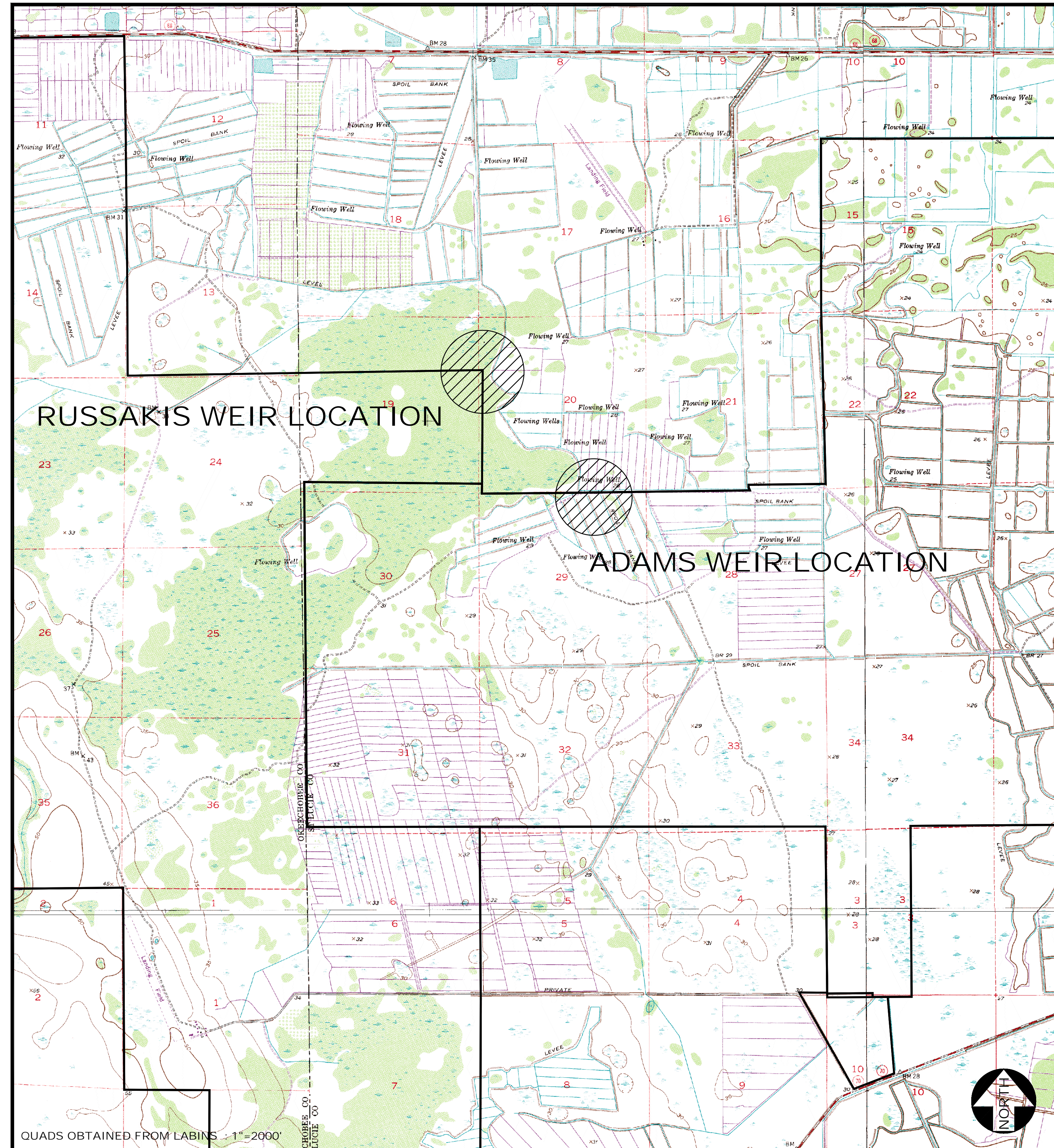


# Cow Creek Water Management Area Rip Rap Earthen Weirs



QUADS OBTAINED FROM LABINS 1" = 2000'

LOCATION MAP


**Dispersed Water, L.L.C.**

CA License No. 31503  
Benita M. Whalen, P.E., Managing Member  
FL P.E. No. 50676

DATE: 12-19-15  
DRAWN BY: ADN  
DESIGNED BY: BMW  
CHECKED BY: BMW  
PROJECT NO.: 2016-01  
HORZ. SCALE(S) SHOWN: N/A  
VERT. SCALE: N/A  
CADD FILE: COW-CREEK

