



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
JACKSONVILLE DISTRICT CORPS OF ENGINEERS
COCOA REGULATORY OFFICE
400 HIGH POINT DRIVE, SUITE 600
COCOA, FLORIDA 32926

May 10, 2019

Regulatory Division
North Permits Branch
Cocoa Permits Section

PUBLIC NOTICE

Permit Application Number SAJ-2012-00712 (SP-JCP)

TO WHOM IT MAY CONCERN: The Jacksonville District of the U.S. Army Corps of Engineers (Corps) has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. §1344) and Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. §403), as described below:

APPLICANT: Florida Department of Environmental Protection (FDEP)
Mr. Michael Watkins
2100 W. French Avenue
Orange City, FL 32763

WATERWAY AND LOCATION: The project would affect waters of the United States associated with the Blue Spring Run located in the Lake Beresford Hydrologic Basin (12-digit Hydrologic Unit Code (HUC) 030801011603) and the Lake Dexter-Upper St. Johns River Basin 10-digit HUC 0308010116. This project is located along the shoreline of Blue Springs Run at Blue Springs State Park, in Orange City, Florida. The project is further located in Section 8, Township 18 South, Range 30 East, Volusia County, Florida.

Directions to the site are as follows: From I-4 take S.R. 472 (Howland Blvd) east to Graves Avenue, and turn west onto Graves Ave and travel to US 17-92. Then travel north on US 17-92 to W. French Avenue, travel west on French Ave. to Blue Springs State Park. The spring is located at the west end of the park along the St. Johns River.

APPROXIMATE CENTRAL COORDINATES:

Latitude 28.94445°

Longitude -81.33978°

PROJECT PURPOSE:

Basic: Shoreline Restoration

Overall: Shoreline Restoration of Blue Springs Run in Orange City, Volusia County, Florida.

HISTORY: Blue Springs has been home to a large number of manatees and is visited every year by a large number of visitors. The manatees have created cantilevered banks along the north shoreline, and people swimming and climbing on the south banks have caused further erosion along with the natural erosion that takes place. Furthermore, increased tropical storm damage has increased the amount of erosion and bank loss. It has now gotten to a point that it endangers public safety and safety for the manatees. This project is a restoration project aimed at restoring shoreline habitat which in turn will aid in promoting public safety, better water quality health and habitat value.

EXISTING CONDITIONS: The existing shoreline along Blue Springs, on the north side especially, is a steep drop off with primarily hardwoods and cabbage palms, with some of the forested species falling into the spring. The south side is similar, but has a boardwalk along the slope in some areas. There are sections on both sides that are losing vegetation to erosion. The spring has little vegetation remaining in it, and there have been several projects trying to restore vegetation (eelgrass). Hopefully this restoration plan will provide habitat and structure for some vegetation to regain a foothold.

PROPOSED WORK: The applicant seeks authorization to construct shoreline restoration components along the banks of Blue Springs Run. The components will consist of; installing toe wood, riprap, field stone, sand (geobags and vegetated reinforced soil slopes (VRSS)), and coir logs. Furthermore, the VRSS component will have a diverse species planting geared to mimic the natural surroundings; and the riprap and field stone will be placed to provide habitat niches to enhance the toe wood placement. All the components will work together to mimic natural habitat and provide support to the failing shoreline for long-term health of the system. There will be a minor dredging component to take sediment that has eroded into the run and utilize it for the sand fill required for the stabilization efforts. The proposed work is to be completed per the attached exhibits.

AVOIDANCE AND MINIMIZATION INFORMATION: The applicant has provided the following information in support of efforts to avoid and/or minimize impacts to the aquatic environment:

“This project is a shoreline restoration project and the goal is habitat restoration, therefore the impacts to the aquatic environment will be minimal and overall beneficial.”

COMPENSATORY MITIGATION: The applicant has offered the following compensatory mitigation plan to offset unavoidable functional loss to the aquatic environment:

“Due to the relatively low impact to the aquatic environment, and beneficial nature of the project, no mitigation is proposed.”

CULTURAL RESOURCES: The Corps is not aware of any known historic properties within the permit area, except for the historical structures in the uplands adjacent on the south side, and a few remaining pieces of structures along the south bank. The applicant (FDEP) has stated that the proposed activities are not meant to have any impact on any historic resources. By copy of this public notice, the Corps is providing information for review. Our final determination relative to historic resource impacts is subject to review by and coordination with the State Historic Preservation Officer and those federally recognized tribes with concerns in Florida and the Permit Area.

ENDANGERED SPECIES: The Corps has determined the proposed shoreline placement may affect, but is not likely to affect the West Indian Manatee (*Trichechus manatus latirostris*), pursuant to review of the "State of Florida Effect Determination Key for the Manatee in Florida" (April 2013). Review of the Manatee key resulted in the following sequential determination: A>B> may affect. The Corps will consult with the USFWS pursuant to Section 7 of the Endangered Species Act (ESA).

The Corps has determined the proposal would have no effect on any other listed threatened or endangered species or designated critical habitat.

ESSENTIAL FISH HABITAT (EFH): This notice initiates consultation with the National Marine Fisheries Service on EFH as required by the Magnuson-Stevens Fishery Conservation and Management Act 1996. Our initial determination is that the proposed action would have no impact on EFH. Our final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the National Marine Fisheries Service.

NOTE: This public notice is being issued based on information furnished by the applicant. This information has not been verified or evaluated to ensure compliance with laws and regulation governing the regulatory program. The jurisdictional line has not been verified by Corps personnel.

AUTHORIZATION FROM OTHER AGENCIES: Water Quality Certification may be required from the Florida Department of Environmental Protection and/or one of the state Water Management Districts.

COMMENTS regarding the potential authorization of the work proposed should be submitted in writing to the attention of the District through the Cocoa Permits Section, 400 High Point Drive, Suite 600, Cocoa, FL 32926 within 15 days from the date of this notice.

The decision whether to issue or deny this permit application will be based on the information received from this public notice and the evaluation of the probable impact to the associated wetlands. This is based on an analysis of the applicant's avoidance and minimization efforts for the project, as well as the compensatory mitigation proposed.

QUESTIONS concerning this application should be directed to the project manager, John Palmer, in writing at the Cocoa Permits Section, 400 High Point Drive, Suite 600, Cocoa, FL 32926, by electronic mail at John.Palmer@usace.army.mil, by fax at (321) 504-3803, or by telephone at (321) 504-3771, extension 10.

IMPACT ON NATURAL RESOURCES: Preliminary review of this application indicates that an Environmental Impact Statement will not be required. Coordination with U.S. Fish and Wildlife Service, Environmental Protection Agency (EPA), the National Marine Fisheries Services, and other Federal, State, and local agencies, environmental groups, and concerned citizens generally yields pertinent environmental information that is instrumental in determining the impact the proposed action will have on the natural resources of the area. By means of this notice, we are soliciting comments on the potential effects of the project on threatened or endangered species or their habitat

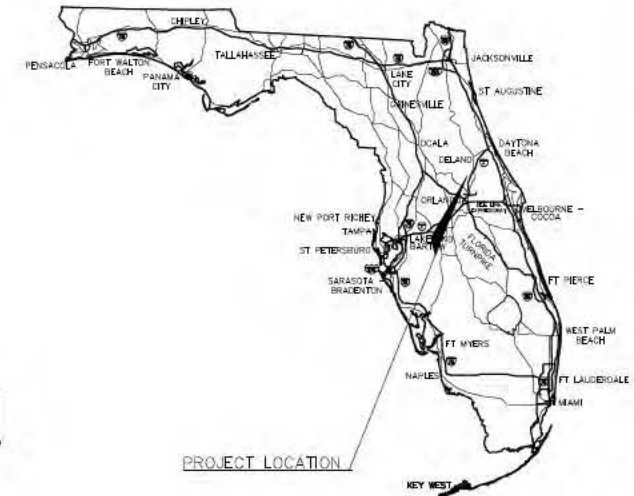
EVALUATION: The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including cumulative impacts thereof; among these are conservation, economics, esthetics, general environmental concerns, wetlands, historical properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food, and fiber production, mineral needs, considerations of property ownership, and in general, the needs and welfare of the people. Evaluation of the impact of the activity on the public interest will also include application of the guidelines promulgated by the Administrator, EPA, under authority of Section 404(b) of the Clean Water Act of the criteria established under authority of Section 102(a) of the Marine Protection Research and Sanctuaries Act of 1972. A permit will be granted unless its issuance is found to be contrary to the public interest.

The US Army Corps of Engineers (Corps) is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other Interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

COASTAL ZONE MANAGEMENT CONSISTENCY: In Florida, the State approval constitutes compliance with the approved Coastal Zone Management Plan. In Puerto Rico, a Coastal Zone Management Consistency Concurrence is required from the Puerto Rico Planning Board, in the Virgin Islands, the Department of Planning and Natural Resources permit constitutes compliance with the Coastal Zone Management Plan.

REQUEST FOR PUBLIC HEARING: Any person may request a public hearing. The request must be submitted in writing to the District Engineer within the designated comment period of the notice and must state the specific reasons for requesting the public hearing.

CONSTRUCTION PLANS FOR:
BLUE SPRING RUN BANK
STABILIZATION
FLORIDA FISH AND WILDLIFE CONSERVATION
COMMISSION
VOLUSIA COUNTY, FLORIDA
WOOD PROJECT NUMBER: 600570



wood.
ENVIRONMENT &
INFRASTRUCTURE SOLUTIONS, INC.
2000 E Edgewood Drive, Suite 215
Lakeland, FL 33803
Phone: 1.863.667.2345
Fax: 1.863.667.2662
www.woodplc.com
CA-5392

DAVID W. BUTCHER, P.E.
STATE OF FLORIDA
PROFESSIONAL ENGINEER
LICENSE NO. 55431
THIS ITEM HAS BEEN
ELECTRONICALLY SIGNED AND SEALED BY
DAVID W. BUTCHER, P.E.
ON DECEMBER 21, 2018
USING A DIGITAL SIGNATURE
PRINTED COPIES OF THIS DOCUMENT ARE
NOT CONSIDERED SIGNED AND SEALED
AND THE SIGNATURE MUST BE VERIFIED
ON ANY ELECTRONIC COPIES.

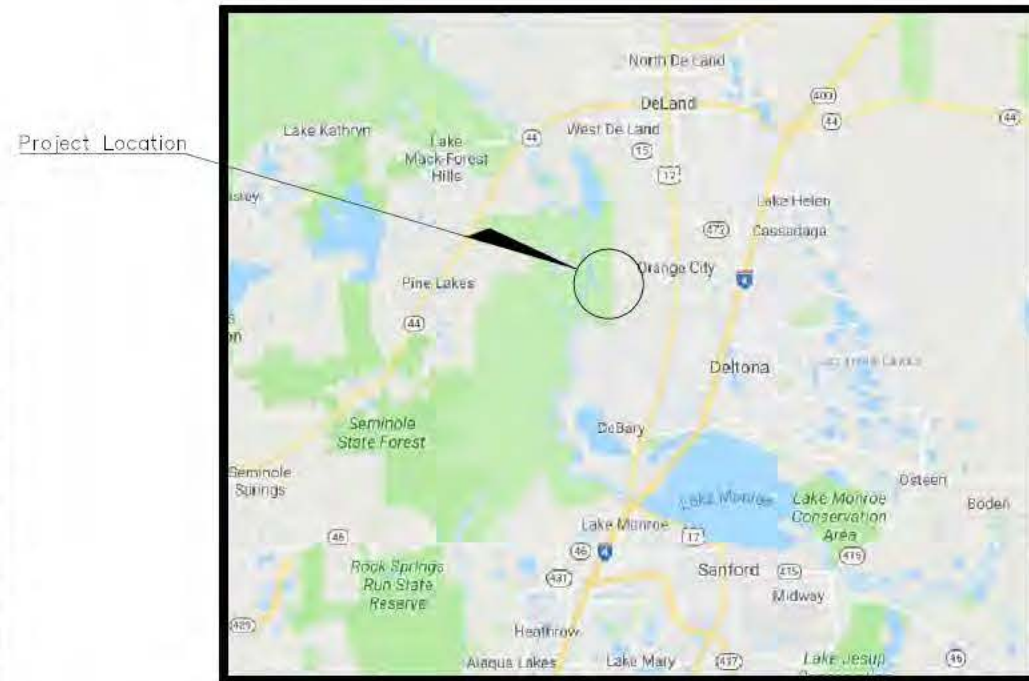
PROJECT:
BLUE SPRING
RUN BANK
STABILIZATION

ORANGE CITY, FL



FLORIDA FISH AND
WILDLIFE
CONSERVATION
COMMISSION
620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

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S I T E L O C A T I O N M A P
VOLUSIA COUNTY, FLORIDA
SECTION 8, TOWNSHIP 18 SOUTH, RANGE 30 EAST

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN
REDUCED IN SIZE BY REPRODUCTION. THIS MUST BE CONSIDERED WHEN
OBTAINING SCALED DATA.



Know what's below.
Call before you dig.

CONTRACTOR IS TO VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION.

NOTE:
CONSTRUCTION PLANS ARE AVAILABLE IN AUTODESK CIVIL 3D FORMAT ONLY.
ANY FILE CONVERSIONS WILL BE AT THE CONTRACTOR'S EXPENSE.

I HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL
ENGINEER IN THE STATE OF FLORIDA PRACTICING WITH WOOD
ENVIRONMENT & INFRASTRUCTURE SOLUTIONS, INC., 2000 E.
EDGEWOOD DRIVE, SUITE 215, LAKELAND, FL 33803, A CORPORATION
AUTHORIZED TO OPERATE AS A BUSINESS PROVIDING ENGINEERING
CONSULTING SERVICES (CA-5392) BY THE STATE OF FLORIDA
DEPARTMENT OF PROFESSIONAL REGULATION, BOARD OF PROFESSIONAL
ENGINEERS. I FURTHER CERTIFY THAT I, OR OTHERS UNDER MY
DIRECT SUPERVISION, HAVE PREPARED THE ENGINEERING
EVALUATIONS, FINDINGS, OPINIONS, CALCULATIONS OR TECHNICAL
ADVICE HEREBY REPRESENTED IN THESE PLANS.

FINAL CONSTRUCTION PLANS
December 20, 2018

Rev	Date	Description	Sheets

REVISIONS

GOVERNING STANDARD PLANS:
FLORIDA DEPARTMENT OF TRANSPORTATION, FY2018-19 STANDARD PLANS FOR ROAD AND BRIDGE
CONSTRUCTION AND APPLICABLE INTERIM REVISIONS (IRS).

STANDARD PLANS FOR ROAD CONSTRUCTION AND ASSOCIATED IRS ARE AVAILABLE AT THE FOLLOWING
WEBSITE:
[HTTP://WWW.FDOT.GOV/DESIGN/STANDARDPLANS.SHTM](http://www.fdot.gov/design/STANDARDPLANS.SHTM)

APPLICABLE IRS: IR536-001-01, IR521-001-01

STANDARD PLANS FOR BRIDGE CONSTRUCTION ARE INCLUDED IN THE STRUCTURES PLANS COMPONENT.

GOVERNING STANDARD SPECIFICATIONS:
FLORIDA DEPARTMENT OF TRANSPORTATION, JULY, 2018 STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE
CONSTRUCTION AT THE FOLLOWING WEBSITE:
[HTTP://WWW.FDOT.GOV/PROGRAMMANAGEMENT/IMPLEMENTED/SPECBOOKS](http://www.fdot.gov/PROGRAMMANAGEMENT/IMPLEMENTED/SPECBOOKS)

REVISIONS			
NO.	DATE	BY	APPROVED

DESIGNED BY:	JHK
DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

COVER

SHEET NUMBER:	REV. #
C100	---
SHEET 01 OF 28 SHEETS	

GENERAL CONSTRUCTION NOTES

1. LOCATIONS, ELEVATIONS, AND DIMENSIONS OF EXISTING UTILITIES, STRUCTURES, AND OTHER FEATURES ARE SHOWN ACCORDING TO INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, ELEVATIONS, AND DIMENSIONS OF ALL EXISTING UTILITIES, STRUCTURES AND OTHER FEATURES AFFECTING THIS WORK PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL CHECK PLANS AND FIELD CONDITIONS FOR CONFLICTS AND DISCREPANCIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE OWNER'S ENGINEER OF ANY CONFLICT BEFORE PERFORMING ANY WORK IN THE AFFECTED AREA.
3. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING FACILITIES, ABOVE OR BELOW GROUND, THAT MAY OCCUR AS A RESULT OF THE WORK PERFORMED BY THE CONTRACTOR.
4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO BECOME FAMILIAR WITH THE PERMIT AND INSPECTION REQUIREMENTS OF THE VARIOUS GOVERNMENTAL AGENCIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION, AND SCHEDULE INSPECTIONS ACCORDING TO AGENCY INSTRUCTIONS.
5. ALL SPECIFICATIONS AND DOCUMENTS REFERRED TO SHALL BE OF LATEST REVISIONS AND/OR LATEST EDITION.
6. ALL WORK PERFORMED SHALL COMPLY WITH THE REGULATIONS AND ORDINANCES OF THE VARIOUS GOVERNMENTAL AGENCIES HAVING JURISDICTION OVER THE WORK, INCLUDING LANDSCAPING.
7. CONTRACTOR SHALL SUBMIT FOR REVIEW TO THE OWNER'S ENGINEER SHOP DRAWINGS ON ALL PRECAST AND MANUFACTURED ITEMS TO BE USED ON THIS SITE. FAILURE TO OBTAIN APPROVAL BEFORE INSTALLATION MAY RESULT IN REMOVAL AND REPLACEMENT AT CONTRACTOR'S EXPENSE. ENGINEER'S APPROVAL OF A SHOP DRAWING DOES NOT RELIEVE CONTRACTOR'S RESPONSIBILITY FOR PERFORMANCE OF THE ITEM.
8. WORK PERFORMED UNDER THIS CONTRACT SHALL INTERFACE SMOOTHLY WITH OTHER WORK BEING PERFORMED ON SITE BY OTHER CONTRACTORS AND UTILITY COMPANIES. IT WILL BE NECESSARY FOR THE CONTRACTOR TO COORDINATE AND SCHEDULE HIS ACTIVITIES, WHERE NECESSARY WITH OTHER CONTRACTOR'S AND UTILITY COMPANIES.
9. BACKFILL MATERIAL SHALL BE SOLIDLY TAMPED AND COMPACTED TO A FIRMNESS EQUAL TO THAT OF THE SOIL ADJACENT TO THE TRENCH AROUND PIPES IN 8" LAYERS UP TO AN UNDISTURBED LEVEL OF AT LEAST 1" ABOVE THE TOP OF THE PIPE. IN AREAS TO BE PAVED, BACKFILL SHALL BE COMPACTED TO 100% MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99.
10. REPAIR AND REPLACEMENT OF ALL PRIVATE AND PUBLIC PROPERTY AFFECTED BY THIS WORK SHALL BE RESTORED TO A CONDITION EQUAL TO BETTER THAN EXISTING CONDITIONS BEFORE COMMENCING CONSTRUCTION WORK UNLESS SPECIFICALLY EXEMPTED BY THE PLANS. ADDITIONAL COSTS ARE INCIDENTAL TO OTHER CONSTRUCTION AND NO EXTRA COMPENSATION WILL BE ALLOWED.
11. RECORD DRAWINGS:
THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING INFORMATION ON A SET OF THE APPROVED PLANS CONCURRENTLY WITH CONSTRUCTION PROGRESS. WITHIN TWO WEEKS FOLLOWING FINAL INSPECTION THE CONTRACTOR SHALL SUBMIT ONE SET OF RECORD DRAWINGS TO THE ENGINEER OF RECORD. THE FINAL RECORD DRAWINGS SHALL COMPLY WITH THE FOLLOWING REQUIREMENTS:
 1. DRAWINGS TO BE LEGIBLY MARKED TO RECORD ACTUAL CONSTRUCTION.
 2. DRAWINGS SHALL SHOW ACTUAL LOCATION OF ALL IMPROVEMENTS, AND RELATED APPURTENANCES, BOTH ABOVE AND BELOW GROUND. ALL CHANGES TO STABILIZATION REMEDIATION LOCATION INCLUDING HORIZONTAL & VERTICAL LOCATIONS OF ALL APPURTENANCES SHALL BE CLEARLY SHOWN AND REFERENCED TO PERMANENT SURFACE IMPROVEMENTS. DRAWINGS SHALL ALSO SHOW ACTUAL INSTALLED MATERIAL, ETC.
 3. DRAWINGS SHALL CLEARLY SHOW ALL FIELD CHANGES OF DIMENSION AND DETAIL INCLUDING CHANGES MADE BY FIELD ORDER OR BY CHANGE ORDER.
 4. DRAWINGS SHALL CLEARLY SHOW ALL DETAILS NOT ON ORIGINAL CONTRACT DRAWINGS BUT CONSTRUCTED IN THE FIELD. ALL STABILIZATION REMEDIATION SHALL BE CLEARLY SHOWN.
 5. THE CONTRACTOR SHALL PROVIDE CERTIFIED RECORD DRAWINGS, SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR. THE RECORD DRAWINGS SHALL SHOW FINAL GRADES AND LOCATIONS OF STABILIZATION REMEDIATION. THE CONTRACTOR SHALL PROVIDE ELECTRONIC PDF OF THE CERTIFIED RECORD DRAWINGS AND THE AUTOCAD CIVIL 3D FILE TO THE ENGINEER.
12. CONTRACTOR SHALL REVIEW SOIL REPORTS AND BORINGS PRIOR TO BIDDING THE PROJECT AND COMMENCING CONSTRUCTION.
13. AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND APPROPRIATE AGENCIES AND SUPPLY THEM WITH ALL REQUIRED SHOP DRAWINGS, THE CONTRACTOR'S NAME, STARTING DATE, PROJECTED SCHEDULE, AND OTHER INFORMATION AS REQUIRED. ANY WORK PERFORMED PRIOR TO NOTIFYING THE ENGINEER OR WITHOUT AGENCY INSPECTOR PRESENT MAY BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.
14. OWNER SPECIFIC SPECIFICATIONS TO BE PROVIDED TO CONTRACTOR DURING BIDDING.
15. ALL WORK SHALL CONFORM TO THE REGULATIONS, SPECIFICATIONS, AND GUIDELINES PROVIDED BY THE FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION.
16. ALL EXISTING SURVEY MONUMENTS, GPS MONUMENTS OR PUBLIC LAND CORNERS SHALL BE PROTECTED. IF A CORNER OR MONUMENT IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCED THE CONTRACTOR'S CONSTRUCTION MANAGER SHALL NOTIFY THE CITY PUBLIC WORKS DIRECTOR WITHOUT DELAY BY TELEPHONE.

SAFETY NOTES

1. DURING THE CONSTRUCTION AND/OR MAINTENANCE OF THIS PROJECT, THE CONTRACTOR SHALL COMPLY WITH REGULATIONS. THE CONTRACTOR OR HIS REPRESENTATIVE SHALL BE RESPONSIBLE FOR THE CONTROL AND SAFETY OF THE TRAVELING PUBLIC AND THE SAFETY OF ITS PERSONNEL. LABOR SAFETY REGULATIONS SHALL BE AS SET FORTH BY OSHA IN THE FEDERAL REGISTER OF THE DEPARTMENT OF LABOR.
2. THE MINIMUM STANDARDS AS SET FORTH IN THE CURRENT EDITION OF THE STATE OF FLORIDA, MANUAL ON TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE AND UTILITY OPERATIONS SHALL BE FOLLOWED IN THE DESIGN APPLICATION, INSTALLATION, MAINTENANCE, AND REMOVAL OF ALL TRAFFIC CONTROL DEVICES, WARNING DEVICES, AND BARRIERS NECESSARY TO PROTECT THE PUBLIC AND WORKERS FROM HAZARDS WITHIN THE PROJECT LIMITS.
3. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH AND ENFORCE ALL APPLICABLE SAFETY REGULATIONS. THE ABOVE INFORMATION HAS BEEN PROVIDED FOR THE CONTRACTOR'S INFORMATION ONLY AND DOES NOT IMPLY THAT THE OWNER OR ENGINEER WILL INSPECT AND/OR ENFORCE SAFETY REGULATIONS.

