

**CONTRACT DOCUMENTS**

FOR

**REPLACE ASPHALT WALKWAYS**

**With**

**TIMBER WALKWAYS**

**To serve the**

**Whalehead Subdivision Drainage Improvements**

**Corolla, NC**

Currituck County

August 20, 2014



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## **NOTICE TO BIDDERS**

Bids will be received until 4:00pm on **September 10, 2014** at the Currituck County Engineer's Office, Currituck County Courthouse, 153 Courthouse Road, Suite 302, Currituck, NC 27929, for the following project:

### **Replace Asphalt Walkways with Timber Walkways to serve the Whalehead Drainage Improvements Corolla, NC**

The project includes removal and disposal of existing asphalt walkways, and installation of new timber boardwalks with 8' wide Trex decking. The project is along four separate walkways in the Whalehead Subdivision with a total length of 3095 feet.

Obtain plans from and direct questions to:

Eric T. Weatherly, PE

Phone (252) 232-6035

[Eric.Weatherly@CurrituckCountyNC.gov](mailto:Eric.Weatherly@CurrituckCountyNC.gov)

This will be an informal bid. The bids will be evaluated and contract will be awarded in accordance with the statutory requirements. All bidders must meet the licensing requirements under Chapter 87 of the N.C. General Statutes. Small Business Entities, Women Owned Businesses and Minority Owned Businesses are encouraged to submit bids. The County reserves the right to reject any and all bids and to accept such bids as appears in its judgment to be in the best interest of the County. The County reserves the right to waive any informality.

## **INSTRUCTIONS TO BIDDERS**

**August 20, 2014**

Scope of work shall include all materials and installation of new timber walkways in the Whalehead Subdivision.

### **NOTES:**

- All bidders must meet the licensing requirements under Chapter 87 of the N.C. General Statutes.
- Contractor is responsible for visiting site and understanding scope of work.
- The project shall be completed within 90 days of the Notice to Proceed.
- The Contractor awarded the project will be required to:
  - Execute the Independent Contractor Agreement (sample attached)
  - Execute the E-Verify Statement (attached)
  - Provide a form W-9
  - Provide Certificate of Insurance for general liability and workers' compensation coverage with Currituck County named as a certificate holder
- Provide a 1 year warranty on all work.
- Contractor is responsible for locating all utilities.
- The contractor awarded the project will be required to provide performance and payment bonds if the grand total bid amount exceeds \$300,000. A bid bond is not required.

Bids will be received until 4:00pm on September 10, 2014 at the Currituck County Engineer's Office, Currituck County Courthouse, 153 Courthouse Road, Suite 302, Currituck, NC 27929. ALL BIDS ARE TO BE MARKED "Replace Asphalt Walkways with Timber Walkways".

Any questions, problems or suggestions please contact:

Eric T. Weatherly, PE  
Eric.Weatherly@CurrituckCountyNC.gov  
Phone: 252-232-6035

**BID FORM (page 1 of 2)**

REPLACE ASPHALT WALKWAYS WITH TIMBER WALKWAYS

To serve the

WHALEHEAD SUBDIVISION DRAINAGE IMPROVEMENTS

CURRITUCK COUNTY, NC

The Bidder agrees to perform all the work as shown on the Contract Documents, and to furnish all labor, tools, equipment, transportation and all other incidentals necessary for completion of **REPLACE ASPHALT WALKWAYS WITH TIMBER WALKWAYS.**

In compliance with the Notice to Bidders, Instructions to Bidders, the Contract Documents which include the Independent Contractor's Agreement and the contract drawings and project specifications titled "REPLACE ASPHALT WALKWAYS WITH TIMBER WALKWAYS TO SERVE THE WHALEHEAD SUBDIVISION DRAINAGE IMPROVEMENTS" dated August 20, 2014, and all addenda issued to date, all of which are part of this proposal, the undersigned hereby proposes to furnish and install all materials, labor, and equipment called for by, and in strict accordance with, said Contract Documents, for the complete Scope of Work indicated:

Complete Scope of Work:

**1. Tuna Walkway** (Lump Sum) \$ \_\_\_\_\_

\_\_\_\_\_   
Write out total dollar amount in words

**2. Sturgeon Walkway** (Lump Sum) \$ \_\_\_\_\_

\_\_\_\_\_   
Write out total dollar amount in words

**3. Perch Walkway** (Lump Sum) \$ \_\_\_\_\_

\_\_\_\_\_   
Write out total dollar amount in words

**4. Sailfish Walkway** (Lump Sum) \$ \_\_\_\_\_

\_\_\_\_\_   
Write out total dollar amount in words

**GRAND TOTAL (Total of four walkways)**

(Lump Sum) \$ \_\_\_\_\_

\_\_\_\_\_   
Write out total dollar amount in words

**BID FORM (page 2 of 2)**

REPLACE ASPHALT WALKWAYS WITH TIMBER WALKWAYS  
To serve the  
WHALEHEAD SUBDIVISION DRAINAGE IMPROVEMENTS  
CURRITUCK COUNTY, NC

- The bid amount shall be shown in both words and figures. In case of discrepancy, the amount in words shall govern.
- The above prices shall include labor, materials, overhead, profit, insurance, bonds, taxes, site repair, clean-up, etc., to cover the finished work of the several kinds called for.
- The Bidder agrees that this bid shall be valid and may not be withdrawn for a period of 60 calendar days after the scheduled closing time for receiving bids.

Bidder has examined copies of all the Bidding Documents and of the following Addenda (receipt of all which is hereby acknowledged):

Addendum Date:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Addendum Number:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Respectfully submitted this \_\_\_\_\_ day of \_\_\_\_\_, 2014.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Contractors License No.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Telephone No.

\_\_\_\_\_  
Printed Name and Title

\_\_\_\_\_  
Fax No.

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

\_\_\_\_\_  
Email Address

## INDEPENDENT CONTRACTOR AGREEMENT

THIS AGREEMENT is made the \_\_\_\_ day of \_\_\_\_\_, 2014 between the **County of Currituck** (hereinafter “County”) and \_\_\_\_\_ [Contractor], (hereinafter “Contractor”).

### RECITALS

County is a body corporate and politic of the State of North Carolina with the duties and powers set forth in Chapter 153A of the North Carolina General Statutes.

Contractor represents that it is duly qualified to perform business, and otherwise to transact business in North Carolina.

IT IS THEREFORE AGREED as follows:

1. Scope of Work. Contractor agrees to perform the following services for County:

**Work as outlined in the Contract Documents for Replace Asphalt Walkways with Timber Walkways to serve the Whalehead Subdivision Drainage Improvements**, (hereinafter “the Services”).

2. Compensation. Contractor will be paid for its Services by County as follows:

\_\_\_\_\_ [here, specify compensation arrangement including payment method and frequency.]

3. Contractor's Freedom to Contract. Contractor may employ assistants at its sole expense and discretion as may be necessary to fulfill Contractor's obligations under this Agreement. Contractor agrees that anyone to whom it delegates any or all of the Services called for by this contract will be competent, qualified and capable of performing the work without any supervision, contact or assistance by County's employees. Any such assistant will be employed only by Contractor, and will not be an employee of the County while performing services under this contract.

4. Expenses. County shall not be liable to Contractor for any expenses which Contractor incurs, nor shall Contractor be liable to County for office help or expenses. Contractor shall have no authority to bind County by any promise or representation, unless specifically authorized by the County Manager in writing to do so.

5. Term. This Agreement may be terminated by either party at any time upon 7 days written notice to the other party. Upon the termination of this Agreement, Contractor shall prepare and provide to County a list of all pending unfinished business involving Contractor. Contracted Services under the terms of this agreement shall terminate upon completion of the Services which shall in no event exceed 90 days for completion of the Services.

6. Nature of Relationship. Contractor understands that it is an independent contractor and is not an employee, subcontractor, agent, servant, partner nor joint venturer of County. Contractor understands that it has the right to use its best judgment and efforts to fulfill the terms and obligations of this Agreement. Contractor further understands and acknowledges the following:



- a. That it will receive no compensation other than as outlined in this Agreement and is not subject to nor eligible for any benefits which may be offered by County to its employees, such as vacation pay, sick leave, insurance coverage or retirement plan participation.
- b. Its Services provided in accordance with this Agreement are an independent calling or occupation.
- c. Contractor is expected to use its own skill, judgment and expertise to fulfill the obligations of this Agreement, and is not supervised, directed or controlled by County as to the means or methods it should employ.
- d. Contract is not required to perform tasks in any particular order or sequence.
- e. Contractor needs no training from County as to how to fulfill its duties and responsibilities.
- f. Contractor may determine its own daily schedule and those of its own employees or servants without prior approval of County.
- g. Contractor is not required to devote any particular percentage of its time or resources to perform the Services required hereunder.
- h. Contractor furnishes its own equipment and supplies and is expected to maintain its business office somewhere other than at the County's office.
- i. To the extent Contractor must procure or maintain any insurance, license, certification or trade membership, it must do so at its own cost.

j. This Agreement shall not prevent Contractor from performing other services for other parties. Contractor may engage in other business endeavors or projects of any kind or nature.

7. Taxes. Contractor assumes exclusive liability for payment of all federal, state or other governmental division taxes and contributions for social security, Medicare/Medicaid, etc., now or hereafter required, incurred or assessed by law. Contractors providing equipment, materials, parts or supplies shall provide a breakdown of labor, materials, parts or supplies and sales tax by County or a sales tax report approved by the County Finance Department with the invoice. Contractor agrees to indemnify and hold harmless the County from any claims for taxes as described in this Section.

8. Insurance. Contractor understands and agrees that neither it nor its employees are subject to workers' compensation or general liability coverage maintained by the County for its employees. Contractor agrees to procure and maintain workers' compensation insurance coverage for the benefit of contractor's employees or subcontractors and to procure general liability insurance listing the County as an additional insured at all times relevant to this Agreement. Contractor shall provide to County upon request a valid and current certificate of workers' compensation and general liability insurance. In the event Contractor shall fail at any time to have in force and effect insurance as required by this Section, Contractor agrees to indemnify and hold harmless County for (1) any premium paid by County to maintain insurance coverage applicable to Contractor and/or its employees or subcontractors; (2) any worker's compensation benefits paid by County as a result of Contractor's failure to comply with this Section; and (3) any amounts paid by County for general liability claims as a result of Contractor's failure to comply with this Section.

9. Indemnity. Contractor shall and does hereby agree to indemnify, save harmless and defend County from the payment of any sum or sums of money to any person whomsoever on account of claims or suits growing out of injuries to persons, including death, or damage to property caused by Contractor, its employees, agents or subcontractors in any way attributable to the performance of the Services, including (but without limiting the generality of the foregoing), all claims for service, labor performed, materials furnished, provisions and supplies, injuries to person or damage to property, liens, garnishments, attachments, claims, suits, costs, attorneys' fees, costs of investigation and of defense. It is the intention of this paragraph to hold the Contractor responsible for the payment of any and all claims, suits, or liens, of any nature and character, in any way attributable to or asserted against County or against Contractor and County, or which the County may be required to pay. In the event the liability of the Contractor shall arise by reason of the sole negligence of County and/or the sole negligence of County's employees, agents or servants, then and only then, Contractor shall not be liable under the provisions of this paragraph.

10. Arbitration. Any controversy or claim arising out of, or relating to this Agreement, or its breach, shall be settled by arbitration in Currituck County, North Carolina in accordance with the provisions of the North Carolina Revised Uniform Arbitration Act, (the "Act"). The parties to this Agreement understand that this arbitration provision shall expressly apply to this Agreement in accordance with the Act. Judgment upon the award rendered may be entered and enforced in any court of competent jurisdiction.

11. Notices. Any notice, request or report given by one party to the other shall be in writing, deposited in the United States Mail (postage prepaid) or hand delivered and properly addressed as follows:

If the notice is to County:

Currituck County  
Eric T. Weatherly, PE, County Engineer  
153 Courthouse Rd, Suite 302  
Currituck, NC 27929

(Or such other person or address as County shall have designated by due notice to Contractor).

If the notice is to Contractor:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Or such other person or address as Contractor shall have designated by due notice to County).

12. Non-Waiver. Nothing set forth herein is intended nor shall be construed as a waiver of any immunity available to County, its governing board or employees.

13. Headings. The headings, subheadings and captions in this Agreement and in any exhibit hereto are for reference purposes only and shall not affect the meaning or interpretation of this Agreement.

14. Amendments. This Agreement may not be amended except by written instrument duly executed by or on behalf of all of the parties hereto.

15. Complete Agreement. This Agreement constitutes the entire Agreement between County and Contractor pertaining to its subject matter and supersedes all prior and

contemporaneous negotiations, agreements and understandings of either or both parties in connection therewith.

16. Governing Law. The validity, interpretation and performance of this Agreement and of its provisions shall be governed by the laws of the State of North Carolina.

The undersigned have read the entire Agreement and accept the terms and conditions as shown by their signatures below.

**COUNTY OF CURRITUCK**

By: \_\_\_\_\_  
Attest

By: \_\_\_\_\_ (SEAL)  
Daniel F. Scanlon, II, County Manager

**CONTRACTOR**

By: \_\_\_\_\_  
Attest

By: \_\_\_\_\_ (SEAL)  
Name and Title

Independent Contractor carries and will provide County with a Certificate of Insurance for:

Workers' Compensation	Yes	No
General Liability	Yes	No

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

\_\_\_\_\_  
Sandra Hill, Finance Officer

## County of Currituck E-Verify Affidavit

STATE OF NORTH CAROLINA

AFFIDAVIT:  
E-VERIFY COMPLIANCE

COUNTY OF CURRITUCK

\*\*\*\*\*

I, \_\_\_\_\_ (the individual attesting below), being duly authorized by and on behalf of \_\_\_\_\_ (the entity bidding on project hereinafter "Employer") after first being duly sworn hereby swears or affirms as follows:

1. Employer understands that E-Verify is the federal E-Verify program operated by the United States Department of Homeland Security and other federal agencies, or any successor or equivalent program used to verify the work authorization of newly hired employees pursuant to federal law in accordance with NCGS §64-25(5).
2. Employer understands that Employers Must Use E-Verify. Each employer, after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS§64-26(a).
3. Employer is a person, business entity, or other organization that transacts business in this State and that employs 25 or more employees in this State. (mark Yes or No)
  - a. YES \_\_\_\_\_, or
  - b. NO \_\_\_\_\_
4. Employer's subcontractors comply with E-Verify, and if Employer is the winning bidder on this project, Employer will ensure compliance by providing the County with an E-Verify Compliance Affidavit for any subcontractors current or subsequently hired by Employer.

This \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

Signature of Affiant: \_\_\_\_\_

Print or Type Name: \_\_\_\_\_

Contractor: \_\_\_\_\_

State of \_\_\_\_\_ County of \_\_\_\_\_

Signed and sworn to (or affirmed) before me, this the \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
Notary Public

My Commission Expires:

\_\_\_\_\_  
(Affix Official/Notarial Seal)

## **CONSTRUCTION NOTES**

### **1. Walkway Work Description**

- a. Boardwalk quantities (8' width)
  - i. Tuna Boardwalk = 5710 sf
  - ii. Sturgeon Boardwalk = 6180 sf
  - iii. Perch Boardwalk = 6400 sf
  - iv. Sailfish Boardwalk = 6470 sf
- b. Boardwalk location and details are shown with a red cloud on the attached drawings prepared by Moffatt and Nichol.
- c. Boardwalks shall be installed in same location as removed asphalt walkways.
- d. Remove and properly dispose of existing asphalt walkways.
- e. Any excavated soil for boardwalk installation shall be removed from site and properly disposed.
- f. All work shall be within the footprint of the existing asphalt walks. Any damage to the surrounding grounds shall be repaired and any damaged plants shall be replaced.
- g. It is permissible to remove the existing bollards for construction access. Any damage shall be repaired or replaced.
- h. The proposed boardwalk deck top shall be approximately 6" above existing grade.
- i. Boardwalks shall transition with concrete walk sections as shown on the plan detail. The existing concrete is typically flush with grade. The boardwalk shall have a smooth transition with the concrete walk section. The boardwalks shall increase to approximately 6" above grade from the concrete walk to the next boardwalk bent beam (24:1 slope)
- j. Adjust grade of existing private sidewalks connecting to boardwalk. The existing private sidewalk connections are typically 4' wide x 4" thick concrete. Remove and replace a sufficient length of sidewalk to provide a smooth transition with the boardwalk at a slope no greater than 12:1. Backfill along edge of elevated portion of private sidewalks.
- k. Sturgeon and Sailfish have gravel parking lots that connect to the walkways with gravel access. Install the boardwalk at grade through these access areas. Transition to 6" above grade at the next boardwalk bent beam. Meet with County Engineer prior to construction to choose transition locations.

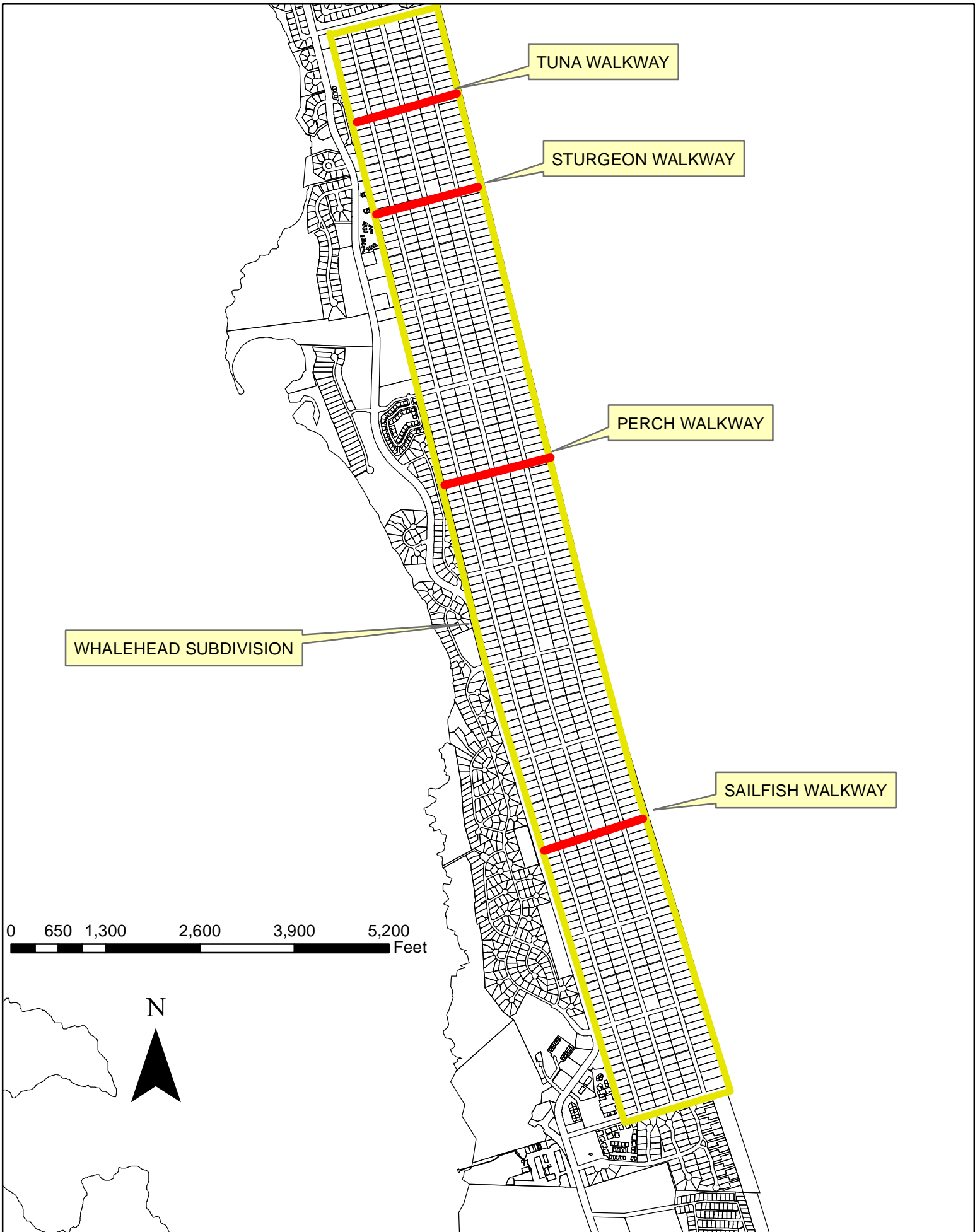
### **2. General**

- a. Public safety shall be the contractor's responsibility. Adequately cordon the work area to prevent harm to the general public. Do not allow the public to walk around the construction area and cause damage to the plants.
- b. The contractor shall visit the site prior to bidding to determine the extent of the work. Lack of knowledge of existing conditions will not be considered a basis for change orders. This will include a satisfactory effort by the contractor to field verify proper fit.

Expense incurred by the contractor, which could have been avoided by this step shall not be a basis for change order.

- c. Contractor shall furnish and install all equipment and materials for a complete installation in all respects, ready for intended use and in strict accordance with state and local codes and manufacturer's recommendations. Contractor will pay any necessary fees and obtain any local building permits.
- d. In addition to manufacturer's standard warranties, Contractor shall furnish written guarantee stating that the work executed under this project shall be free from defects of material and workmanship for a period of 12 months from date of final acceptance.
- e. Call NC One Call service at 1-800-632-4949 not less than three working days before performing work. It is the contractor's responsibility to avoid existing utility conflicts.





