SITE CONSTRUCTION PLANS for

WAWA - #6132

4301 CAROLINA BEACH ROAD
WILMINGTON, NC, 28412

FEBRUARY 8, 2023

WAWA SITE DEVELOPMENT SUMMARY:

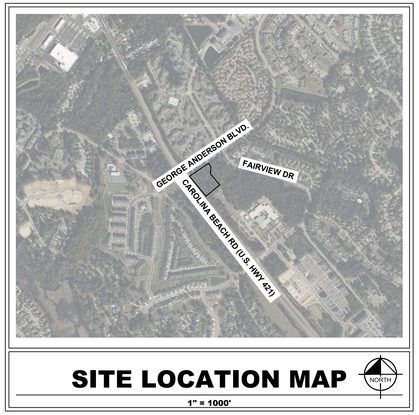
PROPERTY ADDRESS:	4301 CAROLINA BEACH RD, WILMINGTON, NC, 28412
WAWA STORE NUMBER:	6132
WAWA PROJECT ENGINEER:	PAYMAN NADIMI 260 WEST BALTIMORE PIKE WAWA, PA 19063 EMAIL: PAYMAN.NADIMI@WAWA.COM
BUILDING TYPE:	US9FB-R
CANOPY TYPE:	SLOPED
CANOPY CONFIGURATION:	STACKED 8
# OF MPDS:	8
TYPE OF MPDS:	THREE PRODUCT DISPENSER
# OF PARKING SPACES:	56
# OF ADA SPACES:	3
# OF TRUCK/OVERSIZED PARKING:	0
SF OF ASPHALT INSIDE ROW:	71000 SF
SF OF LAWN AREA:	35,156 SF
SF OF MULCH AREAS:	4,822 SF

SITE DEVELOPMENT SUMMARY:

TAX PARCEL IDENTIFICATION NUMBER:	R07000-003-005-000
TOTAL ACREAGE:	2.152 AC (93,717 SF)
ZONING:	MX (L)
PROPOSED USE:	CONVENIENCE STORE WITH GASOLINE SALES
SETBACKS OF BUILDING:	FRONT: 50 FT SIDE: 20 FT REAR: 10 FT
BUILDING SIZE WITH SQUARE FOOTAGE:	5915 SF
CALCULATIONS FOR BUILDING LOT COVERAGE:	6.31%
NUMBER OF UNITS:	N/A
NUMBER OF BUILDINGS:	1
BUILDING HEIGHT(S):	23'-11.5"
NUMBER OF STORIES AND SF PER FLOOR:	1 STORY, 5919 SF
OFF STREET PARKING CALCULATIONS FOR GENERAL RETAIL	
PARKING REQUIRED 1 SPACE PER 300 SF:	20
PARKING MAXIMUM 150% OF REQUIRED:	30
PROVIDED:	56 (SEE PARKING STUDY INCLUDED WITH SUBMITTAL)
OUTDOOR SEATING AREA:	380 SF
SEATING REQUIRED 1 SEAT PER 65 SF:	6 SEATS
SEATING PROVIDED:	6 SEATS
BICYCLE PARKING SPACES:	5 SPACES
CAMA LAND USE CLASSIFICATION:	URBAN
METHOD OF HANDLING SOLID WASTE:	PRIVATE

CITY OF WILMINGTON GENERAL NOTES:

1. CONTRACTOR SHALL MAINTAIN AN ALL-WEATHER ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES DURING CONSTRUCTION.
2. LANDSCAPING OR PARKING CANNOT BLOCK OR IMPEDE THE FDC OR FIRE HYDRANTS. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF THE HYDRANT AND FDC.
3. ADDITIONAL FIRE PROTECTION AND ACCESSIBILITY REQUIREMENTS DUE TO ANY SPECIAL CIRCUMSTANCES CONCERNING THE PROJECT.
4. CONTRACTOR SHALL SUBMIT A RADIO SIGNAL STRENGTH STUDY FOR ALL COMMERCIAL BUILDINGS THAT DEMONSTRATES THAT EXISTING EMERGENCY RESPONDER RADIO SIGNAL LEVELS MEET SECTION 510 REQUIREMENTS OF THE 2018 NC FIRE CODE.
5. NEW HYDRANTS MUST BE BROUGHT INTO SERVICE PRIOR TO COMBUSTIBLE MATERIALS DELIVERED TO THE JOB SITE.
6. PRIOR TO CLEARING, GRADING, OR CONSTRUCTION ACTIVITY, TREE PROTECTION FENCING WILL BE INSTALLED AROUND PROTECTED TREES OR GROVES OF TREES. NO CONSTRUCTION WORKERS, TOOLS, MATERIALS, OR VEHICLES ARE PERMITTED WITHIN THE TREE PROTECTION FENCING.



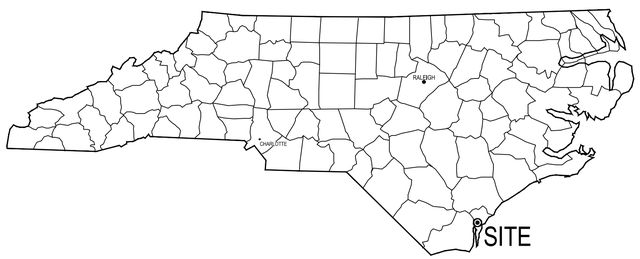
SITE LOCATION MAP

NORTH

1" = 1000'

KIMLEY-HORN SHALL HAVE NO LIABILITY WHATSOEVER FOR ANY COSTS ARISING OUT OF THE CLIENT'S DECISION TO OBTAIN BIDS OR PROCEED WITH CONSTRUCTION BEFORE KIMLEY-HORN HAS ISSUED FINAL, FULLY-APPROVED PLANS AND SPECIFICATIONS. THE CLIENT ACKNOWLEDGES THAT ALL PRELIMINARY PLANS ARE SUBJECT TO SUBSTANTIAL REVISION UNTIL PLANS ARE FULLY APPROVED AND ALL PERMITS OBTAINED.

SHEET INDEX



PROJECT OWNER AND CONSULTANT INFORMATION

DEVELOPER:
WILMINGTON (SCOTTS HILL) WW, LLC
361 SUMMIT BOULEVARD
SUITE 100
BIRMINGHAM, AL 35243
PHONE (602) 908-1424

CONTACT: JEFFREY LEWIN

ENGINEER:
KIMLEY-HORN AND ASSOCIATES, INC.
200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NC 28202
PHONE (704) 333-5131

CONTACT: NADEAN SHOVELS
EOR: LEONG WEE YEE

SURVEYOR:
CORNERSTONE PROFESSIONAL LAND SURVEYING
P.O. BOX 1296
MONROE, NC 28111
PHONE (704) 956-5611

CONTACT: ANDREW BAKER, PLS

LANDSCAPE ARCHIRECT:
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200 SOUTH TRYON STREET, SUITE 200
CHARLOTTE, NC 28202
PHONE (704) 333-5131

CONTACT: JOE MATHEWS

PREPARED BY:

Kimley»Horn

North Carolina 811 www.nc811.org

GEOMETRIC CONTROL

HORIZONTAL DATUM: NAD 83 (2011)

VERTICAL DATUM: NAVD 88

DRAWING UNITS: U.S. SURVEY FEET

No.	REVISIONS	DATE	BY

Kimley»Horn

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200 SOUTH TRYON STREET, SUITE 200 CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL SEAL 057500 ENGINEER LEONG WEE YEE
1/9/2024

KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

COVER SHEET

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
NORTH CAROLINA
WILMINGTON

SHEET NUMBER
C101

GENERAL NOTES

1. ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. THE CONTRACTOR MUST REVIEW AND MAINTAIN A COPY OF PERMITS COMPLETE WITH ALL CONDITIONS, ATTACHMENTS, EXHIBITS, AND PERMIT MODIFICATIONS IN GOOD CONDITION AT THE CONSTRUCTION SITE. THE COMPLETE PERMIT MUST BE AVAILABLE FOR REVIEW UPON REQUEST BY REGULATORY AGENCY REPRESENTATIVES.
3. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
4. CONSTRUCTION SHALL COMPLY WITH ALL APPLICABLE GOVERNING CODES AND BE CONSTRUCTED TO SAME.
5. SITE BOUNDARY, TOPOGRAPHY, UTILITY AND ROAD INFORMATION TAKEN FROM CORNERSTONE PROFESSIONAL LAND SURVEYING. ALL INFORMATION IS TO BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
6. CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODE AND THE OWNER.
7. THE CONTRACTOR AND SUBCONTRACTORS SHALL OBTAIN A COPY OF THE STATE DEPARTMENT OF TRANSPORTATION STRUCTURE STANDARDS AND REGULATIONS (LATEST EDITION) AND BECOME FAMILIAR WITH THE CONTENTS PRIOR TO COMMENCING WORK, AND, UNLESS OTHERWISE NOTED, ALL WORK SHALL CONFORM AS APPLICABLE TO THESE STANDARDS AND SPECIFICATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING ALL MATERIAL AND LABOR TO CONSTRUCT THE FACILITY AS SHOWN AND DESCRIBED IN THE CONSTRUCTION DOCUMENTS IN ACCORDANCE WITH THE APPROPRIATE APPROVING AUTHORITIES, SPECIFICATIONS AND REQUIREMENTS. CONTRACTOR SHALL CLEAR AND GRUB ALL AREAS UNLESS OTHERWISE INDICATED, REMOVING TREES, STUMPS, ROOTS, MUCK, EXISTING PAVEMENT AND ALL OTHER DELETERIOUS MATERIAL.
9. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS AND CODES AND O.S.H.A. STANDARDS. IN THE EVENT THE REGULATIONS DO NOT AGREE, THE MOST STRINGENT SHALL GOVERN.
10. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL RELOCATIONS, INCLUDING BUT NOT LIMITED TO, ALL UTILITIES, STORM DRAINAGE, SIGNS, ETC. AS REQUIRED. ALL WORK SHALL BE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION'S SPECIFICATIONS AND SHALL BE APPROVED BY SUCH. ALL COST SHALL BE INCLUDED IN BASE BID. AREAS TO BE DISTURBED SHALL BE IMPROVED PER THE CIVIL PLANS OR RESTORED TO THEIR ORIGINAL OR BETTER CONDITION. CONTRACTOR SHALL REPAIR ANY EXISTING FEATURES THAT ARE DAMAGED DURING CONSTRUCTION TO THE EXISTING OR BETTER CONDITION.
11. THE CONTRACTOR SHALL HAVE AVAILABLE AT THE JOB SITE, AT ALL TIMES, ONE COPY OF THE CONSTRUCTION DOCUMENTS INCLUDING PLANS, SPECIFICATIONS, GEOTECHNICAL REPORT AND SPECIAL CONDITIONS AND COPIES OF ANY REQUIRED CONSTRUCTION PERMITS.
12. ANY DISCREPANCIES ON THE DRAWINGS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND ENGINEER BEFORE COMMENCING WORK. NO FIELD CHANGES OR DEVIATIONS FROM DESIGN ARE TO BE MADE WITHOUT PRIOR APPROVAL OF THE OWNER AND NOTIFICATION TO THE ENGINEER.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THAT THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS DO NOT CONFLICT WITH ANY KNOWN EXISTING OR OTHER PROPOSED IMPROVEMENTS. IF ANY CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER PRIOR TO INSTALLATION OF ANY PORTION OF THE SITE WORK THAT WOULD BE AFFECTED. FAILURE TO NOTIFY OWNER OF AN IDENTIFIABLE CONFLICT PRIOR TO PROCEEDING WITH INSTALLATION RELIEVES OWNER OF ANY OBLIGATION TO PAY FOR A RELATED CHANGE ORDER.
14. ALL WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED. ANY WELL DISCOVERED DURING EARTH MOVING OR EXCAVATION SHALL BE REPORTED TO THE APPROPRIATE JURISDICTIONAL AGENCIES WITHIN 24 HOURS AFTER DISCOVERY IS MADE.
15. TRAFFIC CONTROL ON ALL STATE, LOCAL, AND COUNTY RIGHTS-OF-WAY SHALL MEET THE REQUIREMENTS OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (U.S. DOT/FHA) AND THE REQUIREMENTS OF THE STATE AND ANY LOCAL AGENCY HAVING JURISDICTION. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.

CONSTRUCTION TESTING

1. IT IS THE CONTRACTORS RESPONSIBILITY TO OBTAIN ALL TESTS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
2. IF DETERMINED BY THE OWNER, THE CONTRACTOR SHALL PROVIDE ADDITIONAL CONSTRUCTION TESTING. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR REQUIRED CONSTRUCTION TESTING.
3. 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 TO SHOW BY STANDARD TESTING PROCEDURES THAT THE WORK CONSTRUCTED DOES MEET THE REQUIREMENTS OF THE SPECIFICATIONS.
4. ALL COPIES OF COMPACTION, CONCRETE AND OTHER REQUIRED TEST RESULTS ARE TO BE SENT TO THE OWNER AND DESIGN ENGINEER OF RECORD DIRECTLY FROM THE TESTING AGENCY.
5. EACH BACKFLOW PREVENTION ASSEMBLY IS REQUIRED TO BE TESTED BY A JURISDICTIONALLY-APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.

AS-BUILTS/RECORD DRAWINGS

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING AND MAINTAINING AS-BUILT INFORMATION WHICH SHALL BE RECORDED AS CONSTRUCTION PROGRESSES OR AT THE COMPLETION OF APPROPRIATE CONSTRUCTION INTERVALS AND SHALL BE RESPONSIBLE FOR PROVIDING AS-BUILT DRAWINGS TO THE OWNER FOR THE PURPOSE OF CERTIFICATION TO JURISDICTIONAL AGENCIES AS REQUIRED. ALL AS-BUILT DATA SHALL BE COLLECTED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE WHOSE SERVICES ARE ENGAGED BY THE CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBMITTING TO THE ENGINEER A CERTIFIED RECORD SURVEY SEALED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE DEPICTING THE ACTUAL FIELD LOCATION OF ALL CONSTRUCTED IMPROVEMENTS. THE RECORD DRAWINGS SHALL BE PREPARED TO THE SAME LEVEL OF DETAILS AS PROVIDED ON THE DESIGN DRAWINGS.
3. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER AND OWNER RECORD DRAWINGS IN BOTH PDF AND AUTOCAD FORMAT FOR ALL PAVING, GRADING, AND STORMWATER BMPS, AND STORMWATER DRAINAGE PIPES AND STRUCTURES AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
4. THE CONTRACTOR SHALL PROVIDE A SEPARATE UTILITY RECORD DRAWING IN AUTOCAD AND PDF FORMAT. THE RECORD DRAWINGS SHALL VERIFY ALL DESIGN INFORMATION INCLUDED ON THE DESIGN PLANS.
5. IN ADDITION TO THE OWNER AND ENGINEER REQUIRED SURVEYS, THE CONTRACTOR SHALL PROVIDE ADDITIONAL RECORD DRAWINGS AND AS-BUILT INFORMATION AS REQUIRED BY THE AUTHORITY HAVING JURISDICTION.

GENERAL ACCESSIBILITY NOTES

1. THE CONTRACTOR SHALL REVIEW ALL APPLICABLE STATE AND LOCAL GUIDELINES AS THEY APPLY TO THE ACCESSIBILITY AND SIGNAGE.
2. ALL CONSTRUCTION SHALL BE VERIFIED BY THE CONTRACTOR TO BE IN COMPLIANCE WITH LOCALLY ADOPTED ACCESSIBILITY REGULATIONS. ANYTHING FOUND NOT IN COMPLIANCE SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
3. THE PROPOSED IMPROVEMENTS SHALL BE CONSTRUCTED COMPLIANT WITH THE LATEST EDITION OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN AS PUBLISHED BY THE DEPARTMENT OF JUSTICE, UNLESS AND EXCEPT IN AREAS WHERE AN APPROVED STATEMENT FROM A SITE ENGINEER, SURVEYOR, OR ARCHITECT VERIFIES THAT SITE CONDITIONS EXIST WHERE THE TOPOGRAPHY OF THE SITE IS EXTREME AND ONLY ALTERNATE METHODS OF COMPLIANCE ARE POSSIBLE.
4. CURB RAMPS ALONG PUBLIC STREETS AND IN THE PUBLIC RIGHT-OF-WAY SHALL BE CONSTRUCTED BASED ON THE CITY STANDARD CONSTRUCTION DETAILS AND SPECIFICATIONS.
5. PRIVATE CURB RAMPS ON THE SITE (I.E. OUTSIDE PUBLIC STREET RIGHT-OF-WAY) SHALL CONFORM TO THE ADA STANDARDS FOR ACCESSIBLE DESIGN AND SHALL HAVE A DETECTABLE WARNING SURFACE THAT IS FULL WIDTH OF THE CURB RAMP, NOT INCLUDING FLARES.
6. ALL ACCESSIBLE ROUTES, GENERAL SITE AND BUILDING ELEMENTS, RAMPS, CURB RAMPS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO ADA STANDARDS FOR ACCESSIBLE DESIGN, LATEST EDITION.
7. BEFORE PLACING PAVEMENT, CONTRACTOR SHALL VERIFY THAT SUITABLE ACCESSIBLE PEDESTRIAN ROUTES (PER ADA AND FHA) EXIST TO AND FROM EVERY DOOR AND ALONG SIDEWALKS, ACCESSIBLE PARKING SPACES, ACCESS AISLES, AND ACCESSIBLE ROUTES. IN NO CASE SHALL AN ACCESSIBLE RAMP SLOPE EXCEED 1 VERTICAL TO 12 HORIZONTAL. IN NO CASE SHALL SIDEWALK CROSS SLOPE EXCEED 2.0 PERCENT. IN NO CASE SHALL LONGITUDINAL SIDEWALK SLOPE EXCEED 5.0 PERCENT. ACCESSIBLE PARKING SPACES AND ACCESS AISLES SHALL NOT EXCEED 2.0 PERCENT SLOPE IN ANY DIRECTION.
8. CONTRACTOR SHALL TAKE FIELD SLOPE MEASUREMENTS ON FINISHED SUBGRADE AND FORM BOARDS PRIOR TO PLACING PAVEMENT TO VERIFY THAT ACCESSIBLE SLOPE REQUIREMENTS ARE PROVIDED. CONTRACTOR SHALL CONTACT ENGINEER PRIOR TO PAVING IF ANY EXCESSIVE SLOPES ARE ENCOUNTERED. NO CONTRACTOR CHANGE ORDERS WILL BE ACCEPTED FOR ADA COMPLIANCE ISSUES.
9. ANY COMPONENTS OF THE PROJECT SERVING MULTIFAMILY DWELLINGS IN BUILDINGS THAT HAVE 4 OR MORE UNITS PER DWELLING SHALL ALSO CONFORM TO THE FAIR HOUSING ACT (FHA), AND COMPLY WITH THE FAIR HOUSING ACT DESIGN MANUAL BY THE US DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT.

GENERAL EROSION CONTROL NOTES

1. PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST CLEARLY DELINEATE AND MARK OFF AREAS TO BE PROTECTED, AS IDENTIFIED IN THE SWPPP OR IN THE FIELD, (INCLUDING BUT NOT LIMITED TO STREAMS/WETLANDS, NATURAL BUFFERS, TREE, HABITATS OF ENDANGERED/THREATENED SPECIES, HISTORIC PROPERTIES, ETC.)
2. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION.
3. BMPS PROPOSED FOR SITE DEVELOPMENT HAVE BEEN DESIGNED TO ADDRESS CONSTRUCTION STORMWATER RUNOFF. IN THE EVENT THE BMPS BECOME INEFFECTIVE AT PREVENTING SEDIMENT FROM LEAVING THE SITE, IT IS THE CONTRACTORS RESPONSIBILITY TO IMPLEMENT ADDITIONAL BMPS.THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN BMPS AS DESCRIBED IN THE GENERAL PERMIT. ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE EROSION CONTROL INSPECTOR.
4. CONTRACTOR SHALL REVIEW THE GENERAL PERMIT PRIOR TO COMMENCING CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL KEEP A COPY OF THE APPROVED PLANS AND GENERAL PERMIT ON SITE AT ALL TIMES.
5. GRADING MORE THAN ONE ACRE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND IS SUBJECT TO A FINE.
6. 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 STATE WHICH THE WORK IS PERFORMED.
7. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT CONSTRUCTION ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE STATE EROSION AND SEDIMENT CONTROL REGULATIONS,
8. ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
9. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO CLEARING AND/OR LAND DISTURBANCE.
10. CONSTRUCTION ENTRANCE SHALL BE LOCATED SO AS TO PROVIDE THE LEAST AMOUNT OF DISTURBANCE TO THE FLOW OF TRAFFIC IN AND OUT OF THE SITE. ADDITIONALLY, CONSTRUCTION ENTRANCE SHALL BE LOCATED TO COINCIDE WITH THE PHASING OF THE PAVEMENT REPLACEMENT.
11. POST CONSTRUCTION STORM WATER POLLUTION CONTROL MEASURES INCLUDE STABILIZATION BY PERMANENT PAVING, DRAINAGE SYSTEM STRUCTURE, OR LANDSCAPING.
12. TEMPORARY AND PERMANENT STABILIZATION PRACTICES AND BMP'S SHALL BE INSTALLED AT THE EARLIEST POSSIBLE TIME DURING THE CONSTRUCTION SEQUENCE. AS AN EXAMPLE, PERIMETER SILT FENCE SHALL BE INSTALLED BEFORE COMMENCEMENT OF ANY GRADING ACTIVITIES. OTHER BMP'S SHALL BE INSTALLED AS SOON AS PRACTICABLE AND SHALL BE MAINTAINED UNTIL FINAL SITE STABILIZATION IS ATTAINED. CONTRACTOR SHALL ALSO REFERENCE CIVIL AND LANDSCAPE PLANS SINCE PERMANENT STABILIZATION IS PROVIDED BY LANDSCAPING, THE BUILDING(S), AND SITE PAVING.
13. BMP'S HAVE BEEN LOCATED AS INDICATED ON THIS PLAN IN ACCORDANCE WITH GENERALLY ACCEPTED ENGINEERING PRACTICES IN ORDER TO MINIMIZE SEDIMENT TRANSFER. FOR EXAMPLE: SILT FENCES LOCATED AT TOE OF SLOPE AND INLET PROTECTION FOR INLETS RECEIVING SEDIMENT FROM SITE RUN-OFF.
14. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION.
15. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
16. 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.
17. ANY SPILLS OF PETROLEUM PRODUCTS OR HAZARDOUS MATERIALS IN EXCESS OF REPORTABLE QUANTITIES AS DEFINED BY EPA OR THE STATE OR LOCAL AGENCY REGULATIONS, SHALL BE IMMEDIATELY REPORTED TO THE EPA NATIONAL RESPONSE CENTER (1-800-424-8802), AND AS REQUIRED BY THE GENERAL PERMIT.
18. THE CONTRACTOR SHALL MAINTAIN JURISDICTIONALLY REQUIRED BUFFERS OF UNDISTURBED NATURAL VEGETATION BETWEEN THE DISTURBED PORTIONS OF THE SITE AND SURFACES WATERS AT ALL TIMES. BUFFERS SHALL BE MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION.
19. 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 AUTHORITY HAVING JURISDICTION. 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.
20. CONTRACTOR SHALL PLACE EROSION CONTROL BLANKET (NORTH AMERICAN GREEN SC150 OR APPROVED EQUAL) ON ALL SITE AREAS WITH SLOPES GREATER THAN 2:1, AND IN THE BOTTOM AND SIDE SLOPES OF ALL SWALES, UNLESS OTHERWISE NOTED ON THE PLANS.
21. ALL DRAINAGE SWALES MUST BE GRADED AND RIP-RAP MUST BE REPLACED AS REQUIRED TO CONTROL EROSION. RIP-RAP WILL CONSIST OF 50 - 125 POUND STONES PLACED AT ALL OUTFALLS, AND WHERE NOTED ON CONSTRUCTION DRAWINGS. SEE DETAIL SHEET FOR OUTFALL PIPE SIZE CHART.
22. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED FOR ADDITIONAL CONTRACTOR LAYDOWN AREA. CONTRACTOR TO COORDINATE WITH ENGINEER DURING CONSTRUCTION. THE LIMITS OF DISTURBANCE SHOULD CONTAIN ANY ADDITIONAL LAYDOWN AREAS. IF ADDITIONAL LAYDOWN AREA IS NEEDED OUT SIDE THE LIMITS OF DISTURBANCE, A REVISED EROSION CONTROL PLAN SHOULD BE REVIEWED AND PERMITTED.
23. PUMPING SEDIMENT LADEN WATER INTO ANY STORMWATER FACILITY THAT IS NOT DESIGNATED TO BE A SEDIMENT TRAP, DRAINAGEWAY, OR OFFSITE AREA EITHER DIRECTLY OR INDIRECTLY WITHOUT FILTRATION IS PROHIBITED. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED INTO AN APPROVED FILTERING DEVICE PRIOR TO DISCHARGE TO RECEIVING OUTLET. WATER REMOVED FROM TRAPS, BASINS, AND OTHER WATER HOLDING DEPRESSIONS OR EXCAVATIONS MUST FIRST PASS THROUGH A SEDIMENT CONTROL AND/OR FILTRATION DEVICE. WHEN DEWATERING DEVICES ARE USED, DISCHARGE LOCATIONS SHALL BE PROTECTED FROM EROSION.
24. ALL TEMPORARY STORMWATER EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED.TRAPPED SEDIMENT AND OTHER DISTURBED SOILS RESULTING FROM TEMPORARY MEASURES SHALL BE PROPERLY DISPOSED OF PRIOR TO PERMANENT STABILIZATION.
25. SOIL STOCKPILES SHALL NOT BE LOCATED IN A DRAINAGE WAY, STOCKPILES , FLOOD PLAIN AREA, OR A DESIGNATED BUFFER. ALL STOCKPILES SHALL BE IMMEDIATELY STABILIZED AS REQUIRED BY THE GENERAL PERMIT.

STORMWATER NOTES

1. REFER TO GENERAL UTILITY NOTES FOR ADDITIONAL REQUIREMENTS PERTAINING TO UNDERGROUND UTILITY AND STORMWATER PIPE INSTALLATION.
2. ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. PIPE LENGTHS, GRADES, ELEVATIONS AND LOCATIONS SHOWN ARE APPROXIMATE ONLY. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNFORESEEN CONDITIONS.
4. ALL STORM PIPE INSTALLED SHALL BE CLASS III RCP, UNLESS SPECIFICALLY NOTED OTHERWISE. EXISTING STORMWATER PIPE MATERIALS, MODIFIED, DAMAGED OR DEFORMED, ETC. SHALL NOT BE REUSED UNLESS SPECIFICALLY DIRECTED BY THE ENGINEER.
5. ALL PIPES SHALL BE LAID ON STRAIGHT ALIGNMENT AND EVEN GRADES USING A PIPE LASER OR OTHER ACCURATE METHOD.
6. ALL PIPES SHALL BE BEDDED PER MANUFACTURER'S RECOMMENDATIONS.
7. ALL DRAINAGE STRUCTURES SHALL BE CONSTRUCTED WITH (4) SIDED BEARING HEAVY DUTY H-20 RATED TRAFFIC RIMS AND GRATES.
8. ALL CLEANOUT COVERS WITHIN THE PAVEMENT SECTIONS SHALL BE RATED FOR HEAVY DUTY TRAFFIC (H-20 RATED).
9. WEEPHOLES ARE TO BE CONSTRUCTED IN ALL DRAINAGE STRUCTURES, A MINIMUM OF 1 WEEPHOLE PER STRUCTURE. WEEPHOLES ARE TO BE CONSTRUCTED IN THE BOTTOM 1/3 OF STRUCTURE AND COVERED ON THE OUTSIDE OF THE STRUCTURE BY A BAG MADE OF FILTER FABRIC AND FILLED WITH #78 STONE.
10. CONTRACTOR SHALL PROVIDE CATCH BASIN INLET PROTECTION ON ALL EXISTING AND PROPOSED INLETS UNTIL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED. ALL DRAINAGE STRUCTURES SHALL BE CLEANED OF DEBRIS AS REQUIRED DURING AND AT THE END OF CONSTRUCTION TO PROVIDE POSITIVE DRAINAGE FLOWS.
11. THE CONTRACTOR SHALL INSTALL ALL UNDERGROUND STORM WATER PIPING PER MANUFACTURER'S RECOMMENDATIONS.
12. GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
13. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN PROPOSED PAVEMENT AND EXISTING PAVEMENT AND STORM STRUCTURES
14. DURING CONSTRUCTION AND AFTER FINAL GRADING, NO SURFACE WATER RUNOFF MAY BE DIRECTED TO ADJACENT PROPERTIES, AND ALL SURFACE WATER RUNOFF MUST BE ROUTED TO APPROVED DRAINAGE FACILITIES OR BE RETAINED ON SITE. ALL RUNOFF FROM THE SITE, BOTH DURING AND AFTER CONSTRUCTION, MUST BE FREE OF POLLUTANTS, INCLUDING SEDIMENT, PRIOR TO DISCHARGE.

GENERAL DEMOLITION NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS REQUIRED FOR DEMOLITION AND DISPOSAL. IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO OBTAIN ANY PERMITS AND PAY FEES REQUIRED FOR DEMOLITION AND HAUL-OFF FROM THE APPROPRIATE AUTHORITIES. THESE FEES SHALL BE INCLUDED WITH THE BID. THE CONTRACTOR SHALL PREPARE ALL DOCUMENTS AND ACQUIRE APPROPRIATE PERMITS AS REQUIRED PRIOR TO THE COMMENCEMENT OF DEMOLITION.
2. DEMOLITION AS DEPICTED ON THE DEMOLITION PLAN IS INTENDED TO DESCRIBE GENERAL DEMOLITION AND UTILITY WORK. IT IS NOT INTENDED TO IDENTIFY EACH ELEMENT OF DEMOLITION OR RELOCATION. CONTRACTOR SHALL COORDINATE WITH THE OWNER AND APPROPRIATE UTILITY COMPANY PRIOR TO WORK.
3. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION, REMOVAL, AND LAWFUL DISPOSAL OF ALL STRUCTURES, PAVING, UTILITIES, ETC., SUCH THAT THE IMPROVEMENTS SHOWN ON THE PLANS CAN BE CONSTRUCTED. ALL FACILITIES TO BE REMOVED SHALL BE UNDERCUT TO SUITABLE MATERIAL AND BROUGHT TO GRADE WITH SUITABLE COMPACTED FILL MATERIAL AS NECESSARY.
4. ASBESTOS OR ANY OTHER HAZARDOUS MATERIAL, IF FOUND ON SITE, SHALL BE REMOVED BY A LICENSED HAZARDOUS MATERIAL CONTRACTOR ONLY AFTER NOTIFICATION OF THE ENGINEER AND AUTHORIZATION TO PROCEED IS GIVEN BY THE OWNER.
5. THE CONTRACTOR SHALL PUMP OUT BUILDING FUEL AND WASTE OIL TANKS (IF ANY ARE ENCOUNTERED) AND REMOVE FUEL TO AN APPROVED DISPOSAL AREA BY AN APPROPRIATELY LICENSED WASTE OIL HANDLING CONTRACTOR IN STRICT ACCORDANCE WITH FEDERAL AND STATE REQUIREMENTS ONLY AFTER NOTIFICATION OF THE ENGINEER AND AUTHORIZATION TO PROCEED IS GIVEN BY THE OWNER.
6. THE CONTRACTOR SHALL MAINTAIN ALL UTILITY SERVICES TO ALL EXISTING FACILITIES AND OUTLOTS AT ALL TIMES. UTILITY SERVICES SHALL NOT BE INTERRUPTED WITHOUT APPROVAL FROM THE SERVICE PROVIDERS AND COORDINATION THROUGH THE PROPERTY OWNER(S). THE CONTRACTOR IS RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES TO REMAIN IN PLACE.
7. THE CONTRACTOR SHALL COORDINATE WITH RESPECTIVE UTILITY COMPANIES PRIOR TO THE REMOVAL AND/OR RELOCATION OF UTILITIES. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY CONCERNING PORTIONS OF WORK WHICH MAY BE PERFORMED BY THE UTILITY COMPANY'S FORCES AND ANY FEES WHICH ARE TO BE PAID TO THE UTILITY COMPANY FOR THEIR SERVICES. THE CONTRACTOR IS RESPONSIBLE FOR PAYING ALL FEES AND CHARGES.
8. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE BEST INFORMATION AVAILABLE AND ARE GIVEN FOR THE CONVENIENCE OF THE CONTRACTOR. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. THE ITEMS SHOWN ARE NOT TO BE INTERPRETED AS THE EXACT LOCATION, OR AS THE ONLY OBSTACLES THAT MAY OCCUR ON THE SITE. VERIFY EXISTING CONDITIONS AND PROCEED WITH CAUTION AROUND ANY ANTICIPATED FEATURES. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES.
9. ELECTRICAL, TELEPHONE, CABLE, WATER, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE. CONTRACTOR SHALL PAY CLOSE ATTENTION TO EXISTING UTILITIES WITHIN ANY ROAD RIGHT OF WAY DURING CONSTRUCTION.
10. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPING OR OTHER UTILITY BE UNCOVERED DURING EXCAVATION, CONTRACTOR SHALL CONSULT THE ENGINEER AND OWNER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN THIS AREA.
11. CONTRACTOR MUST PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC., (AND OTHER APPROPRIATE BEST MANAGEMENT PRACTICES) AS APPROVED BY THE OWNER.
12. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING BUSINESSES AND PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING IMPROVEMENTS AND CONSTRUCTION OF THE PROPOSED IMPROVEMENTS. CONTRACTOR SHALL COORDINATE WITH THE OWNER(S)/ LEASEE(S) PRIOR TO ANY CONSTRUCTION TO ESTABLISH CUSTOMER ACCESS AND TRAFFIC FLOW DURING ALL PHASES.
13. SHOULD CONSTRUCTION ACTIVITIES DAMAGE EXISTING FEATURES, THE CONTRACTOR SHALL REPLACE THE FEATURES WITH NEW MATERIALS. DAMAGE TO ANY EXISTING CONDITIONS TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
14. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO AVOID UNNECESSARY DAMAGE TO EXISTING ROAD SURFACES. FINISHED SURFACES TO BE REMOVED OR DEMOLISHED SHALL BE CUT ALONG LINES OF JOINTS WHICH WILL PERMIT A NEAT SURFACE WHEN RESTORED. SAW CUT AT INTERFACE OF PAVEMENT OR CURB TO REMAIN. SAW CUT EXISTING PAVEMENT AT THE RIGHT-OF-WAY. SAW CUTS SHALL BE MADE FULL DEPTH THROUGH THE EXISTING PAVEMENT. DISCARDED PAVEMENT SHALL BE REMOVED WITHOUT UNDERMINING THE EXISTING PAVEMENT. IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IT'S REMOVAL AND REPAIR.
15. CONTRACTOR SHALL MAINTAIN ALL EXISTING PARKING, SIDEWALKS, DRIVES, ETC. CLEAR AND FREE FROM ANY CONSTRUCTION ACTIVITY AND/OR MATERIAL TO ENSURE EASY AND SAFE PEDESTRIAN AND VEHICULAR TRAFFIC TO AND FROM THE SITE. CONTRACTOR SHALL COORDINATE/PHASE ALL CONSTRUCTION ACTIVITY WITHIN PROXIMITY OF THE BUILDING AND UTILITY INTERRUPTIONS WITH THE PROPERTY OWNERS AND UTILITY PROVIDERS TO MINIMIZE DISTURBANCE AND INCONVENIENCE.
16. ALL EXISTING ITEMS TO REMAIN WHICH ARE DAMAGED DURING CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE SOLE EXPENSE OF THE CONTRACTOR.
17. ANY WATER WELLS ENCOUNTERED ARE TO BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND PROPERLY ABANDONED BY A LICENSED WELL DRILLER.
18. ANY SEPTIC SYSTEMS ENCOUNTERED SHALL BE BROUGHT TO THE THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND SHALL BE PROPERLY DEMOLISHED.
19. ALL MONITORING WELLS ENCOUNTERED ARE TO BE BROUGHT TO THE PROJECT ENGINEER'S ATTENTION IMMEDIATELY AND SHALL BE PROPERLY PROTECTED UNLESS OTHERWISE NOTED.

GENERAL PAVING NOTES

1. CONTRACTOR SHALL ADJUST AND/OR CUT EXISTING PAVEMENT AS NECESSARY TO ASSURE A SMOOTH FIT AND CONTINUOUS GRADE. CONTRACTOR SHALL PROVIDE SMOOTH TRANSITION BETWEEN PROPOSED PAVEMENT, EXISTING PAVEMENT AND ANY STRUCTURES.
2. THE PROPOSED SPOT ELEVATIONS SHOWN ARE FINISHED ELEVATIONS INCLUDING ASPHALT AND CONCRETE. REFER TO PAVEMENT SECTIONS AND CURB DETAILS TO ESTABLISH CORRECT SUBBASE OR AGGREGATE BASE COURSE ELEVATIONS TO BE COMPLETED UNDER THIS CONTRACT.
3. ALL AREAS INDICATED AS PAVEMENT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TYPICAL PAVEMENT SECTIONS AS INDICATED ON THE DRAWINGS. CONTRACTOR SHALL REVIEW THE RECCOMENDATIONS OF THE GEOTECHNICAL ENGINEER PRIOR TO PAVING.
4. WHERE EXISTING PAVEMENT IS INDICATED TO BE REMOVED AND REPLACED, THE CONTRACTOR SHALL SAW CUT A MINIMUM 2" DEEP FOR A SMOOTH AND STRAIGHT JOINT AND REPLACE THE PAVEMENT WITH THE SAME TYPE AND DEPTH OF MATERIAL AS EXISTING OR AS INDICATED.
5. ALL PAVING, CONSTRUCTION, MATERIALS, AND WORKMANSHIP WITHIN JURISDICTIONAL RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH LOCAL OR COUNTY SPECIFICATIONS AND STANDARDS (LATEST EDITION) OR STATE DEPT. OF TRANSPORTATION SPECIFICATIONS AND STANDARDS (LATEST EDITION) IF NOT COVERED BY LOCAL OR COUNTY REGULATIONS.
6. ALL ON-SITE STRIPING IS TO BE PAINTED, UNLESS OTHERWISE NOTED. ALL STRIPING IN PUBLIC RIGHT-OF-WAY TO BE THERMOPLASTIC STRIPING.
7. TRANSVERSE EXPANSION JOINTS ARE TO BE PROVIDED IN CONCRETE SIDEWALKS AND COMBINED WALKS/CURBS WHERE SHOWN AND AT INTERVALS NOT TO EXCEED 12 X THE WIDTH OF THE WALK.
8. EXPANSION JOINTS SHALL BE INSTALLED IN CONCRETE PAVEMENTS AND WALKS AT ALL LOCATIONS WHERE PAVEMENTS AND WALKS ABUT A VERTICAL SURFACE SUCH AS A CURB, WALL, COLUMN, ETC.
9. CONTRACTION JOINTS SHALL BE PROVIDED AT EQUAL INTERVALS BETWEEN EXPANSION JOINTS IN CONCRETE WALKS. INSTALL CONTRACTION JOINTS AS SHOWN BUT IN NO CASE AT INTERVALS GREATER THAN 1.5 X THE WIDTH OF THE WALK.
10. CONTRACTOR SHALL COORDINATE PAVING IMPROVEMENTS TO AVOID TIRE MARKS FROM CONSTRUCTION ACTIVITY. FINAL PAVING SHALL BE AS SMOOTH AS POSSIBLE AND FREE FROM ANY CRACKS, SCRAPES, GOUGES, TIRE MARKS, ETC. CAUSED DURING CONSTRUCTION.
11. ALL NEW CONCRETE SHALL BE DOWELED INTO ALL EXISTING CONCRETE (PAVING, SIDEWALKS, CURB, ETC.). ALL STRUCTURES SHALL BE ADJUSTED AS NECESSARY TO BE FLUSH WITH FINAL PAVEMENT.

