BE LOCATED IN ROW OR 2 FOOT EASEMENT ADJACENT TO ROW

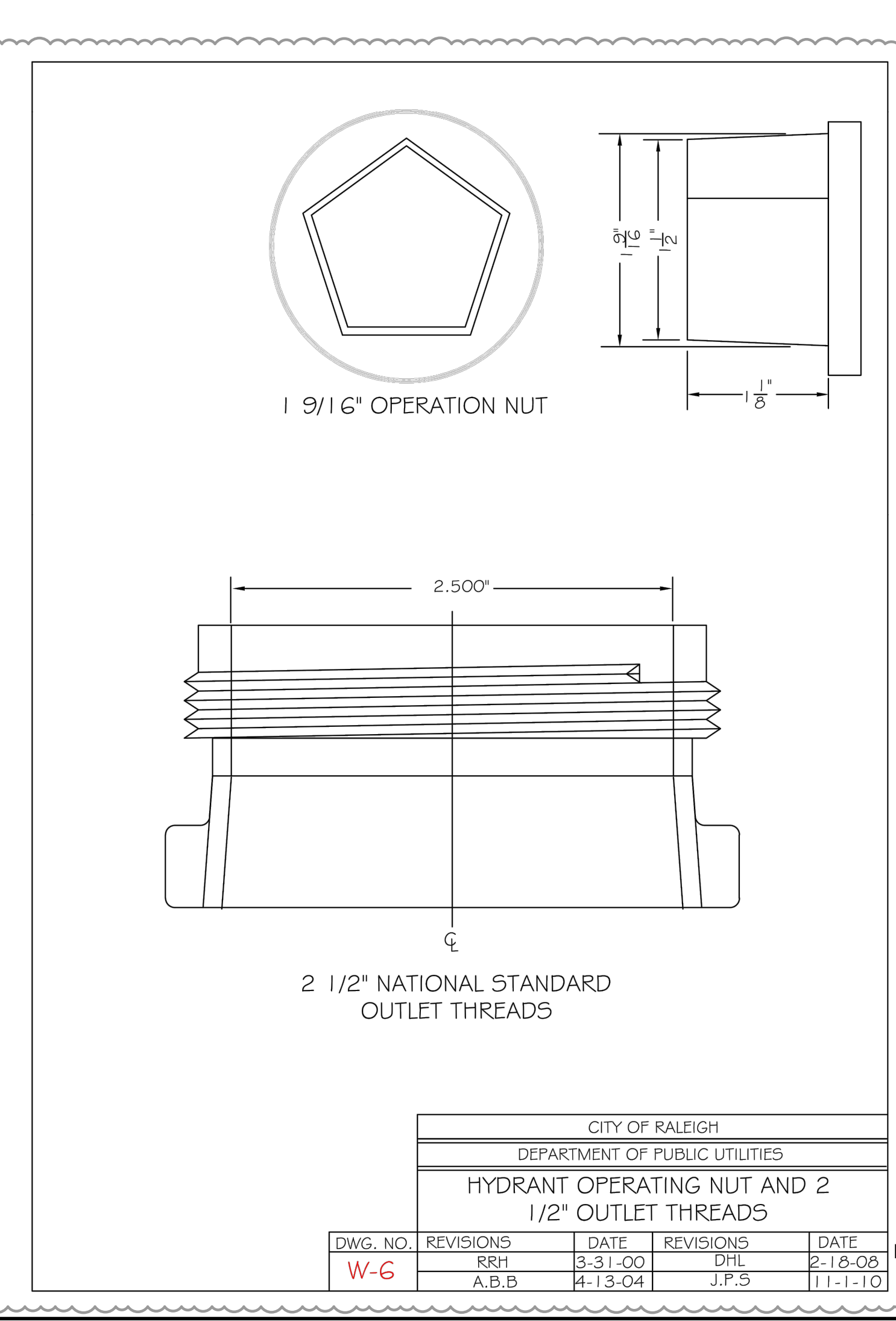
ANYTIME SITE WORK, CONSTRUCTION, ROAD WORK, OR ANY OTHER WORK CHANGES THE GRADE OF THE FIRE HYDRANT, THE PERSON RESPONSIBLE FOR THE WORK IS RESPONSIBLE FOR ADJUSTING THE FIRE HYDRANT TO STAY WITHIN COMPLIANCE.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD FIRE HYDRANT INSTALLATION DETAIL				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-4	ABB	4-6-04	PAF	2/17/09
	DHL	2/14/06		



- NOTES:
- ALL PUBLIC FIRE HYDRANTS IN THE CITY OF RALEIGH AND THE MERGER TOWNS OF GARNER, ROLESVILLE, WAKE FOREST, KNIGHTDALE, WENDELL AND ZEBULON SHALL BE PAINTED CHROME YELLOW WITH HIGH REFLECTIVE ALUMINUM SILVER CAPS, BONNETS AND OPERATING NUTS.
  - ALL PRIVATE FIRE HYDRANTS SHALL BE RED.

CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
STANDARD FIRE HYDRANT WITH 5" STORZ PUMPER NOZZLE				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-5	MAB	6-20-16		
	KAT	9-16-17		



CITY OF RALEIGH DEPARTMENT OF PUBLIC UTILITIES				
HYDRANT OPERATING NUT AND 2 1/2\"/>				
DWG. NO.	REVISIONS	DATE	REVISIONS	DATE
W-6	RRH	3-31-00	DHL	2-18-08
	A.B.B.	4-13-04	J.P.S.	11-1-10