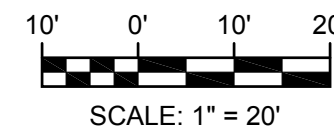
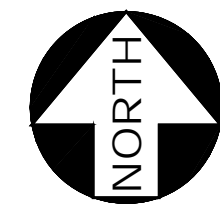
NO.	DATE	BY	REVISIONS

Printed Date: \_\_\_\_\_

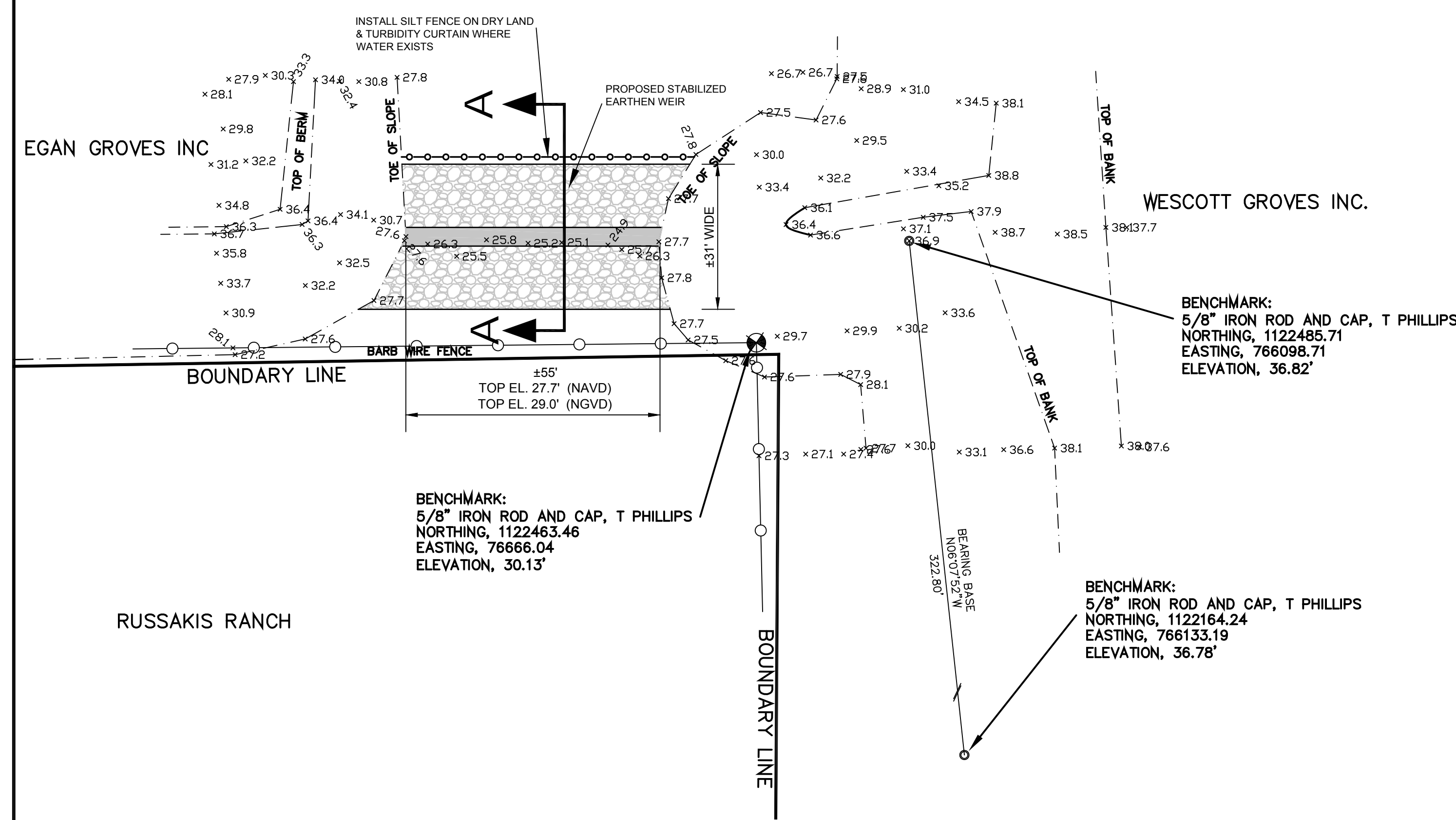
**SCALE VERIFICATION**  
  
 0 1  
 SCALE BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY.

