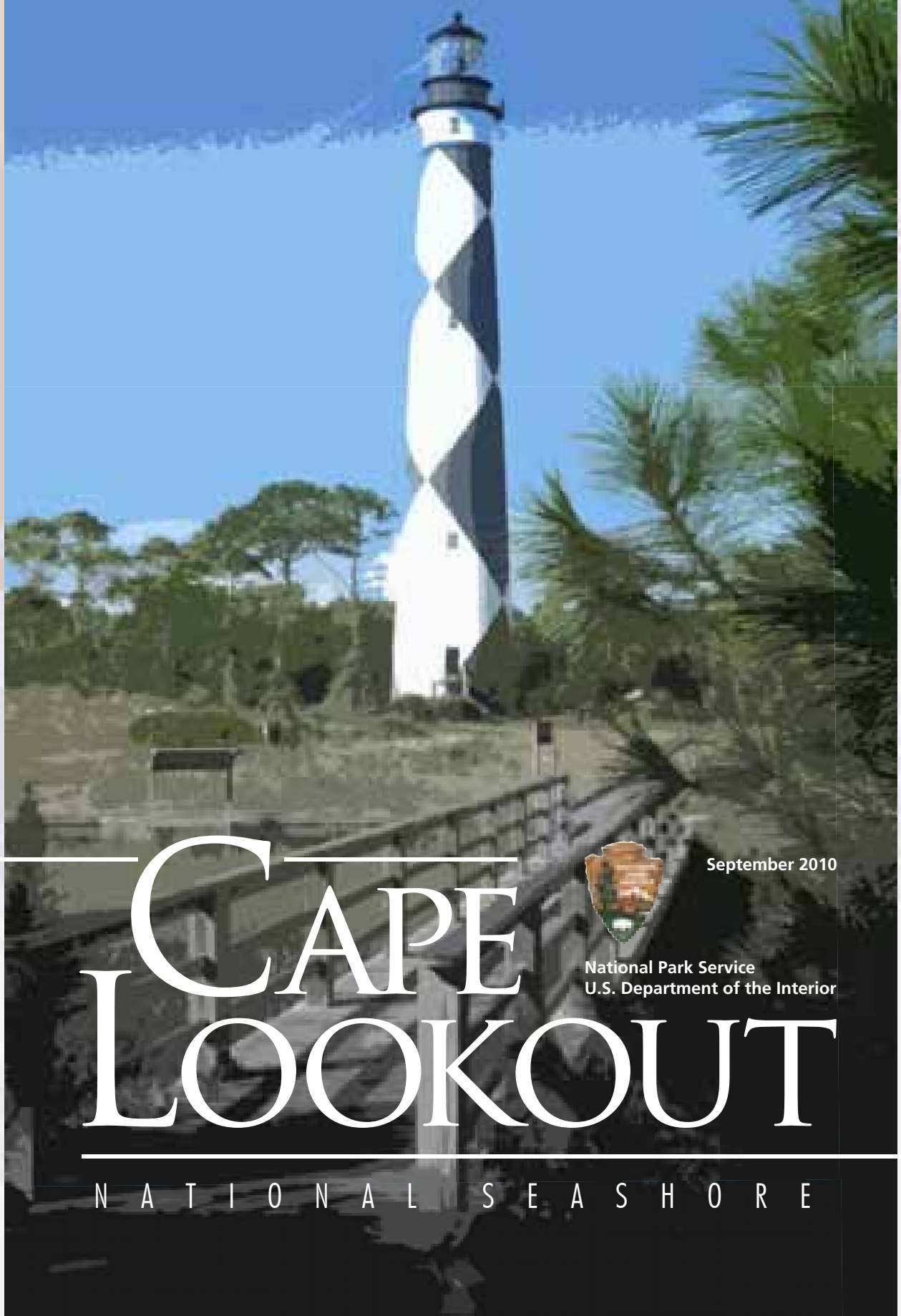


PASSENGER FERRY TRANSPORTATION FEASIBILITY STUDY



CAPE LOOKOUT

September 2010



National Park Service
U.S. Department of the Interior

NATIONAL SEASHORE

CAPE LOOKOUT



September 2010

National Park Service
U.S. Department of the Interior

N A T I O N A L S E A S H O R E

PASSENGER FERRY TRANSPORTATION FEASIBILITY STUDY

NPS 623/101847
PMIS 142436



In Collaboration with
Vanasse Hangen Brustlin Inc.
and The Volpe Center

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EXECUTIVE SUMMARY



The Cape Lookout National Seashore Passenger Ferry Transportation Study is a technical study documenting the capital investment and operational considerations associated with consolidation of passenger ferry service from Harkers Island and the Morehead City/Beaufort area to the national seashore's outer banks. The study purpose is based on the following needs:

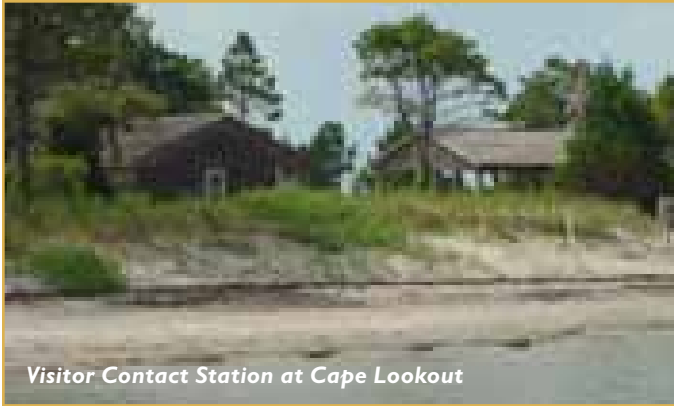


Cape Lookout Lighthouse

- Determine how best to implement the recommendations of the Cape Lookout National Seashore Commercial Services Plan (CSP) which includes securing the long-term availability of a mainland departure facility for visitor access to the park by consolidating ferry service from Harkers Island and Morehead City/Beaufort to the national seashore through a gateway site.
- Provide the technical background and guidance for determining the financial feasibility of a potential concessionaire agreement for consolidated ferry service from these locations.
- Provide background in conducting a Value Analysis (VA) and an Environmental Assessment (EA) analyzing any environmental impacts of the proposal for consolidated ferry service from Morehead City or Beaufort.
- Develop study document to allow for the compliance and procurement process to proceed towards potential implementation of new consolidated ferry service as early as Spring 2012.

In an effort to secure long-term public access to waterfront property to facilitate operation of a consolidated ferry service, the National Park Service (NPS) has engaged the local communities and jointly identified sites potentially suitable as a ferry departure location through a partnership arrangement. The NPS currently owns a boat basin at the Harkers Island Visitor Center which, with minor modifications, could accommodate a ferry operation with primary service to the Cape Lookout Lighthouse.

For the Morehead City/Beaufort area, the study analyzes eight different departure sites for the primary purpose of providing ferry service to Shackleford Banks. The anticipated result is to identify a site and local partner agency to facilitate a joint agreement on implementation of the ferry service along with the associated programmatic requirements (ie parking, docks, visitor contact, ticketing, etc.). The NPS has appreciated the energy, passion and commitment of both the towns of Morehead City and Beaufort in assisting with the identification of a future ferry departure site and reflecting an interest in agency partnership.



Visitor Contact Station at Cape Lookout

FERRY SERVICE PLANNING

To consolidate ferry service to Cape Lookout Lighthouse and Shackleford Banks, the study team analyzed various aspects of a consolidated ferry operation to provide enough detail to determine whether it is financially feasible by the standards of NPS concessionaire contracting requirements. Included in this effort is a passenger demand analysis which documents past visitation and projected future passenger forecasts. The team also developed potential ferry sailing schedules and fleet requirements to accommodate the projected passenger demand.

The resulting ferry service plans call for a half-hour sailing schedule from Harkers Island Visitor Center during peak summer season and an hourly sailing schedule during spring and fall seasons. From the Morehead City/Beaufort area the sailing schedule will be similar although peak season service from Morehead City may be limited to sailing every 40 minutes due to travel times from that location. The ferry fleet requirements for the Harkers Island service include two 40 to 50-passenger and one 16-passenger fleet to accommodate the sailing schedule and passenger demand forecasts. The Morehead City/Beaufort service is expected to include two 40 to 50-passenger ferries and one 16-passenger ferry to address the expected passenger demand.

DEVELOPMENT PROGRAM

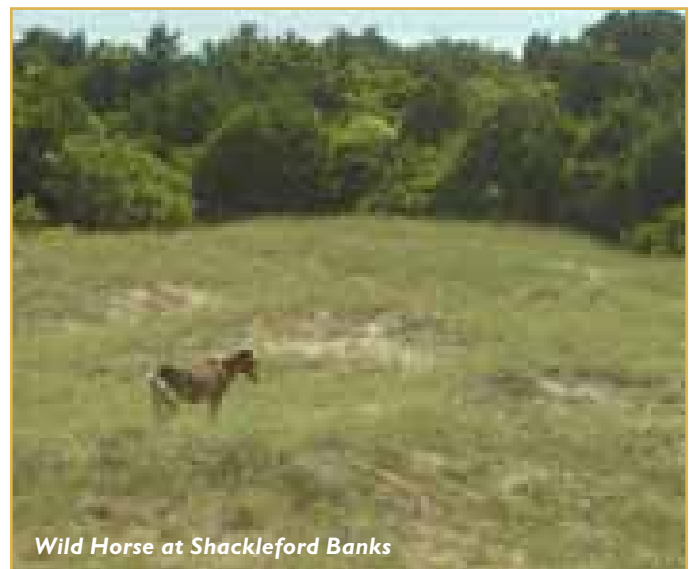
To accommodate the consolidated ferry service from both locations, landside and waterside development program requirements were defined. These programmatic elements will allow a ferry service concessionaire the ability to operate efficiently and accommodate NPS visitors in a manner that services the mission of the national seashore.

The development program elements for the departure sites include an orientation/gateway information area, ferry ticketing area, outdoor passenger queuing area with rain/shade shelter, public restrooms, parking for passenger vehicles and recreational vehicles, loading/unloading area, pedestrian connectivity, utility service, wayfinding, and accessible docks, both fixed and floating. The arrival locations at Cape Lookout Lighthouse and Shackleford Banks should have no additional required improvements based on the proposed service scenarios.

FERRY DEPARTURE SITE ANALYSIS AND EVALUATION

For the Harkers Island Visitor Center site, the study team has analyzed and evaluated the capacity of the existing facilities in accommodating the proposed ferry development program. It has been determined the existing facilities at Harkers Island will accommodate the startup of ferry service with limited improvements, while utilizing much of the existing infrastructure, such as the existing boat basin and parking lots near the visitor center.

The study also details a planning level analysis of the eight sites in the Morehead City/Beaufort area which are being considered as a departure location for consolidated ferry service. The analysis reviews the opportunities and constraints of each site and considers the capability of the site to accommodate the proposed development program. To fully assess the suitability of the sites in meeting the NPS goals, a set of weighted site selection criteria were identified and used as a tool to evaluate each of the sites.



Wild Horse at Shackleford Banks

The site evaluation process resulted in a narrowing from eight to four sites for consideration in greater detail during a subsequent VA process. Prior to the VA, site concepts were developed for the four sites to better understand the ability of each site to accommodate the proposed development program. This information was also used during the VA process.

The VA study was conducted in February 2010 to support the Passenger Ferry Transportation Feasibility Study. The objective of the VA was to analyze the four remaining departure sites in the Morehead City/Beaufort area in greater detail to determine each site's advantages and also evaluate via a value-based cost analysis. The VA process resulted in suggestions to improve the approach to addressing the dock requirements on the 10th Street site in Morehead City and Post Office site in Beaufort since there was a confirmation that only mid-sized and smaller ferry vessels will be used for the new service. The opportunities to add value to those two project sites and eliminate some clear constraints under the previous assumptions resulted in those sites becoming the more preferred sites at the end of the study.

The VA process included a Choosing By Advantages (CBA) evaluation of the sites and additional cost estimating for proposed capital improvements to accommodate the proposed development program at each site. The Post Office site and the 10th Street site were the two highest scored potential ferry departure locations and thus both will be carried through the EA to allow for further analysis of each site's environmental impacts.

These two sites make up the final short list of potential departure sites in the Morehead City/Beaufort area. During the EA process, the Preferred Alternative will be identified and presented for public review and input.



IMPLEMENTATION AND CONCLUSIONS

The technical elements of the study, including ferry demand forecasts, ferry service planning, development programming, site evaluation and value analysis, resulted in the identification of the two most suitable departure sites in the Morehead City/Beaufort area. The same technical analysis, excluding the site evaluation and value analysis, guided the study of the Harkers Island Visitor Center site's ability to accommodate ferry service to the Cape Lookout Lighthouse.

The 10th Street site in Morehead City and Post Office site in Beaufort will be further analyzed for environmental compliance under an EA. Both sites have been considered during the financial analysis and have been determined to be suitable sites. Both sites support a financially feasible ferry service concession contract when excluding site development costs. The Harkers Island service has also been determined to be financially feasible. That departure site location requires minimal improvements to start consolidated ferry service and as a result, environmental compliance will be addressed under the Commercial Services Plan EA or through a Categorical Exclusion (CE).

With the remaining sites under final consideration being financially feasible, the final recommendations of the technical study focuses on the implementation steps required to prepare any of the potential departure sites for operations starting no earlier than Spring 2012. It is anticipated that ferry service at Harkers Island may be able to begin in Spring 2012 since site improvement requirements are limited. Issues of shoaling from Shell Point to Barden Inlet may affect the implementation schedule of Harker's Island Ferry Service. The ultimate schedule and success of consolidating ferry service out of Morehead City/Beaufort lies in the working relationship and capital funding approach of the local partner agency. Continued emphasis on building a partnership agreement with the local agency partner will result in the ability to issue a request for proposal to all potential ferry operators.

1

INTRODUCTION & BACKGROUND

1

INTRODUCTION & BACKGROUND



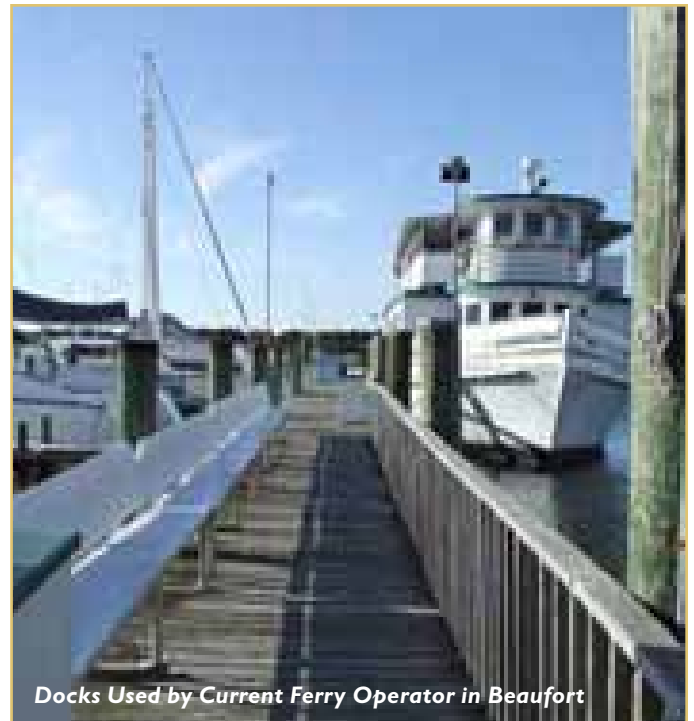
INTRODUCTION & BACKGROUND

Cape Lookout National Seashore (the national seashore) is a unit of the national park system and spans 56-miles of barrier island beach, marsh and water along the Outer Banks of North Carolina, running from Ocracoke Inlet to Beaufort Inlet, 150 miles east of Raleigh (see Figure 1.1). The three main islands, North Core, South Core, and Shackleford Banks provide visitors with miles of remote undeveloped beach and two historical districts with over 70 historic structures. The area of this study is focused on the southern portion of South Core Banks and Shackleford Banks as depicted in Figure 1.2.

South Core Banks is home to the historic Cape Lookout Lighthouse which stands 163 feet high at the southern end of the Banks. The lighthouse was constructed in 1859 to replace a shorter lighthouse which was not tall enough nor projected far enough out to sea to protect ships from the treacherous coast. It is the most popular historic feature at the national seashore and attracts tens of thousands of visitors a year.

Shackleford Banks is a proposed wilderness area and differs tremendously from the North Core and South Core Banks for that reason. It essentially has no structures and services of any kind except for two small vault toilets and a dock for landing watercraft. Otherwise the 3,000-acre barrier island is virtually free of any human impact other than day use visitors and has become well known for its herd of wild horses which run free on the island.

Access to the Cape Lookout Lighthouse on the southern portion of the South Core Banks and to Shackleford Banks is provided by passenger ferry or private boat. Currently, passenger ferries depart from Harkers Island, Beaufort, and Morehead City. These ferries are operated by several different private ferry services under Commercial Use Authorization (CUA) permits issued by the NPS. The passenger ferry service to Cape Lookout Lighthouse and Shackleford Banks has operated under this management approach for nearly 15 years. These services have been effective for the most part, although



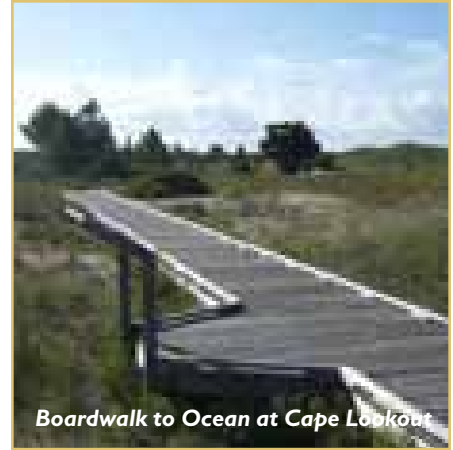
Docks Used by Current Ferry Operator in Beaufort

some concerns about diminished visitor experience under this system have been identified. These concerns include visitor comfort during the ferry ride, universal accessibility, reliability, lack of a consistent educational message, and confusion over the various operators and departure locations.

In response to the NPS Concessions Management Improvement Act of 1998, a Commercial Services Plan (CSP) was adopted in 2008 and provides guidance for NPS managers to authorize and implement the actions necessary and appropriate for commercial services at the national seashore. The CSP covers all commercial service considerations for the park with a subset of the document covering passenger ferry service to the southern portion of the national seashore. The CSP includes policy and management recommendations to address current challenges for passenger ferry access to the national seashore. This study is an early step to implement specific CSP recommendations.



Educational Tour to Shackleford Banks



Boardwalk to Ocean at Cape Lookout

PASSENGER FERRY SERVICE IN THE COMMERCIAL SERVICES PLAN

The Cape Lookout National Seashore CSP envisions improved transportation passenger ferry service to Shackleford Banks and Cape Lookout Lighthouse. Ferry service to these locations would originate from a single location in Morehead City or Beaufort and the Harkers Island Visitor Center at Shell Point. The following is a summary of some of the specific actions relating to the passenger ferry service to Cape Lookout Lighthouse and Shackleford Banks as outlined in the CSP.

- Land and water transportation services will be expanded to enhance the visitor experience. Under one or more commercial services contracts, passenger ferries will operate from Morehead City or Beaufort to Shackleford Banks and from Harkers Island to the lighthouse.
- Where feasible, some support facilities may be constructed at NPS and/or leased departure points.
- More consistent departure schedules will be established for ferry services. Reserved ferry service may be provided to facilitate specialized activities.
- To secure long-term availability of mainland departure facilities, the NPS will explore options for entering into partnerships with public/governmental agencies for long-term dock use and access in Morehead City and Beaufort.
- The NPS will increase its oversight of commercial operations in part by requiring operators to receive NPS provided training and by regularly evaluating operator performance.
- Visitor orientation will be enhanced by increasing the NPS presence at mainland ferry departure points and by coordinating visitor departures from Harkers Island with prior orientation at the Visitor Center. Enhanced visitor experience will occur through orientation and interpretation consistent with NPS standards and objectives.

- The operational efficiencies from combining the commercial use authorizations into a fewer number of contracts will benefit visitors through more consistent and expanded services. The NPS will improve coordination among commercial ferry operations to reduce visitor congestion at the island arrival locations, particularly in the lighthouse area.
- Increased NPS staffing to facilitate commercial operations will enhance visitor interpretation, health and safety.

The information from this study will be used to evaluate the feasibility of consolidated passenger ferry service to the southern banks of the national seashore. If determined feasible, the information developed during this study will also be used to further support implementation of the consolidated ferry service in the following ways:

1. Setting the stage for federal/state/local and private partnerships in potential land acquisition and/or use and potential development of mainland facilities;
2. Compliance with the National Environmental Policy Act (NEPA) of 1969, as amended, and the National Historic Preservation Act of 1966, as amended;
3. Development of site plans and construction/engineering documents for upgrade of existing ferry departure and associated support facilities;
4. Preparation of funding requests for site development implementation; and
5. Informing the General Management Plan (GMP/EIS) which is proposed to take place in FY 2011 (PMIS 68949), and an Off-Road Vehicle Management Plan which was started in 2007 and is scheduled to be completed in 2011.
6. Assist in the planning and contracting for a 10-year passenger ferry concession contract.

PROJECT DESCRIPTION

The NPS is conducting this Passenger Ferry Transportation Feasibility Study to analyze, evaluate, and make recommendations to implement consolidated ferry service to Shackleford Banks and the Cape Lookout Lighthouse from the Morehead City/Beaufort area and Harkers Island in North Carolina. The study is needed to determine how best to implement the recommendations of the national seashore CSP, which includes securing the long-term availability of a mainland departure facility for consolidated ferry service from Harkers Island and Morehead City/Beaufort to the park through a gateway site.

STUDY GOALS

Feasibility of consolidated passenger ferry service to Shackleford Banks and the Cape Lookout Lighthouse area on South Core Banks is based on several goals. The goals include:

1. Ensuring long-term visitor access to the seashore;
2. Issuing new contracts for existing ferry and land transportation services;
3. Improving the visitor experience through improved transportation;
4. Identifying the most suitable departure site locations for consolidated ferry service out of Morehead City or Beaufort; and
5. Enhancing and upgrading the quality, accessibility, and environmental compliance of existing transportation services within the park in compliance with the Concessions Management Improvement Act of 1998, NPS Management Policies, Cape Lookout National Seashore CSP and other park plans.

STUDY NEED

The consolidated service at a specific gateway departure site would better orient visitors to park resources and facilities and improve access to the national seashore. Lack of NPS ownership of, or long-term interest in, vehicle/passenger departure facilities is a major problem in the development of any new prospectus for concessions contracts for these services. The development of a departure site in the Morehead City/Beaufort area will be achieved by exploring partnership opportunities with other public/governmental entities for use of departure sites as an alternative to federal acquisition.

In addition, recent changes in state land use planning (necessitated by degradation of prime coastal resource waters in North Carolina) require a lower percentage of impervious surfaces on all development along the coast. These proposed changes will require any new development



to include additional land and specific storm water runoff protection in order to protect coastal water quality. Intense local and state-wide public and governmental concerns over the rapid loss of waterfront access to development has led to state legislation, Waterfront Access Committees and potential state funding for land acquisition. The current statewide focus on access issues provide opportunities for partnership with private, local, and state government for co-location of multi-use public facilities that would provide cost savings over individual agency development.

Accessibility, as defined in the Americans with Disabilities Act (ADA), of transportation facilities is generally substandard. Once transported to the national seashore by ferry or private boat, land transportation opportunities at the outer banks are very limited and those that are provided are generally not accessible. The passenger ferry transportation options to reach

the park, although generally effective, have inherent issues that adversely affect the park visitor's experience. The park is located in Carteret County, North Carolina. A 384 percent increase in visitation has occurred since 1984. Given future population projections, overall visitation is expected to increase.

The study will address the programmatic implementation of a consolidated passenger ferry service from the Harkers Island Visitor Center on Harkers Island to the Cape Lookout Lighthouse, with potential service to Shackleford Banks, as well as from a site in Morehead City or Beaufort to Shackleford Banks with potential service to the Cape Lookout Lighthouse. The NPS currently owns the necessary property and facilities for ferry service at the Harkers Island Visitor Center, with minor modifications, to operate a consolidated ferry service to Cape Lookout Lighthouse and Shackleford Banks. Thus a site has been identified for this service.

Since the NPS does not currently own or have any arrangements for long-term use of a site from Morehead City or Beaufort, this study will also include a site selection process for determining the best location for consolidated ferry service from Morehead City or Beaufort. This ferry operation site will provide primary service to Shackleford Banks with the possibility of additional service to the lighthouse. The site selection process includes consideration of a number of criteria that will factor into the selection of three sites for further evaluation in an EA with a preferred site ultimately being identified. The result will be recommendations to implement a primary departure site to Cape Lookout Lighthouse from Shell Point on Harkers Island and a primary departure site to Shackleford Banks from Morehead City or Beaufort.



Ferry Passengers Disembarking on Beach at Shackleford Banks

This study includes the analysis, evaluation, and recommendations relating to:

1. Existing passenger ferry service from Harkers Island and Morehead City/Beaufort including recommended routes, available departure sites, and opportunities for co-location of facilities and partnering with multiple governmental agencies;
2. Future passenger ferry demand forecasts for consolidated service from Harkers Island and Morehead City/Beaufort along with potential ferry schedules;
3. Identification of ferry vessel types for determination of potential ferry fleet mix;
4. Development program requirements for landside and waterside to accommodate forecasted passenger demand;
5. Opportunities, constraints, and conceptual plans for development of potential departure sites including landside and waterside considerations;
6. Configurations and improvements needed for arrival docks available for commercial and private watercraft use at Shackleford Banks and Cape Lookout;
7. Planning and permitting considerations for any sites requiring improvements;
8. Financial feasibility analysis for a consolidated ferry operation managed through concessionaire contract; and
9. Planning level cost estimates and implementation recommendations.

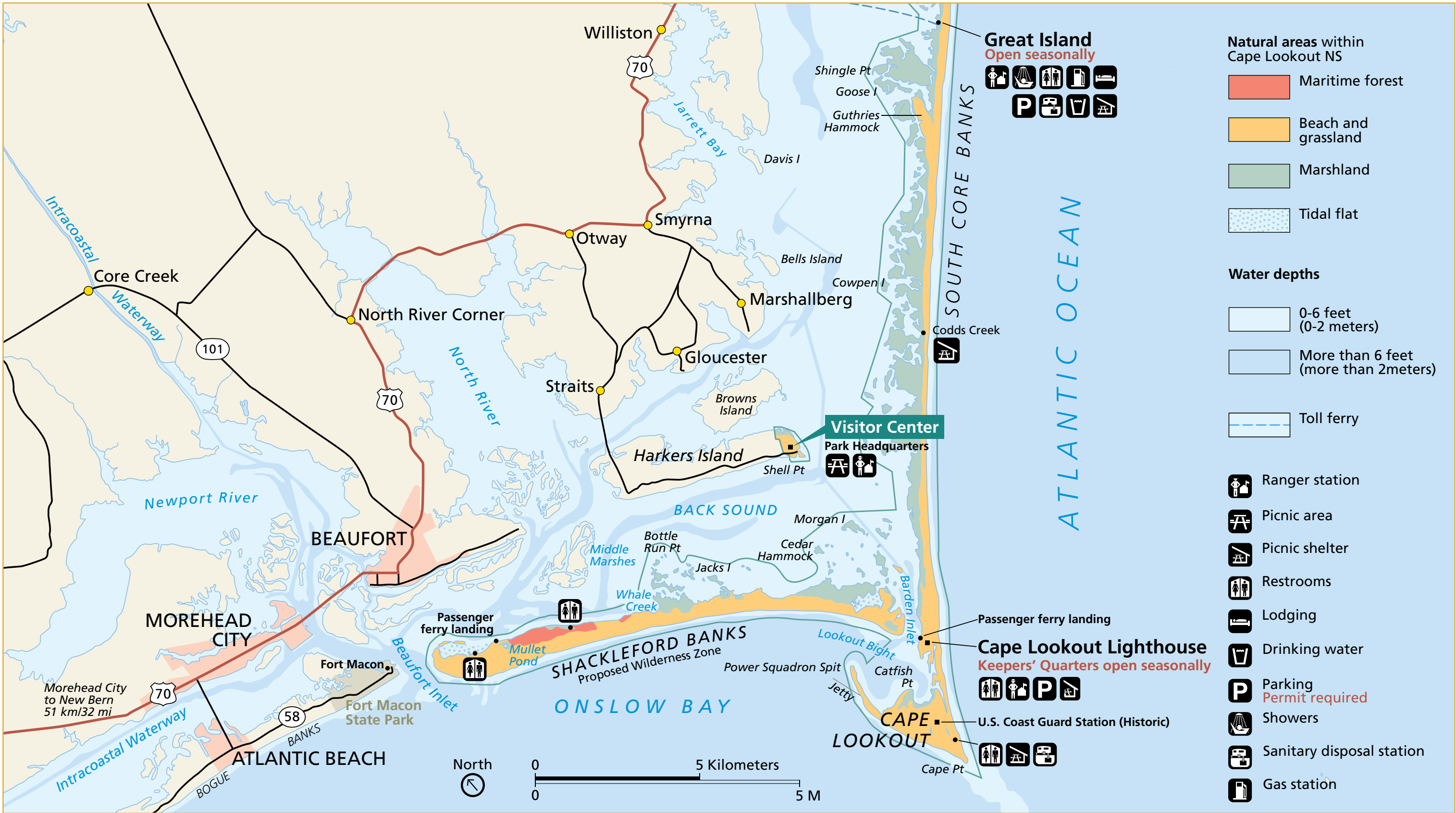
The study and the EA that will follow it will examine potential sites for ferry operations based in the Morehead City or Beaufort area. The study will consider site characteristics and requirements, including accessibility issues and opportunities for long-term co-location of facilities and partnering with the Towns of Morehead City or Beaufort or other government agencies, such as the North Carolina Maritime Museum. The study will also address potential landside and waterside improvements required at the Harkers Island Visitor Center site and the arrival docks at Cape Lookout Lighthouse and Shackleford Banks.

A Value Analysis study will be conducted near the end of the feasibility study process to help identify the short list of potential departure sites in the Morehead City/Beaufort area. Following this study and the VA will be an EA which will analyze the short list of departure site alternatives, including a no action alternative, and each alternative's impacts on the environment. The EA will only cover analysis of the Morehead City and/or Beaufort ferry departure sites. The proposed improvements at the Harkers Island Visitor Center site on Harkers Island are expected to fall within the scope of the Commercial Services Plan EA or qualify as a Categorical Exclusion under NEPA.

FIGURE I.1 REGIONAL OVERVIEW MAP



FIGURE 1.2 CAPE LOOKOUT NATIONAL SEASHORE SOUTHERN BANKS AREA MAP

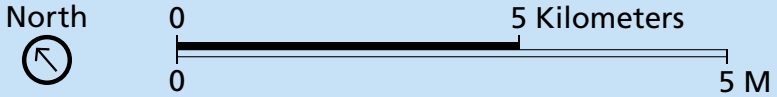


Great Island
Open seasonally

- Ranger station
- Picnic area
- Picnic shelter
- Restrooms
- Lodging
- Drinking water
- Parking
- Permit required
- Showers
- Sanitary disposal station
- Gas station

- Natural areas within Cape Lookout NS**
- Maritime forest
 - Beach and grassland
 - Marshland
 - Tidal flat
- Water depths**
- 0-6 feet (0-2 meters)
 - More than 6 feet (more than 2 meters)
 - Toll ferry

- Ranger station
- Picnic area
- Picnic shelter
- Restrooms
- Lodging
- Drinking water
- Parking
- Permit required
- Showers
- Sanitary disposal station
- Gas station



2

FERRY SERVICE PLANS



2 | FERRY SERVICE PLANS



FERRY SERVICE DEMAND

To ensure that the recommendations developed in this study lead to economically viable concessions contracts, the existing demand for ferry services is summarized in this section.

EXISTING FERRY SERVICE HARKERS ISLAND

There are four operators currently providing ferry service from Harkers Island to the Cape Lookout Lighthouse and to Shackleford Banks (primarily the east end). Not every operator provides the same schedule, but visitors can obtain ferry service to the Cape Lookout Lighthouse daily during the summer months and generally by reservation during the off-season. The summer service does not operate on a formal schedule, but its availability is effectively on-demand (see Figure 2.1 for ferry routes).

Each of the four Harkers Island ferry operators uses open skiffs, sometimes generically referred to by the brand name Carolina Skiffs, for the 15-minute trip to the lighthouse. These skiffs seat 16 to 20 passengers. Their shallow draft allows for maneuverability in the shallow waters between Harkers Island and the Cape Lookout Lighthouse; however, their small size makes them vulnerable to rough waters. The skiffs provided limited or no accessibility for those with disabilities.



Carolina Skiff Ferry Vessel at Cape Lookout

MOREHEAD CITY/BEAUFORT

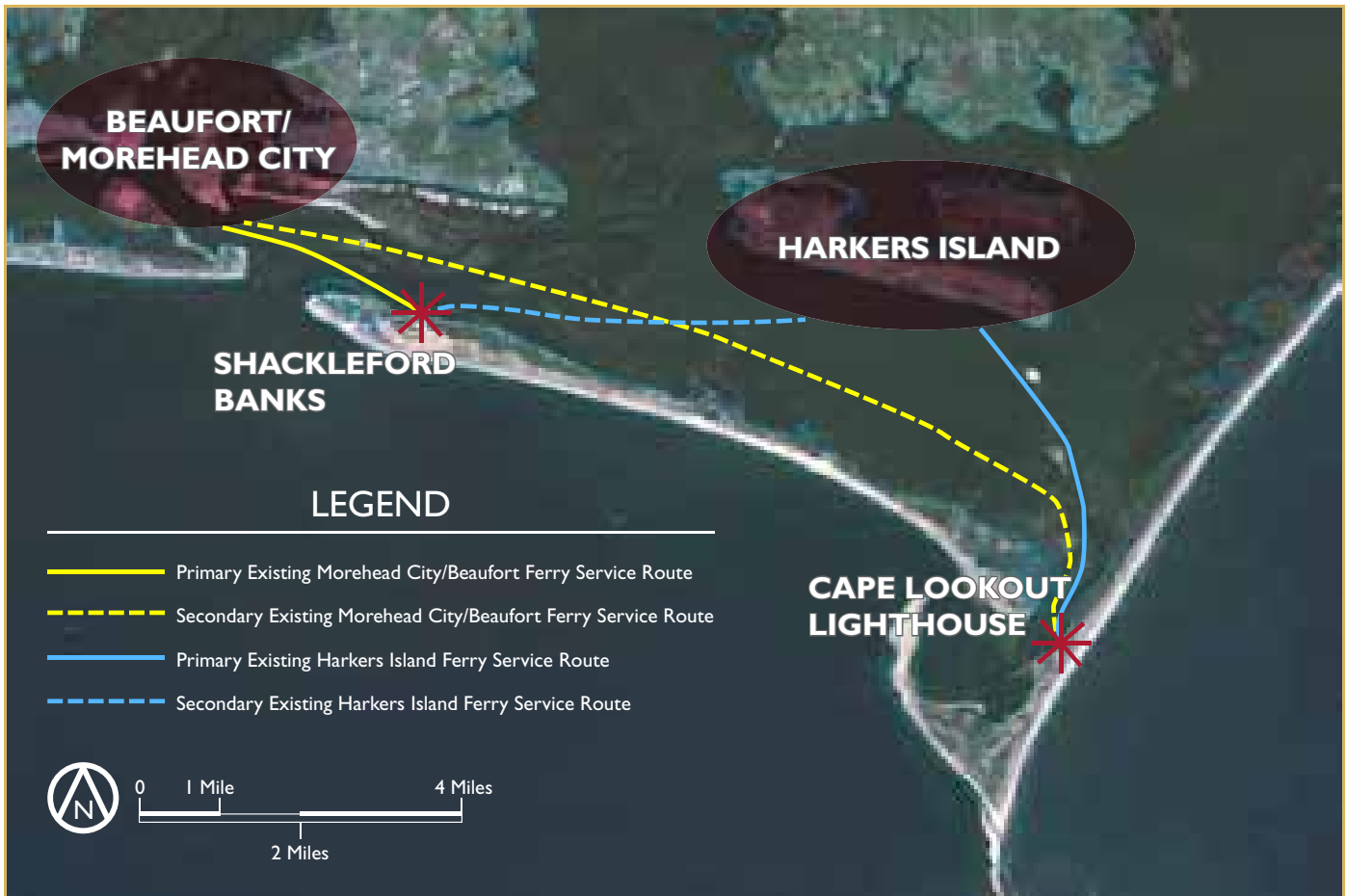
Ferry service is also currently provided under CUA permits from the towns of Morehead City and Beaufort. There are two operators providing point-to-point passenger ferry service out of Beaufort to Shackleford Banks (west end). For the ferry operators, the service to Shackleford Banks is one part of a larger water tour service that includes a variety of scheduled tours and charter trips to destinations other than the national seashore. Water access to Shackleford Banks out of Morehead City is limited to occasional charters.

Ferry service out of Beaufort using small skiffs is provided as scheduled hourly service during the summer and shoulder (spring and fall) seasons. During the summer one of the two point-to-point ferry operators also provides excursions to the Cape Lookout Lighthouse from Beaufort using a small v-hull boat. Until going out of business in 2009, a third operator out of Beaufort used large excursion boats to provide group charters and some scheduled tours that included a stop at Shackleford Banks. Most of these chartered tours were educational groups. There is also a tour operator using a catamaran operating out of Beaufort to provide daily half-day tours to Cape Lookout during the summer. Unlike the small passenger ferries, this 45-foot catamaran travels outside of the banks in ocean waters between Beaufort and Cape Lookout.



Excursion boat operating out of Beaufort

FIGURE 2.1 EXISTING FERRY SERVICE ROUTES



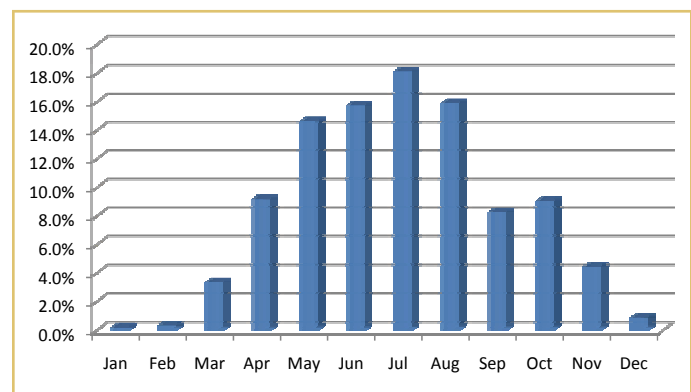
HISTORIC RIDERSHIP PATTERNS

Ferry ridership to the national seashore peaked in 2007. Passenger ferry ridership out of Harkers Island in 2007 totalled approximately 35,000 passengers. Ridership out of Morehead City/Beaufort totalled approximately 36,000 passengers (round-trips), including 10,000 passengers stopping at Shackleford Banks as part of multi-destination excursion tours.

Combined ridership in 2008 decreased by 18 percent, from 71,000 total passengers in 2007 to 64,000 passengers. Ridership in 2009 was about five percent lower than 2008. As shown in Figure 2.2, ridership varies substantially during the year, with peak ridership during the summer months. The ridership data and ferry schedules define the seasons as follows:

- Winter (off-season): December to mid-March
- Spring (shoulder season): mid-March to mid-May
- Summer (peak season): mid-May through August
- Fall (shoulder season): September through November

FIGURE 2.2 MONTHLY FERRY RIDERSHIP AS PERCENT OF ANNUAL



Source: NPS Stats, CALO Monthly Public Use Reports

HARKERS ISLAND SERVICE

The vast majority of visitors use one of the four CUA ferries from Harkers Island to travel to the dock at the Cape Lookout Lighthouse. The ferry operators out of Harkers Island also provide service to the sandbar and beach at the east end of Shackleford Banks upon request. The ferry

service carries individuals, family groups, and a few local school groups. School groups are accommodated by using two or three of the small skiffs or by making multiple trips.

WINTER SERVICE

Two of the four ferry operators on Harkers Island operate year round and are usually available to provide pre-arranged trips during the winter. It is generally not cost-effective to carry individuals during the winter; therefore fare surcharges or minimum group sizes of two or three persons are usually required. Ridership in the winter is very low, occurring predominately on weekends, and averaging 20 to 30 passengers per day on the days in which trips are made. Ferry operations occur on only about half the days during the winter because of inclement weather and an occasional lack of available captains.

SPRING SERVICE

During the spring shoulder season, ferry service from Harkers Island is not scheduled and trips are not available from all operators on all days. However, service is readily available from all the operators during school vacation periods and most weekends. On other days during the spring, ferry service can usually be arranged with at least one of the operators. As in the winter, this pre-arranged ridership is generally for groups, and a minimum fare of two to three persons is usually required.

Ridership varies greatly, depending on the weather and the day-of-week. Daily ridership can vary from fewer than 25 to, on a few days, more than 200 passengers. Weather conditions and rough waters prevent ferry operations on average at least one day a week.

SUMMER SERVICE

There is no formally scheduled ferry service from Harkers Island during the summer but each of the four operators is open daily and provides trips from 9:00 a.m. to 5:00 p.m. and at other times by special arrangement.

Ridership is generally heavy and individual riders are easily accommodated. On one-third of the days there are over 200 passengers. On about a dozen days during the summer, ridership can exceed over 300 passengers, and on one day in 2007 passenger count exceeded 400. The vast majority of these passengers are destined for Cape Lookout. Less than 20 percent travel from Harkers Island to the east end of Shackleford Banks.

Thursdays through Saturdays and holidays are consistently busy days, and Monday is often the slowest day of the week for ferry passenger activity. However, ridership is heavily dependent on weather conditions and a nice weekday preceded by several poor-weather days can see a surge of ridership that rivals the busiest weekend day.

Data gathered by the NPS during the summer of 2009 indicates that peak hourly passenger loads are routinely 25 percent to 30 percent of daily passenger loads. The passenger flow is heavily unidirectional — outbound to the islands in the morning and inbound from the islands in the afternoon. This means that there are occasionally more than 100 passengers returning from the islands during a single hour.

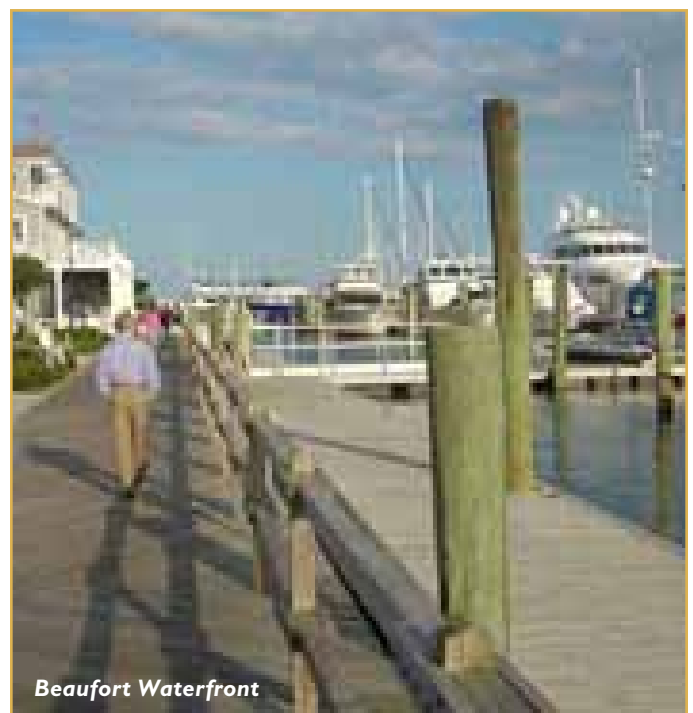
FALL SERVICE

Ferry service in the fall is similar to that in the spring. Trips are not available from all operators on all days, but ferry service can be arranged from at least one of the operators every day and is readily available from all the operators most weekends. Weather conditions and rough waters prevent ferry operations on average at least one day a week.