**WHALEHEAD SUBDIVISION WALKWAYS, COROLLA**



**GENERAL NOTES:**

- NOTES BELOW ARE NOT INTENDED TO REPLACE SPECIFICATIONS. SEE SPECIFICATIONS FOR REQUIREMENTS IN ADDITION TO THE GENERAL NOTES.
- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS BEFORE STARTING WORK. NOTIFY OWNER OF ANY DISCREPANCIES. THE CONTRACTOR SHALL NOT BEGIN CONSTRUCTION IN ANY SUCH AFFECTED AREA UNTIL THE DISCREPANCY HAS BEEN RESOLVED BY THE OWNER.
- THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS TO THE OWNER FOR CLARIFICATIONS OR ADJUSTMENTS PRIOR TO COMMENCING WORK.
- ALL FEDERAL, STATE, AND LOCAL SAFETY REGULATIONS ARE TO BE STRICTLY FOLLOWED. METHODS OF CONSTRUCTION AND ERECTION OF STRUCTURAL MATERIAL IS THE CONTRACTORS RESPONSIBILITY.
- THE CONTRACTOR SHALL ABIDE BY ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL PROTECTION STANDARDS, PERMITS, LAWS, AND REGULATIONS.
- THE CONTRACTOR SHALL, ON A DAILY BASIS, REMOVE FROM THE SITE ANY EXCAVATED MATERIAL OR DEBRIS. DISPOSAL OF THE MATERIALS IS THE RESPONSIBILITY OF THE CONTRACTOR. ALL DEBRIS SHALL BE PROPERLY DISPOSED OF OFF PROPERTY IN A PERMITTED LANDFILL.
- EXISTING CONSTRUCTION INCLUDING UTILITIES, DRAINAGE, AND OTHER MISCELLANEOUS WORK WHICH IS TO REMAIN, SHALL REMAIN UNDISTURBED AND BE PROTECTED.
- THE CONTRACTOR SHALL COORDINATE ALL WORK WITH REGARDS TO ACCESS TO THE PROJECT SITE. THIS INCLUDES ADDITIONAL CLEARING OF AREAS NOT SHOWN ON PLANS.
- THE CONTRACTOR SHALL PLACE CONSTRUCTION DEBRIS CONTROL DEVICES, BOOMS, TARPULINS, FLOATS, STAGING AND OTHER DEVICES AS NECESSARY TO PREVENT CONSTRUCTION DEBRIS FROM ENTERING WATERWAYS OR DITCHES, AND AIRBORNE MATERIALS FROM LEAVING THE IMMEDIATE VICINITY OF THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP OF ANY MATERIALS DEPOSITED OUTSIDE THE WORK AREA.
- AREAS DISTURBED SHALL BE REPAIRED TO THEIR ORIGINAL CONDITION BY THE CONTRACTOR.
- ALL BASKETBALL POLES AND MAILBOXES AFFECTED BY THE RELOCATION OF DRIVEWAYS SHALL BE RELOCATED.
- FOR DEMOLITION PLANS, SEE SHEETS D-101 THRU D-103.
- FOR CONSTRUCTION PLANS, SEE SHEETS C-101 THRU C-123.
- ALL STREET SIGN RELOCATIONS SHALL BE COORDINATED WITH THE COUNTY.

**CONCRETE AND REINFORCING STEEL:**

- ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACI/MCP-2, UNLESS OTHERWISE NOTED ON THE PLANS. ALL REINFORCED CONCRETE MATERIALS SHALL BE PROPORTIONED, FABRICATED, DELIVERED, AND PLACED IN ACCORDANCE WITH ACI/MCP-2, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.
- ALL CAST-IN-PLACE CONCRETE SHALL BE A NORMAL WEIGHT CONCRETE (145 PCF).
- ALL DETAILING, FABRICATION, AND ERECTION OF REINFORCING STEEL SHALL CONFORM TO THE ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, ACI/MCP-2 & ACI/MCP-3.
- MATERIALS SHALL CONFORM TO THE FOLLOWING, UON:
  - A. CAST-IN-PLACE CONCRETE.....4000 PSI @ 28 DAYS
  - B. REINFORCING STEEL.....ASTM A615, GRADE 60
- MINIMUM CONCRETE COVER FOR STEEL REINFORCEMENT SHALL CONFORM TO THE MINIMUMS REQUIRED BY ACI/MCP-3, UON.
- CHAMFER ALL EXPOSED EXTERNAL CORNERS OF CONCRETE WITH 3/4", 45° CHAMFER, UON.
- CAST-IN-PLACE STRUCTURES MAY BE PROVIDED IN LIEU OF PRECAST.

**PAVEMENT GENERAL NOTES:**

- PAVEMENT PATCH SHALL MATCH EXISTING PAVEMENT SECTION. FOR BIDDING PURPOSES ASSUME 3" OF ASPHALT SURFACE COURSE AND 8" OF AGGREGATE BASE COURSE. FOR CONSTRUCTION USE NCDOT SPECIFIED ASPHALT SF 9.5A.
- ALL ASPHALT PAVEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH NCDOT JAN 2012 STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, SECTION 654 ASPHALT PLANT MIX, PAVEMENT REPAIR.
- HAULING, SPREADING AND FINISHING OF ASPHALT PAVEMENT SHALL BE IN ACCORDANCE WITH NCDOT JAN 2012 STANDARD SPECIFICATION SECTIONS 610-7 & 610-8.
- COMPACTION OF ASPHALT SHALL BE IN ACCORDANCE WITH NCDOT JAN 2012 STANDARD SPECIFICATION 610-9.

**UTILITY GENERAL NOTES:**

- THE LOCATIONS OF UTILITIES ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF THE LOCATIONS AS REQUIRED FOR REMOVAL, TEMPORARY CONNECTION, OR OTHER CONSTRUCTION WITHIN THE LIMITS OF WORK.
- SERVICES SHALL BE MAINTAINED FOR ALL UTILITIES. ANY DISCONNECTIONS AND RECONNECTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY A MINIMUM OF 48 HOURS IN ADVANCE OF THE WORK.
- EXISTING UTILITIES SHALL BE TEMPORARILY SUPPORTED OR RELOCATED IN ORDER TO MAINTAIN SERVICE.
- LOCATIONS OF PIPING AND APPURTENANCES ARE APPROXIMATE, THE CONTRACTOR IS ALLOWED TO SHIFT ITEMS WITHIN THE RIGHT-OF-WAY TO ELIMINATE CONFLICTS. THE CONTRACTOR SHALL NOTIFY THE COUNTY OF THE SHIFT PRIOR TO CONSTRUCTION.
- NEW FIRE HYDRANTS AS SHOWN ON THE PLANS SHALL BE M&H MODEL 129.

**ELECTRICAL GENERAL NOTES:**

- FOR ELECTRICAL GENERAL NOTES SEE SHEETS E1 AND E2.
- 3 PHASE POWER TO THE PANELS WILL BE PROVIDED BY OTHERS.
- ELECTRICAL CONNECTIONS TO PANELS SHALL BE LOCATED WITHIN LIMITS SHOWN TO PREVENT CONFLICTS WITH LIFT STATION ENCLOSURES.

**STAGING NOTES:**

- CONTRACTOR SHALL RELOCATE ALL DRIVEWAYS AFFECTED BY CONSTRUCTION AS SHOWN ON PLANS. THIS WORK SHALL BE COMPLETED FIRST BEFORE ANY STREET DEMOLITION IS COMPLETED. ACCESS TO HOMES SHALL BE MAINTAINED.
- NOTIFY HOMEOWNERS AND COUNTY 14 DAYS PRIOR TO BEGINNING DRIVEWAY WORK.
- COMPLETE GRADING, UNDERDRAIN PIPE AND INSTALLATION OF FORCE MAIN PIPING PRIOR TO BEGINNING WORK ON CONSTRUCTION OF LIFT STATIONS AND INFILTRATION TRENCHES. THE FORCE MAIN PIPING MAY BE UTILIZED FOR DEWATERING OPERATIONS.
- COMPLETE ALL CONSTRUCTION WITHIN 135 DAYS FROM NTP. ALL STREET AND BASIN WORK SHALL BE COMPLETED BY APRIL 30TH, 2013. ALL REMAINING WORK SHALL BE COMPLETED BY MAY 24TH, 2013.
- THE CONTRACTOR CAN UTILIZE THE COUNTY OWNED PROPERTY LOCATED ON BONITA STREET, SEE SHEET G-003.

**HORIZONTALLY DIRECTIONAL DRILLED PIPE NOTES:**

- ELEVATIONS FOR FORCEMAIN SYSTEM ARE CRITICAL. CONTRACTOR SHALL PROVIDE DETAILED CONSTRUCTION MEANS AND METHODS FOR PIPE INSTALLATION. METHODS THAT COULD CAUSE PIPE UNDULATIONS OF MORE THAN 3 INCHES AT FUSED JOINTS ARE NOT ALLOWED, IF CONSTRUCTION CAUSES UNDULATIONS OR MORE THAN 3 INCHES THE CONTRACTOR MAY BE REQUIRED TO INSTALL A MANHOLE AND VENT/VACCUUM VALVE AT THE HIGH SPOTS AT THE CONTRACTORS EXPENSE.
- HDPE PIPING RATED DR 9 SHALL BE USED UNDER ALL STREETS. DR 11 PIPE SHALL BE UTILIZED FOR ALL OTHER AREAS.
- FITTINGS INDICATED MAY BE ELIMINATED PROVIDED THE PIPE BEND RADIUS ALLOWS THE PIPE TO REMAIN WITHIN THE NOTED EASEMENT OR RIGHT OF WAY.
- PIPE DIMENSION TABLE

HDPE PIPE TABLE (DIPS)		
NOMINAL PIPE SIZE SHOWN ON PLANS AND PROFILES	DR RATING	PHYSICAL INTERNAL DIAMETER (INCHES)
4 INCH	9.0000	3.669
	11.0000	3.875
6 INCH	9.0000	5.275
	11.0000	5.570
8 INCH	9.0000	6.918
	11.0000	7.306
10 INCH	9.0000	8.485
	11.0000	8.961
12 INCH	9.0000	10.091
	11.0000	10.656

**EROSION CONTROL NOTES:**

- THE CONTRACTOR SHALL RE-ESTABLISH VEGETATIVE GROUND COVER FOR ALL AREAS DISTURBED DURING CONSTRUCTION USING THE SPECIFIED HYDRO-SEED, EXCEPT ON PRIVATE LAWNS AREAS WHERE THE SPECIFIED SOD SHALL BE USED.
- THE CONTRACTOR SHALL RE-ESTABLISH VEGETATIVE GROUND COVER FOR AREAS DISTURBED DURING INSTALLATION OF FORCEMAIN PIPES.
- THE CONTRACTOR SHALL INSTALL SILT FENCE AT THE LOCATIONS SHOWN ON SHEET EC-501. THE SILT FENCE SHALL BE INSPECTED AFTER EACH STORM EVENT AND MAINTENANCE AND/OR CLEAN OUT IS NECESSARY ANYTIME THE DEVICE REACHES 50% CAPACITY.
- THE CONTRACTOR SHALL INSTALL PLANTS AS SHOWN ON THE LANDSCAPING PLANS, SHEETS LS-101, 102 AND 103.
- DRY INFILTRATION BASINS SHALL BE USED AS SEDIMENT TRAPS DURING CONSTRUCTION. CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL SEDIMENT. CONTRACTOR SHALL MAKE APPROPRIATE MODIFICATIONS TO BASIN DEPTH, GEOMETRY, AND HYDROLOGY AS SHOWN ON PLANS. A MINIMUM OF 6 INCHES OF BOTTOM MATERIAL (BELOW DESIGN BOTTOM) MUST BE REMOVED PRIOR TO CONVERSION TO STORMWATER BMP.
- EXCAVATED SOIL MAY BE HAULED OFFSITE TO A FACILITY PERMITTED TO RECEIVE THE MATERIAL. DOCUMENTATION ON WHERE THE MATERIAL WILL BE DELIVERED SHALL BE PROVIDED TO THE ENGINEER.
- CONTRACTOR SHALL TAKE PRECAUTIONS TO PREVENT TRACKING OF SEDIMENT.
- THE CONTRACTOR IS TO PROVIDE, INSTALL AND COORDINATE THE IMPLEMENTATION OF THE EROSION AND SEDIMENTATION CONTROL PLANS ACCORDING TO THE "EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL" (NCDENR, JUNE 2006)
- TEMPORARY GROUND COVER MUST BE ESTABLISHED FOR ALL EXPOSED SLOPES WITHIN 14 CALENDAR DAYS OF ANY LAND DISTURBING ACTIVITY. PERMANENT GROUND COVER MUST BE ESTABLISHED FOR ALL EXPOSED SLOPES WITHIN 7 CALENDAR DAYS OF FINISHED GRADE. STABILIZE SITE AS AREAS ARE BROUGHT UP TO FINISH GRADE WITH VEGETATION, PAVING, DITCH LININGS, ETC.

**EROSION CONTROL NOTES CONTINUED:**

- AREAS OUTSIDE OF THE COUNTY RIGHT-OF-WAY MUST BE BROUGHT UP TO FINISH GRADE AND STABILIZED WITH PERMANENT GROUND COVER WITHIN 21 CALENDAR DAYS FROM BEGINNING OF LAND DISTURBING ACTIVITY.
- INSPECT ALL SEDIMENT CONTROL MEASURES TWICE EVERY SEVEN CALENDAR DAYS AND AFTER EACH RAINFALL EVENT. REMOVE SEDIMENT AND RESTORE TEMPORARY SEDIMENT TRAPS TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH. REMOVE SEDIMENT TO AN APPROVED DISPOSAL AREA AND REPLACE CONTAMINATED PART OF GRAVEL FACING.
- TEMPORARY PERIMETER CONTROLS MAY NOT BE REMOVED UNTIL ALL CONTRIBUTING UPGRADIENT AREAS ARE STABILIZED.
- IF SITE IS APPROVED, REMOVE TEMPORARY DIVERSIONS, SILT FENCING, SEDIMENT BASINS, ETC., AND SEED OUT OR PAVE ANY RESULTING BARE AREAS. ALL REMAINING PERMANENT EROSION CONTROL DEVICES (SUCH AS VELOCITY DISSIPATORS) MUST BE INSTALLED NOW.

**PVC FENCING AND SIGNS:**

- SIGNS SHALL BE FABRICATED ON 1/2" PVC BOARD.
- 12 SIGNS SHALL BE INSTALLED AT EACH PATH LOCATION (3 PER PATH ENTRANCE) AND INSTALLED IN LOCATIONS SIMILAR TO PREVIOUSLY CONSTRUCTED PATHS.
- SIGN LAYOUT SHALL BE AS SHOWN ON SHEET C-511 AND COLORS SHALL MATCH EXISTING SIGNS ON PREVIOUSLY CONSTRUCTED PATHS.
- PVC FENCE COMPONENTS WERE PURCHASED LOCALLY - PROPOSED FENCE SHALL MATCH EXISTING FENCE INSTALLED ON PREVIOUSLY CONSTRUCTED PATHS.
- USE 316 SS HARDWARE TO ATTACH SIGNS.

**TIMBER CONSTRUCTION:**

- ALL TIMBER CONSTRUCTION SHALL CONFORM TO THE RECOMMENDATIONS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION.
- ALL TIMBER MATERIALS SHALL BE TREATED IN ACCORDANCE WITH AWPA UC5B FOR TIMBER IN SALT OR BRACKISH WATER IMMERSION, PRESERVATIVE RETENTION SHALL BE 2.50 PCF.
- TIMBER RELATED MATERIALS SHALL CONFORM TO THE FOLLOWING, UON:
  - A. TIMBER POSTS ..... SP NO. 1 DENSE (S4S)
  - B. TIMBER BENT CAPS ..... SP NO. 1 DENSE (S4S)
  - C. TIMBER STRINGERS ..... SP NO. 1 DENSE (S4S)
  - D. TIMBER DECKING ..... TREX ACCENTS IN WINCHESTER GRAY
  - E. MISC TIMBER (INCL HANDRAIL) ..... SP NO. 1 DENSE (S4S)
  - F. CONNECTING BOLTS & NUTS ..... ASTM A 307, GALV, UON
  - G. NAILS AND SCREWS ..... TYPE 316 STAINLESS
- WHEN CONNECTING HARDWARE IS SHOWN ON THE DRAWINGS, THE TYPE, SIZE, SPACING, AND ALIGNMENT ARE CRITICAL AND MUST BE MAINTAINED. DO NOT UNDERCUT WOOD. CONNECTIONS SHALL PULL AND HOLD MEMBERS BEING JOINED INTO CLOSE CONTACT.
- WASHERS SHALL BE CIRCULAR FLAT SMOOTH AND SHALL CONFORM TO ANSI B18.22.1. USE DOCK WASHERS OR OGEW WASHERS WHERE INDICATED OR REQUIRED.
- CHECK ALL BOLTS BY BURRING THE THREADS AFTER THE NUTS HAVE BEEN FINALLY TIGHTENED. RECOAT EXPOSED PORTION OF BOLT WITH TWO COATS OF HIGH ZINC DUST OXIDE PAINT.
- BORE HOLES FOR THRU BOLTS WITH A BIT 1/16 INCH LARGER IN DIAMETER THAN THE SHANK OF THE BOLT.

**SURVEYING NOTES:**

- HORIZONTAL AND VERTICAL SURVEYS PROVIDED BY:

BILD SURVEYING  
P.O. BOX 7159  
KILL DEVIL HILLS, NC 27948  
(252)441-5154

COASTAL ENGINEERING-SURVEYING, INC  
934 W KITTY HAWK ROAD  
KITTY HAWK, NC 27949  
(252)261-4151

JOYNER KEENEY & ASSOCIATES  
209 NORTH PEARL STREET  
P.O. BOX 7533  
ROCKY MOUNT, NC 27804  
(252)977-3124

COORDINATE SYSTEM FOR THIS PROJECT IN NAD 83/1986, NC STATE PLANE. UNITS ARE US SURVEY FOOT. ALL COORDINATES AND LINEAR DIMENSIONS ARE NC GRID VALUES (NOT LOCALIZED). VERTICAL DATUM IS NAVD88(FT).



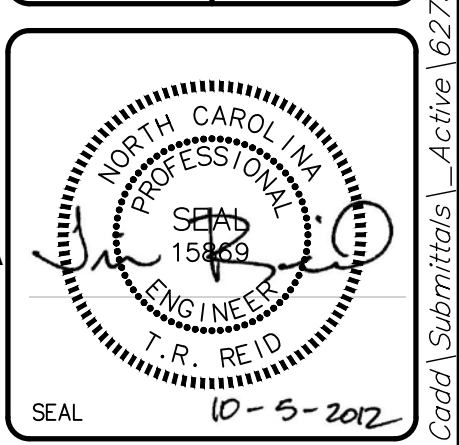
Date	Issued For	Description
12/18	JM	Work

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

**GENERAL NOTES**

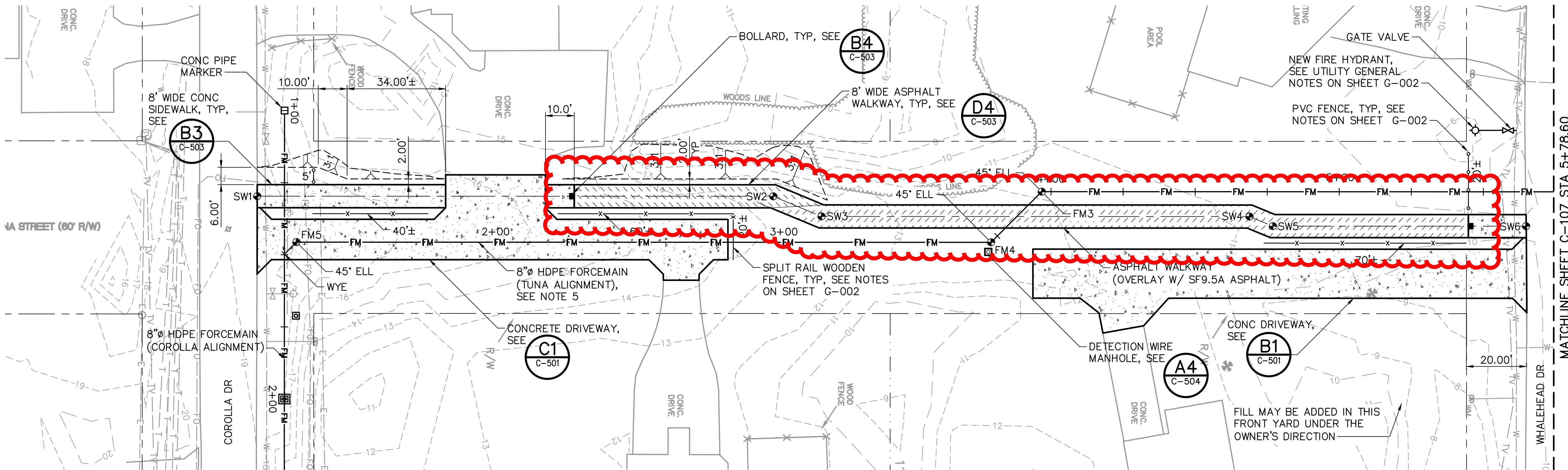
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Date: OCTOBER 2012	M&N Project No: 6273-04	Drawing code: JM	Drawing Scale: NONE
Plot scale: 1:1 (0 SHEET)			

**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626

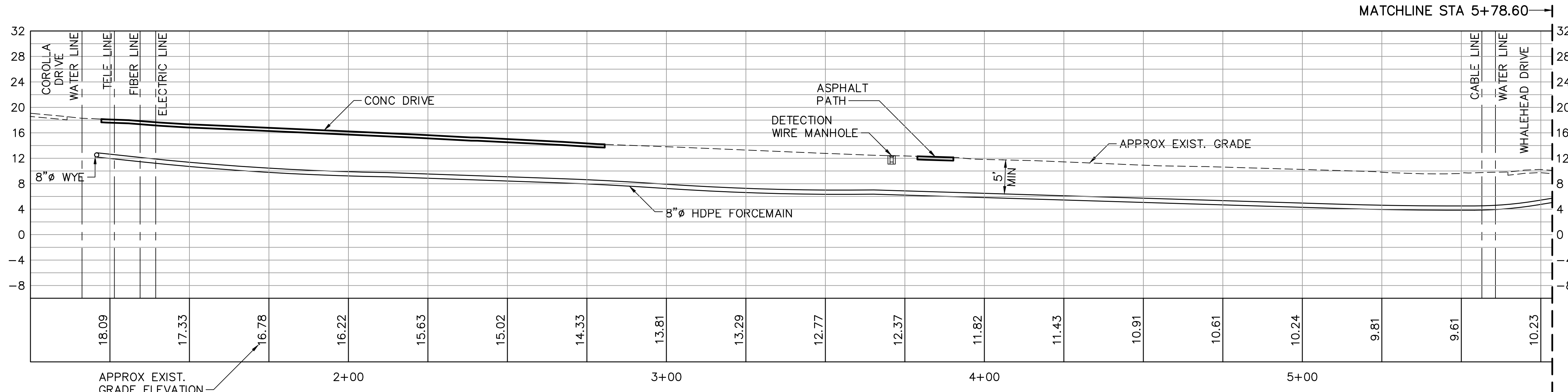


Sheet Reference Number:  
**G-002**





TUNA STREET LAYOUT AND FORCEMAIN PLAN



TUNA STREET FORCEMAIN PROFILE

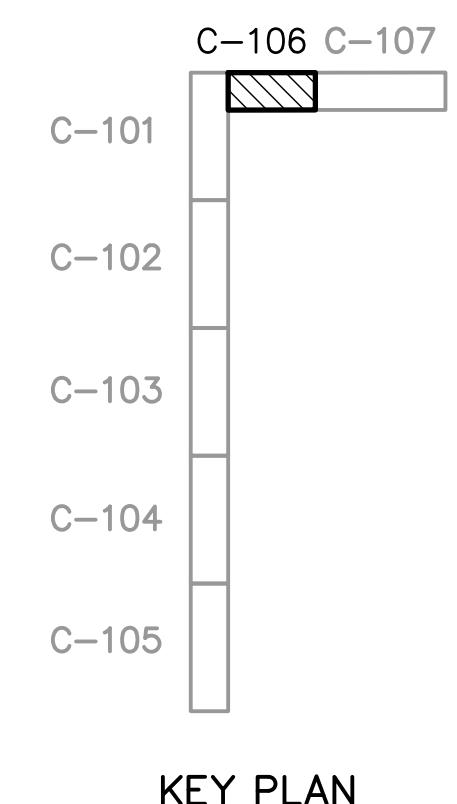
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WALKWAY CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
SW1	966924.41	2934692.58
SW2	966967.61	2934866.34
SW3	966964.89	2934884.27
SW4	967000.73	2935028.41
SW5	966999.44	2935037.05
SW6	967020.66	2935122.32

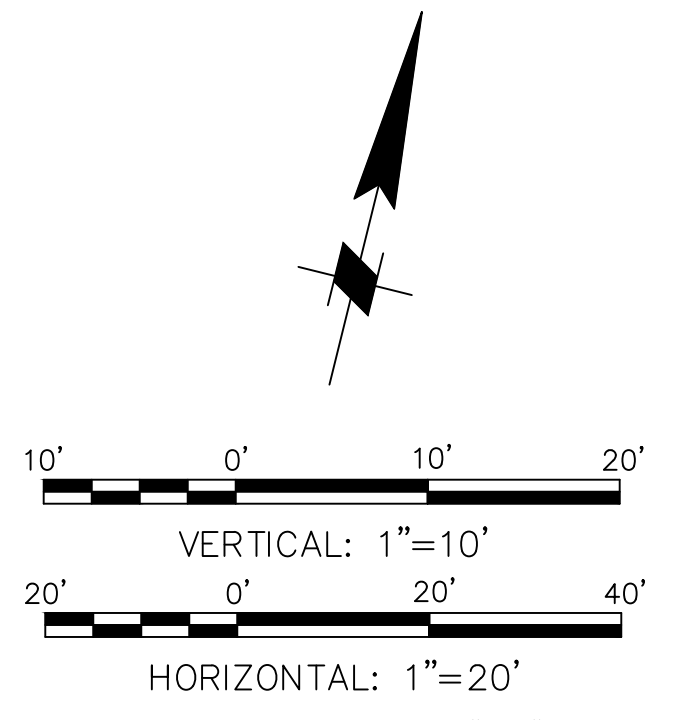
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FORCEMAIN CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
FM3	966991.68	2934956.36
FM4	966970.38	2934943.54
FM5	966912.23	2934709.63

- NOTES:
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
  - APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
  - FOR TUNA STREET LANDSCAPING PLAN, SEE SHEET LS-101.
  - MAINTAIN EXISTING VEGETATION IF POSSIBLE.
  - TUNA AND COROLLA FORCEMAIN SHALL CONNECT TO EXISTING FORCEMAIN AT BARRACUDA STREET PRIOR TO INSTALLATION OF TUNA STREET INFILTRATION PIPE. CONTRACTOR SHALL USE FORCEMAIN FOR DEWATERING OR RUN TEMPORARY PIPE TO EXISTING BARRACUDA STREET BASIN.