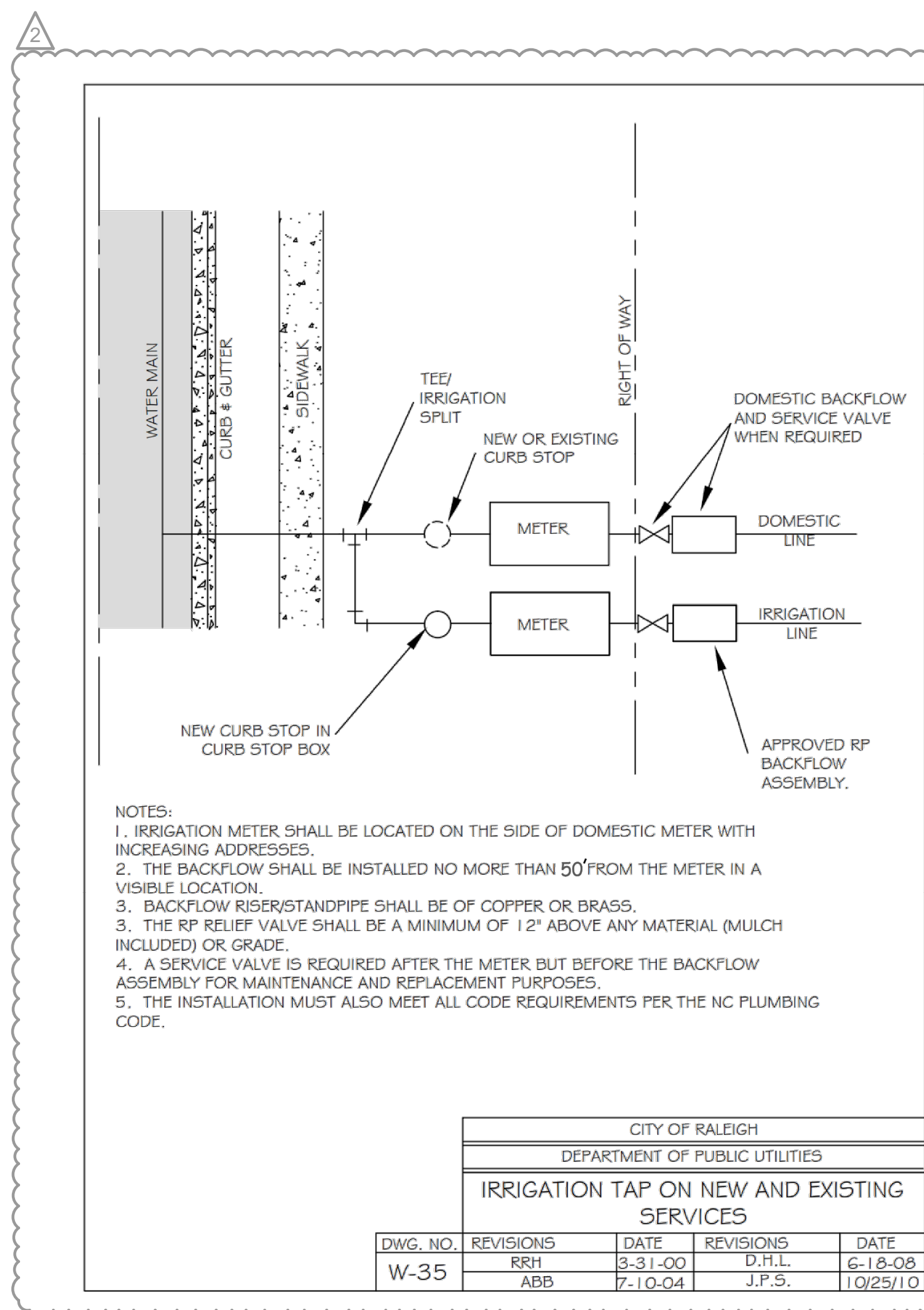
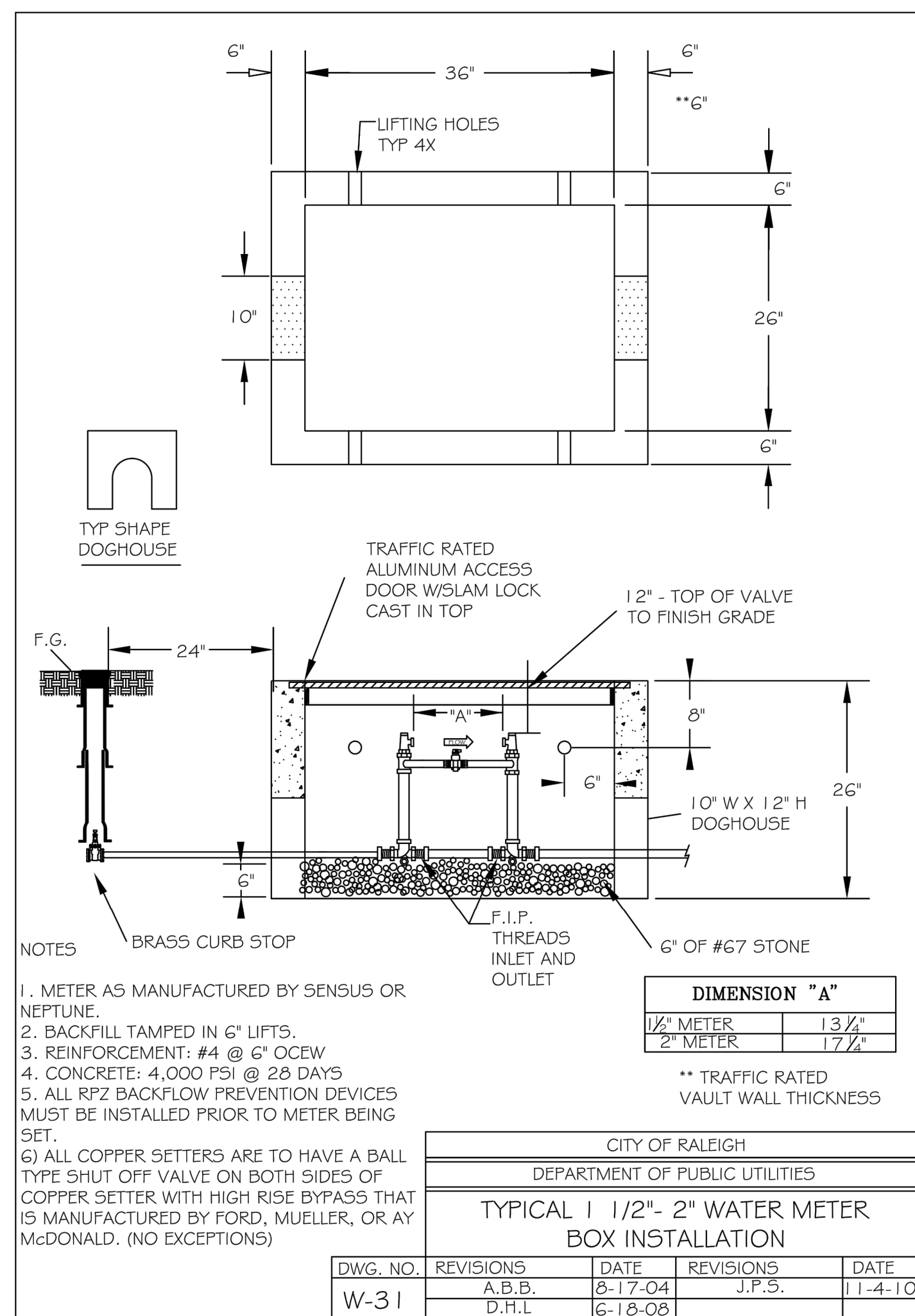
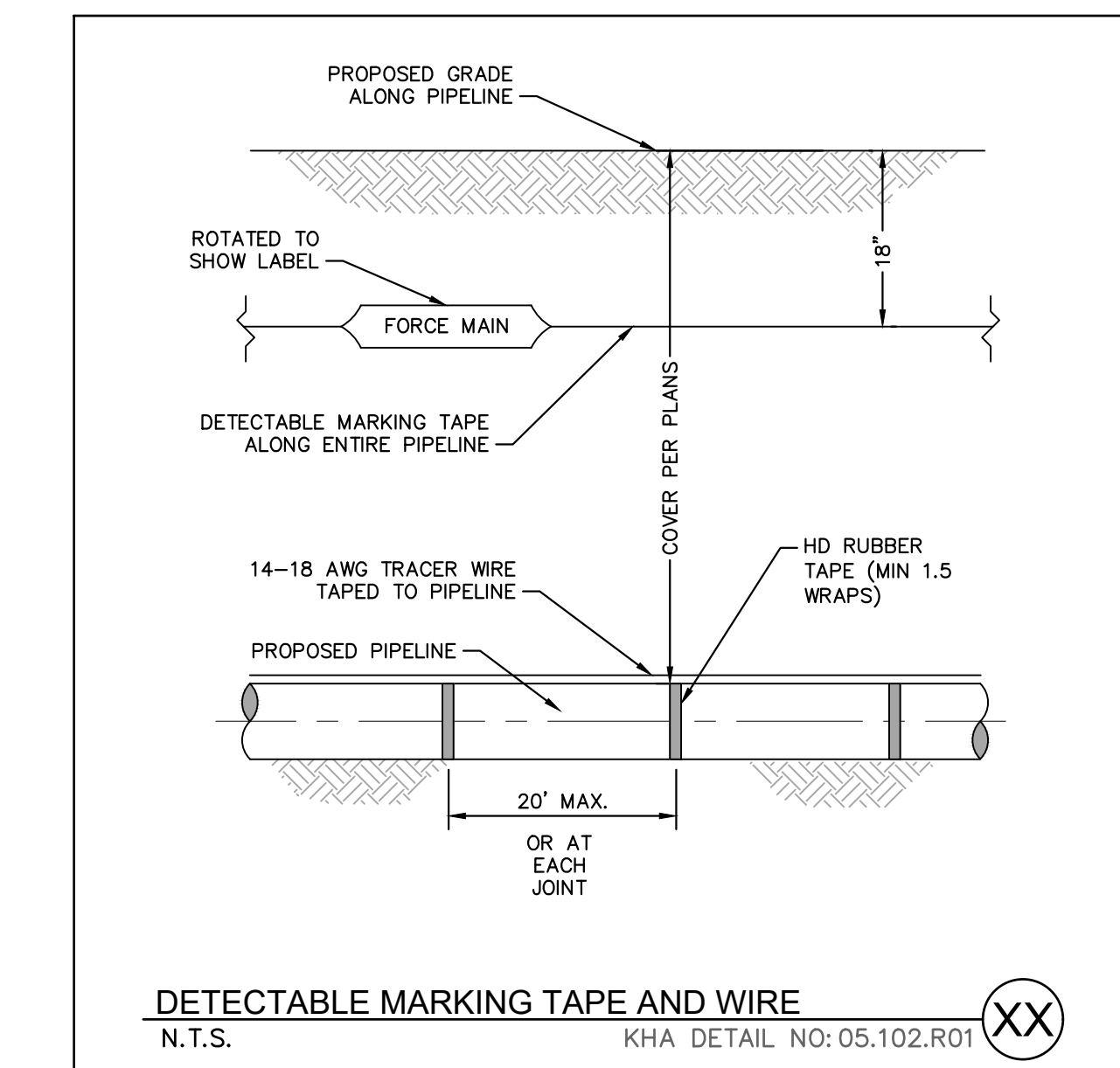
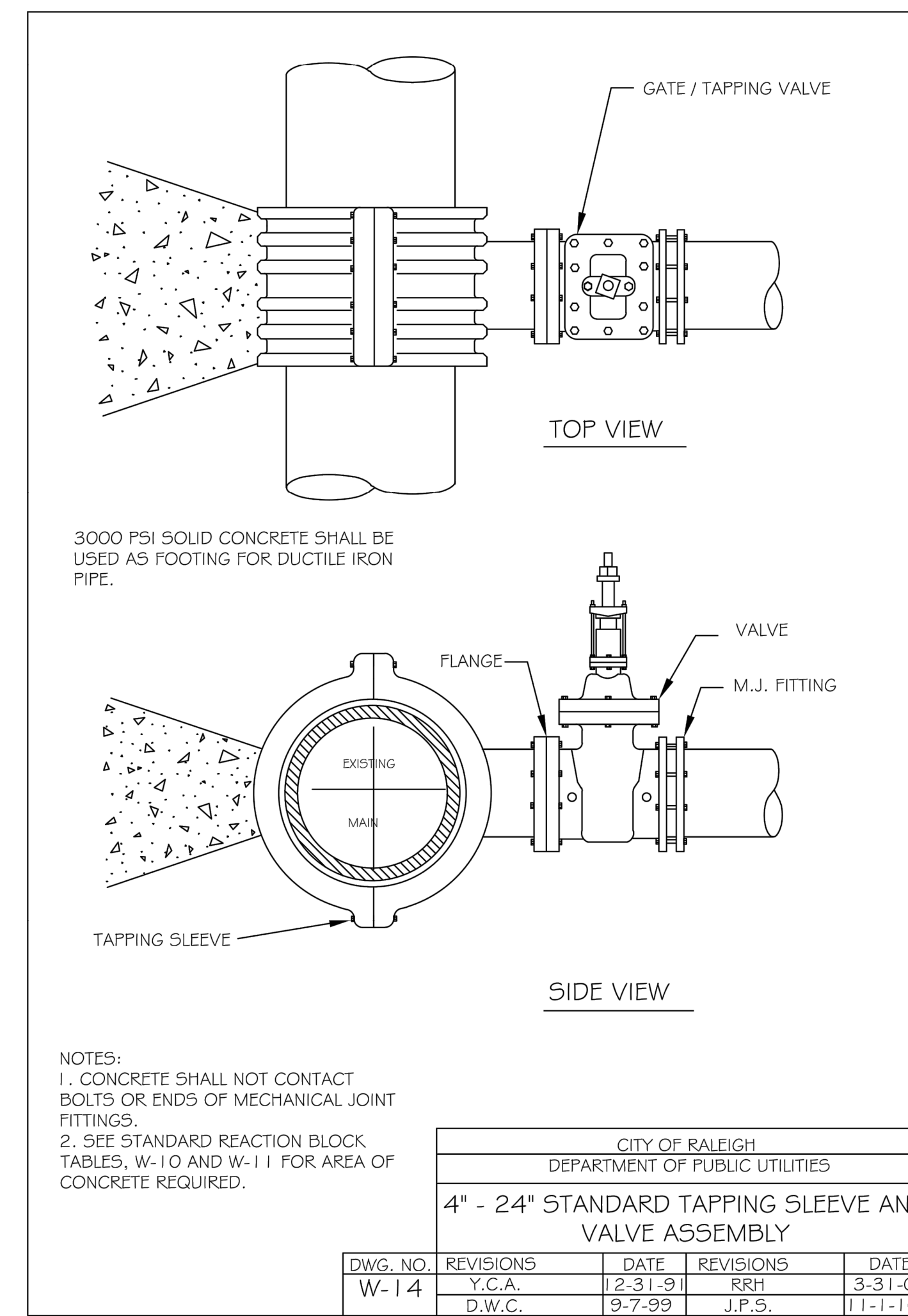
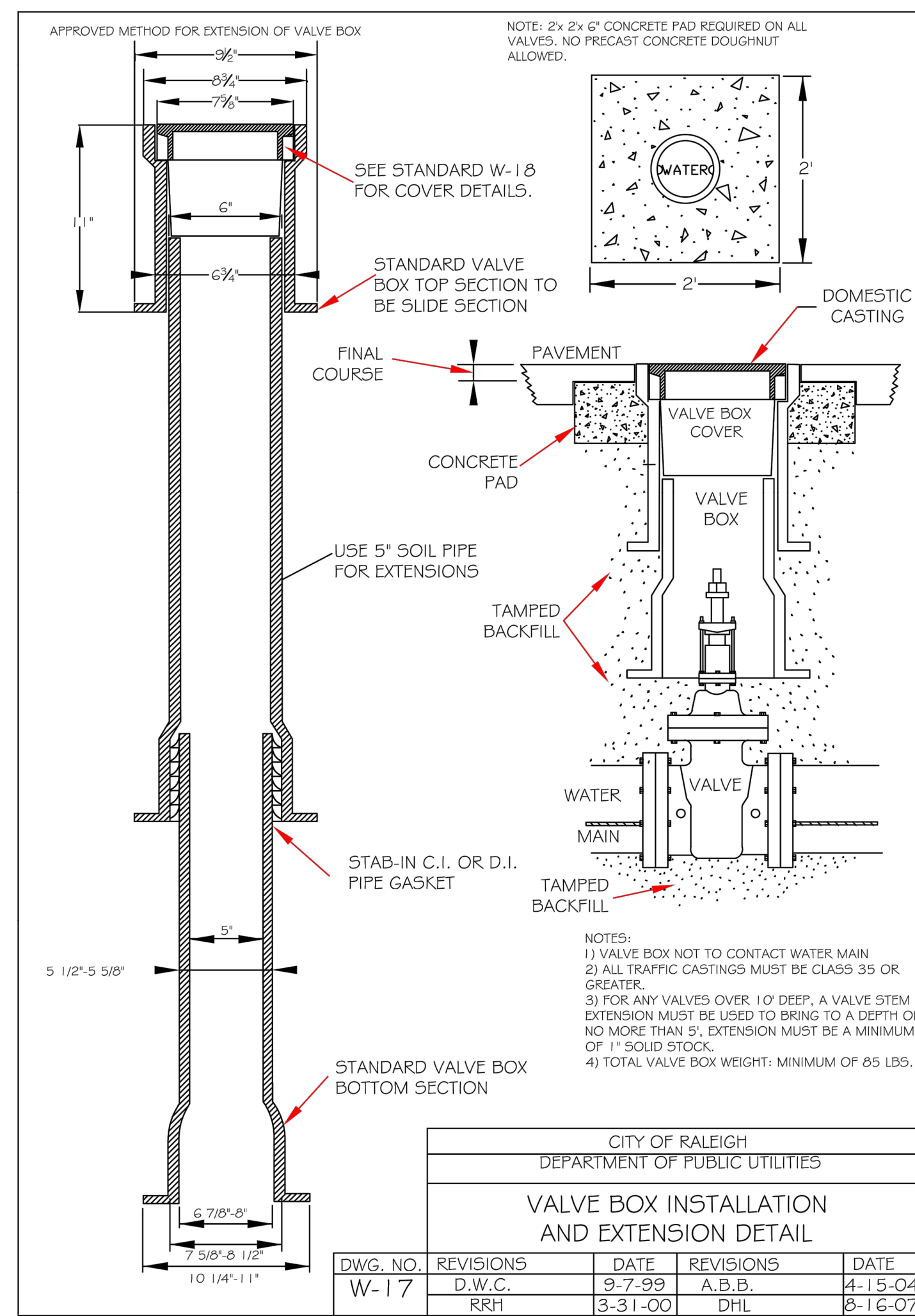
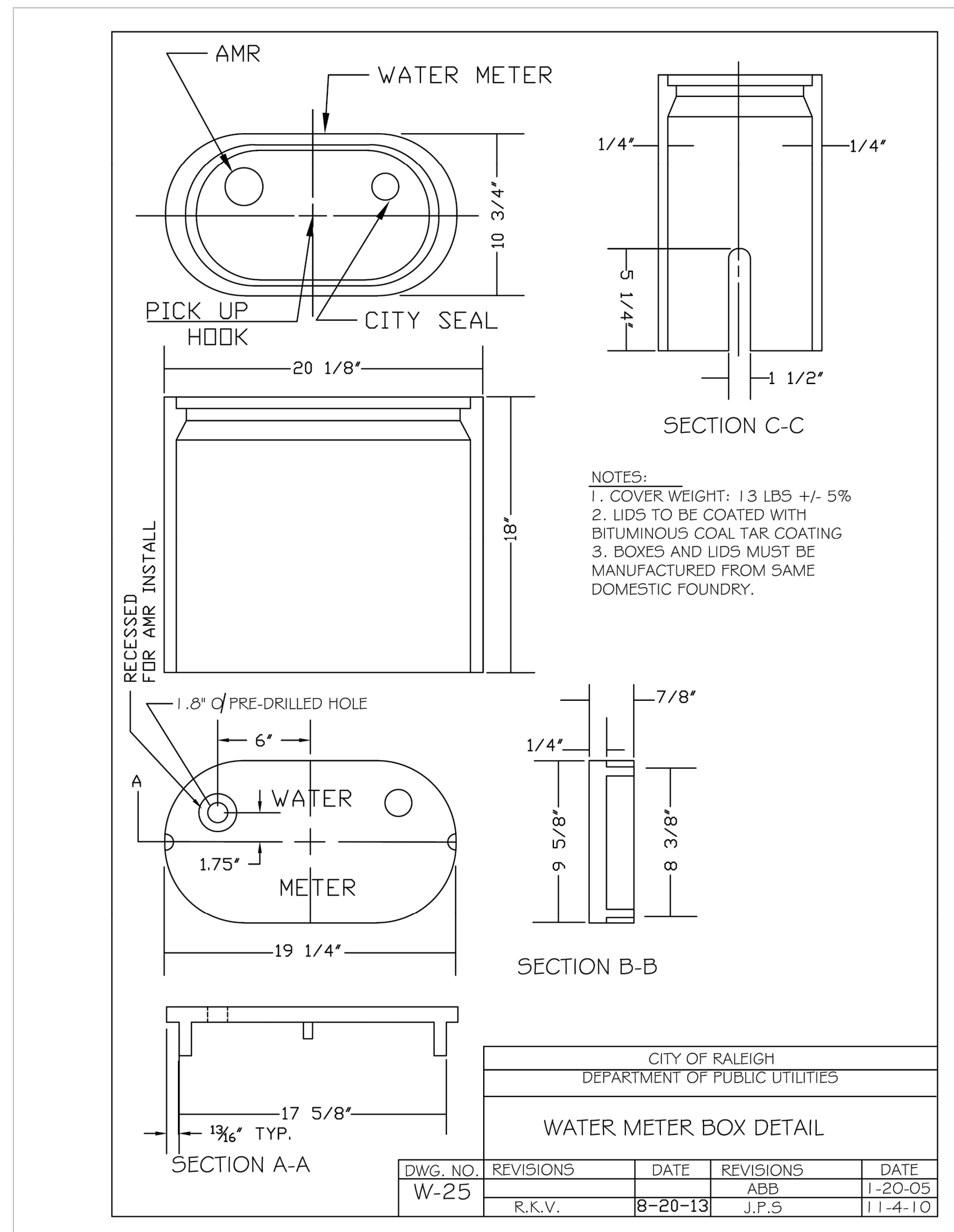


