STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

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SUBJECT: State of Tennessee 401 Water Quality Certification Justifications and Citations

PURPOSE: This document addresses conditions commonly included in 401 Water Quality Certifications (WQC) issued by the Tennessee Department of Environment and Conservation (TDEC) as the certifying authority, with justifications and citations provided in accordance with the procedural requirements of §121.7(d). This provision requires that certification conditions on an individual license or permit include a statement explaining why the condition is necessary to assure that the discharge from the proposed project will comply with state water quality requirements; and a citation to federal, state, or tribal law that authorizes the condition.

In Tennessee, any federal license or permit that authorizes an activity that may result in a discharge into Waters of the United States requires an individual Water Quality Certification, with the exception of activities that have been previously certified through conditional 401 WQC of either a USACE Nationwide Permit, Regional General Permit, or Programmatic General Permit. This limited set of activities is also broadly covered under no-notification provisions of TDEC's General Aquatic Resource Alteration Permits (ARAPs).

The water quality requirements and legal authorization citations for all 401 WQC conditions (Special and General) found in ARAP General Permits are addressed in this document, and many of these same conditions are routinely included in ARAP Individual Permits. This document also includes justifications and citations for 401 WQC conditions specific to compensatory mitigation often found in ARAP Individual Permits/401 WQCs. Note that not all special conditions that may be included in an Individual ARAP/401 WQC are covered by this document, as many are specific to the activity being conducted and Waters being impacted. The justification and citations for these site- and activity-specific conditions will be provided within the specific individual 401 WQC/ARAP.

CONTENTS:

V. Special Conditions by General Permit
   A. Bank Armoring and Vegetative Stabilization
   B. Construction and Removal of Minor Road Crossings
   C. Construction of Public Access Structures and Boat Ramps
   D. Construction of Intake and Outfall Structures
   E. Emergency Infrastructure Repair
   F. Maintenance Activities
   G. Minor Alterations to Wetlands
   H. Minor Dredging in Reservoirs, Lakes, and Ponds
   I. Gravel Removal
   J. Sediment Removal and Stream Remediation
   K. Surveys and Geotechnical Exploration
   L. Utility Line Crossings
   M. Minor Stream Grade Stabilization
   N. Stream and Wetland Enhancement
   O. Recreational Prospecting
   P. Structural Discharges
   Q. Minor Water Withdrawals
   R. NRCS-Designed Streambank Stabilization as a Federal Action

VI. Individual ARAP Mitigation Requirements

VII. Individual ARAP Monitoring Requirements

VIII. Footnotes containing:
   a) Statements explaining why a condition is necessary to ensure compliance with water quality requirements; and
   b) A citation of federal, state, or tribal law that authorizes the condition.

I. General Conditions common to most General Permits:

1. The amount of fill, stream channel and bank modifications, or other impacts associated with the activity shall be limited to the minimum necessary to accomplish the project purpose. The permittee shall utilize the least impactful practicable method of construction.[i,ii]

2. All activities must be accomplished in conformance with the approved plans, specifications, data, and other information submitted in support of the ARAP application (form CN-1091) (except where no application is required as specified below) and the limitations, requirements, and conditions set forth herein. Failure to comply with the terms and conditions of this permit is a violation of the Act.[i,ii,iii,iv,v]

3. Activities, either individually or cumulatively, that may result in an appreciable permanent loss of resource values to streams or wetlands are not covered. This general permit shall not be used incrementally to combine with other activities resulting in a net loss of water resource values.[i,ii,vi]

4. Clearing, grubbing, and other disturbance to riparian vegetation shall be kept at the minimum necessary for slope construction and equipment operations. Unnecessary native riparian vegetation removal, including tree removal, is prohibited. Native riparian vegetation must be reestablished in all areas of disturbance outside of any permanent authorized structures after work is completed. Coverage under this permit does not serve to waive any local riparian buffer protection requirement, and permittees are responsible for obtaining any necessary local approval.[i,ii,vii,viii]

5. Widening of the stream channel as a result of this activity is prohibited.[i,ii,viii]

6. This activity may not result in the permanent disruption to the movement of fish or other aquatic life upon project completion.[i,ii,vii]

7. Blasting within 50 feet of any jurisdictional stream or wetland is prohibited.[i,viii]

8. Activities that directly impact wetlands, or impair surface water flow into or out of any wetland areas are not covered.[i,ii,viii]

9. Activities located in a component of the National Wild and Scenic River System or waters designated as Outstanding National Resource Waters are not covered.[vi,ix]

10. Activities occurring in known or likely habitat of state or federally listed threatened, endangered, deemed in need of management, or species of special concern may not be authorized without prior coordination with the Tennessee Wildlife Resources Agency (TWRA) and TDEC Division of Natural Areas (DNA) to determine if any special conditions are required to avoid and/or minimize harm to the listed species or their habitat. Adverse effects to federally listed threatened and endangered species are not authorized by this permit. Permittee is responsible for obtaining prior authorization from the United States Fish and Wildlife Service (USFWS) as required by Section 7 or Section 10 under the Endangered Species Act.

11. Work shall not commence until the permittee has obtained all necessary authorizations pursuant to applicable provisions of section 10 of The Rivers and Harbors Act of 1899, section 404 of the Clean Water Act, section 26a of The Tennessee Valley Authority Act, section 402 of the Clean Water Act (including, but not limited to, an NPDES permit for construction stormwater), or any other federal, state, or local laws.

12. Backfill activities must be accomplished in the least impactful manner possible that stabilizes the streambed and banks to prevent erosion. The completed activities may not disrupt or impound stream flow.[i,ii,viii,x]

13. The use of monofilament-type erosion control netting or blanket is prohibited in the stream channel, stream banks, or any disturbed riparian areas within 30 feet of top of bank.[i,vii,viii]

14. This permit does not authorize impacts to cultural, historic, or archaeological features or sites.

15. This permit does not authorize access to public or private property. Arrangements concerning the use of public or private property shall be made with the landowner. The permittee is responsible for obtaining any additional permitting or maintenance agreements with other government or public agencies or lands.

16. Where practicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work. Any disturbance to the stream bed or banks must be restored to its original condition. As approved after Division review, activities may be conducted in the flowing water if working in the dry will likely cause additional degradation. Any work conducted in the flowing water must be for a short duration and with minimal impact, and conform to the Division-approved methodology.[i,ii,viii]

17. All activities must be carried out in such a manner as will prevent violations of water quality criteria as stated in TDEC Rule Chapter 0400-40-03, or impairment of the uses of waters of the state as designated by Rule Chapter 0400-40-04.[i]

18. Erosion prevention and sediment control measures must be in place and functional before any earth moving operations begin, and shall be designed according to the department's Erosion and Sediment Control Handbook (http://tnepsc.org/handbook.asp). Permanent vegetative stabilization using native species of all disturbed areas in or near the stream channel must be initiated within 14 days of project completion (see also Landscaping with Natives at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.[i,viii]

19. Temporary stream crossings shall be limited to one point in the construction area and erosion control measures shall be utilized where stream bank vegetation is disturbed. Stream beds shall not be used as linear transportation routes for mechanized equipment, rather, the stream channel may be crossed perpendicularly with equipment provided no additional fill or excavation is necessary.[i,ii,viii]

II. Supplemental Requirements unique to the Recreational Prospecting General Permit

The following additional requirements apply to all Tennessee Wildlife Resources Agency properties including, but not limited to, Wildlife Management Areas, TWRA public hunting lands, property leased by TWRA for any purpose, and/or TWRA river access and boat launch areas, and to all lands administered by the Cherokee National Forest:

1. Class 1 (non-mechanized) activities are not permitted in any stream with a wetted width of less than twenty (20) feet.[i,vi,ix]

2. Class 2 (mechanized) prospecting activities are prohibited.[i,vi,ix]

III. General Conditions unique to Recreational Prospecting GP

1. Prospecting is not permitted in streams designated as Outstanding Natural Resource Waters.[i,vi,ix]

2. Prospecting is not permitted in streams listed on the Division of Water Resources' 303(d) list for contaminated sediments.[i]

