

PAVEMENT NOTES

1. ASPHALT NOTES

- 1.1. ASPHALT SHALL BE THE TYPE OR TYPES SPECIFIED ON THE DRAWINGS. IF NO TYPE IS INDICATED THE CONTRACTOR SHALL USE A MIX SPECIFIED BY NCDOT FOR TOP AND BINDER. ALL ASPHALT SHALL BE PRODUCED IN STATE APPROVED PLANTS WITH STATE APPROVED PRODUCTS.
1.2. ASPHALT WILL ONLY BE PLACED WHEN THE OUTSIDE TEMPERATURE IS 45° FAHRENHEIT AND RISING. ASPHALT WILL NEVER BE PLACED ON FROZEN MATERIAL, DURING MEDIUM OR HEAVY PRECIPITATION OR WHEN PRECEDING PRECIPITATION HAS SATURATED THE SUBBASE AND/OR SUBGRADE.
1.3. SURFACES THAT WILL ABUT THE NEW ASPHALT SHALL BE TACK COATED PRIOR TO PLACEMENT OF ASPHALT INCLUDING CURBS, GUTTER, EXISTING ASPHALT AND STRUCTURES. TACK COAT SHALL BE APPLIED NEATLY TO MATCH THE LINES AND GRADES OF THE PROPOSED ABUTTING ASPHALT AT A RATE OF .05 TO .15 GALLONS PER SQUARE YARD.
1.4. ASPHALT SHALL BE PLACED IN LAYERS EQUAL TO THOSE SPECIFIED ON THE PLANS. THICKNESS OF EACH LAYER OR THE THICKNESS OF ALL LAYERS COMBINED SHALL NOT VARY MORE THAN 1/4 INCH FOR THICKNESS OF 0 TO 4 INCHES AND 1/2 INCH FOR THICKNESS OF 4 INCHES OR GREATER, FROM THOSE SPECIFIED ON THE DRAWINGS. IF MORE THAN 60% OF TEST CORES SAMPLED FAIL TO EQUAL OR EXCEED THE REQUIRED DEPTH, THE PAVEMENT SHALL BE CONSIDERED FAILED AND BE SUBJECT TO REPAIRS, REPLACEMENT OR REASONABLE COMPENSATION OF WHICH THE CONTRACTOR WILL BEAR ALL COSTS. THE ASPHALT SHALL ALSO BE TESTED FOR SMOOTHNESS BY LAYING A 16 FOOT STRAIGHT EDGE ON THE PAVEMENT AND VERIFYING THAT THERE ARE NO GAPS GREATER THAN 1/4 INCH IN ANY DIRECTION.
1.5. PLACEMENT AND COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE SPECIFIED BY NCDOT. THE ROLLING SHALL BE DONE IN SUCH A MANNER THAT WILL MATCH JOINTS AND LEAVE A SMOOTH UNIFORM SURFACE, WHILE PROVIDING THE PROPER COMPACTION, WHICH WILL BE 95% OF LABORATORY DENSITY.
1.6. WHEN MATCHING INTO EXISTING PAVEMENT ALL MATCH JOINTS SHALL BE SAW CUT TO PROVIDE A STRAIGHT SMOOTH JOINT. THE ASPHALT DEPTH AT THE MATCH POINT SHALL BE EQUAL TO THAT OF THE PROPOSED OR EXISTING WHICH EVER IS GREATER.
1.7. PAVING EQUIPMENT SHALL BE OF GOOD CONDITION AND QUALITY. ASPHALT SHALL BE PLACED BY MECHANICAL EQUIPMENT EXCEPT IN SMALL AREAS THAT ARE INACCESSIBLE TO A PAVER. ASPHALT SHALL BE TRANSPORTED IN COVERED TRUCKS AND SCHEDULED IN SUCH A MANNER THAT WILL MAINTAIN ASPHALT TEMPERATURE. ASPHALT SHALL BE REJECTED WHEN TEMPERATURES FALL BELOW 250° FAHRENHEIT OR THE MINIMUM TEMPERATURES SPECIFIED BY NCDOT.

2. CONCRETE NOTES

- 2.1. THE DIMENSIONS SHALL BE THOSE SHOWN ON THE DRAWINGS. THE CONCRETE MIX SHALL BE 4000 PSI AT 28 DAYS MADE WITH TYPE I OR TYPE II CEMENT, PER ASTM C 150, AND AGGREGATES MEETING NCDOT REQUIREMENTS. SLUMP FOR SLIP FORMING SHALL BE 1 INCH +/- 1/2 INCH AND FOR FORMED CONCRETE THE SLUMP SHALL BE 3 INCH +/- 1 INCH. AIR ENTRAINMENT MIXTURE SHALL MEET THE REQUIREMENTS OF ASTM C 260 4% +/- 1 1/2% FOR SLIP FORM WORK AND 6% +/- 1 1/2% FOR FORMED AND PLACED CONCRETE. WATER REDUCING AGENT SHALL CONFORM TO ASTM C 494, TYPE A. CURING COMPOUNDS SHALL CONFORM TO ASTM C309, TYPE I, CLASS A MOISTURE LOSS OF NOT MORE THAN .055 GR/SQ CM WHEN APPLIED AT 200 SQ FT PER GALLON.
2.2. SIDEWALKS, GUTTERS AND CURBS SHALL BE PLACED ON COMPACTED SUBBASE, CONSISTENT WITH THE PAVEMENT SUBBASE, AS SHOWN ON THE DRAWINGS. WHEN SUBBASE DETAILS ARE MISSING AND NO AGENCY HAS JURISDICTION USE THE FOLLOWING: SIDEWALKS AND GUTTERS SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF COMPACTED SUBBASE AND CURBS SHALL BE PLACED ON A MINIMUM OF 4 INCHES OF COMPACTED SUBBASE.
2.3. ALL FORMING, PLACEMENT, MATERIALS AND CURING SHALL CONFORM TO THE LATEST ADDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ALL SIMILAR NCDOT REQUIREMENTS.
2.4. REINFORCING SHALL BE IN ACCORDANCE WITH THAT SPECIFIED ON THE DRAWINGS AND THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICES". REINFORCING STEEL SHALL BE ASTM A 615, GRADE 60, DEFORMED, WELDED WIRE FABRIC SHALL BE ASTM A 185, WELDED WIRE STEEL FABRIC.
2.5. SIDEWALKS AND GUTTERS SHALL HAVE A BROOM FINISH PERPENDICULAR TO FLOW WITH A PICTURE FRAME EDGE JOINT ALL THE WAY AROUND. CURBS SHALL HAVE A SMOOTH FINISH OR LIGHT RUB FINISH, BUT CONSISTENT THROUGH OUT THE PROJECT.
2.6. EXPANSION JOINTS SHALL BE PLACED EVERY 50 FEET AND AT ADJOINING STRUCTURES SUCH AS WALLS, MANHOLES AND VAULTS. EXPANSION JOINT MATERIAL SHALL BE PREMOLDED, 1/2 INCH MATERIAL WITH 1/2 INCH CAP IN ACCORDANCE WITH ASTM D1751. AFTER CONCRETE HAS SET, THE CAP SHOULD BE REMOVED AND VOID FILLED WITH WATERPROOF JOINT FILLER. CURB AND GUTTER SHALL BE CUT OR TOOL JOINTED TO 1/3 THE DEPTH EVERY 10 FEET. SIDEWALKS SHOULD HAVE TOOLED OR CUT JOINTS TO 1/3 THE DEPTH IN SQUARES OR AS CLOSE TO SQUARE AS POSSIBLE NOT EXCEEDING 5FT X5FT.

3. PAVEMENT & STRUCTURAL SUBBASE

- 3.1. THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS. IF NO REFERENCE IS MADE ON THE DRAWINGS OR DETAILS TO THE TYPE OF SUBBASE REQUIRED THE FOLLOWING SHALL BE USED. THE SOURCE OF THE MATERIAL SHALL BE ONE APPROVED FOR USE BY NCDOT. THE MATERIAL SHALL BE A CRUSHED STONE CONFORMING TO AASHTO M 147-65 (1980 OR LATEST REVISION), GRADE A. GRAVEL OR OTHER MATERIALS CAN ONLY BE SUBSTITUTED FOR CRUSH STONE WHEN APPROVED IN WRITING BY THE OWNER AND ENGINEER. MATERIAL SUPPLIED FOR USE AS SUBBASE SHALL HAVE 100% PASSING THE 2 INCH SIEVE, 30% TO 65% PASSING THE 3/8 INCH SIEVE, 25% TO 55% PASSING THE NO. 4 SIEVE, 15% TO 40% PASSING THE NO. 40 SIEVE AND 2% TO 10% PASSING THE NO. 200 SIEVE.
3.2. SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE SOILS REPORT. IF NOT STATED, THE COMPACTION REQUIREMENT SHALL BE 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR).
3.3. FINAL GRADING OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS FOR THICKNESS OF 8 INCHES OR GREATER AND +/- 1/2 INCH FOR THICKNESS LESS THAN 8 INCHES.
3.4. THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADING AND COMPACTION AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER THE EARTHWORK NOTES ON THE GRADING AND DRAINAGE PLAN.
3.5. THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER THE EARTHWORK NOTES ON THE GRADING AND DRAINAGE PLAN.
3.6. IF REQUIRED, STABILIZING FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "MODULUS (LOAD AT 10% ELONGATION) =115LB PER ASTM D1682-64", "GRAB TENSILE STRENGTH 200LB PER ASTM D 1682-64", "MULLEN BURST STRENGTH = 400PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 115LB PER ASTM D1117-80", "COEFFICIENT OF PERMEABILITY K CM/SEC = .015 PER ASTM D 4491-85", "WATER FLOW RATE GPM/SF= 60 PER ASTM D 4491-85". WHEN STABILIZATION FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
3.7. IF REQUIRED, FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "GRAB TENSILE ELONGATION =50% PER ASTM D1682-64", "GRAB TENSILE STRENGTH 70LB PER ASTM D 1682-64", "MULLEN BURST STRENGTH = 200PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 35LB PER ASTM D1117-80", "COEFFICIENT OF PERMEABILITY K CM/SEC = .2 PER ASTM D 4491-85", "WATER FLOW RATE GPM/SF= 180 PER ASTM D 4491-85". WHEN FILTER FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.
4. TRAFFIC SIGNAGE & PAVEMENT MARKINGS
4.1. PAVEMENT MARKINGS SHALL BE THE TYPE, COLOR, SIZE AND LOCATIONS SHOWN ON THE PLANS. IF THE INFORMATION ON THE PLANS IS NOT COMPLETE AND AUTHORITY HAVING JURISDICTION DOES NOT HAVE REQUIREMENTS REGARDING THIS USE THE FOLLOWING. PAINT SHALL BE SUPPLIED IN ACCORDANCE WITH AASHTO: M 248 LATEST ADDITION. COLORS SHALL BE AS FOLLOWS (YELLOW- PARKING STALLS, HANDICAP PARKING AND CHARACTERS, PARKING ISLANDS, TRAFFIC CONTROL LETTERING AND CHARACTERS AND FIRE LANES) (WHITE - STOP BARS, PEDESTRIAN CROSSINGS AND STOP LETTERING).
4.2. THE PAVEMENT SHALL BE CLEAN AND FREE OF DIRT, DUST, MOISTURE, OILS AND OTHER FOREIGN MATERIALS. ANY OLD PAVEMENT MARKINGS SHALL BE REMOVED UNLESS PAINTS ARE COMPATIBLE AND OVERLAY IDENTICALLY. THE SURFACE OF THE PAVEMENT PRIOR APPLICATION SHALL BE 45 DEGREES F AND RISING UNLESS MANUFACTURE'S RECOMMENDATIONS ARE GREATER.
4.3. THE SIGNAGE SHALL BE THE TYPE AND LOCATED PER THE DRAWINGS. THE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL HIGHWAY, COUNTY HIGHWAY AND NCDOT. IF LOCAL, COUNTY OR STATE CODES DO NOT EXIST USE AASHTO: M268.
4.4. POSTS, BRACKETS AND FRAMES SHALL BE STEEL PER ASTM A-36, A-242, A-441, A-572, A588, GRADE 50 AND HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL CUTTING, DRILLING OR OTHER POLE MODIFICATIONS SHALL BE PAINTED WITH GALVANIZING PAINT. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL.
4.5. POST HOLES SHALL BE A MINIMUM OF FOUR FEET DEEP AND 12 INCHES IN DIAMETER UNLESS POOR SOILS OR FROST CONDITIONS REQUIRE GREATER DEPTH. SIGN POSTS SHALL BE KEPT PLUMB, 6 INCHES OFF BOTTOM AND CENTERED AS 3000 PSI CONCRETE IS PLACED AROUND THE POST. THE OVERALL SIGN AND POST SYSTEM SHOULD BE ABLE TO WITHSTAND 33 POUNDS PER SQUARE FOOT.
4.6. CONTRACTORS CAN PLACE SIGNS ON POSTS AFTER CONCRETE HAS CURED FOR SEVEN DAYS OR 3/4 STRENGTH IS ACHIEVED.
4.7. ALL HANDICAP STRIPING AND SIGNAGE SHALL MEET THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. FIRE LANE STRIPING AND SIGNAGE SHALL MEET THE REQUIREMENTS OF THE LOCAL BUILDING INSPECTOR AND FIRE DEPARTMENT.