GENERAL UTILITY NOTES

1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL PERMITS PRIOR TO CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AN ENCROACHMENT AGREEMENT PERMIT, AS REQUIRED, TO CONSTRUCT UTILITY CONNECTIONS.
2. ANY WELLS DISCOVERED ON SITE THAT WILL HAVE NO USE MUST BE PLUGGED BY A LICENSED WELL DRILLING CONTRACTOR IN A MANNER APPROVED BY ALL JURISDICTIONAL AGENCIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY WELL ABANDONMENT PERMITS REQUIRED.
3. REFER TO ARCHITECTURAL /MECHANICAL, ELECTRICAL AND PLUMBING PLANS FOR CONTINUATION OF UTILITIES WITHIN 5 FEET OF STRUCTURES.
4. 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 72 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL CONTACT 811 FOR THE IDENTIFICATION OF EXISTING UTILITIES WITHIN THE SITE.
5. EXISTING UTILITIES SHOWN ARE LOCATED ACCORDING TO THE INFORMATION AVAILABLE TO THE ENGINEER AT THE TIME OF THE TOPOGRAPHIC SURVEY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR THE ENGINEER. GUARANTEE IS NOT MADE THAT ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN OR THAT THE LOCATION OF THOSE SHOWN ARE ENTIRELY ACCURATE. FINDING THE ACTUAL LOCATION OF ANY EXISTING UTILITIES IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE DONE BEFORE COMMENCING ANY WORK IN THE VICINITY. FURTHERMORE, THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES. THE OWNER OR ENGINEER WILL ASSUME NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING UTILITIES OR STRUCTURES, NOR FOR TEMPORARY BRACING AND SHORING OF SAME. IF IT IS NECESSARY TO SHORE, BRACE, SWING OR RELOCATE A UTILITY, THE UTILITY COMPANY OR DEPARTMENT AFFECTED SHALL BE CONTACTED AND THEIR PERMISSION OBTAINED REGARDING THE METHOD TO USE FOR SUCH WORK.
6. SHOULD ANY UNCHARTED OR INCORRECTLY CHARTED UTILITIES BE ENCOUNTERED, THE CONTRACTOR SHALL CONTACT THE OWNER IMMEDIATELY FOR DIRECTIONS.
7. THE CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. AT LEAST 72 HOURS PRIOR TO ANY DEMOLITION, GRADING, OR CONSTRUCTION ACTIVITY THE CONTRACTOR SHALL NOTIFY THE UTILITY PROVIDER FOR PROPER IDENTIFICATION OF EXISTING UTILITIES WITHIN THE PROJECT SITE. THE CONTRACTOR SHALL COORDINATE ANY INTERRUPTION OF UTILITY SERVICE WITH OWNER(S) AND RESPECTIVE UTILITY COMPANY REPRESENTATIVE.
8. CONTRACTOR SHALL NOTIFY THE UTILITY AUTHORITIES INSPECTORS 72 HOURS BEFORE CONNECTING TO ANY EXISTING LINE.
9. CONTRACTOR SHALL SAW CUT, REMOVE, AND REPLACE ASPHALT PAVEMENT AS NECESSARY TO INSTALL UNDERGROUND ELECTRIC,TELEPHONE, SEWER, WATER, AND COMMUNICATION CONDUITS.PAVEMENTS, WALKS, CURBS AND OTHER SURFACE IMPROVEMENTS REQUIRING REMOVAL FOR INSTALLATION OF UNDERGROUND UTILITIES SHALL BE RESTORED TO THEIR PRESENT CONDITION UNLESS OTHERWISE SHOWN.
10. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH LOCAL POWER COMPANY STANDARDS.
11. CONTRACTOR SHALL COORDINATE WITH ALL UTILITY COMPANIES FOR INSTALLATION REQUIREMENTS AND SPECIFICATIONS.CONTRACTOR IS RESPONSIBLE FOR ALL NECESSARY INSPECTIONS AND/OR CERTIFICATIONS REQUIRED BY CODES AND/OR UTILITY SERVICE COMPANIES.
12. PRESSURE UTILITY MAINS AND SERVICE LINES MAY NEED TO BE INSTALLED AT A DEPTH GREATER THAN THAT SPECIFIED OR SHOWN ON THE DRAWINGS TO CLEAR EXISTING AND PROPOSED CROSSING UTILITIES. IN SUCH CASES, THE CONTRACTOR SHALL INSTALL VERTICAL BENDS AS REQUIRED TO ACHIEVE APPROPRIATE CLEARANCE BETWEEN THE CROSSING UTILITIES.
13. WHERE GRADE MODIFICATIONS (CUT OR FILL) ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
14. THE CONTRACTOR SHALL MAINTAIN ALL FLOWS AND UTILITY CONNECTIONS TO EXISTING BUILDINGS, ETC. WITHOUT INTERRUPTION UNLESS/UNTIL AUTHORIZED TO DISCONNECT BY THE OWNER, UTILITY COMPANIES, AND GOVERNING AUTHORITIES. THE CONTRACTOR SHALL INSTALL AS NECESSARY, TEMPORARY SITE LIGHTING, GAS, SANITARY, WATER, STORM, ELECTRIC, TELEPHONE, AND CABLE SERVICES TO SERVICE BUILDING(S) TO REMAIN OPEN.
15. ALL PROPOSED STUBS SHALL BE CAPPED AND SHALL BE PROVIDED WITH FIELD MARKERS.
16. CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FOR SITE LIGHTING PER SITE LIGHTING PLAN (BY OTHERS).
17. CONTRACTOR TO PROVIDE AND INSTALL CONDUIT FOR IRRIGATION PER IRRIGATION PLAN (BY OTHERS).
18. LINES UNDERGROUND SHALL BE INSTALLED, INSPECTED, SURVEYED, AND APPROVED BEFORE BACKFILLING.
19. MINIMUM TRENCH WIDTH SHALL BE 2 FEET.
20. ALL CONDUIT SHALL BE INSTALLED PER CURRENT NATIONAL ELECTRIC CODE (N.E.C.) AND MANUFACTURER REQUIREMENTS.
21. ALL UTILITIES SHOULD BE KEPT TEN (10') APART (PARALLEL) OR WHEN CROSSING 18" VERTICAL CLEARANCE (OUTSIDE EDGE OF PIPE TO OUTSIDE EDGE OF PIPE).
22. THE CONTRACTOR SHALL CONSTRUCT GRAVITY SEWER LATERALS, MANHOLES GRAVITY SEWER LINES AND DOMESTIC WATER AND FIRE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS, EQUIPMENT, MACHINERY, TOOLS, MEANS OF TRANSPORTATION AND LABOR NECESSARY TO COMPLETE THE WORK IN FULL AND COMPLETE ACCORDANCE WITH THE SHOWN, DESCRIBED AND REASONABLY INTENDED REQUIREMENTS OF THE CONTRACT DOCUMENTS AND JURISDICTIONAL AGENCY REQUIREMENTS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
23. DEFLECTION OF PIPE JOINTS AND CURVATURE OF PIPE SHALL NOT EXCEED THE MANUFACTURER'S SPECIFICATIONS. SECURELY CLOSE ALL OPEN ENDS OF PIPE AND FITTINGS WITH A WATERTIGHT PLUG WHEN WORK IS NOT IN PROGRESS. THE INTERIOR OF ALL PIPES SHALL BE CLEAN AND JOINT SURFACES WIPED CLEAN AND DRY AFTER THE PIPE HAS BEEN LOWERED INTO THE TRENCH. VALVES SHALL BE PLUMB AND LOCATED ACCORDING TO THE PLANS.
24. ALL PHASES OF INSTALLATION, INCLUDING UNLOADING, TRENCHING, LAYING AND BACK FILLING, SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER. ALL PIPE AND FITTINGS SHALL BE CAREFULLY STORED FOLLOWING MANUFACTURER'S RECOMMENDATIONS. CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE COATING OR LINING IN ANY DUCTILE IRON PIPE FITTINGS. ANY PIPE OR FITTING WHICH IS DAMAGED OR WHICH HAS FLAWS OR IMPERFECTIONS WHICH, IN THE OPINION OF THE ENGINEER, OWNER, OR INSPECTOR RENDERS IT UNFIT FOR USE, SHALL NOT BE USED. ANY PIPE NOT SATISFACTORY FOR USE SHALL BE CLEARLY MARKED AND IMMEDIATELY REMOVED FROM THE JOB SITE, AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
25. WATER FOR FIRE FIGHTING SHALL BE AVAILABLE FOR USE PRIOR TO COMBUSTIBLES BEING BROUGHT ON SITE.
26. ALL UTILITY AND STORM DRAIN TRENCHES LOCATED UNDER AREAS TO RECEIVE PAVING SHALL BE COMPLETELY BACK FILLED IN ACCORDANCE WITH THE GOVERNING JURISDICTIONAL AGENCY'S SPECIFICATIONS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
27. UNDERGROUND WATER AND SANITARY SEWER LINES SHALL BE SURVEYED BY A PROFESSIONAL LAND SURVEYOR LICENSED IN THE PROJECT STATE PRIOR TO BACK FILLING.
28. CONTRACTOR SHALL PERFORM, AT HIS OWN EXPENSE, ANY AND ALL TESTS REQUIRED BY THE SPECIFICATIONS AND/OR ANY AGENCY HAVING JURISDICTION. THESE TESTS MAY INCLUDE, BUT MAY NOT BE LIMITED TO, INFILTRATION AND EXFILTRATION, TELEVISION INSPECTION, PRESSURE TESTS, AND A MANDREL TEST ON GRAVITY SEWER. A COPY OF THE TEST RESULTS SHALL BE PROVIDED TO THE UTILITY PROVIDERS, OWNER AND JURISDICTIONAL AGENCY AS REQUIRED.
29. IF DETERMINED NECESSARY BY THE LOCAL JURISDICTION, THE CONTRACTOR SHALL ABANDON EXISTING WATER METERS. CUT THE CORPORATION STOP OFF, AND AIR-GAP THE SERVICES.
30. UNDERGROUND UTILITY, INCLUDING STORMWATER PIPES, SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS:
    A. NO MORE THAN 500 LF OF TRENCH MAY BE OPENED AT ONE TIME.
    B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.

TREE PROTECTION NOTES

1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
2. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
3. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
4. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.

GENERAL GRADING NOTES

1. ALL NECESSARY PERMITS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND THE CONTRACTOR MUST OBTAIN ALL PERMITS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
2. THE CONTRACTOR MUST CALL THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS.
3. ALL ELEVATIONS ARE IN REFERENCE TO THE BENCHMARK, AND THIS MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
4. CONTRACTOR SHALL REVIEW, UNDERSTAND AND IMPLEMENT ALL REQUIRED EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO ANY DISTURBANCE.
5. THE CONTRACTOR SHALL GRADE THE SITE TO THE ELEVATIONS INDICATED AND SHALL REGRADE WASHOUTS WHERE THEY OCCUR AFTER EVERY RAINFALL UNTIL A GRASS STAND IS WELL ESTABLISHED OR ADEQUATE STABILIZATION OCCURS.
6. THE 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
7. ALL UNPAVED AREAS IN EXISTING RIGHTS-OF-WAY DISTURBED BY CONSTRUCTION SHALL BE REGRADED AND SEEDED.
8. THE CONTRACTOR SHALL CLEAR AND GRUB THE SITE AND PLACE, COMPACT, AND MOISTURE CONDITION ALL FILL PER THE GEOTECHNICAL ENGINEERS SPECIFICATIONS. FILL MATERIAL SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN AND IMPLEMENTATION OF ALL SHEETING, SHORING, BRACING AND SPECIAL EXCAVATION MEASURES REQUIRED TO MEET OSHA, FEDERAL, STATE AND LOCAL REGULATIONS PURSUANT TO THE INSTALLATION OF THE WORK INDICATED ON THESE DRAWINGS. THE DESIGN ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE DESIGN(S) TO INSTALL SAID ITEMS.
10. FIELD ADJUSTMENTS OF RIM ELEVATIONS OF STRUCTURES MAY BE REQUIRED TO MEET FIELD CONDITIONS. MAXIMUM HEIGHT OF ADJUSTING RINGS SHALL NOT EXCEED 12-INCHES. ADJUSTMENTS OF CASTINGS WHERE THE TOTAL HEIGHT OF ADJUSTING RINGS WOULD EXCEED 12 INCHES SHALL BE MADE BY REPLACING THE CONE AND/OR BARREL SECTION OF THE STRUCTURE.
11. WHERE GRADE MODIFICATIONS ARE SHOWN ADJACENT TO EXISTING VALVE BOX COVERS AND MANHOLE CASTINGS, THE VALVE BOX COVERS AND MANHOLE CASTINGS SHALL BE ADJUSTED FLUSH WITH THE PROPOSED GRADE.
12. ALL OPEN AREAS WITHIN THE PROJECT SITE SHALL BE SEEDED UNLESS INDICATED OTHERWISE ON THE LANDSCAPE PLAN.
13. IF DEWATERING IS REQUIRED, THE CONTRACTOR SHALL OBTAIN ANY APPLICABLE REQUIRED PERMITS. THE CONTRACTOR IS TO COORDINATE WITH THE OWNER AND THE DESIGN ENGINEER PRIOR TO ANY EXCAVATION.
14. STRIP TOPSOIL AND ORGANIC MATTER FROM ALL AREAS OF THE SITE AS REQUIRED. IN SOME CASES TOPSOIL MAY BE STOCKPILED ON SITE FOR PLACEMENT WITHIN LANDSCAPED AREAS BUT ONLY AS DIRECTED BY THE OWNER.
15. FIELD DENSITY TESTS SHALL BE TAKEN AT INTERVALS IN ACCORDANCE WITH THE LOCAL JURISDICTIONAL AGENCY OR TO STATE DEPARTMENT OF TRANSPORTATION STANDARDS. IN THE EVENT THAT THE CONTRACT DOCUMENTS AND THE JURISDICTIONAL AGENCY REQUIREMENTS ARE NOT IN AGREEMENT, THE MOST STRINGENT SHALL GOVERN.
16. ALL SLOPES AND AREAS DISTURBED BY CONSTRUCTION SHALL BE GRADED AS PER PLANS. THE AREAS SHALL THEN BE SEEDED AS SPECIFIED IN THE PLANS, FERTILIZED, MULCHED, WATERED AND MAINTAINED UNTIL HARDY GRASS GROWTH IS ESTABLISHED IN ALL AREAS. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE JOB SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. ALL EARTHEN AREAS WILL BE SEEDED AND MULCHED AS SHOWN ON THE LANDSCAPING PLAN.
17. ALL CUT OR FILL SLOPES SHALL BE 3 (HORIZONTAL) :1 (VERTICAL) OR FLATTER UNLESS OTHERWISE SHOWN. THE CONTRACTOR SHALL COORDINATE WITH THE GEOTECHNICAL ENGINEER FOR APPROPRIATE SLOPE STABILIZATION ON ALL SLOPES STEEPER THAN 3:1. CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY TO TRANSITION BACK TO EXISTING GRADE.
18. SEED MUST BE INSTALLED AND MAINTAINED ON EXPOSED SLOPES WITHIN 48 HOURS OF COMPLETING FINAL GRADING, AND AT ANY OTHER TIME AS NECESSARY, TO PREVENT EROSION, SEDIMENTATION OR TURBID DISCHARGES.
19. THE CONTRACTOR SHALL ENSURE THAT ISLAND PLANTING AREAS AND OTHER PLANTING AREAS ARE NOT COMPACTED AND DO NOT CONTAIN ROAD BASE MATERIALS. THE CONTRACTOR SHALL ALSO EXCAVATE AND REMOVE ALL UNDESIRABLE MATERIAL FROM ALL AREAS ON THE SITE TO BE PLANTED AND PROPERLY DISPOSED OF IN A LEGAL MANNER.
20. GRADE ALL AREAS TO MAINTAIN POSITIVE SLOPE AWAY FROM BUILDING.
21. ALL SOIL USED FOR PLANTING SHALL CONSIST OF REGIONALLY APPROPRIATE SOILS.
22. UNSUITABLE FILL BENEATH BUILDING PADS AND PAVED SURFACES MUST BE EXCAVATED AND REPLACED AS RECOMMENDED BY A GEOTECHNICAL ENGINEER.
23. ALL PAVEMENT SUB GRADES 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 ON THE CONSTRUCTION PLANS OR AS DIRECTED BY A GEOTECHNICAL ENGINEER. FILL SHALL BE PLACED AND COMPACTED IN MAXIMUM 8" LIFTS. IN AREAS WHERE ROCK IS ENCOUNTERED AT FINAL SUB GRADE ELEVATION, THE EXPOSED ROCK SHALL BE TOPPED WITH A LEVELING COURSE OF SANDY CLAY OR CLAYEY SAND (P.I. BETWEEN 4 AND 15) AS NEEDED TO PROVIDE A SMOOTH SURFACE FOR PAVING.

WATER DISTRIBUTION NOTES

1. CONTRACTOR TO LOCATE TIE-INS TO ALL BUILDINGS BASED ON ARCH / MECHANICAL, ELECTRICAL AND PLUMBING PLANS.
2. IN THE EVENT OF A VERTICAL CONFLICT BETWEEN WATER LINES, SANITARY LINES, STORM LINES AND GAS LINES (EXISTING AND PROPOSED), THE SANITARY LINE SHALL BE DUCTILE IRON PIPE WITH MECHANICAL JOINTS AT LEAST 10 FEET ON BOTH SIDES OF CROSSING, THE WATER LINE SHALL HAVE MECHANICAL JOINTS WITH APPROPRIATE THRUST BLOCKING AS REQUIRED TO PROVIDE A MINIMUM OF 18" CLEARANCE. MEETING REQUIREMENTS OF ANSI A21.10 OR ANSI 21.11 (AWWA C-151) (CLASS 50).
3. WATER MAINS SHALL BE INSTALLED WITH A MINIMUM OF 48 INCHES OF COVER AS MEASURED FROM THE TOP OF THE PIPE TO THE FINAL FINISH GRADE ABOVE THE PIPE.
4. THRUST BLOCKS OR JOINT RESTRAINTS SHALL BE INSTALLED ON ALL WATER LINES AT ALL BENDS, TEES AND HYDRANTS PER THE DETAILS.
5. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF FITTINGS AND APPURTENANCES ROUNDED TO THE NEAREST FOOT.
6. WATER LINES SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS:
   6" AND LARGER, PVC C-900, DR-18, PER ASTM D 2241
   6" AND LARGER DUCTILE IRON PIPE PER AWWA C150
   SMALLER THAN 6" EITHER COPPER TUBE TYPE "L" (SOFT) PER
   ANSI 816.22 OR PVC, 200 P.S.I., PER ASTM D1784 AND D2241.
7. ALL WATER JOINTS ARE TO BE MECHANICAL JOINTS WITH THRUST BLOCKING IF DICTATED BY THE AUTHORITY HAVING JURISDICTION.
8. THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND ITS REQUIRED BACKFLOW PREVENTER.
9. BACKFLOW PREVENTION ASSEMBLIES TO BE INSTALLED ABOVE-GROUND SHALL BE INSTALLED WITHIN INSULATED ENCLOSURE AND PER JURISDICTIONAL REQUIREMENTS. ENCLOSURES SHALL INCLUDE DRAIN PORT(S) FOR DISCHARGE WATER. CONTRACTOR SHALL ENSURE THE BACKFLOW PREVENTION ASSEMBLY AND ENCLOSURE IS INSTALLED OUTSIDE OF SIGHT DISTANCE TRIANGLES AT INTERSECTIONS WITH VEHICULAR TRAVEL WAYS.
10. ALL BACKFLOW PREVENTERS SHALL BE HEATED.

SANITARY SEWER NOTES

1. CONTRACTOR TO LOCATE LATERAL CONNECTIONS TO BUILDING PER PLUMBING PLANS.
2. PLACE CLEAN-OUTS ON SANITARY SEWER LATERALS AS REQUIRED BY PLUMBING CODE.
3. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES AND ARE ROUNDED TO THE NEAREST FOOT.
4. A MINIMUM HORIZONTAL SEPARATION OF 10 FEET BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT ALL TIMES. A MINIMUM VERTICAL SEPARATION OF 18 INCHES BETWEEN WATER LINES AND SEWERS SHALL BE MAINTAINED AT CROSSINGS. IN THE EVENT THAT MINIMUM SEPARATION REQUIREMENTS CANNOT BE MET, THE CONTRACTOR SHALL UTILIZE PRESSURE-TYPE WATER PIPE FOR THE SEWER PER DETAIL.
5. SANITARY SEWER PIPE SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS:
   8" PVC SDR35 PER ASTM D 3034, FOR PIPES LESS THAN 12' DEEP
   8" PVC SDR26 PER ASTM D 3034, FOR PIPES MORE THAN 12' DEEP
   6" PVC SCHEDULE 40
   DUCTILE IRON PIPE PER AWWA C150
6. WHENEVER VERTICAL DISTANCE BETWEEN OUTGOING AND INCOMING SEWERS IS MORE THAN 2 FEET AN OUTSIDE DROP MANHOLE SHALL BE INSTALLED.
7. SANITARY SEWER STRUCTURES SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLANS:
   48" DIAMETER PRECAST CONCRETE MANHOLE PER ASTM C478.
   48" DIAMETER PRECAST POLYETHYLENE IN ACCORDANCE WITH ASTM D1248. MANHOLES SHALL HAVE A COMPRESSIVE STRENGTH THAT MEETS ASTM D2412.
8. ALL MANHOLES AND CLEANOUTS SHALL BE H20 TRAFFIC GRADE AND RATED WITH HEAVY DUTY COVERS AND FRAMES PER THE SAME STANDARD.

No.	REVISIONS	DATE	BY

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE YEE 2/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

GENERAL NOTES

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC

WILMINGTON NORTH CAROLINA

SHEET NUMBER
C102

LINE LEGEND:

EASEMENT
FENCE
PROPERTY LINE
PROPERTY LINE (NOT SURVEYED)
RIGHT-OF-WAY
RIGHT-OF-WAY (NOT SURVEYED)
SETBACK
FIBER OPTIC LINE — FO —
GAS LINE — G —
POWER LINE — E —
POWER LINE (UNDERGROUND) — UE —
SANITARY SEWER PIPE — SS —
STORM DRAIN PIPE >12" — SD —
WATER LINE — W —

LEGEND:

AS – AUTO SPRINKLER
BFP – BACK FLOW PREVENTOR
C&G – CURB & GUTTER
CB – CATCH BASIN
CGF – COMBINED GRID FACTOR
CI – CURB INLET
CMP – CORRUGATED METAL PIPE
CP – CALCULATED POINT
CPP – CORRUGATED PLASTIC PIPE
C/L – CENTERLINE
C/O – CLEAN OUT
CONC. – CONCRETE
D.B. – DEED BOOK
DI – DROP INLET
DIP – DUCTILE IRON PIPE
ECM – EXISTING CONCRETE MONUMENT
EIP – EXISTING IRON PIPE
EIR – EXISTING IRON ROD
EMM – EXISTING METAL MONUMENT
EN – EXISTING NAIL
EOG – EDGE OF GRAVEL
EOP – EDGE OF PAVEMENT
EPH – EXISTING PUNCH HOLE
EU – END UNKNOWN
FES – FLARED END SECTION
FH – FIRE HYDRANT
GDP – GUARD POST
GM – GAS METER
GP – GATE POST
GR – GRATE
GV – GAS VALVE
GW – GUY WIRE
ICV – IRRIGATION CONTROL VALVE
INV – INVERT
LMP – LAMP POST
M.B. – MAP BOOK
MH – MANHOLE
MW – MONITORING WELL
N.G.S. – NATIONAL GEODETIC SURVEY
NIR – NEW IRON ROD
NN – NEW NAIL
O/HANG – OVERHANG
PB – POWER BOX
P.O.B. – POINT OF BEGINNING
PIN – PARCEL IDENTIFICATION NUMBER
PM – POWER METER
PMH – POWER MANHOLE
PP – POWER POLE
PG. – PAGE
PVC – PLASTIC PIPE
R/W – RIGHT-OF-WAY
RCP – REINFORCED CONCRETE PIPE
SDMH – STORM DRAIN MANHOLE
SSMH – SANITARY SEWER MANHOLE
(T) – TOTAL
TB – TELEPHONE BOX
TBM – TEMPORARY BENCHMARK
TERR. – TERRACOTTA PIPE
TMH – TELEPHONE MANHOLE
TPED – TELEPHONE PEDESTAL
TSB – TRAFFIC SIGNAL BOX
TVB – CABLE TV BOX
UTB – UTILITY BOX
WB – WATER BOX
WM – WATER METER
WV – WATER VALVE

TREE LEGEND:

OAK – WILLOW OR WATER
CED – CEDAR
LP – LOBLOLLY PINE
MAG – MAGNOLIA
MAP – MAPLE
SG – SWEET GUM

MAP REFERENCES:

R1 – M.B. 43, PG. 157
R2 – M.B. 1846, PG. 457

ZONING:

SUBJECT PROPERTY ZONED: MX(L)
MIXED USE (LEGACY DISTRICT)

FOR FURTHER INFORMATION CONTACT THE CITY OF WILMINGTON ZONING DEPARTMENT AT 910-254-0900.

NOTE: NO ZONING REPORT OR ZONING VERIFICATION LETTER WAS PROVIDED TO THE SURVEYOR, PURSUANT TO ALTA TABLE A ITEM 6. PURCHASER / DEVELOPER TO VERIFY ZONING RESTRICTIONS PRIOR TO DEVELOPMENT OF THIS SITE.

OBSERVED PARKING:

NO MARKED PARKING SPACES WERE OBSERVED ON SUBJECT PROPERTY

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

UTILITIES:

POWER
DUKE POWER ENERGY
800-452-2777

TELEPHONE
AT&T
800-247-2020

WATER & SEWER
CITY OF WILMINGTON
910-470-1931

GAS
PIEDMONT NATURAL GAS CO.
800-752-7504

CABLE TELEVISION
CHARTER COMMUNICATIONS
800-778-9140

MAP REFERENCE: NAD 83 (2011)

NGS MONUMENT "ECHO FARMS" NAD 83(2011) N=153,001.83' E=2,328,439.88' EL=26.96 (NAVD 88)

FIDELITY NATIONAL TITLE INSURANCE COMPANY

COMMITMENT NO: WL23005331, COMMITMENT DATE: FEBRUARY 15, 2023
SCHEDULE B – II (EXCEPTIONS)

(3) BUILDING RESTRICTION LINES, EASEMENTS, AND ANY OTHER MATTERS SHOWN ON MAP OR PLAT RECORDED IN PLAT BOOK 43, PAGE 157. (AS SHOWN HEREON)

(4) EASEMENT(S) AND RIGHT(S)-OF-WAY FOR ROADS OR PUBLIC/PRIVATE UTILITIES. (R/W OF PUBLIC ROADS AS PER RECORDED PLATS IS SHOWN HEREON)

5. EASEMENT(S) OR RIGHT(S)-OF-WAY IN FAVOR OF SOUTHERN BELL TELEPHONE AND TELEGRAPH COMPANY RECORDED IN BOOK 672, PAGE 677. (GENERAL IN NATURE, LOCATION CANNOT BE SPECIFICALLY DETERMINED)

(6) MEMORANDUM OF ACTION FILED BY THE STATE HIGHWAY COMMISSION RECORDED IN BOOK 690, PAGE 375, WITH JUDGMENT RECORDED IN BOOK 787, PAGE 423. (R/W OF U.S. HIGHWAY 421 IS SHOWN HEREON)

7. DECLARATION OF FINAL RESOLUTION CLAIM TO SUBMERGED LANDS RECORDED IN BOOK 2042, PAGE 957. (CONTAINS NO PLOTTABLE MATTERS)

NOTES:

1. THIS PLAT IS NOT FOR RECORDATION AS PER G.S. 47-30 AS AMENDED.
2. ALL CORNERS MONUMENTED AS SHOWN.
3. NO RECOVERABLE NGS MONUMENT LOCATED WITHIN 2,000 FEET OF SUBJECT PROPERTY.
4. DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND DISTANCES, UNLESS OTHERWISE NOTED.
5. AREA CALCULATIONS WERE DETERMINED BY COORDINATE COMPUTATION.
6. UNDERGROUND UTILITIES MAY EXIST THAT ARE NOT SHOWN HEREON. NO GUARANTEE CAN BE MADE THAT ALL UNDERGROUND UTILITIES PRESENT, EITHER IN SERVICE OR ABANDONED, ARE SHOWN. THE LOCATION OF UNDERGROUND UTILITIES SHOWN ON THIS MAP IS APPROXIMATE, BASED ON INFORMATION PROVIDED BY OTHERS OR BY FIELD LOCATION, AS OBSERVED AT THE TIME OF THIS SURVEY. UTILITY LOCATIONS AS SHOWN HEREON ARE INTENDED FOR PLANNING ONLY. ACTUAL LOCATION, SIZE, OR DEPTH OF LINE SHOULD BE VERIFIED WITH THE INDIVIDUAL UTILITY COMPANY BEFORE CONSTRUCTION. CORNERSTONE PROFESSIONAL LAND SURVEYING, PLLC IS NOT LIABLE FOR MISIDENTIFIED, MISSING, OR WRONGFULLY LOCATED UTILITIES.
7. BROKEN LINES, UNLESS DESCRIBED WITH A COURSE AND DISTANCE, INDICATE PROPERTY LINES NOT SURVEYED.
8. THE OFF-SITE RIGHT-OF-WAY SHOWN HEREON IS FOR ILLUSTRATIVE PURPOSES ONLY. THE UNDERSIGNED CERTIFIES ONLY TO THE RIGHT-OF-WAYS SURVEYED, AND DOES NOT CERTIFY TO THE RIGHT OF WAY WIDTH OF ANY ADJACENT PROPERTIES.
9. IN THE ABSENCE OF ANY KNOWN OFFICIAL DOCUMENTATION (E.G. NCDOT RIGHT-OF-WAY [R/W] TAKING DEED, HIGHWAY MAP, ETC.), THE NCDOT R/W WIDTH IS PRESUMED TO BE THE NOMINAL WIDTH OF THE ROAD, BYWAY OR HIGHWAY INCLUSIVE OF THE SHOULDERS CURRENTLY MAINTAINED BY NCDOT; MOREOVER, SAID WIDTH HAS FURTHER BEEN DEFINED BY THE NCDOT AS THE WIDTH FROM BACK-OF-DITCH ON ONE SIDE OF A GIVEN ROAD TO THE BACK-OF- DITCH ON THE OPPOSITE SIDE OF SAID ROAD. FURTHERMORE, THE PHYSICAL PRESENCE OF PUBLIC UTILITIES OCCUPYING SUCH CLAIMED MAINTENANCE WIDTH PROVIDES FURTHER EVIDENCE SUPPORTING THE EXISTENCE OF SAID PRESCRIPTIVE R/W WIDTH.
10. ELEVATIONS BASED ON N.G.S. MONUMENT "TEE", ELEVATION = 48.4 FEET (NAVD 88).
11. NO BUILDINGS EXIST ON SUBJECT PROPERTY.

TITLE DESCRIPTION:

LYING AND BEING SITUATE IN NEW HANOVER COUNTY, NORTH CAROLINA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEING TRACT 3 AS SHOWN ON THE MAP OF DIVISION OF PROPERTY OF CLAUD L. EFIRD, JR, ET AL, RECORDED IN PLAT BOOK 43, PAGE 157, NEW HANOVER COUNTY REGISTRY.

PROPERTY DESCRIPTION:

BEING A PART OF THAT CERTAIN TRACT OR PARCEL OF LAND LYING AND BEING IN THE CITY OF WILMINGTON, NEW HANOVER COUNTY, NORTH CAROLINA, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT AN EXISTING 3/4-INCH IRON PIPE AT THE SOUTHEAST INTERSECTION FORMED BY THE EASTERLY MARGIN OF THE RIGHT OF WAY OF CAROLINA BEACH ROAD (US HWY 421) AND THE SOUTHERLY MARGIN OF THE RIGHT OF WAY OF GEORGE ANDERSON BOULEVARD; THENCE RUNNING WITH AND ALONG THE EASTERLY MARGIN OF GEORGE ANDERSON BOULEVARD (A 100' PUBLIC R/W) NORTH 56°04'41" EAST A DISTANCE OF 322.15 FEET TO A NEW 1/2-INCH IRON ROD; THENCE TURNING AND RUNNING WITH A NEW LINE THROUGH THE PROPERTY OF KQC INVESTORS, LLC AS DESCRIBED IN DEED BOOK 6537, PAGE 2693 IN THE NEW HANOVER COUNTY PUBLIC REGISTRY (THE "REGISTRY") FOR THE FOLLOWING THREE (3) COURSES AND DISTANCES: 1) SOUTH 33°55'19" EAST A DISTANCE OF 59.46 FEET TO A NEW 1/2-INCH IRON ROD; 2) SOUTH 05°29'25" WEST A DISTANCE OF 94.59 FEET TO A NEW 1/2-INCH IRON ROD; 3) SOUTH 39°30'35" EAST A DISTANCE OF 205.32 FEET TO A NEW 1/2-INCH IRON ROD ON THE NORTHERLY LINE OF THE PROPERTY OF NEW HANOVER COUNTY BOARD OF EDUCATION AS DESCRIBED IN DEED BOOK 1846, PAGER 457 OF SAID REGISTRY; THENCE WITH THE NORTHERLY LINE OF THE NEW HANOVER COUNTY BOARD OF EDUCATION PROPERTY SOUTH 50°26'06" WEST A DISTANCE OF 247.95 FEET TO AN EXISTING 3/4-INCH IRON PIPE ON THE EASTERLY MARGIN OF THE RIGHT OF WAY OF CAROLINA BEACH ROAD (US HWY 421); THENCE WITH THE EASTERLY MARGIN OF CAROLINA BEACH ROAD (A 160' PUBLIC R/W) FOR THE FOLLOWING TWO (2) COURSES AND DISTANCES: 1) NORTH 39°47'06" WEST A DISTANCE OF 143.65 FEET TO AN EXISTING CONCRETE R/W MONUMENT; 2) NORTH 39°19'45" WEST A DISTANCE OF 219.34 FEET TO THE POINT AND PLACE OF BEGINNING, CONTAINING AN AREA OF 93,717 SQUARE FEET OR 2.152 ACRES OF LAND, MORE OR LESS.

GPS CERTIFICATION (21 NCAC 56 .1607):

I, ANDREW B. BAKER, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

(1) CLASS OF SURVEY: A (0.10'+50ppm)
(2) POSITIONAL ACCURACY: HORZ. =0.03'; VERT.=0.03'
(3) TYPE OF GPS FIELD PROCEDURE: REAL-TIME KINEMATIC
(4) DATES OF SURVEY: MARCH 23, 2023
(5) DATUM/EPOCH: NAD83 (2011), NAVD88
(6) PUBLISHED/FIXED-CONTROL USE: NGS MONUMENT "ECHO FARMS" (HORIZONTAL) AND NGS MONUMENT "TEE" (VERTICAL)
(7) GEOID MODEL: GEOID18 (CONUS)
(8) COMBINED GRID FACTOR(S): 1.00005443
(9) UNITS: US SURVEY FEET

ALTA/NSPS CERTIFICATION:

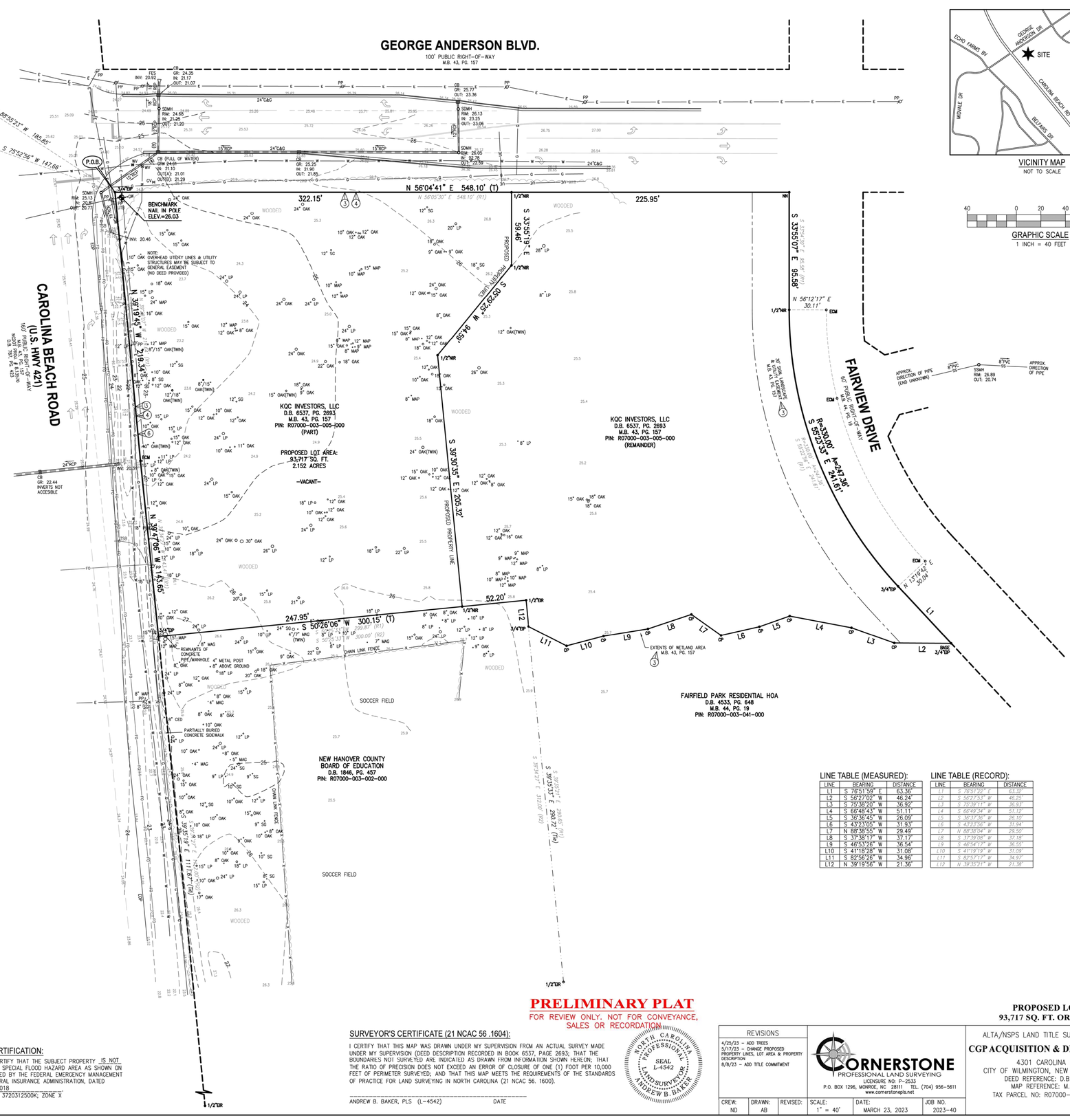
TO: CGP ACQUISITION & DEVELOPMENT, LLC; WAWA NORTH CAROLINA, LLC; FIDELITY NATIONAL TITLE INSURANCE COMPANY

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 5, 6(a), 7(a), 7(b1), 7(c), 8, 9, 11(b), AND 13 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON MARCH 23, 2023.

ANDREW B. BAKER, PLS (L-4542) DATE
email: andy@cornerstonepls.net

FLOOD CERTIFICATION:

THIS IS TO CERTIFY THAT THE SUBJECT PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON MAPS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, DATED AUGUST 28, 2018
MAP NUMBER: 3720312500K; ZONE X



VICINITY MAP
NOT TO SCALE

40 0 20 40 80
GRAPHIC SCALE
1 INCH = 40 FEET

LINE TABLE (MEASURED):

LINE	BEARING	DISTANCE
L1	S 76°51'59" E	63.36'
L2	S 56°27'02" W	46.24'
L3	S 75°38'20" W	36.92'
L4	S 66°48'43" W	51.11'
L5	S 36°36'45" W	26.09'
L6	S 43°23'05" W	31.93'
L7	N 88°38'55" W	29.49'
L8	S 37°38'17" W	37.17'
L9	S 46°53'26" W	36.54'
L10	S 41°18'28" W	31.08'
L11	S 82°56'28" W	34.96'
L12	N 39°19'56" W	21.36'

LINE TABLE (RECORD):

LINE	BEARING	DISTANCE
L1	S 76°51'22" E	63.36'
L2	S 56°27'53" W	46.25'
L3	S 75°39'11" W	36.93'
L4	S 66°49'34" W	51.12'
L5	S 36°37'36" W	26.10'
L6	S 43°23'56" W	31.94'
L7	N 88°38'04" W	29.50'
L8	S 37°39'08" W	37.18'
L9	S 46°54'17" W	36.55'
L10	S 41°19'19" W	31.09'
L11	S 82°57'17" W	34.97'
L12	N 39°35'21" W	21.38'

PRELIMINARY PLAT

FOR REVIEW ONLY. NOT FOR CONVEYANCE, SALES OR RECORDATION.

SURVEYOR'S CERTIFICATE (21 NCAC 56 .1604):

I CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 6537, PAGE 2693; THAT THE BOUNDARIES NOT SURVEYED ARE INDICATED AS DRAWN FROM INFORMATION SHOWN HEREON; THAT THE RATIO OF PRECISION DOES NOT EXCEED AN ERROR OF CLOSURE OF ONE (1) FOOT PER 10,000 FEET OF PERIMETER SURVEYED; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56. 1600).

NORTH CAROLINA PROFESSIONAL SEAL L-4542 LAND SURVEYOR ANDREW B. BAKER

ANDREW B. BAKER, PLS (L-4542) DATE

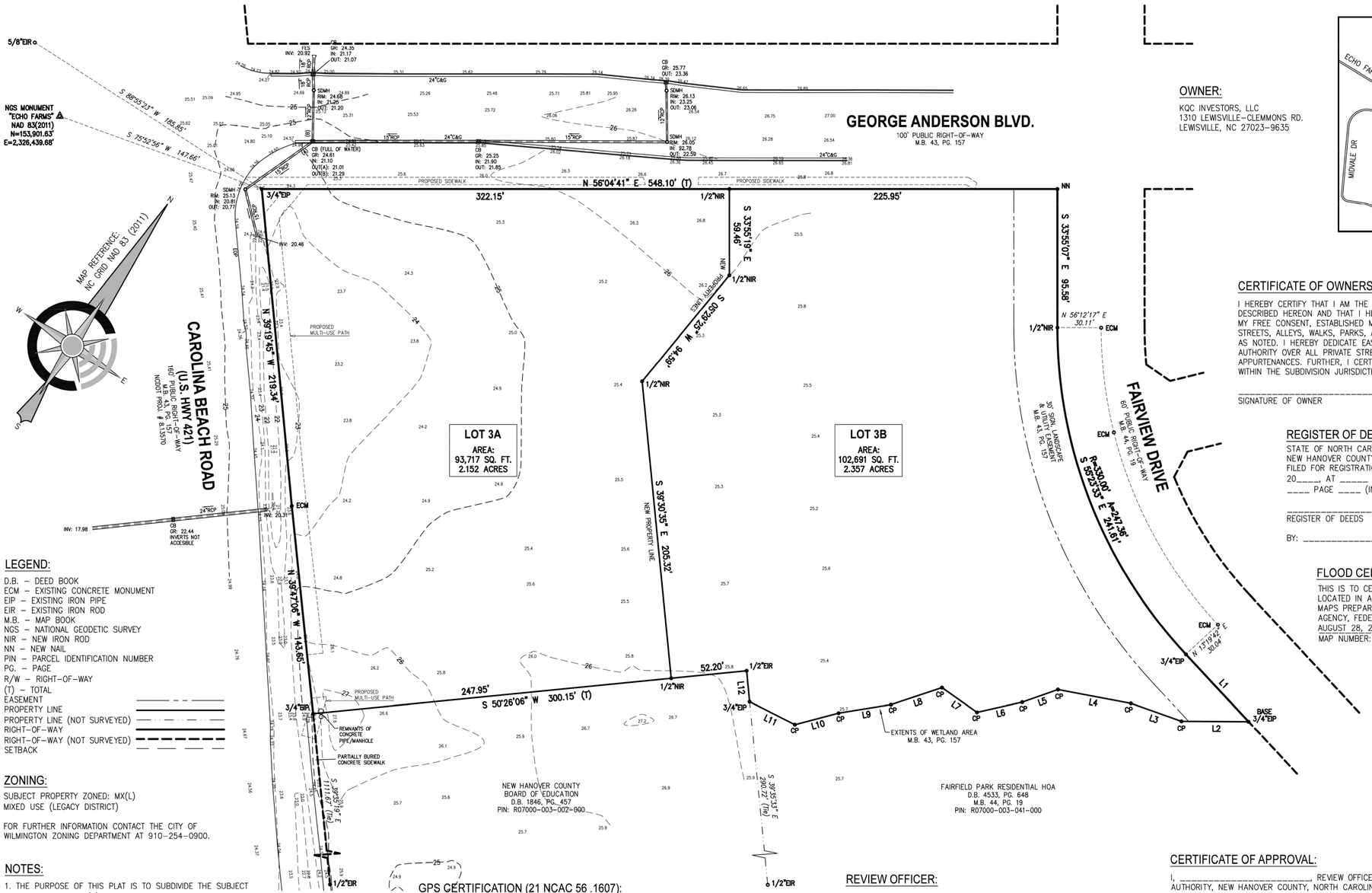
PROPOSED LOT AREA:
93,717 SQ. FT. OR 2.152 ACRES

REVISIONS
4/25/23 – ADD TREES
5/17/23 – CHANGE PROPOSED PROPERTY LINES, LOT AREA & PROPERTY DESCRIPTION
8/8/23 – ADD TITLE COMMITMENT

CREW:	DRAWN:	REVISED:	SCALE:	DATE:	JOB NO.
ND	AB		1" = 40'	MARCH 23, 2023	2023-40

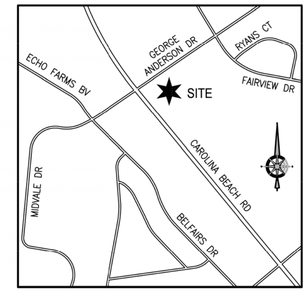
CORNERSTONE PROFESSIONAL LAND SURVEYING
LICENSURE NO: P-2533
P.O. BOX 1296, MONROE, NC 28111 TEL (704) 956-5611
www.cornerstonepls.net

ALTA/NSPS LAND TITLE SURVEY PREPARED FOR:
CGP ACQUISITION & DEVELOPMENT, LLC
4301 CAROLINA BEACH ROAD
CITY OF WILMINGTON, NEW HANOVER COUNTY, NC
DEED REFERENCE: D.B. 6537, PG. 2693
MAP REFERENCE: M.B. 43, PG. 157
TAX PARCEL NO: R07000-003-005-000 (PART)



OWNER:

KQC INVESTORS, LLC
1310 LEWISVILLE-CLEMMONS RD.
LEWISVILLE, NC 27023-9635



VICINITY MAP
NOT TO SCALE

CERTIFICATE OF OWNERSHIP AND DEDICATION:

I HEREBY CERTIFY THAT I AM THE OWNER OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT I HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH MY FREE CONSENT, ESTABLISHED MINIMUM SETBACK LINES, AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS, AND OTHER SITES TO PUBLIC OR PRIVATE USE AS NOTED. I HEREBY DEDICATE EASEMENTS TO THE CAPE FEAR PUBLIC UTILITY AUTHORITY OVER ALL PRIVATE STREETS FOR WATER AND SEWER LINES AND APPURTENANCES. FURTHER, I CERTIFY THE LAND AS SHOWN HEREON IS LOCATED WITHIN THE SUBDIVISION JURISDICTION OF THE CITY OF WILMINGTON.