Ridership patterns in the fall are affected primarily by the weather and day-of-week. Average daily ridership exceeds 100 passengers during September and falls to about 35 passengers in November. Weekend days in September and October consistently serve more than 100 passengers, with a few weekend days in September exceeding 200 passengers.

EDUCATIONAL AND OTHER GROUP TRIPS

During the spring and fall there are some school group and scouting group trips departing from Harkers Island. In 2007 there were approximately 50 group trips reported by the operators, averaging 40 passengers per group. Since the Harkers Island operators only use small skiffs, educational groups are accommodated using multiple boats and/or multiple trips.



Beaufort Waterfront

MOREHEAD CITY/BEAUFORT FERRY SERVICE

There are three general categories of visitation accommodated by ferry services provided from Beaufort to the national seashore. The largest category of visitors are traveling to the west end of Shackleford Banks via point-to-point ferry service. Most of these visitors (estimated at 85 percent by park staff) are interested in swimming, shelling and other types of beach recreation. These ferries usually land on the beach. The other visitors using the point-to-point ferry services, those interested in exploring the wilderness areas, land at the beach or at the dock (located a quarter-mile from the beach), depending on the day and number of ferry passengers.

Another substantial category of visitation are groups on multi-destination day excursions or tours that include a stop at Shackleford Banks. Most of this ridership is from educational groups. There are often more than 100 passengers per trip and the large excursion boats used by these groups land at the Shackleford Banks dock.

The last category of visitors to the park using Beaufort ferries are those on a half-day tour from Beaufort to the Cape Lookout Lighthouse provided by one of the ferry operators. About 1,500 visitors take this tour annually.

WINTER SERVICE

Only one of the ferry services out of Morehead City/Beaufort operates year-round. Trips to Shackleford Banks are provided on a pre-arranged basis. Ridership is low, averaging about 20 passengers per day on the days trips are made. Because it is not cost effective for trips ferrying individuals, a minimum of 3 to 4 people may be required per trip. Weather conditions and a lack of customers precludes operations on about half of the winter days.

SPRING SERVICE

Ridership patterns for ferry service from Morehead City/Beaufort to Shackleford Banks in the spring are similar to those for the Harkers Island ferries. Ridership is heavily affected by the weather, the day-of-week, and school vacation schedules.

Trips are generally available from both ferry service operators on an hourly schedule. Ridership for ferry service to the Banks averages about 50 passengers per day when weather permits. During 2007 there were seven days in the spring when ferry ridership exceeded 100, including two days over 200.

In addition to traditional ferry service, there were many educational tour and excursion trips out of Beaufort because of the past availability of a tour operator with a large boat. There have been approximately 10,000 annual passenger trips made by these groups during the spring and, to a lesser

extent, the fall shoulder seasons. This tour operator went out of business at the end of the 2009 season.

SUMMER SERVICE

During the summer season there are two operators providing scheduled hourly ferry service to Shackleford Banks each day. Average daily ridership exceeds 150 passengers. In 2007 daily ridership exceeded 200 passengers two dozen times during the summer, primarily in July and August. On one day ridership exceeded 300 passengers.

FALL SERVICE

The ridership patterns for ferry service from Morehead City/Beaufort in the fall are similar to those for Harkers Island ferries, only the daily averages are lower. Daily ridership averages 70 passengers in September and 20 passengers in October and November.

BEAUFORT TO CAPE LOOKOUT LIGHTHOUSE TOUR

One of the Beaufort ferry operators offers a seasonal service providing a three-hour excursion to the Cape Lookout Lighthouse, including one hour at the lighthouse. The trips are made in the same open skiffs used for ferry service to Shackleford Banks. There is one tour scheduled for the morning and one for the afternoon. Due to a lack of customers, some days (16 of 89 days during 2007) the tours did not run at all. On half of the days the tours did run, only one of the two scheduled trips were made. There is also a tour operator operating out of Beaufort using a Catamaran to provide daily half-day tours to Cape Lookout during the summer.

EDUCATIONAL GROUPS

School groups and educational institutions wishing to visit the national seashore require large capacity boats with cabins and other amenities for excursion trips were catered to by Mystery Tours, out of Beaufort, until the company went out of business at the end of the 2009 season. Mystery Tours provided tours and excursions that included a stop at Shackleford Banks. Mystery Tours' older cruise boats were the least expensive boats available out of Morehead City and Beaufort. In 2007, Mystery Tours carried educational groups larger than 50 people on 69 days, averaging 155 passengers per day. On some days there were multiple groups, and on a few days daily ridership exceeded 400.

These types of excursion trips using large boats are no longer provided to the Cape Lookout Lighthouse. Several years ago these trips were provided by a 150 passenger boat out of Beaufort (also operated by Mystery Tours) but the service was not financially viable and the boat was taken out of service. Moreover, due to shifting shoals, deep-draft, high passenger capacity, boats can no longer access the Cape Lookout Lighthouse dock.

TABLE 2.2 MOREHEAD CITY/BEAUFORT FERRY PASSENGER FORECASTS

LOW RANGE PASSENGER FORECAST

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FERRY PASSENGERS		17,889	18,019	18,220	18,700	18,979	19,264	19,552	19,845	20,144	20,446	20,753	21,063	21,379
Winter	NOT OPERATING													
Spring		1,797	1,824	1,851	1,879	1,907	1,936	1,965	1,994	2,024	2,054	2,085	2,116	2,148
Summer		13,773	13,841	13,980	14,396	14,611	14,830	15,052	15,278	15,508	15,741	15,977	16,216	16,459
Fall		2,319	2,354	2,389	2,425	2,461	2,498	2,535	2,573	2,612	2,651	2,691	2,731	2,772
GROUPS		1,632	1,937	2,254	2,618	2,964	3,010	3,055	3,101	3,148	3,196	3,244	3,292	3,341
Winter	NOT OPERATING													
Spring		114	191	270	351	434	441	448	455	462	470	477	484	492
Summer		1,365	1,562	1,769	2,020	2,250	2,285	2,319	2,353	2,389	2,425	2,461	2,498	2,535
Fall		153	184	215	247	280	284	288	293	297	301	306	310	314
Total Annual Passengers		19,521	19,956	20,474	21,318	21,943	22,274	22,607	22,946	23,292	23,642	23,997	24,355	24,720
Annual Growth Rate			2.2%	2.6%	4.1%	2.9%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%

MID RANGE PASSENGER FORECAST

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FERRY PASSENGERS		21,420	21,581	21,824	22,391	22,727	23,068	23,414	23,765	24,122	24,483	24,850	25,223	25,602
Winter	NOT OPERATING													
Spring		2,396	2,432	2,468	2,505	2,543	2,581	2,620	2,659	2,699	2,739	2,780	2,822	2,864
Summer		15,932	16,011	16,171	16,653	16,903	17,157	17,414	17,675	17,941	18,210	18,483	18,760	19,042
Fall		3,092	3,138	3,185	3,233	3,281	3,330	3,380	3,431	3,482	3,534	3,587	3,641	3,696
GROUPS		2,113	2,455	2,821	3,260	3,679	3,753	3,827	3,904	3,982	4,062	4,143	4,225	4,311
Winter	NOT OPERATING													
Spring		136	222	313	408	508	520	533	546	559	572	586	600	615
Summer		1,778	1,999	2,238	2,544	2,823	2,877	2,931	2,988	3,045	3,104	3,164	3,224	3,287
Fall		199	234	270	308	348	356	363	370	378	386	393	401	409
Total Annual Passengers		23,533	24,036	24,645	25,651	26,406	26,821	27,241	27,669	28,104	28,545	28,993	29,448	29,913
Annual Growth Rate			2.1%	2.5%	4.1%	2.9%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%	1.6%

HIGH RANGE PASSENGER FORECAST

YEAR	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
FERRY PASSENGERS		21,420	21,675	22,029	22,756	23,226	23,706	24,197	24,700	25,214	25,741	26,279	26,831	27,396
Winter	NOT OPERATING													
Spring		2,396	2,468	2,542	2,618	2,697	2,778	2,861	2,947	3,035	3,126	3,220	3,317	3,417
Summer		15,932	16,022	16,206	16,759	17,049	17,344	17,644	17,950	18,262	18,580	18,903	19,233	19,570
Fall		3,092	3,185	3,281	3,379	3,480	3,584	3,692	3,803	3,917	4,035	4,156	4,281	4,409
GROUPS		2,113	2,475	2,885	3,441	3,964	4,123	4,287	4,459	4,638	4,823	5,018	5,221	5,432
Winter	NOT OPERATING													
Spring		136	227	328	437	557	584	612	641	672	704	738	773	810
Summer		1,778	2,011	2,278	2,680	3,033	3,150	3,270	3,397	3,528	3,664	3,806	3,955	4,109
Fall		199	237	279	324	374	389	405	421	438	455	474	493	513
Total Annual Passengers		23,533	24,150	24,914	26,197	27,190	27,829	28,484	29,159	29,852	30,564	31,297	32,052	32,828
Annual Growth Rate			2.6%	3.2%	5.1%	3.8%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%	2.4%



PASSENGER FORECASTS

The ferry service plans evaluated for this study maintain the water access now provided for visitors to Shackelford Banks and the Cape Lookout Lighthouse by commercial operators. Options for enhancing the service are identified and considered so that they are not precluded by operational or infrastructure constraints; however, for the most part, the forecasts of ridership demand in this study are built upon passenger data for the existing ferry services. This provides a conservative analysis to test the financial feasibility of consolidating the passenger ferry service.

Both the Harkers Island and the Morehead City/Beaufort concessioner ferry services are expected to begin operation in 2012. Passenger forecasts through 2024 for these services were developed using ridership characteristics from 2007, the historic peak year of ferry activity.

Ridership projections were developed for the winter, spring, summer, and fall seasons using the ridership patterns from the 2007 data.

Three passenger forecasts are provided for the two service locations.

LOW-RANGE

The low-range passenger forecast is an example of ridership that might occur if visitation does not rapidly recover to the peak 2007 levels and/or if the quality and convenience of the proposed ferry service is perceived to be substantially less than that currently provided.

MID-RANGE

The mid-range passenger forecast generally uses a 1.5 percent annual growth rate for ferry activity. This growth rate is indicative of a somewhat enhanced service compared to existing services. The 1.5 percent annual growth rate is slightly higher than recent and long-term visitation, population and tourist activity trends for the area.

HIGH-RANGE

The high-range passenger forecast generally uses a 3.0 percent annual growth rate for ferry activities. The growth rate is a balance between potential growth opportunities with improved and expanded ferry service and the practicalities of maintaining a high growth rate consistently through 2024.

HARKERS ISLAND PASSENGER FORECASTS

The passenger forecasts for Harkers Island are shown in Table 2.1. All three of the forecasts ranges build upon the assumption that 2007 ferry activity levels will recover by

2012. This requires an approximately 7 percent annual growth rate in the coming years and thus the 2011 forecast is 7 percent less than the 2012 base-year forecast.

Other assumptions common to all three Harkers Island forecasts include:

- Annual growth rates are not fully realized for the first three years of operations, to recognize the time it can take for a new operation's marketing efforts to mature.
- There is an additional increase in ferry activity associated with the opening of the Cape Lookout Lighthouse for tours three days per week from May to September.

LOW-RANGE PASSENGER FORECAST

The low-range passenger forecast shows expected ridership for the Harkers Island service to be 30,124 passengers in 2011, increasing to 39,000 passengers by 2024.

The low-range forecast uses an annual growth rate of 1.5 percent added to a modified base year forecast. The base year forecast of historic ferry ridership is reduced by 10 percent for school and social group trips, 5 percent for individual/family trips in the summer season, and 25 percent for individual/family trips during the other seasons.

MID-RANGE PASSENGER FORECAST

The mid-range passenger forecast shows expected ridership for the Harkers Island service to be 33,878 passengers in 2011, increasing to 44,138 passengers by 2024.

The mid-range forecast adds to the base year forecast an annual growth rate of 1.5 percent for most trips. Group trips are increased by a 2.5 percent annual growth rate to account for the availability of larger boats that could better accommodate school field trips.

HIGH-RANGE PASSENGER FORECAST

The high-range passenger forecast shows expected ridership for the Harkers Island service to be 33,878 passengers in 2011, increasing to 52,523 passengers by 2024.

The high-range forecast adds to the base year forecast an annual growth rate of 3.0 percent for most trips. Group trips are increased by a 5.0 percent annual growth rate.

RECOMMENDED PASSENGER FORECAST

The mid-range passenger forecast is recommended for the purposes of testing the financial viability of ferry service at Harkers Island. The mid-range passenger forecast provides only a modest increase above the historic passenger activity among the current ferry service operators, yet it is

anticipated the proposed ferry service will provide visitors with more convenient service and more comfortable vessels.

As described later in this chapter, visitors will find the proposed Harkers Island ferry service schedule to be more consistent and to operate more frequently than that of any of the current ferry operators. Access to the site and landside amenities such as parking, shelter, and restrooms, are at least as convenient at the Harkers Island Visitor Center as at the current ferry operator locations. In addition, the primary vessels are expected to be larger than those currently in use and, compared to the current fleet of small skiffs, will provide more seating and storage space, a safer and more comfortable ride, easier boardings at beach landings, and amenities such as a sun canopy.

MOREHEAD CITY/BEAUFORT PASSENGER FORECASTS

The passenger forecasts for Morehead City/Beaufort operations are shown in Table 2.2. As with the Harkers Island forecasts, all three of the forecasts ranges build upon the assumption that 2007 ferry activity levels will recover by 2012. The Morehead City/Beaufort forecasts also assume that annual growth rates are not fully realized for the first three years of operations.

The Morehead City/Beaufort ridership forecasts list the ridership for the scheduled ferry service and for chartered group trips to Shackleford Banks. The group trips range from small family groups to larger school groups.

The ridership forecasts do not include the half-day tour service from Beaufort to Cape Lookout Lighthouse, or multi-destination excursion services. These services are currently available to the public and could be an “authorized”, but not “required” service of a concessioner operating the scheduled ferry service under the consolidated concessions contract.

LOW-RANGE PASSENGER FORECAST

The low-range passenger forecast shows expected ridership for the Morehead City/Beaufort ferry service to be 19,521 passengers in 2012, increasing to 24,720 passengers by 2024.

The low-range forecast for trips to Shackleford Banks uses an annual growth rate of 1.5 percent added to the base year forecast. The base year forecast of historic ferry ridership is reduced by 10 percent for school and social group charters, and 15 percent for recreational individual/family trips on the scheduled ferry service. Individual/family trips on the scheduled ferry service by those primarily interested in the natural resources of the park are reduced by 5 percent for the summer and 25 percent during the other season.

MID-RANGE PASSENGER FORECAST

The mid-range passenger forecast shows expected ridership for the Morehead City/Beaufort service to be 23,533 passengers in 2012, increasing to 29,913 passengers by 2024.

The mid-range forecast for trips to Shackleford Banks uses an annual growth rate of 1.5 percent added to the base year forecast, for both group trips and the scheduled ferry service.

HIGH-RANGE PASSENGER FORECAST

The high-range passenger forecast shows expected ridership for the Morehead City/Beaufort service to be 23,533 passengers in 2012, increasing to 32,828 passengers by 2024.

The high-range forecast for trips to Shackleford Banks uses an annual growth rate of 1.5 percent for recreational trips by individuals/families using the scheduled ferry service, and 3.0 percent for all other trips.

RECOMMENDED PASSENGER FORECAST

For the purposes of testing the financial viability of ferry service at Morehead City or Beaufort it is recommended that an estimate between the low-range passenger forecast and the mid-range passenger forecast be used. This recommendation recognizes the variety of potential operating conditions and visitor accommodation among potential sites. It provides a conservative assessment of financial viability. The lower forecast for this ferry service route accounts for the possibility that an operation out of Morehead City may take longer to establish desired ridership levels than would an operation in Beaufort (where most ferry operators are currently based).

FERRY SERVICE SCENARIOS

This section presents the passenger ferry service scenarios from Harkers Island and from Morehead City/Beaufort. The service plan for the proposed consolidated ferry service recommends maintaining generally year-round, point-to-point passenger ferry service to the Cape Lookout Lighthouse and Shackleford Banks, with (minimum group size) reservation service during the winter and more frequent scheduled service during the spring, summer, and fall seasons. With the proposed service, larger boats would be used to provide a more comfortable ride and to accommodate larger groups. For each location, a sample schedule (Tables 2.3, 2.4 and 2.5) for the ferry service has been developed for the purposes of the financial analysis.

The ferry service scenarios cover mandatory point-to-point passenger service by the concessioner, at a quality of

schedule and boat amenities similar or better than what is now available. The mandatory service from Morehead City/Beaufort is to the west end of Shackleford Banks. The mandatory service from Harkers Island is to the Cape Lookout Lighthouse, with on-demand service to the east end of Shackleford Banks.

Service between Morehead City/Beaufort to the Cape Lookout Lighthouse, and from Harkers Island to the west end of Shackleford Banks, would be authorized but not required of the concessioners. Consideration was given to making these ferry service routes mandatory. However, that requirement was dropped since this service is currently not provided, financial viability of the future concessioner might be compromised by over extending the service, and point-to-point passenger ferry connections would be vulnerable if a concessioner were to go out of business.

Similarly, requiring the concessioners to provide large excursion boats sufficient to accommodate very large groups was considered but dismissed. Initial analyses found that using larger boats would be less financially viable than using the smaller boats, and this conclusion is supported by the recent closing of Mystery Tours. The recommended 40-50 passenger boats will provide better amenities and ride quality than the small skiffs currently in use, and can accommodate school classes in a single trip.

HARKERS ISLAND SERVICE

The service plan for the proposed consolidated ferry service out of Harkers Island generally maintains year-round point-to-point passenger ferry service from Harkers Island to the Cape Lookout Lighthouse and Shackleford Banks (east end). The plan calls for an increased convenience for visitors with reservation service during the winter and more frequent scheduled service during the spring, summer, and fall seasons. With the proposed service, larger boats would be used to provide a more comfortable ride, increase ability to operate during inclement weather, and to accommodate larger groups.

This service would operate from the Cape Lookout National Seashore Harkers Island Visitor Center at the eastern tip of Harkers Island. Ferry service to the dock at the Cape Lookout Lighthouse would be available year-round and by demand to the beaches at the east end of Shackleford Banks when the ferry is running.

In the winter months the ferry would operate by advanced reservations for groups of four or more. Day visitors and campers could arrange for trips on weekends or potentially Wednesday and Sunday.

During the spring and fall, the ferry service would operate hourly starting with an 8:30 a.m. departure to the lighthouse

and the last trip returning from the lighthouse at 4:30 p.m. Stops at the east end of Shackleford Banks would be made upon request. During the summer the ferry service would operate every 30 minutes, starting with an 8:00 a.m. departure to the lighthouse with the last trip returning from the lighthouse at 5:00 p.m. Stops at the east end of Shackleford Banks would be made upon request.

Earlier start times during the shoulder and summer seasons will be considered as well as later times in the summer season. The proposed frequency during the shoulder season would be equivalent to that offered by the more active existing ferry operators and the scheduled 30-minute frequency in the summer would be more frequent than offered by any of the existing ferry operators.

During the summer and shoulder seasons, special trips for larger social or school groups or motor coach tours could be made by advanced reservation. The groups would be ferried to the Cape Lookout Lighthouse and picked up later at a pre-arranged time.

Sample schedules for the ferry service are as follows:

TABLE 2.3 FERRY SERVICE TO CAPE LOOKOUT LIGHTHOUSE

SUMMER		SPRING AND FALL	
Depart Visitor Center	Depart Lighthouse	Depart Visitor Center	Depart Lighthouse
8:00 a.m.		8:30 a.m.	
8:30 a.m.	9:00 a.m.	9:30 a.m.	10:30 a.m.
9:00 a.m.	9:30 a.m.	10:30 p.m.	11:30 p.m.
9:30 a.m.	10:00 a.m.	11:30 p.m.	12:30 p.m.
10:00 a.m.	10:30 p.m.	12:30 p.m.	1:30 p.m.
10:30 p.m.	11:00 a.m.	1:30 p.m.	2:30 p.m.
11:00 a.m.	11:30 p.m.	2:30 p.m.	3:30 p.m.
11:30 p.m.	12:00 p.m.		4:30 p.m.
12:00 p.m.	12:30 p.m.		
12:30 p.m.	1:00 p.m.		
1:00 p.m.	1:30 p.m.		
1:30 p.m.	2:00 p.m.		
2:00 p.m.	2:30 p.m.		
2:30 p.m.	3:00 p.m.		
3:00 p.m.	3:30 p.m.		
3:30 p.m.	4:00 p.m.		
4:00 p.m.	4:30 p.m.		
	5:00 p.m.		

MOREHEAD CITY/ BEAUFORT SERVICE

Scheduled ferry service from Morehead City/Beaufort to Shackleford Banks would be available during the spring, summer, and fall visitation seasons. Trips for larger social and school groups would be available by advanced reservation. This ferry service would operate to the west end of Shackleford Banks. The ferry would serve both the dock location and the beach locations, as is done currently. These financial viability assessments do not include any service during the winter from Morehead City/Beaufort, although the concessioner might decide to provide such service.

During the spring and fall, the ferry service would operate on a scheduled hourly service starting at 9:00 a.m. with the last trip from the Banks at 4:00 p.m. Sample schedules for both locations are shown on the following page in Table 2.4. This is equivalent to the current schedule among ferry operators out of Beaufort.

TABLE 2.4 FERRY SERVICE TO SHACKLEFORD BANKS (SPRING & FALL)

FROM BEAUFORT		FROM MOREHEAD CITY	
Depart Beaufort	Depart Banks	Depart Morehead City	Depart Banks
9:00 a.m.		9:00 a.m.	
10:00 a.m.	10:15 a.m.	10:00 a.m.	10:30 a.m.
11:00 a.m.	11:15 a.m.	11:00 a.m.	11:30 a.m.
12:00 p.m.	12:15 p.m.	12:00 p.m.	12:30 p.m.
1:00 p.m.	1:15 p.m.	1:00 p.m.	1:30 p.m.
2:00 p.m.	2:15 p.m.	2:00 p.m.	2:30 p.m.
3:00 p.m.	3:15 p.m.	3:00 p.m.	3:30 p.m.
	4:00 p.m.		4:00 p.m.

During the summer, the ferry would operate with a scheduled service starting at 8:00 a.m. with the last departure from Shackleford Banks at 5:00 p.m. as reflected in Table 2.5. The starting time would be earlier than the current schedule among ferry operators out of Beaufort.

Due to the different travel times from Beaufort and from Morehead City and the higher passenger loads during the summer, the schedule would be slightly different between service out of Beaufort and service out of Morehead City. A frequency of 30 minutes (Beaufort) and 40 minutes (Morehead City) is shown. This schedule would be for the busier days of the week during the summer, typically Thursday through Sunday, when there might be surges of passenger loads of the first outbound trips in the morning or the last

inbound trips in the afternoon. On Mondays, Tuesdays, and Wednesdays the ferry service would operate hourly, as is done by the current ferry operators. The following presents a sample schedule for both locations for the ferry service to Shackleford Banks.

During the summer, the ferry would operate with a scheduled service starting at 8:00 a.m. with the last departure from Shackleford Banks at 5:00 p.m. The starting time would be earlier than the current schedule among ferry operators out of Beaufort.

Due to the different travel times from Morehead City and from Beaufort and the higher passenger loads during the summer, the schedule would be slightly different between service out of Morehead City and service out of Beaufort. A frequency of 30 minutes (Beaufort) and 40 minutes (Morehead City) is shown. This schedule would be for the busier days of the week during the summer, typically Thursday through Sunday, when there might be surges of passenger loads in the first outbound trips in the morning or the last inbound trips in the afternoon. On Mondays, Tuesdays, and Wednesdays the ferry service would operate hourly, as is done by the current ferry operators. The following presents a sample schedule for both locations for the ferry service to Shackleford Banks.

TABLE 2.5 SUMMER FERRY SERVICE TO SHACKLEFORD BANKS

FROM BEAUFORT		FROM MOREHEAD CITY	
Depart Beaufort	Depart Banks	Depart Morehead City	Depart Banks
8:00 a.m.		8:00 a.m.	
8:30 a.m.	9:00 a.m.	8:40 a.m.	9:20 a.m.
9:00 a.m.	9:30 a.m.	9:20 a.m.	10:00 a.m.
9:30 a.m.	10:00 a.m.	10:00 a.m.	10:40 a.m.
10:00 a.m.	10:30 a.m.	10:40 a.m.	11:20 a.m.
10:30 a.m.	11:00 a.m.	11:20 a.m.	12:00 p.m.
11:00 a.m.	11:30 a.m.	12:00 p.m.	12:40 p.m.
11:30 a.m.	12:00 p.m.	12:40 p.m.	1:20 p.m.
12:30 p.m.	1:00 p.m.	1:20 p.m.	2:00 p.m.
1:00 p.m.	1:30 p.m.	2:00 p.m.	2:40 p.m.
1:30 p.m.	2:00 p.m.	2:40 p.m.	3:20 p.m.
2:00 p.m.	2:30 p.m.	3:20 p.m.	3:40 p.m.
2:30 p.m.	3:00 p.m.		4:20 p.m.
3:00 p.m.	3:30 p.m.		5:00 p.m.
3:30 p.m.	4:00 p.m.		
	5:00 p.m.		

FERRY FLEET REQUIREMENTS

Almost all of the watercraft currently serving visitors to Cape Lookout or Shackleford Banks are 18 to 21 passenger skiffs. These are open boats about 25 feet in length with outboard engines. The ones operating out of Harkers Island are flat-bottom boats and the ones operating out of Beaufort are a mix of flat-bottom and modified v-hull boats.

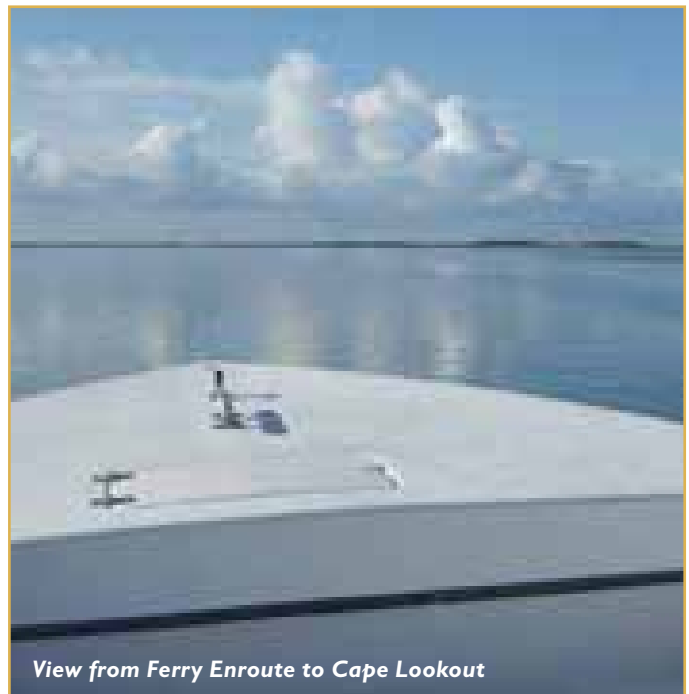
Other boats that have served visitors to the national seashore are a catamaran sailboat that provides ocean excursions between Beaufort and Cape Lookout and two older mono-hull ferry boats providing multi-destination tours out of Beaufort. These mono-hull boats, the *Mystery* and the *Diamond City*, carry 110 passengers and 140 passengers, respectively, but are no longer in service as the owner went out of business at the end of the 2009 season.

The proposed “required” ferry service scenarios cover only point-to-point passenger ferry operations by a concessioner. Other services may be “authorized.” Accordingly, shallow-draft boats certified for inland water operations are appropriate for the proposed ferry service scenarios. The current fleet is all small skiffs and boats. Providing more amenities, a better ride comfort and quality, and accessible accommodations are desirable. Based on evaluation of anticipated passenger loads, flexibility in accommodating school groups, and capital and operating costs, it is recommended that both the Harkers Island service and the



Morehead City/Beaufort service make use of one skiff, like those currently used, and two shallow-draft boats that can comfortably carry 40-50 passengers. The two larger boats would enhance the experience for visitors by providing more seating and storage space, a safer and more comfortable ride, easier boarding at beach landings, and amenities such as a sun canopy. For additional information on ferry vessel types, see Section 6: “Ferry Vessels.”

The two separate three-boat fleets will provide flexibility to accommodate the scheduled ferry service and the various small group trips. On the busiest days the two larger boats would be used for the scheduled ferry service. During the shoulder seasons, one large boat would be used for the scheduled ferry service and the other would be available for chartered group trips. The small skiff could be used to accommodate small groups during the peak season or for scheduled ferry service during slower shoulder season days.



3

FERRY SERVICE DEVELOPMENT PROGRAM



3

FERRY SERVICE DEVELOPMENT PROGRAM



With the consolidation of passenger ferry service at Cape Lookout National Seashore's Harkers Island Visitor Center at Shell Point and at a new departure site in the Morehead City/Beaufort area, more concentrated visitor demand requires a more detailed development program. On peak season days, visitation from both locations is expected to exceed 400 people over the daytime hours. There are projected to be 120 days exceeding 100 visitors from Shell Point and 95 days from Morehead City/Beaufort. This level of visitation requires a development program to support the visitor demand and with a focus on visitor experience.

The consolidation of ferry departure service allows the NPS to better craft the experience for visitors making a trip to the Cape Lookout Lighthouse or Shackleford Banks. The improvements to the departure sites will include specific program elements which provide a more desired visitor sequence and opportunities to communicate key messages to passengers prior to embarking on the ferries to the outer banks. The development program incorporates key elements such as wayfinding, vehicle loading/unloading areas, an orientation/gateway area, and a sequence of ticketing and queuing for ferry departures that provides a captured audience for national seashore communications. It is expected these communications will include information on visitor safety, the recommended supplies for the trip, on the history of the national seashore, and on sensitive resources to educate the visitor on their responsibilities when on the islands.



Big Rock Site in Morehead City

The other focus of the development program is to accommodate the larger concentrations of visitors that come with a consolidated ferry service and enhance the quality and accessibility of transportation to the seashore. To accomplish this goal, a detailed description of program elements has been defined for both landside and waterside improvements at both the departure sites and the arrival sites. Below is a description of the passenger ferry service development program.

DEPARTURE LOCATIONS

LANDSIDE PROGRAM ELEMENTS

- **CAPE LOOKOUT NATIONAL SEASHORE ORIENTATION AREA/GATEWAY INFORMATION**
The orientation area would best be a covered or indoor area of approximately 600 to 800 square feet with potential for a small office space, ranger area, and orientation/interpretation information. As an interim, this element may be limited to some orientation and interpretation waysides or signing which is covered or uncovered. The orientation area and/or ticketing area could include a small snack, beverage, and sundries sales area. This area should also include a permanent office space, if possible, for the concession contractor for use in managing the ferry operation.
- **FERRY TICKETING AREA**
This is an essential element of the ferry service and would likely be used by the concession contractor's staff. This element could be combined with the gateway information area either located in a separate enclosed structure adjacent the ferry docks or as part of a larger visitor contact station in relative proximity to the ferry docks. If not located with a gateway/orientation area, a small covered, open air ticketing both of 60 to 100 square feet should be provided.
- **OUTDOOR PASSENGER QUEUING AREA**
An outdoor deck or plaza area with informal seating



should be provided for visitors waiting to embark on a ferry. The queuing area should be located in association with the shade/rain shelter feature in close proximity to the dock and should total approximately 200 square feet of space.

- **SHADE/RAIN SHELTER**

The shade/rain shelter could be combined with ticketing and/or gateway information, if located adjacent to the dock, and should be located adjacent to the queuing area for visitors waiting for a scheduled ferry departure. The size of this feature should be a minimum size of approximately 300 to 450 square feet and could be larger if appropriate.

- **PUBLIC RESTROOMS**

The ideal site would include fully functional restrooms located in a permanent structure within sight distance of the ferry docks. The structure could be stand alone or part of a larger building providing some of the previously mentioned spaces such as the orientation area, ticketing, etc. An interim solution could be portable toilets as long as accessible units are utilized.

- **UTILITY SERVICE**

Water, sewer, and power service to site and docks will be required to accommodate restrooms, ticketing, gateway/orientation area, dock lighting, etc.

- **PASSENGER VEHICLE PARKING**

Based on typical peak season demand, parking for approximately 100 passenger vehicles is required to accommodate visitors throughout the day. The preference is for this parking to be consolidated in one location in an off-street parking lot. It is anticipated that few sites will be able to accommodate this number of off-

street parking spaces, so a combination of off-street with significant on-street parking immediately adjacent to the site is an alternative.

- **RECREATIONAL VEHICLE/BUS PARKING**

It is expected that tour groups, school groups, and visitors with recreational vehicles will be part of the visitor demographic and thus requiring parking. From 8 to 10 large vehicles are anticipated at the Shell Point departure site and 4 to 6 large vehicles at the Beaufort/Morehead City site.

- **VEHICLE LOADING/UNLOADING AREA**

As discussed, with tour and school groups anticipated, a vehicle loading/unloading area adjacent to the site would be desirable. This may help reduce on-site parking for large vehicles if drivers can stage at a separate location during the excursion to the seashore. The loading zone should be a minimum of 10 feet wide by 55 feet long and up to 110 long, if practical. These dimensions would accommodate from one to two tour buses.

- **PEDESTRIAN CONNECTIONS**

It is preferred that the site have strong pedestrian connections to surrounding businesses that would support visitor needs including restaurants, retail shops, hotels, etc. These pedestrian connections will allow visitors to obtain desired products and services in advance and upon completion of their ferry trip to the seashore.

- **WAYFINDING**

Advance directional signing should be placed along U.S. Highway 70 and along the primary corridors leading to the site to properly orient visitors to parking supporting the ferry operation. The signing should be official NPS signing.

WATERSIDE PROGRAM ELEMENTS

- **FIXED DOCK**

Docks at the departure sites ideally would incorporate accessible fixed docks with a width of 8 feet or more. Typically, the docks are of wood timber and pile construction with wood or composite wood material decking. In most cases, the fixed wood dock would likely berth large or mid-size deep draft, high freeboard, (distance from the waterline to the deck) v-hull ferry vessels although a range of vessel types will be considered and must be accommodated at the dock including shallow draft vessels. Some accommodations may be needed on the dock such as providing a typical gangway ramp to the passenger deck of the ferry for accessibility.

- **RAMPS TO FLOATING DOCKS**

Ramps from the fixed dock down to the main floating docks would be a minimum of 6 feet in width and meet accessibility standards for the slope and handrails. Ramps to smaller finger piers may be narrower and in the range of 4 to 5 feet in width. The ramps are constructed of aluminum and meet a minimum loading of 100 pounds per square foot (psf).

- **ADA/ABAAS ACCESSIBILITY FOR DOCK ACCESS TO BOATS**

The ramps noted above meet accessibility standards and provide the accessible route to the vessels where required. From the dock to the vessel, a smaller gangway would be provided with a minimum clear width of 3 feet. The gangways are typically constructed of aluminum, but other suitable material may be used.

- **WATER AND POWER SERVICE TO DOCKSIDE**

Standard 110 volt power and domestic water hookups should be provided at each of the slips that are part of the ferry operation. The dock would be equipped with power pedestals for combined electric and water service and also for pedestal-mounted dock lighting. Metering of the ferry vessel electric power use can provided either at the individual power pedestals or at a metering station on land.



Existing Passenger Ferry Operator in Beaufort



Visitor Contact Station at Cape Lookout

- **SECURITY GATING AND LIGHTING ON DOCK**

A minimum level of security gating and lighting would be provided along the docks to allow proper management of the docks as part of the concession contractor's responsibilities. In addition to the power pedestal-mounted dock lighting, pole mounted dock/site lighting would also be used to ensure adequate light levels for safety and security.

ARRIVAL LOCATIONS

LANDSIDE PROGRAM ELEMENTS

- **WAYFINDING**

Signing at end of dock directs and orients visitors as they arrive at their destination.

- **PUBLIC RESTROOMS**

Public restrooms are available at the Cape Lookout Lighthouse area and are expected to accommodate projected visitation. A pit toilet facility is provided near the dock at Shackleford Banks and is currently the greatest level of development proposed for this site due to its identification as a proposed wilderness area.

WATERSIDE PROGRAM ELEMENTS

- **FIXED DOCK**

The existing 5 to 6-foot wide arrival docks at both the Cape Lookout Lighthouse and Shackleford Banks are sufficient for small- to medium-sized ferries but may

require modification if servicing larger ferries. The narrow width of the docks is the primary constraint in managing large groups of visitors which come with a large boat. An 8-foot wide dock would be desirable for managing larger size ferry boats.

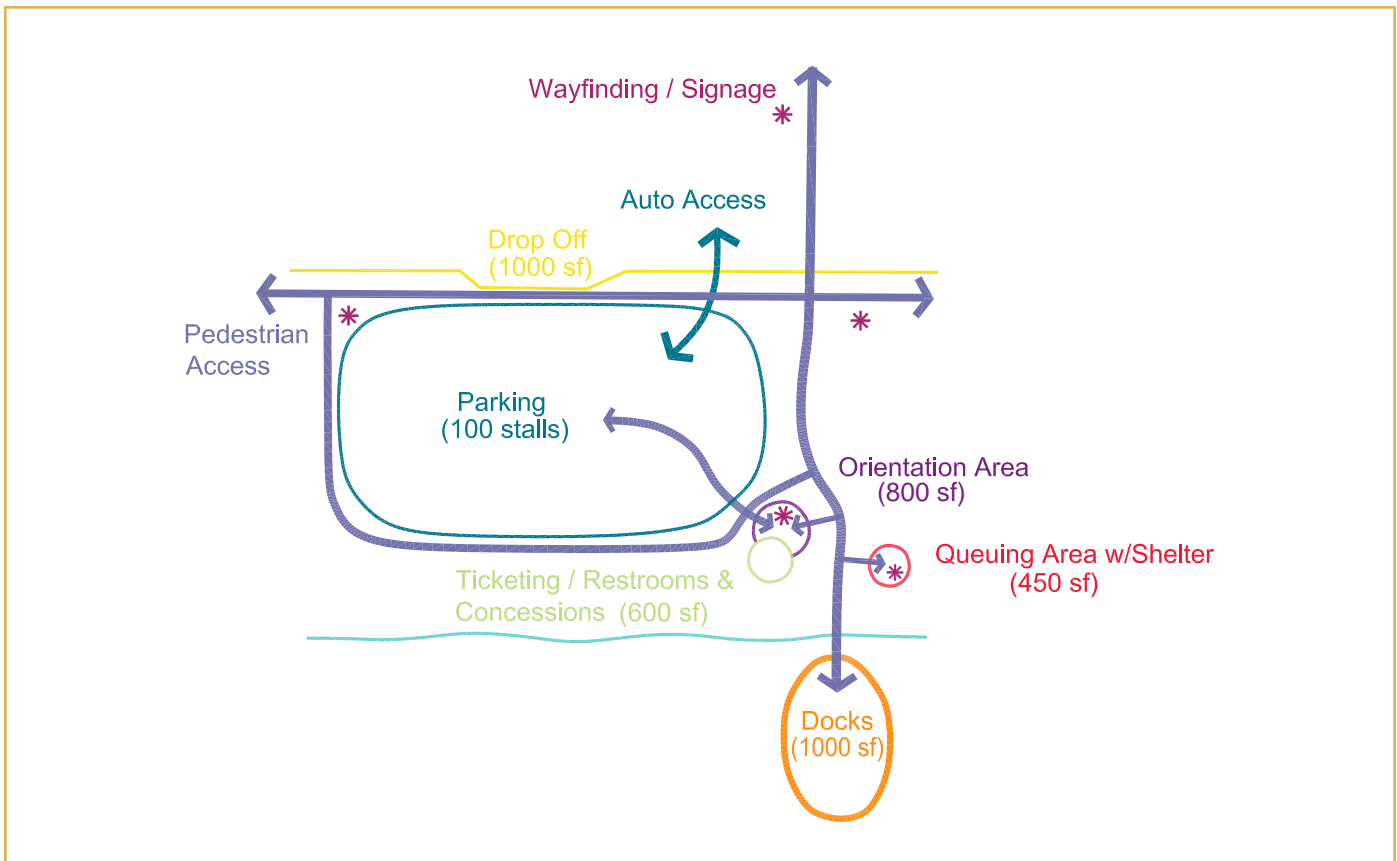
- ADA/ABAAS ACCESSIBILITY FOR DOCK ACCESS TO BOATS**
 The arrival would be improved as required to ensure that decking and clear passage widths are provided as well as suitable gangways from the dock to the vessels. Accessibility for passengers embarking or disembarking 40-passenger vessels or larger should be accommodated through lifts provided on the vessels rather than the dock.
- The application of the departure site program elements to each of the potential departure sites under consideration in Morehead City and Beaufort will guide the site evaluation process. The sites which more readily accommodate these program elements will score higher during the evaluation process. Upon selection of a preferred site and completion of environmental compliance, the implementation of these program elements at both departure and arrival sites would greatly improve quality of visitor experience, operational efficiency, and public accessibility.

FUNCTIONAL RELATIONSHIPS OF PROGRAM ELEMENTS

Locating all of these program elements on a site in a way that meets operational needs and improves the visitor experience is an important part of evaluating the effectiveness of the potential sites being considered in the Morehead City and Beaufort area. To better understand these relationships of program elements, a conceptual bubble diagram has been developed illustrating relationships of each of the landside and waterside features. The diagram is represented in Figure 3.1. This information would be used to better understand the opportunities and constraints of each of the sites being studied.

The preceding development program and relationships information is an important basis of expectations for any ferry service departure site. Before applying the development program elements to the sites, it is also important to fully document all of the sites in consideration and identify the unique aspects of each property. The following section describes each of the sites being considered in the Morehead City/Beaufort area and the Harkers Island Shell Point site.

FIGURE 3.1 CONCEPT BUBBLE DIAGRAM OF PROGRAMMING ELEMENTS

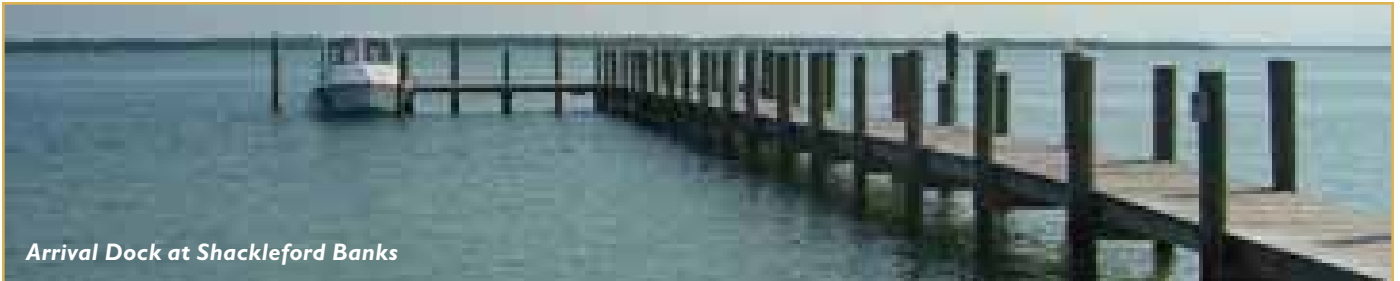


4

DEPARTURE & ARRIVAL SITE IDENTIFICATION & DESCRIPTIONS

4

DEPARTURE & ARRIVAL SITE IDENTIFICATION & DESCRIPTIONS



Arrival Dock at Shackleford Banks

SITE IDENTIFICATION SUMMARY

As described in previous sections, the NPS is proposing to consolidate passenger ferry service at two departure sites with service to two arrival destinations. Three of these four locations have been determined already based on existing conditions. The destination sites at the national seashore are at the existing ferry arrival locations at the Cape Lookout Lighthouse area on Shackleford Banks. Each of the arrival sites include existing docks which can easily accommodate small to medium size ferry boats. In addition, many of the arrivals at Shackleford Banks are currently beach landings near the northwesterly end of the island. These are expected to continue with a new ferry service.