GENERAL CONSTRUCTION NOTES

- 1. THE TERM OF OWNER AS USED IN THESE SPECIFICATIONS AND NOTES SHALL INCLUDE THE OWNER OF THE PROPERTY, THE COMPANY OR PARTY THAT HIRED THE CONTRACTOR, THE COMPANY OR PARTY THAT SIGNED THE CONTRACT FOR THIS WORK AND THE AGENTS OF EACH. THE OWNER'S REPRESENTATIVE SHALL BE THE INDIVIDUAL OR PARTY ASSIGNED BY THE OWNER TO BE THE OWNER'S REPRESENTATIVE.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY PERMITS, CONNECTION PERMITS, FEES, INSPECTIONS AND RECORD KEEPING REQUIRED BY ALL MUNICIPAL, UTILITY, HEALTH, ENVIRONMENTAL, STATE OR FEDERAL AGENCIES THAT MAY HAVE JURISDICTION. FURTHERMORE, THE CONTRACTOR SHALL BE RESPONSIBLE TO MEET OR EXCEED ALL REQUIREMENTS OF THE AGENCIES OR AUTHORITIES HAVING JURISDICTION OVER HIS WORK. ALL CONFLICTS IN REQUIREMENTS OF DIFFERENT AGENCIES, AUTHORITIES AND/OR THE DESIGN SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE AND MAINTAIN THE PROPERTY AND PROJECT LIMITS THROUGHOUT THE PROJECT. ALL CONFLICTS BETWEEN THE DESIGN AND THE PROJECT/PROPERTY LIMITS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING. UNLESS DESCRIBED IN THE CONTRACT DOCUMENTS OR SHOWN ON THE DRAWINGS THE OWNER HAS NOT SECURED ANY RIGHT-OF-WAYS, EASEMENTS OR AGREEMENTS WITH OTHER PROPERTY OWNERS OR PROPERTY USERS. THEREFORE, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SECURE AND MAINTAIN ANY TEMPORARY RIGHT-OF-WAYS, EASEMENTS, PERMITS OR AGREEMENTS HE MAY NEED TO PERFORM HIS WORK. ALL SUCH AGREEMENTS SHALL HOLD THE OWNER, ENGINEER AND HIS AGENTS HARMLESS AND THE RESPONSIBILITY OF THE CONTRACTOR TO BEAR ALL COSTS. THE CONTRACTOR SHALL COPY THE OWNER ON RELEASES OF ALL AGREEMENTS PRIOR TO FINAL PAYMENT BY THE OWNER TO THE CONTRACTOR.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SURVEY, LAYOUT AND RECORD DRAWINGS FOR THIS CONTRACT. ANY CONFLICTS IN SURVEY/LAYOUT AND THE DESIGN OR AGENCIES REQUIREMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROTECT AND SAFEGUARD ALL EXISTING SURVEY MONUMENTS, CONTROL AND TIE-DOWNS. THE CONTRACTOR SHALL PAY ALL COSTS TO REPAIR OR REPLACED DAMAGED SURVEY MONUMENTS, CONTROL AND TIE-DOWNS.
5. NO CHANGES TO THE DESIGN OR MATERIALS SPECIFIED MAY BE MADE WITHOUT WRITTEN AUTHORIZATION BY THE ENGINEER OR IN THE CASE OF UTILITIES OR ROAD WORK TO BE DEDICATED, THE AUTHORITY RECEIVING DEDICATION. AT THE END OF THE CONTRACT, THE CONTRACTOR SHALL PROVIDE TO THE OWNER A RECORD SET OF DRAWING REFLECTING ALL CHANGES MADE BY THE CONTRACTOR DURING CONSTRUCTION.
6. EROSION CONTROL IS NECESSARY WHENEVER SEDIMENT, DUST, EROSION, OR CONTAMINATED RUN-OFF MAY OCCUR. THE CONTRACTOR SHALL BE RESPONSIBLE TO PLACE AND MAINTAIN WHATEVER EROSION CONTROL OR RUN-OFF PROTECTION IS REQUIRED TO PROTECT HIS WORK, THE WORK OF OTHERS, THE PROJECT, ADJACENT PROPERTIES AND THE HEALTH AND WELL BEING OF THE WORKERS, PUBLIC AND SURROUNDING NATURAL RESOURCES. THEY SHALL BE FAMILIAR WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS REGARDING EROSION AND RUN-OFF CONTROL.
7. THE CONTRACTOR SHALL BE FAMILIAR WITH THE PROJECT SITE AND ALL ADJACENT PEDESTRIAN, TRAFFIC AND BUSINESS USES. THE CONTRACTOR SHALL TAKE WHATEVER PRECAUTIONS AND STEPS NECESSARY TO MAINTAIN SAFETY AND OPERATION OF THESE USES IN ACCORDANCE WITH FEDERAL, STATE, COUNTY AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND DAMAGES CAUSED FROM HIS FAILURE TO TAKE PROPER AND ADEQUATE PRECAUTIONS. THE CONTRACTOR SHALL BE FAMILIAR WITH ALL FEDERAL, STATE AND LOCAL REQUIREMENTS REGARDING THESE USES.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COSTS AND DELAYS ASSOCIATED WITH WEATHER, GROUNDWATER, AND OTHER OCCURRENCES THAT COULD BE EXPECTED OR ARE COMMON WITH THIS TYPE WORK. THE CONTRACTOR SHALL REVIEW ALL PERTINENT DOCUMENTS INCLUDING SOILS REPORTS, SOILS BORINGS AND OTHER SOIL OR SITE DATA.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO SAVE AND PROTECT HIS WORK THROUGH OUT THE CONTRACT. ANY DAMAGES REQUIRING REPAIRS OR REPLACEMENT SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
10. WHEN WORK IS DONE WITHIN A ROAD, UTILITY OR PRIVATE EASEMENT, RIGHT-OF-WAY OR OTHER PROPERTY AGREEMENT THE CONTRACTOR SHALL DO ALL WORK WITHIN THAT AREA PER THE AUTHORITY HAVING JURISDICTION.
11. WHEN SEPARATE SITE AND BUILDING CONTRACTS ARE PERFORMED THE SITE CONTRACTOR SHALL BE RESPONSIBLE TO BRING UTILITIES TO WITHIN 5 FEET OF BUILDING FACE UNLESS NOTED OTHERWISE ON DRAWINGS OR CONTRACT DOCUMENTS.
12. ALL UTILITIES ARE SHOWN PER SURFACE SURVEYS AND/OR RECORD MAPS AND MAY VARY FROM ACTUAL IN FIELD LOCATIONS. THE CONTRACTOR IS RESPONSIBLE FOR ALL UTILITY STAKE OUTS AND LOCATING UTILITIES PRIOR TO COMMENCING WORK. THE CONTRACTOR SHALL CALL THE NORTH CAROLINA ONE-CALL-CENTER AT LEAST 48 HOURS PRIOR TO BEGINNING WORK. ANY DAMAGE TO UTILITIES DUE TO IMPROPER STAKE OUT, LACK OF STAKE OUT OR THE FAILURE TO VERIFY DIFFERENCES BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR, REPLACE OR PAY DAMAGES AT NO EXPENSE TO THE CONTRACTOR.

TERMITE CONTROL NOTES

- 1. SUBMIT MANUFACTURER'S STANDARD WARRANTY. INCLUDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE MATERIALS. WARRANTY PERIOD SHALL BE 5 YEARS.
2. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, AND STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
3. SOIL TREATMENT MATERIALS SHALL BEAR FEDERAL REGISTRATION NUMBER OF U.S. ENVIRONMENTAL PROTECTION AGENCY AND ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION. IF ACCEPTABLE, PRODUCTS MAY INCLUDE CHLOROPYRIFOS, PERMATHRIN, CYPERMETHRINE, FENVALERATE, ISOFENPHOSE.
4. TREAT SOIL IN STRICT COMPLIANCE WITH NATIONAL PEST CONTROL ASSOCIATION STANDARDS AND WITH MANUFACTURER'S PRINTED INSTRUCTIONS AND RECOMMENDATIONS.
5. TREAT AREAS UNDER FLOOR SLABS PRIOR TO PLACEMENT OF CONCRETE IF POSSIBLE TO AVOID DRILLING. TREAT AREAS OUTSIDE FOUNDATION WALLS AFTER EXCAVATION, FILLING AND GRADING ARE COMPLETE. DO NOT APPLY TREATMENT TO FROZEN OR EXCESSIVELY WET SOILS.
6. POST SIGNS AND OTHER WARNINGS INDICATING THAT SOIL POISONING HAS BEEN APPLIED. PROTECT PERSONS AND PROPERTY FROM INJURY OR DAMAGE FROM SOIL TREATMENT WORK.



3500 GATEWAY CENTRE BLVD., SUITE 200
MORRISVILLE, NC 27560
PHONE: 919-755-5011
NC LICENSE # F-1143

REVISIONS

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PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING
0 1"
IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

PROPERTY OWNER CERTIFICATION:

I HEREBY CERTIFY THAT I AM THE CURRENT OWNER OF THE PROPERTY AND THAT UPON RECEIPT OF "AUTHORIZATION-TO-CONSTRUCT", ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE PERFORMED IN ACCORDANCE WITH THIS PLAN AND THE APPLICABLE ORDINANCES AND RULES OF THE CITY OF WILMINGTON, THE STATE OF NORTH CAROLINA, AND THE FEDERAL GOVERNMENT AND ITS AGENCIES WHICH ARE HEREBY MADE PART OF THIS PLAN. AS THE OWNER, I (WE) ACCEPT FULL RESPONSIBILITY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE PROPOSED FACILITIES. I (WE) WILL NOT ATTEMPT TO TRANSFER THIS RESPONSIBILITY WITHOUT THE WRITTEN AUTHORIZATION OF THE CITY OF WILMINGTON.

