



US Army Corps  
of Engineers ®  
Seattle District

# Alternative Analysis Guidance



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## PREPARING AN ALTERNATIVES ANALYSIS

### DEFINITIONS

**Section 404(b)(1) Guidelines.** A set of guidelines listed in 40 CFR Part 230 intended to be consistent with and implement the policies in the Clean Water Act. The purpose of the guidelines is to restore and maintain the chemical, physical and biological integrity of waters of the United States through the control of discharges of dredged or fill material. Fundamental to the guidelines is the precept that dredged or fill material should not be discharged into the aquatic ecosystem, unless it can be demonstrated that such a discharge will not have an unacceptable adverse impact either individually or in combination with known and/or probable impacts of other activities affecting the ecosystems of concern.

**Project Purpose and Need.** Basically, need is a problem statement. Purpose is a solution statement (how the need is proposed to be met). The applicant states the purpose as they understand it and then the Corps verifies that it is not unduly restrictive of potential alternatives, pursuant to the Section 404(b)(1) Guidelines (the guidelines).

**Basic project purpose.** The fundamental, essential, or irreducible purpose of the proposed project and is used to determine whether the project is "water dependent" or not.

**Overall project purpose.** The project purpose of the applicant's specific project: The 404 alternatives analysis is based on the overall project purpose.

**Special Aquatic Sites.** The guidelines cover all waters of the U.S., but afford special aquatic sites a higher level of scrutiny and protection. Special aquatic sites include sanctuaries and refuges, wetlands, mud flats, vegetated shallows, coral reefs, and stream riffle and pool complexes. From a national perspective, the degradation or destruction of special aquatic sites is considered among the most severe environmental impacts covered by the guidelines.

**Water Dependency.** This pertains to an activity (associated with a fill) that is proposed to occur in a special aquatic site and that requires access or proximity to, or siting within, a special aquatic site in order to fulfill its basic purpose. For example, the basic purpose of a restaurant is to feed people, and it is therefore not a water dependent activity.

**Practicable Alternative.** An alternative that is or was available and capable of being done after taking into consideration cost, existing technology, and logistics in light of the overall project purpose.

## THE ALTERNATIVES ANALYSIS

Unless exempt from regulation, all projects involving fill in waters of the U.S., whether or not these waters are special aquatic sites, are required to evaluate "practicable alternatives" that would have less impact on the aquatic ecosystem. When an activity is proposed to occur in a special aquatic site (i.e. wetland fill) and it is not water dependent, the regulations presume that 1) practicable alternatives **that do not** involve special aquatic sites are available, and that 2) these alternatives will have less adverse impact on the aquatic ecosystem. Both of these presumptions must be clearly rebutted in writing by the applicant as a prerequisite to complying with the Section 404(b)(1) Guidelines, and thus to potential permit issuance (see Environmental Impacts section).

In order to accomplish the Section 404(b)(1) evaluation, the applicant must supply the Corps with the following information:

1. a specific description of the purpose and need for the project, including the basic and the overall project purpose (see definitions above).
2. an analysis of the practicable alternatives (see additional explanation below). Unless the applicant clearly demonstrates to the Corps that the proposal involving wetland fill is the least environmentally damaging practicable alternative, the 404(b)(1) guidelines prohibit the placement of fill material and the permit will be denied.

The alternative analysis should include both offsite and onsite alternatives which are available and capable of meeting the project purpose. Therefore, it is important that the overall purpose of the project be defined; otherwise, an alternative analysis cannot be accomplished and the subsequent Section 404 evaluation could not be completed in a manner potentially favorable to the applicant. In preparing your analysis of the offsite practicable alternatives, you must first determine the geographic areas to be considered. The geographic scope of the market analysis should be specifically stated in your project purpose. An alternative must be capable of achieving the project purpose in order to be considered a practicable alternative.

What properties are or were available in the area of your market analysis? Are these alternatives practicable? Consider the design criteria used for development of the proposed project. Are there properties available that would meet those criteria that would not involve filling in wetlands? Specific properties should be identified within the study area and reasons given why these sites are or are not practicable. We recommend preparing a matrix listing alternative sites and analyzing them in terms of cost, logistics, and existing technology, as well as impacts. Two additional important points you should be aware of:

- a. Not owning a piece of property does not eliminate it from consideration.
- b. Just because an alternative is not zoned for a certain type of development does not eliminate it from consideration. Zoning is a planning tool, not an absolute, and is subject to adjustments through variances, as well as through policy changes. What is involved in a rezone/variance can be considered in terms of logistics, costs, and existing technology.

Remember that the alternatives examined must be capable of achieving the basic project purpose; hence, the emphasized importance of clearly defining project need and purpose. A clear, definitive statement of need and purpose helps to define the specific criteria against which the various alternatives will be evaluated. With the matrix, we recommend inclusion of a map showing the study area of your analysis and the properties that have been analyzed.

Concerning onsite alternatives, we need specific information that provides rationale as to why the proposed site plan is the least environmentally damaging practicable alternative. Here again, we recommend a matrix that addresses alternative onsite configurations in terms of costs, logistics, and existing technology (it helps to focus the analysis if the categories are broken down further into the specific design criteria used in site development). We want to emphasize that the guidelines require that to be permissible, an alternative must be the least environmentally damaging practicable alternative. Once a set of practicable alternatives has been identified, the regulatory mandate is to permit the alternative with the least environmental damage. If the preferred alternative were not the least environmentally damaging practicable alternative, then the permit would be denied.

Additionally, we stress that the guidelines set forth rebuttable presumptions that:

(1) alternatives for non water-dependent activities that do not involve special aquatic sites are available; and

(2) alternatives that do not involve special aquatic sites have less adverse impact on the aquatic environment.

Unless the applicant refutes both of these premises in writing, then the permit would be denied.

MITIGATION. Compensatory mitigation may not be used as a method to reduce environmental impacts in the selection of the least environmentally damaging practicable alternatives for the purposes of requirements under the guidelines. If it is determined that potential impacts have been avoided to the maximum extent practicable, the remaining unavoidable impacts will then need to be mitigated to the extent appropriate and practicable by requiring steps to minimize impacts. Compensation for aquatic resource values can only be considered after impacts have been avoided and minimized to the greatest extent possible.

ENVIRONMENTAL IMPACTS. All activities to be permitted by the Corps must go also through National Environmental Policy Act (NEPA) compliance procedures. This may be via Categorical Exclusion (such as for minor activities, including those covered by Letters of Permission), Environmental Assessment (EA) (such as for activities covered by nationwide permits and many standard permits), or Environmental Impact Statement (EIS) (for activities covered by certain standard permits). When a project needs a standard permit, we use the comments received on the Public Notice to help make the decision on NEPA compliance. During the environmental review, it may be decided that even the least environmentally damaging practicable alternative will result in an unacceptable level of impact on the aquatic environment and the permit would therefore be denied.

SUMMARY. No discharge of dredged **or fill** material shall be permitted if:

- 1) There is a practicable alternative to the proposed work, which would have less adverse impact on the aquatic ecosystem (so long as the alternative will not have other significant adverse environmental consequences);
- 2) It violates a State water quality standard, violates a toxic effluent standard, jeopardizes the continued existence of a threatened or endangered species, or violates protective requirements of a federal marine sanctuary;
- 3) It will result in significant degradation of waters of the U.S.; or
- 4) If appropriate and practicable steps have not been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

In addition to these requirements of the Section 404(b)(1) Guidelines, the Corps also conducts a review of at least 19 different public interest factors and a review of Tribal concerns. Even if a proposal passes the Guidelines tests, if it is found to be contrary to the public interest, the permit would be denied.