# V1-SDP-23-07

TOTAL SITE AREA:

PROPERTY SETBACKS:

CURRENT IMPERVIOUS:

ACCESSIBLE PARKING:

TREE COVERAGE DATA:

BICYCLE PARKING:

BUILDING HEIGHT:

PROPOSED IMPERVIOUS:

**EXISTING ZONING:** 

**BUFFERS**:

WATERSHED:

PARKING:

RIVER BASIN:

CURRENT USE:

PROPOSED USE:

SITE DATA TABLE

1759808293

10' LANDSCAPE

SANFORD CREEK

PROVIDED: 33 SPACES

REQUIRED: 2 SPACES

PROVIDED: 2 SPACES

PROVIDED: 2 SPACES

SEE SHEET L1.0

FRONT: 20'

REAR: 35'

COMMERCIAL

NEUSE

VACANT

8,680 SF

34,457 SF

GENERAL COMMERCIAL (GC)

MIN. REQUIRED: (2.5 SPACES/1,000 SF)

MAX. ALLOWED: (5 SPACES/1,000 SF)

MIN. REQUIRED: (1 SPACE/5,000 SF)

X 10,000 SF

 $\frac{\dot{X}}{10,000} \frac{\dot{SF}}{SF}$ = 50 SPACES

 $\frac{\dot{X}}{10,000}$  SF = 2 SPACES

= 25 SPACES

1.25 AC

# THE LEARNING CENTER ROLESVILLE

302 SOUTH MAIN STREET ROLESVILLE, NC 27571

A DEVELOPMENT BY: ROLESVILLE, LLC.

PROJECT NO.: SDPXX-XX

Add case number **SDP-23-07** to the cover sheet.

Based upon the email provided, please clarify what setbacks are required, what setbacks are being reduced, and by which ordinance section number this reduction is permitted.

Please indicate the required "Corner Setback". The corner setback is applicable to the side street, Old Rogers Road, so therefore the setback along Main Street would be considered the front setback.

Per LDO Section 3.2.1.C, the setbacks along Main St may be reduced up to 65% if the conditions are provided.

PROJECT LOCATION PROJECT SITE Elementary PROJECT LOCATION MAP **VICINITY MAP** 

# PROJECT OWNERS & CONSULTANTS

SCALE: 1" = XXX'

OWNER/DEVELOPER
ROLESVILLE, LLC

SCALE: NOT TO SCALE

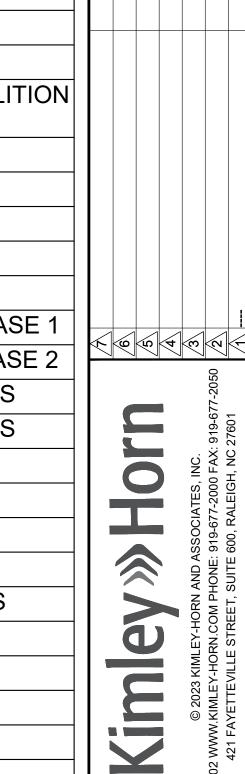
11016 RUSHMORE DRIVE, SUITE 160 CHARLOTTE, NORTH CAROLINA 28277 CONTACT: MARLANE KLINTWORTH PHONE: (919) 868-4472 EMAIL: mvkcommercial@gmail.com

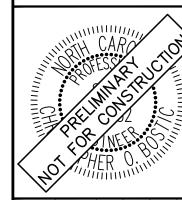
**CIVIL ENGINEER** KIMLEY-HORN AND ASSOCIATES, INC. 421 FAYETTEVILLE ST., SUITE 600 RALEIGH, NORTH CAROLINA 27601 PHONE: (919) 653-2927 EMAIL: chris.bostic@kimley-horn.com

LANDSCAPE ARCHITECT 421 FAYETTEVILLE ST., SUITE 600 RALEIGH, NORTH CAROLINA 27601 CONTACT: ADAM FULLERTON, MLA, ASLA PHONE: (919) 653-2937 EMAIL: adam.fullerton@kimley-horn.com

SURVEYOR 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@cmppls.com

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SHEE COVER

SHEET NUMBER

C0.0

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

POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT

Please add the following to the site data table: **Open Space Provided Open Space Required** 

BUILDING SQUARE FOOTAGE: 10,000 SF

Per LDO Section 6.2.1.D.3, a minimum 5% of open space is required. For a development of this size, at least one small open space type is required.

## 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.
- 2. 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.
- 3. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL JOBSITE SAFETY, INCLUDING BUT NOT LIMITED TO TRENCH SAFETY, DURING ALL PHASES OF CONSTRUCTION.
- 4. 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.
- 5. 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.
- 6. 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.
- 7. 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.
- 8. 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.
- 9. 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 AND THE OWNER.
- 10. CONTRACTOR IS RESPONSIBLE FOR VERIFYING OR OBTAINING ALL REQUIRED PERMITS AND APPROVALS PRIOR TO COMMENCING CONSTRUCTION.
- 11. 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.
- 12. ROADWAYS AND BUILDINGS MUST BE CAPABLE OF SUPPORTING FIRE APPARATUS DURING CONSTRUCTION.
- 13. EXISTING INFORMATION SHOWN TAKEN FROM AN ALTA/ACSM LAND TITLE SURVEY DATED OCTOBER 17, 2016 AND PROVIDED BY GSC SURVEYING, INC., 4072 BARRETT DRIVE, RALEIGH, N.C. 27609, PHONE: 919-787-5805, WAKEFIELD PINES SUBDIVISION PLANS AND SHEETZ WAKEFIELD SITE PLANS BY KIMLEY-HORN.
- 14. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NC DOT AND TOWN OF ROLESVILLE STANDARDS, SPECIFICATIONS, & DETAILS IF APPLICABLE.

# GRADING

Appears in conflict with the information provided on the existing conditions sheet

- OBTAIN AND POST THE WAKE COUNTY LAND DISTURBANCE PERMIT ONSITE PRIOR TO COMMENCING WORK ON SITE.
   REFER TO FINAL CONSTRUCTION PLANS FOR CLEARING LIMITS AND TEMPORARY EROSION CONTROL DEVICES TO BE
- 3. CONTRACTOR SHALL ADHERE TO THE LIMITS OF TREE PROTECTION FENCE.

INSTALLED PRIOR TO COMMENCING CONSTRUCTION.

- 4. 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
- 5. ALL AREAS SHALL BE GRADED FOR POSITIVE DRAINAGE, AND AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL MAINTAIN ADEQUATE SITE DRAINAGE DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL USE SILT FENCES (OR OTHER METHODS APPROVED BY THE ENGINEER, WAKE COUNTY, AND NCDENR). AS REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE, OR LOCAL EROSION, CONSERVATION, AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS OR OTHER GROWTH TO PREVENT EROSION.
- 6. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE PROJECT GEOTECHNICAL ENGINEER'S SPECIFICATIONS AND REPORT. THE FILL MATERIAL TO BE USED SHALL BE APPROVED BY THE CERTIFIED MATERIAL TESTING AGENCY PRIOR TO PLACEMENT.
- 7. GRADING CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANIES FOR ANY REQUIRED UTILITY ADJUSTMENTS AND/OR RELOCATIONS.
- 8. ALL MATERIALS USED FOR BACKFILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS, OR ANY OTHER NON-COMPATIBLE SOIL TYPE MATERIAL. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN-MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE.
- 9. MATERIALS USED TO CONSTRUCT EMBANKMENTS FOR ANY PURPOSE, BACKFILL AROUND DRAINAGE STRUCTURES, OR IN UTILITY TRENCHES FOR ANY OTHER DEPRESSION REQUIRING FILL OR BACKFILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AS SET OUT IN ASTM STANDARD D-698. THE CONTRACTOR SHALL, PRIOR TO ANY OPERATIONS INVOLVING FILLING OR BACKFILLING, SUBMIT THE RESULTS OF THE PROCTOR TEST TOGETHER WITH A CERTIFICATION THAT THE SOIL TESTED IS REPRESENTATIVE OF THE MATERIALS TO BE USED ON THE PROJECT. TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND THE CERTIFICATIONS MADE BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY.
- 10. ALL DEMOLITION, DEBRIS, AND OTHER EXCESS MATERIAL SHALL BE HAULED OFF—SITE AND LEGALLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.
- 11. NO TREE WITHIN THE TREE PROTECTION AREA SHALL BE REMOVED OR DAMAGED.
- 12. THE TREE PROTECTION FENCE SHALL BE MAINTAINED ON THE SITE UNTIL ALL SITE WORK IS COMPLETED AND THE FINAL SITE INSPECTION PRIOR TO THE PROJECT ACCEPTANCE IS SCHEDULED. FENCING SHALL BE REMOVED PRIOR TO FINAL SITE INSPECTION FOR THE CO.
- 13. REFERENCE GEOTECHNICAL REPORT FOR PAVING SUB GRADE INFORMATION.
- 14. ALL SPOT GRADE ELEVATIONS IN CURB AND GUTTER REPRESENT GUTTER FLOWLINE ELEVATION AT FACE OF CURB UNLESS OTHERWISE NOTED (ADD 6" FOR TOP OF CURB).
- 15. PROPOSED CONTOURS AND GUTTER GRADIENTS ARE APPROXIMATE. PROPOSED SPOT ELEVATIONS AND ROADWAY PROFILES/SUPERELEVATIONS ARE TO BE USED IN CASE OF DISCREPANCY.
- 16. REFER TO SITE PLAN AND FINAL PLAT FOR HORIZONTAL DIMENSIONS.
- 17. WHERE FILL IS TO BE PLACED ON EXISTING SLOPES STEEPER THAN 4:1, CONTRACTOR SHALL EXCAVATE BENCHES WITH A MAXIMUM DEPTH OF 3'.
- 18. THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR APPROPRIATE SLOPE STABILIZATION ON ALL SLOPES STEEPER THAN 3:1.
- 19. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED FOR BLASTING ROCK IF BLAST ROCK IS ENCOUNTERED. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL BLASTING AND SAFETY REQUIREMENTS.
- 20. SILT FENCE SHALL BE PLACED AROUND ALL TEMPORARY SOIL STOCKPILES A MINIMUM OF 3' FROM TOE OF SLOPE.
- 21. VERTICAL DATUM IS BASED ON NAVD 88.

# SANITARY SEWER

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

## $\backslash \Lambda / \Lambda \top \Box$

- 1. 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.
- 2. ALL UNDERGROUND UTILITIES AND FIRE HYDRANTS MUST BE FUNCTIONALLY APPROVED PRIOR TO STRUCTURAL
- 3. NATIONAL STANDARD THREADS SHALL BE INSTALLED ON FIRE HYDRANTS.
- 4. ALL FIRE HYDRANTS AND FDC CONNECTIONS TO HAVE STORZ TYPE CONNECTION PER CITY OF RALEIGH FIRE DEPARTMENT STANDARDS.

# BACKFLOW PREVENTION:

- 1. 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.
- 2. 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

EASEMENTS ON THE JOB SITE AT ALL TIMES.

- 1. THE CONTRACTOR SHALL CONDUCT THE WORK IN A SAFE MANNER AND WITH A MINIMUM AMOUNT OF INCONVENIENCE TO TRAFFIC.
- 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TRAFFIC CONTROL AND SHALL ADHERE TO THE PROVISIONS OF THE MUTCD (MOST CURRENT EDITION).
- 3. PRIOR TO CONSTRUCTION BEGINNING, ALL SIGNAGE AND TRAFFIC CONTROL SHALL BE IN PLACE.
- 4. THE CONTRACTOR SHALL HAVE A COMPLETE SET OF CONTRACT DOCUMENTS AS WELL AS ALL APPROVALS AND
- 5. 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.
- 2. 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.
- 3. 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.
- 5. 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.
- 6. 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 AGENT 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.
- 8. ALL SIGNS, PAVEMENT MARKINGS, AND OTHER TRAFFIC CONTROL DEVICES ON PUBLIC STREETS SHALL CONFORM TO MUTCD, NCDOT, AND TOWN OF ROLESVILLE STANDARDS.

# STORM DRAINAGE

- 1. 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.
- 2. THE SITE UTILITY CONTRACTOR SHALL PROVIDE ALL MATERIALS AND APPURTENANCES NECESSARY FOR COMPLETE INSTALLATION OF THE STORM SEWER.
- 3. THE TOWN OF ROLESVILLE INSPECTOR SHALL INSPECT ALL "PUBLIC" CONSTRUCTION. THE CONTRACTOR'S PRICE SHALL INCLUDE ALL INSPECTION FEES.
- 4. ALL RCP STORM SEWER MAINS AND LATERALS SHALL BE MINIMUM CLASS III REINFORCED CONCRETE PIPE.
- 5. ALL PVC PIPE USED IN DRAINAGE SYSTEM SHALL BE MINIMUM SDR-35 OR APPROVED EQUAL.
- 6. ALL PVC TO RCP CONNECTIONS SHALL BE CONSTRUCTED WITH CONCRETE COLLARS.

  7. THE LOCATIONS OF STORM SEWER STRUCTURES SHOWN ON THESE PLANS (AND PROVI
- 7. 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.
- 8. RIM ELEVATIONS FOR STORM CATCH BASINS ARE MEASURED TO THE GUTTER FLOW LINE.

# TRAFFIC CONTROL NOTES

- 1. 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.
- 2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE AND/OR N.C.D.O.T. STANDARDS AND SPECIFICATIONS.
- 3. REFER TO MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) FOR DETAILS OF STANDARD TRAFFIC CONTROL SIGNS AND STANDARDS.

# SEEDBED PREPARATION

- 1. CHISEL COMPACTED AREAS AND SPREAD TOPSOIL THREE INCHES DEEP OVER ADVERSE SOIL CONDITIONS, IF
- AVAILABLE.
- RIP THE ENTIRE AREA TO SIX INCHES DEEP.
   REMOVE ALL LOOSE ROCK, ROOTS AND OTHER OBSTRUCTIONS, LEAVING SURFACE REASONABLY SMOOTH AND
  - JNIFORM.
- 4. APPLY AGRICULTURAL LIME, FERTILIZER AND SUPERPHOSPHATE UNIFORMLY AND MIX WITH SOIL (SEE MIXTURE BELOW).\*
- 5. CONTINUE TILLAGE UNTIL A WELL-PULVERIZED, FIRM, REASONABLY UNIFORM SEEDBED IS PREPARED FOUR TO SIX INCHES DEEP.6. SEED ON A FRESHLY PREPARED SEEDBED AND COVER SEED LIGHTLY WITH SEEDING EQUIPMENT OR CULTIPACK
- AFTER SEEDING.

  7. MULCH IMMEDIATELY AFTER SEEDING AND ANCHOR MULCH.
- 8. 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.
- 9. CONSULT S&EC ENVIRONMENTAL ENGINEERS ON MAINTENANCE TREATMENT AND FERTILIZATION AFTER PERMANENT COVER IS ESTABLISHED.
- 10. \*AGRICULTURAL LIMESTONE 2 TONS/ ACRES (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

PLANTING RATE

25 LBS/ACRE

# SEEDING SCHEDULE

(NOV 1 - MAR 1)

TALL FESCUE TALL FESCUE & ABRUZZI RYE TALL FESCUE HULLED COMMON BERMUDAGRASS TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUDAN HYBRIDS	300 LBS/ACRE 300 LBS/ACRE 25 LBS/ACRE 300 LBS/ACRE 25 LBS/ACRE 120 LBS/ACRE 35 LBS/ACRE 30 LBS/ACRE
3:1 TO 2:1)	
SERICEA LESPEDEZA (SCARIFIED) AND ADD TALL FESCUE OR ADD WEEPING LOVEGRASS	50 LBS/ACRE 120 LBS/ACRE 10 LBS/ACRE
BERMUDAGRASS	25 LBS/ACRE
***BROWNTOP MILLET  ***OR SORGHUM-SUDAN HYBRIDS  SERICEA LESPEDEZA (UNHULLED-	35 LBS/ACRE 30 LBS/ACRE 70 LBS/ACRE 120 LBS/ACRE
	TALL FESCUE & ABRUZZI RYE  TALL FESCUE HULLED COMMON BERMUDAGRASS TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUDAN HYBRIDS  3:1 TO 2:1)  SERICEA LESPEDEZA (SCARIFIED) AND ADD TALL FESCUE OR ADD WEEPING LOVEGRASS OR ADD HULLED COMMON BERMUDAGRASS  ***TALL FESCUE AND ***BROWNTOP MILLET ***OR SORGHUM-SUDAN HYBRIDS

SHOULDERS, SIDE DITCHES, SLOPES (MAX 3:1)

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.

ADD ABRUZZI RYE

VEGETATION. DO NOT ALLOW TEMPORARY COVER TO GROW OVER 12" IN HEIGHT BEFORE MOWING, OTHERWISE FESCUE MAY BE SHADED OUT.

\*\*\*TEMPORARY - RESEED ACCORDING TO OPTIMUM SEASON FOR DESIRED. PERMANENT

\*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

OF CONSTRUCTION.

- 1. 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.
- 2. 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 (NCDEQ) AND WAKE COUNTY EROSION AND SEDIMENT CONTROL BECLULATIONS
- 3. ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
- 4. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
- 5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- 6. 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
- 7. 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.
- 8. 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.
- 9. 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
- 10. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NORTH CAROLINA SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS
- 11. 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.

REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.

- 12. ROLLED EROSION CONTROL PRODUCTS (RECP'S) SHOULD BE USED TO AID PERMANENT VEGETATED STABILIZATION OF SLOPES 2:1 OR GREATER AND WITH MORE THAN 10' OF VERTICAL RELIEF. RECP'S SHOULD ALSO BE USED WHEN MULCH CANNOT BE ADEQUATELY TACKED AND WHERE IMMEDIATE GROUND COVER IS REQUIRED TO PREVENT EROSION DAMAGE.
- 13. 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.
- 14. 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.
- 15. 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.
- AND ALL CONSTRUCTION ACCESS LOCATIONS INTO NON-PAVED AREAS. TWO TO THREE INCH STONE SHALL BE USED FOR THE TEMPORARY GRAVEL CONSTRUCTION ENTRANCE.

  17. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE

16. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE REQUIRED AT ALL CONSTRUCTION STAGING AREA ENTRANCES

IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.

18. 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

- 19. 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 UPSLOPE LAND DISTURBANCE TAKES PLACE.
- 20. 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.
- 21. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET.
- 22. 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.
- 23. 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.
- 24. STABILIZATION MEASURES SHALL BE APPLIED TO STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- 25. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED DEPENDING UPON FIELD CONDITIONS.
- 26. LIMITS OF GRADING SHOWN ON THE PLAN ARE MAXIMUM LIMITS FOR EROSION CONTROL PURPOSES ONLY. SURVEYOR TO DETERMINE ACTUAL LIMIT.
- EROSION CONTROL ORDINANCE, AND IS SUBJECT TO A FINE.

  28. GRADING MORE THAN 12,000 SF WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION OF THE WAKE

27. ANY GRADING BEYOND THE DENUDED LIMITS SHOWN ON THE PLAN IS A VIOLATION OF THE WAKE COUNTY

# ABBREVIATIONS

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

COUNTY EROSION CONTROL ORDINANCE AND IS SUBJECT TO A FINE.

