

**Stream Mitigation Considerations**

Action ID: SAW-\_\_\_\_\_

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

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

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

\_\_\_\_\_

Lat/Long (dec deg): \_\_\_\_\_ / \_\_\_\_\_

Stream Order(s): \_\_\_\_\_

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

**Required attachments:**

- LiDAR map of site
- USGS 7-Minute Quadrangle
- WebSoil Survey of site
- Most recent Google Earth photo of watershed

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

Date

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**I. Introduction**

- COLDWATER
- COOLWATER
- WARMWATER
- COASTAL PLAIN** (See III.C. below, and most current version of the Coastal Plain Stream and Riparian Area Mitigation Guidelines.)

A. Is a **permit required** to construct this project?

**YES / NO**

Type: \_\_\_\_\_

**B. Type of proposed project** (check all that apply / See 33CFR Part 332.2 for definitions):

- Re-establishment
- Rehabilitation
- Enhancement
- Establishment
- Preservation

C. **NCSAM** Stream Category: \_\_\_\_\_

D. Is there a **Wetland** component to the project? **YES / NO**

NCWAM Wetland Type \_\_\_\_\_

E. Will **Threatened or Endangered Species** or designated **Critical Habitats** be impacted? **YES / NO**

F. Will **Essential Fish Habitat (EFH)** resources be impacted? **YES / NO**

G. Will **Anadromous Fish** or similar aquatic species be impacted? **YES / NO**

H. Do any **Cultural Resource** issues exist on the site? **YES / NO**

I. Do any **Haz/Tox** issues exist on the site? **YES / NO**

J. Has a **Jurisdiction Determination** been undertaken on the project site? **YES / NO**

**II. Foundation of the Mitigation Plan**

A. Describe project **GOALS**: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

B. Was an **NCSAM/NCWAM** analysis undertaken? [Attach Report(s)] **YES / NO**

Describe the site's compromised function(s): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

List project target **FUNCTIONS**: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Are the above SMART - Specific/Measurable/Attainable/Reasonable/Trackable? YES / NO**

**III. Design Considerations**

A. Describe how the **4 Dimensions of Stream Dynamics** were considered in the plan:

1. **Longitudinal** (Upstream/downstream) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. **Lateral** (Side to side) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

3. **Vertical** (Hyporheic zone) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. **Temporal** (Life of project/Adaptive Management) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

B. Describe proposed **Buffer Area** (location, size, maintenance plan): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. **Coastal Plain Stream Projects:** Have the following coastal plain design factors been considered and applied in the mitigation plan: **YES / NO**

- Alluvial (not Colluvial or Bedrock)
- Sand Bed
- Unconfined valley
- Low energy
- Low slope
- Reach types: Braided and Regime Reach
- Pool types: Scour (Eddy and Lateral), Dammed backwater and Abandoned Channel

Other important design elements 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 stream project, a wetland project – or both?

Describe how the above factors have been applied to the project design: \_\_\_\_\_

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D. Proposed **STRUCTURAL** elements of the project:

1. **Reference Reach/Ecosystem** evaluated, surveyed and report prepared? **YES / NO**

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

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2. **Natural Channel Design** proposed and appropriate? **YES / NO**

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

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3. **Vegetation** planting component proposed? **YES / NO**

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

a. Are plantings listed to species? **YES / NO**

b. Are local (200 miles north/south) propagules 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. Has consideration been given to planting the wetland/upland interface with suitable transition zone species? **YES / NO**

Describe the planting Quality Control Plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Site **Soils** confirmed? **YES / NO**

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

b. Are soils types appropriate for the target stream/adjacent wetlands? **YES / NO**

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

c. Fertility sampling undertaken in the reference area? (Attach Report) **YES / NO**

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

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

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

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

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

6. Is disking proposed after grading and/or prior to planting? **YES / NO**

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

7. Is there a **Grading Plan**? **YES / NO**

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

**8. Hydrology.**

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

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

b. List the site's hydrologic inputs: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

d. For surface water driven systems, flood gauges are required to be installed. Describe type of gages and maintenance plan: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

e. Is the hydrologic regime predicted by the water budget appropriate for the target stream and any adjacent wetlands? **YES / NO**

**Are the above SMART? YES / NO**

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**IV. Performance Criteria**

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

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

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

**Are the above SMART? YES / NO**

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**V. Monitoring**

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

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

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Number of plots: \_\_\_\_\_

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

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Number of wells / gages: \_\_\_\_\_

Describe how water flow will be measured? \_\_\_\_\_

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**Are the above SMART? YES / NO**

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

E. Date **Annual Monitoring Reports** to be submitted: \_\_\_\_\_

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**VI. Consideration of Factors of Failure**

A. Describe how the following have been considered for this project:

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

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2. Provisions for **Drainage**: \_\_\_\_\_

\_\_\_\_\_

3. **Erosion**: \_\_\_\_\_

\_\_\_\_\_

4. **Human Impacts**: \_\_\_\_\_

\_\_\_\_\_

5. **Noxious species** invasion: \_\_\_\_\_

\_\_\_\_\_

6. **Herbivory**: \_\_\_\_\_

\_\_\_\_\_

7. **Beaver Impacts**: \_\_\_\_\_

\_\_\_\_\_

B. Are **persistent earthen features** proposed for the **Wetlands** component of the project?  
(Berms, dikes, excavated areas with spoil placed within the project site, etc.) **YES / NO**

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

\_\_\_\_\_

\_\_\_\_\_

**Are the above SMART? YES / NO**

\_\_\_\_\_

**VII. Site Management**

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

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