**SURVEY NOTE:**  
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KHA PROJECT 013031004		DATE 09/29/2023		SCALE AS SHOWN		DESIGNED BY JAA		DRAWN BY JAA		CHECKED BY COE	
						<b>Kimley»Horn</b> © 2023 KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE STREET, SUITE 800, RALEIGH, NC 27601 TOWN COMMENTS TOWN COMMENTS TOWN COMMENTS					
						05/01/2024 JAA 03/01/2024 JAA 01/02/2024 JAA					
						REVISIONS BY DATE					
THE LEARNING CENTER ROLESVILLE PREPARED FOR ROLESVILLE, LLC. TOWN OF ROLESVILLE NORTH CAROLINA						WATER DETAILS					
SHEET NUMBER <b>C11.0</b>						SDP-23-07					



Plotted By: Barnes, Michael Sheet: Section: THE LEARNING CENTER ROLESVILLE Layout: C11.1 WATER DETAILS May 01, 2024 05:23:55pm K:\RAL\_LDEV\013031004\_Rolesville\_Learning\_Center\PT0\_CAD Files\PlanSheets\C11.1 WATER DETAILS.dwg  
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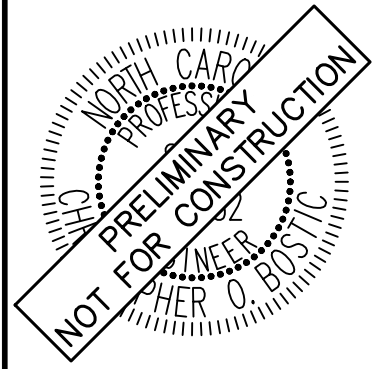


**SURVEY NOTE:**  
 1. IRRIGATION METER SHALL BE LOCATED ON THE SIDE OF DOMESTIC METER WITH INCREASING ADDRESSES.  
 2. THE BACKFLOW SHALL BE INSTALLED NO MORE THAN 50' FROM THE METER IN A VISIBLE LOCATION.  
 3. BACKFLOW RISER/STANDPIPE SHALL BE OF COPPER OR BRASS.  
 4. THE RP RELIEF VALVE SHALL BE A MINIMUM OF 12" ABOVE ANY MATERIAL (MULCH INCLUDED) OR GRADE.  
 5. A SERVICE VALVE IS REQUIRED AFTER THE METER BUT BEFORE THE BACKFLOW ASSEMBLY FOR MAINTENANCE AND REPLACEMENT PURPOSES.  
 6. THE INSTALLATION MUST ALSO MEET ALL CODE REQUIREMENTS PER THE NC PLUMBING CODE.



No.	REVISIONS	DATE
7		
6		
5		
4		
3	TOWN COMMENTS	05/01/2024 JAA
2	TOWN COMMENTS	03/01/2024 JAA
1	TOWN COMMENTS	01/02/2024 JAA

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 #F-0102 421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