3. Prospecting is not permitted in any stream, or segment thereof, managed for brook trout.[i,vi,ix]

4. Prospecting is not permitted in stream segments listed as Exceptional Tennessee Waters because of exceptional biological diversity or stream segments with outstanding ecological, or recreational value as determined by the Department (Rule 0400-40-03-.06(4)6.-7.)[i,vi,ix]

5. All disturbances (i.e., excavation) shall be conducted at, or below, the water surface.[i,ii]

7. All reject material shall be replaced as close to its original location as possible. Holes shall be filled and no piles of material shall remain. No material from the streambed shall be placed on the stream bank.[i,ii,viii]

7. No chemical processing of materials shall be conducted in, or within two hundred (200) feet of, a stream, wetlands or in any area where chemicals or waste are likely to enter waters of the state.[i,ii]

8. All operations shall take place between the hours of sunrise and sunset.[xi]

9. When moving between different waters, equipment shall be cleaned in accordance with guidelines furnished by the Tennessee Wildlife Resources Agency to minimize the spread of undesirable flora or fauna.[i]

14. This permit does not authorize the discharge of any waste, or other substances that may be harmful to humans, terrestrial or aquatic life, into waters of the state.[i]

IV. General Conditions unique to Minor Water Withdrawal GP

1. Withdrawals shall be measured or described as an instantaneous rate; for example - cubic feet per second or gallons per minute.[xi]

2. Where the total average withdrawal exceeds 10,000 gallon per day, the withdrawal shall be registered under the *Water Resources Information Act of 2002* (T.C.A. §§ 69-7-301 et seq.). More information regarding water withdrawal registration may be found at: https://www.tn.gov/environment/program-areas/wr-water-resources/water-quality/water-withdrawal-registration-program.html.[i,xii]

3. Except for withdrawals from reservoirs, withdrawal is not authorized from a stream or river in a county or region during severe (D2), extreme (D3), or exceptional drought (D4) as indicated by the National Drought Mitigation Center website http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?TN[i,ii]

4. Minor water withdrawals are not authorized in stream segments listed as Exceptional Tennessee Waters because of exceptional biological diversity, stream segments with outstanding ecological, or recreational value, or naturally reproducing trout streams as determined by the Department (Rule 0400-40-03-.06(4))[i,vi,ix]

5. Minor water withdrawals are not authorized in streams designated as Outstanding National Resource Waters, or National Wild and Scenic Rivers.[i,vi,ix]

7. Intake structures shall be designed to minimize harm and to prevent the impoundment of normal or base flows. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall.[i,ii,viii,x]

8. Headwalls, bank stabilization materials, and any other hard armoring associated with the installation of each structure shall be limited to a total of 25 feet along the receiving stream's bank.[i,ii,viii]

9. Minor water withdrawals are not authorized in any stream on the Division of Water Resources' section 303(d) list of impaired waters due to flow regime modification.[i,xiii]

11. This permit does not authorize the discharge of pollutants into waters of the state.[i]

V. Special Conditions by General Permit

A. Bank Armoring and Vegetative Stabilization

1. Hard armoring bank stabilization treatment shall not exceed 300 linear feet for the treatment of one bank, or 200 linear feet per bank if the treatment includes both banks, with the following special conditions:

a. The use of structures or treatments such as seawalls, grouted riprap, concrete, retaining walls, bulkheads, etc. that prevent the establishment of woody rooted vegetation may only be permitted at vertical docking facilities at municipal or commercial marinas, or in areas where critical public infrastructure would prohibit other, less severe treatments from use. [i,ii,viii]

b. Activities located within Tennessee Valley Authority or the United States Army Corps of Engineers (USACE) reservoirs shall not exceed 500 linear feet of hard armoring treatments.[i,ii,viii]

2. Soil bioengineering techniques used to stabilize streambanks are limited to 1000 linear feet.

a. Hard armoring used in conjunction with these techniques is subject to the same limitations described in Special Condition # 1 above and is included in the total limitation of 1000 feet of work. [i,ii,viii]

b. Stone toe protection in connection with, and directly below, soil bioengineering treatment is allowable, but must be limited to the minimum height necessary to stabilize the immediate bed-bank interface. It may not exceed 1/4 the bank height.[i,ii,viii]

3. In-stream structures may be used in conjunction with bank treatments, subject to the same cumulative limitations on streambank hard armoring and total project lengths of disturbance along the bank. These structures may include rock vanes, weirs, jetties, wing deflectors, or similar techniques, subject to the following conditions:

a. Placement of liners, matting, or hard armor in other locations along the stream bottom is not covered.[i,ii,viii]

b. Projects must be limited to a maximum of five (5) in-stream structures.[i,ii]

c. Structures keyed into both banks that span the channel may not impede the movement of fish and aquatic life.[i,ii,vii]

d. In-stream structures keyed into one bank must not extend past 1/3 the width of the stream channel.[i,ii,viii]

e. Use of in-stream structures in any waterway which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments, are not covered by this general permit.[i]

4. Unless required to maintain the safety and structural integrity of public utility infrastructure (including utility line easements), or structures subject to State Safe Dam regulations or similar requirements, any spraying, mowing, or other

disturbance of the stabilization treatment that interferes with its ability to naturalize is prohibited. Removal of invasive species is permitted. [i,viii]

5. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after initiation of the approved work.[xi]

6. Work performed by vehicles and other related heavy equipment may not be staged within the stream channel.[i,ii,viii]

7. Work performed by hand and related hand-operated equipment is allowed within the stream channel.[i,ii,viii]

8. This permit does not authorize projects for which the primary purpose is stream relocation, compensatory mitigation, flood control or drainage improvement.[i,ii]

9. Only bank treatments utilizing bioengineering techniques with no in-channel deflection structures may be authorized in State Scenic Rivers.[i,vi,ix]

10. The placement of riprap shall not interfere with an NPDES-permitted facility's ability to comply with the Seep Action Plan component of their permit.[i,ii]

11. Materials used for bank stabilization shall consist of rock, wood, or products made specifically for use in earthen slope stabilization. This permit does not authorize the use of other salvaged materials not found in the natural environment for bank stabilization.[i,viii]

B. <u>Construction and Removal of Minor Road Crossings</u>

1. Road crossings for linear transportation projects, including transition channels, endwalls, aprons or rip rap, that either individually or cumulatively exceed 200 feet of impact, including temporary impacts, on an individual stream (entire reach of a single tributary) for the entire project are not covered.[i,ii]

2. Road crossings for non-linear projects, including transition channels, endwalls, aprons, or rip rap, that either individually or cumulatively exceed a total length of 200 feet of impact, including temporary impacts, in the same Stream Catalog Unit (Waterbody) for the entire project are not covered.[i,ii]

3. Encapsulations associated with non-road features such as vehicle maintenance or storage buildings, parking lots, culs-de-sac and turn-arounds are not covered.[i,ii]

4. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after initiation.