SIGNATURE:
PRINT NAME AND TITLE:
DATE:

DESIGNER'S PLAN CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST CITY OF WILMINGTON ORDINANCES AND STORMWATER DESIGN MANUAL.

SIGNATURE: Ryan Parker
PRINT NAME AND TITLE: Ryan Parker, Staff Professional II
DATE: June 14, 2016
REGISTRATION NUMBER: 042102

Professional Engineer Seal for Ryan A. Parker, State of North Carolina, License No. 042102, dated 06/14/16.

ORIGINAL DRAWING SIZE IS 24 x 36

GENERAL NOTES

ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412



ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

SITE PLANS

Table with 2 columns: Field Name, Value. Fields include PROJECT NO. (20170421), ISSUE DATE (06-14-2016), CURRENT REVISION (0), DESIGNED BY (RAP), DRAWN BY (GLT), CHECKED BY (RAP), APPROVED BY (JBC). SHEET 3 of 27.

C-3

CAD FILE: W:\Cadd\2016\170421_001A_Wilmington_College_Road\CAD\Drawings\Aldi_Wilmington_College_Road_General_Notes.dwg LAYOUT: 3 GENERAL NOTES PLOTTED: 6/14/2016 11:46 AM BY: jpm@kleinfelder.com

UTILITY NOTES

1. SANITARY SEWER SYSTEM

- 1.1. THE SANITARY SEWER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL SANITARY SEWER AUTHORITY FOR THIS PROJECT IS CAPE FEAR PUBLIC UTILITY AUTHORITY.
1.2. WHENEVER CLEAN STONE IS USED FOR BEDDING, BACKFILL OR ENCASUREMENT FILTER FABRIC SHALL BE PLACED BETWEEN THE NATURAL AND BACKFILL SOILS TO PREVENT MIGRATION OF FINES INTO THE VOIDS, AS NECESSARY. ANTI-SEEP COLLARS SHALL ALSO BE INCORPORATED AT THE PROJECT LIMIT AND ALONG THE PIPE TO PREVENT WATER FLOW WITHIN THE STONE BEDDING OR ENCASEMENT.
1.3. ALL SANITARY SEWER MATERIAL SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR USE THE FOLLOWING:
1.3.1. UNLESS OTHERWISE NOTED SANITARY PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35, WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BED 6 INCHES BELOW AND UP HALF ITS DIAMETER WITH CLEAN STONE OF A UNIFORM MIX OF GRAVEL OR CRUSH STONE 100% PASSING THE 1.0" SIEVE AND 10% TO 3% PASSING THE 200 SIEVE. THE MIX SHALL BE SUPPLEMENTED AS NEEDED TO REMOVE VOIDS. INCORPORATE FILTER FABRIC AROUND BEDDING OR CRADLE STONE IF GROUND WATER, SILTS, OR SANDS ARE ENCOUNTERED.
1.3.2. FORCE MAIN PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 2241, SDR 21 OR LOWER IF PRESSURES ARE HIGH IN SYSTEM WITH GASKETS PER ASTM D 3139, AND ELASTOMERIC SEAL. THE PIPE SHALL BE ENCASED IN A RUN OF CRUSH STONE OR GRAVEL MATERIAL WITH 100% PASSING THE 1.0" SIEVE AND 10% TO 3% PASSING THE 200 SIEVE. THE MIX SHALL BE SUPPLEMENTED AS NEEDED TO REMOVE VOIDS. INCORPORATE FILTER FABRIC AROUND BEDDING OR CRADLE STONE IF GROUND WATER, SILTS, OR SANDS ARE ENCOUNTERED.
1.3.3. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443 AND MORTARED WATER TIGHT WITH A WATERPROOF/PLUG MORTAR. THE INVERT SHALL BE MADE WITH CONCRETE OR 1/2 ROUND SECTION OF PIPE. PIPE JOINTS SHALL BE A PRESS WEDGE OR CAST IN PLACE BOOT. BOTH WILL HAVE ADDITIONAL VOIDS FILLED WITH WATERPROOF/PLUG MORTAR. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT. EXTERIOR MANHOLES SHALL BE COATED WITH A SEAL COAT ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
1.3.4. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT. CLEANOUTS SHOULD BE NO MORE THAN 90 FEET APART ON LATERALS.
1.3.5. MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "SANITARY" CAST INTO IT. THE MINIMUM SIZE WILL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
1.4. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
1.5. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
1.6. ALL TAPS TO MAIN LINES SHALL BE MADE WITH SADDLES WHEN THE TAP IS 1/2 THE DIAMETER OR LESS OF THE EXISTING PIPE, BUT MADE WITH A SLEEVE WHEN THE TAP IS GREATER THAN 1/2 THE DIAMETER OR EQUAL TO THE EXISTING PIPE. IF CONNECTIONS ARE REQUIRED TO EQUAL SIZE PIPES OF 8 INCHES OR GREATER, A MANHOLE SHOULD BE INSTALLED OVER THE CONNECTION POINT AND INVERTS FORMED. WHEN CONNECTING TO AN EXISTING MANHOLE THE CONNECTING PIPE HOLE SHALL BE CORED AND A PRESS WEDGE INSTALLED. THE CONNECTION SHALL BE MORTARED UP WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE LIVE SYSTEM, WHILE A NEW INVERT IS FORMED.
1.7. SANITARY MANHOLES SHALL BE VISUALLY LAMPED AFTER BACKFILL TO VERIFY ALIGNMENT, CLEANLINESS AND THAT THERE IS NO DAMAGE TO THE SYSTEM. AFTER THE SYSTEM HAS BEEN BACKFILLED FOR 30 DAYS, THE SYSTEM WILL BE RELAMPED AND MAY BE TESTED WITH A MANDREL SIZED AT 95% OF THE INTENDED INSIDE DIAMETER.
1.8. GRAVITY SYSTEMS SHALL BE AIR TESTED BETWEEN MANHOLES TO 3.5 PSI FOR 5 MINUTES PER ASTM F 1417 FOR PLASTIC PIPES.
1.9. MANHOLES SHALL BE TESTED SEPARATELY FOR LEAKAGE OR INFILTRATION USING ASTM C 969. THE ALLOWED LEAKAGE = 0.1 GALLONS/((FEET OF DIAMETER)(FEET OF HEAD)(# OF HOURS)) AND THE TEST SHALL RUN FOR 24 HOURS.
1.10. WHEN NECESSARY TO VERIFY SYSTEM INTEGRITY THE ENTIRE SYSTEM MAY BE TESTED FOR INFILTRATION AND EXFILTRATION USING ASTM C 969. THE SYSTEM SHALL BE BROKEN UP INTO SECTIONS WHEN NECESSARY TO CONSIDER GROUNDWATER DEPTH, LENGTH AND ELEVATION DIFFERENCES.
1.11. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACED THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
1.12. AFTER ALL TESTING IS COMPLETE AND BEFORE THE SYSTEM IS TURNED OVER TO THE AUTHORITY HAVING JURISDICTION THE SYSTEM SHALL BE CHECKED TO VERIFY IT IS CLEAN AND FREE OF DIRT, DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
1.13. WATER STOP OR SEEPAGE COLLARS SHALL BE INCORPORATED AT PROJECT LIMIT AT ALL ELEVATION CHANGES OF 1' UNLESS SPECIFIC LOCATIONS ARE SHOWN ON PLANS.

