

# Ecology

## Assessment of Effects

Overview  
Avoidance and Minimization  
Assessment of Effects

### OVERVIEW

For all projects, the Ecologist uses the following GDOT procedures to avoid and minimize impacts to ecology resources, prepare assessment of effects reporting, and conduct agency coordination.

### AVOIDANCE AND MINIMIZATION

#### Avoidance and Minimization Measures Meeting

Once environmental resource identification is complete, an Avoidance and Minimization Measures Meeting (A3M) will be scheduled to evaluate the feasibility of measures to avoid or minimize impacts to environmental resources. Refer to the [Office of Environmental Services General Environmental Procedures A3M](#) guidebook for general A3M procedures, recommendations, and common avoidance and minimization approaches. The following information is required for A3M plans/layouts:

Table 1 – A3M Plan / Layout Requirements

Existing Conditions (typically grayed):	Proposed Design (typically black):
Environmental Resources - ENVE.dgn	Alignments - MAIN.dgn
Right-of-Way (ROW) & Property Lines - PROP.dgn	Edges of Pavement - MAIN.dgn
Topography - TOPO.dgn	Construction Limits (cut/fill) - LIMT.dgn
	Required ROW (concept level) – REQD.dgn

Common GDOT avoidance and minimization measures (AMMs) for environmental resources are listed in the A3M guidebook. Orange barrier fencing (OBF) is used to protect Environmentally Sensitive Areas within existing/required ROW and easements by reducing the construction access area and associated clearing and grubbing beyond proposed cut/fill limits. Use of OBF can avoid or minimize clearing and grubbing of wetlands, state waters buffers, protected plant species, or protected terrestrial species habitat. OBF must be set back a

sufficient distance from cut/fill limits, typically 10 to 15 feet, to allow for erosion control Best Management Practices (*i.e.*, double row silt fence [BMP]) installation and construction equipment access. The Ecologist must coordinate with Design and Construction to ensure sufficient OBF setback is provided. Use of bottomless culverts, arch culverts, or bridges can avoid or minimize stream and/or wetland impacts and minimize adverse effects to protected aquatic species, if present. Refer to the *Impact Example Plan Sheets* guidebook for examples of OBF placement in proximity to ecology resources and construction activity:

Ecology Environmental Procedures Guidebooks,  
 GDOT Office of Environmental Services

If impacts to state or federal listed species or suitable habitat for listed species may occur, Georgia Department of Natural Resources, Wildlife Resources Division (WRD); US Fish and Wildlife Service (USFWS); and/or National Oceanic and Atmospheric Administration (NOAA) Fisheries' recommended AMMs from the early coordination process should be reviewed prior to the A3M. Agency recommendations from early coordination should then be discussed at the A3M and used to develop Special Provisions (SPs) for the project, as needed. Consideration of plan revisions to incorporate additional AMMs based on agency recommendations should also be discussed during A3M.

### Special Provisions

Special Provision 107.23H specifies required measures for contractors to avoid or minimize impacts to protected species and/or suitable habitat. See the *Protected Species Assessment and Coordination* and *Miscellaneous Resources* guidebooks for more details regarding protected species avoidance and minimization requirements. Special Provision 107.23H requires internal review by other GDOT offices listed on the current *GDOT Document Transmittal Addressees & Carbon Copy List* found on the [Ecology Section SharePoint](#)<sup>1</sup> prior to inclusion in contract documents. A constructability review meeting may be needed to determine if SPs may be feasible or not, as Design may not know how the project would be constructed. Coordinate with the PM and Design if a constructability review meeting might be needed.

Special Provision 713.6 directs contractors to use biodegradable slope matting within certain areas designated as eastern indigo snake (*Drymarchon couperi*) and/or alligator snapping turtle (*Macrochelys spp.*) habitat. Refer to the Ecology Section SharePoint for further guidance on how to implement SP 713.6.

Special Provision 165.3.05 mandates certain enhanced erosion control measures that should be enacted when suitable aquatic species habitat is present in the project area. Refer to the Ecology Section SharePoint for the SP 165.3.05 template.

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<sup>1</sup> See instructions for accessing SharePoint on the Office of Environmental Services Guidebooks website.

## Utility Impacts

When in the field, the Ecologist should note any major utilities for which a relocation could be a concern environmentally. When utility relocation is anticipated to be a major project consideration, the Ecologist should ask the PM to ensure that a representative from Utilities is present at the A3M/ Preliminary Field Plan Review (PFPR) to discuss likely relocation options. The Ecologist should coordinate with the PM, typically at PFPR, to identify the responsible party for utility relocation impacts.

If utility relocations are included in the GDOT construction contract, then GDOT is responsible for obtaining any necessary concurrences/permits for impacts to ecology resources associated with utility relocations. If GDOT is responsible for utility relocations, then existing utility locations should be reviewed during PFPR, if available, and otherwise at PFPR with discussion of potential relocations that may impact ecology resources and should be considered for AMMs. The Ecologist should inform the PM and Utilities that relocation plans will be needed early with lockdown plans, not at FFPR. If existing utilities are not known at the Ecology Resource Survey and Assessment of Effects Report (ERS AOE) stage, then a discussion of impact AMMs for utility relocations will need to be completed with the PM and Design and documented in the Addendum associated with lockdown plans.

