



Environmental Consulting & Technology, Inc.

November 19, 2010
ECT No. 100586-0100

Ms. Ann Seiler
Siting Coordination Office
Florida Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, FL 32399

Re: Seminole Electric Cooperative, Inc. (SECI) Midulla Generating Station (MGS),
Lube Oil Building (DEP Case No. PA89-25)

Dear Mr. Halpin:

On SECI's behalf, Environmental Consulting & Technology, Inc. (ECT), is submitting the following responses to the Request for Additional Information (RAI) issued by FDEP on 10/25/2010 regarding the proposed lube oil building and roof addition at MGS.

FDEP Comment No. 1

Pursuant to Chapter 62-343.900(1) Seciton E, Part VI, please review and comment on the attached Draft Operation and Maintenance Instructions (Attachment 1). The final Operation and Maintenance Instructions will be attached to the Conditions of Certification in accordance with Sections 2.6.3 and 6.3 of the B.O.R.

Response: SECI reviewed the Draft Operation and Maintenance Instructions provided by FDEP and prepared a Operation and Maintenance Plan (see revised Attachment 1) to be included as part of SECI's Post-Certification Amendment.

FDEP Comment No. 2

Pursuant to Chapter 62-343.900(1) Section E, please provide signed and sealed drawings that provide the layout of the proposed improvements and the proposed stormwater management system (SWMS) and drainage arrows that clearly depict overland flow to the existing stormwater pond located on the west side of the project area.

Response: A signed and sealed stormwater pollution prevention plan, which depicts the proposed facility layout and sediment control plan, is provided in Attachment 2. A figure showing the drainage pattern is shown in Attachment 3.

3701 Northwest
98th Street
Gainesville, FL
32606

(352)
332-0444

FAX (352)
332-6722

Y:\GDP-10\SECI\MGS\IBC1119.DOCX.1

FDEP Comment No. 3

Pursuant to Chapter 62-343.900(1) Section E, please provide a copy of the signed and sealed As Built or Record Drawings of the existing SWMS including the existing pond and its control structure.

Response: A construction drawing of the existing flow control structure and a drawing of the cooling reservoir, marked "Conformed to Construction Records" are included in Attachment 4.

FDEP Comment No. 4

Pursuant to Chapter 62-343.900(1) Section E, please flag the location of the construction staging area, provide erosion control BMPs, and the location of any temporary spoil disposal sites with BMPs.

Response: The location of the construction staging area, the temporary soil disposal site, and the erosion control BMPs are presented in Attachment 2.

FDEP Comment No. 5

Pursuant to the Basis of Review, 4.2 please give details on any proposed dewatering that will take place onsite, including details on any retention areas. Provide complete details of well points, discharge locations, time periods, and methods for preventing turbid discharges. Please include a narrative as well as scaled and dimensioned drawings that demonstrate any proposed dewatering activities. Refer to Chapter 62-343.900, F.A.C.

Response: Dewatering activities are not proposed for the construction of the proposed lube oil building and roof addition.

FDEP Comment No. 6

Please carry out an inspection of the existing SWMS and provide a copy of Inspection Certification Form #62-3434.343.900(6) FAC with your RAI response (Attachment 2).

Response: A professional engineer, Mr. Ivan B. Chou of ECT, conducted a thorough inspection of the stormwater management system at MGS on November 3, 2010.

The inspection indicated that the stormwater management system was well maintained. The swales are covered with healthy grass and properly mowed. Vegetation growth in the ditches appeared to be properly controlled. No debris and trash were found in any swales, ditches, and the detention pond. The skimmer at the stormwater outfall structure appeared to function well. No debris was observed near the outfall structure. The 4-inch bleed-down orifice was clean and absent of any blockage. It was concluded that the stormwater management system at MGS appears to be functioning properly. However, onsite measurement of the control structure showed that the vertical distance between the invert of the 4-inch orifice and the top of the weir was only 9.5 inches. The original design called for a bleed-down distance of 1.1 ft. MGS raised the top elevation of the concrete weir by 0.31 ft on November 18, 2010, so that the discharge structure would better conform with the original design. A copy of the Inspection Certification Form #62-343.900(6) is presented in Attachment 5.

SWFWMD Comment No. 1

The initial stage of the pond in the flood routing calculations must be set at the 36-hour drawdown elevation of the required water quality treatment volume. Refer to Section 5.2.a.5 of the District's Basis of Review.

Response: The computed 36-hour drawdown elevation is 120.79 ft-NGVD. ICPR model was re-run, using 120.79 ft-NGVD as the initial stage of the retention pond. The results indicate that the peak discharge under a 25-year, 24-hour storm after the construction of the proposed lube oil building and the roof addition is 83.63 cfs, less than the pre-development peak discharge of 85.8 cfs. The model input/output are presented in Attachment 6.

SWFWMD Comment No. 2

Several of the sub-basins contributing to the pond were modeled with stage-area nodes containing significant areas, and, thus storage volumes. It doesn't appear that these volumes exist. Note that attenuation within the curb and gravel areas of the substation cannot be considered for attenuation. Though the 25-year, 24-hour design high water level for all but one of these areas is at or below the bottom elevation of the stage-area node, there is one (Area 3) that peaks at 126.66 feet while the bottom elevation of the stage-area is at 126.00 feet. Ensure the flood routing module does not include these volumes. Refer to Section 2.4 and 4 of the District's Basis of Review.

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Response: As requested, all storage volumes were removed from the model except the retention pond. The model was re-run with the removed storage volumes and an initial pond stage of 120.79 ft-NGVD. The results show that the post-construction peak discharge is 83.60 cfs; less than the pre-development peak discharge of 85.8 cfs. The post-lube oil building and roof construction peak stage in the pond is 123.05 ft-NGVD, which provides a freeboard of 1.95 ft. The input/output of the ICPR model simulation are presented in Attachment 6.

Sincerely,

ENVIRONMENTAL CONSULTING & TECHNOLOGY, INC.



Ivan B. Chou, P.E.
Project Manager

IBC/tsw

Enclosures

cc: Mike Roddy
Robert Yarbrough
James Alves
Michael P. Halpin

ATTACHMENT 1
OPERATION AND MAINTENANCE PLAN

Midulla Generating Station Stormwater Management Facility Operation and Maintenance Plan

This maintenance plan is for all stormwater management features constructed as part of the The stormwater management components consist of inlets, pipes, grassed ditches, and wet and dry stormwater ponds with control structures. The anticipated maintenance activities include de-silting of pipes and ponds, vegetation mowing and control, control structure cleaning, and erosion repair. The following requirements have been developed in anticipation of these maintenance and operation activities.

General Maintenance

1. All surface water management system pipes, inlets, catch basins, manholes, flumes, pond inflow and outfall structures (including oil skimmers), and discharge pipes should be inspected on a regular basis (monthly or quarterly) and after major rain-falls. They should be maintained by removing built-up debris and vegetation and repairing deteriorating structures.
2. Chemicals, oils, greases, cut or dead vegetation or similar wastes are NOT to be disposed of in the surface water management system or through storm sewers.
3. Accumulated pond sediments, stormwater swales, and culverts should be disposed of in an approved solid waste management facility.
4. During any repair or maintenance activity, use care to avoid causing erosion or siltation to adjacent or offsite areas. All retention/detention pond side slopes shall be sodded and staked as necessary, to prevent erosion.
5. Alterations (filling, enlarging, etc.) of any part of the surface water management system are not permitted without prior approval from the Department and all other applicable governing agencies.
6. Establishment and survival of littoral areas provided for stormwater quality treatment in wet detention system systems shall be assured by proper and continuing maintenance procedures designed to promote viable wetlands plant growth or natural diversity and character. Perpetual maintenance shall be provided for the certified system.

Inspections

1. The side slopes of the detention pond and adjoining swale shall be inspected for bare spots, damage or erosion. Bare areas shall be sodded or seeded to replace the grass cover. In the case of erosion, replace the missing soil and bring the affected areas back to grade.
2. On a quarterly basis and following significant storm events, inspect the area in front of the outfall control structure to for built-up sediments, vegetation and debris that

impair the operation of the structure. Remove sediments, vegetation, trash and debris to an approved disposal site.

3. When littoral zone vegetation and sediment accumulate to such an extent that water depth decreases, the littoral zone may need to be re-graded and re-vegetated. When it appears that the pond has reached this state, contact the Department prior to large scale maintenance.

Notify the Department at (813) 632-7600 within 24 hours of observation of sinkhole development in the surface water management system. All pipes will be de-silted once the accumulated sediment exceeds 25% of the available pipe cross-section for the full length of the pipe.

1. Accumulated sediment in the ponds shall be removed once the average depth of sediment over the entire pond area exceeds 6 inches as measured above the design pond bottom elevation. Upon removal of the sediment, the pond bottom shall be scarified with a disc harrow or similar device to facilitate percolation and recharge.
2. All pond control structures shall be inspected at least quarterly to insure proper operation of skimmers and discharge mechanisms. Accumulated debris shall be removed that would inhibit the proper operation of the control structure.

Erosion and sediment controls

The following discussion defines general guidelines for the sequence of construction and the use of stabilization and structural practices.

- Site Construction: Install silt fence on all sides draining off site. Install soil tracking prevention device at exit points to paved surfaces. Provide a temporary sedimentation basin, as necessary, during construction. Final grading will be done once the basin is permanently stabilized. Sod all disturbed areas after construction is completed.

The contractor will be required to review the site specific erosion control plan. The contractor may also be required to modify the plan or materials to adapt to seasonal variations or site conditions. Any modifications to this plan must be signed by a professional engineer representing the contractor. Contractor shall remove all sediment that has migrated off-site. The project engineer is responsible for determining if additional controls are needed and deployment schedules for the implementation of all erosion control devices.

Stabilization practices

Temporary:

- Seed and mulch, and sod.

All stabilization practices shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.

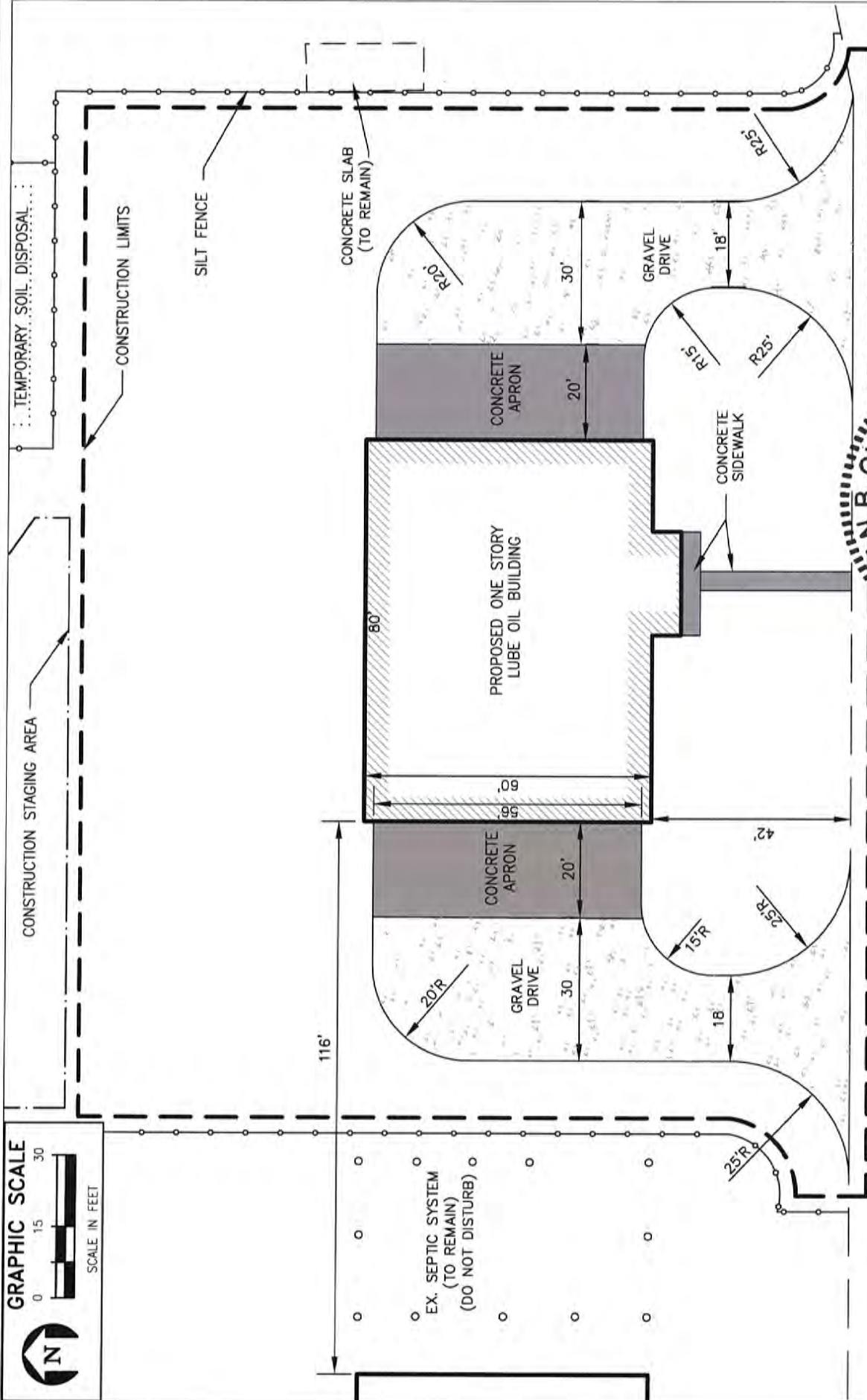
Structural Practices

All sediment controls shall be in place prior to any soil disturbing activity upstream of the control and may consist of one or more of the following.