2. WATER SYSTEM & SERVICES

- 2.1. THE WATER SYSTEMS AND SERVICES SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL WATER AUTHORITY FOR THIS PROJECT IS CAPE FEAR PUBLIC UTILITY AUTHORITY AND THE HEALTH DEPARTMENT IS NEW HANOVER COUNTY.
2.2. ALL WATER PIPING, FITTINGS AND APPURTENANCES SHALL BE PLACED A MINIMUM OF 6 INCHES BELOW FROSTLINE OR 5 FEET WHICH EVER IS GREATER. PIPE SIZES 4 INCHES AND UP SHALL BE DUCTILE IRON OR POLYVINYL CHLORIDE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE DUCTILE IRON). PIPE SIZES BELOW 4 INCHES SHALL BE COPPER OR POLYETHYLENE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE COPPER).
2.3. THE MINIMUM SEPARATION BETWEEN WATER SERVICES AND SEWER LINES SHALL BE 18 INCHES MEASURED VERTICALLY FROM OUTSIDE TO OUTSIDE OF PIPE AT THE CROSSING. A STANDARD LENGTH OF WATER PIPE SHALL BE CENTER AT THE CROSSING TO MAXIMIZE THE DISTANCE BETWEEN THE CROSSING AND THE NEAREST WATER SERVICE PIPE JOINT. WHEN THE WATER SERVICE RUNS UNDER THE SEWER LINE, A GRAVEL OR CRUSH STONE BACKFILL MEETING THE REQUIREMENTS OF SUBBASE SHALL BE PLACED AND COMPACTED AROUND THE WATER PIPE UP HALF THE DIAMETER OF THE SEWER PIPE TO PROVIDE ADEQUATE SUPPORT TO THE SEWER LINE. WATER SERVICES AND SEWER LINES RUNNING PARALLEL SHALL HAVE A MINIMUM SEPARATION OF 10 FEET MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE.
2.4. IF THE AUTHORITY HAVING JURISDICTION DOES NOT HAVE SPECIFIC REQUIREMENTS REGARDING MATERIALS AND PLACEMENT THE FOLLOWING WILL BE USED:
2.4.1. DUCTILE IRON PIPE SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C151, (6 INCH DIAMETER AND GREATER SHALL BE CLASS 50) AND (6 INCHES AND SMALLER SHALL BE CLASS 51). DUCTILE IRON PIPE SHALL BE LINED WITH A CEMENT MORTAR AND SEAL COATED IN ACCORDANCE WITH AWWA C104. GASKETS SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C111. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE WITH AWWA C153 COMPACT FITTINGS WITH A PRESSURE RATING OF 350 PSI.
2.4.2. STANDARD DUCTILE IRON OR CAST IRON FITTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH AWWA C110 WITH A PRESSURE RATING OF 250 PSI. THE LINING AND GASKETS FOR THE FITTING SHALL MEET THE SAME REQUIREMENTS AS THE PIPE. PLASTIC WRAP PIPES IN ACCORDANCE WITH AWWA C105 AND TAR COAT ALL FITTING BOLTS WHEN EVER SOILS ARE PRIMARILY CLAY OR NOT PH BALANCED. SEE SOILS REPORT FOR SOILS TYPE AND RECOMMENDATIONS.
2.4.3. PVC (POLYVINYL CHLORIDE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C900 FOR PIPE 4 INCHES OR GREATER AND ASTM D 1785, SCHEDULE 40, GASKETS PER ASTM F 477- ELASTOMERIC SEAL, SOLVENT CEMENT PER ASTM D 2564 FOR PIPES SMALLER THAN 4 INCHES. TEN GAUGE COPPER TRACER WIRE SHALL BE PLACED WITH ALL PIPE.
2.4.4. THRUST RESTRAINTS SHALL BE USED AT ALL FITTINGS, PLUGS AND APPURTENANCES THAT CAUSE A CHANGE IN DIRECTION, FLOW OR ARE SUBJECT TO THRUST OR HAMMERING BY WATER FLOW. THRUST RESTRAINTS WILL INCLUDE CONCRETE THRUST BLOCKS (3000 PSI), ANCHORING JOINTS AND TIE RODS. CONCRETE THRUST BLOCKS SHALL BE USED UNLESS SPACE, ACCESS OR MAINTENANCE RESTRAINTS PROHIBIT THEIR USE.
2.4.5. COPPER WATER PIPE SHALL BE SUPPLIED IN ACCORDANCE WITH ASTM B 88- TYPE K, SEAMLESS WITH FITTINGS PER AWWA C800.
2.4.6. PE (POLYETHYLENE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C901 AND ASTM D2737.
2.4.7. GATE VALVES SHALL BE NONRISING STEM, DOUBLE DISC, BRONZE DISC RESILIENT SEATED, CAST IRON OR DUCTILE IRON BODY AND BONNET IN ACCORDANCE WITH AWWA C509 AND PRESSURE RATED FOR 250 PSI. TEN GAUGE COPPER TRACER WIRE WILL BE PLACED WITH ALL PIPES.
2.4.8. VALVE BOX SHALL BE CAST IRON WITH A BASE COMPATIBLE WITH VALVE, 6 INCHES IN DIAMETER, SCREW TYPE EXTENSION AT TOP AND A COVER THAT READS "WATER".
2.4.9. CURB STOPS SHALL HAVE A BRONZE BODY, GROUND KEY PLUG OR BALL WITH WIDE TEE HEAD. THE CURB STOP SHALL BE COMPATIBLE WITH ADJOINING PIPES. THE SERVICE BOX SHALL HAVE A TELESCOPING TOP SECTION WITH A LENGTH THAT WILL PLACE THE ADJUSTMENT CENTERED WHEN BURIED TO THE APPROPRIATE DEPTH. THE SERVICE BOX SHALL BE OF A SIZE AND TYPE THAT IS COMPATIBLE WITH THE CURB STOP. THE COVER SHALL HAVE THE LETTERING "WATER".
2.5. ALL METERS, VAULTS AND BACKFLOW SHALL MEET THE REQUIREMENTS OF THE HEALTH DEPARTMENT AND OTHER AGENCIES HAVING JURISDICTION.
2.6. FIRE HYDRANTS SHALL CONFORM TO THE REQUIREMENTS OF THE LOCAL WATER AUTHORITY, FIRE DEPARTMENT AND AWWA C502. DRAIN STONE SHALL HAVE 100% PASSING THE 1 1/2 INCH SIEVE, 90 - 100% PASSING THE 1 INCH SIEVE, 35 - 95% PASSING THE 1/2 INCH SIEVE AND 0 - 15% PASSING THE 1/4 INCH SIEVE. ALL HYDRANTS WILL INCLUDE A GATE VALVE AND BOX LOCATED AT THE HYDRANT BRANCH TO SHUT OFF THE HYDRANT LINE.
2.7. DUCTILE IRON PIPE SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C600 AND BE ENCASED IN SELECT BACKFILL WHICH WILL MEAN NO STONE OTHER MATERIAL GREATER THAN 2 INCHES IN ANY DIRECTION.
2.8. PVC, PE AND COPPER PIPE SHALL BE PLACED PER MANUFACTURES RECOMMENDATIONS AND EMBEDDED IN A 6 INCH SAND ENCASUREMENT MEASURED FROM OUTSIDE SURFACE OF THE PIPE TO THE OUTSIDE OF SAND ENCASUREMENT.
2.9. ALL BEDDING AND ENCASEMENTS SHALL BE COMPACTED WITH CARE TO ACHIEVE PROPER COMPACTION WITHOUT DAMAGING THE PIPE, FITTINGS OR APPURTENANCES.
2.10. ALL WATER MAINS FITTINGS AND VALVES SHALL BE TESTED FOR PRESSURE AND LEAKAGE IN ACCORDANCE WITH AWWA C600. TEST WATER SHALL BE POTABLE. TEST PRESSURES SHALL NOT BE LESS THAN 1.25 TIMES THE WORKING PRESSURE AT THE HIGHEST POINT AND 1.5 TIMES THE WORKING PRESSURE AT THE TESTING POINT. THE PRESSURE MAY NOT DROP MORE THAN 5 PSI DURING THE 2 HOUR TEST. LEAKAGE WILL NOT EXCEED MORE THAN ((L=(SD(P) 1/2) /133,200) WHERE "L" = ALLOWABLE LEAKAGE, IN GALLONS PER HOUR "S"= LENGTH OF PIPE TESTED, IN FEET "D"= NOMINAL DIAMETER OF PIPE, IN INCHES "P"= AVERAGE TEST PRESSURE DURING TEST, IN POUNDS PER SQUARE INCH (GAUGE) DURING THE SAME 2 HOUR DURATION.
2.11. ALL TAP AND/OR CONNECTION MATERIAL AND WORK SHALL BE DONE IN ACCORDANCE WITH AND COORDINATED WITH THE LOCAL WATER AUTHORITY AND HEALTH DEPARTMENT. WHEN THE AUTHORITY SO REQUIRES, THE TAPS AND/OR CONNECTIONS SHALL BE DONE BY THE AUTHORITY THEMSELVES AND PAID FOR BY THE CONTRACTOR.
2.12. OTHER FITTING AND APPURTENANCES NOT PART OF THE MAIN LINE TESTING SHALL BE TESTED BY VISUAL INSPECTION FOR LEAKAGE UNDER NORMAL WORKING PRESSURES.
2.13. ALL MAIN LINES AND APPROPRIATE APPURTENANCES SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C651 AND THE REQUIREMENTS OF THE APPROPRIATE HEALTH DEPARTMENT.
2.14. THE CONTRACTOR WILL COORDINATE ALL TESTING AND DISINFECTING WITH THE WATER AUTHORITY AND HEALTH DEPARTMENT. IF PROFESSIONAL ENGINEER CERTIFICATION IS REQUIRED THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST TEN DAYS PRIOR TO THE START OF WORK.

3. STORMWATER SYSTEM

- 3.1. THE STORM WATER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL STORM WATER AUTHORITY FOR THIS PROJECT IS CITY OF WILMINGTON AND THE EROSION CONTROL AND RUN-OFF AUTHORITY IS NEW HANOVER COUNTY.
3.2. STORM DESIGN INCLUDES MANY VARIABLES, SUCH AS PIPE ROUGHNESS COEFFICIENT, THAT CAN AFFECT THE ACTUAL FINAL RUN-OFF. IF NO ALTERNATIVE MATERIALS ARE LISTED ON THE UTILITY DRAWINGS NO SUBSTITUTIONS MAY BE MADE BY THE CONTRACTOR UNLESS FIRST REVIEWED AND ACCEPTED BY THE ENGINEER.
3.3. WHENEVER CLEAN STONE IS USED FOR BEDDING, BACKFILL OR ENCASEMENT FILTER FABRIC SHALL BE PLACED BETWEEN THE NATURAL AND BACKFILL SOILS TO PREVENT MIGRATION OF FINES INTO THE VOIDS, AS NECESSARY. ANTI-SEEP COLLARS SHALL ALSO BE INCORPORATED AT THE PROJECT LIMIT AND ALONG THE PIPE TO PREVENT WATER FLOW WITHIN THE STONE BEDDING OR ENCASEMENT. ANTI-SEEP COLLARS MAY NOT BE REQUIRED WHEN USING PERFORATED PIPE. ANTI-SEEP COLLARS SHALL BE INCORPORATED AT POND AND BASIN OUTLETS TO PREVENT WATER MIGRATION ALONG PIPE BEDDING OR ENCASEMENT MATERIAL.
3.4. ALL STORM MATERIAL SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR USE THE FOLLOWING:
3.4.1. STORM PIPE 12 INCHES AND UP SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP) WITH SMOOTH INTERIOR, IN ACCORDANCE WITH AASHTO M252 & M294 AND ASTM F405 & F667, WITH A MANNING FRICTION NUMBER (N) OF 0.012 OR LESS. UNLESS SOILS ARE CONSISTENTLY SAND OR SAND AND GRAVEL WITH NOT MORE THAN 15% OR LESS THAN 5% PASSING THE 200 SIEVE AND 100% PASSING THE 2 INCH SIEVE THE PIPE WILL BE ENCASED IN A UNIFORM GRAVEL WITH NOT MORE THAN 15% OR LESS THAN 5% PASSING THE 200 SIEVE AND 100% PASSING THE 2 INCH SIEVE FROM SIX INCHES BELOW TO SIX INCHES ABOVE THE OUTSIDE OF PIPE. INSTALL IN ACCORDANCE WITH ASTM F449 AND THE MANUFACTURES RECOMMENDATIONS.
3.4.2. STORM PIPE BELOW 12 INCHES SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35 WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BED 6 INCHES BELOW AND UP HALF ITS DIAMETER WITH A UNIFORM MIX OF GRAVEL OR CRUSH STONE 100% PASSING THE 1.5" SIEVE AND 10% TO 3% PASSING THE 200 SIEVE. THE MIX SHALL BE SUPPLEMENTED AS NEEDED TO REMOVE VOIDS. INCORPORATE FILTER FABRIC AROUND BEDDING OR CRADLE STONE IF GROUND WATER, SILTS, OR SANDS ARE ENCOUNTERED.
3.4.3. END SECTIONS SHALL BE THE SAME MATERIAL AS THE PRECEDING PIPE AND APPROPRIATE COLLAR.
3.4.4. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. THE MANHOLE SHALL BE SIZED TO A MINIMUM OF 2 FOOT GREATER THAN THE LARGEST DIAMETER PIPE ENTERING OR EXISTING. INCREASE SIZE OF MANHOLE IF IN THE SAME HORIZONTAL PLANE THERE IS TWO AREAS WHERE THE AREA BETWEEN TWO PIPES IS LESS THAN 8 INCHES OR HALVE OR THE CIRCUMFERENCE IS SUPPORTED BY LESS THAN 1/2 OF THE DIAMETER OF THE MANHOLE. INVERTS SHALL BE SMOOTH CAST IN PLACE CONCRETE. UNLESS OTHERWISE INDICATED, 4 INCH WEEPS COVER WITH FILTER FABRIC AND 2 INCH STONE SHALL BE PROVIDED AT THE CROWN OF PIPES AND AT SUBGRADE ELEVATION. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT.
3.4.5. INLETS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES.
3.4.6. GRATES SHALL BE RETICULINE AND GALVANIZED PER ASTM A123. MINIMUM GRATE OPENING SIZE WILL BE 24 INCHES X 24 INCHES AND DESIGN FOR A MINIMUM OF H-20 LOADING.
3.4.7. MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "STORM" CAST INTO IT. THE MINIMUM SIZE WILL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
3.4.8. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT
3.5. RIP RAP SHALL BE PLACED AT THE END OF ALL OUTFALL STRUCTURES. UNLESS OTHERWISE NOTED, THE RIP RAP SHALL BE A CLEAN DURABLE STONE WITH AVERAGE WEIGHTS OF 100 POUNDS. THE RIP RAP SHALL BE PLACED ON 1 FOOT OF GRAVEL SUBBASE OR STABILIZING FABRIC.
3.6. UNLESS OTHERWISE NOTED, TRENCH DRAINS SHALL BE MADE WITH 4 INCH PERFORATED CORRUGATED POLYETHYLENE PIPE ENCASED IN CLEAN STONE SIZED BETWEEN 2 INCH AND 1/2 INCH AND THEN WRAPPED IN FILTER FABRIC. OUTSIDE DIMENSIONS OF THE TRENCH DRAIN WILL NOT BE LESS THAN 1 FOOT.
3.7. ALL JOINTS BETWEEN PIPES AND PRECAST STRUCTURES SHALL BE MORTARED TIGHT.
3.8. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
3.9. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
3.10. ANY PIPES FOUND WITH DIAMETER DEFLECTIONS GREATER THAN 5% OF THE SPECIFIED PIPE DIAMETER WILL BE REPAIRED OR REPLACED. ANY ALIGNMENT DIFFERENTIALS GREATER THAN 5% OF THE DIAMETER OF THE PIPE WILL BE CORRECTED OR REPLACED.
3.11. ANY CLEANING, REPAIRS OR REPLACEMENT REQUIRED, DUE TO FAILURE OF TESTING OR POOR WORKMANSHIP, SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CONTRACT.
3.12. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACED THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT.