_____
SIGNATURE OF OWNER DATE

REGISTER OF DEEDS:

STATE OF NORTH CAROLINA
NEW HANOVER COUNTY
FILED FOR REGISTRATION ON THE _____ DAY OF _____, 20____, AT _____ (A.M./P.M.) AND DULY RECORDED IN MAP BOOK _____ PAGE _____ (INST. # _____).

_____
REGISTER OF DEEDS

BY: _____

FLOOD CERTIFICATION:

THIS IS TO CERTIFY THAT THE SUBJECT PROPERTY IS NOT LOCATED IN A SPECIAL FLOOD HAZARD AREA AS SHOWN ON MAPS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FEDERAL INSURANCE ADMINISTRATION, DATED AUGUST 28, 2018
MAP NUMBER: 3720312500K; ZONE X

LINE TABLE:

LINE	BEARING	DISTANCE
L1	S 76°51'59" E	63.36'
L2	S 56°27'02" W	46.24'
L3	S 75°38'20" W	36.92'
L4	S 66°48'43" W	51.11'
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L10	S 41°18'28" W	31.08'
L11	S 82°56'26" W	34.96'
L12	N 39°19'56" W	21.36'

LEGEND:

D.B. – DEED BOOK
ECM – EXISTING CONCRETE MONUMENT
EIP – EXISTING IRON PIPE
EIR – EXISTING IRON ROD
M.B. – MAP BOOK
NGS – NATIONAL GEODETIC SURVEY
NIR – NEW IRON ROD
NN – NEW NAIL
PIN – PARCEL IDENTIFICATION NUMBER
PG. – PAGE
R/W – RIGHT-OF-WAY
(T) – TOTAL
EASEMENT
PROPERTY LINE
PROPERTY LINE (NOT SURVEYED)
RIGHT-OF-WAY
RIGHT-OF-WAY (NOT SURVEYED)
SETBACK

ZONING:

SUBJECT PROPERTY ZONED: MX(L)
MIXED USE (LEGACY DISTRICT)

FOR FURTHER INFORMATION CONTACT THE CITY OF WILMINGTON ZONING DEPARTMENT AT 910-254-0900.

NOTES:

1. THE PURPOSE OF THIS PLAT IS TO SUBDIVIDE THE SUBJECT PROPERTY INTO TWO (2) LOTS AS SHOWN HEREON.

2. ALL CORNERS MONUMENTED AS SHOWN.

3. BOUNDARY INFORMATION SHOWN HEREON WAS TAKEN FROM A FIELD RUN SURVEY PERFORMED BY CORNERSTONE PROFESSIONAL LAND SURVEYING, PLLC, DATED MARCH 23, 2023 (JOB NO. 2023-40).

4. DISTANCES SHOWN HEREON ARE HORIZONTAL GROUND DISTANCES, UNLESS OTHERWISE NOTED.

5. AREA CALCULATIONS WERE DETERMINED BY COORDINATE COMPUTATION.

6. BROKEN LINES, UNLESS DESCRIBED WITH A COURSE AND DISTANCE, INDICATE PROPERTY LINES NOT SURVEYED.

7. PHYSICAL IMPROVEMENTS MAY EXIST ON THIS PROPERTY THAT ARE NOT SHOWN HEREON.

8. THE OFF-SITE RIGHT-OF-WAY SHOWN HEREON IS FOR ILLUSTRATIVE PURPOSES ONLY. THE UNDERSIGNED CERTIFIES ONLY TO THE RIGHT-OF-WAYS SURVEYED, AND DOES NOT CERTIFY TO THE RIGHT OF WAY WIDTH OF ANY ADJACENT PROPERTIES.

9. IN THE ABSENCE OF ANY KNOWN OFFICIAL DOCUMENTATION (E.G. NCDOT RIGHT-OF-WAY [R/W] TAKING DEED, HIGHWAY MAP, ETC.), THE NCDOT R/W WIDTH IS PRESUMED TO BE THE NOMINAL WIDTH OF THE ROAD, BYWAY OR HIGHWAY INCLUSIVE OF THE SHOULDERS CURRENTLY MAINTAINED BY NCDOT; MOREOVER, SAID WIDTH HAS FURTHER BEEN DEFINED BY THE NCDOT AS THE WIDTH FROM BACK-OF-DITCH ON ONE SIDE OF A GIVEN ROAD TO THE BACK-OF- DITCH ON THE OPPOSITE SIDE OF SAID ROAD. FURTHERMORE, THE PHYSICAL PRESENCE OF PUBLIC UTILITIES OCCUPYING SUCH CLAIMED MAINTENANCE WIDTH PROVIDES FURTHER EVIDENCE SUPPORTING THE EXISTENCE OF SAID PRESCRIPTIVE R/W WIDTH.

10. ELEVATIONS BASED ON N.G.S. MONUMENT "TEE", ELEVATION = 48.4 FEET (NAVD 88).

GPS CERTIFICATION (21 NCAC 56 .1607):

I, ANDREW B. BAKER, CERTIFY THAT THIS MAP WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL GPS SURVEY MADE UNDER MY SUPERVISION AND THE FOLLOWING INFORMATION WAS USED TO PERFORM THE SURVEY:

(1) CLASS OF SURVEY: A (0.10'+50ppm)
(2) POSITIONAL ACCURACY: HORZ. =0.03'; VERT.=0.03'
(3) TYPE OF GPS FIELD PROCEDURE: REAL-TIME KINEMATIC
(4) DATES OF SURVEY: MARCH 23, 2023
(5) DATUM/EPOCH: NAD83 (2011), NAVD88
(6) PUBLISHED/FIXED-CONTROL USE: NGS MONUMENT "ECHO FARMS" (HORIZONTAL) AND NGS MONUMENT "TEE" (VERTICAL)
(7) GEOID MODEL: GEOID18 (CONUS)
(8) COMBINED GRID FACTOR(S): 1.00005443
(9) UNITS: US SURVEY FEET

PRELIMINARY PLAT
FOR REVIEW ONLY. NOT FOR CONVEYANCE, SALES OR RECORDATION

SURVEYOR'S CERTIFICATE (G.S. 47-30):

I, ANDREW B. BAKER, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION (DEED DESCRIPTION RECORDED IN BOOK 6537, PAGE 2693); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION AS REFERENCED ON THE FACE OF THIS PLAT; THAT THE RATIO OF PRECISION EXCEEDS 1:10,000 LINEAR FEET; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH G.S. 47-30 AS AMENDED. WITNESS MY ORIGINAL SIGNATURE, LICENSE NUMBER AND SEAL THIS 17TH DAY OF MAY, A.D., 2023.

THIS PLAT CREATES A SUBDIVISION OF LAND WITHIN A COUNTY OR MUNICIPALITY THAT HAS AN ORDINANCE THAT REGULATES PARCELS OF LAND.

_____
ANDREW B. BAKER, PLS (L-4542) DATE

NORTH CAROLINA PROFESSIONAL SEAL L-4542 LAND SURVEYOR ANDREW B. BAKER

REVIEW OFFICER:

I, _____ REVIEW OFFICER OF NEW HANOVER COUNTY, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL STATUTORY REQUIREMENTS FOR RECORDING.

_____
REVIEW OFFICER DATE

50 0 25 50 100
GRAPHIC SCALE
1 INCH = 50 FEET

CERTIFICATE OF APPROVAL:

I, _____, REVIEW OFFICER FOR THE CAPE FEAR PUBLIC UTILITY AUTHORITY, NEW HANOVER COUNTY, NORTH CAROLINA, CERTIFY THAT THE MAP OR PLAT TO WHICH THIS CERTIFICATION IS AFFIXED MEETS ALL AUTHORITY STANDARDS AND REQUIREMENTS FOR THE PUBLIC UTILITIES AS SET FORTH BY ORDINANCES. WITH THE RECORDATION OF THIS PLAT, THE CAPE FEAR PUBLIC UTILITY AUTHORITY ACCEPTS THE OWNER'S OFFER OF DEDICATION FOR THE PUBLIC WATER AND/OR SEWER PURPOSES ALL EASEMENTS, COMMON AREAS, AND/OR RIGHTS-OF-WAY SHOWN ON THE PLAT AS DEDICATED FOR PUBLIC UTILITY PURPOSES. APPROVAL OF THIS PLAT DOES NOT GUARANTEE THE AVAILABILITY OF WATER AND SEWER SERVICES FROM THE CAPE FEAR PUBLIC UTILITY AUTHORITY.

CAPE FEAR PUBLIC UTILITY AUTHORITY

BY: _____
REVIEW OFFICER TITLE DATE

TOTAL AREA:
196,408 SQ. FT. OR 4.509 ACRES

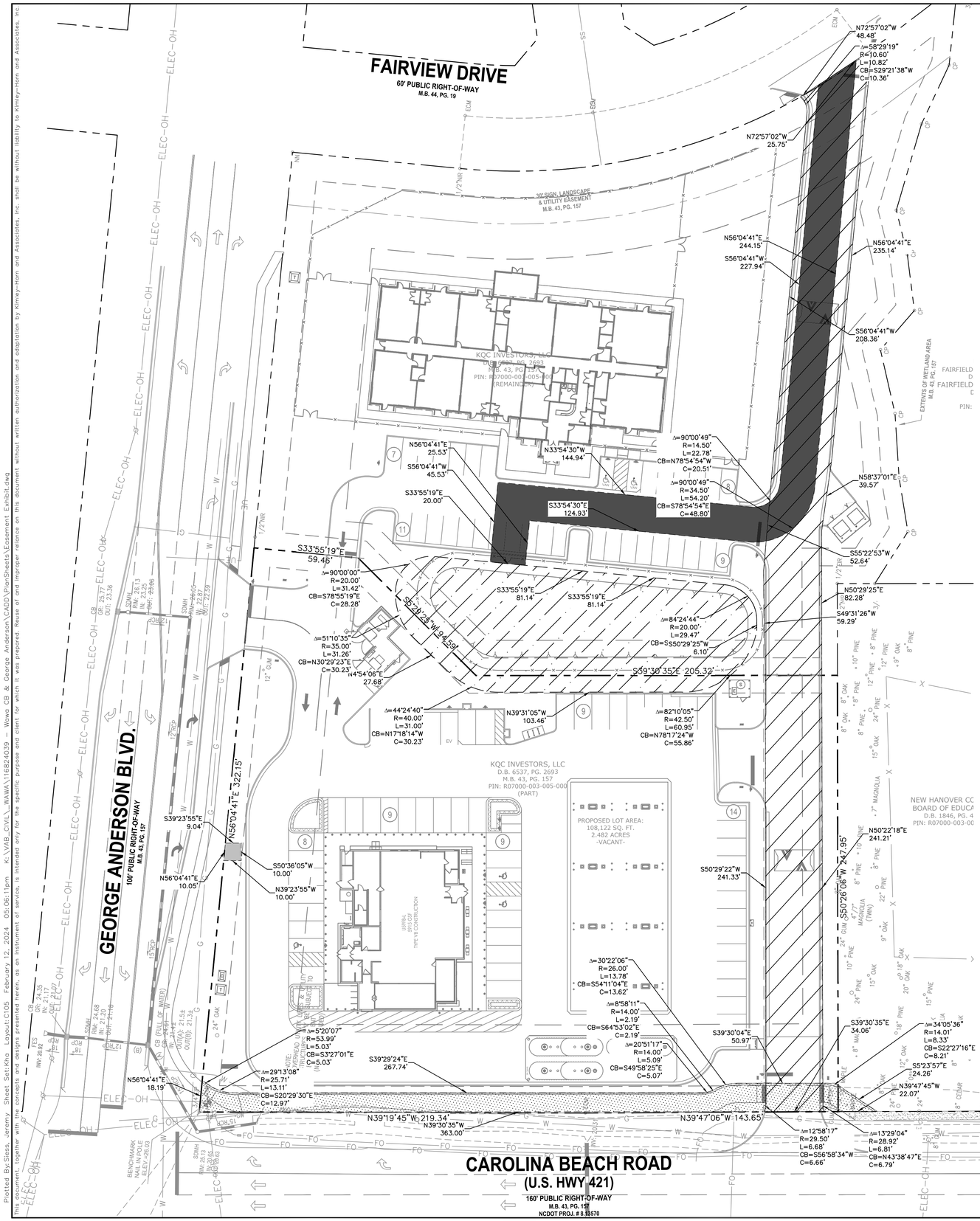
REVISIONS

CORNERSTONE
PROFESSIONAL LAND SURVEYING
LICENSURE NO: P-2533
P.O. BOX 1296, MONROE, NC 28111 TEL. (704) 956-5611
www.cornerstonepls.net

CREW:	DRAWN:	REVISED:	SCALE:	DATE:	JOB NO.
ND	AB		1" = 50'	MAY 17, 2023	2023-41

MINOR SUBDIVISION PLAT OF:
FAIRFIELD PARK TRACTS 3A & 3B
KQC INVESTORS, LLC (OWNER)
4301 CAROLINA BEACH ROAD
CITY OF WILMINGTON, WILMINGTON TOWNSHIP,
NEW HANOVER COUNTY, NC
DEED REFERENCE: D.B. 6537, PG. 2693
MAP REFERENCE: M.B. 43, PG. 157
TAX PARCEL NO: R07000-003-005-000

PLOTTED: 9/14/2023
C:\USERS\WUFPA\ONEDRIVE\CORNERSTONE PLS\OPERATIONS\PROJECTS\2023\2023-41 (PLAT - 4301 CAROLINA BEACH RD)\DWG\2023-41.DWG



EASEMENT LEGEND

	CROSS ACCESS EASEMENT
	UTILITY EASEMENT
	SHARED USE TRAIL EASEMENT
	DRAINAGE EASEMENT
	MAINTENANCE ACCESS EASEMENT

No.	REVISIONS	DATE	BY

Kimley»Horn

200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

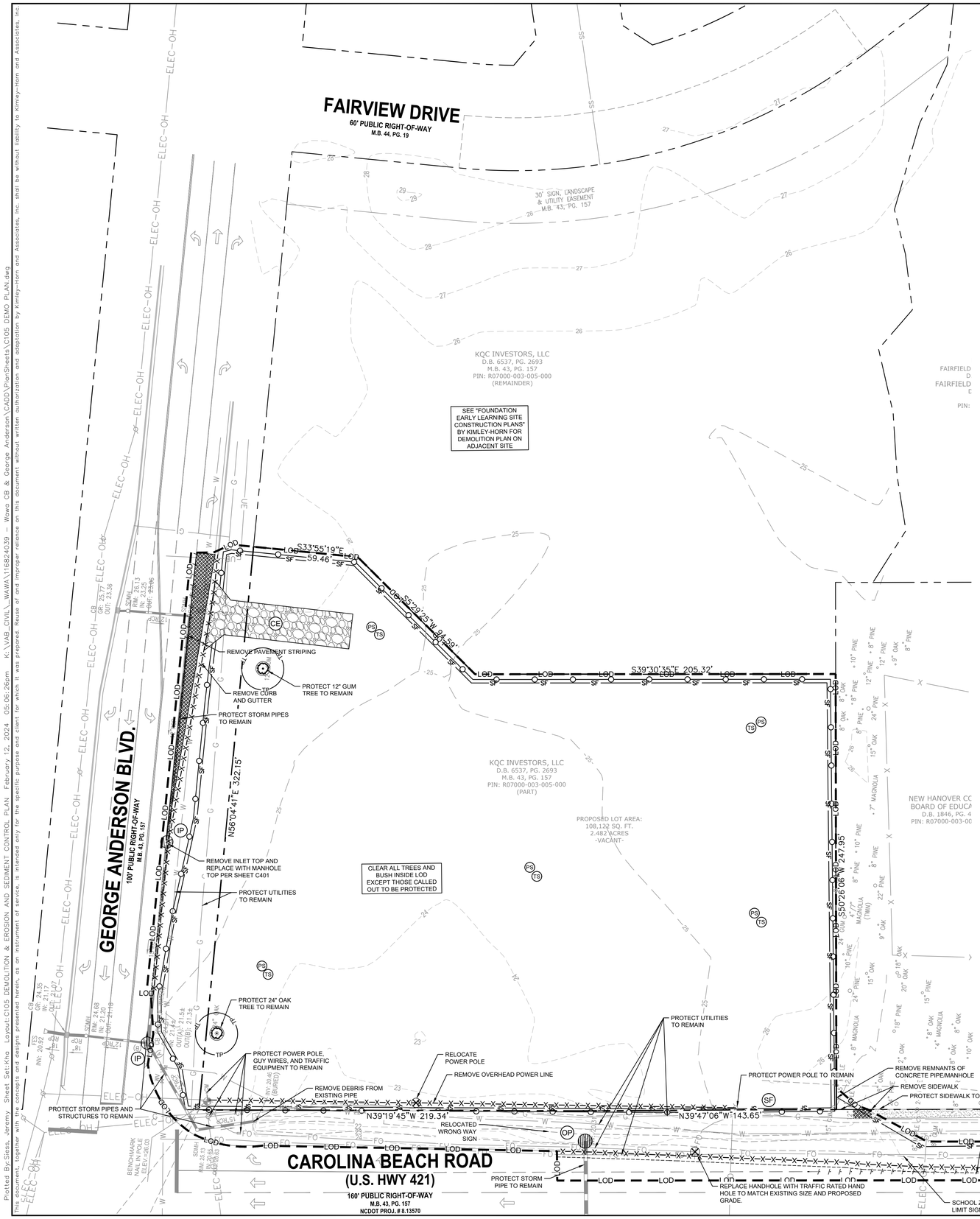
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE
1/9/2025

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

EASEMENT EXHIBIT

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C105



DEMOLITION AND EROSION CONTROL GENERAL NOTES

1. THE DEMOLITION AND EROSION CONTROL PLAN IS INTENDED TO AID THE CONTRACTOR DURING THE BIDDING AND CONSTRUCTION PROCESS AND IS NOT INTENDED TO DEPICT EACH AND EVERY ELEMENT OF DEMOLITION. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING THE DETAILED SCOPE OF DEMOLITION AND FOR THE DEMOLITION, REMOVAL, OR RELOCATIONS OF ITEMS IN CONFLICT WITH THE PROPOSED CONSTRUCTION.
2. REMOVE ALL EXISTING ITEMS WITHIN THE LIMITS OF DISTURBANCE UNLESS OTHERWISE INDICATED INCLUDING UNDERGROUND UTILITIES, PAVING, UNDERGROUND STORAGE TANKS, AND ANY OTHER EXISTING IMPROVEMENTS.
3. CONTRACTOR TO COORDINATE WITH UTILITY COMPANIES REGARDING REMOVAL/DISCONNECTION OF UTILITY LINES TO ENSURE SERVICES TO OTHER PROPERTIES ARE NOT INTERRUPTED. CONTRACTOR TO FOLLOW UTILITY SAFETY AND OSHA REGULATIONS.
4. CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING THE COURSE OF CONSTRUCTION.
5. THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION TO ALL DENUDED OR DISTURBED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY STABILIZATION SHALL BE APPLIED TO ANY DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 14 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT AND MULCHING.

NOTE TO CONTRACTOR

CONTRACTOR SHALL TAKE EXTREME CARE WHEN WORKING AROUND EXISTING UTILITIES. CONTRACTOR SHALL REPAIR ANY DAMAGED FEATURES/UTILITIES TO THAT OF EXISTING OR BETTER CONDITION.

CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REPAIRS TO ANY DAMAGED ROADWAYS, CURB AND GUTTER, ASPHALT, ETC.

CONTRACTOR SHALL COMPLETELY REMOVE ALL FEATURES WITHIN THE LIMITS OF CONSTRUCTION / OVERALL PROJECT BOUNDARY IN ORDER TO CONSTRUCT PROPOSED IMPROVEMENTS AS SHOWN IN THESE PLANS.

TREE PROTECTION NOTES

1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
2. WHEN ROOT PRUNING IS NECESSARY, CUT ROOTS CLEANLY USING A DISC TRENCHER AND IMMEDIATELY COVER ALL ROOT CUT SURFACES LARGER THAN TWO INCHES IN DIAMETER WITH TREE WOUND DRESSING. USE PLYWOOD FORMS WHEN TREE ROOTS ARE ADJACENT TO PROPOSED CURB & GUTTER OR SIDEWALK.
3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
5. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.

LEGEND

-X-X-X-X-X-X-X-	EXISTING LINEAR ITEM TO BE REMOVED
	EXISTING LINEAR PAVEMENT STRIPE TO BE REMOVED
	SAWCUT A CLEAN EDGE
TP	TREE PROTECTION FENCE
LOD	LIMITS OF DISTURBANCE (LOD)
	EXISTING ITEM TO BE REMOVED
OP	OUTLET PROTECTION
	CONSTRUCTION ENTRANCE
SF	SILT FENCE
	SAFETY FENCE
IP	INLET PROTECTION
PS	PERMENANT SEEDING
TS	TEMPORARY SEEDING
	REMOVE PAVEMENT

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CAUTION!
EXISTING OVERHEAD AND UNDERGROUND UTILITIES

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

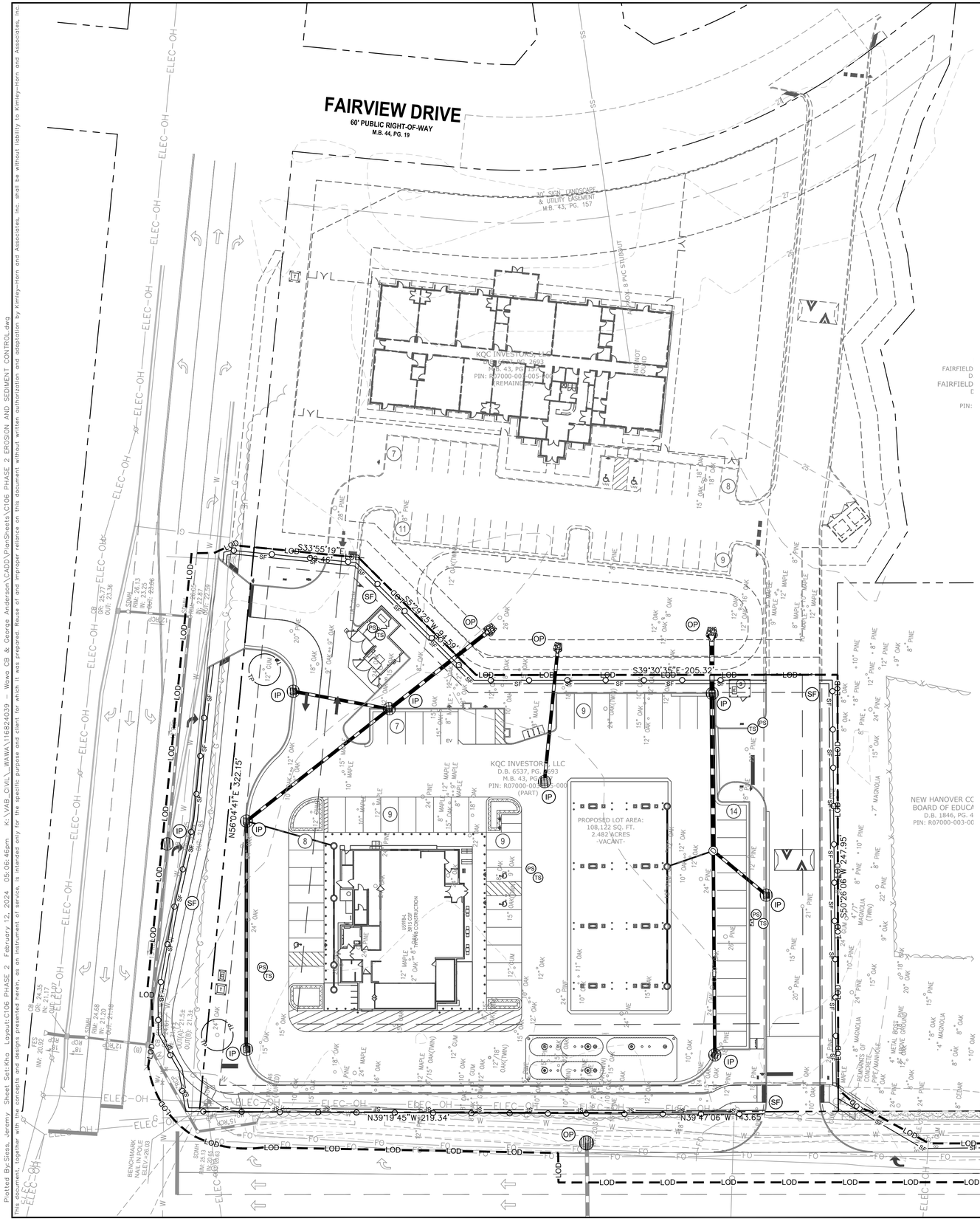
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE FE 1/9/2025

KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

DEMOLITION & PHASE 1 EROSION AND SEDIMENT CONTROL PLAN

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C106



DEMOLITION AND EROSION CONTROL GENERAL NOTES

1. CONTRACTOR SHALL MAINTAIN ALL EROSION AND SEDIMENT CONTROL MEASURES DURING THE COURSE OF CONSTRUCTION.
2. THE CONTRACTOR SHALL APPLY PERMANENT SOIL STABILIZATION TO ALL DENUDED OR DISTURBED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY STABILIZATION SHALL BE APPLIED TO ANY DISTURBED AREAS WHICH MAY NOT BE AT FINAL GRADE, BUT WILL REMAIN UNDISTURBED FOR LONGER THAN 14 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT AND MULCHING.

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TREE PROTECTION NOTES

1. THE CONTRACTOR SHALL PROTECT ALL TREES AND SHRUBS OUTSIDE OF CUT/FILL LINES, IN ADDITION TO THOSE THAT RECEIVE TREE/SHRUB PROTECTION BARRIERS. THE CONTRACTOR IS ALSO REQUESTED TO SAVE ALL OTHER EXISTING TREES AND SHRUBS WHERE POSSIBLE.
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3. NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBING ACTIVITY ALLOWED IN THE TREE PROTECTION ZONE. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, GRADING OR CONSTRUCTION BEGINS, AND NOT REMOVED UNTIL FINAL INSPECTION.
4. NO GRUBBING WITHIN TREE PROTECTION ZONE. LEAVE SOIL AND LEAF LITTER UNDISTURBED. SUPPLEMENT WITH 1-2 INCHES OF MULCH. RE-SEED WITH GRASS ONLY IN DISTURBED/GRADED AREAS.
5. TREE BARRICADES MUST BE INSTALLED BEFORE ANY DEMOLITION, CLEARING, GRADING OR CONSTRUCTION BEGINS AND IS NOT TO BE REMOVED UNTIL AFTER CONSTRUCTION.

LEGEND

TP	TREE PROTECTION FENCE
LOD	LIMITS OF DISTURBANCE (LOD)
SF	SILT FENCE
	SAFETY FENCE
IP	INLET PROTECTION
PS	PERMENANT SEEDING
TS	TEMPORARY SEEDING
OP	OUTLET PROTECTION

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

CAUTION!
EXISTING OVERHEAD AND UNDERGROUND UTILITIES

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
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PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

PHASE 2 EROSION AND SEDIMENT CONTROL

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C107

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE PROPOSED PROJECT SITE IS LOCATED AT THE CORNER OF CAROLINA BEACH ROAD AND GEORGE ANDERSON DRIVE. THE DEVELOPMENT WILL CONSIST OF A 5919SF WAWA CONVENIENCE STORE WITH FUEL SALES AND ASSOCIATED CANOPY AND PARKING LOT. THERE WILL BE TWO ADDITIONAL TURN LANES AND PAVEMENT STRIPING ASSOCIATED WITH THE PROJECT. THE EXTENSION OF AN EXISTING RIGHT TURN LANE ON CAROLINA BEACH ROAD, AND A RIGHT TURN LANE IS PROPOSED ON GEORGE ANDERSON DRIVE. THE PROJECT WILL CONSIST OF 2.30 AC OF COMBINED ON-SITE DISTURBANCE.

EXISTING SITE CONDITIONS

THE EXISTING LOT IS VACANT – OCCUPIED BY A TREED AREA.

ADJACENT AREAS

ROADWAY IMPROVEMENTS (SEE OFFSITE PLANS BY KIMLEY-HORN), INSTALLATION OF SIDEWALK ON GEORGE ANDERSON, INSTALLATION OF A MULTI-USE PATH ON CAROLINA BEACH RD, AND DITCH RE-GRADING IN CAROLINA BEACH RD

OFF-SITE AREAS

MINOR GRADING WORK COUPLED WITH THE INSTALLATION OF TWO TURN LANES AND TWO ENTRANCE, ONE ENTRANCE ALONG CAROLINA BEACH ROAD, AND ONE ENTRANCE ALONG GEORGE ANDERSON DRIVE.

CRITICAL AREAS

THERE ARE NO CRITICAL EROSION ZONES LOCATED WITHIN THE LIMITS OF DISTURBANCE.

EROSION AND SEDIMENT CONTROL MEASURES

CONSTRUCTION ENTRANCE
A CONSTRUCTION ENTRANCE IS PROPOSED TO PROVIDE A BUFFER AREA WHERE VEHICLES CAN DROP THEIR MUD AND SEDIMENT TO AVOID TRANSPORTING IT ONTO PUBLIC ROADS, TO CONTROL EROSION FROM SURFACE RUNOFF, AND TO HELP CONTROL DUST.

SILT FENCE
SILT FENCE IS PROPOSED TO RETAIN SEDIMENT FROM SMALL DISTURBED AREAS BY REDUCING THE VELOCITY OF SHEET FLOWS TO ALLOW SEDIMENT DEPOSITION.

INLET PROTECTION
INLET PROTECTION IS PROPOSED TO TRAP SEDIMENT AT THE APPROACH TO THE STORM DRAINAGE SYSTEM.

TEMPORARY SEEDING
TEMPORARY SEEDING IS PROPOSED TO TEMPORARY STABILIZE DENUDED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 21 CALENDAR DAYS. TEMPORARY SEEDING CONTROLS RUNOFF AND EROSION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED. IN ADDITION, IT PROVIDES RESIDUE FOR SOIL PROTECTION AND SEEDBED PREPARATION, AND REDUCES PROBLEMS OF MUD AND DUST PRODUCTION FROM BARE SOIL SURFACES DURING CONSTRUCTION.

PERMANENT SEEDING
PERMANENT SEEDING IS PROPOSED TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS, TO PERMANENTLY STABILIZE SUCH AREAS IN A MANNER THAT IS ECONOMICAL, ADAPTS TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

TREE PROTECTION
TREE PROTECTION IS PROPOSED TO PREVENT DAMAGE TO PROTECTED TREES THAT ARE TO REMAIN

SAFETY FENCE
SAFETY FENCING IS PROPOSED FOR PUBLIC SAFETY DURING CONSTRUCTION, DISCRIMINATION OF THE CONSTRUCTION ZONE, AND TO KEEP OUT UNAUTHORIZED PERSONNEL.

MANAGEMENT STRATEGIES / SEQUENCE OF CONSTRUCTION

NOTE: SEE DIVISION OF WORK FOR DETAILED DELINEATION OF WAWA VS. LANDLORD WORK.

PHASE 1 (BY LAND-LORD)

1. OBTAIN NECESSARY PERMITS BEFORE THE START OF CONSTRUCTION.
2. INSTALL CONSTRUCTION ENTRANCE.
3. INSTALL SILT FENCE, SAFETY FENCE, INLET PROTECTION, AND TREE PROTECTION
4. CLEAR TREES WITHIN LOD
5. ROUGH GRADE THE SITE.
6. STABILIZATION FOR ALL AREAS TO REMAIN DENUDED FOR A PERIOD OF 21 DAYS OR LONGER SHALL BE INITIATED WITHIN TWENTY-FOUR (24) HOURS AFTER CONSTRUCTION ACTIVITY CEASES IN THESE AREAS. TEMPORARY SEEDING STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS OF INITIATION.
7. CONTRACTOR TO INSTALL WATER LINE, SANITARY SEWER, STORM SEWER AND ALL UNDERGROUND UTILITIES.
8. INSTALL INLET PROTECTION AT ALL STORM SEWER STRUCTURES AS EACH INLET STRUCTURE IS PLACED.
9. PREPARE BUILDING PAD.
10. PROMPTLY STABILIZE AREAS TO BE VEGETATED AS THEY ARE BROUGHT TO FINAL GRADE.
11. INSTALL SIDEWALK, ENTRANCES, CURB AND GUTTER, AND ANY OTHER IMPROVEMENTS DETAILED ON THE SITE PLAN WITHIN THE RIGHT-OF-WAY.
12. PLACE TOPSOIL ON ALL LANDSCAPED AREAS. SOD OR MULCH ALL DENUDED AREAS OUTSIDE OF LEASE AREA.

PHASE 2 (BY WAWA)

1. RESTORE OR INSTALL NEW CONSTRUCTION ENTRANCE.
2. CONTRACTOR TO INSTALL WATER LINE, SANITARY SEWER, DOWNSPOUT STORM SEWER AND ALL UTILITIES WITHIN THE LEASE AREA.
3. CONSTRUCT BUILDING, CANOPY, AND UNDERGROUND STORAGE TANKS.
4. PREPARE THE SITE FOR PAVING AND INSTALL CURB AND GUTTER.
5. PAVE THE SITE.
6. PLACE TOPSOIL ON ALL LANDSCAPED AREAS. SOD OR MULCH ALL DENUDED AREAS INSIDE OF LEASE AREA.
7. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED.

No.	REVISIONS	DATE	BY
	ISSUED FOR PERMIT		KHA

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE FEE 2/9/2024

KHA PROJECT	168240.39
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

EROSION AND SEDIMENT NARRATIVE

SHEET NUMBER
C108

DEMLR Monitoring Form Rev. 07012020

INSPECTION AND MONITORING RECORDS FOR ACTIVITIES UNDER STORMWATER GENERAL PERMIT NCG010000 AND SELF-INSPECTION RECORDS FOR LAND DISTURBING ACTIVITIES PER G.S. 113A-54.1

Project Name				**Land Quality or Local Program Project/Permit #**	
Approving Authority		**Date of Plan Approval**		**Expiration Date, if applicable**	
NCG010000 Certificate of Coverage Number				**Date of COC Issuance**	
Coverage under the NCG010000 permit must be renewed annually, if issued after April 1, 2019 until Notice of Termination is filed and approved.					

PART 1A: Rainfall Data

	Rain Amount (inches) Daily Rainfall Required. If no rain, indicate with a "zero"
M	
T	
W	
Th	
F	
Sat (Inspection Optional)	
Sun (Inspection Optional)	

PART 1B: Phase(s) of the Plan

Check ALL applicable box(es) that apply to completed & current phases	X
Initial installation of erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any grading that requires ground cover	
Completion of all land-disturbing activity, construction or development	
Permanent ground cover sufficient to restrain erosion has been established	

Are there any site or project conditions that limit completion of inspection? If yes, explain conditions and areas of site that were inaccessible.	

DEMLR Monitoring Form Rev. 07012020

PART 2: STORMWATER PLANS AND CONTROLS: For each question below, mark the corresponding box as Yes, No or N/A. For all items marked "No", note in Part 3A the Reference letter and provide the Corrective Action and location of the deficiency, the original date noted, and the date it was noted as being corrected. NOTE: Reference letters may be used multiple times.

Reference	Part 2A: Storm Water Plans and Related Documents	Yes	No	N/A
A	Is the approval letter or cerificate, COC and a copy of the NPDES Construction General Permit (CGP) on site? (Readily available electronic copy of CGP is acceptable)			
B	Is the approved plan on site and current?			
Reference	**Part 2B: Stormwater Pollutant Controls**	**Yes**	**No**	**N/A**
C	Are erosion and sediment controls that are shown on the approved plan installed and operating properly with no repairs needed?			
D	Are stormwater controls that are shown on the approved plan installed and operating properly with no repairs needed?			
E	Vehicle Tracking: Are construction entrances operating properly with no repairs needed?			
F	Soil Stabilization: Are areas of the site where construction activities have ceased been properly stabilized within the required timeframes?			
G	Are earthen stockpiles stabilized or otherwise protected from sediment loss, and located at least 50 feet away or downhill from drain inlets and surface waters?			
Reference	**Part 2C: Non-Storm Water Pollutant Controls**	**Yes**	**No**	**N/A**
H	Concrete, stucco, paint, etc. washouts: Are washouts installed, properly located, posted and operating with no repairs needed?			
I	Solid & hazardous wastes: Are trash, debris, and hazardous materials properly managed?			
J	Sanitary waste: Are portable toilets properly located and operating with no visible repairs needed?			
K	Equipment and stored fluids: Are fuels, lubricants, hydraulic fluids, etc. contained so as not to enter surface and ground waters?			
Report oil spills and the release of hazardous substances to the appropriate DEQ Regional Office via phone call or email within 24 hours of discovery. https://deq.nc.gov/contact/regional-offices				

For any items listed in the section below, a full description of sedimentation is required in Part 3A. This includes, but may not be limited to: location, estimated amount of sediment that has left the site and/or entered waters, apparent causes of the sediment loss, and what corrective actions need to be taken to prevent this from recurring.

Reference	Part 2D: Sedimentation	Yes	No	N/A
L	Are sediment or other pollutants noted beyond the approved or permitted limits of disturbance?			
M	Are BMPs detected as releasing sediment or other pollutants into receiving waters?			
Report visible sedimentation into streams or wetlands to the appropriate DEQ Regional Office via phone call or email within 24 hours of discovery. https://deq.nc.gov/contact/regional-offices				

DEMLR Monitoring Form Rev. 07012020

PART 3A: EROSION AND SEDIMENTATION CONTROL MEASURES: Measures must be inspected at least ONCE PER 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT EQUAL TO OR GREATER THAN 1.0 INCH PER 24 HOUR PERIOD. *Add rows as needed.*

Erosion and Sedimentation Control Measures Inspected			**Inspection Date**	**Describe Actions Needed** **Corrective actions should be performed as soon as possible and before the next storm event**	**Date Previous Action(s) Observed as Corrected**
Measure ID or Location and Description	Reference(s)	Operating Properly? (Y/N)			
Report unanticipated bypasses, or non-compliance conditions that may endanger health or the environment, to the appropriate DEQ Regional Office via phone call or email within 24 hours of discovery. https://deq.nc.gov/contact/regional-offices					

PART 3B: STORMWATER DISCHARGE OUTFALLS (SDOs): SDOs must be inspected at least ONCE PER 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT EQUAL TO OR GREATER THAN 1.0 INCH PER 24 HOUR PERIOD. *Add rows as needed.*

Stormwater Discharge Outfalls Inspected					**Inspection Date**	**Describe Actions Needed** **Corrective actions should be performed as soon as possible and before the next storm event**	**Date Previous Action(s) Observed as Corrected**
Stormwater Discharge Outfall ID or Location	Any Visible Sedimentation in Streams, Wetlands or Outside Site Limits? (Y/N)	Any Increase in Stream Turbidity from Discharge? (Y/N)	Any Visible Erosion below SDO? (Y/N)	Any visible oil sheen, floating or suspended solids or discoloration? (Y/N)			

DEMLR Monitoring Form Rev. 07012020

PART 3C: GROUND STABILIZATION: Must be recorded, at a minimum, after each phase. *Add rows as needed.*

Site area description and location where construction activities have temporarily or permanently ceased	Time Limit for Ground Cover (see table below)	Have stabilization measures been installed? (Y/N)	Temporary or Permanent Stabilization (T/P)	Is Ground Cover Sufficient to Restrain Erosion? (Y/N)	**Original Inspection Date**	**Describe Actions Needed** **Corrective actions should be performed as soon as possible and before the next storm event**	**Date Previous Action(s) Observed as Corrected**

GROUND STABILIZATION TIMEFRAMES		
Site Area Description	**Stabilization**	**Timeframe Variations**
Perimeter dikes, swales and slopes	7 Days	None
High Quality Water (HQW) Zones	7 Days	None
Slopes Steeper than 3:1	7 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 14 days for slopes 10 ft or less in length and not steeper than 2:1 10 days for Falls Lake Watershed
Slopes 3:1 to 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 7 days for slopes greater than 50 ft in length 10 days for Falls Lake Watershed
All other areas with slopes flatter than 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 10 days for Falls Lake Watershed

DEMLR Monitoring Form Rev. 07012020

PART 3D: NEW OR REVISED MEASURES: Erosion and sedimentation control measures omitted or installed, at a minimum since the last inspection, shall be documented here or by initialing and dating each measure or practice shown on a copy of the approved erosion and sedimentation control plan. Alterations and relocations of measures shall also be documented if they significantly deviate from the approved plan. The removal of measures should also be documented. List dimensions of measures such as Seciment Basins and Dissipator Pads. Add rows as needed. Corrective actions should be included in Part 3A.

Measure ID or Location and Description	Proposed Dimensions (ft.)	Actual Dimensions (ft.)	Significant Deviation* from Plan? (Y/N)	Date measure observed as installed, altered, relocated or removed	Installed (I) Altered (A) Relocated (R) Removed (X)

*Significant deviation means any omission, alteration or relocation of an erosion or sedimentation control measure that prevents it from performing as intended.

