

# Alternatives and Justification Analyses Guide

## Utilities

### 1.0 Introduction

One of the goals of the Office of Coastal Management (OCM) is to achieve a balance between conservation of coastal resources and development of the coastal zone. Development in the coastal zone is encouraged but avoidance of unnecessary impacts to coastal resources is essential in order to protect those resources for future generations. To accomplish this goal, OCM reviews every Coastal Use Permit (CUP) application with the objective of avoiding and/or minimizing adverse impacts wherever possible. Pursuant to La. RS 49:214.27.B and C., OCM uses the Coastal Use Guidelines, found in LAC Title 43, Part I, Chapter 7, Subpart B, §701-719, to determine the type of information needed to fully evaluate a particular use and the adverse impacts that must be avoided to the maximum extent practicable. All coastal uses must be in conformance with all applicable Coastal Use Guidelines in order to receive approval from OCM.

Part of these guidelines, §701.H, charges OCM with ensuring that the public benefits of a proposed coastal use clearly outweigh any adverse impacts to public resources resulting from that use. **Public benefits** include providing goods and/or services to users that currently do not have reasonable access to such goods and/or services, increasing permanent employment opportunities and increasing public revenues. **Coastal resources** include coastal waters, wetlands, fisheries, wildlife and unique ecological/coastal features such as ridges, cheniers, salt domes, reefs, beaches and dunes. These resources provide value to the public in the form of storm and flood protection, nursery grounds for commercial and recreational fishing, critical habitat for endangered species and improved water quality. Public resources also include existing structures and infrastructure. **Adverse impacts** are direct or indirect loss and/or negative alteration of a public resource as well as negative impact on concurrent and neighboring coastal users and include such things as increased intensity or frequency of flooding, accelerated erosion and salt water intrusion.

Review of a proposed coastal use using the Coastal Use Guidelines includes asking questions such as:

1. Can adverse impacts from a proposed use on coastal resources and/or user groups be avoided by moving the use to an area which results in less adverse impact to coastal resources and/or users?
2. If the use cannot be moved, can demand for the proposed goods and/or services in the area to which they will be introduced be documented?
3. If a use cannot be moved and demand can be demonstrated, can the use be redesigned/reconfigured, or can different methods be used to accomplish the use, which results in less damage to coastal resources?

To answer these questions, OCM requires that the applicant provide Alternatives and Justification Analyses in sufficient detail to demonstrate a thorough consideration of the

respective subjects. In an effort to recognize the differences between small and large projects, and/or low and high coastal resource impact projects, OCM has developed a tiered approach to Analysis development. Factors such as, but not limited to, the complexity of the development, surrounding land use, type and level of resource impact and coastal use objective(s) are used to determine the range of alternatives to be considered in the Alternatives Analysis and the information and level of detail required for the Justification, Drainage and Coastal Hazard Analyses. This guide was developed to assist applicants for Coastal Use Permits with determining, in general, the type of information and level of detail needed to fully evaluate a proposed coastal use's potential impacts and benefits and therefore its conformance with the Coastal Use Guidelines. Any combination of analyses may be required depending on the nature of the proposed coastal use and the potential adverse impacts that may occur from that use.

To fully evaluate a proposed coastal use's benefits and impacts, Alternatives and/or Justification Analyses are required during review of a use from which adverse impacts to coastal resources are, in OCM's opinion, likely to occur. The Alternatives Analysis should address several options for project siting that are compared equally for feasibility and will allow OCM to determine the least damaging feasible site for the proposed use. The Alternatives Analysis should provide documentation that clearly demonstrates that reasonable efforts were made to find less damaging sites and should provide an explanation for why each less damaging site was not feasible. The Alternatives Analysis also should address alternate site configuration, alternate methods of construction, and how adverse impacts to coastal resources will be minimized.

