Tennessee Valley Authority, 1101 Market Street, BR4A, Chattanooga, Tennessee 37402

September 13, 2018

Mr. Jim McAdoo
Division of Water Resources
Tennessee Department of Environment
and Conservation
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, TN 37243

Dear Mr. McAdoo:

TENNESSEE VALLEY AUTHORITY (TVA) – KINGSTON FOSSIL PLANT (KIF) – CONSTRUCTION GENERAL PERMIT NO. TNR191557 – BALLFIELD CLOSURE, FLOW MANAGEMENT AND EAST AREA CAP PROJECTS – NOTICE OF INTENT (NOI) UPDATE

Please find enclosed an updated NOI including project map and updated storm water pollution prevention plan (SWPPP) for the subject construction general permit. The NOI and SWPPP have been updated to include the East Area Cap project which increases the permitted acreage of disturbance by 12.2 acres up to a total of 89.7 acres. The ballfield closure and flow management projects have been completed and those areas covered under the permit have achieved final stabilization.

If you have any questions or need additional information, please contact Brad Love by e-mail at bmlove@tva.gov or by phone at (423) 751-8518.

Sincerely,

Terry E. Cheek

Terry E. Cheek
Senior Manager
Water Permits, Compliance, and Monitoring

Enclosures

cc: Ms. Angela Adams (Angela.Adams@tn.gov)
Mr. Michael Atchley (Michael.Atchley@tn.gov)
Mr. Rob Burnette (Rob.Burnette@tn.gov)
Mr. James Clark (James.Clark@tn.gov)
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cc:

A.M. Dennison, KFP 1A-KST
C.B. Kyker, LP 5E-C
S. O. Nixon, Jr., LP 5E-C
L.A. Smythe, KFP 1A-KST
L.A. Whitehorse, WT 11B-K

TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION
Division of Water Resources
William R. Snodgrass Tennessee Tower, 312 Rosa L. Parks Avenue, 11th Floor, Nashville, Tennessee 37243
1-888-891-8332 (TDEC)

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: TVA - Kingston Fossil Plant		***NPDES Tracking Number: TNR***	191557
Street Address or Location: 714 Swan Pond Road, Harriman, TN, 37748		Construction Start Date:	June 2016
		Estimated End Date:	May 2019
Site Description: Ball Field Closure, Flow Management, and East Area Cap Projects		Latitude (dd.dddd):	35.905941
		Longitude (-dd.dddd):	-84.513618
County(ies):	MS4 (if applicable):	Acres Disturbed:	89.7
Check box if a SWPPP is attached : ☑	Check box if a site location map is attached: ☑	Total Acres:	800

Check the appropriate box(s) if there are streams and/or wetlands on or adjacent to the construction site: Streams ☑ Wetlands ☐

Has a jurisdictional determination been made by the USACE or EPA identifying waters of the United States?: Yes ☐ No ☑
Note: if yes, attach the jurisdictional determination

If an Aquatic Resource Alteration Permit (ARAP) has been obtained for this site, what is the permit number? NR(S) 16.142

Receiving waters: Emory River (Kingston Intake Channel)

Site Owner/Developer (Primary Permittee): (Provide person, company, or entity that has operational or design control over construction plans and specifications): Tennessee Valley Authority

For corporate entities only, provide correct Tennessee Secretary of State (SOS) Control Number:
(an incorrect SOS control number may delay NOI processing)

Site Owner or Developer Contact Name: (signs the certification below) Scott Turnbow		Title or Position: Vice President, Civil Projects	
Mailing Address: 1101 Market Street, LP 5D-C		City: Chattanooga	State: TN / Zip: 37402
Phone: (423) 751-3031	Fax: ( )	E-mail: msturnbow@tva.gov	

Optional Contact: Adele Dennison		Title or Position: Environmental Scientist	
Mailing Address: 714 Swan Pond Road		City: Harriman	State: TN / Zip: 37748
Phone: (865) 717-2157	Fax: ( )	E-mail: amdennison@tva.gov	

Owner/Developer(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

I certify under penalty of law that this document and all attachments were prepared by me, or under my direction or supervision. The submitted information is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. As specified in Tennessee Code Annotated Section 39-16-702(a)(4), this declaration is made under penalty of perjury.

Owner/Developer Name (print/type): Scott Turnbow	Signature: Scott Turnbow	Date: 9/11/2018
Owner/Developer Name (print/type):	Signature:	Date:

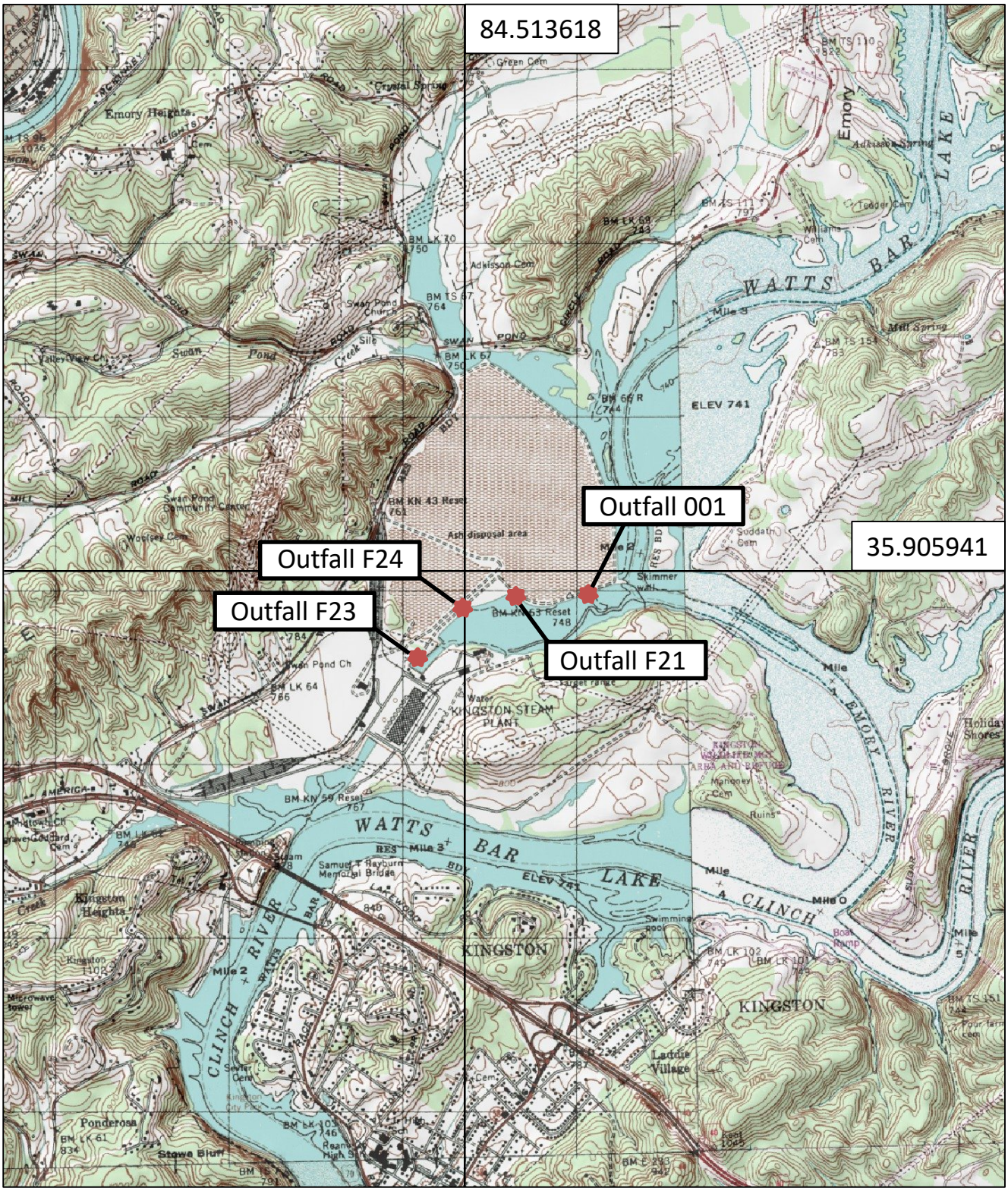
Contractor Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations, and for failure to comply with these permit requirements. As specified in Tennessee Code Annotated Section 39-16- 702(a)(4), this declaration is made under penalty of perjury.

Contractor name, address, and SOS control number (if applicable): Fisher Contracting Company 4836 Nashville Road, Franklin, KY	Signature: James W. Fisher James W. Fisher	Date: 9/7/18

OFFICIAL STATE USE ONLY

Received Date:	Reviewer:	Field Office:	Permit Tracking Number: TNR	Exceptional TN Water:
Fee(s):	T & E Aquatic Flora/Fauna:	SOS Corporate Status:	Waters with Unavailable Parameters:	Notice of Coverage Date:



Tennessee Valley Authority
Kingston Fossil Plant
Ball Field Closure, Flow Management, East Area Cap Projects
NOI Location Map

TENNESSEE VALLEY AUTHORITY

STORM WATER POLLUTION PREVENTION PLAN

FLOW MANAGEMENT
and
BALL FIELD INTERIM ASH STAGING AREA CLOSURE PROJECT
and
AREA EAST OF THE SLUICE TRENCH CAPPING

Kingston Fossil Plant
714 Swan Pond Road
Harriman, Tennessee

Prepared by:

1000 Corporate Centre Drive, Suite 250
Franklin, TN 37067-6209
615-771-2480

August 31, 2018

Rev. 1

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Attachment 9	General Information Notice
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1.0 Purpose of the Construction Storm Water Pollution Prevention Plan (SWPPP)

This Storm Water Pollution Prevention Plan (SWPPP) is being prepared to facilitate compliance with the Tennessee Department of Environment and Conservation (TDEC) General Permit for Storm Water Discharges Associated with Construction Activities Permit No. TNR100000.

Compliance with the SWPPP is mandatory for the following reasons:

- Protection of water quality, which may be adversely impacted by sediment reaching receiving streams;
- Prevention of project delays caused by cease and desist orders, or being required to stop construction and obtain an individual permit, which could severely delay the project; and
- Prevention of Notices of Violation (NOVs).

Minimizing sediment runoff from the project site is paramount for compliance. The SWPPP contains project-specific guidance on controls being selected as well as design and installation requirements. A copy of the plan along with the inspection records must be kept on-site and provided to the site Program Administrator (Environmental) (PAE). The PAE at Kingston Fossil Plant is Adele Dennison at 865-717-2157. The NPDES Specialist in Environmental Affairs for this construction activity is Brad Love at 423-751-8518. The IPP Specialist is Brandi Ruth at 865-673-2358. Attachment 2 includes a list of SWPPP contacts.

2.0 Construction Site Description

2.1 Description of Construction Activity

The Tennessee Valley Authority (TVA) has committed to closing the Stilling Pond at the Kingston Fossil Plant (KIF) in Roane County, Tennessee. The Stilling Pond currently receives KIF process flow prior to discharge into the Emory River through the National Pollutant Discharge Elimination System (NPDES) Outfall 001. Additionally, storm water runoff, mostly from the Closed Recovery Area, drains to the Stilling Pond by Ditch 11. Closure of the Stilling Pond will require rerouting KIF process flow and redirecting storm water away from the Stilling Pond so closure construction may be performed. Major elements of the project include the following:

- Geomembrane-lined Polishing Pond
- HDPE conveyance piping at the downstream end of the Polishing Pond
- Scouring Basin on the southwest side of the existing Stilling Pond
- Storm water diversion berm along the northeast extents of the Stilling Pond

In addition, TVA proposes to close the interim ash staging area referred to as the "Ball Field." Ball Field ash above elevation 768.0 will be removed, and additional ash excavation will be conducted to establish interim grades. The Ball Field will be re-graded, stabilized with permanent vegetation, and have drainage improvements made to ensure proper drainage of the closed area.

Finally, TVA is committed to capping an area determined to be an historic ash impoundment, referred to as the "Area East of the Sluice Trench"(Area East). Ash will be regraded and a liner system consisting of a geomembrane liner, a geotextile, and an 18-inch protective cover layer will be installed. The majority of the area will drain to the southeast, to a proposed drainage channel and will outlet to the Emory River via a new storm water outfall. A small portion of the Area will drain to the north east to the scour basin and storm water outfall located southwest of the Stilling Pond, via Ditch 11.

2.2 Construction Schedule

Construction activity is anticipated to commence in 2016. The expected timeframe for construction is approximately 12 to 18 months depending on weather. Construction of the Area East cap will commence in 2018 and is expected to last approximately 4 months.

2.3 Construction Sequencing

The following construction sequencing includes sequencing for three phases of construction. The summary table below lists the construction phases and their current status. Revision 1 to this SWPPP added phase 3.

Construction Phasing

Phase	Project	Status
1	Flow Management	Completed May 2017
2	Ballfield Closure East Dike Remediation	Completed May 2017 Completed December 2018
3	Area East Closure	Not started

The following represents the general sequence of construction necessary for successful completion of the Flow Management Improvements: **(Construction completed, final stabilization May 2017)**

1. Install Best Management Practices (BMPs) prior to construction activities. Attachment 3 shows the locations of proposed BMPs. See also Attachment 4, BMP Details.
2. Begin clearing and grubbing.
3. Install temporary cofferdams to divert KIF process flow away from construction areas.
4. Begin constructing existing sluice trench closure cap, proposed junction chambers, and associated piping.
5. Begin excavation, grading activities and construction of the polishing pond and polishing pond spillway.
6. Bypass the existing water quality channel and construct the polishing pond inflow

channel.

7. Construct the divider dike diversion berm and activate the existing outlet siphons within the KIF Stilling Pond to bypass process flow from Outfall 001.

8. Monitor and maintain continuous operation of the siphons to ensure the Stilling Pond water level does not exceed the invert elevation of the existing morning glory spillways at Outfall 001.

9. Install proposed piping, joints and fittings to connect proposed junction chamber 03 to the existing diffuser pipes at Outfall 001.

10. Place the polishing pond and conveyance piping in-service to divert process flow from the Stilling Pond.

11. Begin excavation and grading activities for the Ditch 11 extension and scour basin. Install geomembrane liner and the new storm water outfall piping.

12. The site shall not be considered sufficiently stable until final seeding or aggregate surface is established. Permanent seeding shall start within 14 days of reaching final grade.

13. At the completion of work, the Contractor shall remove from the site and dispose of debris and waste materials resulting from the Contractor's construction activities.

The following represents the general sequence of construction necessary for successful completion of the Ball Field Closure: **(Construction completed, final stabilization May 2017)**

1. Install new temporary sedimentation and erosion control items required for the Ball Field Closure project. Maintain those items previously installed during the Flow Management project as required by the Storm Water Pollution Prevention Plan (SWPPP) created for this project. The Contractor is responsible for all dust control and shall supply water trucks, or other means as necessary to control dust generated by construction activities.

2. Construct the subgrade for the Ball Field Closure. Regrade the footprint to subgrade elevations and grades. Excavate perimeter ditches and install culverts to maintain storm water drainage.

3. Obtain re-compacted soil liner material from an approved borrow source. Spread and compact the liner to the minimum specified thickness at an in-place density determined by prequalification testing.

4. Restore the access road across the north side of the Ball Field. Install operational culverts where required beneath the road.

5. Spread topsoil over the Ball Field, install erosion control matting and turf reinforcement matting where required, and revegetate. As a non-structural control, final cover construction will be phased in two-acre increments to insure that no more than a

maximum of 10 acres of un-stabilized cover soil will be permitted to drain to Outfall 007 prior to hydroseeding and stabilizing with the specified Flexterra erosion control medium.

6. Clear and grub the bank of the Emory River that is scheduled to receive a seep protection reverse-grade aggregate filter.
7. Place and spread lifts of aggregate on the Emory River bank to construct the aggregate filter.
8. Construct the new storm water pipe at Outfall 007 and install pipe back towards the Lower Ditch.
9. Construct the storm water pipe crossing beneath the existing KIF process flow pipe trench.
10. Install the seepage collection sump and force main within the Lower Ditch.
11. Grub vegetation within the Lower Ditch.
12. Excavate within the Lower Ditch to install underdrains and aggregate drainage layer.
13. Place the seepage collection sump pump in-service and manage seepage by pumping to the Water Quality Channel.
14. Install HDPE storm water piping within the Lower Ditch; install manholes, and tie into existing storm water piping on the south side of the ditch.
15. Fill and grade the Lower Ditch.
16. Abandon existing culverts in-place.
17. Revegetate the Lower Ditch.
18. At the completion of work, the Contractor shall remove from the site and dispose of debris and waste materials resulting from the Contractor's construction activities.
19. Final acceptance of the work is subject to the work meeting the requirements of the Construction Quality Assurance Plan and shall follow the CQA Consultant's and Owner's final site inspection.
20. Removal of all BMPs when construction areas have achieved final stabilization.