- CB CATCH BASIN
- YI YARD INLET CO — CLEAN OUT DI — DROP INLET

TYP. – TYPICAL

- EX EXISTING FES - FLARED-END-SECTION
- JB JUNCTION BOX LOD — LIMITS OF DISTURBANCE PVC — POLYVINYL CHLORIDE

RCP - REINFORCED CONCRETE PIPE

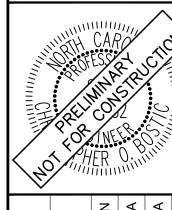
SURVEY NOTE:
EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A
TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP
PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE
FOREST, NC, 27588, PHONE: (919) 556-3148. CONTRACTOR SHALL BE
RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION,
DEPICTED OR NOT, PRIOR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



050 2 ---- REVISIONS DATE | DA

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WWW.KIMLEY-HORN.COM PHONE: 919-677-2000 FAX: 97
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27



DATE
09/29/2023
SCALE AS SHOWN
DESIGNED BY JAA
DRAWN BY JAA

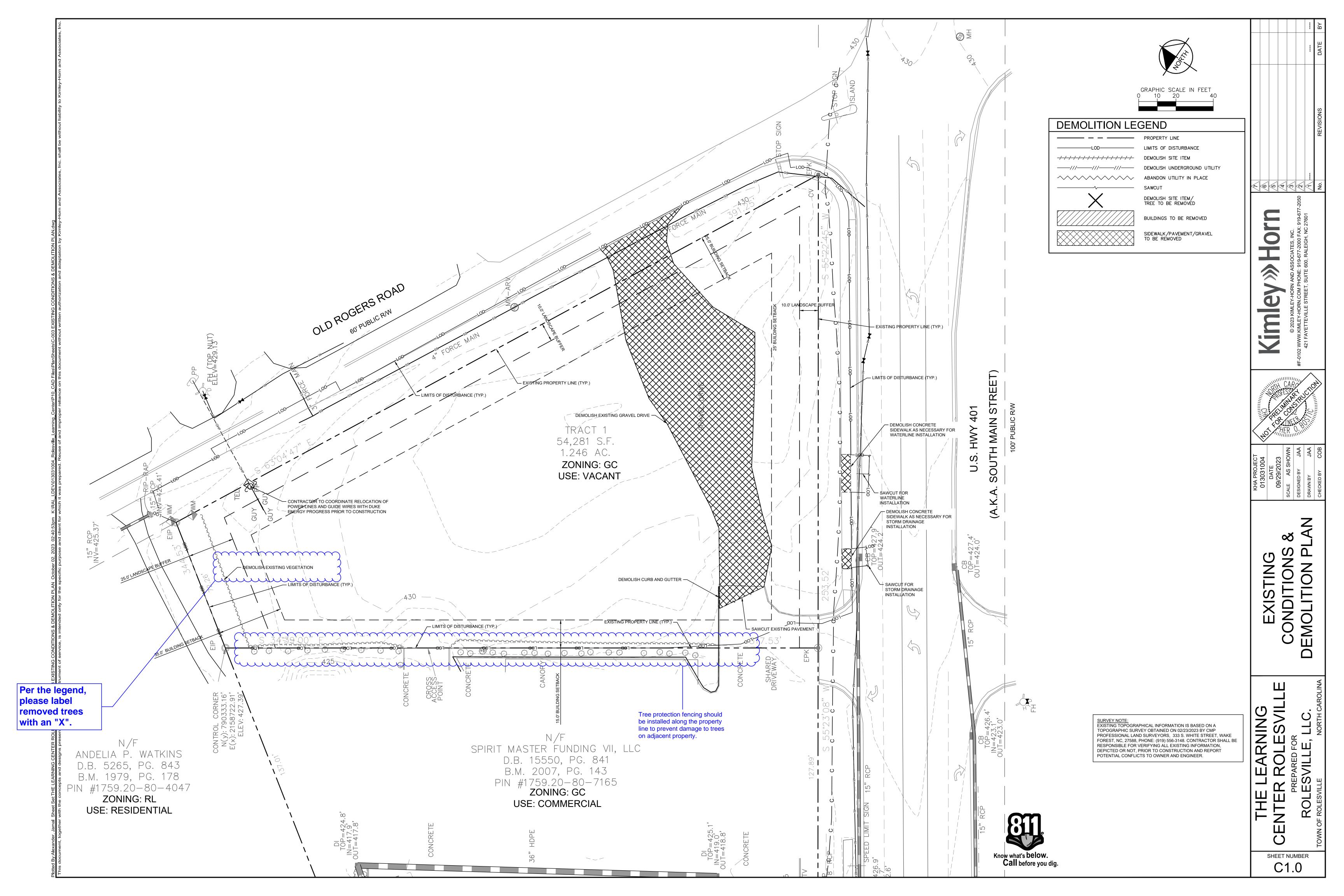
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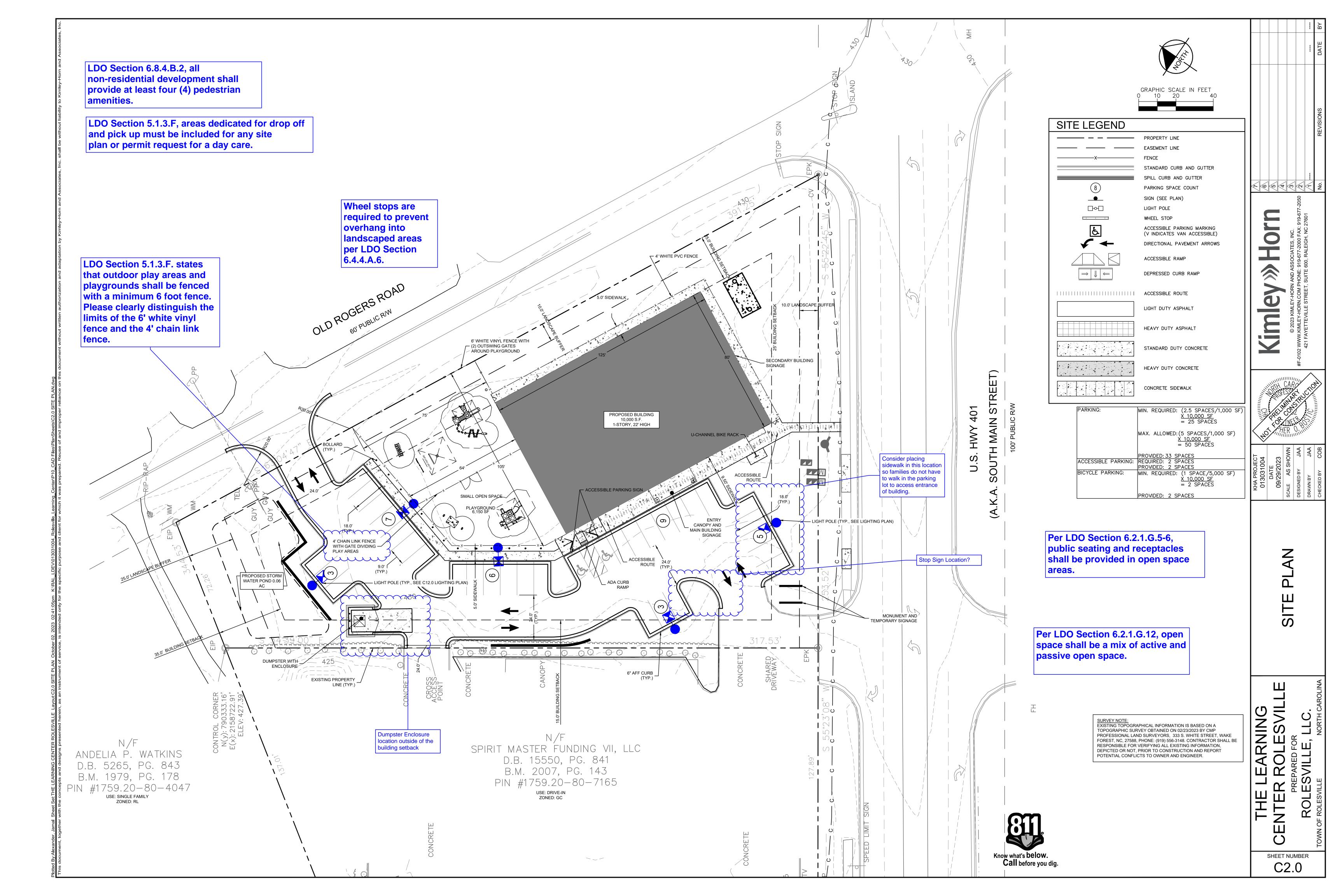
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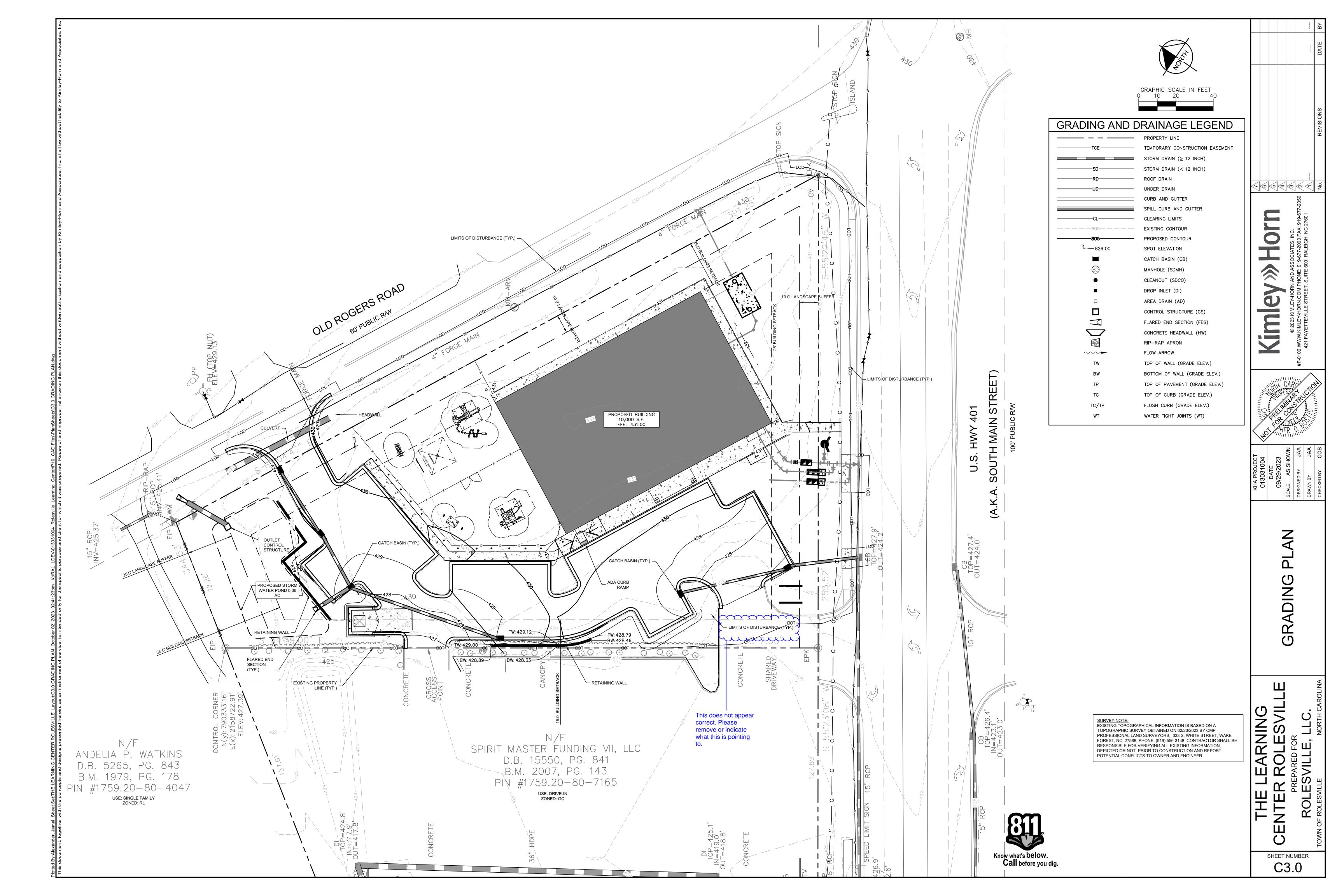
FOR LLC.

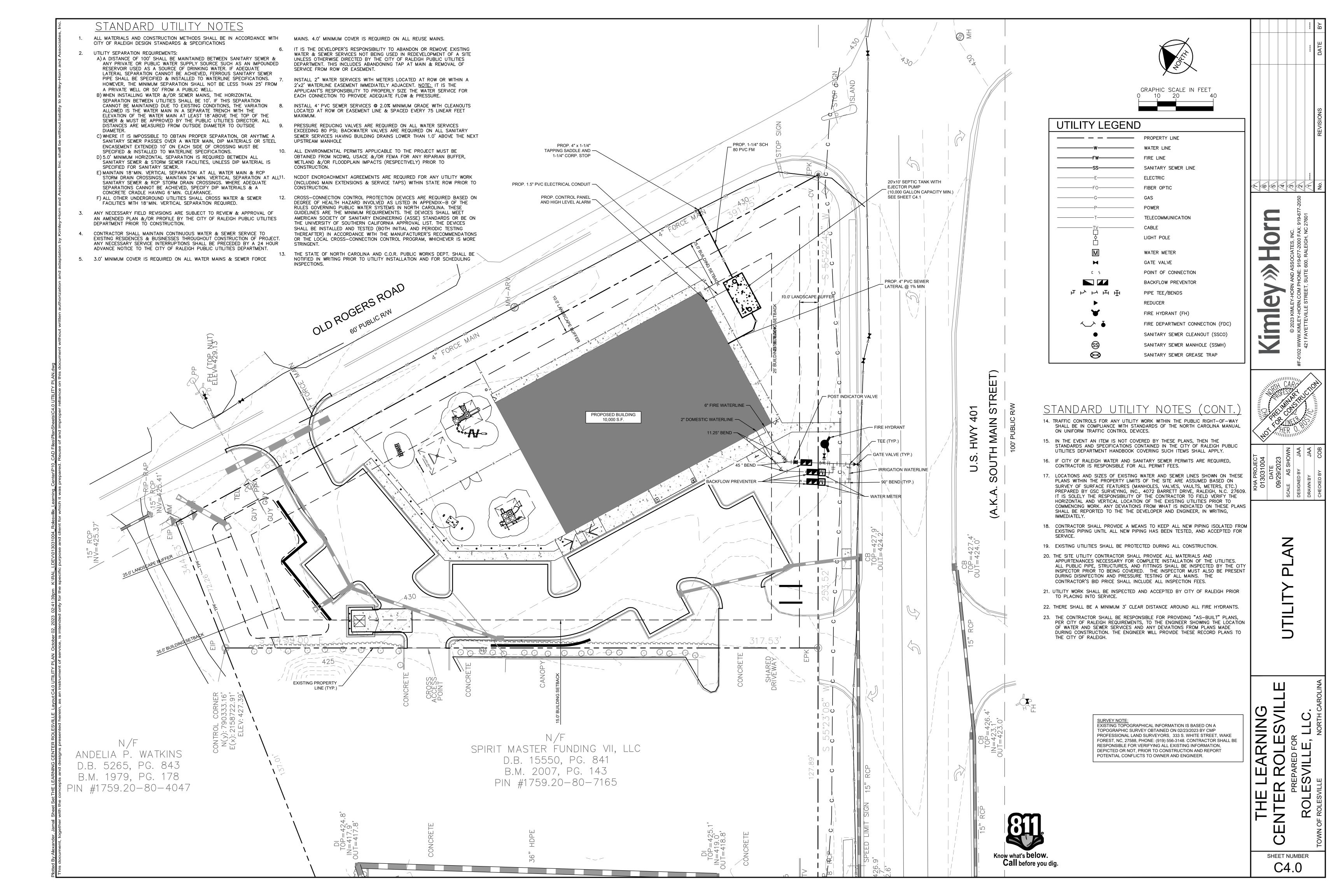
ENTER ROLES
PREPARED FOR
ROLESVILLE, LI

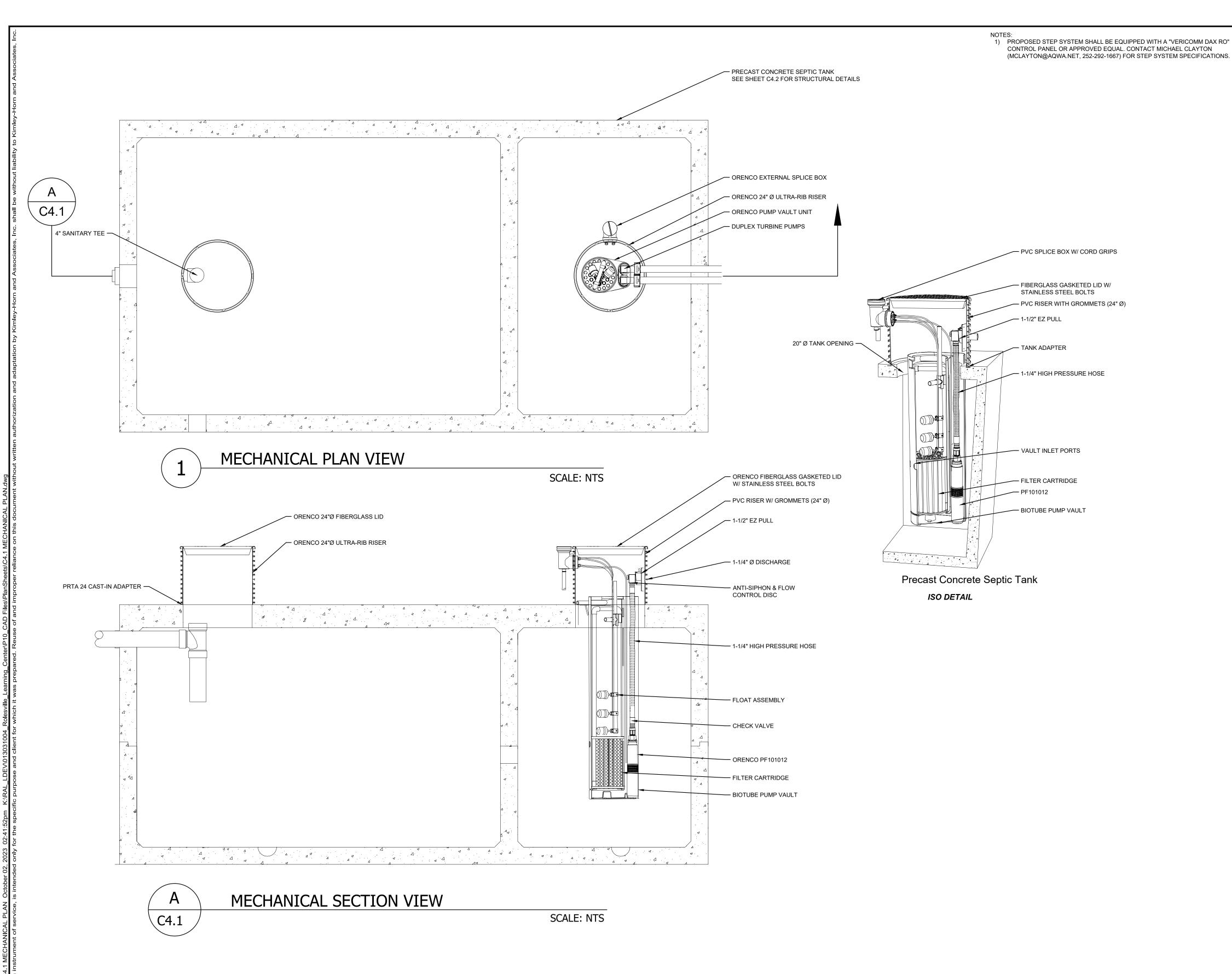
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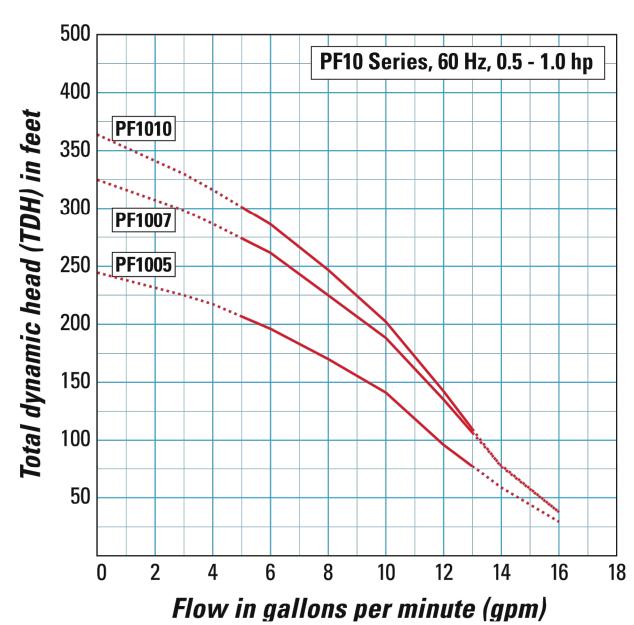