- Silt Fence in accordance with FDOT Index 102.
- Sand bags.
- Hay bales.
- Berms.
- Timber bedding at construction areas.
- Turbidity barriers.
- Rip-Rap

ATTACHMENT 2

**LUBE OIL BUILDING LAYOUT AND
EROSION CONTROL BMPs**



SHEET 1 OF 7.

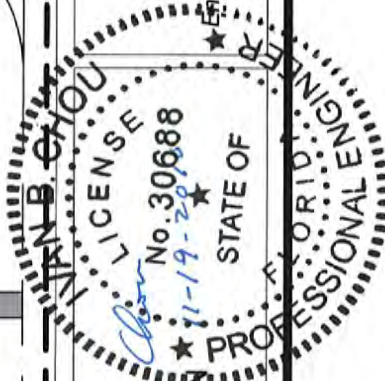
STORMWATER POLLUTION PREVENTION PLAN

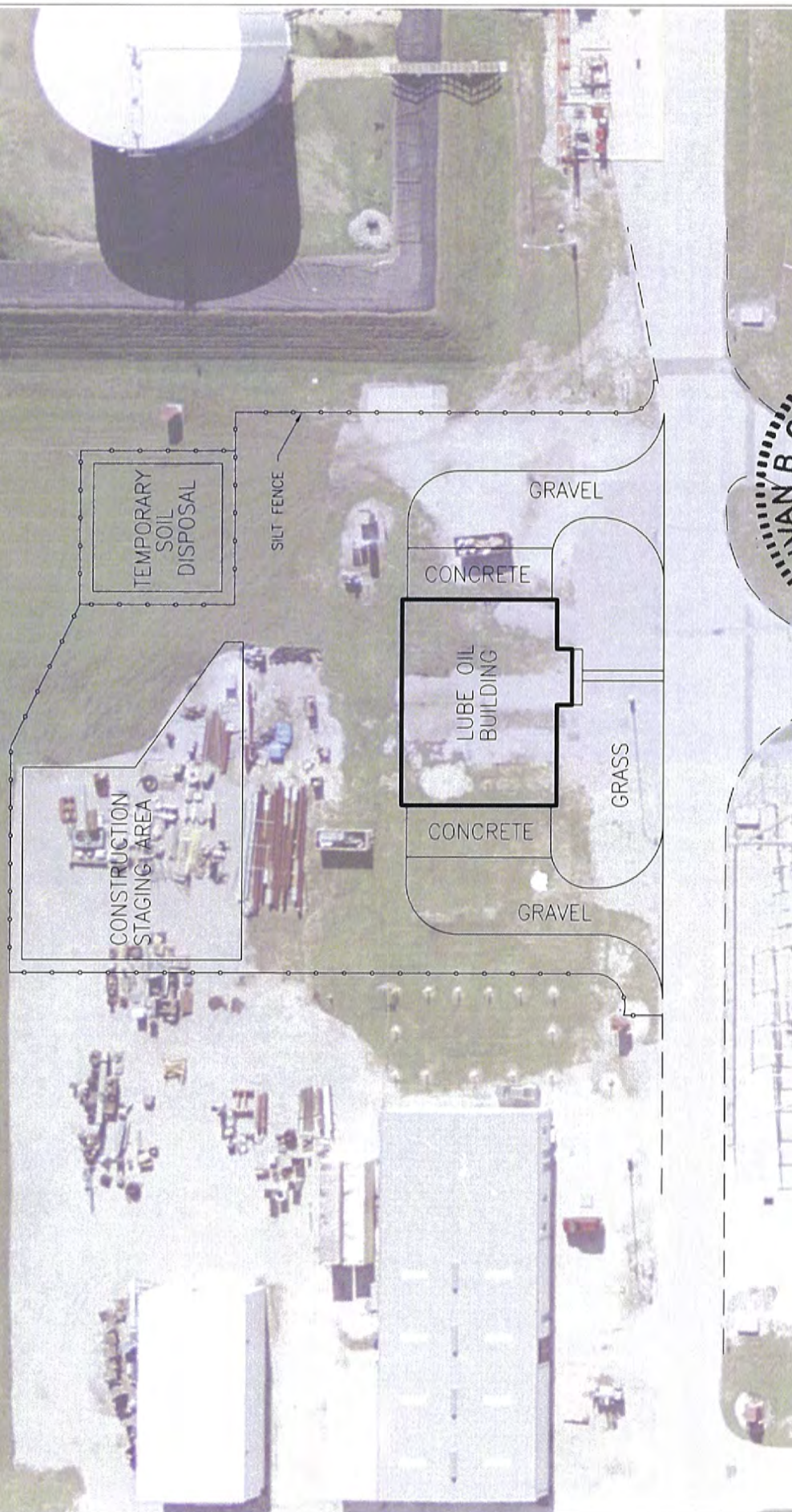
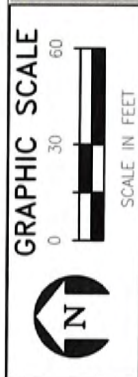
PROPOSED LUBRICATING OIL BUILDING, MIDULLA GENERATING STATION

Source: ACT, 2008; ECT, 2010.

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SHEET 2 OF 7.

STORMWATER POLLUTION PREVENTION PLAN

PROPOSED LUBRICATING OIL BUILDING, MIDULLA GENERATING STATION

Source: ACT, 2008; ECT, 2010.



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SITE DESCRIPTION

PROJECT NAME AND LOCATION

MIDULLA GENERATING STATION
LUBE/OIL BUILDING CONSTRUCTION
6697 COUNTY ROAD 663
BOWLING GREEN, FL 33834-6817

*SEE COVER SHEET FOR LOCATION MAP

DEVELOPER NAME AND ADDRESS
SEMINOLE ELECTRIC COOPERATIVE, INC.
16313 NORTH DALE MARRY HWY. 33618
TAMPA, FL 33688-2000

PROJECT DESCRIPTION

THE PROJECT WILL CONSTRUCT A 3750 SQUARE FOOT
LUBE/OIL
BUILDING WITH ATTENDANT DRIVEWAYS TOTALING 8,500
SQUARE
FEET. CONSTRUCTION ACTIVITIES WILL INCLUDE
ADJACENT IMPACTS FOR CONSTRUCTION LAY-DOWN AND
STAGING.

PROJECT AREA: 4.1 ACRE
CONTRIBUTING DRAINAGE AREA: 4.5 ACRES
TOTAL CONSTRUCTION AREA: 4.1 ACRE
ULTIMATE RECEIVING WATERS: PAYNE CREEK

STORMWATER MANAGEMENT

STORMWATER COLLECTION SHALL BE PROVIDED BY OVERLAND
FLOW TO THE SILT FENCE.

STABILIZATION PRACTICES

TEMPORARY STABILIZATION - DISTURBED PORTIONS OF THE SITE,
INCLUDING THE SPOIL PILE, WHERE CONSTRUCTION ACTIVITY
TEMPORARILY CEASES FOR AT LEAST 21 DAYS, SHALL BE STABILIZED
WITH TEMPORARY HYDRO SEED AND MULCH WITHIN 14 DAYS OF THE LAST
CONSTRUCTION ACTIVITY IN THAT AREA. PRIOR TO HYDROSEEDING,
WHERE SOILS ARE ACIDIC 2 TONS OF PULVERIZED AGRICULTURAL
LIMESTONE SHOULD BE ADDED PER ACRE AND 450 POUNDS OF 10-20-20
FERTILIZER SHALL BE APPLIED TO EACH ACRE. AREAS OF THE SITE
WHICH ARE TO BE PAVED SHALL BE TEMPORARILY STABILIZED BY
APPLYING GEOTEXTILE AND STONE SUB-BASE UNTIL BITUMINOUS
PAVEMENT CAN BE APPLIED.

STRUCTURAL PRACTICES

EARTH DIKE - IF REQUIRED, AN EARTH DIKE SHALL BE CONSTRUCTED
ALONG THE SITE PERIMETER. A PORTION OF THE DIKE SHALL DIVERT
RUN-ON AROUND THE CONSTRUCTION SITE. THE REMAINING PORTION OF
THE DIKE SHALL COLLECT RUNOFF FROM THE DISTURBED AREA AND
DIRECT THE RUNOFF TO THE SEDIMENT BASIN.

SEDIMENT BASIN - IF REQUIRED, A SEDIMENT BASIN SHALL BE
CONSTRUCTED IN THE COMMON DRAINAGE AREA FOR THE SITE. THIS
STORAGE POND SHALL HAVE A VOLUME OF 3,600 CUBIC FEET OF
STORAGE FOR EACH ACRE DRAINED. ALL SEDIMENT COLLECTED IN THE
BASIN MUST BE REMOVED FROM THE BASIN UPON COMPLETION OF
CONSTRUCTION. MATERIAL FROM THE BASIN MAY BE USED AS FILL ON
THE SITE IF IT IS SUITABLE SOIL.

SHEET 3 OF 7 STORMWATER POLLUTION PREVENTION PLAN
PROPOSED LUBRICATING OIL BUILDING
MIDULLA GENERATING STATION

Ch. B. Ch...

No. 30688

STATE OF

FLORIDA

PROFESSIONAL ENGINEER

Environmental Consulting & Technology, Inc.

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SEQUENCE OF MAJOR ACTIVITIES

THE ORDER OF CONSTRUCTION IS AS FOLLOWS:

1. INSTALL SILT FENCES AND OTHER EROSION CONTROL METHODS
2. PROVIDE INITIAL GRADING AS REQUIRED
3. EXCAVATE UNSUITABLE MATERIAL FROM BUILDING PAD AND STORE IN THE SPOIL PILE AREA INDICATED WITHIN SILT FENCING
4. STABILIZE ALL DISTURBED AREAS AS SOON AS POSSIBLE
5. CONSTRUCT LUBE/OIL BUILDING
6. FINISH GRADING ENTIRE SITE
7. REMOVE ACCUMULATED SEDIMENT
8. REMOVE ANY ITEMS THAT ARE NOT REQUIRED

TIMING OF CONTROL MEASURES

THE INSTALLATION OF SILT FENCE (AND OTHER EROSION CONTROL MEASURES), AND A STABILIZED ENTRANCE SHALL OCCUR PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. PERIODIC MAINTENANCE AFTER CONSTRUCTION IS COMPLETE, THE ACCUMULATED SEDIMENT SHALL BE REMOVED AND THE AREAS SHALL BE REGRADED AND PERMANENTLY STABILIZED AS SHOWN ON THE PLANS.

EROSION AND SEDIMENT CONTROLS

BEST MANAGEMENT PRACTICES SHALL BE USED FOR THIS PROJECT TO CONTROL EROSION AND TURBIDITY CAUSED BY STORMWATER RUNOFF. THE LOCATION AND DETAILS OF EROSION CONTROL METHODS ARE SHOWN ON SHEETS 1, 2 AND 7 OF THIS SWPPP. THE CONTRACTOR IS RESPONSIBLE FOR PLACING AND MAINTAINING THESE CONTROL METHODS AS SHOWN ON THE PLANS OR AS REQUIRED. HE/SHE SHALL ALSO PROVIDE THE REQUIRED EROSION PROTECTION AS REQUIRED BY LOCAL, STATE AND FEDERAL LAW.

WASTE DISPOSAL

WASTE MATERIALS - ALL WASTE MATERIALS SHALL BE COLLECTED AND STORED IN A METAL DUMPSTER WITH A SECURE LID IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. ALL TRASH AND CONSTRUCTION DEBRIS FROM THE SITE SHALL BE DEPOSITED IN THE DUMPSTER. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITIES TO HAVE THE DUMPSTER EMPTIED AT LEAST TWICE A WEEK AND THE WASTE TAKEN TO AN APPROPRIATE LANDFILL. NO CONSTRUCTION WASTE MATERIALS SHALL BE BURIED ON SITE. THE SUPERINTENDENT SHALL ORGANIZE TRAINING FOR THE EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH WASTE MATERIALS. THE SUPERINTENDENT SHALL BE RESPONSIBLE FOR POSTING AND ENFORCING WASTE MATERIAL PROCEDURES.

HAZARDOUS WASTE - HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS OR AS DIRECTED BY THE MANUFACTURER. THE SUPERINTENDENT SHALL ORGANIZE THE PROPER TRAINING FOR EMPLOYEES IN THE PROPER PRACTICES WHEN DEALING WITH HAZARDOUS WASTE MATERIALS. THESE PROCEDURES SHALL BE POSTED ON THE SITE. THE PERSON WHO MANAGES THE SITE SHALL BE RESPONSIBLE FOR ENFORCING THE PROCEDURES.