The Justification Analysis should include sufficient detail to clearly demonstrate demand for the proposed use and will allow OCM to determine the public need the proposed use. The Justification Analysis should explain the goods and/or services that the proposed coastal use will provide and include documentation that clearly demonstrates a public demand for, or public benefit resulting from, the proposed use. The analysis should provide enough information for OCM to determine that there is a reasonable chance that the project will be successful and not result in a situation where large scale destruction of resources is permitted for a project that fails economically, floods, causes flooding on adjacent areas or in some other way fails the public.

In general, the greater the resource or user group impacts, the more detail required for both the Alternatives and Justification Analyses. If reviewing this guide prior to submission of a JPA, the information presented herein should be taken into consideration and addressed while developing the project. In most cases, alternatives, or the lack thereof, are evident and a simple discussion of the options considered is sufficient. This information can be provided in steps 11b-c of the Joint Permit Application. If the information is not provided in or attached to the JPA, the OCM permit analyst will review the project and determine if any less damaging alternatives are evident. Additional information may be requested by the permit analyst in order to address the less damaging options he/she identified. Using the information contained in these analyses, OCM can effectively evaluate the proposed coastal use's conformance with the applicable Coastal Use Guidelines (specifically §701.F.3, 5, 7, 8, 10, 13, 16 and 19; §701.G.2 and 6; §701.H; §701.I; and all applicable Use Specific Guidelines).

**Utility** activities include potable water facilities and lines, sewerage facilities and lines, gas and electricity facilities and lines, phone lines, cable lines and fiber optic lines. The activities associated with installation and maintenance of these features typically are undertaken by state or local governmental bodies, but can be performed by non-governmental organizations or retail service providers. Activities associated with existing utilities are considered maintenance and/or rehabilitation as long as the proposed maintenance work does not exceed the scope and/or footprint of the original feature at installation. Activities associated with expansion of existing utility features and the installation of new utility features are considered new installation. If, in OCM's opinion, adverse impacts to coastal resources will occur during construction and/or operation of a proposed activity, Alternatives and Justification Analyses will be required.

The level of detail needed in the Analyses depends on whether the activity is maintenance of existing features, expansion of existing facilities or installation of new facilities; and on the level of development in the service area. Proposed coastal uses involving new facility development will require more detailed analyses than proposed uses involving existing facility expansion; proposed uses involving existing facility expansion will require more detailed analyses than proposed uses involving existing facility maintenance. OCM encourages potential applicants to avoid adverse impacts to coastal resources to the maximum extent practicable and will provide assistance with identifying alternate sites and developing a Justification Analysis.

## **2.0 Maintenance of Existing Utility Facilities**

Maintenance of existing facilities includes activities such as repair or replacement of existing lines and support structures, trimming branches in existing rights-of-way and repair or replacement of existing plant, station or substation equipment or structures. Please note that, in some cases, normal repairs and the rehabilitation, replacement or maintenance of existing structures do not require a Coastal Use Permit provided that:

1. the structure or work was lawfully in existence, currently serviceable, and in active use during the year preceding the repair, replacement or maintenance; and
2. the repair or maintenance does not result in an encroachment into a wetland area greater than that of the previous structure or work; and
3. the repair or maintenance does not involve **dredge** (the removal by excavation or any other means of native material, including soil, sand, mud, clay and semisolid sediment, regardless of whether the material supports or is supporting vegetation, from any lands or water bottoms in the coastal zone of Louisiana) or fill activities; and
4. the repair or maintenance does not result in a structure or facility that is significantly different in magnitude or function from the original.
5. the activity is not located within one-quarter mile of a barrier island; or on a chenier, barrier beach, dune, salt dome or other similar isolated, raised landform.

Access to the repair site may require OCM review if the access route requires dredge or fill or coastal resources will be adversely impacted by access, even if the repair activity itself is exempt. Maintenance activities that do not qualify for the above exemption will require a Coastal Use Permit, and if, in OCM's opinion, adverse impacts to coastal resources may occur from non-exempt access or maintenance activities, brief Alternatives and Justification Analyses will be required. The information required is dependent on the nature of the

maintenance activity and is outlined in the sections below. Please note that an exemption determination from OCM is exclusive to OCM and does not relieve the applicant from obtaining other local, state or federal permits, as required by law.