- LEGEND:
- FM PROPOSED FORCEMAIN
  - UD PROPOSED 24" INFILTRATION PIPE
  - EXISTING WATER LINE
  - W EXISTING TELEPHONE LINE
  - TV EXISTING CABLE TV LINE
  - FO EXISTING FIBER OPTIC LINE
  - E EXISTING ELECTRIC LINE
  - - - APPROX EXISTING R/W LINE
  - - - APPROX EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



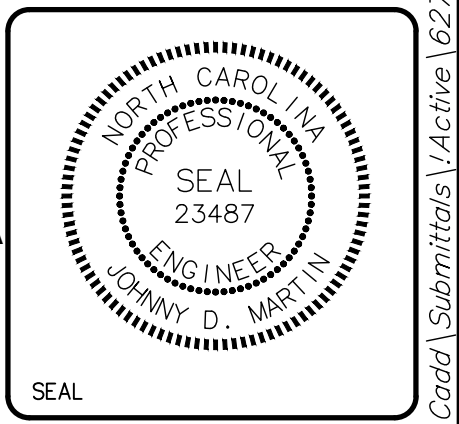
Rev.	Date	By	Description
1	JAN 2014	JM	ISSUED FOR CONSTRUCTION

WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4

CIVIL PLAN AND PROFILE

Designed by: RS	Date: JANUARY 2014	Rev.:
Dwn by: BF	M&N Project No. 6273-05	
Reviewed by: TR	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale:	Plot scale: 1" (D SHEET)

**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626



Sheet Reference Number:  
**C-106**

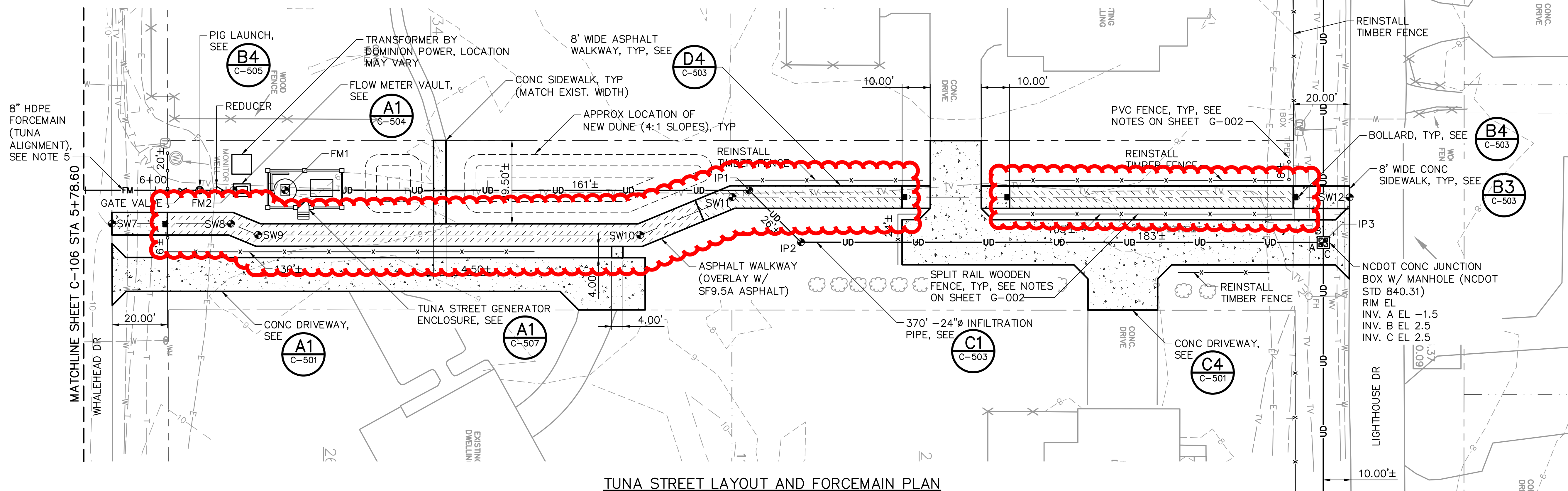
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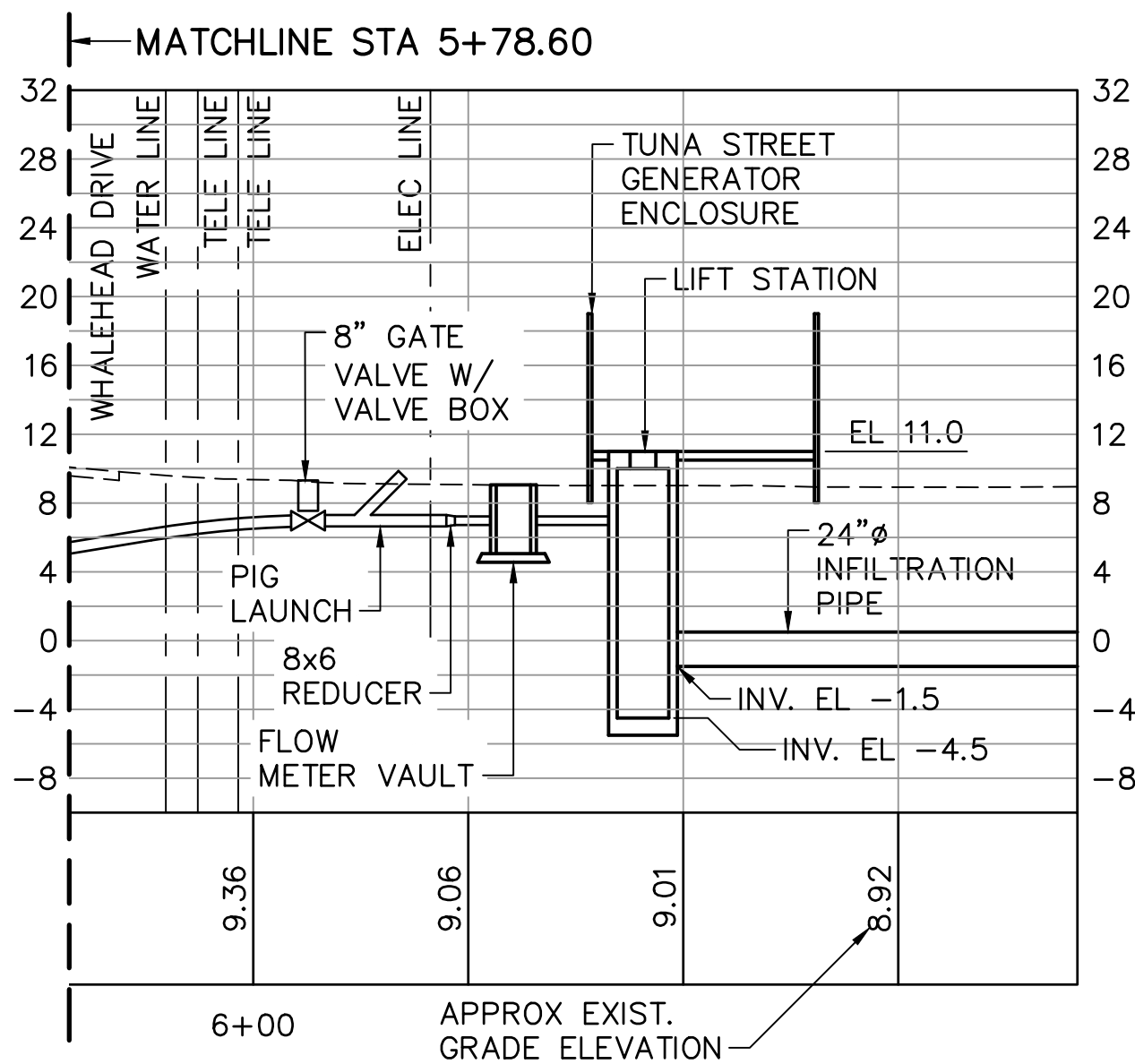
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WALKWAY CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
SW7	967025.40	2935141.37
SW8	967035.60	2935182.39
SW9	967034.05	2935192.76
SW10	967066.79	2935324.43
SW11	967087.80	2935352.93
SW12	967140.68	2935565.65

#IP		
INFILTRATION PIPE CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
IP1	967091.56	2935358.15
IP2	967078.15	2935380.44
IP3	967122.90	2935560.45

#FM		
FORCEMAIN CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
FM1	967051.80	2935198.22
FM2	967047.36	2935180.36



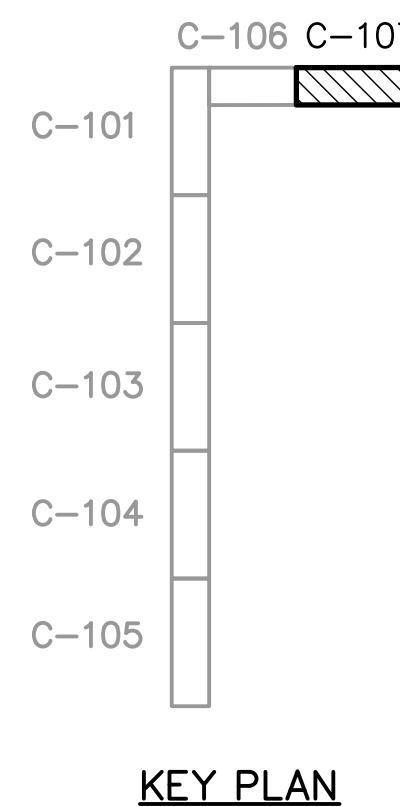
TUNA STREET LAYOUT AND FORCEMAIN PLAN



TUNA STREET FORCEMAIN PROFILE

**NOTES:**

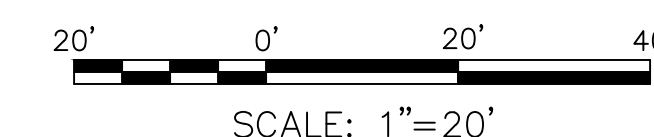
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
- FOR TUNA STREET LANDSCAPING PLAN, SEE SHEET LS-101.
- MAINTAIN EXISTING VEGETATION IF POSSIBLE.
- TUNA AND COROLLA FORCEMAIN SHALL CONNECT TO EXISTING FORCEMAIN AT BARRACUDA STREET PRIOR TO INSTALLATION OF TUNA STREET INFILTRATION PIPE. CONTRACTOR SHALL USE FORCEMAIN FOR DEWATERING OR RUN TEMPORARY PIPE TO EXISTING BARRACUDA STREET BASIN.



KEY PLAN

**LEGEND:**

- FM PROPOSED FORCEMAIN
- UD PROPOSED 24" INFILTRATION PIPE
- W EXISTING WATER LINE
- T EXISTING TELEPHONE LINE
- TV EXISTING CABLE TV LINE
- FO EXISTING FIBER OPTIC LINE
- E EXISTING ELECTRIC LINE
- - - - - APPROX EXISTING R/W LINE
- - - - - APPROX EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



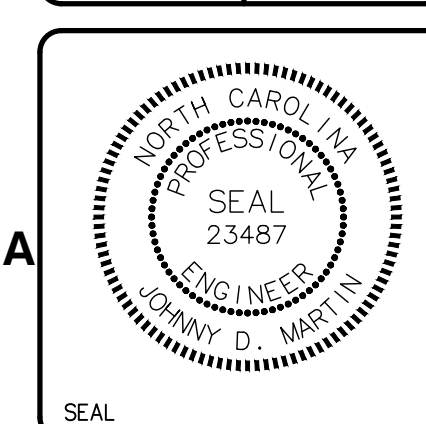
Rev.	Date	Description
1	JAN 2014	ISSUED FOR CONSTRUCTION

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4**

CIVIL PLAN AND PROFILE

Designed by:	RS	Date:	JANUARY 2014
Dwn by:	BF	M&N Project No.:	6273-05
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	Plot scale: 1" (D SHEET)

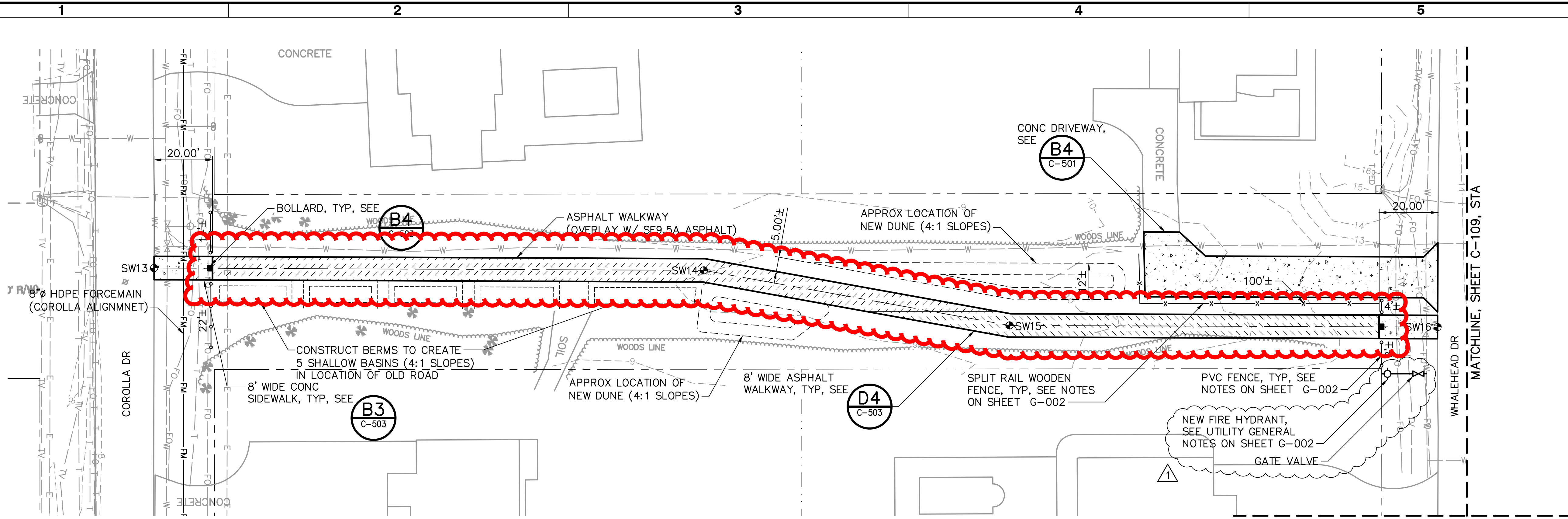
**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626



Sheet Reference Number:  
**C-107**

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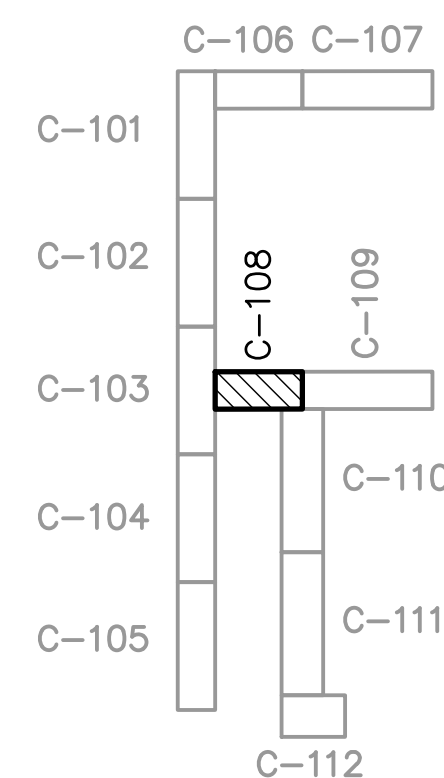




STURGEON STREET LAYOUT PLAN

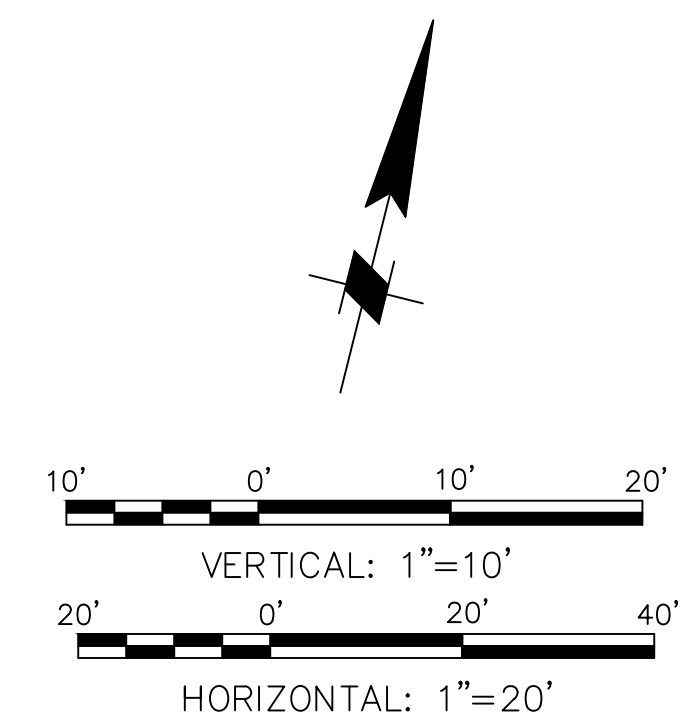
- NOTES:**
- FOR STURGEON STREET LANDSCAPING PLAN, SEE SHEET LS-102.
  - MAINTAIN EXISTING VEGETATION IF POSSIBLE.
  - APPROXIMATE LOCATIONS OF UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.