SANITARY WASTE - SANITARY WASTE SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL AND STATE LAWS. THE SUPERINTENDENT SHALL COORDINATE WITH THE LOCAL UTILITY FOR COLLECTION OF THE SANITARY WASTE AT LEAST THREE TIMES A WEEK TO PREVENT SPILLAGE ONTO THE SITE.

OFFSITE TRACKING

A STABILIZED CONSTRUCTION ENTRANCE SHALL BE PROVIDED TO REDUCE SEDIMENT TRACKING OFFSITE. THE MAJOR ROAD CONNECTED TO THE PROJECT SHALL BE CLEANED ONCE A DAY TO REMOVE ANY EXCESS MUD, DIRT OR ROCK RESULTING FROM CONSTRUCTION TRAFFIC. ALL TRUCKS HAULING MATERIALS OFFSITE SHALL BE COVERED WITH A TARPAULIN.



SHEET 4 OF 7 STORMWATER POLLUTION PREVENTION PLAN
 PROPOSED LUBRICATING OIL BUILDING
 MIDULLA GENERATING STATION

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THE FOLLOWING ITEMS ARE EXPECTED TO BE PRESENT ON THE PROJECT SITE:

- ASPHALT
- CONCRETE
- FERTILIZERS
- METAL PIECES
- PETROLEUM BASED PRODUCTS
- TAR
- CLEANING SUPPLIES
- DETERGENTS
- MASONRY BLOCK/BRICKS
- PAINT
- WOOD

THE FOLLOWING ARE NON-STORM WATER SOURCES THAT WILL BE ENCOUNTERED AT THE SITE AND SHOULD BE DIRECTED TO THE SEDIMENT BASIN PRIOR TO DISCHARGE.

- UNCONTAMINATED GROUNDWATER EXPOSED DURING EXCAVATION
- WATER FROM WATER LINE FLUSHING
- PAVEMENT WASH WATERS (WHERE NO SPILLS OR LEAKS OF TOXIC OR HAZARDOUS MATERIALS HAVE OCCURRED)

SPILL PREVENTION AND CONTROL

THE FOLLOWING ARE THE MATERIAL MANAGEMENT PRACTICES THAT WILL BE USED TO REDUCE THE RISK OF SPILLS OR OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

- SUPERINTENDENT SHALL INSPECT PROJECT AREA DAILY FOR PROPER STORAGE USE AND DISPOSAL OF CONSTRUCTION MATERIALS.
- STORE ONLY ENOUGH MATERIAL ON SITE FOR PROJECT COMPLETION.
- ALL SUBSTANCES SHOULD BE USED BEFORE DISPOSAL OF CONTAINER.
- ALL CONSTRUCTION MATERIALS STORED SHALL BE ORGANIZED AND IN THE PROPER CONTAINER AND, IF POSSIBLE, STORED UNDER A ROOF OR PROTECTIVE COVER.

- PRODUCTS SHALL NOT BE MIXED UNLESS DIRECTED BY THE MANUFACTURER.

- ALL PRODUCTS SHALL BE USED AND DISPOSED OF ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS.

HAZARDOUS PRODUCTS

- MATERIALS SHOULD BE KEPT IN ORIGINAL CONTAINER WITH LABELS UNLESS THE ORIGINAL CONTAINERS CANNOT BE RESEALED. IF BE USED, LABELS AND PRODUCT INFORMATION SHALL BE SAVED.
- PROPER DISPOSAL PRACTICES SHALL ALWAYS BE FOLLOWED IN ACCORDANCE WITH MANUFACTURER AND LOCAL/STATE REGULATIONS.

PRODUCT SPECIFIC PRACTICES

- PETROLEUM PRODUCTS MUST BE STORED IN PROPER CONTAINERS AND CLEARLY LABELED. VEHICLES CONTAINING PETROLEUM PRODUCTS SHALL BE PERIODICALLY INSPECTED FOR LEAKS. PRECAUTIONS SHALL BE TAKEN TO AVOID LEAKAGE OF PETROLEUM PRODUCTS ON SITE.

- THE MINIMUM AMOUNT OF FERTILIZER SHALL BE USED AND MIXED INTO THE SOIL IN ORDER TO LIMIT EXPOSURE TO STORMWATER. FERTILIZERS SHALL BE STORED IN A COVERED SHED. THE CONTENTS OF ANY PARTIALLY USED BAGS OF FERTILIZER SHALL BE TRANSFERRED TO A SEALABLE PLASTIC BIN TO AVOID SPILLS.

- PAINT CONTAINERS SHALL BE SEALED AND STORED WHEN NOT IN USE. EXCESS PAINT MUST BE DISPOSED OF IN AN APPROVED MANNER.

- CONCRETE TRUCKS SHALL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ON THE SITE.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIAL MANAGEMENT PRACTICES DISCUSSED IN THE PREVIOUS SECTIONS OF THIS PLAN, THE FOLLOWING PRACTICES SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

- SPILL CLEANUP INFORMATION SHALL BE POSTED ON SITE TO INFORM EMPLOYEES ABOUT CLEANUP PROCEDURES AND RESOURCES.
- THE FOLLOWING CLEANUP EQUIPMENT MUST BE KEPT ON SITE NEAR THE MATERIAL STORAGE AREA. GLOVES, MOPS, RAGS, BROOMS, DUST PANS, SAND, SAWDUST, LIQUID ABSORBER, GOGGLES, AND TRASH CONTAINERS.
- ALL SPILLS SHALL BE CLEANED UP AS SOON AS POSSIBLE.
- WHEN CLEANING A SPILL, THE AREA SHOULD BE WELL VENTILATED AND THE EMPLOYEE SHALL WEAR PROPER PROTECTIVE COVERING TO PREVENT INJURY.
- TOXIC SPILLS MUST BE REPORTED TO THE PROPER AUTHORITY REGARDLESS OF THE SIZE OF THE SPILL.
- AFTER A SPILL, THE PREVENTION PLAN SHALL BE REVIEWED AND CHANGED TO PREVENT FURTHER SIMILAR SPILLS FROM OCCURRING. THE CAUSE OF THE SPILL, MEASURES TO PREVENT IT, AND HOW TO CLEAN THE SPILL UP SHALL BE RECORDED.
- THE SUPERINTENDENT SHALL BE THE SPILL PREVENTION AND CLEANUP COORDINATOR AND IS RESPONSIBLE FOR THE DAY TO DAY SITE OPERATIONS. THE SUPERINTENDENT SHALL ALSO OVERSEE THE SPILL PREVENTION PLAN AND SHALL BE RESPONSIBLE FOR EDUCATING THE EMPLOYEES ABOUT SPILL PREVENTION AND CLEANUP PROCEDURES.

No. 30688



SHEET 5 OF 7 STORMWATER POLLUTION PREVENTION PLAN
PROPOSED LUBRICATING OIL BUILDING
MIDULLA GENERATING STATION

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MAINTENANCE AND INSPECTION PRACTICES

THE FOLLOWING ARE MAINTENANCE AND INSPECTION PRACTICES THAT SHALL BE COMPLETED BY THE CONTRACTOR.

- ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE INSPECTED WEEKLY AND WITHIN 24 HRS AFTER 0.5 OR GREATER RAINFALL BY THE SUPERINTENDENT OR SOMEONE UNDER HIS/HER DIRECT SUPERVISION.
- ALL SEDIMENT AND EROSION CONTROL METHODS SHALL BE KEPT IN GOOD CONDITION. REPAIRS MUST BE MADE WITHIN 24 HOURS OF REPORT.
- THE SILT FENCE SHALL BE CLEARED OF SEDIMENT WHEN SEDIMENT MEASURES ONE-THIRD THE HEIGHT OF THE FENCE.
- THE SILT FENCE SHALL BE INSPECTED PERIODICALLY FOR HEIGHT OF SEDIMENT AND CONDITION OF FENCE.
- THE SEDIMENT BASINS/DITCHES SHALL BE CHECKED MONTHLY FOR DEPTH OF SEDIMENT. THEY SHALL BE CLEANED WHEN SEDIMENT REACHES 10% OF TOTAL CAPACITY AND AFTER CONSTRUCTION IS COMPLETE.
- THE DIVERSION DIKE SHALL BE INSPECTED MONTHLY. ANY BREACHES SHALL BE PROMPTLY REPAIRED.
- ALL SEEDING SHALL BE CHECKED FOR PROPER GROWTH AND UNIFORMITY. UNSTABILIZED AREAS SHALL BE RE-SODDED.
- A MAINTENANCE REPORT SHALL BE COMPLETED DAILY AFTER EACH INSPECTION OF THE SEDIMENT AND EROSION CONTROL METHODS. THE REPORTS SHALL BE FILED IN AN ORGANIZED MANNER AND RETAINED ON SITE DURING CONSTRUCTION. AFTER CONSTRUCTION IS COMPLETED, THE REPORTS SHALL BE SAVED FOR AT LEAST THREE YEARS. THE REPORTS SHALL BE AVAILABLE FOR ANY AGENCY THAT HAS JURISDICTION OVER EROSION CONTROL.
- THE SUPERINTENDENT SHALL ORGANIZE THE TRAINING FOR INSPECTION PROCEDURES AND PROPER EROSION CONTROL METHODS OR EMPLOYEES THAT COMPLETE INSPECTIONS AND REPORTS.

CONTRACTOR'S CERTIFICATION

I CERTIFY UNDER PENALTY OF LAW THAT I UNDERSTAND THE TERMS AND CONDITIONS OF THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT THAT AUTHORIZES THE STORMWATER DISCHARGE ASSOCIATED WITH INDUSTRIAL ACTIVITY FROM THE CONSTRUCTION SITE IDENTIFIED AS PART OF THIS CERTIFICATION.