PART 4: Signature of Inspector

Financially Responsible Party (FRP) / Permittee		**County**	
INSPECTOR	Name	Employer	
Inspector Type (Mark)	**X**	Address	
FRP/Permittee			
Agent/Designee		Phone Number	Email Address
By this signature, I certify in accordance with the NCG010000 permit & G.S. 113A-54.1 that this report is accurate and complete to the best of my knowledge.			
Financially Responsible Party / Permittee or Agent / Designee		Date & Time of Inspection	

NO.	REVISIONS	DATE	BY
	ISSUED FOR PERMIT		KHA

Kimley»Horn
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200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 2/9/2024 JEFFREY LEONG WEE

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

ESCP - NCG01 FORMS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C109

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

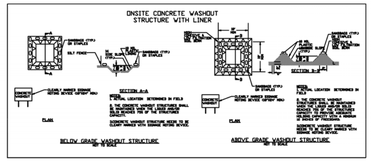
1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

NORTH CAROLINA Environmental Quality

NCG01 GROUND STABILIZATION AND MATERIALS HANDLING

EFFECTIVE: 04/01/19

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (anc this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDCs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office, per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover), 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This General Permit as well as the Certificate of Coverage, after it is received.

(b) Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:
- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill cr release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

(a) The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
(b) The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
(c) Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
(d) Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
(e) Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
(f) Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

NORTH CAROLINA Environmental Quality

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

NO.	REVISIONS	DATE	BY
	ISSUED FOR PERMIT		KHA

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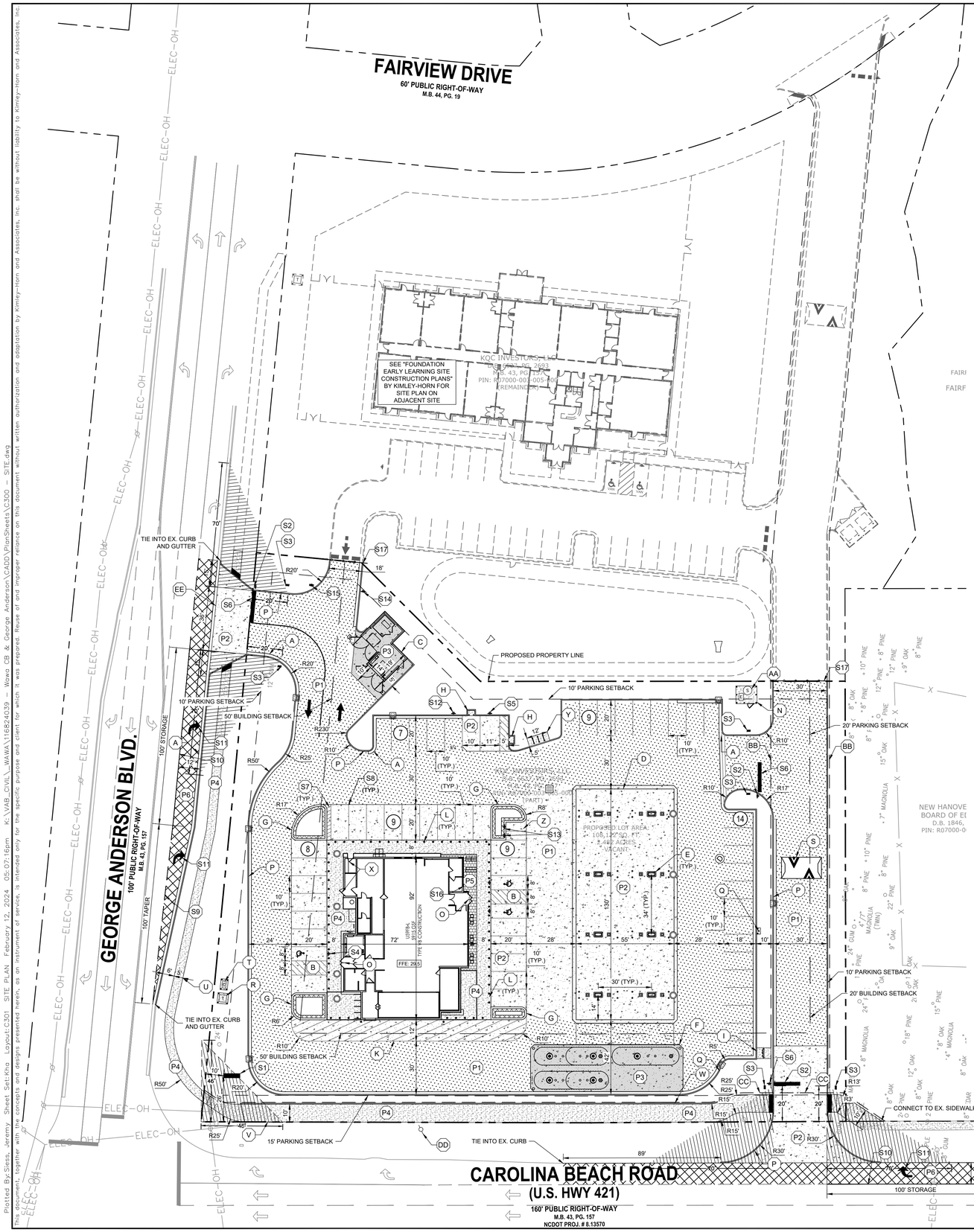

SITE NOTES

1. ALL CURB RADII ARE 3.0' UNLESS OTHERWISE NOTED.
2. ALL DIMENSIONS ARE TO FACE OF CURB UNLESS OTHERWISE NOTED.
3. LOADING ZONE STRIPING SHALL BE PAINTED 4" SINGLE YELLOW SOLID LINE AT 2'-0" O.C. 45° TO THE DRIVE AISLE.
4. TWO COATS YELLOW TRAFFIC PAINT (4" MIN. WIDTH) REQUIRED FOR PAVEMENT STRIPING EXCEPT TWO COATS BLUE TRAFFIC PAINT SHALL BE USED FOR ACCESSIBLE PARKING AREA (18" LETTERS, 2" PAINT STROKE).
5. PROPOSED CONCRETE PADS TO HAVE 2 FT X 2 FT CHAMFERED CORNERS.
6. ALL LIGHTING TO BE INSTALLED 5' BEHIND CURB AND CENTERED ON PAVEMENT STRIPING UNLESS OTHERWISE NOTED.
7. TYING TO EXISTING CURB/GUTTER: THE EXISTING PAVEMENT SHALL BE NEATLY SAWCUT AND REMOVED FOR A DISTANCE OF 2'-0" FROM THE FACE OF CURB AND 2'-0" FROM THE EDGE OF CURB AND GUTTER AND THE SUBGRADE, BASE COURSE, AND PAVING REPLACED WITH NEW PRODUCTS.
8. REFER TO SHEETS CS501 - CS502 FOR WAWA STANDARD DETAILS. SEE SHEETS C901 - C902 FOR CONSTRUCTION DETAILS.
9. FOR BUILDING AND FUEL CANOPY INFORMATION, SEE ARCHITECTURE PLANS.
10. ANY REQUIRED INSTALLATION OR RELOCATION OF TRAFFIC SIGNS/PAVEMENT MARKINGS IS THE RESPONSIBILITY OF THE PROJECT DEVELOPER. PLEASE COORDINATE WITH CITY TRAFFIC SIGNS AND PAVEMENT MARKINGS MANAGER/ SUPERVISOR PRIOR TO INSTALLATION/RELOCATION OF ANY TRAFFIC SIGNS OR MARKINGS IN EXISTING OR PROPOSED PUBLIC ROW.
11. ALL PAVEMENT MARKINGS IN PUBLIC RIGHTS-OF-WAY AND FOR DRIVEWAYS ARE TO BE THERMOPLASTIC AND MEET CITY AND/OR NCDOT STANDARDS. [DETAIL SD 11-03 AND SD 15-13 COFW TECH STDS]
12. ALL SIGNS AND PAVEMENT MARKINGS IN AREAS OPEN TO PUBLIC TRAFFIC ARE TO MEET MUTCD (MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES) STANDARDS. [DETAIL SD 15-13 COFW TECH STDS] D.ALL TRAFFIC CONTROL SIGNS AND MARKINGS OFF THE RIGHT-OF-WAY ARE TO BE MAINTAINED BY THE PROPERTY OWNER IN ACCORDANCE WITH MUTCD STANDARDS.
13. ALL PARKING STALL MARKINGS AND LANE ARROWS WITHIN THE PARKING AREAS SHALL BE WHITE.
14. ANY BROKEN OR MISSING SIDEWALK PANELS AND CURBING WILL BE REPLACED.
15. CONTACT 811 PRIOR TO CONTACTING CITY OF WILMINGTON, TRAFFIC ENGINEERING REGARDING THE UTILITIES IN ROW.

SITE LEGEND

- (P1) WAWA ASPHALT PAVEMENT (SEE DETAIL SHEET)
- (P2) STANDARD DUTY CONCRETE PAVEMENT (SEE SHEET C701)
- (P3) HEAVY DUTY CONCRETE PAVEMENT (SEE SHEET C701)
- (P4) CONCRETE SIDEWALK (SEE SHEET C701)
- (P5) STAMPED CONCRETE (SEE ARCHITECT PLANS FOR SECTION)
- (P8) RIGHT-OF-WAY PAVEMENT (PER NCDOT SPECS)
- 2'-0" CURB & GUTTER (SEE SHEET CG101 FOR REVERSE VS REGULAR)
- MOUNTABLE CURB AND GUTTER W/STAMPED CONCRETE
- 6" CURB
- PROPERTY LINE
- PARKING COUNT (X)

SITE PLAN KEY NOTES

1. SEE "GENERAL NOTES" SHEET FOR SITE GENERAL NOTES .
2. SEE "SITE DETAIL" SHEETS FOR DETAILS REFERENCED ON THE SITE PLANS.

SITE IMPROVEMENTS

- (A) 2' CURB AND GUTTER (SEE SITE DETAIL SHEET)
- (B) ACCESSIBLE PARKING SPACE TYPICAL. SEE DETAIL SHEETS FOR PARKING SPACE SIGN AND SYMBOL
- (C) DUMPSTER ENCLOSURE (SEE ARCHITECTURAL PLANS FOR DETAILS)
- (D) FUEL CANOPY (SEE ARCHITECTURAL PLANS FOR DETAILS)
- (E) FUEL DISPENSER (SEE FUEL PLANS)
- (F) UNDERGROUND FUEL STORAGE TANKS (SEE FUEL PLANS FOR SIZING)
- (G) MOUNTABLE CURB WITH STAMPED CONCRETE (SEE DETAIL SHEET)
- (H) AIR STATIONS WITH 4'X3' CONCRETE PAD WITH BOLLARDS
- (I) VENT STACK ON 6'X8' CONCRETE PAD WITH BOLLARDS (SEE FUEL PLANS)
- (J) BUILDING E-STOP (SEE ARCHITECTURAL PLANS FOR DETAILS)
- (K) LOADING ZONE (SEE NOTE 3)
- (L) 6'Ø CONCRETE BOLLARDS, WHITE COVERS (SEE SITE DETAIL SHEET)
- (M) LIGHT POLES (SEE LIGHTING PLAN) - NOT USED
- (N) 4' TALL CHAIN LINK FENCE (SEE DETAIL SHEET)
- (O) BUILDING ENTRANCE
- (P) 6" CONCRETE CURB (SEE DETAIL SHEET)
- (Q) REMOTE E-STOP WITH TWO (2)BOLLARDS (SEE FUEL PLANS)
- (R) TRANSFORMER WITH FOUR (4) BOLLARDS
- (S) 22.5° STANDARD SPEED HUMP BY TREETOP PRODUCTS OF APPROVED SIMILAR
- (T) CT CABINET WITH FOUR (4) BOLLARDS (SEE ARCH. PLANS)
- (U) 5' WIDE CONCRETE SIDEWALK (SEE CITY OF WILMINGTON DETAIL)
- (V) 10' WIDE ASPHALT TRAIL
- (W) 319' OF 6" CURB ADJACENT TO SHARED USE PATH
- (X) EMERGENCY EXIT
- (Y) BIKE RACK
- (Z) 10' x 5' MOTORCYCLE/MOPED PARKING SPACE
- (AA) SANITARY LIFT STATION AND ELECTRICAL BOX WITH SEVEN (7) BOLLARDS
- (BB) 33' WIDE PRIVATE CROSS ACCESS EASEMENT
- (CC) PUBLIC PEDESTRIAN ACCESS EASEMENT. 1' OFF SIDEWALK
- (DD) RELOCATED POWER POLE
- (EE) SD 3-30.3 COMMERCIAL DRIVEWAY

SITE SIGNAGE AND PAVEMENT MARKINGS

- (S1) PROPOSED PYLON SIGN (SEE ARCHITECTURAL PLANS FOR DETAILS)
- (S2) "STOP" SIGN (SEE DETAIL SHEET)
- (S3) 16" X 18" DIRECTIONAL SIGN (SEE SIGNAGE PLANS)
- (S4) HANDICAP PARKING SIGN (SEE DETAIL SHEET)
- (S5) "AIR PUMP PARKING ONLY" (SEE DETAIL SHEET)
- (S6) 24" WIDE PAINTED WHITE STOP BAR (SEE SITE DETAIL SHEET)
- (S7) 4" DIAGONAL STRIPING AT 45° WITH 3' SPACING (SEE DETAIL SHEET)
- (S8) 4" WIDE SINGLE YELLOW SOLID LINE (SEE DETAIL SHEET)
- (S9) WHITE "WIDE" 3'-9"/SP MINI-SKIP LINE (SEE NCDOT DETAILS)
- (S10) WHITE "WIDE" LANE LINE (SEE NCDOT DETAILS)
- (S11) WHITE PAVEMENT MARKING SYMBOL (SEE NCDOT DETAILS)
- (S12) EV CHARGING STATION SIGN
- (S13) MOTORCYCLE PARKING ONLY SIGN
- (S14) "DO NOT ENTER" SIGN (SEE DETAIL SHEET)
- (S15) DOUBLE SIGN: "DO NOT ENTER" - SOUTHWEST SIDE; STOP - "NORTHEAST" SIDE
- (S16) EMERGENCY STOP SWITCH
- (S17) TEMPORARY TYPE III BARRICADE

No.	REVISIONS	DATE	BY

Kimley»Horn
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200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE
2/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

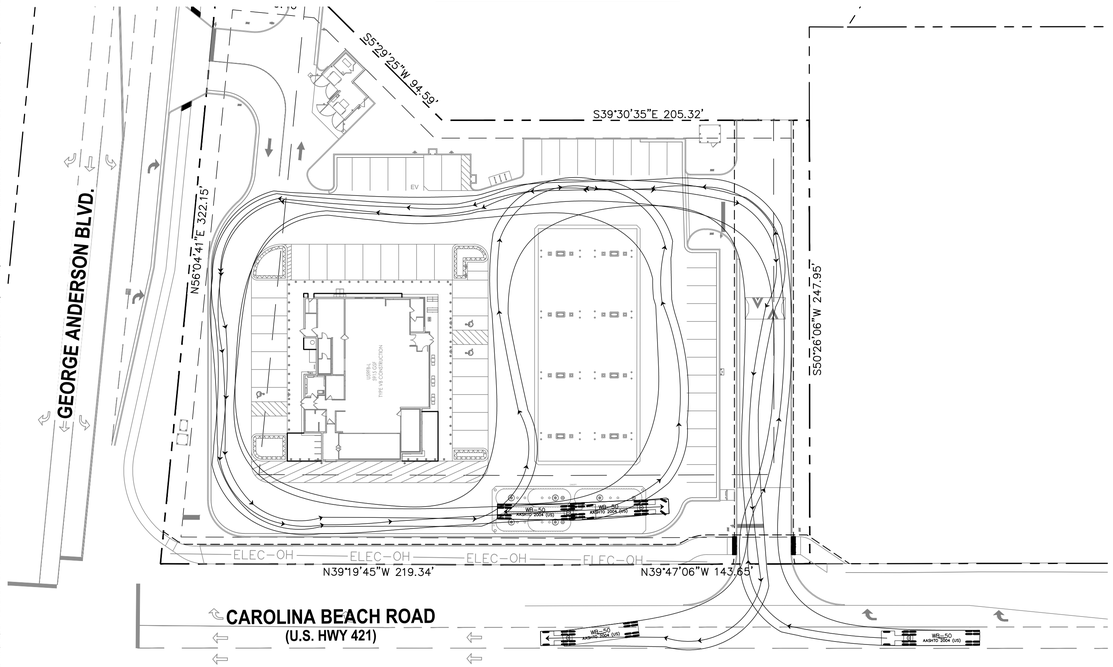
SITE PLAN

WAWA - #6132

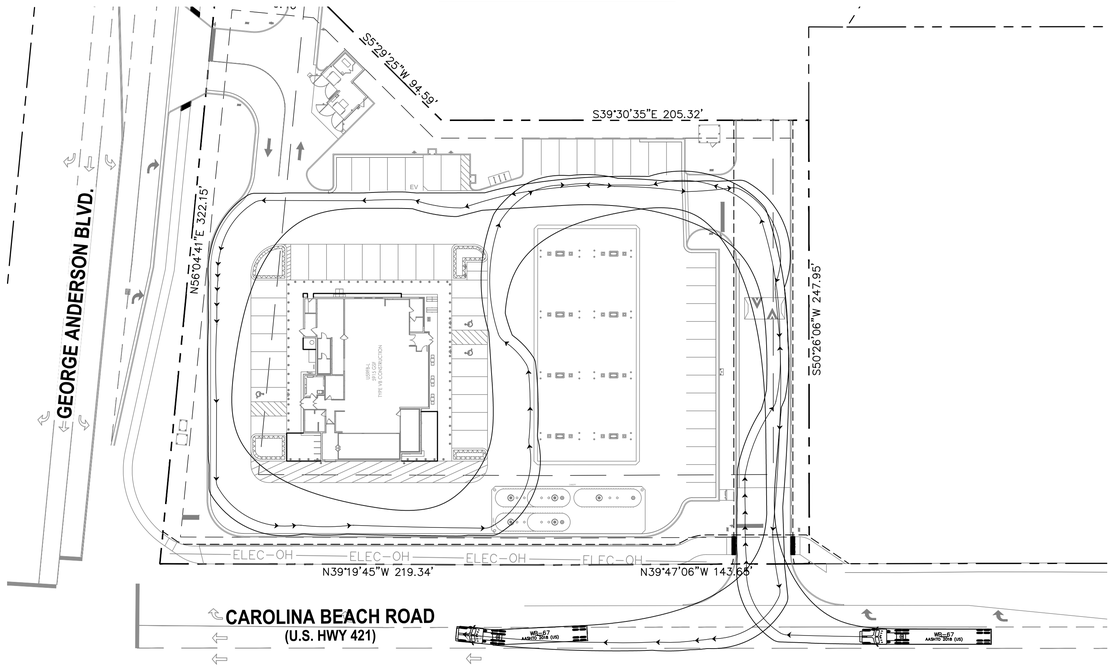
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C301

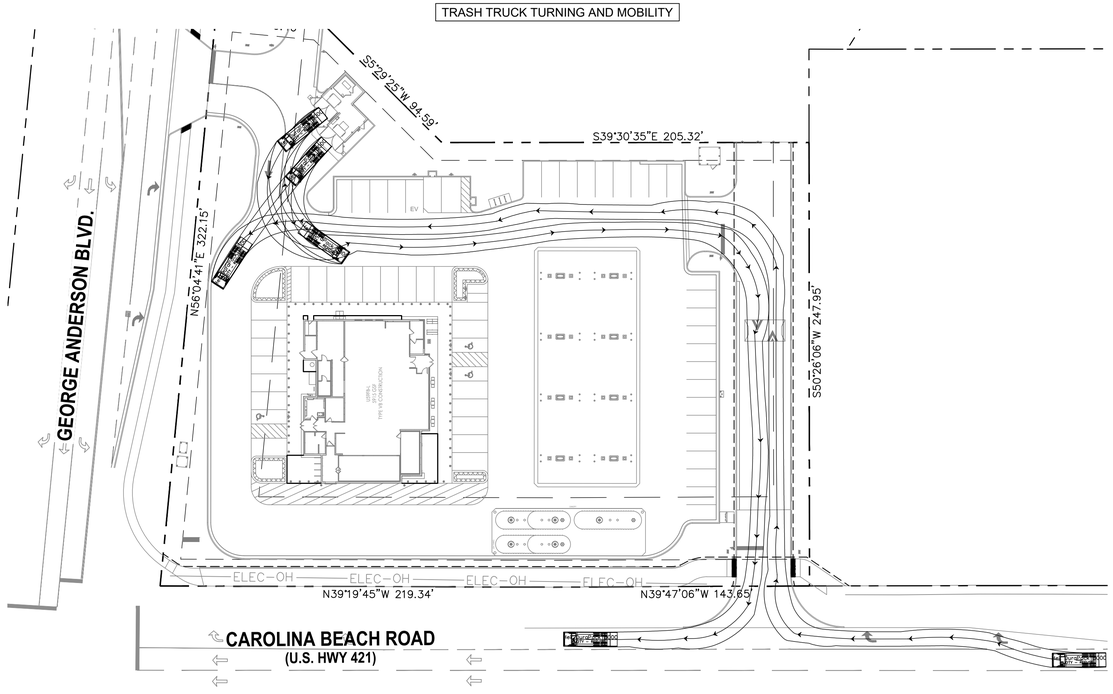
WB-50 TRUCK TURNING AND MOBILITY



WB-67 TRUCK TURNING AND MOBILITY



TRASH TRUCK TURNING AND MOBILITY



GRAPHIC SCALE IN FEET
0 20 40 80

No.	REVISIONS	DATE	BY

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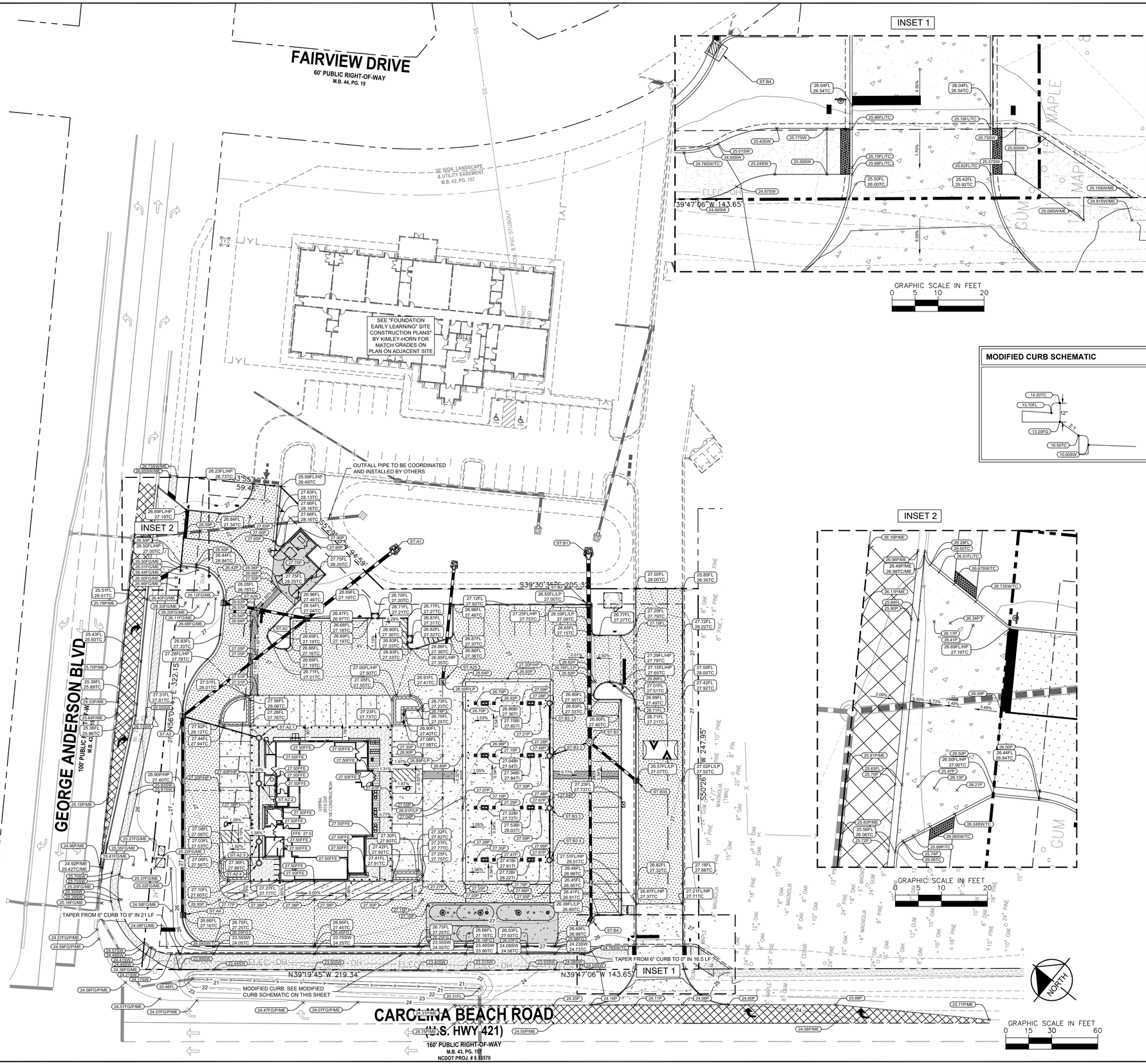
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE PE
2/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

TRUCK TURN PLAN

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C302



PROPOSED TOPOGRAPHIC LEGEND

- PROPOSED MAJOR CONTOUR (450)
- PROPOSED MINOR CONTOUR (451)
- EXISTING MAJOR CONTOUR (450)
- EXISTING MINOR CONTOUR (451)
- LIMITS OF DISTURBANCE (LOD)
- RIDGE LINE
- FLOW LINE
- PROPOSED SPOT GRADE (107.89P)
- PROP. SLOPE GRADE (2.00%)
- PROP. RUN:RISE (4:1)
- ADA PATH

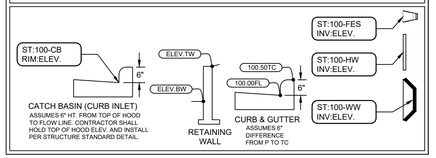
TP:TOP OF PAVEMENT
TC:TOP OF CURB ; FC/FL:BOTTOM OF CURB
FG:FINAL GRADE
ME:MATCH EXISTING
HP:HIGHT POINT
FFE:FINISHED FLOOR ELEV.
TI: TOP OF ISLAND
BI: BOTTOM OF ISLAND

GRADING AND DRAINAGE NOTES

1. ADA ACCESSIBLE SPACES SHALL HAVE A MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS.
2. PIPE LENGTHS ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE.
3. CONTRACTOR TO VERIFY DEPTH OF EXISTING UNDERGROUND UTILITIES AND NOTIFY KIMLEY-HORN IF ANY CONFLICTS EXIST.
4. ALL CLEANOUTS ARE TO BE TRAFFIC RATED.
5. ALL DOORS ARE REQUIRED TO HAVE ADA COMPLIANT ACCESS.
6. ALL MATCH EXISTING ELEVATIONS SHALL BE FIELD VERIFIED PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY UPON DISCOVERY.
7. NO EARTHEN SLOPE SHALL BE GREATER THAN 3:1, UNLESS OTHERWISE NOTED.
8. ALL SPOT GRADES DEPICT FINISH GRADE UNLESS OTHER WISE NOTED.
9. A MINIMUM VERTICAL SEPARATION OF 18-INCHES SHALL BE MAINTAINED AT CROSSINGS. IN THE EVENT THAT MINIMUM SEPARATION REQUIREMENTS CANNOT BE MET, THE CONTRACTOR SHALL UTILIZE MINIMUM PIPE SEPARATION REQUIREMENTS PER THE GOVERNING AGENCY.

MODIFIED CURB SCHEMATIC

SPOT GRADE SCHEMATIC



STORM WATER & DRAINAGE LEGEND

- MH MANHOLE (SOLID LID)
- JB JUNCTION BOX, (SOLID LID)
- CB CATCH BASIN
- CB-D CATCH BASIN DOUBLE
- DI DROP INLETS
- DI-D DROP INLETS DOUBLE
- STORM WATER PIPE
- CO CLEANOUT
- ROOF DRAIN
- FES FLARED END SECTION
- SUB-SURFACE DRAIN
- HW HEADWAII
- TOP OF BANK
- WW WING WALL
- WATER SURFACE
- YI YARD INLET
- POND/TOE BOTTOM
- AI AREA INLET
- SWALE,DITCH FLOW LINE
- RD ROOF DRAIN
- RIPRAP APRON
- CS CONTROL STRUCTURE
- DRAINAGE EASEMENT
- P PUMP STATION

RIM: CB: BOTTOM OF CURB AT GUTTER LINE
RIM: DI, MH, CO, YI, AI: CENTER OF GRATE OR LID
INV: FES, HW, WW: PIPE INVERT ELEVATION

ST:C35-DI RIM:767.79 — STRUCTURE LABEL
ST:A100-FES INV:750.50

STORM DRAINAGE ABBREVIATIONS LIST

(SEE LATEST NCDOT STDS. MANUAL AND DETAIL SHEETS)

CB	CATCH BASIN (NCDOT STDS. 840.00, .01, .02, .46, .66)
	US FOUNDRY 5181 FRAME & HOOD AND US FOUNDRY 6003 GRATE
DI	DROP INLET (NCDOT STDS. 840.00, .14, .15, .46, .66)
	US FOUNDRY 4139 FRAME AND US FOUNDRY 6002 GRATE
MH	JUNCTION BOX/MANHOLE (NCDOT STDS. 840.00, .31, .32, .46, .54, .66)
OE	OPEN ENDED PIPE
RD	ROOF DRAIN (REF: ARCH/MEP)
CO	CLEAN-OUT (SEE DETAIL SHEET)
FS	FLOW SPLITTER (SEE DETAIL SHEET)
OCS	BMP CONTROL STRUCTURE (SEE DETAIL SHEET)
EX-CB	EXISTING CATCH BASIN

CUT/FILL ESTIMATED QUANTITIES - NOT FOR BIDDING

CUT FACTOR= 1.0
FILL FACTOR = 1.0
TOTAL CUT VOLUME (ADJUSTED) = 240 CYD
TOTAL FILL VOLUME (ADJUSTED) = 6,961 CYD
NET VOLUME (ADJUSTED) = 6,720 CYD (FILL)

VERTICAL DATUM: NAVD88

SEE SHEET C402 FOR STORM PROFILES

No.	REVISIONS	DATE	BY

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 1/9/2024 LEONG WEE LE

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

GRADING AND DRAINAGE PLAN

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

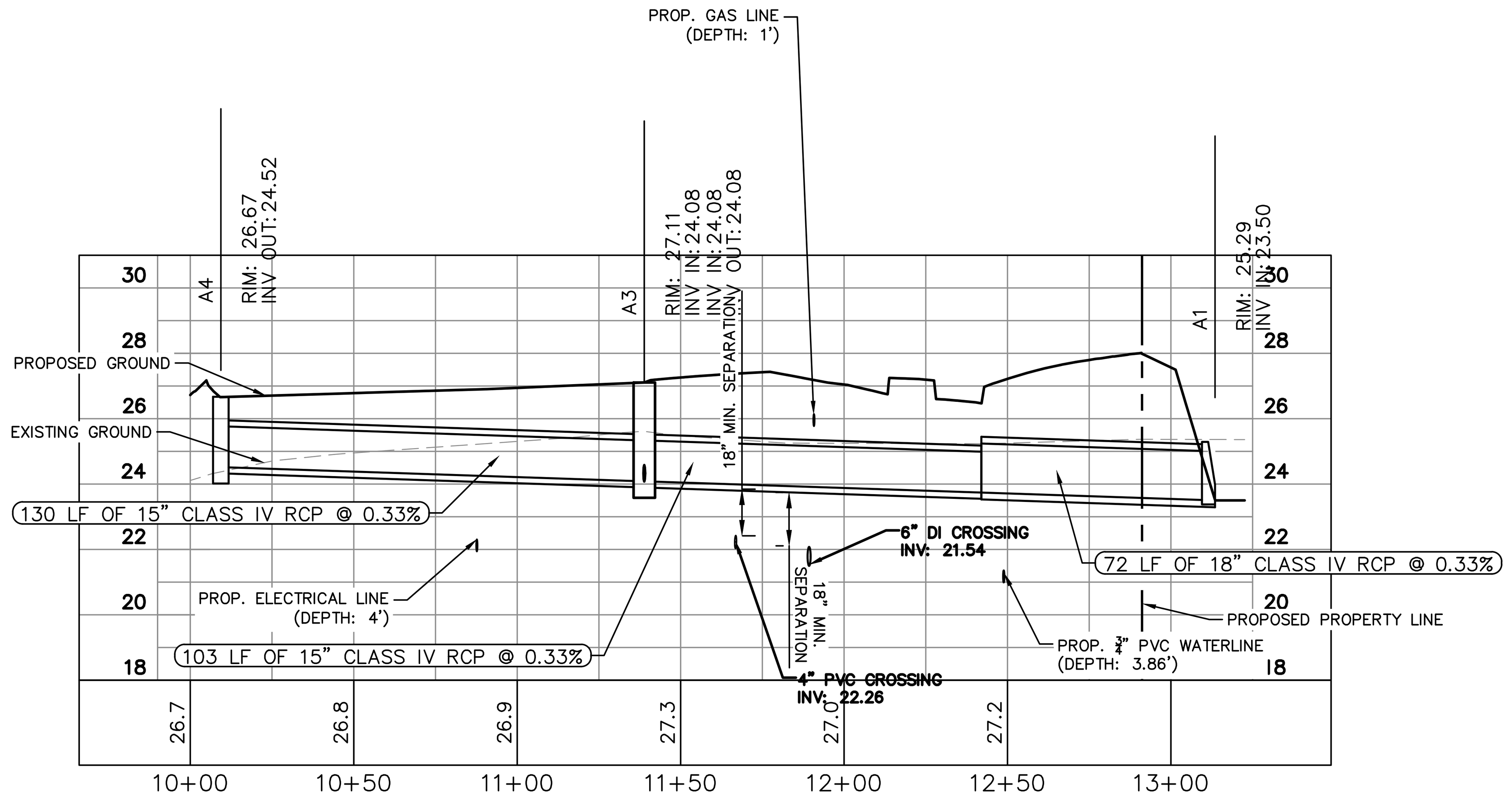
SHEET NUMBER
C401

STORM DRAIN PIPE TABLE

START STRUCTURE	END STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL
A2	A1	18"	72'	0.33%	CLASS IV RCP
A3	A2	15"	103'	0.33%	CLASS IV RCP
A29	A2	15"	56'	0.30%	RCP
A2.2	A2.1	6"	30'	0.69%	PVC
A2.3	A2.2	6"	38'	0.69%	PVC
A2.4	A2.3	6"	14'	0.69%	PVC
A2.1	A3	6"	52'	0.69%	PVC
A4	A3	15"	130'	0.33%	CLASS IV RCP
A24	A25	15"	75'	0.33%	RCP
B2	B1	24"	33'	0.30%	RCP
B3	B2	24"	89'	0.30%	RCP
B35	B3	18"	39'	0.50%	PVC
B3.2	B3	6"	28'	0.30%	PVC
B4	B3	15"	116'	0.30%	CLASS IV RCP
B3.2	B3.1	6"	34'	0.30%	PVC
B3.3	B3.2	6"	34'	0.30%	PVC
B3.4	B3.3	6"	34'	0.30%	PVC

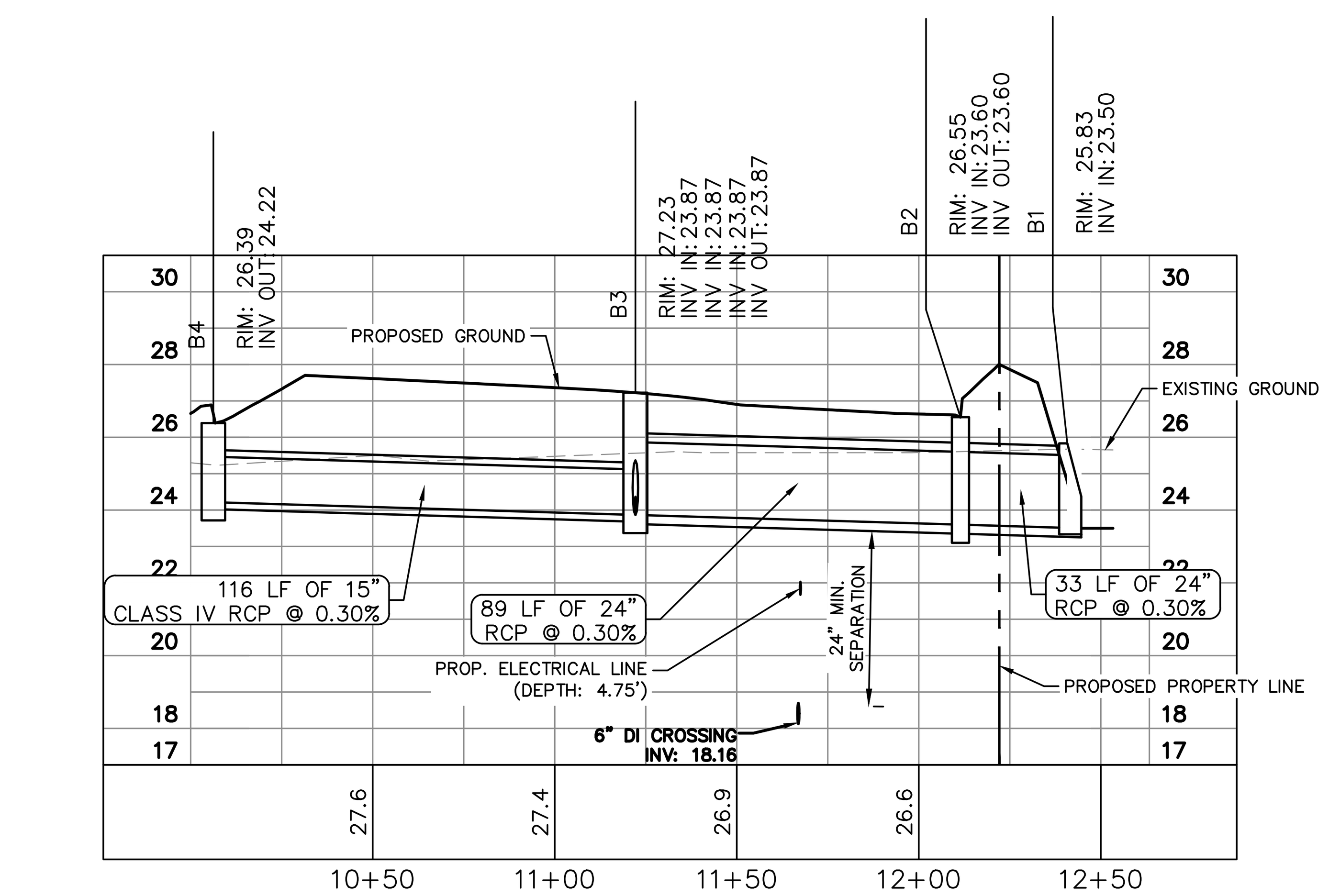
STORM DRAIN STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
A1	18" FES INV IN: 23.50	FROM A2, 18" CLASS IV RCP I NV IN: 23.50 @ 0.33%	
A2	CITY STD CURB INLET RIM: 26.47 INV IN: 23.74 INV IN: 23.74 INV OUT: 23.74	FROM A29, 15" RCP I NV IN: 23.74 @ 0.30% FROM A3, 15" CLASS IV RCP I NV IN: 23.74 @ 0.33%	TO A1, 18" CLASS IV RCP INV OUT: 23.74 @ 0.33%
A2.1	6" STORM CO RIM: 27.41 INV IN: 24.44 INV OUT: 24.44	FROM A2.2, 6" PVC I NV IN: 24.44 @ 0.69%	TO A3, 6" PVC INV OUT: 24.44 @ 0.69%
A2.2	6" STORM CO RIM: 27.45 INV IN: 24.64 INV OUT: 24.64	FROM A2.3, 6" PVC I NV IN: 24.64 @ 0.69%	TO A2.1, 6" PVC INV OUT: 24.64 @ 0.69%
A2.3	6" STORM CO RIM: 27.45 INV IN: 24.90 INV OUT: 24.90	FROM A2.4, 6" PVC I NV IN: 24.90 @ 0.69%	TO A2.2, 6" PVC INV OUT: 24.90 @ 0.69%
A2.4	6" STORM CO RIM: 27.42 INV OUT: 25.00		TO A2.3, 6" PVC INV OUT: 25.00 @ 0.69%
A3	CITY STD CURB INLET RIM: 27.11 INV IN: 24.08 INV IN: 24.08 INV OUT: 24.08	FROM A4, 15" CLASS IV RCP I NV IN: 24.08 @ 0.33% FROM A2.1, 6" PVC I NV IN: 24.08 @ 0.69%	TO A2, 15" CLASS IV RCP INV OUT: 24.08 @ 0.33%
A4	CITY STD CURB INLET RIM: 26.67 INV OUT: 24.52		TO A3, 15" CLASS IV RCP INV OUT: 24.52 @ 0.33%
A24	15" FES INV IN: 23.50	FROM A25, 15" RCP I NV IN: 23.50 @ 0.33%	
A25	CTY STD DROP INLET RIM: 26.50 INV OUT: 23.75		TO A24, 15" RCP INV OUT: 23.75 @ 0.33%
A29	CITY STD CURB INLET RIM: 26.33 INV OUT: 23.91		TO A2, 15" RCP INV OUT: 23.91 @ 0.30%
B1	24" FES INV IN: 23.50	FROM B2, 24" RCP I NV IN: 23.50 @ 0.30%	
B2	CITY STD CURB INLET RIM: 26.55 INV IN: 23.60 INV OUT: 23.60	FROM B3, 24" RCP I NV IN: 23.60 @ 0.30%	TO B1, 24" RCP INV OUT: 23.60 @ 0.30%
B3	CITY STD MANHOLE RIM: 27.23 INV IN: 23.87 INV IN: 23.87 INV IN: 23.87 INV OUT: 23.87	FROM B4, 15" CLASS IV RCP I NV IN: 23.87 @ 0.30% FROM B35, 18" PVC I NV IN: 23.87 @ 0.50% FROM B3.2, 6" PVC I NV IN: 23.87 @ 0.30%	TO B2, 24" RCP INV OUT: 23.87 @ 0.30%
B3.1	6" STORM CO RIM: 27.26 INV OUT: 24.05		TO B3.2, 6" PVC INV OUT: 24.05 @ 0.30%
B3.2	6" STORM CO RIM: 27.46 INV IN: 23.95 INV IN: 23.95 INV OUT: 23.95	FROM B3.3, 6" PVC I NV IN: 23.95 @ 0.30% FROM B3.1, 6" PVC I NV IN: 23.95 @ 0.30%	TO B3, 6" PVC INV OUT: 23.95 @ 0.30%
B3.3	6" STORM CO RIM: 27.65 INV IN: 24.05 INV OUT: 24.05	FROM B3.4, 6" PVC I NV IN: 24.05 @ 0.30%	TO B3.2, 6" PVC INV OUT: 24.05 @ 0.30%
B3.4	6" STORM CO RIM: 27.85 INV OUT: 24.15		TO B3.3, 6" PVC INV OUT: 24.15 @ 0.30%
B4	CITY STD CURB INLET RIM: 26.39 INV OUT: 24.22		TO B3, 15" CLASS IV RCP INV OUT: 24.22 @ 0.30%
B35	CITY STD CURB INLET RIM: 26.57 INV OUT: 24.06		TO B3, 18" PVC INV OUT: 24.06 @ 0.50%