POINT No	NORTHING	EASTING
SW13	965666.53	2935004.13
SW14	965711.02	2935187.18
SW15	965717.88	2935293.42
SW16	965752.57	2935435.88



KEY PLAN

- LEGEND:**
- FM — PROPOSED FORCEMAIN
  - UD — PROPOSED 24" INfiltration PIPE
  - W — EXISTING WATER LINE
  - T — EXISTING TELEPHONE LINE
  - TV — EXISTING CABLE TV LINE
  - FO — EXISTING FIBER OPTIC LINE
  - E — EXISTING ELECTRIC LINE
  - — — — — APPROX EXISTING R/W LINE
  - — — — — APPROX EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



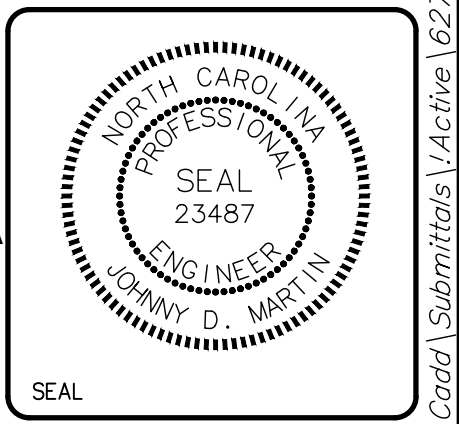
Rev.	Date	Description
1	01/08	ISSUED FOR CONSTRUCTION

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4**

CIVIL PLAN AND PROFILE

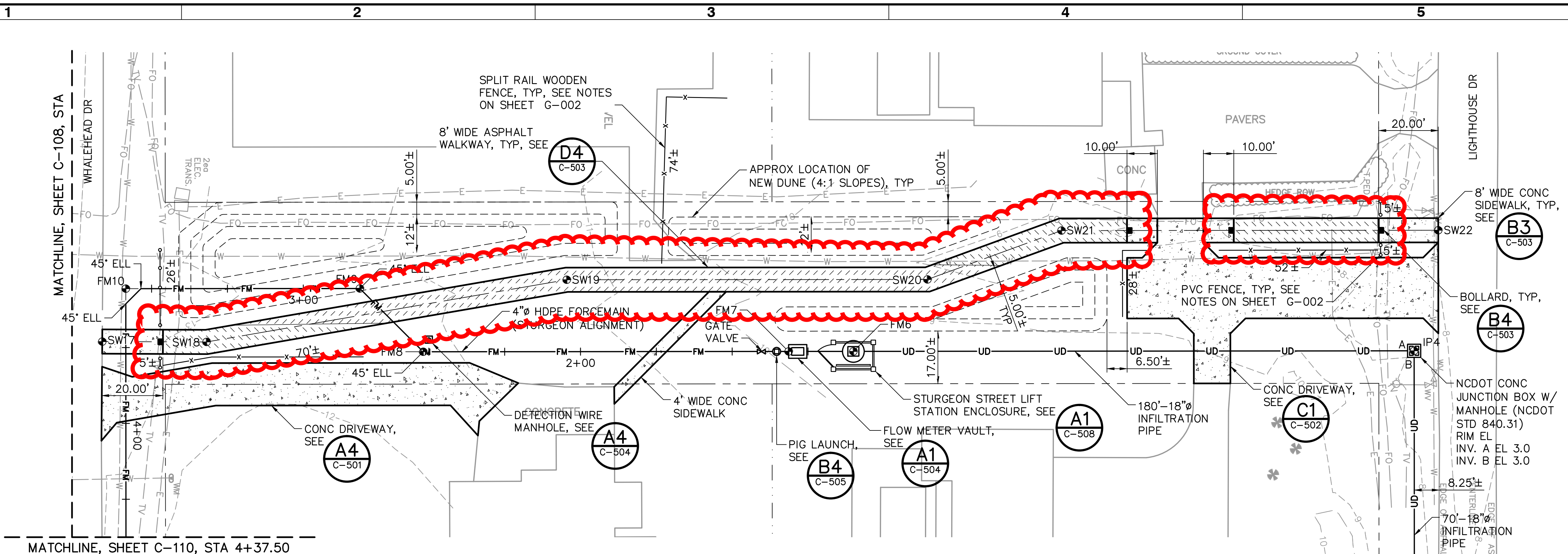
Designed by: RS	Date: JANUARY 2014	Rev.:
Dwn by: BF	M&N Project No: 6273-05	
Reviewed by: TR	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: NOTED	Plot scale: 1:1 (0 SHEET)

**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626

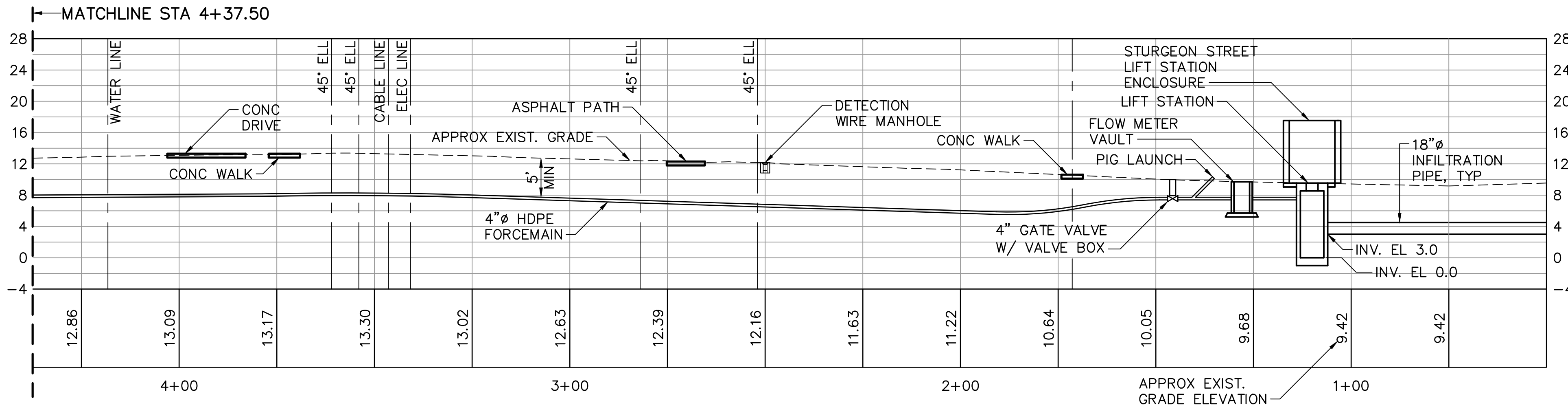


Sheet Reference Number:  
**C-108**





STURGEON STREET LAYOUT AND FORCEMAIN PLAN



STURGEON STREET FORCEMAIN PROFILE

#SW

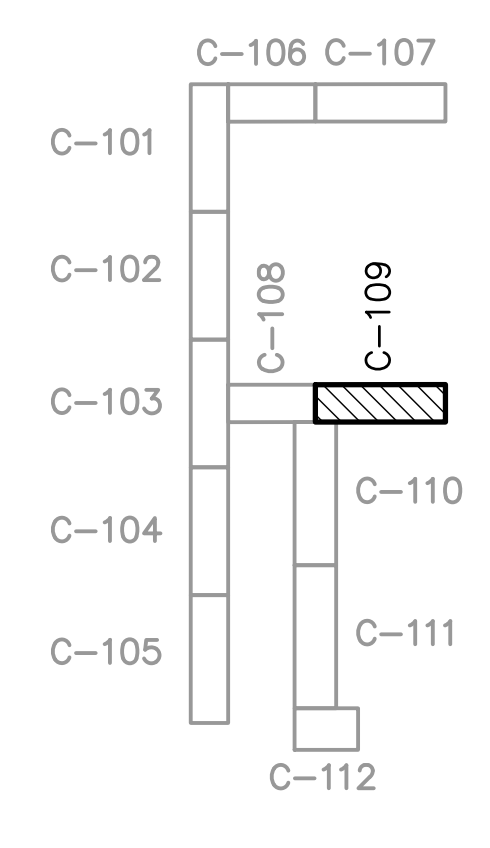
WALKWAY CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
SW17	965757.31	2935455.36
SW18	965765.44	2935488.76
SW19	965813.88	2935599.10
SW20	965842.54	2935714.50
SW21	965868.80	2935753.51
SW22	965898.75	2935874.04

#P

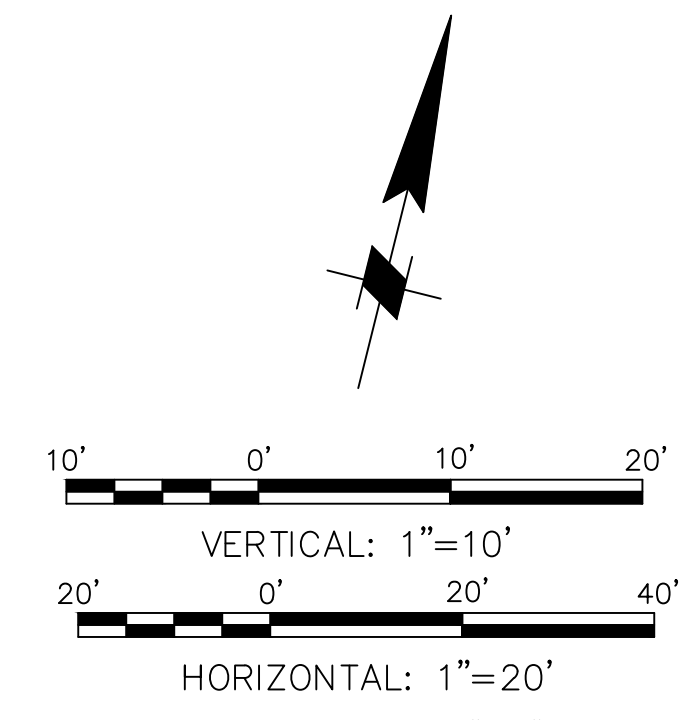
INFILTRATION PIPE CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
IP4	965858.26	2935875.87

#FM

FORCEMAIN CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
FM6	965813.66	2935696.48
FM7	965808.52	2935675.77
FM8	965779.48	2935558.87
FM9	965794.70	2935533.59
FM10	965776.11	2935458.71



- LEGEND:
- FM — PROPOSED FORCEMAIN
  - UD — PROPOSED 24" INFILTRATION PIPE
  - W — EXISTING WATER LINE
  - T — EXISTING TELEPHONE LINE
  - TV — EXISTING CABLE TV LINE
  - FO — EXISTING FIBER OPTIC LINE
  - E — EXISTING ELECTRIC LINE
  - - - - - APPROX EXISTING R/W LINE
  - - - - - APPROX EXISTING PROPERTY LINE



- NOTES:
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
  - APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
  - FOR INFILTRATION PIPE INSTALLATION, SEE DETAIL A1, SHEET C-503.
  - FOR STURGEON STREET LANDSCAPING PLAN, SEE SHEET LS-102.
  - MAINTAIN EXISTING VEGETATION IF POSSIBLE.



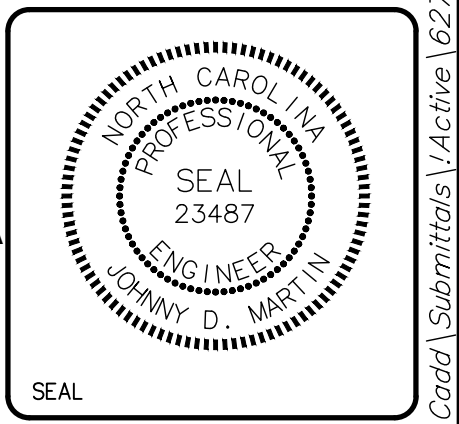
Rev.	Date	Description
1	JAN 2014	ISSUED FOR CONSTRUCTION

WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4

CIVIL PLAN AND PROFILE

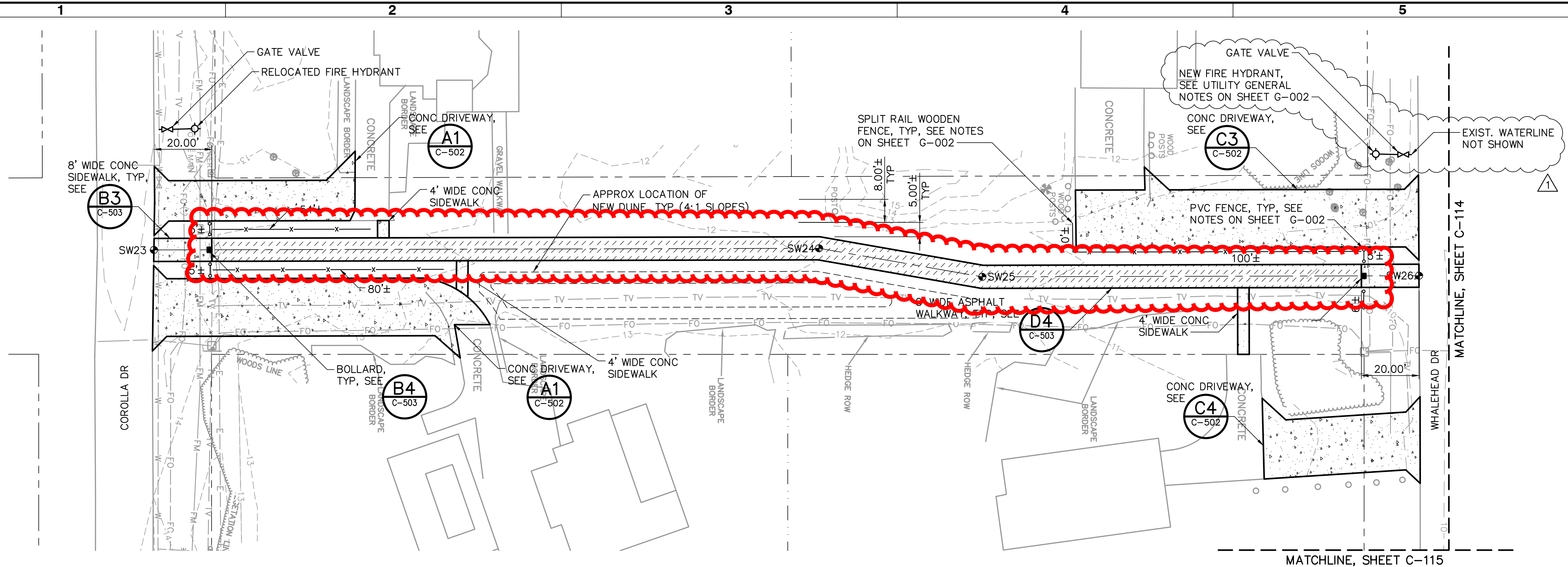
Designed by:	RS	Date:	JANUARY 2014
Dwn by:	BF	M&N Project No.:	6273-05
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	NOTED

**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626



Sheet Reference Number:  
**C-109**

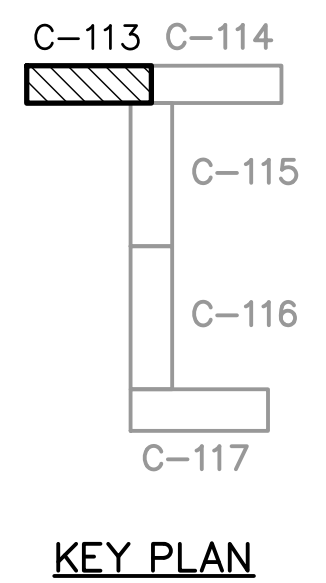




PERCH STREET LAYOUT PLAN

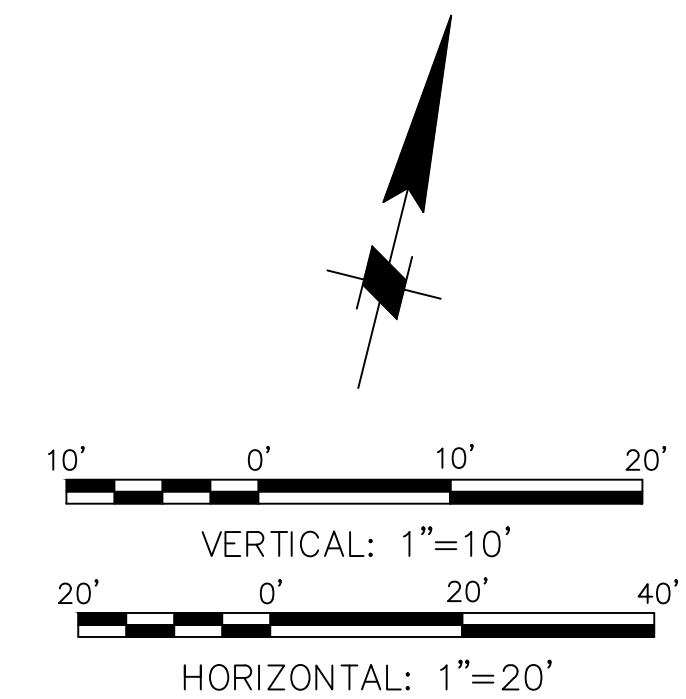
- NOTES:**
1. ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
  2. APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
  3. FOR PERCH STREET LANDSCAPING PLAN, SEE SHEET LS-103.
  4. MAINTAIN EXISTING VEGETATION IF POSSIBLE.

#SW		
WALKWAY CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
SW23	961910.55	2935937.41
SW24	961966.64	2936161.35
SW25	961970.67	2936218.75
SW26	962007.49	2936365.79



KEY PLAN

- LEGEND:**
- FM — PROPOSED FORCE MAIN
  - UD — PROPOSED 24"φ INFILTRATION PIPE
  - W — EXISTING WATER LINE
  - T — EXISTING TELEPHONE LINE
  - TV — EXISTING CABLE TV LINE
  - FO — EXISTING FIBER OPTIC LINE
  - E — EXISTING ELECTRIC LINE
  - - - - - APPROX EXISTING R/W LINE
  - - - - - APPROX EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



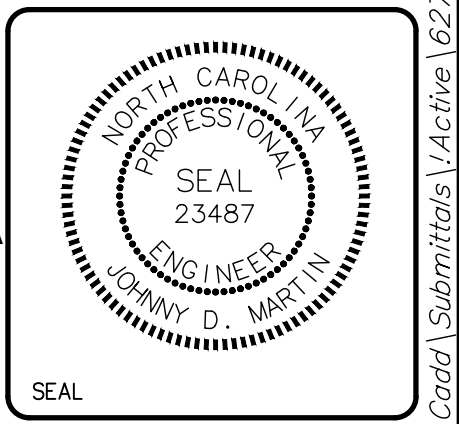
Issued For Construction	Date	Mark

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4**

**CIVIL PLAN AND PROFILE**

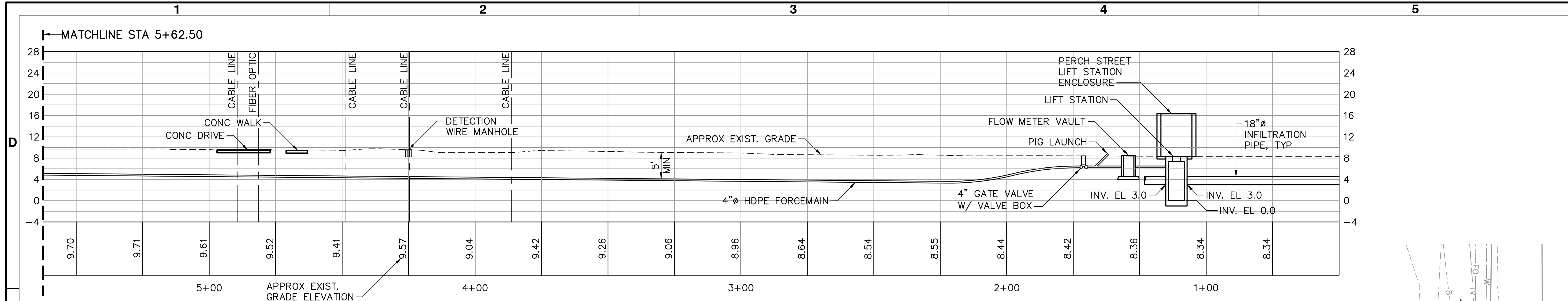
Designed by: RS	Date: JANUARY 2014	Rev.:
Dwn by: BF	M&N Project No: 6273-05	
Reviewed by: TR	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: NOTED	Plot scale: 1:1 (0 SHEET)

**moffatt & nichol**  
1616 EAST MILLBROOK RD, STE 160  
RALEIGH, NC 27609  
919-781-4626

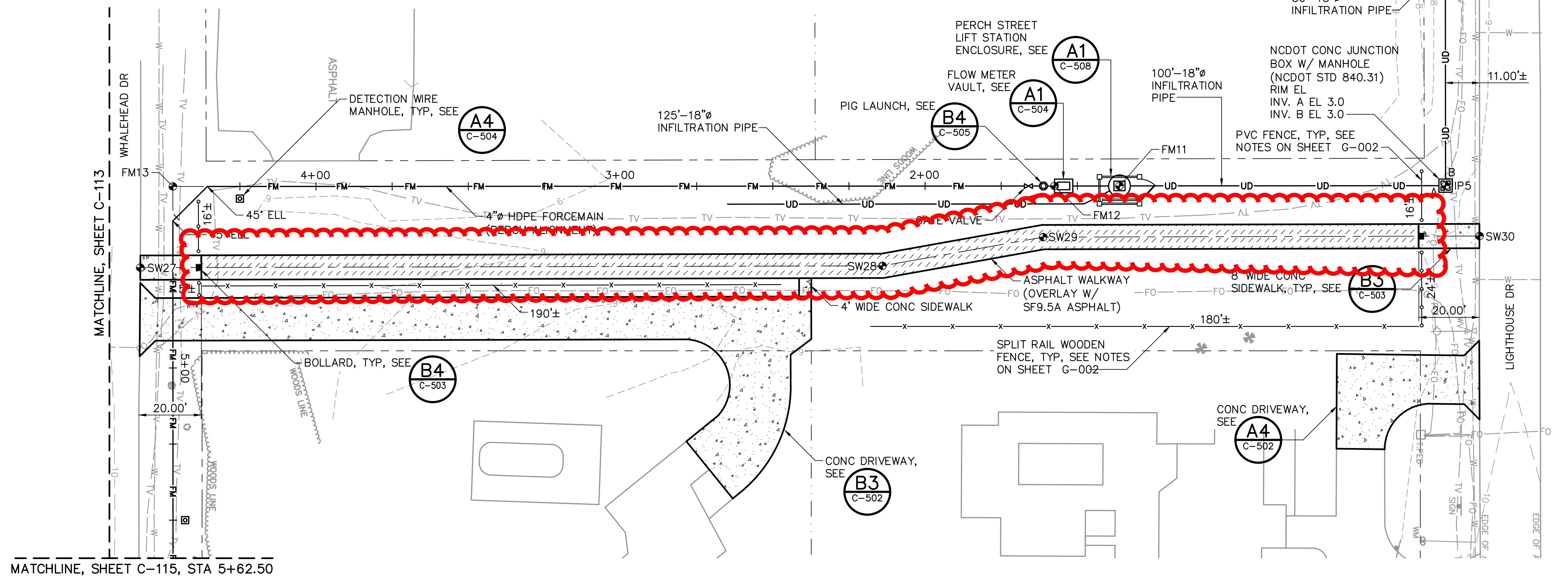


Sheet Reference Number:  
**C-113**





PERCH STREET FORCEMAIN PROFILE



PERCH STREET LAYOUT AND FORCEMAIN PLAN

#SW

WALKWAY CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
SW27	962012.48	2936385.71
SW28	962071.69	2936622.11
SW29	962093.55	2936671.08
SW30	962128.35	2936810.05

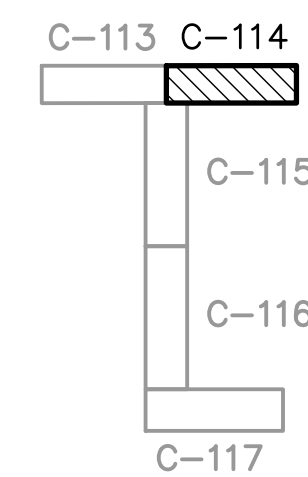
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FORCEMAIN CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
FM11	962115.90	2936691.34
FM12	962110.75	2936670.64
FM13	962040.94	2936389.67

- NOTES:
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
  - APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
  - FOR INFILTRATION PIPE INSTALLATION, SEE DETAIL A1, SHEET C-503.
  - FOR PERCH STREET LANDSCAPING PLAN, SEE SHEET LS-103.
  - MAINTAIN EXISTING VEGETATION IF POSSIBLE.