A general sequence of construction for the closure of Area East will include the following:

1. Install Best Management Practices (BMPs) prior to construction activities. Attachment 3 shows the locations of proposed BMPs. See also Attachment 4, BMP Details
2. Begin clearing and grubbing.
3. Begin grading activities

4. Begin Area East capping and storm water channel and outfall construction.
5. The site shall not be considered sufficiently stable until final seeding or aggregate surface is established. Permanent seeding shall start within 14 days of reaching final grade.
6. At the completion of work, the Contractor shall remove from the site and dispose of debris and waste materials resulting from the Contractor's construction activities.

3.0 Facility Area and Disturbed Area

Estimated total area of the site and estimated total area of the site that is expected to be disturbed by excavation, grading, or other activities.

The estimated area of the TVA KIF Reservation is approximately 800 acres. The total area disturbed by project activities is approximately 89.7 acres. Approximately 136,000 cubic yards of ash material will be excavated and reused as fill or disposed at an on-site location determined by the Owner. An estimated 140,000 cubic yards of off-site soil borrow will be imported from an approved borrow source for use as fill. The Construction Manager will determine the exact construction sequence; however, construction will be staged so that only minimum disturbance occurs at any given time. At no time will more than 50 acres be disturbed at once. The Major Activities Log will maintain records of stabilization activities. The Construction Manager will track construction activities using this log to ensure that only minimum disturbance occurs. All disturbed areas will be permanently stabilized to the extent practicable.

4.0 Site Topography

Describe the site topography including an estimate of the percent slope, and the variation in percent slope for each outfall.

Site topography in the project area varies. The ash storage area ("Ball Field") will be lowered to an elevation consistent with surrounding areas and graded to drain. The flow management portion of the project is in an area near the intake channel of the Emory River and as such the topography consists of berms, ditches and various piping outfalls. KIF process flow will continue to discharge to the Emory River through NPDES-permitted Outfall 001. For the final site configuration, storm water runoff currently conveyed to the stilling pond by Ditch 11 will be rerouted to the proposed scour basin and will discharge through a new storm water outfall to the Emory River. The northern portion of the Ball Field will drain north toward Ditch 11 and discharge through Outfall 001. The south and west portions of the Ball Field will drain to the south side of the area and will be discharged through Outfall 007. The southern portion of Area East, approximately 8.5 acres, will drain southeast and discharge through a new storm water outfall to the Emory River. A small portion on the eastern side of Area East, approximately 1.5 acres, will drain to Ditch 11 and to the storm water outfall from the Scour Basin to the Emory River. A portion, approximately 2.5 acres, of the Area East along the Water Quality Channel with drain to the Water Quality Channel and flow through the Process Water Basin before discharging through NPDES outfall 001. A sediment basin is not needed because each drainage

area is less than 10 acres. The KIF site SWPPP will be updated to address the new storm water discharges, and coverage for the discharge will be maintained through Tennessee Multi-Sector General Storm Water Permit TNR051787.

5.0 Soil Description

Any data describing the soil (including any fill material) and how soil type will dictate control measures. Describe expected storm water or combined discharge quality.

The USGS soil map for the project area indicates that it is an ash disposal area and not classified as a specific soil group. Soil types in the vicinity of the project area are classified as silty loams at relatively flat slopes. As such, no extraordinary measures to control erosion and sediment control are anticipated. The Ball Field will be closed by removing the existing ash stockpile and re-grading the resulting surface. Topsoil will be placed following finished grading to provide a suitable medium for establishing permanent vegetative cover.

The final surface will be hydroseeded to achieve permanent vegetation over the closed Ball Field. Flexterra, a hydraulically placed erosion control medium, will be used in conjunction with the hydroseed to prevent erosion of the cover soil while vegetation is established.

6.0 Site Runoff

An estimate of the runoff coefficient of the site after construction activities is complete. A description of how runoff will be handled to prevent erosion at the permanent outfall & receiving stream.

The construction activities associated with the project are anticipated to have a positive effect on runoff coefficients, primarily via establishing permanent vegetative cover over a large portion of the project area. Process and storm water from the area will no longer flow to the Stilling Pond and then to the permitted NPDES Outfall 001. Process water will be directed to the new Polishing Pond for additional treatment prior to discharge. Proposed conveyance piping will transport process flow from the Polishing Pond where it will continue to be monitored and released to the Emory River at Outfall 001.

Storm water which currently drains to Outfall 001, mainly from the existing Closed Recovery Area, will be intercepted by the proposed Scouring Basin, where, in the event of a large storm event, overflow weirs will allow a controlled release of excess storm water. After regrading and constructing final cover, the north side of the Ball Field will also drain to the proposed Scouring Basin. The south and west sides of the Ball Field, including the existing sluice trench after it receives final cover, will drain south towards existing NPDES Outfall 007 in the KIF Intake Channel. An up-sized storm sewer pipe will be installed and aligned to discharge at the existing Outfall 007 (converted to Stormwater Outfall F23) to compensate for hydraulic inadequacy of existing piping. Little to no erosion is expected as a result of closure activities. Following the capping of Area East, the south side will drain south to a new outfall to Emory River, a small

eastern portion will drain east to the scour basin and outfall to the Emory River, and a small portion along the Water Quality Channel will drain to the Water Quality Channel then through the Process Water Basin and through NDPES Outfall 001.

OUTFALL	LATITUDE	LONGITUDE
	(In degrees, minutes, and seconds)	
001	37°47'03.9813"	-65°17'51.8276"
F21	37°47'05.0771"	-65°18'43.6898"
F23	37°46'46.2178"	-65°20'23.0905"
F24	37°47'10.0401"	-65°19'26.5958"

7.0 Site Map and Drawings

Erosion prevention & sediment control map w/proposed construction area clearly outlined, boundaries of the project, streams, wetlands, sinkholes, drainage patterns, approximate slopes after grading, and location of major structural and nonstructural controls. Include all outfalls/locations where runoff leaves the site (not just the NPDES permitted outfalls).

Erosion and sediment control plan drawings SWPPP-01 through 04 (see Attachment 3) depict the construction area and BMP locations. Work is expected to be performed in three general phases reflecting the three projects being constructed. The initial phase will consist of the Flow Management project (Drawing SWPPP-02). The second phase will consist of the Ball Field Closure (Drawing SWPPP-03). The third phase will include the capping of the Area East of the Sluice Trench (Drawing SWPPP-03A).

The Flow Management project will include construction of the proposed Polishing Pond, Scouring Basin, conveyance piping bench, and a storm water diversion berm on the west side of the existing Stilling Pond. The purpose of this project is to divert KIF process flow and storm water runoff away from the existing Stilling Pond to allow the Stilling Pond to be drained and closed as part of a future project. The Stilling Pond will remain in-service during construction of the Flow Management project, and will serve as the major structural sedimentation control by receiving and treating storm water runoff. Discharge from the Stilling Pond will continue to be monitored at Outfall 001 during construction activities. Minor structural controls during this phase will include wattle placed downstream of disturbed earth and the use of turf reinforcement matting in open channel conveyances. Non-structural controls will include a limit-of-disturbance defined around the proposed conveyance piping riprap and aggregate bench to limit disturbance near the Emory River.

The second work phase will include construction of the Ball Field Closure final cover which is expected to begin after the Flow Management project is substantially complete. This project will involve importing soil from an off-site borrow source to construct a cap above the Ball Field Interim Ash Staging Area and the existing inactive sluice trench. At this time, KIF process flow will have been diverted from the Stilling Pond. The Stilling Pond will remain in-service as a structural control to manage sediment from the north side of the Ball Field while constructing the final cover. Construction of a temporary sediment pond to treat sediment from the south side of the Ball Field is not feasible due to site space constraints, drainage improvements being constructed in the existing ditch which currently drains to Outfall 007, and the presence and phasing of other projects adjoining the work areas. Erosion and sediment controls will be managed on the south side of the Ball Field with multiple redundant BMPs and phased construction to minimize the area of unstabilized disturbed soil in the southern drainage area.

Wattles will be installed at intervals along the 3% slope of the Ball Field final cover to limit flow length. Check dams will be installed within Ditch 11 and the Ball Field perimeter ditch where concentrated flow will be collected. Storm water swales on the top of the Ball Field will be protected with erosion control matting, while Ditch 11 and the Ball Field perimeter ditch will receive turf reinforcement matting protection. Filter rings will be installed at the existing and proposed culvert entrances which drain to Outfall 007 and will receive runoff from the west and south sides of the Ball Field. Additionally, standard inlet protection measures will be employed at proposed catch basin inlets which will drain to Outfall 007.

As a non-structural control, final cover construction will be phased in two-acre increments to Outfall 007 to ensure that no more than a maximum of 10 acres of unstabilized cover soil will be permitted within the drainage area of the outfall prior to hydroseeding and stabilizing with the specified Flexterra erosion control medium.

The third work phase will include the capping of Area East. The project will include regrading the area to drain to a proposed storm water channel along the southern end and installing a cap. The cap system will consist of the installation geomembrane liner, a geotextile, and 18-inches of protective cover. Construction of a temporary sediment pond to treat sediment from the area is not feasible due to site space constraints. BMPs including rock check dams and wattles will be implemented to minimize erosion and sediment discharge within the disturbed area. The southern portion of the area will drain to a rock lined storm water channel and then to a new outfall to the Emory River. Rock check dams will be installed as needed in the channel, as specified in SWPPP detail Sheet 05. Wattles will be installed along the downstream edge of the disturbed area. Additionally, a filter ring will be installed on the upstream end of the new storm water outfall and outlet protection will be installed at the downstream end. Final vegetative cover will be established once all grading activities have ceased.

8.0 Non-Construction Industrial Discharges

Description of any discharge associated with industrial activity other than construction storm water that originates onsite and the location of that activity. Include NPDES and TMSP numbers.

There is no additional source of storm water (other than construction storm water) or process wastewater on the plant site that is not under the control of the operator. Process flow discharge to the Emory River is currently permitted by NPDES Permit No. TN0005452. KIF will continue to operate under this permit during and following construction of the proposed improvements. No new process water outfalls will be constructed as part of this project; KIF process flow will continue to be discharged to Outfall 001.

9.0 Receiving Waters

Identify name of receiving water & approximate size and location of any affected wetland(s). Describe proposed alterations to these waters and list ARAP tracking numbers. Identify buffer zones if applicable and 303(d) listed streams or high quality streams.

Storm water from the construction-related activity at this site will discharge to the Emory River. There are no wetlands affected, and these waters are not 303(d) impaired for sediment nor are they high quality streams. TVA will apply for ARAP coverage for project elements which involve disturbance or filling within the buffer zone or beneath the ordinary high water elevation of the Emory River. Coverage will be required for the seep protection reverse-grade aggregate filter on the bank of the Emory River, riprap protection for the new storm water pipe at existing Outfall 007, and for placing riprap and aggregate fill materials to construct portions of the conveyance pipe bench which will reroute process flow to Outfall 001.

10.0 Erosion Control Plan

10.1 Erosion Prevention Controls during Construction

General Erosion & Sediment Control Measures

All construction activities will conform to the following general practices with regard to erosion and sediment control. Specific BMPs for this project are also described and shown in detail in the erosion and sediment control drawings in Attachment 3, on the Site BMP Details in Attachment 4, the and are described in the Tennessee Erosion and Sediment Control Handbook (the Handbook) Fourth Edition, August 2012.

- Erosion Prevention Controls will be designed to prevent sediment from traveling to other areas downstream of the project. Control measures must be properly selected, installed, and maintained. If a measure proves to be ineffective, it must be replaced or modified. See Attachment 4 for specific erosion and sedimentation control information and details.

- Construction Phase Erosion Prevention Controls must be in place and functional before any earth-disturbing activities begin, and must be maintained throughout the construction period. Temporary measures may be removed to facilitate work but must be replaced after the work or at the end of each workday.

- Construction will be sequenced to minimize the exposure time of the disturbed area. Pre-construction vegetative ground cover will not be destroyed, removed or disturbed more than 14 days prior to grading or earth moving unless the area is seeded and/or mulched or other temporary cover is installed. These activities must be logged in the Major Activities Log included in Attachment 5.

- Clearing existing vegetation must be held to the minimum necessary for equipment operation.

- Upland storm water diversion measures to control run-on will not be necessary for this project.

- In lieu of a sedimentation basin, the following equivalent measures will be applied. A temporary sump or sump(s) will be constructed to receive runoff from the southern portion of the Ballfield site (approximately 18 acres). The runoff will be pumped from the sump(s) to a sediment filter bag and discharged to Outfall 007. Alternately, the runoff may be pumped to the proposed Polishing Pond for treatment prior to discharge to Outfall 001. Final grading and permanent stabilization will be carried out as described in Section 7 until the area draining to Outfall 007 is reduced to less than ten acres, at which time the temporary sump and sediment filter bag will be phased out and removed.

Roads and Access Areas

- Existing roads will be used for site access, and may be improved with crushed stone or pavement as needed. The Handbook shall be followed for guidelines on construction exits (CE).

- If sediment tracking onto public roads is determined to be an issue, it will be minimized by the use of construction exits. If sediment escapes the construction site, it must be removed prior to posing a safety or environmental concern. Daily checks of the road surrounding the project and plant access roads will be conducted and immediate corrective action pursued if sediment migrates to road surfaces. Sediment tracked onto public roads will be removed by the end of that workday.

Inspections and Maintenance

- Inspectors performing the required twice weekly inspections must have an active certification by completing the "Fundamentals of Erosion Prevention and Sediment Control Level I" course. A copy of the certification or training record for inspector certification should be kept on site. A certified TN EPSC Level 1 inspector appointed by TVA will be responsible for the inspections.

- Visual observations of active construction areas shall be made and documented a minimum of two days per calendar week. Inspections shall be performed at least 72 hours apart. The results of these inspections and necessary repairs will be logged on an inspection sheet(s).

Copies of the inspection reports will be provided to the TVA Construction Manager on a weekly basis, when the sheet has been filled out, and/or when construction is complete. An example daily inspection sheet is contained in Attachment 8. Any deficiencies shall be reported to the TVA Construction Manager or designee immediately.

- Areas to be inspected include siltation controls, material storage areas, disturbed areas not finally stabilized, etc. Photo documentation of inspections is encouraged as a backup to the written record but not as a substitute. Use a separate sheet for each area or control being inspected. Inspection sheets will be maintained in a log by the TVA Construction Manager.

- Repairs to any controls will be made as soon as practicable before the next rain event, but no later than seven (7) days after any deficiency is noted. If a device appears to be inadequate for the job, the TVA Construction Manager shall be notified.

- During prolonged rainfall, daily inspections are suggested and repairs will be made as needed. The construction inspector or designee will ensure that inspections are made on non-work days (weekends and holidays) if necessary. The official rainfall amount will be the rainfall as recorded at an on-site gage to be installed and maintained for the life of the construction project. Records of rainfall gage readings will be maintained in a log by the Project Manager (see example sheet in Attachment 7).

- Once definable areas are permanently stabilized, they may be marked on the SWPPP and no further inspections will be required.

- Copies of rainfall logs and inspection records will be provided to the KIF Project PAE at the end of each month for the life of the project. A copy of the major activity log will be provided to the Project PAE on a monthly basis. These records will be maintained on-site with the environmental records.

- TVA's Construction Manager and the NPDES specialist in Environmental Compliance will address any unforeseen situation that is not specifically mentioned in the SWPPP. At a minimum, industry standard BMPs shall be used when addressing any new concerns.

- Any modifications to this SWPPP that are required in response to inspections shall be implemented within 14 days following the inspection.

- Erosion control devices shall be cleaned out when they reach 50% of their design capacity.

Stabilization Requirements

- Stabilization measures (either permanent or temporary) shall be completed as soon as possible but no later than 14 days in portions of the site where construction activities have temporarily or permanently ceased. Stabilization shall be carried out in accordance with the Handbook, Vegetative Practice TS – Disturbed Area Stabilization with Temporary Vegetation, or PS – Disturbed Area Stabilization with Permanent Vegetation.

Soil and Sediment Control/Sediment Migration

- Sediments that leave the site but do not reach the receiving stream must be removed so that they are not washed into any receiving stream.

- Available topsoil will be stockpiled at the site for use in final grading. The soil stockpile will be stabilized as soon as practicable with TS – Soil Stabilization with Temporary Vegetation (see Attachment 4).

Dewatering of Work Areas/Vehicle Washing & Maintenance/Dust Suppression

- Dewatering of work areas, including management of ground water and surface water runoff, will be performed as needed by the Contractor. All dewatering activities are required to be discharged to the existing Stilling Pond for treatment, or in later project phases the proposed Polishing Pond, prior to being discharged through Outfall 001.

- Vehicle washing is not anticipated to be needed for this project since existing roads will be used to haul materials.

- Dust will be controlled by the application of water, or other approved dust control measures as described in the Tennessee Erosion and Sediment Control Handbook (as determined by the on-site Construction Manager).