)"	PUMP STATION GENERAL INFORMATION					
S.	AVERAGE DAILY FLOW 4,400 GPD					
	TANK DIMENSIONS 20'x10'x7'-9" (INSIDE DIMENSIONS), 10,000 GAL MIN.					
	DISCHARGE PIPING	1.25"Ø SCH 80 PVC				
HORSEPOWER 1 HP (NON-OVERLOADING OVER ENTIRE PUMP						
	VOLTAGE/PHASE/CYCLES 240 V / 1 PHASE / 60 HZ PUMP ORENCO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

# **Pump Curves**



MECHANIC

SHEET NUMBER

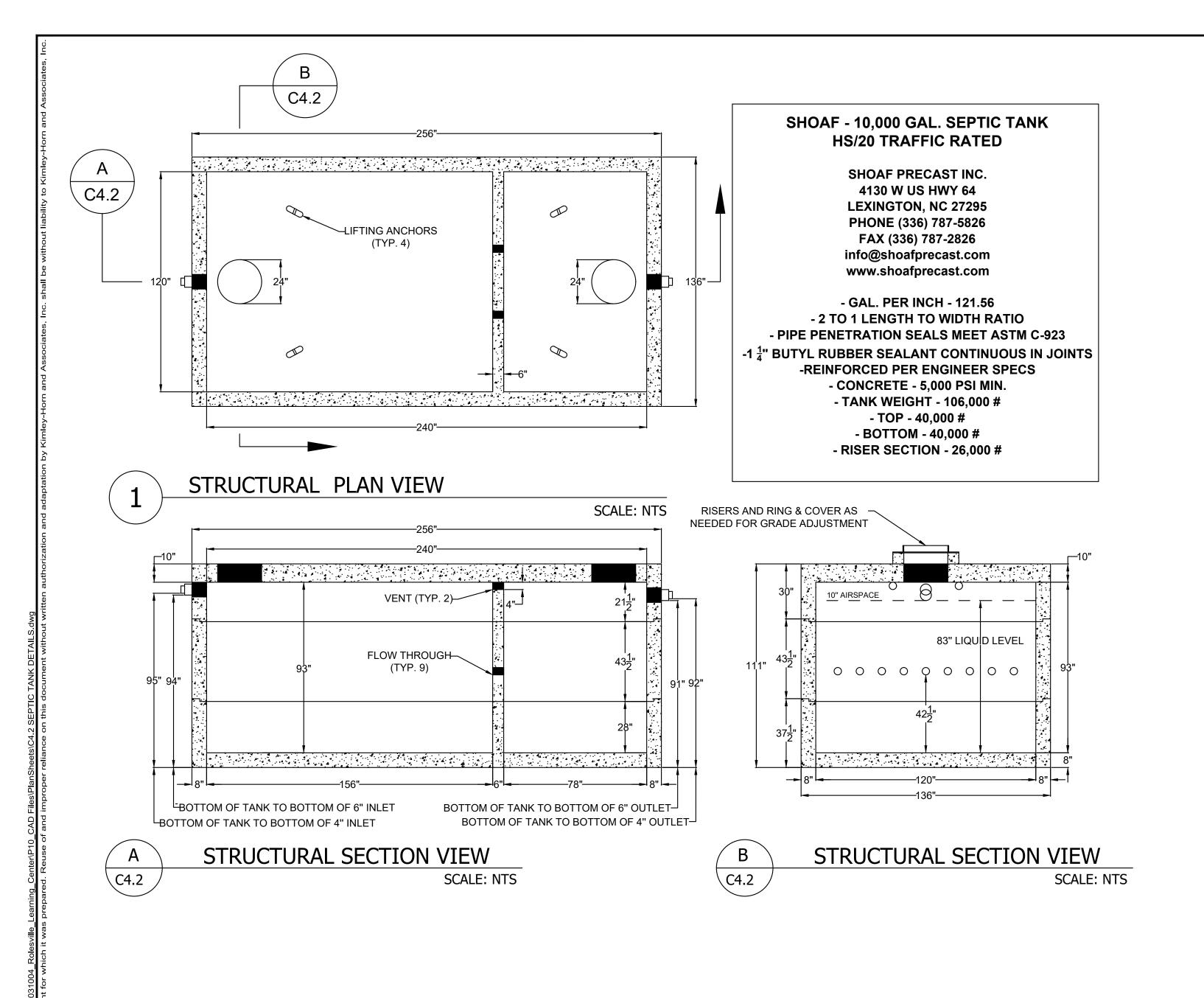
C4.1

SURVEY NOTE:
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PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE

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POTENTIAL CONFLICTS TO OWNER AND ENGINEER.





SEPTIC TANK

SCALE A

DETAILS

DESIGNED B

DRAWN BY

SURVEY NOTE:
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## ASSOCIATES, INC.
E: 919-677-2000 FAX: 919-677-2050
E: 600, RALEIGH, NC 27601

| No. | REVISIONS | DATE |

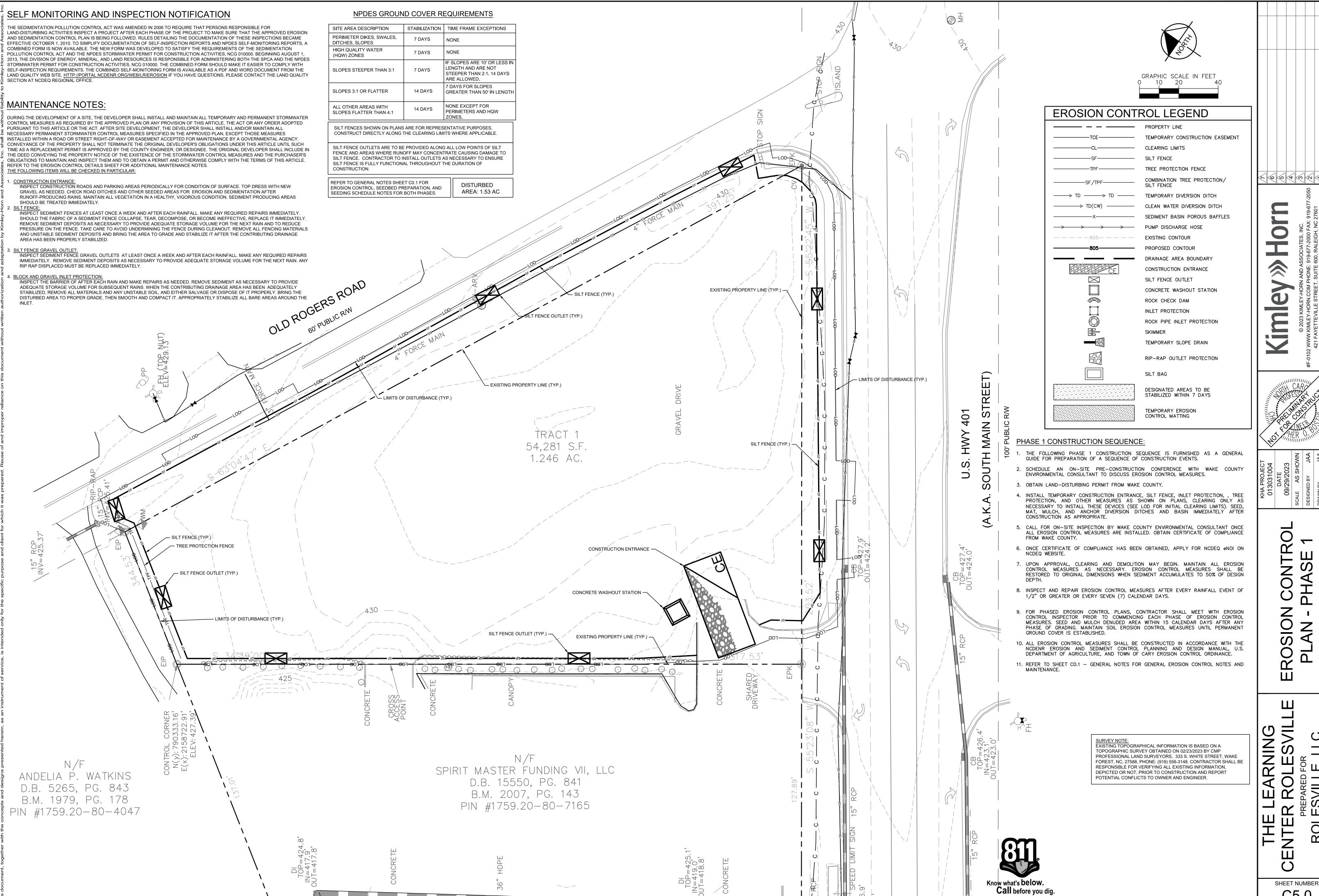
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LE, LLC.

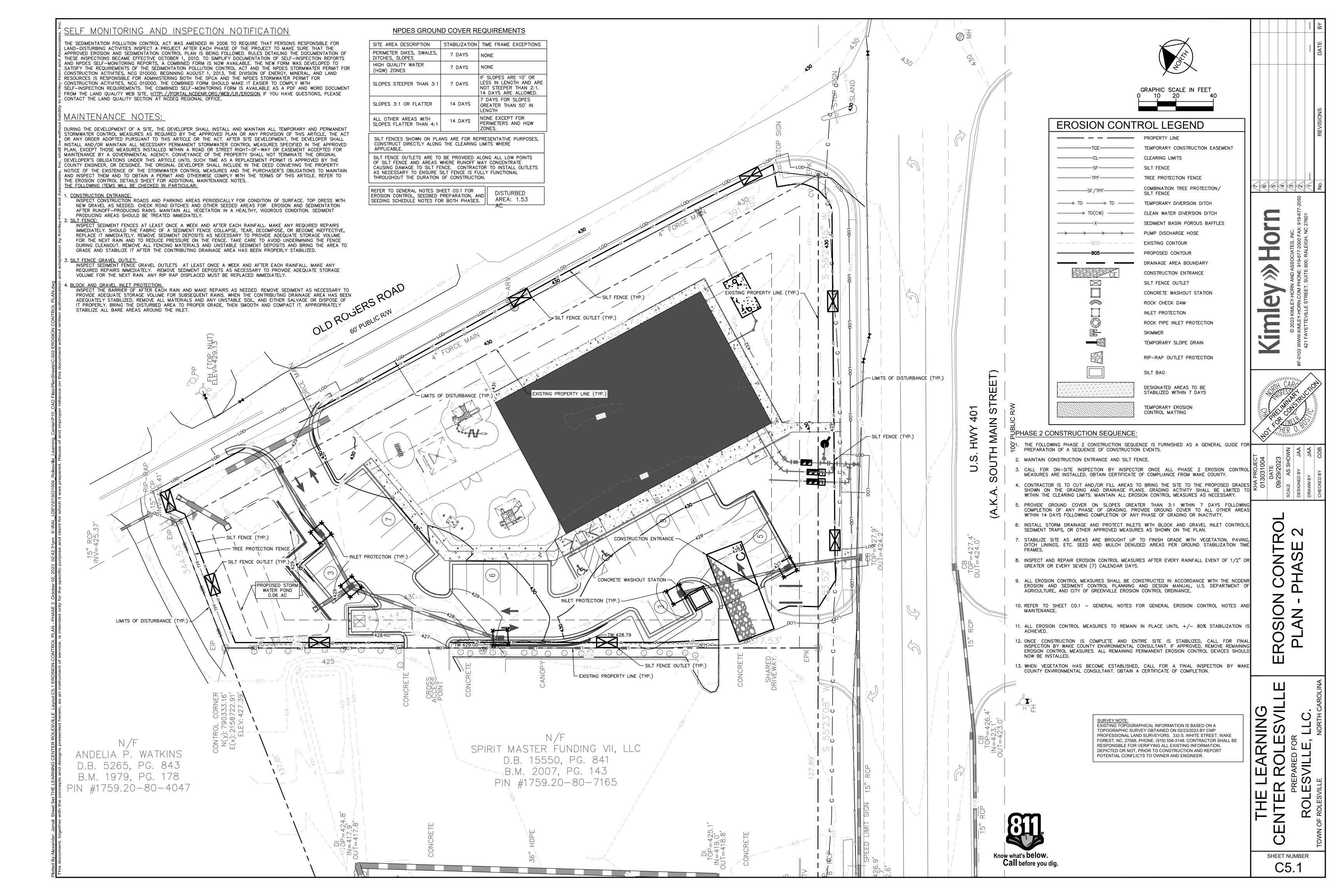
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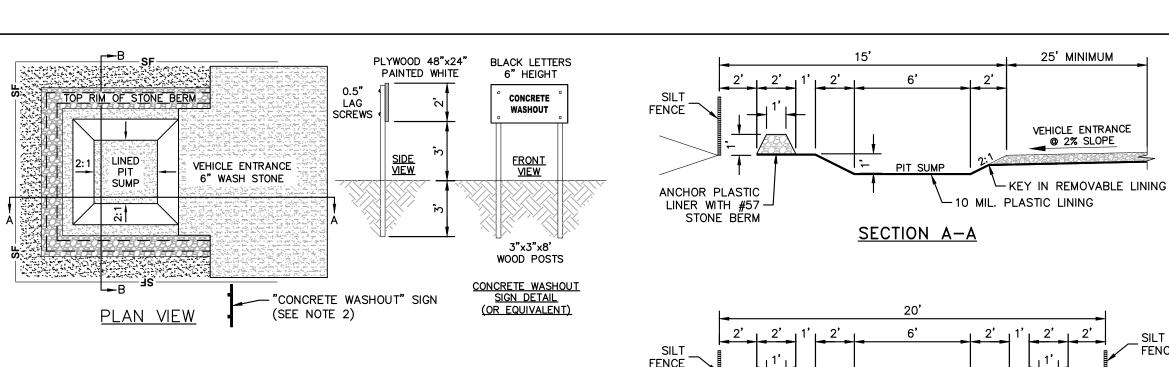
SHEET NUMBER C4.2



S

SHEET NUMBER C5.0





20'	
SILT FENCE  10 MIL. PLASTIC LINING  SECTION B-B	ANCHOR PLASTIC LINER WITH #57 STONE BERM

l	DATE	TYPE	PLANTING RATE	REGION	
l	JAN. 1 - MAY 1	RYE (GRAIN)	120 LBS/ACRE	PIEDMONT	
l	JAN. 1 - MAY 1	ANNUAL LESPEDEZA (KOBE)	50 LBS/ACRE	PIEDMONT	
	MAY 1 - AUG. 15	GERMAN MILLET	40 LBS/ACRE	PIEDMONT	
l	MAY 1 - AUG. 15	SMALL-STEMMED SUDANGRASS	50 LBS/ACRE	PIEDMONT	
l	AUG. 15 - DEC. 30	RYE (GRAIN)	120 LBS/ACRE	PIEDMONT	
l	DEC. 1 - APR. 15	RYE (GRAIN)	120 LBS/ACRE	COASTAL PLAIN	
l	DEC. 1 - APR. 15	ANNUAL LESPEDEZA (KOBE)	50 LBS/ACRE	COASTAL PLAIN	
l	APR. 15 - AUG. 15	GERMAN MILLET	40 LBS/ACRE	COASTAL PLAIN	
l	AUG. 15 - DEC. 30	RYE (GRAIN)	120 LBS/ACRE	COASTAL PLAIN	
l	FEB. 15 - MAY 15	RYE (GRAIN)	120 LBS/ACRE	MOUNTAINS - ABOVE 2500 FEET	
l	FEB. 1 - MAY 1	RYE (GRAIN)	120 LBS/ACRE	MOUNTAINS - BELOW 2500 FEET	
l	FEB. 15 - MAY 15	ANNUAL LESPEDEZA (KOREAN)	50 LBS/ACRE	MOUNTAINS - ABOVE 2500 FEET	
	FEB. 1 - MAY 1	ANNUAL LESPEDEZA (KOREAN)	50 LBS/ACRE	MOUNTAINS - BELOW 2500 FEET	
	MAY 15 - AUG. 15	GERMAN MILLET	40 LBS/ACRE	MOUNTAINS	
l	MAY 15 - AUG. 15	SMALL-STEMMED SUDANGRASS	L-STEMMED SUDANGRASS 50 LBS/ACRE MOUNTAINS		

RYE (GRAIN)

AUG. 15 - DEC. 15

SEEDBED PREPARATION:

1. TILL OR DISK THE PREPARED AREAS TO BE SEEDED TO A MINIMUM DEPTH OF FOUR

2. REMOVE STONES LARGER THAN THREE INCHES ON ANY SIDE, STICKS, ROOTS AND OTHER EXTRANEOUS MATERIALS THAT SURFACE.

3. IF NOT INCORPORATED DURING THE SOIL PREPARATION PROCESS, ADD pH MODIFIER AND FERTILIZERS AT THE RATE SPECIFIED IN THE SOIL TEST REPORT. IF THERE IS NO SOIL

TEST REPORT, FOLLOW SOIL AMENDMENTS BELOW. 4. RE-COMPACT THE AREA UTILIZING A CULTIPACKER ROLLER. THE FINISHED GRADE SHALL

BE A SMOOTH EVEN SOIL SURFACE WITH A LOOSE, UNIFORMLY FINE TEXTURE. 5. EVENLY APPLY SEED USING A CYCLONE SEEDER (BROADCAST), DRILL, CULTIPACKER SEEDER, OR HYDROSEEDER. SMALL GRAINS SHOULD BE PLANTED NO MORE THAN 1 INCH DEEP, AND GRASSES AND LEGUMES NO MORE THAN 1 INCH. BROADCAST SEED MUST BE COVERED BY RAKING OR CHAIN DRAGGING, AND THEN LIGHTLY FIRMED WITH A ROLLER

OR CULTIPACKER. HYDROSEEDED MIXTURES SHOULD INCLUDE A WOOD FIBER (CELLULOSE)

NOTES:

1. 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.