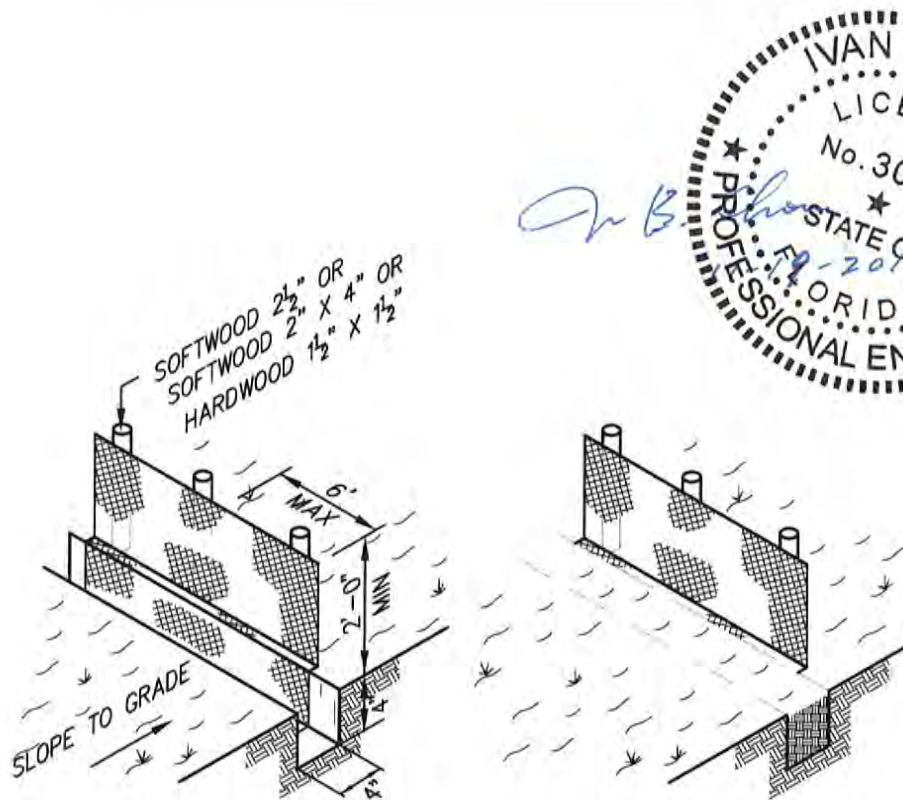
SIGNATURE/DATE	COMPANY NAME/ADDRESS	RESPONSIBILITY



SHEET 6 OF 7 STORMWATER POLLUTION PREVENTION PLAN
 PROPOSED LUBRICATING OIL BUILDING
 MIDULLA GENERATING STATION

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ALLOW 8" FILTER FABRIC EXTENSION
INTO THE TRENCH AS SHOWN

BACKFILL AND COMPACT
EXCAVATED SOIL

SILT FENCE DETAIL
F.D.O.T. INDEX NO. 102

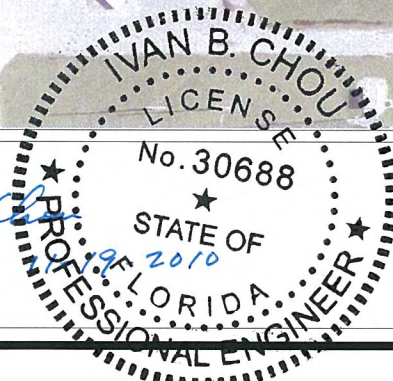
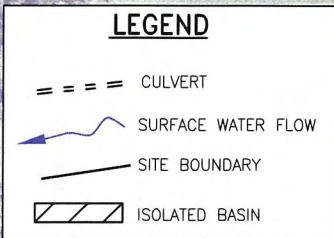
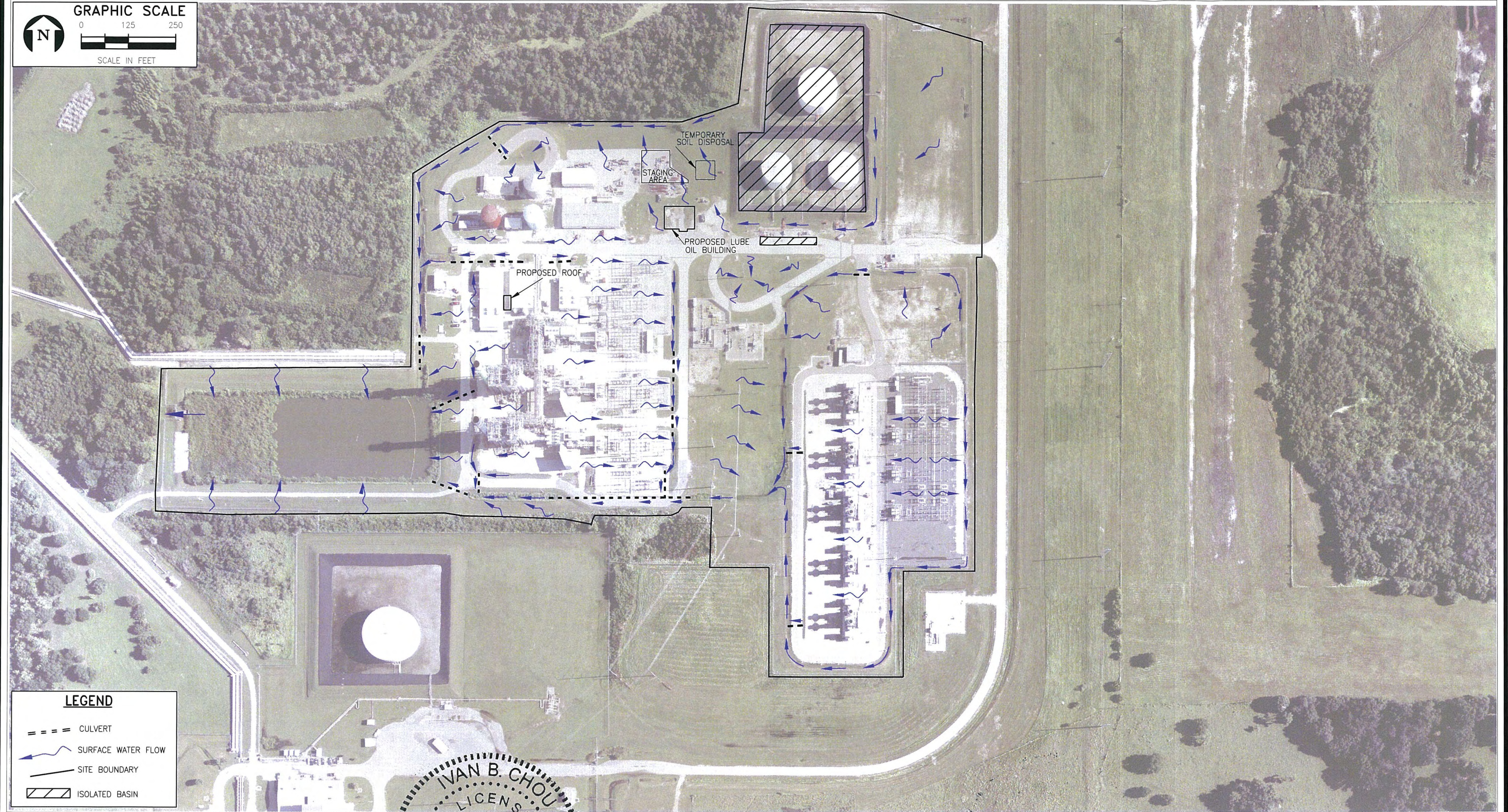
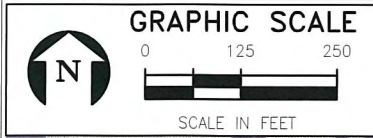
NOTES:

1. MATERIALS, CONSTRUCTION METHODS AND MAINTENANCE SHALL BE IN ACCORDANCE WITH THE FLORIDA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS AND DESIGN STANDARDS CURRENT EDITION.
2. SILT FENCE SECTION SHALL BE JOINED PER FDOT INDEX NO. 102

SILT FENCE TURBIDITY BARRIER

N.T.S.

ATTACHMENT 3
ONSITE DRAINAGE PATTERN

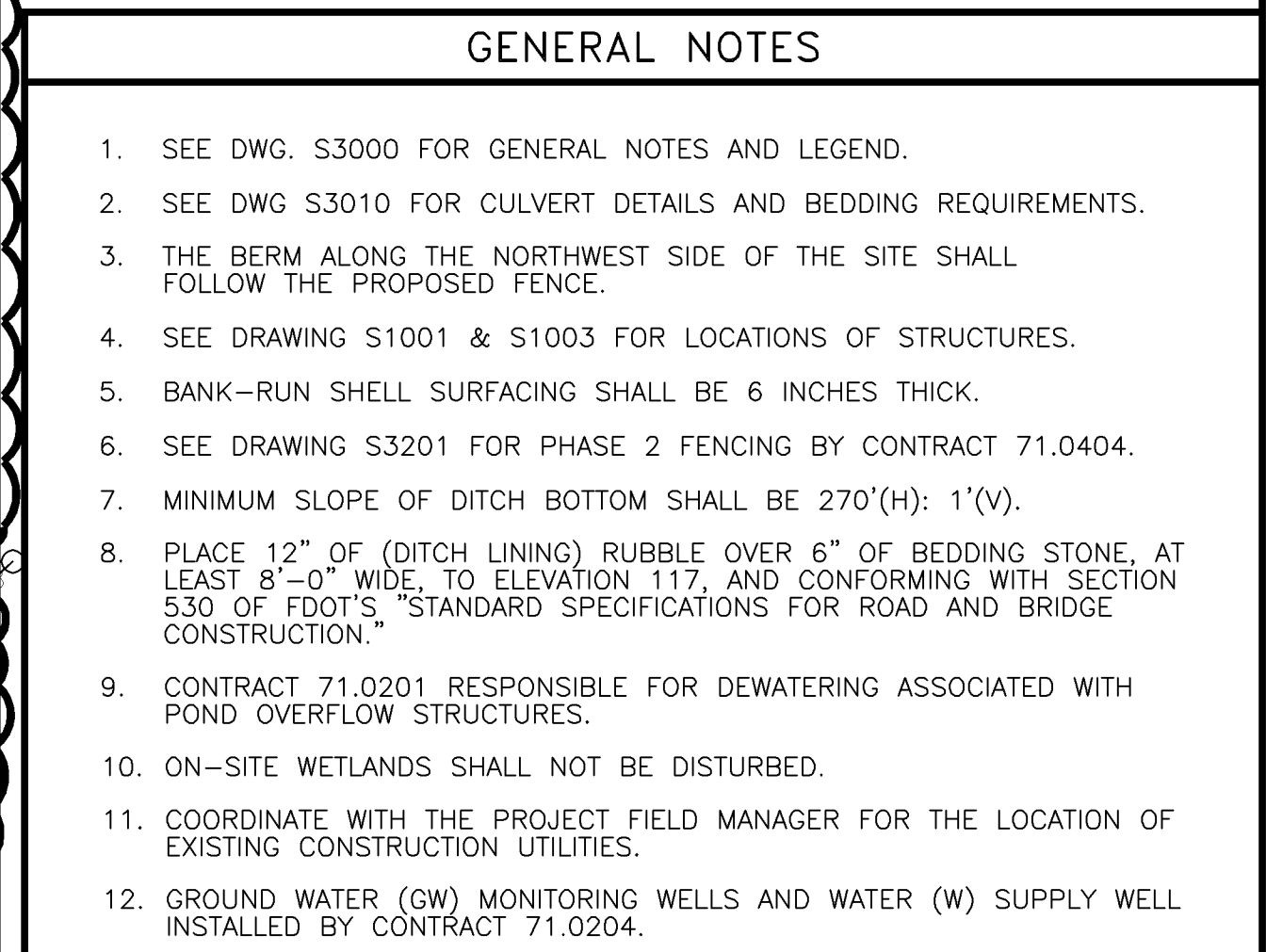


ATTACHMENT 3.
DRAINAGE PATTERN
MIDULLA GENERATING STATION
Source: ECT, 2010.

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ATTACHMENT 4

**CONSTRUCTION DRAWINGS OF THE
STORMWATER MANAGEMENT SYSTEM**



PROJECT		DRAWING NUMBER		REV
60976-C112-S3001				2
CODE				
AREA				

[illegible]

OVERLAND CONTRACTING INC. 3550 GREEN COURT ANN ARBOR, MI 48105		
I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPER- VISION AND THAT I AM A DULY REGISTERED PRO- FESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF FLORIDA		
SIGNED	JOHN P. STEINERT	
DATE	01/28/2000	REG NO. 55041

 Overland Contracting Inc.	
ENGINEER LJK	DRAWN TMS
CHECKED JPS	DATE 03/03/2000

SEMINOLE ELECTRIC COOP, INC. PAYNE CREEK GENERATING STATION	
SITE DEVELOPMENT AREA 1 PLAN	

PROJECT		DRAWING NUMBER		REV
60976-C112-S3001				2
CODE				
AREA				

7014W/HEAT ACAD 14.01
11ASL017 E1 1=50
6/29/00 10:07:25

CULVERT AND DROP INLET TABLE													
NO.	REF DWG	INSIDE DIAMETER (IN)	CULVERT LENGTH* (FT)	INLET COORDINATES			OUTLET COORDINATES			DROP INLET TOP ELEVATION	DROP INLET BOTTOM ELEVATION	REMARKS	
				NORTH	EAST	INVERT ELEVATION	NORTH	EAST	INVERT ELEVATION				
C-1	S3002	15	72'-9"	N1202927.50	E513533.00	129.8	N1202854.75	E513533.00	129.7			BY CONTRACT 71.0205	
C-2	S3002	15	59'-0"	N1202306.00	E513530.00	129.5	N1202247.00	E513530.00	129.4			BY CONTRACT 71.0205	
C-3	S3004	12	43'-8"	N1202243.00	E513073.00	126.4	N1202205.00	E513094.50	126.1			BY CONTRACT 71.0203	
C-4	S3004	18	89'-0"	N1202245.75	E512469.00	123.9	SEE CB-1	SEE CB-1	SEE CB-1			BY CONTRACT 71.0203	
C-5	S3003/S3004	24	84'-6"	SEE CB-4	SEE CB-4	SEE CB-4	N1202245.75	E512117.50	121.7			BY CONTRACT 71.0203	
C-6	S3003	30	91'-0"	N1202055.00	E512037.50	121.0	N1201964.00	E512040.00	120.5			BY CONTRACT 71.0203	
C-7	S3003/S3004	18	94'-4"	SEE CB-6	SEE CB-6	SEE CB-6	N1201896.00	E512090.00	123.0			BY CONTRACT 71.0203	
C-8	S3004	15	77'-6"	N1201863.00	E512707.00	125.9	N1201785.50	E512705.50	125.5			BY CONTRACT 71.0203	
C-9	S3004	18	65'-6"	N1201692.00	E512692.00	122.8	N1201626.50	E512692.00	122.4	4'-6"	125.2	-	BY CONTRACT 71.0203
C-10	S3004	15	56'-6"	N1201692.50	E512190.00	123.5	N1201636.00	E512190.00	123.0	4'-6"	125.5	-	BY CONTRACT 71.0203
C-11	S3001/S3002	30	104'-0"	N1201627.50	E512166.50	120.6	N1201675.50	E512075.00	120.1			BY CONTRACT 71.0201	
C-12	S3001	24	33'-3"	N1201568.75	E511250.50	115.5	N1201589.50	E511224.50	115.4			BY CONTRACT 71.0201	
C-13	S3001	24	33'-3"	N1201565.62	E511248.00	115.5	N1201586.37	E511222.00	115.4			BY CONTRACT 71.0201	
C-14	S3002	12	47'-0"	N1202212.00	E513226.00	126.5	N1202212.00	E513179.00	126.3			BY CONTRACT 71.0201	