South Florida Water Management District  
 Northern Everglades Payment for Environmental Services (NE-PES)  
 Cow Creek Water Management Area  
 Rip Rap Earthen Weirs

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### RUSSAKIS RANCH - NORTH WEIR (55') PLAN VIEW



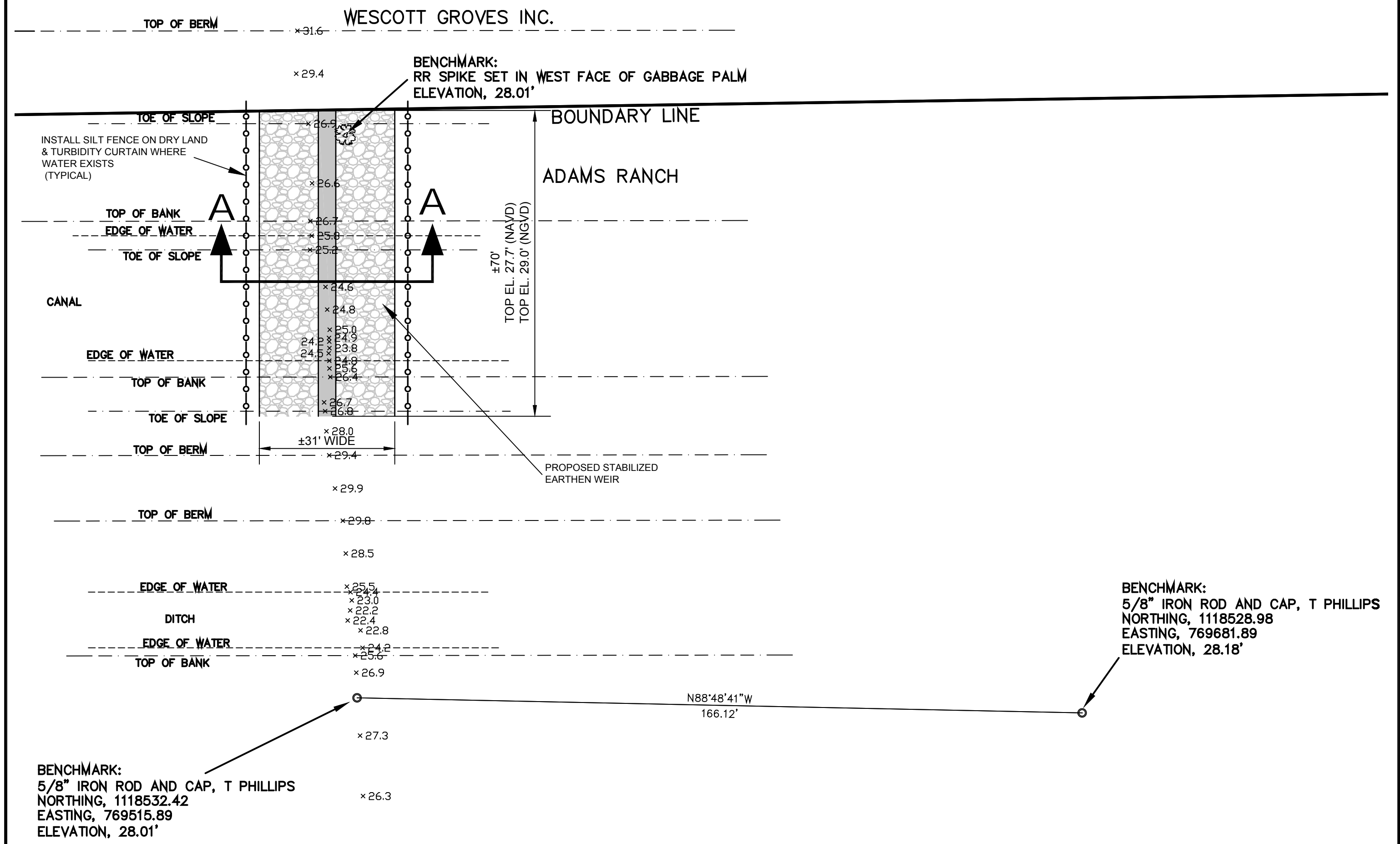
#### QUANTITIES

FILL	256 C.Y.
ROCK RUBBLE RIP RAP	104 C.Y.
BEDDING STONE	76 C.Y.
SILT FENCE	160 L.F.
FLOATING TURBIDITY BARRIER	120 L.F.

### SURVEYOR'S NOTES

- BEARING SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLAN COORDINATE SYSTEM, FLORIDA EAST ZONE. COORDINATES SHOWN HEREON ARE BASED ON THE FLORIDA STATE PLAN COORDINATE SYSTEM, FLORIDA EAST ZONE.
- ELEVATIONS SHOWN HEREON ARE BASED ON ST. LUCIE COUNTY BENCHMARK "RANCH" HAVING A PUBLISHED ELEVATION OF 8.358 METERS, AS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- ELEVATIONS HEREON, ARE SHOWN IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
- LAST FIELD DATE: JUNE 03, 2015.