. 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.

4. CONTRACTOR SHALL PROVIDE GROUND COVER IN 14 DAYS ON ALL OTHER AREAS FOLLOWING COMPLETION OF ANY PHASE OF GRADING.

5. 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.

6. COMPLETE GRADING BEFORE PREPARING SEEDBEDS, AND INSTALL ALL NECESSARY EROSION CONTROL PRACTICES SUCH AS, DIKES, WATERWAYS, AND BASINS.

7. IF SOILS BECOME COMPACTED DURING GRADING, LOOSEN THEM TO A DEPTH OF 6-8

INCHES USING A RIPPER, HARROW, OR CHISEL PLOW. THE USE OF AN APPROPRIATE MULCH WILL HELP ENSURE ESTABLISHMENT UNDER NORMAL CONDITIONS, AND IS ESSENTIAL TO SEEDING SUCCESS UNDER HARSH SITE

**SOIL AMENDMENTS:** 

LATE WINTER THROUGH SUMMER: FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 750 LB/ACRE 10-10-10

FALL: FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1000 LB/ACRE 10-10-10 FERTILIZER.

APPLY 4000 LB/ACRE STRAW. ANCHOR STRAW BY TACKING WITH ASPHALT, NETTING, OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING TOOL.

**MAINTENANCE:** 

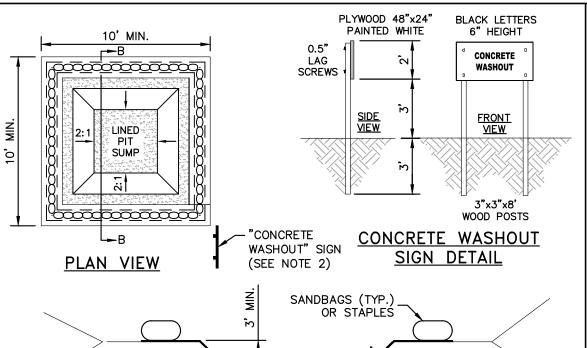
LATE WINTER THROUGH SUMMER: REFERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE. FALL: REPAIR AND REFERTILIZE DAMAGED AREAS IMMEDIATELY. TOPDRESS WITH 50

LB/ACRE OF NITROGEN IN MARCH. IF IT IS NECESSARY TO EXTEND TEMPORARY COVER BEYOND JUNE 15, OVERSEED WITH 50 LB/ACRE KOBE (PIEDMONT AND COASTAL PLAIN)

OR KOREAN (MOUNTAINS) LESPEDEZA IN LATE FEBRUARY OR EARLY MARCH.

KHA DETAIL NO: 01.104.R01

- @ @ 4 @ W



2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY

3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE

TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND

5. PIT CAPACITY IS MINIMUM OF 6 CUBIC FEET PER 10 CUBIC YARDS OF CONCRETE.

4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.

PLASTIC LINING

1. ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD.

**CONCRETE WASHOUT STATION** 

REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED.

CONCRETE WASHOUT FACILITY.

STABILIZED TO PREVENT EROSION.

2. A CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30' OF THE TEMPORARY CONCRETE WASHOUT FACILITY. 3. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED.

SECTION B-E

4. HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHALL BE BACKFILLED, REPAIRED, AND STABILIZED TO PREVENT EROSION.

-STANDARD METAL

POSTS 2'-0" IN

GALVANIZED HARDWARE WIRE

(19 GAUGE, 1/4" MESH

OPENINGS.)

- #57 WASHED STONE PLACED TO A

HEIGHT OF 16" MIN. ABOVE TOP OF BOX

EXTENDS TO THE TOP OF BOX.

5. PIT CAPACITY IS MINIMUM OF 6 CUBIC FEET PER 10 CUBIC YARDS OF CONCRETE. CONCRETE WASHOUT STATION N.T.S. KHA DETAIL NO: 01.102.R01

-KEY/ANCHOR MATERIAL AT 12" MIN. SPACING TYP.\* TOP OF SLOPE. 36" MIN. SPACING TYP.\* 6" OVERLAP IN SLICE - NON-WOVEN GEOTEXTILE FILTER CLOTH FABRIC 4' ABOVE SOURCE WATER, IF REQUIRED

KEY/ANCHOR TO TOE OF SLOPE. TEMPORARY MATTING

DOCUMENTED IN PROJECT LOG BOOK. 2. FILTER TYPES SHALL BE APPROVED BY 1. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT THE CITY INSPECTOR PRIOR TO

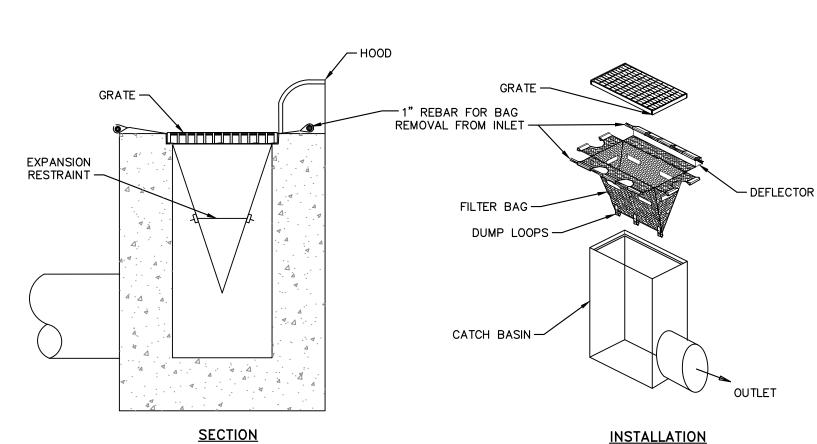
CONTACT WITH THE SOIL. DO NOT STRETCH. 2. \* DIMENSIONS SHOWN ARE MINIMUM, MANUFACTURED PRODUCTS MAY HAVE ADDITIONAL REQUIREMENTS THAT MUST BE MET.

TEMPORARY SEEDING SCHEDULE AND SEEDBED PREPARATION

120 LBS/ACRE

3. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLODS, STICKS, GRASS.

4. THE DETAIL SHOWN IS FOR SLOPE MATTING. FOR CHANNEL OR PIPE OUTFALL MATTING SPECIFICATIONS, PLEASE REFER TO NCESCPDM STANDARD



KHA DETAIL NO: 01.201.R0

**MAINTENANCE** 

N.T.S.

NCDOT #57

WASHED STÖNE -

INSPECT INLETS AT LEAST WEEKLY AND AFTER EACH SIGNIFICANT (1/2 INCH OR GREATER) RAINFALL EVENT. CLEAR THE MESH WIRE OF ANY DEBRIS OR OTHER OBJECTS TO PROVIDE ADEQUATE FLOW FOR SUBSEQUENT RAINS. TAKE CARE NOT TO DAMAGE OR UNDERCUT THE WIRE MESH DURING SEDIMENT REMOVAL. REPLACE STONE AS NEEDED.

CATCH BASIN AND YARD INLET PROTECTION

STONE PLACED TO 19-GAUGE — 4' МАХ. — HARDWARE CLOTH A HEIGHT OF 16" MIN. ABOVE TOP (1 MESH OPENINGS) OF BOX -\FILTERED / \WATFR DRAINAGE AREA MAY NOT EXCEED 1 ACRE. CONSTRUCTION SPECIFICATIONS

1. UNIFORMLY GRADE A SHALLOW DEPRESSION APPROACHING THE INLET.

N.T.S.

#57 WASHED

2. DRIVE 5-FOOT STEEL POSTS 2 FEET INTO THE GROUND SURROUNDING THE INLET. SPACE POSTS EVENLY AROUND THE PERIMETER OF THE INLET, A MAXIMUM OF 4 FEET APART.

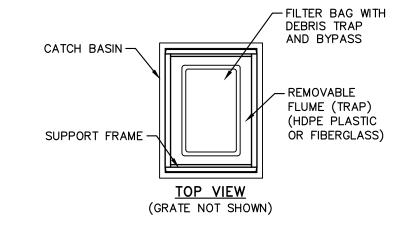
SURROUND THE POSTS WITH WIRE MESH HARDWARE CLOTH. SECURE THE WIRE MESH TO THE STEEL POSTS AT THE TOP, MIDDLE, AND BOTTOM. PLACING A 2-FOOT FLAP OF THE WIRE MESH UNDER THE GRAVEL FOR ANCHORING IS RECOMMENDED.

4. PLACE CLEAN GRAVEL (NC DOT #5 OR #57 STONE) ON A 2:1 SLOPE WITH A HEIGHT OF 16 INCHES AROUND THE WIRE, AND SMOOTH TO AN EVEN GRADE.

5. ONCE THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED, REMOVE ACCUMULATED SEDIMENT, AND ESTABLISH FINAL GRADING ELEVATIONS.

6. COMPACT THE AREA PROPERLY AND STABILIZE IT WITH GROUNDCOVER.

KHA DETAIL NO: 01.202.R01



MODE	1 110	INILET CIZE	LINED DEDTIL	CTODAGE CADAGITY	OLEAN FLOW DATES
MODE	L NO.	INLET SIZE	LINER DEPTH	STORAGE CAPACITY*	CLEAN FLOW RATE**
FF-2	424HC	24" X 24"	12"	1.67 CU. FT.	470 GPM
,,	"	24" X 24"	24"	4.18 CU. FT.	914 GPM
n	"	24" X 24"	36"	6.69 CU. FT.	1,357 GPM
FF-2	436HC	24" X 36"	12"	2.55 CU. FT.	641 GPM
n	"	24" X 36"	24"	6.38 CU. FT.	1,201 GPM
"	"	24" X 36"	36"	10.20 CU. FT.	1,761 GPM
FF-363	6HC-GO	36" X 36"	12"	3.36 CU. FT.	772 GPM
"	"	36" X 36"	24"	8.39 CU. FT.	1,402 GPM
"	"	36" X 36"	36"	13.43 CU. FT.	2,032 GPM

\*\* FLOW RATES ARE "CALCULATED CLEAN FLOW RATES" BASED ON LINER MATERIAL FLOW

RATE OF 70 GPM/SQ. FT. (RECOMMEND APPLYING FACTOR OF .25 TO .50 TO FLOW RATES

CATCH BASIN SILT PROTECTION INSERT

TO ALLOW FOR SEDIMENT AND DEBRIS)

N.T.S.

- REMOVABLE FLUME (TRAP) (HDPE PLASTIC SUPPORT FRAME -OR FIBERGLASS) BYPASS (4 SIDED) FILTER LINER SUPPORT BASKET (SEE NOTE 3) 4" MIN. (SEE NOTE 4) CATCH BASIN -2" MIN. -FILTER LINER -

1. CATCH BASIN INSERTS ARE AVAILABLE IN SIZES TO FIT MOST INDUSTRY—STANDARD CATCH BASINS (SEE CAPACITY CHART). CUSTOM SIZES ARE AVAILABLE.

2. FILTER SUPPORT FLANGES SHALL BE CONSTRUCTED FROM STAINLESS STEEL (TYPE 304) DEBRIS TRAP (FLUME) SHALL BE CONSTRUCTED FROM EITHER PETROLEUM RESÍSTANT FIBERGLÀSS OR HDPE PLASTIC

3. FILTER LINER SUPPORT BASKET SHALL BE CONSTRUCTED FROM A BIAXIAL GEOGRID WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 900 X 1400, AS TESTED IN

TO CAPACITY CHART). CUSTOM LINER DEPTHS MAY BE SPECIFIED.

INSPECT THE PROTECTION INSERT AND REMOVE ALL ACCUMULATED SEDIMENT AND DEBRIS FROM VICINITY OF UNIT AFTER EACH STORM EVENT. IF THE CONTAINMENT IS MORE THAN 1/3 FULL OF SEDIMENT, EMPTY THE PROTECTION INSERT BY LIFTING THE UNIT OUT OF THE INLET AND REPLACING.

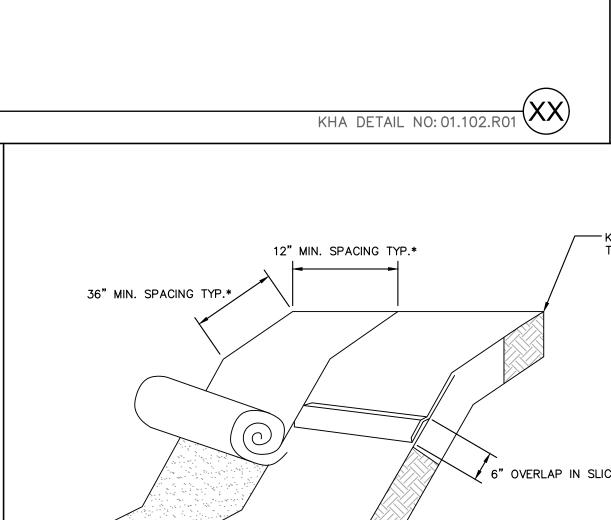
KHA DETAIL NO: 01.203.R0

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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SHEET NUMBER



MAT/BLANKETS SHALL HAVE GOOD SOIL CONTACT. #6.17 AND MANUFACTURER'S GUIDELINES.

5. ALL MATTING TO BE ERONET™ S150® EROSION CONTROL BLANKET OR

APPROVED EQUIVALENT.

KHA DETAIL NO: 01.105.R0

BE MORE THAN HALF FULL AT ANY

MOUNTAINS

6. FILTER BAGS SHALL NOT BE ALLOWED IN EXISTING CITY OR NCDOT ROADS.

REPLACED ON A REGULAR BASIS (NOT

1. INLET MAINTENANCE SHALL BE

TO STREET ACCEPTANCE.

3. FILTER BAGS MAY BE REMOVED WHEN

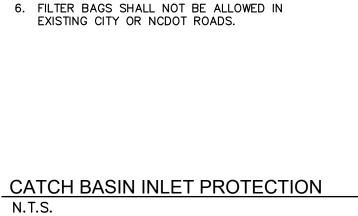
4. FILTER BAGS SHALL BE REMOVED PRIOR

5. FILTER BAGS SHALL BE CLEANED OR

SITE IS STABILIZED AT THE DIRECTION OF

INSTALLATION.

THE ENGINEER.

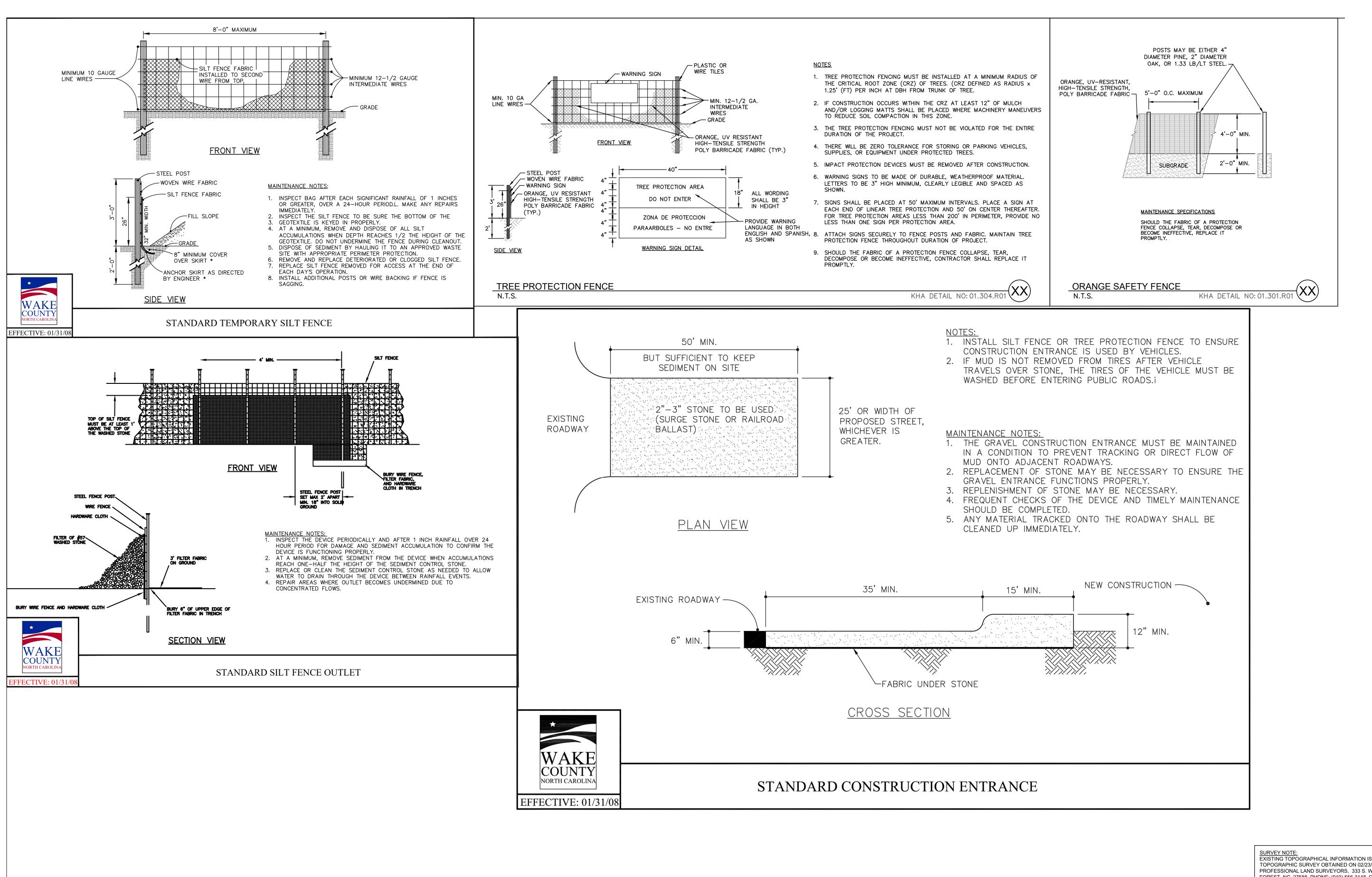


# SIDE VIEW

# <u>NOTES</u>

ACCORDANCE WITH ASTM D-4595. 4. INSERT LINERS ARE AVAILABLE IN STANDARD DEPTHS OF 12", 24" OR 36" (REFER

MAINTENANCE SPECIFICATIONS



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POTENTIAL CONFLICTS TO OWNER AND ENGINEER.



19-677-2050 2 ---- REVISIONS DATE

EIMEY-HORN AND ASSOCIATES, INC.