Housekeeping Requirements

- Litter, construction debris, and/or chemicals will be picked up and properly disposed of prior to the anticipated storm events forecasted by local weather reports. Regular litter pickup (e.g., weekly or more often as needed) may be conducted as an adequate alternate to picking up litter before forecast storm events to prevent entry of trash into receiving streams. These litter pickup events need to be recorded on an inspection log sheet and reported to the Erosion and Sedimentation Control representative.

General Water Quality Requirements/Other Situations

- Storm water discharges shall not have visible floating scum, oil, or other matter or cause an objectionable color contrast in the receiving stream. If such conditions are observed, controls will be inspected and repaired or reinforced as necessary and the on-site Project Manager should be notified immediately. If repairs or changes are made, they will be recorded on the Major Activities Log (see Attachment 5).

- Any situation that arises and has not specifically been mentioned above will be addressed by the Construction Manager in consultation with on-site Project PAE as described in this SWPPP, and the Environmental Compliance group. At a minimum, industry standard BMPs will be used when addressing any new concerns.

10.2. Post-Construction Erosion Controls

- Erosion control measures will be inspected and maintained until the site is stabilized.
- All debris and temporary erosion control devices will be removed when stabilization measures are complete and surface stabilization is achieved.

11.0 Specific Best Management Practices and Spill Prevention

Materials and Wastes

Waste Materials: All trash and construction debris from the site shall be hauled to an approved landfill. No construction waste material shall be buried on the site. Employee waste and other loose materials shall be collected and properly disposed to prevent the release of floatable material during runoff events. Clearing debris (brush and timber) may be chipped and used as mulch on-site in accordance with state and local regulations. Contact the Project PAE for approved method of disposing of clearing debris and/or minor amounts of soil if any is generated.

Hazardous Waste: In the event that hazardous waste is generated, all hazardous waste shall be disposed of according to EPA regulations, state and/or local regulations. Contact the Project PAE for approved method of disposing of such materials.

Sanitary Waste: Portable sanitary units shall be provided for use by all workers as needed throughout the life of the project. All sanitary waste shall be regularly collected from the portable units by a licensed sanitary waste management contractor.

Material Storage: Stored materials that cannot contaminate storm water may be stored in the open. However, the lay down area for these items must be prepared so that no sediment leaves the site.

Petroleum and other liquid products must have secondary containment if the aggregate quantity stored in one spot is 55 gallons or greater. The KIF Integrated Pollution Prevention (IPP) Plan provides requirements for storage of liquid products.

Hazardous wastes and materials must have secondary containment and must be covered or stored inside to prevent contact with storm water. The secondary containment must have a manually operated drain valve that can be locked. If stored inside, the secondary containment needs no drain.

Releases to secondary containment must be cleaned up when discovered and the source of the release repaired as soon as possible. Secondary containment may be earth, but all spills to earth must be completely cleaned up within two hours of discovery. The on-site Project Manager must be notified immediately, who will in turn contact the Project PAE as soon as possible. See reporting and record keeping requirements below.

Material storage areas will be as small as practicable and as few in number as practicable. They shall be established only in designated areas that minimize the disturbance of soil during use and the chance of storm water runoff contaminated with sediment or other pollutants.

Product-Specific Practices (as applicable)

Ready-mix concrete will be delivered to the site for use in construction. Concrete washout facilities will be constructed by the Contractor in an area designated by the Construction Manager to manage waste concrete. Concrete wash water will not be discharged from the site.

Fuel storage is expected to be required for construction equipment. The Construction Manager will designate a fuel storage area for the Contractor's use within the footprint of the Ball Field Closure area. The Contractor will be responsible for providing fuel, fuel storage tanks, and secondary containment for the storage facilities. The Contractor will remove the storage tanks and secondary containment at project completion.

There will be no other products (e.g., paints, pipe coating, etc.) anticipated to be used or stored at the project site. In the event that any products are present that present a spill hazard, the provisions of the next two sections will be followed.

Spill Control and Response Practices

Equipment: TVA and the Contractor shall ensure that materials and equipment necessary for spill cleanup for their respective materials shall be present on the site at all times. Equipment and materials shall include but not be limited to brooms, shovels, rags, absorbent materials, and plastic or metal trash containers specifically designed for this purpose. The materials and equipment necessary for spill cleanup shall be dependent upon the nature and quantity of the material stored on-site. A signed inventory sheet shall be provided to the Project PAE on a monthly basis.

Response: All spills shall be cleaned up immediately upon discovery. The Contractor shall report all spills to the Construction Manager. The Construction Manager shall contact the Project PAE as soon as possible. See below for reporting and record keeping requirements.

Safety: All spill areas shall be kept well-ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with hazardous substances.

Reporting and Record Keeping

In the event of a spill of oil, hazardous substances, or other pollutants, the TVA Construction Manager shall notify the Project PAE and the Operations Duty Specialist. These individuals will ensure that the National Response Center and Tennessee Emergency Management Agency are notified. The Project PAE must contact the local Environmental Assistance Center (Division of Water Pollution Control (DWPC)) within 14 days of the release to storm water or to the receiving stream.

The Project Manager shall place a write-up of the spill in the SWPPP within 14 days of the event and will coordinate with the NPDES specialist regarding any needed plan modifications to include additional measures as necessary. The write-up shall include description of the release

(i.e., quantity and type of material), date of the release, circumstances leading to the release, and steps taken to respond and/or address the release.

If a change in project scope occurs, the SWPPP shall be modified within seven days. If state inspectors require a modification, it shall be accomplished in a timely manner. If any routine inspection warrants a plan modification, the SWPPP shall be modified within seven days, and the revision shall be implemented within 14 days.

Records: The required records shall be kept on file in the construction office and the final, complete set of records shall be transferred to the Plant PAE at the end of construction. TVA is required by the permit to keep records of all spills and inspections for a minimum of three years after the Notice of Termination is filed, or longer if requested by the Tennessee DWPC.

12.0 Posting Information at the Construction Site

A copy of the Notice of Coverage (NOC) provided by the TDEC shall be posted at the entrance to the construction site. In addition, a notice containing the location of the SWPPP and the name and phone number of a local contact must be posted. An example of the contact notice to be posted is included in Attachment 9. Notices will be laminated or otherwise protected from weather.

The Tennessee Construction General Permit for coverage of storm water discharges associated with construction activity contains more details necessary for compliance.

ATTACHMENTS

Attachment 1
SWPPP Information & Certification Statements

SWPPP INFORMATION & CERTIFICATION STATEMENTS

Project Name:

KINGSTON FOSSIL PLANT
FLOW MANAGEMENT AND BALL FIELD INTERIM ASH STAGING AREA CLOSURE PROJECT
ROANE COUNTY, TN

Mailing Address:

Scott Turnbow
Tennessee Valley Authority
1101 Market Street
LP 5G
Chattanooga, TN 37402
Phone: 423-751-3031

Project Location:

See site map for project location

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Scott Turnbow
Signature of Principal Executive Officer or Authorized Agent

9/11/2018
Date Signed

I, Michael Meulemans, P.E., certify that this Plan was prepared under my responsible charge.

Signature	Profession	TN License No.	Date
Michael Meulemans	Engineer	16952	5-5-16

SWPPP CONTRACTOR'S CERTIFICATION STATEMENT

Project Name:

KINGSTON FOSSIL PLANT
FLOW MANAGEMENT AND BALL FIELD INTERIM ASH STAGING AREA CLOSURE PROJECT
ROANE COUNTY, TN

Contractor Mailing Address:

Fisher Contracting Company

4836 Nashville Road

Franklin, KY 42134

Project Location:
See site map for project location

I certify under penalty of law that I have reviewed this document, any attachments, and the Storm Water Pollution Prevention Plan (SWPPP) referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this Notice of Intent (NOI) and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to National Pollutant Discharge Elimination System (NPDES) permit number TNR100000, and that certain of my activities on-site are thereby regulated. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment, for knowing violations and for failure to comply with these permit requirements.

General Contractor: Fisher Contracting Company

Signed: James W Fisher, President Date: 9/7/18

General Contractor:

Signed: Date:

General Contractor:

Signed: Date:

Attachment 2
Storm Water Pollution Prevention Plan Contacts

Storm Water Pollution Prevention Plan Contacts

Kingston Fossil Plant

Flow Management and Ball Field and Interim Ash Staging Area Closure Project

714 Swan Pond Road

Harriman, TN 37748

Phone (865) 717-2157

Operator(s):
Tennessee Valley Authority
Kingston Fossil Plant
Stanley Nixon, Construction Manager
714 Swan Pond Road
Harriman, TN 37748
Phone: (423)-305-5775
sonixon@tva.gov

Project Manager:
Tennessee Valley Authority
Louis Smythe, Project Manager
1101 Market Street
Chattanooga, TN 37402
Phone: (423)-717-6530
lasmythe@tva.gov

This SWPPP was Prepared by:
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Franklin, Tennessee 37067
Phone: (615) 224-2108
michael.meulemans@aecom.com

Plant Program Administrator (Environmental), PAE
Tennessee Valley Authority
Kingston Fossil Plant
Adele Dennison, Program Administrator (Environmental)
714 Swan Pond Road
Harriman, TN 37748
Phone:(865) 717-2157
amdennison@tva.gov:

Integrated Pollution Prevention (IPP) Plan Specialist
Tennessee Valley Authority
Brandi Ruth, SPCC/IPP Specialist
4200 Greenway Drive
Knoxville, TN
(865) 673-2358
blruth@tva.gov

NPDES Specialist
Tennessee Valley Authority
Brad Love
1101 Market Street, BR 4A
Chattanooga, TN 37402
(423) 751-8518
bmlove@tva.gov

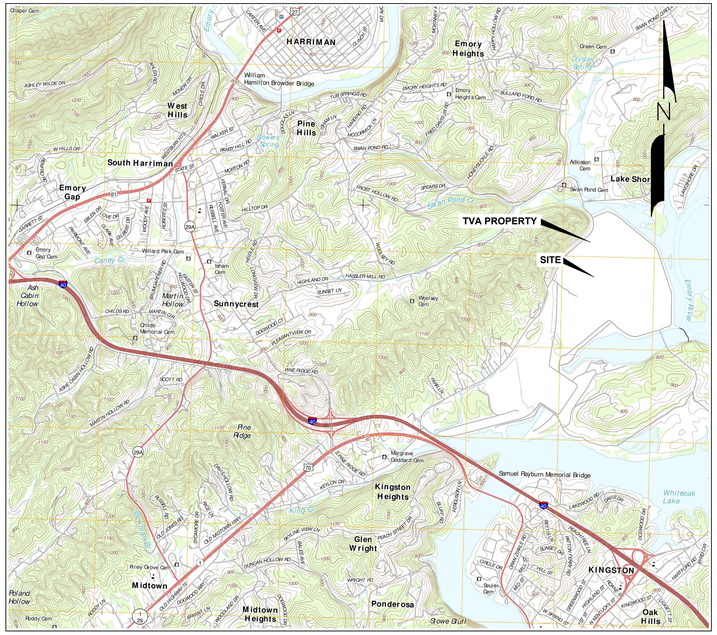
Emergency 24-Hour Contact
Tennessee Valley Authority
Operations Duty Specialist:
(423) 751-1700

Attachment 3
Site Map and Construction Details

TENNESSEE VALLEY AUTHORITY
KINGSTON FOSSIL PLANT
FLOW MANAGEMENT AND
BALL FIELD INTERIM ASH STAGING AREA CLOSURE
AND AREA EAST OF THE SLUICE TRENCH CLOSURE
SWPPP DRAWINGS

HARRIMAN, ROANE COUNTY, TENNESSEE
AUGUST 31, 2018

2 WORKING DAYS
BEFORE YOU DIG
1-800-351-1111
TENNESSEE UTILITIES PROTECTION SERVICE



SITE VICINITY MAP

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SCALE: 1"=2,000'

DWG. NO.	DWG. DESCRIPTION
SWPP-00	TITLE SHEET
SWPP-01	EXISTING SITE PLAN
SWPP-02	PHASE 1 - FLOW MANAGEMENT PROJECT E&SC
SWPP-03	PHASE 2 - BALL FIELD CLOSURE PROJECT E&SC
SWPP-03A	PHASE 3 - AREA EAST OF THE SLUICE TRENCH PROJECT E&SC
SWPP-04	FINAL CONDITIONS
SWPP-05	EROSION & SEDIMENT CONTROL DETAILS I
SWPP-06	EROSION & SEDIMENT CONTROL DETAILS II

PREPARED FOR:
TENNESSEE VALLEY AUTHORITY
1101 MARKET STREET
CHATTANOOGA, TN 37402-2801

PREPARED BY:
AECOM
1600 PERIMETER PARK DRIVE
MORRISVILLE, NC 27560
PHONE (330) 836-9111
ATTN: CHRIS BACKUS, P.E.

ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION

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R A	04/18/16	ZSK	APM	NSG	CAB	RBC	MST	JCK	604769		D
ISSUED FOR REVIEW											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV. CD

DISCIPLINE INTERFACE

SCALE: NONE EXCEPT AS NOTED

SWPPP
TITLE SHEET

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-00 | R A

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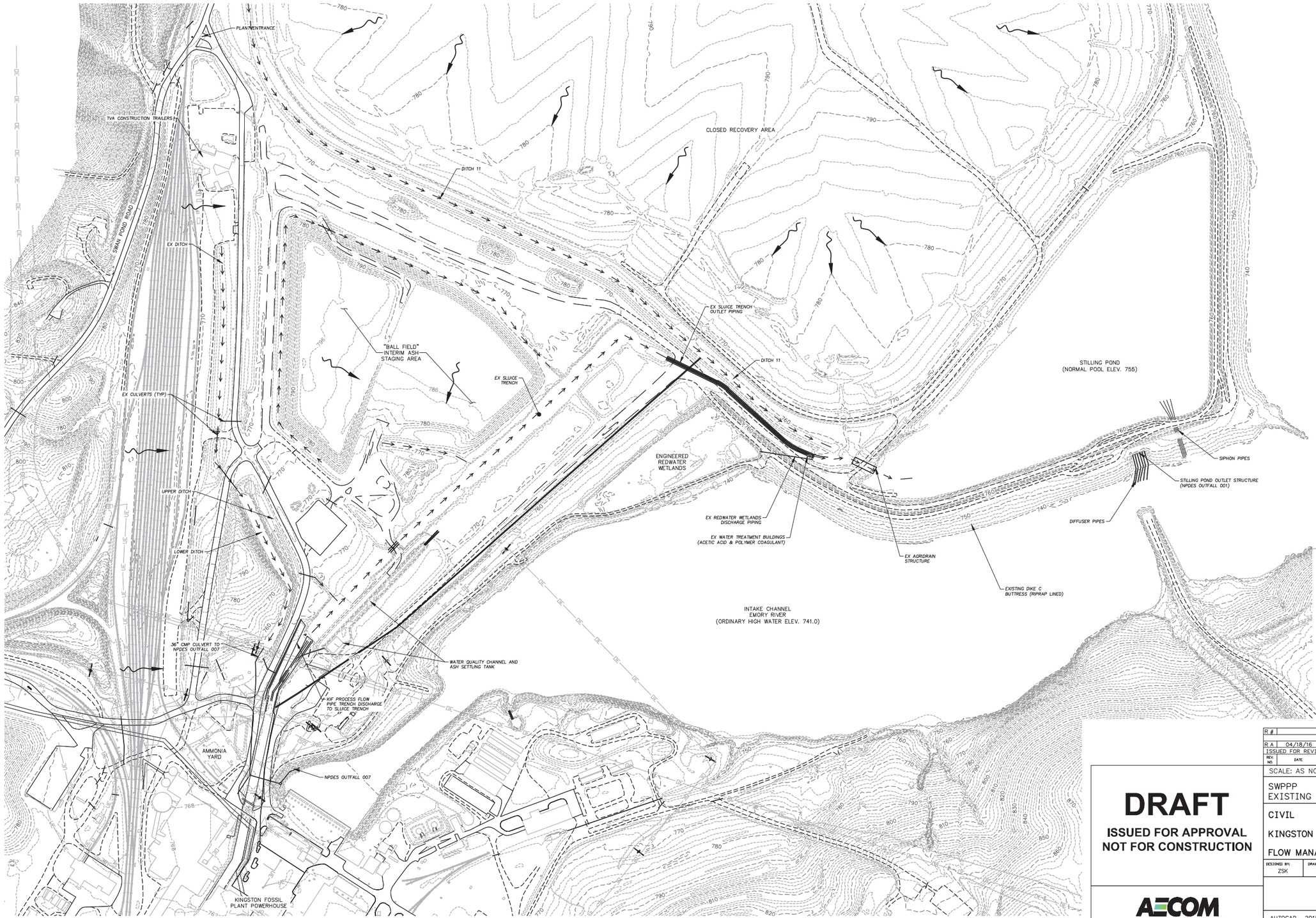

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NOTE:

1. AERIAL TOPOGRAPHY DEVELOPED BY TUCK MAPPING SOLUTIONS, INC. VIA 11/10/2014 FLIGHT.
2. WATER QUALITY CHANNEL LIMITS OF LINER AND TOPOGRAPHY OBTAINED FROM ELECTRONIC COPIES OF "KINGSTON FOSSIL PLANT CHANNEL & PAD LINER FINAL AS-BUILTS" PROVIDED BY TVA OCTOBER 19, 2015.
3. BALL FIELD ASH STAGING AREA CONTOURS REPRESENT THE ASH STAGING AREA AS OF THE 11/10/2014 TOPOGRAPHIC SURVEY.