The selected departure site from Harkers Island is the Cape Lookout National Seashore's Harkers Island Visitor Center site at the eastern end of the island. This site was selected for several reasons which include, 1) the property is under federal ownership, 2) the site also houses a visitor center with an information desk, interpretive exhibits and restrooms, and 3) the site includes an existing boat basin which was the former site of ferry service to Cape Lookout prior to 15 years ago.

The proposed departure location for a consolidated ferry operation in the Morehead City/Beaufort area requires more analysis and consideration of several sites. Through cooperation with three different local public agencies, the NPS has identified eight potential departure locations in the two cities. The locations of these sites are depicted in Figures 4.1 and 4.2.

Six of the locations are within the Town of Morehead City and two are within the Town of Beaufort. The Town of Morehead City would be the anticipated local partner agency for any of the six sites being considered within that jurisdiction. In Beaufort, the North Carolina Maritime Museum which is part of the Division of State History Museums owns a property along Gallants Channel. This property is state-owned and is the eventual site of a new Maritime Museum. At this site, the North Carolina Maritime Museum would be the local agency partner.

The other site in Beaufort is along the east end of the commercial area on Front Street. The docks being recommended as the location of the ferry service are directly across the street from the Post Office (The Grayden Paul Park dock) and are for use in loading/unloading passengers, while alternative docks are to be used for mooring ferry vessels. The Town of Beaufort intends to purchase the post office from the federal government. The town has offered the NPS a portion of the old post office building for their use as a ferry departure location, with ticket sales and a visitor contact station with restroom facilities. With this site the local agency partner would be the Town of Beaufort.

The following descriptions provide a general overview of each of the sites being analyzed within this study process. The emphasis of the study is on the eight potential departure sites with further evaluation of the most optimum sites for final consideration in an EA which is to follow this study. Each of the eight sites will be analyzed for the adaptability of each to accept the proposed development program.



Docks at Harkers Island Visitor Center



View of Docks from Harkers Island Visitor Center

HARKERS ISLAND VISITOR CENTER DEPARTURE SITE

This site is federally-owned property and is part of Cape Lookout National Seashore. This site is the primary administrative center for the Park and positioned on the east end of Harkers Island with 180 degree views of the distant seashore, including the Cape Lookout Lighthouse (see Figure 4.3). The site's location at the end of the island and its dramatic views make it a natural gateway arrival point to the national seashore. Key elements on-site include the Harkers Island Visitor Center and administrative offices, the Core Sound Waterfowl Museum and Heritage Center, a 10-slip boat basin accessing the Core Sound, and a picnic area.

The site includes a 63-space parking lot for the visitor center, a day use picnic area with separate parking for up to 40 vehicles, and employee parking to the rear of the visitor center. The visitor center parking lot includes parking for up to 10 large recreational vehicles. As mentioned, the national seashore has an agreement allowing the Core Sound Waterfowl Museum and Heritage Center to utilize several acres of the site for the museum building, supporting parking,

and natural landscape features that surround the building including an open water pond.

The federally-owned property is several parcels and is broken up by a developer's road system. Since the national seashore was authorized in the 1960's, this property was acquired from private owners and had been previously developed as a large lot residential use.

The property is level, developed and approximately 5 to 6 feet above sea level, containing natural areas with remnant natural vegetation. The site is serviced with all utilities including water, sewer, and power. There is also an existing fueling tank near the boat basin to fuel watercraft. The Harkers Island Visitor Center includes public restrooms, which are located adjacent to the boat basin. The visitor center parking lot is also immediately adjacent to the boat basin.

Visitors traveling east or west on US-70 would turn south on Harkers Island Road and follow it onto Harkers Island until the road terminates at the Harkers Island Visitor Center site.



Harkers Island Visitor Center

FIGURE 4.1 MOREHEAD CITY DEPARTURE SITES UNDER CONSIDERATION



FIGURE 4.2 BEAUFORT DEPARTURE SITES UNDER CONSIDERATION

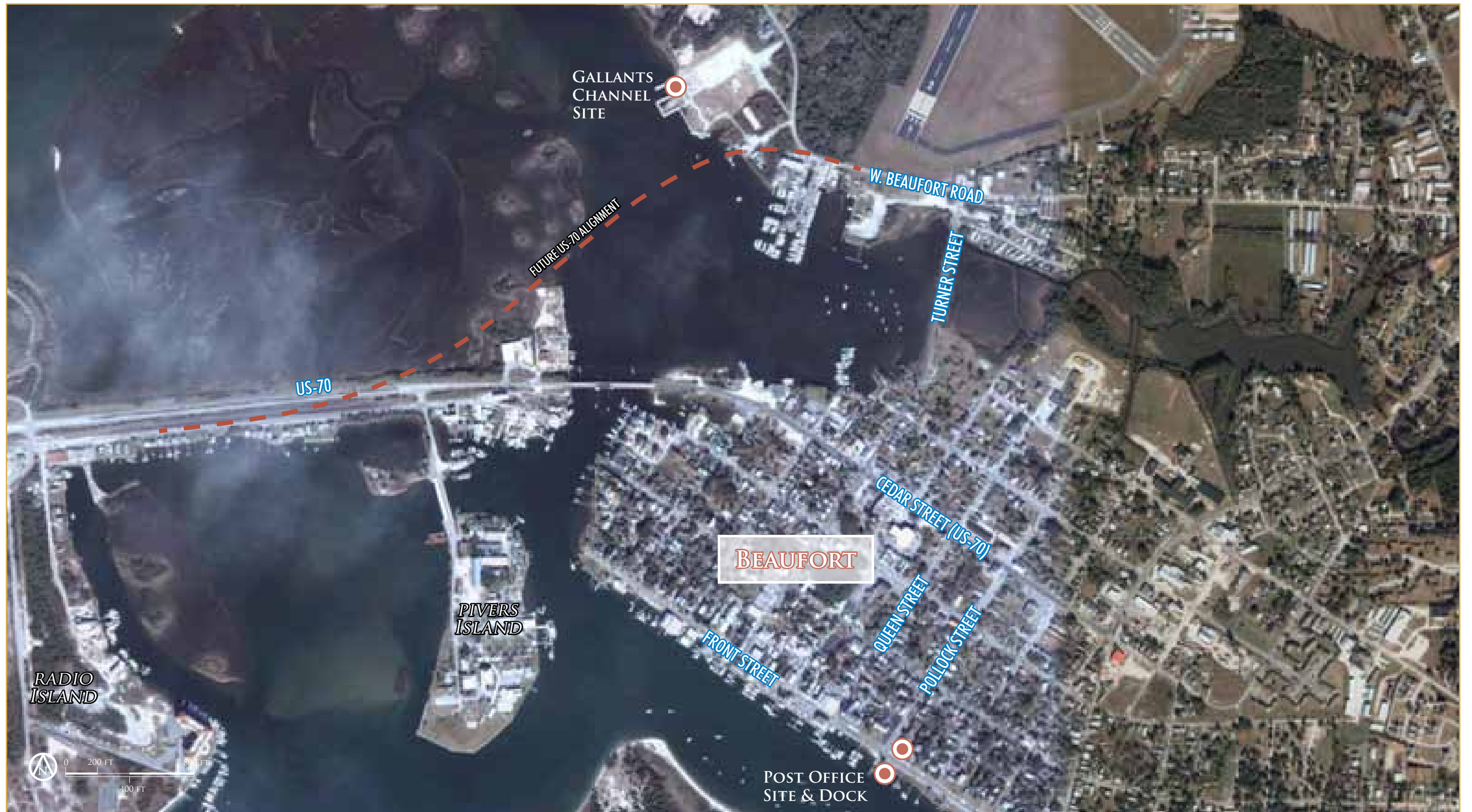


FIGURE 4.3 HARKERS ISLAND VISITOR CENTER AND BOAT BASIN





Deep Sea Fishing Vessel at Big Rock Site

MOREHEAD CITY DEPARTURE SITES

MOREHEAD CITY

Morehead City was founded in 1858 to develop port facilities due to its location on a deep channel inlet. Rail lines were established at the time of its founding and remain central to the town's identity. Active rail lines run down the center of US Highway 70 (US-70) through town, and a recently renovated rail station has been relocated to City Park for community use. The town also remains an active sea port. The port of Morehead City is a leading exporter of phosphate and is the second largest importer of natural rubber. Port warehouse facilities have been updated to house a variety of high value commodities. Smaller cruise ships have started making day long stays at the port and offer day excursions, including visits to the national seashore. Commercial fishing is also an important part of Morehead City's economy, and the town is a regional draw for sport fishing and is also a hub for sport scuba diving. The town hosts a number of seasonal events including the Big Rock Blue Marlin Tournament in the summer and Seafood Fest in the fall. The Town of Morehead City is home to several marine science institutes run by universities as well as a community college. Carteret General Hospital is located in town as well and serves as the main medical center for Carteret County.

The Town of Morehead City has successfully applied for grant money to improve its waterfront and associated dock facilities and continues to be proactive in applying for additional grant funding. The downtown Morehead City waterfront is a growing tourism draw and has a mix of residential and recreational uses as well as a number of restaurants and small businesses.



Docks at Jaycee Park Site

As a gateway experience to the national seashore, arriving in Morehead City by car requires wayfinding and directional signage. Most visitors approach Morehead City by traveling east on US-70. Currently, there are only minor visual clues that the national seashore is near. The first view of any coastal water occurs at a small marina adjacent to a roadside hotel, approximately three miles west of the proposed Morehead City sites. Travelers are more likely to notice aquatic-based businesses such as boat storage and boat repair or a sign for the Institute of Marine Sciences before experiencing any direct views of the sound. To overcome this challenge, wayfinding signage will need to play an integral role in helping travelers understand that they are arriving at the gateway to the national seashore.

10TH STREET SITE

The 10th Street site is located at the western limits of the Morehead City downtown waterfront at the intersection of Shepard and South 10th Street (2 blocks south of US-70). The study area for this site includes one town-owned parcel (equaling approximately 1/2 acre) and one adjacent privately owned parcels to the west totalling approximately 1½ acres in size. The town is currently in negotiations to purchase the parcel to the west.

One advantage of the 10th Street site is that City Park and its train depot building is located just prior to the right turn off US-70 onto South 10th Street. The park provides a natural break from the businesses lining the highway. The historic train depot has been offered by the town for interim use for visitor orientation, ticket sales at the historic ticket counter and public restrooms to support start up at the 10th Street site. The long term plan would be to move these functions to the 10th Street site.

Placement of way finding signage at this location could help visitors understand that Bogue Sound is only blocks away. After making a right at the train depot, views to the sound are immediately noticeable. This begins to create a gateway experience for visitors arriving at the site. For visitors traveling from the east on US-70, the prohibition on left turns would need to be lifted. Currently, visitors would most likely make a left turn on South 4th Street, and travel west along Evans Street through downtown Morehead City or turn left at South 11th Street heading to Shepard Street and backtracking one block to the site.

The advantage of the 10th Street site in creating an effective gateway for the national seashore is that it is a more

natural site with open views and less density of surrounding development. Its setting with views across the sound is highly compatible with ferry service to Shackleford Banks. The site's proximity to the downtown Morehead City waterfront means that it is within walking distance of the shops and other services in that downtown area. With the inclusion of the parcel to the west of the existing paved parking area, the site has the potential to accommodate approximately 60 of the 100 of required ferry service parking spaces on-site. Additional on-street parking will be required along adjoining residential streets during high season and may flow into CAMA parking areas to the east on 11th Street and to the west on 9th Street. A disadvantage associated with this site is the potential displacement of users of the small craft boat launch, although water access for those users is to be replaced at Radio Island.

The town-owned property is currently being used as a small CAMA water access site and includes a paved parking area with an observation/fishing pier (built with grant funding for fishing access). The privately owned parcel to the west is currently vacant and was formerly used as a small water craft ramp. The site consists of a fenced, informal, crushed shell parking area and wooden boat dock. The site topography is level and approximately 3 feet above sea level. To the west of the site there are residential uses and to the east are commercial businesses. The town is negotiating a purchase of the parcel to the west and will dedicate this parcel to ferry use. Additionally, the town has indicated a willingness to work with the NPS regarding negotiation of a short-term town lease of the privately-owned parcel to the east to help accommodate a potential ferry operation. Site sewer is currently available on site, with water and electrical service available from Shepard Street.



Existing Pier at 10th Street Site



10th Street Site Facing Inland



Existing Dock at Jaycee Park Site



Historic Municipal Building Near Jaycee Park Site

JAYCEE PARK SITE

The Jaycee Park site is located at the western end of the improved Morehead City waterfront esplanade. The property is owned by the Town of Morehead City and is approximately ¾ of an acre in size. The park is currently used for passive recreation activities that include fishing, walking, picnicking, and scheduled events such as Saturday evening concerts as well as seasonal events such as Seafood Fest. Residents from the adjacent health care facility are primary users of this space along with transient boat dock users.

Existing site amenities include a paved parking area at the end of 11th Street (with 24 spaces), public boat docks, a fishing pier, an event stage, bleachers, a gazebo, covered bench seating, and a small lift station building. The existing boat docks were constructed with grant funding that requires transient boat use only. The town has authorization for construction on 10 additional slips. New public restrooms with showers and laundry facilities have been constructed to serve transient boaters and the park. Site utilities including water, sewer, and electrical service are all available along Shepard Street immediately adjacent to the site.

The existing historic municipal building at the southwest corner of Evans and South 8th Street potentially has space available for use in conjunction with establishing a NPS presence in the town in the form of a visitor contact station. The town has indicated a willingness to work with the NPS regarding use of the Jaycee Park site to accommodate a potential ferry operation and potential lease agreement for use of space in the historic municipal building. The municipal building includes a small off-street parking lot, currently used by the Police Department, which could potentially be used to manage a portion of ferry service parking demand. Additional parking at this site is limited to on-street parking. Beginning at 11th Street and to the east, on-street parking along the Morehead City waterfront is restricted to two hours. A

comprehensive approach to addressing parking will be needed if this site is selected for location of the ferry service.

Adjoining uses are the Harborview Health Care facility to the north and commercial properties to east and west. The site is linked to downtown Morehead City along a brick-paved pedestrian waterfront esplanade leading east toward the heart of the downtown.

Jaycee Park overlooks the harbor channel with southern views across to Sugarloaf Island. These views help support a gateway experience to visitors once they have arrived on the site. The site effectiveness as a gateway to the national seashore is made more challenging by competition for limited space with existing park uses, as well as the arrival experience to the site. There is limited available parking space for ticketing and pre-boarding of ferry passengers. Existing park elements may be impacted by the construction of ferry service amenities. There is also the need to dredge additional area along the sea wall to construct a new dock for the ferry fleet.

Visitors traveling east to the site on US-70 would make a right turn onto South 9th Street, passing through 2 blocks of downtown commercial area and arriving directly at the site. Arriving at South 9th Street has an urban feel due to the auto repair shop on the corner. Currently there is a wooden sign for the Morehead City Waterfront with a wooden dinghy located along side. Additional signage for the ferry service will need to be explored as a part of the proposal for use of this site. Traveling on South 9th street, the waters of Bogue Sound are barely visible. As travelers approach Shepard Street, the coastal views are improved, though the views are partially blocked by the parks pump house and angled on street parking.

Visitors traveling from the west on US-70 will most likely make a left turn on South 4th Street, and travel west along Evans Street through downtown Morehead City to reach the site.

JIB SITE

The Jib site is the site of a former waterfront structure which extended out over the water on piers and was recently demolished for redevelopment. The Town of Morehead City has recently purchased the property which extends across Shepard Street to include a small triangular parcel which is currently used as parking lot.

The Jib site overlooks the harbor channel with southern views across to Sugarloaf Island. Site utilities including water, sewer, and electrical service are all available within Shepard Street immediately adjacent to the site.

The town is proposing to redevelop this site to provide more public access to the waterfront and to potentially accommodate the Big Rock Fishing weigh-in location due to its more central location on the waterfront. The site is approximately 1/3 of an acre including the waterfront parcel and a small triangular parcel.

The waterfront side of the site is expected to be redeveloped as a large waterfront pier with an open air deck for public gatherings and potentially a building structure for a yet unknown use. The triangular parcel is expected to continue being used as a parking lot in the short term. Adjacent to the site on the west and east are other piers with built structures housing maritime type uses with associated docks. Adjacent to the triangular parcel is additional parking and other commercial/retail uses generally supporting the tourist industry.

Just to the west is the previously mentioned historic municipal building at the SW corner of Evans and South 8th Street which potentially has space available for use in conjunction with establishing a NPS presence in the town and includes a small off-street parking lot which could also potentially be used to manage part of the parking demand. Additional parking will need to be accommodated with on street stalls. The town has indicated a willingness to work with the NPS regarding the design of the Jib redevelopment to accommodate a potential ferry operation.

Visitors traveling east to the site on US-70 will make a right turn onto South 8th Street, passing through two blocks of downtown commercial area, turning east on Shepard Street and arriving directly at the site. Visitors traveling from the west on US-70 will most likely make a left turn on South 4th Street, and travel west along Evans Street through downtown Morehead City to reach the site.

This site has a more limited potential as a gateway to the national seashore than the 10th Street and Jaycee Park sites. The arrival experience to the property is through a highly urbanized portion of town that does little in the way of supporting a national park experience. There is also competition for space with future pier users and limited available space for ticketing and pre-boarding of ferry passengers.



View of Jib Site from the Channel



6th Street Day Docks

6TH STREET DAY DOCKS

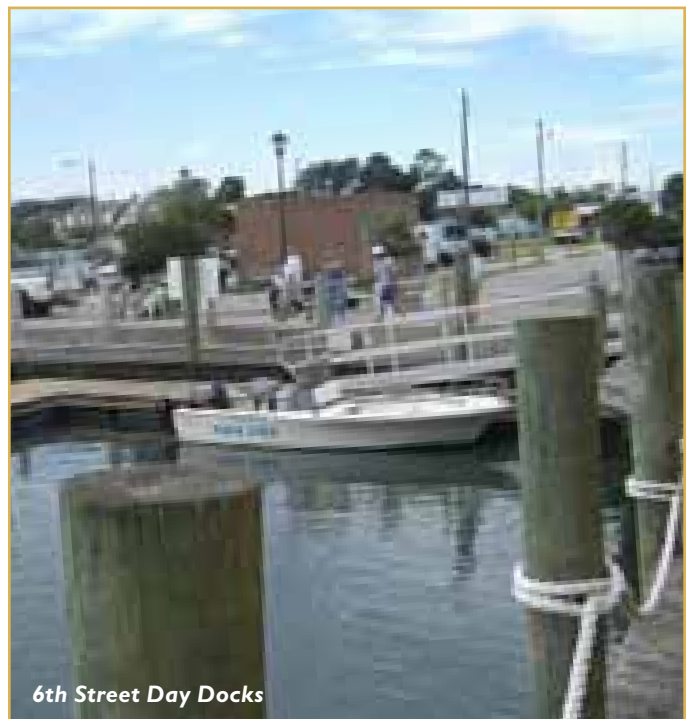
The 6th Street Day Docks site is a recently redeveloped dock area at the end of South 6th Street and bordering Evans Street. It is identified for day use by local and regional boaters. The town owns the waterfront area, including the docks, which totals approximately 6,700 square feet of land/water area. Due to its small size, this site has a very limited potential as a gateway to the national seashore.

The town also owns the Evans Street right of way in front of the site, including a widened pedestrian area which is part of the waterfront esplanade. The town also has a lease agreement with the North Carolina Railroad Company for the public use of the parking lot across the street at the northwest corner of South 6th Street and Evans Street. The town has indicated a willingness to offer up these docks for a ferry operation and work with the NPS regarding potential use of some of the parking across the street.

Adjacent to this site on the west is an extensive series of slips which are used by the local fishing fleet which provide day outings and fishing excursions for tourists. To the east is a bar and entertainment establishment and restaurant on the next parcel in that direction. Across Evans Street are a parking lot and additional commercial/retail businesses.

The 6th Street Day Docks site is similar to the other waterfront sites and overlooks the harbor channel with southern views across to Sugarloaf Island. Site utilities including water, sewer, and electrical service are all available along Evans Street immediately adjacent to the site.

Visitors traveling east to the site on US-70 will make a right turn onto South 6th Street, passing through 1 block of urban downtown commercial/parking areas and arriving directly at the site. Visitors traveling from the west on US-70 will make a left turn on South 4th Street and travel west along Evans Street for two blocks to reach the site.



6th Street Day Docks



Big Rock Site from the Channel

BIG ROCK SITE

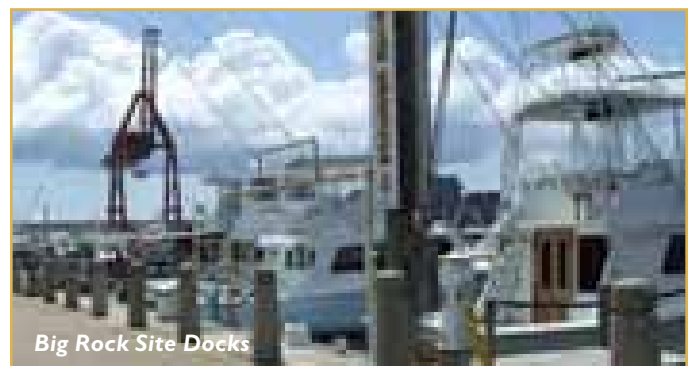
The Big Rock site is a waterfront parcel along Evans Street between the terminus of South 5th and South 4th Streets, at the eastern end of the Morehead City waterfront. The parcel is owned by the Town of Morehead City and is approximately 9,560 square feet of entirely waterfront use on the south side of Evans Street. Similar to the 6th Street dock site, this site has a very limited potential as a gateway to the national seashore due to its size. The site currently houses part of the local fishing fleet and is the site of the annual Big Rock Fishing Tournament weigh-in; however, the town is considering relocating the Big Rock event use to the redeveloped Jib site upon its completion.

The Big Rock site includes a day use public access pier and three large slips with docks for use by local fishing operators under lease agreement. The town has indicated a willingness to make these slips available for a potential ferry operation.

Adjoining uses include a commercial structure/pier to the west and more boat slips to the east. Also to the northeast is a large residential condominium building, and across the street to the north there is a privately-owned parking lot. The Evans Street frontage includes a large pedestrian area which is part of the waterfront esplanade. The town has indicated that a private developer has some extensive redevelopment plans for the entire block to the north which, if developed, may provide additional public parking.

The Big Rock site overlooks the harbor channel with southern views across to the eastern portion of Sugarloaf Island. To the southeast, this site provides views of industrial port activities. Site utilities including water, sewer, and electrical service are all available along Evans Street immediately adjacent to the site.

Visitors traveling east to the site on US-70 would make a right turn onto South 4th Street, passing through 1 block of downtown commercial/parking areas, turning right on Evans Street and arriving at the site. Visitors traveling from the west on US-70 would make a left turn on South 4th Street and follow the same route.



Big Rock Site Docks



RAILROAD SITE

This 1.9 acre property is located on the north side of US-70 at the eastern end of the Morehead City downtown and sits on the inland side of downtown Morehead City adjacent to the Yacht Basin and Calico Creek. The land for this site is owned by the North Carolina Railroad Company, which is state-owned but held in corporation.

To arrive at the Railroad site on US-70, visitors pass through a variety of Morehead City businesses, by a series of parking lots, and continue to the intersection of 4th Street. This intersection is characterized by a gas station, a used car lot, and mid-rise residential housing. There is virtually no visual sense of being near coastal waters from this vantage point, making the site a challenge for acting as a gateway to the national seashore. A left turn onto 4th Street is required to reach the railroad site. At this point the railroad site is hidden from view by the car dealership. Wayfinding signage would need to be placed at the intersection of 4th and Bridges Street to help visitors navigate their way to the site. Once turning right onto Bridges Street, the road ends, and boats moored at the yacht basin come into view. The large phosphate storage warehouse dominates the view beyond the marina.

This property has recently been cleared of dilapidated structures and is primarily a vacant lot. The eastern edge of the site consists of a wooden dock with 10 boat slips. These slips are managed by the adjacent Morehead City Yacht Basin marina. These docks overlook the yacht basin

and an island used for placement of dredge material to the northeast. Two structures exist on-site: a metal fabricated building (approximately 1,200 sf) in the southwest corner of the site and a masonry structure (approximately 1,775 sf) in the southeast corner of the site. There is a gravel driveway that terminates at the boat docks and provides an informal parking area for boat users. The topography of the site is level and approximately 4 feet above sea level. Utilities, including water, sewer and electrical, are all available adjacent to the site along Bridges Street.

The Town of Morehead City has had a successful relationship working with the North Carolina Railroad Company and feels comfortable working with that state-sanctioned corporation on a lease agreement to utilize this property for a ferry operation. Although many challenges such as final expectations and required infrastructure improvements may become obstacles to the adaptive re-use of the site for a ferry service.

There are several unique advantages to this site. It is large enough to house the required parking for the ferry service. The water of the yacht basin is deep enough for the ferry fleet, and existing docks could be upgraded to the standards required for service. Challenges include negotiating the lease agreement with the Railroad, a high degree of traffic noise from US-70, disconnection from the Morehead City waterfront, and the lack of a safe signalized pedestrian crossing to get there.

BEAUFORT DEPARTURE SITES

The Town of Beaufort was founded in 1709 making it the third oldest town in North Carolina. From its humble beginnings as a fishing village, the town became one of North Carolina's largest ports during the American Revolution and grew over time to become a picturesque 18th century seaport town. The town is laid out on a grid of tree-lined residential streets with historic homes and a waterfront district that retains its 18th century charm. The town's vibrant waterfront has numerous restaurants, bars, gift shops, art galleries, and well maintained dock facilities.

Tourism is the town's main industry. A healthy mix of locals, college students, yacht goers, and seasonal vacationers frequent the towns, streets, and businesses. There are numerous small inns and historic bed and breakfasts in town. The North Carolina Maritime Museum is located in town, keeping its maritime history alive. The town's association with Blackbeard the pirate is well documented, and a pirate theme is prevalent throughout the town. The town's waterfront is home to numerous aquatic businesses that offer boat rentals, fishing charters, and scenic tours, including ferry service to Shackleford Banks.

As US-70 approaches the Town of Beaufort, the drawbridge over Beaufort Channel acts as a gateway to the town. Panoramic views of Gallants Channel, Beaufort Inlet, and



Docks at Gallants Channel

marina moorings all create a strong sense of arriving at the coast. Unfortunately, this sense of arrival becomes compromised by the beginning of strip development on the other side of the bridge. Residential houses front US-70 between the commercial roadside uses, and there is little to indicate that the historic town of Beaufort with its 18th century charm is only three blocks to the south. As with the Town of Morehead City, wayfinding signage will need to be an integral part of the ferry service plan if visitors are to understand that they are approaching their gateway destination to the national seashore.



Front Street Docks at Post Office



GALLANTS CHANNEL SITE

The Gallants Channel site is a very sizeable property currently owned and managed by the North Carolina Maritime Museum which is part of the Division of State History Museums. This state-owned property is extensive, with the land west and south of West Beaufort Road totaling approximately 20.6 acres. The site is located just southwest of the local Beaufort airport and is along Gallants Channel.

Visitors traveling by vehicle from the east and west on US-70 will arrive at the site by turning north onto Turner Street in Beaufort at a signalized intersection and traveling a half mile to West Beaufort Road to turn left. As a gateway experience for travelers, this site may seem counter-intuitive, as it would require visitors to turn north, away from the coast as it is observed from the drawbridge. The site is approximately a quarter mile from this intersection. Affecting this site in the future is the proposed realignment of US-70 and construction of a new high rise bridge over the Newport River. The realignment will move the highway much closer to the site and drastically impact views and possibly restrict left turns for eastbound traffic onto West Beaufort Road.

The property is from 3 to 5 feet above sea level and relatively level in elevation with some wetland areas on the water side of West Beaufort Road. These wetlands could limit some of the development options for the site. The site includes a gravel drive access off of West Beaufort Road to a large

existing gravel parking lot for up to 150 vehicles with area lighting. Other amenities include paved walkways from the parking lot to existing fixed concrete docks along a portion of the waterfront and a location for portable restrooms.

Adjoining uses include a sailing academy to the east, the Michael J. Smith Field Airport to the northeast, and secluded residential parcels to the northwest. The Maritime Museum owns the property and has a master plan to develop the site for a new Maritime Museum with other supporting buildings and structures. The museum management was willing to discuss a shared use of the site, but a conflict between program requirements for both facilities may limit the ability to successfully locate the ferry service at this site. The museum's current master plan does not include any consideration for a NPS ferry operation on-site.

The Gallants Channel site overlooks the mouth of the Newport River to the southwest with views of the drawbridge along US-70 as it crosses the river. Views of Pivers Island lie beyond the drawbridge in the distance.

Water service to the site and docks is only based off of well water at this time. There is electrical service at the site and to the docks, but no sewer service is on-site at this time. The public water and sewer service are over 1,000 feet away in West Beaufort Road towards the east end of the site.

POST OFFICE SITE

The Post Office site includes a property that the Town of Beaufort plans to acquire and town-owned docks in Grayden Paul Park. The Post Office parcel is a federally-owned post office building with associated parking and truck loading areas on approximately 0.42 acres. The Post Office parcel is approximately 5 feet above sea level and includes a masonry structure which should house a NPS presence for gateway orientation, interpretation, ticket sales and restrooms. As a gateway to the national seashore, the Post Office site benefits from having sweeping uninterrupted views of the of the channel and Carrot Island (a National Estuarine Sanctuary) to the south.

This site is located on the east end of the Beaufort downtown area along the north side of Front Street. The south side of Front Street is devoted to private boat docks and some public open space. This setting creates a complimentary experience to what a visitor might expect as they travel to the national seashore. The Post Office building marks the end of the downtown business district with stately historic homes immediately to the east of the post office. Existing ferry service providers are currently located west of the post office along the downtown waterfront with one operator being located at the dock proposed for use for the consolidated ferry service. As a result, establishing ferry service from the Post Office site has the potential to better serve existing visitors with only minor disruption to what they have experienced in the past.

The proposed ferry service dock is across Front Street just west of the post office and accessed through Grayden Paul Park. These docks will be used for day to day use by the ferry service with additional moorage possibly being required for additional boats in the fleet. The docks are currently serviced with power and water.

Challenges for the development of this site for ferry service include the physical separation of the Post Office building from the ferry docks by a public street and the potential need to share space in the post office with the Town of Beaufort administrative offices while trying to creating a viable presence for the NPS.



Post Office Building



Mystery Tour Docks



View from Mystery Tour Docks to Grayden Paul Park Docks

The Post Office site includes passenger vehicle parking for up to 20 vehicles, but some of these spaces may be needed for other proposed uses in the building beyond the potential NPS use. The entire extent of Front Street in this area has diagonal parking which totals over 100 spaces extending east 1000 feet from the location of the docks. This is currently managed as free public parking with a 3-hour limit east of Pollock Street and 5-hour limit east of Marsh Street. Management of parking for visitors will need to be an integral part the sites development planning.

Visitors traveling by vehicle from the east and west on US-70 will arrive at the site by turning south onto Pollock Street and traveling three blocks through a residential zone and arriving directly at the site when reaching Front Street. Wayfinding signage will be required along US-70 as there are currently no visual clues that would direct visitors to the site.

NATIONAL SEASHORE ARRIVAL SITES

The proposed ferry service from Harkers Island and Morehead City/Beaufort area will provide visitor access to the Cape Lookout Lighthouse area on South Core Banks and Shackleford Banks. The identified arrival sites both have existing dock facilities which conveniently accommodate medium to small passenger ferry boats. Most visitors to the Cape Lookout Lighthouse travel from Harkers Island and most visitors to Shackleford Banks travel from the Morehead City/Beaufort area.

CAPE LOOKOUT LIGHTHOUSE

The south end of South Core Banks has significant historic and cultural features of the national seashore. With the Cape Lookout Lighthouse standing tall overlooking the area, the visitors to the national seashore have an opportunity to not only enjoy the beach on both the sound and ocean side of the island, but also the history of coastal navigation. Most visitors to the lighthouse area are coming to visit the lighthouse and lighthouse keeper's quarters, and to experience the history of this unique isolated landscape.

The lighthouse has been closed to the public for many years, although there are plans to make improvements to the interior that will allow the facility to be opened to the public for limited visitation. It is expected visitation will increase at this location when the opening occurs.

The lighthouse area has an existing fixed T-shaped dock for use by the proposed ferry boat operation. The dock is narrow, but in good shape and well maintained. It is anticipated the proposed ferry service will not trigger required improvements to the existing docks. There will need to be management of visitors as they disembark and embark along the dock system. Near the docks are a visitor contact station and visitor queuing area which provide space for managing visitors arriving at the site or departing back to the mainland. These areas are connected to the docks by accessible boardwalks which also lead to the ocean side of the island. Figure 4.4 provides some context to the arrival area and indicates the location of the existing dock as well as the lighthouse.



Boardwalks at Cape Lookout Provide Good Accessibility for Visitors



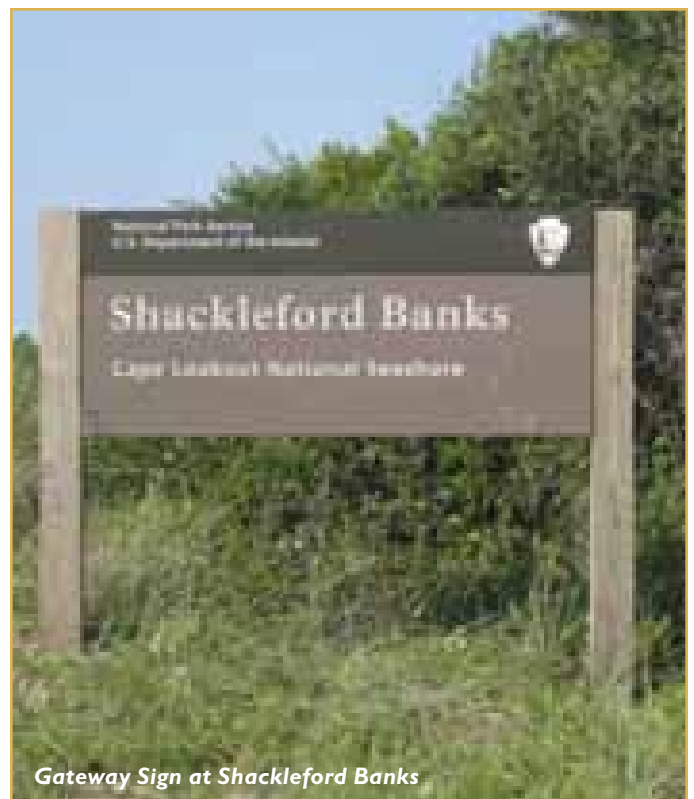
Pit Toilet Restroom at Shackleford Banks

SHACKLEFORD BANKS

Shackleford Banks provides a potentially different experience for visitors due to its proposed designation as a wilderness area. As a result of this wilderness classification, there are no proposed structures or development on the island. There exists a fixed dock facility towards the northwest end of the island. The docks will remain and provide a landing point for the proposed ferry service. In addition, it is expected that the passenger ferries may land on the beach on the sound side as well. Figure 4.5 reflects the location of the existing dock and the anticipated locations for beach landings.

Most ferry visitors to Shackleford Banks arrive to experience the wild horses on the island or the high quality beaches. Visitors come to this island with basic supplies and are on their own to walk across the island or around the northwest tip if they desire experiencing the ocean side of the banks. Visitors either come to lay on the beach and swim in the sun or to simply roam the beaches looking for seashells.

The island does have a vault toilet near the existing dock, but no other services are provided, and will continue to be managed in that way with the proposed wilderness designation. The proposed ferry service is not expected to trigger any improvements to the dock or around the dock area.



Gateway Sign at Shackleford Banks

FIGURE 4.4 CAPE LOOKOUT ARRIVAL LOCATION



FIGURE 4.5 SHACKLEFORD BANKS ARRIVAL LOCATIONS



5

PERMIT SUMMARY & SITE ANALYSIS

5

PERMIT SUMMARY & SITE ANALYSIS



Beach Recreation at Cape Lookout

SHORELINE/WATER BASED PERMITS

It is anticipated that the selected departure site from Morehead City or Beaufort will require improvements on the waterside and landside. These improvements are likely to trigger various environmental permits including a Coastal Area Management Act (CAMA) permit.

The Coastal Area Management Act requires permits for development in Areas of Environmental Concern (AEC). A CAMA permit must be obtained for projects meeting all of the following conditions:

- It is in one of the 20 counties covered by CAMA;
- It is considered “development” as defined by CAMA;
- It is in, or it affects, an Area of Environmental Concern (AEC) established by the Coastal Resources Commission (CRC);
- It doesn’t qualify for an exemption such as additions and/or modifications to simple structures, maintenance and expansion, and emergency maintenance and repairs.

As defined by CAMA, “Development” includes activities such as dredging or filling of coastal wetlands or waters, and

construction of marinas, piers, docks, bulkheads, oceanfront structures, and roads.

There are three types of CAMA permits: major permits, general permits, and minor permits.

MAJOR PERMITS are necessary for activities that require other state or federal permits, for projects that cover more than 20 acres or for construction covering more than 60,000 square feet. Applications for major permits are reviewed by ten state and four federal agencies before a decision is made.

A CAMA Major Permit will be required if the applicant is a non-federal entity.

GENERAL PERMITS are used for routine projects that usually pose little or no threat to the environment.

MINOR PERMITS are used for projects, such as single-family construction, that do not require major permits or general permits. They are reviewed, issued, and administered to CRC standards by local governments under contract with the Division of Coastal Management (DCM).

DETAILS ON CAMA MAJOR PERMITS

A major development permit is needed if the project involves development in an Area of Environmental Concern and any of the following:

- another state or federal permit, license or authorization, such as for dredging and filling, wetlands fill, stormwater management, sedimentation control, wastewater discharge, or mining;
- excavation or drilling for natural resources on land or under water;
- construction of one or more buildings that cover more than 60,000 square feet on a single parcel of land;
- alteration of more than 20 acres of land or water.

A major permit is usually required if there is any dredging or filling of water or marsh. The following outlines the steps necessary to complete the application process:

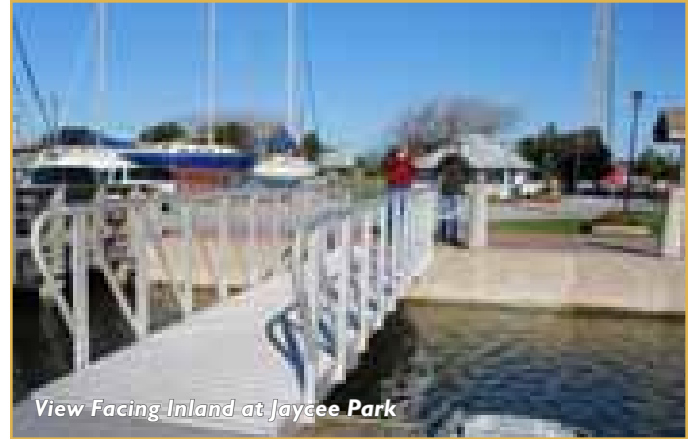
1. Contact the local DCM office in the project district.
2. A field representative will visit the project site, discuss the proposed project, and provide a copy of the permit application.

3. The CAMA major permit application serves as an application for several other state and federal permits, to reduce confusion about the application process, and to reduce the time needed to review permit applications. These permits are:

- Dredge and Fill: Required by the North Carolina Dredge and Fill Act for any project involving excavation or filling in estuarine waters, tidelands, marshlands, or state-owned lakes.
- Easement to Fill: Required by the North Carolina Department of Administration for any filling project in navigable waters to raise lands normally submerged at high tide to above the mean high water mark or to place certain structures on state-owned bottoms.
- Water Quality Certification: Required by the North Carolina Division of Water Quality for any activity that may discharge fill into waters or wetlands and that requires a federal permit.
- Section 10 of the Rivers and Harbors Act: Required by the U.S. Army Corps of Engineers for dredging, filling and other work in navigable waters.
- Section 404 of the Clean Water Act: Required by the U.S. Army Corps of Engineers for discharge into waters or wetlands.



Existing Docks at 10th Street Site



4. The permit application requires basic information about the project and the property which includes the applicant's name, address, and telephone number;
 - the location, nature, and purpose of the project;
 - the type of land to be excavated or filled;
 - the type of equipment to be used;
 - the intended use of the project.
5. A completed application and fee must be returned to the DCM field office before the application review can begin. Note: Major permit fees range from \$250 to \$475.
6. A copy of the deed or other document showing title to the land must be attached to the application.
7. The application package must include a list of the names and addresses of the owners of adjacent waterfront properties. The applicant must notify the adjacent waterfront owners by sending them a copy of the completed application by certified mail, return receipt requested. The postal receipt must be attached to your application form.
8. If the project is located in an ocean hazard AEC, an AEC Hazard Notice must be completed. This notice states that the applicant recognizes the natural hazards of building on the site, that the CRC does not guarantee the safety of the project, and that the CRC assumes no liability for future damage to the project.
9. The permit application must be accompanied by a vicinity map and associated drawings.
10. Additional forms may be required with the application for certain projects: excavation and fill (form DCM-MP-2); upland development (form DCM-MP-3); structures within public trust areas (form DCM-MP-4); bridges and culverts (form DCM-MP-5); and marinas (form DCM-MP-6).
11. Applicant must pay an application fee.
12. Once DCM has received the application materials:
 - A field representative will visit the project site and review the application information.
 - In conjunction with the site visit, the field representative will check to ensure that the proposed project complies with all AEC standards.
 - During the review, DCM will determine if the project complies with the local CAMA land use plan.
 - The project will also be reviewed for compliance with the local zoning ordinance, subdivision ordinance, and other development regulations.
13. After the field representative receives the application and determines that it is complete, DCM will publish a legal notice in a local newspaper to inform the community that the project is being considered for a major development permit. The public may examine the application file for compliance with the CRC's development standards, the local land use plan, and local development ordinances. Notification will be made when the application is deemed complete and will be given a projected time as to when the permit decision should be made.
14. The field representative prepares a field investigation report that summarizes the project and any anticipated effects on the environment. That report, along with a copy of the completed application, is sent to the permit staff at DCM's Raleigh office.
15. Because of the broad scope of the CAMA Major Development Permit, the complete application package is circulated to 10 state and four federal agencies. Both the DCM field report and agency comments are public documents and are available for public review.

STATE REVIEW AGENCIES

- Department of Administration, State Property Office
- Department of Cultural Resources, Division of Archives and History
- Department of Commerce, Division of Community Assistance
- Department of Transportation, Division of Highways
- Department of Environment and Natural Resources
- Division of Environmental Health
- Division of Water Quality
- Division of Land Resources
- Division of Marine Fisheries
- Division of Water Resources
- Wildlife Resources Commission

FEDERAL REVIEW AGENCIES

- Army Corps of Engineers
- Environmental Protection Agency
- National Marine Fisheries Service
- Fish and Wildlife Service

The CAMA allows DCM 75 days from the date the field representative accepts the application as complete to take action on a major development permit. This period can be extended for an additional 75 days if more time is needed to review the proposed project.

DCM can place a project on hold if more information is needed to complete the file. When DCM receives that information, the review clock starts where it was stopped: For example, if DCM places a project on hold 15 days into the review, the clock will restart with 60 days remaining. A permit applicant also can place a project on hold for any reason.

Here's how DCM uses the review period:

- After visiting the project site and examining the application file, the field representative submits a field report to state agencies, the Army Corps of Engineers, and a permit coordinator at the DCM's Raleigh office.
- The coordinator uses state and federal review agency comments, along with any comments from the public, to make a recommendation to DCM's director. The director will then decide to issue or deny the permit.

PERMIT DECISIONS

DCM will issue a CAMA major permit if the project complies with the CRC's rules, the local land use plan, and local

development regulations. Most permits contain conditions to ensure that resources are protected. If a permit is issued for the project, DCM will mail an original permit and a copy for applicant signature.