© 2023 KIMLEY-HORN AND ASSOCIATES, INC.
421 FAYETTEVILLE STREET, SUITE 600, RALEIGH, NC 27601



SCALE AS SHOWN
DESIGNED BY JAA
DRAWN BY JAA
CHECKED BY COB

OSION CONTRO

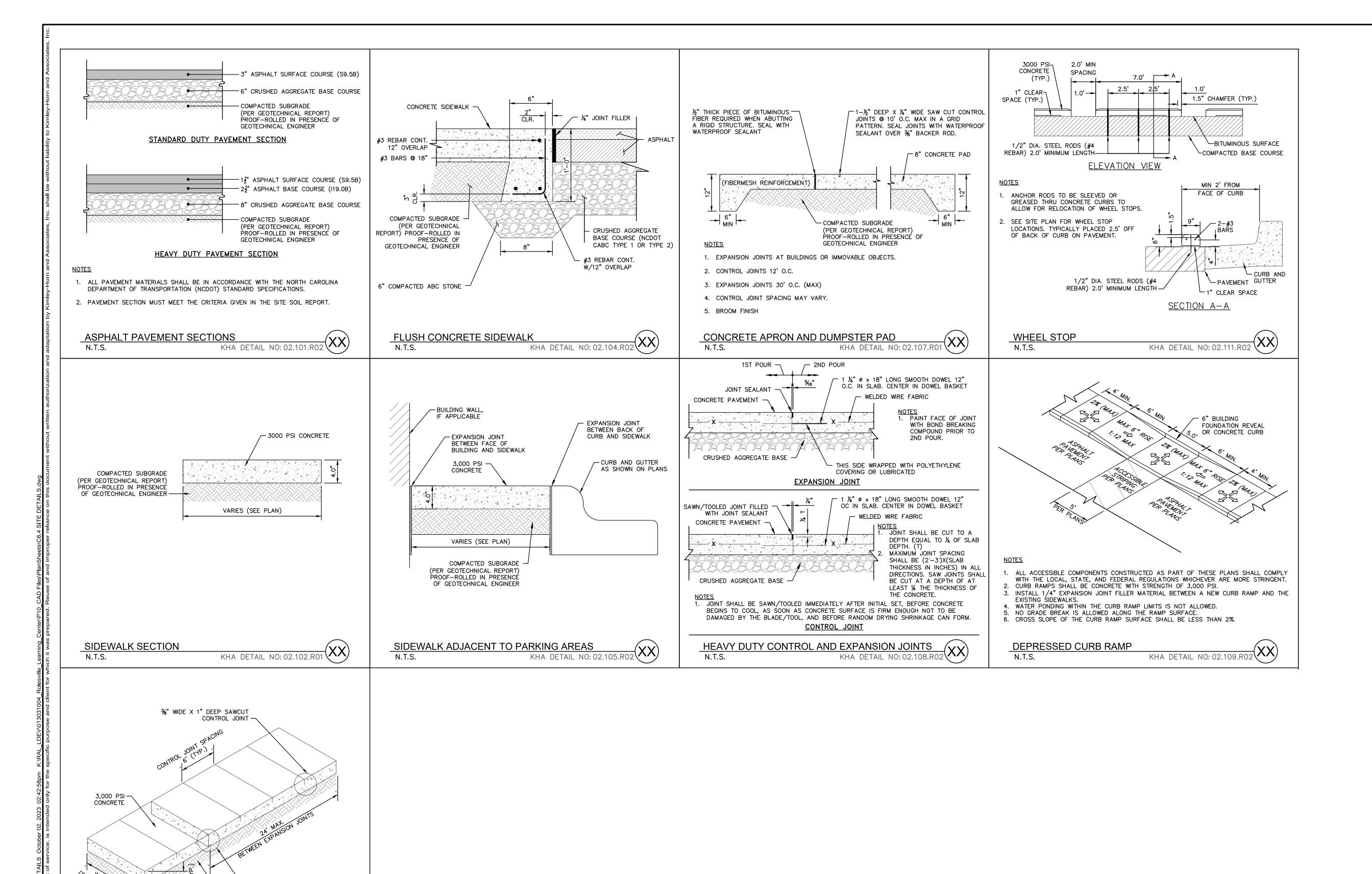
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SVILLE, LLC.

CENTER ROLES

PREPARED FOR

SHEET NUMBER C5.3



- APPLY ½" THICK PREFORMED EXPANSION JOINT FILTER

COMPACTED SUBGRADE (PER GEOTECHNICAL REPORT) PROOF-ROLLED IN PRESENCE OF

GEOTECHNICAL ENGINEER

KHA DETAIL NO: 02.103.R02 (02)

SIDEWALK

N.T.S.

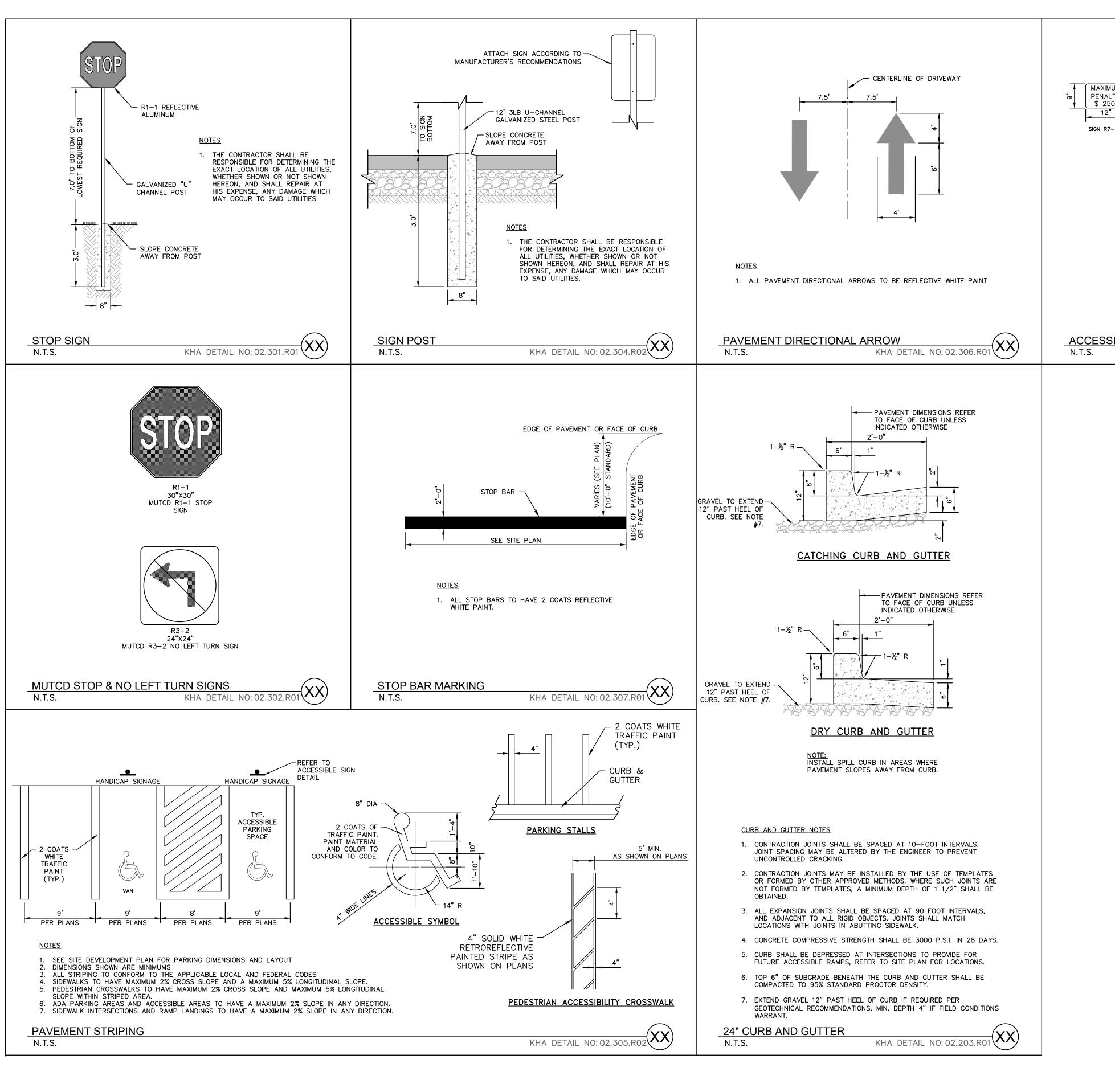
SURVEY NOTE: EXISTING TOPOGRAPHICAL INFORMATION IS BASED ON A TOPOGRAPHIC SURVEY OBTAINED ON 02/23/2023 BY CMP PROFESSIONAL LAND SURVEYORS, 333 S. WHITE STREET, WAKE FOREST, NC, 27588, PHONE: (919) 556-3148. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL EXISTING INFORMATION, DEPICTED OR NOT, PRIOR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

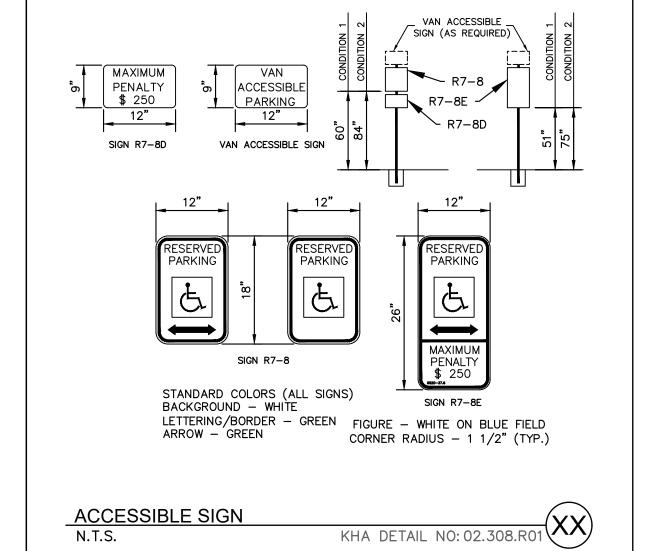


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SHEET NUMBER C8.0





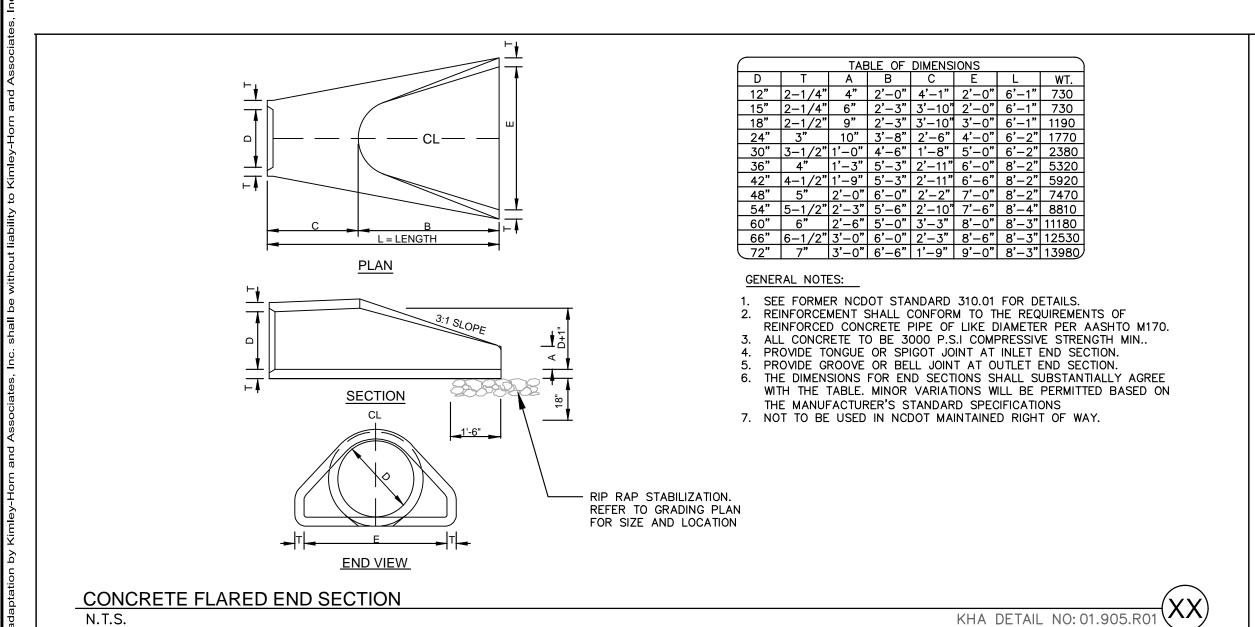
SURVEY NOTE:
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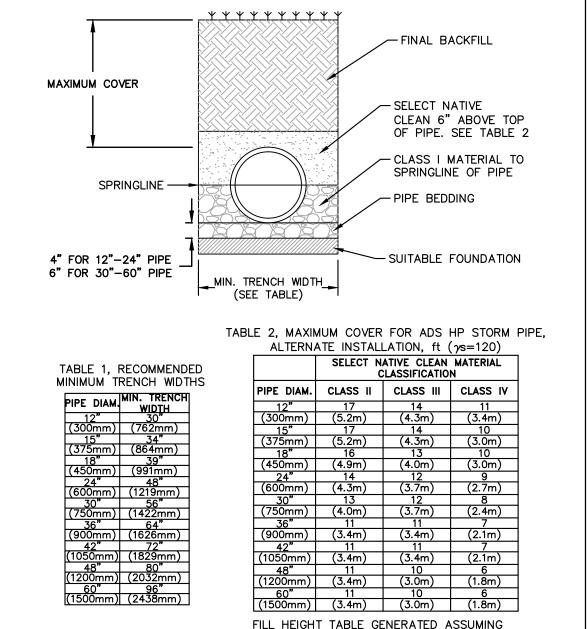


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S

SHEET NUMBER





N.T.S.

MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.

DRY CONDITIONS, OUTSIDE OF WATER TABLE.

TABLE, CONTACT APPLICATIONS ENGINEERING.

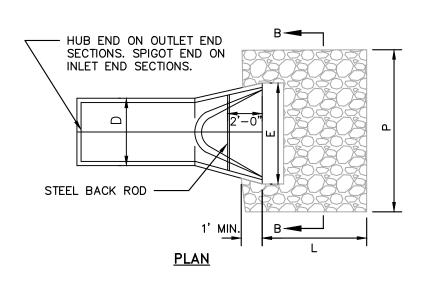
FOR INSTALLATION WITHIN THE WATER

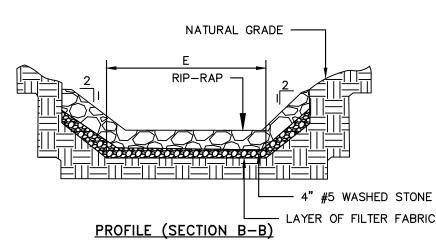
- 2. SOIL CLASSIFICATIONS ARE PER THE LATEST VERSION OF ASTM D2321. CLASS IVB MATERIALS (MH, CH) AS DEFINED IN PREVIOUS VERSIONS OF ASTM D2321 ARE NOT APPROPRIATE BACKFILL MATERIALS.
- FOUNDATION WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND 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.
- <u>BEDDING</u> 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).
- 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.
- 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.
- 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.
- . 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 KHA DETAIL NO: 03.101.R01 (XX)

Downspout Transition Boot -Wire screen for rodents 6" Schedule 40 6" Schedule 40 PVC at -1.00% Min. Slope Refer to drainage plan for size of storm sewer ALL DOWNSPOUT COLLECTOR PIPE SHALL BE SCHEDULE 40 PVC. NO SCALE

TYPICAL ROOF DRAIN CONNECTION NOT TO SCALE





SIZING CHART									
STRUCTURE	Q-FULL (CFS)	E (FT)	L (FT)	P (FT)	D (IN)	STONE THICKNESS (IN)	STONE DIAMETER (IN)	STONE CLASS	VELOCITY (FPS)
NOTES									
1. THE LENGTHS OF THE RIP—RAP APRONS WERE DETERMINED BY USING THE NEW YORK DOT DISSIPATOR METHOD, AS OUTLINED IN SECTION 8.06 OF THE NCDENR EROSION CONTROL MANUAL.									

- 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
- 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 DOWNSTREAM 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.

2. RIP-RAP APRONS DESIGNED FOR FULL FLOW CAPACITY

- 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

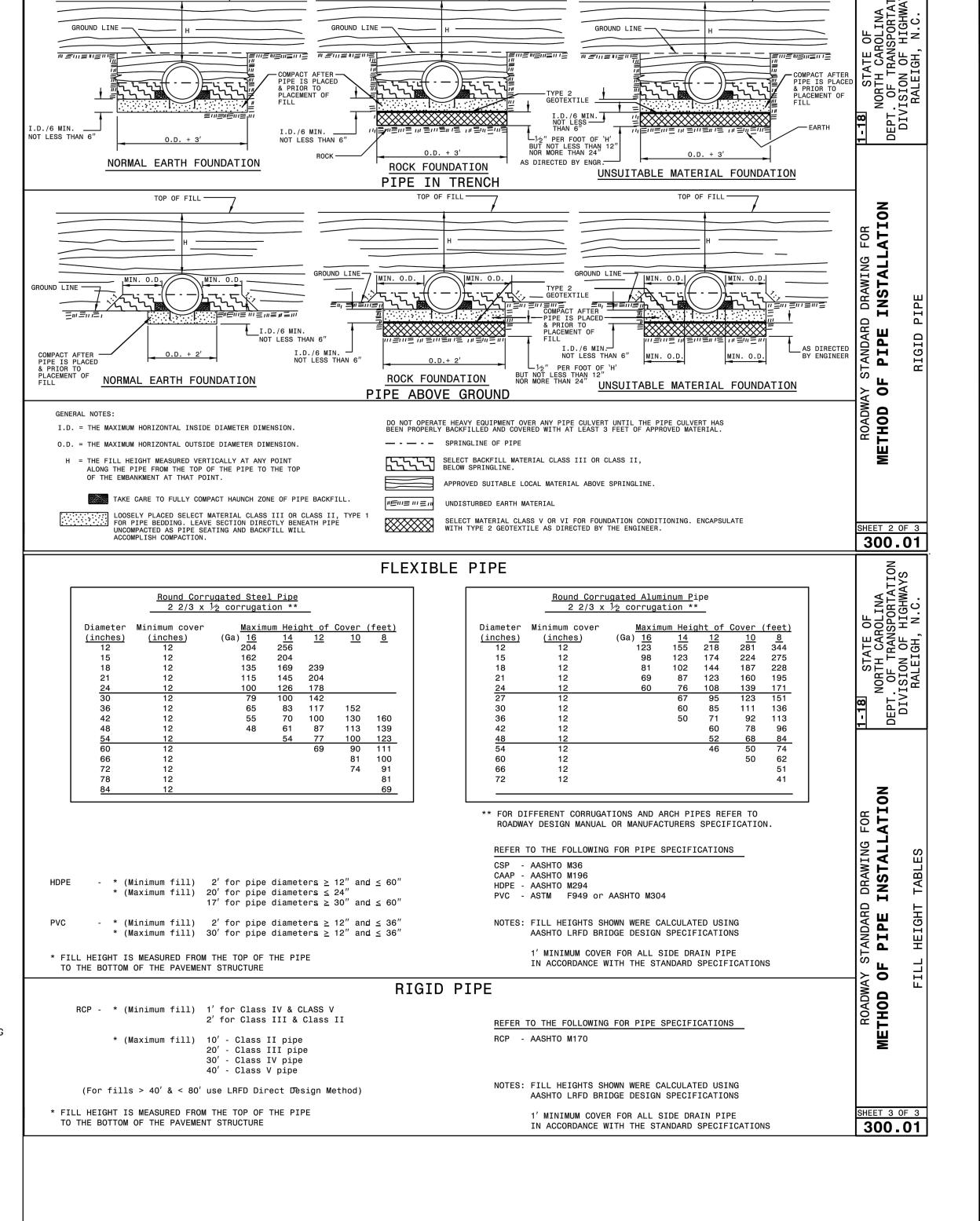
IN GENERAL, ONCE A RIPRAP INSTALLATION HAS BEEN PROPERLY DESIGNED AND INSTALLED IT REQUIRES VERY LITTLE MAINTENANCE. RIPRAP SHOULD BE INSPECTED PERIODICALLY FOR SCOUR OR DISLODGED STONES. CONTROL OF WEED AND BRUSH GROWTH MAY BE NEEDED IN SOME LOCATIONS.