LEGEND

770	EX CONTOUR MAJOR (10-FT)
768	EX CONTOUR MINOR (2-FT)
	OVERLAND FLOW PATH
	CHANNELIZED FLOW PATH

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ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION

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ISSUED FOR REVIEW											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD

DISCIPLINE INTERFACE
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SCALE: AS NOTED EXCEPT AS NOTED

SWPPP
EXISTING SITE PLAN

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-01 | R A

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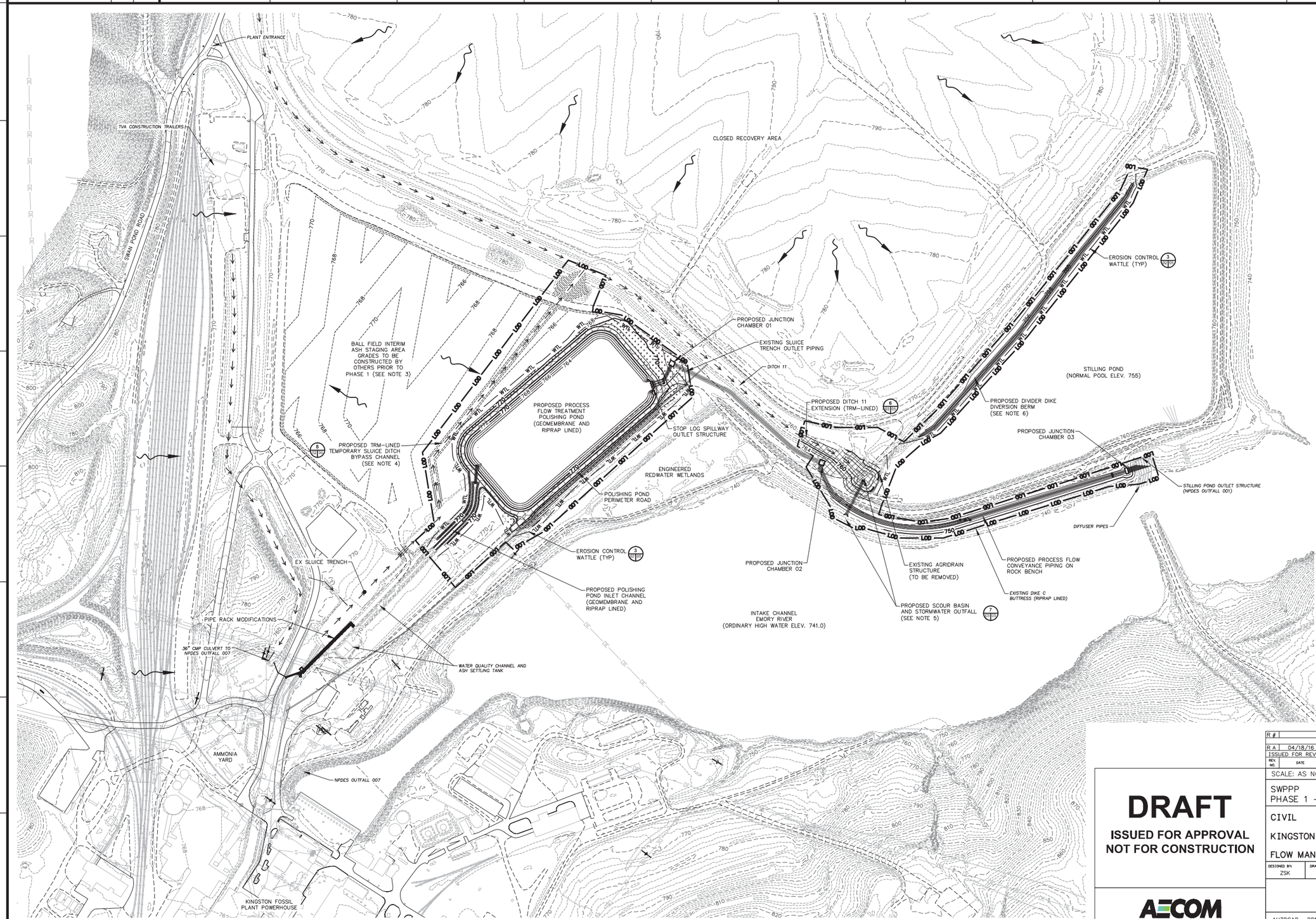

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NOTE:

1. AERIAL TOPOGRAPHY DEVELOPED BY TUCK MAPPING SOLUTIONS, INC. VIA 11/10/2014 FLIGHT.
2. WATER QUALITY CHANNEL LIMITS OF LINER AND TOPOGRAPHY OBTAINED FROM ELECTRONIC COPIES OF "KINGSTON FOSSIL PLANT CHANNEL & PAD LINER FINAL AS-BUILTS" PROVIDED BY TVA OCTOBER 19, 2015.
3. BALL FIELD INTERIM ASH STAGING AREA MATERIAL TO BE REMOVED BY OTHERS AS A SEPARATE PROJECT PRIOR TO PHASE 1. INTERIM CONTOURS REPRESENT ESTIMATED EXTENTS OF REMOVAL.
4. SLUICE DITCH BYPASS CHANNEL WILL TEMPORARILY BYPASS PLANT PROCESS FLOW AROUND THE POLISHING POND FOOTPRINT AND DISCHARGE TO NPDES OUTFALL 001 IN THE EXISTING STILLING POND. FOLLOWING CONSTRUCTION OF THE POLISHING POND, PROCESS FLOW WILL DISCHARGE THROUGH THE POLISHING POND OUTLET STRUCTURE AND BE CONVEYED BY CONVEYANCE PIPING TO NPDES OUTFALL 001.
5. SCOUR BASIN AND NEW STORMWATER OUTFALL WILL BE CONSTRUCTED FOLLOWING POLISHING POND CONSTRUCTION TO DISCHARGE STORMWATER FROM DITCH 11.
6. DIVIDER DIKE DIVERSION BERM WILL BE CONSTRUCTED TO INTERCEPT STORMWATER RUNOFF FROM THE CLOSED RECOVERY AREA WHICH CURRENTLY DRAINS TO THE STILLING POND. RUNOFF INTERCEPTED BY THE DIVERSION BERM WILL BE MANAGED BY OTHERS AS PART OF THE STILLING POND CLOSURE PROJECT.
7. CONSTRUCTION ENTRANCE (DETAIL 1 SHEET 5) SHALL BE CONSTRUCTED AT ALL LOCATIONS USED BY THE CONTRACTOR FOR VEHICULAR ACCESS TO THE SITE. THESE LOCATIONS SHALL BE SUBMITTED FOR APPROVAL WITH THE CONTRACTOR'S WORK PLAN.
8. CONCRETE WASHOUT (DETAIL 2 SHEET 6) SHALL BE CONSTRUCTED BY CONTRACTOR AT A LOCATION DESIGNATED BY THE OWNER.

LEGEND

770	EX CONTOUR MAJOR (10-FT)
768	EX CONTOUR MINOR (2-FT)
770	BALL FIELD CONTOUR MAJOR (10-FT)
768	BALL FIELD CONTOUR MINOR (2-FT)
770	PHASE 1 GRADING CONTOUR MAJOR (INTERVAL VAIRES)
768	PHASE 1 GRADING CONTOUR MINOR (INTERVAL VARIES)
	OVERLAND FLOW PATH
	CHANNELIZED FLOW PATH
LOD	PHASE 1 LIMIT OF DISTURBANCE (APPROX. 26.7 AC)
WTL	PROPOSED WATTLE OR SILT SOCK
	PERMANENT SEEDING AND MULCHING
	EROSION CONTROL MATTING (ECM)
	GRAVEL AREAS

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NOT FOR CONSTRUCTION

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ISSUED FOR REVIEW

REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD

DISCIPLINE INTERFACE

SCALE: AS NOTED — EXCEPT AS NOTED

SWPPP
PHASE 1 – FLOW MANAGEMENT PROJECT E&SC

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

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TASK COMPLETED BY:	REV NO.

PLOT FACTOR:XX
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NOTE:

1. AERIAL TOPOGRAPHY DEVELOPED BY TUCK MAPPING SOLUTIONS, INC. VIA 11/10/2014 FLIGHT.
2. WATER QUALITY CHANNEL LIMITS OF LINER AND TOPOGRAPHY OBTAINED FROM ELECTRONIC COPIES OF "KINGSTON FOSSIL PLANT CHANNEL & PAD LINER FINAL AS-BUILTS" PROVIDED BY TVA OCTOBER 19, 2015.
3. CONSTRUCTION ENTRANCE (DETAIL 1 SHEET 5) SHALL BE CONSTRUCTED AT ALL LOCATIONS USED BY THE CONTRACTOR FOR VEHICULAR ACCESS TO THE SITE. THESE LOCATIONS SHALL BE SUBMITTED FOR APPROVAL WITH THE CONTRACTOR'S WORK PLAN.
4. CONTRACTOR TO CONSTRUCT TEMPORARY SUMP AT SOUTH CONSTRUCTION OUTLET AND PUMP STORM WATER TO WATER QUALITY CHANNEL / POLISHING POND UNTIL DISTURBED AREA DRAINING TO THE SOUTH OUTLET IS STABILIZED.
5. CONTRACTOR TO CONSTRUCT TEMPORARY STORM WATER SUMPS AT NORTHWEST AND WEST CONSTRUCTION OUTLETS TO INTERCEPT STORM WATER. STORM WATER WILL BE PUMPED THROUGH SEDIMENT FILTER BAGS PRIOR TO DISCHARGE TO EXISTING CONVEYANCES DRAINING TO OUTFALL 007, OR PUMPED TO THE WATER QUALITY CHANNEL / POLISHING POND.
6. DRAINAGE AREAS DEPICTED OUTSIDE THE EXTENTS OF THE BALL FIELD CLOSURE FOOTPRINT ARE APPROXIMATE AND DEPENDENT ON FINAL GRADING OF ADJOINING FUTURE PROJECTS.

LEGEND

770	EX CONTOUR MAJOR (10-FT)
768	EX CONTOUR MINOR (2-FT)
768	PHASE 2 GRADING CONTOUR MAJOR (INTERVAL VARIES)
770	PHASE 2 GRADING CONTOUR MINOR (INTERVAL VARIES)
	OVERLAND FLOW PATH
	CHANNELIZED FLOW PATH
LOD LOD	PHASE 2 LIMIT OF DISTURBANCE (APPROX. 50.8 AC)
WTL WTL	PROPOSED WATTLE OR SILT SOCK
	CONSTRUCTION OUTLET DRAINAGE AREAS (SEE NOTE 6)
	PROPOSED STORM DRAIN MANHOLE AND PIPING
	PERMANENT SEEDING AND MULCHING
	GRAVEL AREAS

DRAFT

ISSUED FOR APPROVAL NOT FOR CONSTRUCTION

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REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD
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ISSUED FOR REVIEW											

DISCIPLINE INTERFACE

SCALE: AS NOTED EXCEPT AS NOTED

SWPPP
PHASE 2 – BALL FIELD CLOSURE PROJECT E&SC

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-03 | R 0

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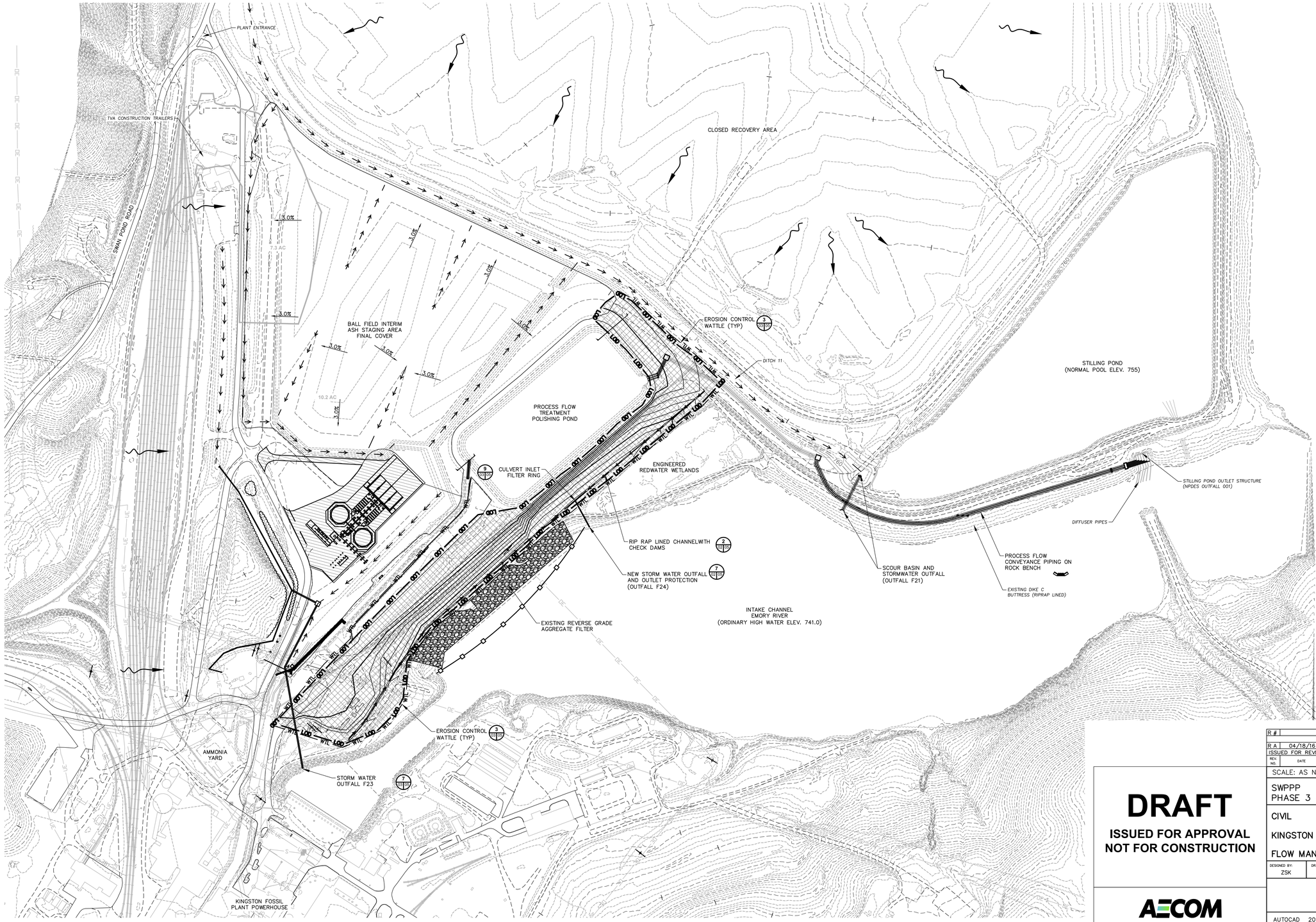

NOTE:

1. AERIAL TOPOGRAPHY DEVELOPED BY TUCK MAPPING SOLUTIONS, INC. VIA 11/10/2014 FLIGHT.
2. WATER QUALITY CHANNEL LIMITS OF LINER AND TOPOGRAPHY OBTAINED FROM ELECTRONIC COPIES OF "KINGSTON FOSSIL PLANT CHANNEL & PAD LINER FINAL AS-BUILTS" PROVIDED BY TVA OCTOBER 19, 2015.
3. CONSTRUCTION ENTRANCE (DETAIL 1 SHEET 5) SHALL BE CONSTRUCTED AT ALL LOCATIONS USED BY THE CONTRACTOR FOR VEHICULAR ACCESS TO THE SITE. THESE LOCATIONS SHALL BE SUBMITTED FOR APPROVAL WITH THE CONTRACTOR'S WORK PLAN.
4. IF A TEMPORARY OUTAGE WASH PAD IS CONSTRUCTED EROSION AND SEDIMENT CONTROL MEASURES SHOWN SHALL BE INSTALLED AND MAINTAINED THROUGHOUT CONSTRUCTION OF THE PERMANENT OUTAGE WASH PAD.