5. All riprap associated with the road crossings shall be placed as to mimic the existing/proposed contours of the stream channel. Riprap shall be countersunk and placed at the grade with the existing stream substrate. Voids within the riprap shall be filled with suitable bedload substrate to prevent stream flow loss within the riprap areas. Suitable substrate does not include soil. Over-excavation or grouting for placement of riprap is not covered.[i,viii]

6. Road crossings that may significantly alter the hydraulics of the stream (e.g., under-sizing or over widening the channel) are not covered.[i,ii,viii]

7. Slight changes in the channel alignment for proper flow into, or out of the installed culvert or bridge for short distances (25 feet or less) located directly upstream and downstream of culverts maybe authorized if they replicate the natural existing dimensions.[i,ii,viii]

8. The bottom of culverts shall be constructed below the stream bed elevation, in a manner that allows natural substrate to reestablish. All box culverts with more than one barrel shall be constructed in a manner which will concentrate baseflow into one barrel and not result in channel over widening.[i,ii,viii]

9. The crossing shall be culverted, bridged or otherwise designed to prevent the impoundment of normal or base flows on the upstream side, and not result in a disruption or barrier to the movement of fish or other aquatic life on the downstream side. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall.[i,ii,vii,viii,x]

10. The width of the fill, stream channel and bank modifications, or other impacts associated with the crossing shall be limited to the minimum necessary for the actual crossing.[i,ii,viii]

11. Where a crossing is removed, natural channel characteristics (dimensions, shape, substrate, etc.) shall be replicated and stabilized using clean rock, riprap, anchored trees or other non-erodible materials found in the natural environment.[i,viii]

12. Road crossings that result in more than 10 feet of permanent stream length loss are not covered.[i,ii]

13. Activities located in a component of the National Wild and Scenic River System or waters designated as Outstanding National Resource Waters are not covered, except those projects specifically designed to improve aquatic organism passage at existing road crossings.[i,vi,ix]

C. <u>Construction of Public Access Structures and Boat Ramps</u>

1. Activities that result in a total width of fill or length of permanent bank disturbance exceeding 20 feet are not covered, except when located within water resource development lands and waters, including flowage easement, managed by the Tennessee Valley Authority (TVA) or the United States Army Corps of

Engineers (USACE), where the maximum length of permanent bank alteration that can be approved may be up to 50 feet.[i,ii,viii]

2. This general permit does not authorize more than minimal shoreline alteration, including riparian buffers, in association with the placement of the access or ramp structure.[i,ii,viii]

3. The construction of boat ramps in flowing systems such as streams or rivers, or in jurisdictional wetlands, is not authorized by this general permit.[i,ii]

4. Ramps constructed on fill material shall have the side slopes stabilized with riprap or suitable natural materials.[i,viii]

5. Structures shall be constructed in the dry to the maximum extent practicable (e.g., during winter drawdown periods of lakes/reservoirs, or during low flow periods of flowing streams).[i,ii,viii]

6. Installation of structures may not impair other uses of streams and wetlands, including recreation and navigation.[i,ii,xiv]

7. Activities that may adversely affect wetland condition, or impair surface water flow into or out of any wetland areas are prohibited.[i,ii,viii,x]

D. <u>Construction of Intake and Outfall Structures</u>

1. New intake or outfall structures shall be located and oriented to avoid permanent alteration or damage to the integrity of the stream channel including the opposite stream bank. The alignment of the outfall structure (except for diffusers) should be as parallel to the stream flow as is practicable, with the discharge pointed downstream. Underwater diffusers may be placed perpendicular to stream flow for more complex mixing.[i,ii,**Error! Bookmark not defined.**]

2. Intake and outfall structures shall be designed to minimize harm and to prevent the impoundment of normal or base flows. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall.[i,ii,**Error! Bookmark not defined.**,**Error! Bookmark not defined.**,**Error! Bookmark not defined.**]

3. Velocity dissipation devices shall be placed as needed at discharge locations to provide a non-erosive velocity from the structure.[i,**Error! Bookmark not defined.**]

4. Headwalls, bank stabilization materials, and any other hard armoring associated with the installation of each structure shall be limited to a total of 25 feet along the receiving stream's bank.[i,ii,**Error! Bookmark not defined.**]

5. Up to 10 intake or outfall structures within a project area may be covered under this general permit.[i,ii]

E. Emergency Infrastructure Repair

1. The chief administrative officer of the utility, public works, public highway, or transportation department, or their authorized designee, shall notify the division by e-mail, as soon as practicable, but not later than 48 hours after discovery that an emergency has arisen, and indicate their intentions to make repairs in response to the emergency. Work shall not commence until the applicant has been notified by the division verbally or by e-mail that the proposed activities are conditionally approved and may proceed concurrently with the preparation of NOC application and issuance, under the conditions of this general permit, unless immediate repairs are necessary to protect immediate threats to public health, safety, or the environment.

2. Within 10 days of receiving conditional authorization from the Division, the applicant shall submit a CN-1091 application form. The application shall include details of the action taken, any remaining actions needed, and the nature of the emergency necessitating immediate repairs.

3. Emergency infrastructure repair work authorized under this general permit shall be limited to 300 linear feet of steam impact and up to 0.10 acres of wetland impact.[i,ii,viii]

4. Sites with known or suspected contaminated sediments must receive authorization from the division before the emergency infrastructure repair work can begin.

5. Emergency repair work shall be limited to that necessary to remove an immediate threat to public safety, and to restore pre-emergency stream channel or wetland conditions where feasible.[i,ii,viii]

6. Unless specifically necessary to abate the immediate threat to public health, safety, or the environment, channel enlargements or realignments are not authorized under this general permit.[i,ii,viii]

F. Maintenance Activities

1. The length of the pipe or culvert structure may not be increased in a manner that encapsulates any additional length of open stream or wetland.[i,ii,viii]

2. The capacity or diameter of the culvert may be increased during replacement, providing it does not result in channel widening or other channel destabilization.[i,ii,viii]

3. Except for replacement of headwalls and culverts as conditioned above, reconstruction of structures is not covered.[i,ii]

4. Increasing dam height, or other activity resulting in increased impoundment area or volume or change in downstream water quality, is not covered.[i,ii,viii,x]

5. Dewatering of impoundments to conduct dam maintenance must be performed in a controlled manner designed to prevent the release of accumulated sediments into downstream waters.[i,ii,viii]

6. All riprap associated with maintenance activities shall be placed to mimic the existing contours of the stream channel. Riprap shall be countersunk and placed at the grade with the existing stream substrate. Voids within the riprap shall be filled with suitable bedload substrate to prevent stream flow loss within the riprap areas. Suitable substrate does not include soil. Over-excavation or grouting for placement of riprap is not covered.[i,ii,viii]

7. Work performed by vehicles and other heavy equipment may not be staged within the stream channel.[i,ii,viii]

8. Work performed by hand and related hand-operated equipment is allowed within the stream channel.[i,ii,viii]

G. <u>Minor Alterations to Wetlands</u>

1. Activities that impact high resource value wetlands, including but not limited to rare wetland types, Exceptional Tennessee Waters, and wetlands located in a component of the National Wild and Scenic River System or Outstanding Natural Resource Waters are not covered.[i,vi,ix]

2. Activities where all practicable measures to avoid and minimize adverse impacts to the wetlands and other waters of the state have not been employed are not covered.[i,ii]

3. Excavation and fill activities associated with wetland alteration shall be kept to a minimum.[i,ii]

4. Wetlands outside of the permitted impact areas shall be clearly marked with signs, high visibility fencing, or similar structures so that all work performed by the contractor is solely within the permitted impact area.[i]

5. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after initiation.

6. Authorized wetland alterations shall not cause measureable degradation to resource values and classified uses of hydrologically connected wetlands or other waters of the state, including disruption of sustaining surface or groundwater

hydrology. Adjacent wetlands or streams determined likely to be measurably degraded by such hydrologic alteration, or by partial fill, must be included in the cumulative impact calculation, even if not filled or otherwise directly altered physically.[i,ii,vi,ix]

7. Temporary impacts to wetlands shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Temporary wetland crossings or haul roads shall utilize timber matting. Gravel, riprap or other rock is not approved for construction of temporary crossings or haul roads across wetlands. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations. Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.[i,ii,viii,vi,ix]

8. Erosion prevention and sediment control measures such as silt fences shall be removed following completion of construction.[i,ii,viii]

H. <u>Minor Dredging in Reservoirs, Lakes, and Ponds</u>

1. Excavation below the ordinary high water mark is limited to 500 cubic yards of material along no more than 200 linear feet of shoreline.[i,ii,viii]

2. Excavation activities associated with the dredging shall be kept to the minimum amount necessary for the project objectives.[i,ii]

3. Solids suspended in the water column during dredge activities shall be contained and not allowed to mobilize beyond the containment area.[i,ii,xv]

4. Activities located in any waterbody which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments in such a manner as to likely harm aquatic life or human health, are not covered.[i,ii]

5. Excavated materials, removed vegetation, construction debris, and other wastes shall be removed to an upland location and properly stabilized or disposed of in such a manner as to prevent reentry into the waterbody.[i,ii,viii]

6. Material may not be placed in a location or manner so as to impair surface water flow into or out of any wetland area.[i,ii,viii]