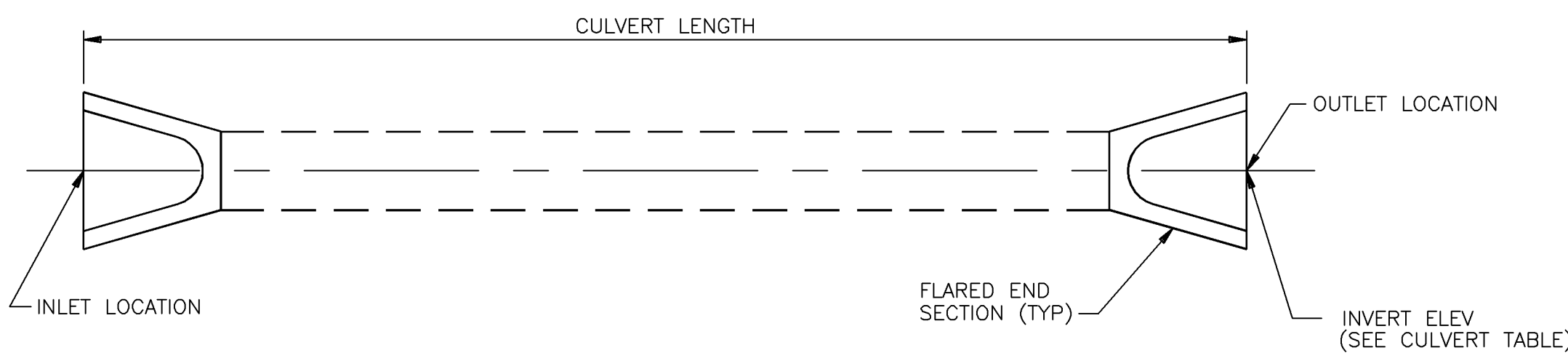
CULVERT NOTES

- CULVERTS SHALL BE PROVIDED WITH FLARED END SECTIONS UNLESS OTHERWISE INDICATED.
 - CULVERT LENGTH INCLUDES TOTAL LENGTH OF CULVERT PIPE AND FLARED END SECTIONS UNLESS OTHERWISE NOTED.
 - PIPE SHALL BE LAID WITH THE TONGUE END POINTING IN THE DIRECTION OF FLOW.
 - PLACE 4 SQUARE YARDS OF EUKAMAT EROSION CONTROL FABRIC OR APPROVED EQUAL AT ALL CULVERT OUTLETS WHERE RIPRAP EROSION PROTECTION IS NOT SHOWN.
- * = LENGTHS ARE APPROXIMATE

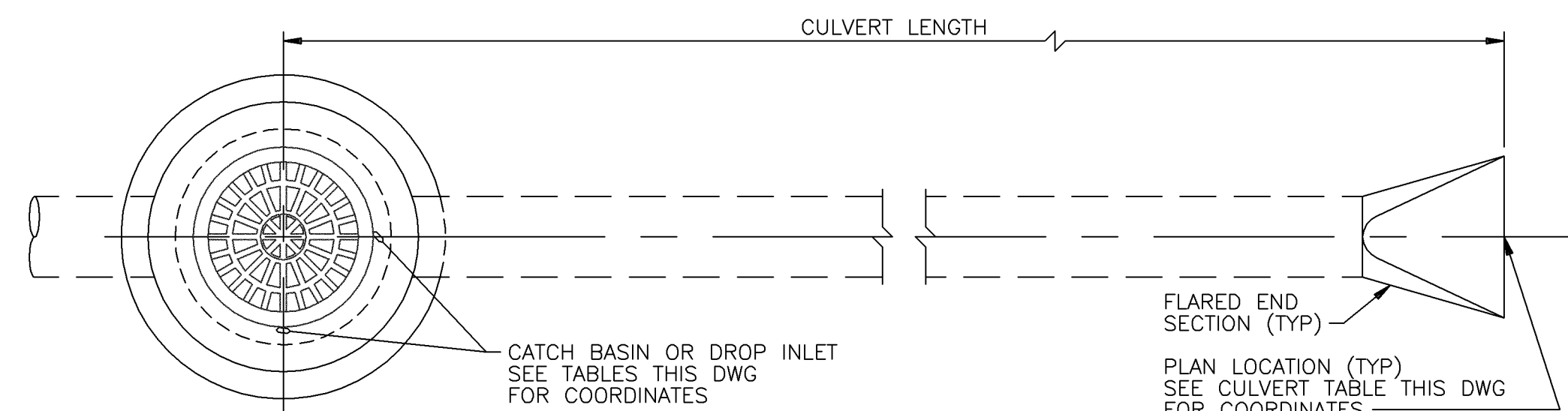
STORM SEWER CATCH BASIN TABLE

STRUCTURAL NO	REF DWG	CENTERLINE COORDINATES		DIAMETER	TOP ELEVATION	BOTTOM ELEVATION	INLET AND OUTLET PIPE INFORMATION								REMARKS
		NORTH	EAST				NORTH	SOUTH	EAST	WEST	INLET	OUTLET	INLET	OUTLET	
CB-1	S3002	N1202245.75	E512380.00	4'-0"	125.7	122.7	-	-	-	-	123.5	18"	123.4	18"	BY CONTRACT 71.0201 / (SEE NOTE 7)
CB-2	S3002	N1202245.75	E512312.00	4'-0"	125.7	122.2	-	-	-	-	123.0	18"	122.9	18"	BY CONTRACT 71.0201 / (SEE NOTE 7)
CB-3	S3004	N1202245.75	E512256.00	4'-0"	125.7	*	-	-	-	-	122.6	18"	122.5	24"	BY CONTRACT 71.0203
CB-4	S3004	N1202245.75	E512205.00	4'-0"	125.7	*	-	-	-	-	122.2	24"	122.1	24"	BY CONTRACT 71.0203
CB-5	S3004	N1202000.00	E512178.00	4'-0"	125.9	*	-	-	124.2	12"	-	-	-	-	BY CONTRACT 71.0203
CB-6	S3004	N1201930.00	E512178.00	4'-0"	126.1	*	123.8	12"	-	-	-	-	123.6	18"	BY CONTRACT 71.0203

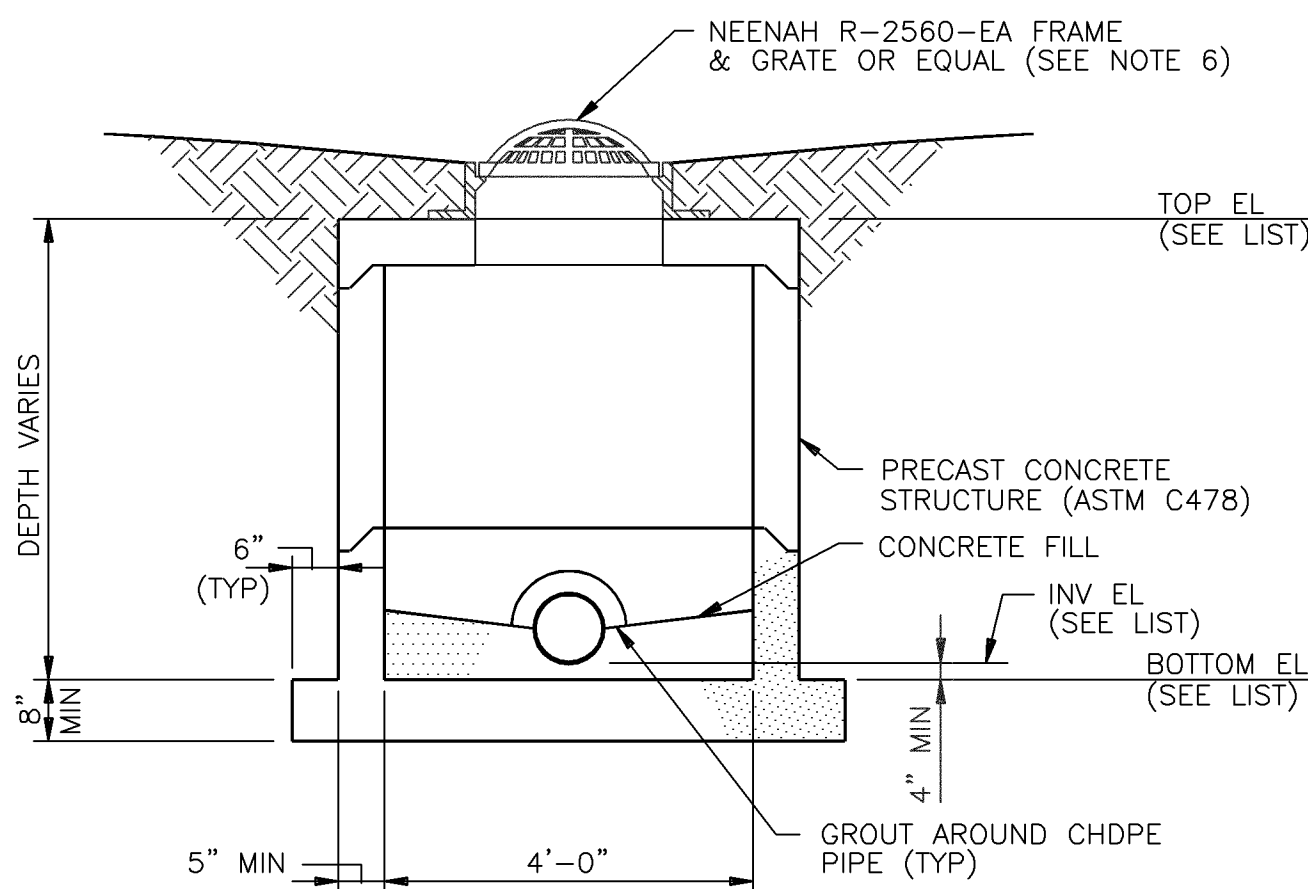
* DETERMINED BY SUBCONTRACTOR



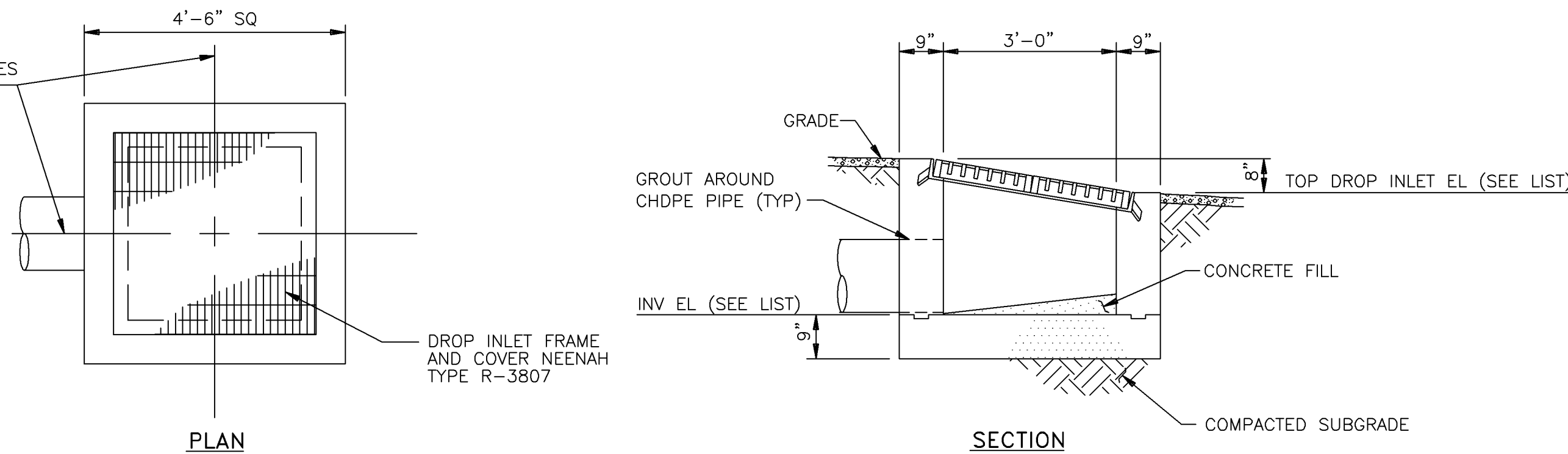
PLAN TYPICAL CULVERT
NO SCALE



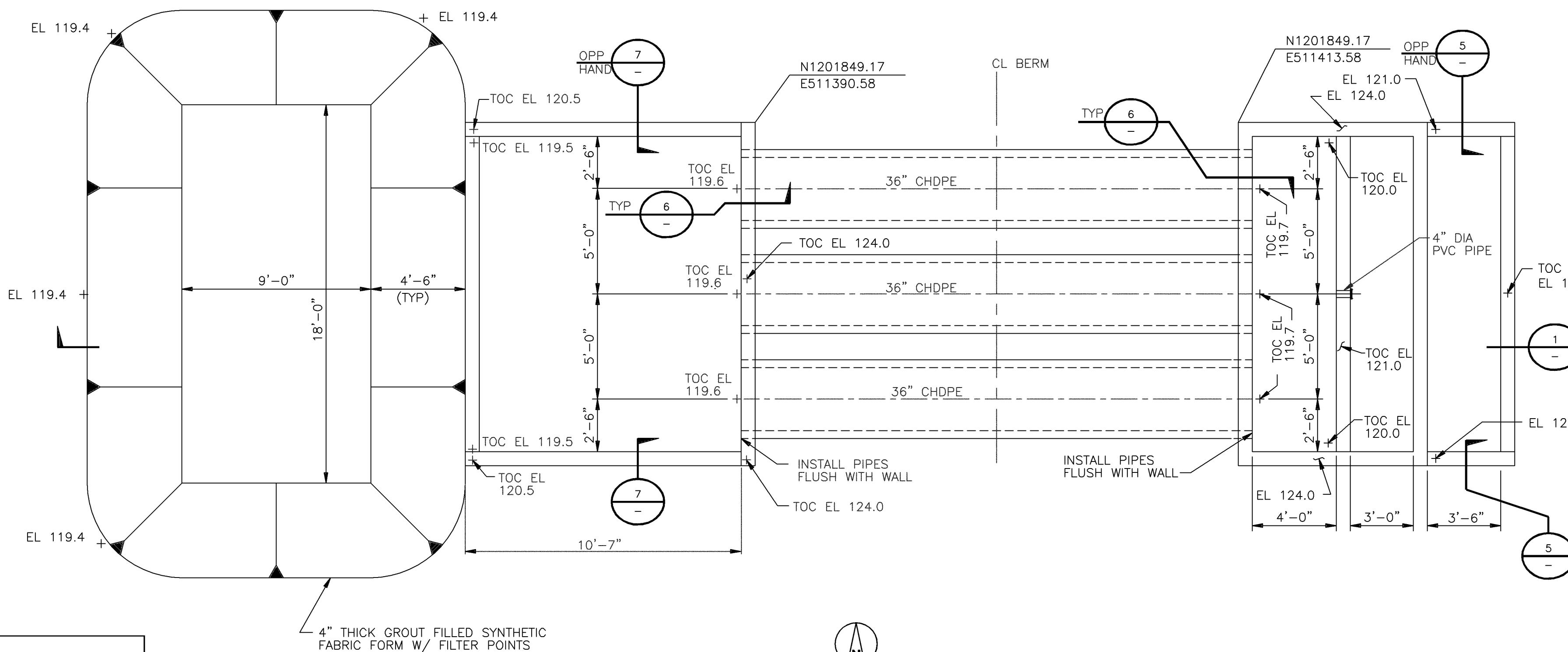
TYPICAL CULVERT PLAN
(BY CONTRACT 71.0201 & 71.0203)
NO SCALE
SEE TABLE ON THIS DWG