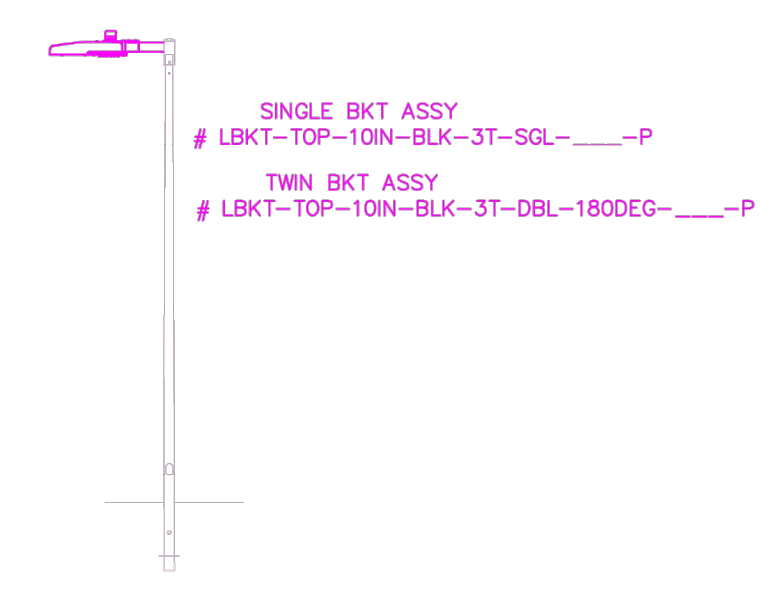
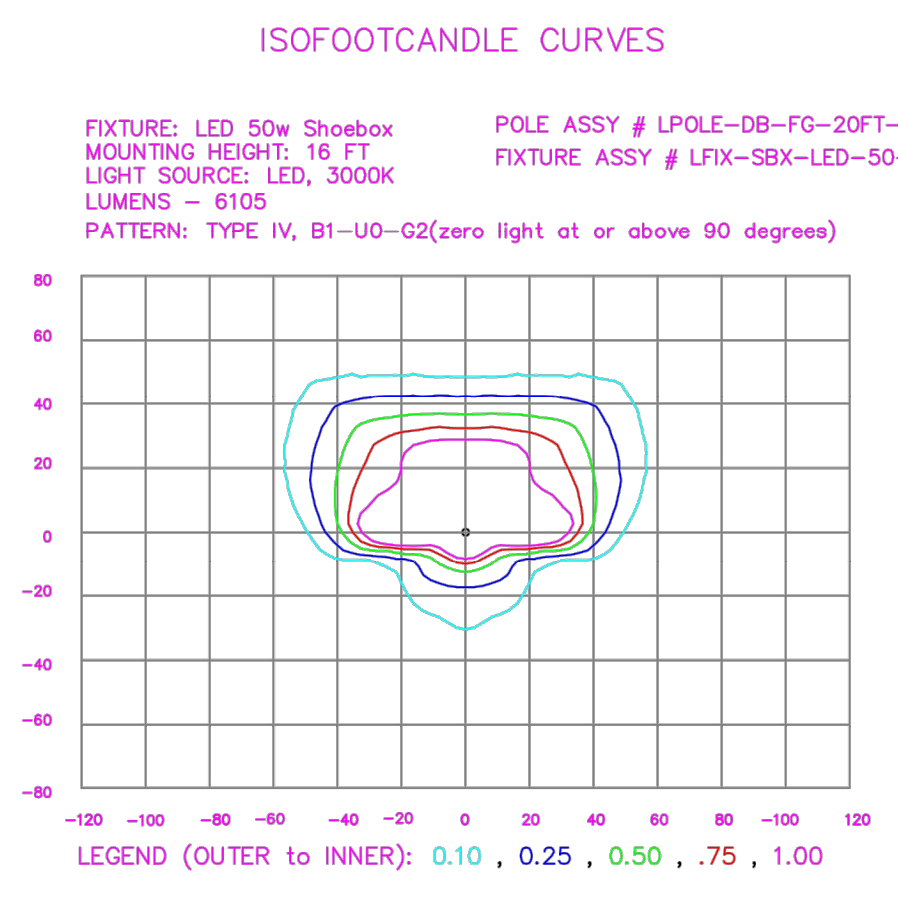
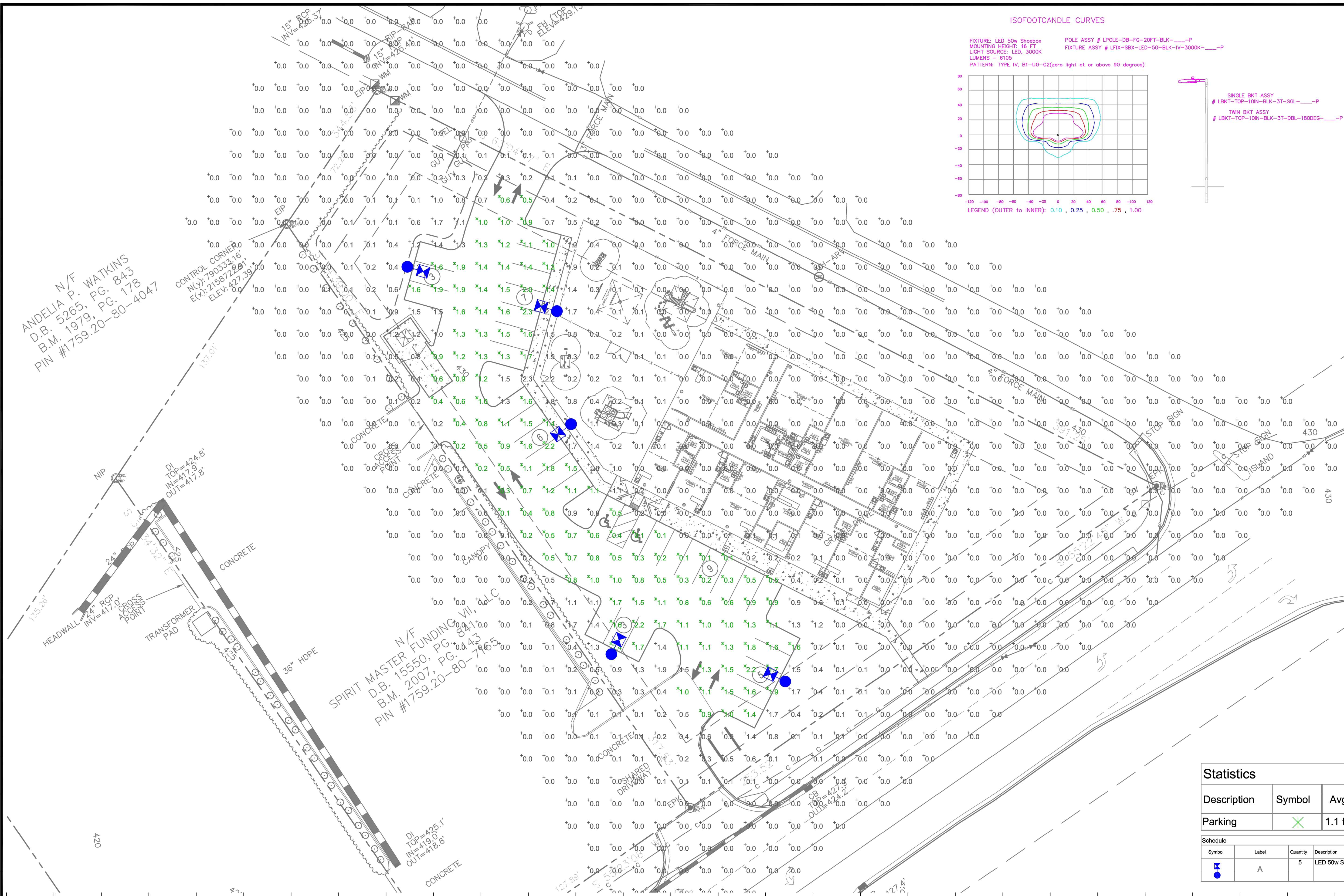
KHA PROJECT	DATE	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
013031004	09/29/2023	AS SHOWN	JAA	JAA	COB

**WATER DETAILS**

**THE LEARNING CENTER ROLESVILLE**  
 PREPARED FOR  
**ROLESVILLE, LLC.**  
 NORTH CAROLINA

SHEET NUMBER  
**C11.1**





**Outdoor Lighting**

**PEDESTRIAN SHOEBOX LED**  
(Meets Dark Sky Criteria)

**LED** (Light-emitting diode) 50 watts  
**Mounting height** 12' - 17'  
**Color** Black  
**Pole** Aluminum, Flangeless, Concrete, Decorative Aluminum  
**Applications** Neighborhoods, Parks, Shopping centers

**Light source:** LED (Aria®)  
**Wattage:** 50 watts  
**Lumens:** 5,100 lumen  
**Light pattern:** IESNA Type IV  
**IESNA cutoff classification:** Full cutoff  
**BUG rating:** Type IV - B1 U052  
**Color temperature:** 3,000K (14,000K)

**POLE AVAILABLE** MOUNTING HEIGHT COLOR  
 Aluminum 12', 15', 17' Black  
 Flangeless 16' Black  
 Flange Concrete 13' Black  
 Decorative Aluminum 12', 16' Black

**FEATURES:** Turnkey operation, Little or no installation cost, Design services by lighting professionals included, Maintenance, electricity & warranty included, One low monthly cost on your electric bill.

**BENEFITS:** Provides hassle-free installation and service, Frees up capital for other projects, Meets industry standards and lighting ordinances, Eliminates high and unexpected repair bills, Convenience and savings for you.

**DUKE ENERGY** PROFESSIONALS

ANDELIA N/F  
 D.B. 5265, PG. 843  
 B.M. 1979, PG. 178  
 PIN #1759.20-80-4047

CONTROL CORNER  
 N(4) 7903.53.16'  
 E(X) 21587.22.88'  
 ELEV. 427.39'

SPIRIT MASTER FUNDING VII, LLC  
 D.B. 15550, PG. 841  
 B.M. 2007, PG. 443  
 PIN #1759.20-80-74635

LT1.0

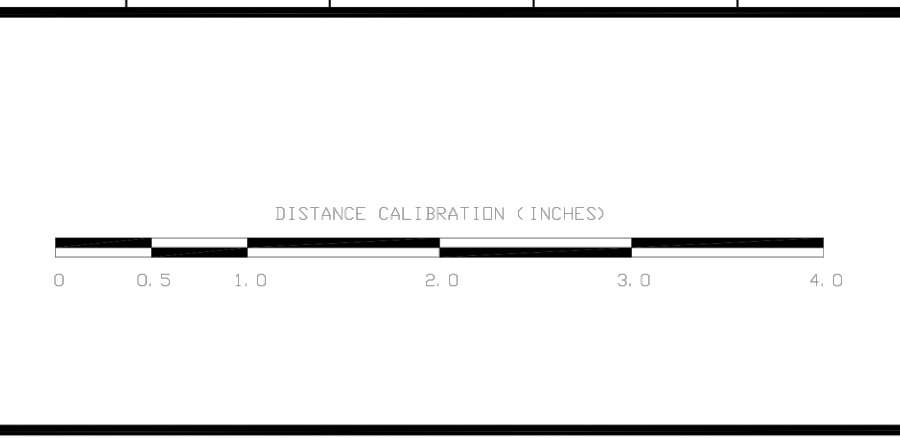
**Statistics**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Parking	✕	1.1 fc	2.4 fc	0.1 fc	24.0:1	11.0:1

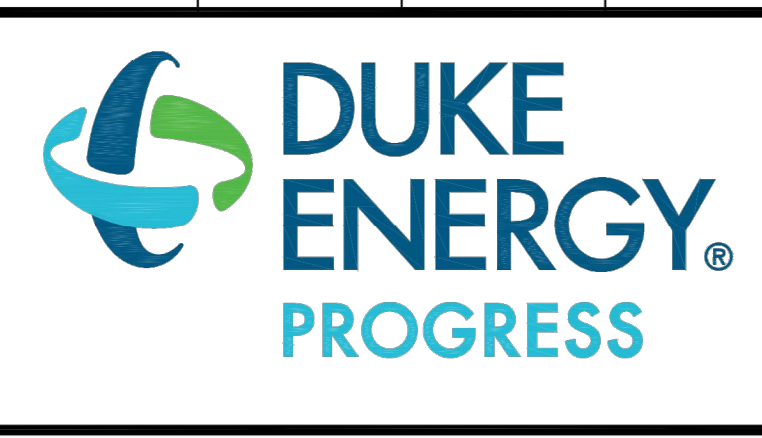
**Schedule**

Symbol	Label	Quantity	Description	Number Lamps	Lumens Per Lamp	Light Loss Factor
⊕	A	5	LED 50w Shoebox - Type IV - 3000K	16	382	0.85

NO.	DATE	REVISION	BY



**LIGHTING DESIGN TOLERANCE**  
 The calculated footcandle light levels in this lighting design are predicted values and are based on specific information that has been supplied to Duke Energy. Any inaccuracies in the supplied information, differences in luminaire installation, lighted area geometry including elevation differences, reflective properties of surrounding surfaces, obstructions (foliage or otherwise) in the lighted area, or lighting from sources other than listed in this design may produce different results from the predicted values. Normal tolerances of voltage, lamp output, and ballast and luminaire manufacture will also affect results.