7. Clearing, grubbing, and other disturbance to riparian vegetation is prohibited. Coverage under this permit does not serve to waive any local riparian buffer

protection requirement, and permittees are responsible for obtaining any necessary local approval.[i,viii]

I. Gravel Removal

1. The excavation of gravel is limited to 50 cubic yards annually per family farm or private residence.[i,ii,viii]

2. The activity shall be conducted in the dry. Excavation equipment shall operate outside of the stream flow at all times.[i,ii,viii]

3. A berm of at least five feet in width shall be left between the work area and the stream flow, or of such greater width as necessary to separate excavation from the water in the stream. For this permit, a berm is considered to be the natural, undisturbed material that is left between the dredging area and the stream flow.[i,viii]

4. This general permit does not authorize the removal of material that is generally not considered gravel. Gravel is defined as particles that range from sand up to 2.5 inches. Material that is not gravel includes soil, cobble, boulders, etc.[i,ii,viii]

5. This general permit does not authorize the removal of gravel from areas of in-channel bars that have colonizing vegetation greater than 2-inches in diameter.[i,ii,viii]

6. The excavation of gravel shall not extend below the water level of the stream at the time of dredging.[i,ii,viii]

7. Access to the work area shall be made at one point only from the bank adjacent to the dry gravel bar, limiting the disruption of riparian vegetation to an area of less than 20 feet wide. Stream beds shall not be used as linear transportation routes for construction equipment.[i,viii]

8. Dredged material shall not be stored or stockpiled below the top bank of the stream channel. Dredged material shall be removed to an upland location.[i,viii]

9. The removal of gravel and bed load from the stream for the purpose of flood control or channelization is not covered.[i,viii]

10. The excavation of gravel for commercial purposes is not covered. The permittee may only use harvested gravel on their private farm or residence.[ii]

J. Sediment Removal and Stream Remediation

1. Activities where the removal of sediment is for the purpose of flood control or channelization are not covered.[i,ii,viii]

2. Activities located in any waterbody which is suspected of or identified by the department as having contaminated sediments, and the activity will likely

mobilize the contaminated sediments in such a manner as to likely harm aquatic life or human health are not covered.[i,ii]

3. Equipment and methods that will cause the least amount of damage to the environment, including the removal or unnecessary disturbance of the natural substrate shall be selected for performing stream remediation. Hand tools and equipment such as buckets and shovels shall be used when practicable.[i,ii,viii]

K. <u>Surveys and Geotechnical Exploration</u>

1. Drilling and excavation of test wells for oil and gas exploration are not covered.[i,ii]

2. Long-term, or permanent alterations that result in greater than *de minimis* degradation of state waters are not authorized.[i,ii]

3. Temporary stream and wetland impacts, including access activities, shall conform to Tennessee Division of Forestry Best Management Practices and may not cumulatively exceed 0.10 acres of wetland or 200 linear feet of stream in magnitude of disturbance.[i,ii,viii]

4. Temporary stream and wetland impacts shall be restored to pre-impact conditions. Planting and re-grading must be done within 14 business days of project completion.[i,ii,vi,viii ix]

5. Written notification of the intent to commence activities under this permit shall be provided to the local TDEC Environmental Field Office via email at least seven days prior, and shall include a description of the location, nature, scale, and duration of the proposed activities.

L. <u>Utility Line Crossings</u>

1. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after the authorized work has commenced.

2. Provisions shall be made to prevent the loss of stream flow due to fracturing of bedrock.

a. Sewer line crossing streams with bedrock streambeds must provide non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill), and trench plugs at each end of the crossing.[i,viii,x]

b. No blasting will be permitted in the excavation of trenches that parallel or lie within 50 feet of a stream or wetland, including all stream crossings.[i,viii,x]

3. In the case of proposed utility lines that follow the stream gradient or otherwise parallel the stream channel, the number of crossings shall be minimized to the maximum extent practicable.[i,ii]

4. Trench plugs will be placed throughout any trench running parallel within 50 feet of a stream channel.

a. Trench plugs are barriers placed within an open pipeline excavation in order to slow flow and reduce erosion in the trench and also to prevent the trench from becoming a subsurface drainage path. Since the bedding and embedment are constructed using cohesionless, free-draining soils, a path is created for water to flow easily (French drain effect) alongside the pipe. In areas where there is high groundwater, where the pipeline crosses streams or aquifers, or where the natural groundwater flow would be affected or even diverted by the select material, trench plugs of compacted, cohesive, soils or impervious materials should be constructed at intervals along the pipeline.[i,viii,x]

b. The trench plug area will have a bedding of compacted, cohesive soils or impervious materials (such as concrete or controlled low strength materials a.k.a. flowable fill), whereas the bedding on both sides of the trench plug will have a bedding of uncompacted, cohesionless soil. Trench plugs must have lower permeability than the surrounding native soil.[i,viii,x]

c. Location and spacing of trench plugs:

i) Minimum of one trench plug between manholes, and one trench plug at each end of the stream crossing or wetland.[i,viii,x]

ii) The trench plugs between manholes shall be located near the upstream manhole.[i,viii,x]

5. Crossings that utilize horizontal directional drilling are authorized, provided that:

a. Entry and exit locations are at least 50 feet from the stream bank or wetland margin.[i,viii]

b. The depth of bore below the streambed is sufficient to reasonably prevent release of drilling fluid, based on the parent material.[i]

c. A site-specific contingency and containment plan for inadvertent release of drilling fluid must be received and approved by the Division prior to commencement of work. This plan must include notification to the division within 24 hours after release to surface waters. The site specific contingency and containment plan becomes a part of the application upon

which coverage is issued and must be followed in the case of an inadvertent release.[i,iv,xi]

d. Alignments with stream or wetland crossings in three or more counties are not authorized by this general permit.[ii]

6. A maximum of 5 crossings may be authorized for open trenching techniques and auger boring (jack and bore).[i,ii]

a. Sewer line crossing of streams must provide non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill), and trench plugs at each end of the crossing.[i,viii,x]

b. Manholes shall not be located in wetlands, and must be a minimum of 50 feet from the stream bank.[i,viii]

c. The entry pit for auger boring shall be no closer than 20 feet from the stream bank or wetland margin.[i,viii]

7. For gravity sewer line installations, as-builts or record drawings of the line installation will be submitted to the division 45 days after completion of the project.[xi]

8. The alignment of new utility line crossings shall intersect the stream channel as close to 90 degrees or as perpendicular as possible. Alignment shall be no less than 45 degrees angle from the centerline of the stream.[i,ii,viii]

9. New utility line crossings shall be located such as to avoid permanent alteration or damage to the integrity of the stream channel or wetland. Large trees, steep banks, rock outcroppings etc., should be avoided.[i,ii,viii]

10. The crossing shall be designed to prevent the impoundment or loss of normal or base flows. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall. In the case of streams with bedrock streambeds, special provisions shall be made to prevent the loss of stream flow due to fracturing of the bedrock.[i,viii,x]

11. The excavation and fill activities associated with the utility line crossing of non-navigable streams shall be kept to a minimum and shall be separated from flowing waters. The crossing shall be constructed in the dry to the maximum extent practicable, by diverting flow utilizing cofferdams, berms, temporary channels or pipes. Temporary diversion channels shall be protected by non-erodible material and lined to the expected high water level. For navigable streams as defined by §10 of the *Rivers and Harbors Act of 1899,* the excavation

and fill activities associated with utility line crossing may be accomplished within the flowing water.[i,ii,viii]

12. New construction using open cut crossings of wetlands is not authorized. Maintenance, repair and rehabilitation of existing utility lines in wetlands is authorized provided that all of the following special provisions are met:

a. the total amount of excavation or fill within wetlands, including temporary equipment access roads does not exceed 50 cubic yards;[i,ii,viii]

b. the wetlands alteration is located within the right of way of the existing utility line; and[ii]

c. temporary impacts to wetlands shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Temporary wetland crossings or access roads shall utilize timber matting. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations. Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at tneppc.org). Non-native, non-invasive annuals may be used as cover crops until native species can be established.[i,ii,vi,viii,ix]

13. All spoil material from trench excavation, bore pits and other earth disturbing activities shall be deposited in an upland location and stabilized within 7 days in order to prevent erosion into waters of the state.[i,ii,viii]

14. All dewatering activities shall be conducted in such a manner as to prevent the discharge of sediment-laden water into waters of the state.[i,ii,viii]

15. Stream bank armoring at open cut crossings shall be minimized to the backfilled, disturbed area and shall in no case exceed 40 linear feet of stream bank. Riprap or concrete shall not line the bed of the channel. Non-erodible fill and cover, such as concrete or controlled low strength materials (flowable fill) required for pipe protection must be the minimum necessary to protect the pipeline, and should be overlain with natural bed material to the maximum extent practicable.[i,ii,viii]

M. <u>Minor Stream Grade Stabilization</u>

1. The length of stream grade stabilization treatment is limited to 500 linear feet. This footage includes the total length of channel, bed, or hydrologic alteration,

including downstream scour protection, grade reestablishment, bank sloping and re-vegetation, and upstream flow alteration.[i,ii,viii,x]

2. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after initiation.