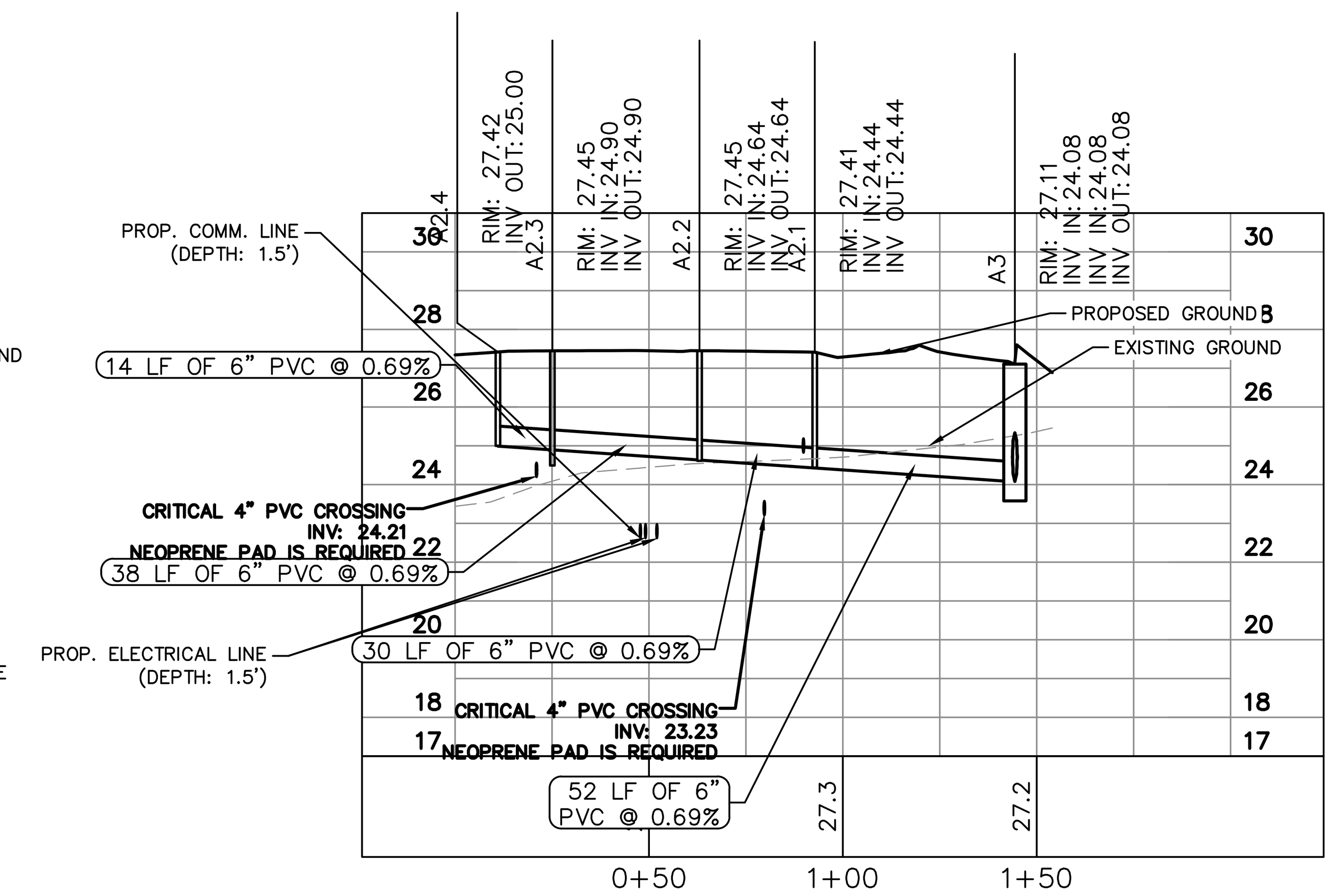
STORM SEWER (A)

STA: 9+90.00 TO STA: 13+25.00



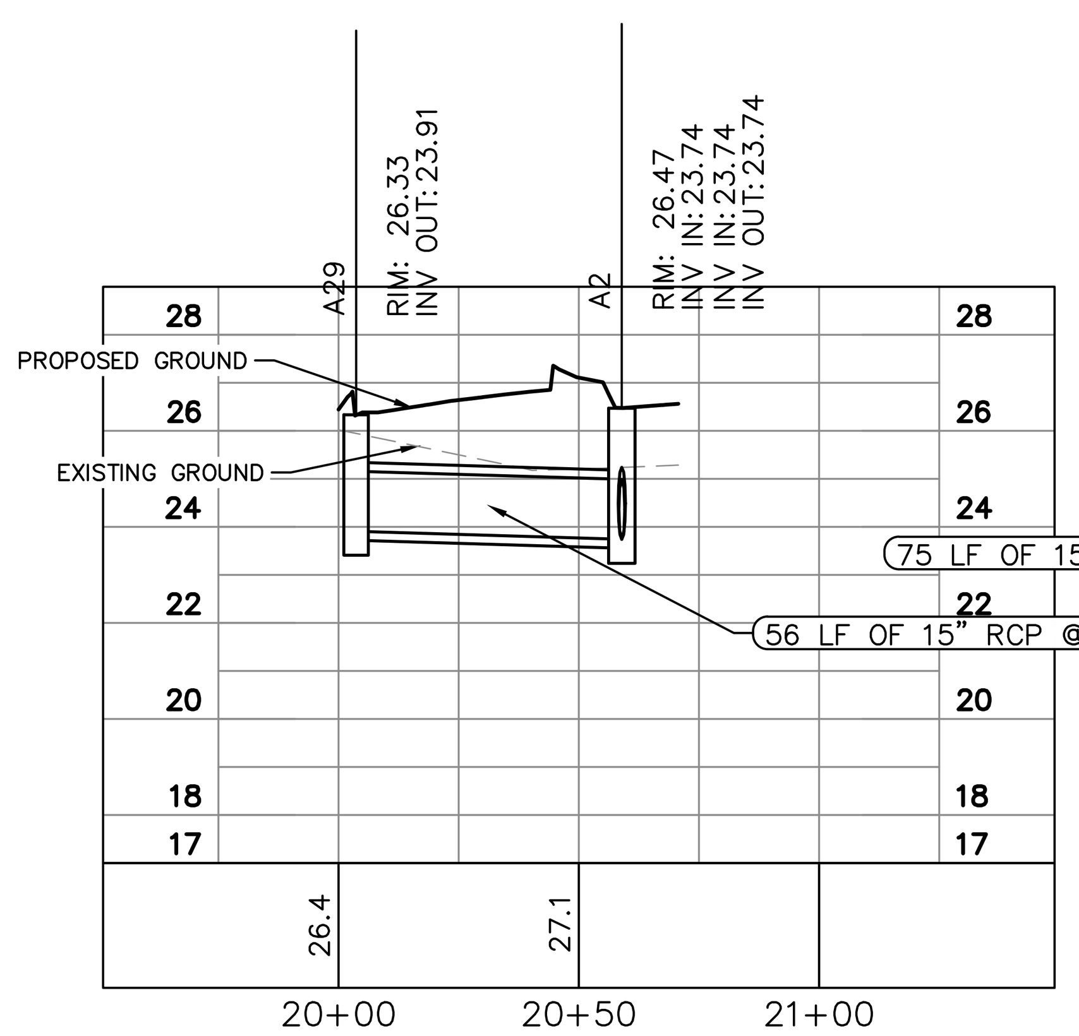
STORM SEWER (B)

STA: 10+00.00 TO STA: 12+63.32



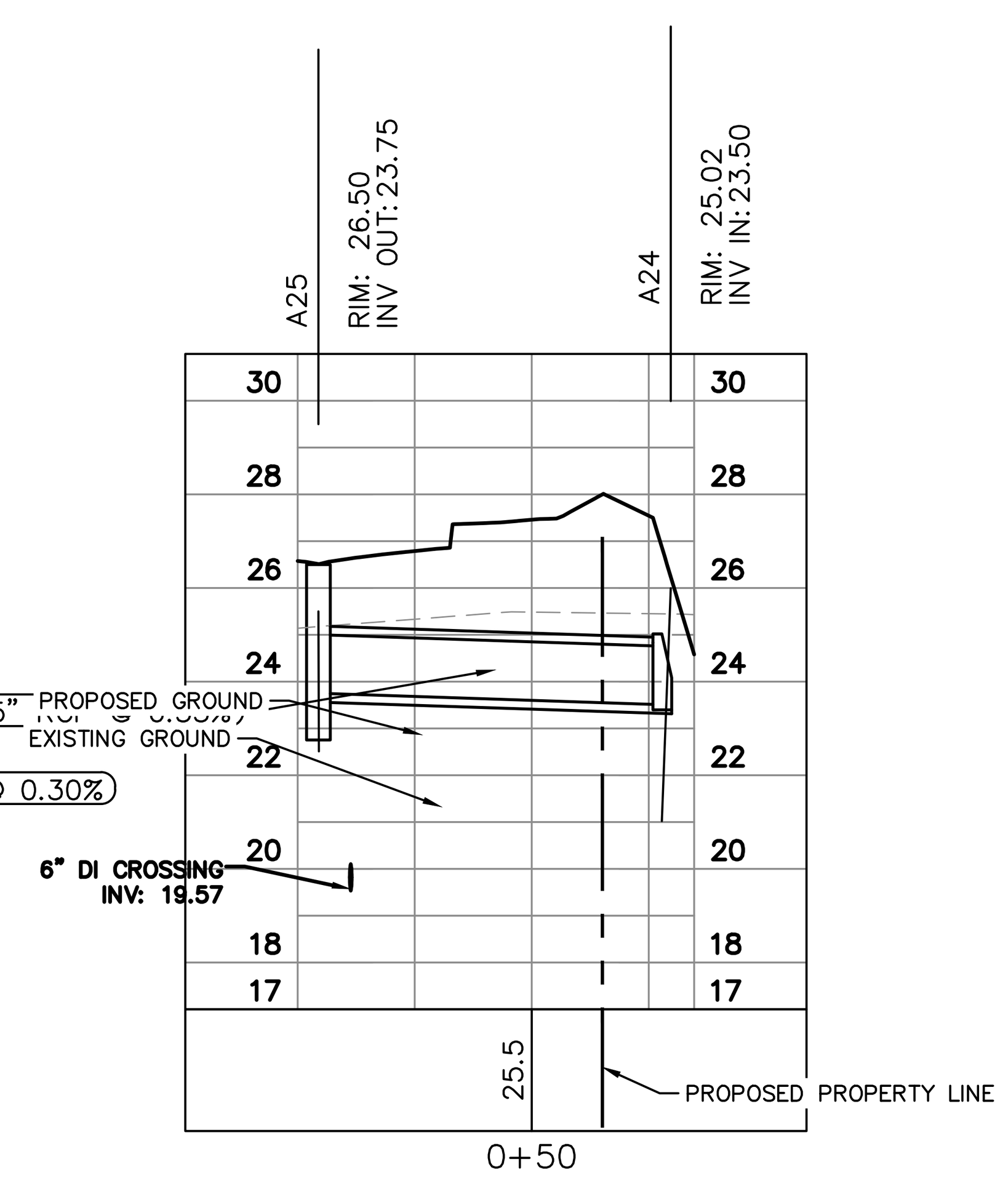
STORM SEWER (A) BUILDING ROOF DRAIN

STA: 0+00.00 TO STA: 2+00.00



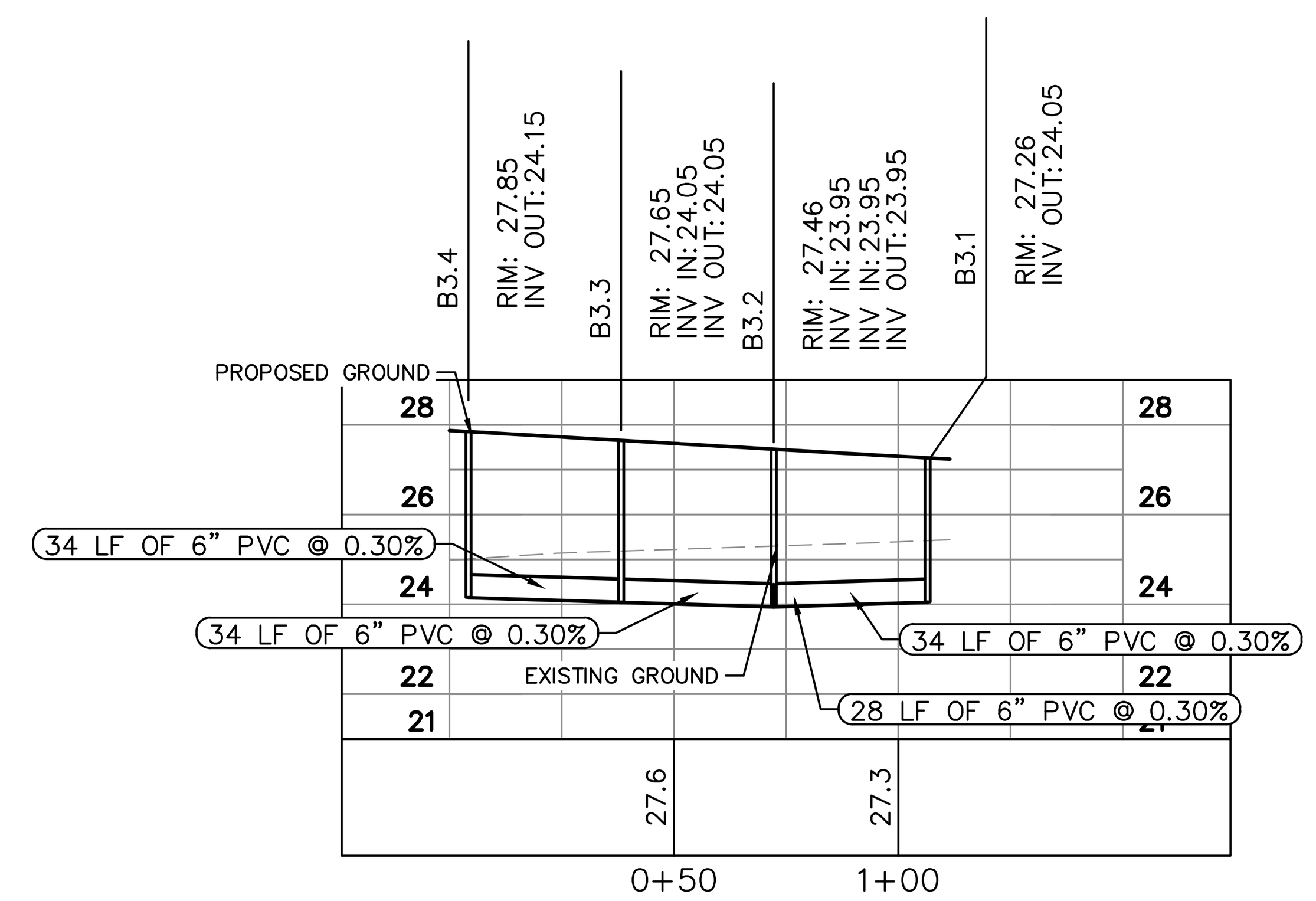
STORM SEWER (A29-A2)

STA: 19+75.00 TO STA: 21+25.00



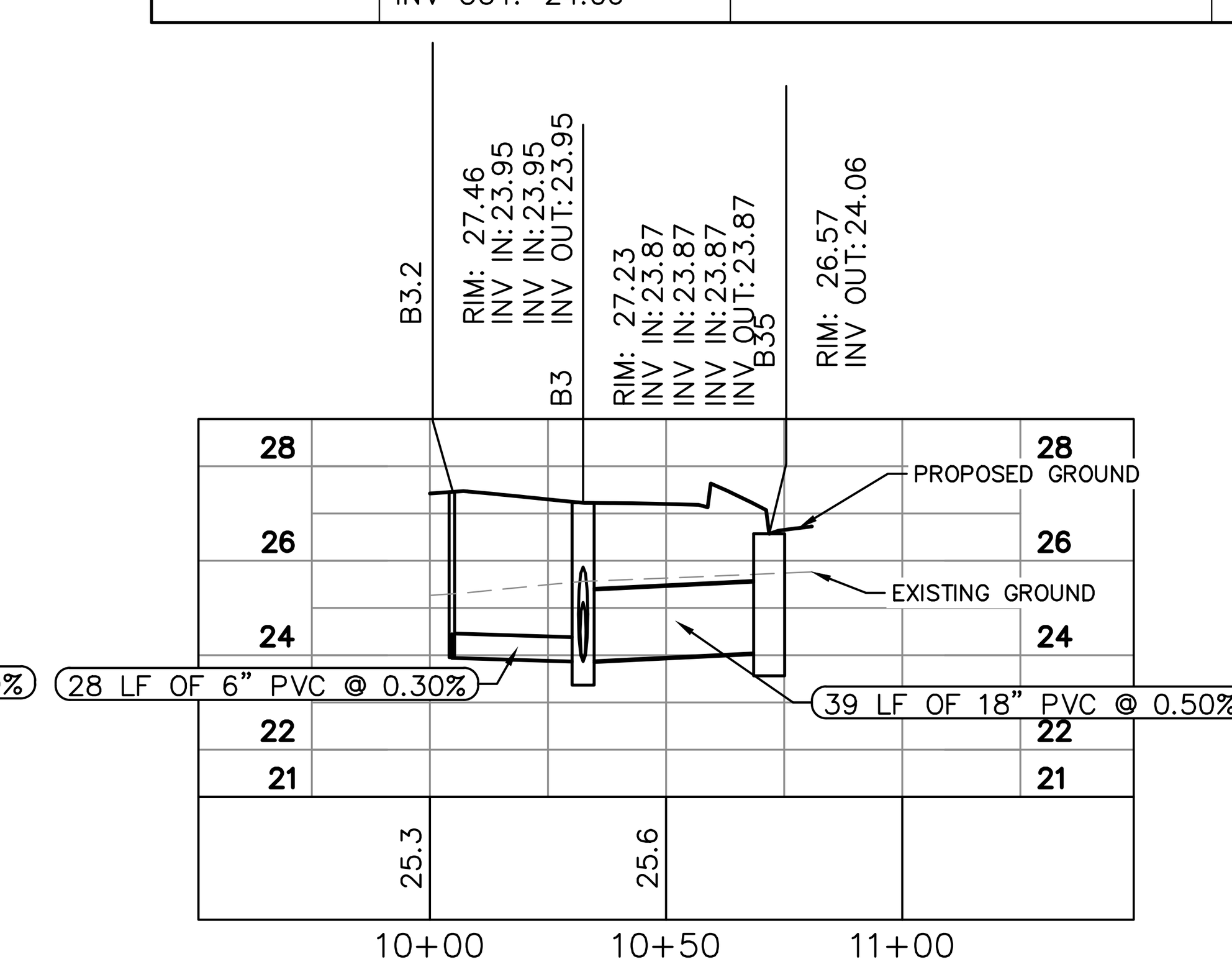
STORM SEWER (A25-A24)

STA: 0+00.00 TO STA: 0+84.71



STORM SEWER (B) CANOPY ROOF DRAIN

STA: 0+00.00 TO STA: 1+50.00



STORM SEWER (B3-B35)

STA: 9+75.00 TO STA: 11+25.00

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

0 1' 2' 3' 4' VERT. SCALE: 1"=4'

No.	REVISIONS	DATE	BY

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NORTH CAROLINA PROFESSIONAL SEAL 057500 ENGINEER LEONG WEE YEE 2/9/2024

KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

DRAINAGE PROFILES

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C402

LEGEND

- PROPERTY LINE
- LOD — LIMITS OF DISTURBANCE
- DRAINAGE AREA NAME
- AREA (AC)
- RUNOFF COEFFICIENT
- DRAINAGE AREA BOUNDARY

DA / X.XX / XX

DRAINAGE AREA SUMMARY

DRAINAGE AREA ID	OVERALL AREA (AC)	TC (MIN)	RUNOFF COEFFICIENT
A2	**0.16**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.16		0.9
A3	**0.23**	**5**	**0.87**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.22		0.9
A5	**0.16**	**5**	**0.86**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.15		0.9
R1	**0.14**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.14		0.9
R2	**0.16**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.16		0.9
B2	**0.14**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.14		0.9
B4	**0.49**	**5**	**0.89**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.48		0.9
C2.1	**0.15**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.15		0.9
TOTAL AREA	**1.63**		

No.	REVISIONS	DATE	BY

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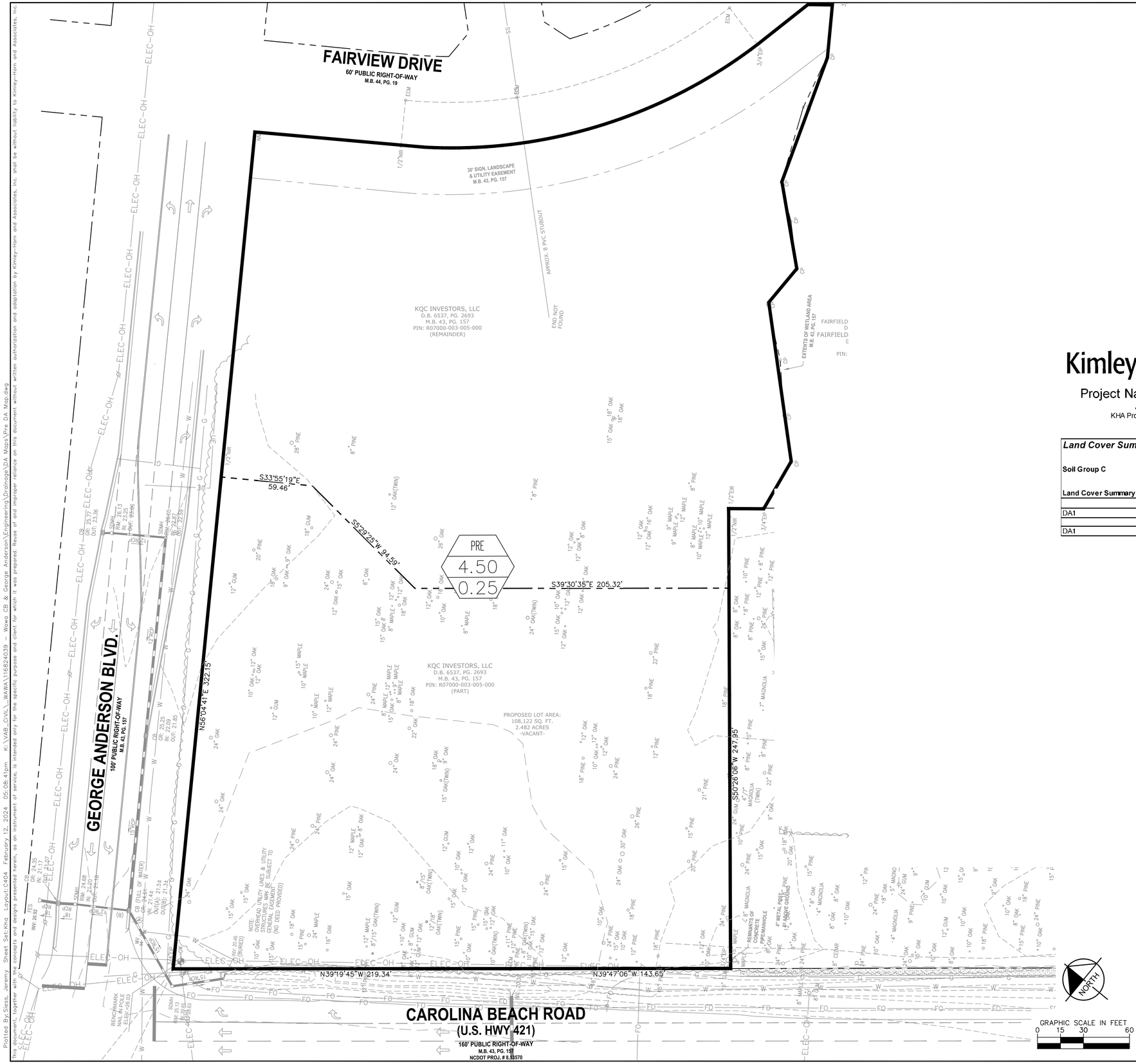
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE
1/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

INLET DRAINAGE AREA MAP

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C403



LEGEND

- PROPERTY LINE
- LOD — LIMITS OF DISTURBANCE
- DRAINAGE AREA DESCRIPTION
- AREA (AC)
- RUNOFF COEFFICIENT
- DRAINAGE AREA BOUNDARY

DA / X.XX / XX

Kimley»Horn

Project Name: Foudnations Early Learning

Address: Carolina Beach Rd and George Anderson Drive

KHA Project No.: 117211000

Date: 13-Nov-23

Land Cover Summary

		CN	C-Factor
Soil Group C	Impervious	98	0.9
	Pervious	74	0.15
	Woods (Fair)	73	0.25

Land Cover Summary (Acres)	Impervious	Pervious	Total Area	CN	C-Factor
EXISTING DRAINAGE AREA					
DA1	0.00	4.50	4.50	73	0.25
PROPOSED DRAINAGE AREA					
DA1	2.50	2.00	4.50	87	0.57

No.	REVISIONS	DATE	BY

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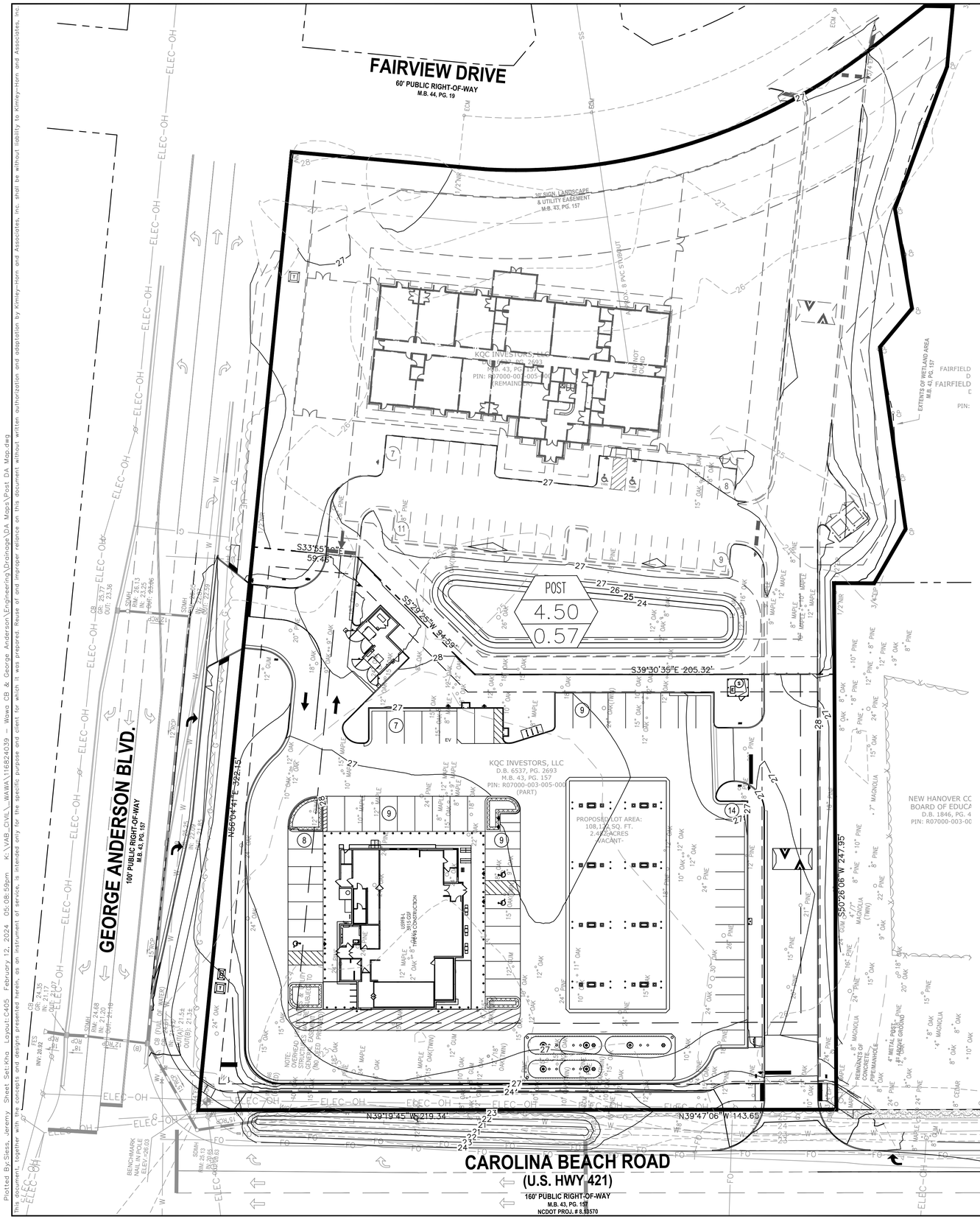
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 1/9/2024

KHA PROJECT 117182403
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

PRE-CONDITION DRAINAGE AREA MAP

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C404



LEGEND

- PROPERTY LINE
- LOD — LIMITS OF DISTURBANCE
- DRAINAGE AREA DESCRIPTION
- DA / X.XX / XX — AREA (AC), RUNOFF COEFFICIENT
- DRAINAGE AREA BOUNDARY

Kimley»Horn

Project Name: Foudnations Early Learning

Address: Carolina Beach Rd and George Anderson Drive

KHA Project No.: 117211000

Date: 13-Nov-23

Land Cover Summary

		CN	C-Factor
Soil Group C	Impervious	98	0.9
	Pervious	74	0.15
	Woods (Fair)	73	0.25

Land Cover Summary (Acres)	Impervious	Pervious	Total Area	CN	C-Factor
EXISTING DRAINAGE AREA					
DA1	0.00	4.50	4.50	73	0.25
PROPOSED DRAINAGE AREA					
DA1	2.50	2.00	4.50	87	0.57

No.	REVISIONS	DATE	BY

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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE FE 2/9/2024

KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

POST-CONDITION DRAINAGE AREA MAP

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C405

Stormwater Compliance Narrative

THE PROPOSED PROJECT CONSISTS OF A PROPOSED 5,919 SQUARE FOOT CONVENIENCE STORE WITH FUEL SALES, TWO TURN LANES, ASSOCIATED UTILITY, PARKING, AND STORM INFRASTRUCTURE. THE PROJECT INCLUDES 2.3 ACRES OF LAND DISTURBANCE INCLUDING OFFSITE IMPROVEMENTS. THE DRAINAGE FROM THE SITE WILL BE COLLECTED AND ROUTED TO A MASTER-PLANNED DRY STORMWATER POND ACCORDING TO "FOUNDATIONS EARLY LEARNING" BY KIMLEY HORN (SITE PLANS REVIEWED CONCURRENTLY.)

WATER QUALITY (PRE VS POST FOR THE ONE-YEAR RAIN EVENT), AND QUANTITY (PRE VS POST FOR 1-, 2-, 10-, AND 25-YEAR STORMS) IS MET THROUGH THE MASTER PLANNED BMP ON SITE (SEE "FOUNDATIONS EARLY LEARNING" BY KIMLEY HORN FOR THE MASTER PLANNED CALCULATIONS).

FOR THIS SITE (WAWA) TO BE COMPLIANT WITH THE STORMWATER MASTER PLAN, THE SITE MUST DRAIN THE AREA WITHIN THE PROPERTY BOUNDARY (EXCLUDING THE ENTRANCE ON CAROLINA BEACH RD) TO THE BMP WHILE MAINTAINING AN AVERAGE MAXIMUM CURVE NUMBER WITH FOUNDATIONS EARLY LEARNING OF 87. BECAUSE THE MASTER PLANNED BMP IS DESIGNED TO TREAT 4.5 ACRES OF DRAINAGE WITH A CURVE NUMBER OF 87 WHILE MEETING THE DESIGN STORM REQUIREMENTS, COMPLIANCE FOR WAWA #6131 IS MET. ADDITIONALLY, THE ON-SITE PIPES HAVE BEEN SIZED TO CONVEY THE 10-YEAR RAIN EVENT FROM THE WAWA TO THE BMP, CALCULATIONS ARE INCLUDED ON THIS SHEET.

FlexTable: Conduit Table

Label	Invert (Start) (ft)	Invert (Stop) (ft)	Has User Defined Length?	Length (User Defined) (ft)	Slope (Calculated) (ft/ft)	Section Type	Diameter (in)	Manning's n	Flow (cfs)	Velocity (ft/s)
A4 TO A3	24.52	24.03	True	130.0	0.004	Circle	15.0	0.013	0.11	1.43
A29 TO A2	23.89	23.69	True	24.0	0.008	Circle	15.0	0.013	0.11	0.09
A2 TO A1	23.69	23.50	True	72.0	0.003	Circle	18.0	0.013	0.77	0.44
B4 TO B3	24.21	23.78	True	116.0	0.004	Circle	15.0	0.013	0.14	1.51
B35 TO B3	24.06	23.87	True	39.0	0.005	Circle	18.0	0.013	0.09	1.42
A3 TO A2	24.08	23.74	True	102.0	0.003	Circle	15.0	0.013	0.32	1.86
B3 TO B2	23.87	23.60	True	89.0	0.003	Circle	24.0	0.013	0.40	1.80
B2 TO B1	23.60	23.50	True	33.0	0.003	Circle	24.0	0.013	0.60	2.04
A25-A24	23.75	23.50	True	75.0	0.003	Circle	15.0	0.013	0.14	0.12

Depth (Out) (ft)	Capacity (Full Flow) (cfs)	Flow / Capacity (Design) (%)	Depth (Normal) / Rise (%)	Material
1.20	3.97	2.9	11.6	Concrete
1.53	5.82	1.8	9.4	Concrete
1.72	5.43	14.2	25.4	Concrete
1.44	3.94	3.6	12.9	Concrete
1.35	7.33	1.2	7.8	Concrete
1.48	3.73	8.6	19.8	Concrete
1.62	12.46	3.2	12.2	Concrete
1.72	12.45	4.8	14.9	Concrete
1.72	3.73	3.8	13.3	Concrete

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FlexTable: Manhole Table

Label	Elevation (Ground) (ft)	Set Rim to Ground Elevation?	Hydraulic Grade Line (In) (ft)	Elevation (Rim) (ft)	Hydraulic Grade Line (Out) (ft)	Flow (Total Out) (cfs)	Elevation (Invert) (ft)	Depth (Out) (ft)
A4	26.67	True	25.23	26.67	25.23	0.11	24.52	0.71
A3	27.11	True	25.23	27.11	25.23	0.32	24.08	1.15
B4	26.39	True	25.22	26.39	25.22	0.14	24.22	1.00
A29	26.33	True	25.22	26.33	25.22	0.11	23.91	1.31
A2	26.47	True	25.22	26.47	25.22	0.77	23.74	1.48
B35	26.57	True	25.22	26.57	25.22	0.09	24.06	1.16
B3	26.55	True	25.22	26.55	25.22	0.40	23.87	1.35
A25	26.50	True	25.22	26.50	25.22	0.14	23.75	1.47
B2	26.55	True	25.22	26.55	25.22	0.60	23.60	1.62

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FlexTable: Outfall Table

Label	Elevation (Ground) (ft)	Set Rim to Ground Elevation?	Elevation (Invert) (ft)	Boundary Condition Type	Elevation (User Defined Tailwater) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (cfs)
A1	23.50	True	23.50	User Defined Tailwater	25.22	25.22	0.89
B1	23.50	True	23.50	User Defined Tailwater	25.22	25.22	0.61
A24	23.50	True	23.50	User Defined Tailwater	25.22	25.22	0.29

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FlexTable: Catchment Table

Label	Outflow Element	Area (User Defined) (acres)	Runoff Coefficient (Rational)	Time of Concentration (hours)	Flow (Total Out) (cfs)
A4	A4	0.160	0.860	0.083	0.11
A29	A29	0.150	0.870	0.083	0.11
A2	A2	0.160	0.900	0.083	0.12
R2	B3	0.150	0.900	0.083	0.11
B4	B4	0.190	0.900	0.083	0.14
R1	A3	0.140	0.900	0.083	0.10
B35	B35	0.130	0.850	0.083	0.09
A3	A3	0.080	0.830	0.086	0.06
A25	A25	0.190	0.900	0.083	0.14
B2	B2	0.180	0.900	0.083	0.13

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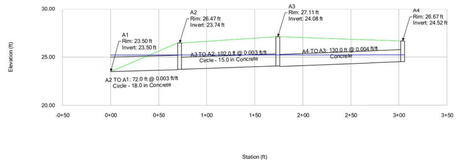
Profile Report
Engineering Profile - A1-A4 (WAWA GA.stsw)



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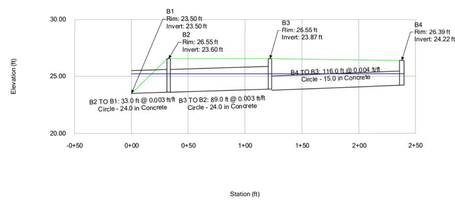
Profile Report
Engineering Profile - B1-B4 (WAWA GA.stsw)



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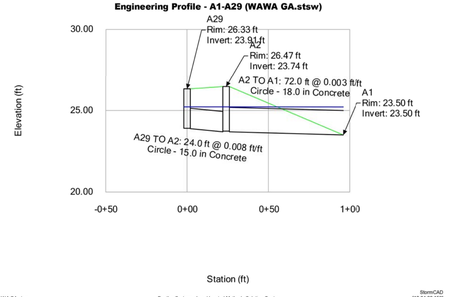
Profile Report
Engineering Profile - A1-A29 (WAWA GA.stsw)



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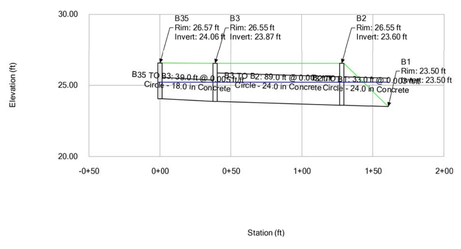
Profile Report
Engineering Profile - B1-B35 (WAWA GA.stsw)



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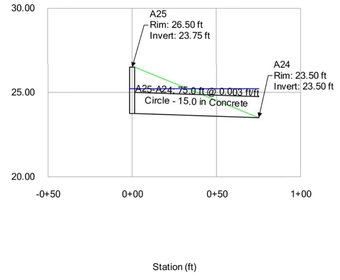
Profile Report
Engineering Profile - A25-A24 (WAWA GA.stsw)



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Kimley»Horn

Project Name: Wawa#6132
KHA Project Number: 116824039
Date: 2/9/2024

INLET DRAINAGE AREA SUMMARY			
DRAINAGE AREA ID	OVERALL AREA (AC)	TC (MIN)	RUNOFF COEFFICIENT
A2	**0.16**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.16		0.9
A3	**0.08**	**5**	**0.83**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.07		0.9
A4	**0.16**	**5**	**0.86**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.15		0.9
R1	**0.14**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.14		0.9
R2	**0.16**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.16		0.9
B2	**0.18**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.18		0.9
B4	**0.19**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.19		0.9
A29	**0.15**	**5**	**0.86**
PERVIOUS AREA	0.01		0.3
IMPERVIOUS AREA	0.14		0.9
A25	**0.19**	**5**	**0.90**
PERVIOUS AREA	0.00		0.3
IMPERVIOUS AREA	0.19		0.9
B35	**0.19**	**5**	**0.81**
PERVIOUS AREA	0.03		0.3
IMPERVIOUS AREA	0.16		0.9
TOTAL AREA	**1.22**		

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No.	REVISIONS	DATE	BY

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PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE — 1/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

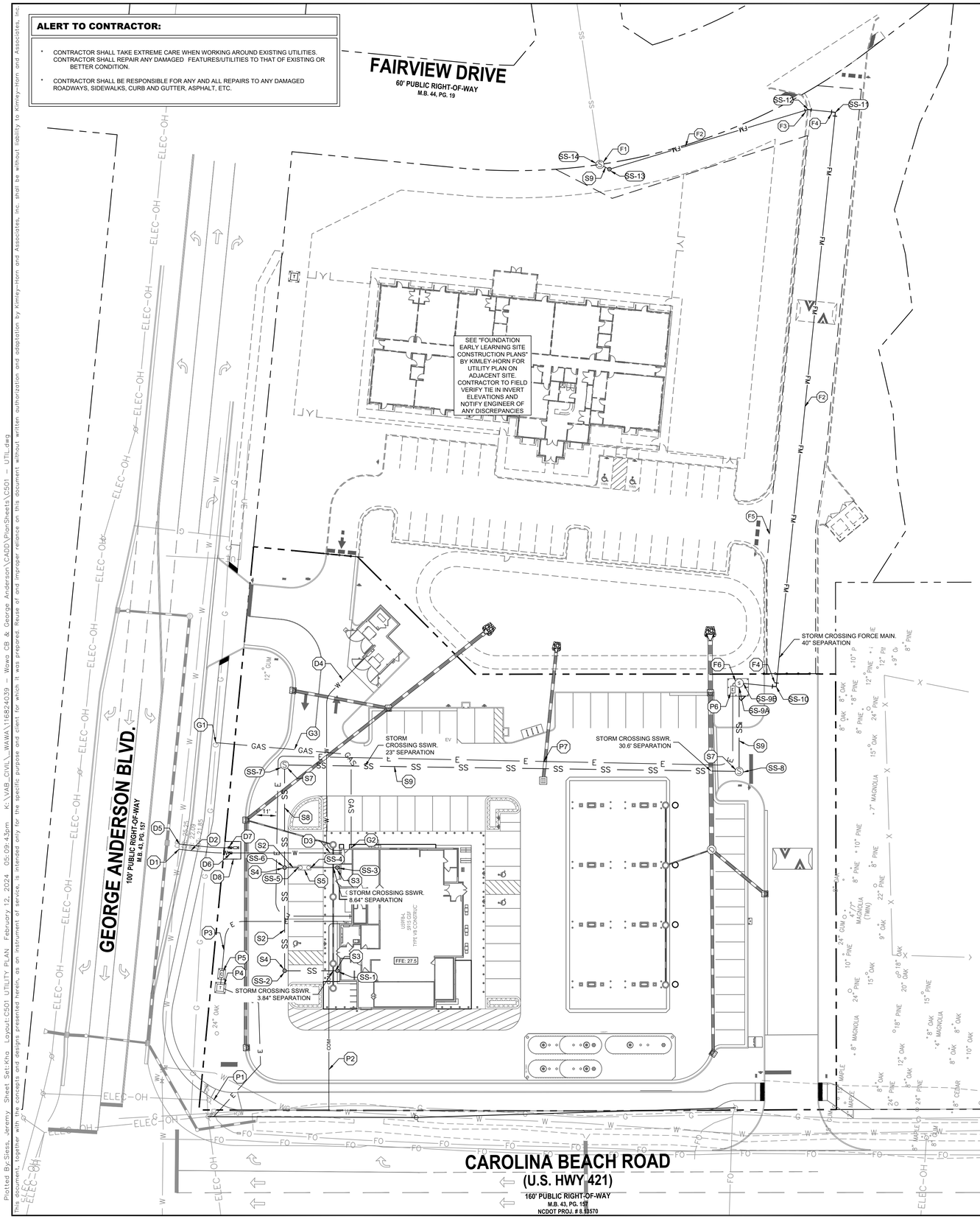
DRAINAGE NARRATIVE

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C406

ALERT TO CONTRACTOR:

- CONTRACTOR SHALL TAKE EXTREME CARE WHEN WORKING AROUND EXISTING UTILITIES. CONTRACTOR SHALL REPAIR ANY DAMAGED FEATURES/UTILITIES TO THAT OF EXISTING OR BETTER CONDITION.
- CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL REPAIRS TO ANY DAMAGED ROADWAYS, SIDEWALKS, CURB AND GUTTER, ASPHALT, ETC.