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**ROLESVILLE LEARNING CENTER**  
 Rolesville, NC

**SITE LIGHTING ARRANGEMENT**

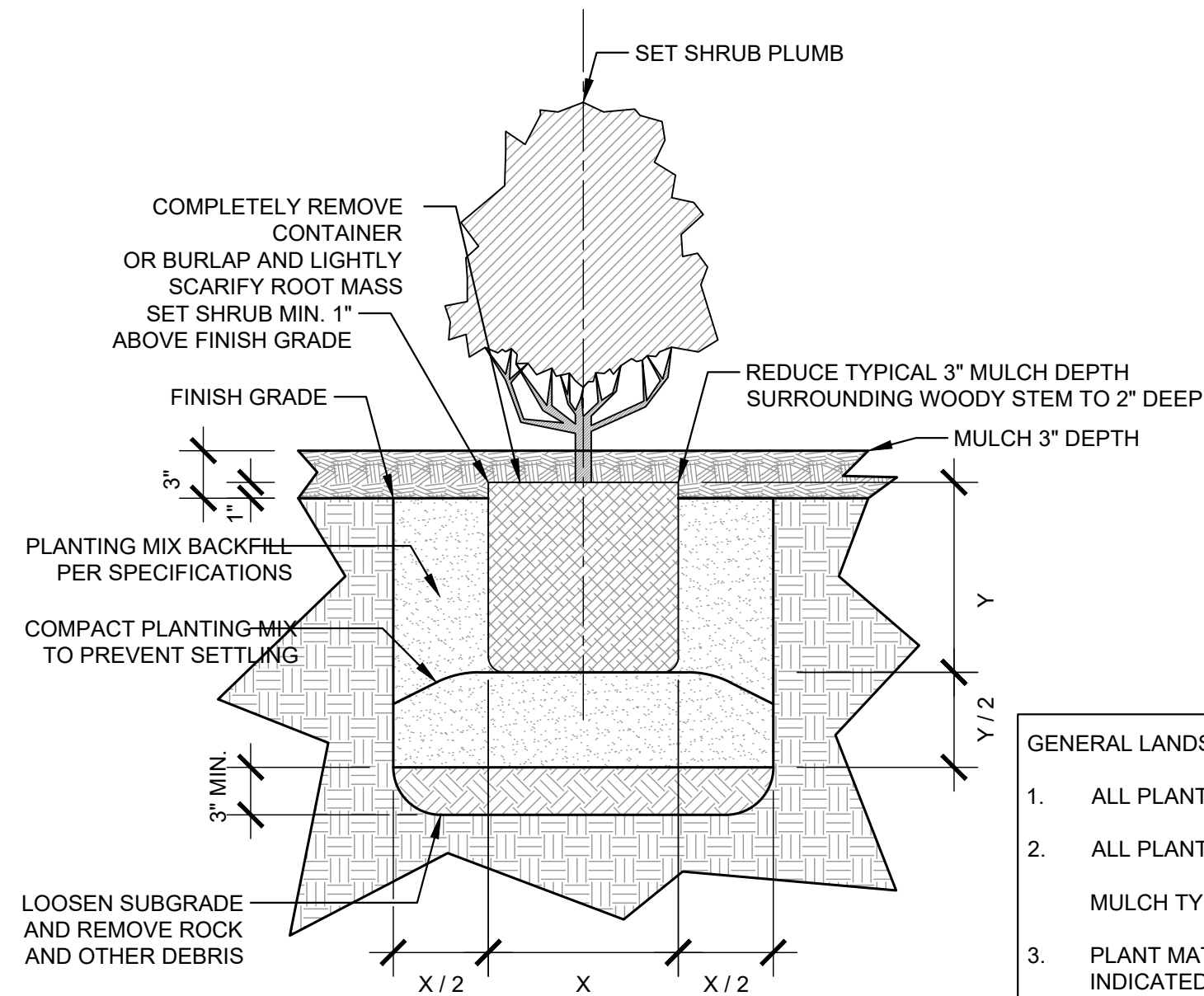
Designed by **DUKE ENERGY PROGRESS LIGHTING SOLUTIONS**  
 Reviewed by **N. Johnson** Scale **1" = 20'**  
 Date **09/25/2023** Size **Drawing size "D"**  
 Description **LED Pedestrian Shoebox**  
 Drawing No. **23-0400A** Sht. **1 OF 1**





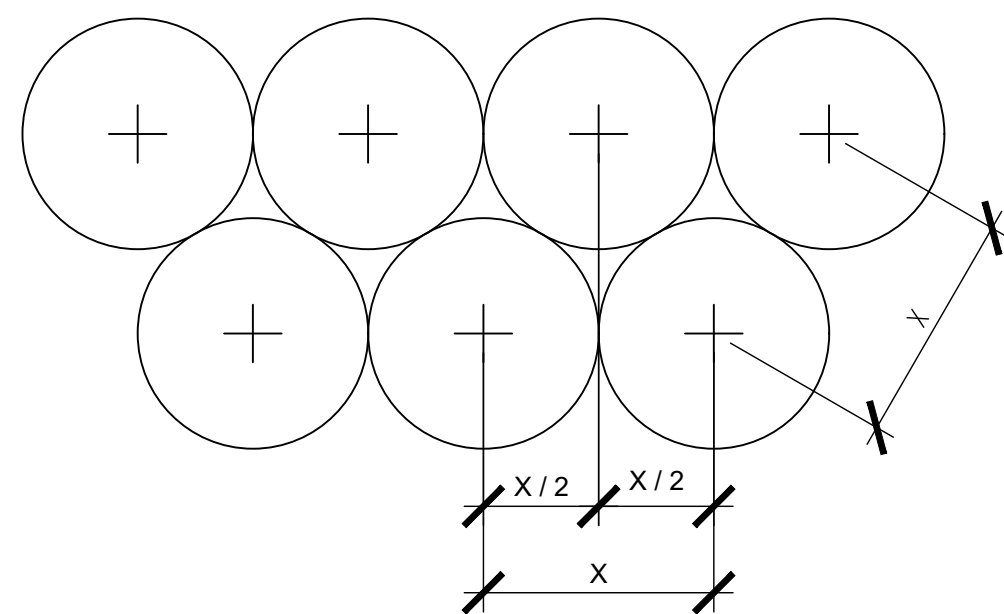


Plotted By: Barnes, Michael. Sheet Set: THE LEARNING CENTER ROLESVILLE. Layout: L2.0 LANDSCAPE DETAILS. May 01, 2024, 05:24:09pm. K:\RAL\_L\DEV\013031004\_Rolesville\_Leaning\_Center\10\_CAD Files\Plan\Sheets\L2.0 LANDSCAPE DETAILS.dwg. This document, together with the concepts and designs presented herein, is an instrument of service, as intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adaptation by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



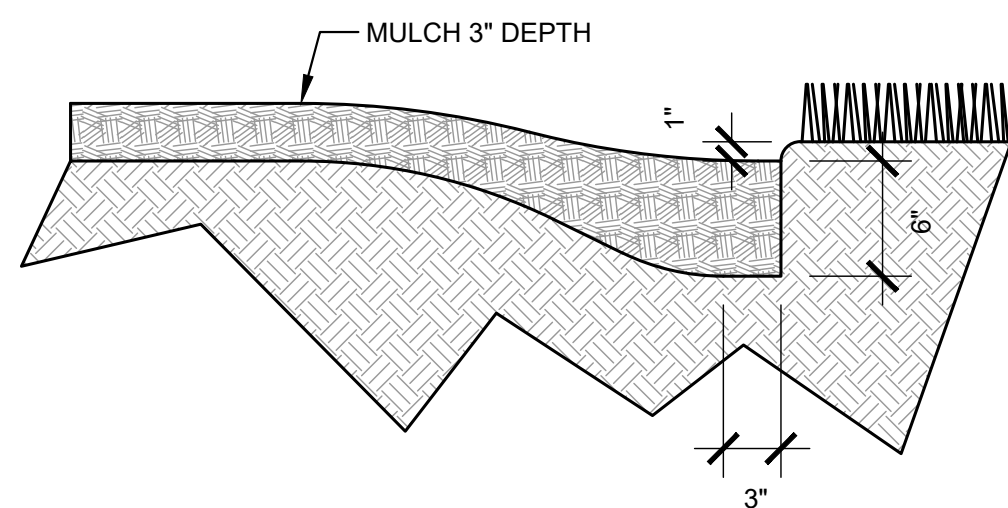
**1**  
 LS-2  
**TYPICAL SHRUB PLANTING**  
 SECTION  
 SCALE: 1"=1'-0"

- GENERAL LANDSCAPE NOTES:**
- ALL PLANT MATERIAL PRICING SHALL INCLUDE MULCH, BED PREPARATION, AND STAKING.
  - ALL PLANTING BEDS SHALL RECEIVE 3" (THREE INCHES) OF MULCH.  
MULCH TYPE FOR PROJECT: DOUBLE SHREDDED HARDWOOD
  - PLANT MATERIAL SPACING SHOWN ON LANDSCAPE PLANS SHALL OVERRIDE TYPICAL PLANT SPACING INDICATED ON PLANT SCHEDULE. LANDSCAPE CONTRACTOR RESPONSIBLE FOR VERIFYING ALL PLANT SPACING AND MAKING MINOR FIELD ADJUSTMENTS DUE TO UTILITY CONFLICTS.



