

STRUCTURAL NOTES

ELEVATIONS:
ELEVATIONS ARE IN FEET AND ARE REFERENCED TO THE NVD 1929.

MATERIALS:
MATERIALS USED FOR THIS PROJECT TO BE IN ACCORDANCE WITH THE PROJECT DRAWINGS AND SPECIFICATIONS.

CONCRETE:
CONCRETE FOR BULKHEADS SHALL MEET THE REQUIREMENTS OF FDOT STANDARD SPECIFICATIONS CLASS IV WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI WITH SILICA FUME.

CONCRETE FOR DEAD MEN SHALL MEET THE REQUIREMENTS OF FDOT STANDARD SPECIFICATIONS CLASS IV WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI.

THE CONCRETE ENVIRONMENT THROUGHOUT IS CLASSIFIED AS EXTREMELY AGGRESSIVE. THE MINIMUM CLEAR COVER SHALL BE 3". METAL BAR SUPPORTS IN CONTACT WITH EXTERIOR SURFACES SHALL NOT BE ALLOWED.

PREFORMED JOINT FILLER MATERIAL FOR EXPANSION JOINTS SHALL MEET THE REQUIREMENT OF ASTM D1751.

STEEL REINFORCEMENT:
STEEL REINFORCEMENT BARS SHALL BE CONFORM TO THE REQUIREMENTS OF ASTM A615, GRADE 60.

DRAINAGE MATERIALS:
DRAINAGE SOILS USED AS BACKFILL BEHIND BULKHEADS SHALL BE APPROVED ENVIRONMENTALLY CLEAN FREE DRAINING COARSE-GRAINED SAND WITH LESS THAN 5% FINE MATERIAL PASSING THE #200 SIEVE. LABORATORY TEST RESULTS AND SAMPLES OF THIS MATERIAL SHALL BE PROVIDED TO THE ENGINEER FOR APPROVAL.

PERFORATED PVC PIPE FOR WEEP HOLE DRAINAGE SHALL BE SCHEDULE 40 WITH A 0.020 SLOT WIDTH. GEOTEXTILE SHALL BE MIRAFI FW700 OR APPROVED EQUIVALENT.

FIBER REINFORCED POLYMER (FRP) COMPOSITE SHEET PILE:
THE FRP SHEET PILE SHALL BE CRANE MATERIALS INTERNATIONAL UC-30.

TIE BACK & DEAD MAN ANCHORS:
TIE BACK ANCHORS SHALL CONSIST OF MANTA RAY ANCHOR SYSTEM, MR-SR, OR EQUIVALENT APPROVED BY THE ENGINEER. DEAD MAN ANCHORS SHALL CONSIST OF CAST-IN-PLACE REINFORCED CONCRETE. ANCHOR RODS SHALL BE HOT-DIP GALVANIZED.

EPOXY MORTAR:
EPOXY MORTAR SHALL BE SIMPSON SET XP.

COLD GALVANIZING:
COLD GALVANIZING COMPOUND SHALL CONTAIN AT LEAST 92% ZINC DUST IN THE DRY FILM. PRIOR TO APPLICATION, THE METAL SURFACE SHALL BE WIRE BRUSH CLEANED TO REMOVE DIRT, LOOSE RUST, OR OTHER CONTAMINANTS. COATING SHALL BE APPLIED TO PRODUCE A MINIMUM THICKNESS OF 3 MILS.

CONCRETE COMPRESSION TESTING:
ALL PLACED CONCRETE FOR THE REFURBISHED CAPS SHALL BE SAMPLED AND COMPRESSION TESTED BY AN INDEPENDENT MATERIALS TESTING LABORATORY. TEST RESULTS SHALL BE PROVIDED TO THE ENGINEER FOR REVIEW AND ACCEPTANCE.

A DELIVERY TICKET SHALL BE PROVIDED TO THE ENGINEER FOR EACH BATCH OF CONCRETE DELIVERED. THE MAXIMUM ALLOWABLE TRANSIT TIME FOR CONCRETE IS 90 MINUTES.

UPON DELIVERY, SAMPLE CONCRETE AT 50 CUBIC YARD INTERVALS OR AT LEAST ONCE A DAY DURING CONCRETE PLACEMENTS.