UTILITY NOTES

1. THE DEPTH AND LOCATION OF ALL UNDERGROUND UTILITIES SHALL BE VERIFIED PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER IMMEDIATELY UPON DISCOVERY.
2. RPZ BACKFLOW PREVENTERS FOR DOMESTIC SERVICE LINE SHALL BE PROVIDED WITHIN BUILDING MECHANICAL ROOM.
3. ALL NON-METALLIC PIPE SHALL BE INSTALLED WITH TRACER WIRE.
4. TRACER WIRE SHALL BE INSTALLED ALONG THE ENTIRE LENGTH OF THE PROPOSED SANITARY SEWER LATERAL.
5. ALL SANITARY SEWER CLEANOUTS ARE TO BE TRAFFIC RATED.
6. ALL NEW UTILITY SERVICES FOR ELECTRICITY, TELEPHONE, AND CABLE SHALL BE INSTALLED UNDERGROUND. NO NEW ABOVE GROUND UTILITIES ARE PERMITTED.
7. ADJUST ALL APPURTENANCES TO PROPOSED GRADE.
8. CONDUIT TO BE INSTALLED BETWEEN IRRIGATION METER AND BUILDING FOR BAS MONITORING PER WAWA STANDARD.
9. THE EXISTING UTILITIES ON THIS PLAN ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD LOCATIONS CALL 811 WITH THREE (3) WORKING DAYS MINIMUM NOTICE.
10. NOTE TO CONTRACTOR: WHEN ORDERING KNOX BOX, GO TO WWW.KNOXBOX.COM AND SELECT WILSON FIRE/RESCUE SERVICES.
11. A MINIMUM OF 2 FT OF SUITABLE FILL IS REQUIRED BETWEEN ANY ROCK/CONCRETE/ASPHALT AND THE GAS SERVICE LINE.
12. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR UTILITY CONNECTIONS OUTSIDE THE BUILDING.
13. SEE "GENERAL NOTES" SHEET FOR SITE GENERAL NOTES AND ZONING NOTES.
14. REFER TO GENERAL NOTES SHEET FOR GENERAL, WATER UTILITY, AND SANITARY SEWER, NOTES, MATERIALS, AND REQUIREMENTS.
15. SEE "EXISTING CONDITIONS" FOR COMPLETE BOUNDARY DESCRIPTION, ADJOINING PROPERTIES, ZONING AND USE, AND EXISTING UTILITY LOCATIONS AND SIZES.
16. PIPE LENGTHS SHOWN ARE MEASURED FROM CENTER TO CENTER OF STRUCTURES ROUNDED TO THE NEAREST FOOT.
17. CONTRACTOR TO REFER TO UTILITY DETAIL SHEET FOR UTILITY BEDDING DETAIL.
18. FORCE MAIN CONSTRUCTION TO BE COORDINATED WITH FOUNDATION EARLY LEARNING BY KIMLEY-HORN

CONTRACTOR SHALL REFER TO ARCH / MEP PLANS FOR EXACT UTILITY ENTRANCE LOCATIONS.

ROOF DRAINS, FOUNDATION DRAINS, AND OTHER CLEAN WATER CONNECTIONS TO THE SANITARY SYSTEM ARE PROHIBITED

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

UTILITY KEYNOTE LEGEND

SANITARY SEWER KEYNOTES

S1	4" PVC SANITARY SERVICE. INV OUT FROM BUILDING AT MINIMUM 3.25' BELOW FFE.
S2	PRIVATE 4" SANITARY SEWER LATERAL AT MINIMUM 1.0% SLOPE. COORDINATE WITH ARCH / MEP PLANS.
S3	4" 2 WAY-SANITARY SEWER CLEANOUT(S) - ("H-20" TRAFFIC RATED IN ALL PAVED AREAS), SPACING PER GOVERNING AGENCY.
S4	4" SANITARY SEWER CLEANOUT(S) - ("H-20" TRAFFIC RATED IN ALL PAVED AREAS), SPACING PER GOVERNING AGENCY.
S5	GREASE INTERCEPTOR. REFER TO DETAIL SHEET.
S6	EXISTING SANITARY SEWER MANHOLE
S7	SANITARY SEWER MANHOLE. REFER TO DETAIL SHEET.
S8	4' PVC SEWER LATERAL
S9	6" PVC SANITARY SEWER GRAVITY LINE

POWER - COMMUNICATION (TELEPHONE, FIBER OPTIC, DATA, TV) KEYNOTES

P1	CONTRACTOR TO COORDINATE UTILITY CONNECTION WITH DUKE ENERGY.
P2	COMMUNICATION (PHONE, DATA, TV) SERVICE - (3) 4" CONDUITS.
P3	ELECTRICAL SERVICE - (6) 4" CONDUITS - TO TRANSFORMER.
P4	ELECTRIC TRANSFORMER PAD LOCATION SIZE AND CONNECTIONS PER POWER COMPANY STANDARDS.
P5	REMOTE CT CABINET. SIZE AND CONNECTIONS PER POWER COMPANY STANDARDS.
P6	ELECTRIC BOX FOR LIFT STATION PAD LOCATION SIZE AND CONNECTIONS PER POWER COMPANY STANDARDS.
P7	ELECTRICAL SERVICE - CONTROL CABLE: TYPE TC: DIRECT BURIAL 12 AWG, SIX CONDUCTOR

GAS SERVICE KEYNOTES

G1	GAS MAIN BY UTILITY COMPANY. CONTRACTOR TO COORDINATE UTILITY CONNECTION WITH THE CITY OF JACKSONVILLE PUBLIC UTILITIES.
G2	GAS METER LOCATION PER UTILITY COMPANY'S REQUIREMENTS.
G3	GAS SERVICE TO BUILDING PER UTILITY COMPANY'S REQUIREMENTS.

WATER LINE DISTRIBUTION KEYNOTES

D1	DOMESTIC CONNECTION TO EXISTING WATER MAIN WITH 1" TYPE K COPPER CORPERATION STOP BY CONTRACTOR. SEE DETAIL SHEET.
D2	1" TYPE K COPPER DOMESTIC WATER SERVICE. CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ANY APPURTENANCES ON THE DOMESTIC LINE SUCH AS BACKFLOW PREVENTION DEVICES, GATE VALVES, BENDS AND FITTINGS, ETC., WHICH MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE AHJ.
D3	2" DOMESTIC SERIVE ENTRY LOCATION INTO BUILDING, FIRE AND DOMESTIC BACKFLOW DEVICES LOCATED INSIDE BUILDING. REFER ARCH/MEP PLANS.
D4	¾" PVC LINE TO FROST FREE YARD HYDRANT.
D5	IRRIGATION CONNECTION WITH 1" CORPORATION STOP. SEE DETAIL SHEET.
D6	1.5" DOMESTIC WATER METER. SEE DETAIL SHEET.
D7	3/4" IRRIGATION WATER METER. SEE DETAIL SHEET.
D8	10' X 10' WATER EASEMENT SEE SHEET C105

SANITARY SEWER FORCE MAIN KEYNOTES

F1	CONTRACTOR TO COORDINATE SANITARY SEWER MANHOLE CONNECTION WITH THE FOUNDATION EARLY LEARNING CONTRACTOR. INTERIOR DROP MANHOLE INV-IN:TBD INV OUT: 22.16 CONTRACTOR TO FIELD VERIFY
F2	1.25" PVC SANITARY SEWER FORCE MAIN
F3	1.25" PVC 22.5° BEND
F4	1.25" PVC 90° BEND
F5	30' UTILITY EASEMENT
F6	SANITARY GRAVITY LIFT STATION. REFER TO DETAIL SHEET.

Know what's below. Call before you dig.

No.	REVISIONS	DATE	BY

Kimley»Horn
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WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE
1/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

UTILITY PLAN

WAWA - #6132

PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC

WILMINGTON NORTH CAROLINA

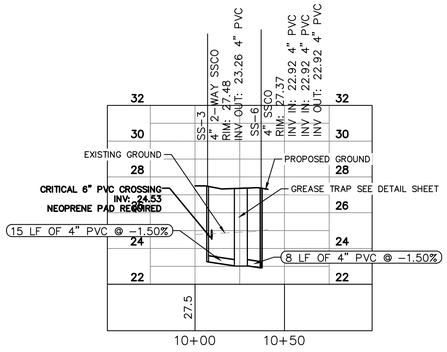
SHEET NUMBER
C501

SANITARY SEWER PIPE TABLE

START STRUCTURE	END STRUCTURE	SIZE	LENGTH	SLOPE	MATERIAL
SS–1	SS–2	4"	30'	1.50%	PVC
SS–3	SS–4	4"	15'	1.50%	PVC
SS–5	SS–6	4"	8'	1.50%	PVC
SS–2	SS–6	4"	59'	1.50%	PVC
SS–6	SS–7	4"	58'	1.50%	PVC
SS–7	SS–8	6"	259'	1.50%	DI
SS–8	SS–9A	6"	48'	1.50%	PVC
SS–9B	SS–13	1.25"	480'	SEE PROFILE	PVC
SS–13	SS–14	6"	6'	2.00%	PVC

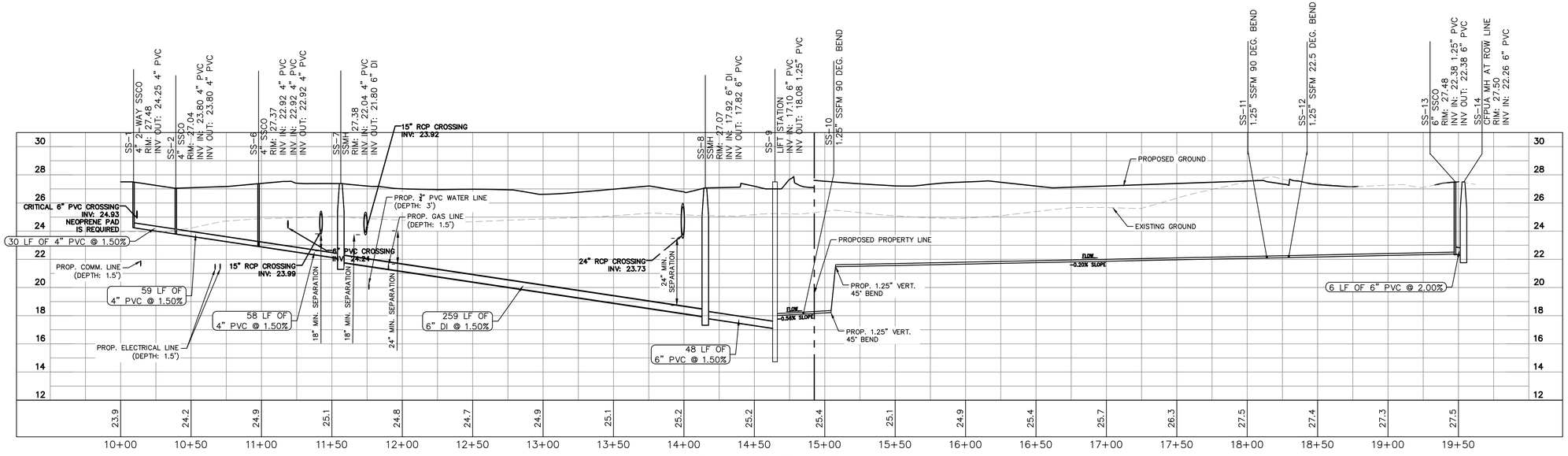
SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME:	DETAILS:	PIPES IN:	PIPES OUT
SS–1	4" 2–WAY SSCO RIM: 27.48 INV OUT: 24.25		TO SS–2, 4" PVC INV OUT: 24.25 @ 1.50%
SS–2	4" SSCO RIM: 27.04 INV IN: 23.80 INV OUT: 23.80	FROM SS–1, 4" PVC INV IN: 23.80 @ 1.50%	TO SS–6, 4" PVC INV OUT: 23.80 @ 1.50%
SS–3	4" 2–WAY SSCO RIM: 27.48 INV OUT: 23.26		TO SS–4, 4" PVC INV OUT: 23.26 @ 1.50%
SS–4	GREASE TRAP RIM: 23.40 INV IN: 23.04	FROM SS–3, 4" PVC INV IN: 23.04 @ 1.50%	
SS–5	GREASE TRAP RIM: 23.40 INV OUT: 23.04		TO SS–6, 4" PVC INV OUT: 23.04 @ 1.50%
SS–6	4" SSCO RIM: 27.37 INV IN: 22.92 INV IN: 22.92 INV OUT: 22.92	FROM SS–2, 4" PVC INV IN: 22.92 @ 1.50% FROM SS–5, 4" PVC INV IN: 22.92 @ 1.50%	TO SS–7, 4" PVC INV OUT: 22.92 @ 1.50%
SS–7	SSMH RIM: 27.38 INV IN: 22.04 INV OUT: 21.80	FROM SS–6, 4" PVC INV IN: 22.04 @ 1.50%	TO SS–8, 6" DI INV OUT: 21.80 @ 1.50%
SS–8	SSMH RIM: 27.07 INV IN: 17.92 INV OUT: 17.82	FROM SS–7, 6" DI INV IN: 17.92 @ 1.50%	TO SS–9A, 6" PVC INV OUT: 17.82 @ 1.50%
SS–9A	LIFT STATION RIM: 17.65 INV IN: 17.10	FROM SS–8, 6" PVC INV IN: 17.10 @ 1.50%	
SS–9B	LIFT STATION RIM: 18.16 INV OUT: 18.02		TO SS–13, 1.25" PVC INV OUT: 18.02 @ –0.56%
SS–10	1.25" SSFM 90 DEG. BEND		
SS–11	1.25" SSFM 90 DEG. BEND		
SS–12	1.25" SSFM 22.5 DEG. BEND		
SS–13	6" SSCO	FROM SS–9B, 1.25" PVC INV IN: 22.38 @ –0.20%	TO SS–14, 6" PVC INV OUT: 22.38 @ 2.00%
SS–14	CFPUA MH AT ROW LINE RIM: 27.50 INV IN: 22.26	FROM SS–13, 6" PVC INV IN: 22.26 @ 2.00%	



SANITARY SEWER GREASE TRAP

STA: 9+75.00 TO STA: 10+75.00



SANITARY SEWER MAIN

STA: 9+50.00 TO STA: 20+00.00

VERT. SCALE: 1"=4'

HORIZ. SCALE: 1"=40'

No.	REVISIONS	DATE	BY

Kimley»Horn
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 1/9/2024

KHA PROJECT 168240.39
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

UTILITY PROFILES

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C502

PUMP STATION GENERAL NOTES

1. CONTRACTOR SHALL INSTALL PUMP STATION AS DESIGNATED IN THIS PLAN SET OR APPROVED EQUAL.
2. DUPLEX GRINDER PUMP STATION SHALL BE PROVIDED WITH AUTODIALER FROM ALARM PANEL TO 24–HOUR SERVICE CONTRACTOR WITH OWNER SELECTED MAINTENANCE CONTRACT.
3. CONTRACTOR SHALL PROVIDE BALLAST BUOYANCY CALCULATIONS OR REQUIREMENTS IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
4. CONTRACTOR SHALL COORDINATE BEDDING TYPE AND DEPTH WITH MANUFACTURER REPRESENTATIVE AND GEOTECHNICAL ENGINEER.
5. IF 240/120V BUILDING PANEL IS AVAILABLE, CONTRACTOR SHALL FURNISH AND INSTALL A 30A, 2P, 240V BREAKER FOR POWER TO THE CONTROL PANEL. IF ONLY 208V BUILDING PANEL IS AVAILABLE, CONTRACTOR SHALL FURNISH AND INSTALL A 30A, 2P, 208V, 1PH CIRCUIT BREAKER IN BUILDING 208V PANEL. 208V, 1PH POWER MUST THEN BE STEPPED UP 32V TO 240V, UTILIZING THE BUCK BOOST TRANSFORMER SHOWN ON THIS SHEET OR APPROVED EQUAL.
6. CONTRACTOR SHALL INSTALL 3#8 AWG CU + 1#10 AWG CU GND IN 1" SCH. 80 PVC CONDUIT FROM BUILDING ELECTRICAL PANEL TO PUMP TO PUMP CONTROL PANEL MAIN CIRCUIT BREAKER
7. WIRING FROM CONTROL PANEL TO PUMP SHALL BE PROVIDED BY MANUFACTURER AND INSTALLED PER MANUFACTURER STANDARDS.
8. PUMP STATION SHALL BE E/ONE EXTREME DH272 OR APPROVED EQUAL.

PUMP STATION NOTES

1. COMPLETE SYSTEM: THESE PLANS ARE INTENDED TO DESCRIBE A COMPLETE AND WORKING SYSTEM PUMP STATION. NO EXTRA PAYMENT WILL BE MADE FOR INCIDENTAL WORK NOT SPECIFICALLY CALLED FOR, BUT WHICH IS NECESSARY FOR THE PROPER INSTALLATION OF EQUIPMENT AND FUNCTIONING OF THE SYSTEM. THIS INCLUDES, BUT IS NOT LIMITED TO, ADDITIONAL PIPING, SPACERS, PIPE HANGERS, CONCRETE AND GROUT WORK, MOUNTING BOLTS AND BRACKETS, OR OTHER ITEMS THAT MAY BE REQUIRED.

2. SERVICEABILITY: THE GRINDER PUMP CORE, INCLUDING LEVEL SENSOR ASSEMBLY, SHALL HAVE TWO LIFTING HOOKS COMPLETE WITH LIFT–OUT HARNESS CONNECTED TO ITS TOP HOUSING TO FACILITATE EASY CORE REMOVAL WHEN NECESSARY. THE LEVEL SENSOR ASSEMBLY MUST BE EASILY REMOVED FROM THE PUMP ASSEMBLY FOR SERVICE OR REPLACEMENT. ALL MECHANICAL AND ELECTRICAL CONNECTIONS MUST PROVIDE EASY DISCONNECT CAPABILITY FOR CORE UNIT REMOVAL AND INSTALLATION. ELECTRICAL QUICK DISCONNECT (EQD) MUST INCLUDE A WATER–TIGHT COVER TO PROTECT THE INTERNAL ELECTRICAL PINS WHILE THE EQD IS UNPLUGGED. A PUMP PUSH–TO–RUN FEATURE WILL BE PROVIDED FOR FIELD TROUBLE SHOOTING. THE PUSH–TO–RUN FEATURE MUST OPERATE THE PUMP EVEN IF THE LEVEL SENSOR ASSEMBLY HAS BEEN REMOVED FROM THE PUMP ASSEMBLY. ALL MOTOR CONTROL COMPONENTS SHALL BE MOUNTED ON A READILY REPLACEABLE BRACKET FOR EASE OF FIELD SERVICE.

3. INSPECTION AND TESTING: UPON COMPLETION OF THE PROJECT AND AT OTHER TIMES DEEMED NECESSARY BY THE ENGINEER, THE CONTRACTOR SHALL PERFORM ALL TESTS AS REQUIRED BY THE ENGINEER. THE ENGINEER SHALL BE GIVEN AT LEAST 48–HOURS NOTICE BEFORE TESTS ARE MADE. THE CONTRACTOR SHALL FURNISH ALL LABOR AND MATERIALS FOR THE AFOREMENTIONED TESTS. TESTING WILL NOT BE MEASURED AND PAID FOR AS SUCH BUT WILL BE CONSIDERED INCIDENTAL WORK.

4. WARRANTY: THE CONTRACTOR SHALL FURNISH WRITTEN WARRANTY, COUNTERSIGNED AND GUARANTEED BY THE GENERAL CONTRACTOR, STATING THAT THE WORK EXECUTED SHALL BE FREE FROM DEFECTS OF MATERIALS AND WORKMANSHIP FOR PERIOD OF 24 MONTHS FROM DATE OF FINAL ACCEPTANCE OF WORK. THIS WARRANTY SHALL IN NO WAY AFFECT OR SHORTEN INDIVIDUAL MANUFACTURER'S WARRANTY OF EQUIPMENT USED.

PUMP SPECIFICATIONS

1. THE PUMPS SHALL BE CAPABLE OF DELIVERING 15 GPM AGAINST A RATED TOTAL DYNAMIC HEAD OF 0 FEET AND 7.8 GPM AGAINST A RATED TOTAL DYNAMIC HEAD OF 185 FEET. THE PUMP(S) MUST ALSO BE CAPABLE OF OPERATING AT NEGATIVE TOTAL DYNAMIC HEAD WITHOUT OVERLOADING THE MOTOR(S). UNDER NO CONDITIONS SHALL IN–LINE PIPING OR VALVING BE ALLOWED.

2. THE PUMP SHALL BE A CUSTOM DESIGNED, INTEGRAL, VERTICAL ROTOR, MOTOR DRIVEN, SOLIDS HANDLING PUMP OF THE PROGRESSING CAVITY TYPE WITH A SINGLE MECHANICAL SEAL. DOUBLE RADIAL O–RING SEALS ARE REQUIRED AT ALL CASTING JOINTS. ALL PUMP CASTINGS SHALL BE CAST IRON, FULLY EPOXY COATED TO 8–10 MIL NOMINAL DRY THICKNESS, WET APPLIED. THE ROTOR SHALL BE THROUGH–HARDENED, HIGHLY POLISHED, PRECIPITATION HARDENED STAINLESS STEEL. THE STATOR SHALL BE OF A SPECIFICALLY COMPOUNDED ETHYLENE PROPYLENE SYNTHETIC ELASTOMER. BUNA–N IS NOT ACCEPTABLE AS A STATOR MATERIAL.

3. THE GRINDER SHALL BE PLACED IMMEDIATELY BELOW THE PUMPING ELEMENTS AND SHALL BE DIRECT–DRIVEN BY A SINGLE, ONE–PIECE MOTOR SHAFT. THE GRINDER IMPELLER (CUTTER WHEEL) ASSEMBLY SHALL BE SECURELY FASTENED TO THE PUMP MOTOR SHAFT BY MEANS OF A THREADED CONNECTION ATTACHING THE GRINDER IMPELLER TO THE MOTOR SHAFT. ATTACHMENT BY MEANS OF PINS OR KEYS WILL NOT BE ACCEPTABLE.

4. THE GRINDER IMPELLER SHALL BE A ONE–PIECE, 4140 CUTTER WHEEL OF THE ROTATING TYPE WITH INDUCTIVELY HARDENED CUTTER TEETH. THE CUTTER TEETH SHALL BE INDUCTIVELY HARDENED TO ROCKWELL 50 – 60C FOR ABRASION RESISTANCE. THE SHREDDER RING SHALL BE OF THE STATIONARY TYPE AND THE MATERIAL SHALL BE WHITE CAST IRON. THE TEETH SHALL BE GROUND INTO THE MATERIAL TO ACHIEVE EFFECTIVE GRINDING. THE SHREDDER RING SHALL HAVE A STAGGERED TOOTH PATTERN WITH ONLY ONE EDGE ENGAGED AT A TIME.

5. THE GRINDER ASSEMBLY SHALL BE DYNAMICALLY BALANCED AND OPERATE WITHOUT OBJECTIONABLE NOISE OR VIBRATION OVER THE ENTIRE RANGE OF RECOMMENDED OPERATING PRESSURES. THE GRINDER SHALL BE CONSTRUCTED SO AS TO MINIMIZE CLOGGING AND JAMMING UNDER ALL NORMAL OPERATING CONDITIONS INCLUDING STARTING. SUFFICIENT VORTEX ACTION SHALL BE CREATED TO SCOUR THE TANK FREE OF DEPOSITS OR SLUDGE BANKS WHICH WOULD IMPAIR THE OPERATION OF THE PUMP. THESE REQUIREMENTS SHALL BE ACCOMPLISHED BY THE FOLLOWING, IN CONJUNCTION WITH THE PUMP:
   A. THE GRINDER SHALL BE POSITIONED IN SUCH A WAY THAT SOLIDS ARE FED IN AN UPWARD FLOW DIRECTION.
   B. THE MAXIMUM FLOW RATE THROUGH THE CUTTING MECHANISM MUST NOT EXCEED 4 FEET PER SECOND.
   C. THE INLET SHROUD SHALL HAVE A DIAMETER OF NO LESS THAN 5 INCHES. INLET SHROUDS THAT ARE LESS THAN 5 INCHES IN DIAMETER WILL NOT BE ACCEPTED.
   D. THE IMPELLER MECHANISM MUST ROTATE AT A NOMINAL SPEED OF NO GREATER THAN 1800 RPM.

6. THE GRINDER SHALL BE CAPABLE OF REDUCING ALL COMPONENTS IN NORMAL DOMESTIC SEWAGE, INCLUDING BUT NOT LIMITED TO PAPER, WOOD, PLASTIC, GLASS, WIPES, AND RUBBER TO FINELY–DIVIDED PARTICLES WHICH WILL PASS FREELY THROUGH THE PASSAGES OF THE PUMP AND THE 1–1/4" DIAMETER STAINLESS STEEL DISCHARGE PIPING.

7. THE MOTOR SHALL BE A 1 HP, 1725 RPM, 240 VOLT 60 HERTZ, 1 PHASE, CAPACITOR START, BALL BEARING, AIR–COOLED INDUCTION TYPE WITH CLASS F INSTALLATION, LOW STARTING CURRENT NOT TO EXCEED 30 AMPERES AND HIGH STARTING TORQUE OF 8.4 FOOT POUNDS. THE MOTOR SHALL BE PRESS–FIT INTO THE CASTING.

8. INHERENT PROTECTION AGAINST RUNNING OVERLOADS OR LOCKED ROTOR CONDITIONS FOR THE PUMP MOTOR SHALL BE PROVIDED BY THE USE OF AN AUTOMATIC–RESET, INTEGRAL THERMAL OVERLOAD PROTECTOR INCORPORATED INTO THE MOTOR. THIS MOTOR PROTECTOR COMBINATION SHALL HAVE BEEN SPECIFICALLY INVESTIGATED AND LISTED BY UNDERWRITERS LABORATORIES, INC., FOR THE APPLICATION.

9. NON–CAPACITOR START MOTORS OR PERMANENT SPLIT CAPACITOR MOTORS WILL NOT BE ACCEPTED. THE WET PORTION OF THE MOTOR ARMATURE MUST BE 300 SERIES STAINLESS. OIL–FILLED MOTORS WILL NOT BE ACCEPTED.

WET WELL SPECIFICATIONS

1. FIBERGLASS REINFORCED POLYESTER RESIN. THE TANK SHALL BE A WETWELL/DRYWELL DESIGN CONSTRUCTED OF FIBERGLASS REINFORCED POLYESTER RESIN WITH A HIGH DENSITY POLYETHYLENE ACCESSWAY. ACCESSWAY CORRUGATED SECTIONS ARE TO BE MADE OF A DOUBLE WALL CONSTRUCTION WITH THE INTERNAL WALL BEING GENERALLY SMOOTH TO PROMOTE SCOURING. THE CORRUGATIONS OF THE OUTSIDE WALL ARE TO BE A MINIMUM AMPLITUDE OF 1–1/2" TO PROVIDE NECESSARY TRANSVERSE STIFFNESS. ANY INCIDENTAL SECTIONS OF A SINGLE WALL CONSTRUCTION ARE TO BE 0.250"THICK (MINIMUM). ALL POLYETHYLENE SEAMS CREATED DURING TANK CONSTRUCTION ARE TO BE THERMALLY WELDED AND FACTORY TESTED FOR LEAK TIGHTNESS. THE TANK WALL AND BOTTOM MUST WITHSTAND THE PRESSURE EXERTED BY SATURATED SOIL LOADING AT MAXIMUM BURIAL DEPTH. ALL STATION COMPONENTS MUST FUNCTION NORMALLY WHEN EXPOSED TO 150 PERCENT OF THE MAXIMUM EXTERNAL SOIL AND HYDROSTATIC PRESSURE..

2. THE FIBERGLASS TANK SHALL HAVE A STAINLESS STEEL DISCHARGE BULKHEAD WHICH TERMINATES OUTSIDE THE TANK WALL WITH A 1–1/4" FEMALE PIPE THREAD. THE DISCHARGE BULKHEAD SHALL BE FACTORY INSTALLED AND WARRANTED BY THE MANUFACTURER TO BE WATERTIGHT. THE TANK SHALL BE FURNISHED WITH A FIELD INSTALLED EPDM GROMMET TO ACCEPT A 4.5" OD (4" DWV OR SCH 40) INLET PIPE.

3. THE DRYWELL ACCESSWAY SHALL BE AN INTEGRAL EXTENSION OF THE WETWELL ASSEMBLY AND SHALL INCLUDE A LOCKABLE COVER ASSEMBLY PROVIDING LOW PROFILE MOUNTING AND WATERTIGHT CAPABILITY. THE COVER SHALL BE HIGH DENSITY POLYETHYLENE, GREEN IN COLOR, WITH A LOAD RATING OF 150 LBS PER SQUARE FOOT. THE ACCESSWAY DESIGN AND CONSTRUCTION SHALL ENABLE FIELD ADJUSTMENT OF THE STATION HEIGHT IN INCREMENTS OF 4" OR LESS WITHOUT THE USE OF ANY ADHESIVES OR SEALANTS REQUIRING CURE TIME BEFORE INSTALLATION CAN BE COMPLETED.

4. THE STATION SHALL HAVE ALL NECESSARY PENETRATIONS MOLDED IN AND FACTORY SEALED. TO ENSURE A LEAK–FREE INSTALLATION, NO FIELD PENETRATIONS WILL BE ACCEPTABLE.

5. ALL DISCHARGE PIPING SHALL BE CONSTRUCTED OF 304 SERIES STAINLESS STEEL. THE DISCHARGE SHALL TERMINATE OUTSIDE THE ACCESSWAY BULKHEAD WITH A STAINLESS STEEL, 1–1/4"FEMALE NPT FITTING. THE DISCHARGE PIPING SHALL INCLUDE A STAINLESS STEEL BALL VALVE RATED FOR 235 PSI WOG; PVC BALL VALVES OR BRASS BALL/GATE WILL NOT BE ACCEPTED. THE BULKHEAD PENETRATION SHALL BE FACTORY INSTALLED AND WARRANTED BY THE MANUFACTURER TO BE WATERTIGHT.

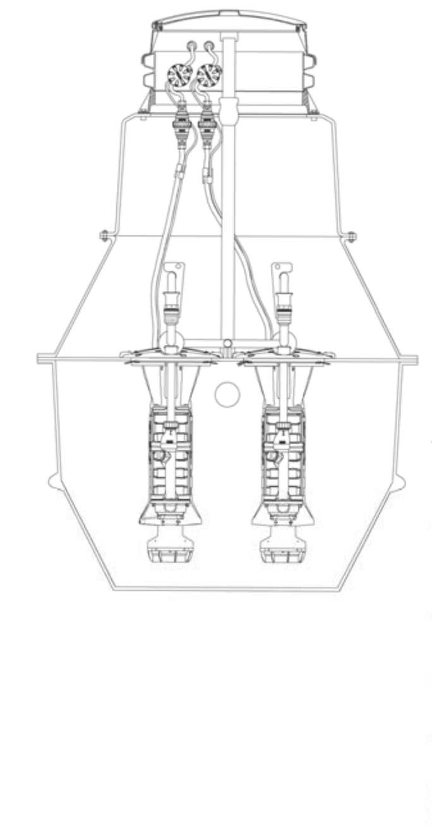
6. THE ACCESSWAY SHALL INCLUDE A SINGLE NEMA 6P ELECTRICAL QUICK DISCONNECT (EQD) FOR ALL POWER AND CONTROL FUNCTIONS, FACTORY INSTALLED WITH ACCESSWAY PENETRATIONS WARRANTED BY THE MANUFACTURER TO BE WATERTIGHT. THE EQD WILL BE SUPPLIED WITH 32', 25' OF USEABLE ELECTRICAL SUPPLY CABLE (ESC) OUTSIDE THE STATION, TO CONNECT TO THE ALARM PANEL. THE ESC SHALL BE INSTALLED IN THE BASIN BY THE MANUFACTURER. FIELD ASSEMBLY OF THE ESC INTO THE BASIN IS NOT ACCEPTABLE BECAUSE OF POTENTIAL WORKMANSHIP ISSUES. THE EQD SHALL REQUIRE NO TOOLS FOR CONNECTING, SEAL AGAINST WATER BEFORE THE ELECTRICAL CONNECTION IS MADE, AND INCLUDE RADIAL SEALS TO ASSURE A WATERTIGHT SEAL REGARDLESS OF TIGHTENING TORQUE. PLUG–TYPE CONNECTIONS OF THE POWER CABLE ONTO THE PUMP HOUSING WILL NOT BE ACCEPTABLE DUE TO THE POTENTIAL FOR LEAKS AND ELECTRICAL SHORTS. A JUNCTION BOX SHALL NOT BE PERMITTED IN THE ACCESSWAY DUE TO THE LARGE NUMBER OF POTENTIAL LEAK POINTS. THE EQD SHALL BE SO DESIGNED TO BE CONDUCIVE TO FIELD WIRING AS REQUIRED. THE ACCESSWAY SHALL ALSO INCLUDE AN INTEGRAL 2–INCH VENT TO PREVENT SEWAGE GASES FROM ACCUMULATING IN THE TANK.

CONTROL PANEL SPECIFICATIONS

1. CONTROL PANEL SHALL INCLUDE A NEMA 4X, UL–LISTED ALARM PANEL SUITABLE FOR WALL OR POLE MOUNTING. THE NEMA 4X ENCLOSURE SHALL BE MANUFACTURED OF THERMOPLASTIC POLYESTER TO ENSURE CORROSION RESISTANCE. THE ENCLOSURE SHALL INCLUDE A HINGED, LOCKABLE COVER WITH PADLOCK, PREVENTING ACCESS TO ELECTRICAL COMPONENTS, AND CREATING A SECURED SAFETY FRONT TO ALLOW ACCESS ONLY TO AUTHORIZED PERSONNEL. THE ENCLOSURE SHALL NOT EXCEED 14" W X 16" H X 18" D.
2. THE ALARM PANEL SHALL CONTAIN ONE 30–AMP, DOUBLE–POLE CIRCUIT BREAKER FOR THE PUMP CORE'S POWER CIRCUIT AND ONE 15–AMP SINGLE–POLE CIRCUIT BREAKER FOR THE ALARM CIRCUIT. THE PANEL SHALL CONTAIN A PUSH–TO–RUN FEATURE, AN INTERNAL RUN INDICATOR, AND A COMPLETE ALARM CIRCUIT. ALL CIRCUIT BOARDS IN THE ALARM PANEL ARE TO BE PROTECTED WITH A CONFORMAL COATING ON BOTH SIDES AND THE AC POWER CIRCUIT SHALL INCLUDE AN AUTO RESETTING FUSE.
3. THE ALARM PANEL SHALL INCLUDE THE FOLLOWING FEATURES: EXTERNAL AUDIBLE AND VISUAL ALARM; PUSH–TO–RUN SWITCH; PUSH–TO–SILENCE SWITCH; REDUNDANT PUMP START; AND HIGH LEVEL ALARM CAPABILITY. THE ALARM SEQUENCE IS TO BE AS FOLLOWS WHEN THE PUMP AND ALARM BREAKERS ARE ON:
   A. WHEN LIQUID LEVEL IN THE SEWAGE WET–WELL RISES ABOVE THE ALARM LEVEL, THE CONTACTS ON THE ALARM PRESSURE SWITCH ACTIVATE, AUDIBLE AND VISUAL ALARMS ARE ACTIVATED, AND THE REDUNDANT PUMP STARTING SYSTEM IS ENERGIZED.
   B. THE AUDIBLE ALARM MAY BE SILENCED BY MEANS OF THE EXTERNALLY MOUNTED, PUSH–TO–SILENCE BUTTON.
   C. VISUAL ALARM REMAINS ILLUMINATED UNTIL THE SEWAGE LEVEL IN THE WET–WELL DROPS BELOW THE "OFF"SETTING OF THE ALARM PRESSURE SWITCH.
4. THE VISUAL ALARM LAMP SHALL BE INSIDE A RED, OBLONG LENS AT LEAST 3.75" L X 2.38" W X 1.5" H. VISUAL ALARM SHALL BE MOUNTED TO THE TOP OF THE ENCLOSURE IN SUCH A MANNER AS TO MAINTAIN NEMA 4X RATING. THE AUDIBLE ALARM SHALL BE EXTERNALLY MOUNTED ON THE BOTTOM OF THE ENCLOSURE, CAPABLE OF 93 DB @ 2 FEET. THE AUDIBLE ALARM SHALL BE CAPABLE OF BEING DEACTIVATED BY DEPRESSING A PUSH–TYPE SWITCH THAT IS ENCAPSULATED IN A WEATHERPROOF SILICONE BOOT AND MOUNTED ON THE BOTTOM OF THE ENCLOSURE (PUSH–TO–SILENCE BUTTON). THE ALARM PANEL SHALL BE FURNISHED WITH A BATTERY BACK–UP, WHICH SHALL ACTIVATE THE ALARM SHOULD POWER LOSS TO THE PUMP STATION OCCUR.
5. THE HIGH–LEVEL ALARM SYSTEM SHALL OPERATE AS FOLLOWS:
   A. THE PANEL WILL GO INTO ALARM MODE IF EITHER PUMP'S ALARM SWITCH CLOSES. DURING THE INITIAL ALARM MODE BOTH PUMPS WILL RUN AND THE ALARM LIGHT AND BUZZER WILL BE DELAYED FOR A PERIOD OF TIME BASED ON USER SETTINGS (DEFAULT IS 3–1/2 MINUTES). IF THE STATION IS STILL IN HIGH–LEVEL ALARM AFTER THE DELAY, THE LIGHT AND BUZZER WILL BE ACTIVATED.
   B. THE AUDIBLE ALARM MAY BE SILENCED BY MEANS OF THE EXTERNALLY MOUNTED PUSH–TO–SILENCE BUTTON.
   C. THE VISUAL ALARM REMAINS ILLUMINATED UNTIL THE SEWAGE LEVEL IN THE WET WELL DROPS BELOW THE "OFF" SETTING OF THE ALARM SWITCH FOR BOTH PUMPS.
6. THE ENTIRE ALARM PANEL, AS MANUFACTURED AND INCLUDING ANY OF THE FOLLOWING OPTIONS SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC.
7. PUMP STATION CONTROL PANEL SHALL BE MOUNTED ON UNISTRUT OR ATTACHED TO THE BUILDING BY OTHER APPROVED MEANS.

E/ONE EXTREME

DH272/~~DR272~~



General Features

The model DH272 or ~~DR272~~ grinder pump station is a complete unit that includes: two grinder pumps, check valve, FRP (fiberglass reinforced polyester) tank, controls, and alarm panel. A single DH272 or ~~DR272~~ is ideal for up to six, average single-family homes and can also be used for up to 20 average single-family homes where codes allow and with consent of the factory.

- Rated for flows of 5000 gpd (18,927 lpd)
- 275 gallons (1041 liters) of capacity
- Indoor or outdoor installation
- Standard outdoor heights range from 97 inches to 160 inches

The DH272 is the "hardwired," or "wired," model where a cable connects the motor controls to the level controls through watertight penetrations.

~~The DR272 is the "radio frequency identification" (RFID), or "wireless," model that uses wireless technology to communicate between the level controls and the motor controls.~~

Operational Information

Motor
1 hp, 1,725 rpm, high torque, capacitor start, thermally protected, 120/240V, 60 Hz, 1 phase

Inlet Connections
~~4-inch inlet grommet standard for DWV pipe.~~ Other inlet configurations available from the factory.

Discharge Connections
Pump discharge terminates in 1.25-inch NPT female thread. Can easily be adapted to 1.25-inch PVC pipe or any other material required by local codes.

Discharge
15 gpm at 0 psig (0.95 lps at 0 m)
11 gpm at 40 psig (0.69 lps at 28 m)
7.8 gpm at 80 psig (0.49 lps at 56 m)

Accessories

E/One requires that the Uni-Lateral, E/One's own stainless steel check valve, be installed between the grinder pump station and the street main for added protection against backflow.

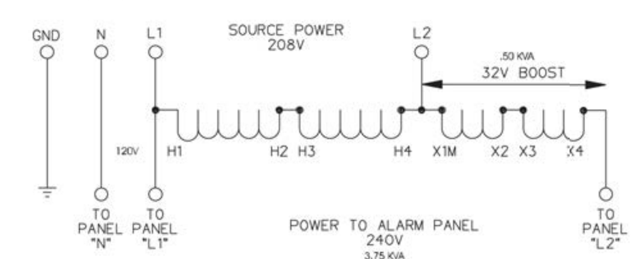
Alarm panels are available with a variety of options, from basic monitoring to advanced notice of service requirements.

The Remote Sentry is ideal for installations where the alarm panel may be hidden from view.

NA0053P01 Rev D

Catalog Number : 9T51B0128

Features :
- Line: 120 x 240 Vac
- Load: 16/32 Vac
- Single Phase, 0.5 kVA
- 100 degree rise, Copper
- Buck Boost Application
- No Electrostatic Shield
- QB, 60Hz



NOTE: PANEL "L1" IS THE ALARM CIRCUIT & PUMP BLACK WIRE PANEL "L2" IS THE PUMP CIRCUIT (THE WHITE WIRE) (REFER TO THE WIRING DECAL PROVIDED ON THE DOOR OF THE PANEL)

Dimensions (inches) : **8.38H x 6.88W x 4.88D x 20lbs**

Buck-Boost Transformers.

The Buck-Boost transformer is a very versatile product for which a multitide of applications exist. In its simplest form, these transformers will deliver 12, 16, 24 or 32 volts when their primaries are energized at 120 or 240 volts.

Their prime use, however, lies in the fact that the primaries and secondaries can be **interconnected**, thus permitting their use as an autotransformer. When the primaries and secondaries are connected together so that electrical characteristics are changed from a two winding transformer to those of an autotransformer, the units can economically 'buck or boost' voltage up to +/- 20%.