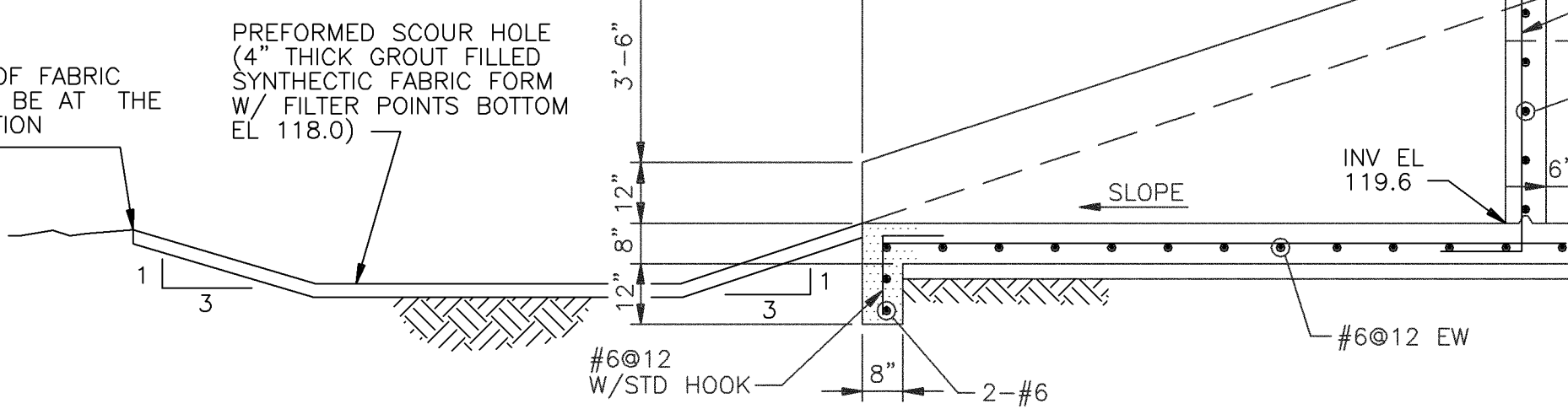
TYPICAL PRECAST CATCH BASIN
NO SCALE



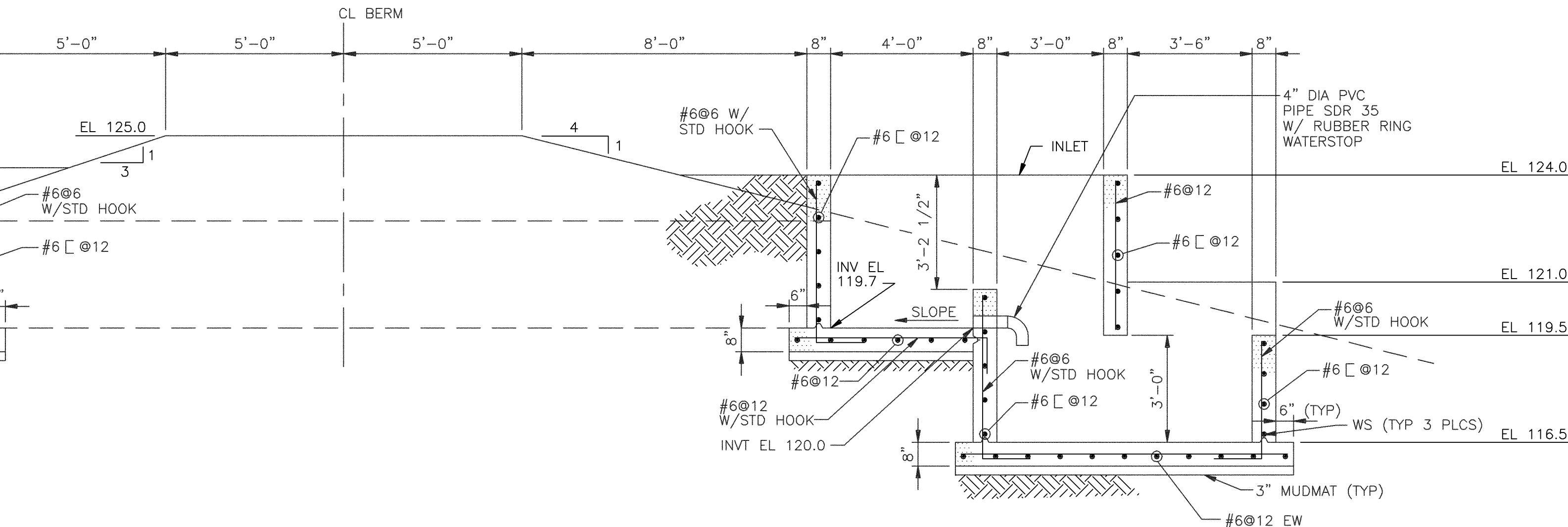
TYPICAL PRECAST DROP INLET
NO SCALE



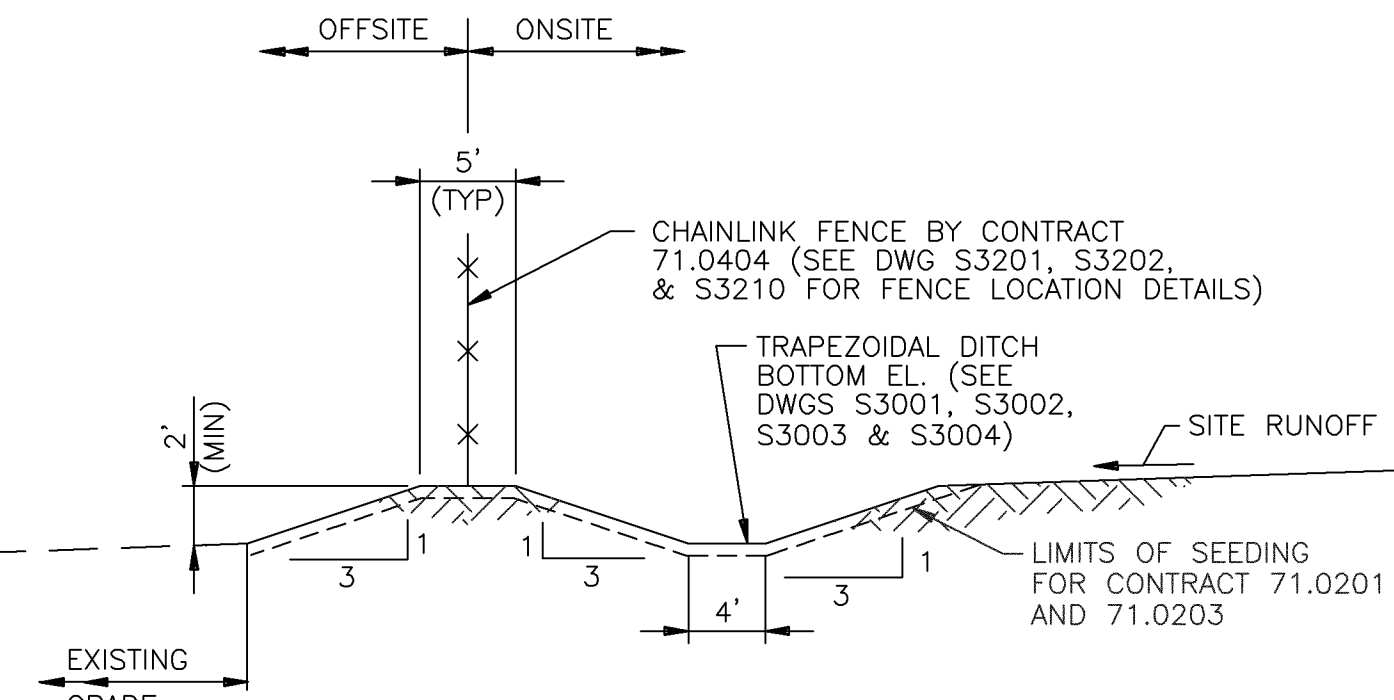
DISCHARGE STRUCTURE (BY SPECIFICATION 71.0201)
NO SCALE



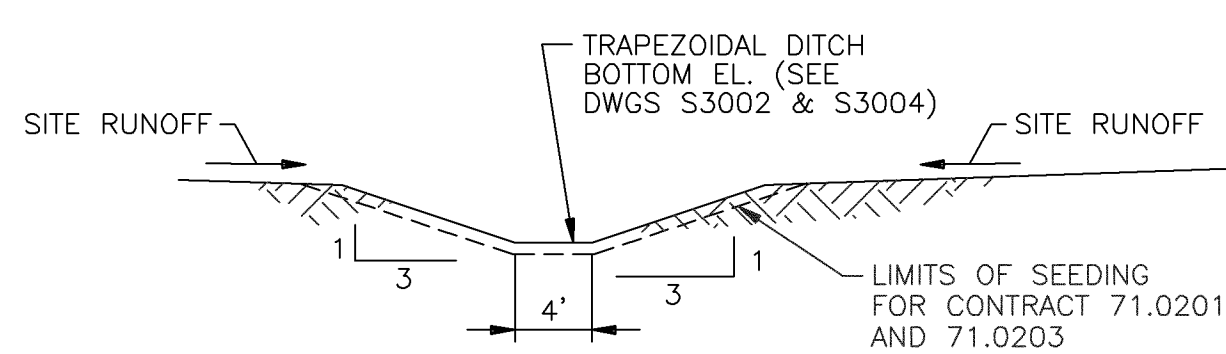
SECTION 2
DETENTION BASIN (BY SPECIFICATION 71.0201)
NO SCALE
SEE DWG S3001



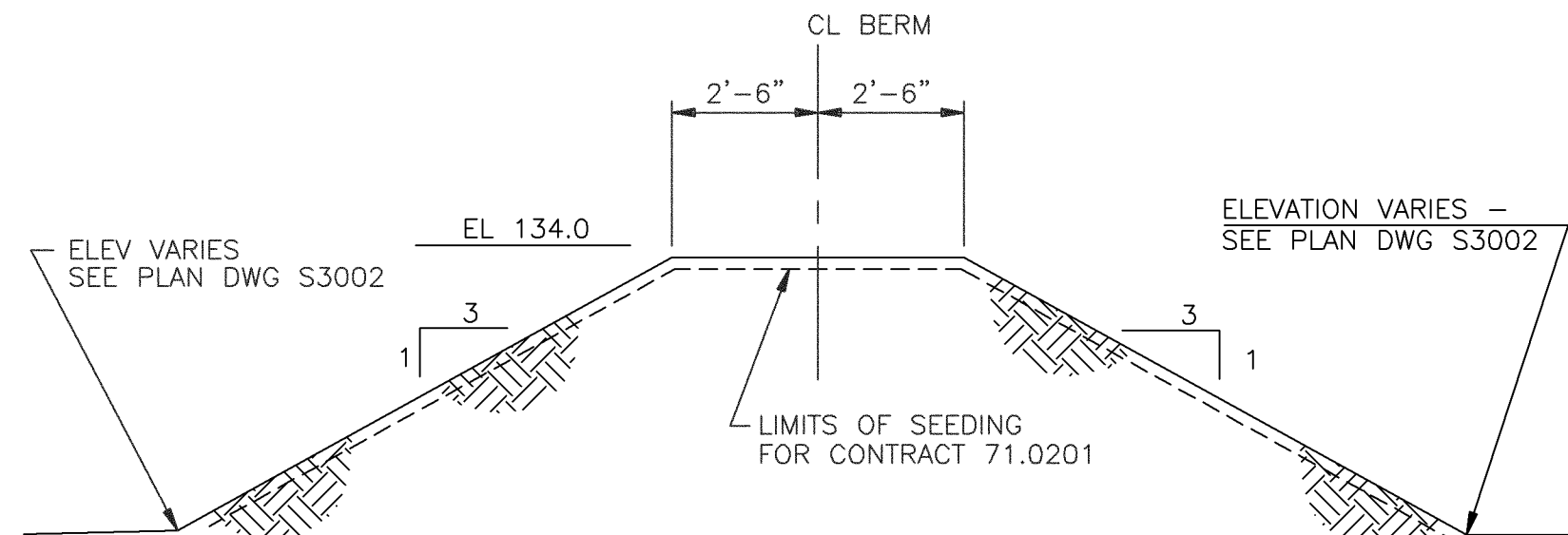
SECTION 1
SCALE: 3/8" = 1'-0"
SEE THIS DWG & DWG S3001