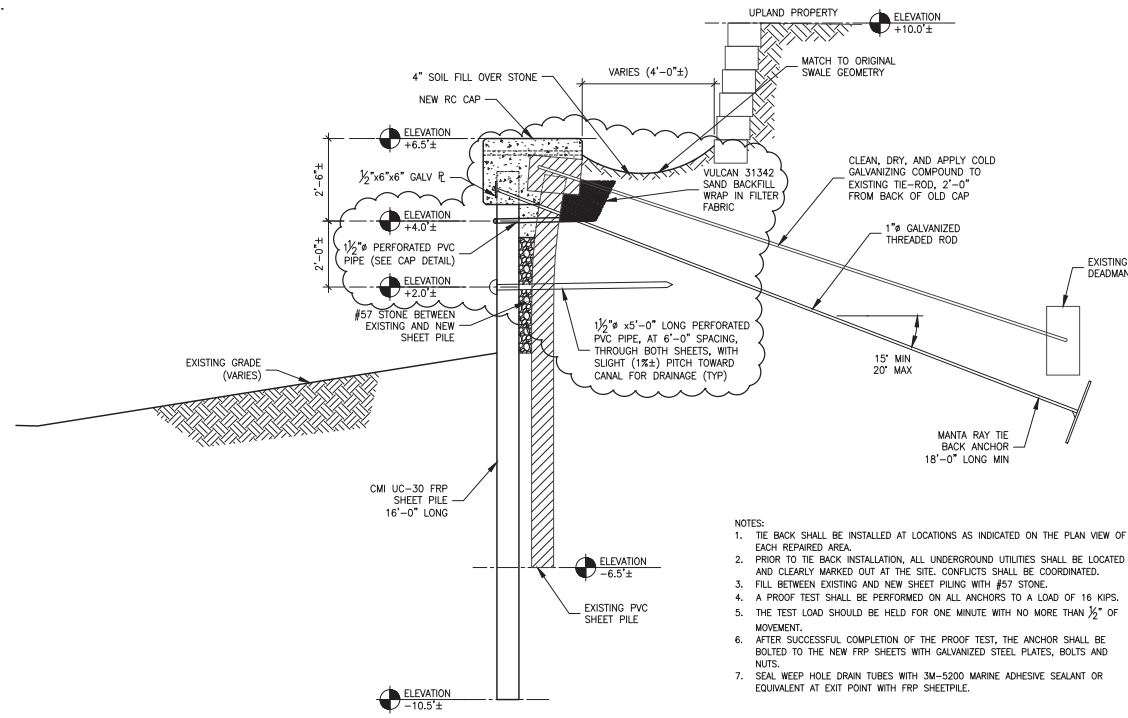
MAKE 3 REPRESENTATIVE CONCRETE CYLINDERS FOR COMPRESSION TESTING IN ACCORDANCE WITH ASTM C31.

PERFORM COMPRESSION TESTS ON INDIVIDUAL CYLINDERS AT 28 DAYS IN ACCORDANCE WITH ASTM C39.

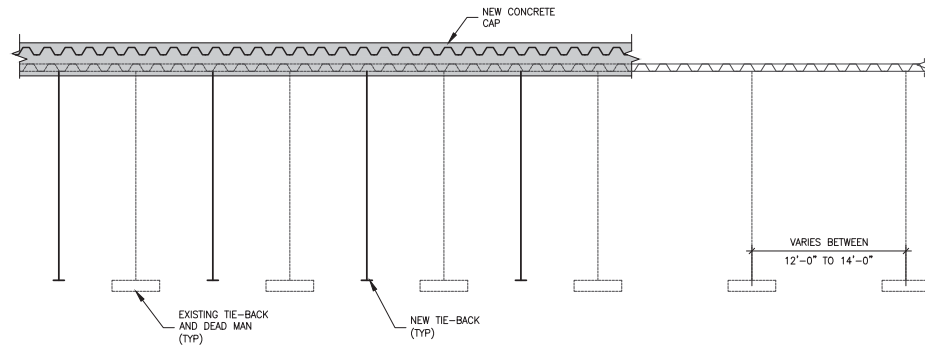
BACKFILLING:
THE EXISTING NEAR SURFACE SOIL THAT UNDERLIES THE UPLAND SWALE IS NOT A SUITABLE QUALITY FILL MATERIAL FOR WALL DRAINAGE PURPOSES. BACKFILL MATERIAL SHOULD BE APPROVED IMPORTED, ENVIRONMENTALLY AND GEOTECHNICALLY CLEAN, INORGANIC GRANULAR MATERIAL WITH LESS THAN 5% FINES PASSING THE #200 SIEVE AND NO PARTICLES LARGER THAN 3/4" INCHES. ALL BACKFILL PLACED BEHIND THE BULKHEAD SHALL BE HYDRAULICALLY COMPACTED.

EXISTING CONDITIONS:
THE EXISTING CONDITIONS PRESENTED IN THE PLANS ARE BASED ON THE INFORMATION AVAILABLE AND ARE NOT GUARANTEED. THE CONTRACTOR IS RESPONSIBLE TO CONSTRUCT THE SHEET PILE WALLS BASED ON THEIR OWN FIELD MEASUREMENTS AND FIELD FIT OR ADJUST WALL COMPONENTS AS NECESSARY.