MAIL APPLICATIONS WITHIN CARTERET COUNTY TO:

TOWN OF MOREHEAD CITY

706 Arendell St.

Morehead City, NC 28557

LPO: Dean Lombreglia, Jeannie Vaughan

TELEPHONE: (252) 726-6848

FAX: (252) 726-2267

Email: deanl@bizec.rr.com, jeanniev@bizec.rr.com

CAMA PERMITS: FEDERAL CONSISTENCY

This "Federal Consistency" authority exists under the Federal Coastal Zone Management Act. The Coastal Zone Management Act (CZMA) was enacted on October 27, 1972 to encourage coastal States, such as North Carolina, to develop comprehensive programs to manage and balance competing uses of and impacts to coastal resources. It applies to any activity that is within the State's coastal zone that may reasonably affect any coastal resource or coastal use within the State's coastal zone (even if the activity occurs outside of the coastal zone) if the activity:

- is a Federal activity;
- requires a Federal license or permit;
- receives Federal money; or
- is a plan for exploration, development or production from any area leased under the Outer Continental Shelf Lands Act.

Federal agencies proposing an activity that can reasonably affect a coastal resource or a coastal use are required to submit to DCM a consistency determination. For example, if the National Park Service proposes to install a shoreline protective device, then the Park Service will be required to submit a consistency determination documenting how the proposed activity would be considered consistent with the State's coastal program. The State has 60 days to review a consistency determination. If a CAMA major permit is obtained there is no need for a Federal Consistency Review.

Upon receiving a consistency certification submission, DCM will evaluate it for completeness. The DCM may not file a consistency submission as complete until the applications for other required State permits have also been filed as complete by the other reviewing State agencies. If the consistency submission is determined to be complete, DCM will review the proposed project for conformance with the enforceable

policies of the State's certified coastal management program. As part of this review process, the proposed project is circulated to the public and a variety of State agencies for comment. When the public review period is completed, DCM will consider the comments received. Moreover, DCM will not make a final decision on the proposed project until the applicant submits copies of all other required State permits, for example a Section 401 Water Quality Certification and/or Erosion and Sedimentation Control Plan. Upon reaching its decision on the proposed project, DCM will issue either a letter of concurrence or objection.

SUBMISSION REQUIREMENTS:

When making a submission, one original plus 20 copies is required to be submitted. DCM distributes copies of each submission to approximately 20 State agencies that would have a regulatory interest in the proposed project.

EXCAVATION OF CHANNELS, CANALS AND BOAT BASINS

Navigation channels, canals, and boat basins are common along the coast's sounds, rivers, and creeks. Navigation projects enhance the state's coastal waters for boating or fishing. New navigation channels are subject to the North Carolina Environmental Policy Act (NCEPA) and must undergo a NCEPA review.

The following specific development regulations for navigation channels must be met {15A NCAC 7H .0208(b)(1)}, in addition to the general rules for coastal wetlands, estuarine waters and public trust areas:

- Navigation channels, canals and boat basins must avoid primary nursery areas, highly productive shellfish beds, beds of submerged aquatic vegetation, and marshes.
- Navigation channels and canals can be allowed through narrow fringes of regularly and irregularly flooded coastal wetlands, provided they do not significantly damage fishery resources, water quality or adjacent wetlands and if no reasonable alternative exists.
- A canal or channel must be the smallest width possible to meet user needs and provide adequate water circulation.
- Canals must not cause water quality problems. This standard ensures that any constructed canal will flow freely, so water won't stagnate and concentrate pollutants.
- Canals should be designed to prevent shoreline erosion on adjoining properties.
- No canal or boat basin may be deeper than its connecting channels.

There are two common methods of excavating and maintaining navigation channels, canals, and boat basins: mechanical dredging and hydraulic dredging.

MECHANICAL DREDGING

Mechanical dredging is used to construct and maintain navigation channels and boat basins, allowing boats to use coastal waters safely.

To qualify for a CAMA permit, a dredging project must meet the general CAMA regulations for coastal wetlands, estuarine waters, and public trust areas.

- All dredged material from the construction or maintenance of a canal, channel, or basin must be confined inland of regularly or irregularly flooded coastal wetlands and must be stabilized to prevent sediment from entering adjacent marshes or waterways.
- Dredging in primary nursery areas and beds of submerged aquatic vegetation is prohibited unless maintenance excavation is essential to maintain a traditional and established use in these areas.

HYDRAULIC DREDGING

Because hydraulic dredging increases the potential for environmental impacts, special rules apply {15A NCAC 7H .0208(b)(2)}:

- Dredged material (spoil) must be confined on high ground by retaining structures or deposited on ocean beaches if the spoil is suitable. Dredged materials confined on high ground must be placed inland of any marshland and should be stabilized to keep sediments from entering adjacent waters or wetlands.
- The end of the dredge pipeline should be set far enough into the disposal area to keep the containment dike from eroding and far enough from the spillway to allow suspended sediments to settle evenly throughout the disposal area.
- Effluent from a diked spoil disposal area must be carried by a pipe, trough, or similar device to a point in the water past visible vegetation or below the normal low water line.
- A water control structure must be installed at the intake end of the effluent pipe to allow for the settling of suspended sediments, which restricts the flow of sediment into adjacent marshes and waterways.
- Effluent from diked disposal areas holding spoil from closed shellfish waters must not be returned to open shellfish waters.

DOCKS AND PIERS

Docks and piers serve important functions along the coast, allowing access to water for recreational and commercial boating, swimming, diving, fishing, and transportation.

The type of permit needed for a dock or pier varies with the size of the structure. All docks and piers must meet the general CAMA rules for coastal wetlands, estuarine waters, and public trust areas and the following specific regulations {15A NCAC 7H .0208(b)(6)}:

- Docks and piers cannot be wider than 6 feet. Wider docks and piers may be permitted only if the greater width is necessary for safe use, to improve public access, or to support a water-dependent use that cannot otherwise occur.
- Piers in existence on or before July 1, 2001 may be braced with additional pilings and crossbeams to prevent or minimize storm damage, as long as the pilings do not extend more than 2 feet beyond either side of the pier.
- Piers extending more than 100 feet past the marsh vegetation or the shoreline must not extend beyond the length of existing piers used for similar purposes along the same shoreline.
- Piers must not extend into the channel portion of the water body.
- Piers must not extend more than one-fourth the width of a natural water body or man-made canal or basin, except in cases where there is a federally established pier-head line or if the pier is located between longer piers within 200 feet of the property.
- There are limits on the combined area of all T-heads, finger piers, platforms, and decks, and those limits vary based on the type of permit obtained.
- Docks, piers, and T-heads must be elevated at least 3 feet over the coastal wetland substrate, as measured from the bottom of the decking.
- Piers must not interfere with access to any riparian property and shall have a setback of at least 15 feet between any part of the pier and the adjacent property owners' areas of riparian access.
- In areas where the shoreline is irregular, such as the end of a canal, DCM field representatives are responsible for determining the projection of the riparian property lines into the water and will assist property owners in determining pier alignment.
- Docks and piers must not significantly interfere with water flows, which could lead to the accumulation of pollutants along the shoreline or accelerate shoreline erosion.
- Docks and piers must not interfere with shellfish leases or franchises.



Existing Pier at 10th Street Site



Existing Docks at 10th Street Site

LAND BASED PERMITS

For land development and other land disturbing projects, there are various agencies having regulatory authority such as the land side portion of the ferry departure site, and may require permits as outlined below.

WATER QUALITY PERMITS

The following water quality permits are regulated by the North Carolina Department of Environmental and Natural Resources (DENR).

EROSION & SEDIMENT CONTROL PERMIT

An erosion and sediment control plan is required for any land-disturbing activity covering one acre or more, except agriculture, mining, and forestry activities.

- Application Fee: \$65 per acre. The fee is calculated by rounding the disturbed acreage up to the next whole acre and then multiplying this acreage figure by \$65.
- The application will require 30-day review (upon receipt of a complete application package).
- The application must be submitted to the local DENR office for review and approval. Address provided below:

Wilmington Regional Office
127 Cardinal Drive Extension
Wilmington, NC 28405
Attn: Regional Engineer: Dan Sams, PE

NPDES STORMWATER PERMIT

A National Pollutant Discharge Elimination System (NPDES) Stormwater Permit is required for direct discharges of stormwater associated with certain industrial activities and municipalities to surface waters of the state. Construction activities that disturb one or more acres of land are regulated through NPDES permits.

Fees:

- New/Annual fee for Major Individual NPDES Stormwater Permits: \$3440
- New/Annual fee for Minor Individual NPDES Stormwater Permits: \$860
- New/Annual fee for Certificates of Coverage under General Stormwater Permits: \$100
- The application review requires approximately six months from receipt of a complete application package; for certificates of coverage under general permits, approximately 30-60 days is required.
- The application must be submitted to the following address for review and approval:

N.C. Division of Water Quality (DWQ), Stormwater Permitting Unit
1617 Mail Service Center, Raleigh NC 27699-1617

Note: A 30-day public notice period is required for all individual permits and renewals activities that disturb one or more acres of land that are regulated through NPDES permits.



SECTION 401 CERTIFICATION

This is a “certification,” needed for any federal permit involving impacts to water quality. Most 401 Certifications are triggered by Section 404 Permits issued by the U.S. Army Corps of Engineers. Typical types of projects involve filling in surface waters or wetlands. (Not required if a CAMA permit is obtained.)

The purpose of this permit is to protect waters of the state and aquatic resources through citizen compliance with state and federal water quality laws. Section 401 of the Clean Water Act delegates authority to the states to issue a 401 Water Quality Certification for all projects that require a federal permit (such as a Section 404 Permit). The “401” is essentially verification by the state that a given project will not remove or degrade existing, designated uses of “Waters of the State,” or otherwise violate water quality standards. Mitigation of unavoidable impacts and inclusion of stormwater management features are two of the most important aspects of water quality review.

- The application review requires up to 60 calendar days upon receipt of a correct and complete application package.
- The application must be submitted to the address below for review and approval:

N.C. Division of Water Quality,
401 Oversight and Express Permits Unit
1650 Mail Service Center,
Raleigh, NC, 27699-1650.



View North from 10th Street CAMA Pier

POTENTIAL PERMITS REQUIRED FOR THE EVALUATED FERRY SITES

In light of the above environmental and permitting requirements, the following is a brief summary list of the permits that may be required for the various sites evaluated, based on the water and land improvements proposed for the ferry service.

A review of historic Sub Aquatic Vegetation (SAV) areas was performed for the evaluated ferry site locations. The National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center and DENR partnered to conduct a study in 1992 of benthic habitat mapping in the Bogue Sound area of North Carolina. The geographic extent of the SAV study area includes the estuarine waters from Beaufort Inlet in the north to Bogue Inlet in the south which covers the Morehead City and Beaufort site locations. Based on the SAV study data set, there is no submerged aquatic vegetation located within the vicinity of the proposed project sites.

MOREHEAD CITY SITES

10TH STREET SITE

- CAMA Major Permit
- NPDES Stormwater Permit
- Local Erosion and Sediment Control Permit

JAYCEE PARK DOCKS

- CAMA Major Permit

RAILROAD SITE

- CAMA Major Permit
- NPDES Stormwater Permit
- Local Erosion and Sediment Control Permit

BEAUFORT SITE

POST OFFICE SITE

There would not be any environmental permit requirement related to making minor improvements to the existing public docks and using them for a ferry service provided that the improvements are limited to routine maintenance items such as reinforcing/replacing structural components and replacing deck boards, etc. If the docks were to be demolished and reconstructed with a wider main dock as proposed (increase the existing dock footprint) then the following would apply:

- CAMA Major Permit

In addition to a CAMA Permit, if a ticket booth/contact station were constructed adjacent to the bulkhead and sidewalk as part of the dock, then possible mitigation may be required for shading

impacts from the structure to shoreline vegetated wetlands and grasses. The mitigation may potentially be accomplished with improvements to adjacent and nearby wetland habitat areas along Front Street or other locations. The mitigation requirements would be determined during the dock permitting process.

CAPE LOOKOUT NATIONAL SEASHORE HARKERS ISLAND VISITOR CENTER

There will likely not be any permit requirement related to using the existing NPS boat basin for a ferry service.

CAPE LOOKOUT LIGHTHOUSE

Submit to the Division of Coastal Management (DCM) a consistency determination and receive from DCM and letter of concurrence.

SHACKLEFORD BANKS

Submit to the Division of Coastal Management (DCM) a consistency determination and receive from DCM a letter of concurrence.

OTHER RELEVANT LEGISLATION, REGULATIONS, AND POLICIES

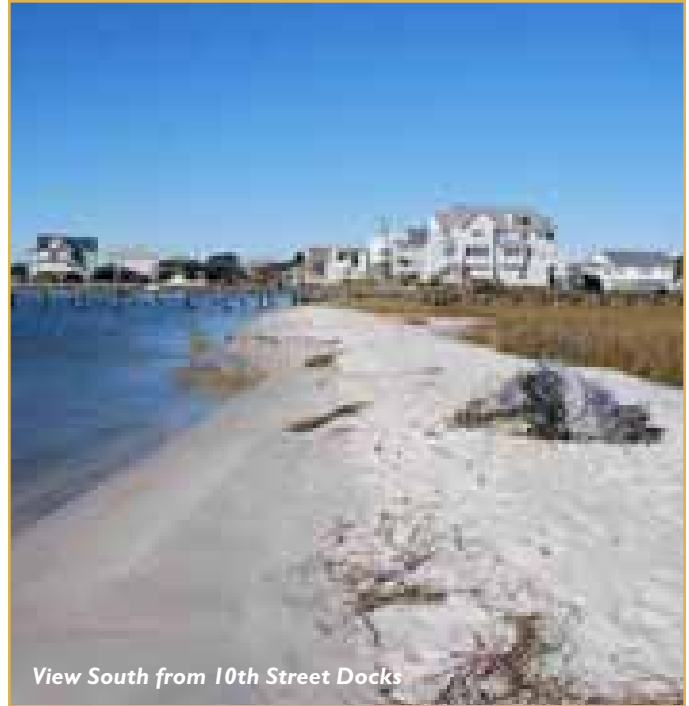
In addition to CAMA and CZMA, the NPS is governed by a number of other laws, regulations, and management policies before, during, and following any action.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA), 1969, AS AMENDED

Section 101(a) of this act requires that the NPS “use all practicable means and measures ... to create and maintain conditions under which man and nature can exist in productive harmony.” Guidance for implementation of NEPA within the NPS is guided by Director’s Order #12 (DO-12): Conservation Planning, Environmental Impact Analysis, and Decision-Making. DO-12 states that if a proposal would have a “measurable impact,” but not a significant impact, on the environment, an EA is the appropriate document to prepare in order to comply with NEPA.

ENDANGERED SPECIES ACT OF 1973, AS AMENDED

This act requires all federal agencies to consult with the Secretary of the Interior on all projects and proposals having potential impact on federally endangered and threatened plants and animals. As part of the NEPA process, scoping letters will be sent to the US Fish and Wildlife Service (USFWS) to initiate consultation under this act. The USFWS will also be provided with the final version of the EA.



View South from 10th Street Docks

NATIONAL HISTORIC PRESERVATION ACT OF 1966, AS AMENDED

Section 106 of this act requires federal agencies to consider the effects of their undertakings on properties listed or potentially eligible for listing on the National Register of Historic Places. All actions affecting the parks’ cultural resources must comply with this legislation. Section 106 compliance is expected to be completed in tandem with NEPA compliance for this proposal. As such, a letter will be sent to the North Carolina State Historic Preservation Officer (SHPO) as part of the scoping process prior to preparation of the combined EA/Assessment of Effect (AoE) document. This will initiate consultation under section 106. Coordination will continue as necessary, and the SHPO will be provided with the final version of the EA/AoE.

EXECUTIVE ORDER 11990 – PROTECTION OF WETLANDS

This executive order directs the NPS to avoid, to the extent possible, the long- and short-term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Director’s Order #77-1 (DO-77-1): Wetland Protection establishes NPS policies, requirements, and standards for implementing this executive order. NPS Procedural Manual #77-1: Wetland Protection provides details procedures by which the NPS will implement the policies, requirements, and standards of DO-77-1.

SITE ANALYSIS

To begin an assessment of the potential departure sites, a site by site analysis of the physical attributes of each location has been developed. The site analysis begins to consider how the site may accommodate the ferry development program. Each site has its own unique circumstances that factor into the effectiveness of the site if used for a passenger ferry departure site. These physical differences on the waterside and landside will become elements of consideration in a final evaluation of each of the sites.

The analysis graphics consider parking accommodations, loading/unloading area, transportation routes to the site, area for orientation and ticketing, dock accessibility and capacity, utility availability, and location in relation to ferry service route and surrounding uses. The surrounding environment, pedestrian connectivity, and potential for future NPS presence are other considerations in the site analysis graphics.

SITE OPPORTUNITIES AND CONSTRAINTS

To illustrate the potential opportunities and constraints, an analysis site graphic has been prepared for each site. The graphics cover all of the eight potential departure sites in Morehead City and Beaufort and the Shell Point Visitor Center site on Harkers Island. The illustrations include a list of opportunities and constraints which have been identified and where each is located on the site. Figures 5.1 through 5.9 are the opportunity and constraints site analysis graphics for each of the departure sites.



Jaycee Park Site with Municipal Building in the Background

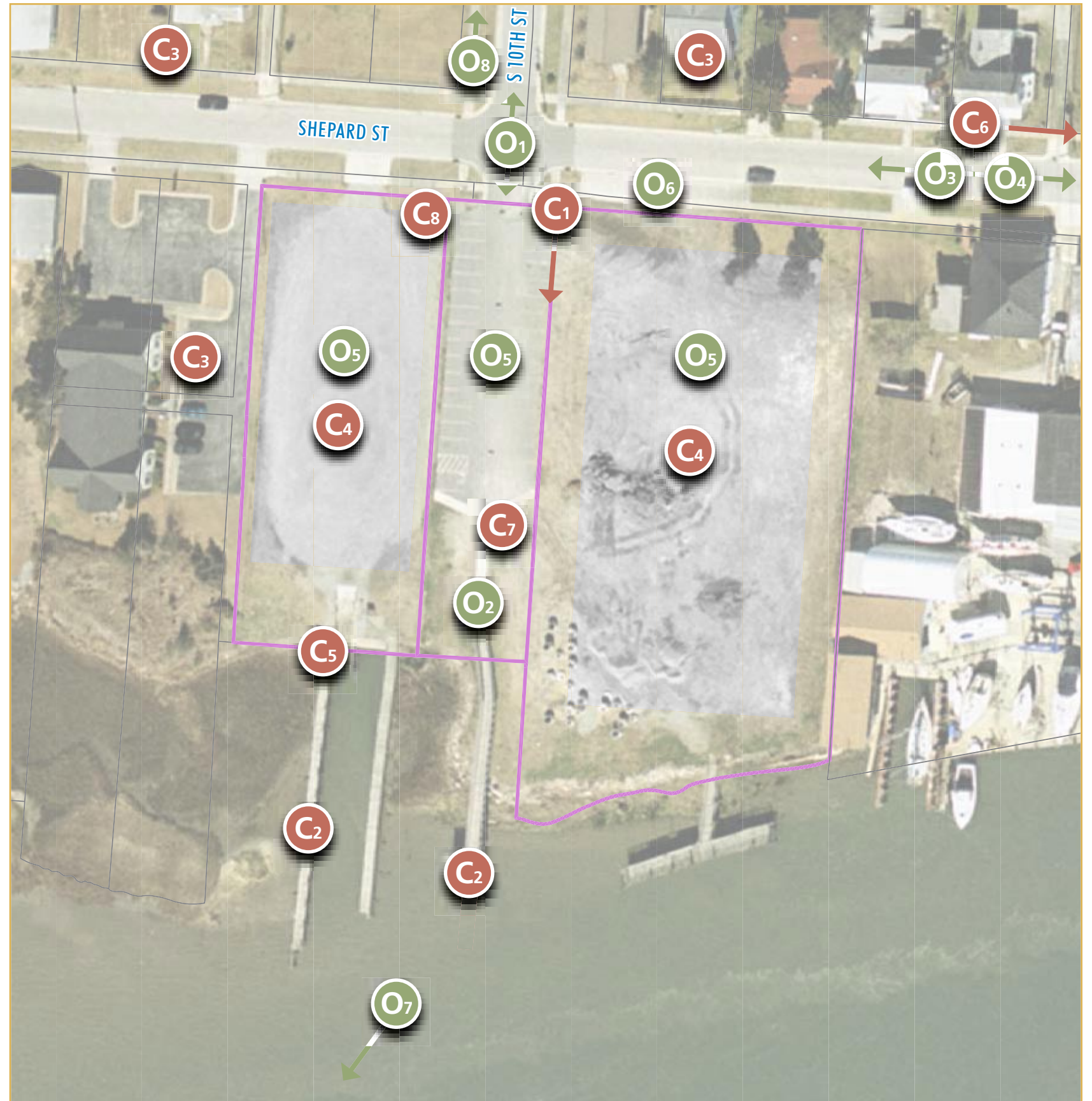
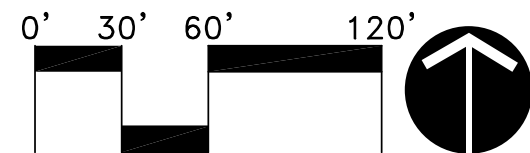
FIGURE 5.1 10TH STREET SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Generally Good Access from US-70
O2	Good Gateway Potential
O3	Establishes Western Anchor for Downtown Waterfront
O4	Community Connectivity is Reasonable
O5	Good Potential for Off Street Parking
O6	Good Potential for Bus Access
O7	Direct Maritime Route to Channel
O8	Temporary Use of Historic Train Depot for Visitor Center

CONSTRAINTS

C1	Water Service Extension Required
C2	Dock Improvements Required
C3	Some Incompatibility with Adjacent Residential Land Uses
C4	Partial Parking Capacity Available on Site, Remainder Requires Lease or Land Acquisition Plus Improvements
C5	Conflict with Existing Boat Launch (Kayak) and Associated Vehicles and Trailers
C6	Lack of Strong Pedestrian Connectivity with Surrounding Area
C7	No Existing Public Restrooms
C8	Potential Relocation of Visitor Contact Functions to On-Site



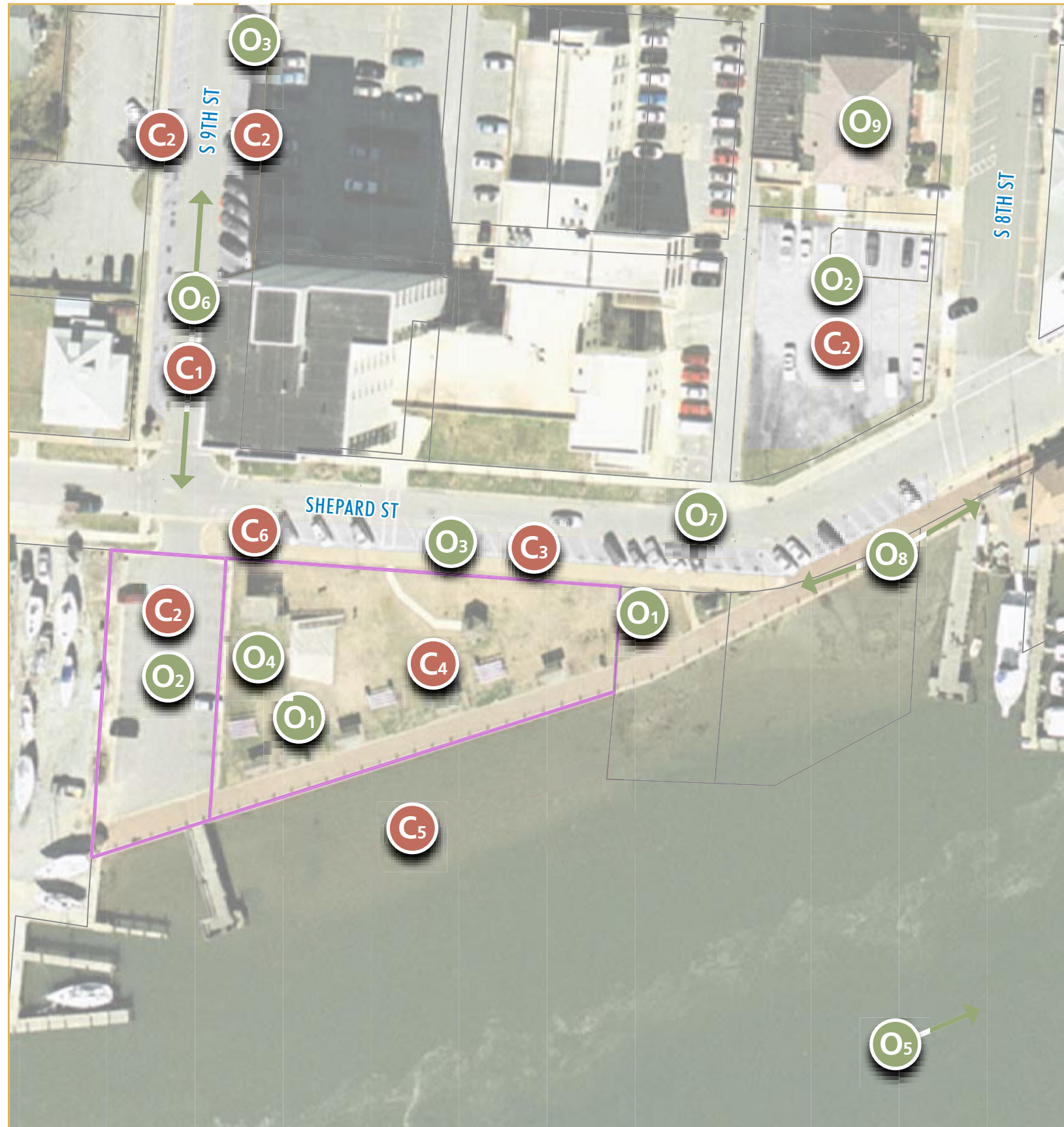


FIGURE 5.2 JAYCEE PARK SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Good Gateway Potential Associated with Jaycee Park Space
O2	Some Off Street Parking Available with Potential for More
O3	Some On Street Parking Adjacent (Approx. 40-60)
O4	Proposed Public Restrooms and Shower Facility by City
O5	Fairly Direct Maritime Route to Channel
O6	Generally Good Access from US-70 (Except from West Bound Left Turn)
O7	Utilities Available
O8	Good Pedestrian Connectivity to Local Businesses
O9	Potential Future Use of Historic Municipal Building

CONSTRAINTS

C1	Left Turn Prohibited Off Westbound US-70
C2	Off Street Parking Capacity is Limited
C3	On Street Parking Capacity Adjacent to Site is Limited
C4	Shared Use of Jaycee Park Space is Required - Possible Conflicts
C5	Docks Cannot Be Used for Ferry Service Due to Funding - Potential Expansion
C6	Limitations on Loading/Unloading

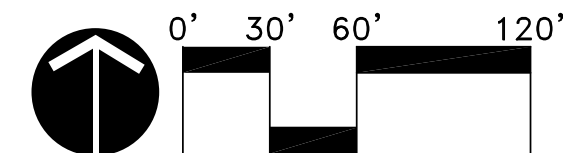


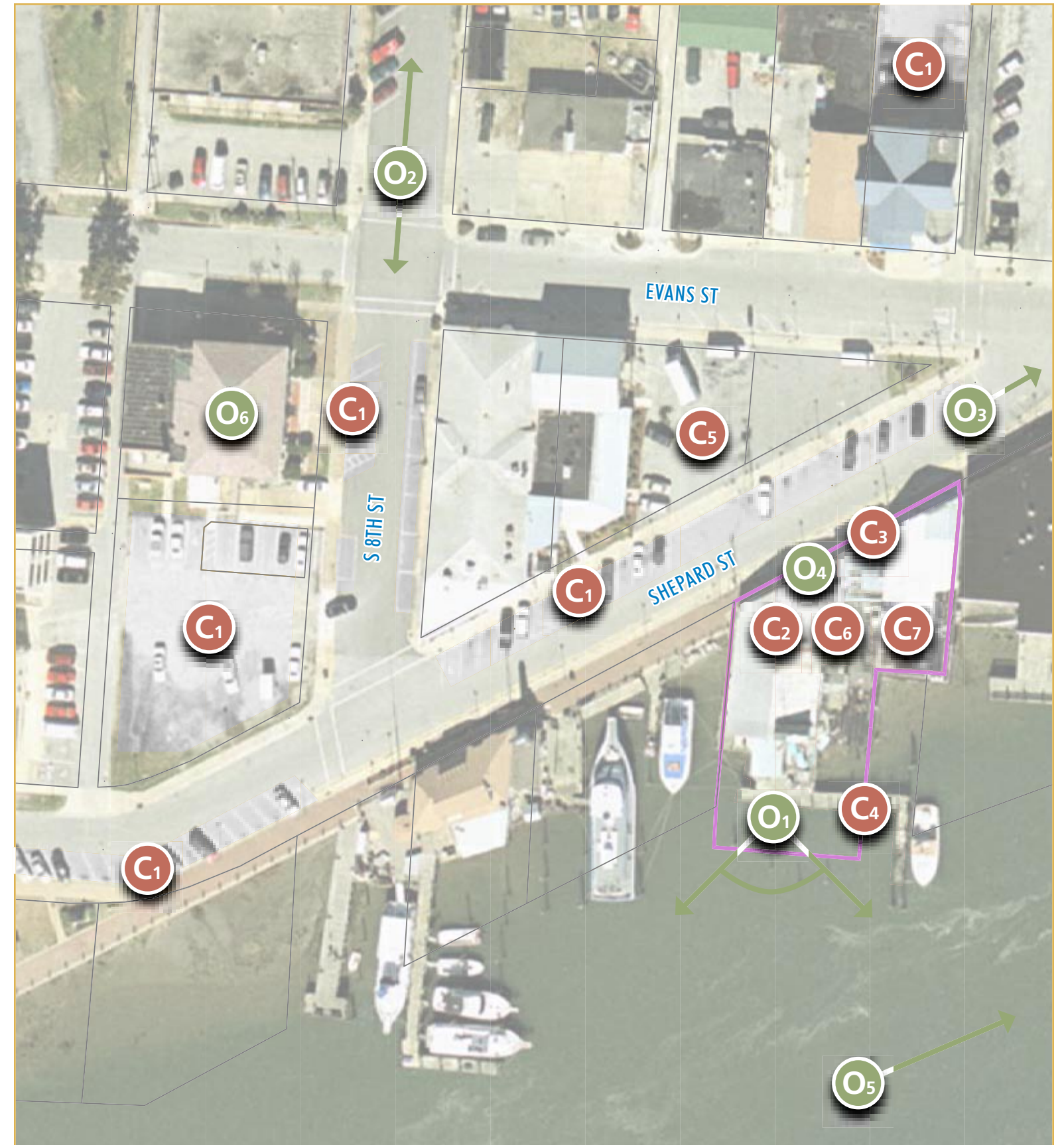
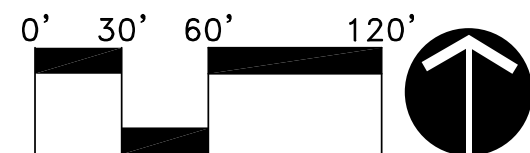
FIGURE 5.3 JIB SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Good Maritime Presence
O2	Good Access and Visibility from US-70
O3	Good Pedestrian Connectivity to Local Businesses
O4	Active Waterfront Location
O5	Direct Maritime Route to Channel
O6	Potential Future use of Historic Municipal Building

CONSTRAINTS

C1	Consolidated Parking is Not Available
C2	Small Site has Limited Capacity to Handle Large Groups
C3	'Gateway' Potential May Have Limitations
C4	Docks Need Upgrades
C5	Full Parking Capacity Will Require Additional Lease or Acquisition of Adjacent Parcels
C6	No Existing Restrooms
C7	Requires Significant Capital Investment



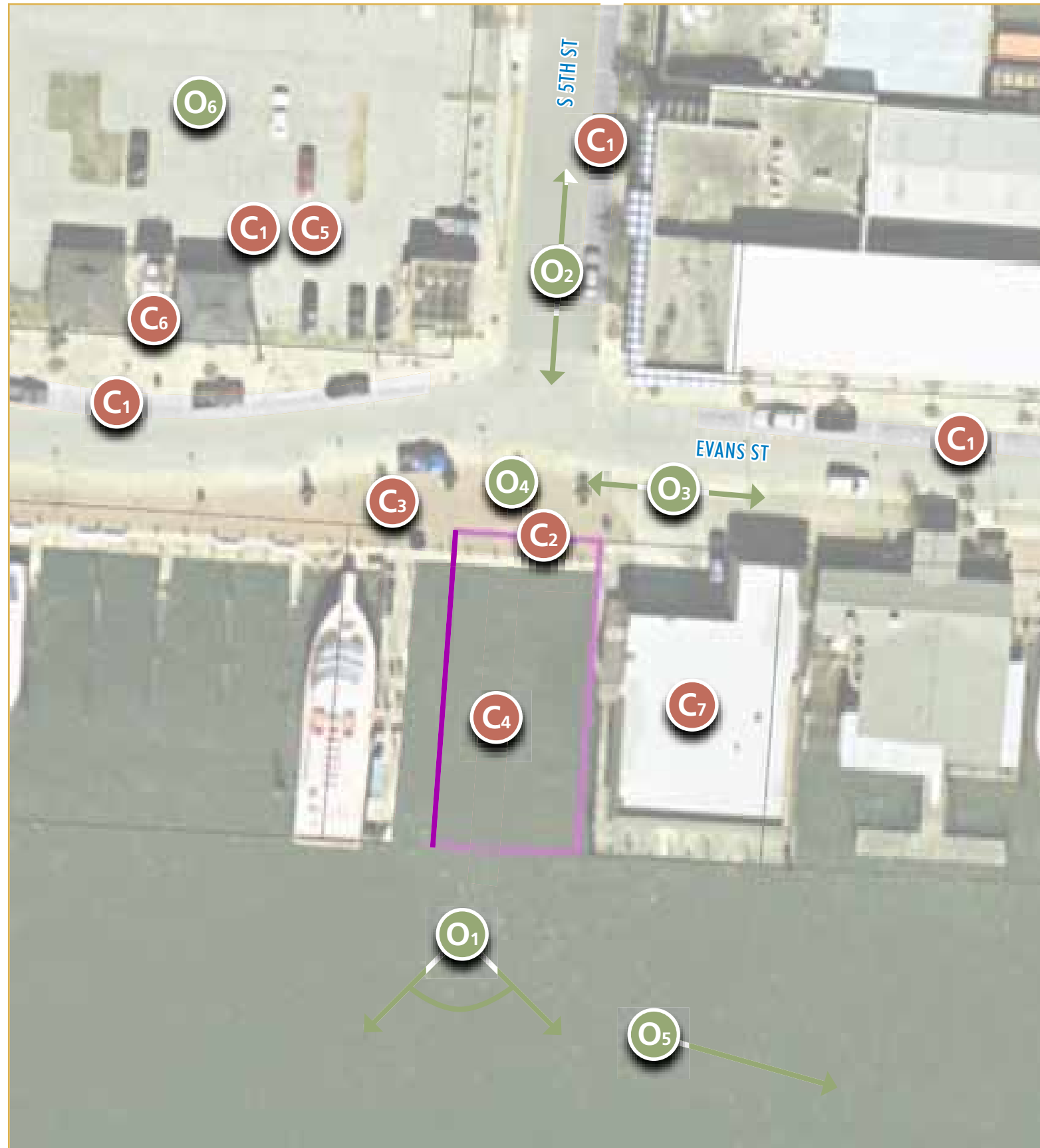


FIGURE 5.4 6TH STREET DAY DOCKS SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Good Maritime Presence
O2	Good Access and Visibility from US-70
O3	Good Pedestrian Connectivity to Businesses
O4	Active Waterfront Location
O5	Direct Maritime Route to Channel
O6	Potential for Parking Use by Arrangement with Morehead City

CONSTRAINTS

C1	Consolidated Parking is Not Available
C2	Small Site has Limited Capacity to Handle Large Groups
C3	'Gateway' Potential is Limited by Size of Site
C4	Docks Require Increased Capacity and Better Accessibility
C5	Full Parking Capacity will Require Additional Lease or Acquisition of Adjacent Parcels
C6	Existing Restrooms are Portables Across Street and Not Accessible
C7	Potential Incompatibility with Adjacent Use

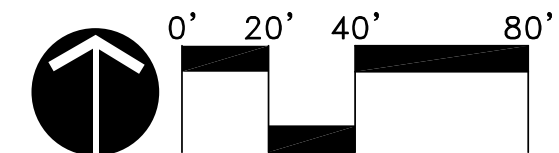


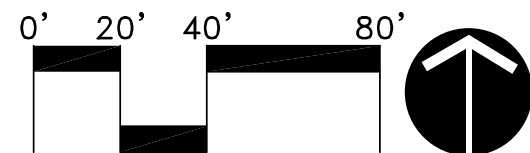
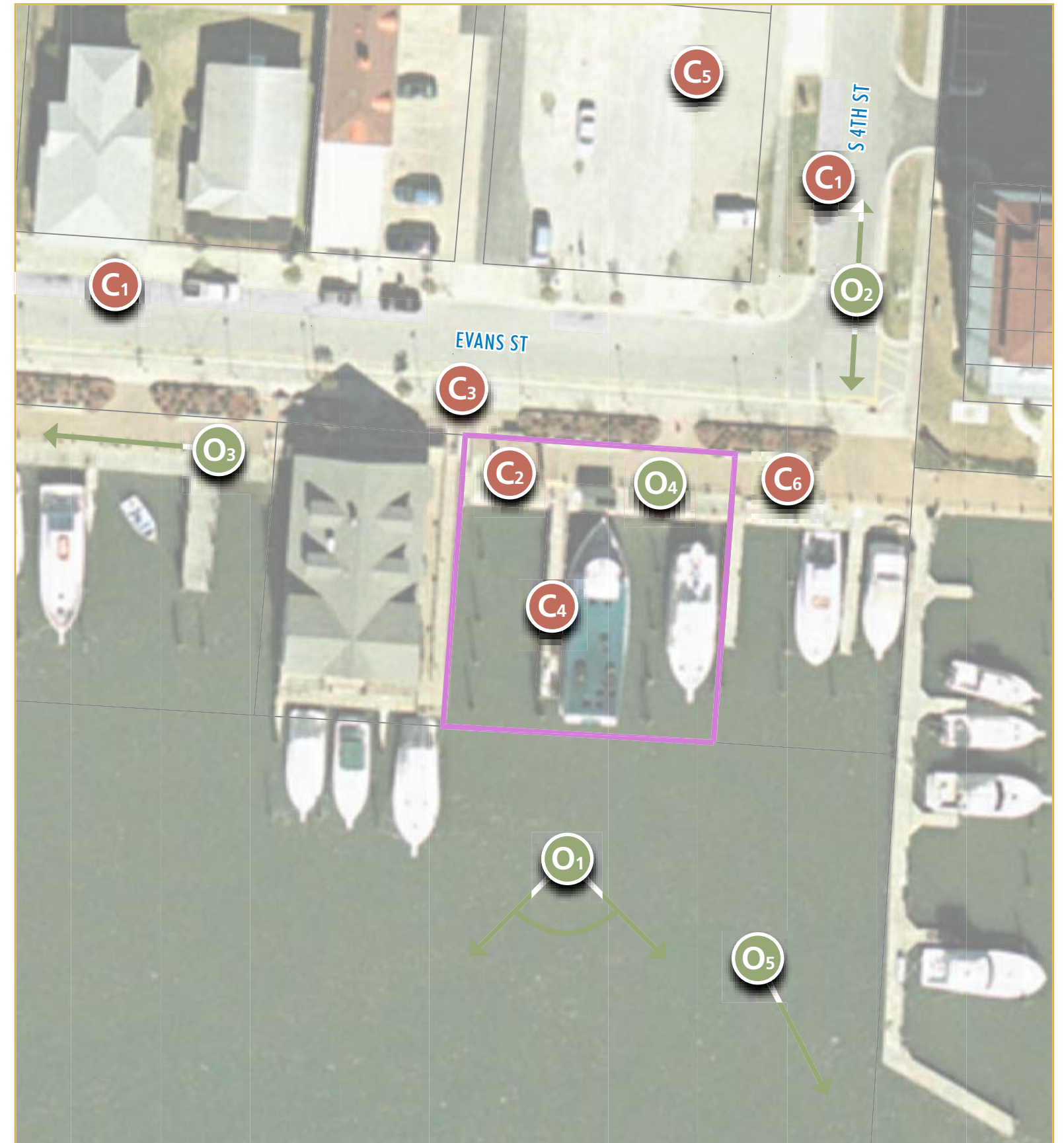
FIGURE 5.5 BIG ROCK SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Good Maritime Presence
O2	Good Access and Visibility from US-70
O3	Good Pedestrian Connectivity to Local Businesses
O4	Active Waterfront Location
O5	Direct Maritime Route to Channel

CONSTRAINTS

C1	Consolidated Parking is Not Available
C2	Small Site has Limited Capacity to Handle Large Groups
C3	'Gateway' Potential is Limited by Size of Site
C4	Docks Need Upgrades and Better Accessibility
C5	Full Parking Capacity will Require Additional Lease or Acquisition of Adjacent Parcels
C6	No Existing Restrooms



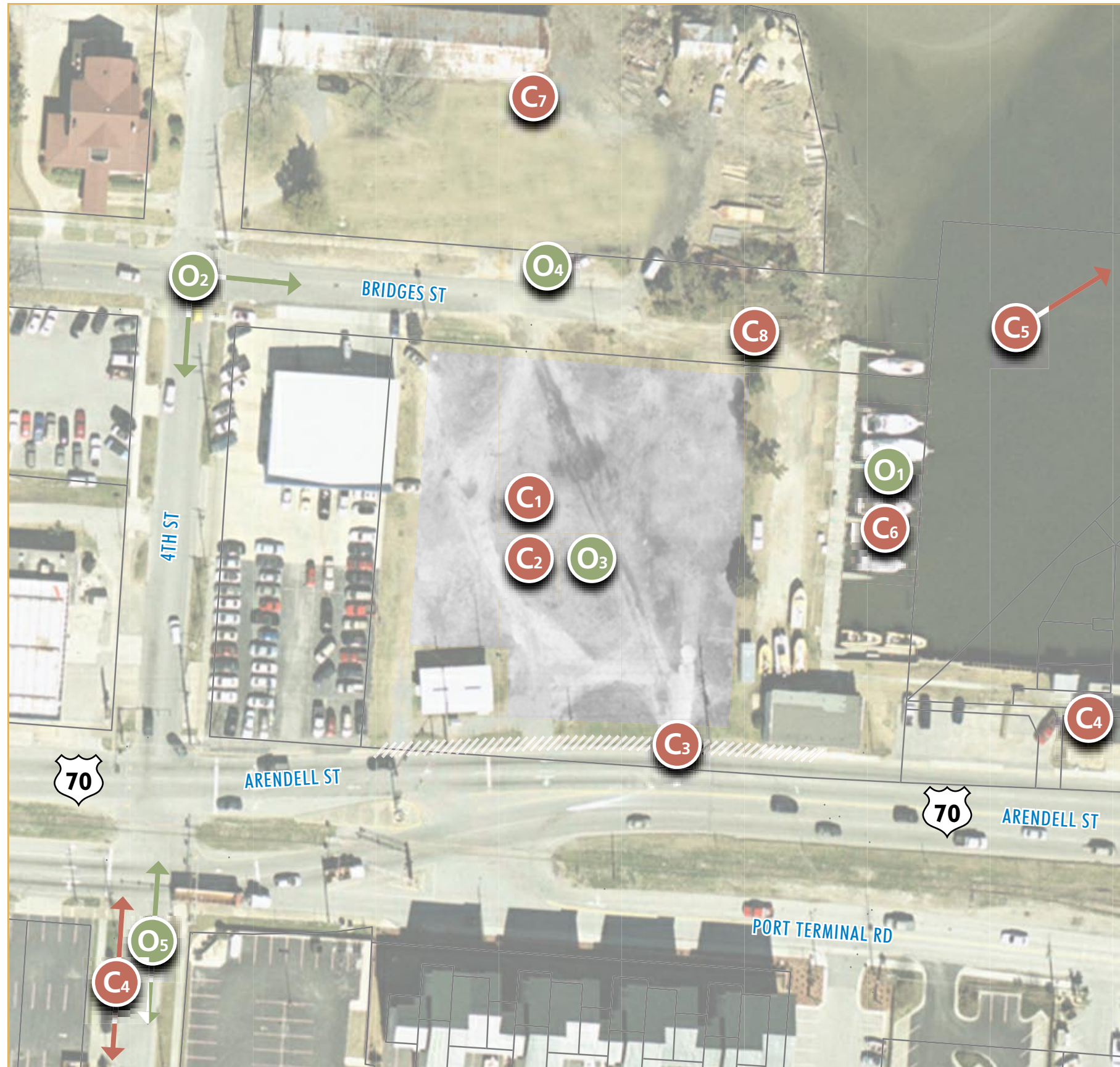


FIGURE 5.6 RAILROAD SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Docks Available with Significant Capacity (Upgrades Needed)
O2	Good Vehicular Access and Visibility From US-70
O3	Good Potential for Off Street Parking with Lease Agreement
O4	Good Potential for Bus Loading/Unloading
O5	Reasonable Proximity to Cruise Ship Pedestrians