LEGEND

- 770 — EX CONTOUR MAJOR (10-FT)
- 768 — EX CONTOUR MINOR (2-FT)
- 768 — PHASE 3 GRADING CONTOUR MAJOR (INTERVAL VARIES)
- 770 — PHASE 3 GRADING CONTOUR MINOR (INTERVAL VARIES)
- OVERLAND FLOW PATH
- CHANNELIZED FLOW PATH
- LOD — PHASE 3 LIMIT OF DISTURBANCE (APPROX. 12.2 AC)
- WTL — PROPOSED WATTLE OR SILT SOCK
- PROPOSED STORM DRAIN MANHOLE AND PIPING
- PERMANENT SEEDING AND MULCHING
- GRAVEL AREAS

DRAFT

ISSUED FOR APPROVAL
NOT FOR CONSTRUCTION

AECOM

R #													
R A	04/18/16	ZSK	APM	NSG	CAB	RBC	MST	JCK	604769				D
ISSUED FOR REVIEW													
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD		DISCIPLINE INTERFACE

SCALE: AS NOTED — EXCEPT AS NOTED

SWPPP
PHASE 3 – AREA EAST OF SLUICE TRENCH CAPPING E&SC

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-03A | R 0

AECOM	A
TASK COMPLETED BY:	REV NO.

PLOT FACTOR:XX
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

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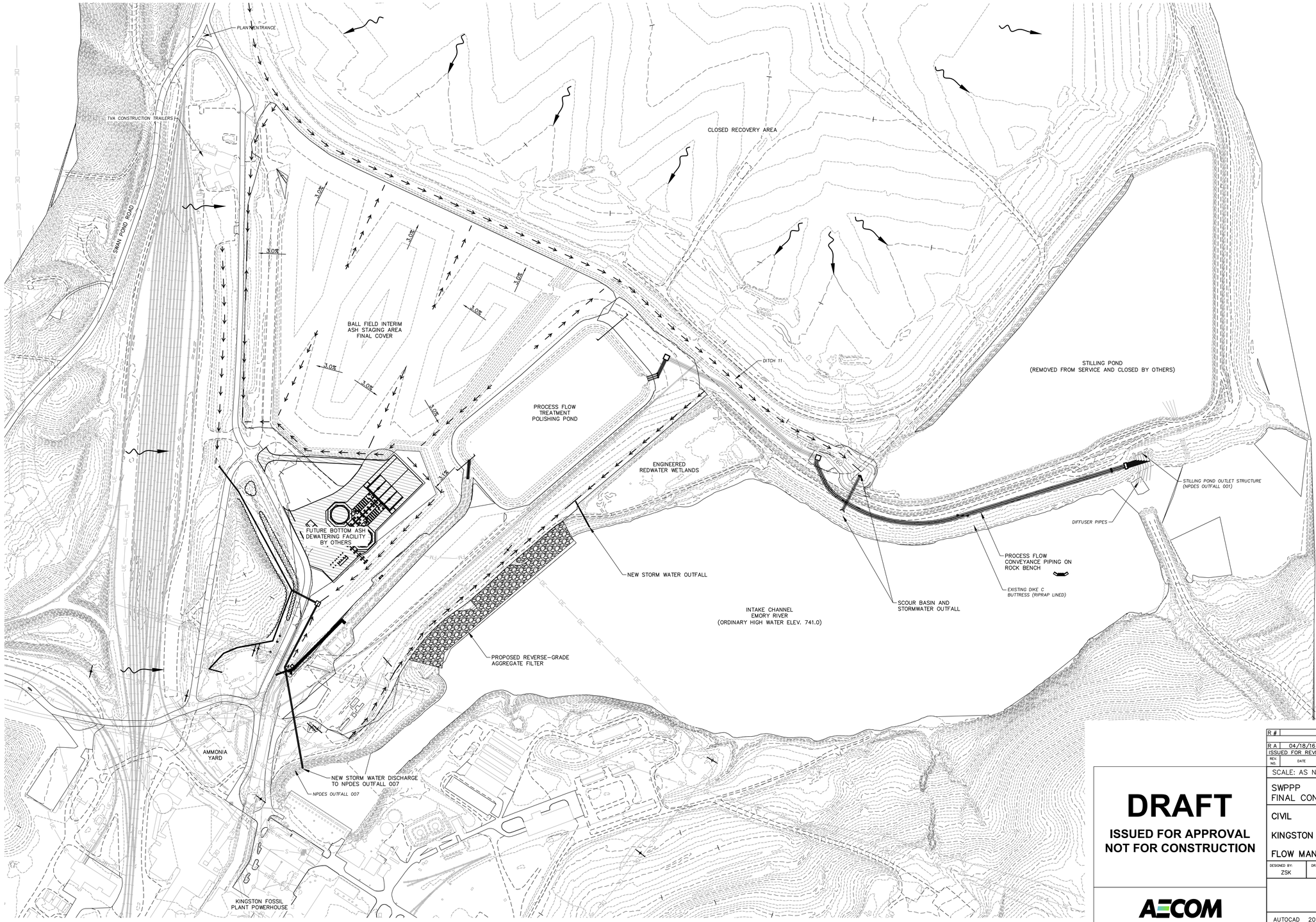

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0 150 300
SCALE IN FEET

NOTE:

1. AERIAL TOPOGRAPHY DEVELOPED BY TUCK MAPPING SOLUTIONS, INC. VIA 11/10/2014 FLIGHT.
2. WATER QUALITY CHANNEL LIMITS OF LINER AND TOPOGRAPHY OBTAINED FROM ELECTRONIC COPIES OF "KINGSTON FOSSIL PLANT CHANNEL & PAD LINER FINAL AS-BUILTS" PROVIDED BY TVA OCTOBER 19, 2015.
3. GRAVEL-PAVED ROADS TO BE CONSTRUCTED AS DESIGNATED BY OWNER TO PROVIDE PERMANENT VEHICULAR ACCESS ACROSS THE CLOSED BALL FIELD SITE.

LEGEND

- 770 — EX CONTOUR MAJOR (10-FT)
- 768 — EX CONTOUR MINOR (2-FT)
- OVERLAND FLOW PATH
- CHANNELIZED FLOW PATH
- PROPOSED STORM DRAIN MANHOLE AND PIPING

R #												
R A	04/18/16	ZSK	APM	NSG	CAB	RBC	MST	JCK	604769			D
ISSUED FOR REVIEW												
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD	

DISCIPLINE INTERFACE

SCALE: AS NOTED EXCEPT AS NOTED

SWPPP
FINAL CONDITIONS

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

DRAFT

ISSUED FOR APPROVAL NOT FOR CONSTRUCTION

AECOM

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-04 | R 0

AECOM | A
TASK COMPLETED BY: | REV NO.

PLOT FACTOR:XX
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

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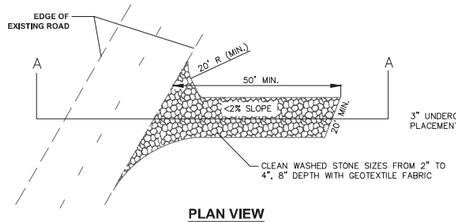
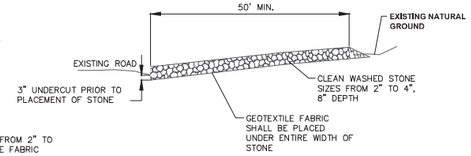
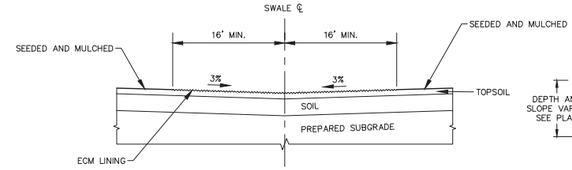


PLAN VIEW

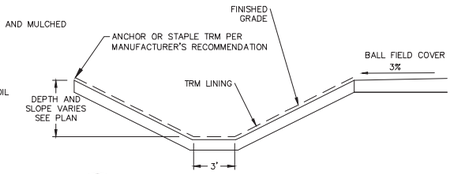


SECTION A-A

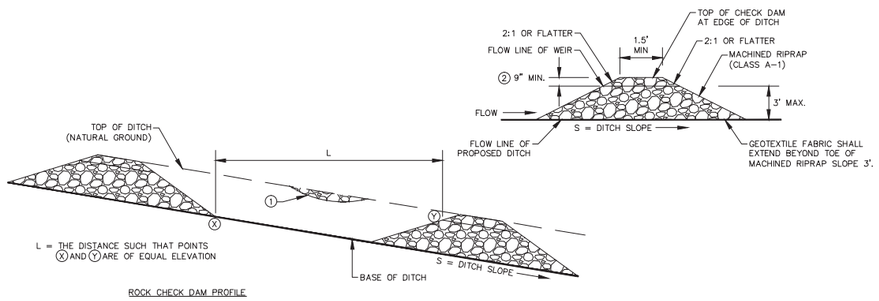
1 CONSTRUCTION EXIT
02 | 05 NOT TO SCALE



5 ECM-LINED STORMWATER SWALE
03 | 05 NOT TO SCALE

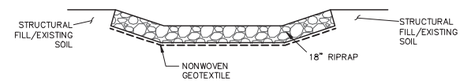


6 TRM-LINED PERIMETER DITCH
03 | 05 NOT TO SCALE

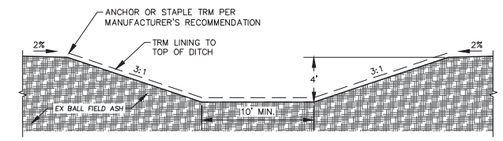


2 ROCK CHECK DAM
02 | 05 NOT TO SCALE
03

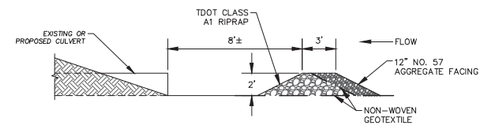
NOTE:
1. FILL LOW AREAS ALONG TOP OF BANK TO PREVENT BACKWATER FROM EXITING DITCH
2. WEIR FLOW DEPTH BASED UPON 2 YR/24 HR STORM EVENT OR 5 YR/24 HR STORM EVENT

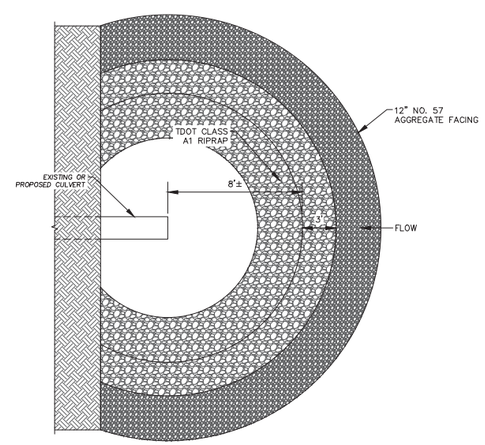


7 PROPOSED OUTLET PROTECTION
02 | 05 NOT TO SCALE
03

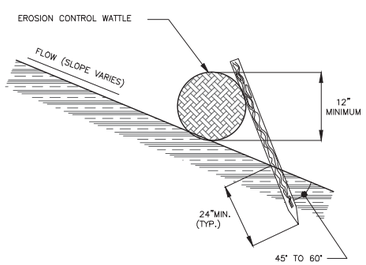


8 BYPASS DITCH
02 | 05 NOT TO SCALE





8 CULVERT INLET FILTER RING
03 | 05 NOT TO SCALE

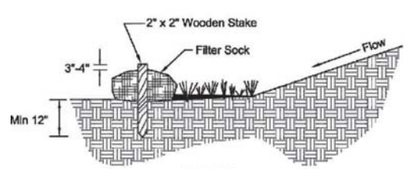


3 EROSION CONTROL WATTLE
02 | 05 NOT TO SCALE
03

NOTE:

SILT SOCK, DETAIL 4 SHEET 5, MAY BE SUBSTITUTED FOR WATTLE.

(Not to Scale)



SECTION

4 SILT SOCK
05 | 05 NOT TO SCALE

R #											
R A	04/18/16	ZSK	APM	NSG	CAB	RBC	MST	JCK	604769		D
ISSUED FOR REVIEW											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV. CD

DISCIPLINE INTERFACE

SCALE: AS NOTED EXCEPT AS NOTED

SWPPP
EROSION AND SEDIMENT CONTROL DETAILS I

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP-05 | R A

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TASK COMPLETED BY:	REV NO.

PLOT FACTOR:XX
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

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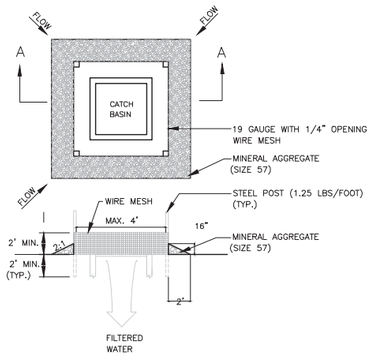
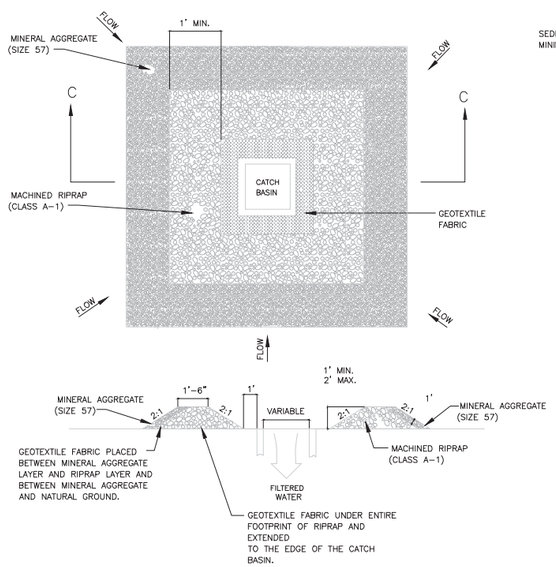
HARDWARE CLOTH AND GRAVEL INLET PROTECTION



SECTION A–A

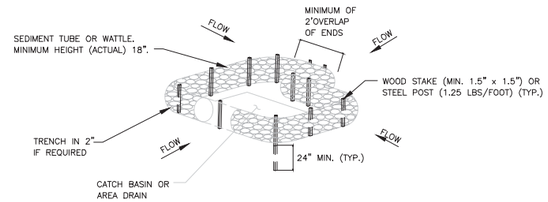
CATCH BASIN PROTECTION



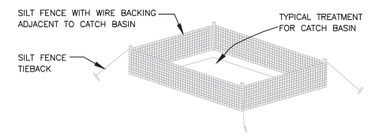
SECTION C–C

1 CATCH BASIN INLET PROTECTION
03 | 06 NOT TO SCALE

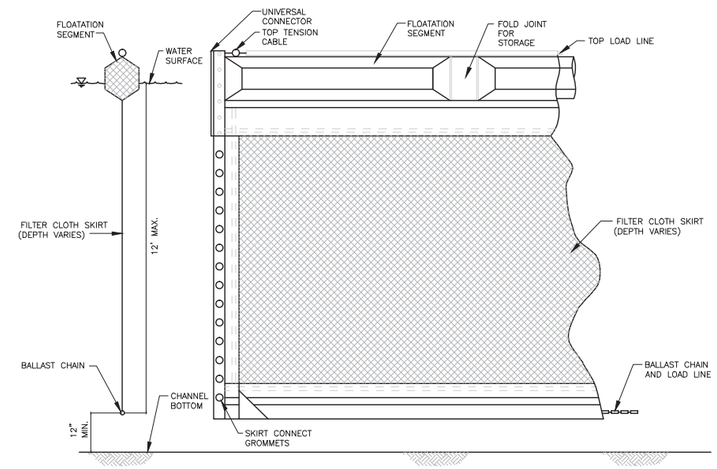
CATCH BASIN PROTECTION (TYPE D)



CATCH BASIN PROTECTION (TYPE E)

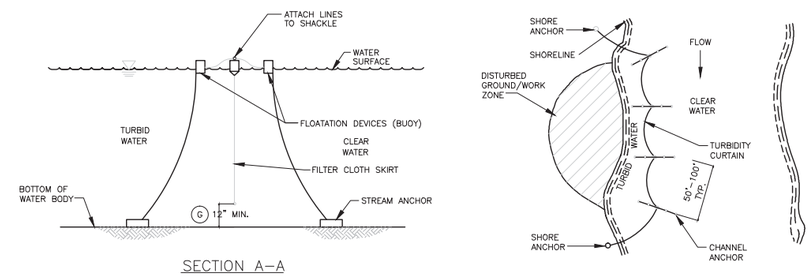


TURBIDITY CURTAIN



TYPICAL ANCHORING SECTION

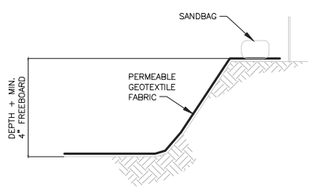
TYPICAL ANCHORING PLAN FOR SHORELINE/RIVER EDGE WORK



SECTION A–A

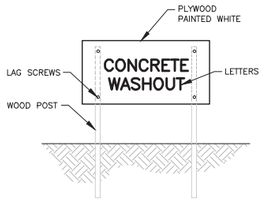
PLAN VIEW

3 TEMPORARY TURBIDITY CURTAIN
03 | 06 NOT TO SCALE



SECTION A–A
NOT TO SCALE

SECTION B–B
NOT TO SCALE

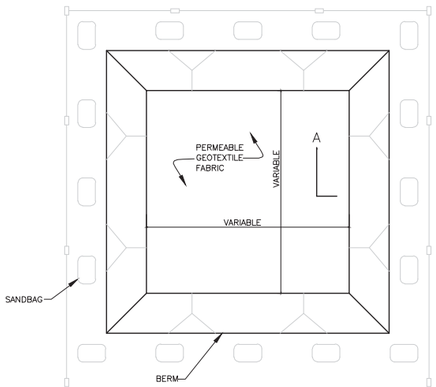


CONCRETE WASHOUT SIGN (OR EQUIVALENT)

NOTES:

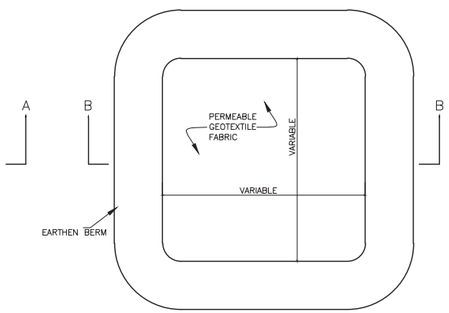
1. ACTUAL LAYOUT DETERMINED IN THE FIELD.