CLEARING AND EROSION CONTROL NOTES

1. PRIOR TO ANY SITE CLEARING, ALL TREES SHOWN TO REMAIN ON THE CONSTRUCTION PLANS SHALL BE PROTECTED IN ACCORDANCE WITH THE LOCAL REGULATORY AGENCY'S TREE ORDINANCE AND DETAILS CONTAINED IN THESE PLANS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THESE TREES IN GOOD CONDITION. NO TREES SHOWN TO REMAIN SHALL BE REMOVED WITHOUT WRITTEN APPROVAL FROM THE OWNER. ONLY "GRADING BY HAND" IS PERMITTED WITHIN THE CANOPY LINE OF TREES THAT ARE TO REMAIN.
2. THE CONTRACTOR IS TO PREPARE THE SITE PRIOR TO BEGINNING ACTUAL CONSTRUCTION IN ACCORDANCE WITH THE SOILS TESTING REPORT. COPIES OF THE SOILS REPORT ARE AVAILABLE THROUGH THE OWNER OR THE SOILS TESTING COMPANY. QUESTIONS REGARDING SITE PREPARATION REQUIREMENTS DESCRIBED IN THE SOILS REPORT ARE TO BE DIRECTED TO THE SOILS TESTING COMPANY.
3. CONTRACTOR SHALL CLEAR AND GRUB ONLY THOSE PORTIONS OF THE SITE NECESSARY FOR CONSTRUCTION. DISTURBED AREAS WILL BE SEEDED, MULCHED, OR PLANTED WITH OTHER APPROVED LANDSCAPE MATERIAL AS SOON AS GRADING IS COMPLETED AND/OR IS PRACTICABLE. AREAS ANTICIPATED BEING LEFT DISTURBED OR DENuded FOR LONGER THAN 21 DAYS WILL BE STABILIZED WITH TEMPORARY STABILIZATION WITHIN 14 DAYS OF DISTURBANCE. NO AREAS SHALL BE LEFT OR DISTURBED OR DENuded FOR LONGER THAN 21 DAYS.
4. THE TOP 4" TO 8" OF GROUND REMOVED DURING CLEARING AND GRUBBING SHALL BE STOCKPILED AT A SITE DESIGNATED BY THE OWNER TO BE USED FOR LANDSCAPING PURPOSES, UNLESS OTHERWISE DIRECTED BY THE OWNER. HAY BALES OR SILT FENCE SHALL BE PLACED ALONG THE STOCKPILE PERIMETER FOR EROSION CONTROL.
5. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.
6. CONTRACTOR TO OBTAIN ALL NECESSARY PERMITS FOR REMOVING ANY EXISTING STRUCTURES.
7. CONTRACTOR IS TO PROVIDE EROSION CONTROL/SEDIMENTATION BARRIER (STRAW BALE, TURBIDITY BARRIER OR STAKED SILT FENCE) TO PREVENT SILTATION OF ADJACENT PROPERTY, STREETS, STORM SEWERS, WATERWAYS, AND EXISTING WETLANDS. IN ADDITION, CONTRACTOR SHALL PLACE STRAW, MULCH, OR OTHER SUITABLE MATERIAL ON GROUND IN AREAS WHERE CONSTRUCTION RELATED TRAFFIC IS TO ENTER AND EXIT THE SITE. IF, IN THE OPINION OF THE ENGINEER AND/OR LOCAL AUTHORITIES, EXCESSIVE QUANTITIES OF EARTH ARE TRANSPORTED OFF-SITE EITHER BY NATURAL DRAINAGE OR BY VEHICULAR TRAFFIC, THE CONTRACTOR IS TO RECOVER SAID EARTH TO THE SATISFACTION OF THE ENGINEER AND/OR AUTHORITIES.
8. IF WIND EROSION BECOMES SIGNIFICANT DURING CONSTRUCTION, THE CONTRACTOR SHALL STABILIZE THE AFFECTED AREA USING SPRINKLING, IRRIGATION, OR OTHER ACCEPTABLE METHODS.
9. THERE SHALL BE NO DISCHARGE (I.E. PUMPING, SHEET FLOW, SHALE, DITCH, ETC.) INTO AN EXISTING LAKE SYSTEM, WETLAND, OR RIVER, WITHOUT THE USE OF SETTLING POND. IF THE CONTRACTOR DESIRES TO DISCHARGE INTO THE EXISTING LAKE SYSTEM OR RIVER, A SETTLING POND PLAN MUST BE SUBMITTED AND APPROVED BY THE ENGINEER AND LOCAL REGULATORY AGENCY PRIOR TO CONSTRUCTION. REFER TO THE STORMWATER POLLUTION PLAN FOR POSSIBLE TURBIDITY CONTROL OPTIONS FOR Dewatering OF THE SITE.
10. ONLY THAT PORTION OF THE PROPERTY NECESSARY FOR STABILIZATION REMEDIATION SHALL BE CLEARED AND GRUBBED ACCORDING TO THE REQUIREMENTS OF THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, LATEST EDITION. FLORIDA NATIVE TREES OF 4 INCH CALIPER OR GREATER TRUNK DIAMETER SHALL BE SAVED WHEREVER THEY WILL NOT CONSTITUTE A SAFETY HAZARD, NOR BE OBFUSCATED OR DAMAGED BY THE REQUIRED STREET CONSTRUCTION. PROMINENTLY MARK AND BARRICADED BEFORE THE BEGINNING OF CONSTRUCTION.

TOTALS CANTILEVER FAILURE ZONE			
ITEM	CF	CY	LF*
TOE WOOD	1950	72	149
RIPRAP	4872	180	678
FIELD STONE	920	34	566
SAND (GEOBAGS)	3622	134	637
COIR LOG	245	9	420

TOTALS GRAVITY FAILURE ZONE 1TOP			
ITEM	CF	CY	LF*
TOE WOOD	0	0	0
RIPRAP	17	1	17
FIELD STONE	0	0	0
SAND (VRSS)	376	14	17
COIR LOG	0	0	0

TOTALS GRAVITY FAILURE ZONE 2			
ITEM	CF	CY	LF**
TOE WOOD	0	0	0
RIPRAP	102	4	20
FIELD STONE	43	2	20
SAND (VRSS)	1123	42	20
COIR LOG	0	0	0
NO. 57 STONE	587	22	20

**NOTE: LF AVERAGE OF 15 LF AT TOE AND 25 LF AT TOP

NOTES:

- 1) ALL TOTALS ARE APPROXIMATE TO BE FIELD VERIFIED BY CONTRACTOR
- *NOTE: LF ESTIMATED BY DRAWING
CONTINUOUS PARALLEL LINE FROM ONE END OF SECTION TO THE OTHER END ALONG THE EMBANKMENT

GRAND TOTAL (ALL ZONES)

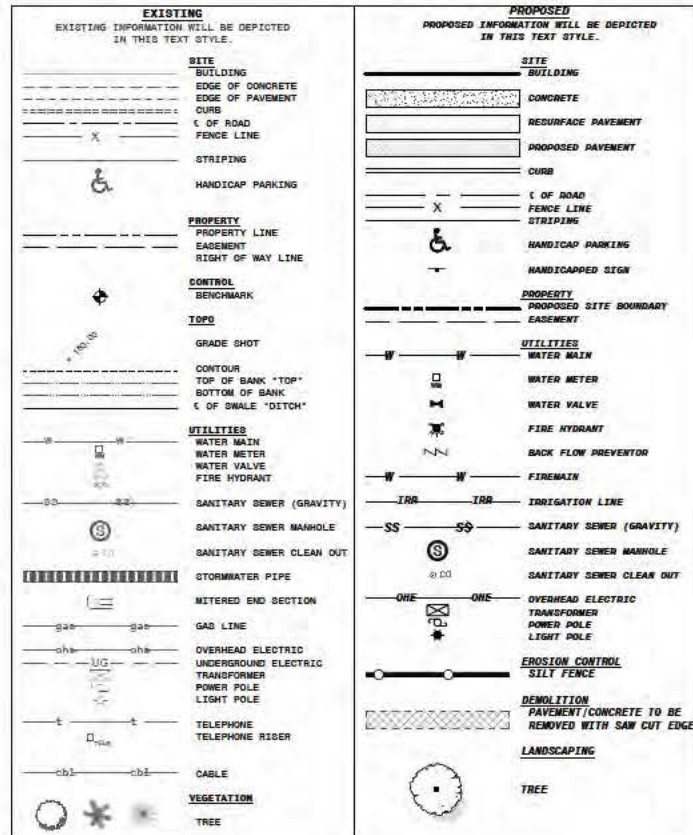
ITEM	CF	CY	LF
TOE WOOD	1950	72	149
RIPRAP	6175	229	910
FIELD STONE	1255	46	731
SAND (VRSS & GEOBAGS)	12155	450	869
COIR LOG	245	9	420
NO. 57 STONE	587	22	20

NOTE:
CONSTRUCTION PLANS ARE AVAILABLE IN AUTODESK CIVIL 3D FORMAT ONLY.
ANY FILE CONVERSIONS WILL BE AT THE CONTRACTOR'S EXPENSE.

TOTALS GRAVITY FAILURE ZONE 1A			
ITEM	CF	CY	LF*
TOE WOOD	0	0	0
RIPRAP	544	20	113
FIELD STONE	228	8	113
SAND (VRSS)	4569	169	113
COIR LOG	0	0	0

TOTALS GRAVITY FAILURE ZONE 1B			
ITEM	CF	CY	LF*
TOE WOOD	0	0	0
RIPRAP	154	6	32
FIELD STONE	64	2	32
SAND (VRSS)	1294	48	32
COIR LOG	0	0	0

TOTALS GRAVITY FAILURE ZONE 3			
ITEM	CF	CY	LF*
TOE WOOD	0	0	0
RIPRAP	486	18	50
FIELD STONE	0	0	0
SAND (VRSS)	1171	43	50
COIR LOG	0	0	0



wood.

ENVIRONMENT &
INFRASTRUCTURE SOLUTIONS, INC.
2000 E Edgewood Drive, Suite 215
Lakeland, FL 33803
Phone: 1.863.667.2345
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DAVID W. BUTCHER, P.E.
STATE OF FLORIDA
PROFESSIONAL ENGINEER
LICENSE NO. 56431
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PROJECT:

BLUE SPRING RUN BANK STABILIZATION

ORANGE CITY, FL



**FLORIDA FISH AND
WILDLIFE
CONSERVATION
COMMISSION**

620 S MERIDIAN ST.
TALLAHASSEE, FL 32399

WOOD PROJECT No:
600570

REVISIONS

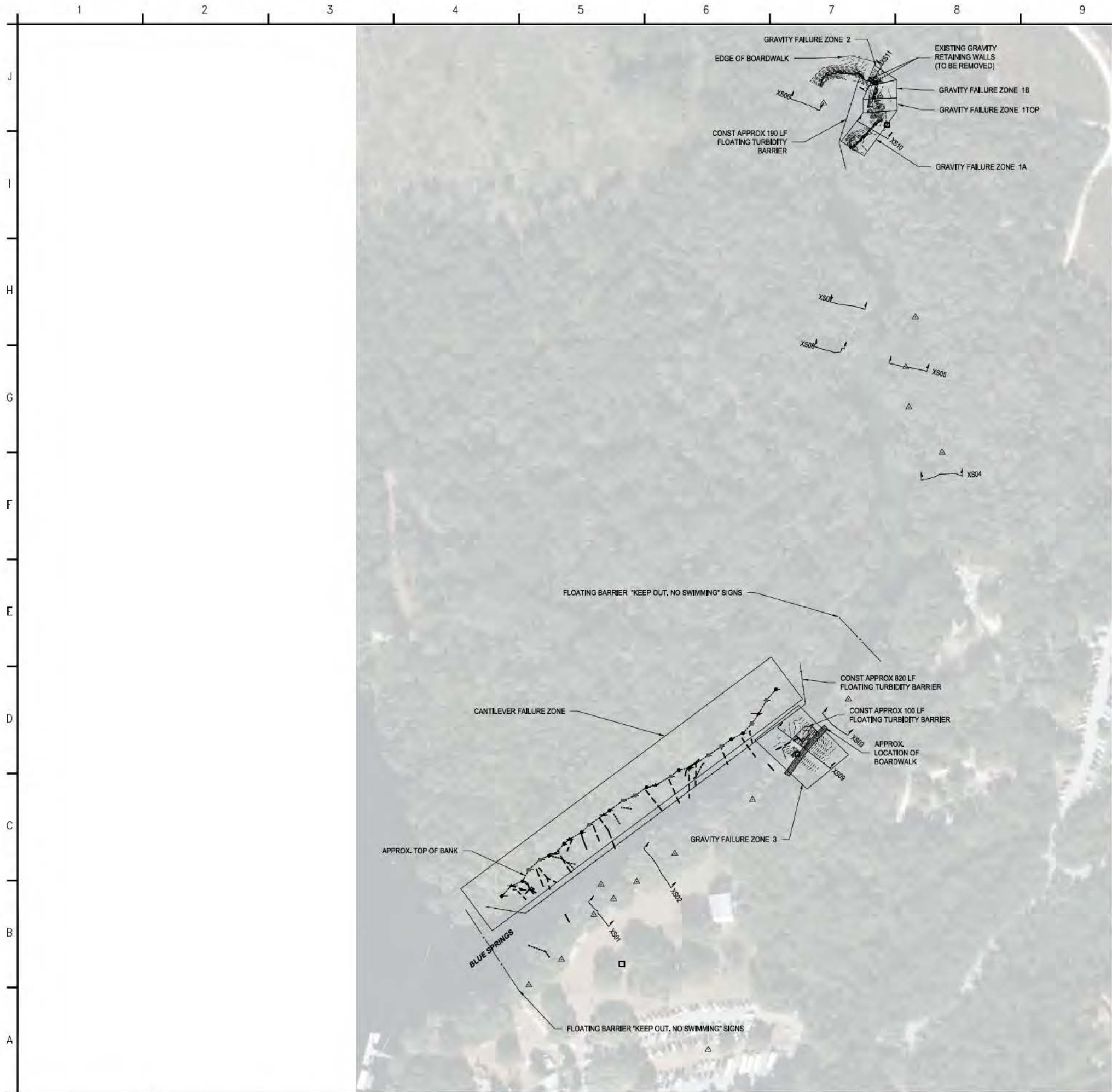
NO.	DATE	BY	APPROVED
1	12/20/2018	JHK	
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DESIGNED BY:	JHK
DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

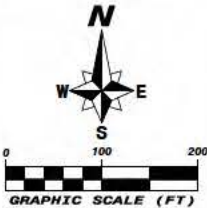
GENERAL NOTES

SHEET NUMBER:	REV. #
C101	--
SHEET 02 OF 28 SHEETS	



SYMBOL	DEFINITION
●	0-2 FT CANTILEVER
■	2-6 FT CANTILEVER
▲	>5 FT CANTILEVER
△	BENCHMARK
□	SQUARE BENCHMARK
---	LEANING TREE
- - -	SUBMERGED TREE

- NOTE:
- 1) VERTICAL DATUM: NGVD29
 - 2) HORIZONTAL DATUM: NAD83 FLORIDA STATE PLANES, EAST ZONE, US FOOT
 - 3) INCLUDES WOOD SURVEY AND FIELD DATA
 - 4) CONTRACTOR TO REMOVE ALL TREES LEANING OVER WATER OR DEEMED NECESSARY BY THE OWNER OR ENGINEER



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REVISIONS

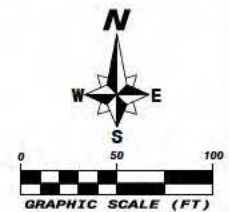
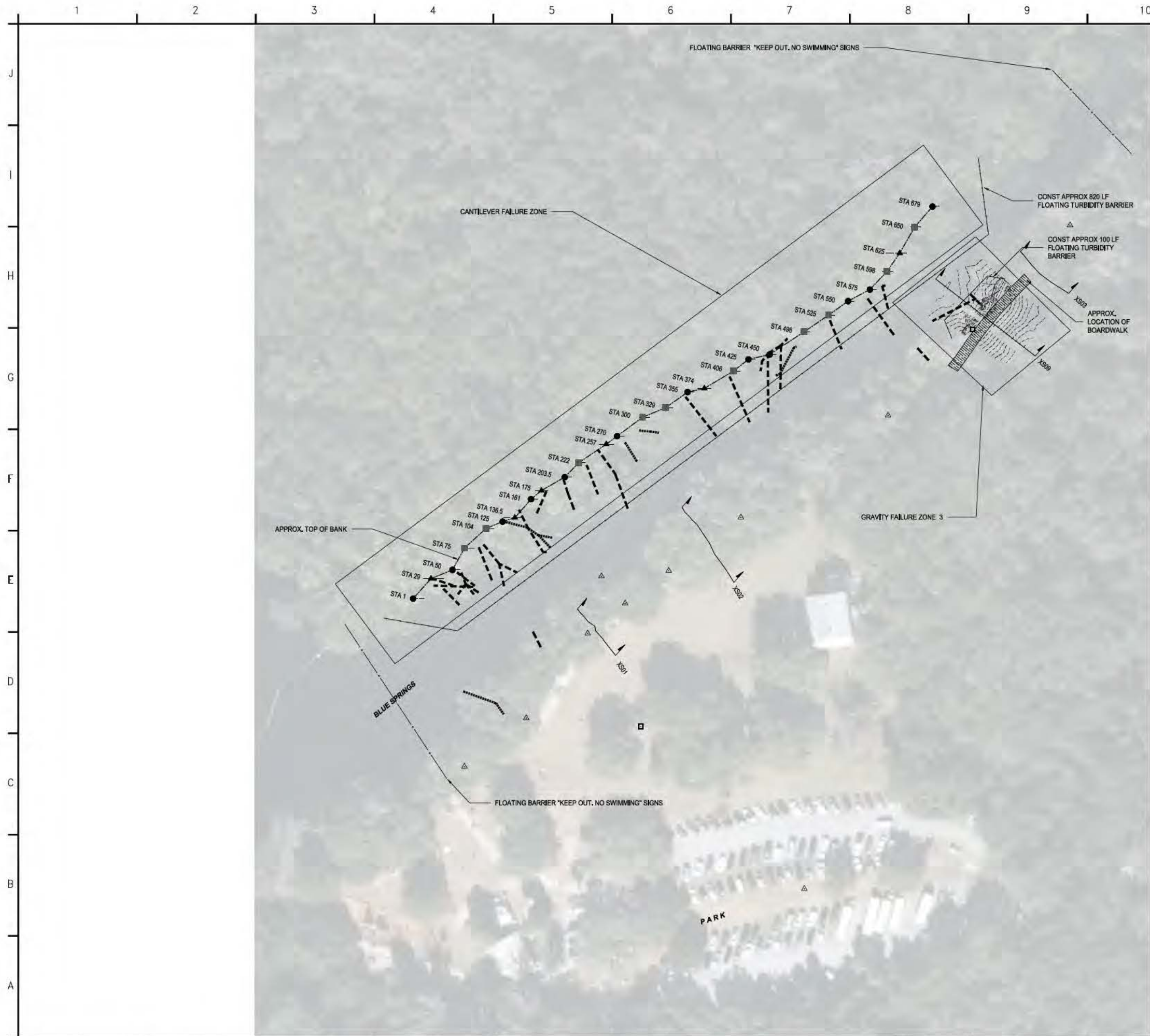
NO.	DATE	BY	APPROVED
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DESIGNED BY:	JHK
DRAWN BY:	JKH
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APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

EXISTING SITE
OVERALL

SHEET NUMBER:	REV. #
C200	--
SHEET 03 OF 28 SHEETS	



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STABILIZATION**

ORANGE CITY, FL



**FLORIDA FISH AND
WILDLIFE
CONSERVATION
COMMISSION**
620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

- SYMBOL DEFINITION**
- 0-2 FT CANTILEVER
 - 2-5 FT CANTILEVER
 - ▲ >5 FT CANTILEVER
 - △ BENCHMARK
 - SQUARE BENCHMARK
 - LEANING TREE
 - - - SUBMERGED TREE

- NOTE:**
- 1) VERTICAL DATUM: NGVD29
 - 2) HORIZONTAL DATUM: NAD83 FLORIDA STATE PLANES, EAST ZONE, US FOOT
 - 3) INCLUDES WOOD SURVEY AND FIELD DATA
 - 4) CONTRACTOR TO REMOVE ALL TREES LEANING OVER WATER OR DEEMED NECESSARY BY THE OWNER OR ENGINEER

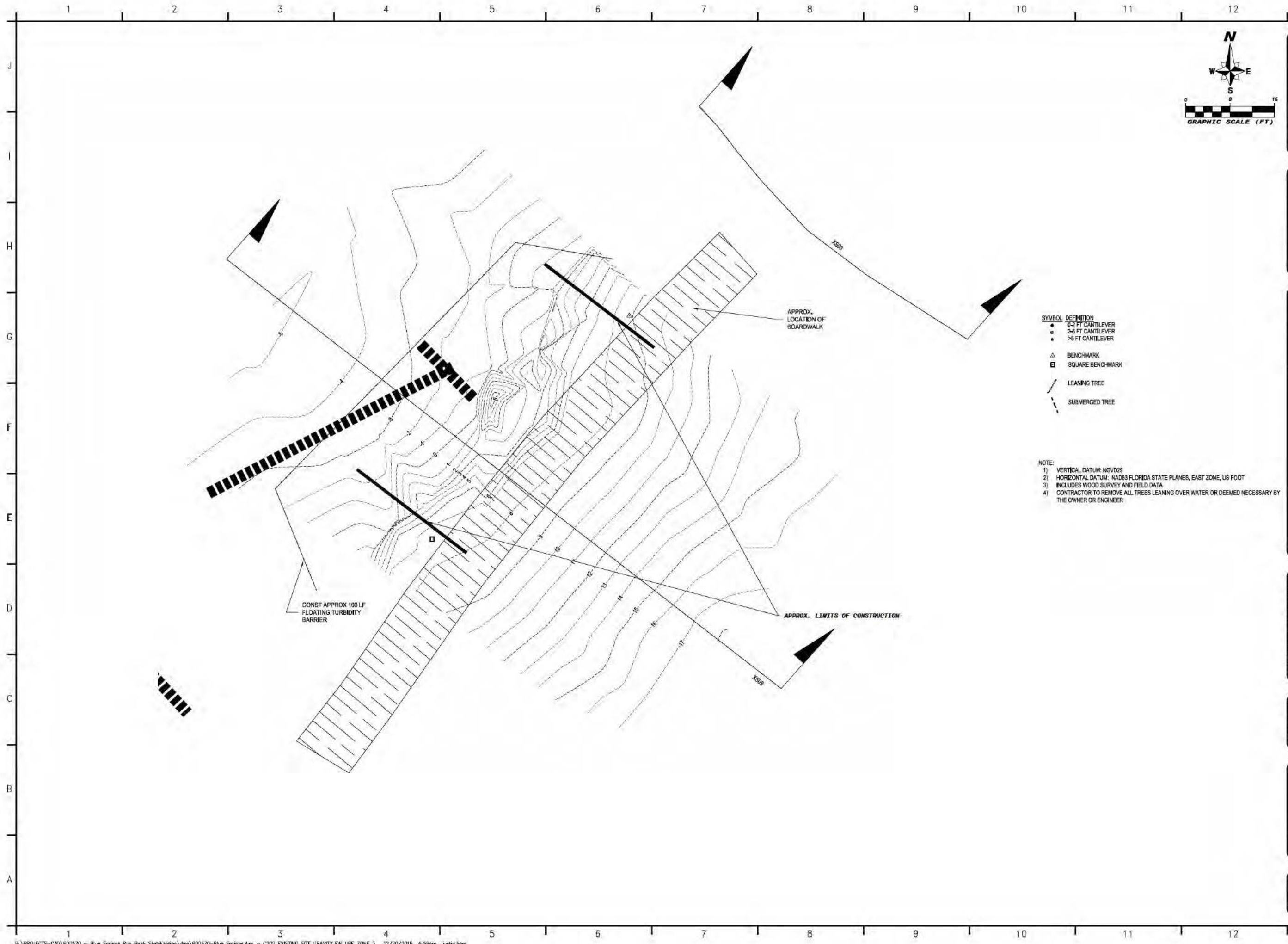
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NO.	DATE	BY	APPROVED

DESIGNED BY:	JHK
DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

**EXISTING SITE
LOWER RUN**

SHEET NUMBER:	REV. #
C201	
SHEET 04 OF 28 SHEETS	



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TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