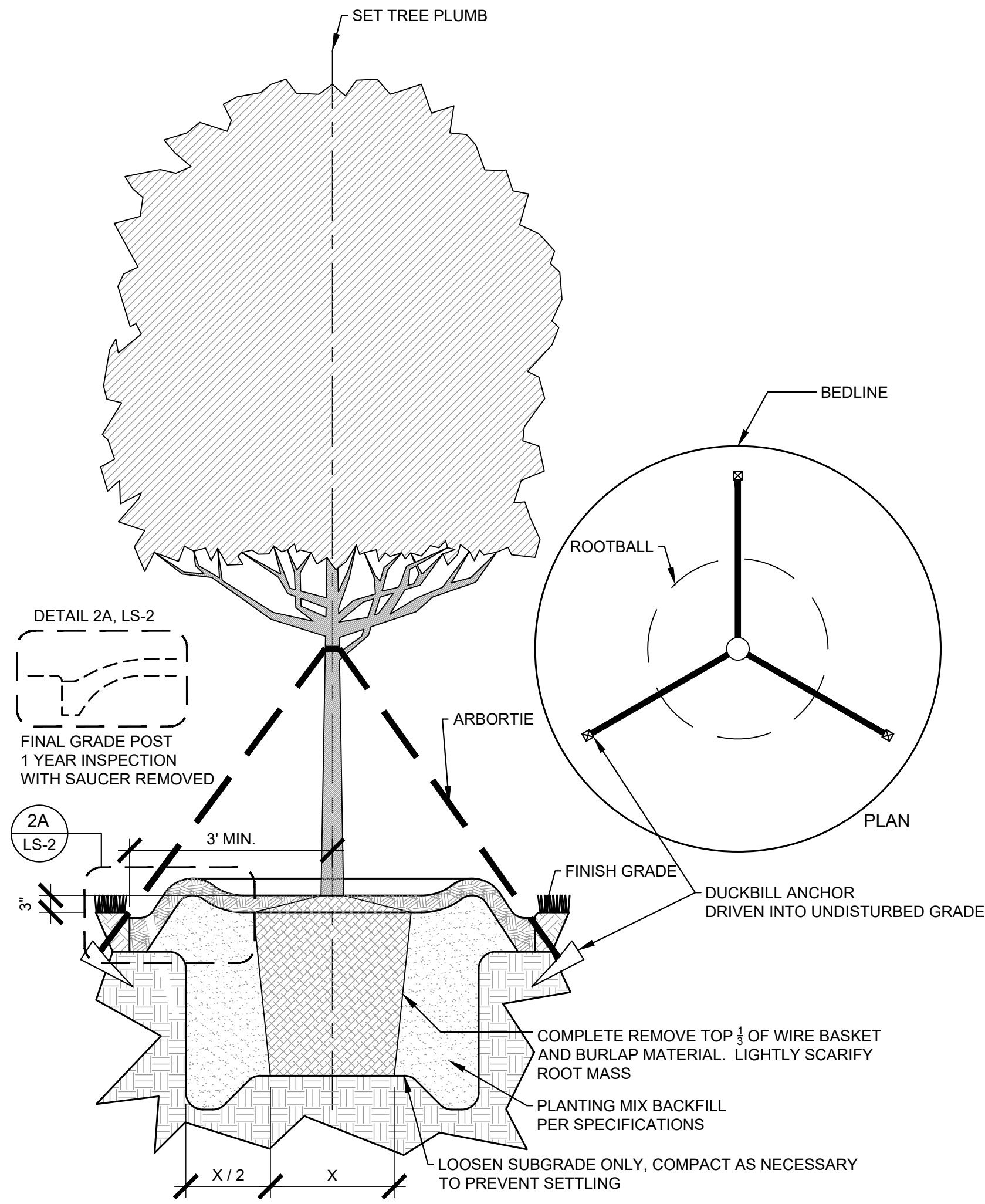
- PLANT SPACING NOTES:**
- SEE PLANTING PLAN FOR SHRUB AND GROUND COVER AREAS.
  - PLANT MATERIAL SHALL BE INSTALLED IN STRAIGHT AND PARALLEL ROWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
  - SEE PLANTING PLAN AND / OR PLANT SCHEDULE FOR ACTUAL PLANT SPACING.

**2**  
 LS-2  
**TYPICAL STAGGERED ROW PLANT SPACING**  
 PLAN  
 SCALE: 1/2"=1'-0"



- PLANTING BED TRENCH EDGING NOTE:**
- TRENCH EDGE SHALL BE LOCATED BETWEEN PLANTING BED AND ALL TURF OR NATIVE GRASS AREAS.
  - TRENCH EDGE SHALL BE CONSTRUCTED ALONG ALL HARDSCAPE AREAS FOR SIMILAR CONDITION.
  - MAINTAIN POSITIVE DRAINAGE IN ALL PLANTING BEDS.

**3**  
 LS-2  
**PLANTING BED TRENCH EDGING**  
 SECTION  
 SCALE: 1"=1'-0"



- TREE PLANTING NOTES:**
- 4"-6" DIAMETER RIVER ROCK (INSIDE THE BUILDING PAD) OR 3" MINIMUM OF HARDWOOD BARK MULCH OR AS SPECIFIED (IN OUTLYING PLANT BEDS) (MULCH TYPE FOR PROJECT: SHREDDED CYPRESS MULCH)
  - TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE
  - ROOTBALLS GREATER THEN 24" DIAMETER SHALL BE PLACED ON MOUND OF UNDISTURBED SOIL TO PREVENT SETTLING. ROOTBALLS SMALLER THEN 24" IN DIAMETER MAY SIT ON COMPACTED EARTH.

**4**  
 LS-2  
**TYPICAL TREE PLANTING & GUYING**  
 PLAN & SECTION  
 SCALE: 1/2"=1'-0"

**GENERAL LANDSCAPE NOTES:**

- ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE.
- ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
- ALL TREES MUST HAVE A STRAIGHT TRUNK AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
- ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
- ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
- ALL SHADE TREES LOCATED WITHIN VEHICLE SIGHT TRIANGLES SHALL BE BRANCHED MIN. 8" (MEASURED FROM ADJACENT PROJECTED CURB LINE ELEVATION) PER ANSI Z60.1 STANDARDS FOR HEIGHT OF BRANCHING - STREET TREES.
- ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC. WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS BEFORE PRICING THE WORK. ANY DISCREPANCIES BETWEEN QUANTITIES ON PLAN AND PLANT LIST SHALL BE BROUGHT TO THE ATTENTION OF WAKE COUNTY INSPECTOR AND ANY FIELD ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO PLANTING.
- THE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING (INCLUDING BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) OF THE PLANTING AREAS AND LAWN UNTIL SUBSTANTIAL COMPLETION.
- CONTRACTOR SHALL INSTALL AND MAINTAIN TWO (2) GATORBAGS PER LARGE CANOPY TREE
- THE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF TWO (2) YEAR BEGINNING ON THE DATE OF SUBSTANTIAL COMPLETION. THE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD.
- LANDSCAPE ARCHITECT SHALL APPROVE ALL BED LAYOUT STAKING PRIOR TO INSTALLATION OF PLANT MATERIAL.
- THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL TREES PRIOR TO INSTALLATION.
- AFTER BEING DUG AT THE NURSERY SOURCE, ALL TREES IN LEAF SHALL BE ACCLIMATED FOR TWO (2) WEEKS UNDER A MIST SYSTEM PRIOR TO INSTALLATION.
- ANY PLANT MATERIAL WHICH DIES, TURNS BROWN, OR DEFOLIATES (PRIOR TO SUBSTANTIAL COMPLETION OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, AND SIZE MEETING ALL PLANT SCHEDULE SPECIFICATIONS.
- STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
- ALL SHRUB, GROUND COVER AND SEASONAL COLOR ANNUAL PLANTING BEDS ARE TO BE COMPLETELY COVERED WITH DOUBLE SHREDDED HARDWOOD OR CURRENT CITY STANDARD TO A DEPTH OF THREE (3) INCHES.
- LOCATIONS OF EXISTING BURIED UTILITY LINES SHOWN ON THE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AND ARE TO BE CONSIDERED APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS OF UTILITY LINES AND ADJACENT TO THE WORK AREA. THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITY LINES DURING THE CONSTRUCTION PERIOD.
- SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
- ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
- THE TOP OF ALL ROOT BALLS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE, AS BORN TO PREVIOUS GRADE AND GROWING CONDITIONS.
- ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
- ALL STRAPPING AND TOP 2/3 OF WIRE BASKET MUST BE CUT AWAY AND REMOVED FROM ROOT BALL PRIOR TO BACKFILLING PLANTING PIT. REMOVE TOP 1/3 OF THE BURLAP FROM ROOT BALL.
- FOR NEW PLANTING AREAS, REMOVE ALL PAVEMENT, GRAVEL SUB-BASE AND CONSTRUCTION DEBRIS; REMOVE COMPACTED SOIL AND ADD 24" NEW TOPSOIL OR UNCOMPACT AND AMEND THE TOP 24" OF EXISTING SOIL TO MEET TOPSOIL PLANTING MIX STANDARDS FOR TREES. SEE DETAILS THIS SHEET.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TREES AND SHRUBS THAT WILL MEET BOTH MINIMUM SIZE AND SPACING FOR TREE AND ZONING ORDINANCE COMPLIANCE. FAILURE TO INSTALL PLANT MATERIAL PER THIS PLAN WILL JEOPARDIZE ISSUANCE OF FINAL CERTIFICATE OF OCCUPANCY. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING INSPECTIONS OF PLANT MATERIAL.
- CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES & ORDINANCES REGARDING LANDSCAPING. GENERAL CONTRACTOR IS TO CLEAN THE ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND TO RAKE ENTIRE SITE.
- THE CONTRACTOR SHALL INSTALL BLACK FABRIC MESH UNDER PLANTING BED MULCH TO PREVENT WEED GROWTH.
- EACH LARGE CANOPY TREE AT THE TIME OF PLANTING SHALL BE A MINIMUM OF TWO (2) INCHES IN CALIPER AND EIGHT (8) - TEN (10) FEET IN HEIGHT. WHEN MATURE, A LARGE CANOPY TREE SHOULD BE AT LEAST FORTY (40) FEET HIGH AND HAVE A MINIMUM CROWN WIDTH OF THIRTY (30) FEET. LARGE CANOPY TREES MAY BE SUBSTITUTED WITH TWO (2) UNDERSTORY TREES. HOWEVER, NO MORE THAN FIFTY (50) PERCENT OF THE REQUIRED LARGE CANOPY TREES MAY BE SUBSTITUTED. EACH UNDERSTORY TREE AT THE TIME OF PLANTING SHALL BE A MINIMUM OF ONE (1) INCH IN CALIPER AND EIGHT (8) FEET IN HEIGHT. WHEN MATURE, AN UNDERSTORY TREE SHOULD BE BETWEEN FIFTEEN (15) AND FORTY (40) FEET HEIGHT. EVERY TWO (2) UNDERSTORY TREES MAY BE SUBSTITUTED WITH ONE (1) LARGE CANOPY TREE. HOWEVER, NO MORE THAN FIFTY (50) PERCENT OF THE REQUIRED UNDERSTORY TREES MAY BE SUBSTITUTED. EACH SHRUB AT THE TIME OF PLANTING SHALL BE 3 GALLON SIZE OR LARGER. SUBSTITUTIONS SHOULD BE CONFIRMED WITH THE PLANNING DIVISION.