### ADAMS RANCH - EAST WEIR (70') PLAN VIEW



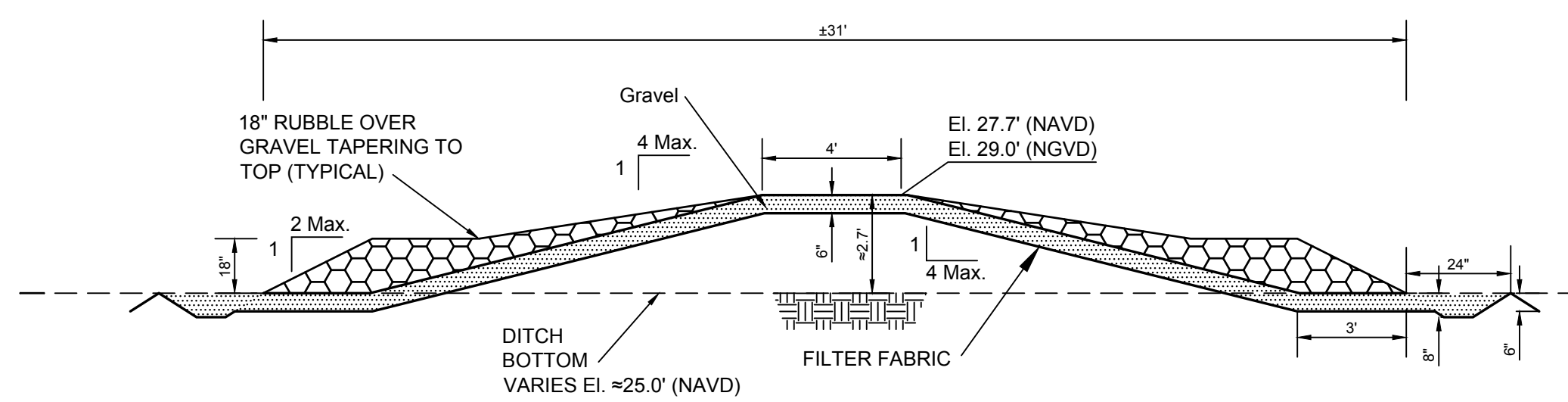
BENCHMARK:  
5/8" IRON ROD AND CAP, T PHILLIPS  
NORTHING, 1122463.46  
EASTING, 76666.04  
ELEVATION, 30.13'

BENCHMARK:  
5/8" IRON ROD AND CAP, T PHILLIPS  
NORTHING, 1122495.71  
EASTING, 766098.71  
ELEVATION, 36.82'

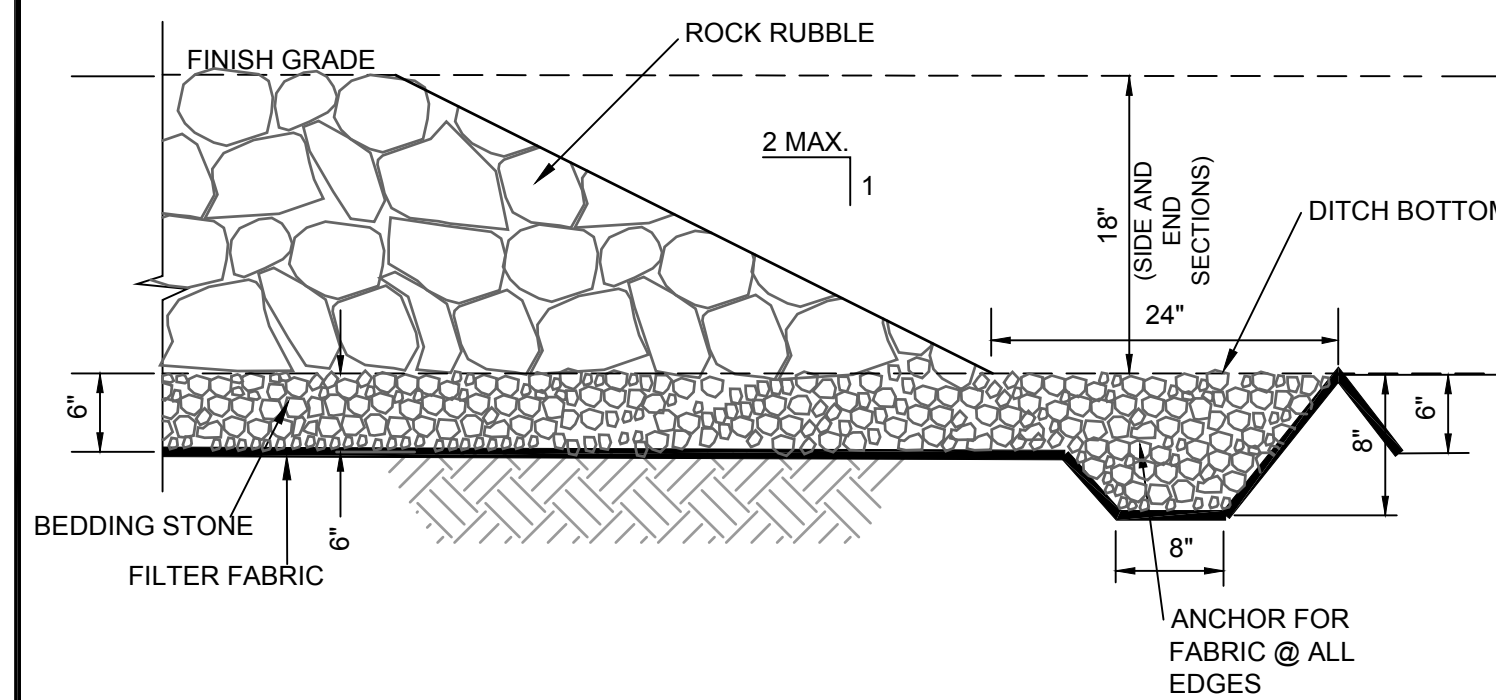
BENCHMARK:  
5/8" IRON ROD AND CAP, T PHILLIPS  
NORTHING, 1122164.24  
EASTING, 766133.19  
ELEVATION, 36.78'