2. SIGNAGE IDENTIFYING THE CONCRETE WASHOUT AREA SHALL BE INSTALLED WITHIN 5–FT OF THE WASHOUT FACILITY.



PLAN VIEW
NOT TO SCALE

TYPE "BELOW GRADE"



PLAN VIEW
NOT TO SCALE

TYPE "ABOVE GRADE" WITH EARTHERN BERMS

2 CONCRETE WASHOUT
02 | 06 NOT TO SCALE

R #											
R A	04/18/16	ZSK	APM	NSG	CAB	RBC	MST	JCK	604769		D
ISSUED FOR REVIEW											
REV. NO.	DATE	DSGN	DRWN	CHKD	SUPV	RVWD	APPD	ISSD	PROJECT ID	AS CONST	REV CD

DISCIPLINE INTERFACE
1
2
3
4

SCALE: AS NOTED EXCEPT AS NOTED

SWPPP
EROSION AND SEDIMENT CONTROL DETAILS II

CIVIL

KINGSTON FOSSIL PLANT

FLOW MANAGEMENT AND BALL FIELD CLOSURE PROJECT

DESIGNED BY:	DRAWN BY:	CHECKED BY:	SUPERVISED BY:	REVIEWED BY:	APPROVED BY:	ISSUED BY:
ZSK	APM	NSG	CAB	RBC	MST	JCK

KINGSTON FOSSIL PLANT
TENNESSEE VALLEY AUTHORITY
FOSSIL AND HYDRO ENGINEERING

AUTOCAD 2015 | DATE 04/18/16 | 36 | C | SWPPP–06 | R A

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AECOM

AECOM	A
TASK COMPLETED BY:	REV NO.

PLOT FACTOR:XX
W_TVA

C.A.D. DRAWING
DO NOT ALTER MANUALLY

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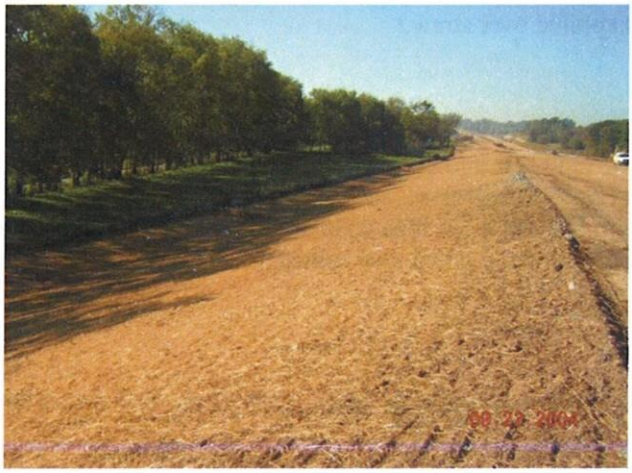
Attachment 4
BMP Details

STABILIZATION PRACTICES

STABILIZATION WITH STRAW MULCH



MU STABILIZATION WITH STRAW MULCH

Definition Application of a temporary protective blanket of straw to the soil surface.

Purpose To protect the soil surface from the forces of raindrop impact and overland flow. Mulch reduces runoff and erosion, conserves soil moisture, promotes seed germination, insulates soil, suppresses weed growth, and prevents surface crusting.

Conditions Where Practice Applies Mulch seeded areas immediately. Areas that cannot be seeded because of the season should be mulched to provide temporary protection of the soil surface.

Planning Considerations A surface mulch is considered the most effective, practical means of controlling runoff and erosion on disturbed land prior to vegetative establishment. Mulch reduces soil moisture loss by evaporation, prevents crusting and sealing of the soil surface, moderates soil temperatures, provides a suitable microclimate for seed germination, and may increase the infiltration rate of soil.

Straw mulch is the most common type of mulch used in conjunction with seeding orproviding a temporary groundcover. The straw should come from wheat or oats ("small grains"), and may be spread by hand or with a mulch blower. Note that straw may be lost to wind and must be tacked down. The recommended application rate for straw mulch is 2 tons per acre, dry unchopped, unweathered.

Note that the goal is 70% uniform coverage over 100% of the site. Straw mulch is often used in conjunction with some channel liners.

Design Criteria No formal design is required.

Construction Specifications

Before applying mulch, complete the required grading, install sediment control practices, and, if applying seed, prepare the seed bed. When applying seed in combination with mulch, apply the seed before mulch except in the following cases:

Seed is applied as a part of a hydroseeder slurry containing mulch.
A hydroseeder slurry is applied over straw.

Application:

Spread mulch uniformly by hand or with a mulch blower. When spreading mulch by hand, divide the area to be mulched into sections of approximately 1000 ft^2 and place 70-90 lbs of straw (1.5 to 2 bales) in each section to facilitate uniform distribution. After spreading mulch, no more than 25% of the soil surface should be visible. In hydroseeding applications a green dye added to the slurry assures a uniform application.

Anchoring:

Straw mulch must be anchored immediately after spreading. The following methods may be used.

Mulch Anchoring Tool: Straw mulch may be pressed into the soil immediately after the mulch is spread. A special crimper or disk harrow with the discs set straight may be used. Serrated discs are preferred and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the discs shall be dull enough to press the mulch into the ground without cutting it. Mulch should not be plowed into the soil. This method is limited on slopes no steeper than 3:1, where equipment can operate safely. Operate machinery on the contour.

Liquid Mulch Binders: Application of liquid mulch binders and tackifiers should be heaviest at the edges, crests of ridges, and banks to resist wind. Binders should be applied uniformly to the remaining area. Binders must be applied after the mulch is spread, or may be sprayed into the mulch as it is being applied. Applying the straw and binder together is the most effective method. Liquid binders include emulsified asphalt and an array of commercially available synthetic binders.

Emulsified asphalt is the most commonly used mulch binder. Any type thin enough to be blown from spray equipment is satisfactory. Asphalt is classified according to the time it takes to cure. Rapid setting (RS or CRS designation) is formulated for curing in less than 24 hours, even during periods of high humidity. It is best used in fall and spring. Medium setting (MS or CMS) is formulated for curing in 24 to 48 hours, and slow setting (SS or CSS) is formulated for use during hot, dry weather, requiring 48 hours or more curing time.

Apply asphalt at 0.10 gallons per square yard (11 gal/1000 ft^2). Heavier applications cause straw to "perch" over rills.

In traffic areas, uncured asphalt can be picked up on shoes and cause damage to rugs, clothing, etc. Use types RS or CRS to minimize such problems. Synthetic binders may be used to anchor mulch. Follow the manufacturer's recommended application method and rate. Most synthetic binders are expensive and are therefore used mostly in small areas or in residential areas where asphalt may be a problem.

Mulch Nettings: Lightweight plastic, cotton, jute, wire, or paper nets may be stapled over the mulch according to manufacturer's recommendations. Note that single net RECPs with integrated mulch may be used instead of separate mulch with netting.

Maintenance and Inspection Points

Inspect all mulches periodically, and after rainstorms to check for rill erosion, dislocation or failure. Where erosion is observed, apply additional mulch. If washout occurs, repair the slope grade, reseed and reinstall mulch. Continue inspecting mulched areas until vegetation has firmly established or until construction activities resume in the area.

References

North Carolina Erosion and Sediment Control Planning and Design Manual

STABILIZATION PRACTICES

STABILIZATION WITH OTHER MULCH MATERIALS

MO STABILIZATION WITH OTHER MULCHES

Ground trees were used to stabilize the flat portion of the site above.

Definition

Application of a protective blanket of plant residues, wood chips, or other organic material, produced on the site if possible, to the soil surface.

Purpose

To protect the soil surface from the forces of raindrop impact and overland flow. Mulch reduces runoff and erosion, conserves soil moisture, promotes seed germination, insulates soil, suppresses weed growth, and prevents surface crusting.

Conditions Where Practice Applies

This practice is applicable for areas that require temporary stabilization until permanent vegetation can establish. These mulches should be applied on areas that are not to be mowed. In addition, do not use in drainages or areas of concentrated flow. Specific applications include:

- Exposed areas that cannot be seeded due to seasonal conditions.
- On areas that are not to be mowed, such as trees, shrubs, or ground covers to stabilize the soil between plants.

Planning Considerations

Woody plant residue, wood chips and mulches that cannot be anchored down are susceptible to floating and movement by water. These materials should not be used in areas of concentrated flow or high sheet flow.

Design Criteria

The choice of materials for mulching should be based on soil conditions, season, type of vegetation, and size of the area.

Wood Chips:
Wood chips are suitable for areas that will not be closely mowed, and around ornamental plantings. Chips do not require tacking. Because they decompose slowly they must be treated with 12 lbs of nitrogen per ton to prevent nutrient deficiency in plants. This can be an inexpensive mulch if chips are obtained from trees cleared on the site.

Bark Chips and Shredded Bark:
Bark chips and shredded bark are byproducts of timber processing that are often used in landscape plantings. Bark is also suitable mulch for areas planted to grasses and not closely mowed. It may be applied by hand or with a mulch blower; do not use a tackifier. Unlike the use of wood chips, bark does not require additional nitrogen fertilizer.

Wood Fiber:
Wood fiber refers to short cellulose fibers applied as a slurry in hydroseeding operations. Wood fiber does not require tacking, although tacking agents or soil binders could be easily added to the slurry. Wood fiber hydroseeder slurries may be used to tack straw mulch on steep slopes, critical areas, and where harsh climatic conditions exist. Wood fiber does not provide sufficient erosion protection to be used alone.

Construction Specifications

Before applying mulch, complete the required grading and install sediment control practices. Woody plant residue mulch should not be used where seed is being or has been applied.

Materials: Organic mulch such as wood chips or bark shall be applied at a rate that provides 70% or greater soil coverage. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch. This method of mulching greatly reduces erosion control costs. This method however, should not be used in conjunction with seeding due to soil acidification and nitrogen reduction problems that the decomposition of the "green" material will produce.

Maintenance and Inspection Points

Inspect all mulches periodically, and after rainstorms to check for rill erosion, dislocation or failure. Where erosion is observed, apply additional mulch. If washout occurs, repair the slope grade, reseed and reinstall mulch. Continue inspections until vegetation has firmly established.

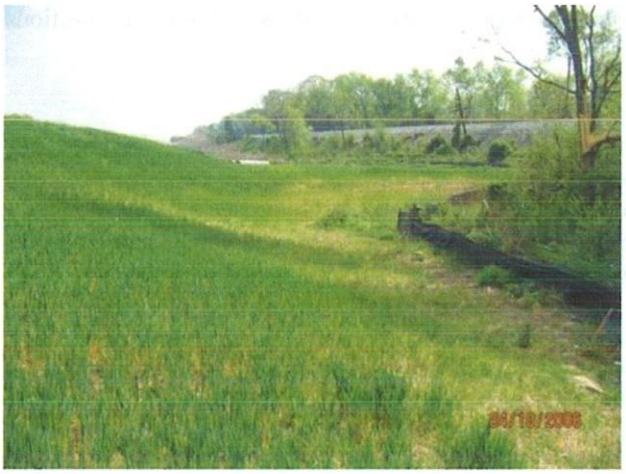
References

North Carolina Erosion and Sediment Control Planning and Design Manual

CALTRANS Roadside Management Toolbox

STABILIZATION PRACTICES

TEMPORARY VEGETATION



TS STABILIZATION WITH TEMPORARY VEGETATION

Definition

The establishment of temporary vegetative cover with fast-growing species for seasonal protection on disturbed or denuded areas.

Purpose

To temporarily stabilize denuded areas that will not be brought to final grade for a period of more than 14 days.

Temporary seeding controls runoff and erosion until permanent vegetation or other erosion control measures can be established. Seeding with a temporary groundcover provides temporary stabilization until permanent stabilization can be achieved. In addition, it provides residue for soil protection and seedbed preparation, and reduces problems of mud and dust production from bare soil surfaces during construction.

Conditions Where Practice Applies

On any cleared, unvegetated, or sparsely vegetated soil surface where vegetative cover is needed for less than 1 year.

Planning Considerations

Annual plants that sprout and grow rapidly and survive for only one season are suitable for establishing initial or temporary vegetative cover. Temporary seeding preserves the integrity of earthen sediment control structures such as dikes, diversions, and the banks of dams and sediment basins. It can also reduce the amount of maintenance associated with these devices. For example, the frequency of sediment basin cleanouts will be reduced if the watershed areas outside the active construction zone are stabilized.

Proper seedbed preparation, selection of appropriate species, and the use of quality seed are important. Failure to follow established guidelines and recommendations carefully may result in an inadequate or short-lived stand of vegetation that will not control erosion. Temporary seeding provides protection for no more than 1 year, during which time permanent stabilization should be initiated.

Design Criteria

Complete grading before preparing seedbeds, and install all necessary erosion control practices such as dikes, waterways, and basins. Minimize steep slopes because they make seedbed preparation difficult and increase the erosion potential. If soils become compacted during grading, loosen them to a depth of 6-8 inches using a ripper, harrow, or chisel plow.

Construction Specifications

Grading and Shaping: Excessive water runoff shall be reduced by properly designed and installed erosion control practices such as ditches, dikes, diversions, and sediment basins. No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

Seedbed Preparation: Good seedbed preparation is essential to successful plant establishment. A good seedbed is well pulverized, loose and uniform. Where hydroseeding methods are used, the surface may be left with a more irregular surface of large clods and stones.

Liming: Apply lime according to soil test recommendations. If the pH (acidity) of the soil is not known, an application of ground agricultural limestone at the rate of 1 to 1-1/2 tons/acre on coarse textured soils and 2-3 tons/acre on fine textured soils is usually sufficient. Apply limestone uniformly and incorporate into the top 4-6 inches of soil. Soils with a pH of 6 or higher do not need to be limed.

Fertilizer: Base application rates on soil tests. When soil tests are not possible, apply a 10-10-10 grade fertilizer at 700-1000 lb/acre. Both fertilizer and lime should be incorporated into the top 4-6 inches of soil. If a hydraulic seeder is used, do not mix seed and fertilizer more than 30 minutes before the application.

Surface Roughening: If recent tillage operations have resulted in a loose surface, additional roughening may not be necessary, except to break up large clods. If rainfall caused the surface to become sealed or crusted, loosen it just prior to seeding by disking, raking, harrowing, or other suitable methods. Groove or furrow slopes steeper than 3:1 on the contour before seeding.

Seeding: Select a non-invasive grass or grass-legume mixture suitable to the area and season of the year. See Figures 7.8-1 to 7.8-3 for suggestions of temporary seeding species. Although native plants are preferred, there are currently no available native species that are not cost-prohibitive. Non-invasive annual plants are preferred. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker seeder, or hydraulic seeder. Drill or cultipacker seeders should normally place seed ¼ to ½ inches deep. Appropriate depth of planting is 10 times the seed diameter. Soil should be raked lightly to cover seed with soil if seeded by hand.

Mulching: The use of mulch will help ensure establishment under normal conditions, and is essential to seeding success under harsh site conditions. Harsh site conditions include:

- Seeding in fall for winter cover
- Slopes steeper than 3:1
- Excessively hot or dry weather
- Adverse soils (shallow, rocky, or high in clay or sand), and
- Areas receiving concentrated flow.

Irrigation: During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will ensure germination of the seed. Subsequent applications should be made as needed. Newly seeded areas require more water than more mature plants.