CONSTRAINTS

C1	Needs Considerable Site Improvements
C2	Industrial Site - Potential for Hazardous Materials on Site
C3	Traffic Noise from US-70
C4	Site is Disconnected from Active Waterfront with Poor Pedestrian Connections
C5	Indirect Route to Channel
C6	Docks Need Upgrades and Improved Accessibility
C7	Full Parking Capacity May Require Additional Lease or Acquisition of Adjacent Parcel
C8	No Existing Restrooms

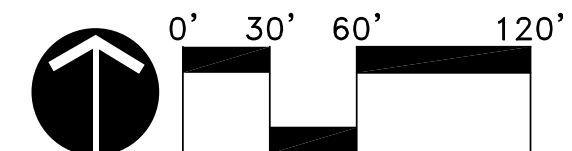


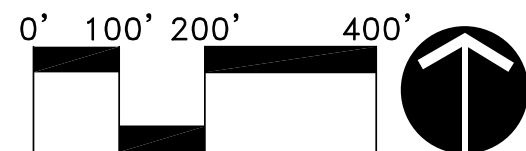
FIGURE 5.7 GALLANTS CHANNEL SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	New Docks More than Adequate for Ferry Operation
O2	Parking Available in Current Condition
O3	Minimal Improvements Required to Start Operation
O4	Water (well source) and Power to Docks
O5	Association with Maritime Museum is a Natural Fit for Visitor Type
O6	Maritime Views from Site

CONSTRAINTS

C1	No on Site Sewage (Portable Toilets Could be Used) or Domestic Water
C2	Parking Availability Conflicts are Likely when Site is Fully Developed
C3	Indirect Channel Access with Draw Bridge Limitations
C4	Future US-70 Bridge Impact to Views
C5	Site Access May be Limited when US-70 Improvements Occur
C6	Full Build-Out of Maritime Museum Uses May Result in Incompatibility with NPS Ferry Site
C7	Site is Isolated and Away from Activity Areas and Businesses - No Pedestrian Connection



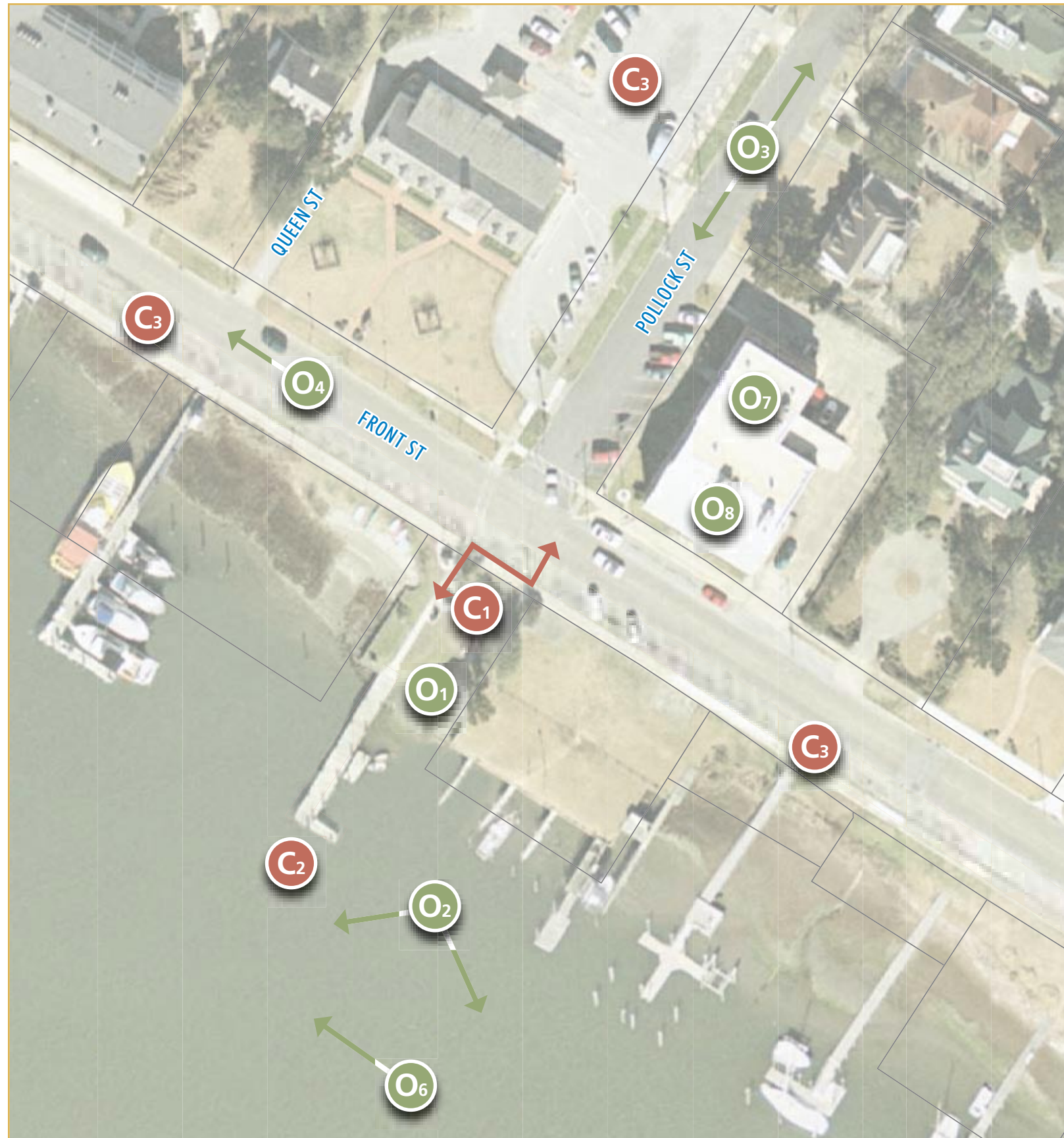


FIGURE 5.8 POST OFFICE SITE OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Docks Available with Appropriate Capacity (Upgrades Needed)
O2	Good Maritime Presence
O3	Fair Access from US-70
O4	Good Pedestrian Connectivity to Local Businesses
O5	Part of an 'Active' Waterfront
O6	Direct Maritime Route to Channel
O7	Good Gateway Potential with Post Office Building
O8	Visitor Orientation, Ticket Sales and Restrooms at Post Office Building

CONSTRAINTS

C1	Limited Landslide Area Near Dock
C2	Dock Improvements Required
C3	Dispersed Parking (Improved if Lease Obtained for Bank Parking Off Hours)

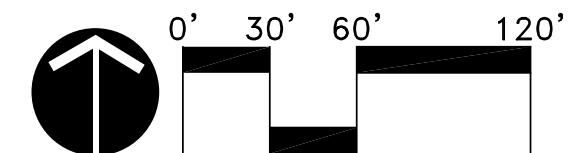


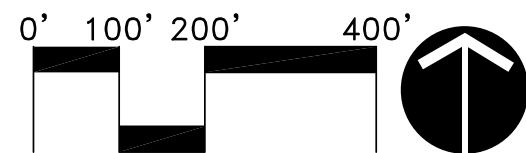
FIGURE 5.9 HARKERS ISLAND VISITOR CENTER OPPORTUNITIES & CONSTRAINTS

OPPORTUNITIES

O1	Good Gateway Potential
O2	Strong Sense of Arrival
O3	Good Potential for Off Street Parking
O4	Good Potential for Bus Access
O5	Direct Maritime Route to Cape Lookout
O6	Facilities, such as Restrooms, Available at Visitor Center

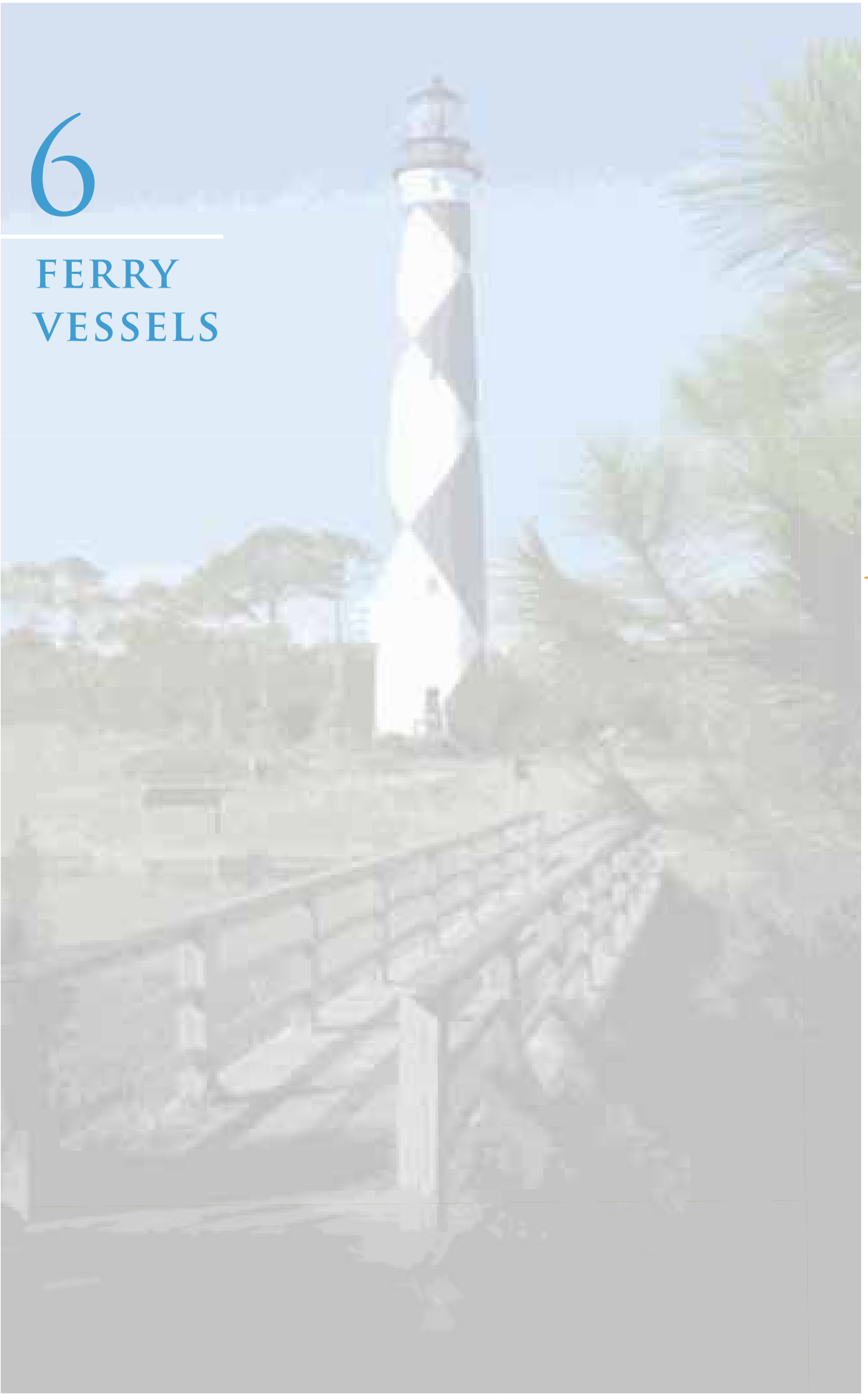
CONSTRAINTS

C1	Site Improvements to Parking Areas may be Required to Increase Parking Capacity
C2	Addition of Bus / Drop-off Area Required and Associated Improvements for Bus Maneuverability
C3	Pedestrian Walkway Improvements Required for Connectivity from Remote Parking Areas to Ferry Docks
C4	Dock Improvements Required from Addition of Ferry Fleet to the Existing Boat Basin
C5	Additional Wayfinding Signage Required at Site



6

FERRY VESSELS



6

FERRY VESSELS



There are a variety of boats and dock layout concepts that could be used for passenger ferry service to the Cape Lookout Lighthouse and Shackleford Banks. As evidenced from ferry operations at other parks, there is no standard ferry boat type in use for this type of service. Additionally, dock design is in large part related to the type of vessels to be used and the characteristics and constraints of the waterside location and must therefore be appropriate for different types of boats and dock locations.

GENERAL MARINE CONDITIONS

The area of ferry service is a part of the Outer Banks of North Carolina. In this area of Cape Lookout National Seashore, including Morehead City and Beaufort, the average tide range is approximately 3.0 to 3.5 feet and can vary somewhat from one location to another. At this time, sea level rise is projected to be approximately 0.8 feet in 100 years based on NOAA data from 1953 to 2006. Other sources more specific to the North Carolina coast, such as the North Carolina Sea-Level Rise Assessment Report (CRC 2010) by the North Carolina Coastal Resource Commission recommends a rise of one meter (3.25 feet) be adopted as an anticipated sea level rise by 2100. If sea level rise is determined to be within the higher range in the future, appropriate operations adjustments would be made.

The proposed ferry routes are all within the COLREGS demarcation line (33 CFR 80 International Regulations for Preventing Collisions at Sea, 1972). The regulations in this section establish the lines of demarcation delineating those waters upon which mariners shall comply with the COLREGS and those waters upon which mariners shall comply with the Inland Navigation Rules. The waters located inside of the delineated lines are Inland Rules waters and are considered inland routes.

The inland ferry route areas are protected by the Bogue Banks, Shackleford Banks, and Core Banks. The ferry terminal locations at Morehead City, Beaufort, and Harkers Island are further sheltered by smaller islands and shoal areas. The only area of full exposure to the Atlantic Ocean is at the Beaufort Inlet. The Beaufort Inlet is

nearly 0.5 mile wide and often wind, wave, and strong tidal currents combine in the open water producing severe conditions for vessels.

FERRY VESSEL TYPES

Ferry vessels for passenger-only service fall under 46 CFR Subchapter T or Subchapter K depending on the number of passengers onboard the vessel. In general, these subchapters implement the requirements for inspection and certification of small passenger vessels. The use of either a subchapter T or a subchapter K vessel depends largely on the anticipated ridership of the ferry service and the associated operational costs of the vessels. Both vessel alternatives are briefly discussed and summarized below.

46 CFR SUBCHAPTER T

46 CFR Subchapter T applies to each vessel of less than 100 gross tons that carries between 7 and 150 passengers, with at least one passenger for hire, or has overnight accommodations for 49 or fewer passengers. The ferry routes under consideration in this study do not include overnight accommodations or services, therefore vessel types considered are limited to passenger carrying vessels in operation during daytime and evening hours only.

In general, due to the operational nature of this type of a vessel (typically a smaller vessel with limitations to the number of passengers and more sheltered routes), the certification and inspection requirements are less stringent, and the crew size requirements are less than Subchapter K vessels. This makes Subchapter T vessels more desirable when the vessel meets other operational requirements of the ferry service.

Subchapter T vessels can vary significantly in size depending on the design style and operational needs. A Subchapter T vessel will typically fall in the range of 20 to 70 feet or more in length. This vessel category provides a ferry operation with a mix of vessel length, draft and capacities to choose from that are most favorable to the operator and the visitor experience and for operational and cost efficiency.

Compared to the typical skiff currently in operation for the ferry service, a larger vessel, such as a mid size vessel of 50 or more passengers, provides a more comfortable trip experience for the passengers and allows the operator to cost effectively run fewer trips with more passengers per trip. The existing ferry services operate with small skiffs which have greater weather limitations and do not provide much passenger protection from sun, wind, and sea spray whereas the mid size vessels do. In addition, unlike the small skiff vessels, the mid size vessels can easily accommodate a wide range of ferry patrons such as visitors with disabilities.

The small skiff and the mid-size vessels described below would easily be accommodated by the existing docks at the national seashore destination points. The NPS docks are currently used by the operators although most passenger drop off and pick up occurs at the beach. Most of the vessels using the NPS docks are the small skiff type vessels and not the larger 50 passenger type vessels. There are two general types of vessels that may be suitable for the ferry service under consideration: catamaran vessels and monohull vessels.

CATAMARAN VESSEL

A catamaran is a twin-hull vessel that has several beneficial features. It has a relatively wide beam (width) in relation to its length, which provides ample deck space for passengers. A catamaran is stable and generally provides a more comfortable ride than a similarly sized monohull vessel (described below). Catamarans are powered by two engines, one in each hull. Due to their width, catamarans are sometimes restricted in where they can berth (i.e., the vessel may be too wide for standard slips at some marinas). The draft of this type of vessel generally ranges from approximately 1.5 to 3 feet.

Passenger loading is usually from the side but can sometimes be accommodated at the stern or bow of the vessel. Because of the typical open deck configuration of a catamaran vessel, ADA accessibility and accommodations are generally easily provided.

MONOHULL VESSEL

Monohull vessels are most common and more readily available on the market than other types of hulls. They are usually powered by twin engines, although there are a few older single-engine vessels still in operation. Passenger loading is most often from the side and generally towards the stern where there is sufficient open deck area. ADA accessibility and accommodations can be provided but are usually more restricted due to narrow walkways along the side of the vessel and in interior spaces, due to stairways to upper/lower decks.

A twin-sponson hull vessel is a hybrid of a monohull and a catamaran twin hull. It is a pontoon-like hull with sponsons on

each side of the hull. The hull provides lift so that at high speeds the vessel is lifted to establish a three point hydroplane where the two sponsons and the propeller are in contact with the water.

46 CFR SUBCHAPTER K

46 CFR Subchapter K applies to each vessel of less than 100 gross tons that carries more than 150 passengers, with at least one passenger for hire or, with overnight accommodations for more than 49 passengers. As stated above, the ferry service under consideration does not include overnight accommodations or services or groups of more than 150 passengers; therefore, vessels considered are limited to passenger carrying vessels up to 150 passengers in operation during daytime and evening hours only.

Subchapter K vessels vary significantly in size but typically fall into a range from 80 feet to over 150 feet in length. Even though both catamaran and monohull Subchapter K vessels exist, a vessel of this type would far exceed the operational needs of the ferry service under consideration and is therefore not discussed any further.

MANNING REQUIREMENTS

The manning requirements for inspected vessels, both Subchapter T and Subchapter K, are determined by the Officer in Charge, Marine Inspection (OCMI) after consideration of the applicable laws and regulations and all other factors involved, such as emergency situations, size and type of vessel, installed equipment, proposed routes of operation including frequency of trips, and other factors (46 CFR Ch. I Subpart D, 15.501)

The Certificate of Inspection (COI) issued by the OCMI to a vessel specifies the minimum complement of officers and crew necessary for the safe operation of the vessel. Therefore, the actual number of required crew members may vary depending of the specific boat, so for the sake of this study, it is assumed that the standard crew for the vessels is two (a captain and deckhand) except as otherwise noted for some types of vessels.

FERRY VESSEL OPTIONS

Based on current and projected ferry ridership demand, a ferry service scenario for a fleet of vessels consisting of small, medium, and large vessels was considered. The vessels are generally defined by their passenger capacity as: small vessels can carry 16 to 20 passengers, medium vessels 40 to 70 passengers, and large vessel can carry 90 or more passengers.

The following is a brief summary of some potential ferry vessel types and manufacturers that build U.S. Coast Guard (USCG) Certified passenger carrying vessels (CFR Subchapter T Vessels) that may be suitable for the ferry service and routes under consideration. The manufacturers and vessels noted are for comparison and cost estimating purposes only and are not to be construed as an endorsement of any specific manufacturer.

SMALL BOATS- 16 TO 20 PASSENGERS

CAROLINA SKIFF/ SMALL OUTBOARD BOATS

Currently, there are Carolina Skiffs currently in use by existing ferry operators to shuttle passengers back and forth from the Cape Lookout Lighthouse and Shackleford Banks. Carolina Skiffs are manufactured in Waycross, Georgia by Carolina Skiff, LLC. In addition, there are also other similar makes and models of outboard boats ranging from approximately 22 to 26 feet in length with flat or v-hulls in use.

The skiffs are generally very shallow draft boats with a variety of hull shapes from flat to v-hulls. They have an outboard motor capable of fast speeds (30+ mph) and are easy to maneuver and make beach landings. Some models can accommodate up to 20 passengers and can typically be operated with one USCG licensed crew (captain only). Passenger loading and unloading is



Carolina Skiff



Beach Landing of Skiff

quick; however, there are limited accommodations that can be made for ADA accessibility.

MID SIZE BOATS- 40 TO 70 PASSENGERS

There are several manufacturers that fall into the medium size vessel category. Five manufacturers were researched for



SeaArk 54' Explorer

this study and are briefly summarized below.

SEAARK MARINE

SeaArk Marine manufactures a variety of commercial excursion/tour boat watercraft from 26 to 54 feet at their plant in Monticello, Arkansas. The SeaArk Excursion Series of boats has six models of USCG certified passenger vessels that would be suitable for a ferry service at the national seashore.

The Explorer model is 54 feet in length with a 14.5 foot beam and is USCG certified for inland routes (not certified for ocean routes). The vessels are of aluminum construction with a symmetrical sponson hull configuration (similar to catamaran style hull).

The vessel can accommodate up to 92 passengers depending on the deck layout but is estimated at 70 passengers for comfortable seating. There are various vessel options that include ADA accessibility, two restroom enclosures, and a bow passenger loading ramp.

The vessel is shallow draft with an estimated draft of 1 foot 8 inches and is capable of making beach landings. The vessel can be equipped with a canvas top and clear roll-down curtains along the sides for weather protection.

The SeaArk Odyssey model is similar to the Explorer model above except that it is 35 feet in length with a 12.5-foot beam and a maximum passenger capacity of 48.



SeaArk 35' Odyssey

SIGHTSEER MARINE, LLC

Sightseer Marine manufactures a wide variety of passenger carrying vessels for the boat excursion and tour industry from their facility in Hudson, Florida. The boats are USCG certified, custom-built aluminum, catamaran-style vessels that can be fully equipped for the specific needs of its intended use.

Sightseer vessels typically range in size from approximately 36 to 48 feet with USCG certified passenger capacities of 25 to 49. They are shallow draft vessels powered by twin outboard motors. They can be designed for ADA accessibility and can be equipped for front or side passenger loading ramps. Additionally, they are capable of performing beach landings.

CORINTHIAN CATAMARANS, LLC

Corinthian Catamaran constructs USCG certified passenger vessels from 36 to 72 feet at their Tarpon Springs, Florida facility. The vessel construction is hand-laid balsa-cored fiberglass with aluminum railings, ladders, and other custom structures. The 40 to 45-foot boats can accommodate up to 49 passengers while the 72-foot boat with the double deck option holds a maximum of 150 passengers.

The smaller vessels have a draft of approximately 2 feet with outboard motors. The larger vessels above 50 feet have inboard engines and a deeper draft of approximately 3 feet or more depending on the vessel size and configuration. Bow loading/unloading is an option and beach landings with



Corinthian 45' Catamaran

the boats are common.

Corinthian Catamarans also have options for enclosed passenger compartments and a double deck version with outdoor seating on the second level. Typically, a second passenger deck triggers a USCG requirement for a third crew member.

DELTA BOATS/CANAVERAL CUSTOM BOATS, INC.

Another type of passenger vessel considered for ferry service are the Delta Boats built by Canaveral Custom Boats, Inc. of Cape Canaveral, Florida. These boats typically range from 28 to 38 feet with custom models up to 56 feet. They can be certified for up to approximately 50 passengers. The boats have a deeper draft (approximately 3-foot draft) v-hull and are certified for offshore ocean routes. Delta hulls are constructed of solid fiberglass, hand-laid with numerous layers of glass, hand-placed, and rolled out to give maximum lamination quality. For over 25 years, Delta boats have developed a reputation as a dependable, quality vessel able to withstand heavy use in harsh sea conditions.



Delta 38' USCG Certified Passenger Boat

WILLIAM E. MUNSON COMPANY, INC.

Munson Company is a manufacturer of high-speed landing crafts out of Burlington, Washington. Although this type of custom made vessel may be suitable for ferry service due to its high-speed and shallow draft, ferry passenger vessels is not the targeted sector of the boat industry that Munson serves. Therefore, Munson does not pursue in this type of custom vessel design and construction and were thus removed from further consideration.

LARGE BOATS- 90 OR MORE PASSENGERS

There are several larger passenger vessels (100+ passenger capacity) in the Morehead City/Beaufort area in use for dinner cruises, sightseeing excursions, and for educational groups. These vessels are typically deep draft, v-hull boats with a draft greater than 5.5 feet and lengths greater than 60 feet. These vessels generally operate at a slower cruise speed (10 to 12 knots) and are slower in maneuvering to and from the dock. The vessels are not typically used for shuttling passengers on short routes, and due to their deep draft, beach landings are not operationally feasible.

Their hull construction includes wood, fiberglass, aluminum, and steel, and they are most often powered by twin diesel inboard engines. The manning requirement for these vessels is normally three to four crew members consisting of a captain, two deckhands (usually required for a vessel with two passenger decks) and an engineer.

Below is a brief overview of three local, passenger vessels currently in operation in the Morehead City and Beaufort area:

MYSTERY TOURS, INC., DIAMOND CITY AND MYSTERY

Mystery Tours, Incorporated owns two of the longest running tour boats in the area; The **Diamond City** and the **Mystery**. However, as of 2009, the vessels are no longer in service.

The **Diamond City** was constructed in 1963 by A.W. Covacevich Shipyard and is certified for operations in inland waters. It is 66 feet in length with a 7-foot draft and a wood hull. The vessel is a 140 passenger tour boat with an enclosed main salon, and shaded upper deck with pull down weather curtains. It has several passenger amenities such as a large snack bar, two restrooms, indoor and outdoor seating, and other amenities including a fully stocked bar with all alcoholic beverage control permits. The vessel served primarily as a cruise vessel for lunch and dinner cruises, scenic harbor tours including wild pony and dolphin watching tours, weddings, receptions, educational groups and corporate functions.

The **Mystery** is the original vessel in the Mystery Tour fleet. It was built by Gillikin Boat Works in 1961 and has a total passenger capacity of 110 passengers and can fit 30 to 40 fishermen comfortably. The **Mystery** is certified for inland waters and is 65 feet long with a draft of 5.7 feet and is constructed of wood. It is equipped with two restrooms, shaded upper deck, and snack bar/souvenir shop and served primarily as a group-fishing vessel.

THE CONTINENTAL SHELF

The **Continental Shelf** is a 106 passenger vessel built in 1987 by Lydia Yachts of Stuart, Florida. It is of fiberglass construction and 82 feet long with a 7.4-foot draft. The vessel provides primarily fishing and party excursions and occasionally an educational group trip and it is certified for offshore ocean routes. The **Continental Shelf** is powered by three V-8 turbo-diesel engines which makes the vessel faster and more expensive to operate than vessels more similar to the **Mystery** Tour vessels.

FERRY VESSEL RECOMMENDATIONS

In summary of the above, and to accommodate the type of ferry service proposed, consisting of a ferry fleet mix of small and mid-sized vessels, vessel types recommended for service include:

SMALL SKIFF TYPE VESSELS

These vessels are typical of the vessels currently in use. They are fast, generally fuel efficient and low cost when compared to larger vessels. They are typically fiberglass hulls with one or two outboard motors. For instance, the Carolina Skiff with preferably a flat bottom or its equivalent is the recommended vessel. The flat bottom boat facilitates easier beach landing embarking/disembarking when compared to a v-hull, however a v-hull may be able to operate in slightly higher sea conditions (waves).

MID-SIZE TYPE VESSELS

These vessels are typically shallow draft catamaran vessels with two outboard motors and typified by the SeaArk, or Corinthian vessels described above or their equivalents. Their typical passenger capacity and deck space allow them to comfortably accommodate ferry passengers, including visitors with disabilities and minimize the adverse effects of in climate weather or sea conditions.



Continental Shelf Passenger Vessel

7

CONCEPTUAL SITE DEVELOPMENT PLANS

7

CONCEPTUAL SITE DEVELOPMENT PLANS



Pathway to Existing Pier at 10th Street Site

SITE DEVELOPMENT CONCEPTS

CONCEPT CONSIDERATIONS

The objective of the site development concepts is to apply the proposed ferry service development program to the potential sites in Morehead City and Beaufort. These designs are focused on providing visitors with an enhanced gateway arrival experience to Cape Lookout National Seashore.

The conceptual site development plans depict the location of proposed development program elements at the four highest ranking departure sites. Three of these sites are located in the Town of Morehead City (10th Street, Jaycee Park, and the Railroad Site), and the remaining site (Post Office Site) is located in downtown Beaufort. These concepts begin to establish the types of improvements required to facilitate use of the selected sites as ferry departure locations.

In addition to the Morehead City and Beaufort sites, the Harkers Island Visitors Center has been reviewed for incorporation of the ferry service development program elements. Due to the sites current use as a National Park visitor center and boat basin, a concept plan has not been prepared for this site. Instead, an opportunities and constraints diagram has been included in Section 5 to outline potential upgrades required for ferry service.

The wayfinding signage, site designs, and dock concepts have been organized to provide visitors with visual clues that inform them on where to park, how to obtain trip information, where to purchase ferry tickets, and how to best prepare themselves for a National Park experience at the national seashore.

The Morehead City and Beaufort sites have been evaluated using bubble diagramming to help determine how the development program elements can be best applied to each individual site. These program elements include wayfinding signage, visitor orientation areas, ferry ticketing booths, concession sales, restrooms, sheltered passenger waiting areas, vehicle parking, and dock improvements. These diagrams were then used in the preparation of the conceptual site plans.

The ferry dock concepts for the Morehead City, Beaufort, and Harkers Island sites are described at the end of this section. These concepts examine existing marine site conditions, and explore various options for pier and dock improvements required for ferry service to the national seashore.

MOREHEAD CITY DEPARTURE SITES 10TH STREET SITE

Located at the western edge of Morehead City's downtown district, the 10th Street site has the most isolated feel of the Morehead City sites. The maritime presence of the site, with views across Bogue Sound and Sugarloaf Island provide a hint of what visitors will experience once they embark by ferry to Shackleford Banks or Cape Lookout Lighthouse. The site location between adjoining commercial and residential uses establishes an environment which is quiet and set apart from the commercial activities of downtown Morehead City. This site borders a single family neighborhood and if developed for the ferry service, will create increased activity, though less intensive than festival weekends.

Site elements have been organized at the 10th Street site to give visitors a clear sense of arrival at the coast, and assist in their transition to a national park experience. Wayfinding signage is proposed at near the intersection of US-70 and South 10th Street as well as at the project frontage. The prohibition on left turns at 10th Street for westbound traffic on US 70 will need to be lifted to facilitate easier access for visitors approaching from that direction.

This concept proposes re-stripping the existing paved parking area to create one way angled parking, and expanding the parking lot to a u-shape configuration onto the informal gravel parking lot on the adjacent western parcel. This brings the on-site parking count to a total of 70 stalls. Approximately 30 additional spaces, including 4 recreational vehicle (RV) stalls are proposed as on-street parking on

the adjacent town streets. A loading and unloading area is proposed at the north side of Shepard Street, along with an improved pedestrian crossing.

A pedestrian walkway is proposed that would provide a direct connection from the street frontage to the ferry docks. Visitors walking to and from downtown Morehead City would utilize existing sidewalks and the recently improved downtown waterfront esplanade. The walking distance from the 10th Street site to the west end of the improved downtown waterfront is approximately 1/10 of a mile.

A gateway/orientation area would be placed adjacent to the existing wooden pier to provide a location for visitor orientation, ticket purchases, concessions, and restrooms. A covered pavilion is proposed immediately to the west as a passenger queuing area and shelter from the sun and rain. It is proposed that the existing docks be modified to allow ramp access to the new boat dock that will house the ferry fleet. Upgrades to the existing boat launch may also be considered for ferry service use.

The ferry service route from the 10th Street site is proposed to travel around the western tip of Sugarloaf Island into Bogue Sound and travel through the Morehead City Channel between Fort Macon State Park and Radio Island. The ferry service will then cross the Beaufort Inlet and on to the Back Sound to the existing boat dock and beaches on Shackleford Banks. The ferry service providers will also have the option to continue east through the Back Sound to the Cape Lookout Lighthouse. This ferry route supports a highly desired visitor experience by avoiding the more commercial aspects of the Morehead City Harbor Channel and the port facility.



10th Street Site from Street Entrance

DEVELOPMENT PROGRAM ELEMENTS

FIGURE 7.1 10TH STREET CONCEPTUAL DIAGRAM

1	Pedestrian Access
2	Wayfinding / Signage
3	Loading / Unloading Area
4	Parking Area
5	Orientation Area / Gateway (500 sf)
6	Ticketing, Restrooms & Concession Building (600 sf)
7	Shelter / Queuing Area (440 sf)
8	Ferry Docks (1,000 sf)
9	Vehicular Ingress/Egress
10	Large Vehicle Parking – On-Street
11	On-Street Parking Area

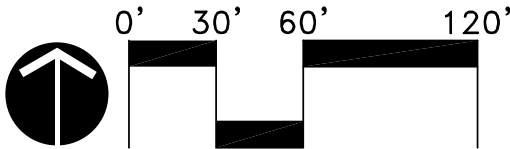




FIGURE 7.2 10TH STREET SITE PLAN CONCEPT

1	Pedestrian Access
2	Wayfinding / Signage
3	Loading / Unloading
4	Parking Area
5	Orientation Area / Gateway (500 sf)
6	Ticketing, Restrooms & Concession Building (600 sf)
7	Shelter / Queuing Area (440 sf)
8	Ferry Docks (1,000 sf)
9	Existing Fishing Pier to Remain
10	Large Vehicle Parking – On-Street
11	Water Quality Pond
12	Passenger Vehicle On-Street Parking

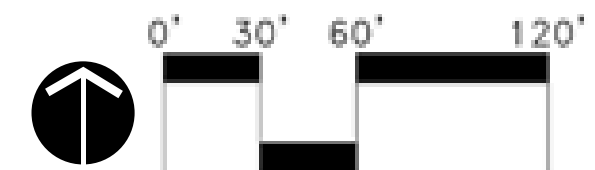


FIGURE 7.3 10TH STREET DETAILED SITE PLAN CONCEPT

1	Loading/Unloading Area	5	Existing Pier
2	Gateway Orientation Area	6	Ferry Docks
3	Stormwater Treatment	7	Parking Area
4	Shelter / Queuing Area		





JAYCEE PARK SITE

The Jaycee Park site is the western terminus of the Morehead City waterfront esplanade. This site is home to a variety of users and activities. This site has a strong maritime presence as well as a passive neighborhood park feel. Views from the site are of Sugarloaf Island and the harbor channel. Because the site's current use is for concerts, social events, passive recreation, fishing, and transient boating, there is the potential need to compete for limited space with the proposed ferry service to Shackleford Banks and the Cape Lookout Lighthouse. Careful design considerations regarding the scheduling of events and resolving parking requirements would help to minimize these competing uses.

Wayfinding signage is proposed at the intersection of US-70 and South 9th Street, as well as at the project frontage and at the municipal building at the corner of Evans and South 8th Street. Signage is also proposed at the intersection of South 4th Street and US-70, where a left turn lane will allow vehicles traveling from the east access along Evans Street to the site. There are 24 passenger vehicle stalls available in the on-site parking area at the end of 11th Street. All other parking required for ferry service will need to occur off-site at the end of 11th Street. There is a surface lot northeast of the site adjacent to the municipal building on South 8th Street that can hold an additional 24 passenger vehicles. Additional parking required for ferry service will need to be provided on surface streets and or off-site parking lots. There are a sufficient number of on-street parking spaces immediately adjacent to Jaycee Park on Shepard Street.

Gateway/orientation for the site is proposed within the municipal building on South 8th Street. The town has offered space within the municipal building to the NPS to establish a visitor contact station. This is proposed as a shared use with other town offices planned for this location. Additional orientation is proposed near the eastern tip of Jaycee Park where additional site elements for the proposed ferry service are planned. These include plaza space for ferry ticketing, a covered shade pavilion, and additional wayfinding signage. A loading and unloading area is proposed at the north side of the park on Shepard Street with an improved pedestrian crossing. Morehead City has plans underway to build a restroom facility in the park that contain showers and a laundry facility. A new boat dock dedicated to ferry service use is proposed at the eastern end of the existing public moorings.

The ferry service route from the Jaycee Park site is proposed to travel east through the Harbor Channel around the eastern tip of Sugarloaf Island, past the east side of the port facility, and on through the Morehead City Channel between Fort Macon State Park and Radio Island. The ferry service will then cross the Beaufort Inlet into the Back Sound to the existing boat dock and beaches on the north side of Shackleford Banks. The ferry service providers will have the option to provide additional service east through the Back Sound to the Cape Lookout Lighthouse. This ferry route supports a slightly less desired visitor experience than the 10th Street site by taking visitors directly through the more commercial aspects of the Morehead City Harbor Channel and the port facility.

DEVELOPMENT PROGRAM ELEMENTS

FIGURE 7.4 JAYCEE PARK CONCEPTUAL DIAGRAM

1	Visitor Contact Location / Restrooms
2	Orientation Area / Gateway Information
3	Ferry Ticketing Area (60 sf)
4	Shade / Rain Shelter & Passenger Queuing Area (100 sf)
5	Passenger Vehicle On-Street Parking (2 hour maximum)
6	Passenger Parking Area
7	Loading / Unloading Area
8	Pedestrian Connections
9	Wayfinding / Signage
10	Ferry Docks (1,400 sf)
11	RV Parking
12	Existing Public Docks
13	Future Restroom / Shower Facility





FIGURE 7.5 JAYCEE PARK SITE PLAN CONCEPT

1	Visitor Contact Location / Restrooms
2	Orientation Area / Gateway Information
3	Ferry Ticketing Area (60 sf)
4	Shade / Rain Shelter & Passenger Queuing Area (100 sf)
5	Passenger Vehicle On-Street Parking
6	Passenger Vehicle Off-Street Parking Area
7	Loading / Unloading Area
8	Pedestrian Connections
9	Wayfinding / Signage
10	Ferry Docks (1,400 sf)
11	RV Parking
12	Existing Public Docks

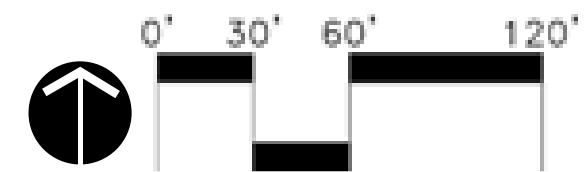


FIGURE 7.6 JAYCEE PARK DETAILED SITE PLAN CONCEPT

1	Orientation Area / Gateway Information	5	Wayfinding / Signage
2	Ferry Ticketing Area	6	Ferry Docks
3	Shade / Rain Shelter & Passenger Queuing Area	7	Existing Public Docks
4	Passenger Vehicle On-Street Parking	8	Existing Waterfront Esplanade





RAILROAD SITE

The Railroad site is located at the east end of Morehead City along the north side of US-70. This site is in close proximity to US-70, an adjacent auto dealership, and town yacht basin. In spite of having the majority of structures removed from this site, it has the most industrial feeling of the Morehead City sites. This is primarily due to the phosphate industrial site that dominated the views beyond the yacht basin. The eastern side of the property abutting the marina has a strong maritime presence. The site's current condition as a vacant lot and as additional dock space for the adjoining marina is compatible with the proposed ferry operations.

Proposed site elements have been organized at the railroad site to provide visitors with a clear sense of arrival and way to begin their transition to a national park experience. Wayfinding signage is proposed at the intersection of US-70 and North 4th Street, as well as at the project frontage.

A parking area is proposed that provides 85 passenger vehicle spaces and 4 RV spaces. Additional on-street parking for approximately 10 additional cars is available along Bridges Street and North 4th Street.

The gateway/orientation area has been sited between the proposed parking area and the boat docks to provide visitor orientation, ticketing, and restrooms. A covered pavilion is

proposed as a part of the dock improvements immediately to the east to provide a passenger queuing area and shelter from the sun and rain. The existing boat docks would be expanded to the northeast to provide space for the ferry fleet.

Pedestrian walkways are proposed to improve connectivity throughout the site. An improved pedestrian crossing is proposed to connect the site to the Morehead City waterfront. This would be a project by the town in coordination with the NPS. The walking distance from the site to the east end of the waterfront esplanade is approximately 1/10 of a mile.

The ferry service route from the Railroad site is proposed to travel east from the yacht basin, past the phosphate industrial plant, under the US-70 causeway, pass between the port terminal and Radio Island, and continue on past Fort Macon State Park. The ferry service will then cross the Beaufort Inlet into the Back Sound to the existing boat dock and beaches on the north side of Shackelford Banks. The ferry service providers will have the option to provide additional service east through the Back Sound to the Cape Lookout Lighthouse. This ferry route provides a less desired visitor experience than the 10th Street site and the Morehead City waterfront sites by taking visitors past the industrial phosphate plant, under the highway, and directly past the port terminal.

DEVELOPMENT PROGRAM ELEMENTS

FIGURE 7.7 RAILROAD SITE CONCEPTUAL DIAGRAM

1	Orientation Area / Gateway Information (500 sf)
2	Ferry Ticketing Area & Restrooms (600 sf)
3	Shelter & Passenger Queuing Area (450 sf)
4	Passenger Vehicle Parking (100 Spaces)
5	Recreational Vehicle Parking (4-6 Spaces)
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,500 sf)
10	Existing Docks to Remain
11	Existing Buildings to Remain





FIGURE 7.8 RAILROAD SITE PLAN CONCEPT

1	Orientation Area / Gateway Information (500 sf)
2	Ferry Ticketing Area & Restrooms (600 sf)
3	Shelter & Passenger Queuing Area (450 sf)
4	Passenger Vehicle Parking (100 Spaces)
5	Recreational Vehicle Parking (4-6 Spaces)
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,500 sf)
10	Existing Docks to Remain
11	Existing Buildings to Remain

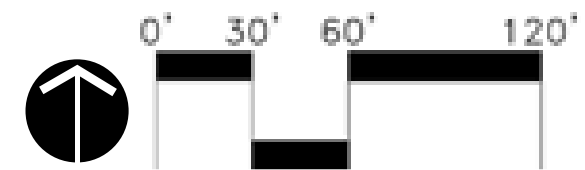


FIGURE 7.9 RAILROAD SITE DETAILED SITE PLAN CONCEPT

1	Loading/Unloading Area	5	Shelter and Passenger Queuing Area
2	Gateway Orientation Area	6	Ferry Docks
3	Ferry Ticketing, Concessions, and Restrooms	7	Passenger Vehicle Parking Area
4	Pedestrian Connections		



BEAUFORT DEPARTURE SITE POST OFFICE SITE

The Post Office site is located on the waterfront at the western end of downtown Beaufort. The existing post office building is being acquired by the Town of Beaufort for potential use as municipal offices. The town owns a boat dock located diagonally across the street approximately 250 feet to the southwest of the post office which can be updated for utilization by the ferry service. In addition, there is a small watercraft dock directly across from the Post Office at Grayden Paul Park which may be an alternative dock location.