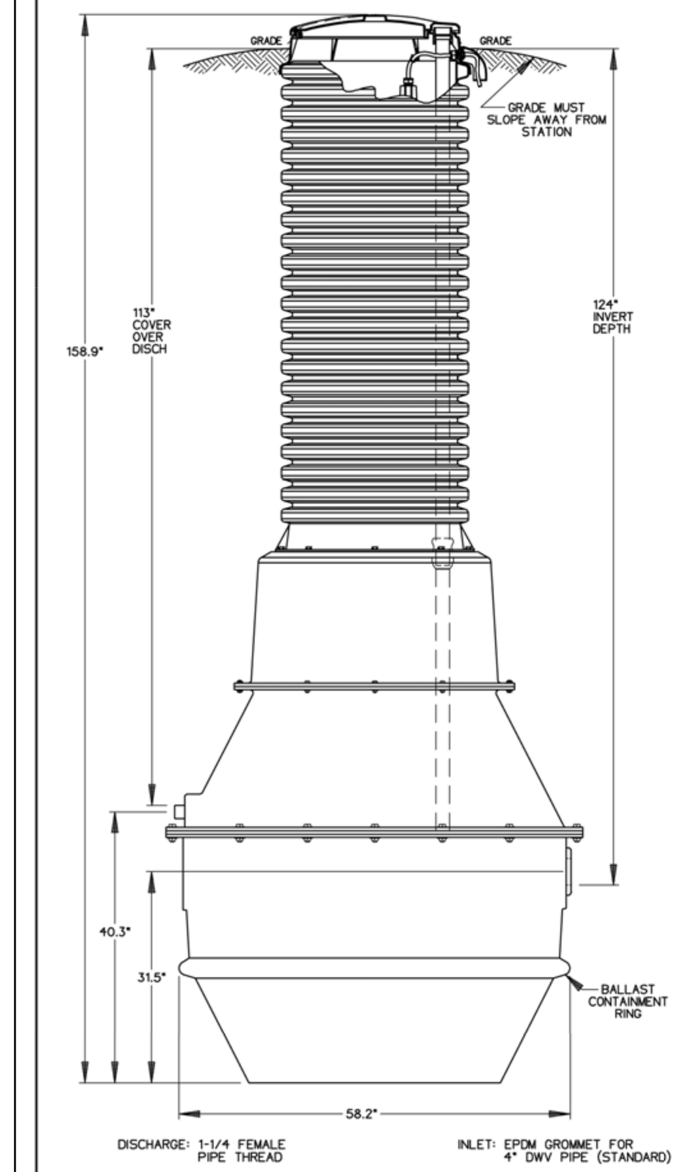
For use with e|one Simplex Panels

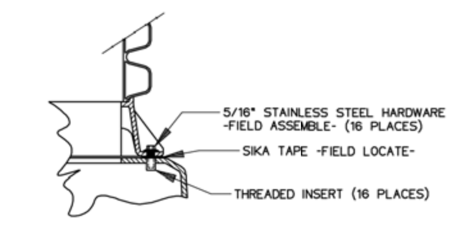
Single Phase Load: 16/32 Vac
Non-Vented (NEMA 3R) Enclosure
Buck Boost

ORDER NUMBER: PA0219P02

DR BY: SGS	DATE: 01/16/06	e|one ENVIRONMENT ONE CORPORATION
CHK'D BY:	DATE:	
ENG BY:	DATE:	TRANSFORMER, BUCK BOOST
APP'D BY:	DATE:	0.5KVA, (E-ONE PT No. PA0219P02)
SCALE: FULL		MATERIAL:
		PART NUMBER: PART 3
		LM000229
TYPE: 4	CLASS: 06	DWG NUMBER SHEET 1 OF 1 REV

☐DH272-160 (HARD WIRED LEVEL CONTROLS)





DETAIL, FIELD JOINT
SEE INSTALLATION INSTRUCTIONS FOR FURTHER DETAILS

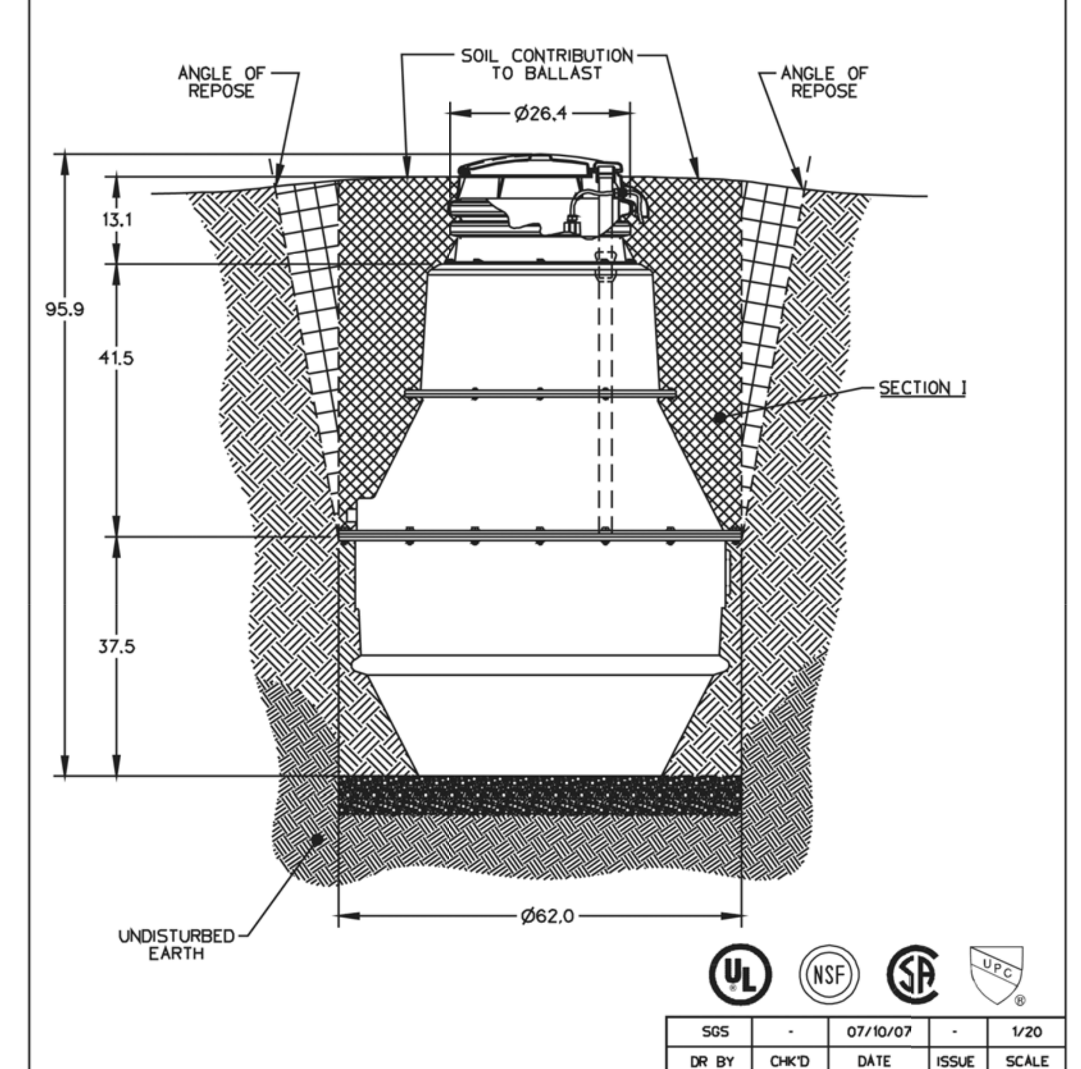
CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

AD	CAH	7/13/07	C	1/16
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one SEWER SYSTEMS
MODEL DH272-160 / DR272-160
NA0053P06

DH272/~~DR272~~

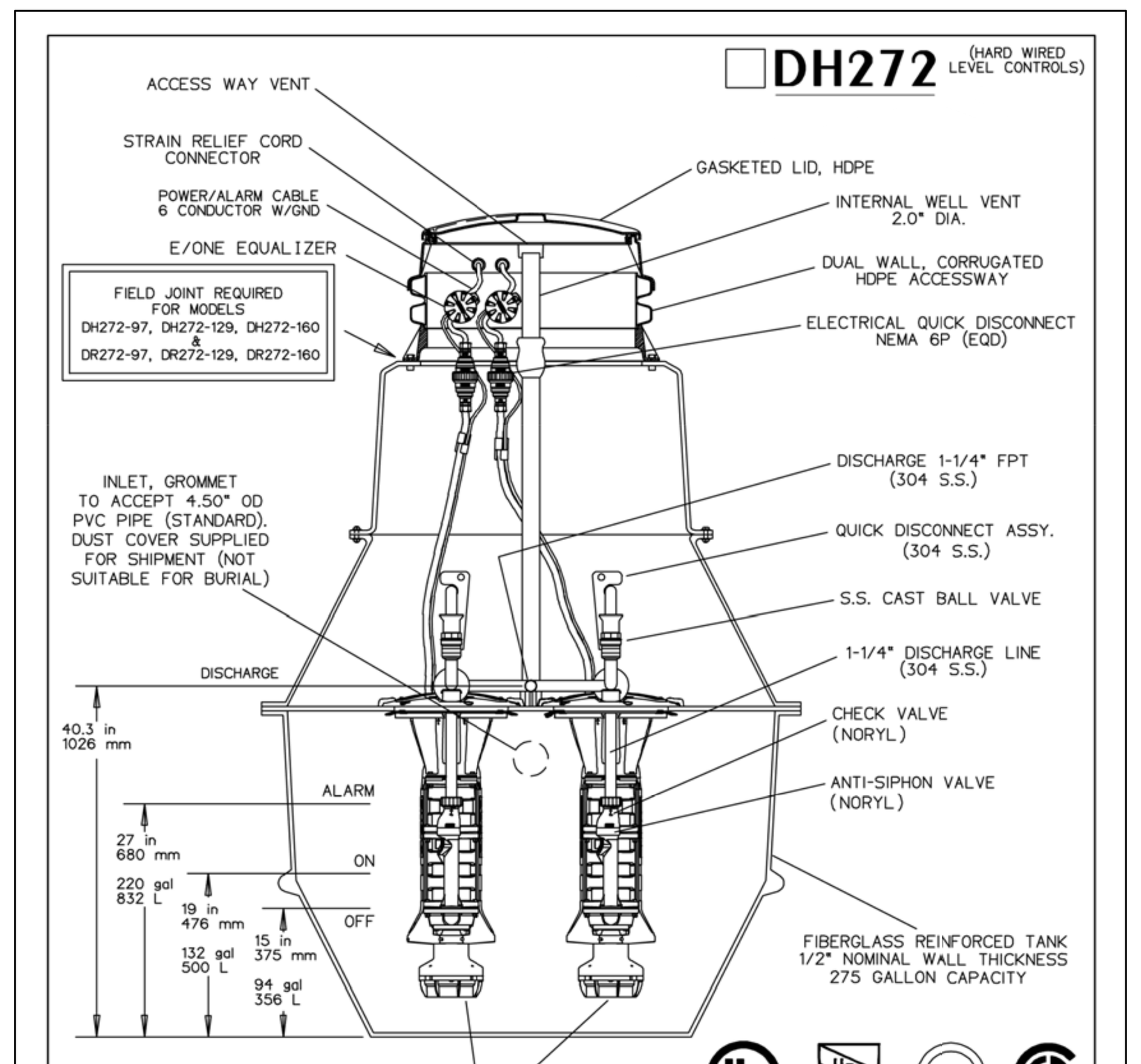


SGS	-	07/10/07	-	1/20
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one SEWER SYSTEMS
BALLAST INFORMATION DH272/DR272

SECTION I - DRY SOIL (ACCESS WAY)
ROUND AGGREGATE (GRAVEL)

☐DH272 (HARD WIRED LEVEL CONTROLS)



CONCRETE BALLAST MAY BE REQUIRED SEE INSTALLATION INSTRUCTIONS FOR DETAILS

NOTE: DIMENSIONS ARE FOR REF ONLY

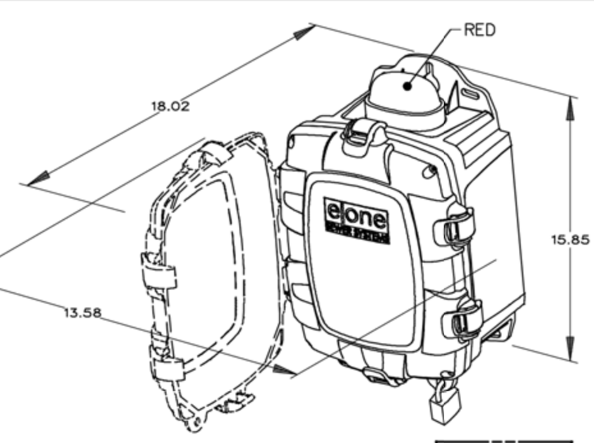
AD	CH	10/20/10	E	
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one SEWER SYSTEMS
MODEL DH272 / DR272 DETAIL SHEET
NA0053P02

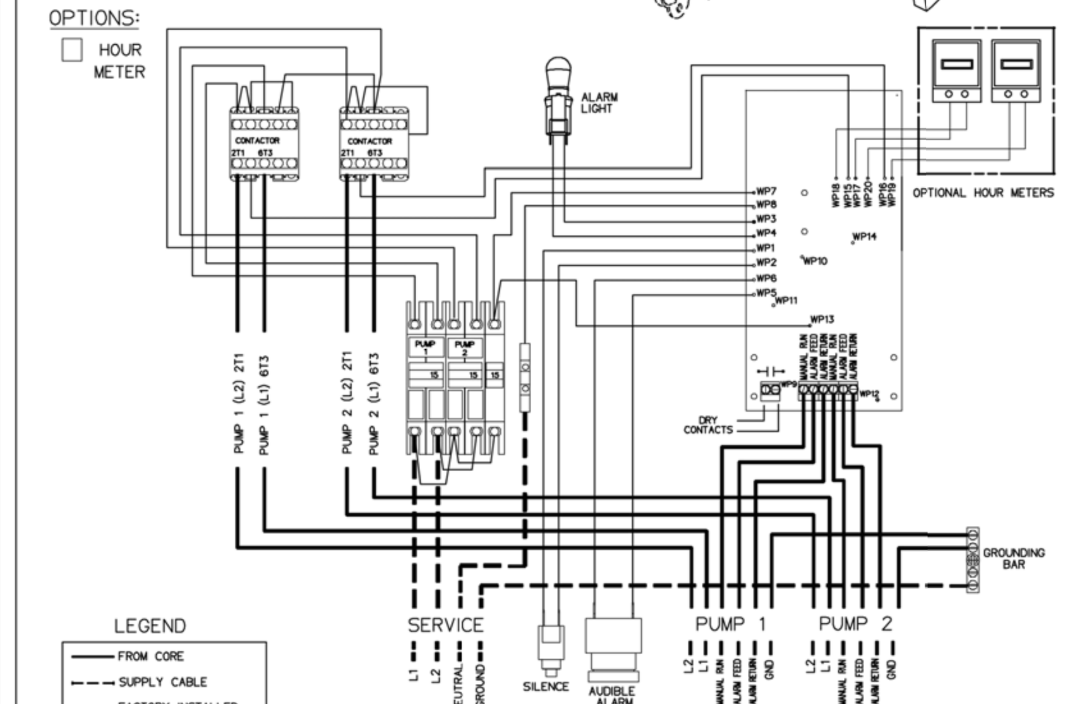
DUPLEX ALTERNATING PANEL T-260

EXTERNAL VISUAL & AUDIBLE ALARM
EXTERNAL LATCHING MANUAL SILENCE
MANUAL RUN
PUMP RUN INDICATORS
CONFORMAL COATED CIRCUIT BOARD
PADLOCK
ALARM DRY CONTACT
NEMA 4X ENCLOSURE ASSEMBLY

CORROSION PROOF THERMOPLASTIC POLYESTER APPROVED BY UL FOR ELECTRICAL CONTROL ENCLOSURE



OPTIONS:
☐ HOUR METER



PIN	FUNCTION	2000S	EXTREME
1	MANUAL RUN	RED	BROWN
2	L1	BLACK	RED
3	L2	WHITE	BLACK
4	GND	GREEN	GRN/YEL
5	ALARM FEED	ORANGE	YELLOW
6	ALARM RETURN	BLUE	BLUE

CONTROL CABLE:
TYPE TC: DIRECT BURIAL, 12AWG, SIX CONDUCTOR

UPC® ASME A112.3.4
LR28268 LISTED 506D

AD	SM	09-24-07	C	N/A
DR BY	CHK'D	DATE	ISSUE	SCALE

e|one SEWER SYSTEMS
DUPLEX T-260 ALTERNATING PANEL, 240V 60Hz DOUBLE POLE POWER WIRED LEVEL CONTROL
LM000329 P1

Adjusting the Height of the Grinder Pump Station

TO INCREASE STATION HEIGHT 6 INCHES
1. Increasing station height can be done without cutting the station. Use the E/One Extender cover shroud kit (ND0082G01) and follow the instructions that are included with the kit.

TO INCREASE STATION HEIGHT MORE THAN 6 INCHES or TO REDUCE THE STATION HEIGHT:

REMOVE EXISTING COVER ASSEMBLY (Fig. 6)
If your existing station has a welded-on cover shroud you will need the appropriate replacement cover kit (see Table 2, page 15).
1. Turn off all power to the grinder pump station.
2. Remove the tank lid and the electrical shroud.
3. Unplug the electrical quick disconnect (EQD) and remove the EQD from the supply cable. *Note: DO NOT CUT CABLE.* Loosen liquid tight cable connector and pull the supply cable out through the connector on the side of tank.
4. Tape the pump breather cable to the vent pipe in the tank.
5. Remove the soil around the tank, exposing three of the tank corrugations below grade. Use caution not to damage buried cable.
6. Remove existing cover shroud.
6a. Welded-on shroud (standard) - Using a hand saw, cut the tank in the valley between the two corrugations at grade, discard existing welded-on shroud and attached corrugations *(shroud is not to be reused). Caution: Be careful not to cut either the vent pipe or the pump breather cable.*
6b. Clamped-on shroud - Remove band clamp and cover shroud.

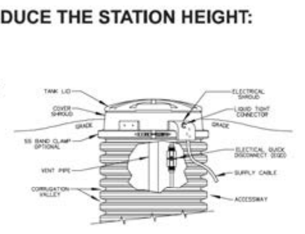


Figure 6

REDUCING STATION HEIGHT (Fig. 7)
7. Using a hand saw, cut the tank in the valley between the two corrugations at grade.
8. Cut vent pipe 4 ¾" above the cut made on the tank. *Proceed to step 16.*

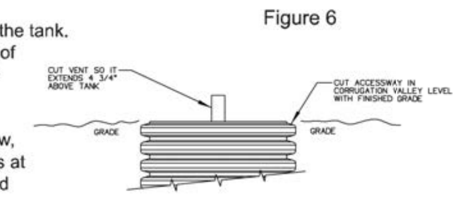


Figure 7

INCREASING STATION HEIGHT (Fig. 8 and Fig. 9)
9. Remove the soil around the tank exposing it 18" deeper than the extension being installed. For example, if you have a 2' extension (not including the coupler) you must dig down 3'6" minimum from grade; if you have a 4' extension (not including the coupler) you must dig down 5'6" minimum from grade. Use caution not to damage buried cable.
10. Measure from grade down 2' (for a 2' extension) or 4' (for a 4' extension) and mark accessway. Using a hand saw, cut the tank in the valley between the two corrugations that are closest to your mark. *Note: Make sure the welded-on shroud of the extension will be at grade level. Be sure you are not cutting into the wet well and you must have two corrugations below your cut, if there are less than two corrugations, this extension kit can not be used.*
Caution: *Be careful not to cut either the vent pipe or the pump breather cable.*

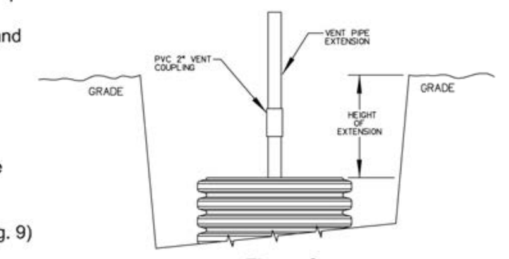


Figure 8

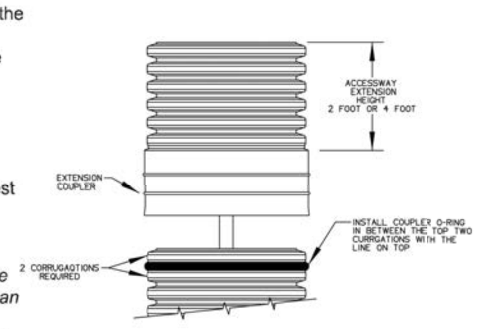


Figure 9

18

11. Attach the vent pipe extension with the 2" vent coupling, bringing the vent well above grade.
12. Clean all dirt and debris from top four corrugations on tank. Install the 24" coupler O-ring on the tank between the top two corrugations with the white or yellow line facing out and on top.
13. Lube extension coupler and coupler O-ring with pipe lube or dish soap.
14. Manually press coupling evenly over lubricated O-ring. If additional force is needed, place a plywood cover over the accessway and apply gentle mechanical pressure to the coupler. *Note: Care must be used when pushing down on the coupler. Excessive force or impact may result in damage and leakage.*
15. Frequent visual inspections during installation must be performed to determine when the tank has fully engage the coupler.

INSTALL REPLACEMENT COVER ASSEMBLY (Fig. 10)
16. Clean top corrugation on accessway extension and mating surface of replacement shroud with acetone.
17. Liberally apply the silicone sealer provided to the under side of the replacement shroud where it will come in contact with the accessway extension.
18. Lube wet well vent grommet and vent pipe extension with pipe lube, non-grit hand cleaner or dish soap and slide vent pipe through grommet until tank shroud seats to accessway.
19. Place SS band clamp around top corrugation and the replacement shroud. Tap with a mallet around clamp to help seat the clamp. Torque stud assembly on band clamp to a maximum 125 inlb.
20. Reinstall the supply cable, EQD**, tank lid and electrical shroud and tighten cable connector. (**See "EQD wiring order," Table 1)
21. Follow start-up procedures to ensure proper pump operation (you will find the start-up instructions in our service manual or the station installation instruction guide).

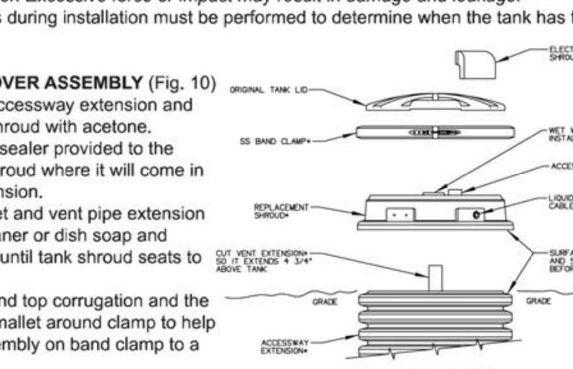


Figure 10

**EQD wiring order

PIN #	COLOR
1	Brown
2	Red
3	Black
4	Grn/Yellow
5	Yellow
6	Blue

Table 1

Table 2

DESCRIPTION	PART NO.
Simplex station	NC0022G15
Simplex, flood plain config	NC0022G16
Duplex station	NC0022G17
Duplex, flood plain config	NC0022G18

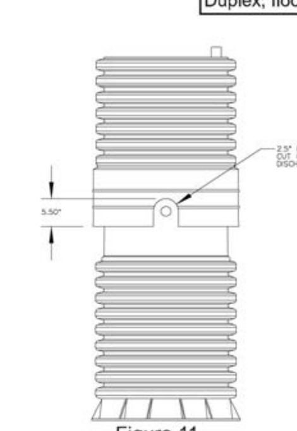


Figure 11

NOTE: IF EXISTING ACCESSWAY HAS ONLY 2 CORRUGATIONS (Fig. 11)
- If the coupler will not engage completely because the discharge piping is in the way, and it doesn't have a cut out, you will need to cut a slot in the coupler.
- Using a hand, reciprocating or hole saw, cut an arch in the coupler; the cut-out is not to exceed 5.50" tall or 5.00" wide.

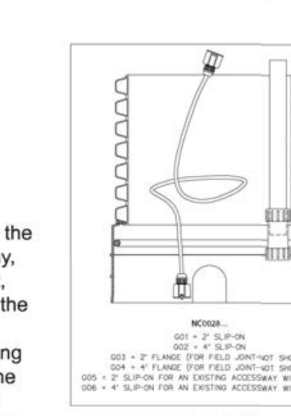


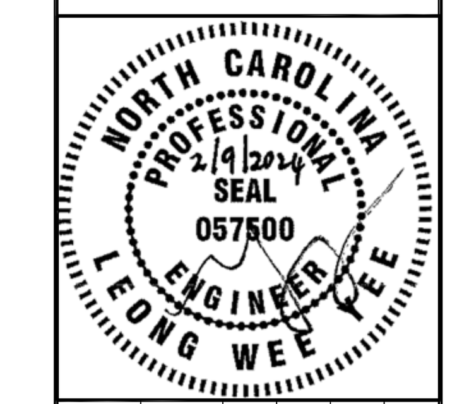
Figure 12

19

No.	REVISIONS	DATE	BY

Kimley»Horn

200 SOUTH TRYON STREET, SUITE 200 CHARLOTTE, NC 28202
PHONE: (704) 333–5131
WWW.KIMLEY–HORN.COM

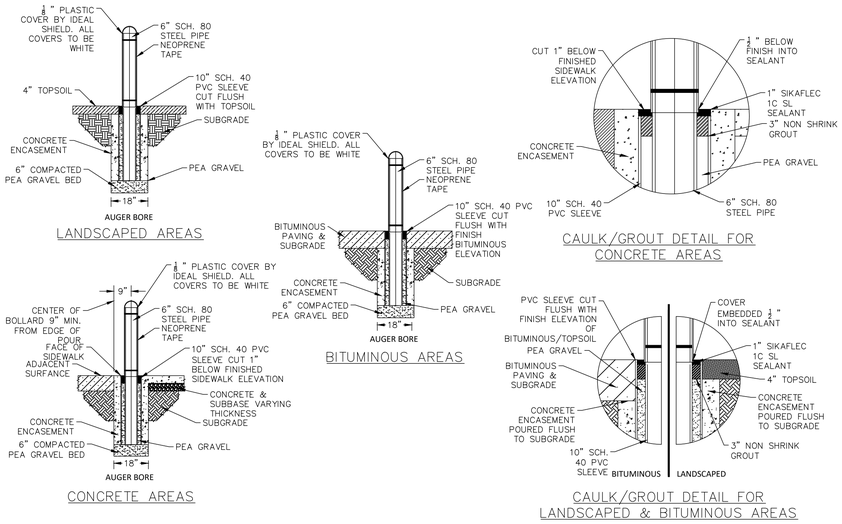


KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

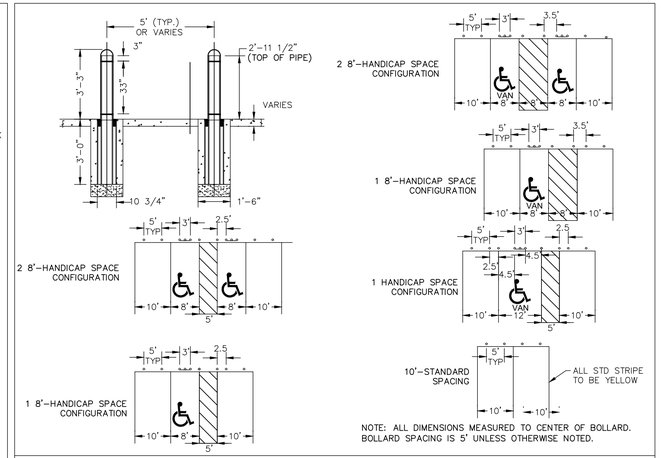
PUMP STATION DETAILS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

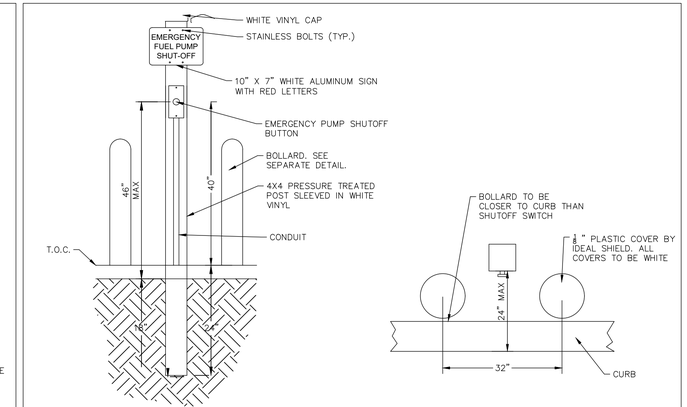
SHEET NUMBER
C503



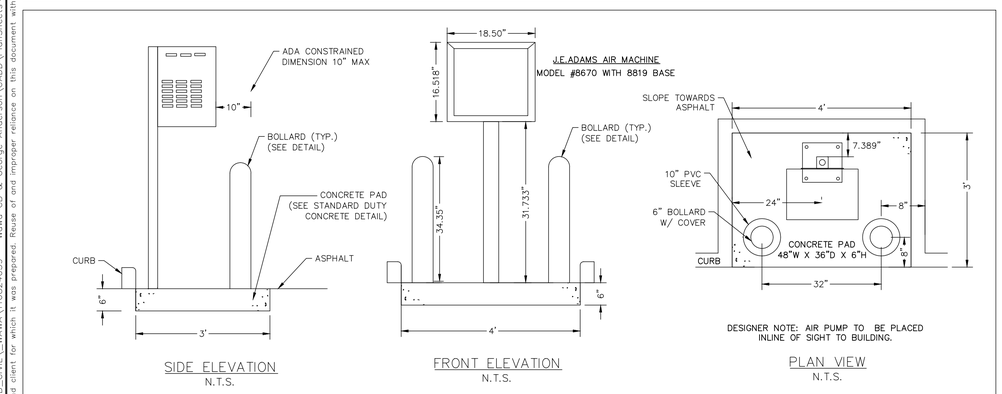
BOLLARD DETAIL



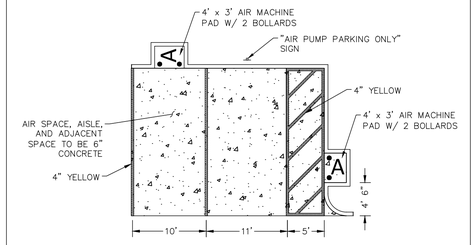
BOLLARD SPACING/DIMENSION DETAIL



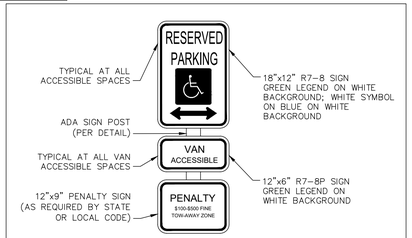
EMERGENCY PUMP SHUTOFF ("E-STOP") DETAIL



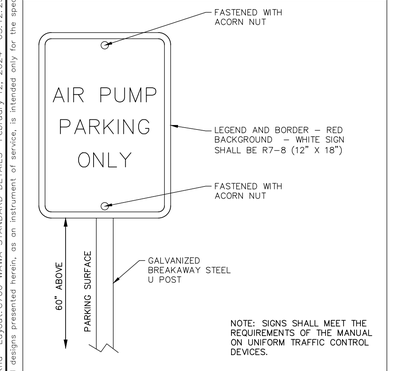
AIR PUMP STANDARD DETAIL



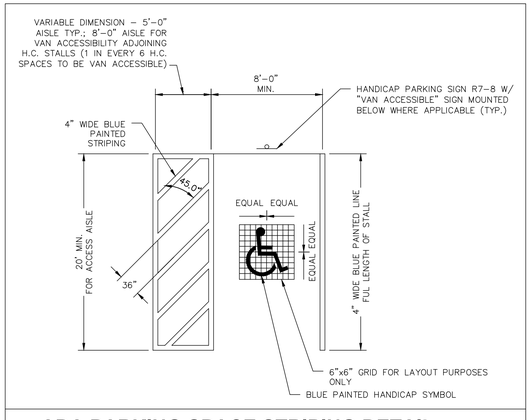
AIR PUMP PARKING DETAIL



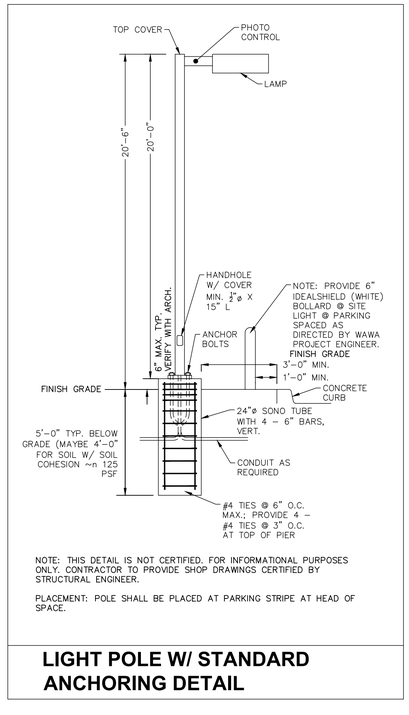
ADA PARKING SIGNAGE



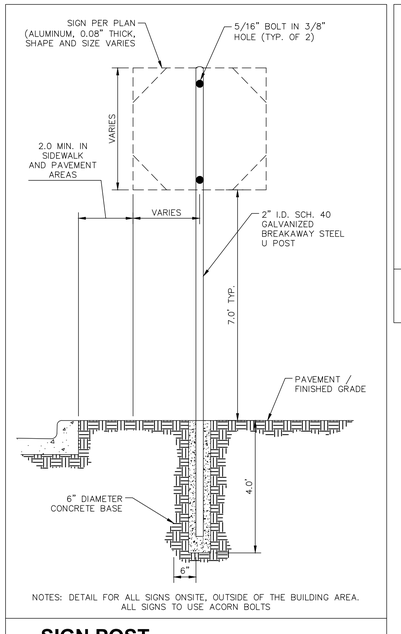
AIR PUMP PARKING SIGN DETAIL



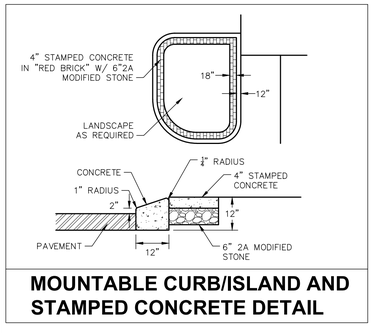
ADA PARKING SPACE STRIPING DETAIL



LIGHT POLE W/ STANDARD ANCHORING DETAIL



SIGN POST



MOUNTABLE CURB/ISLAND AND STAMPED CONCRETE DETAIL

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
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PHONE: (704) 333-5131
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NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 1/4/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

WAWA STANDARD DETAILS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C700

WAWA LANDSPACE SPECIFICATIONS

WAWA STANDARD LANDSCAPING SPECIFICATIONS:

1. ALL TOPSOIL SHALL BE A MINIMUM 4"IN ALL SOD AREAS AND 10"– 12"IN TREE, SHRUB AND GROUND COVER BEDS, INCLUDING PARKING LOT ISLAND BEDS. IT SHALL BE APPROVED BY A WAWA CONSTRUCTION REPRESENTATIVE, PRIOR TO INSTALLATION.
2. PLANTING BEHIND PERPENDICULAR PARKING IS TO BE LOCATED A MINIMUM OF 5' BEHIND THE CURB LINE.
3. ALL LANDSCAPE AND GRASS AREAS ARE TO BE HAND RAKED AND LEFT CLEAR OF ALL STONES, ROCK, CONSTRUCTION DEBRIS AND ANY UNSUITABLE MATERIALS.
4. ALL LANDSCAPE AND GRASS AREAS ARE TO BE IRRIGATED BY AUTOMATIC SPRINKLER SYSTEM. (SEE IRRIGATION SPECIFICATION.)
5. LANDSCAPE CONTRACTOR WILL LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY EXCAVATION AND PLANTING INSTALLATION.
6. ALL AREAS TO BE LANDSCAPED OR COVERED WITH STONE MUST BE TREATED WITH A PRE–EMERGENCE HERBICIDE (SURFLAN, DACTAL OR APPROVED EQUAL) IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE REGULATIONS AND THE MANUFACTURER'S INSTRUCTIONS.
7. MULCH BEDS ARE TO BE DELINEATED WITH HAND OR MACHINE DUG SHOVEL EDGING.
8. RIVER ROCK BEDS ARE TO BE DELINEATED WITH 5 ½"ALUMINUM LANDSCAPE EDGING, STAKED AT 3' INTERVALS. ALUMINUM EDGING IS TO BE CLEANLINE 3/16"X 5 ½"X 16' BY PERMALOC. (800–356–9660, //WWW.PERMALOC.COM.) FOLLOW MANUFACTURERS INSTALLATION DIRECTIONS INCLUDED AT THE END OF THIS SECTION.
9. LANDSCAPE CONTRACTOR TO SUPPLY AND INSTALL A PERVIOUS WEED BARRIER (DEWITT, DUPONT OR APPROVED EQUAL) IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS WITHIN ALL LANDSCAPES, INCLUDING STONE AND MULCH BEDS. ALL WEED BARRIER WILL BE OVERLAPPED A MINIMUM OF 6" AT ALL SEAMS. AT PLANT LOCATIONS, BARRIER SHOULD BE CUT IN AN "X"PATTERN SO TO ACCOMMODATE ROOT BALL AND REPLACED AFTER PLANT HAS BEEN INSTALLED.
10. WEED BARRIER SHALL NOT BE VISIBLE IN AREAS DESIGNATED FOR STONE MULCH. WHEN STONE IS CALLED FOR ADJACENT TO CURB OR SIDEWALKS, IT SHALL BE FEATHERED DOWN TO CURB LEVEL FROM A DISTANCE 24"FROM THE CURB.
11. ALL PROPOSED LANDSCAPING TO BE NURSERY GROWN, TYPICAL OF THEIR SPECIES OR VARIETY. THEY ARE TO HAVE NORMAL VIGOROUS ROOT SYSTEMS, FREE FROM DEFECTS AND INFECTIONS AND IN ACCORDANCE WITH ANSI Z60.1
12. ALL PROPOSED PLANTINGS SHOULD BE INSTALLED PER STANDARDS OF THE "AMERICAN ASSOCIATION OF NURSERYMEN"AND STATE NURSERY/ LANDSCAPE ASSOCIATIONS WITH REGARD TO PLANTING, PIT SIZE, BACKFILL MIXTURE, STAKING AND GUYING.
13. ALL PLANTING CONTAINERS AND BASKETS SHALL BE REMOVED DURING PLANTING. ALL PLANTS SHALL BE SET PLUMB AND POSITIONED SO THAT THE TOP OF THE ROOT COLLAR MATCHES OR IS NO MORE THAN TWO (2") INCHES ABOVE, FINISHED GRADE. REPLACE AMENDED BACKFILL IN 6–INCH LAYERS AND COMPACT BACKFILL TO ELIMINATE VOIDS. CONTRACTOR SHALL PROVIDE A FOURINCH HIGH EARTHEN WATERING SAUCER ALONG THE PERIMETER OF EACH PLANTING PIT. CONTRACTOR SHALL WATER NEWLY PLANTED VEGETATION PRIOR TO MULCHING PLANTING PIT. ALL VOIDS SHALL BE FILLED AND SETTLING MITIGATED AS REQUIRED. ALUMINUM EDGING SHALL BE INSTALLED AROUND ALL PLANTING AREAS TO DELINEATE BETWEEN DIFFERENT LANDSCAPE MATERIALS.
14. AFTER INITIAL WATERING AND PRIOR TO MULCHING, CONTRACTOR SHALL APPLY HERBICIDES AND PRE–EMERGENT HERBICIDES AS REQUIRED TO ELIMINATE ANY WEED SEEDS OR PLANTS PRESENT ON ROOT BALL.
15. ALL PLANTING BEDS AND PITS EXCEPT FOR LANDSCAPE ISLANDS ADJACENT TO THE BUILDING AND DESIGNATED AREA AT THE FUEL VENT STACKS, SHALL BE MULCHED WITH DOUBLE GROUND HARDWOOD MULCH AT A MINIMUM DEPTH OF 3". LANDSCAPE ISLANDS ADJACENT TO THE TANK MAT SHALL BE MULCHED WITH 1"–3"RIVER STONE"MULCH TO AT LEAST A DISTANCE OF 5' FROM THE TANK MAT AND VENT STACK. FOR LANDSCAPES ADJACENT TO BUILDING, CONTACT WAWA'S PROJECT ENGINEER.
16. TURF SPECIFICATION AND SEEDBED PREPARATION

A. UNLESS REQUIRED FOR PARTICULAR BMP AREAS, ALL TURF ON WAWA LEASED PREMISES IS TO BE SOD. WHEN REQUIRED FOR BMP'S, SEED MIX IS TO MEET LOCAL REQUIREMENTS. SOD SHALL BE TURF TYPE TALL FESCUE AND INSTALLED ON A MINIMUM OF 4"OF TOPSOIL.

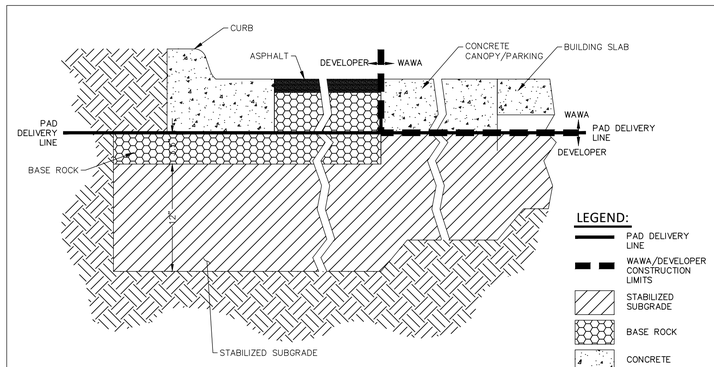
B. APPLY LIMESTONE AND FERTILIZER ACCORDING TO SOIL TESTS OR FERTILIZER MAY BE APPLIED AT THE RATE OF 260 POUNDS PER ACRE OR 6 POUNDS PER 1000 SQUARE FEET USING 10–20–10 OR EQUIVALENT. IN ADDITION, 300 POUNDS 4–1–2 PER ACRE OR EQUIVALENT OF SLOW–RELEASE NITROGEN MAY BE USED IN LIEU OF TOPDRESSING.

C. WORK LIME AND FERTILIZER INTO THE SOIL AS PRACTICAL TO A DEPTH OF 4–INCHES WITH A DISC, SPRING TOOTH HARROW OR OTHER SUITABLE EQUIPMENT. THE FINAL HARROWING OR DISKING OPERATION SHOULD PARALLEL TO THE GENERAL CONTOUR. CONTINUE TILLAGE UNTIL A REASONABLE UNIFORM, FINE SEEDBED IS PREPARED. ALL BUT CLAY OR SILTY SOILS AND COARSE SANDS SHOULD BE ROLLED TO FIRM THE SEEDBED WHEREVER FEASIBLE.