IF CONDITIONS OF THE EXISTING VINYL SEAWALL DEVIATE IN A MANNER THAT DOES NOT ALLOW FOR THE INSTALLATION OF THE NEW SEAWALL AS SHOWN IN THE PLANS OR IF ROCK IS ENCOUNTERED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER FOR EVALUATION AND DIRECTION.

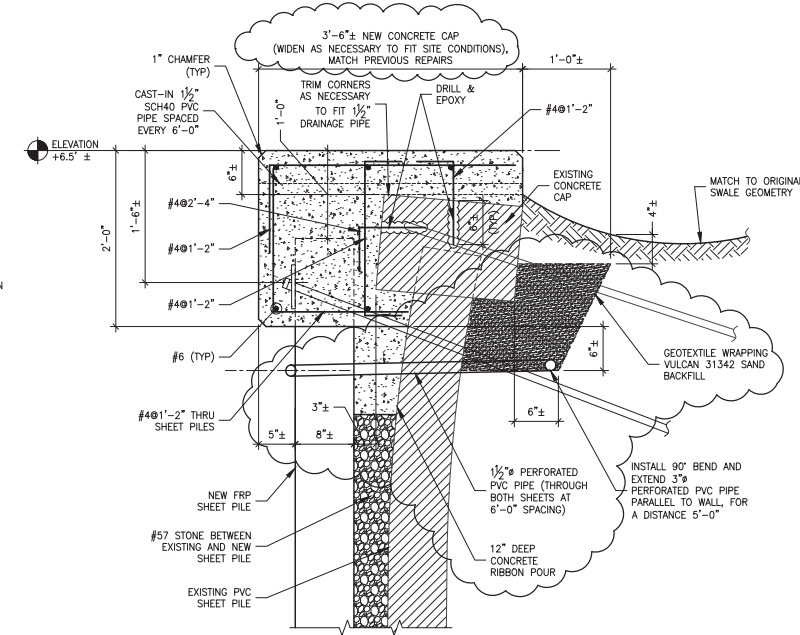


TYPICAL NEW WALL CROSS SECTION
SCALE: 3/8"=1'-0"



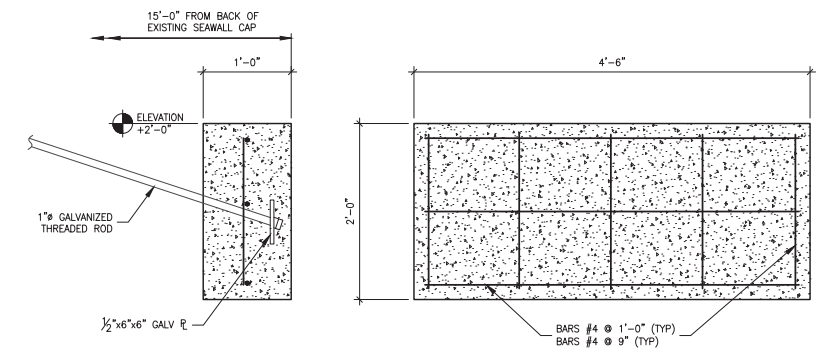
TYPICAL PLAN VIEW
SCALE: 1/8"=1'-0"

- NOTES:
- EXISTING TIE BACK LOCATIONS SHOWN ARE APPROXIMATE.
 - FIELD LOCATE EXISTING TIE BACKS AND LOCATE NEW TIE BACK ANCHORS APPROXIMATELY HALFWAY BETWEEN THE EXISTING.



CAP DETAIL
SCALE: 1"=1'-0"

- NOTES:
- SEE SHEET S1.0 FOR ADDITIONAL NOTES.
 - LAP LONGITUDINAL BARS 2'-0" AT SPLICES.
 - MATCH 1/2" EXPANSION JOINTS TO EXISTING LOCATIONS. STOP LONGITUDINAL BARS 3" CLEAR OF EXPANSION JOINT.
 - IN ISOLATED LOCATIONS, WHERE THE EXISTING CONCRETE CAP IS FRACTURED, THE CONCRETE SHALL BE REMOVED AND THE PROPOSED CAP SHALL ENCAPSULATE THE EXISTING PVC SHEET PILE.



DEAD MAN DETAIL
SCALE: 1"=1'-0"

AT THE OPTION OF THE CONTRACTOR, A CAST-IN-PLACE DEAD MAN MAY BE USED IN LIEU OF A TIE BACK ANCHOR. PROOF TESTING IS NOT REQUIRED FOR DEAD MAN ANCHORS.

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DESIGNED BY: BL	DRAWN BY: MK	
CHECKED BY: --		
REV	DATE	DESCRIPTION
C	3/13/20	RESUBMITTAL
B	3/5/20	FOR CARDNO REVIEW
A	3/2/20	PROGRESS SET

SHEET TITLE:
Typical Seawall

SEAL:
STRUCTURAL ASPECTS ONLY

SHEET NUMBER:
S1.0
1 OF 1



Digitally signed
by Brian Liebl
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