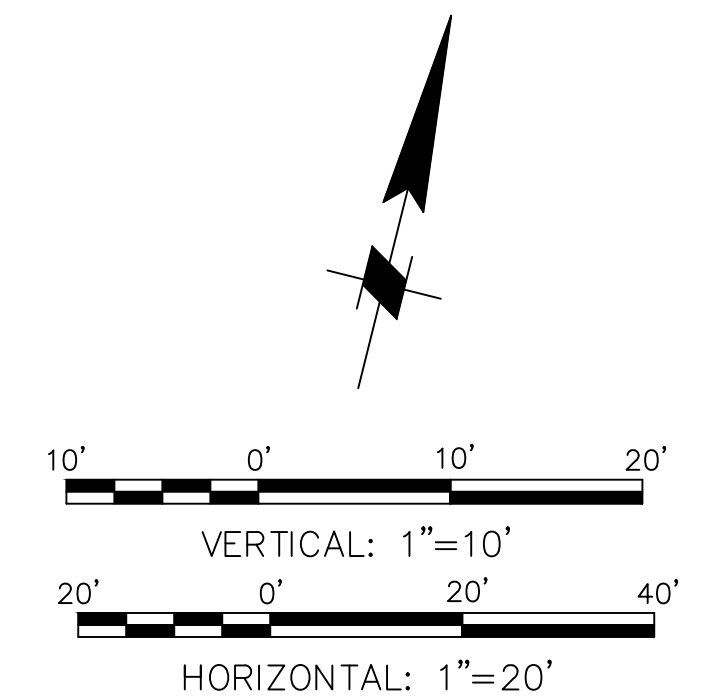
#P

INFILTRATION PIPE CONTROL POINT TABLE		
POINT No	NORTHING	EASTING
IP5	962141.73	2936795.24



KEY PLAN

- LEGEND:
- FM PROPOSED FORCEMAIN
  - UD PROPOSED 24" INFILTRATION PIPE
  - W EXISTING WATER LINE
  - T EXISTING TELEPHONE LINE
  - TV EXISTING CABLE TV LINE
  - FO EXISTING FIBER OPTIC LINE
  - E EXISTING ELECTRIC LINE
  - - - - - APPROX EXISTING R/W LINE
  - - - - - APPROX EXISTING PROPERTY LINE



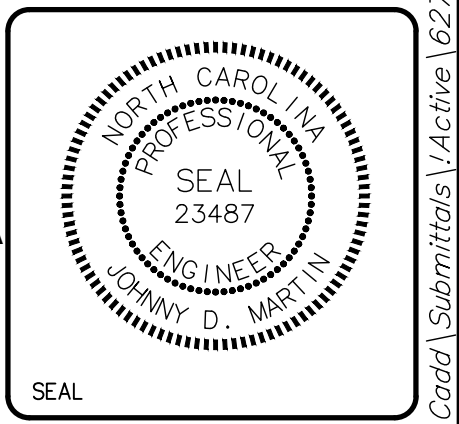
Rev.	Date	Description
1	JANUARY 2014	ISSUED FOR CONSTRUCTION

WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 4

CIVIL PLAN AND PROFILE

Designed by:	RS	Date:	JANUARY 2014
Dwn by:	BF	M&N Project No.:	6273-05
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	NOTED
		Plot scale:	1" = 10' (0 SHEET)

**moffatt & nichol**  
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Sheet Reference Number:  
**C-114**





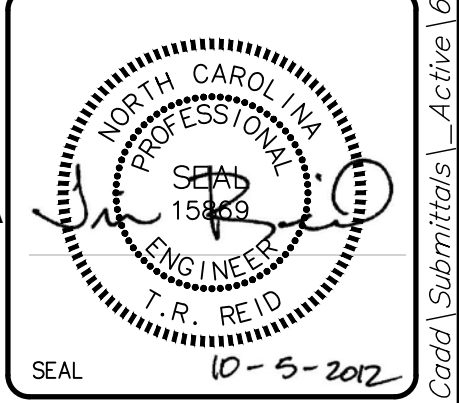
Rev.	Date	Description
1	12/18/10	ISSUED FOR CONSTRUCTION
2	10/19/11	ADDENDUM 1

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

**CIVIL PLAN AND PROFILE**

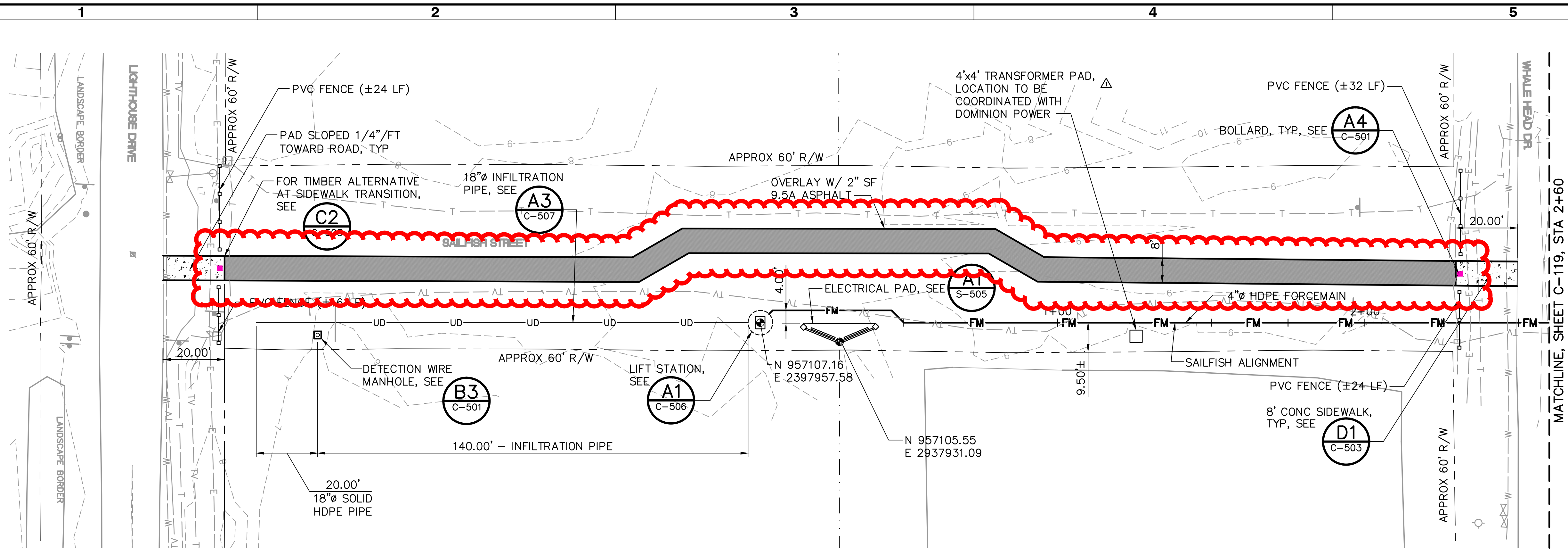
Designed by:	RS	Date:	OCTOBER 2012
Dwn by:	BDF	M&N Project No.:	6273-04
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	NOTED
		Plot scale:	1" = 10' (0 SHEET)

**moffatt & nichol**  
1616 EAST MILLBROOK RD., STE 160  
RALEIGH, NC 27609  
919-781-4626

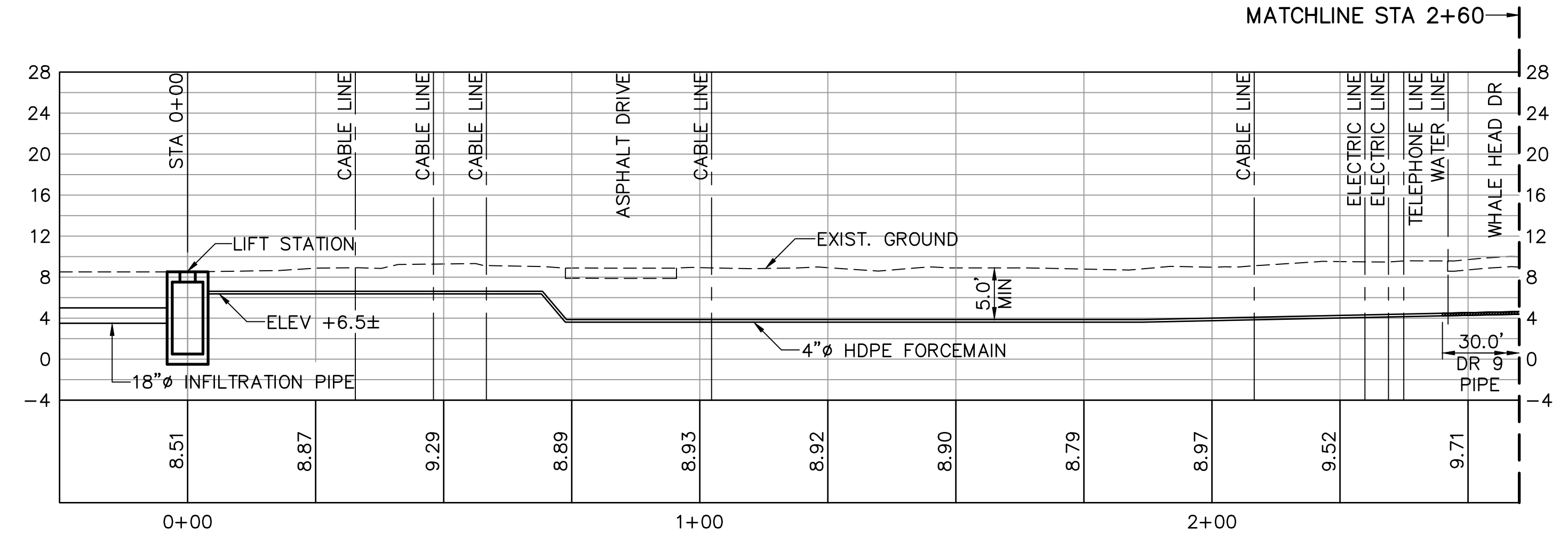


Sheet Reference Number:  
**C-118**

File: P:\16273-04\Cadd\Submittals\_Active\627304-C118; Plotted: 12/20/2012 3:48 PM by SMITH, RYAN; Saved: 12/18/2012 4:07 PM by BFORD



**SAILFISH STREET**



**PROFILE ALONG SAILFISH STREET**

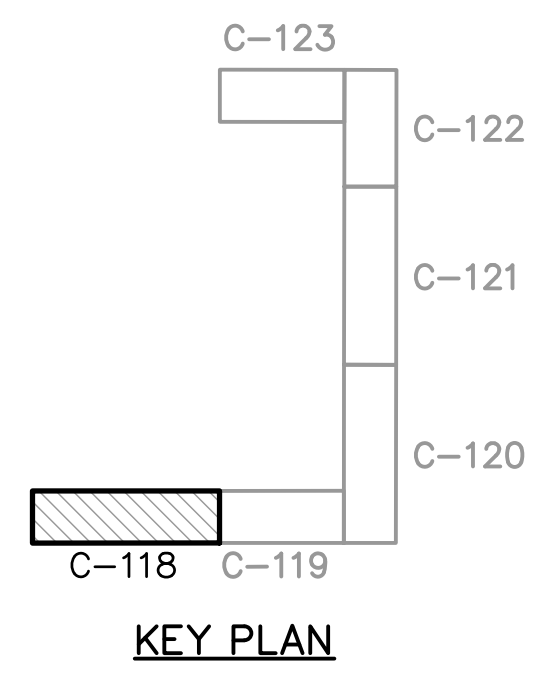
**SAILFISH**

**ADDITIVE BID:** REMOVE ALL ASPHALT PAVEMENT AND INSTALL TIMBER WALKWAY. FOR WALKWAY, SEE **A1** C-508

COORDINATE ELEVATIONS OF TIMBER WALKWAY WITH ENGINEER.

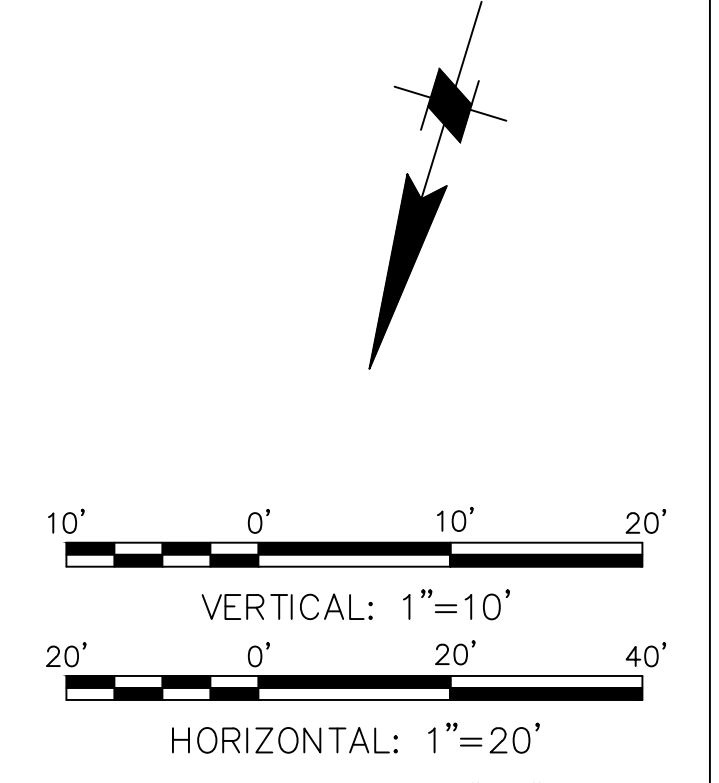
**NOTES:**

- FOR INFILTRATION PIPE INSTALLATION, SEE DETAIL A3, SHEET C-507.
- FOR LANDSCAPING PLAN, SEE SHEET LS-101.
- MAINTAIN EXISTING VEGETATION IF POSSIBLE.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
- DOMINION POWER TRANSFORMER BY OTHERS.
- PAVEMENT PATCH SHALL BE NCDOT ASPHALT SF 9.5A, SEE DETAIL ON SHEET C-503.
- ELEVATIONS ARE CENTERLINE OF PIPE.
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.



**LEGEND:**

- FM** PROPOSED FORCEMAIN
- UD** PROPOSED INFILTRATION PIPE
- W** EXISTING WATER LINE
- T** EXISTING TELEPHONE LINE
- TV** EXISTING CABLE TV LINE
- FO** EXISTING FIBER OPTIC LINE
- E** EXISTING ELECTRIC LINE
- R/W** EXISTING R/W LINE
- EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING





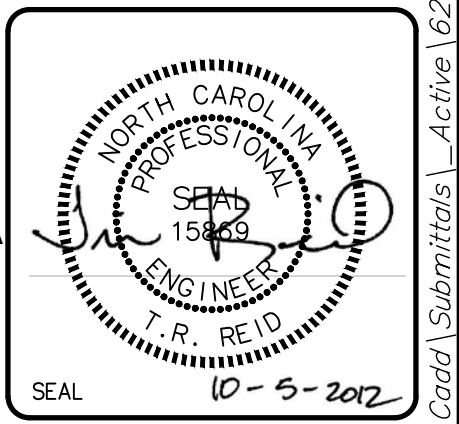
Rev.	Date	Description
1	12/18	ISSUED FOR CONSTRUCTION

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

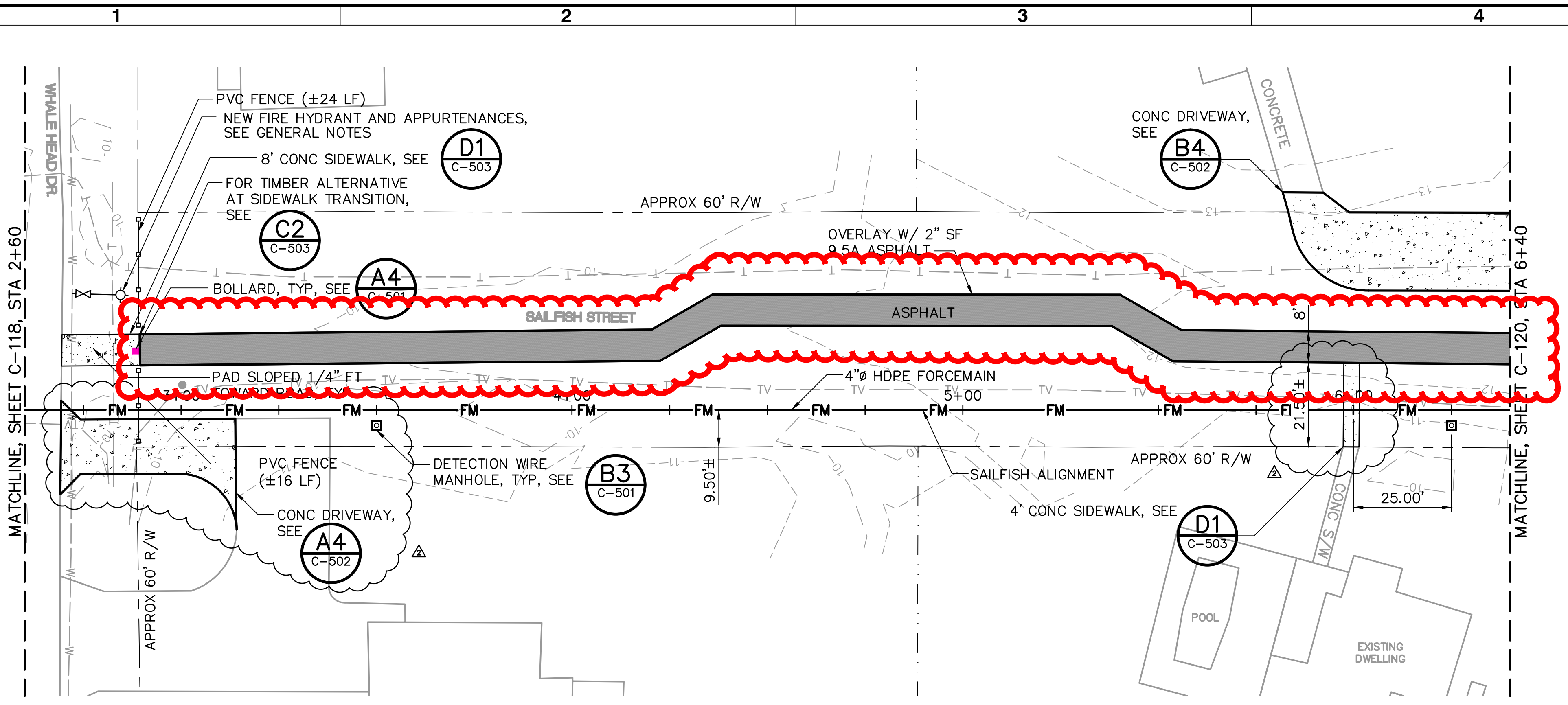
**CIVIL PLAN AND PROFILE**

Designed by:	RS	Date:	OCTOBER 2012
Dwn by:	BDF	M&N Project No.:	6273-04
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	NOTED
		Plot scale:	1" = 10' (0 SHEET)

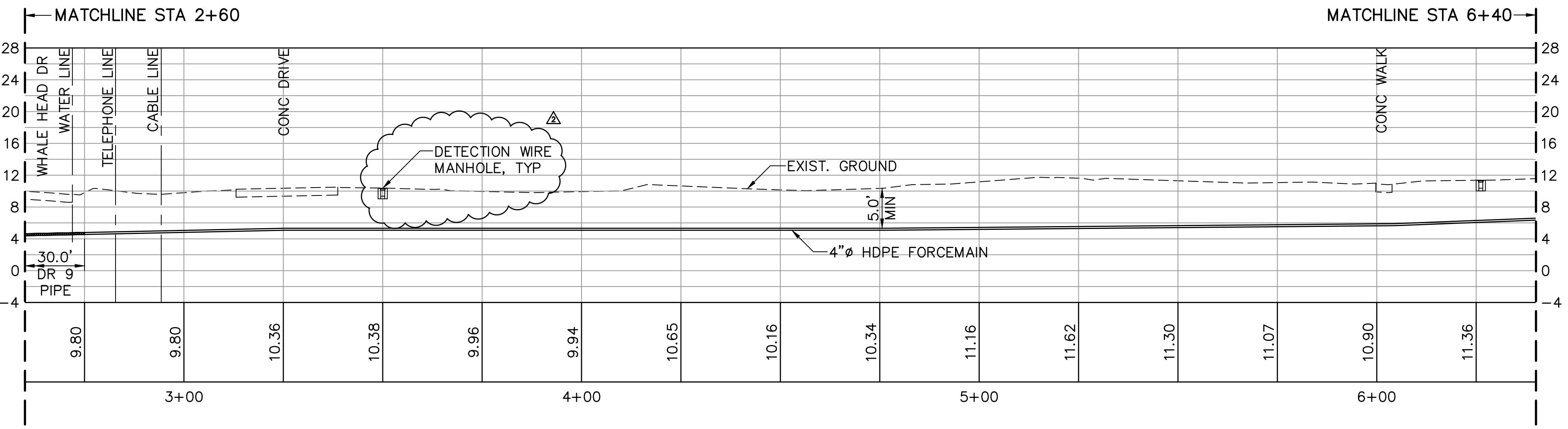
**moffatt & nichol**  
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Sheet Reference Number:  
**C-119**



**SAILFISH STREET**



**PROFILE ALONG SAILFISH STREET**

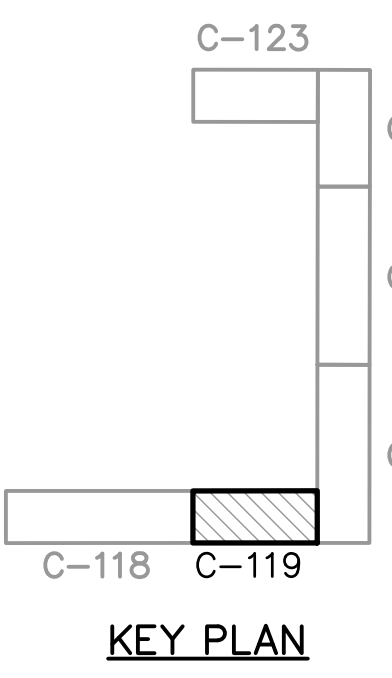
**SAILFISH**

ADDITIVE BID: REMOVE ALL ASPHALT PAVEMENT AND INSTALL TIMBER WALKWAY. FOR WALKWAY, SEE **A1** C-508

COORDINATE ELEVATIONS OF TIMBER WALKWAY WITH ENGINEER.