If utility relocations are not included in the GDOT contract, the utility company is responsible for obtaining necessary concurrences/permits for impacts to ecology resources. Regardless, Utilities should be made aware at PFPR if there are environmentally sensitive areas that are critical for avoidance so they can communicate those to the utility companies.

## Ecology Post-Construction Stormwater Report

Post-construction water quality treatment may be required for the following:

- > Projects containing protected species or habitat for a protected species for which water quality is a primary concern (e.g., aquatic species, eastern indigo snake, and listed bats); and
- > Projects subject to [Fish and Wildlife Coordination Act \(FWCA\)](#) for impacts to perennial streams or high-quality wetlands (as identified by the [US Army Corps of Engineers \[USACE\] 2018 Standard Operating Procedures for Compensatory Mitigation](#)) newly bisected by the proposed project.

The Ecologist should request technical assistance from USFWS and/or WRD following identification of protected species or suitable habitat and/or A3M (*i.e.*, once anticipated FWCA coordination requirements are known) to determine the need for post-construction water quality treatment. The [Joint Coordination Procedures \(JCP\)](#) can be referenced to determine when water quality considerations may be needed for the purposes of FWCA.

The *Ecology Post-Construction Stormwater Report* (PCSR) is used to document the feasibility analysis of post-construction water quality treatment for projects that are not subject to Municipal Separate Storm Sewer System (MS4) permit requirements and require water quality treatment per early coordination or technical assistance. An Ecology PCSR template and

guidance document are available on the Ecology SharePoint. For projects requiring a MS4 permit, the MS4 PCSR Template, available through the GDOT Repository for Online Access to Documentation & Standards (ROADS) under the Manuals & Guides section, should be used by Design. Consult the PM and Design to verify a MS4 permit is required.

Regardless of which PCSR is required, when agency early coordination and/or technical assistance indicates that water quality treatment needs to be assessed on a project, the Ecologist will provide the information for the first two columns of Attachment A (GDOT Post-Construction BMP Summary) of the Ecology PCSR immediately following the A3M. When a MS4 PCSR is required, Appendix F from the Ecology PCSR template should also be included.

Design will fill out the remainder of the applicable report and submit to EnvBMP@dot.ga.gov, copying the Ecologist, as soon as possible, but no later than 22 weeks prior to PFPR. **The report will be reviewed by the GDOT Office of Design Policy and Support and revised by the Designer until the report is found to be acceptable.** Ideally, the report will be found to be acceptable at least 18 weeks prior to PFPR. When submitting to EnvBMP@dot.ga.gov, also include a link to the current construction plans in ProjectWise or submit plans via WeTransfer or a similar file transfer service. The Final Ecology PCSR should be included as Appendix III G of the ERS AOE.

## ASSESSMENT OF EFFECTS

### Scope of Analysis (SOA)

For state funded projects, a request must be submitted to USACE for determination of the SOA related to a Section 404 permit action. The request must include an overview map of the project and project location map(s) showing Waters of the US (WOTUS) proposed to be impacted by the project. Instructions for creating/compiling a SOA transmittal letter and ecology maps are included in the current GDOT [USACE Coordination Instructions](#).

The Ecologist must prepare the maps required for the SOA Request. The SOA Request must be drafted and transmitted to USACE by the Ecologist following receipt of preliminary plans incorporating AMMs.

### Ecology Resource Survey and Assessment of Effects Report

Upon completion of an A3M, receipt of preliminary plans, and transmittal of the SOA Request (when USACE is the lead Federal Agency); an ERS AOE must be prepared in accordance with the current *Ecology General Project Report Template and Guidance*. The Ecologist should confirm that USACE has completed an Aquatic Resource Delineation Review and the Georgia Department of Natural Resources, Environmental Protection Division (EPD) has verified buffered state waters, as needed, prior to preparing an ERS AOE. Coordinate with the GDOT Ecologist or Ecology Team Leader if project limits shown on preliminary plans extend beyond the environmental survey boundary (ESB).

A transmittal letter must be prepared in accordance with the current *Transmittal Letter Template* and include appropriate agency coordination requests required for the project. For consultant projects, the transmittal letter must be submitted in an editable Word format (.docx) with the

ERS AOE (.pdf) to GDOT for review. Refer to GDOT review and transmittal procedures for an Ecology Resource Survey Report (ERSR) included in the *Resource Survey* guidebook, as the same guidance applies to the ERS AOE.

