

## Wetland Mitigation Considerations

CESAS-RD / 06Mar2015

The following is a living document subject to change at any time. For the most up to date version: <http://www.sas.usace.army.mil/Missions/Regulatory/Mitigation.aspx>

Action ID: \_\_\_\_\_

Project Name: \_\_\_\_\_

County: \_\_\_\_\_

Location: \_\_\_\_\_

Lat/Long (decimal degrees): \_\_\_\_\_

Ecoregion (per Griffith, et.al. 2002): \_\_\_\_\_

Required attachments:

- General location map
- NHDPlus map depicting location of project in watershed (include the following "Program Features" - 303(d) Listed Impaired Waters, Combined Sewer Overflows, Facilities that Discharge to Water, TMDLs on Impaired Waters, Monitoring Locations, and Nonpoint Source Projects)
- LiDAR map of the site
- Web Soil Survey soils map of the site

Prepared By: \_\_\_\_\_

Date

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## I. Watershed Analysis

**A. Has a watershed evaluation/analysis been undertaken? YES / NO**

How were the following factors considered in the analysis?

- Within what watershed is the proposed project located (8-Digit Hydrologic Unit Code)?
- What is the percentage of impervious cover within the watershed (provide current and/or future projection)?
- Is there a watershed plan and/or 305(b)/303(d) report available that can be included in the analysis (cite reference)?
- What are the dominant stressors of the watershed, which have the highest potential to impact water bodies?
- Are the symptoms systemic or localized?
- Where is the proposed project located within the specific watershed?

**B. Has a Local Drainage Area Assessment been undertaken? YES / NO**

How were the following factors considered in the analysis?

- What is the approximate size of the drainage area?
- What is the stream order(s) on the mitigation site?
- Has the wetland(s) within the mitigation site been hydrologically altered?
- Is the wetland(s) on the mitigation site located within urban or rural setting?
- List any foreseeable changes to the site.

Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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### II. Site Selection Criteria and other Site Considerations

**A.** Describe how the above factors (in the Watershed Analysis Section) have been applied to the project site selection criteria: \_\_\_\_\_

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**B.** Other important factors to consider for all stream mitigation projects:

- The location of the impact area(s) within the Ecoregion and specific watershed
- The location of the compensatory mitigation project within the Ecoregion and specific watershed
- Is the proposal a wetland project, a stream project – or both?

**C.** Will **Essential Fish Habitat (EFH)** resources be affected?  
(Positive and/or Negative effect)

**YES / NO**

Explain: \_\_\_\_\_

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**D.** Will **Federally Threatened or Endangered Species** or designated **Critical Habitats** be affected? (Positive and/or Negative)

**YES / NO**

Explain: \_\_\_\_\_

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**E.** Will **State Listed Protected and Rare Species** be affected?

**YES / NO**

Explain: \_\_\_\_\_

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**F.** Will **Anadromous Fish** or similar aquatic species be affected?

**YES / NO**

Explain: \_\_\_\_\_

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**G. Do Cultural Resources exist on the site?**

**YES / NO**

Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**H. Do any Haz/Tox issues exist on the site, or within 1-mile of the site?**

**YES / NO**

Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**III. Reference Ecosystem**

**A.** Has a **Reference Ecosystem (RE)** been evaluated, surveyed and has a **report been** prepared that evaluates vegetation, soils, hydrology, functions, and hydrogeomorphic considerations? **YES / NO**

Describe the comparison between the RE and the Mitigation Site: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**B.** Was **Soil Fertility sampling** undertaken in the RE? (Attach Report) **YES / NO**

**C.** RE Lat/Long (given in decimal degrees): \_\_\_\_\_

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**IV. Site Level Impairment Assessment/Baseline Assessment**

**A.** How were the following factors surveyed in the site assessment?

**1. Hydrology**

**2. Soils**

**3. Vegetation**

Describe how the above factors have been applied to the project baseline assessment:

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**B.** Were any other factors incorporated into the baseline assessment of the mitigation site?

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**C.** Summarize the site's compromised **function(s)/impairment(s)** (Attach with Functional Assessment Report): \_\_\_\_\_

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**D.** Describe the analysis and consideration of potential impacts to the mitigation site that may occur from changes in upstream and adjacent land use: \_\_\_\_\_

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**E.** Has a jurisdictional determination been undertaken and verified by the U.S. Army Corps of Engineers for the site?