3500 GATEWAY CENTRE BLVD., SUITE 200
MORRISVILLE, NC 27560
PHONE: 919-755-5011
NC LICENSE # F-1143

REVISIONS

Table with 5 columns: REV, DESCRIPTION, DSN DWN, CHK APP, DATE. The table is currently empty.

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING
0 1"
IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 24 x 36

GENERAL NOTES

ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412



ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

SITE PLANS

Table with 2 columns: FIELD, VALUE. Fields include PROJECT NO., ISSUE DATE, CURRENT REVISION, DESIGNED BY, DRAWN BY, CHECKED BY, APPROVED BY. Values include 20170421, 06-14-2016, 0, RAP, GLT, RAP, JBC.

I HEREBY CERTIFY THAT I AM THE CURRENT OWNER OF THE PROPERTY AND THAT UPON RECEIPT OF "AUTHORIZATION-TO-CONSTRUCT", ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE PERFORMED IN ACCORDANCE WITH THIS PLAN AND THE APPLICABLE ORDINANCES AND RULES OF THE CITY OF WILMINGTON, THE STATE OF NORTH CAROLINA, AND THE FEDERAL GOVERNMENT AND ITS AGENCIES WHICH ARE HEREBY MADE PART OF THIS PLAN. AS THE OWNER, I (WE) ACCEPT FULL RESPONSIBILITY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE PROPOSED FACILITIES. I (WE) WILL NOT ATTEMPT TO TRANSFER THIS RESPONSIBILITY WITHOUT THE WRITTEN AUTHORIZATION OF THE CITY OF WILMINGTON.

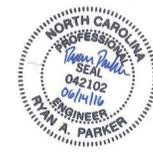
SIGNATURE:
PRINT NAME AND TITLE:
DATE:

DESIGNER'S PLAN CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST CITY OF WILMINGTON ORDINANCES AND STORMWATER DESIGN MANUAL.

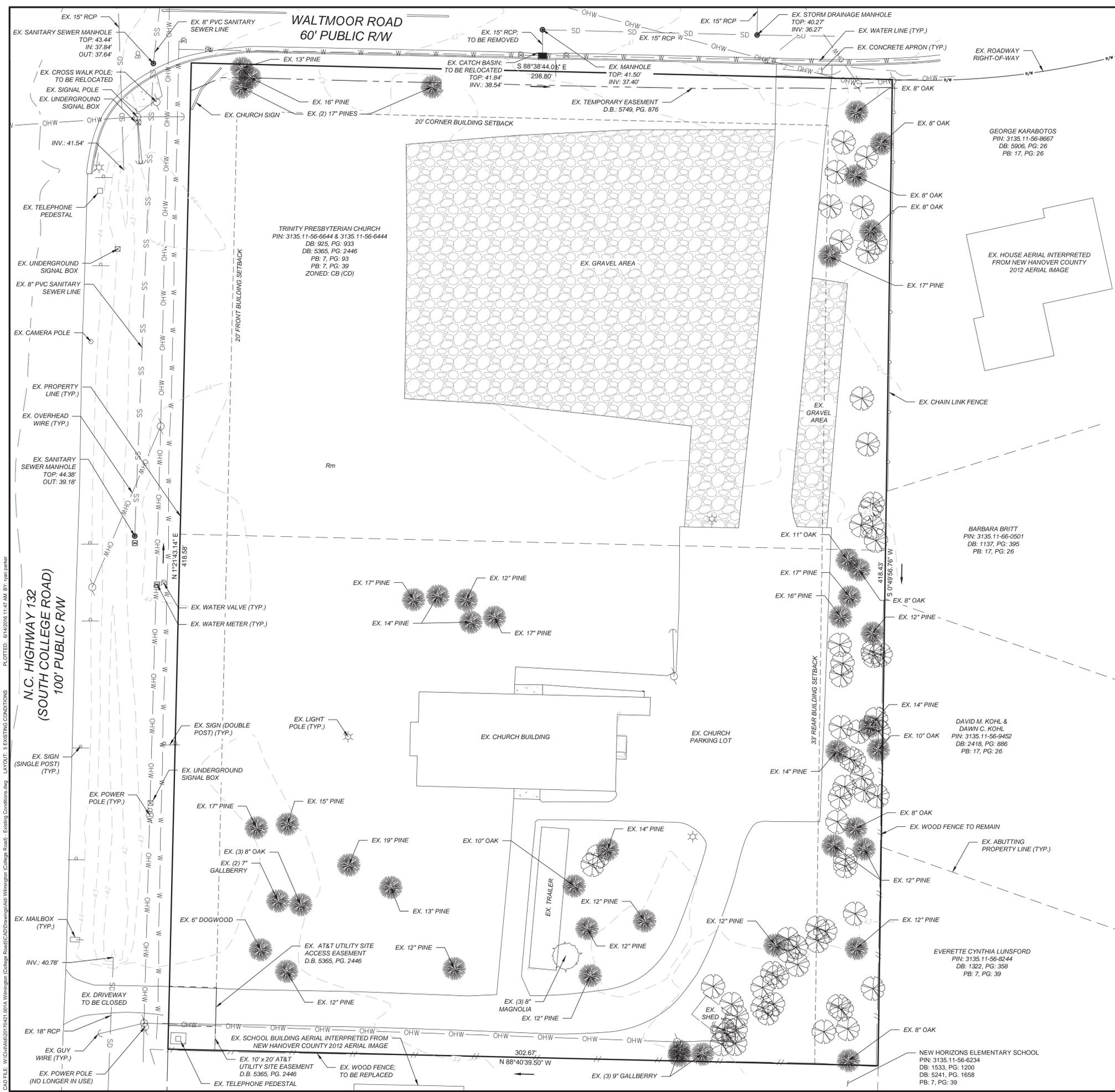
SIGNATURE: Ryan Parker
PRINT NAME AND TITLE: Ryan Parker, Staff Professional II
DATE: June 14, 2016
REGISTRATION NUMBER: 042102

SEAL



CAD FILE: W:\Cadd\2017\2017-01-09\14-Wilmington-Collage-Road\CAD\Drawings\Utility\Utility-General-Notes.dwg LA\OUT - GENERAL NOTES PLOTTED: 6/14/2016 11:48 AM BY: ryan.parker

CADD FILE: W:\CADD\2017\0421_001A_Wilmington_College_Road\BentCAD\Drawings\Add\Wilmington_College_Road_Existing_Conditions.dwg PLOTTED: 6/14/2016 11:47 AM BY: jpm parker



LEGEND

	EXISTING MAJOR CONTOUR (5)
	EXISTING MINOR CONTOUR (1)
	EXISTING PROPERTY LINE
	EXISTING ABUTTING PROPERTY LINE
	EXISTING SETBACK LINE
	EXISTING EASEMENT
	EXISTING SOIL LINE
	EX. CHAINLINK FENCE
	EX. WOOD FENCE
	EX. WATER LINE
	EXISTING OVERHEAD POWER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM SEWER LINE
	EXISTING GRAVEL AREA
	EXISTING CONCRETE AREA
	EXISTING PROTECTED TREE
	EXISTING TREE WITH NO PROTECTION REQUIREMENTS
	EXISTING SIGNIFICANT HOLLY, MAGNOLIA, AMERICAN HOLLY OR FLOWERING TREE >8\"/>

- ### NOTES
- BOUNDARY AND TOPOGRAPHIC DATA PROVIDED BY CAWTHORNE, MOSS & PANCIERA, P.C. ON JUNE 1, 2016.
 - NO PORTION OF THIS PROPOSED SUBDIVISION LIES WITHIN A FEMA DESIGNATED 100 YEAR FLOOD HAZARD AREA PER FEMA PANEL 3720313500J, DATED APRIL 3, 2006.
 - NO SURFACE WATERS OR WETLANDS ARE PRESENT WITHIN THE PROJECT AREA.
 - EX. VEGETATION AND NATURAL AREAS WILL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE. MINIMAL CLEARING OF THE LAND SHALL BE UNDERTAKEN DURING DEVELOPMENT.
 - THE UTILITIES SHOWN ARE NOT GUARANTEED TO BE A REPRESENTATION OF ALL UTILITIES WITHIN THE PROJECT EXTENT.

SOIL TYPES

Rm - RIMINI SAND, 1 TO 6 PERCENT SLOPES

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Signed By: _____ # _____

REVISIONS				
REV	DESCRIPTION	DSN DWN	CHK APP	DATE

PRELIMINARY PLANS

NOT FOR CONSTRUCTION

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

SCALE: 1" = ##' SCALE IN FEET

ORIGINAL DRAWING SIZE IS 24 x 36

PROPERTY OWNER CERTIFICATION:

"I HEREBY CERTIFY THAT I AM THE CURRENT OWNER OF THE PROPERTY AND THAT UPON RECEIPT OF "AUTHORIZATION-TO-CONSTRUCT", ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE PERFORMED IN ACCORDANCE WITH THIS PLAN AND THE APPLICABLE ORDINANCES AND RULES OF THE CITY OF WILMINGTON, THE STATE OF NORTH CAROLINA, AND THE FEDERAL GOVERNMENT AND ITS AGENCIES WHICH ARE HEREBY MADE PART OF THIS PLAN. AS THE OWNER, I (WE) ACCEPT FULL RESPONSIBILITY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE PROPOSED FACILITIES. I (WE) WILL NOT ATTEMPT TO TRANSFER THIS RESPONSIBILITY WITHOUT THE WRITTEN AUTHORIZATION OF THE CITY OF WILMINGTON."

SIGNATURE: _____

PRINT NAME AND TITLE: _____

DATE: _____

DESIGNER'S PLAN CERTIFICATION:

"I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST CITY OF WILMINGTON ORDINANCES AND STORMWATER DESIGN MANUAL."