BENCHMARK:  
5/8" IRON ROD AND CAP, T PHILLIPS  
NORTHING, 1118532.42  
EASTING, 769515.89  
ELEVATION, 28.01'

BENCHMARK:  
5/8" IRON ROD AND CAP, T PHILLIPS  
NORTHING, 1118528.98  
EASTING, 769681.89  
ELEVATION, 28.18'



**TYPICAL DETAIL OF SECTION A-A  
RIP-RAP EARTHEN WEIR**



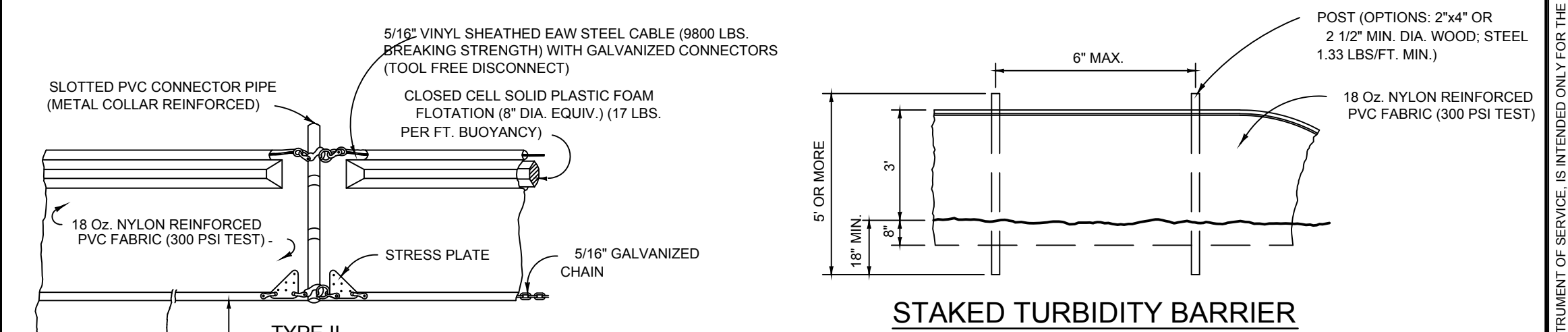
#### SECTION VIEW

#### NOTES:

- Installation shall be in accordance to Section 530-3.3 of the FDOT Specifications, except as noted. Areas to receive rip-rap shall be cleared of vegetation and lined with a woven geotextile material and 6 inches of bedding stone as shown in the details. The large rock rubble shall be placed on the bedding material according to the grades and typical sections shown. The top of the front and back sections of the weir shall have rubble placed to a depth of 18 inches above the bedding stone, and a seal necessary in transition from 8 inches to 18 inches to the top of gravel, with a top of rock elevation of 29.0' NGVD or 27.7' NAVD. (The standard FDOT required thickness for rubble is 24 inches.) Care shall be exercised in selection of rubble for the 8 inch less than 18 inch thick section, using a well-graded mixture of pieces that are generally between 4 and 8 inches in thickness.
- The rock rubble shall be broken stone conforming to Section 530-2.3 of the FDOT Specifications. Clean broken concrete shall be allowed.
- The bedding stone shall conform to Section 901-1 of the FDOT Specifications for Number 4 Course Aggregate.
- The filter fabric materials shall conform to Section 985 of the FDOT Specifications for Class 3 Fabric. Installations shall conform to Section 514-4, FDOT Specifications.