SECTION 3
PERIMETER DITCH AND CHAINLINK FENCE
NO SCALE
SEE DWG S3001, S3002, S3003 & S3004



SECTION 4
TYPICAL DITCH
NO SCALE
SEE DWG S3002 & S3004



SECTION 8
TYPICAL BERM CROSS-SECTION (BY SPECIFICATION 71.0201)
NO SCALE
SEE DWG S3002

NOTES

- SEE DRAWING S3000 FOR GENERAL NOTES AND LEGEND.
- SEE DRAWING S3001, S3002, S3003 & S3004 FOR GRADING AND DRAINAGE.
- CAST 36" CHDPE PIPE INTO WALL AND FLOOR.
- ALL FLAT CONCRETE SURFACES SHALL HAVE A FLOAT FINISH.
- DETENTION BASIN SEEDING SHALL BE FINISHED WITHIN 30 DAYS UPON COMPLETION OF DETENTION BASIN EARTHWORK.
- COVER FRAME DURING CONSTRUCTION TO MINIMIZE SOIL INTRUSION INTO THE CATCH BASIN AND GRATE. STORED ONSITE UNTIL FINAL GRADING (BY SPEC 71.0201). SPEC 71.0203 TO INSTALL GRATE FOR EXISTING CATCH BASINS.
- CATCH BASINS INSTALLED UNDER CONTRACT 71.0201 SHALL BE CAST WITH AN INLET AND OUTLET PIPE OPENING. EXPOSED OPENINGS SHALL BE COVERED AND PLUGGED TO MINIMIZE SOIL INTRUSION THROUGH THE OPENING AND INTO THE CATCH BASIN.
- SEE SPECIFICATION 71.0201 FOR INSTALLATION REQUIREMENTS.
- ALL WORK INDICATED ON THIS DRAWING APPLIES TO CONTRACT SPEC 71.0201 UNLESS NOTED OTHERWISE.

APPROVED FOR
CONSTRUCTION

06/25/02 10:18:29
AUG 15 2005
E1
AUG 15 2005

3	6/24/2002	CONFORMED TO CONSTRUCTION RECORDS	TMS\JPS\JH\JPS\JH
2	7/20/2001	ISSUED FOR CONSTRUCTION, SPEC 71.0203	TMS\JH\JPS\JH\JPS\JH
1	03/03/2000	ISSUED APPROVED FOR CONSTRUCTION	TMS\JH\JPS\JH\JPS\JH
0	01/28/2000	ISSUED FOR BID	TMS\JH\JPS\JH\JPS\JH
NO	DATE	REVISIONS AND RECORD OF ISSUE	DRN\DES\CHK\POE\APP

SCALE AS NOTED

OVERLAND CONTRACTING INC. 3550 GREEN COURT ANN ARBOR, MI 48105	
SIGNED	JOHN P. STEINERT
DATE	01/28/2000, REG NO. 55041

Overland Contracting Inc.	
ENGINEER	LUK
CHECKED	JPS
DRAWN	TMS
DATE	03/03/2000

SEMINOLE ELECTRIC COOP. INC. PAYNE CREEK GENERATING STATION		PROJECT 60976-C112-S3010	DRAWING NUMBER 3
GRADING AND DRAINAGE SECTIONS AND DETAILS		CODE AREA	

ATTACHMENT 5

**ENVIRONMENTAL RESOURCE PERMIT
INSPECTION CERTIFICATE**

ENVIRONMENTAL RESOURCE PERMIT INSPECTION CERTIFICATION

Permit Number: **DEP Case Number PA 89-25**

Project Name: **Midulla Generating Station (MGS) Lube Oil Building Construction and Roof Addition**

Inspection Date(s): **November 3, 2010**

Inspection results: (check one)

☐ I hereby certify that I or my designee under my direct supervision have inspected the system at the above referenced project and that the system appears to be functioning in accordance with the requirements of the permit and Chapter 373 F.S. (as applicable).

☒ The following necessary maintenance was conducted: **MGS raised the top of the concrete overflow weir by 0.31 ft on November 18, 2010, to conform with the permitted original design.**

☐ I hereby certify that I or my designee under my direct supervision has inspected the system at the above referenced project and that the system does not appear to be functioning in accordance with the requirements of the permit and Chapter 373 F.S. (as applicable). I have informed the operation and maintenance entity of the following: (a) that the system does not appear to be functioning properly, (b) that maintenance is required to bring the system into compliance, and (c) if maintenance measures are not adequate to bring the system into compliance, the system may have to be replaced or an alternative design constructed subsequent to Department approval.

Ivan B. Chou
Name



Signature of Professional Engineer

Environmental Consulting & Technology, Inc.
Company Name

30688
Florida Registration Number

3701 Northwest 98th Street
Company Address

November 19, 2010
Date

Gainesville, FL 32606
City, State, Zip Code

352/332-0444
Telephone Number

Within 30 days of completion of the inspection, submit two copies of the form to the following Department Office:

Department of Environmental Protection



ATTACHMENT 6
ICPR MODEL INPUT/OUTPUT



=====
Basins
=====

Name: Basin 1A Node: Area1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400 Time of Conc(min): 10.00
Area(ac): 3.000 Time Shift(hrs): 0.00
Curve Number: 93.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin 1B Node: Area 1B Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400 Time of Conc(min): 10.00
Area(ac): 7.600 Time Shift(hrs): 0.00
Curve Number: 94.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin 1C Node: Area1 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400 Time of Conc(min): 37.00
Area(ac): 4.600 Time Shift(hrs): 0.00
Curve Number: 82.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin 1D Node: Area 1D Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400 Time of Conc(min): 32.00
Area(ac): 1.200 Time Shift(hrs): 0.00
Curve Number: 83.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin 3 Node: Area 3 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400 Time of Conc(min): 10.00
Area(ac): 3.700 Time Shift(hrs): 0.00
Curve Number: 90.00 Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00

Name: Basin 4 Node: Area 4 Status: Onsite
Group: BASE Type: SCS Unit Hydrograph CN

Unit Hydrograph: Uh323 Peaking Factor: 323.0
Rainfall File: Flmod Storm Duration(hrs): 24.00

MGS Lube/Oil Building Addition
Input Data Report
RAI Response

Rainfall Amount(in): 8.400	Time of Conc(min): 10.00
Area(ac): 2.100	Time Shift(hrs): 0.00
Curve Number: 95.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Name: Basin 5A	Node: Area 5A	Status: Onsite
Group: BASE	Type: SCS Unit Hydrograph CN	

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File: Flmod	Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400	Time of Conc(min): 10.00
Area(ac): 4.660	Time Shift(hrs): 0.00
Curve Number: 85.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Name: Basin 5B	Node: Area 5B	Status: Onsite
Group: BASE	Type: SCS Unit Hydrograph CN	

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File: Flmod	Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400	Time of Conc(min): 42.00
Area(ac): 4.500	Time Shift(hrs): 0.00
Curve Number: 88.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Name: Basin 5C	Node: Area 5C	Status: Onsite
Group: BASE	Type: SCS Unit Hydrograph CN	

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File: Flmod	Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400	Time of Conc(min): 32.00
Area(ac): 3.500	Time Shift(hrs): 0.00
Curve Number: 87.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Name: Basin 6	Node: Area 6	Status: Onsite
Group: BASE	Type: SCS Unit Hydrograph CN	

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File: Flmod	Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400	Time of Conc(min): 10.00
Area(ac): 3.700	Time Shift(hrs): 0.00
Curve Number: 94.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

Name: Basin 8	Node: POND	Status: Onsite
Group: BASE	Type: SCS Unit Hydrograph CN	

Unit Hydrograph: Uh323	Peaking Factor: 323.0
Rainfall File: Flmod	Storm Duration(hrs): 24.00
Rainfall Amount(in): 8.400	Time of Conc(min): 14.00
Area(ac): 5.400	Time Shift(hrs): 0.00
Curve Number: 98.00	Max Allowable Q(cfs): 999999.000
DCIA(%): 0.00	

==== Nodes =====

Name: A Base Flow(cfs): 0.000 Init Stage(ft): 122.000
Group: BASE Warn Stage(ft): 129.000
Type: Stage/Area

Stage(ft) Area(ac)

Name: AA Base Flow(cfs): 0.000 Init Stage(ft): 121.000
Group: BASE Warn Stage(ft): 128.500
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 1B Base Flow(cfs): 0.000 Init Stage(ft): 126.000
Group: BASE Warn Stage(ft): 127.500
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 1D Base Flow(cfs): 0.000 Init Stage(ft): 122.000
Group: BASE Warn Stage(ft): 128.500
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 3 Base Flow(cfs): 0.000 Init Stage(ft): 126.000
Group: BASE Warn Stage(ft): 128.500
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 4 Base Flow(cfs): 0.000 Init Stage(ft): 126.000
Group: BASE Warn Stage(ft): 128.500
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 5A Base Flow(cfs): 0.000 Init Stage(ft): 129.000
Group: BASE Warn Stage(ft): 133.000
Type: Stage/Area

Stage(ft) Area(ac)

Name: Area 5B Base Flow(cfs): 0.000 Init Stage(ft): 125.000
Group: BASE Warn Stage(ft): 129.000
Type: Stage/Area

Stage(ft)	Area(ac)

Name: Area 5C	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 122.000
Type: Stage/Area	Warn Stage(ft): 128.500
Stage(ft)	Area(ac)

Name: Area 6	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 125.000
Type: Stage/Area	Warn Stage(ft): 128.500
Stage(ft)	Area(ac)

Name: AREA 9	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 127.000
Type: Stage/Area	Warn Stage(ft): 129.500
Stage(ft)	Area(ac)

Name: Area1	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 127.000
Type: Stage/Area	Warn Stage(ft): 129.000
Stage(ft)	Area(ac)

Name: L	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 121.000
Type: Stage/Area	Warn Stage(ft): 128.500
Stage(ft)	Area(ac)

Name: Outfall	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 119.000
Type: Time/Stage	Warn Stage(ft): 121.000
Time(hrs)	Stage(ft)

0.00	119.000
30.00	120.000

Name: POND	Base Flow(cfs): 0.000
Group: BASE	Init Stage(ft): 120.780
Type: Stage/Area	Warn Stage(ft): 125.500
Stage(ft)	Area(ac)

```

-----
119.800      3.4320
121.000      3.5950
122.000      3.7610
123.000      3.9300
124.000      4.1020
125.000      4.2770

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```

=====
==== Pipes =====
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```

```

Name: P-10          From Node: AA          Length(ft): 100.00
Group: BASE         To Node: POND          Count: 2
                                     Friction Equation: Average Conveyance
                                     Solution Algorithm: Automatic
                                     Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 36.00      36.00
Rise(in): 36.00      36.00
Invert(ft): 120.700    120.500
Manning's N: 0.013000  0.013000
Top Clip(in): 0.000    0.000
Bot Clip(in): 0.000    0.000
Entrance Loss Coef: 0.40
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```

-----
Name: P-11          From Node: AREA 9      Length(ft): 30.00
Group: BASE         To Node: Area1        Count: 1
                                     Friction Equation: Average Conveyance
                                     Solution Algorithm: Automatic
                                     Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 12.00      12.00
Rise(in): 12.00      12.00
Invert(ft): 125.800    125.500
Manning's N: 0.013000  0.013000
Top Clip(in): 0.000    0.000
Bot Clip(in): 0.000    0.000
Entrance Loss Coef: 0.40
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```