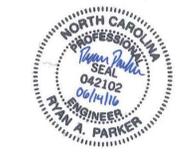
SIGNATURE: *Ryan Parker*

PRINT NAME AND TITLE: *Ryan Parker, Staff Professional II*

DATE: *June 14, 2016*

REGISTRATION NUMBER: *042102*

SEAL



EXISTING CONDITIONS

ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412

ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

SITE PLANS

PROJECT NO.	20170421
ISSUE DATE	06-14-2016
CURRENT REVISION	0
DESIGNED BY	RAP
DRAWN BY	GLT
CHECKED BY	RAP
APPROVED BY	JBC

SHEET 5 of 27

C-5

EROSION CONTROL NOTES

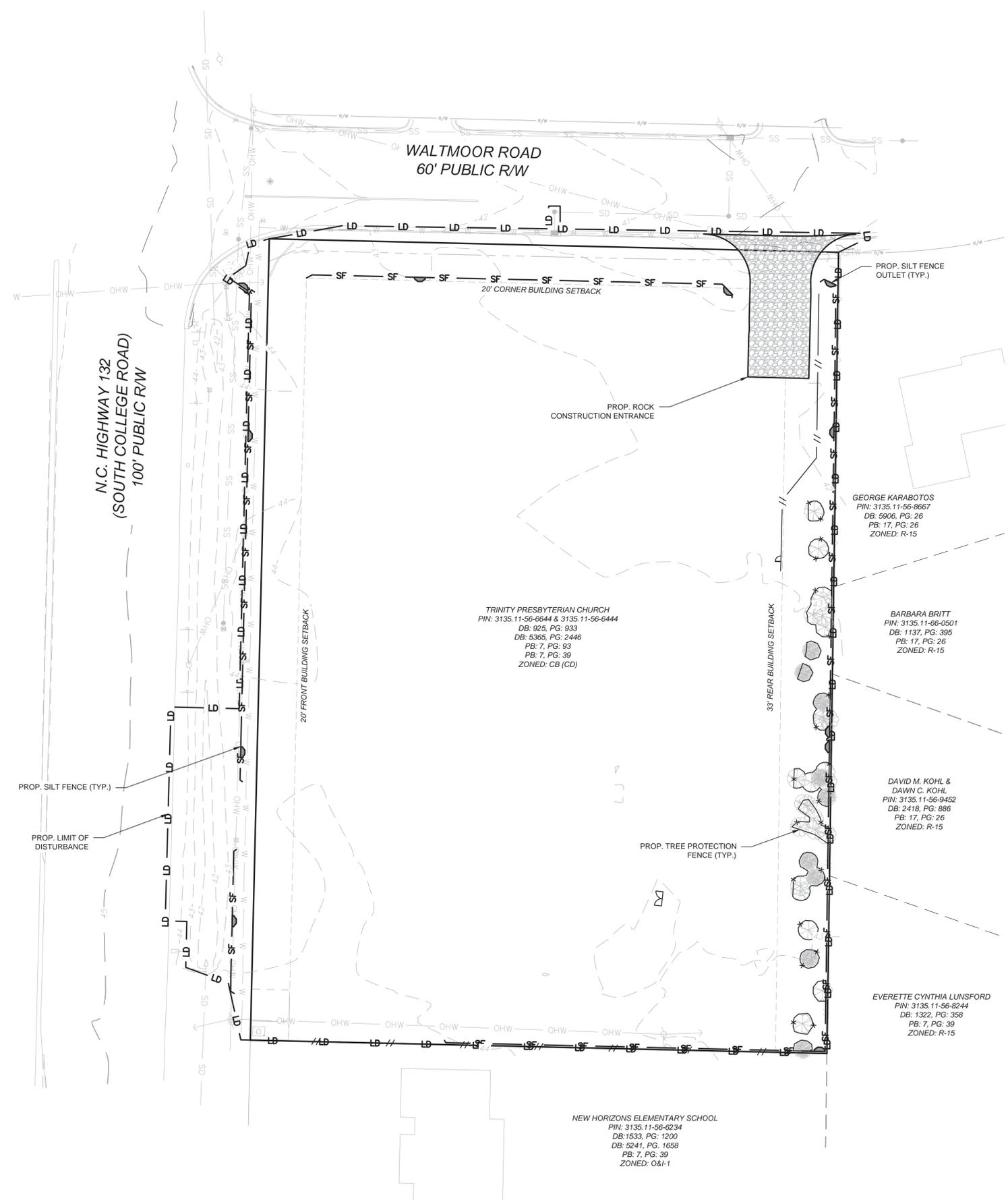
- PRIOR TO CONSTRUCTION EQUIPMENT ENTERING OR EXITING THE SITE, A CONSTRUCTION ENTRANCE SHALL BE BUILT UNLESS EXISTING CONDITIONS PREVENT ANY TRACKING OF DIRT, MUD, OR DEBRIS OFF THE SITE. THE CONTRACTOR WILL BE RESPONSIBLE TO KEEP ALL ROADS, PARKING LOTS, SIDEWALKS AND ADJACENT PROPERTIES FREE OF DIRT, MUD OR OTHER DEBRIS. THIS WILL INCLUDE BUILDING THE CONSTRUCTION ENTRANCE, SWEEPING, SCRAPING AND WASHING THE PAVEMENT SURFACES WHEN EVER NEEDED. THE CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. IF A DETAIL IS NOT PROVIDED, CONSTRUCT THE ENTRANCE WITH CLEAN 2 TO 3 INCH STONE, 6 INCHES THICK, OVER STABILIZING FABRIC TO THE DIMENSIONS OF 12 FEET WIDE AND 50 LONG. THE ENTRANCE SHOULD BE LOCATED SO THAT ALL VEHICLES LEAVING THE SITE WILL UTILIZE IT.
- NO LAND DISTURBANCE INCLUDING TREE REMOVAL IS TO OCCUR OUTSIDE THE LIMITS OF DISTURBANCE SHOWN ON THE PLANS.
- ALL EROSION CONTROL DEVICES SHALL BE PLACED AS SHOWN ON THE DRAWINGS AND IN ACCORDANCE WITH FEDERAL, STATE, LOCAL AND MANUFACTURERS RECOMMENDATIONS. THE PLANS AND DETAILS ARE BASED ON THE NC EROSION AND SEDIMENT PLANNING AND DESIGN MANUAL, AND RECOGNIZED BEST MANAGEMENT PRACTICES (BMP'S).
- THE CONTRACTOR SHALL PLACE AND MAINTAIN ALL EROSION CONTROL DEVICES AS NEEDED THROUGH OUT THE PROJECT. SILT FENCE IS TO BE CLEANED WHEN HALF THE FENCE IS OVERWHELMED BY SEDIMENT.
- SILT FENCE SHALL HAVE METAL STAKES; NO WOODEN STAKES WILL BE ALLOWED. THE BASE OF THE SILT FENCE SHALL BE EXCAVATED SO AS TO PROVIDE AN AREA TO BURY THE BOTTOM OF THE FABRIC AT LEAST 6 INCHES INTO THE GROUND. THE STAKES SHALL BE DRIVEN TO A DEPTH THAT WILL PLACE THE BOTTOM FABRIC AT THE BOTTOM OF THE TRENCH. THEN BACKFILL THE BOTTOM FABRIC ON THE UPSTREAM SIDE WITH THE MATERIAL THAT WAS EXCAVATED.
- SILT FENCE SHALL BE PLACED WHERE EVER SURFACE DRAINAGE CAN LEAVE THE SITE.
- PLACE SILT FENCE OUTLETS AT LOW POINTS ALONG SILT FENCE AS NECESSARY.
- STONE FILTERS SHALL BE PLACED IN ALL DRAINAGE WAYS BUT NOT IN STREAMS, CREEKS OR RIVERS. STONE FILTERS SHALL CONSIST OF A UNIFORM MIX OF 1/4 TO 3/4 INCH CLEAN STONE WRAPPED IN FILTER FABRIC AND COVERED WITH 4 INCH STONE.
- TEMPORARY SEEDING SHALL CONSIST OF LIME @ 1/2 TON PER ACRE, FERTILIZER 5-10-10 @ 600 POUNDS PER ACRE, RYEGRASS (ANNUAL OR PERENNIAL) @ 40 POUNDS PER ACRE AND STRAW MULCH @ 2 TON PER ACRE. JUTE MESH SHALL BE PLACED OVER MULCH AND STAKED WHENEVER WINDS OR SLOPE WILL CAUSE THE MULCH AND SEED TO BECOME DEPLETED OR ERODED. AREAS SHALL BE TEMPORARILY SEED WHEN THEY ARE SUBJECT TO EROSION AND WILL LIE DORMANT FOR A MONTH OR MORE.
- ADDITIONAL EROSION CONTROL MEASURES AND/OR MODIFICATIONS TO PROPOSED MEASURES MAY BE NECESSARY DEPENDING ON ACTUAL SITE CONDITIONS.
- A RAIN GAUGE SHALL BE KEPT ON-SITE. THE CONTRACTOR SHALL INSPECT ALL E&SC MEASURES AT LEAST ONCE A WEEK AND WITHIN 24 HOURS AFTER ANY STORM EVENT GREATER THAN A HALF INCH DURING A 24-HOUR. REPAIRS SHALL BE MADE TO E&SC MEASURES IMMEDIATELY. RECORD OF INSPECTIONS AND ANY CORRECTIVE ACTIONS SHALL BE KEPT ON SITE.
- DEDICATED DEMOLITION AND OTHER WASTE AREAS AND EARTHEN MATERIAL STOCKPILES MUST BE LOCATED AT LEAST 50' FROM STORM DRAINS OR STREAMS UNLESS NO ALTERNATIVE IS FEASIBLE.
- THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTOR. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE EROSION CONTROL INSPECTOR THAT ARE NOT INDICATED ON THE PLANS. IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN EROSION ONSITE, REGARDLESS OF THE MEASURES REQUIRED. ANY CHANGE IN THE EROSION CONTROL MEASURES AND/OR GRADING SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND THE EROSION CONTROL INSPECTOR.
- IF CONTRACTOR OBSERVES SEDIMENT THAT HAS DEPOSITED IN A STREAM OR WETLAND, CONTRACTOR MUST NOTIFY THE DEMLR REGIONAL OFFICE WITHIN 24 HOURS AND PROVIDE WRITTEN NOTICE WITHIN FIVE DAYS.
- WEATHER FORECAST SHALL BE MONITORED. THE CONTRACTOR SHALL PREPARE FOR RAIN EVENTS BY RE-EXAMINING ALL EROSION CONTROL MEASURES PRIOR TO START OF PRECIPITATION. ANY RE-ENFORCEMENT OR CORRECTIONS SHOULD BE PERFORMED AND DOCUMENTED.
- IF FILL MATERIAL IS TO BE BROUGHT ONTO THE PROJECT OR WASTE MATERIALS ARE TO BE TAKEN FROM THIS PROJECT, THIS INFORMATION MUST BE DISCLOSED AND SHOWN ON THE EROSION CONTROL AND GRADING PLAN. BORROW AREAS AND DUMP SITES ARE CONSIDERED TO BE PART OF THIS PROJECT AND THE OWNER IS RESPONSIBLE FOR STABILIZATION AND EROSION CONTROL MEASURES AT THESE SITES.

CLEARING & GRUBBING NOTES

- THE CONTRACTOR SHALL REVIEW PLANS AND IDENTIFY AND SAFELY MARK ALL PLANTS AND TREES TO BE SAVED. THE CONTRACTOR SHALL PROTECT ALL PLANTS AND TREES TO BE SAVED THROUGH OUT THE CONTRACT. THIS SHALL INCLUDE PROHIBITING ANY WORK WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT.
- ALL AREAS TO BE CLEARED AND GRUBBED SHALL BE SURVEYED IN THE FIELD TO ESTABLISH THE APPROPRIATE LIMITS OF WORK.
- THE CONTRACTOR SHALL TAKE WHAT EVER MEASURES NECESSARY TO LOCATE AND PROTECT EXISTING UTILITIES, STRUCTURES, AND OTHER FACILITIES TO REMAIN.
- ALL TREES, SHRUBS, STUMPS, ROOTS AND OTHER DEBRIS SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
- NO BURNING WILL BE ALLOWED ON SITE.

NPDES Stormwater Discharge Permit for Construction Activities (NC007) NCDENR/Division of Energy, Mineral and Land Resources

STABILIZATION TIMEFRAMES		
(Effective Aug. 3, 2015)		
SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME 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.