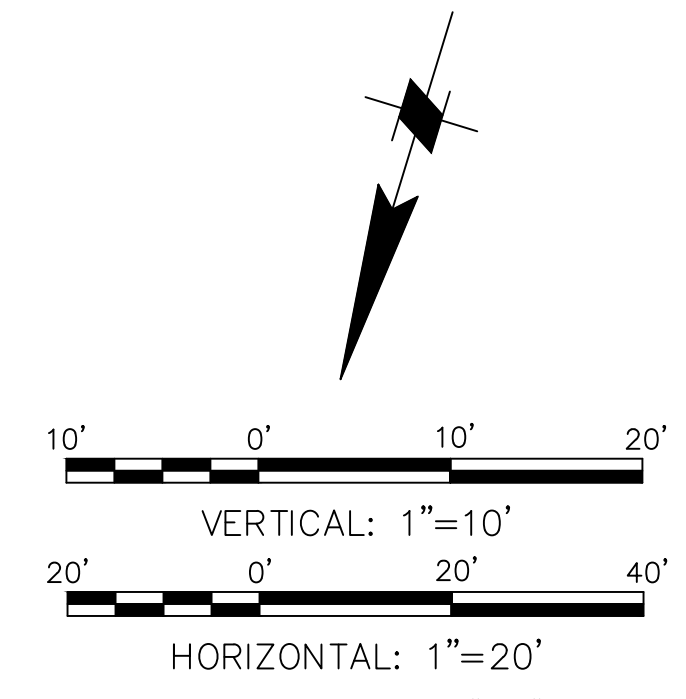
**NOTES:**

- FOR INFILTRATION PIPE INSTALLATION, SEE DETAIL A1, SHEET C-507.
- FOR LANDSCAPING PLAN, SEE SHEET LS-101.
- MAINTAIN EXISTING VEGETATION IF POSSIBLE.
- APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.
- DOMINION POWER TRANSFORMER BY OTHERS.
- PAVEMENT PATCH SHALL BE NCDOT ASPHALT SF 9.5A, SEE DETAIL ON SHEET C-503.
- ELEVATIONS ARE CENTERLINE OF PIPE.
- ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.



**LEGEND:**

- FM** PROPOSED FORCEMAIN
- UD** PROPOSED INFILTRATION PIPE
- W** EXISTING WATER LINE
- T** EXISTING TELEPHONE LINE
- TV** EXISTING CABLE TV LINE
- FO** EXISTING FIBER OPTIC LINE
- E** EXISTING ELECTRIC LINE
- EXISTING R/W LINE
- EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING





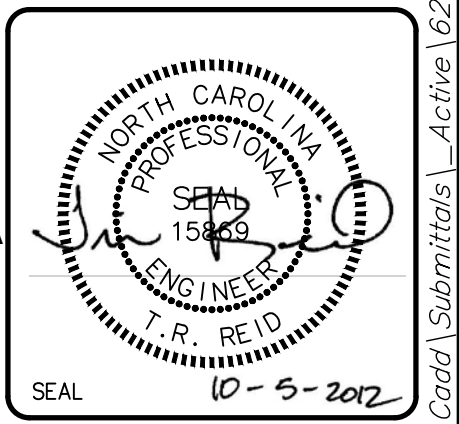
Rev.	Date	By	Appr.

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

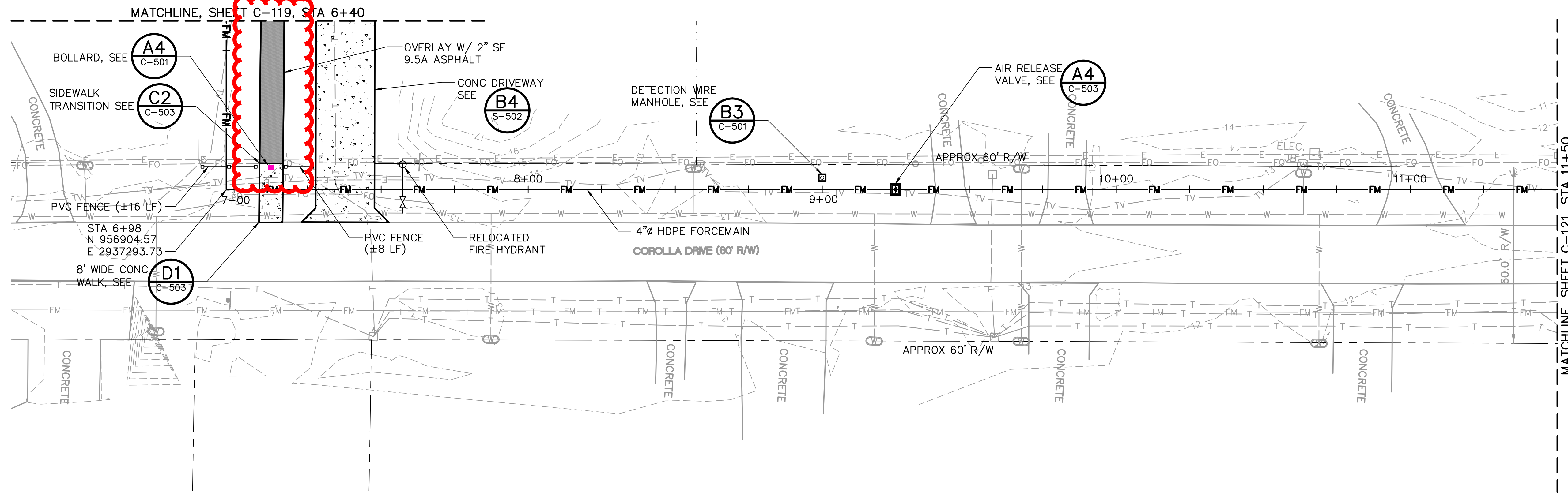
**CIVIL PLAN AND PROFILE**

Designed by: RS	Date: OCTOBER 2012	Rev.:
Dwn by: BDF	M&N Project No: 6273-04	
Reviewed by: TR	Drawing code:	
Submitted by: MOFFATT & NICHOL	Drawing Scale: NOTED	Plot scale: 1" = 10' (SEE SHEET)

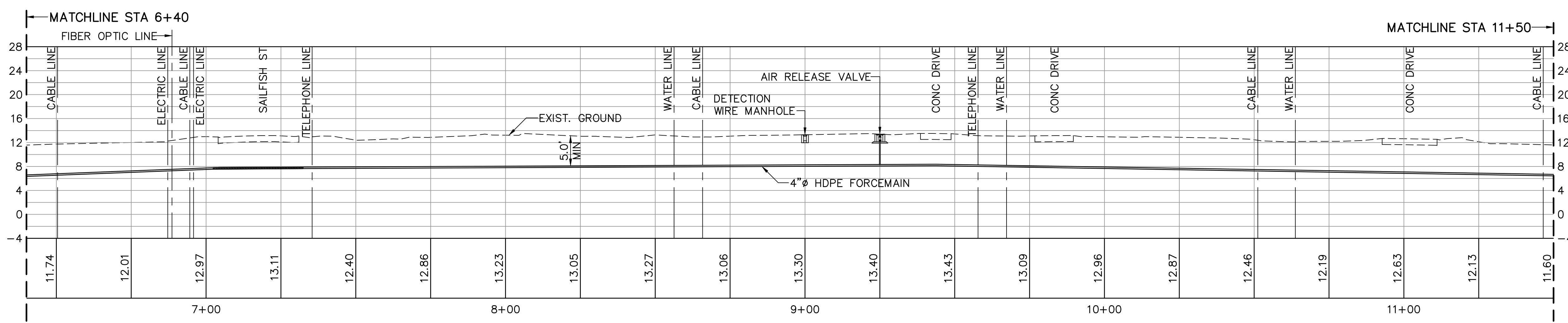
**moffatt & nichol**  
1616 EAST MILLBROOK RD., STE 160  
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919-781-4626



Sheet Reference Number:  
**C-120**



**SAILFISH STREET AND COROLLA FORCEMAIN PLAN**



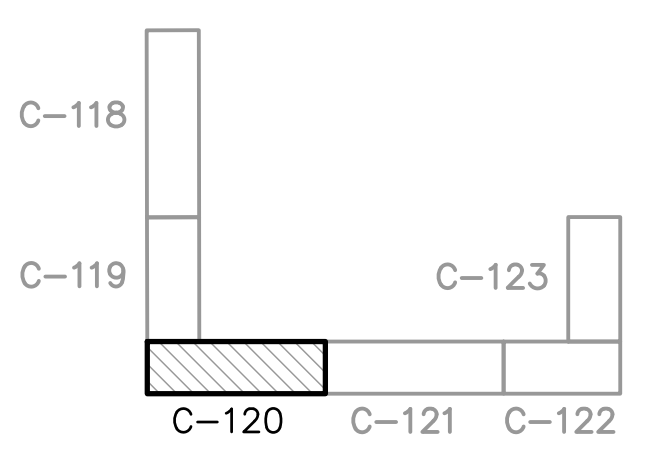
**SAILFISH STREET AND COROLLA FORCEMAIN PROFILE**

- NOTES:**
- ELEVATIONS ARE CENTERLINE OF PIPE.
  - ALIGNMENT APPROXIMATE AND CAN BE ADJUSTED TO FIT FIELD CONDITIONS.
  - APPROXIMATE LOCATIONS OF EXISTING UTILITIES SHOWN, ELEVATIONS UNKNOWN. CONTRACTOR TO VERIFY.

**SAILFISH**

ADDITIVE BID: REMOVE ALL ASPHALT PAVEMENT AND INSTALL TIMBER WALKWAY. FOR WALKWAY, SEE **A1** C-508

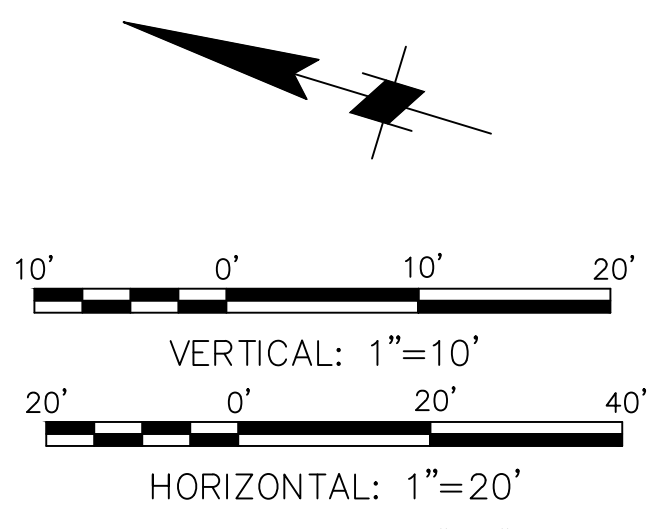
COORDINATE ELEVATIONS OF TIMBER WALKWAY WITH ENGINEER.



**KEY PLAN**

**LEGEND:**

- FM** PROPOSED FORCEMAIN
- UD** PROPOSED INFILTRATION PIPE
- W** EXISTING WATER LINE
- T** EXISTING TELEPHONE LINE
- TV** EXISTING CABLE TV LINE
- FO** EXISTING FIBER OPTIC LINE
- E** EXISTING ELECTRIC LINE
- EXISTING R/W LINE
- EXISTING PROPERTY LINE



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

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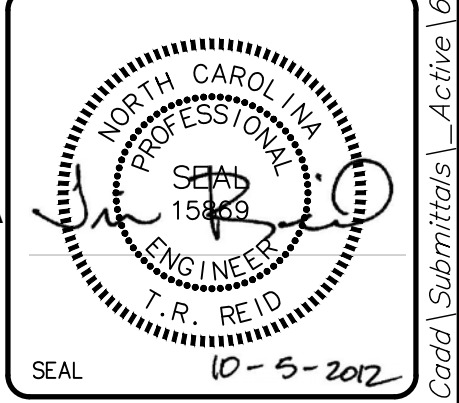
Rev.	Date	Description	Work
1	12/18	ISSUED FOR CONSTRUCTION	JM

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

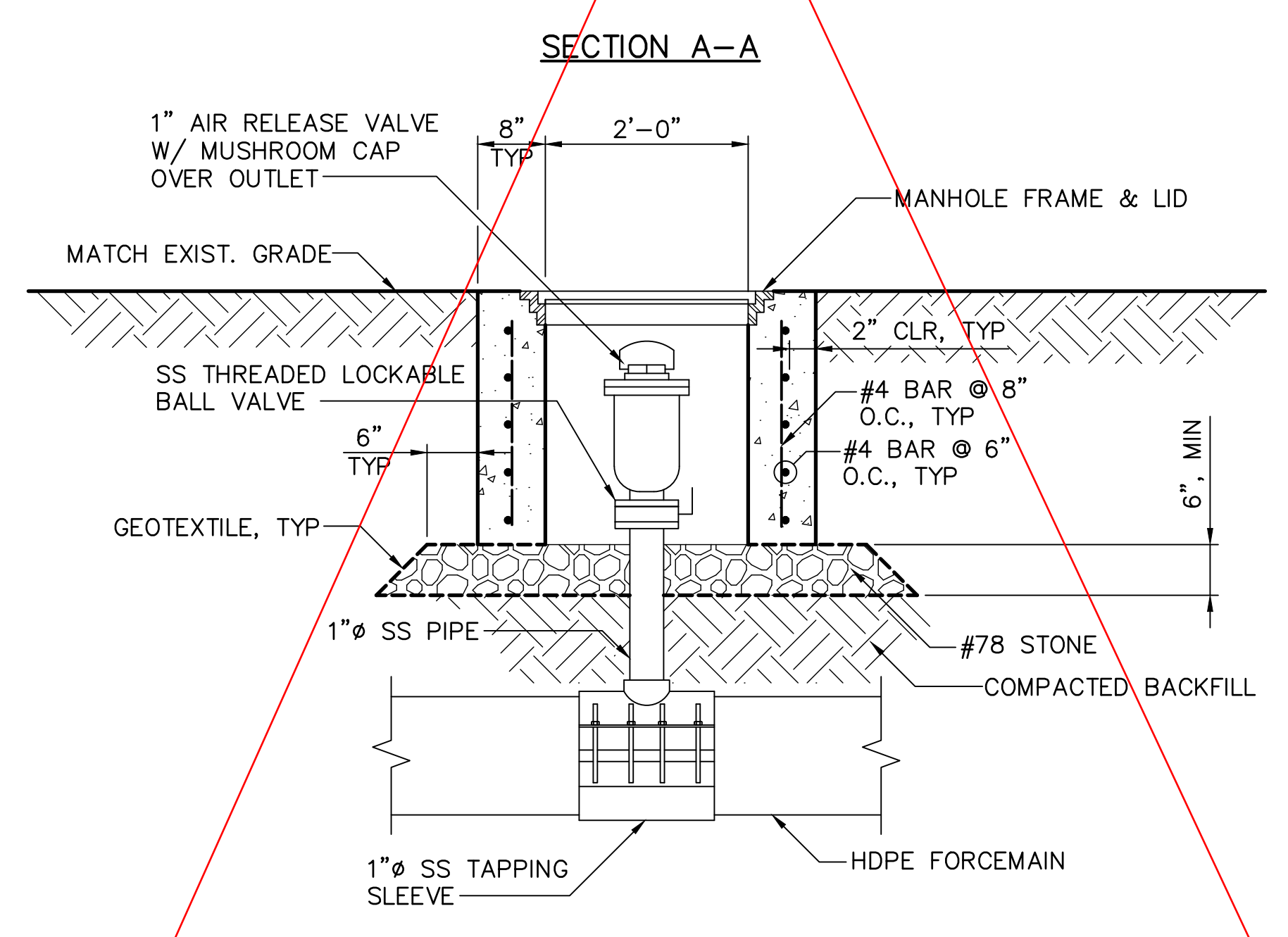
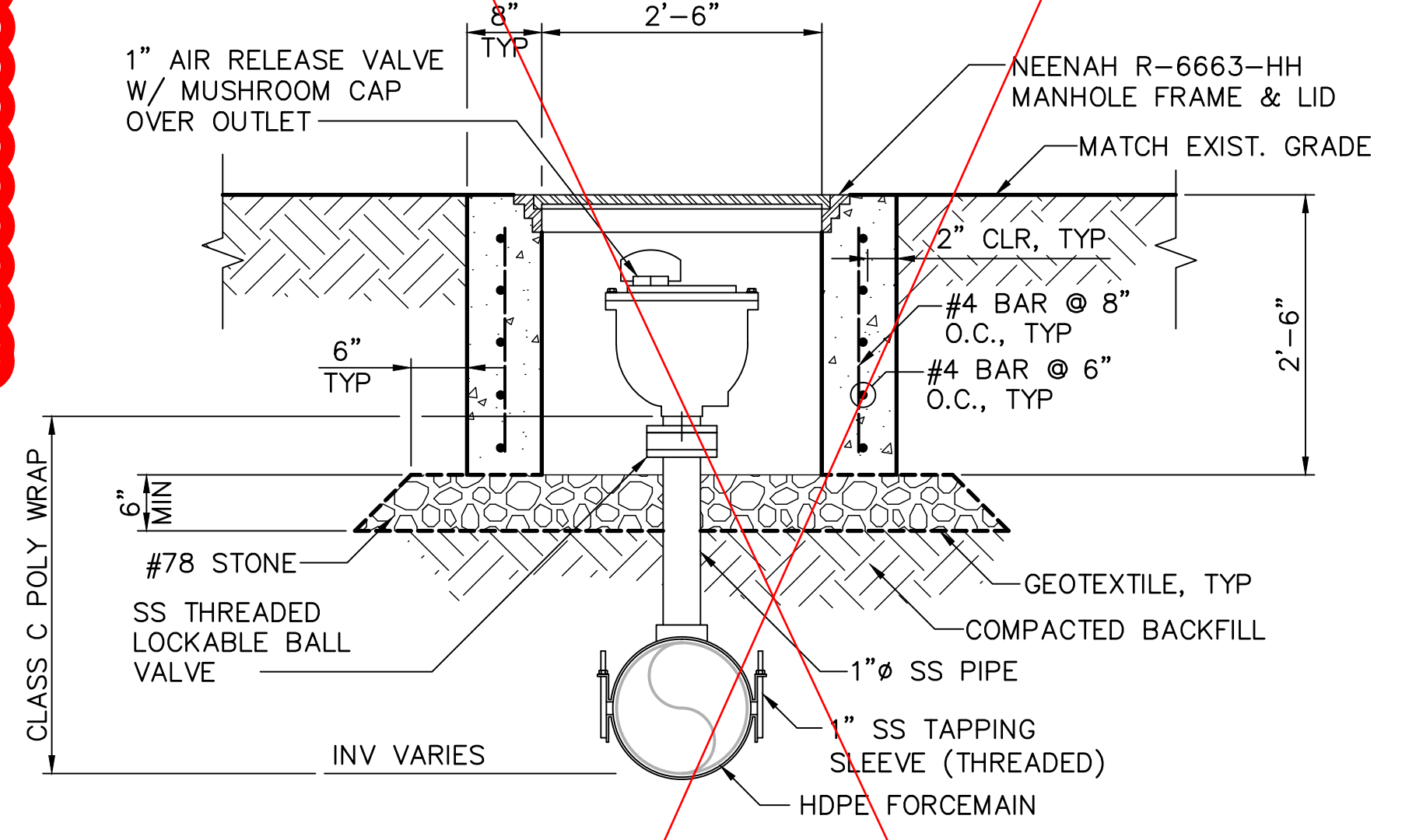
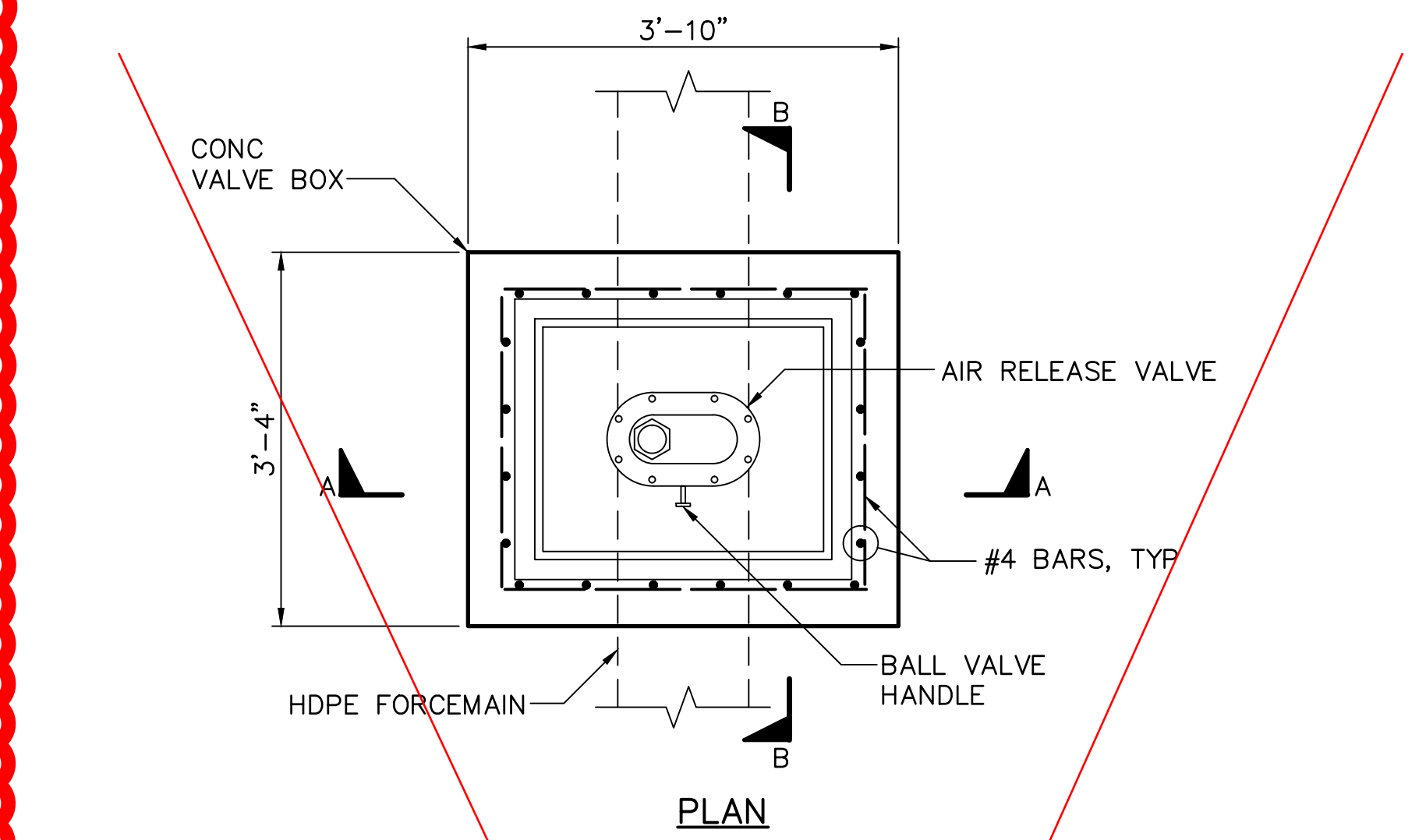
CIVIL DETAILS