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 DOWNSTREAM 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
- 5. THE MINIMUM THICKNESS OF THE RIPRAP SHOULD BE 1.5 TIMES THE MAXIMUM STONE
- 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 DOWNSTREAM END LEVEL WITH THE RECEIVING AREA OR
- 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 KHA DETAIL NO: 03.205.R02 N.T.S.



TOP OF FILL

TOP OF FILL

TOP OF FILL -

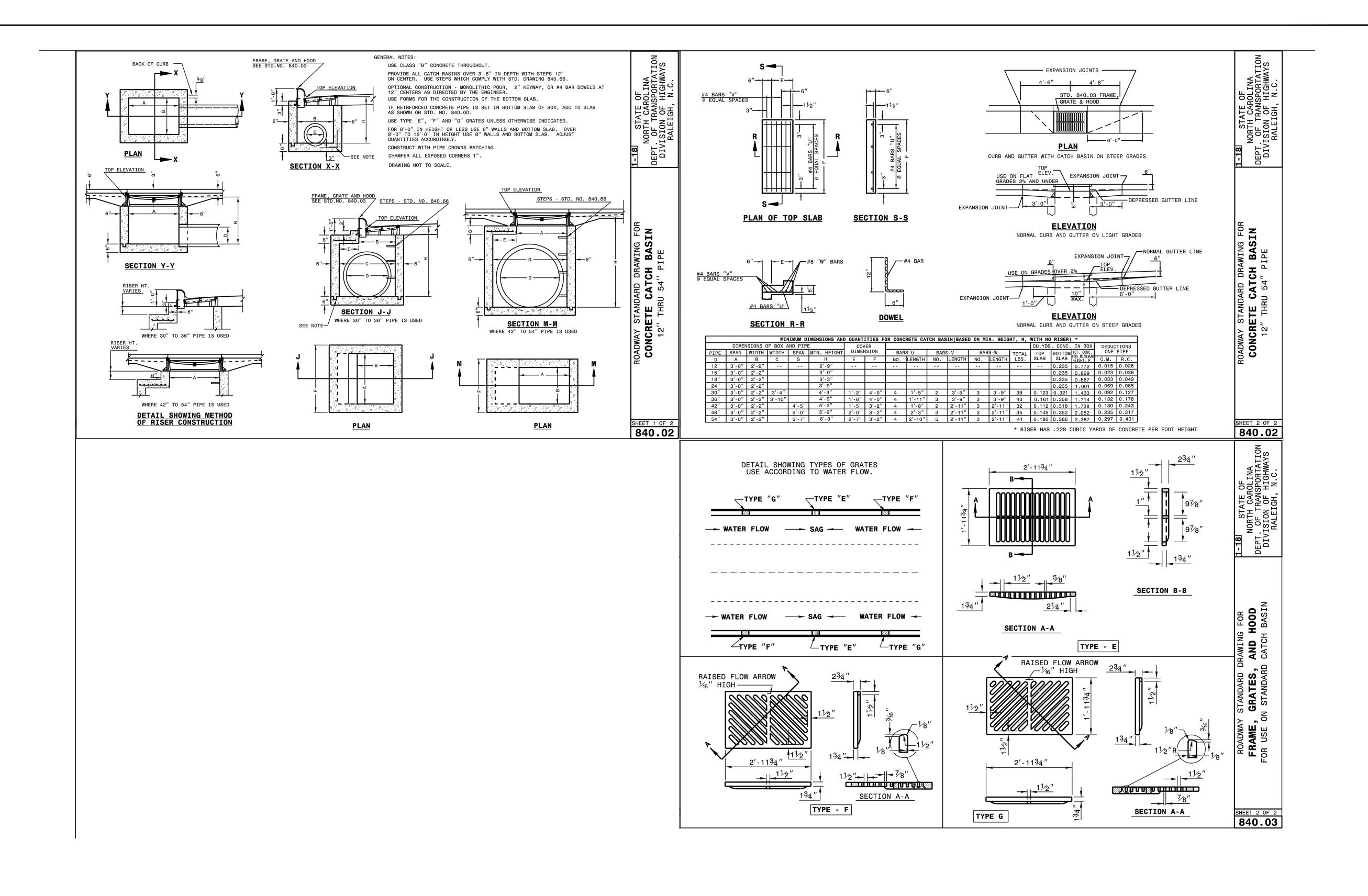
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SHEET NUMBER

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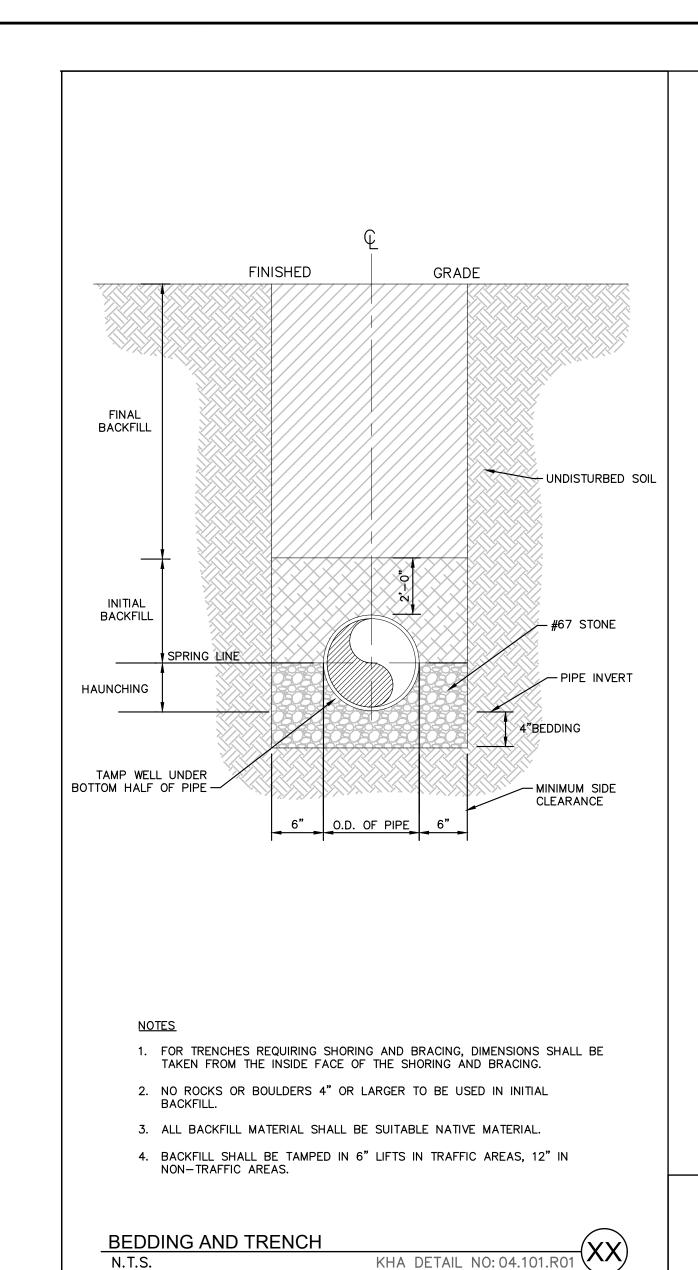
CENTER ROLESVILLE

DETAIL

STORM

(0) (4) (6) (4)

SHEET NUMBER C9.1



WIDTH VARIES

TYPE B

**BACKFILL SECTION** 

N.T.S.

- COMPACTED

BACKFILL

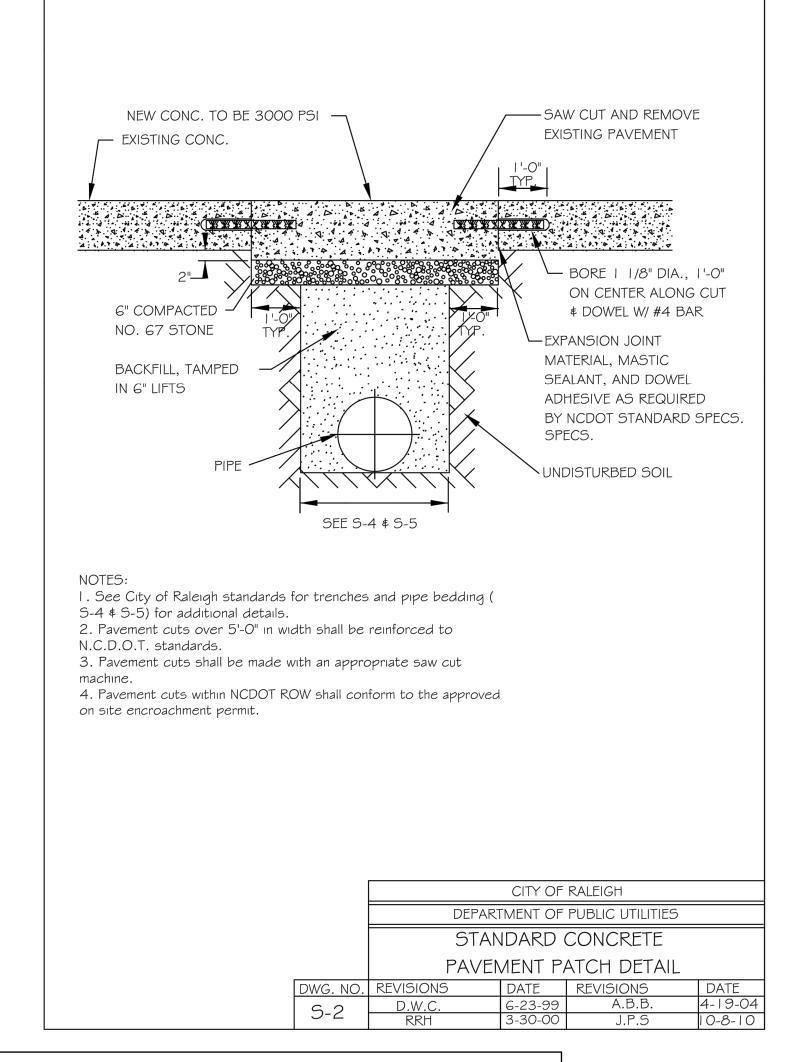
MATERIAL (NO MATERIAL

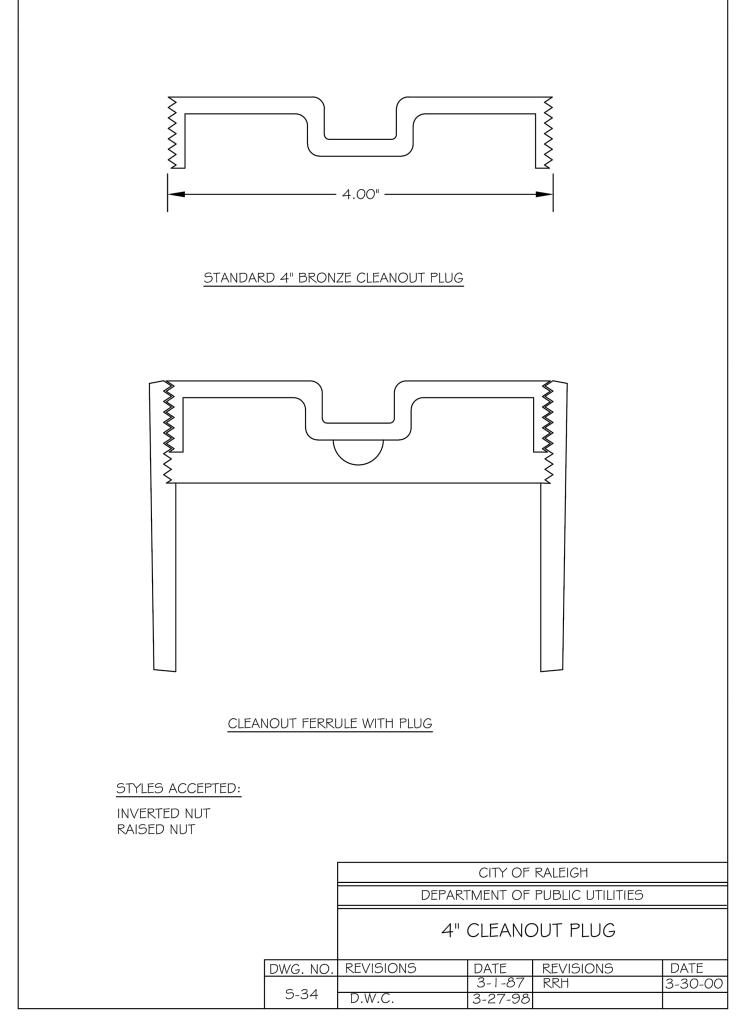
#67 STONE — 1/8 PIPE O.D. BELOW PIPE (MIN. 6") AND UP TO PIPE MIDPOINT

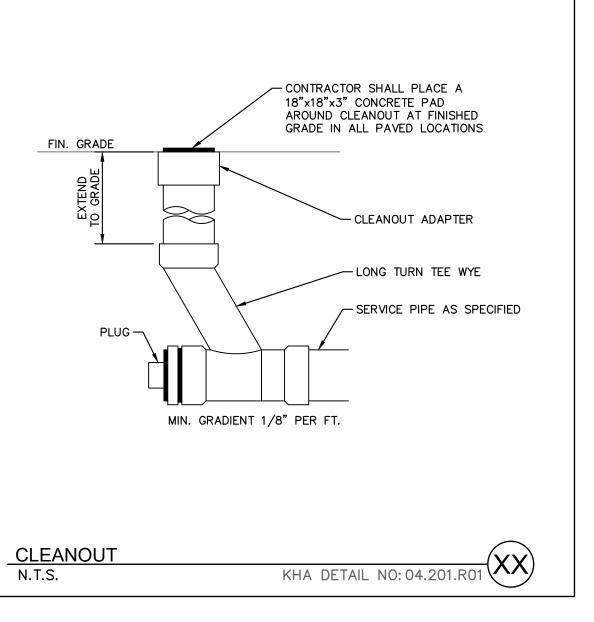
KHA DETAIL NO: 04.102.R01 (XX)

SELECT BACKFILL

LARGER THAN 2")









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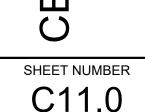
LEARNING
REPARED FOR
SSVILLE, LLC.

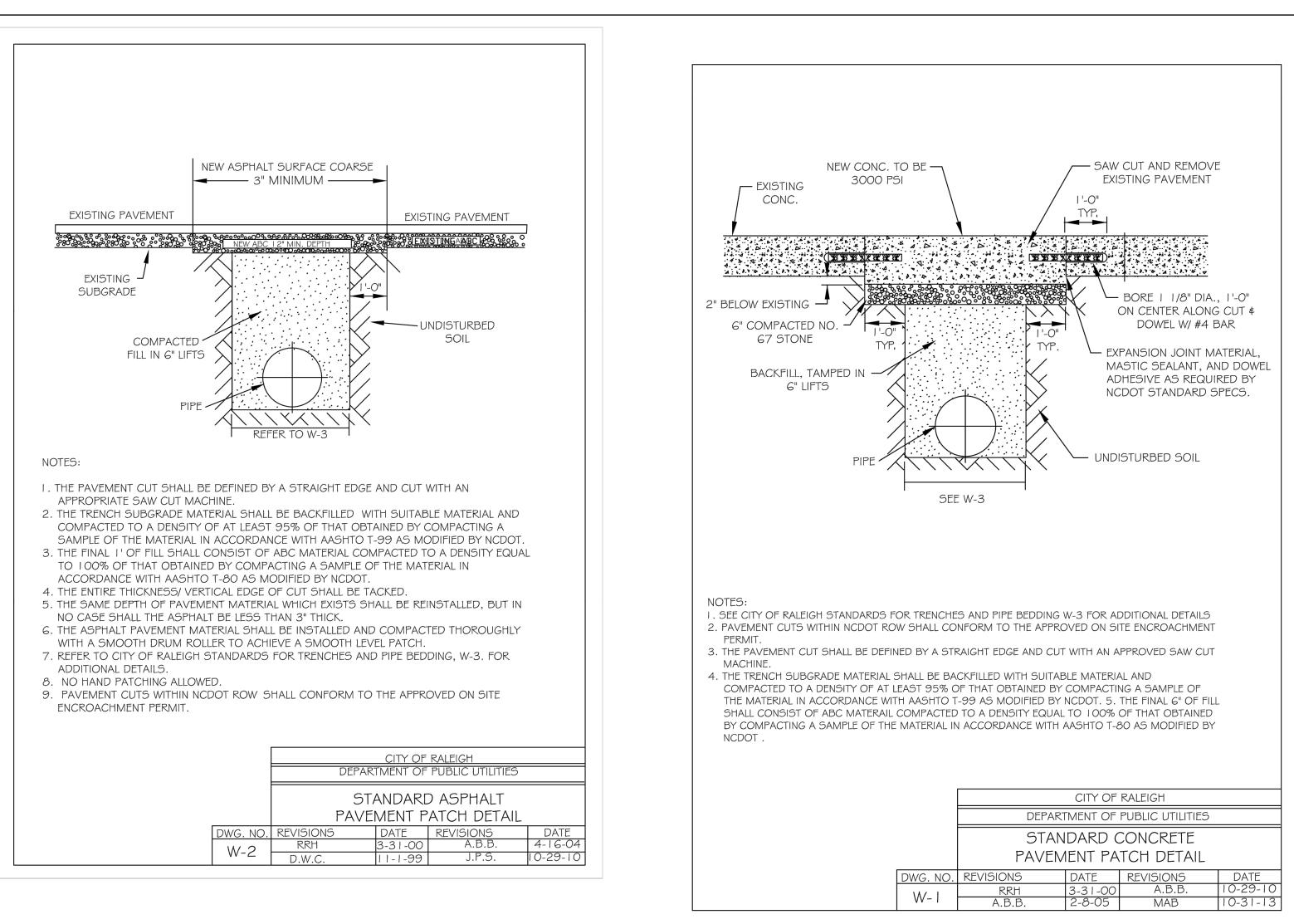
SHEET NUMBER C10.0

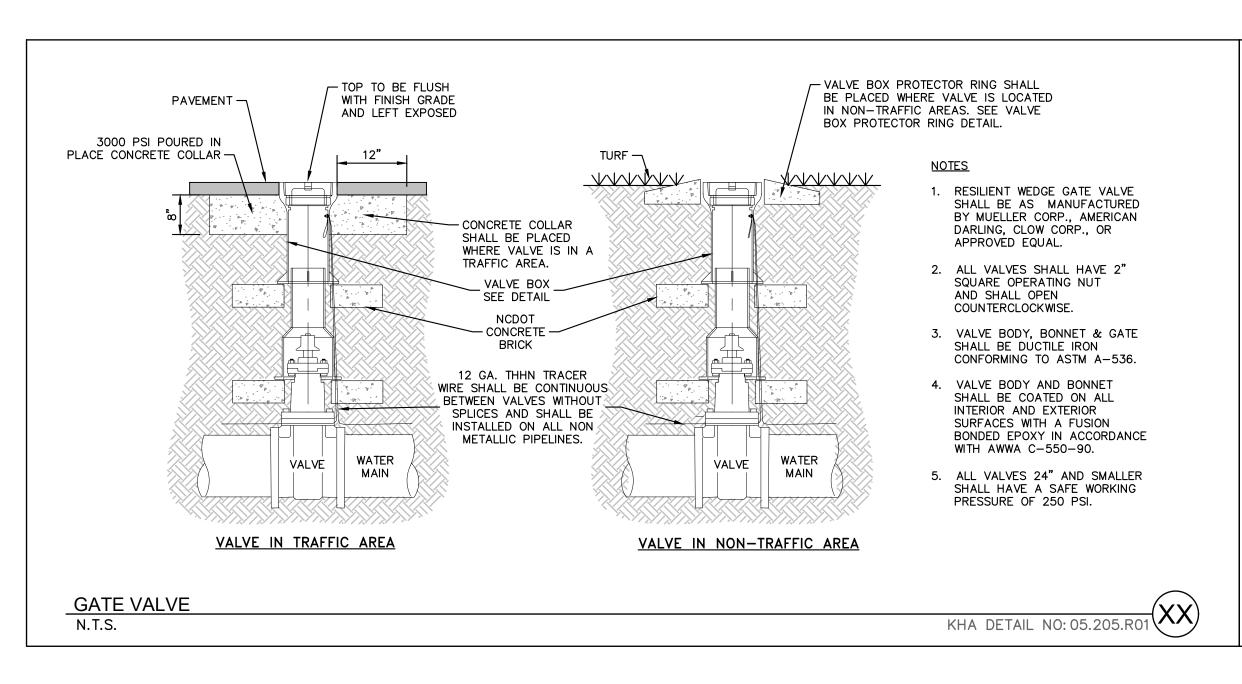
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GRADE