LEGEND

	EXISTING MAJOR CONTOUR (5)
	EXISTING MINOR CONTOUR (1)
	EXISTING PROPERTY LINE
	EXISTING ABUTTING PROPERTY LINE
	EXISTING SETBACK LINE
	EXISTING EASEMENT
	EXISTING CHAINLINK FENCE
	EXISTING WOOD FENCE
	EX. WATER LINE
	EXISTING OVERHEAD POWER LINE
	EXISTING SANITARY SEWER LINE
	EXISTING STORM SEWER LINE
	PROPOSED TREE PROTECTION FENCE
	PROPOSED WOOD FENCE
	PROPOSED SILT FENCE
	PROPOSED LIMIT OF DISTURBANCE

TOTAL DISTURBED AREA = 3.2 AC

CONSTRUCTION SEQUENCE

- PHASE I**
- OBTAIN NEW HANOVER COUNTY LAND DISTURBANCE PERMIT AND SCHEDULE A PRE-CONSTRUCTION MEETING WITH NEW HANOVER COUNTY.
 - INSTALL GRAVEL CONSTRUCTION ENTRANCE, SILT FENCE, SILT FENCE OUTLETS, AND TREE PROTECTION FENCE AS SHOWN ON APPROVED PLAN. CLEAR ONLY AS NECESSARY TO INSTALL THESE DEVICES.
 - CALL NEW HANOVER COUNTY FOR AN INITIAL INSPECTION.
 - UPON COUNTY APPROVAL, BEGIN CLEARING, GRUBBING AND DEMOLITION OF REMAINDER OF SITE. MAINTAIN DEVICES AS NEEDED.
- PHASE II**
- PERFORM ROUGH GRADING, FILLING AND COMPACTION OF SITE.
 - INSTALL ROOF DRAINS, STORM SEWER PIPES, YARD AND CURB INLETS AND FILTER SOCK INLET PROTECTION AS SHOWN ON THE PLANS.
 - PERFORM FINE GRADING, PAVING AND OTHER FINAL STABILIZATION ACTIVITIES.
 - ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AND MAINTAINED, IF NEEDED, AT LEAST ONCE PER WEEK AND AFTER EVERY RAINFALL EVENT.
 - STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION AND PAVING. SEED AND MULCH DENUDEED AREAS PER GROUND STABILIZATION TIME FRAMES.
 - WHEN CONSTRUCTION IS COMPLETE AND ALL AREAS ARE STABILIZED COMPLETELY, REMOVE SILT FENCE AND SILT FENCE OUTLETS AND SEED OR STABILIZE ANY RESULTING BARE AREAS.

KLEINFELDER
Bright People. Right Solutions.
WWW.KLEINFELDER.COM

3500 GATEWAY CENTRE BLVD., SUITE 200
MORRISVILLE, NC 27660
PHONE: 919-755-5011
NC LICENSE # F-1143

REVISIONS

REV	DESCRIPTION	DSN DWN	CHK APP	DATE

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

SCALE: 1" = 30'

SCALE IN FEET

ORIGINAL DRAWING SIZE IS 24 x 36

PROPERTY OWNER CERTIFICATION:

" I HEREBY CERTIFY THAT I AM THE CURRENT OWNER OF THE PROPERTY AND THAT UPON RECEIPT OF "AUTHORIZATION-TO-CONSTRUCT", ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT WILL BE PERFORMED IN ACCORDANCE WITH THIS PLAN AND THE APPLICABLE ORDINANCES AND RULES OF THE CITY OF WILMINGTON, THE STATE OF NORTH CAROLINA, AND THE FEDERAL GOVERNMENT AND ITS AGENCIES WHICH ARE HEREBY MADE PART OF THIS PLAN. AS THE OWNER, I (WE) ACCEPT FULL RESPONSIBILITY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF THE PROPOSED FACILITIES. I (WE) WILL NOT ATTEMPT TO TRANSFER THIS RESPONSIBILITY WITHOUT THE WRITTEN AUTHORIZATION OF THE CITY OF WILMINGTON."

SIGNATURE: _____

PRINT NAME AND TITLE: _____

DATE: _____

DESIGNER'S PLAN CERTIFICATION:

" I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST CITY OF WILMINGTON ORDINANCES AND STORMWATER DESIGN MANUAL."

SIGNATURE: *Ryan Parker*

PRINT NAME AND TITLE: *Ryan Parker, Staff Professional II*

DATE: *June 14, 2016*

REGISTRATION NUMBER: *042102*

SEAL



EROSION CONTROL PLAN PHASE I

ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412

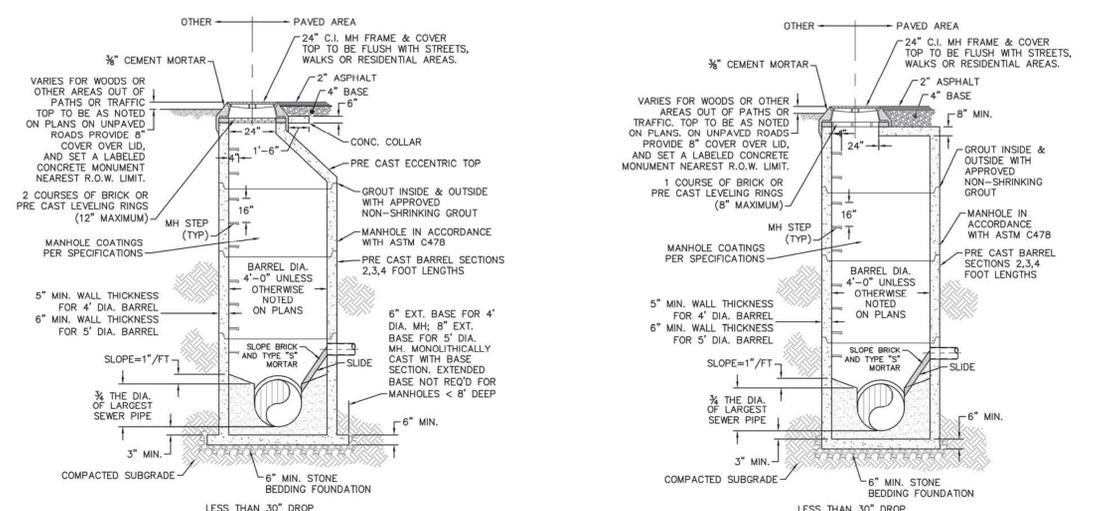
ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

SITE PLANS

PROJECT NO.	20170421
ISSUE DATE	06-14-2016
CURRENT REVISION	0
DESIGNED BY	RAP
DRAWN BY	GLT
CHECKED BY	RAP
APPROVED BY	JBC

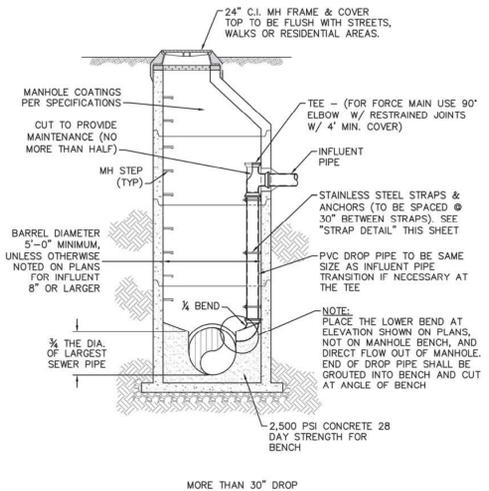
SHEET 11 of 27

CAD FILE: W:\Cadd\2017\20170421_001A_Wilmington_College_Road\EROSION CONTROL PLAN PHASE I.dwg PLOTTED: 6/14/2016 11:50 AM By: jain@kleinfelder.com

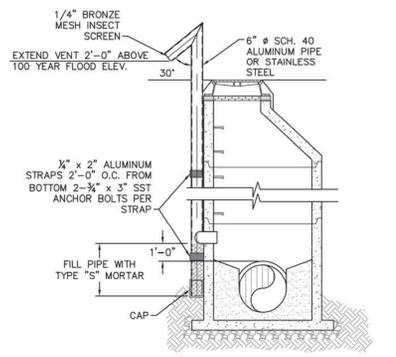


SD-1 PRECAST CONCRETE OFFSET MANHOLE TYPICAL
NOT TO SCALE

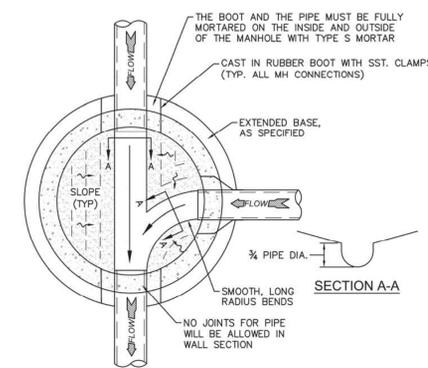
SD-2 PRECAST CONCRETE FLAT TOP MANHOLE TYPICAL
NOT TO SCALE



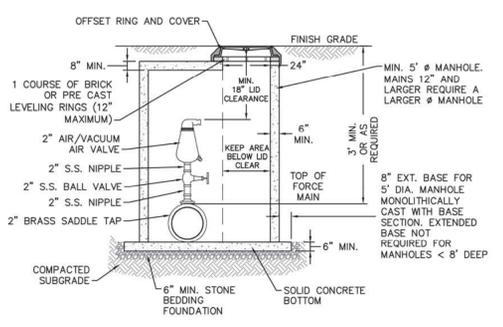
SD-3 DROP MANHOLE
NOT TO SCALE



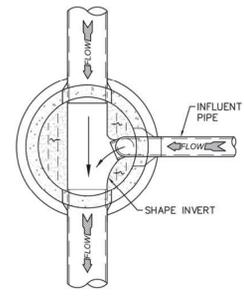
SD-4 STANDARD VENT MANHOLE
NOT TO SCALE



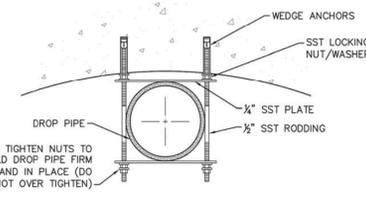
SD-5 MANHOLE FLOOR PLAN
NOT TO SCALE



SD-6 AIR/VACUUM AND AIR RELEASE COMBINATION VALVE
NOT TO SCALE



SD-7 DROP MANHOLE FLOOR PLAN
NOT TO SCALE



SD-8 STRAP DETAIL
NOT TO SCALE

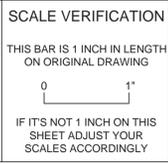
- CAPE FEAR PUBLIC UTILITY AUTHORITY STANDARD NOTES:**
- SEWER GUARDS REQUIRED AT ALL MANHOLES. STAINLESS STEEL SEWER GUARDS REQUIRED AT MANHOLES LOCATED IN TRAFFIC AREAS.
 - WATER AND SEWER SERVICES SHALL BE PERPENDICULAR TO MAIN AND TERMINATE AT RIGHT-OF-WAY LINE. SEWER SERVICES IN CUL-DE-SACS ARE REQUIRED TO BE PERPENDICULAR, OR MUST ORIGINATE IN END OF LINE MANHOLE AND TERMINATE AT RIGHT-OF-WAY LINE.
 - ALL SERVICES TYING INTO DUCTILE IRON MAINS SHALL BE CONSTRUCTED OF CLASS 50, DIP, WITH PROTECTO 401 CERAMIC EPOXY LINING.
 - MINIMUM 10' UTILITIES EASEMENT PROVIDED ALONG THE FRONTAGE OF ALL LOTS AND AS SHOWN FOR NEW DEVELOPMENTS.
 - NO FLEXIBLE COUPLINGS SHALL BE USED.
 - ALL STAINLESS STEEL FASTENERS SHALL BE 316.
 - CLEANOUTS SHALL BE LOCATED A MINIMUM OF 12 FEET FROM ALL PROPERTY CORNERS. WATER METER BOXES ARE TO BE A MINIMUM OF 5 FEET FROM THE PROPERTY CORNER.