Species	Rate (lb/acre)
Rye	120

Seeding dates

East .....Above 2500 feet: Feb. 15- May 15
Below 2500 feet: Feb. 1- May 1
Middle ..... Jan. 1 - May 1
West ..... Dec. 1 -Apr. 15

Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Figure 7.8-1 Temporary Seeding Recommendation for Late Winter and Early Spring

Species	Rate (lb/acre)
Oats	60
Brown top millet	30

Seeding dates

East ..... May 15- Aug. 15
Middle ..... May 1 - Aug. 15
West ..... Apr. 15- Aug. 15

Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance

Refertilize if growth is not fully adequate. Reseed, refertilize and mulch immediately following erosion or other damage.

Figure 7.8-2 Temporary Seeding Recommendation for Summer

Species	Rate (lb/acre)
Oats	30
Winter wheat	30

Seeding dates

East ..... Aug 15- Dec 15
Middle ..... Aug. 15- Dec 30
West ..... Aug. 15- Dec 30

Soil amendments

Follow recommendations of soil tests or apply 2,000 lb/acre ground agricultural limestone and 750 lb/acre 10-10-10 fertilizer.

Mulch

Apply 4,000 lb/acre straw. Anchor straw by tacking with asphalt, netting, or a mulch anchoring tool. A disk with blades set nearly straight can be used as a mulch anchoring tool.

Maintenance

Re-fertilize if growth is not fully adequate. Reseed, re-fertilize and mulch immediately following erosion or other damage. If necessary to extend temporary cover beyond June 15, overseed with 50 lb/ac crimson clover in late February or early March.

Figure 7.8-3 Temporary Seeding Recommendations for Fall

Maintenance and Inspection Points

Reseed and mulch areas where seedling emergence is poor or where erosion occurs as soon as possible. Do not mow.

References

North Carolina Erosion and Sediment Control Planning and Design Manual

STABILIZATION PRACTICES

PERMANENT VEGETATION

PS STABILIZATION WITH PERMANENT VEGETATION

Definition The planting of native perennial vegetation such as ground covers, shrubs, vines, trees, and/or flowering plants (forbs) on exposed areas for erosion control and final stabilization. Permanent perennial vegetation is required to achieve final stabilization. Native perennial plants are preferred for erosion control because of the following reasons:

- In appropriate habitats, native plants are better adapted to environmental and site conditions, resulting in lower maintenance costs
- Natives are not typically aggressive and do not allow the site to become a source of exotic invasive plants that can spread to other locations and become costly to remove
- Unlike most non-natives, native plants support native insect, bird, and other wildlife for pollinations, food sources, and nesting
- Using native plants provides opportunities to educate and demonstrate various sustainable approaches for the public
- The Tennessee Exotic Pest Plant Council (TNEPPC) has ranked non-native plants in Tennessee based on their invasiveness and threats to the natural environment. The following plants that have been used for erosion control by TDEC and TDOT are listed in TNEPPC's publication, “Invasive Exotic Pest Plants in Tennessee - 2009:”

  Korean (and Kobe) lespedeza - "Severe Threat" Category (Kobe is not ranked but has same invasive characteristics as Korean)
  Tall fescue -"Significant Threat" Category

Foxtail millet - "Significant Threat" Category
Crown vetch - "Alert" Category

This manual provides native and non-invasive alternative species as the preferred choice for erosion control and soil stabilization for TDEC projects (Table 7.9-1).

Purpose

To reduce stormwater runoff velocity, maintain sheet flow, protect the soil surface from erosion, promote infiltration of runoff into the soil, and improve aesthetics and provide diversity. Many native grasses have very deep and fibrous roots, a minimum of one foot and up to fifteen feet, and provide long-term erosion control.

Conditions Where Practice Applies

Apply to fine-graded areas on which permanent, long-lived vegetative cover is the most practical or most effective method of stabilizing the soil. Permanent seeding may also be used on rough-graded areas that will not be brought to final grade for a year or more. Areas to be seeded with permanent vegetation must be seeded or planted within 14 days after the construction activity in that portion of the site has permanently ceased.

Planning Considerations

The most common and economical means of stabilizing disturbed soils is by seeding a mixture of grasses and forbs. The advantages of seeding over other means of establishing plants include the smaller initial cost, lower labor input, and greater flexibility of method. The disadvantages of seeding include the potential for erosion during the establishment stage, the need to reseed areas that fail to establish, seasonal limitations on suitable seeding dates, and a need for water and appropriate temperatures during germination and early growth. The probability of successful plant establishment can be maximized through good planning, knowledge of the soil characteristics, selection of suitable plant materials for the site, good seedbed preparation, adequate liming and fertilization, and timely planting and maintenance.

Native grasses can be planted by drilling or seeding. The ground should be prepared by discing or rotovating prior to seeding in the spring or summer. Annual grains such as rye or oats can be planted prior to sowing the grass seed for erosion control. Grass seed can be planted in the dormant season as well.

Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fill, and other denuded areas that will not be regraded. Permanent stabilization should be applied where topsoil was never stripped, or has been returned and incorporated into the soil surface.

- When stripping a site, topsoil should be stockpiled for later use.
- Stockpiled topsoil should be stabilized using temporary vegetation.
- Where a suitable planting medium is not present, topsoil shall be imported and incorporated into the site.
- Block sod provides immediate cover; it is especially effective in controlling erosion adjacent to concrete flumes and other structures.
- When mixed plantings are done during marginal planting periods, companion crops shall be used.
- No-till planting can be effective when planting is done following a summer or winter annual cover crop.
- Irrigation should be used when the soil is dry or when summer plantings are done.
-

- Native species are low maintenance-plants and are preferred to ensure long-lasting erosion control.
- Wildlife plantings of native species should be included when applicable.

Wildlife Plantings: Commercially available plants beneficial to wildlife species include the following:

- Mast Bearing Trees: Beech, Black Cherry, Blackgum, Chestnut, Oak, Hackberry, Hickory, Honey Locust, Black Locust, and Persimmon.

- Shrubs and Small Trees: Serviceberry, Crabapple, Pawpaw, Spicebush, Hazelnut, Dogwood, Highbush and Lowbush Blueberries, native Holly, Red Cedar, Red Mulberry, Sumac, Wild Plum, Blackhaw and Blackberry. Plant shrubs in patches without tall trees to develop stable shrub communities. All produce fruit used by many kinds of wildlife.

Design Criteria

The state is divided into three planting regions designated I, II and III as shown in the figure below. Native seed mixes are preferred and the recommendations are shown in Table 7-9.1. Note that the rates are based upon Pure Live Seed (PLS).

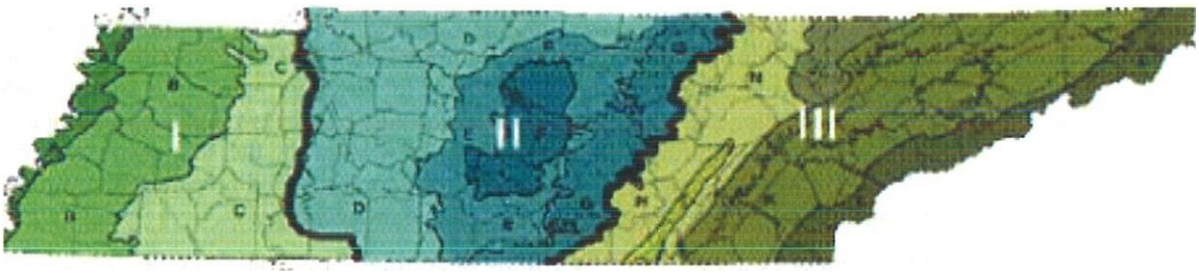


Figure 7.9-1: TN Planting Regions

Table 7.9-1 Preferred seed mixes using natives or naturalized plants and planting dates.
**non-native but do not spread.*

Zone		Best	Marginal	Preferred Rate/Mix (lb/ac PLS)
Region I	Poorly drained soils	Feb l - Mar20 Sept 1 - Sept 30	Mar 20 - Apr 30 Sept 30 - Oct 31	15 Browntop millet* (nurse crop) 2 switch grass 4 little bluestem 4 Virginia wild rye 4 purpletop 2 partridge pea 2 black-eyed susan
	Well-drained soils	Apr 1 - July 15		15 Browntop millet* (nurse crop) 4 little blue stem 4 purpletop 2 sideoats gramma 2 partridge pea 2 black-eyed susan
	High maintenance	Apr 1 - July 15		15 Browntop millet* (nurse crop) 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
Region II	Low maintenance; Slopes and Poor, shallow soils	Aug 25 - Sept 15 **Feb 15 - May 30**	Sept 15 - Oct 25 Mar 21 - May 30	15 Browntop millet* (nurse crop) 5 little bluestem 2 switch grass 2 tall dropseed 5 sideoats gramrna 2 black-eyed susan 2 partridge pea 1 greyheaded coneflower
	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 - Sept 15 **Feb 15 - May 30**	Sept 15 - Oct 25 Mar 21 - Apr 15	15 Browntop millet* (nurse crop) 5 purpletop 5 little bluestem 5 Virginia wild rye 2 black-eyed susan 2 partridge pea I greyheaded coneflower
	High maintenance	Aug 30 - Oct 15	Feb 15 - Apr 15	15 Browntop millet* (nurse crop) 2 partridge pea 45 Red fescue* 45 hard fescue* 25 chewing fescue*
Region III	>2500 ft elevation; steep slopes	Mar 20 - Apr 30	Aug 15 - Aug 30 Mar 1 - Mar 20 Apr 20 - June 15	15 Browntop millet* (nurse crop) 5 purpletop 10 little bluestem I0 Indian grass 2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna
	<2500 ft elevation; steep slopes	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	

Region III *cont'd*	>2500 ft elev.; Shallow soils	Mar 20 - Apr 20	Aug 15 - Aug 30 Mar 5 - Mar 20 April 20 - June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem 10 broomsedge 2 partridge pea 2 black-eyed susan 0.5 monarda (bergamot)
	<2500 ft elev.; Shallow soils	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	
	>2500 ft. elev.; Moderate slopes	Mar 20 - Apr 20	Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - June 15	15 Browntop millet* (nurse crop) 4 purpletop 10 little bluestem 10 Indian grass 2 black-eyed susan 0.5 monarda (bergamot) 4 Maryland senna
	<2500 ft. elev.; Moderate slopes	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 - June 10	
	>2500 ft elev.; High maintenance	**Mar 20 – Apr 20**	Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - June 15	15 Browntop millet* (nurse crop) 45 Red fescue* 45 hard fescue* 25 chewing fescue*
	<2500 ft elev.; High maintenance	Aug 15 - Sept 1 **Mar 1 - Apr 1**	Sept 1 - Sept 15 Apr 1 – June 10	

In Table 7.9-1, the bold dates are the preferred dates for seeding. Also, high-maintenance areas include lawns and other grassed areas that will be maintained for aesthetics.

Table 7.9-2 Allowable seed mixes and planting dates.

Zone		Best	Marginal	Rate/Mix (lb/ac PLS)
Region I	Poorly drained soils	Feb 1- Mar 20 Sept 1 - Sept 30	Mar 20 - Apr 30 Sept 30 - Oct 31	80 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	Well-drained soils	Apr 1 - July 15		50 Pensacola bahiagrass 15 Bennudagrass (hulled) 30 Korean lespedeza** 15 Foxtail millet**
	High maintenance	Apr 1 - July 15		40 Bermudagrass (hulled)
Region II	Low maintenance; Slopes and poor, shallow soils	Aug 25 - Sept 15 Feb 15 - Mar 21	Sept 15 - Oct 25 Mar 21 - Apr 15	100 Pensacola bahiagrass 40 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobe lespedeza**
	Low maintenance; Moderate slopes; soils >6 in. depth	Aug 25 - Sept 15 Feb 15 - Mar 21	Sept 15 - Oct 25 Mar 21 - Apr 15	60 Pensacola bahiagrass 30 Bermudagrass (hulled) 20 Korean lespedeza** 10 Kobelespedeza**
	High maintenance	Aug 15 - Oct 15	Feb 15 - Apr 15	200 KY 31 fescue**

Region III	>2500 ft elevation; steep slopes	July 25- Aug 15 **Mar 20 - Apr 20**	July 15 - July 25 Aug 15 - Aug 30 Mar 1 - Mar 20 Apr 20 - May 15	100 KY31 fescue** 20Kobelespedeza** 10 Korean lespedeza** 5 Redtop
	<2500 ft elevation; steep slopes	Aug 15 - Sept 1 **Mar 1 - Apr 1**	July 25 - Aug 15 Sept I -Sept 15	
	>2500 ft elev.; Shallow soils	July 25 - Aug 15 **Mar 20 - Apr 20**	July 15 – July 25 Aug 15 - Aug 30 Mar 5 - Mar20 Apr 20 - May 15	40 KY 31 Fescue** 10 Korean lespedeza** 10 Redtop 10 Crown vetch**
	<2500 ft elev.; Shallow soils	Aug 15 - Sept 1 **Mar 1 - Apr 1**	July 25- Aug 15 Sept 1 – Sept 15 Apr1 - May10	
	>2500 ft. elev.; Moderate slopes	July 25 - Aug 15 **Mar 20 - Apr 20**	July 15 - July 25 Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - May 15	60 KY 31 fescue** 15 Korean lespedeza** 15 Kobe lespedeza**
	<2500 ft. elev.; Moderate slopes	Aug 15- Sept 1 **Mar 1 - Apr 1**	July 25 - Aug 15 Sept 1 – Sept 15 Apr l – May 10	
	>2500 ft elev.; High maintenance	July 25 - Aug 15 **Mar 20 - Apr 20**	July 15 - July 25 Aug 15 - Aug 30 Mar 5 - Mar 20 Apr 20 - May 15	200 KY 31 fescue**
	<2500 ft elev.; High maintenance	Aug 15 - Sept 1 **Mar 1 - Apr 1**	July 25 - Aug 15 Sept 1 – Sept 15 Apr 1 - May 10	

Figure 7.9-2 Typical Seed

Roundstone Native Seed, LLC
9764 Raider Hollow Road, Upton, KY 42784

Kind: Switchgrass		*Lot No: 11074*	
Variety:	*Cave-in-Rock*	*Inert Matter:*	*1.78*
Origin: Test	*KY*	*Weed Seeds:*	*0.00*
Date: Pure	*02/12*	*Crop Seeds:*	*0.00*
Seed: Total	*98.22*	*Hard Seed:*	*0.00*
Germ:	*95.32*	*Germ:*	*95.32*
Pure Live Seed:	*93.62*	*Noxious:*	*0.00*

Seeding rates: Seed rates in Table 7.9-1 are based upon Pure Live Seed (PLS), which is the product of the purity shown on the seed tag multiplied by the germination. The PLS for the seed tag shown in Figure 7.9-2 would be 0.9362 x 0.95 = 0.89. Thus, only 89% of the seed are considered live. If the plan calls for a seed rate of 2 lb/acre of switchgrass, find the actual seed rate for the conditions shown on the tag. Actual seed rate required is 2 lb/ac / 0.95 PLS = 2.15 lb/acre. In other words, to get an actual rate of 2 lb. per acre will require 2.15 lb. of seed.

Temporary seed may be required when seeding outside of the preferred seeding dates. See Section 7.8 for more information on temporary seeding.

Construction Specifications

Grading and Shaping: Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape the slope, where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching, and maintenance of vegetation.

Concentrations of water that could cause excessive soil erosion should be diverted to a safe outlet. Diversions and other treatment practices must conform to the appropriate standards and specifications.

Plant Selection: Only certified seed shall be used. Refer to Table 7.9-1 for suggested species. Grass type should be selected on the basis of species characteristics; site and soil conditions; planned use and maintenance of the area; time of year of planting, method of planting; and the needs and desires of the land user.

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. Care should be taken in selecting companion crop species and seeding rates because annual crops will compete with perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

Ryegrass shall not be used in any seeding mixtures containing permanent, perennial species due to its ability to out-compete desired species chosen for permanent perennial cover. However, crimson, clover, oats and winter wheat can be planted any time of the year and are recommended as a cover crop with native perennial species.

Topsoil: Topsoil should be replaced on all areas to be seeded. See Practice 7.3 for more information on the removal, storage and reapplication of topsoil.