3. In-stream structures must be keyed into both banks to prevent scouring around the structure. Placement of liners, matting, riprap or other hard armor for scour protection is limited to locations adjacent to and/or immediately downstream of the structure, not to exceed a total of 200 linear feet. Hard armor, riprap, matting or liners in other locations along the channel are prohibited.[i,ii,viii]

4. Where practicable, all activities shall be accomplished in the dry. All surface water flowing towards this work shall be diverted using cofferdams and/or berms constructed of sandbags, clean rock (containing no fines or soils), steel sheeting, or other non-erodible, non-toxic material. All such diversion materials shall be removed upon completion of the work.[i,ii,viii]

5. This activity must be designed to minimize any permanent disruption to the movement of fish or other aquatic life to the maximum extent practicable.[i,vii]

6. This permit does not authorize projects for which the primary purpose is stream relocation, compensatory mitigation, flood control or drainage improvement.[i,ii]

7. Activities located in State Scenic Rivers, National Wild and Scenic Rivers, or Outstanding National Resource Waters are not authorized.[i,vi,ix]

N. <u>Stream and Wetland Enhancement</u>

1. This permit does not authorize projects for which the primary purpose is stream relocation, compensatory mitigation, flood control, or drainage improvement.[i,ii]

2. Activities that will not result in a net gain in aquatic resource function and ecological services are not authorized.[vi,ix]

3. Total length of stream channel disturbance is limited to 1000 linear feet.[i,ii,viii]

4. Written notification of the commencement of authorized work shall be provided to the local TDEC Environmental Field Office prior to, or within 24 hours after initiation.

5. Affected wetland(s) are limited to those in which the maximum extent of potential hydrologic alteration is within single ownership or all affected landowners have submitted written permission allowing the activity to affect their property.[ii,xi]

6. Affected wetland(s) greater than 2 acres, including temporary impacts, must be documented to have low resource value. Prior to permit issuance, the applicant will submit baseline documentation of the resource, including Army Corps of Engineers wetland delineation form(s), a Tennessee Rapid Assessment Methodology (TRAM) evaluation, and an overall plant species list.[i,ii,vi,ix]

7. Placement of liners, matting, rip rap or other hard armor along the streambed or bank is prohibited.[i,ii,viii]

8. Moving the channel laterally or vertically is not allowed under this permit.[i,ii,viii]

9. Bank reshaping, including the creation of a new floodplain or flood-prone bench(es) may be authorized. Adjustment to the stream bed is not authorized. The stream bed must remain at the present elevation. The adjusted flood prone elevation shall be established at bankfull elevation as determined by an appropriate reference reach in the local watershed or through use of an appropriate ecoregion based regional curve. The cross-sectional area below bankfull cannot be adjusted. The flood prone elevation may not be increased.[i,ii,viii]

10. Vehicles and other related heavy equipment may work from the stream bank but not within the stream channel.[i,ii,viii]

11. Work performed by hand and related hand-operated equipment is allowed within the stream channel.[i,ii,viii]

12. Activities that impact high resource value wetlands, including, but not limited to rare wetland types, Exceptional Tennessee Waters, and wetlands located in a component of the National Wild and Scenic River System or Outstanding Natural Resource Waters are not covered.[i,vi,ix]

13. Activities located in any waterway identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments are not covered.[i]

14. Wetlands outside of the permitted impact area(s) shall be marked with signs or similar structure so that all work performed by the contractor is solely within the permitted impact area(s).[i,ii]

15. The authorized wetland and/or stream alterations shall not cause measureable degradation to resource values and classified uses of hydrologically connected waters of the state, including disruption of sustaining surface or groundwater hydrology. This includes temporary and haul roads constructed for the permitted activity.[i,ii,vi,ix]

16. All excess material will be removed and properly disposed of upon completion of work.[i,ii]

17. Temporary impacts to wetlands shall be mitigated by the removal and stockpiling of the first 12 inches of topsoil, prior to construction. Upon completion of construction activities, all temporary wetland impact areas are to be restored to pre-construction contours, and the stockpiled topsoil spread to restore these areas to pre-construction elevation. Other side-cast material shall not be placed within the temporary impact locations. Permanent vegetative stabilization using native species of all disturbed areas in or near the wetland must be initiated within 14 days of project completion (see also *Landscaping with Natives* at tneppc.org). Non-invasive annuals may be used as cover crops until native species can be established.[i,ii,vi,viii,ix]

O. Recreational Prospecting

Class 1 Special Conditions

1. This class covers non-mechanized forms of prospecting including, but not limited to pans, handpowered sucker tubes, portable hand sluices and rocker boxes. In addition to the General Requirements, the following requirements apply to this class of prospecting activities:

2. Class 1 prospecting is not permitted in any stream segment with a wetted width of less than thirty (30) feet, that is designated by the state or federal government as containing threatened or endangered aquatic species, or aquatic species deemed in need of management. Class 1 prospecting is not permitted in any stream segment designated by the U.S. Fish and Wildlife Service as being critical habitat.[i,vi,viii,ix]

3. Class 1 prospecting shall not occur in any stream reach with a wetted width of less than five (5) feet at the spot of the activity.[i,ii]

4. Disturbance or destabilization of stream banks is prohibited. All digging activities shall be conducted at least one (1) foot from the water's edge on the day of the activity. In areas where the stream bank is solid bedrock, deposited material closer than 1 foot to the water's edge may be removed by the use of sucker tubes or other crevicing tools provided that special condition (11) is not violated.[i,ii,viii]

5. Hand operated tools no larger than a #2 shovel may be used to excavate material.[i,ii,viii]

6. All reject material shall remain in the stream, replaced to mimic original conditions. Concentrates may be removed for later, off-site, processing.[i,ii,viii]

7. Panning activities shall maintain a distance of seventy-five (75) feet between dig sites as measured along the stream channel. More than one pan may be in use at a given dig site.[i,ii]

8. Sluices shall maintain a distance of two hundred (200) feet between installations as measured along the stream channel. Up to three sluices may be in use at a single installation site.[i,ii]

9. An exception to the spacing requirement may be granted for annual, special events such as public demonstrations or festivals. A written request describing the activity, the desired spacing and specifying the date(s) on which the event will occur shall be submitted to the Division of Water Resources no less than thirty (30) days prior to the event. Written approval of the exception (issued by the Division) is required to be on site during the event.