The ERS AOE and transmittal letter, if federally funded, must note whether the proposed project does not require FWCA coordination, FWCA coordination is being coordinated programmatically, or if project-specific coordination is to be conducted. For project-specific coordination, GDOT shall initiate and conduct FWCA coordination on behalf of the Federal Highway Administration during ERS AOE development. For state funded projects, FWCA should not be discussed in the transmittal letter, as GDOT does not initiate this coordination on behalf of USACE; rather, USACE initiates coordination with USFWS during their permit review. Refer to the *JCP Standard Operating Procedure (SOP) for Interagency Coordination Pursuant to the FWCA* for more information.

For projects that have a ‘no effect’ determination for all species on the [Information for Planning and Consultation \(IPaC\)](#) species list (See *Resource Survey* guidebook), the Ecologist must upload the ERS AOE into the IPaC web portal, share the project with the USFWS, lead Federal Agency, and GDOT Ecologist. The GDOT Ecologist will be responsible for submitting the project via IPaC.

For projects that have a ‘may affect, not likely to adversely affect’ determination for any species or critical habitat on the IPaC species list, the Ecologist should upload the ERS AOE into IPaC, share the project with the USFWS, lead federal agency, and the GDOT Ecologist. The GDOT Ecologist will be responsible for submitting the project via IPaC. If informal Section 7 consultation is required by NOAA Fisheries, the ERS AOE should be submitted electronically to NOAA Fisheries and the lead Federal Agency for its receipt to allow for concurrent reviews. Refer to the *JCP SOP for No Effect Determinations and Informal Consultation Pursuant to Section 7 of the Endangered Species Act* for agency coordination procedures and concurrence timelines when a project would have no effect or is not likely to adversely affect proposed or listed species or proposed or designated critical habitats.

For a project that ‘may affect, and is likely to adversely affect’ any species or critical habitat on the IPaC species list or under NOAA Fisheries jurisdiction, the same submittal procedures noted above should occur, however, the lead Federal Agency must initiate formal consultation or conference with USFWS and/or NOAA Fisheries. Refer to the *JCP SOP for Formal Consultation and Conference Pursuant to Section 7 of the Endangered Species Act* for agency coordination procedures and concurrence timelines when a project is likely to adversely affect proposed or listed species or proposed or designated critical habitats.

For projects that have a ‘no effect’ determination for all federally listed/proposed species and designated/proposed critical habitat on the official IPaC list or under NOAA Fisheries jurisdiction, technical studies for Ecology are complete upon transmittal of the ERS AOE. For projects that “may affect” federal listed/proposed species and/or designated/proposed critical habitat, technical studies for Ecology are complete upon completion of Section 7 Endangered Species Act consultation. If project changes occur after Ecology technical studies are complete, an Addendum to the ERS AOE may be required.

### ERS AOE Addenda

An Addendum to the ERS AOE is required prior to Environmental Certification for Let (based on Lockdown Plans) or during construction for changes to ecology resource impacts. Typically, during pre-construction, only one Addendum should be prepared, and an Addendum should not be completed with every design change, but only upon receipt of Lockdown Plans. Consult the GDOT Ecologist or Ecology Team Leader to verify that an Addendum is required for project changes occurring outside of project milestones (i.e., receipt of lockdown plans). An Addendum must capture changes to project design or regulations occurring after transmittal of the ERS AOE including, but not limited to the following:

- > Changes in project limits that are not covered by previous surveys;
- > Changes in project activities;
- > Addition of easements or ROW;
- > Changes in impacts to WOTUS;
- > Non-exempt impacts to a state-mandated buffer not previously anticipated to be impacted;
- > Federal or state listed species not previously assessed may be affected by the project;
- > Changes in effect determinations to federal and/or state protected resources previously assessed;
- > Impacts requiring re-initiation of FWCA coordination; and
- > Impacts requiring re-initiation of Section 7 consultation.

The Addendum must follow the current *Ecology General Project Report Template and Guidance*. The same procedures for preparation and transmittal of an ERS AOE, described above, apply to Addenda.

### Ecology PCSR Addenda

If changes occur after the Ecology PCSR has been submitted to the applicable regulatory agency and are considered final, an addendum may be required. Refer to the Ecology PCSR template for a list of changes that require an addendum. Design should submit the Ecology PCSR addendum to [EnvBMP@dot.ga.gov](mailto:EnvBMP@dot.ga.gov) and the Ecologist four weeks prior to lockdown plans.

### Electronic Files to GDOT

All electronic files included the ERSR, ERS AOE, and/or Addenda, including Esri map package files, must be provided to GDOT per the [GDOT Ecology Consultant Document Submittal Checklist](#).

*Guidebook Revision History*

<b>Revision Description</b>	<b>Relevant Sections</b>	<b>Revision Date</b>
<b>Initial Publication</b>	All	4/23/2021
<b>Hyperlinks</b>	All	11/7/2023
<b>Added SP section header &amp; 165.3.05 discussion</b>	Special Provisions	
<b>Removed note of hard copy document submittal</b>	ERS AOER	
<b>Broken link repair</b>	Avoidance & Minimization - EPCSR	4/23/2024