Seedbed Preparation: When conventional seeding is to be used, topsoil should be applied to any area where the disturbance results in subsoil at the final grade surface. Figure 7.9-3 provides guidance on the volume of topsoil required to provide specific topsoil depths. Soil pH should be above 5 – preferably between 6.0 and 6.5. Soil on the site should be tested to determine lime and fertilizer rates. Soil should be submitted to a soils specialist or County Agricultural Extension agent for testing and soil amendment recommendations. In the absence of soil test results, the following application rates can be used:

- **Ground agricultural limestone:**

  Light-textured, sandy soils: 1 - 1½ tons/acre

  Heavy-textured, clayey soils: 2 - 3 tons/acre

- **Fertilizer:**

  Grasses: 800-1200 lb/acre of 10-10-10 (or the equivalent)

  Grass-legume mixtures: 800-1200 lb/acre of 5-l0-10 (or the equivalent)

Broadcast Seeding:

- Seedbed preparation may not be required where hydraulic seeding equipment is to be used.
- Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate compaction; incorporate topsoil, lime, and fertilizer; smooth and firm the soil; allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a crimper is to be used.
- Tillage may be done with any suitable equipment.
- Tillage should be done parallel to the contour where feasible.
- On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide consecutive beds, 6 to 8 inches apart, in which seed may lodge and germinate. Hydraulic seeding may also be used.

Depth (Inches)	Per 1,000 sq. ft.	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806

7.9-3 Cubic yards of topsoil required to attain various soil depths

Inoculants: Native legume seeds do not need to be inoculated. All non-native legume seed shall be inoculated with appropriate nitrogen- fixing bacteria. The inoculants shall be pure culture prepared specifically for the seed species and used within the dates on the container. A mixing medium recommended by the manufacturer shall be used to bond the inoculants to the seed. For conventional seeding, use twice the amount of inoculants recommended by the manufacturer.

No-Till Seeding: No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment. The seed must be uniformly distributed and planted at the proper depth. Native grasses respond very well to drill seeding at a depth of one-fourth inch.

Mulch: Straw mulch is required for all permanent vegetation applications and must be applied immediately after the application of seed. The application rate for mulch is 2 tons per acre with overall uniform soil coverage of 70%. All mulch must be anchored. See Practice 7.6 for more information on straw mulch.

Maintenance and Inspection Points

Any areas that have washed out due to high stormwater flows, areas that have been disturbed by blowing wind, and areas that do not show good germination should be re-treated.

Inspect seeded areas for failure and make necessary repairs and reseedings within the same season, if possible.

Reseeding: If a stand has inadequate cover, re-evaluate choice of plant materials and quantities of lime and fertilizer. Re-establish the stand after seedbed preparation or over-seed the stand. Consider seeding temporary, annual species if the time of year is not appropriate for permanent seeding.

References

North Carolina Erosion and Sediment Control Planning and Design Manual

Attachment 5
Major Activities Log

KINGSTON FOSSIL PLANT
Flow Management and Ball Field Interim Ash Staging Area Closure Project

MAJOR ACTIVITIES LOG

At a minimum the construction manager or designee shall record dates below for beginning of major grading, dates temporarily cease construction, dates re-commence construction, dates permanently cease construction and dates seeding and or stabilization begins. Include name of person recording activity. It is recommended that activity descriptions be recorded each day. Provide a copy of the form to the site PAE when sheet is filled out or on a monthly basis.

Description of Major Activity	Date	Name

Provide to Plant Program Administrator (Environmental) as completed.

Attachment 6
Sequence of Control Measure Implementation, Maintenance, Removal Log

KINGSTON FOSSIL PLANT
Flow Management and Ball Field Interim Ash Staging Area Closure Project

Sequence of Control Measure Implementation, Maintenance, and Removal Log Form

Log to be maintained onsite and completed each time a control measure is implemented, maintained, or removed

Contractor:_____**Contract No.**:_____ Page_____of_____

Control Measure and Location	Implementation, Maintenance, or Removal	Receiving Water (Channel #, etc.)	Foreman Initials	Date

Attachment 7
Daily Rainfall Gage Record

KINGSTON FOSSIL PLANT
Flow Management and Ball Field Interim Ash Staging Area Closure Project

DAILY RAINFALL GAGE RECORD

Inspect rainfall gage(s) and record daily inches of rain or "none" in measured rainfall column. Sign sheet for each day and present to designated TVA site representative when sheet has been filled and/or construction is complete. If prolonged storm event occurs, it is recommended that erosion control device checks be performed and results recorded on inspection form. Maintain a copy of this form and provide a copy to the site PAE when the form is complete.

Gage Number	Date	Measured Rainfall (inches)	Inspector's Signature

Attachment 8
Tennessee Valley Authority
Twice Weekly Inspection Worksheet

Attachment 9
General Information Notice

TVA – KINGSTON PLANT

FLOW MANAGEMENT AND BALL FIELD INTERIM ASH STAGING AREA CLOSURE PROJECT

Description: Construction activities associated with flow management and closure of the former interim ash storage facility ("Ball Field").

CONTACT: Adele Dennison
For Storm Water Pollution Prevention Plan located at Kingston Fossil Plant
PHONE: (865) 717-2157

Attachment 10
Notice of Intent

	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) *Division of Water Pollution Control (WPC)* *6th Floor Annex, L&C Tower, 401 Church Street, Nashville, Tennessee 37243* *1-888-891-TDEC (8332)*

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR100000)

Site or Project Name: TVA - Kingston Fossil Plant – Flow Management and Ball Field Interim Ash Staging Area Closure Project		**NPDES Tracking Number: TNR**
Street Address or Location: 714 Swan Pond Road Harriman, TN 37748		Construction Start Date: March 2016 Estimated End Date March 2017
Site Description: Proposed project is approximately 77.5 acres within the Kingston Fossil Plant site's 800 acres.		Latitude (dd.dddd): 35.905941 Longitude (-dd.dddd): -84.513618
County(ies): Roane County	MS4 Jurisdiction: N/A	Acres Disturbed: 77.5 Total Acres: 800

Does a topographic map show dotted or solid blue lines ☐ and/or wetlands ☐ on or adjacent to the construction site? N/A
If wetlands are located on-site and may be impacted, attach wetlands delineation report. N/A
If an Aquatic Resource Alteration Permit has been obtained for this site, what is the permit number? ARAP Number: Permit Applied For

Receiving waters: Emory River Intake Channel (west off of Emory River at Mile 1.8±)

Attach the SWPPP with the NOI ■SWPPP Attached	Attach a site location map ■Map Attached

Name of Site Owner or Developer (Site-Wide Permittee): (person, company, or legal entity that has operational or design control over construction plans and specifications) **TVA - Kingston Fossil Plant**

Site Owner or Developer Contact Name: (individual responsible for site) John Kammeyer		Title or Position: (the party who signs the certification below): Principal Executive Officer	
Mailing Address: TVA, 1101 Market Street, LP 5G		City: Chattanooga	State: TN / Zip: 37402
Phone: (423) 751-8246	FAX:	E-mail: jckammeyer@tva.gov	
Optional Contact: Adele Dennison		Title or Position: (the party who signs the certification below): Program Administrator (Environmental)	
Mailing Address: TVA, Kingston Fossil Plant, 714 Swan Pond Road		City: Harriman	State: TN / Zip: 37748
Phone: (865) 717-2157	FAX:	E-mail: amdennison@tva.gov	

Owner or Developer Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Primary Permittee)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Owner or Developer Name: (print or type) John Kammeyer	Signature:	Date:

Contractor(s) Certification: (must be signed by president, vice-president or equivalent, or ranking elected official) (Secondary Permittee)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWPPP referenced above. Based on my inquiry of the construction site owner/developer identified above and/or my inquiry of the person directly responsible for assembling this NOI and SWPPP, I believe the information submitted is accurate. I am aware that this NOI, if approved, makes the above-described construction activity subject to NPDES permit number TNR1OOOOO, and that certain of my activities onsite are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations and for failure to comply with these permits requirements.

Primary contractor name and address: (print or type)	Signature:	Date:
Other contractor name and address: (print or type)	Signature:	Date:
Other contractor name and address: (print or type)	Signature:	Date:

OFFICIAL STATE USE ONLY

Received Date:	Reviewer:	Field Office:	Permit Number **TNR**	Exceptional TN Water:
Fee(s):	T&E Aquatic Flora and Fauna:	Impaired Receiving Stream:	Notice of Coverage Date:	

CONSTRUCTION ACTIVITY - STORMWATER DISCHARGES
NOTICE OF INTENT (NOI) - INSTRUCTIONS

Notice of Intent (NOI) for General NPDES Permit for Stormwater Discharges from Construction Activities (TNR1OOOOO)

Purpose of this form A completed notice of intent (NOI) must be submitted to obtain coverage under the Tennessee General NPDES Permit for Discharges of Storm Water Associated with Construction Activity (permit). **Requesting coverage under this permit means that an applicant has obtained and examined a copy of this permit, and thereby acknowledges applicant's claim of ability to be in compliance with permit terms and conditions.** This permit is required for Storm Water discharge(s) from construction activities including clearing, grading, filling and excavating (including borrow pits) of one or more acres of land. This form should be submitted at least 30 days prior to the commencement of land disturbing activities, or no later than 48 hours prior to when a new operator assumes operational control over site specifications or commences work at the site.

Permit fee (see table below) must accompany the NOI and is based on total acreage to be disturbed by an entire project, including any associated construction support activities (e.g. equipment staging yards, material storage areas, excavated material disposal areas, borrow or waste sites). There is no fee for sites less than 1 acre.

Acre Disturbed	= or > 150 acres	= or > 50 < 150 acres	= or > 5 < 50 acres	= or > 1 < 5 acres
Fee	$7,500	$4,000	$1,000	$250

Who must submit the NOI form? Per Section 2 of the permit, all site operators must submit an NOI form. "Operator" for the purpose of this permit and in the context of Storm Water associated with construction activity means any person associated with a construction project who meets either or both of the following two criteria: (1) The person has operational or design control over construction plans and specifications, including the ability to make modifications to those plans and specifications. This person is typically the owner or developer of the project or a portion of the project (e.g. subsequent builder), or the person that is the current land owner of the construction site. This person is considered the primary permittee; or (2) the person has day-to-day operational control of those activities at a project which are necessary to ensure compliance with a SWPPP for the site or other permit conditions. This person is typically a contractor or a commercial builder who is hired by the primary permittee, and is considered a secondary permittee.

Owners, developers and all contractors that meet the definition of the operator in subsection 2.2 of the permit shall apply for permit coverage on the same NOI, insofar as possible. After permit coverage has been granted to the primary permittee, any subsequent NOI submittals must include the site's previously assigned permit tracking number and the project name. The comprehensive site-specific SWPPP shall be prepared in accordance with the requirements of part 3 of the permit and must be submitted with the NOI unless the NOI being submitted is to only add a contractor (secondary permittee) to an existing coverage.

Notice of Coverage The division will review the NOI for completeness and accuracy and prepare a notice of coverage (NOC). Storm Water discharge from the construction site is authorized as of the effective date of the NOC.

Complete the form Type or print clearly, using ink and not markers or pencil. Answer each item or enter ··NA," for not applicable, if a particular item does not fit the circumstances or characteristics of your construction site or activity. If you need additional space, attach a separate piece of paper to the NOI form. **The NOI will be considered incomplete without a permit fee, a map, and the SWPPP.**

Describe and locate the project Use the legal or official name of the construction site. If a construction site lacks street name or route number, give the most accurate geographic information available to describe the location (reference to adjacent highways, roads and structures; e.g. intersection of state highways 70 and 100). Latitude and longitude (expressed in decimal degrees) of the center of the site can be located on USGS quadrangle maps. The quadrangle maps can be obtained at the USGS World Wide Web site: http://www.usgs.gov/; latitude and longitude information can be found at numerous other web sites. Attach a copy of a portion of a 7.5 minute quad map, showing location of site, with boundaries at least one mile outside the site boundaries. Provide estimated starting date of clearing activities and completion date of the project, and an estimate of the number of acres of the site on which soil will be disturbed, including borrow areas, fill areas, stockpiles and the total acres. For linear projects, give location at each end of the construction area.

Give name of the receiving waters Trace the route of Storm Water runoff from the construction site and determine the name of the river(s), stream(s), creek(s), wetland(s), lake(s) or any other water course(s) into which the stormwater runoff drains. Note that the receiving water course mayor may not be located on the construction site. If the first water body receiving construction site runoff is unnamed ("unnamed tributary"), determine the name of the water body that the unnamed tributary enters.

ARAP permit may be required If your \work will disturb or cause alterations of a stream or wetland, you must obtain an appropriate Aquatic Resource Alteration Permit (ARAP). If you have a question about the ARAP program or permits, contact your local Environmental Field Office (EFO).

Submitting the form and obtaining more information Note that this form must be signed by the company President, Vice-President, or a ranking elected official in the case of a municipality, for details see subpart 2.5. For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC). Submit the completed NOI form (keep a copy for your records) to the appropriate EFO for the county(ies) where the construction activity is located, addressed to **Attention: Storm Water NOI Processing.**

EFO	***Street Address***	***Zip Code***	***EFO***	***Street Address***	***Zip Code***
Memphis	*8383 Wolf Lake Drive, Bartlett, TN*	*38133*	*Cookeville*	*1221 South Willow Ave.*	*38506*
Jackson	*1625 Hollywood Drive*	*38305*	*Chattanooga*	*540 McCallie Avenue STE 550*	*37402*
Nashville	*711 R S Gass Boulevard*	*37243*	*Knoxville*	*3711 Middlebrook Pike*	*37921*
Columbia	*1421 Hampshire Pike*	*38401*	*Johnson City*	*2305 Silverdale Road*	*37601*

Attachment 11
Notice of Termination

	TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION (TDEC) *Division of Water Pollution Control (WPC)* *6th Floor Annex, L&C Tower, 401 Church Street, Nashville, Tennessee 37243* *1-888-891-TDEC (8332)*

Notice of Termination (NOT) for General NPDES Permit for Stormwater Discharges from Construction Activities (CGP)

This form is required to be submitted when requesting termination of coverage from the CGP. The purpose of this form is to notify the TDEC that either all storm water discharges associated with construction activity from the portion of the identified facility where you, as an operator, have ceased or have been eliminated; or you are no longer an operator at the construction site. Submission of this form shall in no way relieve the permittee of permit obligations required prior to submission of this form. Please submit this form to the local WPC Environmental Field Office (EFO) address (see table below). For more information, contact your local EFO at the toll-free number 1-888-891-8332 (TDEC).

Type or print clearly, using ink and not markers or pencil.

Site or Project Name: **TVA - Kingston Fossil Plant – Flow Management and Ball Field Interim Ash Staging Area Closure Project**	***NPDES Tracking Number: TNR***
Street Address or Location: **714 Swan Pond Road, Harriman, TN 37748**	*County (ies):* **Roane**

Name of Permittee Requesting Termination of Coverage:			
Permittee Contact Name: **John Kammeyer**	*Title or Position:* **Principal Executive Officer**		
Mailing Address: **1100 Market Street, LP 5G**	*City:* **Chattanooga**	*State:* **TN**	*Zip:* **37402**
Phone: **(423) 751-8246**	*E-mail:* **jckammeyer@tva.gov**		

Check the reason(s) for termination of permit coverage:

☐	*Stormwater discharge associated with construction activity is no longer occurring and the permitted area has a uniform 70% permanent vegetative cover OR has equivalent measures such as rip rap or geotextiles, in areas not covered with impervious surfaces.*
☐	*You are no longer the operator at the construction site (i.e., termination of site-wide, primary or secondary permittee coverage).*

Certification and Signature: (must be signed by president, vice-president or equivalent ranking elected official)

I certify under penalty of law that either: (a) all storm water discharges associated with construction activity from the portion of the identified facility where I was an operator have ceased or have been eliminated or (b) I am no longer an operator at the construction site. I understand that by submitting this notice of termination, I am no longer authorized to discharge storm water associated with construction activity under this general permit, and that discharging pollutants in storm water associated with construction activity to waters of the United States is unlawful under the Clean Water Act where the discharge is not authorized by a NPDES permit. I also understand that the submittal of this notice of termination does not release an operator from liability for any violations of this permit or the Clean Water Act.

For the purposes of this certification, elimination of storm water discharges associated with construction activity means that all disturbed soils at the portion of the construction site where the operator had control have been finally stabilized, the temporary erosion and sediment control measures have been removed, and/or the site or portions of the site have obtained permit coverage by subsequent operators or that all storm water discharges associated with construction activities from the identified site that are authorized by a NPDES general permit have otherwise been eliminated from the portion of the construction site where the operator had control.

Permittee name (print or type): **John Kammeyer**	*Signature:*	*Date:*

EFO	***Street Address***	***Zip Code***	***EFO***	***Street Address***	***Zip Code***
Memphis	*8383 Wolf Lake Drive, Bartlett, TN*	*38133*	*Cookeville*	*1221 South Willow Ave.*	*38506*
Jackson	*1625 Hollywood Drive*	*38305*	*Chattanooga*	*540 McCallie Avenue STE 550*	*37402*
Nashville	*711 R S Gass Boulevard*	*37243*	*Knoxville*	*3711 Middlebrook Pike*	*37921*
Columbia	*1421 Hampshire Pike*	*38401*	*Johnson City*	*2305 Silverdale Road*	*37601*

RDAs 2399 and 2400

APPENDIX B