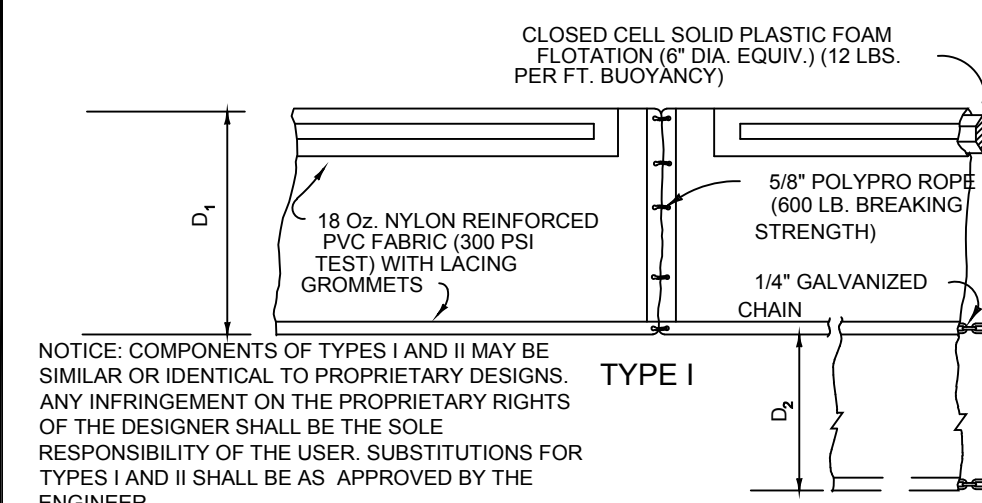
### TYPICAL RIPRAP INSTALLATION

N.T.S.



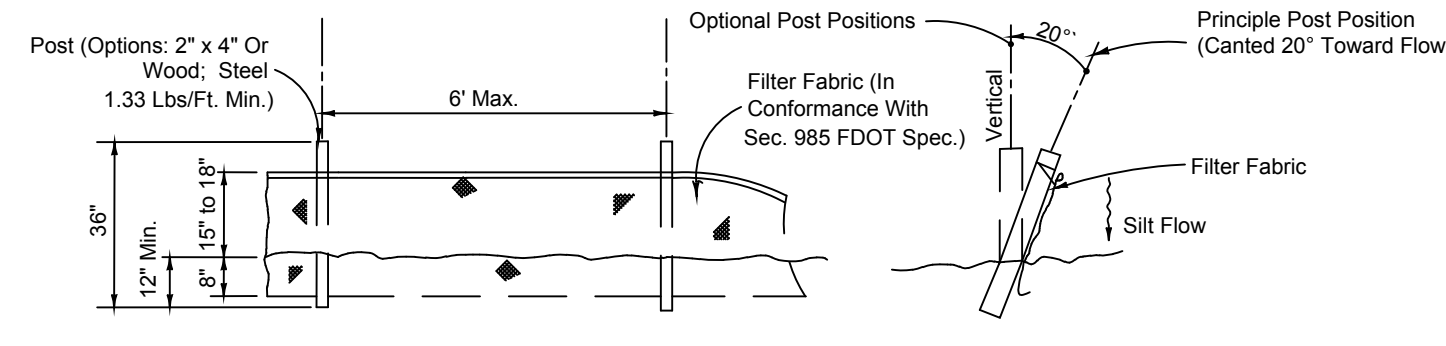
**STAKED TURBIDITY BARRIER**

TYPE II  
 1. D = 5' STD. (SINGLE PANEL FOR DEPTHS 5' OR LESS)  
 2. D = 5' STD. (ADDITIONAL PANEL FOR DEPTHS > 5')  
 CURTAIN TO REACH BOTTOM UP TO DEPTHS OF 10 FEET.  
 TWO (2) PANELS TO BE USED FOR DEPTHS GREATER THAN  
 10 FEET UNLESS SPECIAL DEPTH CURTAINS SPECIFICALLY CALLED  
 FOR IN THE PLANS OR AS DETERMINED BY THE ENGINEER.