**NOTE:**  
 Each large canopy tree at the time of planting shall be a minimum of two (2) inches in caliper and eight (8) - ten (10) feet in height. When mature, a large canopy tree should be at least forty (40) feet high and have a minimum crown width of thirty (30) feet. Large canopy trees may be substituted with two (2) understory trees. However, no more than fifty (50) percent of the required large canopy trees may be substituted. Each understory tree at the time of planting shall be a minimum of one (1) inch in caliper and eight (8) feet in height. When mature, an understory tree should be between fifteen (15) and forty (40) feet height. Every two (2) understory trees may be substituted with one (1) large canopy tree. However, no more than fifty (50) percent of the required understory trees may be substituted. Each shrub at the time of planting shall be 3 gallon size or larger. Substitutions should be confirmed with the Planning Division.

KHA PROJECT 013031004		DATE 09/29/2023		SCALE AS SHOWN		DESIGNED BY JAA		DRAWN BY JAA		CHECKED BY COB	
KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE STREET, SUITE 800, RALEIGH, NC 27601 PHONE: 919.677.2000 FAX: 919.677.2050 WWW.KIMLEY-HORN.COM		TOWN COMMENTS 05/01/2024 JAA		TOWN COMMENTS 03/01/2024 JAA		TOWN COMMENTS 01/02/2024 JAA		TOWN COMMENTS 01/02/2024 JAA		REVISIONS BY DATE	
<b>THE LEARNING CENTER ROLESVILLE</b> PREPARED FOR <b>ROLESVILLE, LLC.</b> TOWN OF ROLESVILLE NORTH CAROLINA						<b>LANDSCAPE DETAILS</b>					
SHEET NUMBER <b>L2.0</b>						SDP-23-07					





H:\DRAWINGS\TILE - THE LEARNING EXPERIENCE\TILE - NORTH CAROLINA\TILENC23-228 - TILE ROLESVILLE US HWY 401 S MAIN ST\SPACE PLANS\TILENC23-228-SA-1.DWG CSCHWEIKER PLOTTED: 12/21/2023

LICENSING CALCULATIONS								
Learning Experience, Roseville, North Carolina								
ROOM NAME	STATE REQUIRED AREA	NET AREA	ACTUAL AREA	RATIO	# OF CHILDREN	#OF TEACHERS	TEACHER RATIO	AGE GROUP
INFANTS A	440	493	552	55	8	2	1/4	6W-12MO
INFANTS B	440	482	541	55	8	2	1/4	6MO-18MO
TODDLERS A	350	358	417	35	10	2	1/5	18-24 MO
TODDLERS B	350	362	421	35	10	2	1/5	18-24MO
TWADDLERS	560	570	629	35	16	2	1/8	24-30 MO
PREPPERS	560	575	623	35	16	2	1/8	30-36 MO
PRE-SCHOOL 1	630	644	656	35	18	2	1/9	3-5 Y
PRE-SCHOOL 2	840	847	859	35	24	2	1/12	4-5Y
PRE-SCHOOL 3	630	637	649	35	18	2	1/9	3-5Y
PRE K-K	490	502	522	35	14	1	1/14	5-6Y
MBB/PRE-SCHOOL	735	740	752	35	21	2	VARIES	VARIES
TOTALS		6210			163	21		
					2	ADMIN STAFF		
					TOTAL	186		

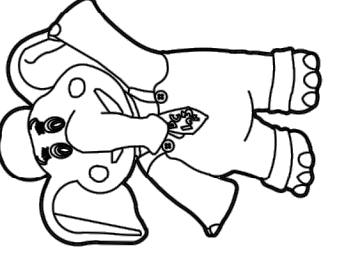
1. CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE CONTRACTOR'S BEST SKILL AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE CONTROL OVER CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCE, AND JOB SITE SAFETY.
2. GC MUST PROVIDE & INSTALL ALL PRODUCTS PER PLANS. ONLY SUBSTITUTED PRODUCTS NEED TO BE SUBMITTED TO THE ARCHITECT FOR APPROVAL. UNAPPROVED SUBSTITUTIONS WILL BE REPLACED AT THE EXPENSE OF THE GC.
3. VERBAL REPRESENTATION HAS NO VALUE AND ALL REQUESTS TO CHANGE ANY PRODUCTS OR SPECIFICATIONS PER PLANS, MUST BE SUBMITTED IN WRITING TO THE ARCHITECT & TLE FOR APPROVAL.



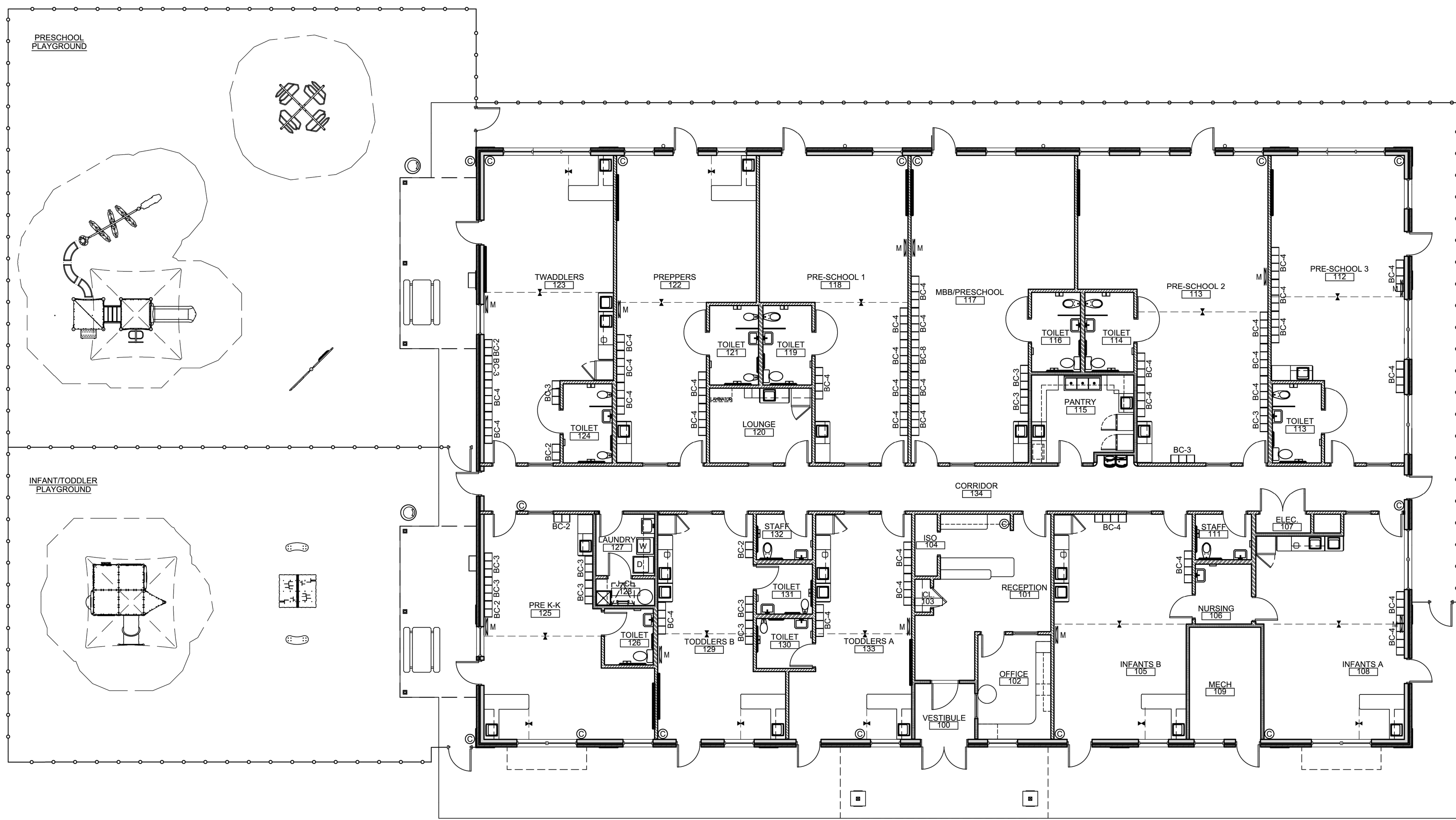
**Jarmel Kizel**  
ARCHITECTS AND ENGINEERS INC.  
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Implementation Services

THE LEARNING EXPERIENCE  
ACADEMY OF EARLY EDUCATION



US Hwy 401 S Main St  
ROLESVILLE NORTH CAROLINA



**1 FLOOR PLAN**  
SCALE: 1/8"=1'-0"

ISSUE			
NO.	DATE	DESCRIPTION	INT.

REVISION			
NO.	DATE	DESCRIPTION	INT.

PROFESSIONAL CERTIFICATION  
NAME OF LICENSEE:  
MATTHEW B. JARME  
LICENSE NUMBER: 10120

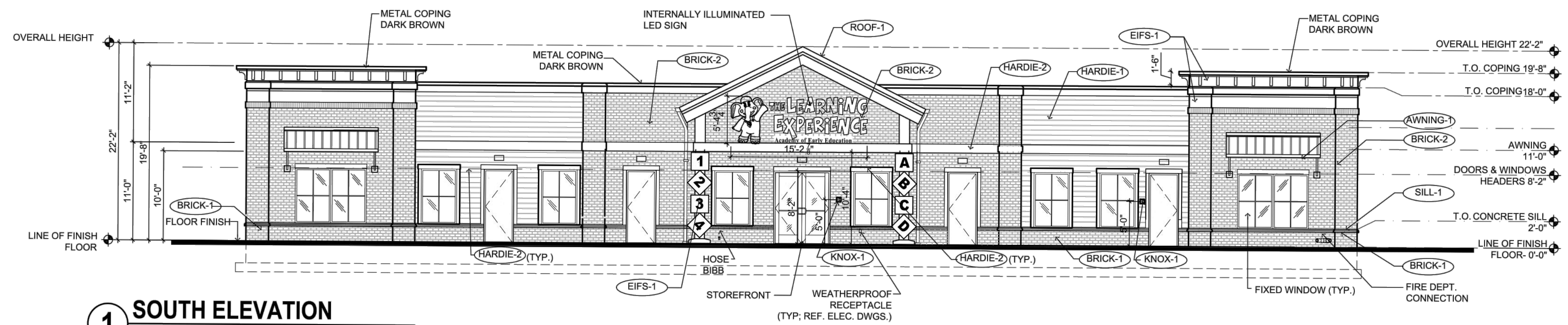
Project Number: TLENC23-228	Scale: AS NOTED
Drawn By: BB	Approved By: ---