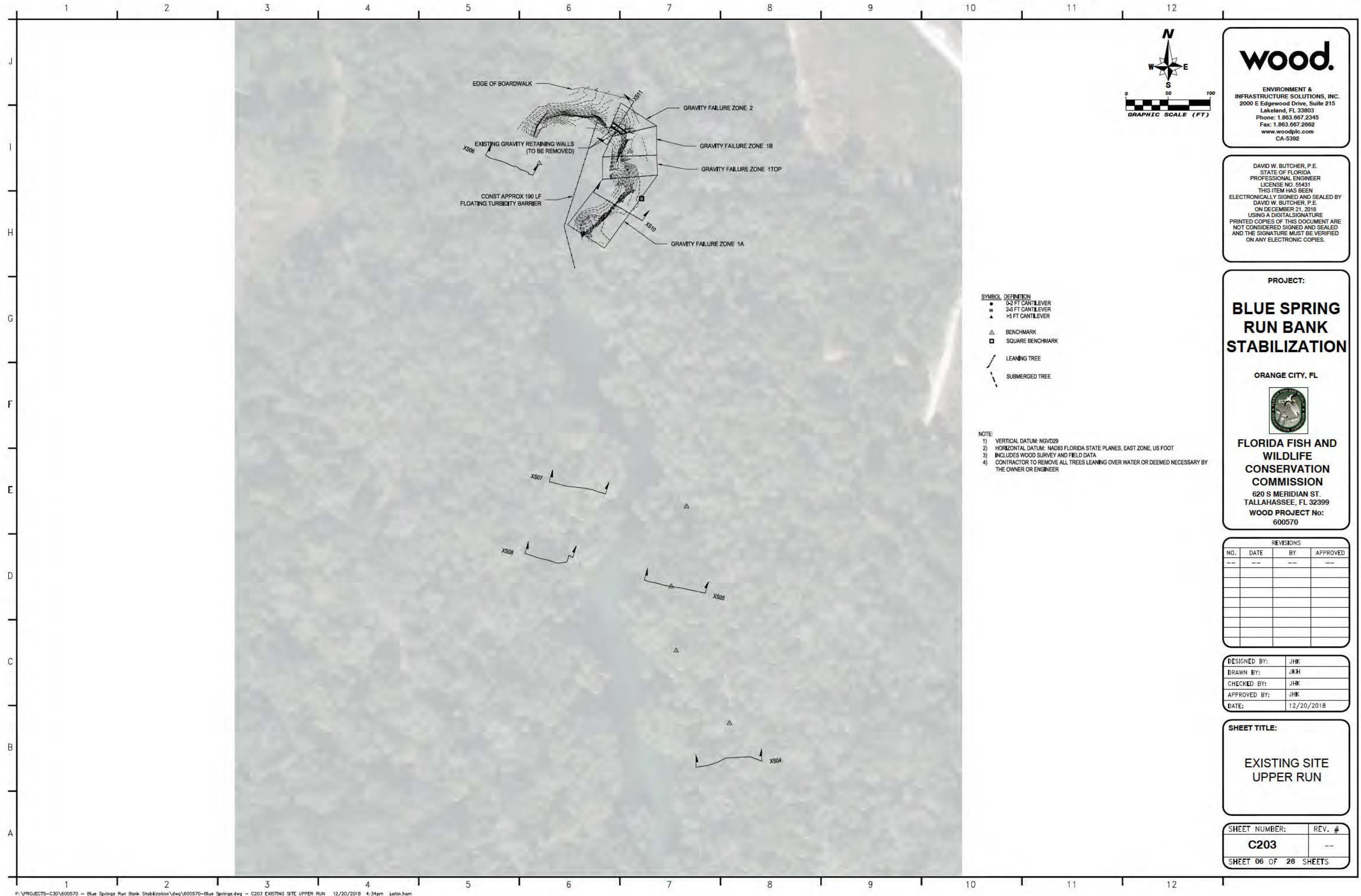
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NO.	DATE	BY	APPROVED

DESIGNED BY:	JHK
DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

**EXISTING SITE
GRAVITY FAILURE
ZONE 3**

SHEET NUMBER:	REV. #
C202	---
SHEET 05 OF 28 SHEETS	



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ORANGE CITY, FL



**FLORIDA FISH AND
WILDLIFE
CONSERVATION
COMMISSION**
620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

- SYMBOL DEFINITION**
- 0-2 FT CANTILEVER
 - 2-5 FT CANTILEVER
 - >5 FT CANTILEVER
 - BENCHMARK
 - SQUARE BENCHMARK
 - LEANING TREE
 - SUBMERGED TREE

NOTE:

- 1) VERTICAL DATUM: NGVD29
- 2) HORIZONTAL DATUM: NAD83 FLORIDA STATE PLANES, EAST ZONE, US FOOT
- 3) INCLUDES WOOD SURVEY AND FIELD DATA
- 4) CONTRACTOR TO REMOVE ALL TREES LEANING OVER WATER OR DEEMED NECESSARY BY THE OWNER OR ENGINEER

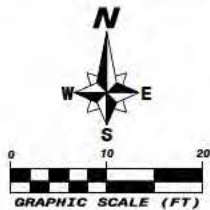
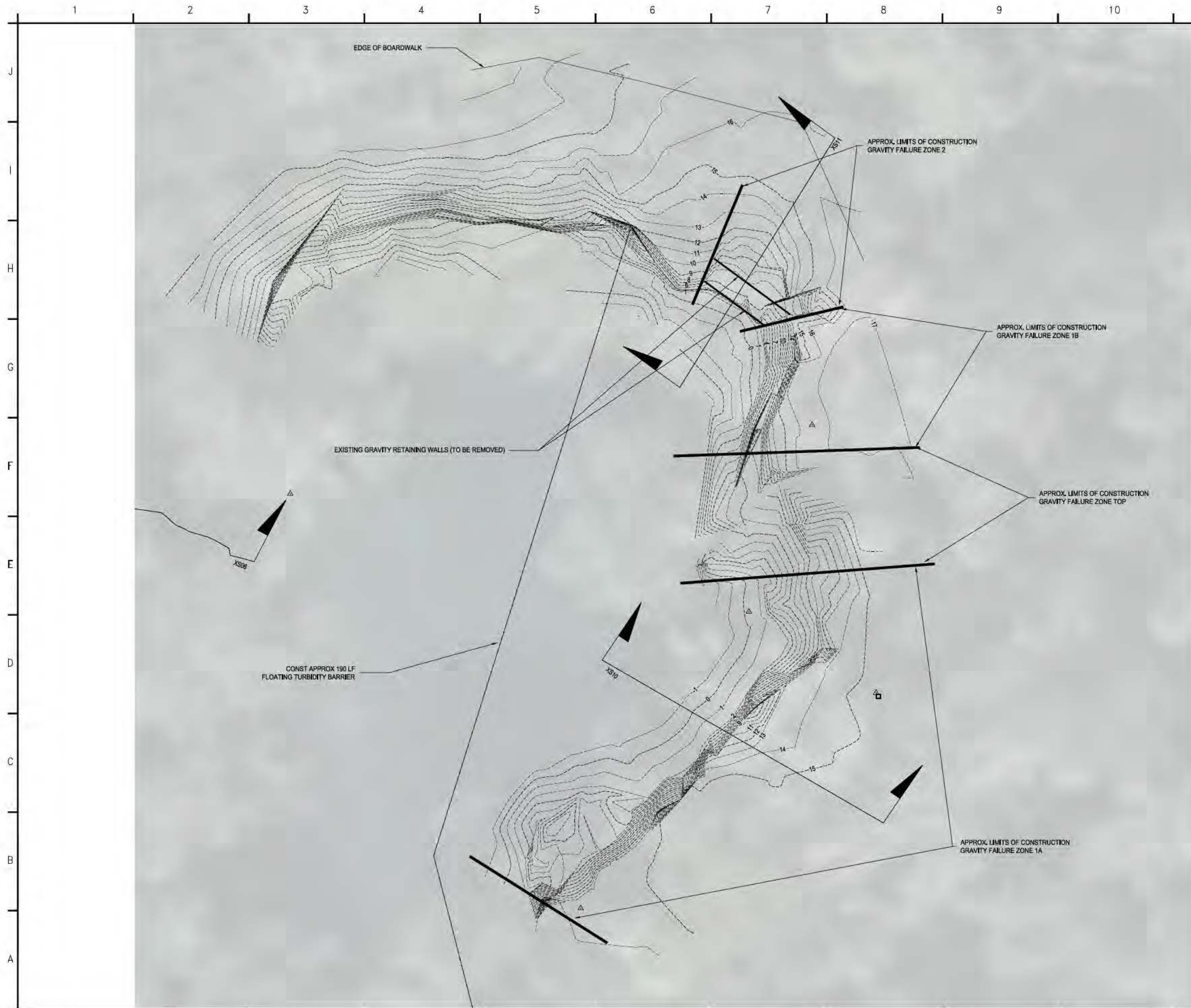
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DATE:	12/20/2018

SHEET TITLE:

**EXISTING SITE
UPPER RUN**

SHEET NUMBER:	REV. #
C203	
SHEET 06 OF 28 SHEETS	



SYMBOL	DEFINITION
■	0-2 FT CANTILEVER
▣	2-5 FT CANTILEVER
▲	>5 FT CANTILEVER
△	BENCHMARK
□	SQUARE BENCHMARK
—/—	LEANING TREE
- - -	SUBMERGED TREE

NOTE:
1) VERTICAL DATUM: NGVD29
2) HORIZONTAL DATUM: NAD83 FLORIDA STATE PLANES, EAST ZONE, US FOOT
3) INCLUDES WOOD SURVEY AND FIELD DATA
4) CONTRACTOR TO REMOVE ALL TREES LEANING OVER WATER OR DEEMED NECESSARY BY THE OWNER OR ENGINEER

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PROJECT:

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ORANGE CITY, FL



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CONSERVATION
COMMISSION**

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TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

REVISIONS

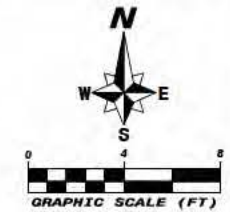
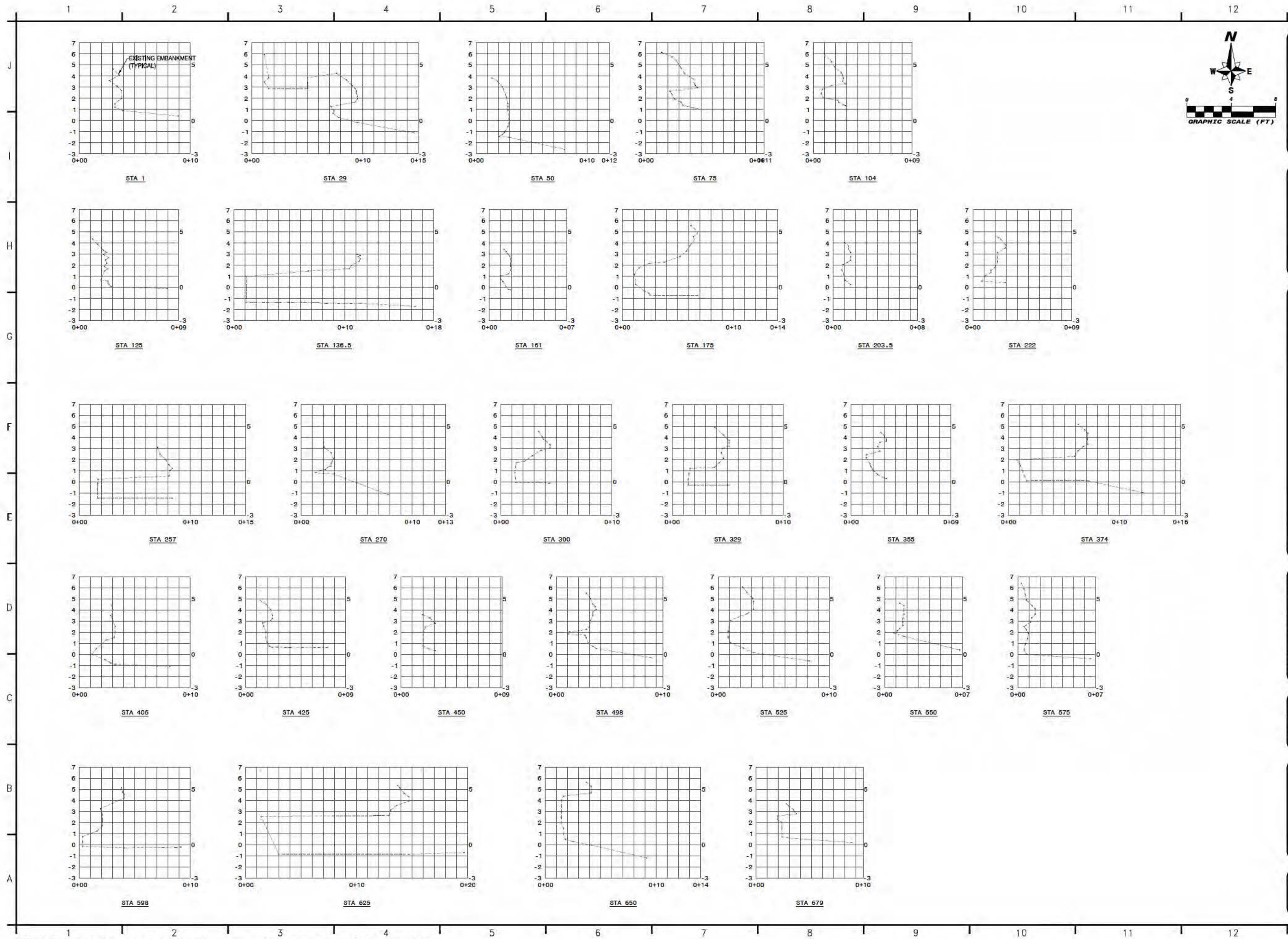
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APPROVED BY:	JHK
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SHEET TITLE:

**EXISTING SITE
HEAD SPRING**

SHEET NUMBER:	REV. #
C204	---
SHEET 07 OF 28 SHEETS	



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PROJECT:

**BLUE SPRING
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STABILIZATION**

ORANGE CITY, FL



**FLORIDA FISH AND
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COMMISSION**
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TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

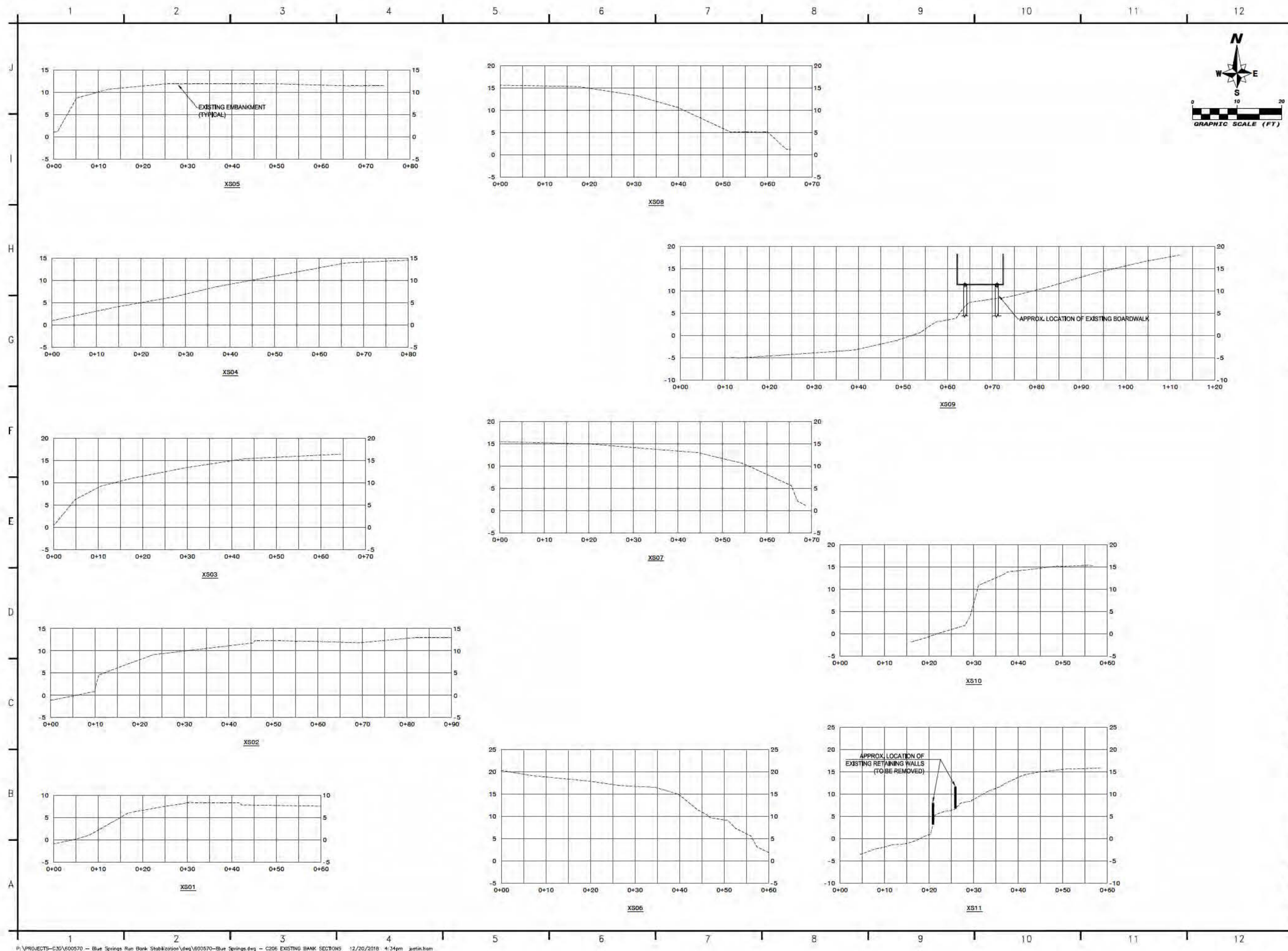
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SHEET TITLE:

**EXISTING BANK
SECTIONS**

SHEET NUMBER:	REV. #
C205	---
SHEET 08 OF 28 SHEETS	



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620 S MERIDIAN ST.
TALLAHASSEE, FL 32399

WOOD PROJECT No:
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REVISIONS

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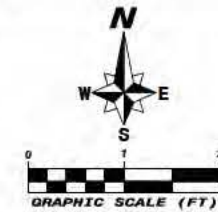
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DATE:	12/20/2018

SHEET TITLE:

**EXISTING BANK
SECTIONS**

SHEET NUMBER:	REV. #
C206	--
SHEET 09 OF 28 SHEETS	

- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
 - 2) GEOTEXTILE BAGS (GEOBAG) TO BE PERMANENT NON-WOVEN GEOTEXTILE BAGS (ENVIROLOK SYSTEM OR EQUIVALENT TO BE APPROVED BY OWNER).
 - 3) RIPRAP TO BE 2 FT THICK EXCEPT WHERE VOID IS LESS THAN 2 FT. IF LESS THAN 2 FT, FILL ENTIRE VOID WITH RIPRAP. RIPRAP PLUS NO. 57 STONE HEIGHT NOT TO EXCEED AVERAGE WATER LEVEL AS INDICATED ON PLANS.



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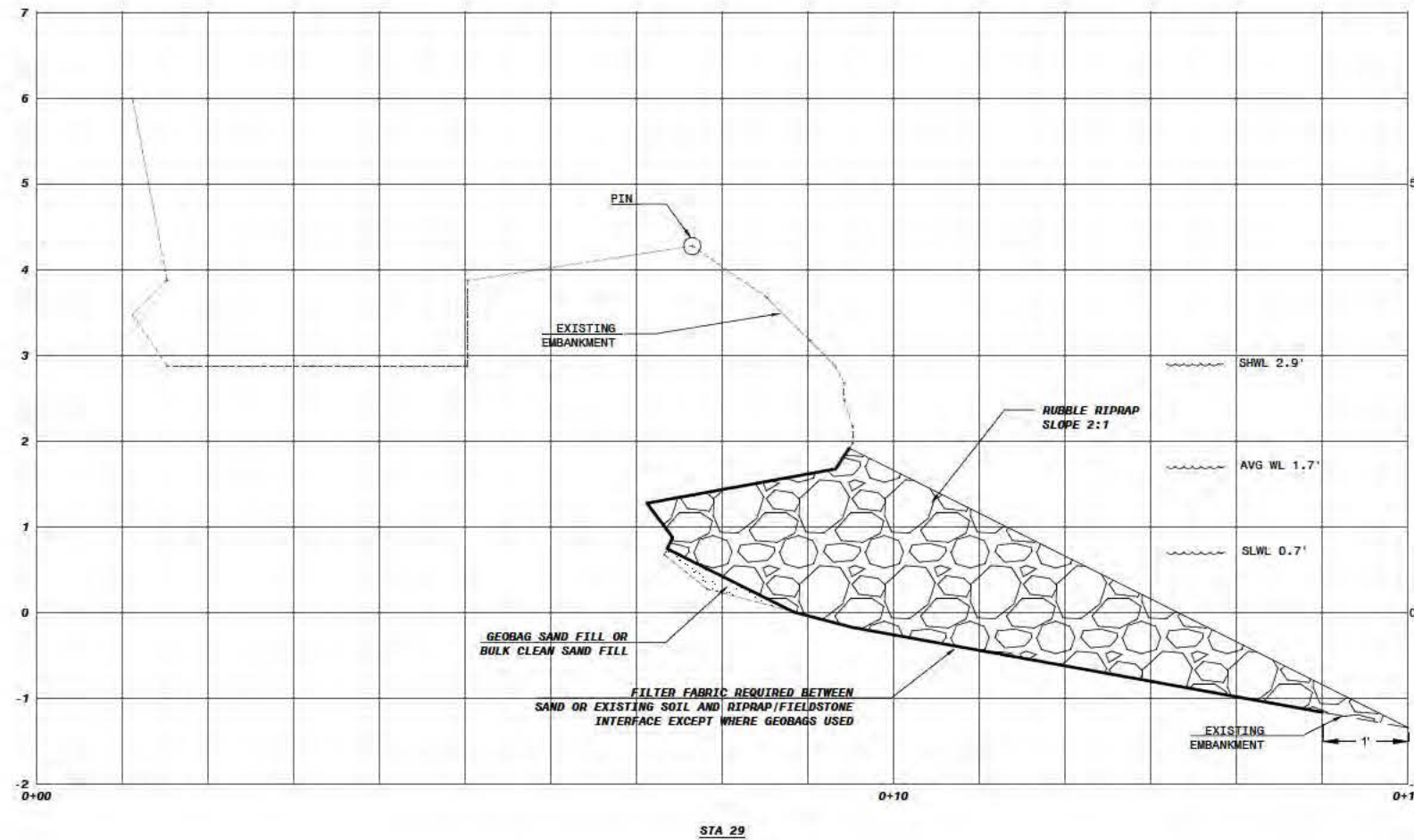
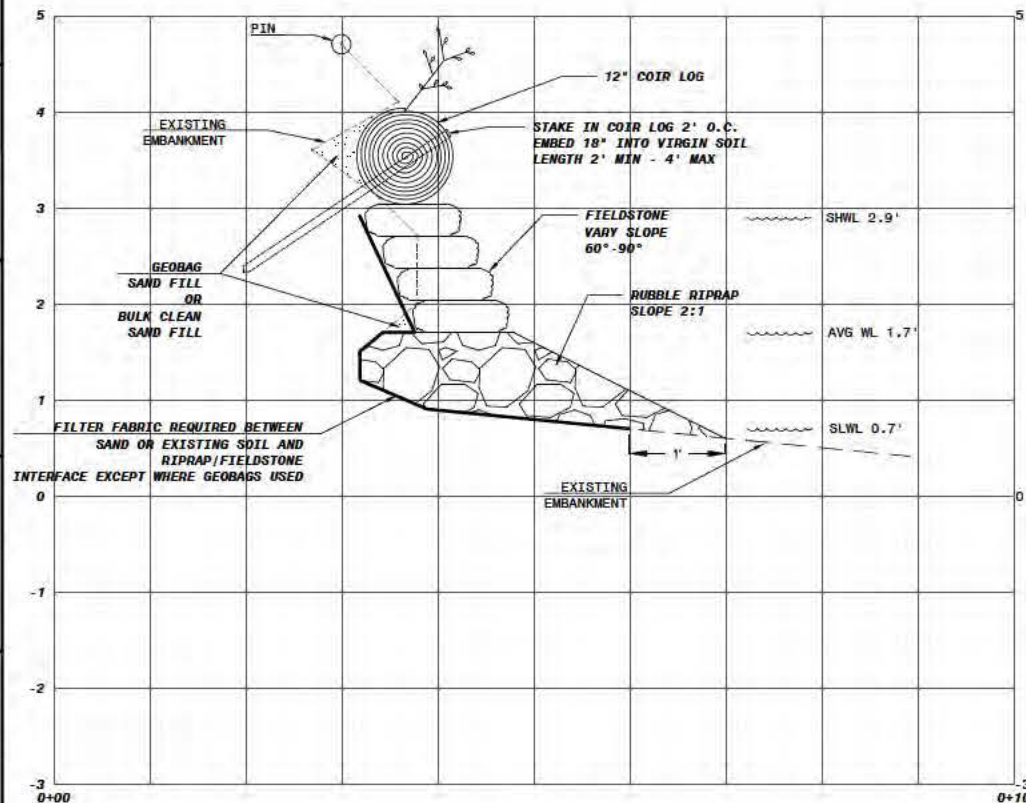
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SHEET TITLE:

**PROPOSED
CANTILEVER BANK
SECTIONS**

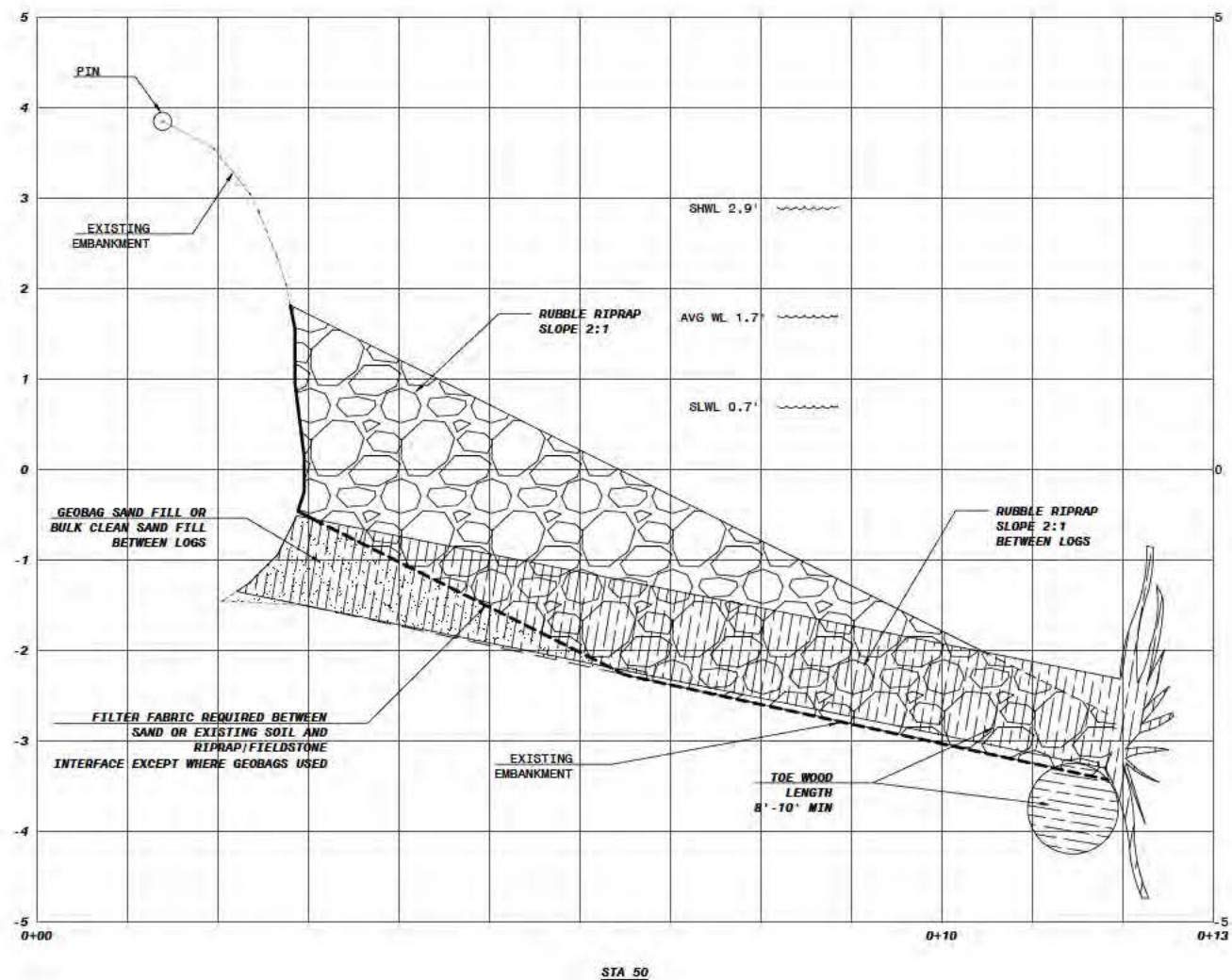
SHEET NUMBER:	REV. #
C300	--
SHEET 10 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

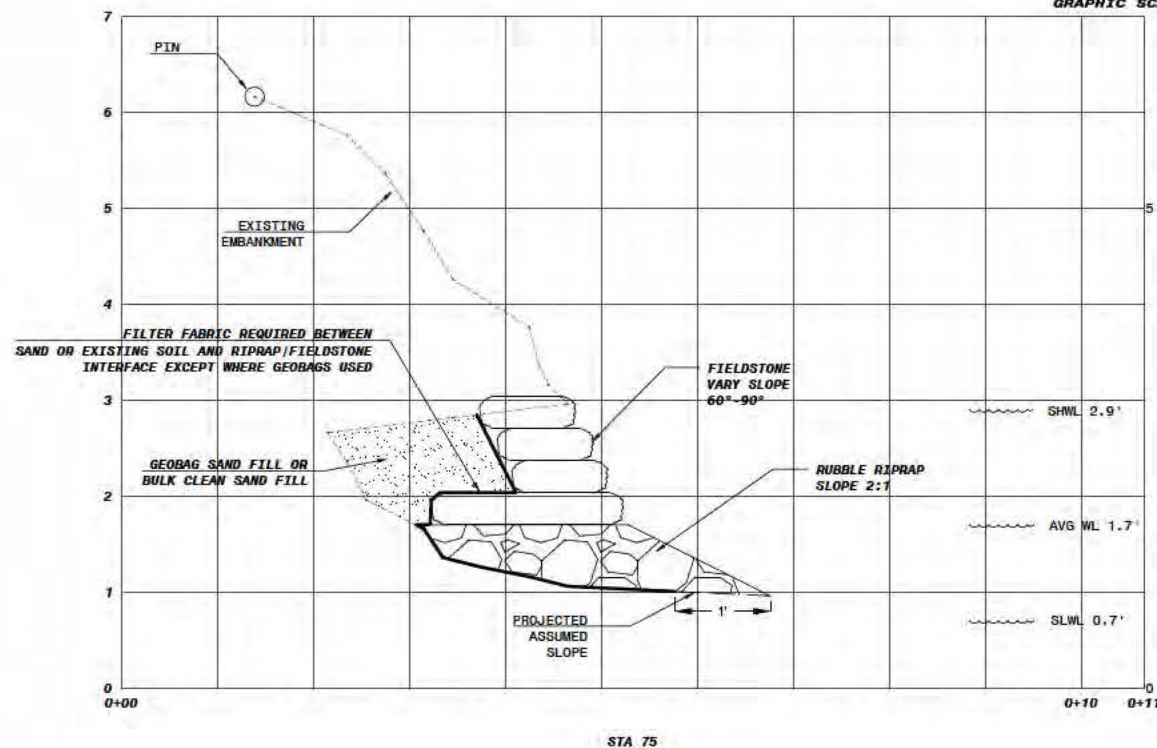
STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
1	0.00	--	2.17	--	1.32	--	0.04	--	0.79	--
29	0.00	(1-29) 0.00	9.56	(1-29) 164.22	0.00	(1-29) 18.48	0.20	(1-29) 3.36	0.00	(1-29) 11.06

- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
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*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
50	10.49	(29-50) 110.15	16.00	(29-50) 268.38	0.00	(29-50) 0.00	2.17	(29-50) 24.89	0.00	(29-50) 0.00
75	0.00	(50-75) 131.13	1.59	(50-75) 219.88	1.63	(50-75) 20.38	1.33	(50-75) 43.75	0.00	(50-75) 0.00



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ORANGE CITY, FL



FLORIDA FISH AND
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CONSERVATION
COMMISSION

620 S MERIDIAN ST.
TALLAHASSEE, FL 32399

WOOD PROJECT No:
600570

REVISIONS

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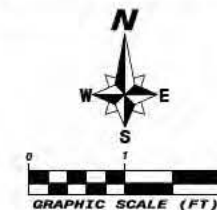
DESIGNED BY:	JHK
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SHEET TITLE:

PROPOSED
CANTILEVER BANK
SECTIONS

SHEET NUMBER:	REV. #
C301	---
SHEET 11 OF 28 SHEETS	

- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
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620 S MERIDIAN ST.
TALLAHASSEE, FL 32399

WOOD PROJECT No:
600570

REVISIONS

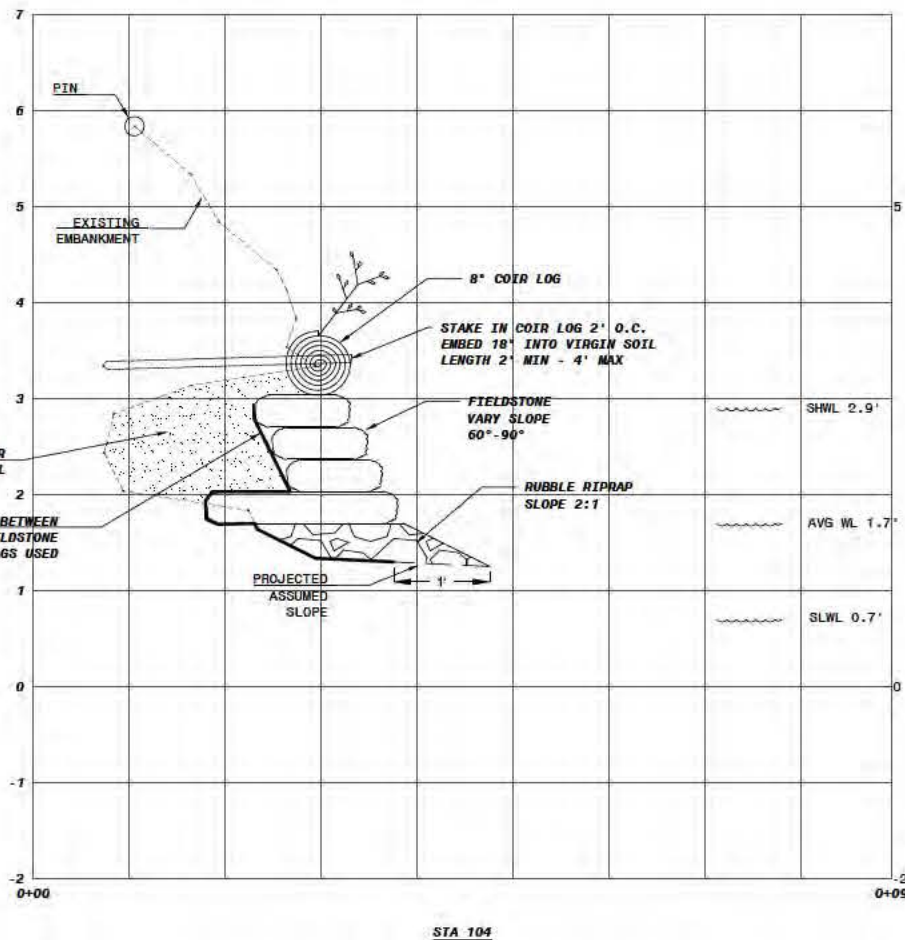
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SHEET TITLE:

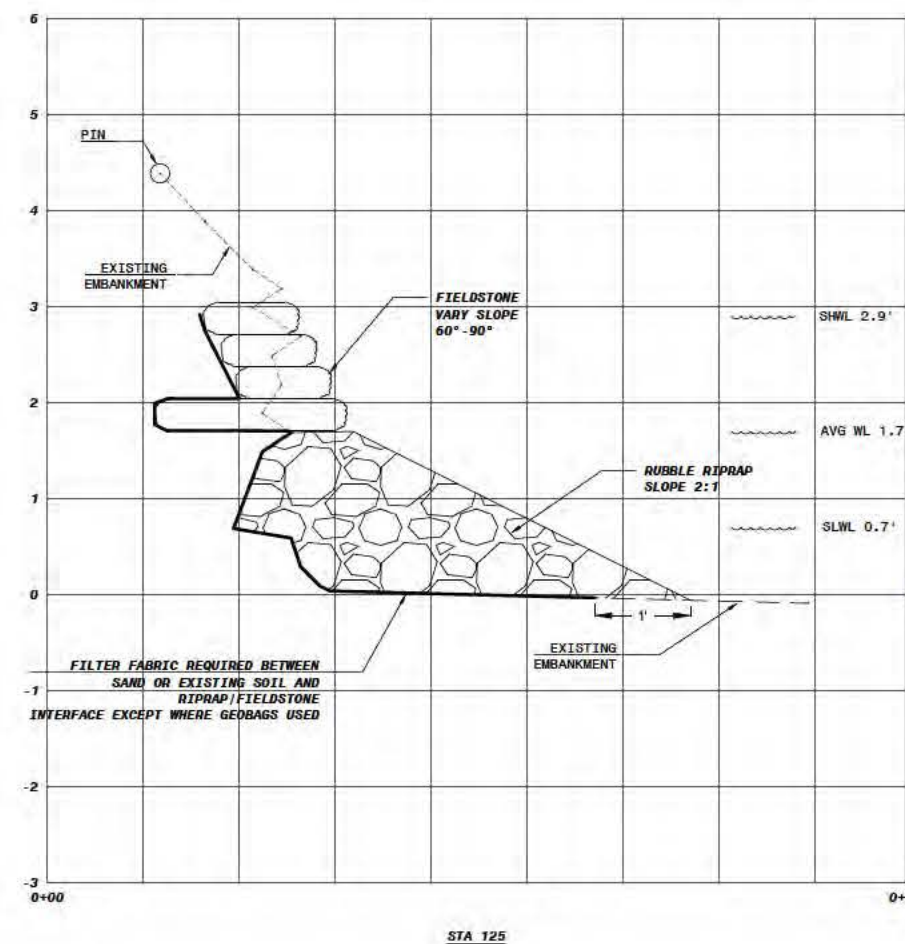
**PROPOSED
CANTILEVER BANK
SECTIONS**

SHEET NUMBER:	REV. #
C302	--
SHEET 12 OF 28 SHEETS	

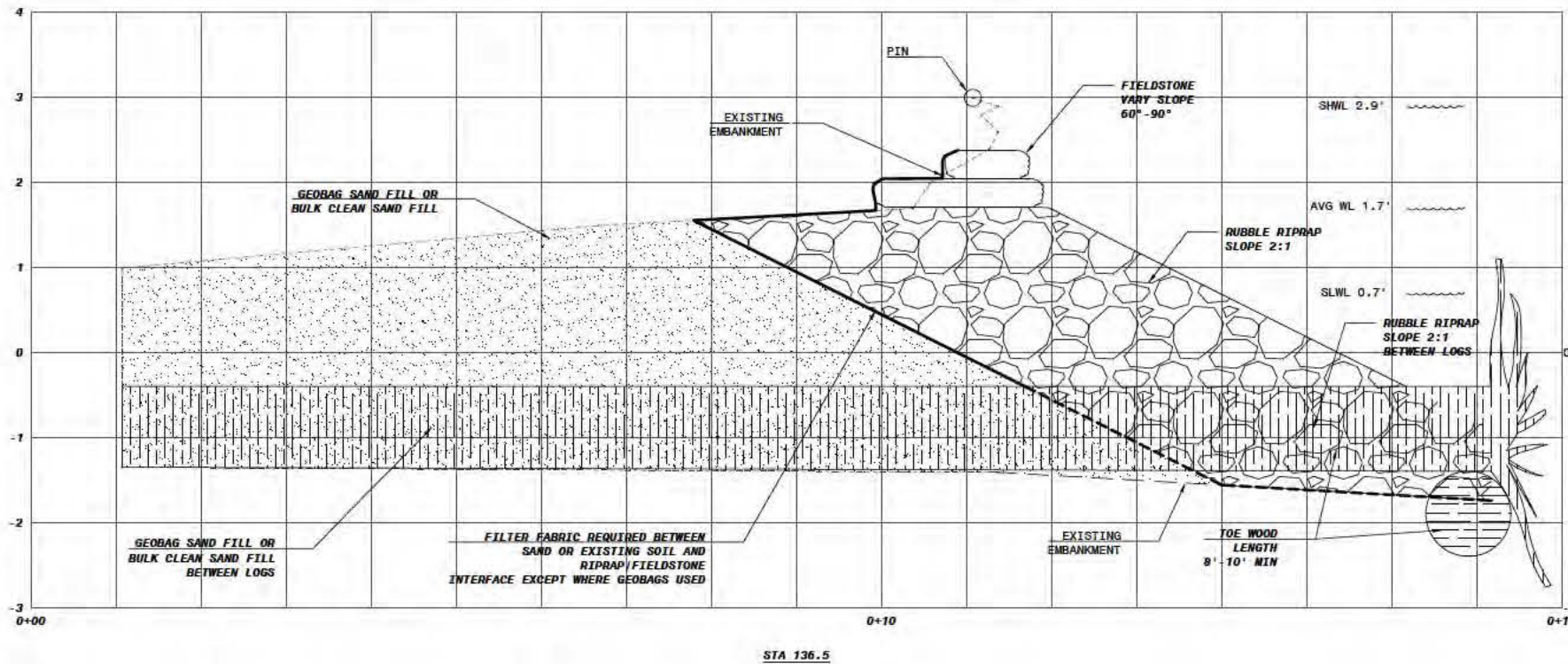


*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
104	0.00	(75-104) 0.00	0.66	(75-104) 32.63	1.63	(75-104) 47.27	1.86	(75-104) 46.26	0.35	(75-104) 5.08
125	0.00	(104-125) 0.00	4.35	(104-125) 52.61	1.63	(104-125) 34.23	0.00	(104-125) 19.53	0.00	(104-125) 3.68

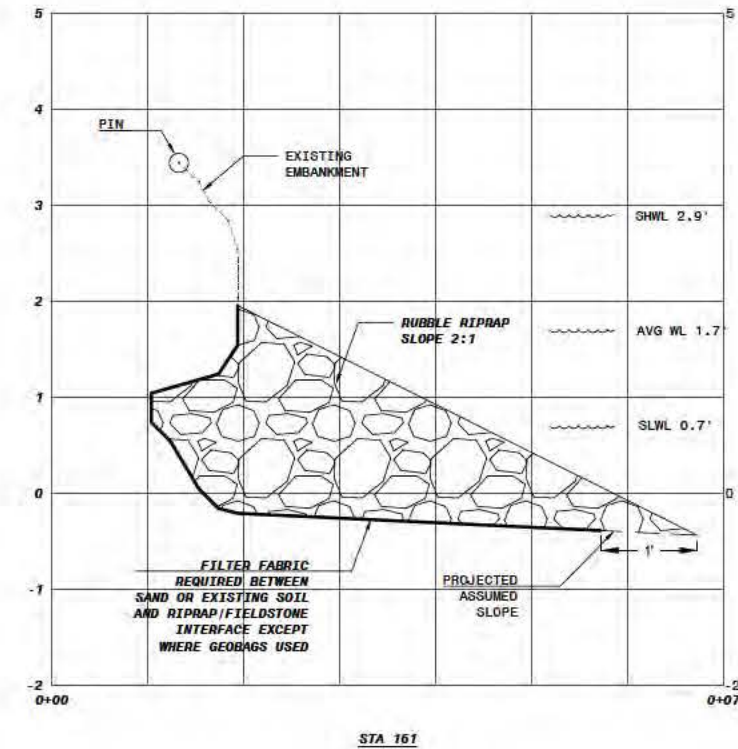


- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
 - 2) GEOTEXTILE BAGS (GEOBAG) TO BE PERMANENT NON-WOVEN GEOTEXTILE BAGS (ENVIROLOK SYSTEM OR EQUIVALENT TO BE APPROVED BY OWNER).
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*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
136.5	17.47	(125-136.5) 100.45	14.21	(125-136.5) 106.72	1.02	(125-136.5) 15.24	26.75	(125-136.5) 153.81	0.00	(125-136.5) 0.00
161	0.00	(136.5-161) 214.01	6.09	(136.5-161) 248.68	0.00	(136.5-161) 12.50	0.00	(136.5-161) 327.69	0.00	(136.5-161) 0.00



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CA-5392

DAVID W. BUTCHER, P.E.
STATE OF FLORIDA
PROFESSIONAL ENGINEER
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PROJECT:

BLUE SPRING RUN BANK STABILIZATION

ORANGE CITY, FL



FLORIDA FISH AND
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CONSERVATION
COMMISSION

620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

REVISIONS

NO.	DATE	BY	APPROVED
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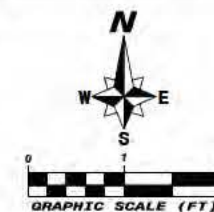
DESIGNED BY:	JHK
DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

PROPOSED
CANTILEVER BANK
SECTIONS

SHEET NUMBER:	REV. #
C303	---
SHEET 13 OF 28 SHEETS	

- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
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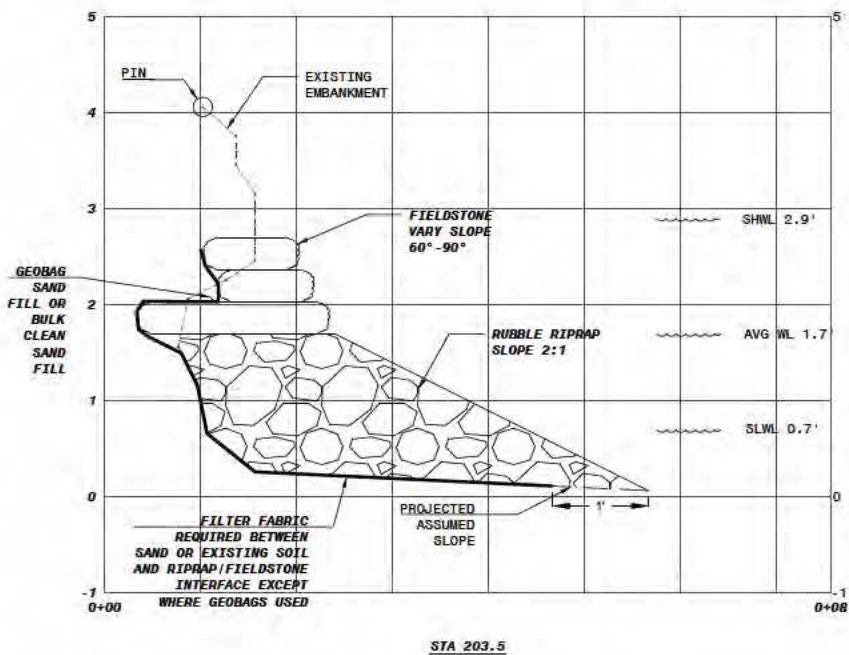
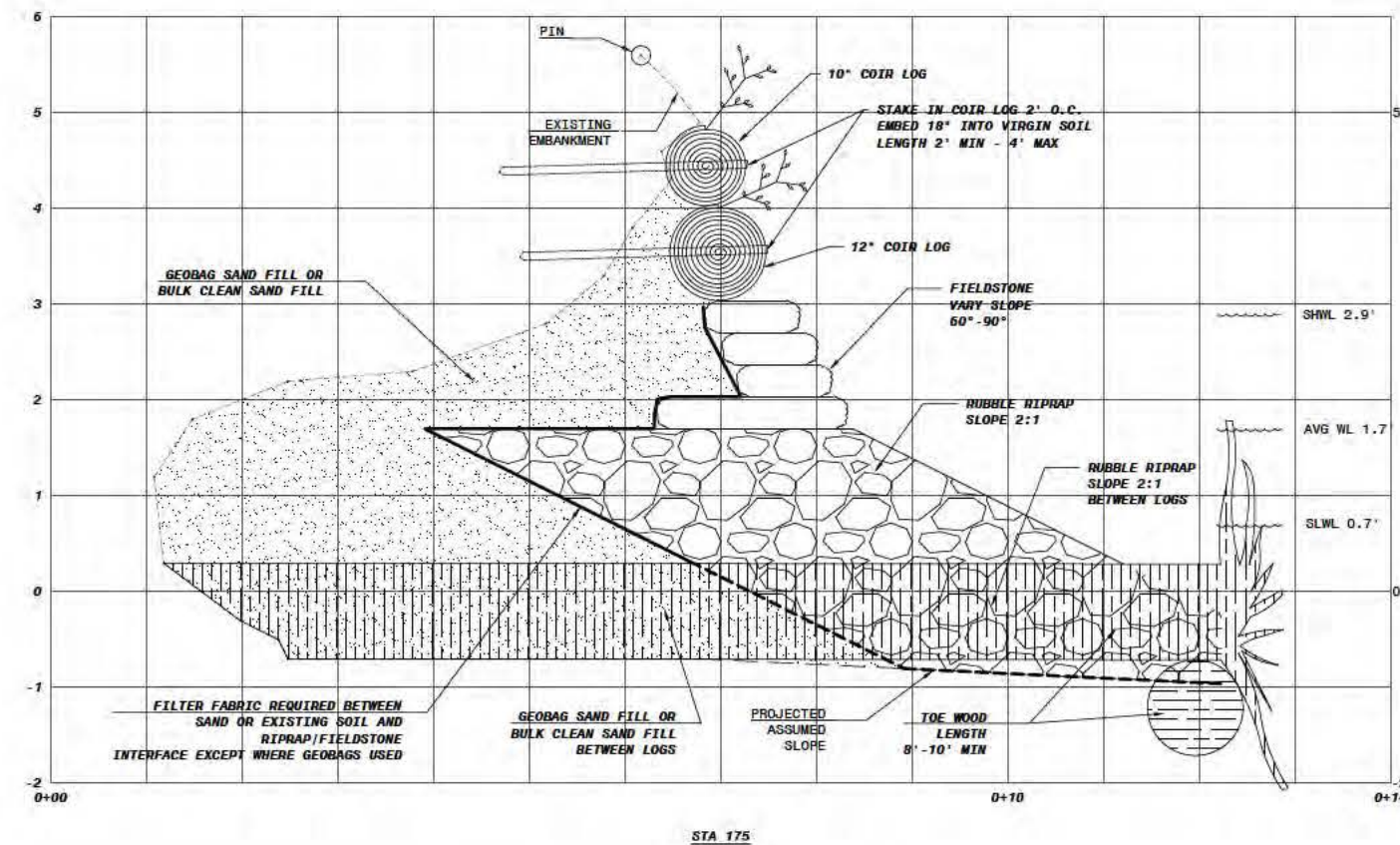
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SHEET TITLE:
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SECTIONS**