10. Sluice dams shall be constructed so that upstream/downstream boat, or other recreational access, is not obstructed.[i,xiv]

11. All sluice dams shall be broken down daily and the disturbed stream substrate returned as close to its original location as possible.[i,ii,viii]

12. No objectionable color contrast, or plume, shall be visible in the stream greater than one hundred (100) feet downstream of the prospecting activities. No visible solids shall be deposited on the streambed downstream of the prospecting activities.[i,ii,xv]

13. The use of pry bars, chisels, wedges, shovels, etc. to break layers of bedrock is not permitted. Loose rock may be moved and returned to its original position but competent bedrock shall not be disturbed.[i,ii,viii]

Class 2 Special Conditions

1. This class covers mechanized forms of prospecting including, but not limited to dredges, highbankers, powered sluices and trommels. In addition to the General Requirements, the following requirements apply to this class of prospecting activities:

2. Class 2 prospecting is not permitted in any stream segment designated by the state or federal government as containing threatened or endangered aquatic species, aquatic species deemed in need of management, or designated as being critical habitat.[i,vi,viii,ix]

3. Class 2 prospecting is not permitted in any stream on the Division of Water Resources' 303(d) impaired waters list for channel, physical substrate, or habitat alteration.[i,viii,xiii]

4. All operations must take place in-stream. Operating on stream banks or in the floodplain is not allowed.[i,ii]

5. Operations shall not be conducted within two (2) feet of the water's edge on the day of the activity. In areas where the stream bank is solid bedrock, deposited material closer than two (2) feet to the water's edge may be removed by mechanized methods provided that special condition (15) is not violated.[i,ii,viii]

6. Minimum streams sizes relative to equipment types are as follows[i,ii,viii]:

Equipment Type	Stream Size
Power Sluices, Highbankers and Mechanized Trommels:	Minimum wetted width of 15 feet at the spot of the activity
Dredges - 2 inches or less*	Minimum wetted width of 10 feet at the spot of the activity
Dredges - up to 3 inches*	Minimum wetted width of 25 feet at the spot of the activity
Dredges over 3 inches:*	Must apply for an individual Aquatic Resources Alteration Permit to operate.

* Dredge sizing refers to the nozzle diameter.

7. All dredges greater than 2 inches must employ a classifier over the nozzle intake.[i,ii]

8. The permit number shall be prominently displayed on any in-stream equipment, using two (2) inch or larger characters and numbers.[iii,xi]

9. Pump engines shall not exceed eight (8) horsepower.[i,ii]

10. All engines shall be equipped with a muffler and spark arrestor.[i,ii]

11. All operations shall maintain a distance of two hundred (200) feet between sites as measured along the stream channel. Only one mechanized form of prospecting may be in use at a given site. An exception to the spacing requirement

may be granted for annual, special events such as public demonstrations or festivals. A written request describing the activity, the desired spacing and specifying the date(s) on which the event will occur shall be submitted to the Division of Water Resources no less than thirty (30) days prior to the event. Written approval of the exception (issued by the division) is required to be on site during the event.

12. All fueling or servicing operations shall be performed at least twenty-five (25) feet away from the stream or wetlands. Propane powered equipment is excluded from the fueling requirement.[i,ii]

13. Blaster nozzles may only be used underwater.[i,ii,viii]

14. Operations shall not be conducted within fifty (50) feet of any bridge supports, other road crossings, weirs, docks, ramps or other public and private structures.[i]

15. No objectionable color contrast, or plume, shall be visible in the stream greater than two hundred (200) feet downstream of the equipment discharge. No visible solids shall be deposited on the streambed downstream of the dredging operation.[i,ii,xv]

16. Operations shall be conducted so that upstream/downstream boat, or other recreational access, is not obstructed.[i]

17. The use of pry bars, chisels, wedges, shovels, etc. to break layers of bedrock is not permitted. Loose rock may be moved and returned to its original position, but competent bedrock shall not be disturbed.[i,ii,viii]

P. <u>Structural Discharges</u>

1. Only the minimum excavation of bottom sediments and/or discharge of fill necessary for installation of the structures covered can be authorized by this general permit.[i,ii]

2. Any proposed controlled blasting must be done in accordance with all current BMPs, and a blasting plan must be submitted and approved prior to permit coverage.[i,iv,v,viii]

3. In smaller order streams, where practicable, all work shall occur from the streambanks with no heavy equipment in-channel.[i,ii,viii]

4. Underwater blasting is not authorized in waters less than six feet in depth.[i,ii,viii]

5. If controlled underwater blasting is proposed, the applicant must coordinate and receive authorization from the TWRA prior to receiving coverage under this permit. Notification of underwater blasting shall be made to the local TDEC Environmental Field Office and the TWRA at least 3 days prior to initiation.

6. Temporary haul roads or work pads may be authorized, provided they are the minimum size necessary, and may not exceed one-third the distance across the bottom of the stream or reservoir, unless they will be in place 14 days or less. All haul roads or work pads must be removed immediately at project completion.[i,ii,viii]

7. The volume of fill and excavation associated with support structures shall be limited to the minimum necessary based on geotechnical and engineering considerations.[i,ii]

8. Activities which disrupt navigation may not be authorized under this permit. The permittee shall design support structures that minimize the risk of debris accumulation that disrupts navigation, including the navigation of personal watercraft.[i,ii,xiv]

9. Activities that result in stream encapsulation or permanent bank armoring outside of the permitted structure are not covered under this permit.[i,ii,viii]

10. Alterations of up to 0.10 acres of wetlands of low or moderate resource value may be authorized. [i,ii,vi,ix]

11. Solids suspended in the water column during dredge or fill activities shall be contained and not allowed to mobilize beyond the containment area.[i,ii,xv]

12. Activities located in any waterbody which is identified by the department as having contaminated sediments, and the activity will likely mobilize the contaminated sediments in such a manner as to harm aquatic life or human health, are not covered.[i]

13. Where a pile support structure, haul road, or work pad is removed, natural bottom characteristics (dimensions, shape, substrate, etc.) shall be replicated and stabilized to the maximum extent practicable, using clean rock, riprap, anchored trees or other non-erodible materials found in the natural environment.[i,ii,viii]

14. Excavated materials, removed vegetation, construction debris, and other wastes shall be moved to an upland location and properly stabilized or disposed of in such a manner as to prevent reentry into the waterway.[i,ii,viii]

15. Material may not be placed in a location or manner so as to impair surface water flow into or out of any wetland area.[i,ii,viii]

16. Discharges that may significantly alter the hydraulics of the stream (e.g., under-sizing or over widening the channel) are not covered.[i,ii,viii]

17. Structural discharges shall be designed to prevent the impoundment of normal or base flows on the upstream side, and not result in a disruption or barrier to the movement of fish or other aquatic life. Base flow is the usual or normal flow of the stream that is supplied primarily by groundwater from springs and seeps, but not affected by rapid runoff during and after rainfall.[i,ii,vii,viii,x]

Q. Minor Water Withdrawals

Class 1 Special Conditions

1. For the purposes of Class 1a withdrawals, temporary, short term is defined as a total of 30 days or less in a calendar year.[i,ii,xi]

2. Withdrawals at a rate that exceeds 10% of the instantaneous flow from a stream or river are not authorized.[i,ii,viii,x]

3. For temporary Class 1 withdrawals from streams and rivers (Category 1(a) above), the permittee must be able to demonstrate that instantaneous flow of the source water is accurately measured or determined for the purpose of compliance with the terms and limits of this general permit.

a. For un-gaged, wadeable streams, the instantaneous flow may be measured using the float method (also known as the cross-sectional method) https://archive.epa.gov/water/archive/web/html/vms51.html or other recognized scientific methodologies that can be reviewed by the Division.[xi]

b. The instantaneous flow of certain gaged streams may be determined using the United States Geological Survey (USGS) web-based Current Conditions for Tennessee: Streamflow at https://waterdata.usgs.gov/tn/nwis/current/?type=flow.[x]

4. Class 1 minor withdrawal does not require the submission of a written request nor does it require written authorization from the Division of Water Resources prior to commencement of work. Although written authorization is not required, the activities under this class shall be performed in accordance with all limitations, terms, conditions, and requirements of this general permit.[i,v]

Class 2 Special Conditions

1. Withdrawal on a long-term basis (i.e., more than 30 days in a calendar year) at a rate that exceeds 5% of the 7Q10 from a stream or river or where the total authorized and proposed withdrawals in the stream segment exceed 10% of the 7Q10 flow are not authorized.[i,ii,viii,x]

2. The 7Q10 flow shall be determined using the United States Geological Survey (USGS) published gage data where a nearby gage is available, or in the case that a gage is not

nearby, the 7Q10 flow of un-regulated streams shall be determined using the USGS web-based Geographic Information Systems (GIS) application for streamflow statistics: http://water.usgs.gov/osw/streamstats/tennessee.html.[xi]