CLEARANCE

CITY OF RALEIGH

DEPARTMENT OF PUBLIC UTILITIES

TRENCH BOTTOM DIMENSIONS & BACKFILLING REQUIREMENTS FOR DUCTILE IRON

FINISHED

I. TRENCHES REQUIRING SHORING AND BRACING, DIMENSIONS SHALL BE TAKEN FROM THE

BACKFILL

6" OF #67 STONE WHEN

ROCK OR WATER IS

ENCOUNTERED

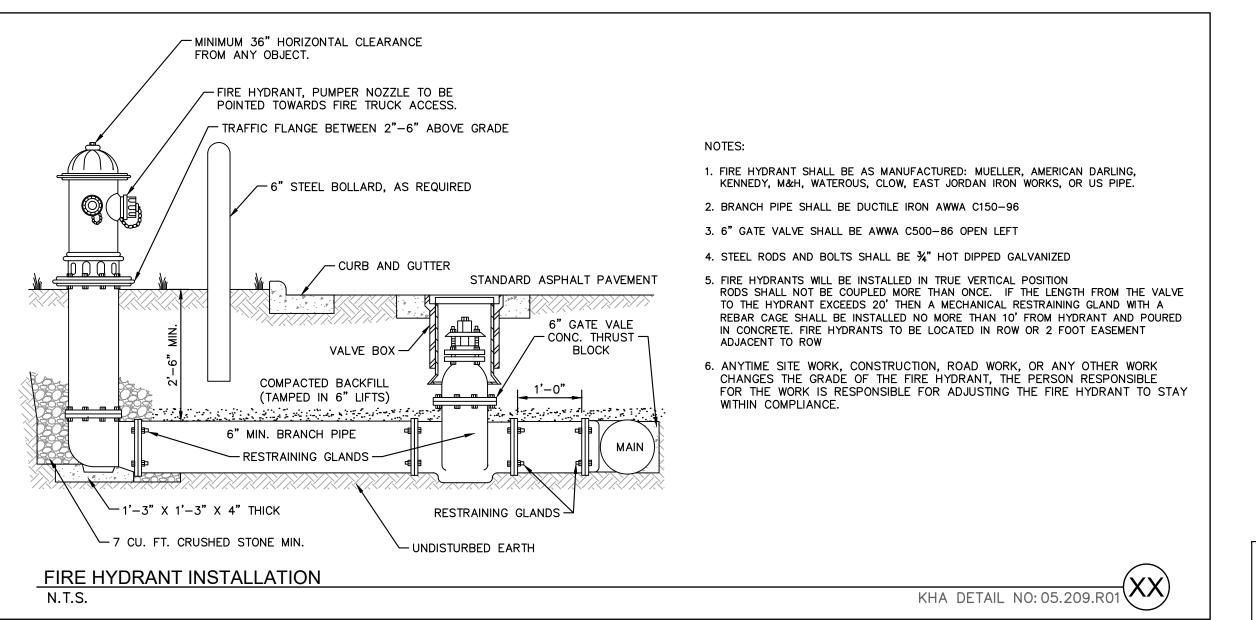
INSIDE FACE OF THE SHORING AND BRACING.

4. BACKFILL SHALL BE TAMPED IN 6" LIFTS.

5. ACHIEVE 95% COMPACTION IN BACKFILL.

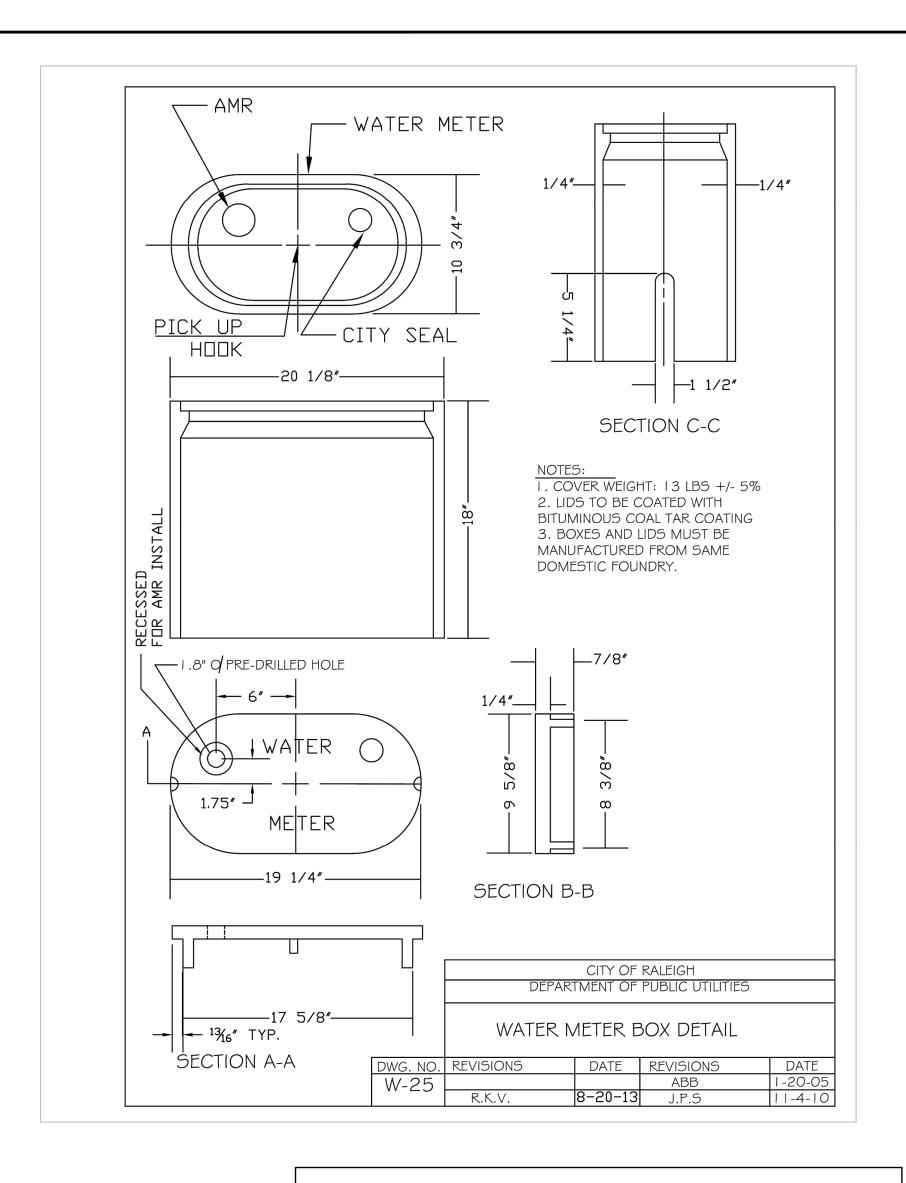
2. NO ROCKS OR BOULDERS 4" OR LARGER TO BE USED IN BACKFILL.

3. ALL BACKFILL MATERIAL SHALL BE SUITABLE NATIVE MATERIAL.



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PROPOSED GRADE ALONG PIPELINE -

FORCE MAIN

20' MAX.

EACH JOINT

DETECTABLE MARKING TAPE AND WIRE

- HD RUBBER

KHA DETAIL NO: 05.102.R01 (XX)

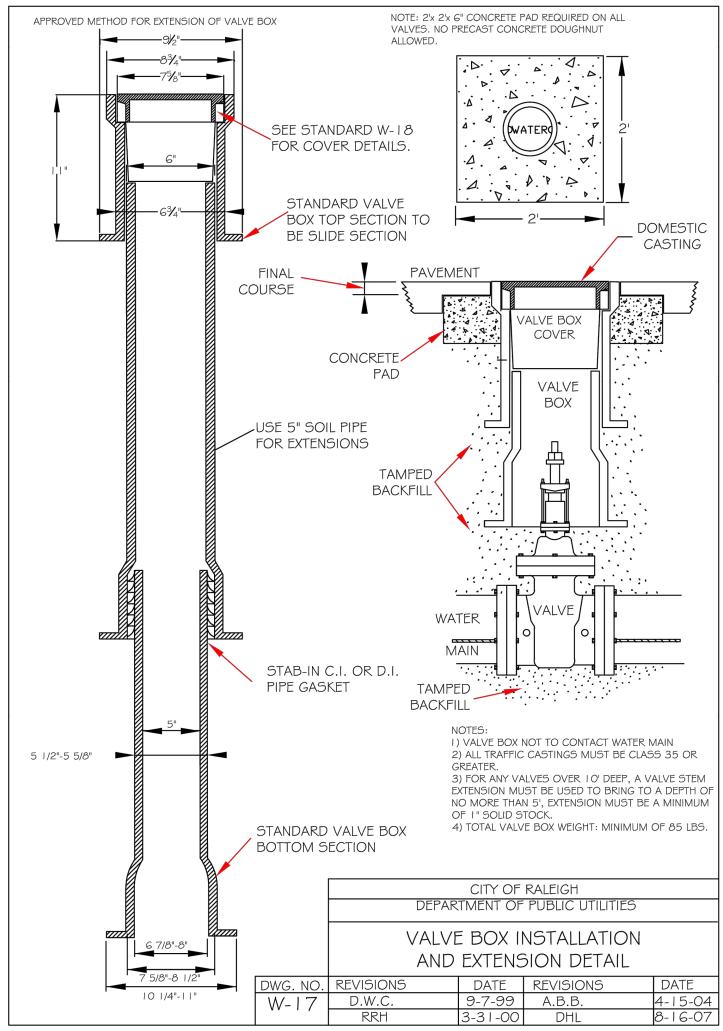
TAPE (MIN 1.5 WRAPS)

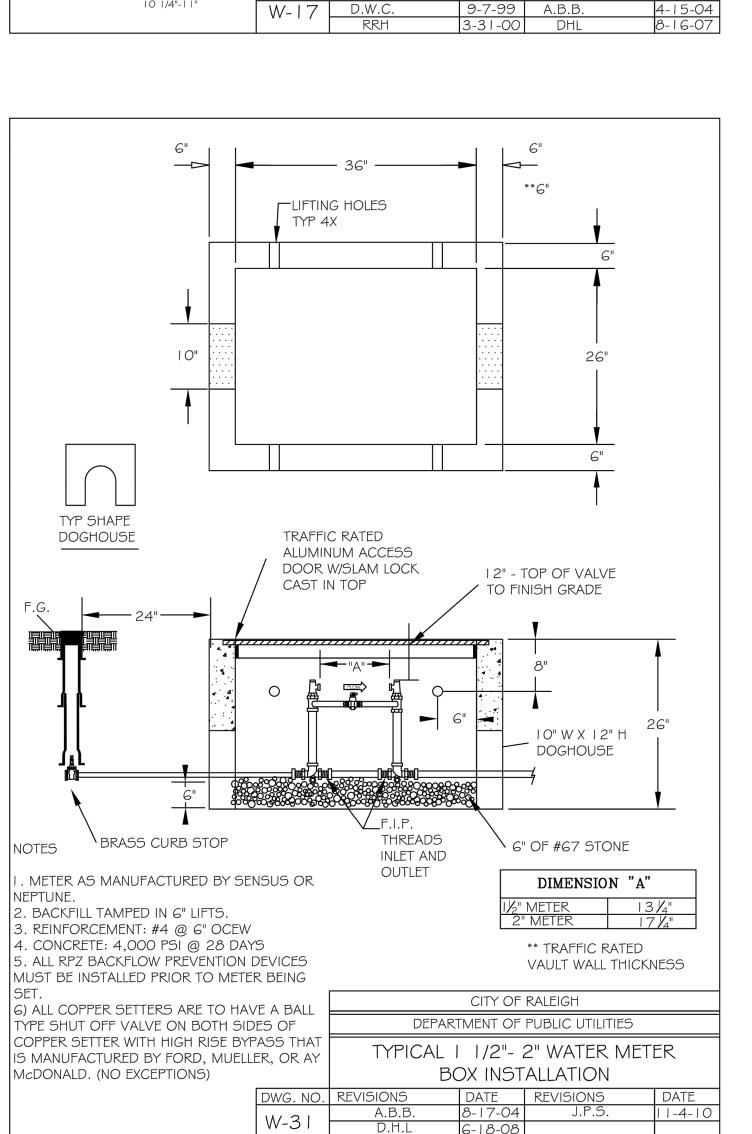
DETECTABLE MARKING TAPE ALONG ENTIRE PIPELINE -

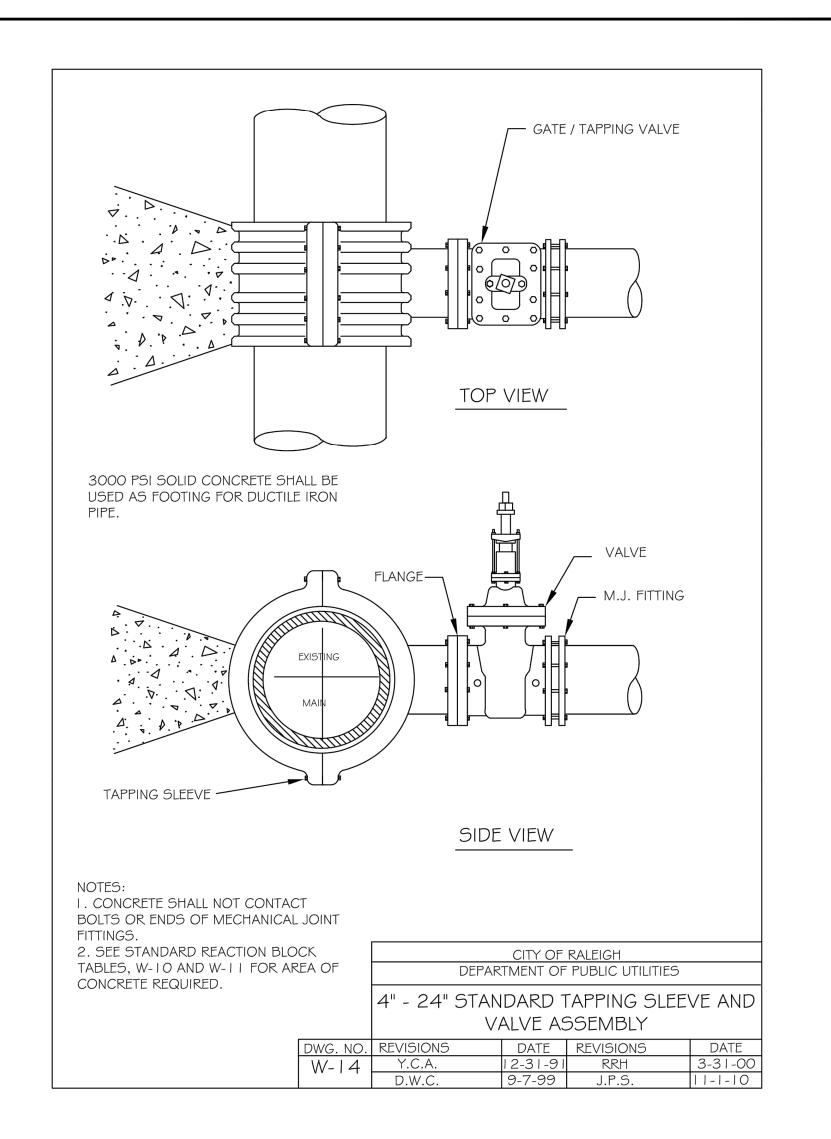
> 14-18 AWG TRACER WIRE TAPED TO PIPELINE -

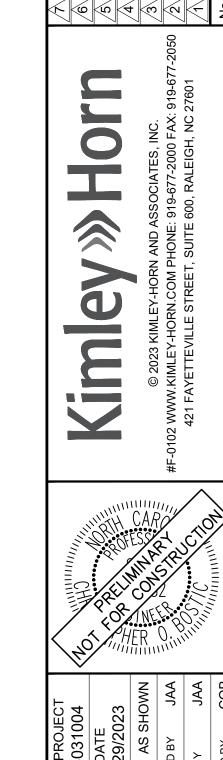
PROPOSED PIPELINE -

ROTATED TO SHOW LABEL -









**WATER** 

S

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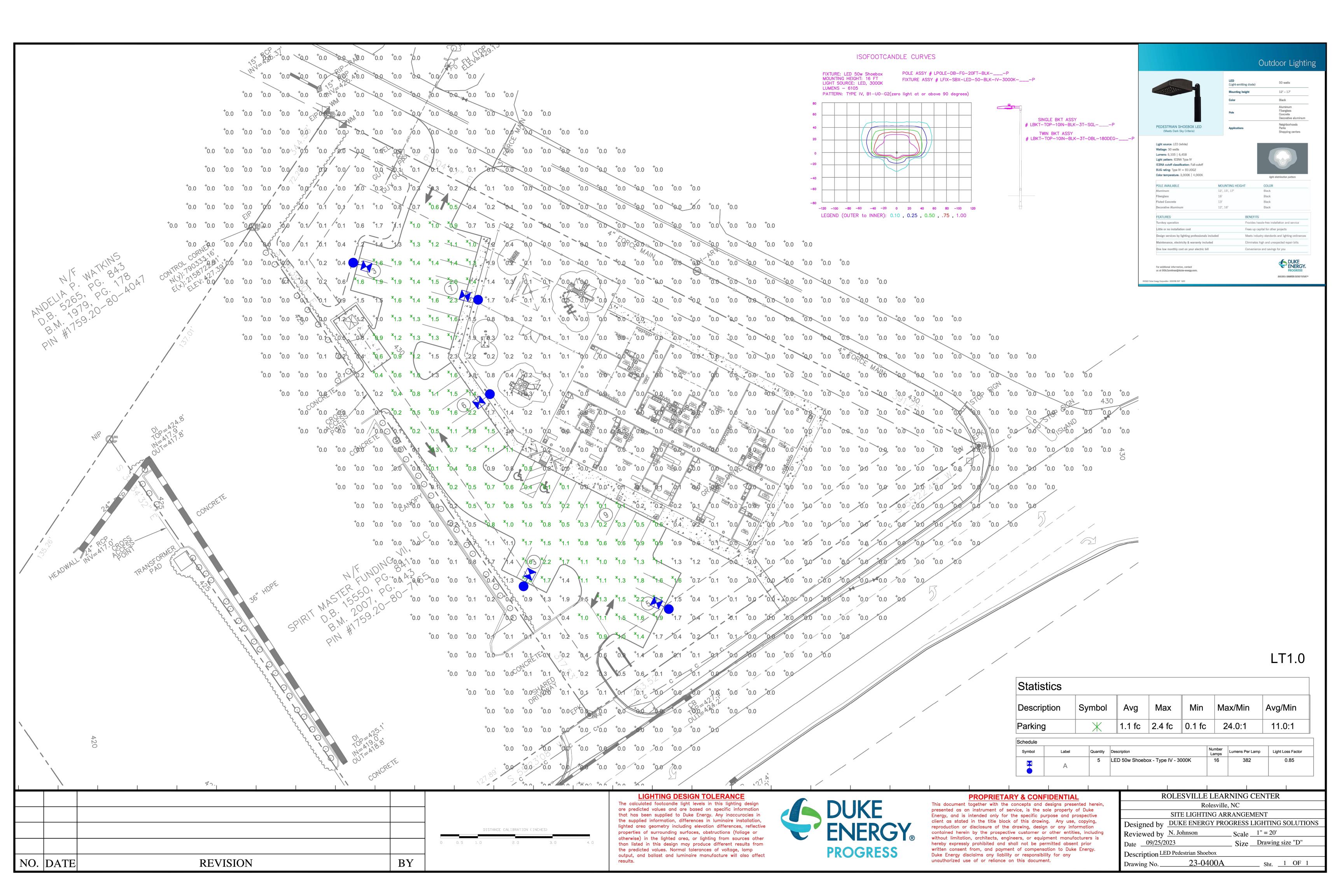
DEPICTED OR NOT, PRIOR TO CONSTRUCTION AND REPORT