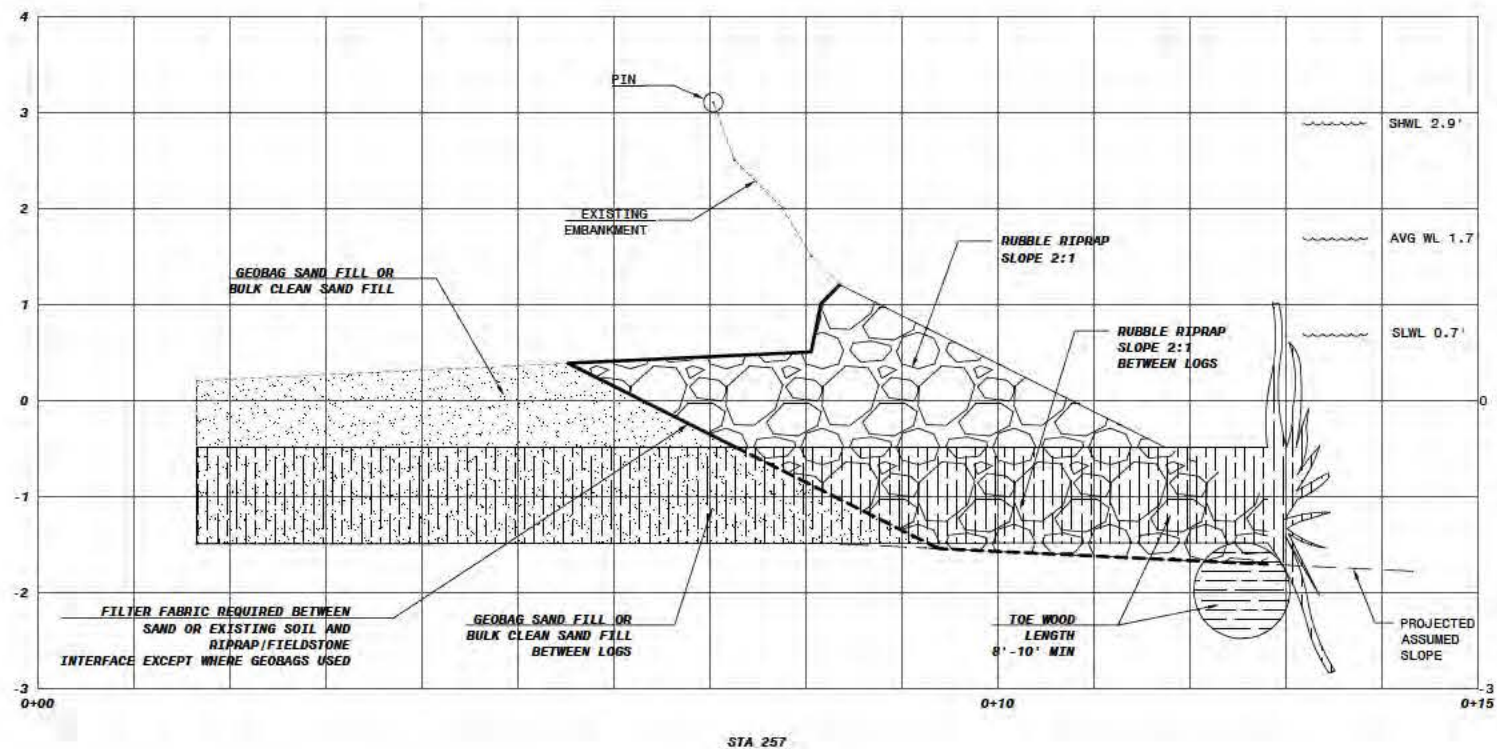
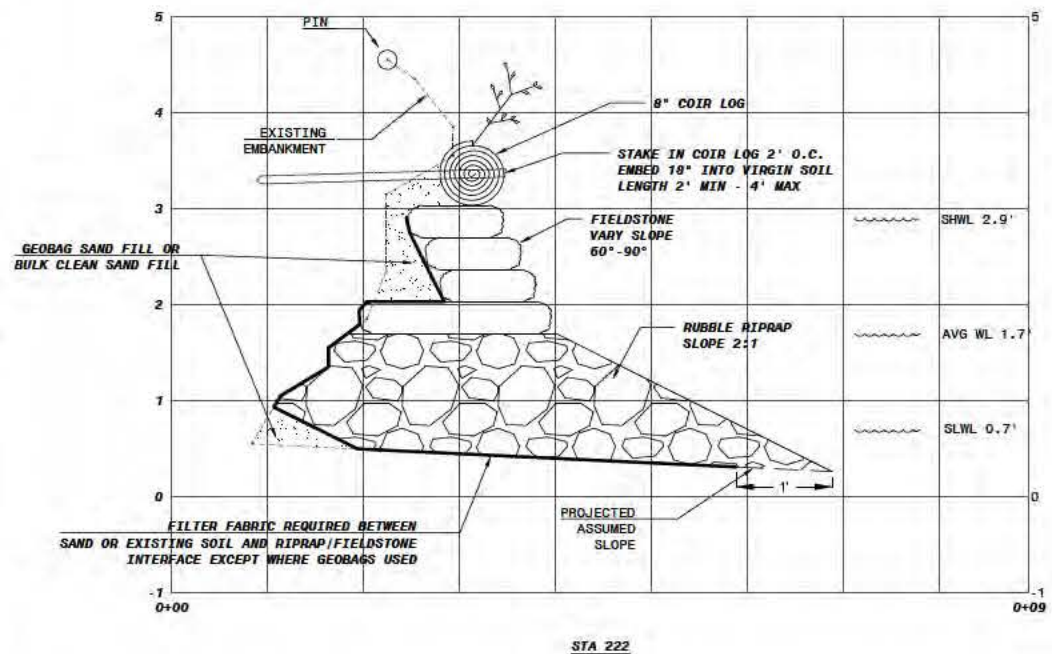
SHEET NUMBER:	REV. #
C304	---
SHEET 14 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

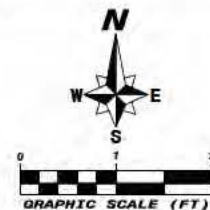
STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
175	11.35	(161-175) 79.45	11.18	(161-175) 120.89	1.63	(161-175) 11.41	16.80	(161-175) 117.60	1.33	(161-175) 9.31
203.5	0.00	(175-203.5) 161.74	4.39	(175-203.5) 221.87	1.29	(175-203.5) 41.61	0.04	(175-203.5) 239.97	0.00	(175-203.5) 18.95

- NOTES:
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*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
222	0.00	(203.5-222) 0.00	5.00	(203.5-222) 86.86	1.63	(203.5-222) 27.01	0.79	(203.5-222) 7.68	0.35	(203.5-222) 3.24
257	12.00	(222-257) 210.00	9.67	(222-257) 256.73	0.00	(222-257) 28.53	10.48	(222-257) 197.23	0.00	(222-257) 6.13



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PROJECT:

BLUE SPRING RUN BANK STABILIZATION

ORANGE CITY, FL



FLORIDA FISH AND
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CONSERVATION
COMMISSION

620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

REVISIONS

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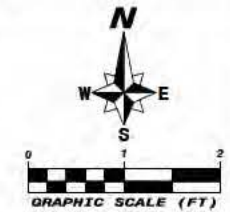
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DRAWN BY:	JKH
CHECKED BY:	JHK
APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

PROPOSED
CANTILEVER BANK
SECTIONS

SHEET NUMBER:	REV. #
C305	---
SHEET 15 OF 28 SHEETS	

- NOTES:
- 1) FIELDSTONE MUST BE PLACED LEVEL. NO. 57 STONE MAY BE USED TO CHINK IN A LEVEL BASE AT THE TOP OF THE RIPRAP LAYER, NO THICKER THAN 4 INCHES & NOT ABOVE THE DEPICTED RIPRAP GRADE ELEVATION.
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620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

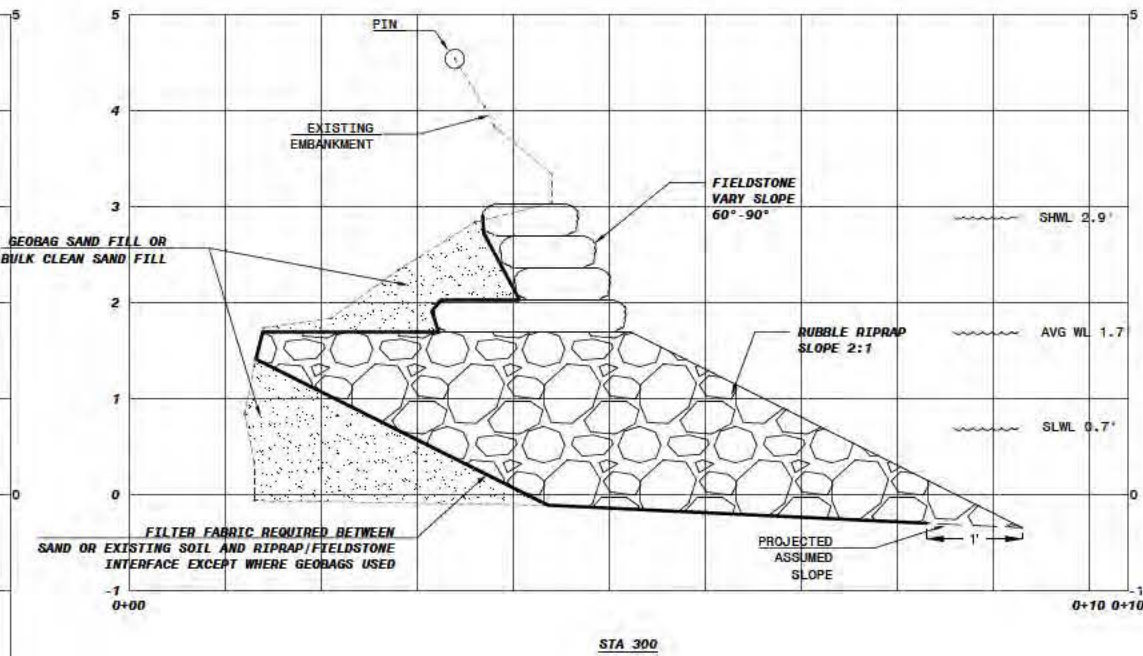
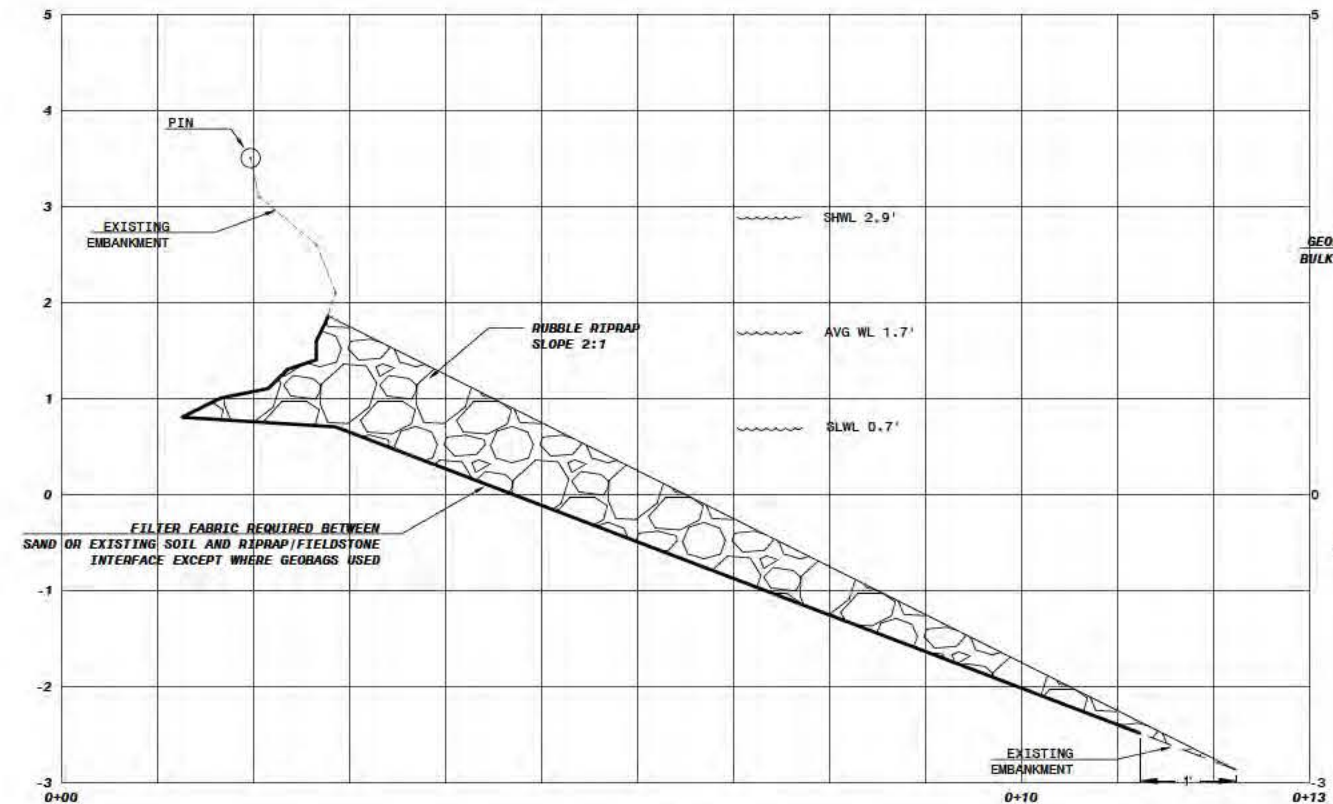
REVISIONS			
NO.	DATE	BY	APPROVED

DESIGNED BY:	JHK
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DATE:	12/20/2018

SHEET TITLE:

PROPOSED CANTILEVER BANK SECTIONS

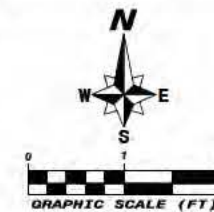
SHEET NUMBER:	REV. #
C306	---
SHEET 16 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT) *	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
270	0.00	(257-270) 78.00	5.92	(257-270) 101.34	0.00	(257-270) 0.00	0.00	(257-270) 68.12	0.00	(257-270) 0.00
300	0.00	(270-300) 0.00	8.51	(270-300) 216.45	1.53	(270-300) 24.45	3.47	(270-300) 52.05	0.00	(270-300) 0.00

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CONSERVATION
COMMISSION**

620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
600570

REVISIONS

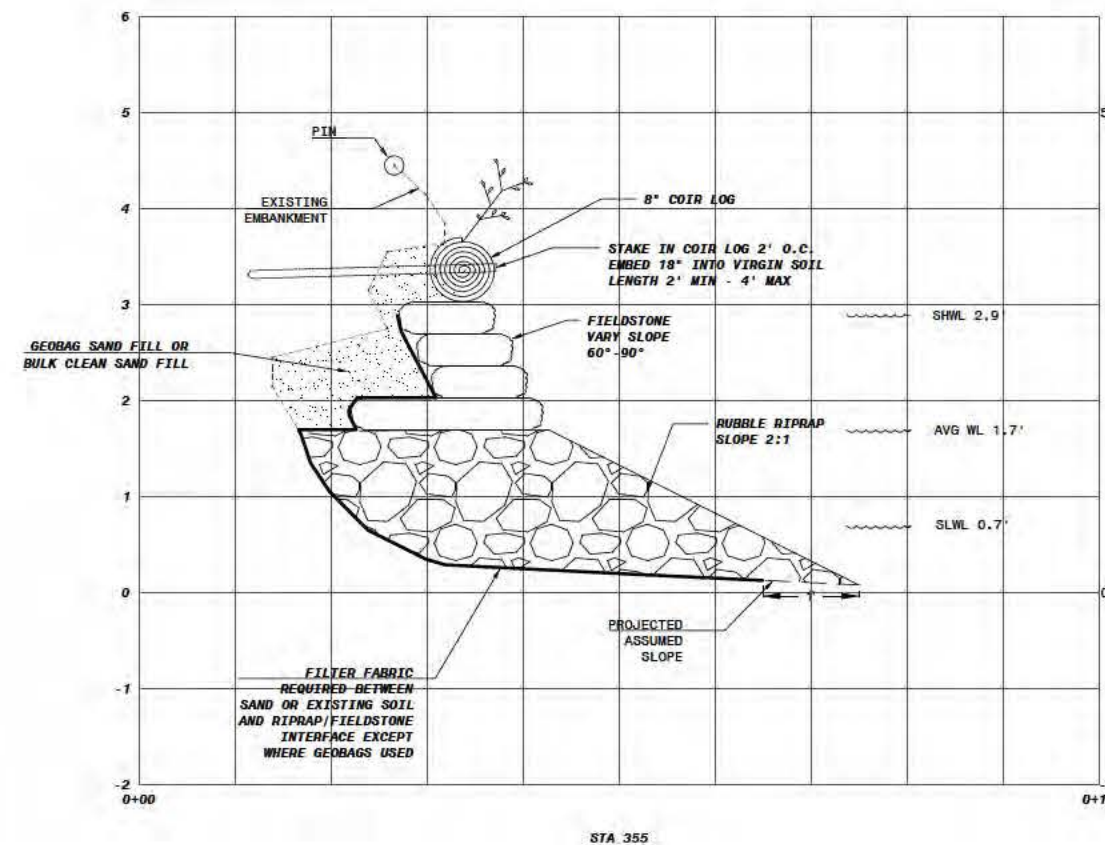
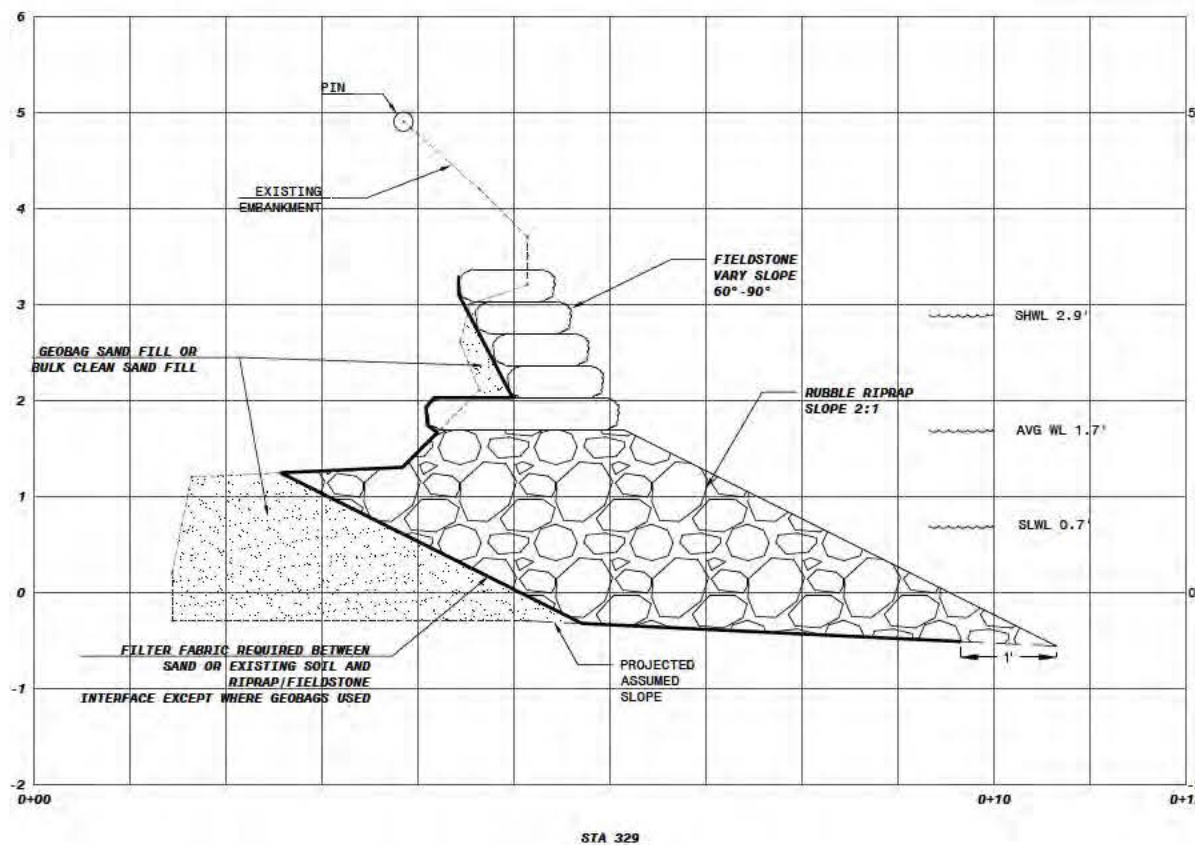
NO.	DATE	BY	APPROVED
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DESIGNED BY:	JHK
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APPROVED BY:	JHK
DATE:	12/20/2018

SHEET TITLE:

**PROPOSED
CANTILEVER BANK
SECTIONS**

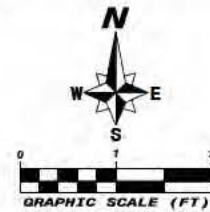
SHEET NUMBER:	REV. #
C307	--
SHEET 17 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
329	0.00	(300-329) 0.00	8.74	(300-329) 250.13	1.97	(300-329) 52.20	4.22	(300-329) 111.51	0.00	(300-329) 0.00
355	0.00	(329-355) 0.00	5.36	(329-355) 183.30	1.63	(329-355) 46.80	1.57	(329-355) 75.27	0.35	(329-355) 4.55