## **2.1 Alternatives Analysis**

Maintenance activities at plants, stations and substations can include repair or replacement of existing equipment, buildings and infrastructure. Maintenance activities on existing lines can include underground and surface line leak repair, support structure repair or replacement and overhead line replacement. OCM recognizes that these types of maintenance activities have a limited range of alternatives; therefore, the Alternatives Analysis need not address alternate sites. The Analysis instead should address alternate methods or configurations of implementation that minimize adverse impacts to coastal resources to the maximum extent practicable. Only those aspects of the proposed maintenance activity that result in adverse impacts to coastal resources need be addressed.

The Analysis should be a brief narrative that includes an explanation of the nature and objectives of the proposed maintenance activities; an identification and discussion of any available feasible options for the proposed activity that minimize adverse impacts to coastal resources; and an explanation of why less damaging feasible options were not selected. For line maintenance, the Analysis also should include information related to access, methods and equipment, and work space size.

### **2.1.1 Access**

Every effort should be made to minimize impacts resulting from access to the work site. Existing access routes or roads, or other practical means of access, should be used in lieu of constructing new access routes or roads. Air boats, helicopters or other low impact equipment should be considered in lieu of wheeled or tracked vehicles, where feasible. If it is necessary to construct new access; or existing access requires improvements or involves adverse impacts to coastal resources, the narrative outlined above also should include the following:

1. An explanation of the route(s) and conveyance method(s) to be used to access the work site. Identify and discuss all possible options and explain why each was eliminated. If a new access route is required, please explain why.
2. A map showing the access route(s) to the work site(s). This can be included on the vicinity map and/or plan view used for the JPA. If multiple alternatives are available, please show all alternatives on the map (a separate map may be required if there are many alternatives).

### **2.1.2 Method(s) and Equipment**

Every effort should be made to minimize adverse impacts to coastal resources that may result from performance of the maintenance work. Again, air boats, helicopters or other low impact equipment should be considered in lieu of wheeled or tracked vehicles, where feasible. If adverse impacts to coastal resources cannot be avoided during the maintenance activities, the narrative outlined above also should include the following:

2. An explanation of the method(s) to be used to perform the maintenance work. Identify and discuss all possible options and why each was eliminated. If using economics as justification for method and/or equipment selection, include cost comparisons for each option considered.

### **2.1.3 Work Space Size**

The work space needed to perform the maintenance activities should be of the minimum size necessary to safely do the work. It should include any excavation and dredged material placement areas, equipment staging areas, travel areas, work areas, etc. If adverse impacts to coastal resources cannot be avoided during the maintenance activities, the narrative outlined above also should include the following:

3. An explanation of the size(s) of the work space(s) needed to perform the maintenance activities. Include a discussion of any limitations that may be present on site and a discussion of any special equipment requirements. Illustrations and site layout plans may helpful in demonstrating space requirements and limitations.

## **2.2 Justification Analysis**

The Justification Analysis should be a narrative that explains the nature and extent of the proposed maintenance work and why the maintenance is required (i.e. identify the consequences of not performing the maintenance activities).

## **3.0 Expansion of Existing Utility Facilities**

Expansion of existing facilities includes an increase in the size and/or capacity of existing features such as equipment, buildings, storage areas, staging areas, parking areas, and level of service provided. Expansion activities that, in OCM's opinion, have adverse impacts on coastal resources will require Alternatives and Justification Analyses as outlined below.

### **3.1 Alternatives Analysis**

OCM recognizes that expansion activities have a limited range of alternatives. If the expansion activities are not limited to a location immediately adjacent to existing facilities, please refer to the Construction of New Utility Facilities, Alternatives Analysis section below for an outline of the Alternatives Analysis required. If the expansion activities must be located adjacent to existing facilities, please refer to the following outline for the Alternatives Analysis.