The maritime presence of the site, with views across the waterfront and harbor channel to Carrot Island, provide a hint of what visitors can experience once they embark by ferry to Shackleford Banks or Cape Lookout. The site's location along the Beaufort waterfront has the potential to work harmoniously with the proposed ferry operations.

Wayfinding signage is proposed at the intersection of Front and Pollock Street as well as along US-70 to inform visitors of the location of ferry departure site to the national seashore. The required 100 vehicle spaces can be identified within 2/10ths of a mile from the proposed docks, but parking spaces will need to be dedicated for NPS visitors. Additional parking for the post office site is dispersed throughout downtown Beaufort in existing parking areas and curb side spaces. Potential solutions may also involve the

town negotiating a lease agreement for weekend use of an underutilized parking lot to the west of the post office.

A gateway/orientation area and ticketing is proposed at the post office building along with restrooms. The NPS visitor contact station is proposed as a separate use in the Post Office building. The Post Office building will also be used by the town as a town hall with staff offices. As a temporary alternative, ticketing and additional wayfinding signage for ferry service is proposed at an expanded deck area at the boat dock. A covered pavilion are proposed at this location to provide a passenger queuing area and shelter from the sun and rain. Pedestrian traffic would utilize improved crossings and sidewalks from the post office building to the ferry docks. The distance between the post office building and the ferry dock location may pose some challenges from a staffing and visitor experience point of view.

The proposed ferry service route from the Post Office site provides a highly desirable experience for visitors by passing by the natural beauty of Carrot Island, along the east side Radio Island through the Bulkhead Channel, and past Fort Macon State Park. The ferry service will then cross the Beaufort Inlet into the Back Sound to the existing boat dock and beaches on the north side of Shackleford Banks. The ferry service providers will also have the option to provide additional service east through the Back Sound to the Cape Lookout Lighthouse.



Dock southwest of Post Office Site

DEVELOPMENT PROGRAM ELEMENTS

FIGURE 7.10 POST OFFICE SITE CONCEPTUAL DIAGRAM

1	Permanent Visitor Contact Station / Gateway Information / Ticket Sales / Restrooms
2	Temporary Ferry Ticketing Area (60 sf) / Gateway Information (80 sf)
3	Shade / Rain Shelter & Passenger Queuing Area (400 sf)
4	Dedicated Passenger Vehicle On-Street Parking
5	Proposed Overflow Parking
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,000 sf)
10	Alternative Loading/Unloading or Parking

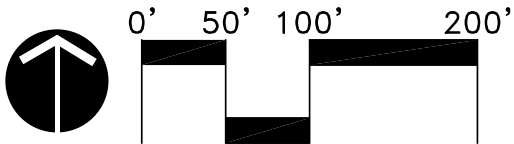




FIGURE 7.II POST OFFICE SITE PLAN CONCEPT

1	Temporary Gateway Orientation Area (1 or 2 years)
2	Temporary Ferry Ticketing Area (60 sf) (1 or 2 years)
3	Shade / Rain Shelter & Passenger Queuing Area (400 sf)
4	Dedicated Passenger Vehicle On-Street Parking
5	Proposed Overflow Parking (Off-Hours Only Upon Beaufort Negotiation with Property Owner)
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,000 sf)
10	Alternative Loading/Unloading or Parking
11	Proposed Permanent Visitor Contact Station with Exhibits, Ticket Sales and Restrooms
12	Existing Park
13	New Park Expansion
14	Private Property with Docks

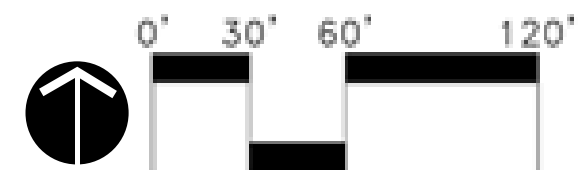


FIGURE 7.12 POST OFFICE SITE DETAILED SITE PLAN CONCEPT

1	Temporary Gateway Orientation Area	6	Existing Small Craft Boat Launch
2	Temporary Ferry Ticketing Area	7	Pedestrian Crossing
3	Shade / Rain Shelter / Queuing Area	8	New Park Expansion
4	Wayfinding Signage	9	Existing Park
5	Dedicated Passenger Vehicle On-Street Parking	10	Ferry Docks



NATIONAL SEASHORE DEPARTURE SITE

HARKERS ISLAND VISITORS CENTER

Located at the terminus of Island Road at the east end of Harkers Island, the Harkers Island Visitor Center serves as a gateway to Cape Lookout Lighthouse on South Core Banks. This site is the current home to the visitors center, NPS administrative offices, and a boat basin used by Park staff. The maritime presence of the site, with views across the back sound to Cape Lookout is a natural starting point to a National Park experience. The site and its current uses are compatible with the proposed ferry service.

Existing parking areas are shown re-stripped and modified to maximize parking and provide improved turning radius for bus access through the site. This redesign of the parking areas provides a total 135 cars and 8 RV spaces for visitor use. Additional overflow parking can occur at the adjacent Core Sound Waterfowl Museum and Heritage Center. The connection between the Waterfowl Museum and the Visitor Center area should be enhanced to provide better wayfinding for visitors in peak use periods.

Gateway/orientation is proposed within the visitor center. Restrooms are currently available in the visitor center for use by ferry passengers. New way finding signage is proposed at the entrance to the site as well on the mainland along US-70 to guide visitors to the site.

Ticketing for ferry service is proposed adjacent to the boat basin, along with a covered pavilion for protection from the elements. Minor modifications are proposed to the existing docks to improve passenger access to the ferry fleet.

A vehicle loading /unloading area has been sited along the visitor center access drive. New pedestrian walkways are proposed to connect visitors from the boat docks to the on-site parking areas. Striped pedestrian crossings are also proposed as a part of this work.

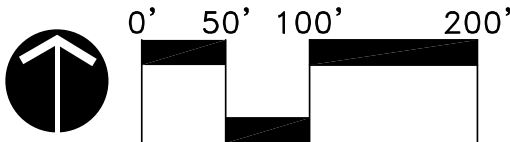


Core Sound Waterfowl Museum at Shell Point

DEVELOPMENT PROGRAM ELEMENTS

FIGURE 7.13 HARKERS ISLAND VISITOR CENTER CONCEPTUAL DIAGRAM

1	Orientation Area / Gateway Information (Harkers Island Visitor Center)
2	Ferry Ticketing
3	Shade / Rain Shelter
4	Public Restrooms (Harkers Island Visitor Center)
5	Outdoor Passenger Queuing Area
6	Passenger Vehicle Parking (100 Spaces with Day Use Parking)
7	Recreational Vehicle Parking (4-6 Spaces)
8	Vehicle Loading / Unloading Area
9	Pedestrian Connections
10	Utility Service (Electrical, Water, Sewer)
11	Wayfinding / Signage
12	Docks
13	Overflow / Additional Parking
14	Core Sound Waterfowl Museum and Heritage Center (Additional Restrooms)



FERRY DOCK CONCEPTS

The waterside infrastructure required for a ferry service consists of the pier and docks necessary to accommodate the particular boats and anticipated passenger activity. The following section discusses the existing marine site conditions and various options for improvements to the facilities for a ferry service. Typical design features are depicted in the conceptual dock layout diagrams of the sites.

It must be noted that the evaluation of the existing docks was solely based on visual observations of the docks, their physical layout and proximity to other marine structures and waterways. The docks were not structurally evaluated in terms of their structural integrity, condition or capacity to accommodate increased user loads.

MOREHEAD CITY LOCATIONS

As part of Morehead City's efforts to encourage and promote a ferry service from the downtown Morehead City area, several potential waterfront dock locations for a ferry service were proposed by City staff. Below is a brief summary of the waterfront site conditions and infrastructure of the primary Morehead City locations remaining for further consideration and detailed evaluation.

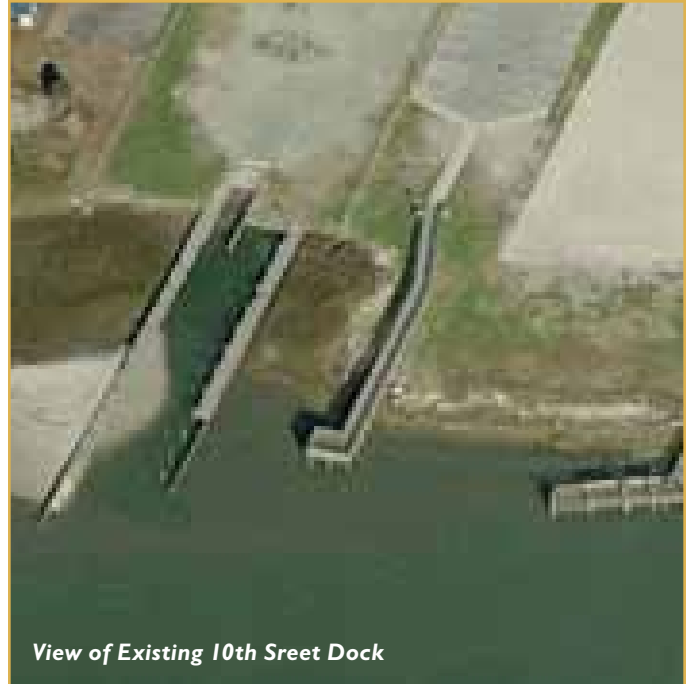
10TH STREET

The 10th Street site includes an existing dock that is on the dredged channel (4.5 ft, 2003) between Morehead City and Sugar Loaf Island. The site is relatively well protected by Sugar Loaf Island which is approximately 250 yards across the channel. The longest fetch is approximately 1 nm to the southwest across Money Bay to Bogue Banks.

There is an existing CAMA access dock of wood pile and timber construction with an "L" pier at the end. It is estimated that the dock was built within the last 10 years. Approximately 40 feet west of the dock is a ramp facility for launching non-motorized watercraft. Along each side of the ramp facility are courtesy docks; the west dock and bulkhead is approximately 165 feet long and the east dock, located closest to the 10th Street dock on a separate private parcel, is approximately 140 feet long. Also, there is a private dock located approximately 75 feet to the east of the 10th Street dock.

The site offers very good protection from wind and waves and is a short distance to the Intracoastal Waterway channel where it is then a direct route to the Morehead City channel and to Shackleford Banks.

Overnight mooring is currently not allowed and there is no utility infrastructure in place at the docks for water, sanitary, electrical or fuel.



View of Existing 10th Street Dock

At this location it is estimated that the water depth is between three and four feet. It is likely that some dredging may be required for deep draft vessels to use the facility, but not for shallow draft type vessels. Maintenance dredging would have to be performed as required to maintain the existing channel approach to the dock and the maneuvering area in the vicinity of the dock.

There is frequent pleasure craft and commercial fishing boat traffic along the channel to and from the docks located along the Morehead City waterfront.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

In order to make the site operational for ferry service, several marine infrastructure improvements would have to be made to the site. The proposed conceptual improvements consist of taking the existing boat ramp out of service and reconstructing the existing boat ramp docks for ferry vessels.

The reconstructed docks would be of wood timber and pile construction and 8' wide with a length of 100' for the west dock and approximately 70' for the east dock. The docks would be able to accommodate the proposed ferry fleet with vessels ranging from approximately 25 to 60 feet. The docks would be equipped with electric power pedestals, dock lighting and water.

Even with the existing CAMA dock to the east remaining in operation, the ferry vessels can maneuver as required without interfering with the use of the CAMA dock. It appears that the ferry operation is feasible within the given waterside area.

JAYCEE PARK DOCKS

The Jaycee Park Dock site is located at the end of S. 9th Street and includes a recently constructed floating dock with ten slips. The docks were constructed with partial funding through the U. S. Fish and Wildlife Service's (FWS) Boating Infrastructure Grant (BIG) which is intended to support construction, renovation or maintenance of tie-up facilities for transient, non-trailerable recreational boats. Due to the restrictions in the use of the dock, ferry operations, even on a temporary basis, would not be allowed by the FWS. An alternative would be to expand the docks with three new slips to accommodate the proposed ferry fleet of three vessels.

The existing dock location is along the dredged channel (4.5 ft. to 7ft. at the turning basin area) between Morehead City and Sugar Loaf Island. The site is well protected by Sugar Loaf Island which is approximately 300 yards across the channel. The fetch along this area of the channel is minimal.

The existing floating dock is 10' wide with 5' wide finger piers and has wood decking. The docks are pile supported with concrete piles secured within the footprint of the deck. Directly west of the dock, less than 10' away, is a public fixed wood pedestrian observation pier. To the east of the dock is an open water area approximately 150 ft. long where the floating docks could be expanded for ferry vessel slips. Provided that the Town of Morehead City could obtain riparian rights from private owners.

The site offers very good protection from wind and waves and is less than 1 nm to the Port of Morehead City.

Overnight mooring is allowed and there are power pedestals with water installed on the docks. There are no fueling or sanitary pump-out facilities at the dock.

The location is an active transient pier with an estimated water depth of 5' to 7'. There is frequent pleasure craft and commercial fishing boat traffic along the channel to the Morehead City waterfront. Maintenance dredging would have to be performed as required to maintain the existing dock facility.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

Virtually no improvements would have to be done to the existing dock for it to serve as a ferry terminal, however due to the restriction in use, three slips would have to be constructed on the east end of the docks or separately, preferably with its own ramp access to the shore. Even with the existing transient slips in operation, the site functions well operationally for ferry vessels. A ferry fleet of three vessels, small, medium and large, could be berthed at the first two slips with the small boat on the west side of the first finger pier. (See Figure 7.6)

The main conflict in use of the docks would be pedestrian traffic when transient boaters using the slips have to walk past ferry passengers embarking/debarking from the ferries. The site also lends itself to an efficient expansion of the floating docks to the east for new slips dedicated to the ferry operations. An expansion of the dock would be based on a custom dock layout designed specifically for the intended ferry vessel sizes.



View of Deep Sea Fishing Boat in Morehead City



Boat Off Morehead City Waterfront

RAILROAD SITE

The water front of the North Carolina Railroad Property site is part of an active marina basin off of the Newport River. The site is within the Morehead City Yacht Basin located on the north side of Morehead City. There is an existing fixed dock with finger piers and 11 slips for vessel up to approximately 50 feet. The slips are currently in use and are managed by Marina Management Services, LLC. The site is very well protected as there is no significant fetch in any direction.

The existing dock is of wood pile and timber construction and is in poor condition. The bulkhead is also failing in some locations and in need of repair or replacement. The depth of the marina basin is 10 to 13 feet therefore dredging is not likely to be needed except perhaps near the bulkhead of the proposed reconstructed docks.

The site is just over ½ nm west of the Intracoastal Waterway (IW) channel where the ferry route meets the IW channel just north of the Route 70 Bridge. From the bridge, the ferry would have a direct route to the Morehead City channel and to Shackleford Banks.

Overnight mooring is allowed at the site and there are fueling facilities and other related amenities including vessel repair and maintenance services at the adjacent marina. There is also full utility infrastructure in place at the dock for water, sanitary and electrical.

The location of the site requires that the ferry route cross under the Route 70 Bridge which is fixed with a vertical clearance of 65'. Therefore the bridge would not be a restriction to the height of the ferries or a constraint to the ferry route. There is, however, a low clearance (4') parallel railroad bascule bridge that would impede ferry traffic when the bridge is in the closed position for railroad traffic. The normal position for the bridge is open for vessel traffic.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

The proposed improvements would be limited to the specific areas to be utilized for ferry service; they do not extend into the adjacent dock area that may also be in need of improvements. A minimum of three slips would be required for berthing the ferry fleet consisting of small, medium and large ferry vessels.

One option for the dock is that a portion of the existing bulkhead and wood dock would be demolished and a new bulkhead and new wood timber and pile fixed dock constructed. In general, the new dock along the bulkhead would occupy the same footprint of the existing dock with a larger main pier constructed perpendicular to the bulkhead (see Figure 7.9 for a conceptual dock layout). The docks would be fully equipped with utility service for water, sanitary sewer and electric.

A second option is to construct a new floating dock and main pier that is pile supported and accessed by an aluminum ramp from the bulkhead or a fixed pier structure at the shoreline. Floating docks have the advantage of being able to provide greater ease in passenger embarking/debarking because the floating piers accommodate the daily tidal fluctuations.

From a marine standpoint, this site would function very well for the operation of a ferry service. It has ample waterfront area and vessel maneuvering area in the yacht basin for the proposed ferry vessel fleet with deep water all the way out to the main channel. It is the best protected and sheltered location of all the Morehead City sites and has a full complement of marine services at the adjacent marina. Any drawbacks associated with this site are more land related and discussed elsewhere in the landside sections of this report.

SUMMARY OF MOREHEAD CITY DOCK LOCATIONS

The Morehead City sites can be broadly categorized as the sites along the main Morehead City waterfront (Shepard and Evans Streets) and the site(s) north of Route 70. From a marine standpoint, both areas are developed, active working waterfronts with good access to channels and fairly direct routes to the main Morehead City Channel.

From a ferry passenger point of view, the Morehead water front sites may be considered more scenic as they pass by Sugar Load Island and have more points of interest including the various marinas and restaurants along the way and the Port of Morehead City. The ferry routes for the sites north of Route 70 are more industrial as they pass by the large phosphate plant located adjacent to the bridge. The travel times for the ferry routes are generally comparable to the northern sites.

BEAUFORT LOCATIONS

POST OFFICE/FRONT STREET DOCKS

In an effort to attract a National Park Service ferry operation to the Town of Beaufort, the administration staff of the town has offered the use of the public docks to the NPS for the ferry service. The docks are located on the eastern end of Front Street retail and commercial area at Grayden Paul Park.

The docks are fixed docks 10 feet wide with wood decks that can accommodate vessels from a small dinghy up to 75-foot+ motor vessels. There is one slip that is approximately 25 feet. Larger vessels can side-tie along the main pier. The docks are not equipped with electric power pedestals or water. Some upgrades to the docks and piles may be necessary for safe ferry boat operations and passenger boarding in addition to the provision of electric power and water. For example, existing dock improvements would be generally for widening the docks, adding finger pier, and providing fender piles for larger excursion type vessels.

The Beaufort public docks and entire Front Street waterfront is very active with marine commerce and boating. The

Grayden Paul Park docks are well sheltered by Carrot Island and have a deep channel dredged to 8 feet with direct access to the Morehead City channel and to Shackleford Banks.

The site is the main center for boating and yachting in the area and is adjacent to the location of one current ferry operator and the tour vessels *Mystery* and *Diamond City*. A second ferry operator is located two blocks west of the public docks.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

In terms of an initial start up of a ferry service, some dock improvements would be needed. The docks appear to be in good conditions with slip sizes and layout able to generally accommodate the proposed ferry fleet. Water and electrical services would need to be added. At 10 feet wide, the docks are only minimally able to accommodate large passenger groups. It appears that this site would involve a limited amount of effort and expense to become operational as a ferry service terminal.





Cape Lookout National Seashore Visitor Center Dock at Boat Basin

CAPE LOOKOUT NATIONAL SEASHORE DOCK LOCATIONS HARKERS ISLAND VISITOR CENTER

The Cape Lookout National Seashore Visitor Center is located on the eastern end of Harkers Island at Shell Point. There is an existing boat basin at the site with approximately 12 slips and a boat ramp. The basin is owned and operated by the National Park Service for the operational needs of the park. The docks and bulkhead are in very good condition with water, electric and fuel services at the docks. The dock decking is good condition however, there is an approximately a 1.5 to 2-inch discontinuity in the elevation between the concrete sidewalk around the basin and the dock elevation which creates a tripping hazard. This issue will need to be corrected by raising the top elevation of the dock with an additional layer of decking or by some other means in order to eliminate the existing tripping hazard.

The basin is dredged and has direct access to the dredged channel just south of the mouth of the basin which leads directly to the Lighthouse. Although the boat basin provides shelter to moored vessels, Shell Point is exposed to a 3 nm fetch to the south and over 15 nm to the northeast.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

The docks are in good condition and can accommodate the ferry fleet as proposed. Very minor improvements would be required to make the facility operational for ferry service. The addition of some wood mooring/fender piles may be required and improvements are needed for the dock, as noted above, in order to raise its surface to match the elevation of the concrete sidewalk.

CAPE LOOKOUT LIGHTHOUSE

The existing wood dock and “T” pier at the Cape Lookout Lighthouse is in generally good condition. The dock width is approximately 6 feet wide with a clear width between piles of approximately 5 feet. The width is not preferable for ferry service and introduces a constraint when large groups are loading/unloading from ferry vessels. In order to use the existing dock for large groups, the loading/unloading process would have to be operationally managed on land by park staff or the ferry operator so that there was only one-way passenger traffic on the dock at any time.

The tide range in the vicinity of Lookout Bight is approximately 4 feet which is somewhat greater than the typical 3 foot tide range in Beaufort and Morehead City. There is typically 3 feet of water at the end of the dock, however the channel leading up to the dock often shoals

restricting the size of the vessels that are able to use the dock facility to approximately a 2-foot draft or less. Therefore, larger excursion tour boats are unable to use the dock facility. Ferry operators using small skiffs and boats currently use the dock almost exclusively, while occasionally performing a beach landing for passenger drop-off and pick-up.

There is a pedestrian boardwalk at the end of the dock that leads to the visitor contact station. There are no utilities, lighting or other amenities at the dock. This outer bank site provides the highest level of accessibility once exiting the dock.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

The mid to large size ferry vessels should be equipped with a lift to provide ADA accessibility for ferry passengers.



Cape Lookout Lighthouse



SHACKLEFORD BANKS

The existing wood dock at Shackleford Banks is in serviceable condition for its current low level of service. The dock width is not adequate for increased ferry service and is a constraint for ferry passengers loading/unloading. Currently, most ferry passengers are dropped off and picked up at the popular beach location west of the dock and do not use the dock at all. The tide range in the dock vicinity is approximately 3 to 4 feet. It was reported that there is typically 5-feet or more feet of water at the end of the dock so larger excursion tour boats would be able to use the dock facility. There are no utilities of any kind at the dock. Since Shackleford Banks is proposed as “wilderness” no accommodation for ADA accessibility is provided beyond the deck.

PROPOSED DOCK IMPROVEMENTS FOR FERRY SERVICE

The mid to large size ferry vessels should be equipped with a lift to provide ADA accessibility for ferry passengers.

DOCK LAYOUTS AND DESIGN

The key criteria for the design of the docking facilities include the boats types, hurricane design, expected passenger loads, handicap accessibility, and accommodation of park administrative uses.

As evidenced with ferry services at other parks, the type of ferry boat varies widely. The only consistent difference is where

the service is provided over flat water where smaller boats are used, versus open water where larger boats are used. At Cape Lookout, the design of the pier and docks should be able to accommodate large and small boats. Freeboard (i.e. height of dock elevation above water level) of docks for smaller water taxi type boats should be approximately 2'-0". Larger ferry freeboard requirements vary from approximately 3'-6" to 4'-6" with 4'-0" being a good average estimate. Vessels load and off load passengers from the side. The docks must have sufficient bollards and cleats for vessel tie-ups and fendering for protection of the dock and vessel. In addition, dolphin piles (a cluster of two or more individual piles) may be required for larger tour excursion vessels to protect the dock facility and for maneuvering of the vessel as it enters/departs the berth.

It is important that the pier and dock be able to withstand storm damage and designed with “sacrificial” components so that any repairs would be simple and could be made quickly. The design of a pier in the area would normally be for a Category I hurricane.

The ferry service might at times have over a hundred people disembarking while a similar number wait to board. Any pier and associated ramps, gangways etc., would need to be sized to handle the passenger activity. In addition, there should be shelter for passengers waiting to board.

The docks and ramps at departure locations should have good lighting for night or limited visibility operations and be

provided with non-skid surfaces. In addition, safety equipment will be needed as required by codes such as life preservers, fire extinguishers, railings and ladders from the water to the dock. Adequate signage is also needed for providing safety and vessel operation information to passengers, ferry service schedules and wayfinding.

All of the components of the docking facilities would need to be handicap accessible. This includes the landside connections as well as the gangways, piers and docks. Some of the important design considerations are the following.

- A gangway is a variable-sloped pedestrian walkway connecting a fixed structure to a floating structure. Gangways should be designed for the least possible slope with a maximum 1:12 (8.33%) up to a maximum length of 80 feet. A typical ramp length for the locations considered may range from 25 to 50 feet. Transition plates are sloping pedestrian walking surfaces located at

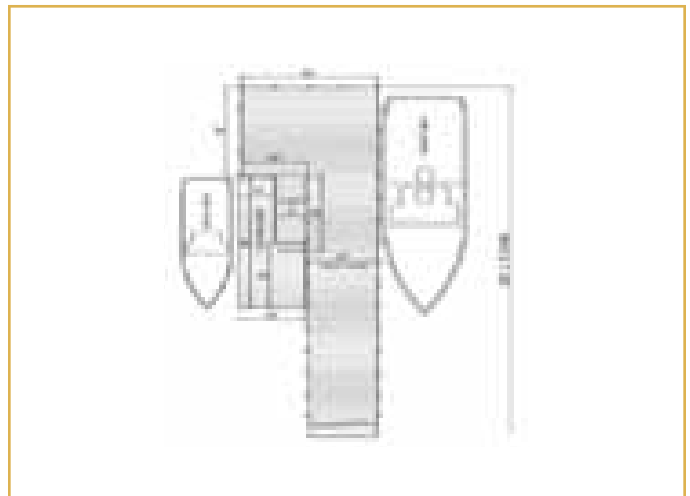
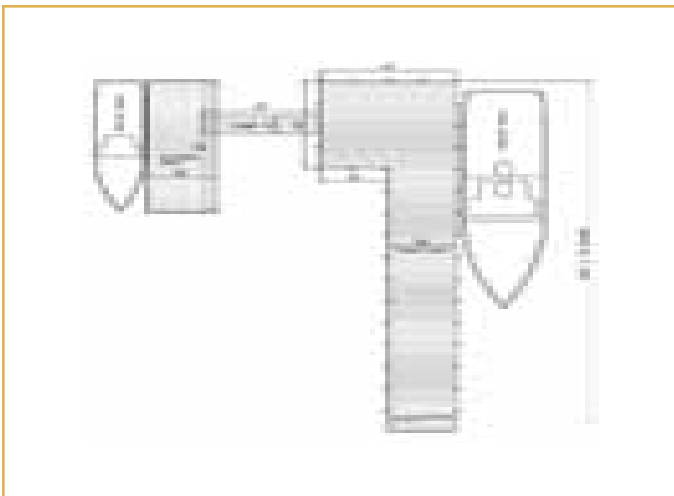
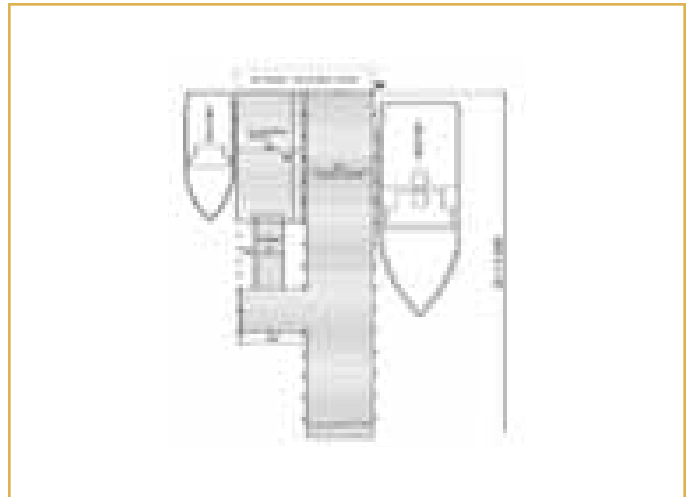
the end of a gangway. Gangways are not required to have landings at the end, if a transition plate is provided. If the transition plate slope is greater than 1:20 (5 percent) then a landing area must be provided at the end of the transition plate. The minimum width of the gangway is 36" clear with hand rails.

- Docks from land to the gangway must adhere to all requirements slopes, ramps, width and rails etc. for an ADA accessible route. Slopes are generally kept to less than 1:20 (5 percent). In some cases where necessary, a sloped ramp of 1:12 may be used with the required hand rails and maximum vertical elevation change of 6".

GENERIC DOCK CONCEPTS

In Figure 7.14 are examples of various dock layouts that could be used for the various sites. Conceptual dock layouts are also provided for the four departure sites evaluated in this section.

FIGURE 7.14 CONCEPTUAL DOCK LAYOUTS

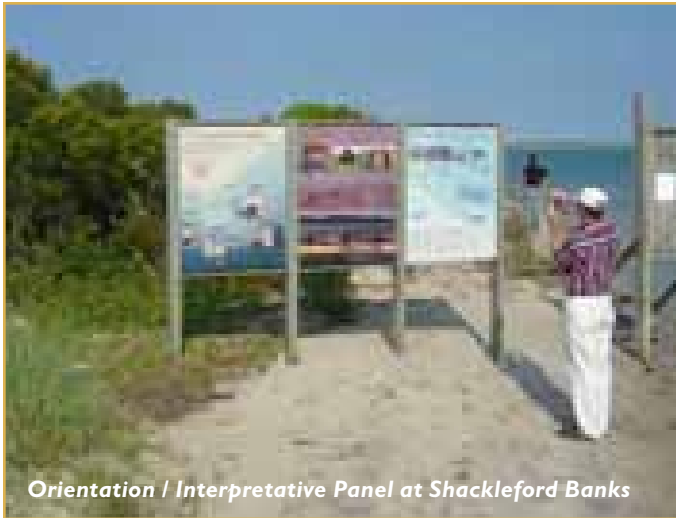


8

SITE EVALUATION & RECOMMENDATIONS

8

SITE EVALUATION & RECOMMENDATIONS



Orientation / Interpretive Panel at Shackleford Banks

SITE EVALUATION CRITERIA

To objectively analyze each of the potential departure sites, a set of criteria have been defined to properly weigh the advantages of each of the sites. The criteria were developed through analysis of the project goals and through discussion with NPS management about priority concerns relating to a new consolidated passenger ferry service. The importance of each of the criteria is discussed further in this section and is a major factor in the preliminary site evaluation process.

These following criteria descriptions will help provide a basis of understanding for the following discussion on criteria weight factors and the resulting evaluation matrix which identifies the most suitable sites for consideration based on the resulting weighted score. The entire process was conducted by the study team in collaboration with NPS management. The evaluation process was applied only to the sites being considered in the Morehead City and Beaufort area. Since the NPS owns a suitable site on Harkers Island, there is no need to evaluate other potential departure sites in that community. A thorough description of the selected criteria follows.

LANDSIDE SELECTION CRITERIA

PUBLIC LAND OWNERSHIP/AVAILABILITY

A key element of the Commercial Services Plan and a primary goal of this study is to create permanency of public control of a passenger ferry departure site along the community waterfront. This will provide reliability in the future for continued visitor access to the national seashore which is not in place at this time. Sites which are under public ownership or have a reasonable potential for public control in a short timeframe will be scored higher on this criteria. The more challenges to achieving this desired goal, the lower the site was scored.

SITE OR GATEWAY APPEAL TO VISITORS

Another goal of the NPS is to create a better presence at the point at which visitors depart the mainland and begin their trip to the national seashore. The desire is to truly make the departure location a gateway which allows a stronger emphasis on park messaging such as resource protection and recreational opportunities on the islands. Does the visitor feel as though they are about to head to a wilderness barrier island or lands which are protected for its sensitive resources? This type of visitor understanding requires the proper environmental context to support the message and the ability to transition visitors from a more urban context to islands that are managed as cultural and natural areas with sensitive resources.

There is some subjectivity involved in this criterion, but higher scoring sites will be the sites with the context that allows the NPS to establish their presence and transition a visitor to a dramatically different environment. This should include a surrounding environment complementing the establishment of a NPS presence, views of a maritime environment, and a clearly understood route of travel to the site for visitors wishing to board the passenger ferry,

READY FOR QUICK STARTUP

The NPS has a desire to implement a new consolidated ferry service within the next two years. As a result, the ability to have a site ready for use within that time frame is



Harkers Island Visitor Center and Boat Basin Access

critical. This criterion focuses on the landside development of the site and considers whether the improvements are in place or could be in place promptly for a quick startup. Sites with significant development challenges or more extensive improvements required will score lower.

PARKING AVAILABILITY

Accommodation of parking is the program element which requires the most land area. The higher scoring sites will include land area under public ownership or able to be acquired which provide for at least 100 passenger vehicle spaces and a small number of larger recreation-vehicle spaces. Several sites include a combination of off-street parking and on-street parking nearby to accommodate the parking requirements. Sites with a higher ratio of on-street parking and less publicly controlled land area for off-street parking will score lower.

GATEWAY OPPORTUNITY

This criterion focuses on the spatial requirements needed for the NPS to establish its presence on the site and effectively operate the site as a gateway to a unit of the national park system. This includes space for an gateway/orientation area, ticketing, restrooms, waiting or queuing areas, loading areas, etc. Sites with more area for this purpose will score higher. Sites with limited land area constraining the ability to establish a gateway presence will score lower.

PARTNERSHIP OPPORTUNITY

The NPS is clearly looking for an arrangement with a local public agency in which the partnership benefits both parties. This can mean different things for the local agency depending on their goals and mission, but for the NPS it means primarily minimal capital investment in land acquisition and site

improvements. For the local agency, the benefit is likely to be increased tourism visitation to the local business district. Sites that have the potential to lead to a positive partnership arrangement for the identified parties will score higher.

CONFLICTING OR COMPETING SHARED SITE USES

There is the potential on some sites for there to be a need to share the site between the two partner agencies for the good of the public. In some cases, the shared use does not cause conflicts and in others the conflicts do exist. Sites with no competing shared uses will score the highest and sites where conflicts are expected will score lower depending on the severity of the conflict and the impact to the proposed ferry operation.

SITE DEVELOPMENT/PERMITTING RISKS & COSTS

Each of the sites will have some type of requirement for improvements or development. Depending on the level of improvement and the types of issues with each site, the risks associated with cost and schedule to develop the site could impact the likelihood for success. The sites are evaluated based on both the cost and schedule implications associated with getting the site and docks ready for full operation. Higher costs and longer time schedules result in lower scores.

ACCESSIBILITY FROM TRANSPORTATION SYSTEM

Since most people are driving a vehicle to the location for boarding a passenger ferry to the seashore, easy accessibility from the local road system is an important component to enhancing the visitor experience and capturing as much of the tourist market as feasible. Close proximity to and/or ability for full turning movements off of US-70 to access the site provide the best accessibility and result in higher

scores. If constraints are anticipated for visitors in accessing the site, it will score lower. A small consideration for future passenger rail service into the Morehead City area is also considered in the scoring.

PEDESTRIAN CONNECTION WITH CITY COMMERCIAL ZONE

Since visitors will be parking vehicles and transitioning to a pedestrian-based experience on the barrier islands, walkable connections to the heart of the local community and its services is a desirable scenario. Thus, sites which have strong pedestrian connectivity to community services such as restaurants, shops, and other tourist services will score higher. Sites with impediments to a strong pedestrian connection to these services will score lower.

COMPATIBILITY WITH ADJOINING USES

A traffic intensive use such as a passenger ferry departure site often is not very compatible with residential land uses as a neighbor. In contrast, adjoining uses that are commercial in nature have more similarities than differences and can be very compatible. There is also a fine line with regard to downtown areas and the compatibility of certain types of uses adjoining this NPS-governed operation. Sites with adjoining uses that are commercial in nature but with limited conflicts as described above will score the highest.

EXISTING INFRASTRUCTURE AVAILABILITY

Utility service to the site and docks will be required based on the proposed development program which includes restrooms, ticketing, dock lighting, etc. If a site has utilities already on-site and/or extended to the waterfront docks it will score higher than one that requires extension of services on to the site or from some distance off-site.



Cape Lookout Lighthouse

WATERSIDE SELECTION CRITERIA

READY FOR QUICK STARTUP

As noted above, the park has a desire to implement a new consolidated service within the next two years, so the ability to have docks ready for use within that time frame is critical. This criterion focuses on the waterside development of the site and considers whether the improvements are in place or could be in place promptly for a quick startup. Sites with significant development challenges or more extensive need for dock improvements will score lower.

EXISTING DOCK CAPACITY

This criterion is an evaluation of the capacity of the existing dock structures associated with each site. A site will score higher if it has sufficient existing dock capacity for an anticipated fleet which is expected to include a range of boat sizes from small to large. If an expanded or improved dock structure can accommodate the fleet, the site will score in the mid-range. If there are challenges to improving or expanding the docks to accommodate the proposed fleet the site will score lower.

ROUTE INTEREST

The visual interest for a visitor traveling by boat from the departure location to Shackleford Banks or Cape Lookout Lighthouse can vary depending on the route. The NPS would like to have a visually interesting route out to the national seashore which provides opportunity for visitor interpretation. The more interesting the route, in support of the visitor experience, the higher the score.

CONSISTENCY AND DURATION OF ROUTE TIME

In operating a passenger ferry service, reliability in schedule is essential to a positive experience for visitors. So a site which has no unusual obstacles along its route to the destination and provides a shorter trip will score the highest. Sites which have impediments to a consistent schedule or create an off-hour schedule due to its distance from the destination will score lower.

HARBOR/DOCK PROTECTION

For a ferry operator who is invested in a fleet of watercraft, having a safe location for mooring boats during inclement weather is a very desirable site. Most of the sites under consideration have reasonable protection although some clearly have better protection from wind and waves.

EXISTING DOCK ACCESSIBILITY

Evaluation of existing docks includes an analysis of the accessibility for visitors with disabilities making the trip to

the national seashore. Accessibility transitioning from docks into small watercraft is challenging, but most important is providing an accessible route to and along the docks to the ferry boats. Docks that meet the standard ADA requirements will score higher than docks that require improvements to meet those standards.

WATER DEPTH AT DOCK

The depth of water at the dock is primarily a concern for the larger v-hulled ferry boats rather than the small and medium shallow draft boats that are being suggested as part of the ferry fleet. A depth of up to 5 feet along the docks to accommodate the potential of larger boats is desired. Sites which have an existing water depth at the docks of at least 5 feet will score the highest. Sites with shallower existing water depths will score lower.

These criteria are the basis for a thorough and exhaustive analysis of each of the sites under consideration in Morehead City and Beaufort. The criteria are derived from the project goals and through discussion with NPS management regarding the key elements to a successful ferry operation. The NPS has embarked on this process to thoughtfully select a site which provides the greatest opportunity for success in furthering the mission of the national seashore and providing visitor access to its precious resources.

WEIGHTING OF EVALUATION CRITERIA

Making long-term decisions that include significant capital expenditure requires rigorous analysis and consideration of various criteria. The selection of a departure site for the Morehead City/Beaufort passenger ferry service to the seashore is a complex decision that includes consideration of an extensive list of criteria that have been identified and previously described within this section. Understanding these criteria and determining what are needs versus desires or important versus less important requires a thoughtful process to quantify the differences in weight or importance of each criteria.

The process utilized for evaluating the potential ferry departure sites in this study is a weighted evaluation. It is a formally organized process for selection of optimum solutions in situations involving several criteria. In the process, the criteria are assigned different values according to the potential impact on the project. In this case, the sites are then evaluated against each of the criteria with a numeric value which is multiplied by the assigned weight factor to generate a weighted score. The scores on each site are added together for a combined weighted score with the highest scores identifying the most optimum site for consideration.



View of 10th Street Site from Channel

Included in the Appendix is a completed criteria matrix weighting form for this project which establishes the basis for each of the weight factors assigned to the site selection criteria. After completing the process, a weight factor value system of 1 to 10 was applied to the various criteria based on the raw scores. The result is a list of weighted criteria, shown below in Table 8.1. The higher weighted criteria are clearly identifiable with goals established at the beginning of the project and reflect specific recommendations from the national seashore’s recently adopted CSP.

TABLE 8.1 WEIGHTED EVALUATION CRITERIA

Criteria Description	Weight
Public Land Ownership/Availability	10
Site or Gateway Appeal to Visitors	9
Ready for Quick Startup - Landside	8
Parking Availability	8
Gateway Opportunity	8
Ready for Quick Startup - Waterside	7
Partnership Opportunity	6
Conflicting or Competing Shared Site Uses	5
Development/Permitting Risks & Costs	4
Accessibility from Transportation System	3
Compatibility with Adjoining Uses	3
Pedestrian Connection with City Commercial Zone	3
Existing Dock Capacity	2
Route Interest	2
Existing Infrastructure Availability	2
Consistency and Duration of Route Time	2
Harbor/Dock Protection	1
Existing Dock Accessibility	1
Water Depth at Dock	1

SITE EVALUATION

Upon establishment of criteria weight factors and supported by site information such as the opportunities and constraints analysis, ferry service development program, ferry service demand, and site design concepts, the team was able to evaluate each of the sites in a comprehensive manner. The range of scores for the eight sites was from 237 to 315 with the Beaufort Post Office site ranking the highest. The complete Site Evaluation Matrix is depicted in Table 8.2. Most of the sites have potential as a ferry departure site, although through this process, there were some sites which were dismissed and others which stood out and deserved further consideration and analysis. The enclosed Site Evaluation Matrix reflects the specific scoring for each of the sites and identifies the ranking order after totaling the weighted score.

SITES CONSIDERED BUT DISMISSED

The pre-screening evaluation process led to identification of the limitations and flaws associated with some of the sites under consideration. Those limitations varied for each site but nonetheless lowered the scoring and feasibility of five of the sites being evaluated. Below is a summary of the limitations and flaws of each of the sites which were dismissed based on the initial site evaluation process.

GALLANTS CHANNEL

The Gallants Channel site appears to be a great potential ferry departure site with the large size of the property,

existing gravel parking area, and the recently constructed concrete dock system along the waterfront. After further investigation, constraints were identified which could be considered flaws for this site. The constraints include existing wetlands, requirements for significant utility extensions, strict development requirements per CAMA, future conflicting uses on-site, future transportation impacts affecting site vehicular accessibility, and ultimately an incompatible partnership arrangement. After discussions with the North Carolina Maritime Museum representatives, the Museum respectfully requested that their site be removed from consideration and agreed to provide remote parking and support in the development of a ferry operation at the Beaufort Post Office site.

JIB SITE

The Jib Site was more challenging to evaluate since the Town of Morehead City plans to entirely redevelop the site. The site has a great location but also would place the ferry operation in the heart of a very active waterfront with limited land base for exclusive use by the NPS. The constraints of this site include the land area for a gateway opportunity, no opportunity for quick startup, development risks/costs, and limited dedicated parking. After discussions with the Town of Morehead City, it appears the town has a vision for the redevelopment of the Jib Site that includes many other uses which are likely to conflict with the NPS ferry operation.





View of 6th Street Day Docks

6TH STREET DAY DOCKS

The 6th Street Day Docks site is probably the most limited site with regard to dedicated land area and waterside area. As a result, the limitations of the site include the land area for a gateway opportunity, incompatibility with adjoining land uses, development risks/costs, limited dedicated parking, limited public land ownership, and conflicting site uses. This site is also in the heart of the downtown waterfront and has a lot of activity and competing interests surrounding the site and is not one of the preferred locations from the town's perspective.

BIG ROCK SITE

The Big Rock site has many similarities to the 6th Street Day Docks site, although it has significantly more waterside dock space. With that in mind, many of the site constraints are the same as the Day Docks and include limited land area for a gateway opportunity, no opportunity for quick startup, development risks/costs, limited dedicated parking, limited public land ownership, and less desirable partnership opportunity. The Big Rock site is towards the northeast end of downtown and is near proposed redevelopment sites which could limit the effectiveness of this site as a NPS ferry operation.



View of Docks at Big Rock Site



Big Rock Site Gateway

RECOMMENDATIONS

Based on the results of the site evaluation and pre-screening process, it is recommended that the top four sites be considered as departure site alternatives during the Value Analysis (VA) with the potential of narrowing to the top two sites for the Environmental Assessment (EA) process. The four sites identified for further analysis include the 10th Street, Jaycee Park and Railroad sites in the Town of Morehead City and the Post Office site in the Town of Beaufort. A VA and Choosing By Advantages (CBA) process will be conducted to ultimately identify a preferred site for the EA. As the EA process continues to completion and is finalized in a decision document, it is recommended that NPS management begin discussion with the identified partner agency for the preferred site to develop a Memorandum of Understanding (MOU) which includes responsibilities of each party and a schedule for implementation in preparation for ferry operations to begin in 2012. Ultimately, the NPS and the partner agency would enter into a cooperative agreement or lease to formalize the responsibilities outlined in the MOU.