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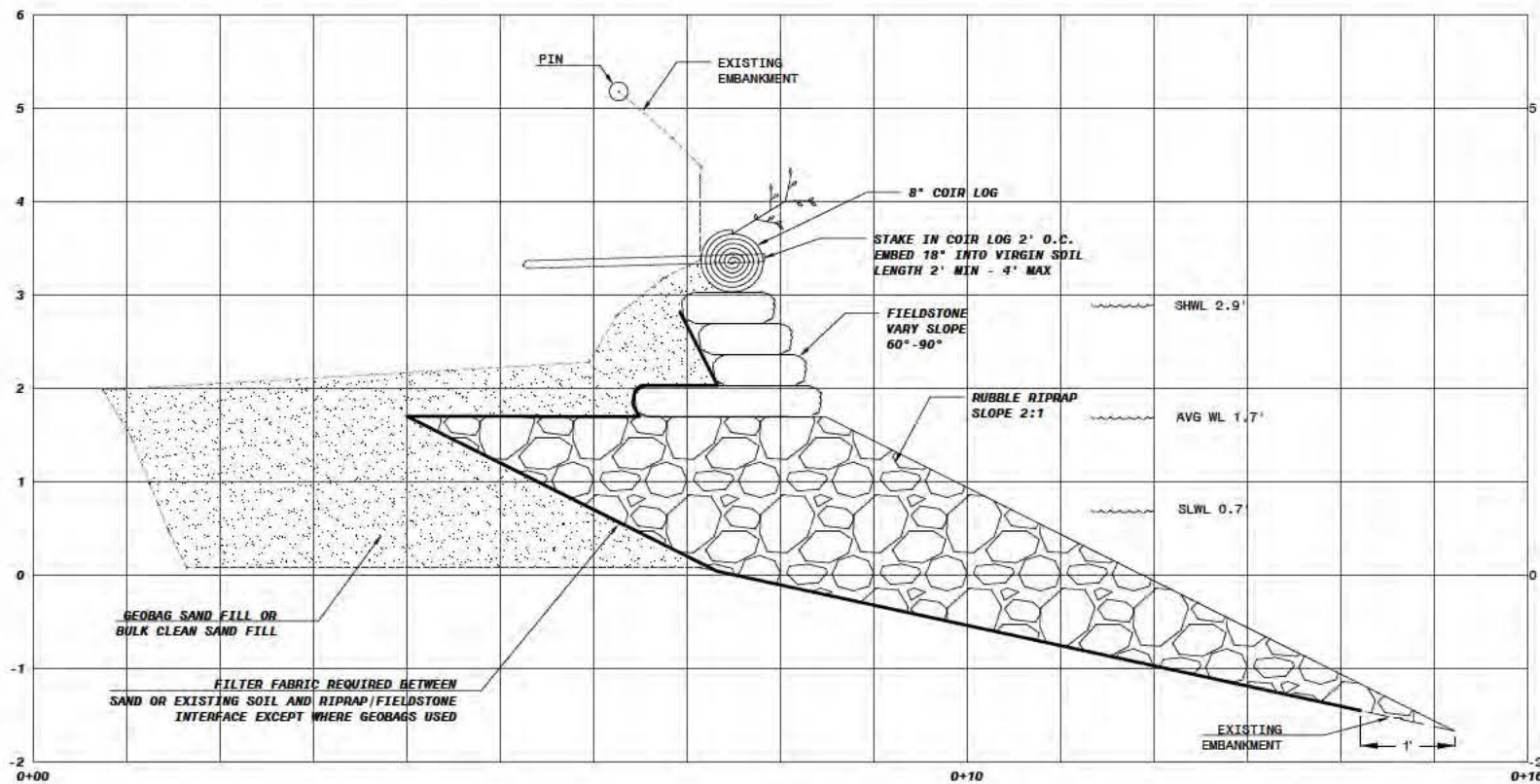
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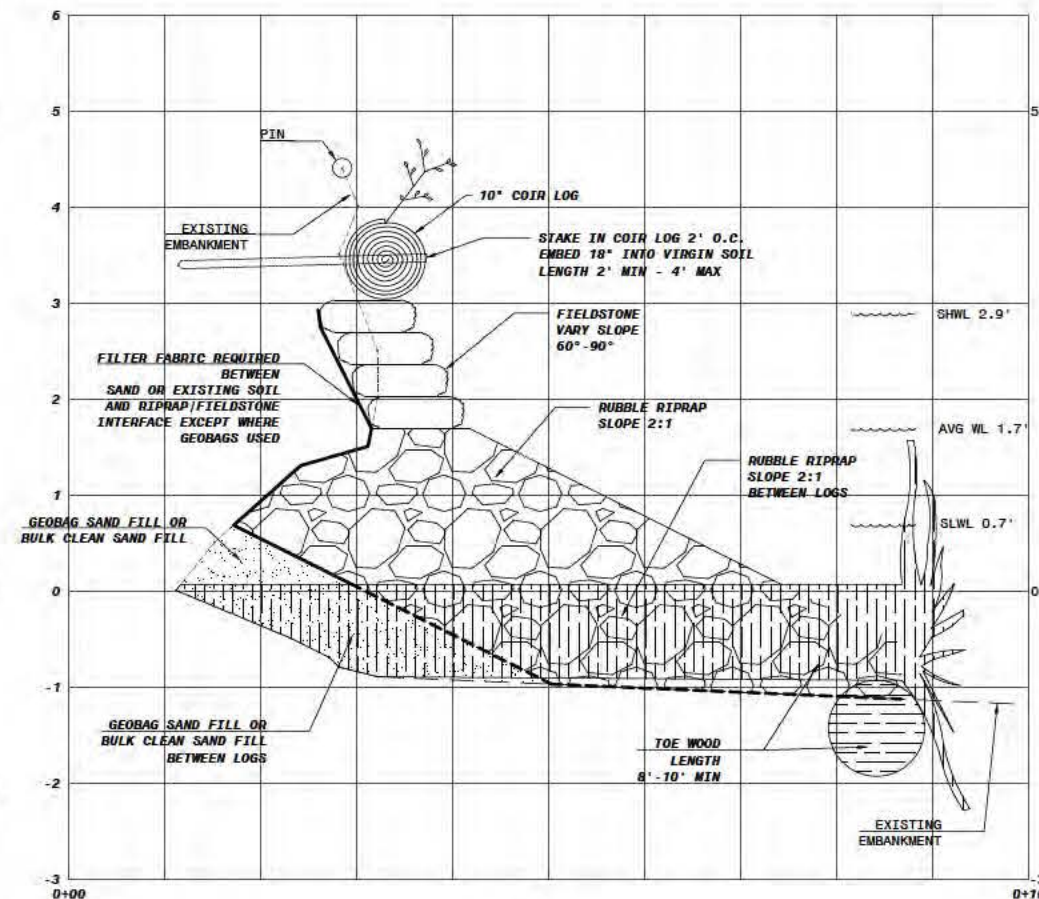
SHEET TITLE:

**PROPOSED
CANTILEVER BANK
SECTIONS**

SHEET NUMBER:	REV. #
C308	---
SHEET 18 OF 28 SHEETS	



STA 374

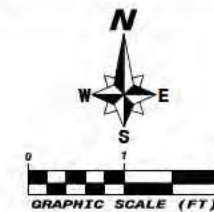


STA 406

*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
374	0.00	(355-374) 0.00	11.24	(355-374) 157.70	1.63	(355-374) 30.97	10.50	(355-374) 114.67	0.35	(355-374) 6.65
406	6.95	(374-406) 111.20	10.32	(374-406) 344.96	1.35	(374-406) 47.68	2.38	(374-406) 206.08	0.55	(374-406) 14.40

- NOTES:
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REVISIONS

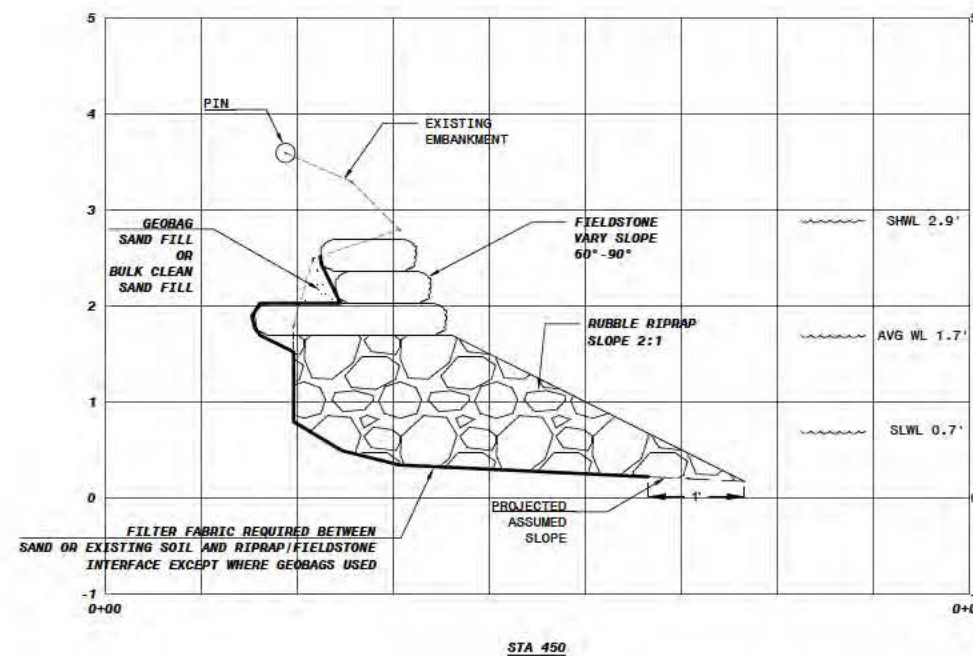
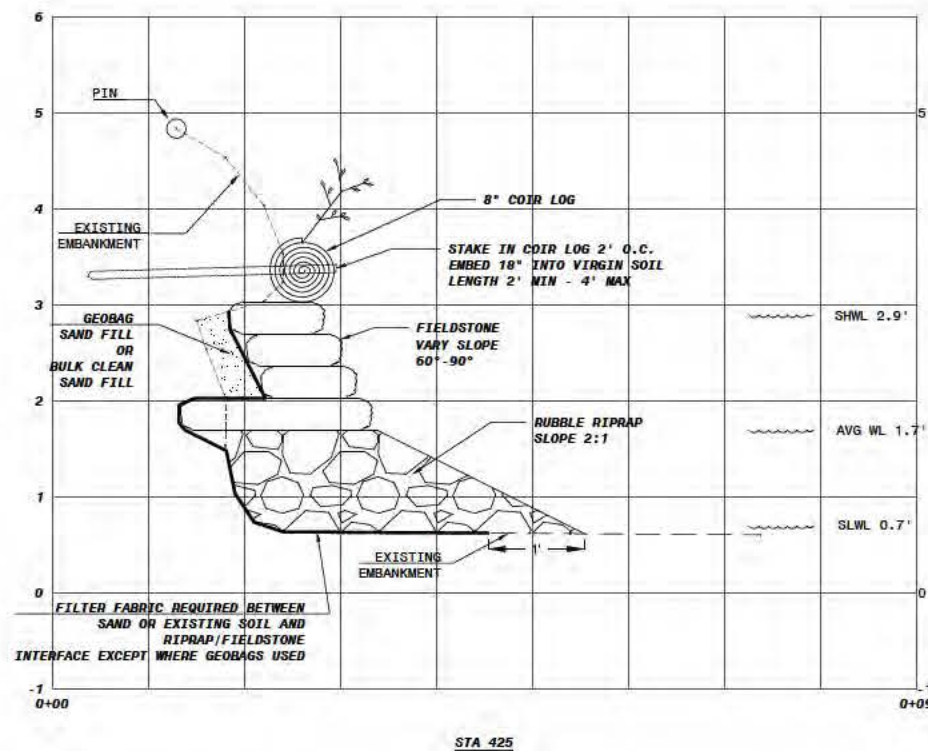
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**PROPOSED
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SECTIONS**

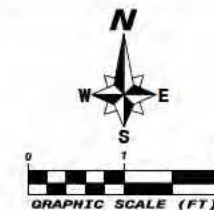
SHEET NUMBER:	REV. #
C309	---
SHEET 19 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
425	0.00	(406-425) 66.03	2.70	(406-425) 123.69	1.63	(406-425) 28.31	0.32	(406-425) 25.65	0.35	(406-425) 8.55
450	0.00	(425-450) 0.00	4.14	(425-450) 85.50	1.30	(425-450) 36.63	0.11	(425-450) 5.38	0.00	(425-450) 4.38

- NOTES:
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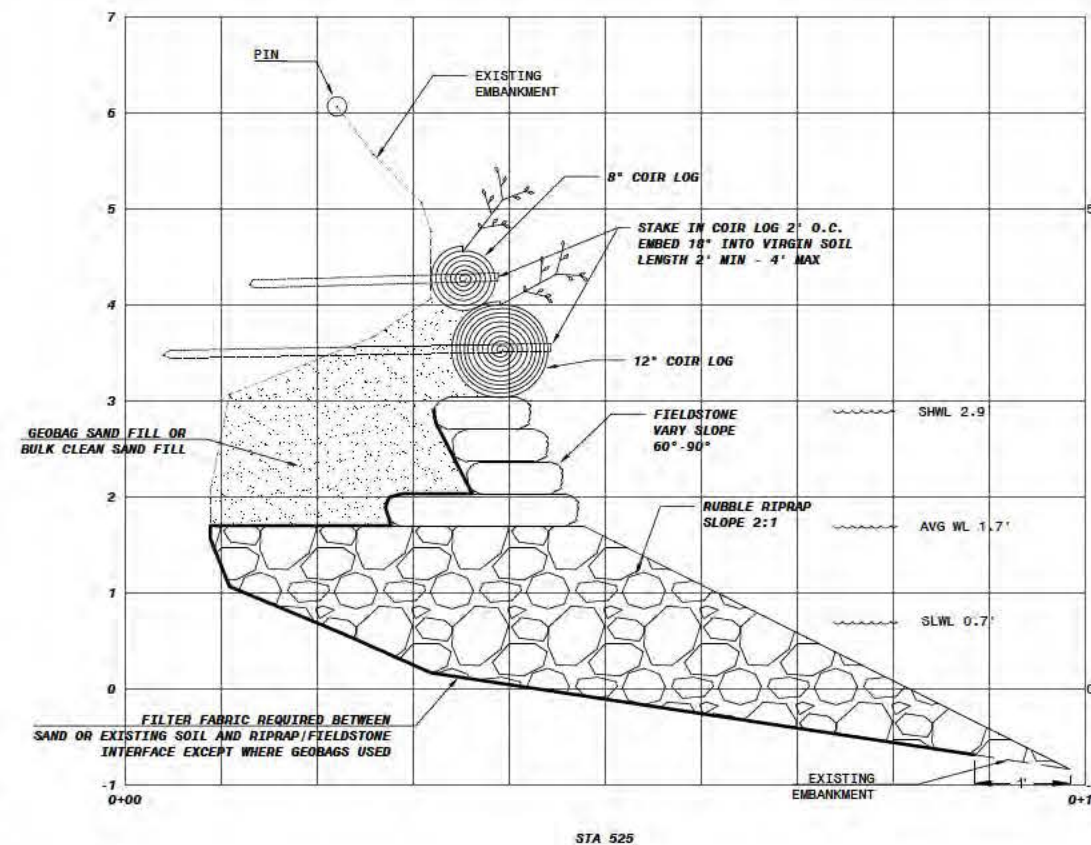
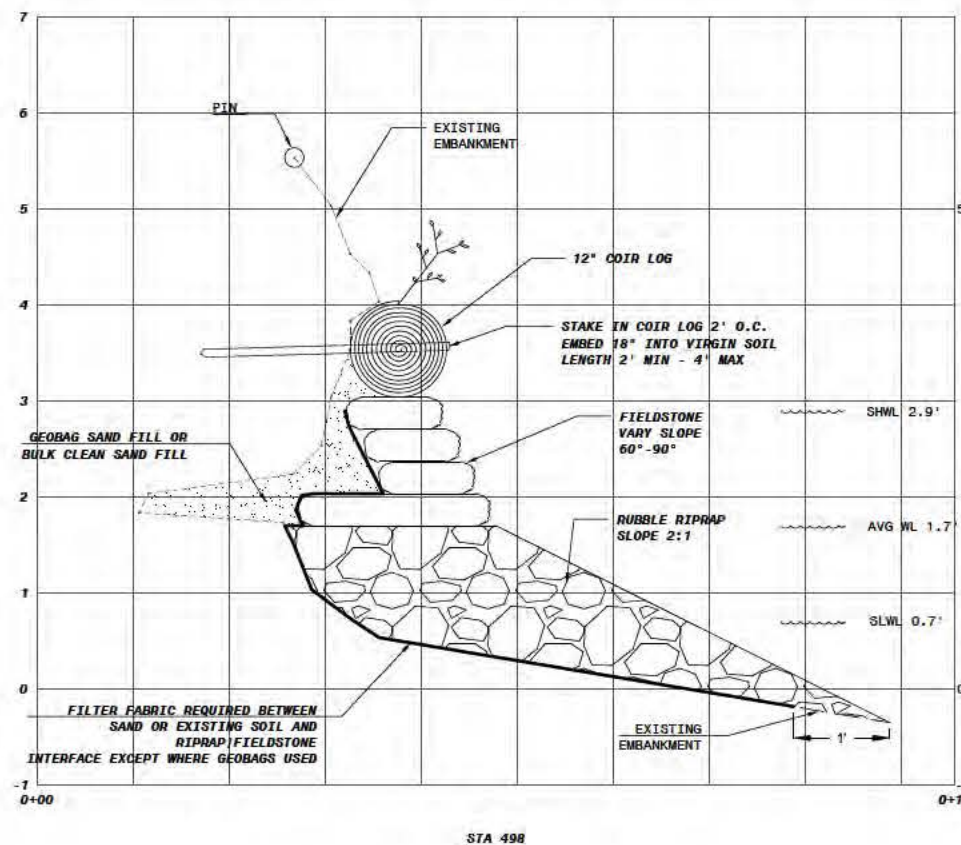
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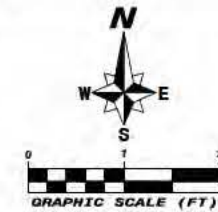
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C310	---
SHEET 20 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
498	0.00	(450-498) 0.00	5.08	(450-498) 221.28	1.63	(450-498) 70.32	1.17	(450-498) 30.72	0.79	(450-498) 18.96
525	0.00	(498-525) 0.00	9.45	(498-525) 196.16	1.63	(498-525) 44.01	4.31	(498-525) 73.98	1.13	(498-525) 25.92

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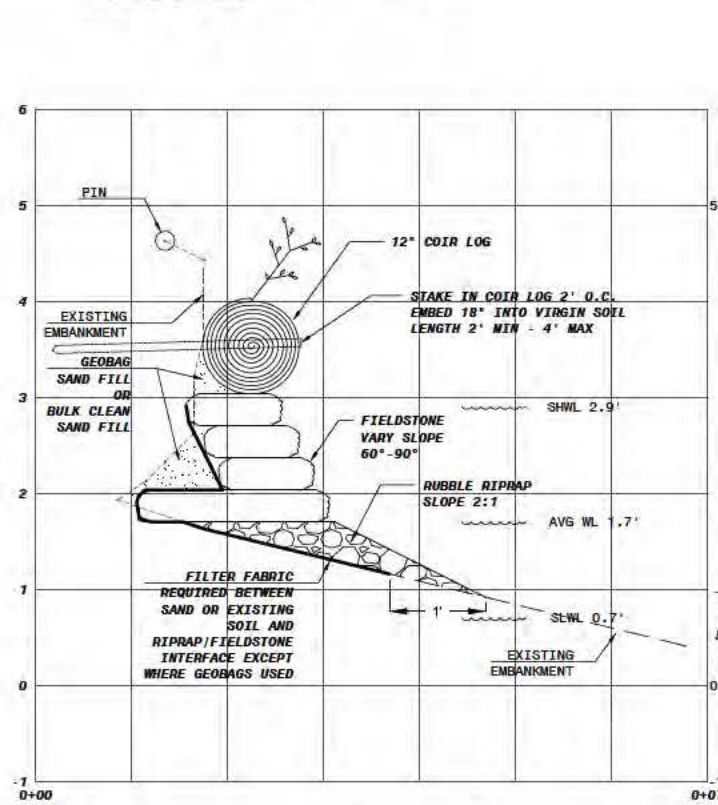
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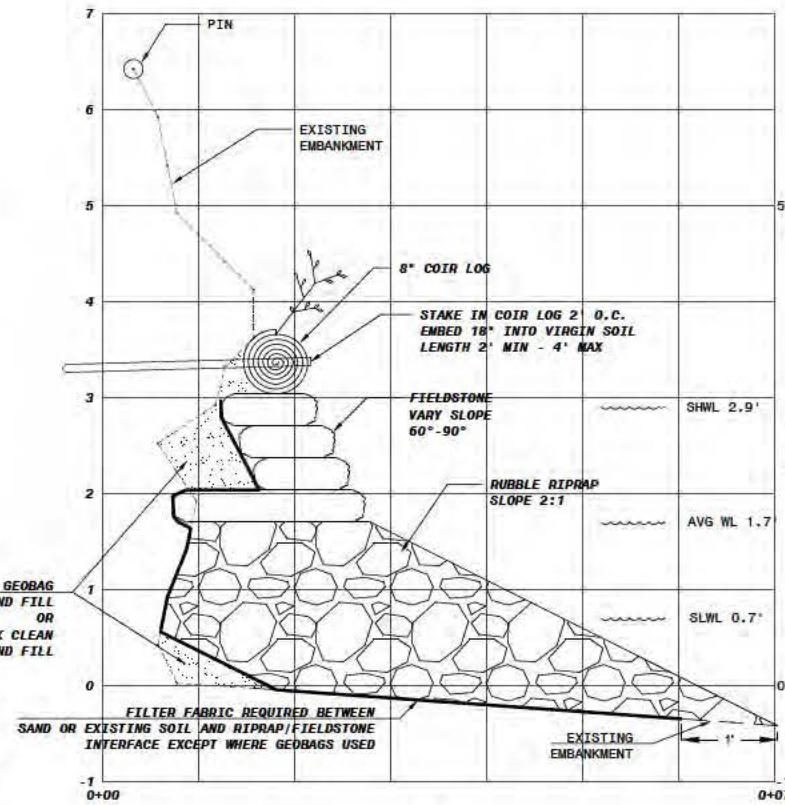
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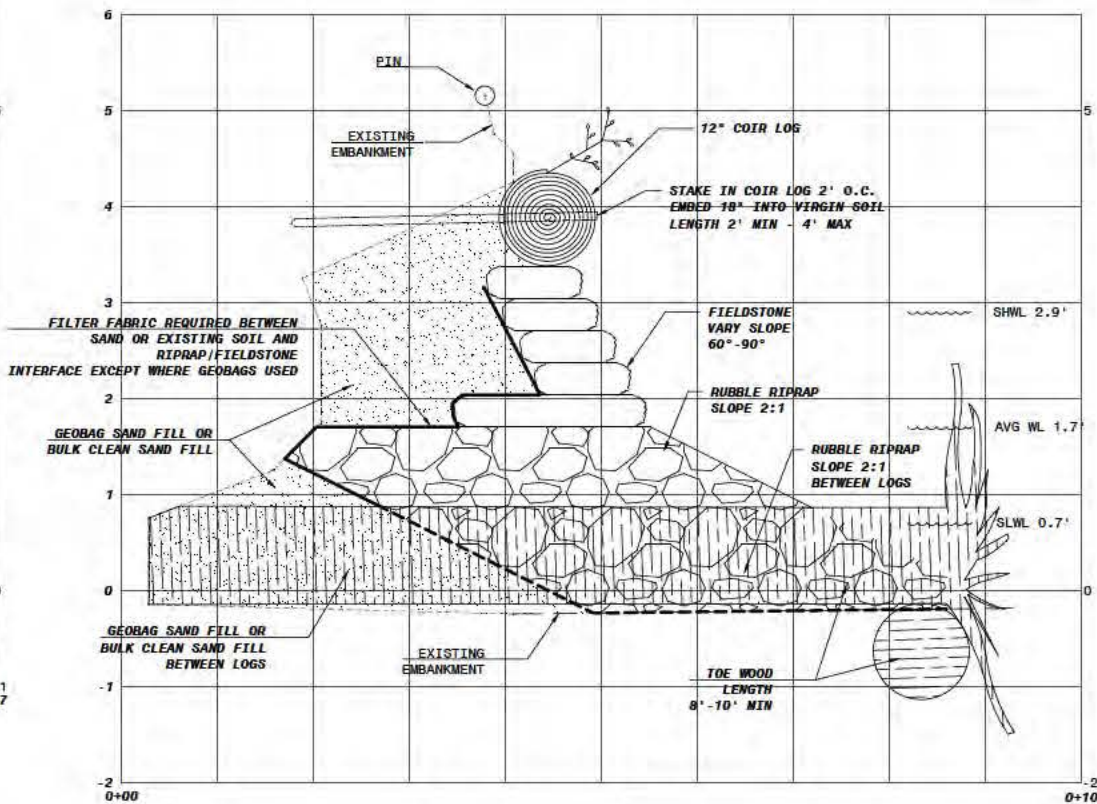
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C311	--
SHEET 21 OF 28 SHEETS	