Drawing Name:  
**PROPOSED FLOOR PLAN**

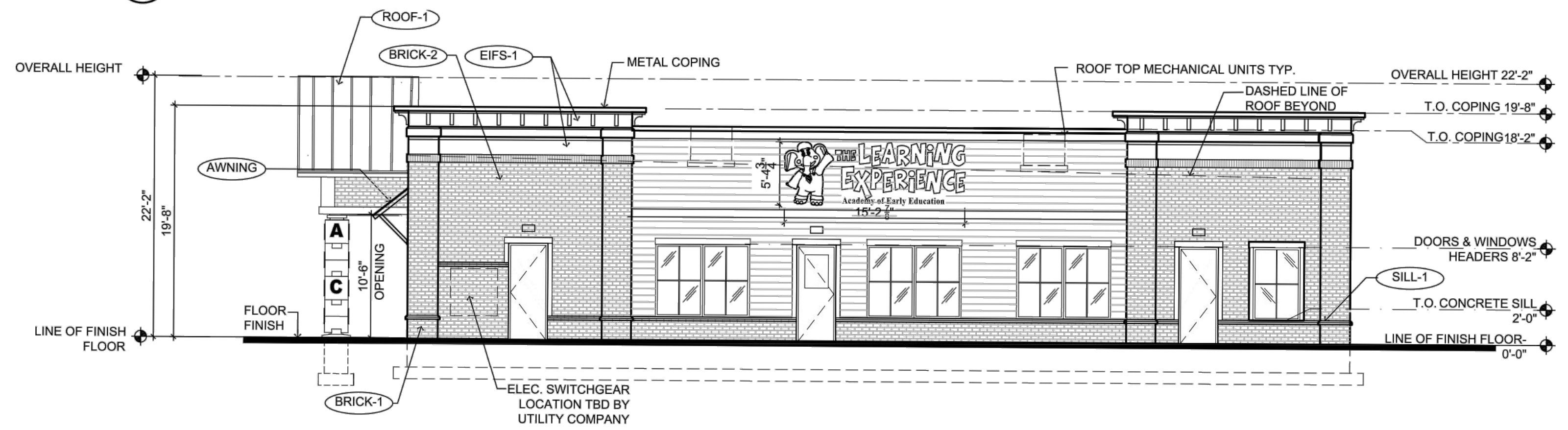
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**SA-1.1**



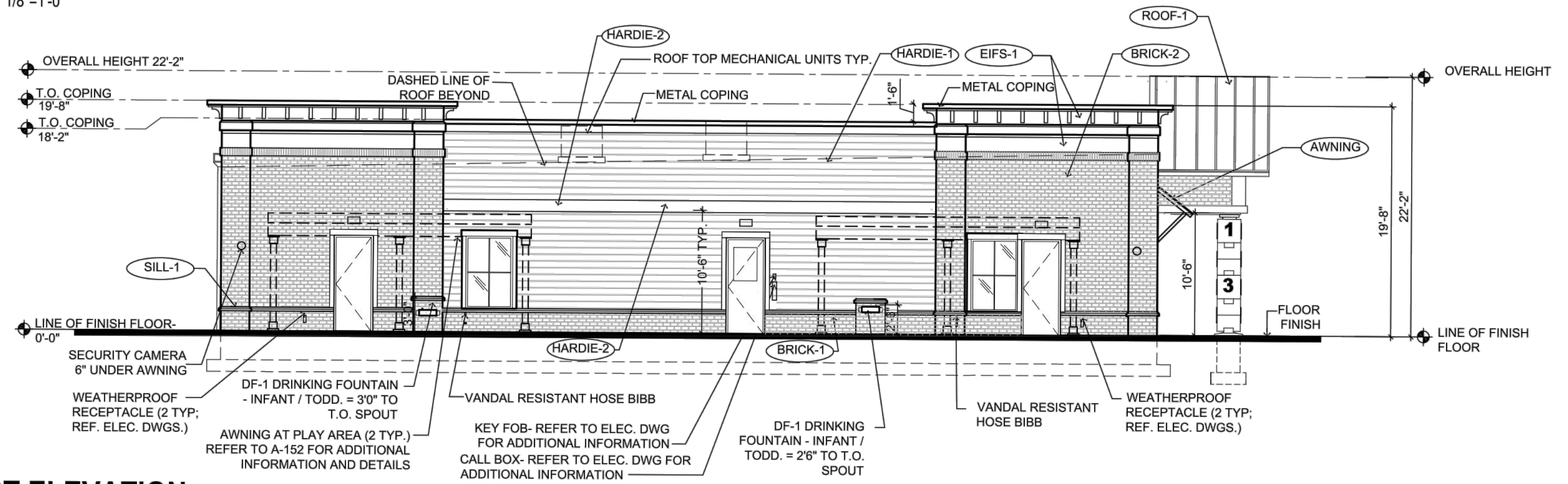
H-DRAWINGS-TITLE - THE LEARNING EXPERIENCE-ITL - NORTH CAROLINA-TLENC23-228 - TLE ROLESVILLE US HWY 401 S MAIN ST-SPACE PLAN-TLENC23-228-SA-1-DWG CSCHWEIKER PLOTTED: 02/29/2024



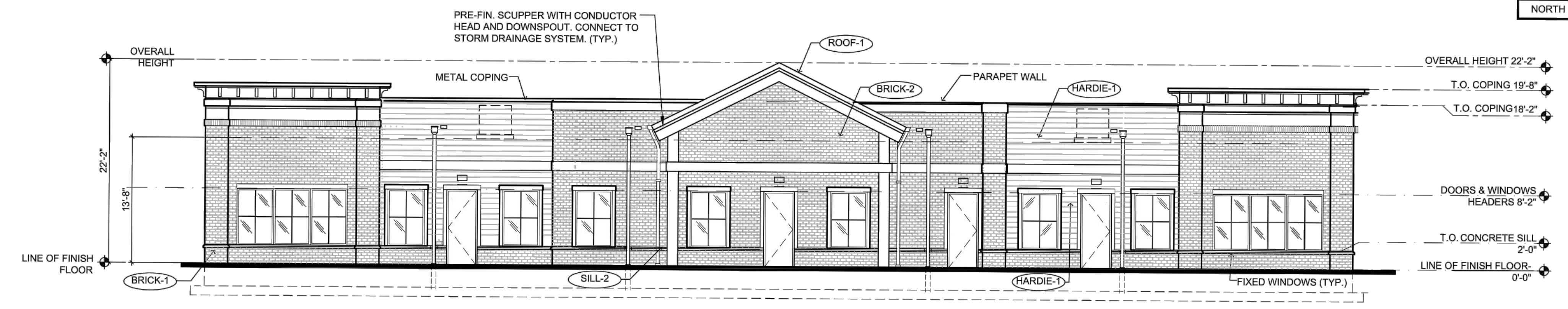
**1 SOUTH ELEVATION**  
SCALE: 1/8"=1'-0"



**2 EAST ELEVATION**  
SCALE: 1/8"=1'-0"



**3 WEST ELEVATION**  
SCALE: 1/8"=1'-0"



**4 NORTH ELEVATION**  
SCALE: 1/8"=1'-0"

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EXTERIOR MATERIAL SCHEDULE			
LABEL	MANUFACTURER	SIZE / TYPE	FINISH / COLOR
STOREFRONT	KAWNEER	TRIFAB 451T / 350 PER DOOR SCHEDULE	DARK BRONZE
DOOR	-	PER DOOR SCHEDULE	FACTORY PRIMED
FIXED WINDOW	PLY GEM	SILVER LINE V1 SERIES PER WINDOW SCHEDULE	DARK BRONZE
SILL-1	ROCKCAST	CAST STONE SILL	BUFFSTONE
SILL-2	ROCKCAST	CUSTOM SILL 3 3/4"Hx4"W W/ 2" FLAT REF. DTL. 6/A-032	BUFFSTONE
BRICK-1	GENERAL SHALE	MODULAR BRICK VENEER	DUTCH CHOCOLATE
BRICK-2	GENERAL SHALE	MODULAR BRICK VENEER	MILLBROOK
HARDIE-1	JAMES HARDIE	HARDIEPLANK LAP SIDING	COBBLESTONE
HARDIE-2	JAMES HARDIE	HARDIEPLANK TRIM	WHITE
EIFS-1	DRYVIT	SMOOTH FINISH	SW 7044 AMAZING GRAY
ROOF-1	BERRIDGE	STANDING SEAM METAL	DARK BRONZE
AWNING-1	BERRIDGE	STANDING SEAM AWNING W/ FRAME	DARK BRONZE
AWNING-2	-	FABRIC AWNING OVER FRAME REFER TO NOTE #4	MIDNIGHT BLUE
KNOX-1	KNOX BOX	3200 SERIES W/ RECESSED MOUNT FLANGE, HINGE DOOR, & TAMPER SWITCH	DARK BRONZE (REF. NOTE 2 BELOW)
KNOX-2	KNOX BOX	1650 SERIES W/ RECESSED MOUNT FLANGE, HINGE DOOR, & TAMPER SWITCH	DARK BRONZE (REF. NOTE 2 BELOW)

**FINISH SCHEDULE NOTES:**  
1. G.C. SHALL VERIFY KNOX BOX MODEL(S) AND LOCATION(S) WITH AUTHORITY HAVING JURISDICTION PRIOR TO ORDERING AND INSTALLATION.  
2. G.C. SHALL ENSURE ALL EXTERIOR FINISHES ARE INSTALLED AND FINISHED IN COMPLIANCE WITH MANUFACTURERS' WARRANTY REQUIREMENTS.  
3. IF BLOCKS ARE NOT PERMITTED, COLUMNS MUST MATCH EXTERIOR FINISH OF THE BUILDING.  
4. PER 2015 IBC SECTION 3105, AWNING FRAMES SHALL BE OF NONCOMBUSTIBLE MATERIALS AND DESIGNED TO RESIST APPLICABLE WIND LOADS. THE COVERING FABRIC SHALL HAVE A FLAME SPREAD RATING NOT GREATER THAN 25.

TRANSPARENCY CALCULATIONS				
	WALL	TRANSPARENCY	REQUIRED	PROVIDED
SOUTH	1,313 SQ. FT.	408 SQ. FT.	30.0%	31.07%
EAST	840 SQ. FT.	256 SQ. FT.	30.0%	30.48%
WEST	N/A	N/A	N/A	N/A
NORTH	1,313 SQ. FT.	431 SQ. FT.	30.0%	32.83%

**THE LEARNING EXPERIENCE**  
ACADEMY OF EARLY EDUCATION  
US Hwy 401 S Main St  
ROLESVILLE NORTH CAROLINA

ISSUE			
NO.	DATE	DESCRIPTION	INT.

REVISION			
NO.	DATE	DESCRIPTION	INT.

**PROFESSIONAL CERTIFICATION**  
NAME OF LICENSEE:  
MATTHEW B. JARME  
LICENSE NUMBER: 10120

Project Number: TLENC23-228  
Scale: AS NOTED  
Drawn By: BB  
Approved By: —

Drawing Name:

**PROPOSED ELEVATIONS**

Drawing Number:

SA-1.2