3. Where a permanent intake structure is proposed, plans for the intake shall be submitted with the Notice of Intent for the Division's review and approval. The capacity of the intake structure shall not exceed the permitted withdrawal rate.[i,ii,iii,iv,v]

4. Class 2 activities must obtain coverage by submitting a signed and completed ARAP application (form CN-1091), along with any other required information, to the division. Work shall not commence until a written Notice of Coverage (NOC) from the division is received. As noted above, not all activities may be eligible for coverage under this general permit and coverage may be denied when appropriate.[i,iii,iv,v]

R. NRCS-Designed Streambank Stabilization as a Federal Action

All designs must be developed with full application of the NRCS Streambank Standards and be subject to NRCS oversight as a federal action. This includes, but is not limited to, the following required design considerations excerpted from the NRCS Conservation Practice Standard 580 (Tennessee):

1. When designing protective measures, consideration should be given to the changes that may occur in the watershed hydrology and sedimentation over the design life of the measure. Measures shall be designed to avoid an increase in natural erosion downstream.[i,ii,viii]

2. Consider utilizing debris removed from the channel or streambank into the treatment design when it is compatible with the intended purpose to improve habitats for fish, wildlife, and aquatic systems. Habitat forming elements that provide cover, food, pools, and water turbulence shall be retained or replaced in the channel to the extent possible.[i,ii,viii]

3. Rock riprap revetments and other structural measures can often be terminated at the 2-year return period elevation while using bioengineering, erosion control blankets, turf reinforcement mats, native grasses, tree and shrub plantings, etc. on the rest of the slope.[i,ii,viii]

4. Consider using conservation practice designs that extend rock riprap revetments and other structural measures beyond the 2-year return period elevation if soil conditions are encountered where:[i,ii]

a. It is very difficult to establish vegetation;
b. The site has overland flow problems;
c. The site is located below a hydroelectric flood control dam;
d. The frequent discharges make it very difficult to establish vegetation; or,
e. Watershed changes have caused extreme watershed discharges (urbanization, clear cutting, etc.).

5. Consider using conservation practice designs that extend rock riprap revetments and other structural measures beyond the 2-year return period elevation if the project site has a small bank height, and it will be difficult or unpractical to construct the measures at or below the 2-year return period elevation.[i,ii]

6. Vegetative components shall be established along the stream corridor as necessary for ecosystem functioning and stability. Vegetation components should be designed to prevent excessive long-term channel migration.[i,viii]

7. Utilize vegetative species that are native and/or compatible with local ecosystems. Consider species that have multiple values such as those suited for biomass, nuts, fruit, browse, nesting, aesthetics, and tolerance to locally used herbicides.[i,vii,viii]

8. Consider the use of shrub species from the water line to the constructed top of slope. Consider the use of larger trees from the top of bank out into the floodplain area.[i,viii]

9. Livestock exclusion should be considered during establishment of vegetation and appropriate grazing practices applied after establishment to maintain plant community integrity.[i,viii]

10. Consider maintaining or improving the habitat value for fish and wildlife by including measures that provide aquatic habitat in the measure design and that may lower or moderate water temperature and improve water quality.[i,viii]

11. Consider aquatic habitat when selecting the type of bank stabilization.[i,viii]

12. Consider using toe rock that is large enough to provide a stable base and graded to provide aquatic habitat. The stone required for aquatic habitat may be larger than would normally be required of a stabilization measure.[i,viii]

13. All aquatic alterations implemented through this general permit shall comply with the NRCS 580 Operation and Maintenance Plan.[i,ii,v]

S. <u>Individual ARAP Mitigation Requirements:</u>

1. Tenn. Code Ann. 69-3-108(g)(2): Under no circumstances shall the commissioner issue a permit for an activity that would cause a condition of pollution either by itself or in combination with others.
2. Tenn. Comp. R. & Regs 0400-40-03-.04(4)(b): Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively are offset by impact minimization and/or in-system mitigation, provided however, in ONRWs the mitigation must occur within the ONRW.
3. Tenn. Comp. R. & Regs 0400-40-03-.04(6)(d) All permits which require mitigation of impacts shall contain conditions requiring that the mitigation is performed properly, performed in a timely manner, and is adequately maintained.
4. Tenn. Comp. R. & Regs 0400-40-03-.04(6)(c) No activity may be authorized by the Commissioner unless any appreciable permanent loss of resource values associated with the proposed impact is offset by mitigation sufficient to result in no overall net loss of resource values from existing conditions.

T. <u>Individual ARAPs: Monitoring and Other Special Conditions:</u>

1. Tenn. Code Ann. 69-3-108(g)(4) In addition, the permits shall include:

   (A) The most stringent effluent limitations and schedules of compliance, either promulgated by the board, required to implement any applicable water quality standards, necessary to comply with an area-wide waste treatment plan, or necessary to comply with other state or federal laws or regulations;
   (B) A definite term, not to exceed five (5) years, for which the permit is valid. This term is subject to provisions for modification, revocation, or suspension of the permit;
   (C) Monitoring, recording, reporting, and inspection requirements.

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[i] This condition is necessary to ensure that the permit will not result in a condition of pollution, per Tenn. Code Ann. 69-3-108(g)(2): *Under no circumstances shall the commissioner issue a permit for an activity that would cause a condition of pollution either by itself or in combination with others.*

[ii] This condition is necessary to ensure that impacts authorized under this permit will result in no more than de minimis degradation through impact minimization and/or in-system mitigation, per Tenn. Comp. R. & Regs 0400-40-03-.04(4)(b): *Habitat alterations authorized by an Aquatic Resource Alteration Permit (ARAP) are de minimis if the Division finds that the impacts, individually and cumulatively are offset by impact minimization and/or in-system mitigation, provided however, in ONRWs the mitigation must occur within the ONRW.*

[iii] This condition is necessary to ensure that alterations to the physical, chemical, radiological, biological, or bacteriological properties of waters of the state are lawful only if they are carried out in accordance with the conditions of a valid permit, per Code Ann. 69-3-108(b)(1): *It is unlawful for any person, other than a person who discharges into a publicly owned treatment works or a person who is a domestic discharger into a privately owned treatment works, to carry out any of the following activities, except in accordance with the conditions of a valid permit: The alteration of the physical, chemical, radiological, biological, or bacteriological properties of any waters of the state*

[iv] This condition is necessary to ensure that certain aquatic resource alterations are lawful only with the authorization of the Commissioner through a General or Individual Aquatic Resource Alteration Permit (ARAP), and that ARAP applications must be submitted on forms approved by the Commissioner, and include all of the information requested therein, per Tenn. Comp. R. & Regs 0400-40-07-.04(1): *Application for a Permit. Any person who plans to engage in any of the activities outlined in T.C.A. § 69-3-108 must obtain a permit from the Commissioner to lawfully engage in such activity. When a § 401 certification is required, the ARAP also serves as the § 401 certification. There are two (2) types of ARAPs: Individual Permits and General Permits. There are several types of General Permits: (1) a General Permit that authorizes the implementation of the activity*

in accordance with all the terms and conditions of the General Permit without prior notice and approval from the Commissioner; (2) a General Permit that requires the applicant to notify TDEC of the planned activity prior to implementing the activity in accordance with the terms and conditions of the General Permit; and (3) a General Permit that requires the applicant to notify the Commissioner of the planned activity and receive a notice of coverage from the Commissioner prior to implementing the activity in accordance with the terms and conditions of the General Permit. ARAP applications shall be submitted on forms approved by the Commissioner, and include all of the information requested therein. Certain of the General Permits authorize an activity that is authorized by a Nationwide Permit of the U.S. Corps of Engineers and therefore serve as a § 401 Certification. Persons need not file an application with the Commissioner if they are conducting an activity pursuant to a General Permit that does not require notice or approval, but must implement the planned activity in accordance with the terms and conditions of the General Permit. Persons who desire to implement an activity pursuant to a General Permit which requires notice, or notice and prior approval, must submit the necessary documentation required by the General Permit prior to implementing the planned activity in accordance with the terms and conditions of the General Permit. A person must file an application for an Individual Permit or for a § 401 Water Quality Certification with the Division, in accordance with paragraphs (3) and (5) of this rule, to implement any activity requiring an ARAP that is not authorized by a General Permit.