STA 550



STA 575

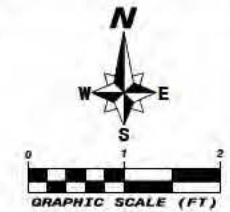


STA 598

*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT) *	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
550	0.00	(525-550) 0.00	0.65	(525-550) 126.25	1.63	(525-550) 40.75	0.31	(525-550) 57.75	0.79	(525-550) 24.00
575	0.00	(550-575) 0.00	7.16	(550-575) 97.63	1.63	(550-575) 40.75	0.94	(550-575) 15.63	0.35	(550-575) 14.25
598	8.57	(575-598) 98.56	8.27	(575-598) 177.45	1.97	(575-598) 41.40	8.14	(575-598) 104.42	0.79	(575-598) 13.11

- NOTES:
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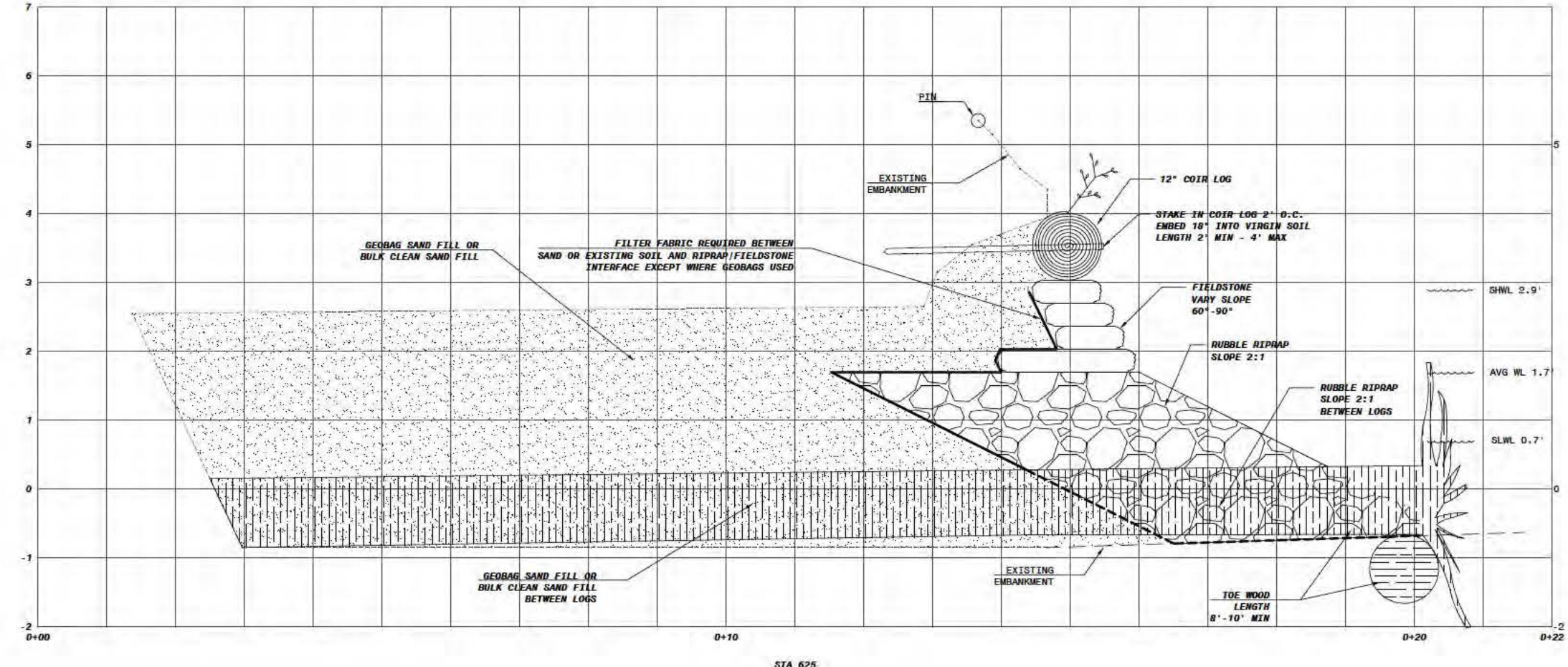
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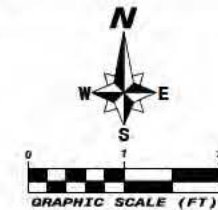
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C312	---
SHEET 22 OF 28 SHEETS	



*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
625	18.21	(598-625) 361.53	10.74	(598-625) 256.64	1.63	(598-625) 48.60	42.83	(598-625) 688.10	0.79	(598-625) 21.33

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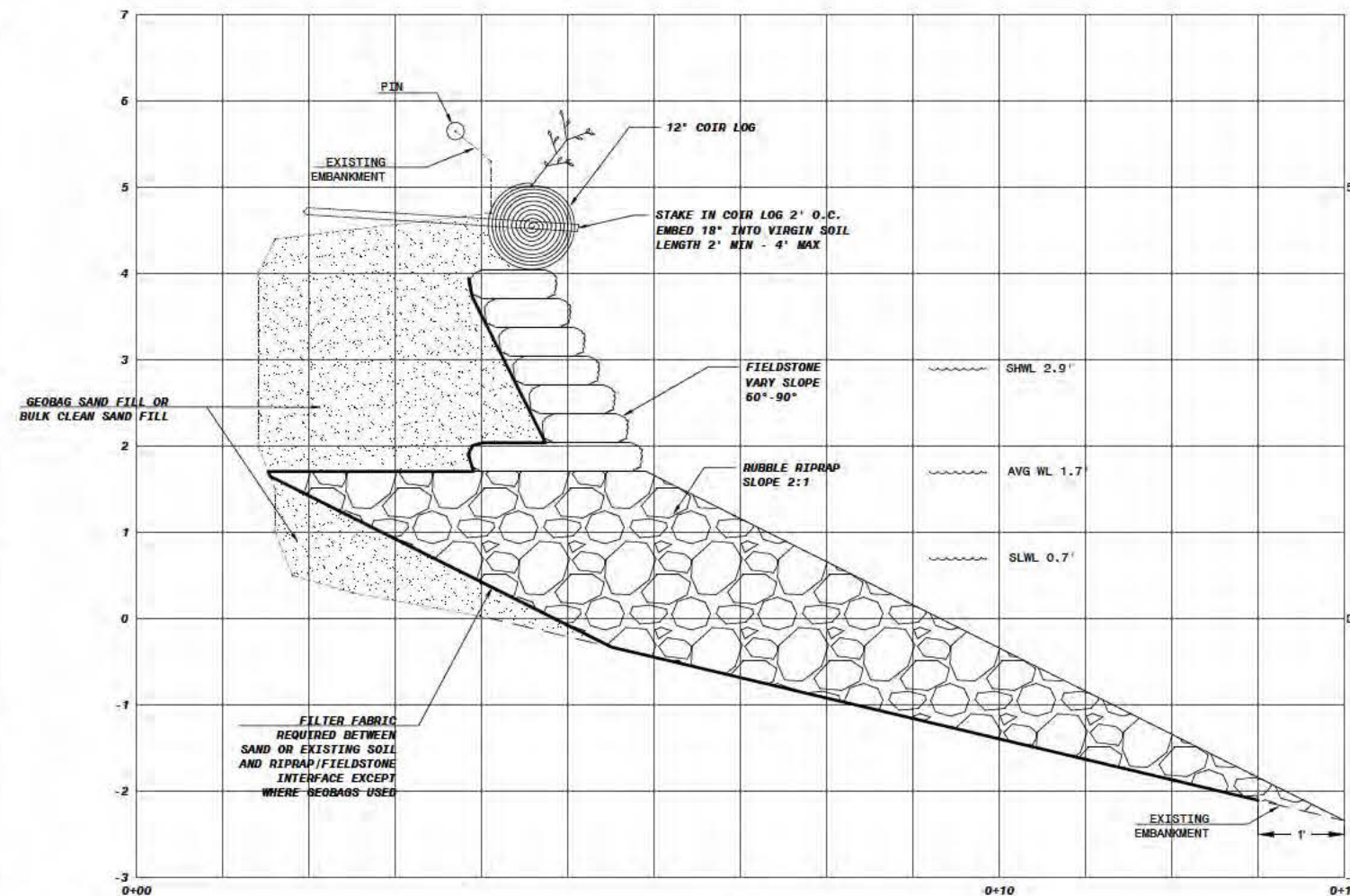
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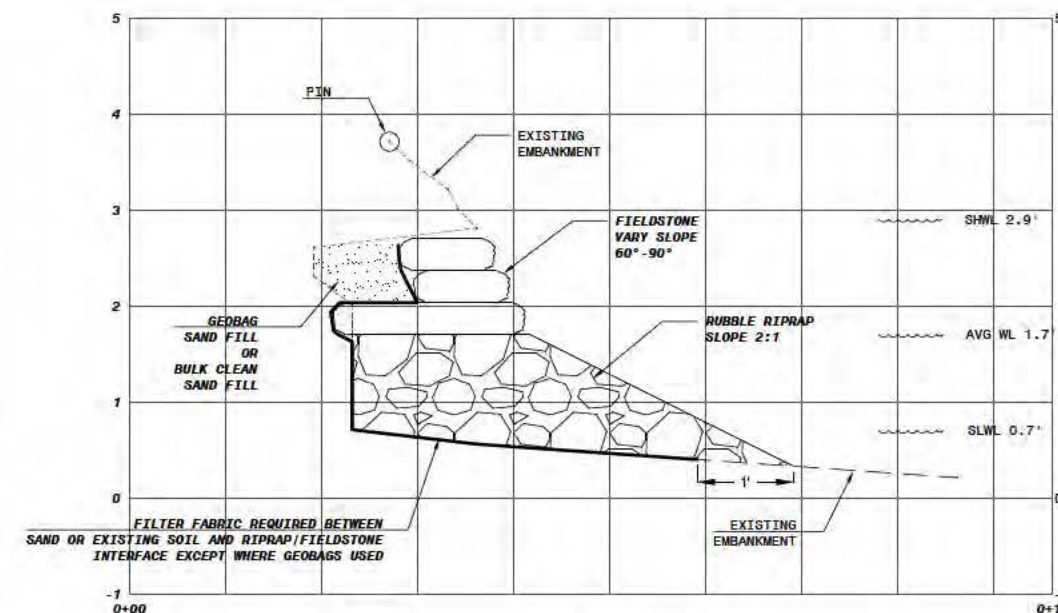
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C313	---
SHEET 23 OF 28 SHEETS	



STA 650

*STATIONING IS NOT IN 100 FT INCREMENTS

STA (FT)*	TOE WOOD (SF)	TOE WOOD (CF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	GEO-BAGS (SF)	GEO-BAGS (CF)	COIR LOG (SF)	COIR LOG (CF)
650	0.00	(625-650) 227.63	13.60	(625-650) 304.25	2.63	(625-650) 53.25	9.90	(625-650) 659.13	0.79	(625-650) 19.75
679	0.00	(650-679) 0.00	3.65	(650-679) 250.13	1.31	(650-679) 57.13	0.55	(650-679) 151.53	0.00	(650-679) 11.46



STA 679

QUANTITIES FOR GRAVITY FAILURE ZONE 1A (APPROX. 113 LF)					
RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	TOTAL SAND (SF)	TOTAL SAND (CF)
4.81	543.53	2.02	228.26	40.43	4568.59

QUANTITIES FOR GRAVITY FAILURE ZONE 1TOP (APPROX. 17 LF)					
RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	TOTAL SAND (SF)	TOTAL SAND (CF)
1.00	17.00	--	--	22.14	376.38

QUANTITIES FOR GRAVITY FAILURE ZONE 1B (APPROX. 32 LF)					
RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	TOTAL SAND (SF)	TOTAL SAND (CF)
4.81	153.92	2.02	64.64	40.43	1293.76



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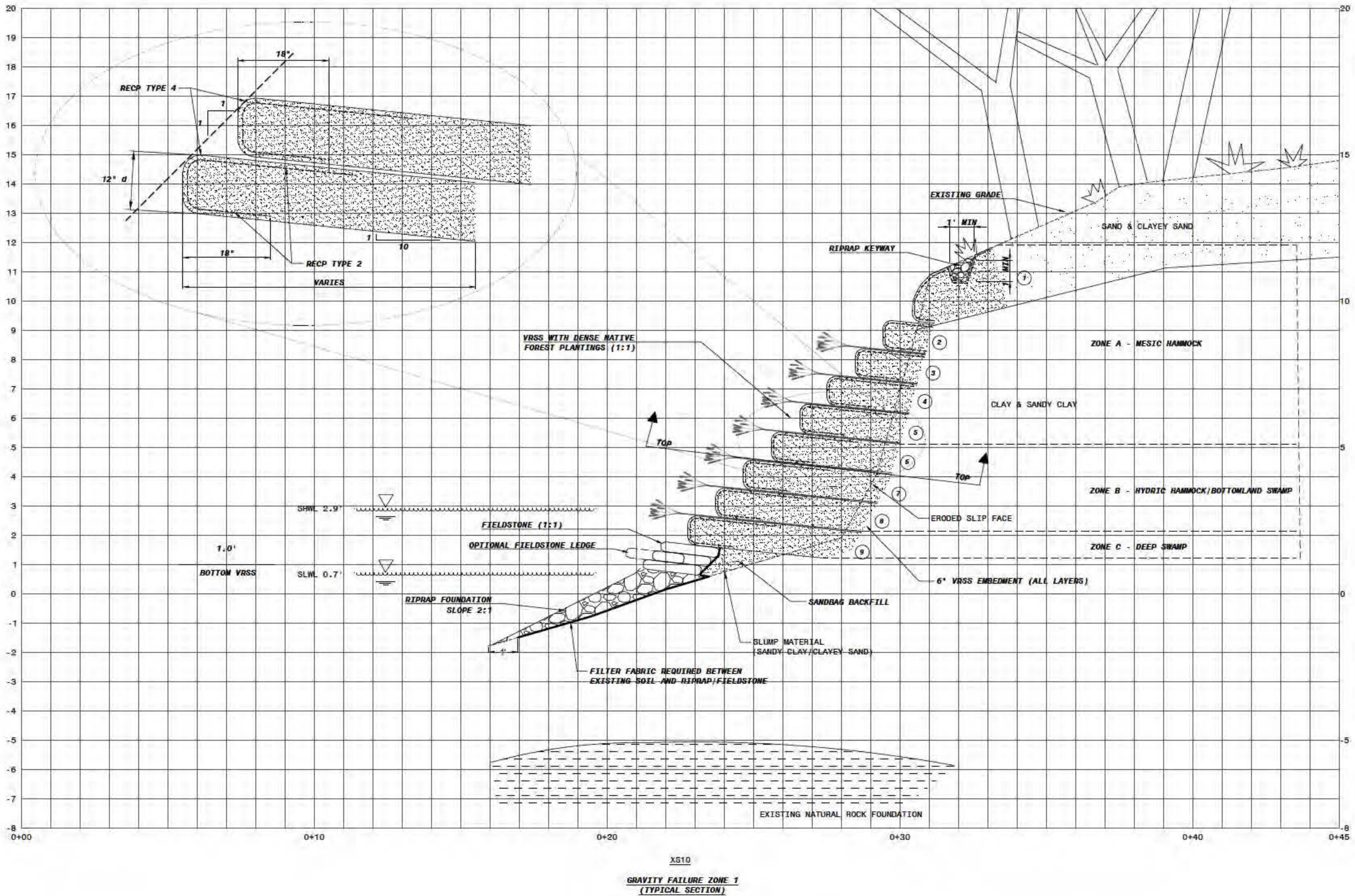
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GRAVITY FAILURE 1
BANK SECTIONS

SHEET NUMBER:	REV. #
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SHEET 24 OF 28 SHEETS	



1 2 3 4 5 6 7 8 9 10 11 12



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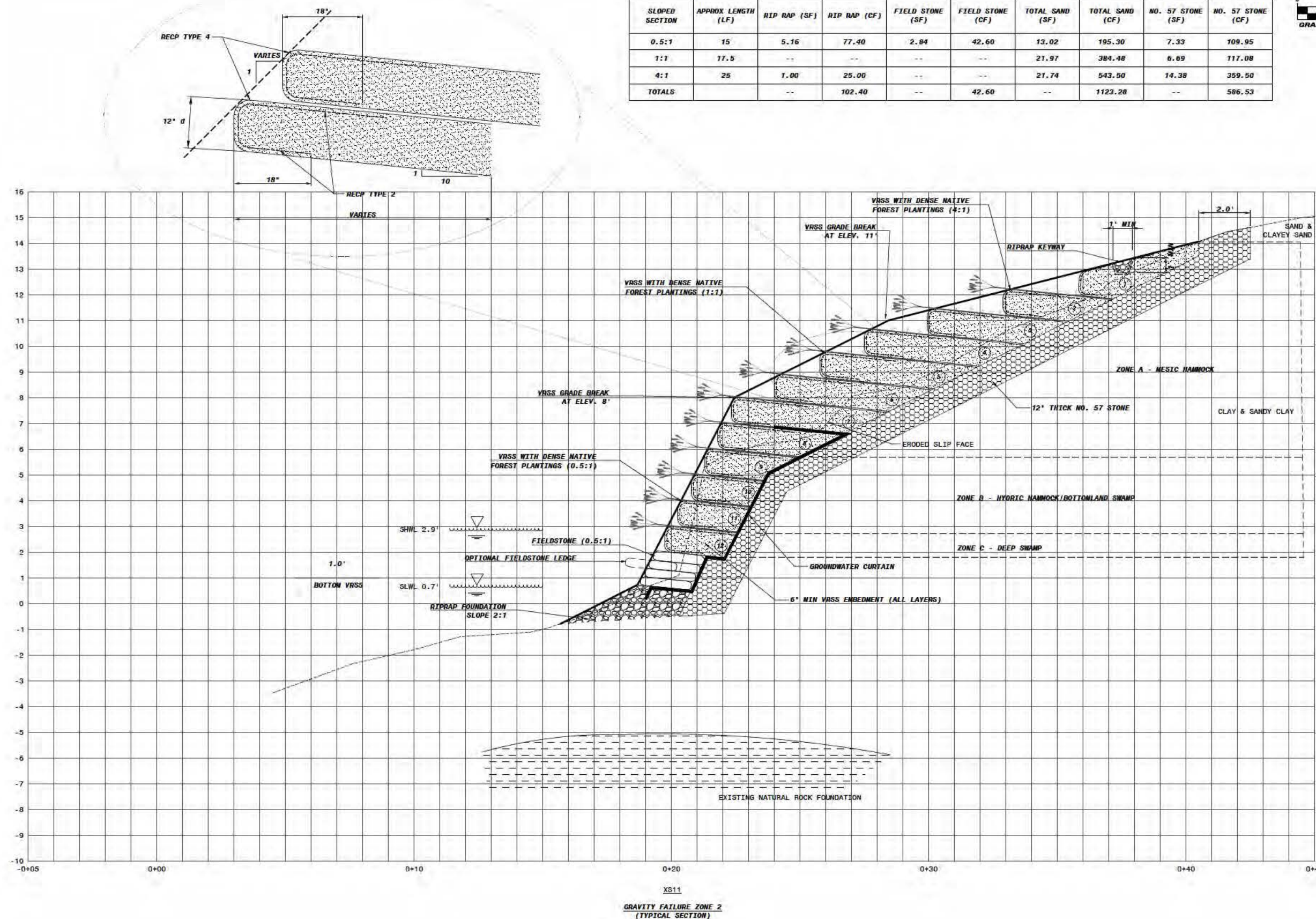
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**PROPOSED
GRAVITY FAILURE
2 BANK SECTIONS**

SHEET NUMBER:	REV. #
C315	---
SHEET 25 OF 28 SHEETS	

QUANTITIES FOR GRAVITY FAILURE ZONE 2									
SLOPED SECTION	APPROX LENGTH (LF)	RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	TOTAL SAND (SF)	TOTAL SAND (CF)	NO. 57 STONE (SF)	NO. 57 STONE (CF)
0.5:1	15	5.16	77.40	2.84	42.60	13.02	195.30	7.33	109.95
1:1	17.5	--	--	--	--	21.97	384.48	6.69	117.08
4:1	25	1.00	25.00	--	--	21.74	543.50	14.38	359.50
TOTALS		--	102.40	--	42.60	--	1123.28	--	586.53



QUANTITIES FOR GRAVITY FAILURE ZONE 3 (APPROX. 50 LF)					
RIP RAP (SF)	RIP RAP (CF)	FIELD STONE (SF)	FIELD STONE (CF)	TOTAL SAND (SF)	TOTAL SAND (CF)
9.71	485.50	0.00	0.00	23.42	1171.00



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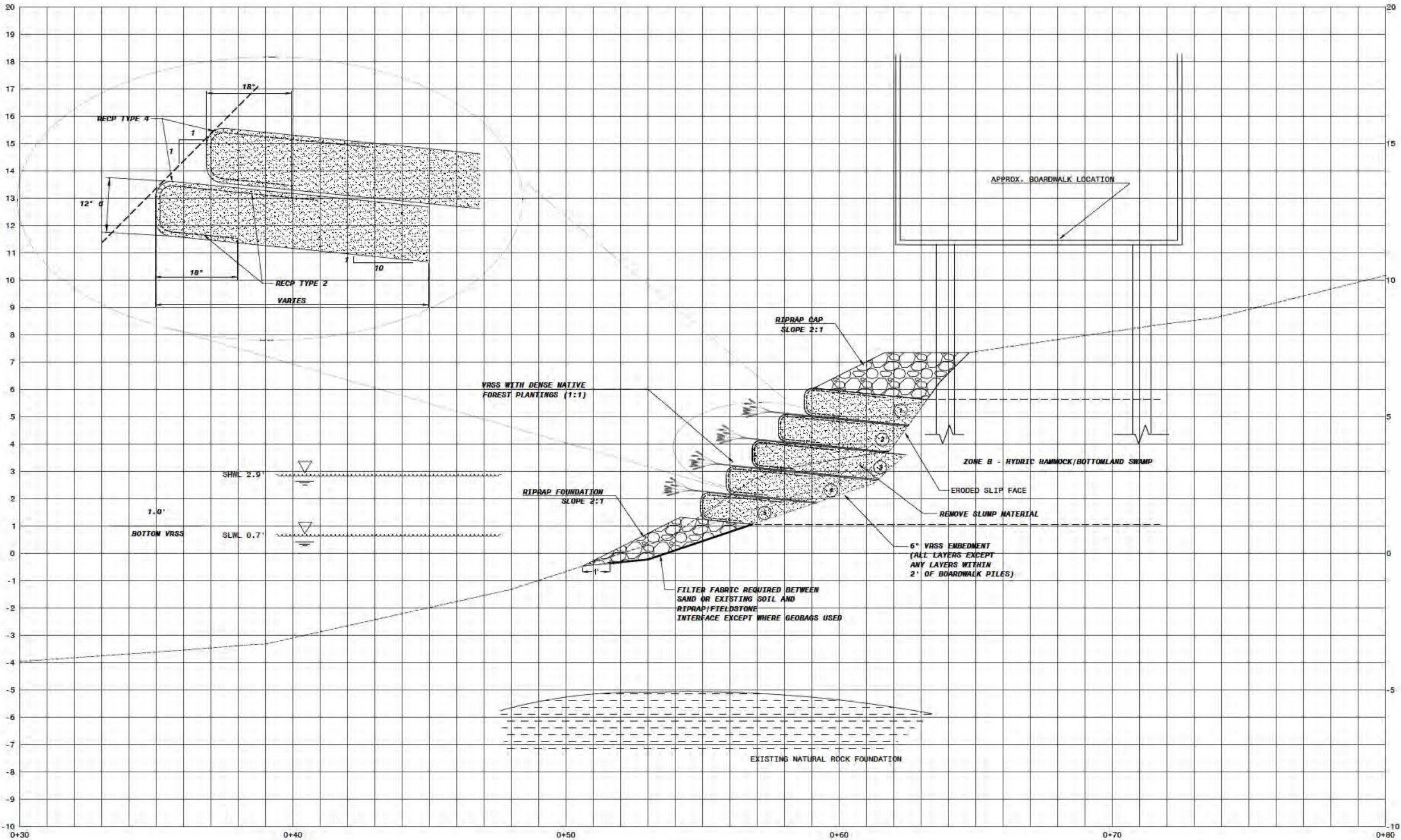
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PROPOSED GRAVITY FAILURE 3 BANK SECTIONS