For expansion activities immediately adjacent to existing facilities, the Alternatives Analysis should address all feasible locations surrounding the existing facility as well as methods or configurations of implementation that minimize adverse impacts to coastal resources to the maximum extent practicable. The Alternatives Analysis should include the following:

1. A narrative explaining the project objective(s) and identifying the proposed features required to meet the objective(s). The narrative also should identify any project objectives or features that may limit the range of alternatives to be considered.

2. A description of each location considered. Include general topography, water/wetland features, habitat type(s) present, if known, and estimate of impact to each.
3. A narrative explaining the reasons for the elimination of each site considered but not selected for development. Please note that the factors used to compare each site should be identified and should be consistent among sites.

### **3.2 Justification Analysis**

The Justification Analysis for existing facility expansion activities must demonstrate the need for the enhanced goods and/or services to be provided by the expansion. The analysis should include a narrative explaining the enhanced goods and/or services to be provided by the expansion, why these services are in demand and the consequences of not implementing the proposed expansion. Supporting documentation may be required depending on the extent of coastal resource impacts.

## **4.0 Construction of New Utility Facilities**

New utility features include the installation of previously non-existent utility features and the lengthening of existing utility features. New utility features may require detailed Alternatives and Justification Analyses if, in OCM's opinion, adverse impacts (including impacts from secondary development) to coastal resources may occur during or after construction. The level of detail required for the analyses is dependent on the type and level of land use in the area to which the services will be provided.

### **4.1 Alternatives Analysis**

The siting of plants, stations or substations; the route of the utility line; the method of line installation; and the size of the construction and permanent rights-of-way for the line all are adjustable (within reasonable limits) and selection of the least damaging feasible options should be taken into consideration when developing new utility facilities. The goal of an Alternatives Analysis is document the efforts taken to find a location for the proposed development and the route of necessary lines which results in the least amount of adverse impact to coastal resources while allowing the project to fulfill its main objective(s). The Alternatives Analysis provides an objective method of performing a fair and thorough consideration of feasible options for the location, construction, operation and maintenance of a proposed coastal use. OCM encourages applicants to utilize areas that avoid or minimize both direct and indirect adverse impacts to coastal resources. If a selected project location; or construction, operation or maintenance method may, in OCM's opinion, result in adverse impacts to coastal resources, an Alternatives Analysis will be required.

An Alternatives Analysis for a new utility features must not only identify the least damaging location of the plant, station or substation but also the least damaging route(s) for associated lines. The route of a line may limit the location of the plant, station or substation and vice versa. Therefore siting and routing should be considered concurrently in order to identify the overall least damaging feasible option for the utility. If using economics as a selection factor

among options, cost comparisons of the options considered should be provided and should include the cost of mitigation associated with each option.

#### 4.1.1 Siting

Siting refers to the location of the plant, station or substation that will generate, boost or serve the utility to be provided. **Feasible sites** are defined as any available parcel of land within the service area that can support the main objective(s) of the proposed development. Project objective(s), surrounding land use, total project impact and type and extent of coastal resource impacts should be considered when selecting feasible alternative sites.

Feasible sites can be identified using current aerial photography. Landowners can be identified through clerk of court records and contacted to determine availability of the land for purchase. Local newspapers also provide a source of available real estate offerings. A drive-by search for lots posted for sale in the general development vicinity also can be an effective method of finding available sites. Several websites offer listings of large tracts of land (see “Available Sources” below). Multiple Listing Real Estate Searches (MLS) also can be used to determine the availability of property for development and also can be used to assess the current housing/real estate market in the development area. MLS or other real estate search results provided for site identification purposes must include the parameters used for the search. If no available alternate sites can be identified, documentation demonstrating such (letters of refusal from landowners to sell property (or chronology and summary of attempts), MLS or other real estate searches resulting in no matches - include search parameters and full results; aerial photos showing no available undeveloped land, any other documentation showing an attempt to find less damaging properties) must be provided.