-----
Name: P-3          From Node: Area 3      Length(ft): 30.00
Group: BASE         To Node: A           Count: 1
                                     Friction Equation: Average Conveyance
                                     Solution Algorithm: Automatic
                                     Flow: Both
UPSTREAM      DOWNSTREAM
Geometry: Circular      Circular
Span(in): 24.00      24.00
Rise(in): 24.00      24.00
Invert(ft): 122.500    122.300
Manning's N: 0.013000  0.013000
Top Clip(in): 0.000    0.000
Bot Clip(in): 0.000    0.000
Entrance Loss Coef: 0.40
Exit Loss Coef: 1.00
Bend Loss Coef: 0.00
Outlet Ctrl Spec: Use dc or tw
Inlet Ctrl Spec: Use dn
Stabilizer Option: None

```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
-----
Name: P-4                      From Node: Area 4          Length(ft): 30.00
Group: BASE                    To Node: Area 1D          Count: 1
                                Friction Equation: Average Conveyance
                                Solution Algorithm: Automatic
                                Flow: Both
                                Entrance Loss Coef: 0.40
                                Exit Loss Coef: 1.00
                                Bend Loss Coef: 0.00
                                Outlet Ctrl Spec: Use dc or tw
                                Inlet Ctrl Spec: Use dn
                                Stabilizer Option: None

UPSTREAM    DOWNSTREAM
Geometry: Circular
Span(in): 24.00
Rise(in): 24.00
Invert(ft): 122.300
Manning's N: 0.013000
Top Clip(in): 0.000
Bot Clip(in): 0.000

Circular
24.00
24.00
122.000
0.013000
0.000
0.000
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
-----
Name: P-5                      From Node: L          Length(ft): 110.00
Group: BASE                    To Node: POND        Count: 2
                                Friction Equation: Average Conveyance
                                Solution Algorithm: Automatic
                                Flow: Both
                                Entrance Loss Coef: 0.40
                                Exit Loss Coef: 1.00
                                Bend Loss Coef: 0.00
                                Outlet Ctrl Spec: Use dc or tw
                                Inlet Ctrl Spec: Use dn
                                Stabilizer Option: None

UPSTREAM    DOWNSTREAM
Geometry: Circular
Span(in): 36.00
Rise(in): 36.00
Invert(ft): 120.300
Manning's N: 0.013000
Top Clip(in): 0.000
Bot Clip(in): 0.000

Circular
36.00
36.00
120.000
0.013000
0.000
0.000
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

```
-----
Name: PNEW                     From Node: A          Length(ft): 300.00
Group: BASE                    To Node: Area 1D     Count: 2
                                Friction Equation: Average Conveyance
                                Solution Algorithm: Automatic
                                Flow: Both
                                Entrance Loss Coef: 0.40
                                Exit Loss Coef: 1.00
                                Bend Loss Coef: 0.00
                                Outlet Ctrl Spec: Use dc or tw
                                Inlet Ctrl Spec: Use dn
                                Stabilizer Option: None

UPSTREAM    DOWNSTREAM
Geometry: Circular
Span(in): 36.00
Rise(in): 36.00
Invert(ft): 123.000
Manning's N: 0.013000
Top Clip(in): 0.000
Bot Clip(in): 0.000

Circular
36.00
36.00
121.700
0.013000
0.000
0.000
```

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

=====

==== Channels =====
=====

Name: C-15A		From Node: Area 5A	Length(ft): 425.00
Group: BASE		To Node: Area 5B	Count: 1
	UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm: Automatic
Invert(ft):	128.000	125.000	Flow: Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef: 0.000
Manning's N:	0.025000	0.025000	Expansion Coef: 0.000
Top Clip(ft):	0.000	0.000	Entrance Loss Coef: 0.000
Bot Clip(ft):	0.000	0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):	5.000	5.000	
LtSdSlp(h/v):	3.00	3.00	
RtSdSlp(h/v):	3.00	3.00	

Name: C-15B		From Node: Area 5B	Length(ft): 620.00
Group: BASE		To Node: Area 5C	Count: 1
	UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm: Automatic
Invert(ft):	124.800	121.900	Flow: Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef: 0.000
Manning's N:	0.025000	0.025000	Expansion Coef: 0.000
Top Clip(ft):	0.000	0.000	Entrance Loss Coef: 0.000
Bot Clip(ft):	0.000	0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):	6.000	6.000	
LtSdSlp(h/v):	3.00	3.00	
RtSdSlp(h/v):	3.00	3.00	

Name: C-15C		From Node: Area 5C	Length(ft): 200.00
Group: BASE		To Node: AA	Count: 1
	UPSTREAM	DOWNSTREAM	Friction Equation: Average Conveyance
Geometry:	Trapezoidal	Trapezoidal	Solution Algorithm: Automatic
Invert(ft):	122.000	121.000	Flow: Both
TClpInitZ(ft):	9999.000	9999.000	Contraction Coef: 0.000
Manning's N:	0.032000	0.032000	Expansion Coef: 0.000
Top Clip(ft):	0.000	0.000	Entrance Loss Coef: 0.000
Bot Clip(ft):	0.000	0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):	8.000	8.000	
LtSdSlp(h/v):	3.00	3.00	
RtSdSlp(h/v):	3.00	3.00	

Name: C-16 Group: BASE		From Node: Area 6 To Node: Area 5C	Length(ft): 85.00 Count: 1
UPSTREAM		DOWNSTREAM	Friction Equation: Average Conveyance
Geometry: Trapezoidal		Trapezoidal	Solution Algorithm: Automatic
Invert(ft): 122.000		121.900	Flow: Both
TClpInitZ(ft): 9999.000		9999.000	Contraction Coef: 0.000
Manning's N: 0.032000		0.032000	Expansion Coef: 0.000
Top Clip(ft): 0.000		0.000	Entrance Loss Coef: 0.000
Bot Clip(ft): 0.000		0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft): 8.000		8.000	
LtSdSlp(h/v): 3.00		3.00	
RtSdSlp(h/v): 3.00		3.00	

Name: C-1A Group: BASE		From Node: Area1 To Node: Area 1B	Length(ft): 510.00 Count: 1
UPSTREAM		DOWNSTREAM	Friction Equation: Average Conveyance
Geometry: Trapezoidal		Trapezoidal	Solution Algorithm: Automatic
Invert(ft): 126.000		124.000	Flow: Both
TClpInitZ(ft): 9999.000		9999.000	Contraction Coef: 0.000
Manning's N: 0.025000		0.025000	Expansion Coef: 0.000
Top Clip(ft): 0.000		0.000	Entrance Loss Coef: 0.000
Bot Clip(ft): 0.000		0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft): 8.000		8.000	
LtSdSlp(h/v): 3.00		3.00	
RtSdSlp(h/v): 3.00		3.00	

Name: C-1B Group: BASE		From Node: Area 1B To Node: A	Length(ft): 270.00 Count: 1
UPSTREAM		DOWNSTREAM	Friction Equation: Average Conveyance
Geometry: Trapezoidal		Trapezoidal	Solution Algorithm: Automatic
Invert(ft): 124.000		123.000	Flow: Both
TClpInitZ(ft): 9999.000		9999.000	Contraction Coef: 0.000
Manning's N: 0.025000		0.025000	Expansion Coef: 0.000
Top Clip(ft): 0.000		0.000	Entrance Loss Coef: 0.000
Bot Clip(ft): 0.000		0.000	Exit Loss Coef: 0.000
Main XSec:			Outlet Ctrl Spec: Use dc or tw
AuxElev1(ft):			Inlet Ctrl Spec: Use dn
Aux XSec1:			Stabilizer Option: None
AuxElev2(ft):			
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft): 8.000		8.000	
LtSdSlp(h/v): 3.00		3.00	
RtSdSlp(h/v): 3.00		3.00	

Name: C-7 Group: BASE		From Node: Area 1D To Node: L	Length(ft): 270.00 Count: 1

	UPSTREAM	DOWNSTREAM	
Geometry:	Trapezoidal	Trapezoidal	Friction Equation: Average Conveyance
Invert(ft):	122.500	121.000	Solution Algorithm: Automatic
TClpInitZ(ft):	9999.000	9999.000	Flow: Both
Manning's N:	0.032000	0.032000	Contraction Coef: 0.000
Top Clip(ft):	0.000	0.000	Expansion Coef: 0.000
Bot Clip(ft):	0.000	0.000	Entrance Loss Coef: 0.000
Main XSec:			Exit Loss Coef: 0.000
AuxElev1(ft):			Outlet Ctrl Spec: Use dc or tw
Aux XSec1:			Inlet Ctrl Spec: Use dn
AuxElev2(ft):			Stabilizer Option: None
Aux XSec2:			
Top Width(ft):			
Depth(ft):			
Bot Width(ft):	8.000	8.000	
LtSdSlp(h/v):	3.00	3.00	
RtSdSlp(h/v):	3.00	3.00	

=====
Drop Structures
=====

Name: control struct From Node: POND Length(ft): 24.00
Group: BASE To Node: Outfall Count: 3

	UPSTREAM	DOWNSTREAM	
Geometry:	Circular	Circular	Friction Equation: Average Conveyance
Span(in):	36.00	36.00	Solution Algorithm: Automatic
Rise(in):	36.00	36.00	Flow: Both
Invert(ft):	119.700	119.600	Entrance Loss Coef: 0.400
Manning's N:	0.013000	0.013000	Exit Loss Coef: 1.000
Top Clip(in):	0.000	0.000	Outlet Ctrl Spec: Use dc or tw
Bot Clip(in):	0.000	0.000	Inlet Ctrl Spec: Use dn
			Solution Incs: 10

Upstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

Downstream FHWA Inlet Edge Description:
Circular Concrete: Square edge w/ headwall

*** Weir 1 of 3 for Drop Structure control struct ***

Count: 1	Bottom Clip(in): 0.000
Type: Horizontal	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Circular	Orifice Disc Coef: 0.600
Span(in): 4.00	Invert(ft): 120.000
Rise(in): 4.00	Control Elev(ft): 120.000

TABLE

*** Weir 2 of 3 for Drop Structure control struct ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Mavis	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 180.00	Invert(ft): 121.100
Rise(in): 36.00	Control Elev(ft): 121.100

TABLE

*** Weir 3 of 3 for Drop Structure control struct ***

Count: 1	Bottom Clip(in): 0.000
Type: Vertical: Fread	Top Clip(in): 0.000
Flow: Both	Weir Disc Coef: 3.200
Geometry: Rectangular	Orifice Disc Coef: 0.600
Span(in): 1200.00	Invert(ft): 123.000
Rise(in): 48.00	Control Elev(ft): 123.000

TABLE

=====
=== Hydrology Simulations ===
=====

Name: 25yrpro
Filename: N:\Project_files\2010\10-0586 MGS Stormwater Eval\POST25.R32

Override Defaults: No

Time(hrs)	Print Inc(min)
13.000	15.00
18.000	5.00
36.000	15.00

=====
=== Routing Simulations ===
=====

Name: 25 yr post Hydrology Sim: 25yrpro
Filename: N:\Project_files\2010\10-0586 MGS Stormwater Eval\25yr post.I32

Execute: Yes Restart: No Patch: No
Alternative: No

Max Delta Z(ft): 1.00	Delta Z Factor: 0.00500
Time Step Optimizer: 0.000	
Start Time(hrs): 0.000	End Time(hrs): 36.00
Min Calc Time(sec): 0.0000	Max Calc Time(sec): 0.0000
Boundary Stages:	Boundary Flows:

Time(hrs)	Print Inc(min)
36.000	15.000

Group	Run
BASE	Yes
OP_TABLES	Yes

Name	Group	Simulation	Max Time Stage hrs	Max Stage ft	Warning Stage ft	Max Delta Stage ft	Max Surf Area ft2	Max Time Inflow hrs	Max Inflow cfs	Max Time Outflow hrs	Max Outflow cfs
A	BASE	25 yr post	12.09	125.982	129.000	-0.3000	3655	0.00	130.346	12.06	75.745
AA	BASE	25 yr post	12.15	123.479	128.500	-0.0047	2456	12.14	54.924	12.16	54.975
Area 1B	BASE	25 yr post	12.09	126.021	127.500	0.0040	7698	12.00	63.527	0.00	105.962
Area 1D	BASE	25 yr post	12.12	124.275	128.500	-0.0047	3427	12.06	88.787	12.13	88.108
Area 3	BASE	25 yr post	12.02	126.866	128.500	0.0050	115	12.00	19.093	0.00	24.385
Area 4	BASE	25 yr post	0.00	126.000	128.500	-0.0050	119	12.00	11.269	0.00	26.593
Area 5A	BASE	25 yr post	0.00	129.000	133.000	-0.0042	2390	12.00	22.660	0.00	26.752
Area 5B	BASE	25 yr post	12.08	125.870	129.000	-0.0040	6366	12.03	31.137	11.99	41.406
Area 5C	BASE	25 yr post	12.15	123.598	128.500	0.0037	7492	0.00	210.190	12.14	54.924
Area 6	BASE	25 yr post	0.00	125.000	128.500	-0.0034	1162	12.00	19.735	0.00	209.038
AREA 9	BASE	25 yr post	0.00	127.000	129.500	0.0049	114	0.00	0.000	0.01	0.742
Area1	BASE	25 yr post	0.00	127.000	129.000	-0.0043	4066	12.00	24.042	0.00	33.215
L	BASE	25 yr post	12.12	124.148	128.500	-0.0050	3541	12.13	88.108	12.15	88.389
Outfall	BASE	25 yr post	30.00	120.000	121.000	0.0001	0	12.62	83.599	0.00	0.000
POND	BASE	25 yr post	12.62	123.049	125.500	0.0027	171791	12.14	165.779	12.62	83.599