SD-9 STANDARD NOTES
(REQUIRED ON ALL PLAN AND PROFILE SHEETS)

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04

PRELIMINARY PLANS
NOT FOR CONSTRUCTION



REV.	DESCRIPTION:	DATE:
1	AIR / VACUUM AND AIR RELEASE COMBINATION VALVE REVISED	10/28/12
2	STANDARD SEWER NOTE #6 REVISED	12/18/12
3	REVISED STANDARD VENT MANHOLE TO EXTEND VENT 2'-0" ABOVE 100 YR FLOOD	11/20/14
4	Revised Multiple Details	02/15/16

CFPUA SANITARY SEWER

STANDARD DETAILS

CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6560

DATE: 1/9/12
SCALE: N/A
DRAWN BY: CFP/UA
CHECKED BY: CFP/UA
PROJECT NO.:
SHEET NO.: **SSD-1**

DESIGNER'S PLAN CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE LATEST NEW HANOVER COUNTY ORDINANCES AND STORM WATER DESIGN MANUAL.

SIGNATURE: *Ryan Parker*
PRINT NAME AND TITLE: *Ryan Parker, Staff Professional II*
DATE: *June 14, 2016*
REGISTRATION NUMBER: *042102*

PROPERTY OWNER CERTIFICATION:

I HEREBY CERTIFY THAT I AM THE CURRENT OWNER OF THE PROPERTY AND THAT UPON RECEIPT OF "AUTORIZATION-TO-CONSTRUCT," ANY CLEARING, GRADING, CONSTRUCTION OR DEVELOPMENT, WILL BE PERFORMED IN ACCORDANCE WITH THIS PLAN AND THAT THE APPLICABLE ORDINANCES AND RULES OF NEW HANOVER COUNTY, THE STATE OF NORTH CAROLINA AND THE FEDERAL GOVERNMENT AND ITS AGENCIES WHICH ARE HEREBY MADE PART OF THIS PLAN, AS THE OWNER, I (WE) ACCEPT FULL RESPONSIBILITY FOR THE CONSTRUCTION AND OPERATION AND MAINTENANCE OF THE PROPOSED FACILITIES. I (WE) WILL NOT ATTEMPT TO TRANSFER OF THIS RESPONSIBILITY WITHOUT THE WRITTEN AUTHORIZATION OF NEW HANOVER COUNTY.

SIGNATURE: _____
PRINT NAME AND TITLE: _____
DATE: _____



ORIGINAL DRAWING SIZE IS 24 x 36

UTILITY DETAILS

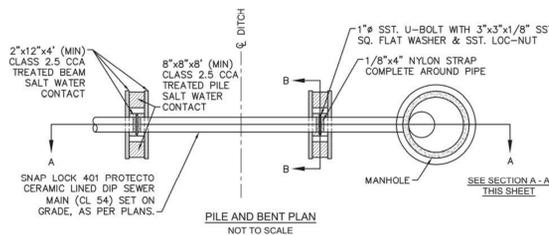
ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412

ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

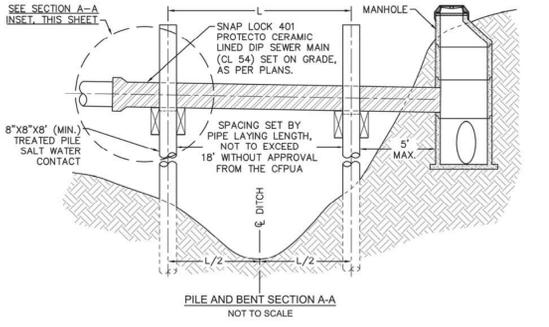
SITE PLANS

PROJECT NO.	20170421
ISSUE DATE	06-14-2016
CURRENT REVISION	0
DESIGNED BY	RAP
DRAWN BY	GLT
CHECKED BY	RAP
APPROVED BY	JBC

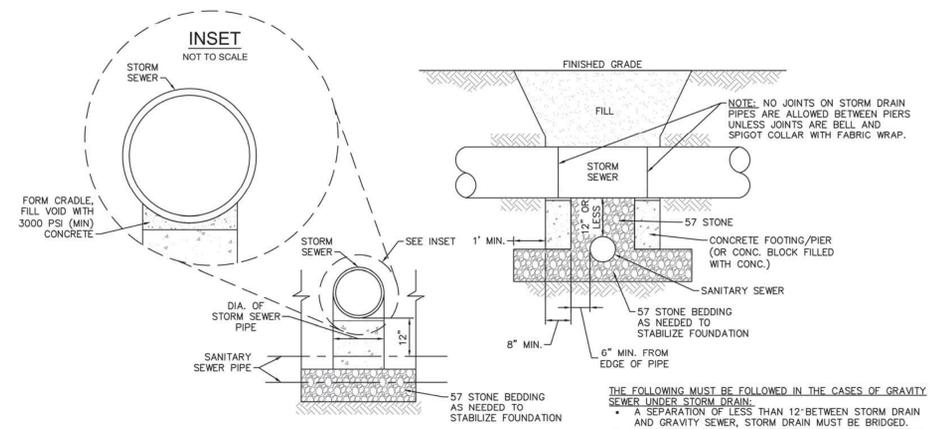
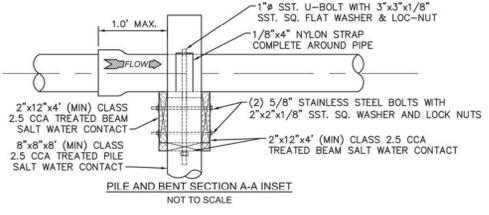
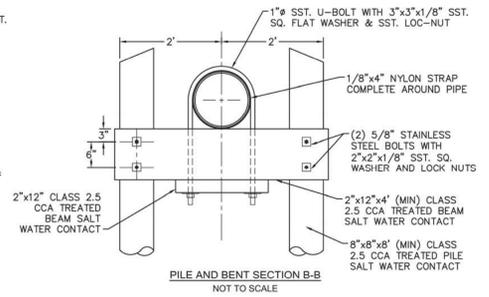
C-21



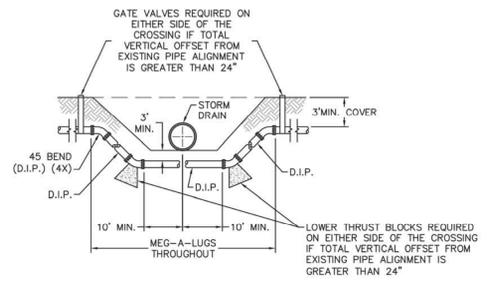
- NOTES:**
- PILES AND PILE DRIVING SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, JANUARY 2002, SECTIONS 445, 450, 1082-2 & 1084-2.
 - CENTERLINE OF BOLTS TO BE A MINIMUM OF 3" FROM OUTSIDE EDGE OF TIMBER. BOLTS TO BE A MINIMUM OF 3" CENTERLINE TO CENTERLINE.
 - ALL STAINLESS STEEL SHALL BE 316. STAINLESS STRAP TO BE COLD FORMED.
 - PILE SHALL NOT OBSTRUCT FLOW OR CAUSE EROSION OF DITCH/STREAM BANK.
 - MIN. CLASS 54 DIP-ENGINEER MUST DESIGN LOADING.
 - DESIGN SHALL BE APPROVED BY CFPUA.



SD-20 PILE AND BENT DETAIL
NOT TO SCALE



SD-24 STRUCTURAL BRIDGING DETAIL FOR STORMWATER OVER GRAVITY SEWER INSTALLATIONS WITH LESS THAN 12" SEPARATION
NOT TO SCALE

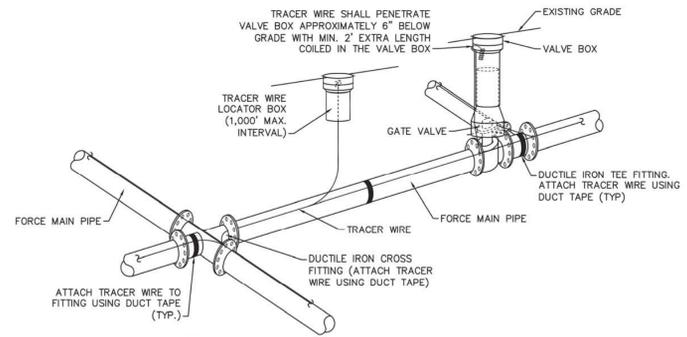


NOTE: USE D.I.P. (CL50 OR BETTER)

SD-18 FORCE MAIN DITCH AND STORM DRAIN CROSSING
NOT TO SCALE

- GENERAL NOTES:**
- NO EXCAVATED MATERIAL SHALL BE PLACED IN ANY STREAM, DITCH OR DRAINAGE-WAY.
 - THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BEFORE ANY CONSTRUCTION BEGINS.
 - THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES WHILE CONSTRUCTION IS IN PROGRESS.
 - THE CONTRACTOR IS RESPONSIBLE FOR STABILIZATION OF ALL DISTURBED AREAS.
 - THE CONTRACTOR IS RESPONSIBLE FOR LAY DOWN AND STOCKPILE AREAS (TO ARRANGE AND ENSURE COMPLIANCE WITH ALL LOCAL AND STATE REGULATIONS).

THE DETAILS SHOWN HEREON SUPERCEDE CFPUA WRITTEN TECHNICAL SPECIFICATIONS VERSIONS 1.00 - 1.04



- NOTES:**
- TRACER WIRE SHALL BE #10 COPPER SOLID CORE COPPER WIRE WITH GAS AND OIL RESISTANT INSULATION.
 - WIRE SHALL BE STRAPPED TO ALL PVC FORCE MAIN PIPING WITH DUCT TAPE AT 12 FOOT INTERVALS ALONG THE PIPE.
 - SECURE WIRE TO ALL TEE AND CROSS FITTINGS WITH DUCT TAPE.
 - ALL SPLICES IN THE WIRE SHALL BE MADE WITH 3M DBR DIRECT BURY SPLICE KIT AN UNDERGROUND RATED, WATERTIGHT, AND APPROVED SPLICE CONNECTOR OR APPROVED EQUAL.

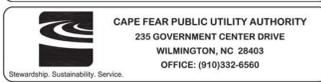
SD-21 TRACER WIRE DETAIL
NOT TO SCALE

REV:	DESCRIPTION:	DATE:
1	ADDED NOTES TO THE STRUCTURAL BRIDGING DETAIL	03/11/15
2	Revised Tracer Wire Detail	10/20/15
3	Revised Force Main Ditch and Storm Drain Crossing Detail	02/19/16

CFPUA SANITARY SEWER

DATE:	1/9/12
SCALE:	N/A
DRAWN BY:	CFPUA
CHECKED BY:	CFPUA
PROJECT NO.:	

STANDARD DETAILS



SHEET NO:
SSD-3

PRELIMINARY PLANS
NOT FOR CONSTRUCTION

SCALE VERIFICATION
THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING
0 1"
IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 24 x 36

UTILITY DETAILS

ALDI #98 WILMINGTON, NC
3701 SOUTH COLLEGE ROAD
WILMINGTON, NC 28412



ALDI, INC. SALISBURY DIVISION
1985 OLD UNION CHURCH ROAD
SALISBURY, NORTH CAROLINA 28146
(919) 714-8111

SITE PLANS

PROJECT NO.	20170421
ISSUE DATE	06-14-2016
CURRENT REVISION	0
DESIGNED BY	RAP
DRAWN BY	GLT
CHECKED BY	RAP
APPROVED BY	JBC

C-23