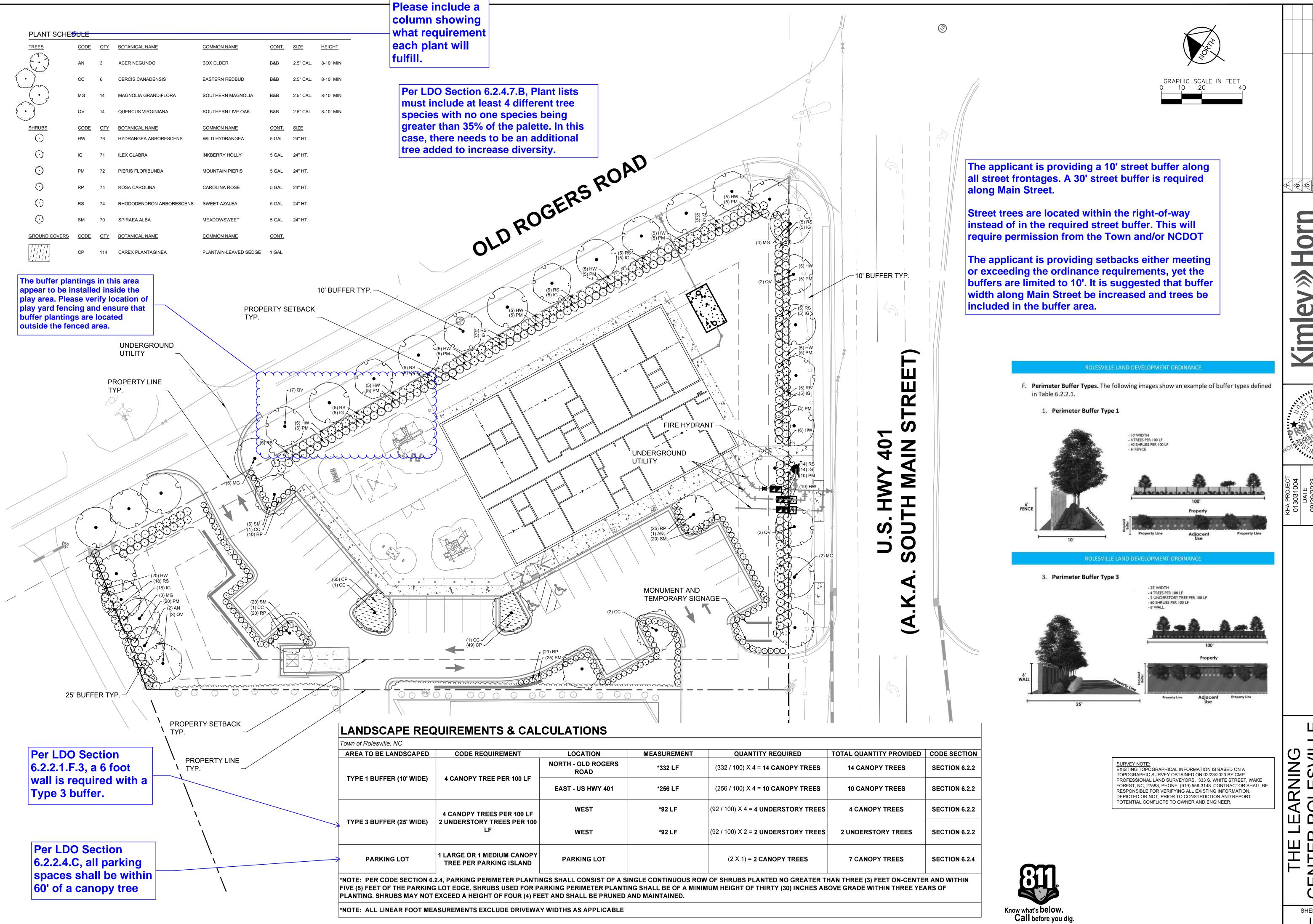
POTENTIAL CONFLICTS TO OWNER AND ENGINEER.

SHEET NUMBER C11.1

Know what's below.

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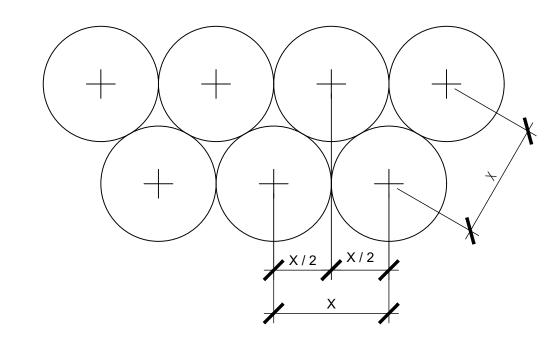


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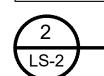
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## PLANT SPACING NOTES:

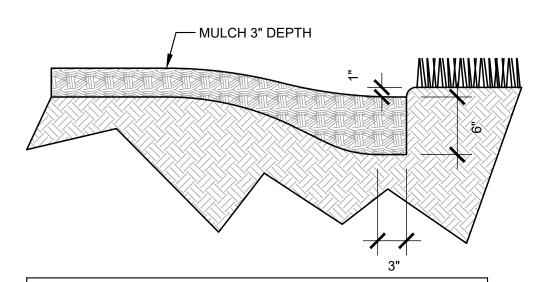
- SEE PLANTING PLAN FOR SHRUB AND GROUNDCOVER AREAS.
- PLANT MATERIAL SHALL BE INSTALLED IN STRAIGHT AND PARALLEL ROWS UNLESS OTHERWISE SHOWN ON DRAWINGS.
- 3. SEE PLANTING PLAN AND / OR PLANT SCHEDULE FOR ACTUAL PLANT SPACING.



# TYPICAL STAGGERED ROW PLANT SPACING

SCALE: 1/2"=1'-0"

PLAN



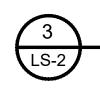
## PLANTING BED TRENCH EDGING NOTE:

TRENCH EDGE SHALL BE LOCATED BETWEEN PLANTING BED AND ALL TURF OR NATIVE GRASS AREAS.

TRENCH EDGE SHALL BE CONSTRUCTED ALONG ALL

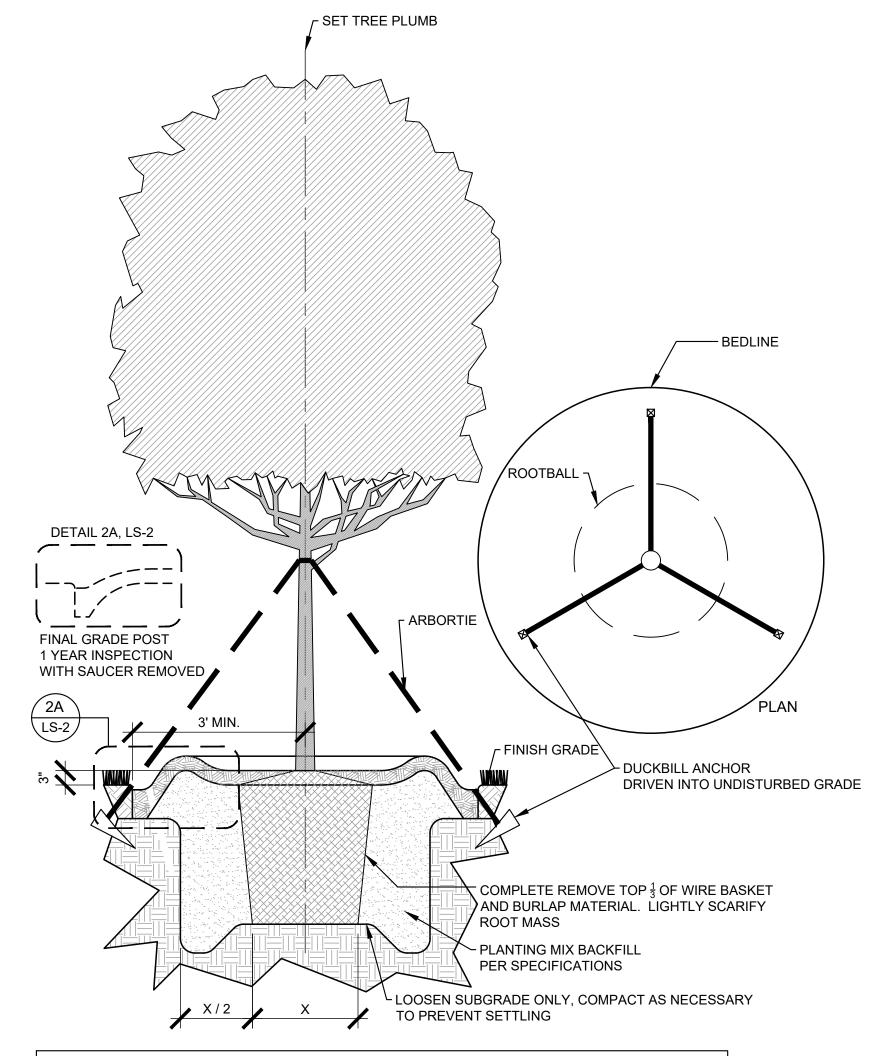
HARDSCAPE AREAS FOR SIMILAR CONDITION.

MAINTAIN POSITIVE DRAINAGE IN ALL PLANTING BEDS.



# PLANTING BED TRENCH EDGING

SCALE: 1"=1'-0"



## TREE PLANTING NOTES:

- 1. 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)
- 2. TOP OF ROOTBALL MIN. 1" ABOVE FINISHED GRADE
- 3. 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.

TYPICAL TREE PLANTING & GUYING PLAN & SECTION

SCALE: 1/2"=1'-0"

# GENERAL LANDSCAPE NOTES:

RESULT OF THE LANDSCAPE CONSTRUCTION.

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS MATERIAL, FREE OF PESTS AND DISEASE.

7. ALL PLANTING AREAS MUST BE COMPLETELY MULCHED AS SPECIFIED.

- 2. ALL PLANTS MUST BE CONTAINER GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
- 3. ALL TREES MUST HAVE A STRAIGHT TRUNK AND FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
- 4. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT BEFORE, DURING, AND AFTER INSTALLATION.
- 5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
- 6. 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
- 8. 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
- 9. 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 OR QUANTITY ADJUSTMENTS MUST BE AUTHORIZED PRIOR TO PLANTING.

10. 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. 11. CONTRACTOR SHALL INSTALL AND MAINTAIN TWO (2) GAT0RBAGS PER LARGE CANOPY TREE
- 12. 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.
- 13. LANDSCAPE ARCHITECT SHALL APPROVE ALL BED LAYOUT STAKING PRIOR TO INSTALLATION OF PLANT MATERIAL.
- 14. THE LANDSCAPE ARCHITECT SHALL APPROVE THE STAKING LOCATION OF ALL TREES PRIOR TO INSTALLATION.
- 15. 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.
- 16. 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 AND MEETING ALL PLANT SCHEDULE SPECIFICATIONS.
- 17. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" REPRESENT GUIDELINE SPECIFICATIONS ONLY AND SHALL CONSTITUTE MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.

18. 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

- 19. 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
- 20. SAFE, CLEARLY MARKED PEDESTRIAN AND VEHICULAR ACCESS TO ALL ADJACENT PROPERTIES MUST BE MAINTAINED THROUGHOUT THE CONSTRUCTION PROCESS.
- 21. ALL PLANT MATERIAL QUANTITIES SHOWN ARE APPROXIMATE. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETE COVERAGE OF ALL PLANTING BEDS AT SPACING SHOWN.
- 22. THE TOP OF ALL ROOT BALLS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE, AS BORN TO PREVIOUS GRADE AND GROWING CONDITIONS.
- 23. ALL ROOT BALLS REMOVED FROM CONTAINERS SHALL BE SCARIFIED PRIOR TO BACKFILLING.
- 24. 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.
- 25. 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
- 26. 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.
- 27. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES & ORDINANCES REGARDING LANDSCAPING. GENERAL CONTRACTOR IS TO CLEAN THE ENTIRE SITE OF ALL CONSTRUCTION DEBRIS AND TO
- 28. THE CONTRACTOR SHALL INSTALL BLACK FABRIC MESH UNDER PLANTING BED MULCH TO PREVENT WEED GROWTH.
- 29. 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. FACH UNDERSTORY TREE AT THE TIME OF PLANTING SHALL BE A MINIMUM OF ONE (1) INCH IN CALIPER AND FIGHT (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.

Each large canopy tree at the time of planting shall be a minimum of two (2) inches in caliber 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 caliber 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.



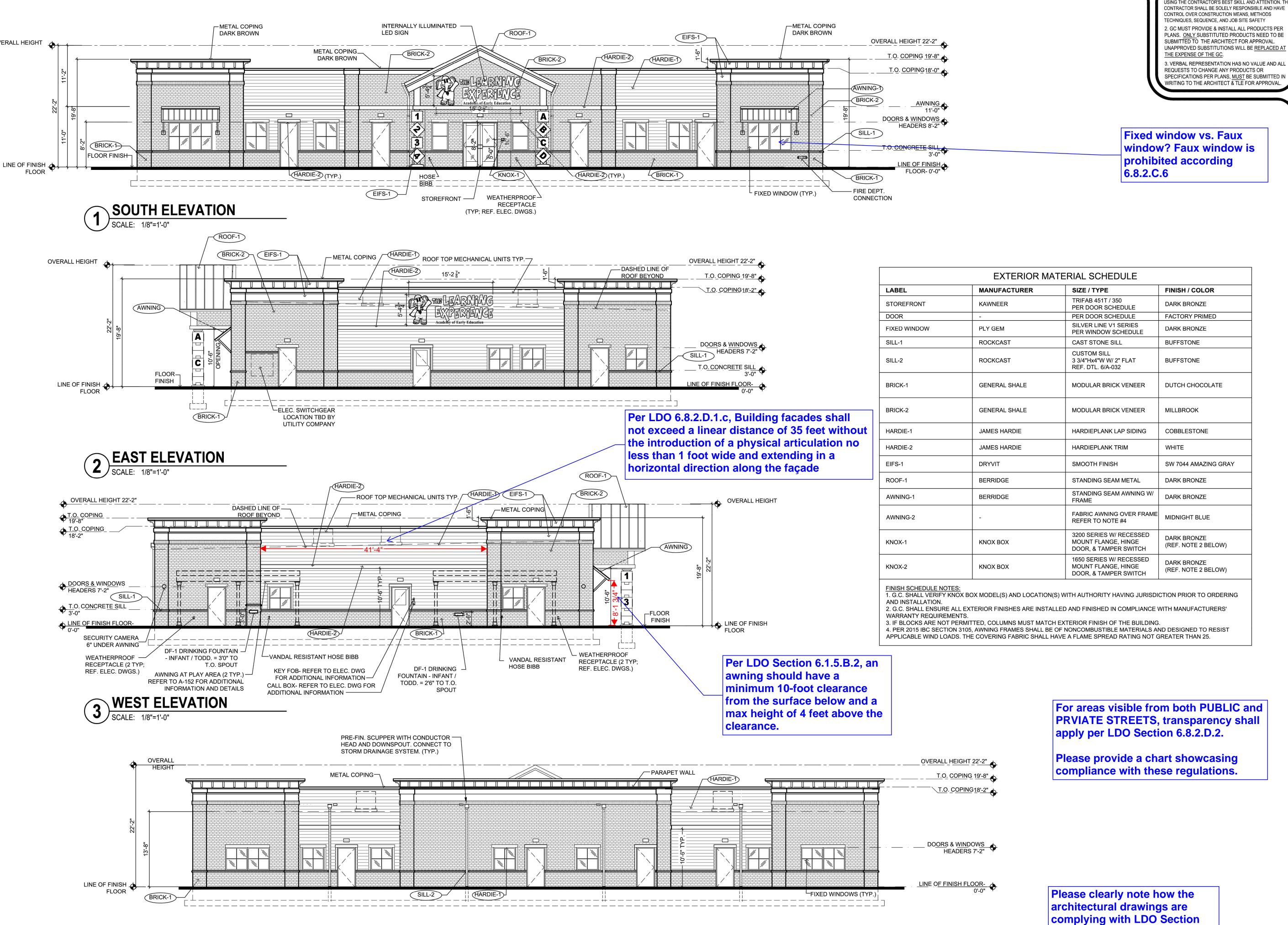
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SHEET NUMBER L2.0



NORTH ELEVATION

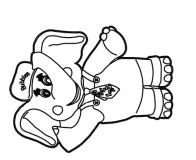
SCALE: 1/8"=1'-0"

CONTRACTOR SHALL BE SOLELY RESPONSIBLE AND HAVE

ARCHITECTS AND ENGINEERS INC 42 OKNER PARKWAY

> TEL: 973-994-9669 FAX: 973-994-4069 www.jarmelkizel.com Architecture Engineering Interior Design Implementation Services

LIVINGSTON, NEW JERSEY 07039



NO. DATE DESCRIPTION **REVISION** NO. DATE DESCRIPTION JAI.

PROFESSIONAL CERTIFICATION NAME OF LICENSEE: MATTHEW B. JARMEL LICENSE NUMBER: 10120 **EXPIRATION DATE:** 

Project Number:	Scale:
TLENC23-228	1/8"=1'-0"
Drawn By:	Approved By:
EG	MBJ
Drawing Name:	

PROPOSED ELEVATIONS

6.8.2.B.6 and providing a

items.

minimum four (4) of the design

SA-1.2