TABLE 8.2 SITE EVALUATION MATRIX

Criteria	Weight	MHC - 10th Street SITE 1		MHC - Jaycee Park SITE 2		MHC - Jib (Triangle) SITE 3		MHC - 6th St Day Docks SITE 4		MHC - Big Rock SITE 5		MHC - Railroad SITE 6		BFT - Gallants SITE 7		BFT - Post Office SITE 8	
		Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score	Raw Score	Weighted Score
Public Land Ownership/Availability	10	4	40	4	40	4	40	3	30	3	30	2	20	1	10	3	30
Site or Gateway Appeal to Visitors	9	3	27	4	36	3	27	3	27	3	27	3	27	3	27	4	36
Ready for Quick Startup - Landside	8	4	32	4	32	1	8	3	24	2	16	3	24	4	32	4	32
Parking Availability	8	4	32	3	24	2	16	2	16	2	16	4	32	4	32	4	32
Gateway Opportunity	8	5	40	4	32	4	32	2	16	2	16	4	32	4	32	4	32
Ready for Quick Startup - Waterside	7	3	21	2	14	1	7	3	21	3	21	2	14	4	28	4	28
Partnership Opportunity	6	3	18	3	18	4	24	2	12	2	12	2	12	1	6	4	24
Conflicting or Competing Shared Site Uses	5	4	20	2	10	3	15	2	10	3	15	4	20	2	10	4	20
Development/Permitting Risks & Costs	4	2	8	3	12	2	8	3	12	3	12	2	8	2	8	2	8
Accessibility from Transportation System	3	4	12	3	9	3	9	3	9	4	12	5	15	2	6	3	9
Compatibility with Adjoining Uses	3	3	9	4	12	3	9	2	6	3	9	4	12	4	12	4	12
Pedestrian Connection with City Commercial Zone	3	2	6	4	12	4	12	5	15	4	12	2	6	1	3	4	12
Existing Dock Capacity	2	2	4	2	4	1	2	4	8	4	8	2	4	3	6	2	4
Route Interest	2	4	8	4	8	4	8	4	8	4	8	2	4	4	8	5	10
Existing Infrastructure Availability	2	3	6	4	8	4	8	4	8	4	8	4	8	2	4	4	8
Consistency and Duration of Route Time	2	2	4	3	6	4	8	4	8	4	8	3	6	1	2	4	8
Harbor/Dock Protection	1	4	4	4	4	4	4	4	4	3	3	5	5	2	2	4	4
Existing Dock Accessibility	1	2	2	3	3	1	1	3	3	3	3	2	2	4	4	2	2
Water Depth at Dock	1	2	2	4	4	4	4	4	4	4	4	4	4	5	5	4	4
Total Weighted Scores		295		288		242		241		240		255		237		315	
Weighted Score Rank		2		3		5		6		7		4		8		1	

9

IMPLEMENTATION TASKS & COST ESTIMATES

9

IMPLEMENTATION TASKS & COST ESTIMATES



The key to a successful planning process is the identification of next steps and strategic implementation tasks necessary to reach the desired result. Included in this process is quantifying anticipated project costs so the appropriate funding can be put in place to meet the proposed project schedule. For this study, a primary goal is having a new departure site in Morehead City or Beaufort ready for operation in Spring 2012. To reach that goal, many steps are required including agreements with partner agencies, design of site improvements, and construction of those improvements. The following documentation identifies the next steps to implementation and summarizes the anticipated capital costs to prepare any of the potential sites for operation in Spring 2012 and additional phased improvements to support the operation in the long term.



10th Street Pier Facing Inland

IMPLEMENTATION TASKS

As the process moves forward in selecting a preferred departure site from Morehead City or Beaufort, there is a strategy and a set of implementation steps required to bring on-line any of the four sites under consideration. These tasks encompass many areas and are intended to show the required level of effort and investment to make the site useable for a ferry operation.

A large component of the task list is the site construction elements. To better understand the scope and cost of initial startup and follow-on improvements, a list of improvements has been provided. For all four sites, the improvements have been broken down into two phases with the initial phase focusing on basic improvements to allow the site to be operational. The latter phase is to improve the site to a level desired by the NPS to most effectively engage and serve the visitors to the national seashore. The following is a draft summary of implementation tasks for each of the potential sites and the associated phased improvements, assuming the site is selected as the preferred.

10TH STREET SITE

In general, this site requires significant improvements to address the program requirements of the NPS. There are also a number of additional steps to secure the site for use as a NPS ferry departure site. The following is a preliminary list of tasks to prepare this site for ferry operations:

- Town of Morehead City must secure public ownership or long-term right of use of the parcel west of the existing parking lot at the street end for Tenth Street
- Town of Morehead City must identify and dedicate additional parking for NPS use
- NPS and Town of Morehead City to exchange a Memorandum of Understanding (MOU) as a sign of commitment towards a partnership arrangement for use of this site for the ferry operation
- Agencies to begin securing funding for capital improvements
- NPS and Town of Morehead City to sign a Memorandum

of Agreement (MOA) or no-cost lease detailing the specific responsibility of each agency regarding long-term use of this site for the ferry operation

- Design of dock and site improvements to be prepared for use in obtaining permits and construction bidding
- Permits to be obtained from town, county and state as necessary to construct the site and dock improvements
- Construction of improvements to be completed in preparation of ferry operations beginning in 2012

PHASE 1 - STARTUP IMPROVEMENTS (BY SPRING 2012):

- Construction of new and rehabilitation of the existing dock facilities to NPS specifications with water and electric service
- Minimal improvements to the existing gravel parking lot to better connect with existing paved parking lot
- Mobilization of a ADA accessible portable restroom facility on-site with sanitary and water service
- Mobilization of a small portable (construction-type) trailer for use by the concessionaire for ticketing, office space and sale of sundries and snacks with electrical and communication service or improve historic train depot for interim use as a visitor contact station
- Construction of a small outdoor kiosk accessible to passengers which is designed for inserting NPS generated orientation and interpretive panels in a vertical format
- Construction of accessible route from the paved parking to the restrooms & docks
- Assurance of an accessible route from a bus loading/unloading location, possibly on Evans Street, to the restrooms and dock facilities
- Installation of an NPS-style monument entry sign and wayfinding signs at US-70 and on public streets near the site

PHASE 2 - FUTURE IMPROVEMENTS (BY SPRING 2017):

- Construction of a parking lot on the west parcel being purchased with a lot design which integrates circulation and potential improvements to the existing paved parking area (make it appear as one parking lot)
- Construction of a permanent restroom facility with full utility service
- Construction of a small permanent ticketing/orientation contact station for ticket sales, orientation material, and sales of sundries and snacks
- Construction of an open-air shade/rain shelter with casual seating

- Construction of a plaza area which may include the shade/rain shelter for queuing of passengers
- Consideration of a lease for use of the east parcel for overflow parking in the peak season if still undeveloped

JAYCEE PARK SITE

The Jaycee Park site has fewer improvements required to make a ferry service operational. This is due to the availability of parking nearby and the construction of a new restroom facility in the park, which will be open for use in 2010. The following is a preliminary list of tasks to prepare this site for ferry operations:

- Town of Morehead City must secure public ownership or long-term right of use of the existing parking lot south of the old municipal building currently used by the police department and the riparian area just south of the aforementioned parking lot
- NPS and Town of Morehead City to exchange a Memorandum of Understanding (MOU) as a sign of commitment towards a partnership arrangement for use of this site for the ferry operation
- Agencies to begin securing funding for capital improvements
- NPS to assess and investigate interest in utilizing a portion of the first floor of the historic municipal building as a visitor contact station
- NPS and Town of Morehead City to sign a Memorandum of Agreement (MOA) detailing the specific responsibility of each agency regarding long-term use of this site for the ferry operation
- Design of dock and site improvements to be prepared for use in obtaining permits and construction bidding
- Permits to be obtained from town, county and state as necessary to construct the site and dock improvements
- Construction of improvements to be completed in preparation of ferry operations beginning in 2012



Jaycee Park Site



View of Neighboring Docks from Railroad Site

RAILROAD SITE

This site requires significant improvements to address the program requirements of the NPS. There are also a number of additional steps to secure the site for use as a NPS ferry departure site including land ownership or right of use. The following is a preliminary list of tasks to prepare this site for ferry operations:

- Town of Morehead City must secure public ownership or long-term right of use from the North Carolina Railroad Company for the railroad-owned parcel between US 70 and Bridges Street including use of the riparian/dock area
- NPS and Town of Morehead City to exchange a Memorandum of Understanding (MOU) as a sign of commitment towards a partnership arrangement for use of this site for the ferry operation
- Agencies to begin securing funding for capital improvements
- NPS and Town of Morehead City to sign a Memorandum of Agreement (MOA) detailing the specific responsibility of each agency regarding long-term use of this site for the ferry operation
- Design of dock and site improvements to be prepared for use in obtaining permits and construction bidding
- Permits to be obtained from town, county and state as necessary to construct the site and dock improvements
- Construction of improvements to be completed in preparation of ferry operations beginning in 2012

PHASE 1 - STARTUP IMPROVEMENTS (BY SPRING 2012):

- Construction of new dock facilities between the end of 9th Street and the end of the existing transient boat docks to NPS specifications with water and electric service
- Construction of a fully paved parking lot on the property with the current parking for the police department
- Construction of a small permanent ticketing/ orientation contact station for ticket sales, orientation material, and sales of sundries and snacks located at the very east end of Jaycee Park
- Construction of a small outdoor kiosk accessible to passengers which is designed for inserting NPS generated orientation and interpretive panels in a vertical format
- Assurance of an accessible route from a bus loading/ unloading location, possibly on Evans Street, to the restrooms and dock facilities
- Installation of an NPS style monument entry sign and wayfinding signs at US-70 and on public streets near the site

PHASE 2 - FUTURE IMPROVEMENTS (BY SPRING 2017):

- Construction of tenant improvements for a small NPS visitor contact station within the Municipal Building and accessed from the southern door of the building
- Assurance of an accessible route from the Municipal Building to the waterfront esplanade, restrooms and dock facilities
- Construction of an open-air shade/rain shelter with casual seating adjacent to the waterfront esplanade in Jaycee Park or as part of the dock entrance

PHASE 1 - STARTUP IMPROVEMENTS (BY SPRING 2012):

- Construction of new and rehabilitation of the existing dock facilities to NPS specifications with water and electric service
- Minimal improvements to the existing gravel parking lot to better connect with existing paved parking lot
- Mobilization of a ADA accessible portable restroom facility on-site with sanitary and water service
- Construction of accessible route from the paved parking to the restrooms & docks
- Mobilization of a small portable (construction-type) trailer for use by the concessionaire for ticketing, office space and sale of sundries and snacks with electrical and communication service
- Construction of a small outdoor kiosk accessible to passengers which is designed for inserting NPS generated orientation and interpretive panels in a vertical format
- Assurance of an accessible route from a bus loading/ unloading location, possibly on Evans Street, to the restrooms and dock facilities

- Installation of an NPS-style monument entry sign and wayfinding signs at US-70 and on public streets near the site

PHASE 2 - FUTURE IMPROVEMENTS (BY SPRING 2017):

- Construction of a paved and striped parking lot on the west parcel being purchased with a lot design which integrates circulation and potential improvements to the existing paved parking area (make it appear as one parking lot)
- Construction of a permanent restroom facility with full utility service
- Construction of a small permanent ticketing/ orientation contact station for ticket sales, orientation material, and sales of sundries and snacks
- Construction of an open-air shade/rain shelter with casual seating
- Construction of a plaza area which may include the shade/rain shelter for queuing of passengers
- Consideration of a lease for use of the east parcel for overflow parking in the peak season if still undeveloped



Post Office Site

POST OFFICE SITE

The Post Office site also has a lesser amount of improvements required to make a ferry service operational. The reasons are similar to Jaycee Park with no proposed construction of additional parking proposed and a presumed availability of a restroom facility in the renovated post office building which is anticipated to be ready for Spring 2012. The following is a preliminary list of tasks to prepare this site for ferry operations:

- Town of Beaufort to secure space for a NPS visitor contact station within exhibits, ticket sales and restrooms in the Post Office building

- Town of Beaufort to identify and dedicate sufficient parking to accommodate NPS ferry service
- To meet parking requirements, the Town of Beaufort should consider securing public ownership or long-term right of use of the existing BB&T bank parking lot during non-business hours
- NPS and Town of Beaufort to exchange a Memorandum of Understanding (MOU) as a sign of commitment towards a partnership arrangement for use of this site for the ferry operation
- Agencies to begin securing funding for capital improvements
- NPS and Town of Beaufort to sign a Memorandum of Agreement (MOA) or no-cost lease detailing the specific responsibility of each agency regarding long-term use of this site area for the ferry operation
- Design of dock and site improvements to be prepared for use in obtaining permits and construction bidding
- Permits to be obtained from town, county and state as necessary to construct the site and dock improvements
- Construction of improvements to be completed in preparation of ferry operations beginning in 2012

PHASE 1 - STARTUP IMPROVEMENTS (BY SPRING 2012):

- Construction of improved and rehabilitated dock facilities at the Grayden Paul Park dock location to NPS specifications with water and electric service
- Construction of a small temporary ticketing/ orientation contact station for ticket sales, orientation material, and passenger queuing located at Grayden Paul Park in the form of a 200 to 300 square foot area with possible shade/rain shelter
- As a temporary solution to full use of the Post Office for visitor information, construct a small outdoor kiosk accessible to passengers and near the ticketing area for inserting NPS orientation and interpretive panels in a vertical format until the Post Office is available
- Assurance of an accessible route from a bus loading/ unloading location, possibly on Front Street, to public restrooms and dock facilities
- Installation of an NPS-style sign and wayfinding signs at US-70 and on public streets near the site

FUTURE IMPROVEMENTS (BY SPRING 2017):

- Construction of improvements for a NPS visitor contact station, ticket sales and restrooms within the Post Office building or to be accessed from the southern door of the building
- Assurance of an accessible route from the post office building to the dock facilities if being used for restrooms or a visitor contact station



Post Office/Front Street Docks in Beaufort

COST ESTIMATES

As a transportation feasibility study, this project is unlike other typical construction projects in that it encompasses a very wide range of conditions with many unknowns and physical and logistical constraints that could impede the construction process and limit the means and methods of construction available to the contractor. A likely scenario for the ferry service would be that it starts up in the most expedient manner possible and uses the existing infrastructure at the site to the greatest extent possible, all for the lowest cost. At some point in the future, more permanent facility improvements would be constructed in order to bring the ferry operation up to the standards desired by the NPS. For example, at the start up of the ferry service, existing docks and buildings could be used in their current condition, but in the future new facilities would be constructed or facilities renovated. This may require temporarily relocating vessel mooring locations, ticketing operations, etc. It may also require the use of temporary utility services and restroom facilities (See Tables 9.1 to 9.4).

The following cost estimates for the sites under consideration take into account the general costs associated with the initial start up and future improvement phases of the project. The initial phase includes the minimum required initial improvements of the site, docks, and other structures

and required temporary facilities. The future improvement phase takes into account the additional costs of the proposed future improvements. Refer to the Cost Description graphics included in this section which depicts the program elements associated with the start up phase and future improvement phase of the project.

The cost estimate reflects the primary costs associated with accomplishing the work. Highlights of the cost estimate are summarized briefly below.

The cost estimate is in the format of a standard NPS Class C Cost Estimate which is a conceptual cost estimate prepared in advance of actual design work and based on square foot cost of similar construction. The standard mark-ups and add-ons were reviewed by NPS staff, and their recommendations were used for the various factors including for Government General Conditions, Contracting Method Adjustment, and Inflation Escalation. All the mark-ups are listed on the first sheet of the cost estimate.

In order to maintain consistency in the cost estimates for the sites under consideration, line item costs were grouped in major construction categories consisting of Construction Miscellaneous, Site Improvements, Buildings and Structures, Utilities and Dock Improvements. These categories are briefly described on the following page.

CONSTRUCTION MISCELLANEOUS

This category of miscellaneous construction elements includes such items as mobilization and demobilization of construction equipment and temporary contractor facilities, required demolition of existing infrastructure, construction surveying services, and costs associated with permits required to be obtained for construction.

SITE IMPROVEMENTS

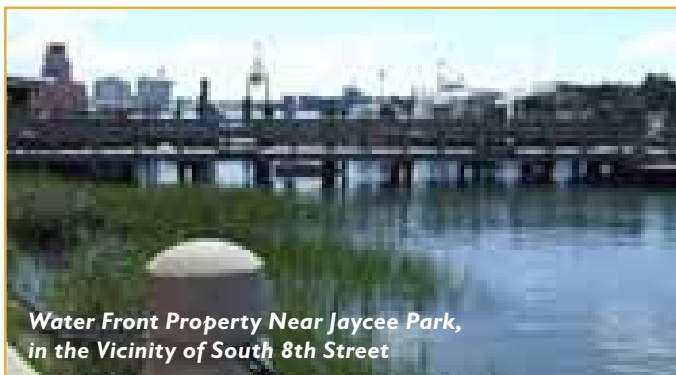
Site improvements for all hard surfaces such as asphalt and concrete pavements, ADA connections, walkways, and pedestrian brick paver areas are included for parking lots and pedestrian areas including required clearing, grubbing, earthwork, and sub grade preparation. Costs for miscellaneous site items also include for landscaping, erosion and sediment control, striping, and traffic and wayfinding signage. When appropriate, signalization for intersections is also included.

BUILDING AND OTHER STRUCTURES

These costs include new building and/or building renovation costs, shade/rain shelters, and kiosks. In order to maintain a consistent comparison of total costs for each site, some building improvements are considered optional and are broken out of the overall cost estimate total for the site. Refer to the section below that describes special circumstances for specific building improvements which are provided in the "Other" column of the estimate.

UTILITIES

This category includes all utilities such as stormwater piping and structures and best management practices (BMPs), water, sewer, communications, and electric. And in addition, temporary sanitary toilet facilities are included for specific sites when appropriate. The estimate covers a period of time up to 2017 based on seasonal use of portable toilets. The estimate assumes eight months of rental per year for five years for a total of 40 months.



Water Front Property Near Jaycee Park,
in the Vicinity of South 8th Street



Mystery Boat Tours Ticket Booth

DOCK IMPROVEMENTS

The dock improvements include renovation of existing docks and new dock construction, dredging as required, wood and steel piles, bulkhead/shoreline improvements, aluminum ramps, and dock power pedestals and water service. The dock costs for each site assumes similar construction for floating and fixed docks and three power pedestals for each facility.

SPECIAL CONDITIONS FOR BUILDING IMPROVEMENTS

For the Jaycee Park site and Post Office site, there is a square foot cost for interior improvements to the Morehead City Municipal Building and for the Post Office building included in the "Other" column of the cost estimate as they are a special condition of the site without comparable building elements for each of the other sites. Since the buildings are constructed, the cost only covers the expense for initially improving and outfitting the space for ferry service.

SUMMARY OF TOTAL SITE COSTS

The following table summarizes the total estimated costs for the evaluated sites. The total cost is the sum of the start up costs and the future improvements costs provided in the cost estimates for each site.

TABLE 9.1 SUMMARY OF TOTAL SITE COST

	10th Street Site (See Table 9.1)	Jaycee Park Site (See Table 9.2)	Railroad Site (See Table 9.2)	Post Office Site (See Table 9.2)	Harkers Island Site (See Table 9.2)
Total Net Cost of Construction	\$1,132,482	\$616,201*	\$1,493,958	\$544,192*	\$159,858

TABLE 9.2 10TH STREET SITE COST ESTIMATE

Item	Description	Qty	Unit	Cost/Unit	Total	Cost/Unit	Total
				START UP COST		FUTURE IMPROVEMENTS	
1	Construction Miscellaneous	1	ls	\$25,000	\$25,000	\$15,000	\$15,000
2	Site Improvements	1	ls	\$87,250	\$87,250	\$105,500	\$105,500
3	Building & Other Structures (Shelter, Ticketing Booth, Kiosk)	1	ls	\$28,144	\$28,144	\$97,200	\$97,200
4	Utilities (stormwater, water, sanitary, electric)	1	ls	\$198,500	\$198,500	\$18,000	\$18,000
5	Dock Improvements (including dock utilities)	1	ls	\$150,650	\$150,650		\$0
Subtotal Direct Construction Costs					\$489,544		\$235,700
Published Location Factor (-23 Percent)						(\$112,595)	(\$54,211)
Remoteness Factor (70 miles, 7 Percent)						\$34,268	\$16,499
Federal Wage Rate Factor (6 Percent)						\$11,749	\$5,657
State & Local Sales Tax (7 Percent)						\$34,268	\$16,499
Design Contingency (20 Percent)						\$97,909	\$47,140
Total Direct Construction Costs					\$555,143		\$267,284
Standard General Conditions (10 Percent)						\$0	\$0
Government General Conditions (5 Percent)						\$0	\$0
Historic Preservation Factor (N/A)						\$0	\$0
Subtotal NET Construction Cost					\$555,143		\$267,284
Overhead (15 Percent)						\$83,271	\$40,093
Profit (10 Percent)						\$55,514	\$26,728
Estimated NET Construction Cost					\$693,929		\$334,105
Contracting Method Adjustment (5 Percent)						\$0	\$0
Inflation Escalation (2 Years @ 4 Percent)						\$55,514	\$26,728
Bonds (2 Percent)						\$14,989	\$7,217
Total Estimated NET Cost of Construction					\$764,432		\$368,050

TABLE 9.3 JAYCEE PARK SITE COST ESTIMATE

Item	Description	Qty	Unit	Cost/Unit	Total	Cost/Unit	Total	
				START UP COST		FUTURE IMPROVEMENTS		OTHER*
1	Construction Miscellaneous	1	ls	\$19,000	\$19,000	\$9,000	\$9,000	
2	Site Improvements	1	ls	\$87,500	\$87,500	\$31,700	\$31,700	
3	Building & Other Structures (Shelter, Ticketing Booth, Kiosk)	1	ls	\$74,800	\$74,800		\$0	
4	Utilities (stormwater, water, sanitary, electric)	1	ls	\$42,000	\$42,000		\$0	
5	Dock Improvements (including dock utilities)	1	ls	\$100,660	\$100,660		\$0	
*	Improvements to Municipal or other Buildings	1200	sf			\$25		\$30,000
Subtotal Direct Construction Costs					\$323,690		\$40,700	\$30,000
Published Location Factor (-23 Percent)					(\$74,511)		(\$9,361)	(\$6,900)
Remoteness Factor (70 miles, 7 Percent)					\$22,677		\$2,849	\$2,100
Federal Wage Rate Factor (6 Percent)					\$7,775		\$977	\$720
State & Local Sales Tax (7 Percent)					\$22,677		\$2,849	\$2,100
Design Contingency (20 Percent)					\$64,792		\$8,140	\$6,000
Total Direct Construction Costs					\$367,371		\$46,154	\$34,020
Standard General Conditions (10 Percent)					\$0		\$0	\$0
Government General Conditions (5 Percent)					\$0		\$0	\$0
Historic Preservation Factor (N/A)					\$0		\$0	\$0
Subtotal NET Construction Cost					\$367,371		\$46,154	\$34,020
Overhead (15 Percent)					\$55,106		\$6,923	\$5,103
Profit (10 Percent)					\$36,737		\$4,615	\$3,402
Estimated NET Construction Cost					\$459,213		\$57,692	\$42,525
Contracting Method Adjustment (5 Percent)					\$0		\$0	\$0
Inflation Escalation (2 Years @ 4 Percent)					\$36,737		\$4,615	\$3,402
Bonds (2 Percent)					\$9,919		\$1,246	\$851
Total Estimated NET Cost of Construction					\$505,869		\$63,554	\$46,778

TABLE 9.4 RAILROAD SITE COST ESTIMATE

Item	Description	Qty	Unit	Cost/Unit	Total	Cost/Unit	Total
				START UP COST		FUTURE IMPROVEMENTS	
1	Construction Miscellaneous	1	ls	\$40,000	\$40,000	\$15,000	\$15,000
2	Site Improvements	1	ls	\$159,600	\$159,600	\$206,625	\$206,625
3	Building & Other Structures (Shelter, Ticketing Booth, Kiosk)	1	ls	\$19,144	\$19,144	\$97,200	\$97,200
4	Utilities (stormwater, water, sanitary, electric)	1	ls	\$254,500	\$254,500	\$40,000	\$40,000
5	Dock Improvements (including dock utilities)	1	ls	\$143,800	\$143,800		\$0
Subtotal Direct Construction Costs					\$617,044		\$358,825
Published Location Factor (-23 Percent)					(\$141,920)		(\$82,530)
Remoteness Factor (70 miles, 7 Percent)					\$43,193		\$25,118
Federal Wage Rate Factor (6 Percent)					\$14,809		\$8,612
State & Local Sales Tax (7 Percent)					\$43,193		\$25,118
Design Contingency (20 Percent)					\$123,409		\$71,756
Total Direct Construction Costs					\$699,728		\$406,908
Standard General Conditions (10 Percent)					\$0		\$0
Government General Conditions (5 Percent)					\$0		\$0
Historic Preservation Factor (N/A)					\$0		\$0
Subtotal NET Construction Cost					\$699,728		\$406,908
Overhead (15 Percent)					\$104,959		\$61,036
Profit (10 Percent)					\$69,973		\$40,691
Estimated NET Construction Cost					\$874,660		\$508,634
Contracting Method Adjustment (5 Percent)					\$0		\$0
Inflation Escalation (2 Years @ 4 Percent)					\$69,973		\$40,691
Bonds (2 Percent)					\$18,893		\$10,987
Total Estimated NET Cost of Construction					\$944,633		\$549,325

TABLE 9.5 POST OFFICE SITE COST ESTIMATE

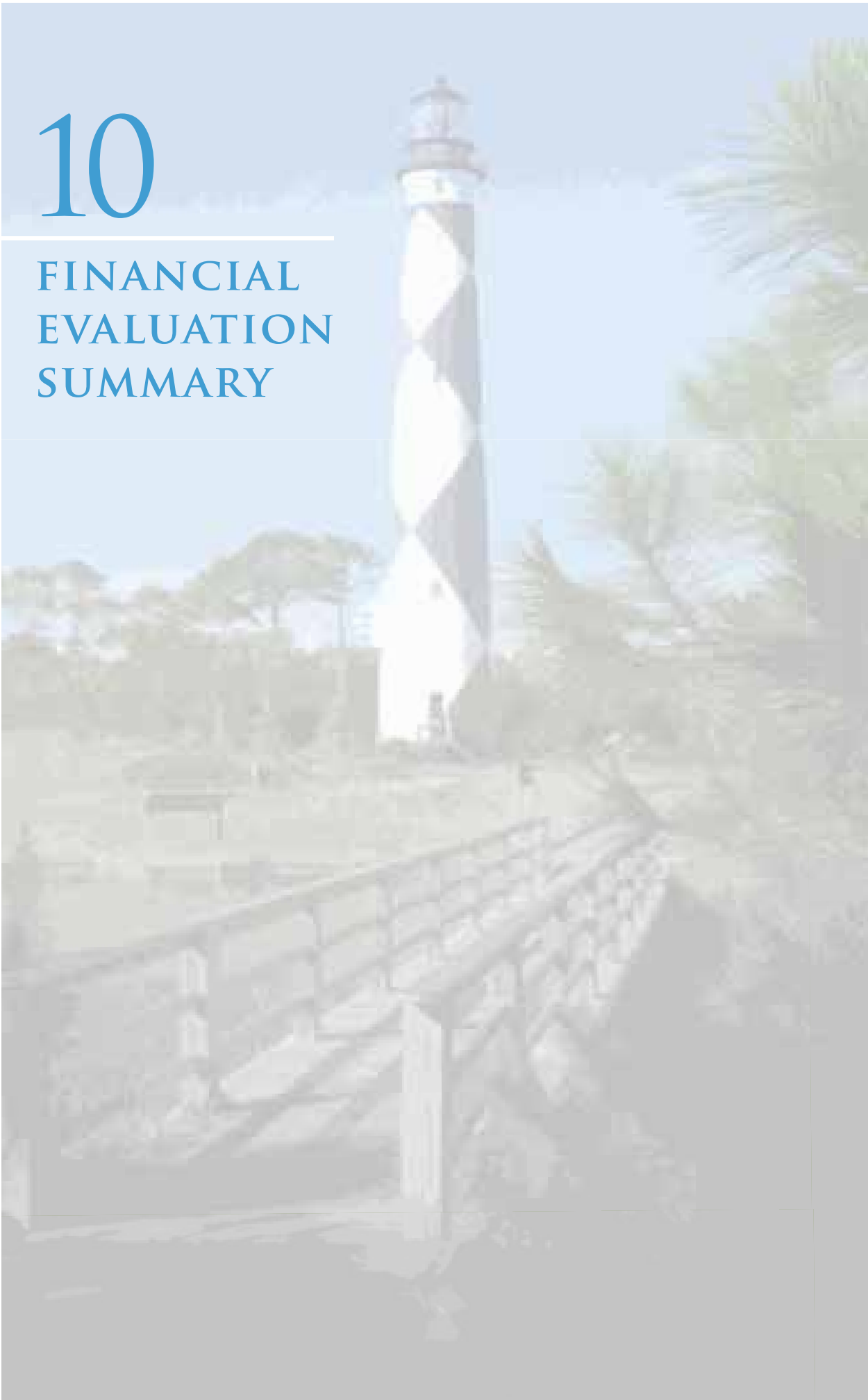
Item	Description	Qty	Unit	Cost/Unit	Total	Cost/Unit	Total	
				START UP COST		FUTURE IMPROVEMENTS		OTHER*
1	Construction Miscellaneous	1	ls	\$40,000	\$40,000	\$17,000	\$17,000	
2	Site Improvements	1	ls	\$27,300	\$27,300	\$15,425	\$15,425	
3	Building & Other Structures (Shelter, Ticketing Booth, Kiosk)	1	ls	\$107,200	\$107,200		\$0	
4	Utilities (stormwater, water, sanitary, electric)	1	ls		\$0		\$0	
5	Dock Improvements (including dock utilities)	1	ls	\$111,620	\$111,620		\$0	
*	Post Office or other Building Improvements	1200	sf			\$25		\$30,000
Subtotal Direct Construction Costs					\$286,120		\$32,425	\$30,000
	Published Location Factor (-23 Percent)				(\$65,808)		(\$7,458)	(\$6,900)
	Remoteness Factor (70 miles, 7 Percent)				\$20,028		\$2,270	\$2,100
	Federal Wage Rate Factor (6 Percent)				\$6,867		\$778	\$720
	State & Local Sales Tax (7 Percent)				\$20,028		\$2,270	\$2,100
	Design Contingency (20 Percent)				\$57,224		\$6,485	\$6,000
Total Direct Construction Costs					\$324,460		\$36,770	\$34,020
	Standard General Conditions (10 Percent)				\$0		\$0	\$0
	Government General Conditions (5 Percent)				\$0		\$0	\$0
	Historic Preservation Factor (N/A)				\$0		\$0	\$0
Subtotal NET Construction Cost					\$324,460		\$36,770	\$34,020
	Overhead (15 Percent)				\$48,669		\$5,515	\$5,103
	Profit (10 Percent)				\$32,446		\$3,677	\$3,402
Estimated NET Construction Cost					\$405,575		\$45,962	\$42,525
	Contracting Method Adjustment (5 Percent)				\$0		\$0	\$0
	Inflation Escalation (2 Years @ 4 Percent)				\$32,446		\$5,093	\$3,402
	Bonds (2 Percent)				\$8,760		\$1,439	\$851
Total Estimated NET Cost of Construction					\$446,782		\$50,632	\$46,778

TABLE 9.6 HARKERS ISLAND VISITOR CENTER SITE COST ESTIMATE

Item	Description	Qty	Unit	Cost/Unit	Total	Cost/Unit	Total	
				START UP COST		FUTURE IMPROVEMENTS		OTHER*
1	Construction Miscellaneous	1	ls	\$7,000	\$7,000		\$0	
2	Site Improvements	1	ls	\$55,080	\$55,080		\$0	
3	Building & Other Structures (Shelter, Ticketing Booth, Kiosk)	1	ls	\$14,848	\$14,848		\$0	
4	Utilities (stormwater, water, sanitary, electric)	1	ls		\$0		\$0	
5	Dock Improvements (including dock utilities)	1	ls	\$18,000	\$18,000		\$0	
*	Other Building Improvements							
Subtotal Direct Construction Costs					\$94,928		\$0	
Published Location Factor (-23 Percent)					(\$21,833)			
Remoteness Factor (70 miles, 7 Percent)					\$6,645			
Federal Wage Rate Factor (6 Percent)					\$2,278			
State & Local Sales Tax (7 Percent)					\$6,645			
Design Contingency (20 Percent)					\$18,986			
Total Direct Construction Costs					\$107,648			
Standard General Conditions (10 Percent)					\$10,765			
Government General Conditions (5 Percent)					\$0			
Historic Preservation Factor (N/A)					\$0			
Subtotal NET Construction Cost					\$107,648			
Overhead (15 Percent)					\$17,762			
Profit (10 Percent)					\$11,841			
Estimated NET Construction Cost					\$148,016			
Contracting Method Adjustment (5 Percent)					\$0			
Inflation Escalation (2 Years @ 4 Percent)					\$11,841			
Bonds (2 Percent)					\$3,197			
Total Estimated NET Cost of Construction					\$159,858			

10

FINANCIAL EVALUATION SUMMARY



10

FINANCIAL EVALUATION SUMMARY



The ferry service scenarios for operations from Harkers Island and from Morehead City/Beaufort were evaluated for financial viability. After first setting cost and revenue assumptions, some initial ferry service operational scenarios were evaluated and further refined to determine reasonable operating requirements for potential concessioners. The result was the ferry service scenarios described in the previous section.

It is assumed that the ferry services out of Harkers Island and Morehead City/Beaufort would be structured into two separate contracts. It was found that both the proposed Harkers Island service and the proposed Morehead City/Beaufort service were likely to be financially viable, that is, both contracts would generate an acceptable return to the potential concessioner and support a franchise fee.

KEY ASSUMPTIONS

The key assumptions in the financial evaluations cover ridership, revenue, operating costs, and capital costs. The ridership and revenue analyses were prepared by Vanasse Hangen Brustlin, Inc. Vessel types and costs, and operating expenses, were determined by the Volpe Center. All assumptions were reviewed by NPS staff prior to completing the financial feasibility evaluations.

RIDERSHIP AND REVENUES

The ridership estimates are as discussed previously. For the Harkers Island service the mid-range passenger forecasts were used. For Morehead City/Beaufort, a conservative estimate between the low-range and mid-range passenger forecasts was used.

Revenues were calculated using fares that were in effect in the latter part of the 2009 season. The basic adult fare is \$15.00, with discounts for children and for groups. Data reported to Cape Lookout National Seashore by ferry operators about the split between adult and child ticket sales were used to calculate an average fare of \$13.00. The average fare for groups was assumed to be \$10.00 per person. No increase in fares was assumed even though the anticipated start of the Harkers Island contract is 2011 and the anticipated start of the Morehead City/Beaufort contract is 2012.

OPERATING COSTS

A detailed listing of the operating cost assumptions is provided in the appendix. Costs for operating the boats (fuel and lubricant) were based on the number of ferry trips, the service speed, the boat type and the engine type. Fuel costs assume a price of \$3.00 per gallon. Insurance costs are estimated at 2.5% of the vessel replacement cost.

The largest operating costs are for staff. These include a general manager at \$40,000 per year for the year-round Harkers Island operation, and \$35,000 for the Morehead City/Beaufort seasonal operation. Other staff, such as ticket sales and bookkeeping, are calculated at 10% of revenues. Boat crews are assumed to be one captain for skiffs, and

one captain and one crew for the larger boats. To be conservative, pay for captain and crew assumes Service Contract Act requirements for Department of Labor rate determinations. For the purposes of this evaluation, pay for captains is \$229 per day, plus benefits. Pay for deck hands is \$144 per day, plus benefits.

CAPITAL COSTS

One very important assumption is that there are no capital costs associated with shore operations. All site acquisition or development costs would be excluded from the concessioner contracts.

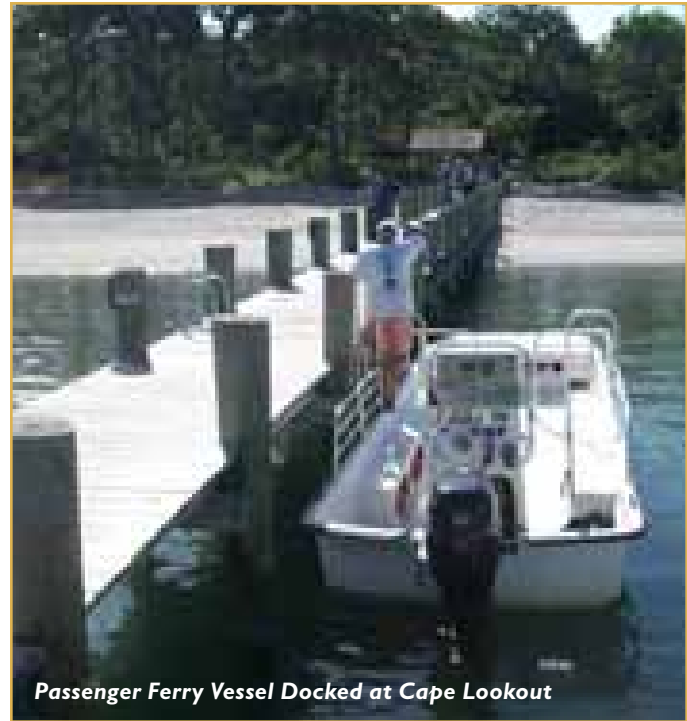
Capital costs are limited to the three boats. The cost for the small skiff is assumed to be \$120,000 and the cost for the larger boats is \$275,000 apiece.

FINDINGS OF FINANCIAL EVALUATION

A summary of first-year and Year 10 revenues and expenses for the Harkers Island and Morehead City/Beaufort operations is shown as Table 10.1.

The Harkers Island service is the larger of the two operations, with more passengers and more boat trips. The financial evaluation shows it to be profitable from the first year assuming mid-range passenger forecasts. As described in Section 2 previously, the mid-range forecasts generally provide a 1.5% annual increase over 2007 passenger loads. This modest increase is relatively conservative given that the proposed concessioner service would provide more frequent service than the current ferry service, and would provide a better quality of service with the larger boats.

The Morehead City/Beaufort financial summary shows first-year operations at breakeven and profitable operations in future years. The revenue estimates are based on a conservatively low passenger forecast at the middle of the low-range and mid-range forecasts. Although the overall ferry



Passenger Ferry Vessel Docked at Cape Lookout

service provided would be more frequent and use better boats than the existing service, the financial analysis was based on a low-end passenger forecast to account for the possibility that an operation at Morehead City may take longer to establish desired ridership levels than would an operation at Beaufort (where most ferry operations are currently based).

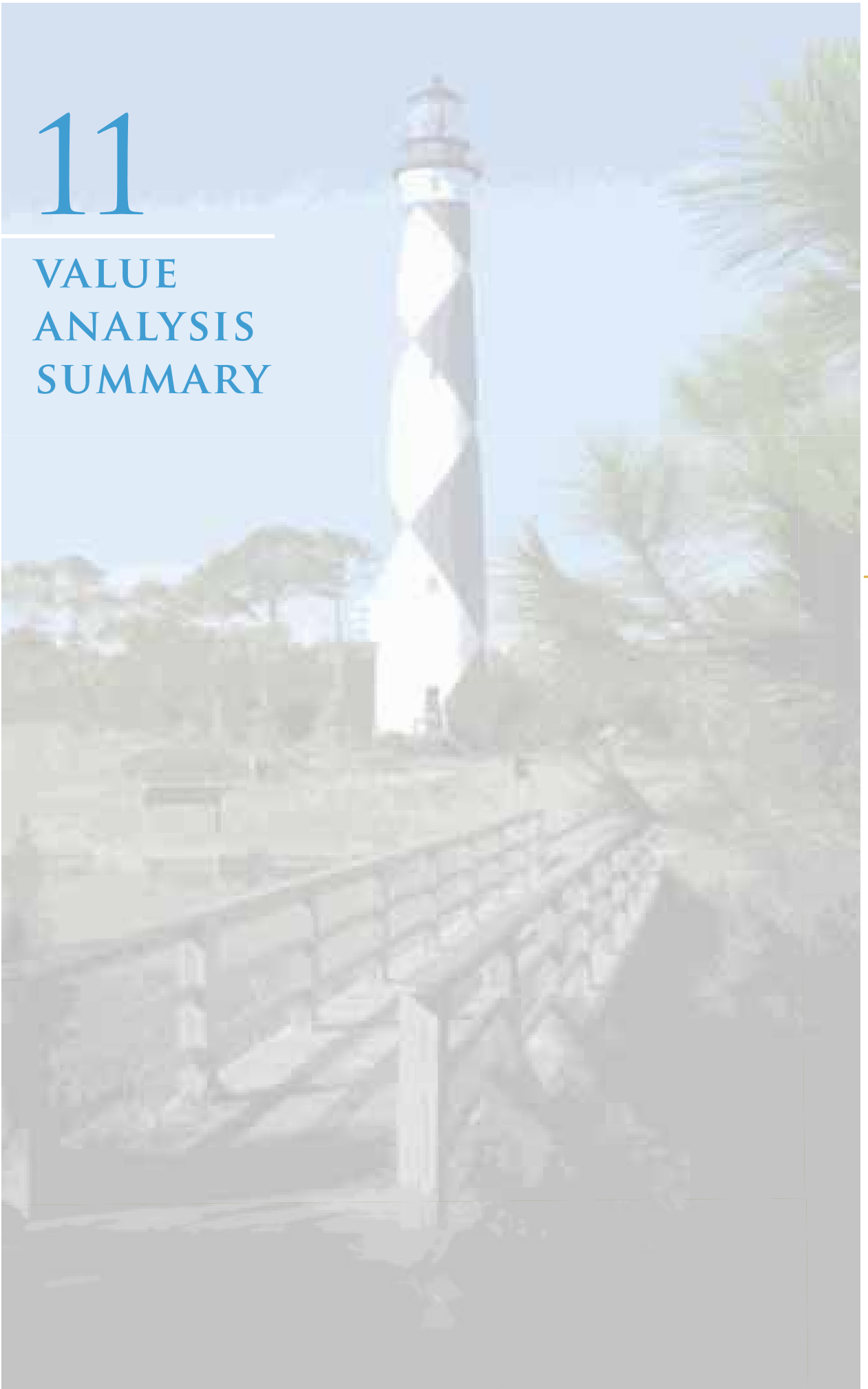
Both the Morehead City/Beaufort concession and the Harkers Island concession were found to be financially viable given the assumptions. It should also be noted that the financial analyses allocate all administrative and boat capital costs to the passenger ferry operations. As is often the case with similar contracts, the concessioner might operate other water tour services that share those overhead and equipment costs. In that case, the findings of financial viability would be even stronger.

