

(March 2000 version)

SAMPLE SCOPE OF WORK

Wetland Delineation for the **XXXX Visitor Center and Access Road Project, YYYY National Park**

I. Background

Delineation and mapping of all wetlands and all other "waters of the United States" subject to jurisdiction under Section 404 of the Clean Water Act and all wetlands subject to NPS procedures for implementing *Director's Order #77-1: Wetland Protection*¹ is needed as part of compliance for construction of the **XXXX Visitor Center and Access Road Project, YYYY National Park** (see attached location map). An assessment of wetland functions and values is also needed in order to facilitate evaluation of the project's impacts on wetlands and to determine appropriate compensation for unavoidable wetland impacts as may be required by the Corps of Engineers for Section 404 permits and/or by the NPS for compliance with Director's Order #77-1.

II. Scope of Services

- A. Consult with the appropriate U.S. Army Corps of Engineers (Corps) District Office and the NPS Water Resources Division¹ regarding approved wetland delineation methods applicable to this project (see attached project boundary maps).
- B. Acquire and review existing topographic maps, National Wetland Inventory maps, National Cooperative Soil Survey (NCSS) soil surveys, technical publications, aerial photographs, and other existing information necessary for determining the potential locations of wetlands within the project boundaries and for evaluating their soil, hydrology, vegetation, and related characteristics.
- C. Conduct onsite investigations (i.e., examine and document required soil, hydrology, and vegetation characteristics) of all wetlands using methods approved by the Corps and the NPS for wetland delineations.²
- D. Based on information derived from A, B, and C above, delineate all wetlands. Use the 1987 Corps of Engineers Wetland Delineation Manual for vegetated wetlands. Use Cowardin et al. (1979) for delineating all other wetlands and deepwater habitats.
- E. Identify the types and levels of wetland functions and values provided by each delineated wetland, using either a narrative assessment based on the analysis and judgement of experts in the functional areas listed below or a widely-recognized functional assessment method (as agreed to by the NPS) such as HGM (Hydrogeomorphic Method). Wetland functions to be evaluated include:
 - 1) Biotic Functions (e.g., fish and wildlife habitat including amphibians and aquatic

- invertebrates, floral and faunal productivity, native species and habitat diversity, threatened and endangered species)
- 2) Hydrologic Functions (e.g., flood attenuation, streamflow maintenance, ground water recharge and discharge, water supply, erosion and sediment control, water purification, detrital export to downstream systems)
 - 3) Cultural Values (e.g., aesthetics, education, historical values, archeological values, recreation, interpretation)
 - 4) Research/Scientific Values (e.g., potential "reference sites" for research on unimpacted ecosystems)
 - 5) Economic Values (e.g., flood protection, fisheries, tourism)

NOTE TO READER: The above calls for a functional evaluation for *each* wetland encountered in the delineation work. For some projects, it may be more appropriate to structure the contract so that functional assessments would be conducted only for a subset of wetlands that are likely to be impacted by the project. For example, results of “Phase I” of a contract (delineation) may indicate that a project could be located so as to avoid most or all wetland impacts. In that case, the number of wetlands for which “Phase II” functional assessments are needed may become less, or such assessments may not be needed at all.)

F. Produce a project report that includes the following for the project area:

- 1) Identify the boundaries of all wetlands including Corps jurisdictional wetlands, all other wetlands², and deepwater habitats. Classify all wetlands and deepwater habitats according to Cowardin et al. (1979). Calculate acreage figures (nearest 0.01 acre) for each delineated habitat. If a site includes more than one Cowardin type, break out the acreage by type. Provide tables indicating Cowardin type and acreage of each delineated site and whether the sites are Corps jurisdictional wetlands, other wetlands, or deepwater habitats.
- 2) Plot all delineated wetlands on 1:2400 scale (1"=200') base maps provided by the NPS. Identify Cowardin classification for each delineated wetland. **NOTE TO READER: YOU MAY WANT TO SUBSTITUTE OTHER APPROPRIATE SCALES OR MEDIA HERE (SUCH AS A GIS LAYER)**
- 3) Include fully documented data sheets for each sampling plot used in determining wetland boundaries. All sampling plots used in these determinations must be located on the wetland maps. A numbering system must be used such that each sampling location identified on the maps can be linked to its corresponding data sheet. The data sheets must include the justification for making the wetland/non-wetland determination and must indicate if a site is a Corps jurisdictional wetland or other

wetland type.

- 4) Include a narrative discussion of each delineated wetland, including Cowardin classifications and summaries of key soil, vegetation, and hydrology characteristics used in making wetland boundary determinations. These may be relatively straightforward for obvious wetland calls, but should be sufficiently detailed to fully justify calls for problem areas, atypical situations, non-jurisdictional wetlands, or other nonroutine or "borderline" calls. Narratives should include discussion of any activities, structures, drainage features or other observed impacts on the wetlands, and should note any other vegetation characteristics relevant to site management including nuisance or exotic plants, even if they are not dominant species.
 - 5) Identify sites that exhibit former or relic wetland characteristics (e.g., relic or buried hydric soils) but have been permanently modified by human activities so that they no longer meet the wetland hydrology criterion and are now non-wetland. The narrative for these sites should describe the nature of the activity suspected of causing the wetland loss and include a discussion of the potential for restoration.
 - 6) Identify the kind and extent of the wetland functions and values outlined in E. above for each delineated wetland. This may be incorporated into the discussions described in F. 4) above or may be in a separate section of the report.
- G. Support the NPS in the 404 permit process with respect to verifying wetland delineations and functional evaluations conducted under this contract. Serve as onsite consultant to the NPS during Corps of Engineers field verifications of wetland delineations.

III. Recommended Factors for Choice of Contractors

- A. Established successful working relationship with pertinent Corps District Office regarding the Clean Water Act Section 404 permitting/wetland delineation process (record of previously accepted delineations preferred).
- B. Demonstrated experience and ability in delineating wetlands and other "waters of the U.S." in the **ZZZZ (e.g., south Texas coastal prairie)** region using methods currently approved by the Corps for Clean Water Act Section 404 permitting. This would include experience and expertise in identifying hydric soils, identifying local flora to the species level, evaluating wetland hydrology, and identifying hydrogeomorphic characteristics.
- C. Demonstrated experience and ability in applying the Cowardin et al., 1979 wetland definition and classification system as would be needed to delineate and classify wetlands according to NPS wetland protection procedures.^{1,2}

Footnotes

¹*Director's Order #77-1:Wetland Protection explains the NPS policies, standards, and requirements for protecting wetlands in units of the National Park System. Procedural Manual #77-1: Wetland Protection provides detailed procedures for implementing the Director's Order. Both of these documents can be downloaded via the internet at the address <http://www.nps.gov/refdesk/DOrders/index.htm>. Questions regarding application of these policies and procedures can be directed to Joel Wagner (303-969-2955) or Kevin Noon (303-969-2815) of the NPS Water Resources Division.*

²*The Corps uses the 1987 "Corps of Engineers Wetlands Delineation Manual" (Technical Report Y-87-1) to identify "jurisdictional wetlands" for the purpose of Clean Water Act Section 404 permitting. NPS Director's Order #77-1 and Procedural Manual #77-1 apply to Corps jurisdictional wetlands, but they also apply to any other habitats that are classified as wetlands under "Classification of Wetlands and Deepwater Habitats of the United States" (Cowardin, et al. 1979), including unvegetated and/or nonsoil wetlands. See attached "NPS Requirements for Wetland Delineations" for further information.*