**FLOATING TURBIDITY BARRIERS**

NOTICE: COMPONENTS OF TYPES I AND II MAY BE SIMILAR OR IDENTICAL TO PROPRIETARY DESIGNS. ANY INFRINGEMENT ON THE PROPRIETARY RIGHTS OF THE DESIGNER SHALL BE THE SOLE RESPONSIBILITY OF THE USER. SUBSTITUTIONS FOR TYPES I AND II SHALL BE AS APPROVED BY THE ENGINEER.



**ELEVATION SECTION**

Note: Silt Fence to be paid for under the contract unit price for Staked Silt Fence (LF).

### TYPE III SILT FENCE

NO.	DATE	BY	REVISIONS
1	01-28-2016	ACN	Revised x-section & plan view

SCALE	VERIFICATION
0	1

18" MIN. 3" 6" MAX. 5' OR MORE

SOLID BAR IS EQUAL TO ONE INCH ON ORIGINAL DRAWING. ADJUST ALL SCALED DIMENSIONS ACCORDINGLY.

South Florida Water Management District  
 Northern Everglades Payment for Environmental Services (NE-PES)  
 Cow Creek Water Management Area  
 Rip Rap Earthen Weirs

Dispersed Water, L.L.C.  
 CA License No. 31503  
 Benita M. Whalen, P.E., Managing Member  
 FL P.E. No. 50676

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**GENERAL NOTES**

1. Contractor is responsible for checking actual site conditions before starting construction.
2. Any discrepancies on the drawings shall be brought to the attention of the engineer before commencing work.
3. Contractor shall obtain all required building permits before commencing work.
4. Contractor shall be responsible for location of all existing utilities. The contractor shall contact all concerned utilities at least 48 hours in advance for construction operations.
5. No field changes or deviations from design to be made without prior approval of the engineer.
6. All construction shall be completed in accordance with the applicable ordinances of Polk County, and F.D.O.T., Florida.
7. Engineer shall be notified at least 48 hours in advance for any inspection.
8. All traffic control devices shall be in accordance with M.U.T.C.D. Standards.
9. Erosion and sedimentation control techniques shall be incorporated during construction as follows:  
 (1) silt screens shall be maintained at the project perimeter.  
 (2) No off-site discharges shall occur during construction. In the event discharge is required, hay bales and/or turbidity curtains shall be incorporated at the discharge point as necessary to control turbidity.

**EROSION AND SEDIMENTATION CONTROL NOTES**

Construction activities can result in the generation of significant amounts of pollutants which may reach surface or ground waters. One of the primary pollutants of surface waters is sediment due to erosion. Excessive quantities of sediment which reach water bodies of floodplains have been shown to adversely affect their physical, biological and chemical properties. Transported sediment can obstruct stream channels, reduce hydraulic capacity of water bodies of floodplains, reduce the design capacity of culverts and other works, and eliminate ethnic invertebrates and fish spawning substrates by siltation. Excessive suspended sediments reduce light penetration and therefore, reduce primary productivity.

**MINIMUM STANDARDS:**

1. Sediment basin and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-distributing activity and shall be made functional before unslope land disturbance takes place.
2. All sediment control measures are to be adjusted to meet field conditions at the time of construction and be constructed prior to any grading or disturbance of existing surface material on balance of site. Perimeter sediment barriers shall be constructed to prevent sediment or trash from flowing or floating on to adjacent properties.
3. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain undisturbed for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left undisturbed for more than one year.
4. During construction of the project, soil stockpiles shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as soil intentionally transported from the project site.
5. A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, in the opinion of the Reviewer, is uniform, mature enough to survive and will inhibit erosion.
6. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

**EROSION AND SEDIMENTATION CONTROL NOTES - (continued)**

7. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The sediment basin shall be designed and constructed to accommodate the anticipated sediment loading from the land-disturbing activity. The outfall device or system design shall take into account the total drainage area flowing through the disturbed area to be served by the basin.
8. After any significant rainfall, sediment control structures will be inspected for integrity. Any damaged devices shall be corrected immediately.
9. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.
10. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.
11. Sediment will be prevented from entering any storm drain system, ditch or channel. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.
12. Before temporary or newly constructed stormwater conveyance channels are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.
13. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.
14. When a live watercourse must be crossed by construction vehicles, a temporary stream crossing constructed of nonerodible material shall be provided.
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.
16. Periodic inspection and maintenance of all sediment control structures must be provided to ensure intended purpose is accomplished. The Developer, owner and/or contractor shall be continually responsible for all sediment leaving the property. Sediment control measures shall be in working condition at the end of each working day.
17. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:  
 A. No more than 500 linear feet of trench may be opened at one time.  
 B. Excavated material shall be placed on the uphill side of trenches.  
 C. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.  
 D. Restabilization shall be accomplished in accordance with these regulations.
18. Where construction vehicle access routes intersect paved public roads, provisions shall be made to minimize the transport of sediment by tracking onto the paved surface, where sediment is transported onto a public road surface with curbs and gutters, the road shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual subdivision lots as well as to larger land-distributing activities.
19. All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, in the opinion of the Reviewer. Disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.
20. Properties and waterways downstream from construction site shall be protected from sediment disposition and erosion.
21. Phased projects should be cleared in conjunction with construction of each phase.
22. Erosion control design and construction shall follow the requirements in Index Nos. 101, 102 and 103 of FDOT Roadway and Traffic Design Standards.
23. The Reviewer may approve modifications or alter plans to these erosion control criteria due to site specific conditions.