D. INSPECT SEEDBED JUST BEFORE SEEDING. IF TRAFFIC HAS LEFT THE SOIL COMPACTED, THE AREA MUST BE RETILLED AND FIRMED AS OUTLINED BELOW.

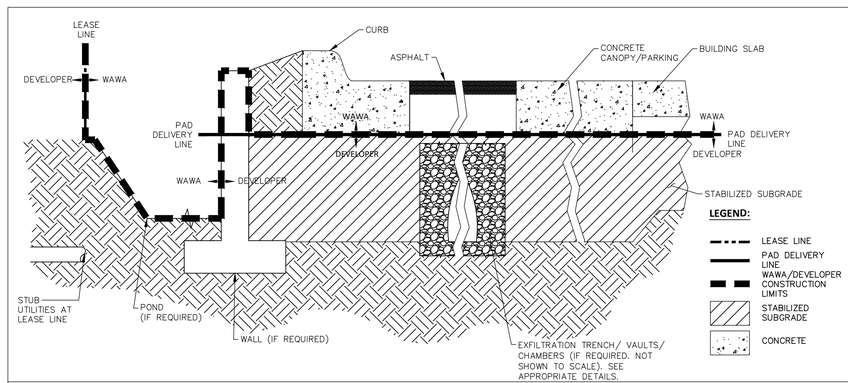
17. PLANT MATERIAL SHALL BE GUARANTEED FOR ONE YEAR FROM THE DATE OF SUBSTANTIAL COMPLETENESS. THE CONTRACTOR SHALL REPLACE PLANTS, DEAD, UNHEALTHY, DYING OR DAMAGED THROUGH LOSS OF BRANCHES AND/OR FOLIAGE. LAWNS THAT ARE NOT IN GOOD CONDITION AT THE END OF THE GUARANTEE PERIOD SHALL BE REPAIRED UNTIL A GOOD LAWN RESULTS. IT IS UNDERSTOOD THAT THE OWNER SHALL ASSUME RESPONSIBILITY FOR WATERING ALL PLANT MATERIAL AND LAWN AREA BEGINNING WITH THE DATE OF SUBSTANTIAL COMPLETENESS.

WAWA DEVELOPER DETAILS



NOTES:
BUILDING PAD:
1. WAWA GENERAL CONTRACTOR TO UTILIZE FILL FROM UTILITY AND FOOTING TRENCHES TO FILL PAD. THICKEN BUILDING SLAB TO MEET FINISH FLOOR ELEVATION.
DRAINAGE:
2. DEVELOPER'S CONTRACTOR TO PROVIDE DRILLED HOLES AT DRAINAGE INLETS TO MINIMIZE STANDING WATER ON SITE.
LANDSCAPE/IRRIGATION:
3. NO LANDSCAPE/ IRRIGATION TO BE INSTALLED BY DEVELOPER'S CONTRACTOR.
LIGHTING:
4. DEVELOPER'S CONTRACTOR TO INSTALL SITE LIGHT POLE BASES.
PAVEMENT/SLAB SPECIFICATIONS:
5. SEE OTHER DETAILS FOR SPECIFICATIONS ON PAVEMENT SECTION AND BUILDING SLAB.

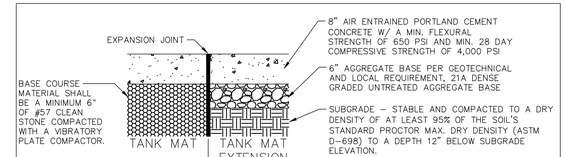
TYPICAL "PAD COMPLETE" DELIVERY DETAIL



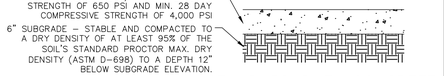
NOTES:
BUILDING/ CANOPY PADS:
1. PADS SHALL BE COMPACTED TO A DENSITY AND ELEVATION BELOW FINISH GRADE PER THE REQUIREMENTS ESTABLISHED WITHIN THE LEASE AND LEASE EXHIBITS.
GRADING & DRAINAGE:
2. DEVELOPER IS RESPONSIBLE FOR ROUGH GRADING OF ANY RETENTION/ DETENTION AREAS.
3. DEVELOPER IS RESPONSIBLE FOR ANY GRAVITY/ RETAINING WALLS REQUIRED FOR THE DEVELOPMENT OF THE SITE.
4. DEVELOPER IS RESPONSIBLE FOR ANY BELOW GROUND STORMWATER EXFILTRATION, VAULT, OR CHAMBER SYSTEM REQUIRED FOR ATTENUATION AND/OR TREATMENT VOLUME STORAGE.
UTILITIES:
5. DEVELOPER IS RESPONSIBLE FOR PROVIDING ELECTRIC, DATA/PHONE, WATER, SEWER, AND ANY OTHER ESSENTIAL UTILITY SERVICES TO THE LIMITS OF THE LEASE.
LANDSCAPE/IRRIGATION:
6. DEVELOPER IS NOT RESPONSIBLE FOR LANDSCAPE OR IRRIGATION INTERNAL TO THE LIMITS OF THE LEASE.
LIGHTING:
7. DEVELOPER IS NOT RESPONSIBLE FOR LIGHTING INTERNAL TO THE LIMITS OF THE LEASE.
PAVEMENT/SLAB SPECIFICATIONS:
8. DEVELOPER IS NOT RESPONSIBLE FOR PAVING AND/OR SLABS INTERNAL TO THE LIMITS OF THE LEASE.

TYPICAL "PAD READY" DELIVERY DETAIL

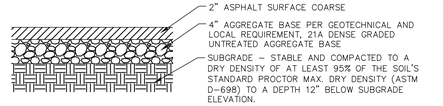
WAWA PAVEMENT DETAILS



HEAVY DUTY CONCRETE PAVEMENT SECTION

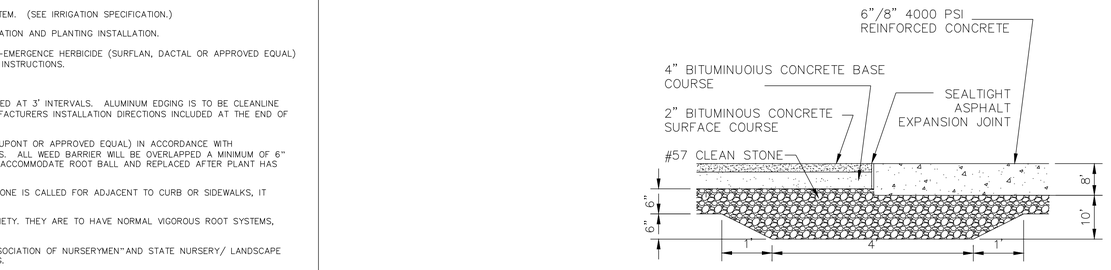


STANDARD DUTY CONCRETE PAVEMENT SECTION
FUEL CANOPY, BLDG. PARKING, AND DUMPSTER PAD



WAWA ASPHALT PAVEMENT SECTION
DRIVE AISLES/TRUCK ROUTES

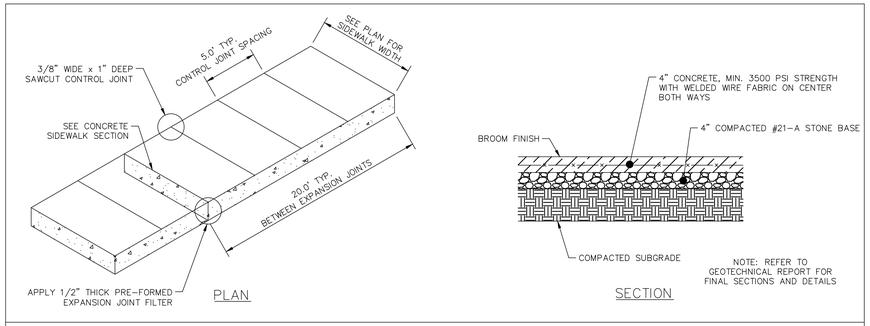
WAWA PAVEMENT DETAILS



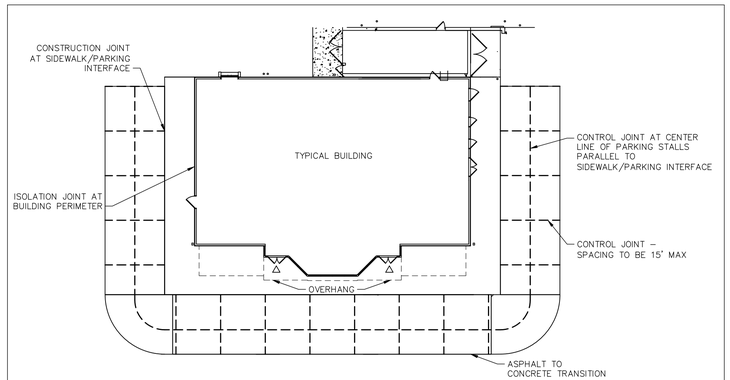
CONCRETE TO ASPHALT TRANSITION DETAIL

SEE ARCH. SPEC. FOR COMPLETE DETAILS

*REFER TO PAVEMENT PLAN FOR PAVEMENT SECTION THICKNESS



CONCRETE SIDEWALK (ADJACENT TO BUILDING)



TYPICAL CONCRETE JOINT PLAN DETAIL

No.	REVISIONS	DATE	BY

Kimley»Horn
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200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 1/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

WAWA STANDARD DETAILS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
NORTH CAROLINA
WILMINGTON

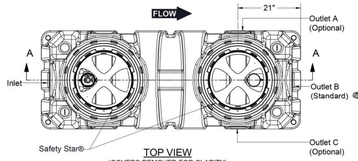
SHEET NUMBER
C701

WAWA UTILITY DETAILS

SPECIFICATIONS

Notes:

1. 4" FPT inlet/outlet with 4" plain end adapters, single inlet and triple outlet.
2. Unit weight - w/ cast iron covers: 376 lbs. (For wet weight add 2,310 lbs.)
3. Maximum operating temperature: 150º F continuous
4. Capacities - Liquid: 277 gal.; Grease: 1,895 lbs. (260 gal.) @100GPM Grease: 1,196 lbs. (164 gal.) @200GPM Solids: 69 gal.
5. This unit does not require flow control for 100 GPM applications. Built-in flow control is provided for 200 GPM applications. For series installations, only install flow control on the first unit in the series if necessary.
6. For gravity drainage applications only.
7. Do not use for pressure applications.
8. Cover placement allows full access to tank for proper maintenance.
9. Vent not required unless per local code.
10. Engineered inlet and outlet diffusers with inspection ports are removable to inspect / clean piping.
11. Integral air relief / Anti-siphon / Sampling access.
12. Adjustable cover adapters provide up to 4" of additional height.
13. Designed for below-grade, above-grade, indoor or outdoor installations.
14. Safety Star®, access restrictor built into each cover adapter, prevents accidental entry to tanks (450 lb rating).



TOP VIEW
(COVERS REMOVED FOR CLARITY)


ISOMETRIC VIEW

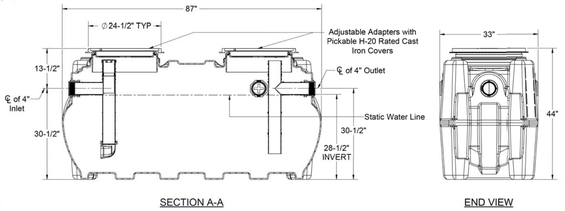
ENGINEER SPECIFICATION GUIDE

Schier Great Basin™ grease interceptor model # GB-250 shall be lifetime guaranteed and made in USA of seamless, rotationally-molded polyethylene with minimum 3/8" uniform wall thickness. Interceptor shall be furnished for above or below-grade installation with adjustable cover adapters, Safety Star® access restrictor built into each cover adapter, built-in flow control (for 200 GPM only) and three outlet options. Interceptor shall be certified to ASME A112.14.3 (Type D for 100 GPM, type C for 200 GPM) and CSA B481.1. Interceptor flow rate shall be 100 GPM or 200 GPM. Interceptor grease capacity shall be 1,895 lbs. @ 100 GPM or 1,196 lbs. @ 200 GPM. Cover shall provide watertgas-tight seal and have minimum 16,000 lbs. load capacity.

CERTIFIED PERFORMANCE

Great Basin™ hydromechanical grease interceptors are third party performance-tested and listed by IAPMO to ASME #A112.14.3 and CSA B481.1 grease interceptor standards and greatly exceed requirements for grease separation and storage. They are compliant to the Uniform Plumbing Code and the International Plumbing Code.

Type D certification does not require a flow control



SECTION A-A

END VIEW

SPECIFICATION SHEET

MODEL NUMBER:	PART NUMBER: 4055-007-02
GB-250	DESCRIPTION: GB-250 GREASE INTERCEPTOR 100 GPM / 200 GPM, 4" INLET/OUTLET, H-20 RATED CAST IRON COVERS

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF **SCHIER PRODUCTS.** ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF **SCHIER PRODUCTS** IS PROHIBITED.

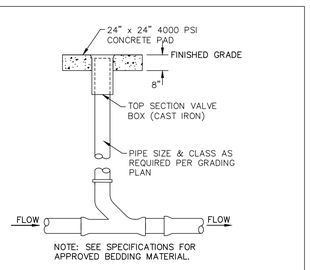
DWG BY:	C.SINCLAIR	DATE:	5/4/2022	REV:	-	ECO:	-

UPC ® UPC C ®

SCHIER

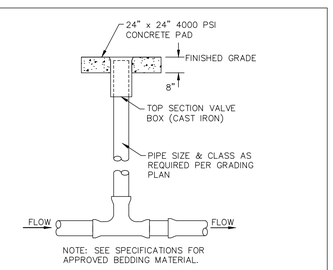
6455 Woodland Dr
Shawnee, KS 66218
Tel: 913-851-3300
Fax: 913-851-3399
schierproducts.com

GREASE TRAP DETAIL



NOTE: SEE SPECIFICATIONS FOR APPROVED BEDDING MATERIAL.

ONE WAY CLEAN-OUT DETAIL



NOTE: SEE SPECIFICATIONS FOR APPROVED BEDDING MATERIAL.

TWO WAY CLEAN-OUT DETAIL

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

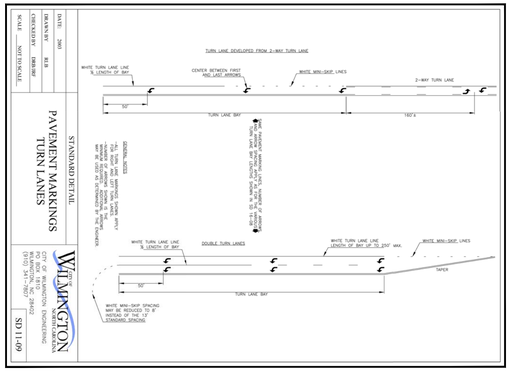
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 2/9/2024

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

WAWA STANDARD DETAILS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C702



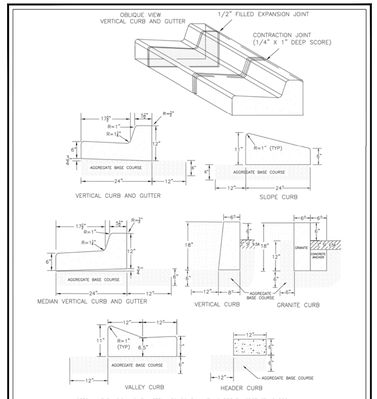
STANDARD DETAIL

PAVEMENT MARKINGS TURN LANES

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: 2001
DRAWN BY: RLB
CHECKED BY: DRB/JRF
SCALE: NOT TO SCALE

SD 11-09



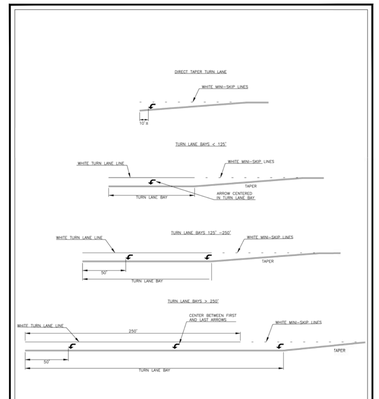
STANDARD DETAIL

CURBING

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: AUGUST, 2011
DRAWN BY: PB/JSR
CHECKED BY: DEC
SCALE: NOT TO SCALE

SD 3-11



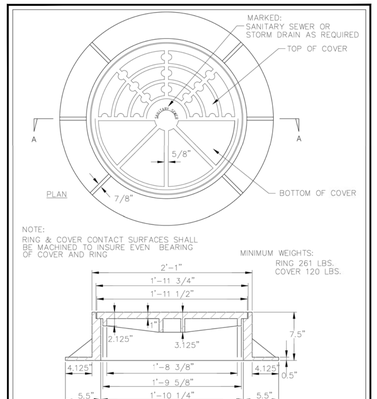
STANDARD DETAIL

PAVEMENT MARKINGS TURN LANES

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: 2001
DRAWN BY: RLB
CHECKED BY: DRB/JRF
SCALE: NOT TO SCALE

SD 11-08



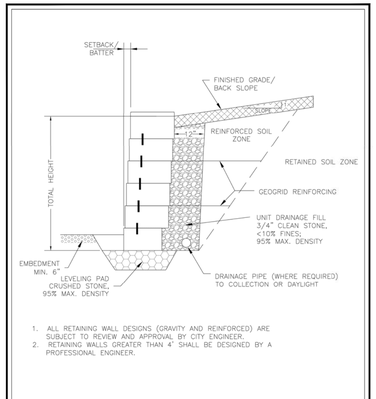
STANDARD DETAIL

STANDARD MAN-HOLE RING AND COVER

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: 2001
DRAWN BY: JSR/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

SD 14-02



1. ALL RETAINING WALL DESIGNS (GRAVITY AND REINFORCED) ARE SUBJECT TO REVIEW AND APPROVAL BY CITY ENGINEER.
2. RETAINING WALLS GREATER THAN 4' SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER.

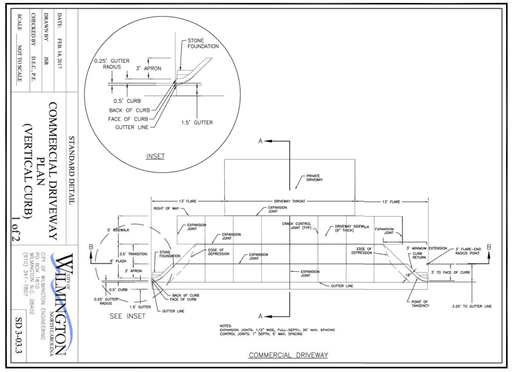
STANDARD DETAIL

TYPICAL RETAINING WALL ≤ 4'

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

DATE: OCTOBER, 2012
DRAWN BY: JSR
CHECKED BY: B.D.R., P.E.
SCALE: NOT TO SCALE

SD 3-105



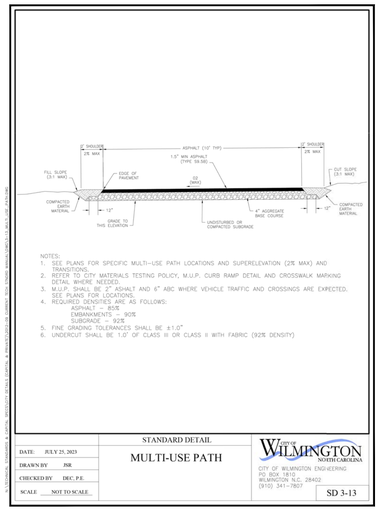
STANDARD DETAIL

COMMERCIAL DRIVEWAY PLAN (VERTICAL CURB) 1 of 2

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: FEB. 14, 2017
DRAWN BY: JSR
CHECKED BY: D.E.C., P.E.
SCALE: NOT TO SCALE

SD 3-03



NOTES:
1. SEE PLANS FOR SPECIFIC MULTI-USE PATH LOCATIONS AND SUPERELEVATION (2% MAX) AND TRANSITIONS.
2. REFER TO CITY MATERIALS TESTING POLICY, M.U.P. CURB RAMP DETAIL AND CROSSWALK MARKING DETAIL WHERE NEEDED.
3. M.U.P. SHALL BE 2" ASPHALT AND 6" ABC WHERE VEHICLE TRAFFIC AND CROSSINGS ARE EXPECTED. SEE PLANS FOR LOCATIONS.
4. REQUIRED DENSITIES ARE AS FOLLOWS:
   ASPHALT — 95%
   EMBANKMENTS — 100%
   SUBGRADE — 92%
5. FINE GRADING TOLERANCES SHALL BE ±1.0".
6. UNDERCUT SHALL BE 1.0' OF CLASS III OR CLASS II WITH FABRIC (92% DENSITY)

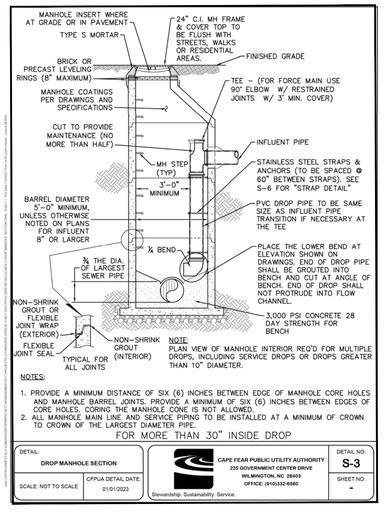
STANDARD DETAIL

MULTI-USE PATH

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

DATE: JULY 25, 2023
DRAWN BY: JSR
CHECKED BY: DEC, P.E.
SCALE: NOT TO SCALE

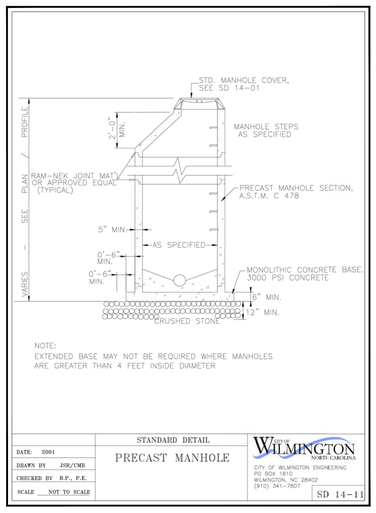
SD 3-13



NOTES:
1. PROVIDE A MINIMUM DISTANCE OF SIX (6) INCHES BETWEEN EDGE OF MANHOLE CORE HOLES AND MANHOLE BARREL JOINTS. PROVIDE A MINIMUM OF SIX (6) INCHES BETWEEN EDGES OF CORE HOLES. CORING THE MANHOLE CONE IS NOT ALLOWED.
2. ALL MANHOLE MAIN LINE AND SERVICE PIPING TO BE INSTALLED AT A MINIMUM OF CROWN TO CROWN OF THE LARGEST DIAMETER PIPE.

FOR MORE THAN 30" INSIDE DROP

DETAIL: DROP MANHOLE SECTION
SCALE: NOT TO SCALE
CFPUA DETAIL DATE: 01/01/2023
CAPE FEAR PUBLIC UTILITY AUTHORITY
235 GOVERNMENT CENTER DRIVE
WILMINGTON, NC 28403
OFFICE: (910)332-6660
Stewardship. Sustainability. Service.
DETAIL NO: S-3
SHEET NO: -



NOTE:
EXTENDED BASE MAY NOT BE REQUIRED WHERE MANHOLES ARE GREATER THAN 4 FEET INSIDE DIAMETER

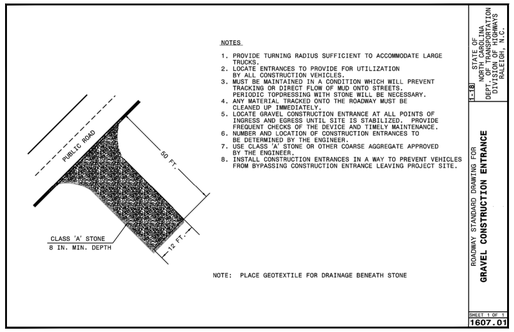
STANDARD DETAIL

PRECAST MANHOLE

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: 2001
DRAWN BY: JSR/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

SD 14-11



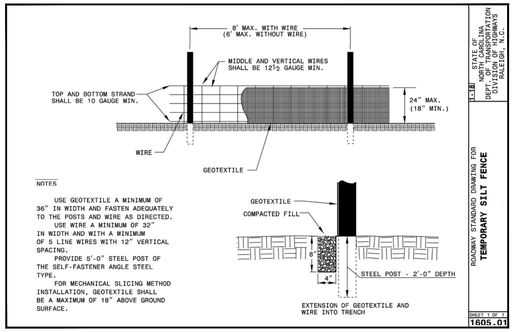
NOTES
1. PROVIDE TURNING RADIUS SUFFICIENT TO ACCOMMODATE LARGE TRUCKS.
2. LOCATE ENTRANCES TO PROVIDE FOR UTILIZATION BY ALL CONSTRUCTION VEHICLES.
3. MUST BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR DIRECT FLOW OF MUD ONTO STREETS. PERIODIC TOPDRESSING WITH STONE WILL BE NECESSARY.
4. ANY MATERIAL TRACKED ONTO THE ROADWAY MUST BE CLEANED UP IMMEDIATELY.
5. LOCATE GRAVEL CONSTRUCTION ENTRANCE AT ALL POINTS OF INGRESS AND EGRESS UNTIL SITE IS STABILIZED. PROVIDE FREQUENT CHECKS OF THE DEVICE AND TIMELY MAINTENANCE.
6. NUMBER AND LOCATION OF CONSTRUCTION ENTRANCES TO BE DETERMINED BY THE ENGINEER.
7. USE CLASS 'A' STONE OR OTHER COARSE AGGREGATE APPROVED BY THE ENGINEER.
8. INSTALL CONSTRUCTION ENTRANCES IN A WAY TO PREVENT VEHICLES FROM BYPASSING CONSTRUCTION ENTRANCE LEAVING PROJECT SITE.

NOTE: PLACE GEOTEXTILE FOR DRAINAGE BENEATH STONE

NCDOT STANDARD DRAWING FOR
GRAVEL CONSTRUCTION ENTRANCE

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH, N.C.

SHEET 1 OF 1
1607.01



NOTES

USE GEOTEXTILE A MINIMUM OF 36" IN WIDTH AND FASTEN ADEQUATELY TO THE POSTS AND WIRE AS DIRECTED.

USE WIRE A MINIMUM OF 32" IN WIDTH AND WITH A MINIMUM OF 5 LINE WIRES WITH 12" VERTICAL SPACING.

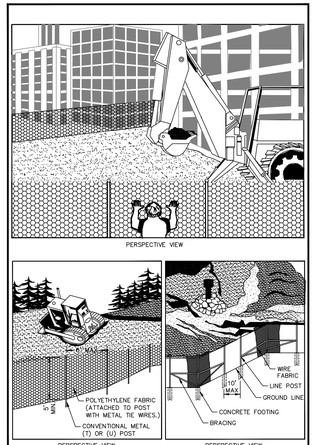
PROVIDE 5'-0" STEEL POST OF THE SELF-FASTENER ANGLE STEEL TYPE.

FOR MECHANICAL SLICING METHOD INSTALLATION, GEOTEXTILE SHALL BE A MAXIMUM OF 16" ABOVE GROUND SURFACE.

STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION RALEIGH, N.C.

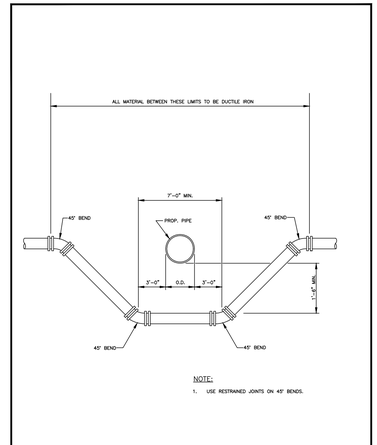
NCDOT STANDARD DRAWING FOR
TEMPORARY SILT FENCE

SHEET 1 OF 1
1605.01



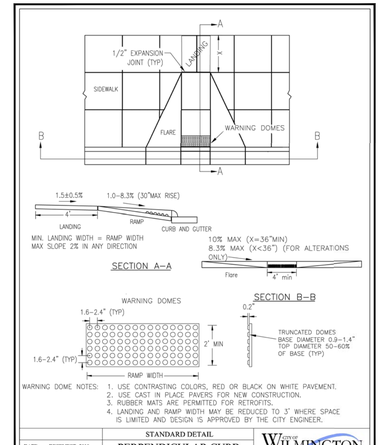
SOURCE: VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK 3.01-1

SAFETY FENCE



NOTE:
1. USE RESTRAINED JOINTS ON 45° BENDS.

VERTICAL BEND DETAIL



WARNING DOME NOTES:
1. USE CONTRASTING COLORS, RED OR BLACK ON WHITE PAVEMENT.
2. USE CAST IN PLACE PAVERS FOR NEW CONSTRUCTION.
3. RUBBER MATS ARE PERMITTED FOR RETROFITS.
4. LANDING AND RAMP WIDTH MAY BE REDUCED TO 3' WHERE SPACE IS LIMITED AND DESIGN IS APPROVED BY THE CITY ENGINEER.

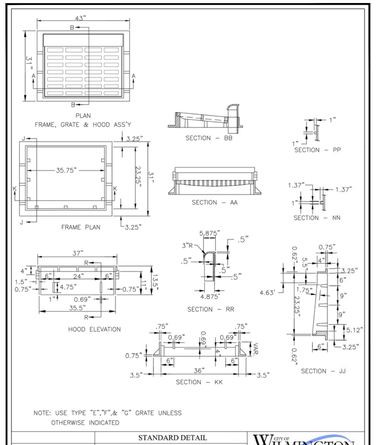
STANDARD DETAIL

PERPENDICULAR CURB RAMP ADJACENT TO WALKING SURFACE

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON N.C. 28402
(910) 341-7807

DATE: DECEMBER, 2010
DRAWN: PB/JSR
CHECKED: DEC
SCALE: NOT TO SCALE

SD 3-07



NOTE: USE TYPE "E","F",& "G" GRATE UNLESS OTHERWISE INDICATED

STANDARD DETAIL

CATCH BASIN CASTING FOR 24" HOOD AND GRATE

CITY OF WILMINGTON ENGINEERING
PO BOX 1810
WILMINGTON, NC 28402
(910) 341-7807

DATE: 2001
DRAWN BY: JSR/CMR
CHECKED BY: B.P., P.E.
SCALE: NOT TO SCALE

SD 2-21

No.	REVISIONS	DATE	BY

Kimley»Horn

200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 LEONG WEE LEE 1/4/2024

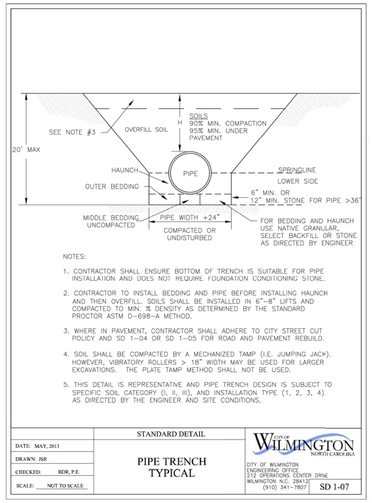
KHA PROJECT 116824039
DATE 02/09/2024
SCALE AS SHOWN
DESIGNED BY JKS
DRAWN BY AHW
CHECKED BY NJS

CONSTRUCTION DETAILS

WAWA - #6132

PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
NORTH CAROLINA
WILMINGTON

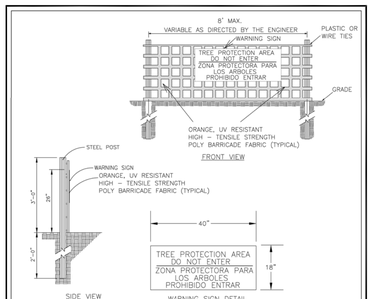
SHEET NUMBER
C703



NOTES:

1. CONTRACTOR SHALL ENSURE BOTTOM OF TRENCH IS SUITABLE FOR PIPE INSTALLATION AND DOES NOT REQUIRE FOUNDATION CONDITIONING STONE.
2. CONTRACTOR TO INSTALL BEDDING AND PIPE BEFORE INSTALLING HAUNCH AND THEN OVERFILL. SOILS SHALL BE INSTALLED IN 6"-8" LIFTS AND COMPACTED TO MIN. % DENSITY AS DETERMINED BY THE STANDARD PROCTOR ASTM D-698-A METHOD.
3. WHERE IN PAVEMENT, CONTRACTOR SHALL ADHERE TO CITY STREET CUT POLICY AND SD 1-04 OR SD 1-05 FOR ROAD AND PAVEMENT REBUILD.
4. SOIL SHALL BE COMPACTED BY A MECHANIZED TAMP (I.E. JUMPING JACK). HOWEVER, VIBRATORY ROLLERS > 18" WIDTH MAY BE USED FOR LARGER EXCAVATIONS. THE PLATE TAMP METHOD SHALL NOT BE USED.
5. THIS DETAIL IS REPRESENTATIVE AND PIPE TRENCH DESIGN IS SUBJECT TO SPECIFIC SOIL CATEGORY (I, II, III), AND INSTALLATION TYPE (1, 2, 3, 4) AS DIRECTED BY THE ENGINEER AND SITE CONDITIONS.

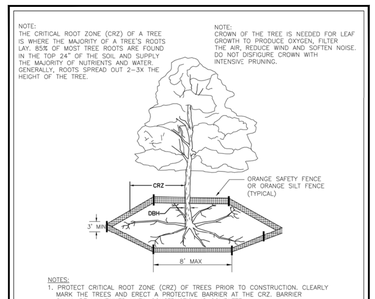
STANDARD DETAIL		
DATE: MAY, 2013	PIPE TRENCH TYPICAL	CITY OF WILMINGTON ENGINEERING 212 OPERATIONS CENTER DRIVE WILMINGTON N.C. 28412 (910) 341-7807
DRAWN: JSR		
CHECKED: BDR, P.E.		
SCALE: NOT TO SCALE		SD 1-07



NOTES:

1. THE TREE PROTECTION FENCING SHALL NOT BE VIOLATED FOR THE ENTIRE DURATION OF THE PROJECT WITHOUT APPROVAL FROM URBAN FORESTRY STAFF.
2. WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL. LETTERS TO BE 3" HIGH, MINIMUM, CLEARLY LEGIBLE AND SPACED AS DETAILED.
3. SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS. PLACE A SIGN AT EACH END OF LINEAR TREE PROTECTION AND 50' ON CENTER THEREAFTER. FOR TREE PROTECTION AREAS LESS THAN 100' IN PERIMETER, PROVIDE NO LESS THAN TWO SIGNS PER PROTECTION AREA.
4. ATTACH SIGNS SECURELY TO FENCE POSTS AND FABRIC. MAINTAIN TREE PROTECTION FENCE AND SIGNS THROUGHOUT DURATION OF PROJECT.
5. TREE PROTECTION FENCING AND SIGNAGE SHALL BE REMOVED AFTER CONSTRUCTION.
6. ADDITIONAL SIGNS MAY BE REQUIRED BY CITY OF WILMINGTON, BASED ON ACTUAL FIELD CONDITIONS.

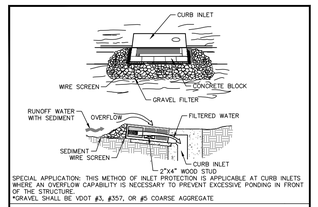
STANDARD DETAIL		
DATE: JAN. 2015	TREE PROTECTION DURING CONSTRUCTION SHEET 2 of 2	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR		
CHECKED BY RDG, P.E.		
SCALE NOT TO SCALE		SD 15-09



NOTES:

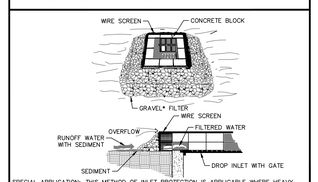
1. PROTECT CRITICAL ROOT ZONE (CRZ) OF TREES PRIOR TO CONSTRUCTION. CLEARLY MARK THE TREES AND ERECT A PROTECTIVE BARRIER AT THE CRZ. BARRIER SHALL BE MAINTAINED UNTIL CONSTRUCTION IS COMPLETE.
2. CRZ RADIUS IS 1 FT PER INCH OF TREE DIAMETER AT BREAST HEIGHT (DBH).
3. IF CONSTRUCTION OCCURS WITHIN THE CRZ, AT LEAST 12" OF MULCH AND/OR LOGGING MATTS SHALL BE PLACED WHERE MACHINERY MANEUVERS TO REDUCE SOIL COMPACTION IN THIS ZONE.
4. WHERE SIDEWALKS AND PATHWAYS PASS WITHIN CRZ, EXTRA CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE ROOTS. ALTERNATE CONSTRUCTION METHODS, SUCH AS A REINFORCED SIDEWALK, SHALL BE IMPLEMENTED AS NECESSARY.
5. FOR ALL TREES, CUTTING OF LARGE STRUCTURAL ROOTS LOCATED NEAR THE BASE OF THE TRUNK IS PROHIBITED. WHEN CUTTING SOIL BENEATH TREES, NO VEHICLE OR EQUIPMENT SHALL GO TO UNGRADED AREAS. SAND MATERIALS OR EQUIPMENT SHALL BE STORED BENEATH TREES. DAMAGING THE BARK WITH LAWNMOWERS, CONSTRUCTION EQUIPMENT, OR ANYTHING ELSE IS PROHIBITED. CONTRACTOR SHALL REPAIR DAMAGE TO TREES.
6. FAILING TO INSTALL OR MAINTAIN PROTECTION MEASURES SHALL RESULT IN A STOP WORK ORDER AND FINE OF $500/DAY. DISTURBANCE OTHER THAN THAT ALLOWED ON THE APPROVED PLAN WILL REQUIRE OWNER TO POST A LETTER OF CREDIT FOR 3 YRS FOR TREE MITIGATION.

STANDARD DETAIL		
DATE: JAN. 2015	TREE PROTECTION DURING CONSTRUCTION SHEET 1 of 2	CITY OF WILMINGTON ENGINEERING PO BOX 1810 WILMINGTON, NC 28402 (910) 341-7807
DRAWN BY JSR		
CHECKED BY RDG, P.E.		
SCALE NOT TO SCALE		SD 15-09



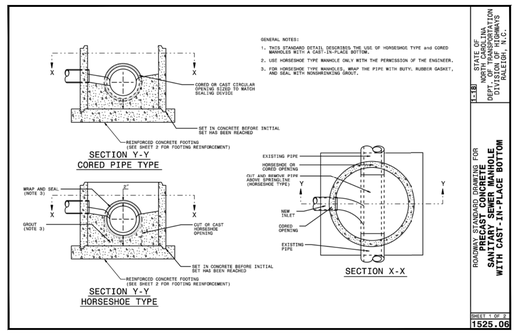
SPECIAL APPLICATION: THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.
*GRAVEL SHALL BE VDOT #3, #357, OR #5 COARSE AGGREGATE

BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER



SPECIAL APPLICATION: THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.
*GRAVEL SHALL BE VDOT #3, #357, OR #5 COARSE AGGREGATE

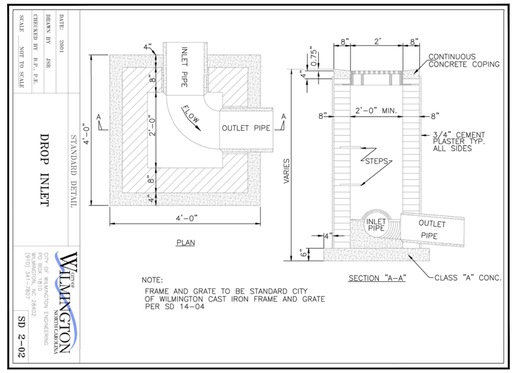
BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

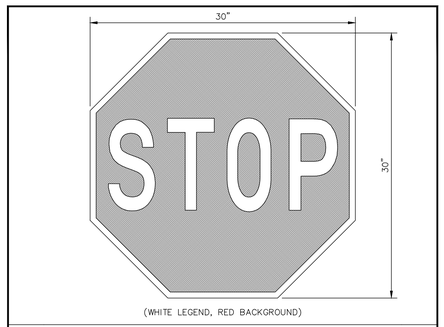


ROADWAY STANDARDS COMMITTEE FOR
PRECAST CONCRETE SANITARY SEWER MANHOLE WITH CAST-IN-PLACE BOTTOM

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

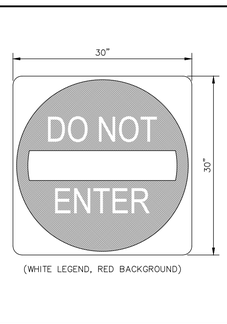
SHEET 1 OF 2
1525.06





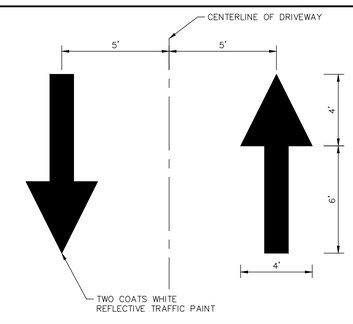
(WHITE LEGEND, RED BACKGROUND)

STOP SIGN (R1-1)

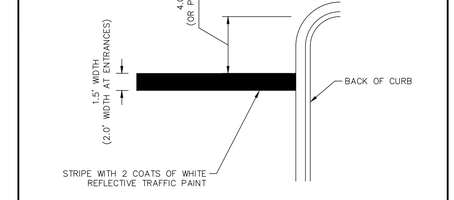


(WHITE LEGEND, RED BACKGROUND)

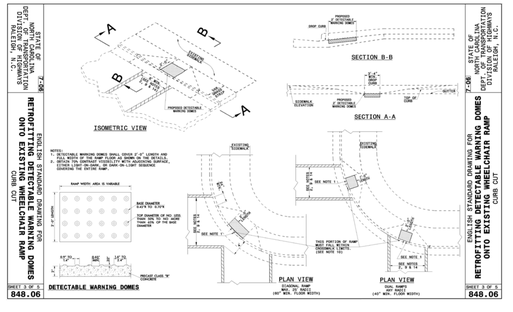
DO NOT ENTER SIGN (R5-1)



DIRECTIONAL ARROW



STOP BAR STRIPING



No.	REVISIONS	DATE	BY

Kimley»Horn

200 SOUTH TRYON STREET, SUITE 200, CHARLOTTE, NC 28202
PHONE: (704) 333-5131
WWW.KIMLEY-HORN.COM

NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 057500 1/9/2024 LEONG WEE

KHA PROJECT	116824039
DATE	02/09/2024
SCALE	AS SHOWN
DESIGNED BY	JKS
DRAWN BY	AHW
CHECKED BY	NJS

CONSTRUCTION DETAILS

WAWA - #6132
PREPARED FOR
WILMINGTON (SCOTTS HILL) WW, LLC
WILMINGTON NORTH CAROLINA

SHEET NUMBER
C704