SHEET NUMBER:	REV. #
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SHEET 26 OF 28 SHEETS	



XG09
**GRAVITY FAILURE ZONE 3
(TYPICAL SECTION)**

TABLE 1-VRSS PLANTING TABLE FOR GRAVITY FAILURE ZONE 1A

Common Name	Scientific Name	Spacing	Size	Quantity
Zone A - Mesic Hammock Layers 1 through 5				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	25 gal. Min. height 4 ft.	13
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	38
Sweetgum	<i>Liquidambar styraciflua</i>			38
WOODY SHRUBS				
American beauty berry	<i>Callicarpa americana</i>	2 feet	1 gallon	71
Wax myrtle	<i>Myrica cerifera</i>			71
Saw palmetto	<i>Serenoa repens</i>			71
Southern arrowwood	<i>Viburnum dentatum</i>			71
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	141
Fakahatchee grass	<i>Tripsacum dactyloides</i>			141
Zone B - Hydric Hammock / Bottomland Swamp Layers 6 through 8				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	1 gallon	23
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	23
Water hickory	<i>Carya aquatica</i>			23
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	2 feet	1 gallon	42
Southern arrowwood	<i>Viburnum dentatum</i>			85
Sweetspire	<i>Itea virginica</i>			42
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	339
Fakahatchee grass	<i>Tripsacum dactyloides</i>			339
Zone C - Deep Swamp Layer 9				
TREES				
Pop-ash	<i>Fraxinus caroliniana</i>	5 feet	1 gallon	11
Bald Cypress	<i>Taxodium distichum</i>			11
WOODY SHRUBS				
Buttonbush	<i>Cephalanthus occidentalis</i>	2 feet	1 gallon	28
May haw	<i>Crataegus aestivalis</i>			28

TABLE 5-VRSS PLANTING TABLE FOR CANTILEVER FAILURE ZONE

Common Name	Scientific Name	Spacing	Size	Quantity
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	3 feet	1 gallon	36
Southern arrowwood	<i>Viburnum dentatum</i>			72
Sweetspire	<i>Itea virginica</i>			36

TABLE 2-VRSS PLANTING TABLE FOR GRAVITY FAILURE ZONE 1TOP

Common Name	Scientific Name	Spacing	Size	Quantity
Zone A - Mesic Hammock Layers 1 through 5				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	25 gal. Min. height 4 ft.	2
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	6
Sweetgum	<i>Liquidambar styraciflua</i>			6
WOODY SHRUBS				
American beauty berry	<i>Callicarpa americana</i>	2 feet	1 gallon	11
Wax myrtle	<i>Myrica cerifera</i>			11
Saw palmetto	<i>Serenoa repens</i>			11
Southern arrowwood	<i>Viburnum dentatum</i>			11
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	21
Fakahatchee grass	<i>Tripsacum dactyloides</i>			21
Zone B - Hydric Hammock / Bottomland Swamp Layer 5				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	1 gallon	1
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	1
Water hickory	<i>Carya aquatica</i>			1
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	2 feet	1 gallon	2
Southern arrowwood	<i>Viburnum dentatum</i>			4
Sweetspire	<i>Itea virginica</i>			2
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	17
Fakahatchee grass	<i>Tripsacum dactyloides</i>			17

TABLE 6-VRSS PLANTING TABLE FOR GRAVITY FAILURE ZONE 3

Common Name	Scientific Name	Spacing	Size	Quantity
Zone B - Hydric Hammock / Bottomland Swamp 5 Layers				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	1 gallon	17
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	17
Water hickory	<i>Carya aquatica</i>			17
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	2 feet	1 gallon	31
Southern arrowwood	<i>Viburnum dentatum</i>		63	
Sweetspire	<i>Itea virginica</i>		31	
GROUND COVER				
Virginia chain fern	<i>Woodswardia virginica</i>	2 feet	Plugs	250
Fakahatchee grass	<i>Tripsacum dactyloides</i>		250	

TABLE 3-VRSS PLANTING TABLE FOR GRAVITY FAILURE ZONE 1B

Common Name	Scientific Name	Spacing	Size	Quantity
Zone A - Mesic Hammock				
Layers 1 through 5				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	25 gal. Min. height 4 ft.	3
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	11
Sweetgum	<i>Liquidambar styraciflua</i>			11
WOODY SHRUBS				
American beauty berry	<i>Callicarpa americana</i>	2 feet	1 gallon	20
Wax myrtle	<i>Myrica cerifera</i>			20
Saw palmetto	<i>Serenoa repens</i>			20
Southern arrowwood	<i>Viburnum dentatum</i>			20
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	40
Fakahatchee grass	<i>Tripsacum dactyloides</i>			40
Zone B - Hydric Hammock / Bottomland Swamp				
Layers 6 through 8				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	1 gallon	6
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	6
Water hickory	<i>Carya aquatica</i>			6
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	2 feet	1 gallon	12
Southern arrowwood	<i>Viburnum dentatum</i>			24
Sweetspire	<i>Itea virginica</i>			12
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	96
Fakahatchee grass	<i>Tripsacum dactyloides</i>			96
Zone C - Deep Swamp				
Layer 9				
TREES				
Pop-ash	<i>Fraxinus caroliniana</i>	5 feet	1 gallon	3
Bald Cypress	<i>Taxodium distichum</i>			3
WOODY SHRUBS				
Buttonbush	<i>Cephalanthus occidentalis</i>	2 feet	1 gallon	8
May haw	<i>Crataegus aestivalis</i>			8

PLANTING NOTES:

NOTES:

1. PLANT MATERIALS PLACED ON TOP OF LISTED LAYER.
2. ONE-GALLON CONTAINER STOCK IS REMOVED FROM THE CONTAINER. THE ROOT BALL AND CONTAINER SOIL IS GENTLY SPREAD FLAT AND THE TREE IS LAID ON A 1-INCH SOIL LAYER. THE PLANT IS COVERED BY ANOTHER INCH OF SOIL.
3. THE TOPS OF CONTAINER PLANTS SHOULD PROTRUDE AT LEAST 12 TO 18 INCHES BEYOND THE REINFORCEMENT MAT.
4. VRSS WILL BE SEED WITH TEMPORARY SEEDING, EITHER WINTER RYE OR SUMMER MILLET.

TABLE 7-PLANTING SUMMARY TABLE

Stratum	Common Name	Scientific Name	Size	Quantity						
				VRSS#1a- Headspring	VRSS#1top	VRSS#1b	VRSS#2- Retaining Wall	VRSS#3-Bridge	Cantilever	Total
Trees	Bald Cypress	<i>Taxodium distichum</i>	1 gallon	11	0	3	2	0	0	16
	Cabbage Palm	<i>Sabal palmetto</i>	25 gal., Min. height 4 ft.	15	2	3	3	0	0	23
	Cabbage Palm	<i>Sabal palmetto</i>	1 gallon	23	1	6	5	17	0	52
	Laurel oak	<i>Quercus laurifolia</i>	1 gallon	61	7	17	13	17	0	115
	Pop-ash	<i>Fraxinus caroliniana</i>	1 gallon	11	0	3	2	0	0	16
	Sweetgum	<i>Liquidambar styraciflua</i>	1 gallon	38	6	11	8	0	0	63
	Water hickory	<i>Carya aquatica</i>	1 gallon	23	1	6	5	17	0	52
Woody Shrubs	American beautyberry	<i>Callicarpa americana</i>	1 gallon	71	11	20	15	0	0	117
	Buttonbush	<i>Cephalanthus occidentalis</i>	1 gallon	28	0	8	6	0	0	42
	May haw	<i>Crataegus aestivalis</i>	1 gallon	28	0	8	6	0	0	42
	Saw palmetto	<i>Serenoa repens</i>	1 gallon	71	11	20	15	0	0	117
	Southern arrowwood	<i>Viburnum dentatum</i>	1 gallon	156	15	44	33	63	72	383
	Sweetspire	<i>Itea virginica</i>	1 gallon	42	2	12	9	31	36	132
	Wax myrtle	<i>Myrica cerifera</i>	1 gallon	113	13	32	24	31	36	249
Groundcover	Fakahatchee grass	<i>Tripsacum dactyloides</i>	Plugs	480	38	136	102	250	0	1006
	Virginia chain fern	<i>Woodwardia virginica</i>	Plugs	480	38	136	102	250	0	1006

TABLE 4-VRSS PLANTING TABLE FOR GRAVITY FAILURE ZONE 2

Common Name	Scientific Name	Spacing	Size	Quantity
Zone A - Mesic Hammock Layers 1 through 8				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	25 gal., Min. height 4 ft.	3
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	8
Sweetgum	<i>Liquidambar styraciflua</i>			8
WOODY SHRUBS				
American beauty berry	<i>Callicarpa americana</i>	2 feet	1 gallon	15
Wax myrtle	<i>Myrica cerifera</i>			15
Saw palmetto	<i>Serenoa repens</i>			15
Southern arrowwood	<i>Viburnum dentatum</i>			15
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	30
Fakahatchee grass	<i>Tripsacum dactyloides</i>			30
Zone B - Hydric Hammock / Bottomland Swamp Layers 9 through 11				
TREES				
Cabbage Palm	<i>Sabal palmetto</i>	5 feet	1 gallon	5
Laurel oak	<i>Quercus laurifolia</i>		1 gallon	5
Water hickory	<i>Carya aquatica</i>			5
WOODY SHRUBS				
Wax myrtle	<i>Myrica cerifera</i>	2 feet	1 gallon	9
Southern arrowwood	<i>Viburnum dentatum</i>			18
Sweetspire	<i>Itea virginica</i>			9
GROUND COVER				
Virginia chain fern	<i>Woodwardia virginica</i>	2 feet	Plugs	72
Fakahatchee grass	<i>Tripsacum dactyloides</i>			72
Zone C - Deep Swamp Layer 12				
TREES				
Pop-ash	<i>Fraxinus caroliniana</i>	5 feet	1 gallon	2
Bald Cypress	<i>Taxodium distichum</i>			2
WOODY SHRUBS				
Buttonbush	<i>Cephalanthus occidentalis</i>	2 feet	1 gallon	6
May haw	<i>Crataegus aestivalis</i>			6

wood.ENVIRONMENT &
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PROJECT:

**BLUE SPRING
RUN BANK
STABILIZATION**

ORANGE CITY, FL

**FLORIDA FISH AND
WILDLIFE
CONSERVATION
COMMISSION**620 S MERIDIAN ST.
TALLAHASSEE, FL 32399WOOD PROJECT No:
600570

REVISIONS

NO.	DATE	BY	APPROVED
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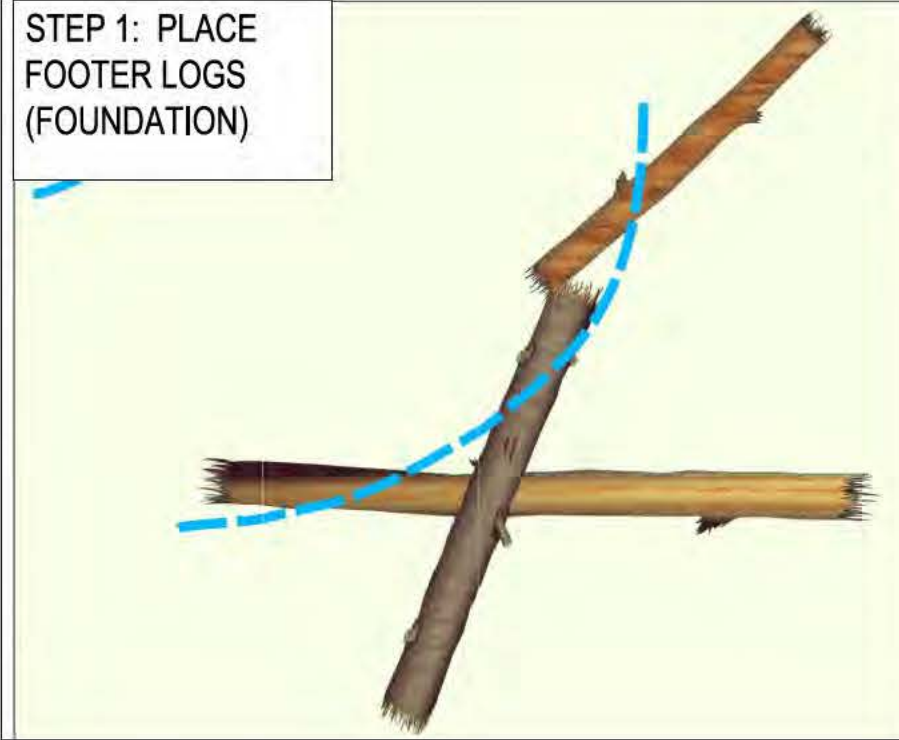
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CHECKED BY:	JHK
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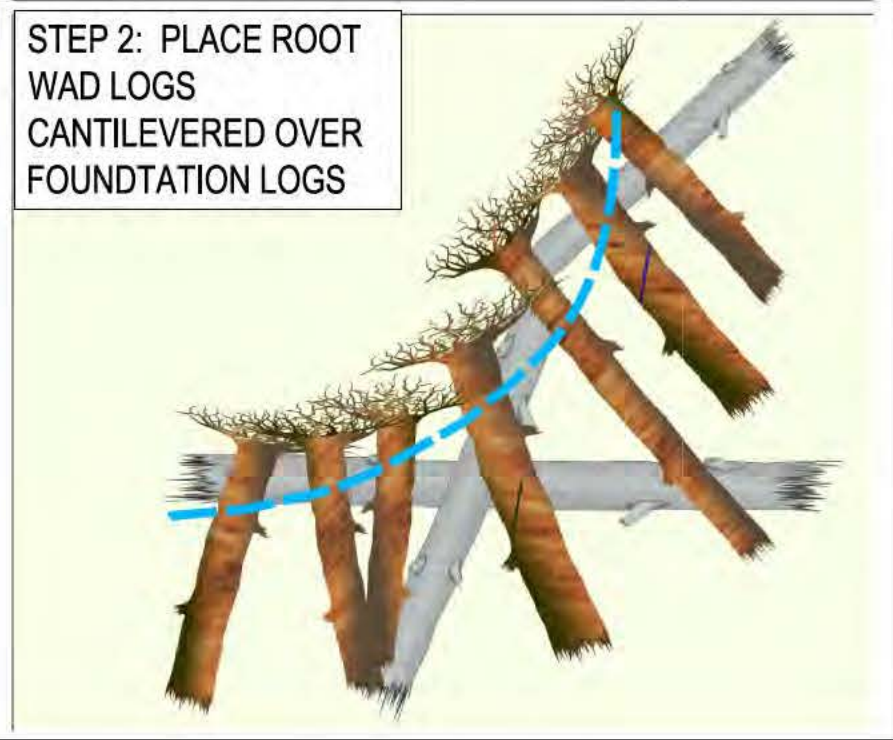
PLANTING TABLES

SHEET NUMBER:	REV. #
C400	---
SHEET 27 OF 28 SHEETS	

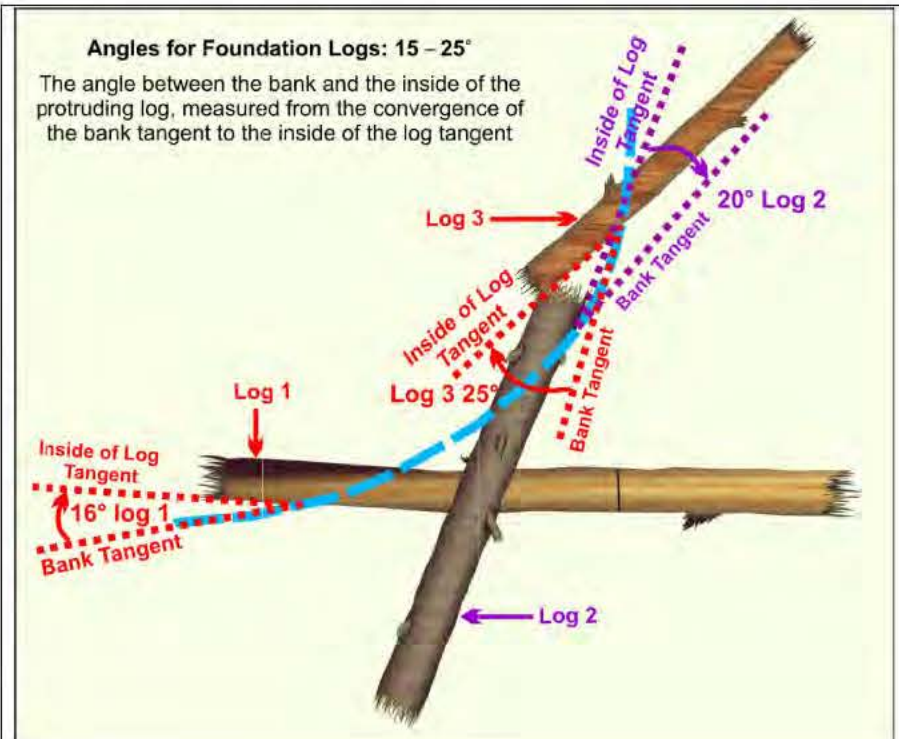
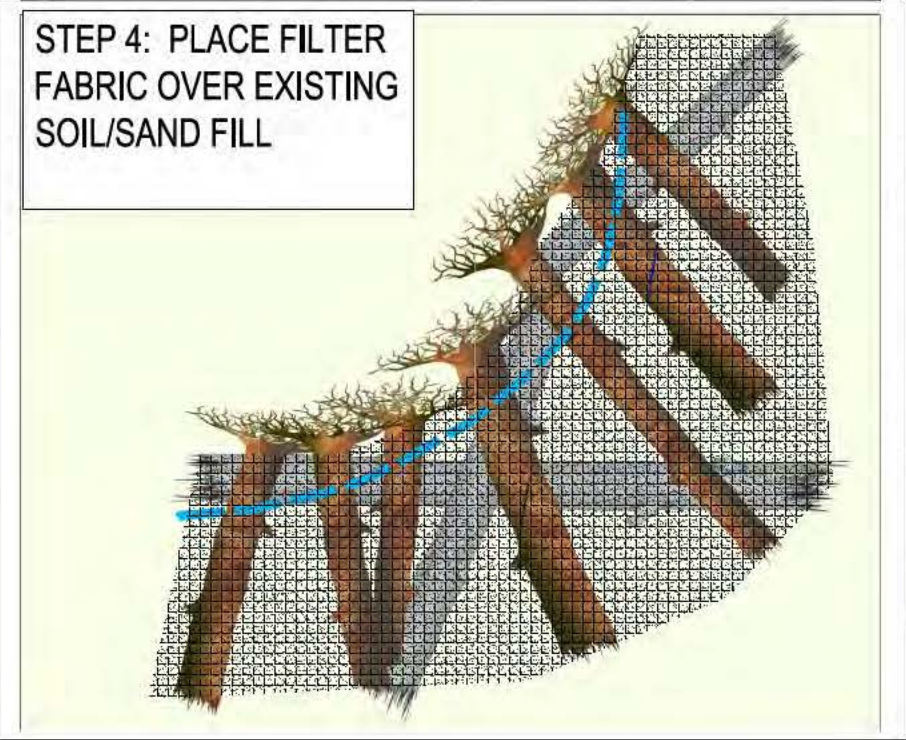
**STEP 1: PLACE
FOOTER LOGS
(FOUNDATION)**



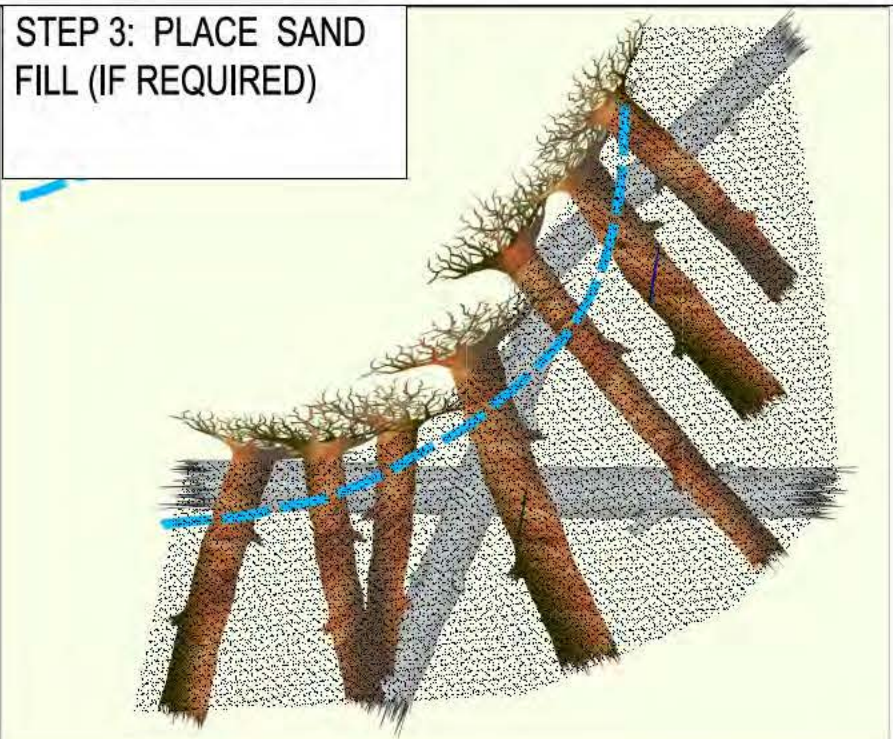
**STEP 2: PLACE ROOT
WAD LOGS
CANTILEVERED OVER
FOUNDATION LOGS**



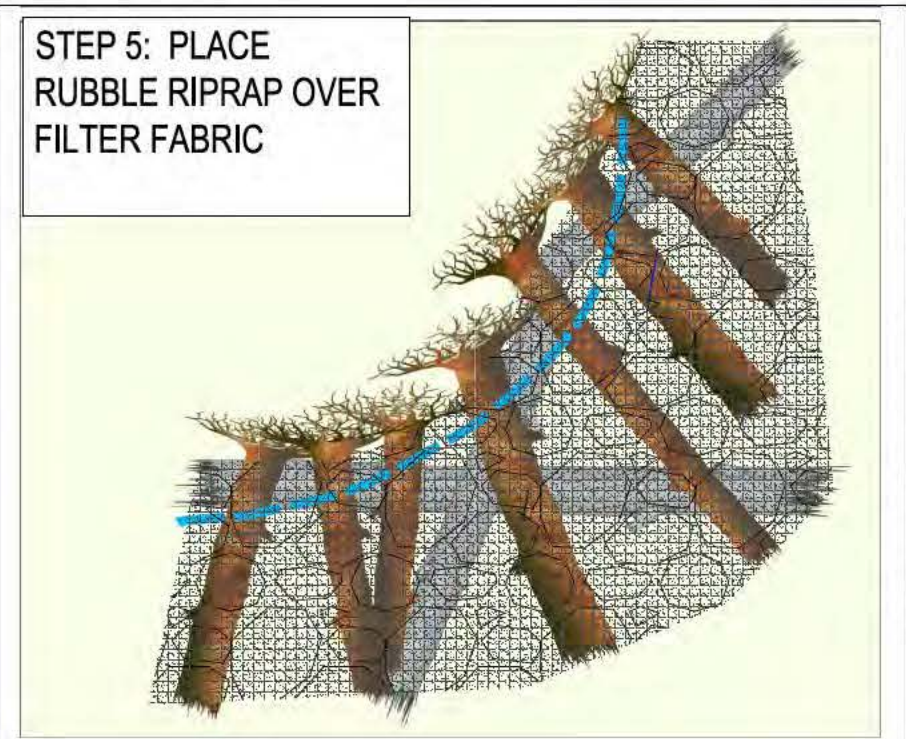
**STEP 4: PLACE FILTER
FABRIC OVER EXISTING
SOIL/SAND FILL**



**STEP 3: PLACE SAND
FILL (IF REQUIRED)**



**STEP 5: PLACE
RUBBLE RIPRAP OVER
FILTER FABRIC**



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620 S MERIDIAN ST.
TALLAHASSEE, FL 32399
WOOD PROJECT No:
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WOOD
DEPLOYMENT**

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SHEET 28 OF 28 SHEETS	