ENGINEER OF RECORD INSPECTION REQUIREMENTS  
 CONTRACTOR TO CALL CONTRACT ENGINEER OF RECORD  
 48 HOURS ADVANCE FOR FOLLOWING INSPECTIONS:  
 1. PRE-CONSTRUCTION MEETING  
 2. FILTER FABRIC SUBGRADE  
 3. RUBBLE BASE  
 4. FINAL

CALL 48 HOURS BEFORE  
 YOU DIG IN FLORIDA  
 1-800-432-4770  
 IT'S THE LAW!  
 SUNSHINE STATE ONE CALL  
 OF FLORIDA, INC.

**TECHNICAL SPECIFICATIONS**

**Traffic Control:** The installation of Traffic Control Devices if necessary shall be in conformance to the requirements of the Manual of Uniform Traffic Control Devices, F.D.O.T. and St. Lucie County.

**Drainage Improvements:** All labor, materials and construction methods shall be in conformance to the minimum engineering and construction standards of Polk County and FDOT Specifications. Trench excavation and back-filling operations shall meet or exceed the requirements of FDOT Specifications, Section 125. The Contractor shall provide the necessary back-fill compaction testing required to demonstrate compliance with this section. The pipe trench shall be dry when pipe is laid and the pipe shall be bedded per the details and per FDOT Specifications.

**Clearing and Grubbing:** Clearing and grubbing shall be performed within the limits of the project work in accordance with Section 110, Florida Department of Transportation (FDOT) Specifications. This item shall include, but is not limited to, the complete removal and legal disposal of all trees, brush, stumps, roots, grass, weeds, rubbish and other undesirable material to a depth of 18 inches below natural ground or proposed finished grade, whichever is lower. The areas to be cleared generally consists of the entire site except for existing improvements and adjacent wetland/preserve areas.

**Care shall be taken to insure that no areas are impacted by the clearing operation. All areas immediately adjacent to the clearing operation shall also be protected by the installation of temporary silt barriers, as shown on the drawings, in accordance with the requirements of the County and the South Florida Water Management District (SFWMD). Further erosion control shall be accomplished by seeding and mulching all disturbed areas as soon as they are at final grade, per the specifications for seeding and mulching.**

All material shall be removed from the site and shall be legally disposed of in accordance with all local, state and federal requirements. Organic Material may be burned on-site provided Contractor obtains any and all required burn permits. Any unburned remains shall be disposed of off-site as specified above.

The Contractor shall maintain all storm-water on-site during construction to prevent discharge of turbid water off-site. Should severe storm events occur that make this impossible, the Contractor shall take all possible steps to prevent discharge of turbid water including installation of additional silt fence, hay bales and treatment with alum.

**Earthwork and Grading:** All earthwork and grading shall be performed as required to achieve the final grades, typical sections and elevations shown on the plans. Any fill placed shall be done in approximate 6" lifts. In all other respects, materials and construction methods for earthwork, embankment, excavation and grading shall conform to the requirements of FDOT Specifications, Section 120. Any plastic or otherwise undesirable material within 36 inches of finished road grade shall be removed and replaced with suitable material.

Silt fence shall be installed in the locations shown on the drawings in accordance to the details and specifications included elsewhere on these drawings.

**Dispersed Water, L.L.C.**  
 CA License No. 31503  
 Benita M. Whalen, P.E., Managing Member  
 FL P.E. No. 50676

DATE:	12-19-15
DRAWN BY:	ACN
DESIGNED BY:	BMW
CHECKED BY:	BMW
PROJECT No.:	2016-01
HORIZ. SCALE:	AS SHOWN
VERT. SCALE:	N.A.
CADD FILE:	COVCREEK

NO.	DATE	BY	REVISIONS

Printed Date: \_\_\_\_\_

**SCALE VERIFICATION**  
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 SOLID BAR IS EQUAL TO  
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