[v] This condition ensures that the permit must comply with any special terms or conditions needed to fulfill the purpose or enforce provisions of the Tennessee Water Quality Control Act, per Tenn. Comp. R. & Regs 0400-40-07-.04(6)(a): *Some activities may not be entitled to a permit. When a permit is granted, it shall require compliance with all provisions of the Act, the rules adopted pursuant to the Act, and any special terms or conditions the Commissioner determines are necessary to fulfill the purposes or enforce the provisions of the Act.*

[vi] This condition is necessary to ensure that the permit will not result in an appreciable permanent loss of resource values, per Tenn. Comp. R. & Regs 0400-40-07-.04(2): *General Permits for habitat alterations may be issued only for activities that do not result in an appreciable permanent loss of resource values.* Per Tenn. Comp. R. & Regs 0400-40-07-.03(3): *"Appreciable permanent loss of resource values" means a reduction in resource values that is expected to continue without fundamental change and is large enough to be observed and measured as resulting in more than minimal adverse effects*. Per Tenn. Comp. R. & Regs 0400-40-07-.03(25) and 0400-40-03-.04(27): *"Resource values" are the physical, chemical, and biological properties of the water resource that help maintain classified uses. These properties may include, but are not limited to, the ability of the water resource to:*

- *(a) Filter, settle and/or eliminate pollutants;*
- *(b) Prevent the entry of pollutants into downstream waters;*
- *(c) Assist in flood prevention;*
- *(d) Provide habitat for fish, aquatic life, and wildlife;*
- *(e) Provide drinking water for wildlife and livestock;*
- *(f) Provide and support recreational and navigational uses; and*
- *(g) Provide both safe quality and adequate quantity of water for domestic water supply and other applicable classified uses.*

[vii] This condition is necessary to ensure that the permit will not result in violation of the state's Water Quality Criteria for Fish and Aquatic Life for Biological Integrity, per Tenn. Comp. R. & Regs 0400-40-03-.03(3)(m): *Biological Integrity - The waters shall not be modified through the addition of pollutants or through physical alteration to the extent that the diversity and/or productivity of aquatic biota within the receiving waters are substantially decreased or, in the case of wadeable streams, substantially different from conditions in reference streams in the same ecoregion.*

[viii] This condition is necessary to ensure that the permit will not result in violation of the state's Water Quality Criteria for Fish and Aquatic Life for Habitat, per Tenn. Comp. R. & Regs 0400-40-03-.03(3)(n): *Habitat - The quality of stream habitat shall provide for the development of a diverse aquatic community that meets regionally-based biological integrity goals. Examples of parameters associated with this criterion include but are not limited to: sediment deposition, embeddedness of riffles, velocity/depth regime, bank stability, and vegetative protection. Types of activities or conditions which can cause habitat loss include, but are not limited to: channel and substrate alterations, rock and gravel removal, stream flow changes, accumulation of silt, precipitation of metals, and removal of riparian vegetation. For wadeable streams, the in stream habitat within each subecoregion shall be generally similar to that found at reference streams.*

[ix] This condition is necessary to ensure that the permit will not result in an appreciable permanent loss of resource value, per Tenn. Comp. R. & Regs 0400-40-07-.04(6)(c): *No activity may be authorized by the Commissioner unless any appreciable permanent loss of resource values associated with the proposed impact is offset by mitigation sufficient to result in no overall net loss of resource values from existing conditions. In a situation in which an applicant proposes mitigation that would not result in no overall net loss, the Commissioner shall not issue the permit unless the applicant redesigns the project to avoid impacts, minimize them, or provide mitigation as provided in paragraph (7) of this rule so that the redesigned project would result in no net loss of resource value. In making a decision on a permit application, the Commissioner shall determine the loss of resource values from existing conditions associated with a proposed impact and the increase in resource values of any proposed mitigation and shall consider the following factors: 1. Direct loss of stream length, flow, or wetland area due to the proposed activity; 2. Direct loss of in-stream or wetland habitat due to the proposed activity; 3. Impairment of stream channel stability due to the proposed activity; 4. Diminishment in species composition in any stream or wetland due to the proposed activity; 5. Direct loss of stream canopy due to the proposed activity; 6. Whether the proposed activity is reasonably likely to have cumulative or secondary impacts to the water resource; 7. Conversion of unique or high quality waters as established in Rule 0400-40-03- .06 to more common systems; 8. Hydrologic modifications resulting from the proposed activity; 9. The adequacy and viability of any proposed mitigation including, but not limited to, quantity, quality, likelihood of long term protection, and the inclusion of riparian buffers; 10. Quality of stream or wetland proposed to be impacted; 11. Whether the stream or wetland is listed on the § 303(d) list or otherwise has unavailable parameters; whether the proposed activity is located in a component of the National Wild and Scenic River*

System, a State Scenic River, waters designated as Outstanding National Resource Waters, or waters identified as high quality waters as defined in Rule 0400-40-03-.06, known as Tier II waters; whether the activity is located in a waterway which has been identified by the Division as having contaminated sediments; and whether the activity will adversely affect species formally listed in State and federal lists of threatened or endangered species; and 12. Any other factors relevant under the Act.

[x] This condition is necessary to ensure that the permit will not result in violation of the state's Water Quality Criteria for Fish and Aquatic Life for Flows, per Tenn. Comp. R. & Regs 0400-40-03-.03(3)(o): *Flow - Stream or other waterbody flows shall support the fish and aquatic life criteria.*

[xi] This condition is necessary to ensure that the permitted activities are monitored, recorded, reported, and inspected per Tenn. Code Ann. 69-3-108(g)(4)(C): *In addition, the permits shall include: Monitoring, recording, reporting, and inspection requirements*

[xii] This condition is necessary to ensure that the permitted water withdrawals above a certain threshold are registered in order for the state to prevent impacts to water uses, per Tenn. Code Ann. 69-7-302: *The general assembly recognizes that in other states the withdrawal of ground water has caused the lowering of the ground water table and that there is potential for ground water or surface water withdrawals to impact water uses in Tennessee. Therefore, it is necessary and prudent to institute a system of registration so that adequate information is obtained to document current demand for water and to project growth in that demand as applicable to this part.*

[xiii] This condition is necessary to ensure that permits do not result in significant degradation in waters with unavailable parameters for habitat, per Tenn. Comp. R. & Regs 0400-40-03-.06(2)(c): *Where one or more of the parameters comprising the habitat criterion are unavailable, habitat alterations that cause significant degradation shall not be authorized.*

[xiv] This condition is necessary to ensure that the permit will not result in violation of the state's Water Quality Criteria for Recreation or failure to support the reasonable and necessary use of enjoyment of scenic and aesthetic qualities of waters, per Tenn. Comp. R. & Regs. 0400-40-03-.03(4)(k): *The waters shall not contain other pollutants in quantities which may have a detrimental effect on recreation,* and 0400-40-03-.02(2): *Waters have many uses which in the public interest are reasonable and necessary. Such uses include: sources of water supply for domestic and industrial purposes; propagation and maintenance of fish and other aquatic life; recreation in and on the waters including the safe consumption of fish and shellfish; livestock watering and irrigation; navigation; generation of power; propagation and maintenance of wildlife; and the enjoyment of scenic and aesthetic qualities of waters.*

[xv] This condition is necessary to ensure that the permit will not result in violation of the state's Water Quality Criteria for Fish and Aquatic Life for Turbidity, Total Suspended Solids, or Color, per Tenn. Comp. R. & Regs 0400-40-03-.03(3)(o): *Turbidity, Total Suspended Solids, or Color - There shall be no turbidity, total suspended solids, or color in such amounts or of such character*

that will materially affect fish and aquatic life. In wadeable streams, suspended solid levels over time should not be substantially different than conditions found in reference streams