Designed by:	RS	Checked by:	JM
Dwn by:	BDF	Reviewed by:	TR
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	NOTED
Date:	OCTOBER 2012	M&N Project No.:	6273-04
Plot scale:	1:1 (D SHEET)	Drawing code:	

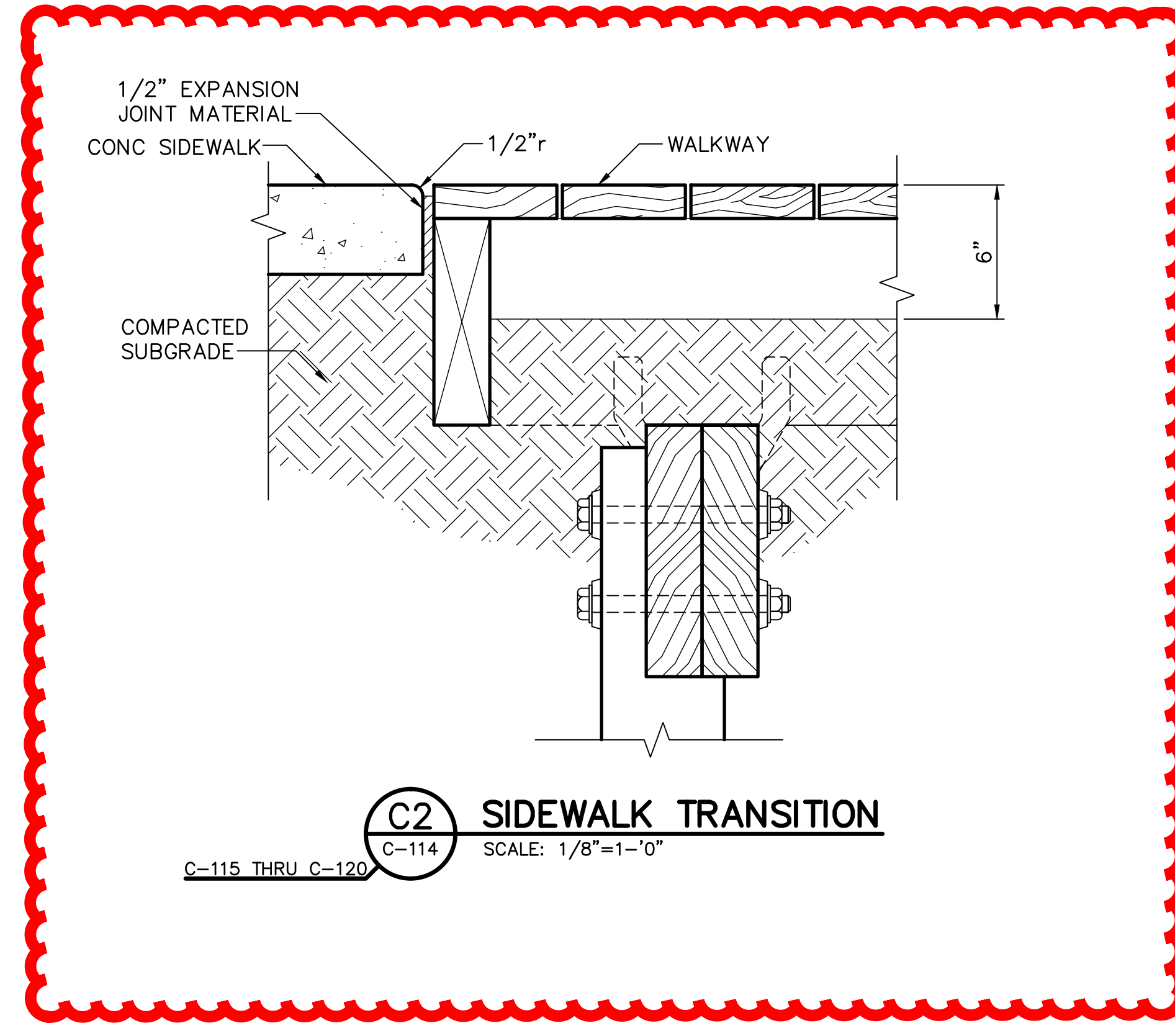
**moffatt & nichol**  
1616 EAST MILLBROOK RD., STE. 160  
RALEIGH, NC 27609  
919-781-4626



Sheet Reference Number:  
**C-503**



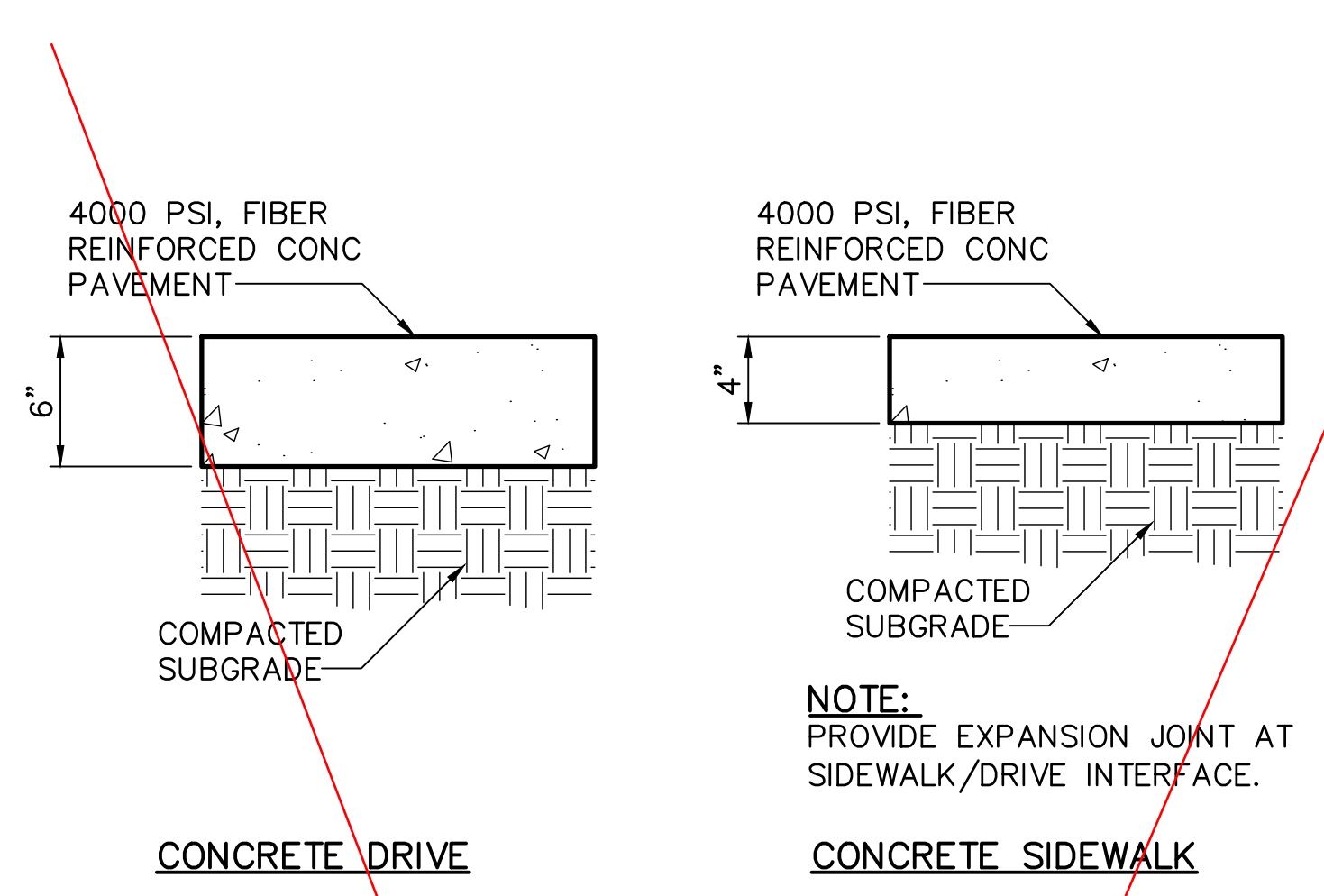
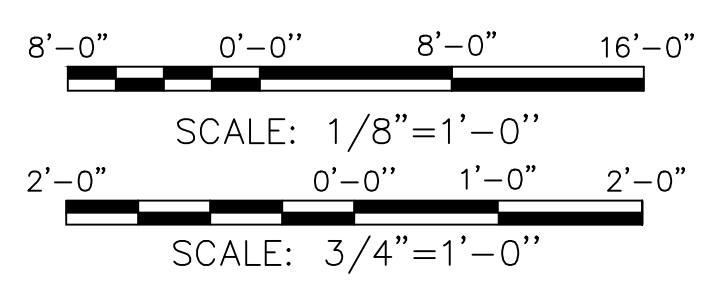
**A4 AIR RELEASE VALVE**  
C-103 SCALE: 3/4"=1'-0"



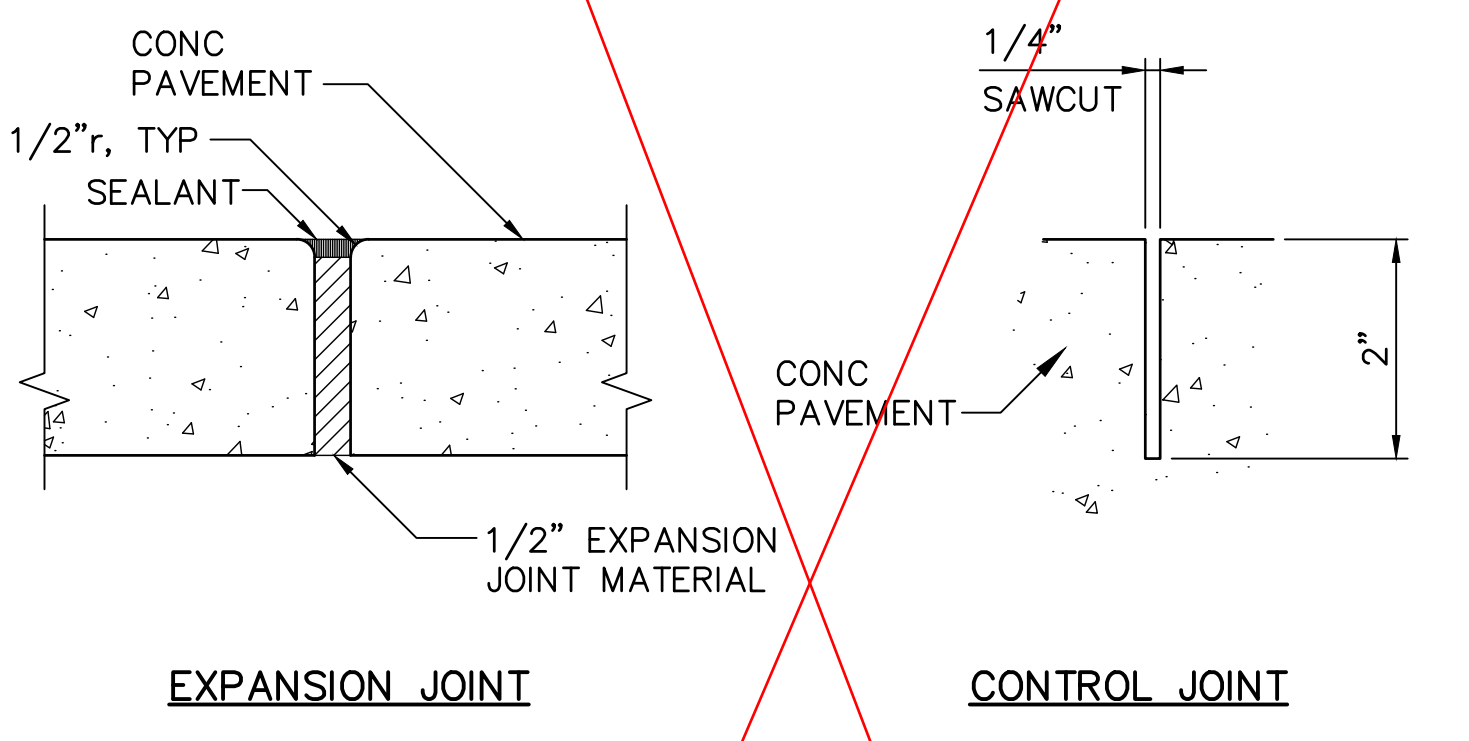
**C2 SIDEWALK TRANSITION**  
C-115 THRU C-120 SCALE: 1/8"=1'-0"

**AIR RELEASE VALVE MATERIAL & INSTALLATION NOTES**

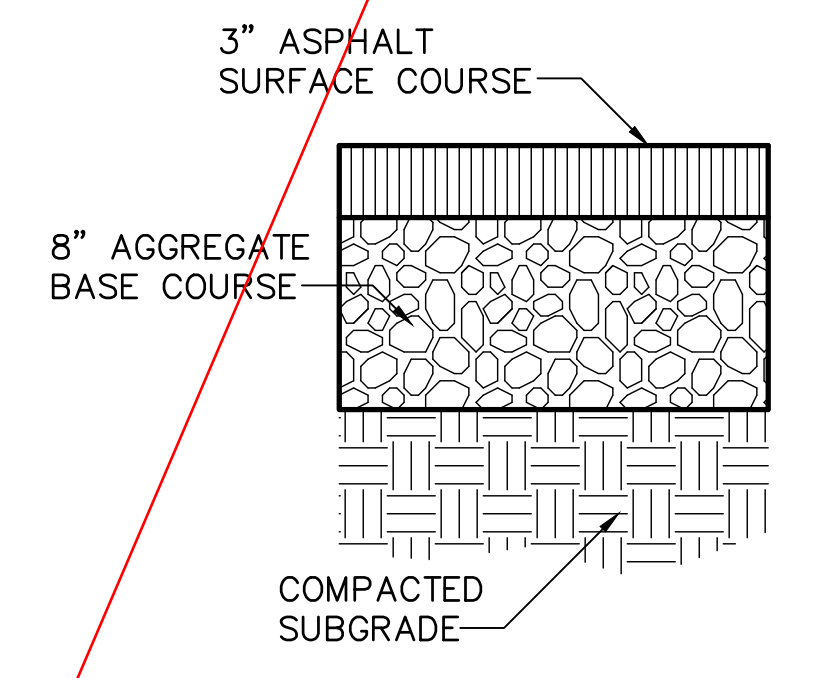
- APPROVAL REQUIREMENTS**
- ALL MATERIALS UTILIZED SHALL BE SUBMITTED TO THE ENGINEER/OWNER FOR APPROVAL PRIOR TO INSTALLATION.
- BOX & COVER REQUIREMENTS**
- BOX & COVER SHALL BE RATED FOR HS-20 LOADING
  - CONCRETE FOR BOX SHALL BE 4000 PSI MIN
  - COVER SHALL BE "T" HINGED AND VENTED
  - COVERS SHALL HAVE 4 SS BOLTS TO SECURE LID
- SS PIPE REQUIREMENTS**
- ALL PIPE SHALL BE STAINLESS STEEL.
  - PIPE EXTERIOR SHALL BE WRAPPED WITH CLASS "C" POLY WRAP TO THE LIMITS INDICATED ON THE DRAWINGS
- AIR RELEASE VALVE REQUIREMENTS**
- AIR RELEASE VALVES SHALL HAVE 1" INLET AND BE THREADED. BODY SHALL BE EPOXY STAINLESS STEEL
  - INTERNAL COMPONENTS SHALL BE MANUFACTURED OF CORROSION RESISTANT MATERIALS
  - VALVES SHALL MEET ANSI/AWWA C512-04
- BALL VALVE REQUIREMENTS**
- DUE TO INTERIOR CONSTRAINTS, VALVE HANDLE WILL HAVE TO POINT IN THE DIRECTION OF FLOW FROM THE STEM TO TIP OF HANDLE AND IT SHALL BE MARKED AS SUCH
  - BODY SHALL BE STAINLESS STEEL AND BE THREADED.
  - VALVE HANDLE OFFSET SHALL ALLOW HANDLE TO CLEAR VALVE
- CONNECTION REQUIREMENTS**
- ALL CONNECTIONS SHALL BE ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS



**D1 CONCRETE PAVEMENT**  
C-114 SCALE: 1/8"=1'-0"



**B1 JOINT DETAILS**  
C-502



NOTE:  
SEE PAVEMENT GENERAL NOTES ON SHEET G-002 FOR ADDITIONAL INFORMATION.

**A1 PAVEMENT PATCH**  
C-114 SCALE: 1/8"=1'-0"

C-115, C-116, C-117

C-105, C-110, C-112, C-120, C-121

DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING

File: P:\6273-04\Cadd\Submittals\Active\627304-C503; Plotted: 12/20/2012 3:54 PM by SMITH, RYAN; Saved: 12/18/2012 2:47 PM by BFORD





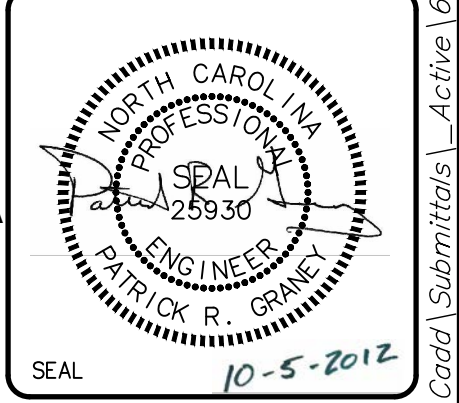
ISSUED FOR CONSTRUCTION	Date
12/18	JM
APPROVED	Date
12/18	JM
APPROVED	Date
12/18	JM

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

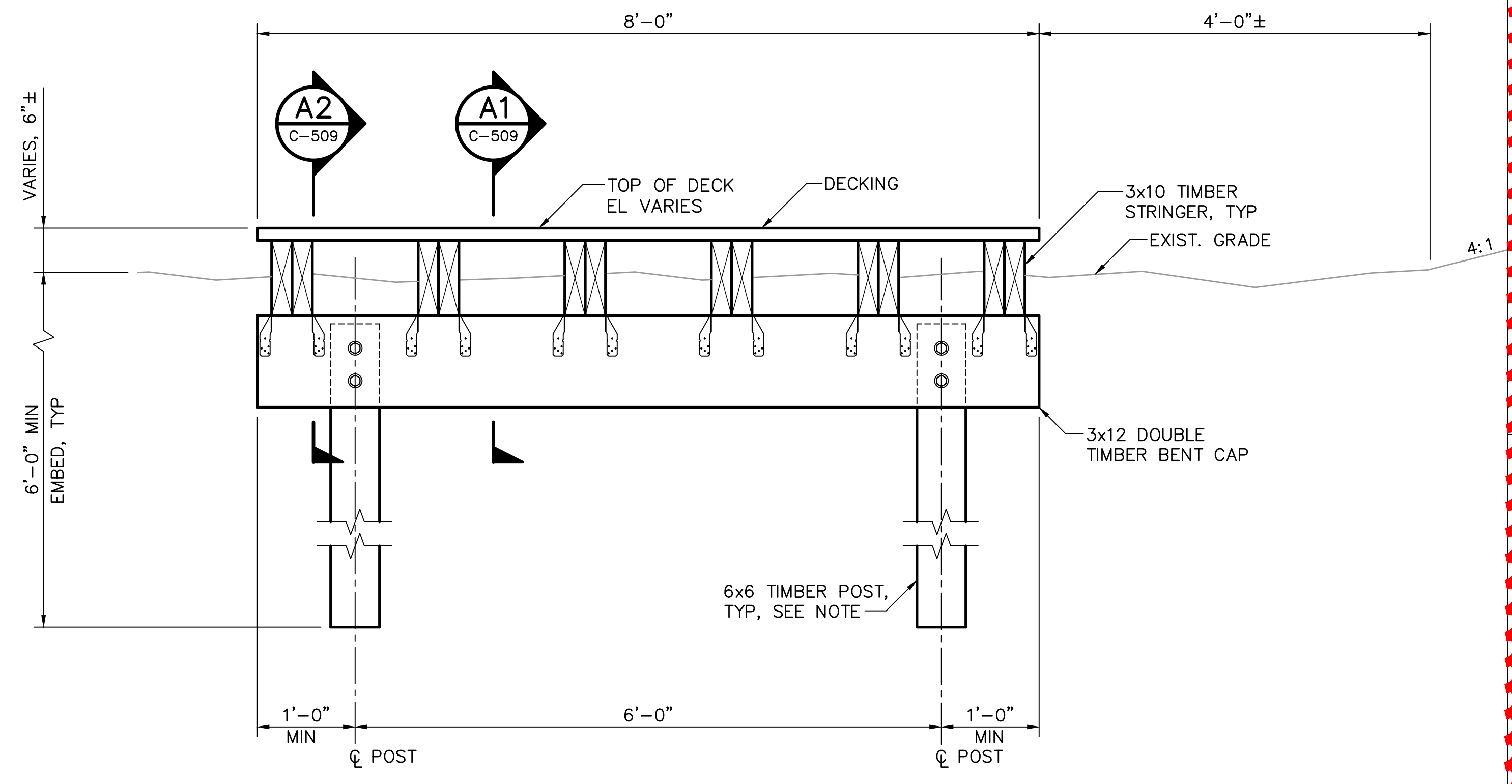
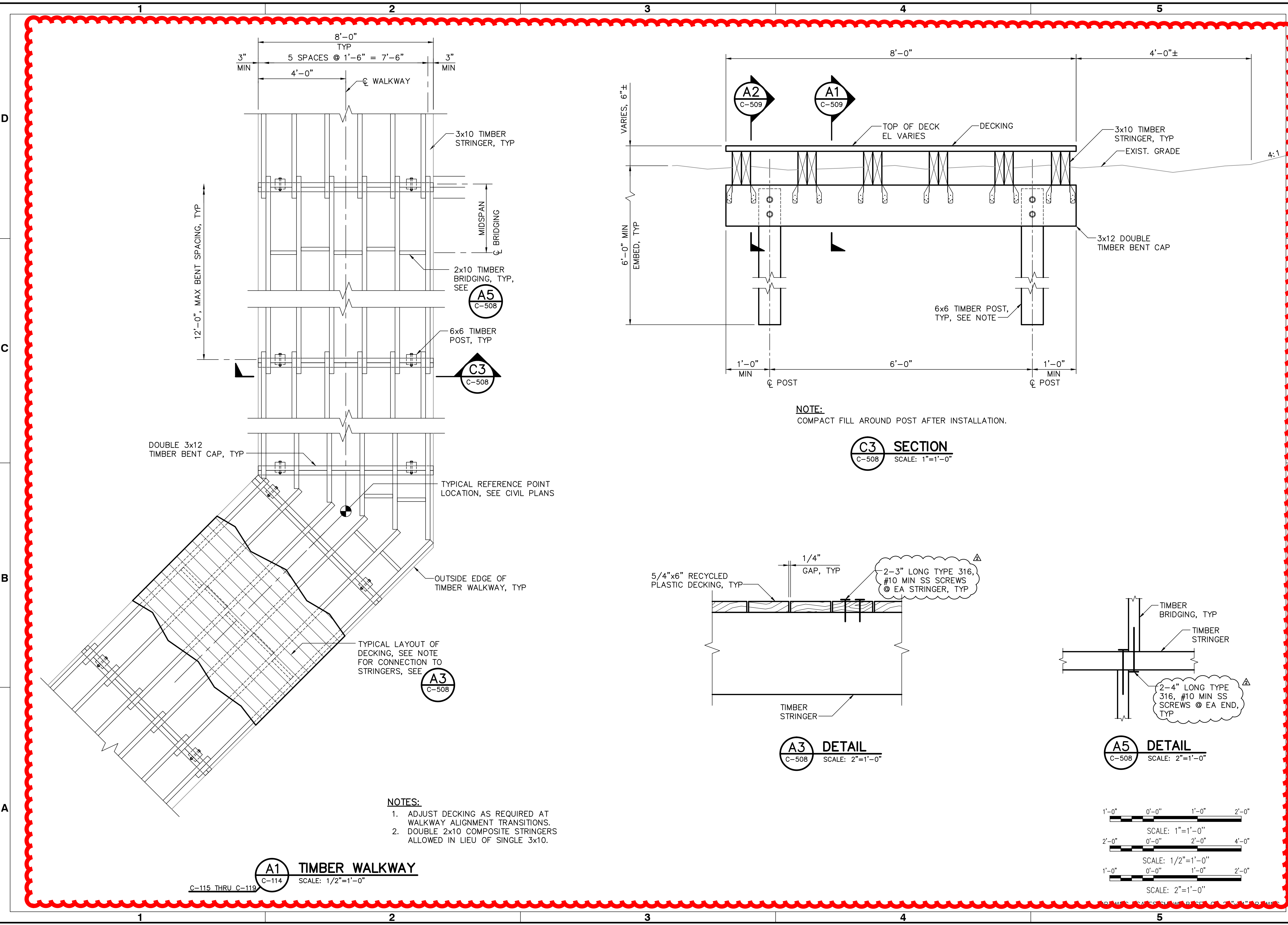
**CIVIL DETAILS**