Documentation that clearly demonstrates that each parcel was compared equally and explains why less damaging parcels were eliminated will be required. Documentation that supports the reasons for elimination should be included with the analysis. All alternate sites and the preferred site must be compared using, at a minimum, the factors identified below. If other factors not identified by OCM are used to compare sites, please define those factors and explain how they were used to evaluate each site. Table 1 can be used to determine the minimum range of alternatives and level of detail that should be considered when developing an Alternatives Analysis.

**Table 1** – Determining the Range of Alternatives that should be considered in the Alternatives Analysis for new utility development.

Scope of Development	Resource Impacts (% of total project impacts)		
	Low (<10%)	Med (10.01-30%)	High (>30.01%)
Small (less than 1 acre)	Category 1	Category 2	Category 3
Large (1 acre or more)	Category 2/3*	Category 2/3*	Category 3

\* If more than 5 acres of resource impact will occur, higher level of detail is required.

A minimum of two (**Category 1**), three (**Category 2**) or five (**Category 3**) alternate feasible sites for the plant, station or substation must be considered. Each site should be compared using the same parameters and should, at a minimum, include the following items:

1. Define the project objective(s) and identify the proposed features required to meet the objective(s). Identify any project objectives that may limit the range of alternatives to be considered.
2. Identify, on a map, the location of each site considered for development. If less than the minimum number of sites, as specified above, have been considered, please explain why and provide documentation demonstrating the efforts made to find the least damaging site.
3. Describe each site considered. Include parcel size relative to development size, topography, water/wetland features, habitat type(s) present and amount of impact to each. If access to the property is limited or unavailable, explain the limitations and provide any information that can be gained about the site using current photography and topographic and habitat maps. Identify any limiting factors and explain how those factors limit development.
4. Identify the availability and capacity of existing infrastructure (roads, utilities, water, sewer, etc.). Explain how the use will affect existing infrastructure and identify any additional permits required (e. g., DOTD driveway permit). Describe any new infrastructure required and include location and/or route of the needed infrastructure and type and extent of impacts associated with installation of that infrastructure.
5. Describe the surrounding land use within one mile (1) of each site considered. Include type and extent of existing use and any planned future uses, if known.
6. Identify the current zoning of the site and indicate if any zoning variances will be required prior to development.
7. Provide a narrative explaining the reasons for the elimination of each site considered but not selected for development. Please note that the factors used to compare each site should be identified and should be consistent among sites.

Once the least damaging feasible site for the plant, station or substation has been identified, alternate configurations/methods and/or reduction in scope should be considered in an attempt to avoid or minimize adverse impacts to coastal resources on the selected site.

#### **4.1.2 Routing**

OCM recognizes that the route a utility line takes is dependent on the location of the plant, station or substation serving the line and the area to which the utility will provide. With this understanding, alternate routes that minimize coastal resource impacts but that still provide services to the intended area must be considered. The habitat through which the utility passes should be considered when selecting a route. Open water, uplands, spoil banks, existing rights-of-way, etc. should be used and coastal resources should be avoided to the maximum extent practicable. The Alternatives Analysis should include the following:

1. Identify the area(s) to which the proposed utility will provide service.

2. Provide a narrative explaining what routes were considered, how they were compared and why each was eliminated. Include in the narrative a description of the habitats impacted and the extent of the impacts for each route.
3. Include a map showing the intended service area and all routes considered.

#### **4.1.3 Method of Installation**

The method of installation depends on the type of utility being installed. Utility pipelines typically are buried whereas power, phone, cable and internet lines can be buried or aerial. Buried utilities can be installed either by trenching or horizontal directional drilling (HDD). Trenching and aerial installation will require clearing a right-of-way, HDD will require bore entry and exit sites. The Alternatives Analysis should include the following:

4. Provide a narrative explaining what methods of installation were considered and why they were eliminated. Include in the narrative a description of the habitats and other resources impacted and the extent of those impacts. If using economics as a driving force for selection of the method of installation, include cost comparisons for each option considered, including mitigation costs.