**YES / NO**

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## V. The Foundation

A. Describe project **GOALS**<sup>SMART</sup>: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Describe Target **FUNCTIONS**<sup>SMART</sup>: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Are these Specific/Measurable/Attainable/Reasonable/Trackable? YES / NO**

Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Proposed **STRUCTURAL**<sup>SMART</sup> elements of the project:

### 1. Vegetation

- a. Are plantings listed to species? **YES / NO**
- b. Are local propagules (200 miles north/south) to be planted and **verified by nursery certificate**? **YES / NO**
- c. Have diversity and density of species within the Reference Ecosystem been considered in the plan? **YES / NO**
- d. Does the planting plan include **zonal** considerations? **YES / NO**
- e. Will the wetland / upland interface be planted with suitable transition zone species? **YES / NO**

Describe the **Planting Quality Assurance / Quality Control Plan**: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### 2. Soils

- a. Has an **onsite soils assessment** been undertaken? **YES / NO**

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b. List Soil Series and Textures: \_\_\_\_\_

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c. Are soil types appropriate for the target wetland? **YES / NO**

Describe: \_\_\_\_\_

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d. **Fertility sampling** undertaken in the RE? (Attach Report) **YES / NO**

e. Fertility sampling undertaken in the mitigation site? **YES / NO**  
(Attach report)

f. Are the fertility results within the standards for the plantings? **YES / NO**

Describe results/amendments required: \_\_\_\_\_

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g. If **PC Cropland**, has site been evaluated for plow pans, field crowns, tile drainage system? **YES / NO**

Describe findings and strategies to address: \_\_\_\_\_

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h. Is **disking/topsoil management** proposed? **YES / NO**

Describe: \_\_\_\_\_

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i. Is there a **grading plan**? (Attach) **YES / NO**

Describe: \_\_\_\_\_

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**3. Hydrology**

a. Has a **Water Budget** been prepared for low, average and high conditions per WETS Table data? (Attach Report) **YES / NO**



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Describe and justify type of water budget model used: \_\_\_\_\_

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b. List the **hydrologic inputs**: \_\_\_\_\_

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c. For **groundwater driven systems**, monitoring wells are required to be installed and maintained pursuant to the most recent ERDC Technical Note.

Describe type of wells and maintenance plan: \_\_\_\_\_

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d. For **surface water driven systems**, flood gauges are required to be installed.

Describe type of gages and maintenance plan: \_\_\_\_\_

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e. Is the **hydrologic regime** predicted by the water budget appropriate for the target wetland? YES / NO

**Are these Specific/Measurable/Attainable/Reasonable/Trackable? YES / NO**

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**VI. Consideration of Factors of Failure**

**A.** Describe how the following have been considered for this project (includes foreseeable changes off-site):

**1. Elevations/biological benchmarks:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**2. Erosion:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**3. Human Impacts:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**4. Nuisance vegetation:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**5. Herbivory:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**6. Beaver Impacts:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**7. Soil/Substrate/Geologic Properties:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**8. Construction-phase site degradation:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

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**B. Are persistent earthen features** within the stream buffer proposed for the project? [berms, dikes, excavated areas with spoil placed within the project site, etc.]

**YES / NO**

Describe/Justify: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Are these Specific/Measurable/Attainable/Reasonable/Trackable? YES / NO**

Explain: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**VII. Performance Standards**<sup>SMART</sup>

A. **Vegetation:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. **Hydrology:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. **Soils:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Are these Specific/Measurable/Attainable/Reasonable/Trackable?    YES / NO**

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**VIII. Monitoring<sup>SMART</sup>**

**A. Name and telephone number of the person** responsible for the success of this project:

\_\_\_\_\_

**B. Describe **Vegetation** monitoring plan:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**C. Describe **Hydrology** monitoring plan:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**D. Describe **Soils** monitoring plan:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**E. As-Built Report** to be submitted within 30 days of project construction? **YES / NO**

**F. Date **Annual Monitoring Report**** to be submitted: \_\_\_\_\_

**G. Deadline date for first **Annual Monitoring Report**** (to be provided no earlier than **10 months** and no later than **14 months** after completion of construction): \_\_\_\_\_

\_\_\_\_\_

**Are these Specific/Measurable/Attainable/Reasonable/Trackable? YES / NO**

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**IX. Site Management**

A. Describe proposed **Financial Assurances**: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Describe **Adaptive Management** strategies: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. Name and telephone number of person responsible for the success of this project:  
\_\_\_\_\_

D. Describe the **Final Disposition** of the property and legal protection mechanism(s): \_  
\_\_\_\_\_  
\_\_\_\_\_

E. Describe the **Long Term Management / Stewardship Plan** for the property and how funded: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

F. Name and phone number of person who will manage the site after the mitigation effort is deemed successful: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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Other Notes:

**\*\*Address the sections of the document in which all problems and/or deficiencies have been identified.\*\***