Designed by:	PG	Checked by:	JM	Reviewed by:	TR	Submitted by:	MOFFATT & NICHOL
Dwn by:	BF	M&N Project No.:	6273-04	Drawing code:		Drawing Scale:	NOTED
Date:	OCTOBER 2012	Plot scale:	1:1 (D SHEET)				

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RALEIGH, NC 27609  
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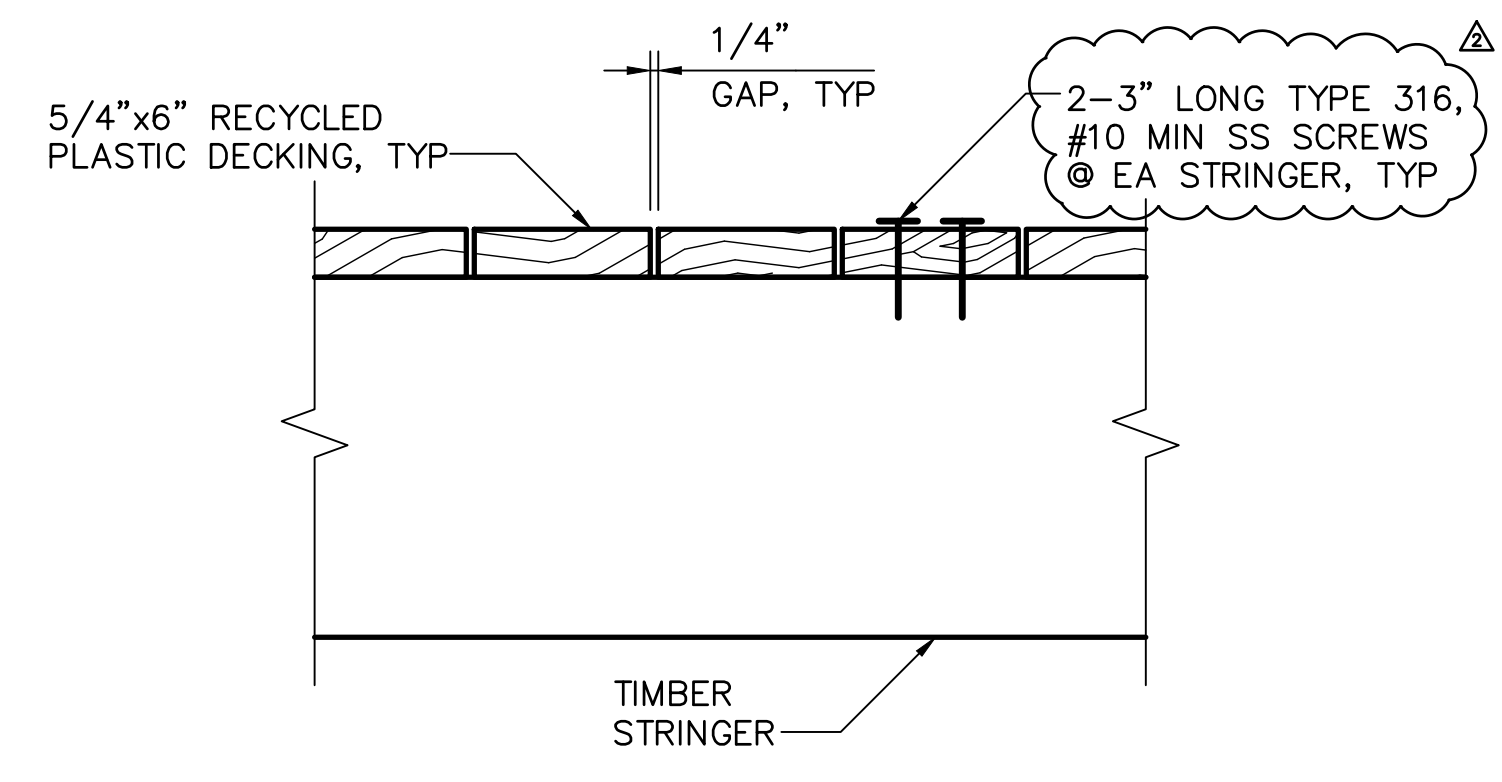


Sheet Reference Number:  
**C-508**

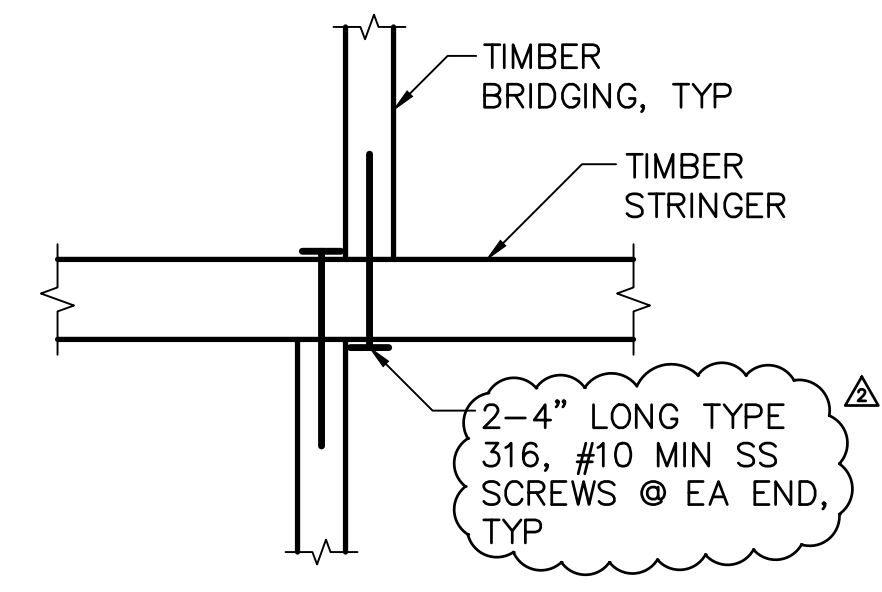


**NOTE:**  
COMPACT FILL AROUND POST AFTER INSTALLATION.

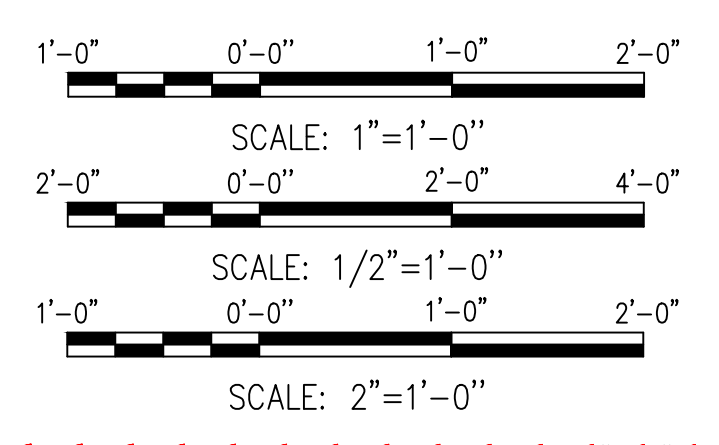
**C3 SECTION**  
SCALE: 1"=1'-0"



**A3 DETAIL**  
SCALE: 2"=1'-0"



**A5 DETAIL**  
SCALE: 2"=1'-0"



- NOTES:**
- ADJUST DECKING AS REQUIRED AT WALKWAY ALIGNMENT TRANSITIONS.
  - DOUBLE 2x10 COMPOSITE STRINGERS ALLOWED IN LIEU OF SINGLE 3x10.

**A1 TIMBER WALKWAY**  
SCALE: 1/2"=1'-0"

C-115 THRU C-119

File: P:\6273-04 [Code] Submittals [Active] 627304-C508; Plotted: 12/20/2012 3:55 PM by SMITH, RYAN; Saved: 12/18/2012 3:43 PM by BFORD

1

2

3

4

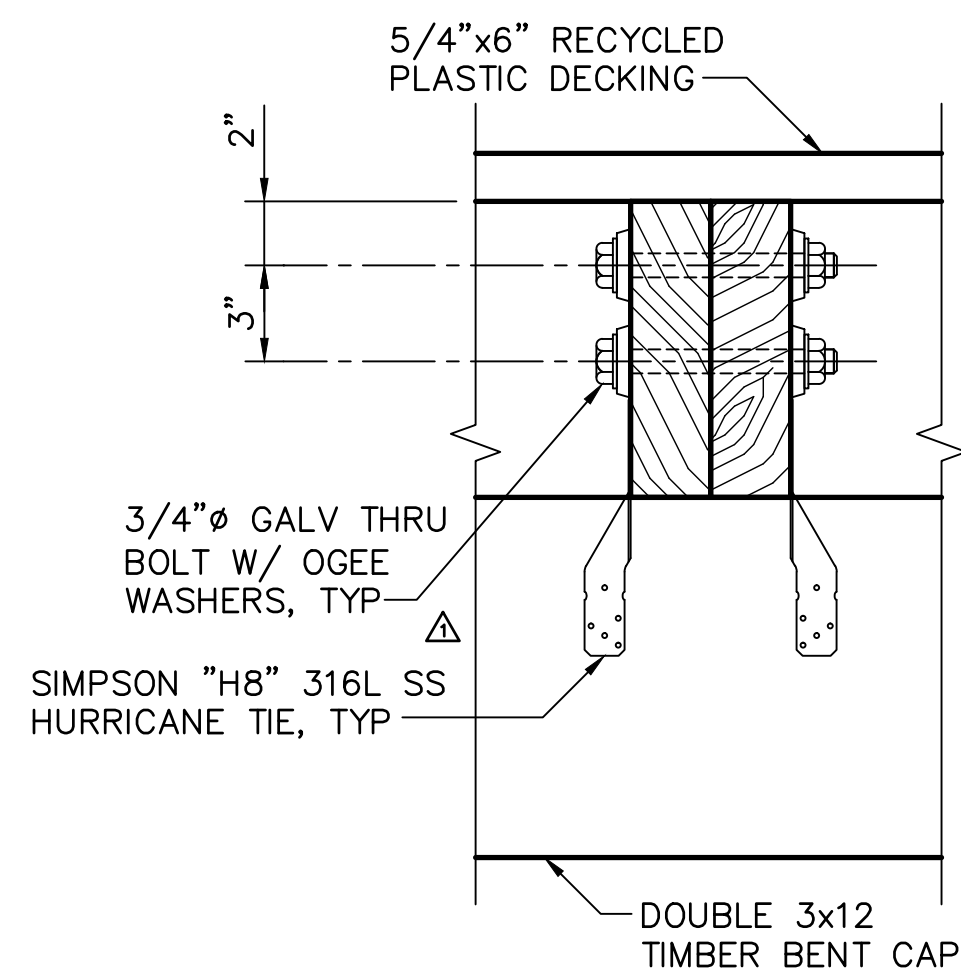
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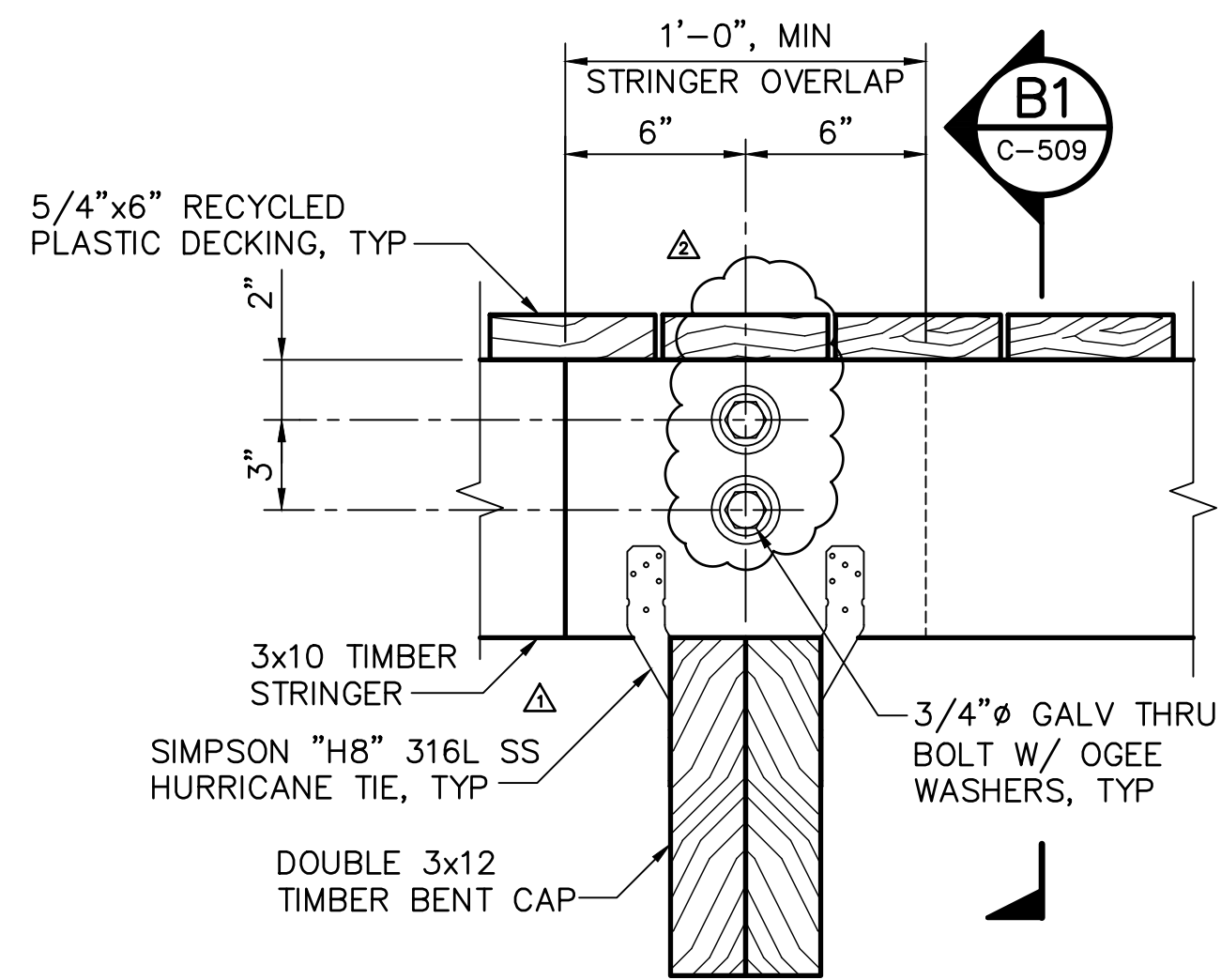
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B

A

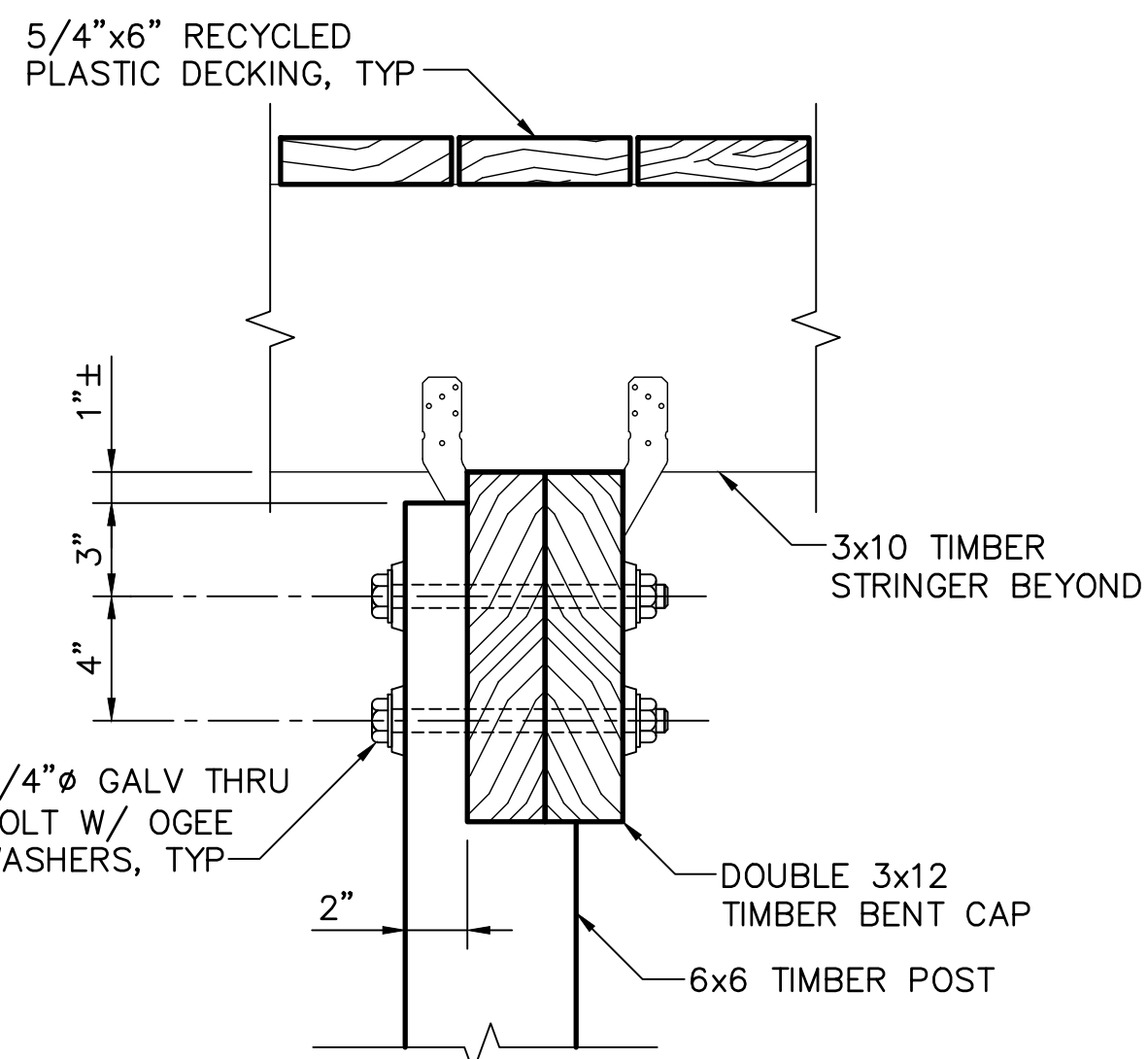


**B1 SECTION**  
C-509 SCALE: 2"=1'-0"

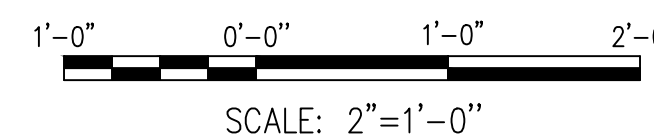


**A1 SECTION**  
C-508 SCALE: 2"=1'-0"

**NOTE:**  
DOUBLE 2x10 COMPOSITE STRINGERS  
ALLOWED IN LIEU OF SINGLE 3x10.



**A2 SECTION**  
C-508 SCALE: 2"=1'-0"



DRAWING SCALES SHOWN BASED ON 22"x34" DRAWING



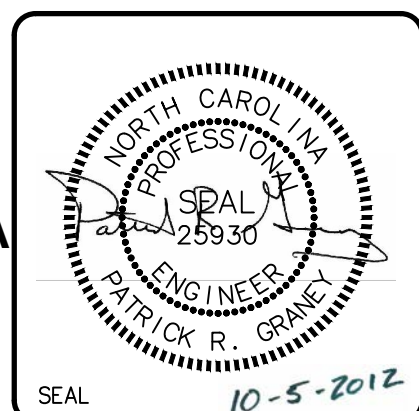
Mark	Description	Date	Appr.
1	ISSUED FOR CONSTRUCTION	12/18	JM
2	ADDENDUM 1	10/19	JM

**WHALEHEAD SUBDIVISION  
DRAINAGE IMPROVEMENTS  
PHASE 3**

**CIVIL DETAILS**

Designed by:	FC	Date:	OCTOBER 2012
Dwn by:	BDF	M&N Project No.:	6273-04
Reviewed by:	TR	Drawing code:	
Submitted by:	MOFFATT & NICHOL	Drawing Scale:	2"=1'
		Plot scale:	1:1 (D SHEET)

**moffatt & nichol**  
1616 EAST MILLBROOK RD., STE 160  
RALEIGH, NC 27609  
919-781-4626



Sheet Reference Number:  
**C-509**