#### **4.1.4 Right-of Way Width and HDD Entry and Exit sites**

The right-of way width can vary depending on the type of utility line being installed and the method of installation. The HDD entry and exit site sizes also can vary depending on the size of the equipment used, the type of line being installed and the distance of the bore. The right-of-way and HDD entry and exit sites should be limited to the minimum size and/or number of sites necessary to safely install, operate and maintain the services being provided. The Alternatives Analysis should include the following:

5. Provide a narrative that explains the minimum necessary width of the proposed right-of-way and/or HDD entry and exit sites. Include any regulatory requirements and site limitations that affect the sizes chosen. Illustrations and site layout plans may be helpful in demonstrating space requirements and limitations.

### **4.2 Justification Analysis**

The Justification Analysis should explain the nature of the proposed services and provide documentation that clearly demonstrates a public need or demand for the proposed services. The level of detail required for the analysis depends on the level of development in the service area. Developed areas will not require complex documentation in order to demonstrate a public need or demand for the proposed services whereas an undeveloped area would require detailed documentation to demonstrate a public need or demand. For the purposes of this guide, an undeveloped area is defined as an area that is not under moderate to dense residential, commercial or industrial use.

#### **4.2.1 Developed Areas**

1. Describe the proposed services to be provided.
2. Identify the service area to which the proposed services will be provided and the anticipated number of users and/or level of usage within that service area.
3. Describe the existing services available to the service area and how the proposed services will enhance and/or replace the existing services. Include in your discussion the maximum capacity and current level of usage for the existing services and the anticipated maximum capacity and level of usage for the proposed services.

#### **4.2.2 Undeveloped Areas**

Answer 1-3 above plus:

4. Provide documentation that supports the position that the new services are needed in the service area. This documentation can take the form of data demonstrating population trends (migration, growth, etc.); building permit trends in the service area; type and number of proposed developments in the service area and status of federal, state and local approvals.

### **5.0 Available Sources**

Real estate information such as sale rates, current housing availability, average price ranges and gross density can be obtained from realtors and/or building associations in the development area. Multiple Listing Searches provide a listing of all available parcels of land that meet criteria specified by the searcher and can be performed by real estate agents and/or online. The search results will provide a picture of the current real estate stock and the demand on that stock as well as assist in identifying the availability of feasible alternatives. Please note that documentation and data gathered for other purposes, such as to obtain financial backing or to attract development partners, that demonstrate the demand or need for the proposed development also can be included as part of the Justification Analysis.

The following websites also may be useful sources of information:

#### **5.1 Real Estate Data**

<http://louisianalandsource.com/>

[http://www.westslopeproperties.com/land\\_sale/?filter=LA](http://www.westslopeproperties.com/land_sale/?filter=LA)

[http://www.landwatch.com/Louisiana\\_land\\_for\\_sale](http://www.landwatch.com/Louisiana_land_for_sale)

<http://www.landandfarm.com/>

<http://www.landsofamerica.com/america/?Search=region>

<http://www.unitedcountry.com/realestate/search-state/index.htm>

<http://www.farmlandsearch.com/view.aspx?sc=louisiana&p=0-8-0>

<http://www.wredcoland.com/Default>

<http://www.ldaf.state.la.us/portal/News/MarketBulletinCurrent/tabid/165/Default.aspx>

## 5.2 Population Data

<http://www.huduser.org/portal/datasets/socds.html>

<http://www.reis.com/index.cfm>

<http://www.census.gov/econ/census07/>

[http://www.bls.gov/cew/map\\_application.htm](http://www.bls.gov/cew/map_application.htm)