TABLE 10.1 HARKERS ISLAND AND MOREHEAD CITY/BEAUFORT OPERATIONS

	Harkers Island		Morehead City/Beaufort	
	Year 1	Year 10	Year 1	Year 10
Direct Expenses	\$190,000	\$279,000	\$116,000	\$167,000
Indirect Expenses	\$122,000	\$160,000	\$86,000	\$110,000
Capital Costs (boats)	\$75,000	\$75,000	\$75,000	\$75,000
Annual Expense	\$387,000	\$514,000	\$277,000	\$352,000
Passengers	33,900	41,600	21,600	26,100
Annual Revenue	\$429,000	\$559,000	\$276,000	\$392,000

11

VALUE ANALYSIS SUMMARY



11

VALUE ANALYSIS SUMMARY



INTRODUCTION

This section provides a summary of the Value Analysis (VA) study that was conducted in February 2010 to support the ferry feasibility study. The objective of the VA was to select sites in Morehead City and Beaufort which could be carried into the Environmental Assessment for analysis and recommendations. The Harkers Island Visitor Center site was not included in the VA study because it was selected as a ferry departure site in the Commercial Services Plan and is the former location of the ferry service to Cape Lookout. This site also includes a visitor center, public information desk, restrooms and a boat basin owned and operated by the NPS. The Harkers Island site will serve a different ferry service route to Cape Lookout than the service from Morehead City or Beaufort which serves Shackleford Banks. The VA study served as a bridge to the Environmental Assessment in that it reduced four viable alternatives down to two alternatives for further evaluation in the EA. The EA will take the two top ranked alternatives, the Beaufort Post Office site, and the Morehead City 10th Street site, and analyze each of the sites for potential environmental impacts.



Post Office with Grayden Paul Park in the Distance

The NPS involved the towns of Morehead City and Beaufort in the kickoff of the VA. The NPS has appreciated the engagement and commitment of both towns to assist in identifying and defining the partnership opportunities associated with the ferry departure sites. Upon completion of the VA Study, the team made some recommendations which affected the conceptual site plans and dock designs at 10th Street and at the Post Office. The minor changes to the site concept plans are documented in this section of the Feasibility Study and depicted in Figures 11.1 to 11.4. The primary focus of the VA Study is on the site development considerations for the ferry terminal while ferry operational considerations were a secondary focus. Information related to Ferry Service Plans, Ferry Service Development Program and Ferry Vessels is contained in Sections 2, 3 and 6 respectively.

VALUE ANALYSIS BACKGROUND AND PROCESS

The Value Analysis consisted of a ten-person multi-disciplinary study team which met on February 17, 18 and 19, 2010 to evaluate and recommend how to proceed with the determination of the two top ranked alternatives for a ferry service terminal for park destinations within the Cape Lookout National Seashore (CALO). The process used during VA Study is briefly outlined below.

The federal government faces a period of intense budget contraction and scrutiny of expenditures. The National Park Service is responsible and accountable for every dollar spent and ensuring that those expenditures support the agency's mission. NPS utilizes Value Analysis to ensure production of high-quality products, within budgets, and long-term customer satisfaction. Value Analysis is a tool that can be used in all stages of developing a program or a facility (e.g. planning, design, construction, reorganizations, etc.).

Value Analysis is not simply the application of a technique at one time during the planning and design process; it must be a continuous effort. Value for the cost must be evaluated at

every decision point. The primary steps in the Value Analysis process, grow from problem solving methodologies, and are an integral part of the planning and design process. These are:

- **INFORMATION PHASE** - Understand the functional needs and program of the project
- **FUNCTIONAL ANALYSIS PHASE** - Ensure team members completely understand the functions required through establishing a functional portrait of the project and evaluating program needs vs. wants
- **CREATIVITY PHASE** - Team develops alternatives and options to achieving project functions
- **EVALUATION PHASE** - Evaluate alternatives with criteria, including life-cycle costs
- **DEVELOPMENT PHASE** - Develop the best alternatives based on a project understanding gained during the Information, Creativity and Evaluation Phases
- **PRESENTATION PHASE** - Present and recommend the best alternative (Preferred Alternative)
- **IMPLEMENTATION PHASE** - Plan how to make the changes and adjustments and move forward with the project

The Value Analysis for the Ferry Feasibility Study incorporated all the above elements and provided an opportunity to gain additional information in support of the feasibility study regarding the three Morehead City sites and one Beaufort site through individual meetings with town staff. During the meetings, such things as property ownership issues were reviewed and confirmed as well as the schedule for acquiring property. The question and answer portion of the meetings helped establish the rationale for minor changes that were made to the site concepts at 10th Street and at the Post Office.

Through the value analysis process, improvements and refinements were made to the site concept drawings for 10th Street (see Figures 11.1 and 11.2) and the Post Office (see Figures 11.3 and 11.4). Specific details of the changes to the site concepts are outlined in the description of site alternatives evaluated during the VA Study.

The Ferry Feasibility Study team approach to evaluating potential sites for ferry service was to consider as many potentially feasible sites as possible based on input from park staff, town representatives and other stakeholders. During the preliminary evaluation process, a total of 8 sites were initially considered. The team used 19 weighted evaluation criteria to narrow down site alternatives to 4 sites. This process is documented in Section 8 under Weighting Of Evaluation Criteria and in Table 8.1 Weighted Evaluation Criteria and Table 8.2 Site Evaluation Matrix.

Based on the results of the Site Evaluation Matrix, the Ferry Feasibility Study team recommended that the four highest scoring sites be considered as ferry departure site alternatives for the Value Analysis study. The sites that were advanced for further evaluation during the VA Study are 10th Street, Jaycee Park, the Railroad site and the Post Office site. The four sites are described in detail in Sections 5 and 7 of this document. Following this initial evaluation of the sites, a more in-depth evaluation process referred to as Choosing By Advantages (CBA) (see page 11-7) was used during the VA Study to evaluate the four top sites and determine the preferred alternative for the ferry departure site from Morehead City or Beaufort.

VALUE ANALYSIS STUDY OBJECTIVES

In order to gain the greatest benefit from the VA Study effort, the team identified the following requirements for the study focus:

1. Reconfirm the project program requirements
2. Recommend site alternatives for the ferry terminal departure site which should be analyzed through the NEPA process
3. Identify cost saving recommendations by examining high cost centers
4. Prepare a phasing strategy, where appropriate, and recommend requirements for development
5. Identify sustainable design requirements
6. Address health, safety and welfare concerns
7. Conduct a project risk analysis for the two top ranked sites
8. Respond to Office of Management and Budget concerns

VALUE ANALYSIS STUDY ALTERNATIVE DESCRIPTIONS

The following is a brief summary of the four alternatives evaluated during the Value Analysis Study. Refer to Section 4 of this document for more detailed descriptions of the sites:

SITE ALTERNATIVE 1 10TH STREET, MOREHEAD CITY

Due to the comparatively large area of the site, which includes

parking and a building on-site, the site provides a high value and benefit to the project by meeting the desires and requirements for parking, NPS gateway, and a dedicated departure site with good water access.

During the creativity phase of the VA Study, refinements were made to the alternative to improve the operational efficiency of the site, minimize shared-uses of facilities on site and reduce initial costs. These improvements included moving the restroom building away from the dock area and locating it near Shepard Street. This improves the circulation by locating the building near the bus/vehicle drop off area and also improves the ease of obtaining environmental permits for the project by keeping fixed structures away from the shoreline.

The second change was to move all vessel operations from the CAMA dock (the existing fishing/observation pier) to the existing boat ramp docks. This change avoids issues relating to sharing the dock, which was constructed with CAMA funds, between ferry operations and the general public. This change also reduces the cost by having to improve and maintain only one consolidated vessel facility rather than both the boat ramp docks and the CAMA dock. The site concept plan and perspective rendering are depicted in Figures 11.1 and 11.2. The earlier concept plan is depicted in the Appendix as Figure A.1.

This alternative, as it is currently understood, meets the requirements for a partnership arrangement with the Town of Morehead City which would provide the site and various improvements with minimal or no-cost to the NPS. The Town of Morehead City could fund site development through grants.

SITE ALTERNATIVE 1B **10TH STREET WITH THE TRAIN STATION**

This is a variation to Alternative 1 which was improved during the Value Analysis creativity session and includes using the existing Morehead City Train Station as a temporary visitor contact station and interpretive area. This is intended as a temporary arrangement that would allow for a quicker start up of the facility and a phased approach to site development as funding for improvements become available. This option as a permanent alternative is less desirable on its own but adds benefit and value to the 10th Street alternative because of the flexibility it offers in the short-term (1- 5 years) timeframe.

SITE ALTERNATIVE 2 **JAYCEE PARK, MOREHEAD CITY**

This alternative incorporates existing on-site infrastructure including an existing restroom building and utilities and provides space in the municipal building for ticketing and interpretation. There are no initial costs associated with parking since all

parking is on-street parking or in nearby municipal parking lots. The existing docks would be added onto, or a new separate dock constructed for the ferry vessels. The Jaycee park site concept plan is depicted in Figure 7.5 and 7.6.

SITE ALTERNATIVE 3 **RAILROAD SITE, MOREHEAD CITY**

This site is large enough to accommodate the restroom/ concession building and nearly all the parking on-site. The site is not well connected to the commercial area and does not have a good NPS gateway appeal. Upon further analysis of the complexity of the partnership agreement and possible land leasing costs that would be required with the railroad company, this site was dismissed from further consideration.

SITE ALTERNATIVE 4 **POST OFFICE SITE, BEAUFORT**

During the study, new information was provided by the Town of Beaufort which triggered a subsequent revision and notable improvement to the concept plan. The recommendation consists of a location change of ferry operations from the BB&T dock (directly across Front Street from the BB&T Bank) to the public dock at Grayden Paul Park.

This change provided several significant improvements to the overall appeal of the site; 1) it provides a dock that is much closer to the Post Office building which consolidates the site thereby reducing the walking distance from the building to the dock while simplifying the pedestrian circulation and wayfinding; 2) using the public dock also simplifies the agreement arrangement with the Town of Beaufort because it is owned and controlled by the town whereas using the BB&T dock would require involvement of third parties in the agreement, and 3) this change also reduced the overall cost because the existing public dock, although small, is in good condition and would allow a ferry service to start up quickly with a minimum amount of required improvements. The site concept plan and perspective rendering are depicted in Figures 11.3 and 11.4. The earlier concept plan is depicted in the Appendix as Figure A.2.

SITE ALTERNATIVE 4B **POST OFFICE SITE, WITHOUT THE POST OFFICE BUILDING**

This alternative uses the same public dock and park area and the same parking arrangement (except it does not include the parking on the Post Office parcel) as Alternative 4 and excludes the use of the Post Office building. The initial costs and life-cycle costs are essentially the same as Alternative 4 because the costs for outfitting the building for ferry ticketing and interpretive programs would be used outdoors for a shelter, signage and a kiosk near the dock. Without the building this option was determined not viable and dismissed from consideration.

FIGURE 11.1 10TH STREET UPDATED SITE PLAN CONCEPT

1	Pedestrian Access
2	Wayfinding / Signage
3	Loading / Unloading
4	Parking Area (66 stalls)
5	Orientation Area / Gateway (500 sf)
6	Ticketing, Restrooms & Concession Building (600 sf)
7	Shelter / Queuing Area (440 sf)
8	Ferry Docks (1,000 sf)
9	Existing Fishing Pier to Remain
10	Large Vehicle Parking – On-Street
11	Water Quality Pond
12	Passenger Vehicle On-Street Parking



FIGURE 11.2 10TH STREET SITE PERSPECTIVE RENDERING



FIGURE 11.3 POST OFFICE UPDATED SITE PLAN CONCEPT

1	Temporary Gateway Orientation Area (1 or 2 years)
2	Temporary Ferry Ticketing Area (60 sf) (1 or 2 years)
3	Shade / Rain Shelter & Passenger Queuing Area (400 sf)
4	Dedicated Passenger Vehicle On-Street Parking
5	Proposed Overflow Parking (Off-Hours Only Upon Beaufort Negotiation with Property Owner)
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,000 sf)
10	Alternative Loading/Unloading or Parking
11	Proposed Permanent Visitor Contact Station with Exhibits, Ticket Sales and Restrooms
12	Existing Park
13	New Park Expansion
14	Private Property with Docks



FIGURE 11.4 POST OFFICE SITE PERSPECTIVE RENDERING



CHOOSING BY ADVANTAGES ANALYSIS

The Value Analysis Study team used a process called Choosing by Advantages (CBA) to evaluate the four of departure site alternatives. CBA is a nationally recognized evaluation and decision-making process adopted by NPS that is based on establishing the relative advantages and costs of a project during the planning and/or design phase of a project. It evaluates the ability of an alternative to accomplish agency and/or project goals and objectives and the degree to which the objectives are met or exceeded. In using the CBA process, the VA study team established what and how large the advantages are of each ferry departure site under consideration and then look at how important the advantages are of the sites, and finally, are those advantages worth their associated cost. Attributes such as safety, protection of natural and cultural resources and multi-modal access were evaluated but determined to have no discernable difference between the alternative sites. The factors and criteria developed by the VA study team and used in the CBA evaluation are listed below:

TABLE II.1 CHOOSING BY ADVANTAGES CRITERIA

PRIMARY FACTOR	SUB-FACTORS	FACTORS AND ATTRIBUTES
Improve Visitor Enjoyment Through Better Service and Educational and Recreational Opportunities	Site facilitates improved education of visitors (with respect to safety, resource protection and appreciation while in park)	<ul style="list-style-type: none"> Educational area in proximity to ferry docks
	Parking availability	<ul style="list-style-type: none"> Dedicated parking available on-site Non-dedicated parking available off-site
	Gateway appeal to visitors/ attract and expand broad range of visitors	<ul style="list-style-type: none"> Establishes a NPS presence, identity and transition to the park environment.
	Sequence of arrival/wayfinding ease to sites	<ul style="list-style-type: none"> High visibility from main road, easy and understandable directions
	Improve visitor experience and comfort at departure site	<ul style="list-style-type: none"> Site provides area for shade shelters and bench seating (<400 sf) Site provides restroom facilities Improve The Efficiency, Reliability and Sustainability of Park Operations
	Site accommodates multi-modal access to the ferry service	<ul style="list-style-type: none"> Multi-modal access to the site (shuttles, bus, bikes, drop-off)
	Pedestrian connection to commercial zones	<ul style="list-style-type: none"> Walking distance to commercial shopping/restaurant area
	Site and dock conflicts/competition with shared /other uses	<ul style="list-style-type: none"> Site dedicated to ferry operations/no conflicts or other users
	Site provides long-term operational sustainability	<ul style="list-style-type: none"> Life-Cycle Cost (LCC) for facility operation
	Site provides long-term flexibility/ adaptation to visitor growth/decline	<ul style="list-style-type: none"> Site easily adapted to growth
Provide Cost-effective, Environmentally Responsible, and otherwise Beneficial Development for the National Park System	Landside site ready for quick startup of ferry service	<ul style="list-style-type: none"> Existing infrastructure availability (water, sewer, electric) Existing building space (currently available)
	Waterside site ready for quick startup of ferry service (minimizes construction of new docks for start-up)	<ul style="list-style-type: none"> Existing docks in place for ferry vessels

TABLE 11.1 CHOOSING BY ADVANTAGES CRITERIA (CONTINUED)

<p>Other Benefits to the NPS and Local Communities</p>	<p>Level of Commitment from Partners/ Willingness of Partners to Commit (financial/other commitment/willingness of partners to pay development/ operational costs)</p>	<ul style="list-style-type: none"> • Complexity of Partnership involved in ferry departure site -- Team considers this attribute extremely important but is split as how to approach due to high degree of uncertainty. Additional information is forthcoming from the communities. • Capital Improvements /Operational Services provided by partners • Manageable development risk/Level of NPS control of site/operation • Duration of lease commitment (looking for 25 yrs) • Short-term (0-3 Years) ridership changes (decrease)
--	--	---

The CBA methodology does not “weight” factors in advance, making some factors automatically more important than others. Rather, CBA focuses on identifying the differences between alternatives and determines the importance of the advantages of each alternative. This process establishes a single scale that compares the importance, or the benefits, of all the advantages of the site alternatives under consideration. Cost is then factored in at the end of the process during the financial evaluation of the alternatives establishing an importance to cost ratio. The resulting graph represents the benefit to the NPS and partners for each dollar spent. For example, an alternative that scores high for the sub-factor of Parking Availability might not score as highly in other areas, such as Pedestrian Connection to Commercial Zones.

CBA SUMMARY

The relationship between the importance of an alternative's advantages and the life cycle cost for the alternative is represented in the Importance To Cost graph on page 11-12. The “value” of the alternative is the importance of the advantages of the alternative relative to the life cycle cost.

Graphing the importance-to-cost data provides a visual representation of the value versus cost of each alternative compared to each other. A steep slope upward to the right on the graph indicates that there is a great increase in the total importance and value of advantages for slightly more cost, which suggests a potentially good value.

A shallow slope or a decreasing slope, indicates that although there is a higher cost associated with the alternative and not a corresponding increase in the importance of advantages, and therefore, does not provide additional value.

COST SUMMARY

The following are descriptions summarizing the cost considerations for each site alternative studied in the VA process. In addition, Section 9 contains Class C cost estimates for each evaluated site and a narrative description which provides details regarding the line item costs and standard mark-ups contained in the estimates.

SITE ALTERNATIVE 1 10TH STREET, MOREHEAD CITY

Due to the undeveloped nature of the site, the costs for construction are relatively high compared to Jaycee Park or the Post Office site. The costs are associated with a high value and



10th Street Docks

benefit to the project by meeting the objectives and requirements for parking, NPS gateway, and a dedicated departure site.

Despite the relatively high initial cost, this site ranks second highest for the CBA Importance Value score. This means that it provides good value and benefits for the given costs. This site was recommended for further analysis in EA.

SITE ALTERNATIVE 2 JAYCEE PARK, MOREHEAD CITY

Although this alternative has the second lowest initial cost, it doesn't fully meet the requirements for a gateway and there are some potentially conflicting uses for the site such as parking and the public dock operations and Jaycee Park users/ events and festivals. This alternative was ultimately dismissed due to not meeting the program requirements.

SITE ALTERNATIVE 3 RAILROAD SITE, MOREHEAD CITY

Alternative 3 is the highest cost alternative because it offers the greatest amount of land and significant site development costs including parking, utilities, visitor amenities such as shelters and benches and a building for ticketing and interpretive programs. This site has the highest initial and overall life cycle cost (LCC) than any of the other alternatives. Upon further analysis of the complexity of the partnership agreement and possible land leasing costs that would be required with the railroad company, this site was dismissed from further consideration.

SITE ALTERNATIVE 4 POST OFFICE SITE, BEAUFORT

This site has the lowest initial cost and LCC of all the alternatives because most of the required infrastructure is in place and parking demand can be covered by dedicating existing on-street parking. It also had the highest Importance Value score and was therefore recommended by the VA study team to be analyzed further in the EA.

A summary of the CBA results and total net costs for the alternatives is provided in Table 11.2:

TABLE 11.2 SUMMARY OF CBA RESULTS & TOTAL NET COSTS

Alternative	Importance Value	Cost (Net)
ALT 1- 10th Street	750	\$1,132,482
ALT 1B- 10th Street with Train Station	690	\$944,474
ALT 2- Jaycee Park	425	\$616,201
ALT 3- Railroad Property	480	\$1,493,958
ALT 4- Post Office Site	765	\$544,192
ALT 4B- Post Office Site w/o Building	610	\$544,192

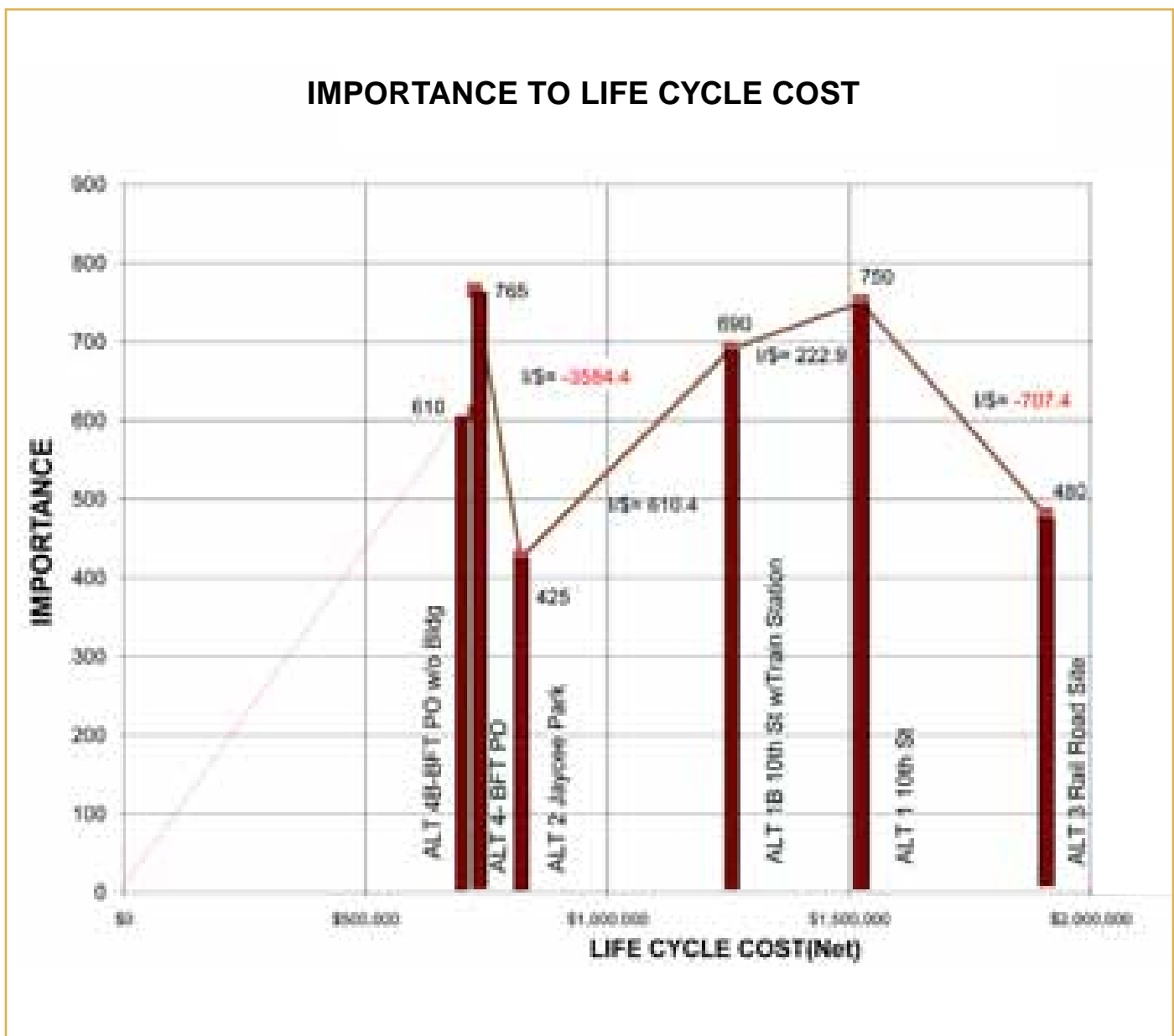


IMPORTANCE TO LIFE CYCLE COST GRAPH

Figure 11.5 below is the Importance To Cost graph which shows the resulting benefit to the project program and the total life cycle cost of each alternative. Upon graphing total importance values against life cycle cost, the three alternatives worthy of additional consideration are Alt 4, Alt 1B and Alt 1. The Beaufort Post Office site with visitor contact functions located in the Post Office building received the highest total of importance points. It provides better value for very little additional expenditure over the departure site without the Post Office building.

The Jaycee Park alternative, though close in cost to Alt 4, received a much lower score in importance value. This was due to the potentially conflicting public uses of the site affecting the ability of the site to serve as an NPS gateway and thus, it was dropped from further consideration. The next two highest scoring sites were the two variations on the 10th Street site. Both had values close to Alt 4 but would cost considerably more than what would be involved with rehabilitating the Beaufort Post Office. Alt 3, the Railroad site, has a low importance of advantages score and would be the most expensive site to develop. There were also some impediments to developing this site in a timely manner that impacted the ability of this site to compete with others under consideration.

FIGURE 11.5 IMPORTANCE TO LIFE CYCLE COST GRAPH



SUMMARY OF VA RECOMMENDATIONS

Based on the current understanding of the sites and the project needs, the VA team recommended the Beaufort Post Office site and the Morehead City 10th Street site for NEPA level analysis in the Ferry Departure Site Environmental Analysis. The VA team suggested moving forward with both sites to further verify and confirm with the communities their commitment to the program elements of the project and their terms of a partnership arrangement with the NPS. The VA Study recommendations are as follows:

- Subject to public review and comment on the Ferry Departure Site Environmental Assessment, Alternative 4, the Beaufort Post Office site is recommended for further analysis. This site has the opportunity for a low cost, high benefit facility with a strong and straight forward partnership with the town. This alternative also provides the most favorable scenario for a relatively quick and easy start-up of the ferry service since existing ferries operate from the Beaufort waterfront.
- Subject to the same public review and comment, Alternative 1, the 10th Street site is recommended for further analysis. This site provides the opportunity for a reasonable cost, high benefit facility with flexibility to create a strong dedicated NPS presence at this location.
- Continue the dialogue with both Morehead City and Beaufort and further verify and confirm the commitments from the communities and the specific program elements that will be provided by the towns. Follow up with the towns with specific questions to be answered regarding property acquisitions, parking commitments, dock use and improvements, etc.
- Subject to the outcome of public review of the EA and once a commitment is made to a site, conduct a follow-up value analysis study to refine and confirm proposed facility, site, dock, and building components.

The recommendation of the Post Office site and the 10th Street site addresses the feasibility of the NPS operating a ferry service out of either Morehead City or Beaufort given that a workable site is developed and capital improvements are made as required.

12

FEASIBILITY STUDY RECOMMENDATIONS

12

FEASIBILITY STUDY RECOMMENDATIONS



Based on a thorough analysis of the project elements as summarized in this document, the Ferry Feasibility Team recommends pursuing consolidation of passenger ferry service at both Harkers Island and in the Morehead City/Beaufort area. The recommendations are based on review and study of existing ferry operations, passenger ferry demand, projected ferry fleet requirements, departure and arrival site development program requirements, departure site opportunities and constraints, as well as, permitting requirements, site development concept plans, site development cost estimates and ferry service operator financial feasibility.

HARKERS ISLAND FERRY SERVICE

The recommendation of this study, in regards to consolidation of the Harkers Island Ferry Service, is to pursue consolidation through one concessionaire contract with service originating from the Harkers Island Visitor Center boat basin. The service should have “required” passenger ferry service to the Cape Lookout Lighthouse and the east beach area of Shackleford Banks with “authorized” service to other areas on Shackleford Banks.

The service to the Cape Lookout Lighthouse should run on a 30 minute schedule during the summer months and on an hourly schedule during the spring and fall, with winter service being only provided by advanced reservation. The expected fleet mix is one small skiff, similar to the ferries currently in use, and two mid-sized shallow draft vessels which can accommodate approximately 50 passengers.

The Harkers Island site has an existing boat basin which is large enough to accommodate the anticipated ferry fleet. In addition, the site has significant parking capacity between the visitor center, day use, and adjoining Waterfowl Museum parking lots. The visitor center has restrooms and also serves as an ideal visitor contact station for ferry riders providing the opportunity to educate visitors prior to their trip to Cape Lookout.

With the existing facilities at the Harkers Island Visitor Center able to accommodate the proposed development program, it is assumed the environmental compliance for this consolidated service is captured under the previously prepared Commercial Services Plan EA or can qualify for a Categorical Exclusion. As environmental compliance is addressed, it is recommended that a prospectus be prepared for the new concession contract and the process start to facilitate the initiation of new service by Spring 2012.



View of Grayden Paul Park

MOREHEAD CITY/ BEAUFORT FERRY SERVICE

The recommendation for this service route is to also pursue consolidation of passenger ferry service through one concession contract with “required” service to Shackleford Banks and “authorized” service to Cape Lookout Lighthouse. The recommendation of the feasibility study is to further analyze the two top ranked departure sites, the Beaufort Post Office site and the Morehead City 10th Street site, through an Environmental Assessment. Either site is considered suitable for operation of consolidated ferry service.

The service to the Shackleford Banks (west end) should run on a 30 minute schedule out of Beaufort during the summer months and on an hourly schedule during the spring and fall, with winter service being only provided by advanced reservation. If the service were to run out of Morehead City the summer service would be limited to a 40 minute schedule during the summer due to route time. The expected fleet mix is one small skiff, similar to the ferries currently in use, and two mid-sized shallow draft vessels which can accommodate approximately 50 passengers.

A program element that must be considered for the proposed site is the ability to transition into a new visitor arrival sequence and having visitors understand the location of ferry departures to the park. A significant advantage of keeping the ferry concession service in Beaufort is the ability to capitalize on existing tourist visitation to Beaufort and its long history of providing ferry services to Shackleford Banks and Cape Lookout. If the ferry service is transferred to Morehead City there would be impacts to the service from the loss of incidental business from Beaufort tourists. It is likely that it would take several transitional years to reestablish visitation back to 2009 levels if the ferry service were to operate out of Morehead City.

To pursue consolidated service at either the Post Office site or the 10th Street site, significant site improvements and/or dock improvements are required. The intent is to develop a partnership agreement with the local community to provide those physical site improvements at no direct cost to the NPS. The site and dock improvements vary for each of the sites, but are best described and represented in Section 11 which contains Figures 11.1 to 11.4 depicting updated concept plans and perspective renderings for both the 10th Street site and Post Office site.

The implementation process is more cumbersome for this part of the ferry service and will take more time and commitment of both partners. In addition, the improvements required at either site will trigger completion of an EA to address environmental compliance. It is recommended that both sites be analyzed through the EA as potential departure sites for the new consolidated ferry service.

With both sites being fully analyzed for environmental compliance, it provides flexibility to the NPS depending on future unforeseen circumstances which may affect which site advances towards full development. To reach a point of executing site improvements, an agreement must be reached with the Town of Beaufort or the Town of Morehead City, if the preferred site is no longer in consideration. Please refer to Section 9 for a specific summary of implementation tasks required for either of these sites.

FINANCIAL FEASIBILITY

Both the Harkers Island passenger ferry service and the Morehead City/Beaufort service have been determined to be financially feasible assuming all capital costs for site and dock development are excluded from the concession contractor’s responsibility. The only responsibility of the concessionaire in regards to site and dock improvements is to provide maintenance once the contract is in place and the facility is being occupied.

The Morehead City 10th Street and Beaufort Post Office sites were each determined to be financially feasible, although the Morehead City 10th Street site may result in a short-term potential loss of ridership with the more dramatic move in location from where most current operators are located. Please refer to Section 10 and the Appendix for more information on the financial feasibility analysis and associated assumptions.

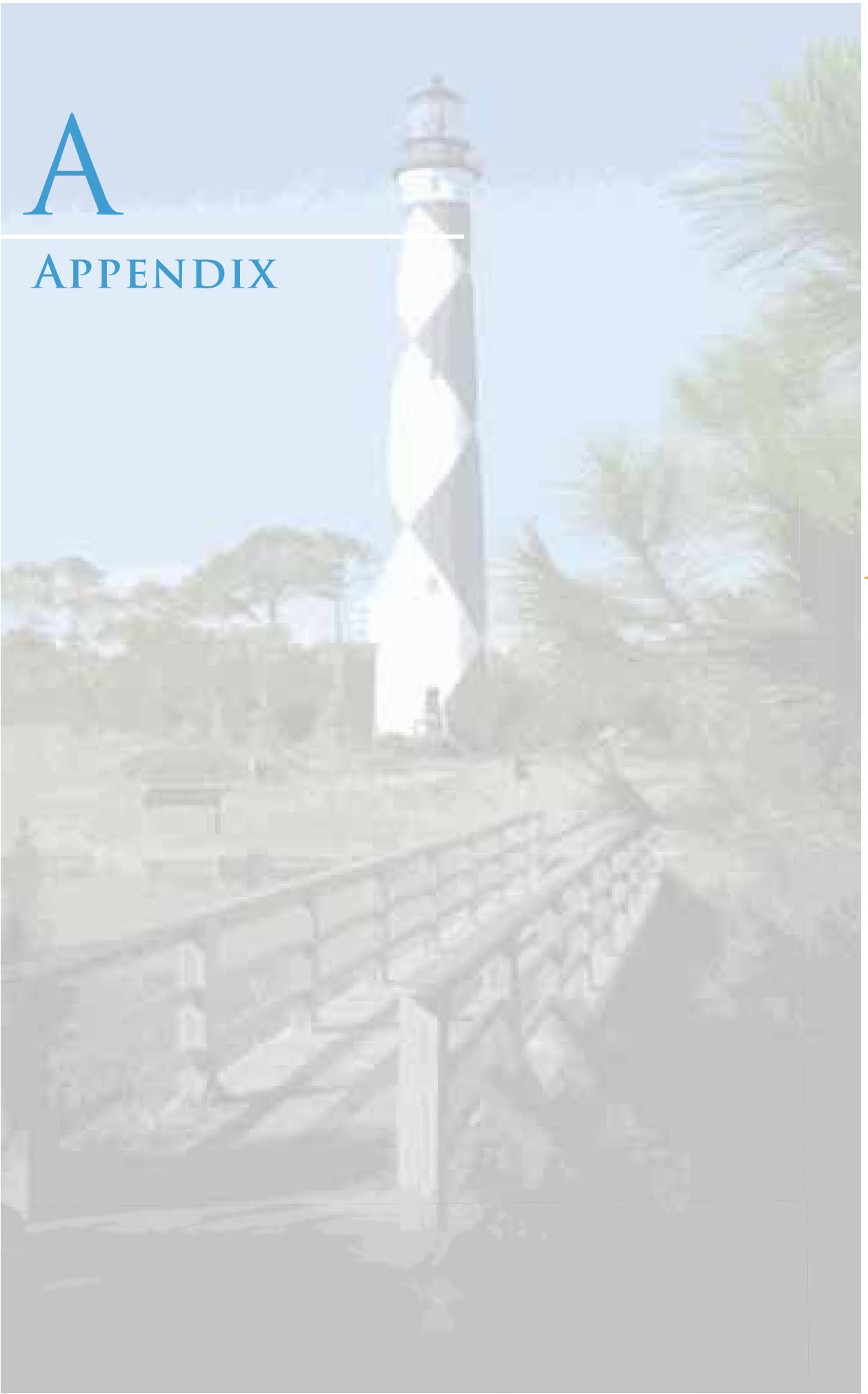
CONCLUSIONS

This study has confirmed the goals relating to passenger ferry service in the southern portion of the seashore as directed by the Concessions Management Improvement Act of 1998 and outlined in the Commercial Services Plan are achievable and financially feasible. The study builds on the expectations of the CSP and integrates those expectations into its analysis and conclusions to ensure continuity in planning processes.

The document outlines the measures required to help secure a waterfront mainland departure location in Morehead City/Beaufort, increase oversight of commercial ferry operations, establish consistent ferry service schedules, enhance the visitor experience through improved orientation and gateway presence, improve visitor experience on the ferry ride, and maintain a cost effective and financially feasible passenger ferry operation. The resulting operational changes will provide better control for the NPS, build local partnering relationships and dramatically improve the visitor experience for all passenger ferry riders visiting the southern portions of Cape Lookout National Seashore.

A

APPENDIX



APPENDIX



PROJECT CONTRIBUTORS

NATIONAL PARK SERVICE

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FERRY OPERATIONS COST ANALYSIS

The information on the following three pages is additional data and analysis that was used to develop conclusions regarding financial feasibility. The data was prepared by Mike Dyer of the Volpe Center.

HARKERS ISLAND TO CAPE LOOKOUT SCHEDULE AND BOATS

Schedule	Days	Runs per day	Assumed boat service split			Round trips per boat type			
			70-PAX boat	48-PAX boat	16-PAX skiff	70-PAX boat	48 PAX boat	16 PAX skiff	Total
Summer peak days	115	18	0	0.7	0.3	0	1449	621	2070
Spring shoulder	46	8	0	0.6	0.4	0	221	147	368
Fall shoulder	80	8	0	0.6	0.4	0	384	256	640
Winter weekdays	30	4	0	0.75	0.25	0	90	30	120
Winter weekends	20	6	0	0.75	0.25	0	90	30	120
No service	73		Extra grp trips, spr/sum/fall			0	190	120	310
Total days	364			Total trips		0	2,424	1,204	3,628
						Grand Total			3,628

Note: boats dead-head on all group trips; therefore, there are two round trips per group.

NOTES:

- Note that the fleet is now two boat types. The 70-PAX excursion boat has been deleted.
- Ferry trips by season proportioned as shown in table. Larger boats take majority of peak summer runs and smaller proportions of spring and fall as patronage drops. They again take most of the winter runs in order to provide shelter for cold and inclement weather OPS.
- The 48-PAX boats and 16-PAX skiff take 95 and 60 group tours, respectively, per direction of NPS and service model by VHB. The total number of round trips doubles due to the boats dead-heading back to Shell Point.

COST ANALYSIS

Cost Elements	54', 70-PAX excursion	40', 48-PAX excursion	16-PAX skiff	Total
Passenger Capacity	70	49	16	114
Service Speed (knots)	22	22	24	
Total Round Trips	0	2,424	1,204	3,628
Total Operating Hours	0	1,509	723	2,232
Boat(s)	0	2	1	3
Boat purchase price	\$0	\$550,000	\$120,000	\$670,000
Crew (per boat)	2	2	1	5
Consumables (fuel, lubricant)	\$0	\$44,032	\$10,180	\$54,212
Labor, boat crews (hours)	0	3,924	939	4864
Labor, boat crews (cost)	\$0	\$105,633	\$30,108	\$135,741
Vessel maintenance	\$0	\$17,708	\$3,809	\$21,517
P/I insurance	\$0	\$14,438	\$3,150	\$17,588
Capital debt service	\$0	\$61,550	\$13,429	\$74,979
TOTAL OPERATING COST	\$0	\$243,360	\$60,676	\$304,036

KEY ASSUMPTIONS AND CONDITIONS:

- 6.6 nautical miles per round trip; 0.8 nm at reduced speed of 8 knots.
- Capital costs are for new, fully outfitted boats, including engines; 300 HP for the 48-PAX boat and 250 HP for the skiff. The debt service assumptions have been modified similar to those for the Harkers Island service, that is, 6% interest (per current OMB guidance), and 20% down payment and 10-year note, per NPS direction.
- Fuel at \$3.00/gallon.
- Loaded labor rates recalculated per NPS guidance (Department of Labor and Service Contract Act):
CAPTAIN - \$229/per day = \$28.62/hr, PLUS \$3.35 hour benefits = \$31.97/HR; DECK HAND - \$144/per day = \$18.00/hr, PLUS \$3.35 hour benefits = \$21.35/HR
- Maintenance costs rise slowly through Year 10 of the service as a function of the boats' ages.
- Annual P/I insurance at 2.5% of boat replacement cost.

BEAUFORT TO SHACKLEFORD ISLAND SCHEDULE AND BOATS

Schedule	Days	Runs per day	Assumed boat service split			Round trips per boat type			
			48-PAX boat	16-PAX skiff	Large Excursion Boat	48-PAX boat	16 PAX skiff	Large Excursion Boat	Total
Summer peak ferry	115	16	0.75	0.25	0	1380	460	0	1840
Spring shoulder ferry	46	8	0.6	0.4	0	221	147	0	368
Fall shoulder ferry	80	8	0.6	0.4	0	384	256	0	640
Winter weekdays	0	0	0	0	0	0	0	0	0
Winter weekends	0	0	0.75	0.25	0	0	0	0	0
No service	124	0	0	0	0	0	0	0	0
Extra grp trips, spr/sum/fall to Shackleford	115		1.0	0	0	230	0	0	230
Extra grp trips, summer to Cape	0		0	0	0	0	0	0	0
Total days	365				Total trips	2,215	863	0	3,078
Grand Total									

NOTES:

- Note that the fleet is now two boat types. The large Mystery-type excursion boat has been deleted.
- Ferry trips by season proportioned as shown in table. Larger boats take majority of peak summer runs and smaller proportions of spring and fall as patronage drops. They again take most of the winter runs in order to provide shelter for cold and inclement weather OPS.
- The 48-PAX boats take all 115 group tours, respectively, per direction of NPS and service model by VHB. The total number of round trips doubles due to the boats dead-heading back to Beaufort.

COST ANALYSIS

Cost Elements	40', 48-PAX boat	16-PAX skiff	Large Excursion Boat	Total
Passenger Capacity	48	16	120	112
Service Speed (knots)	22	24	12	
Total Round Trips	2,215	863	0	3078
Total Operating Hours	1082	414	0	1496
Boat(s)	2	1	0	3
Boat purchase price	\$550,000	\$120,000	\$0	\$670,000
Crew (per boat)	2	1	2	
Consumables (fuel, lubricant)	\$24,464	\$4,711	\$0	\$29,175
Labor, boat crews (hours)	2,759	538	0	3,297
Labor, boat crews (cost)	\$74,272	\$17,236	\$0	\$91,508
Vessel maintenance	\$10,058	\$3,279	\$0	\$13,337
P/I insurance	\$7,219	\$3,150	\$0	\$10,369
Capital debt service	\$30,775	\$13,429	\$0	\$44,204
TOTAL OPERATING COST	\$146,788	\$41,805	\$0	\$188,592
OPERATING COST PER HOUR	\$136	\$101	\$0	\$126
Break Even Patronage: Assumed \$12 Average Round Trip Fare, No Onboard Sales, reduced 15% for G&A and advertising/publicity.				
Annual Patronage	14,391	4,099	0	18,489

KEY ASSUMPTIONS AND CONDITIONS:

- 3.5 nautical miles (nm) per round trip to Shackleford; 1.0 nm at reduced speed of 8 knots.
- Capital costs are for new, fully outfitted boats, including engines; 300 HP for the 49 PAX boat and 250 HP for the skiff. Debt service: 6% interest (per current OMB guidance); 20% down payment; and 10-year note, per NPS direction.
- Fuel at \$3.00/gallon.
- Loaded labor rates recalculated per NPS guidance (Department of Labor and Service Contract Act):
CAPTAIN - \$229/per day = \$28.62/hr; PLUS \$3.35 hour benefits = \$31.97/HR; DECK HAND - \$144/per day = \$18.00/hr; PLUS \$3.35 hour benefits = \$21.35/HR
- Maintenance costs rise slowly through Year 10 of the service as a function of the boats' ages.
- Annual P/I insurance at 2.5% of boat replacement cost.

PRELIMINARY DEVELOPMENT CONCEPTS

The following two concepts were early site development concepts for the 10th Street site in Morehead City and the Post Office site in Beaufort. These two site concepts evolved through the study process and resulted in the final site development concepts depicted in Figures 7.2 and 7.11. The primary difference in the site plans is a change in location of the proposed ferry docks.

FIGURE A.1 10TH STREET SITE - PRELIMINARY DEVELOPMENT CONCEPT

1	Pedestrian Access
2	Wayfinding / Signage
3	Loading / Unloading
4	Parking Area
5	Orientation Area / Gateway (500 sf)
6	Ticketing, Restrooms & Concession Building (600 sf)
7	Shelter / Queuing Area (440 sf)
8	Ferry Docks (1,000 sf)
9	Vehicular Ingress/Egress
10	Large Vehicle Parking – On-Street

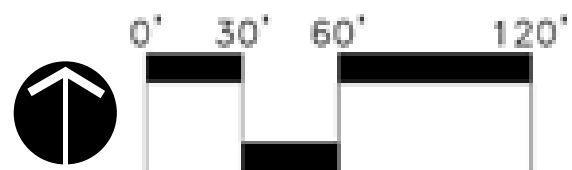
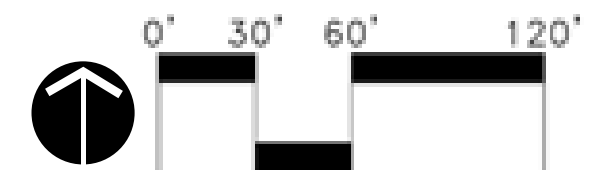




FIGURE A.2 BEAUFORT FRONT STREET SITE (WITH POST OFFICE) - PRELIMINARY DEVELOPMENT CONCEPT

1	Gateway Orientation Area
2	Ferry Ticketing Area (60 sf)
3	Shade / Rain Shelter & Passenger Queuing Area (100 sf)
4	Passenger Vehicle On-Street Parking
5	Proposed Overflow Parking (Off-Hours Only Upon Beaufort Negotiation with Property Owner)
6	Loading / Unloading Area
7	Pedestrian Connections
8	Wayfinding / Signage
9	Ferry Docks (1,000 sf)
10	RV Parking
11	Primary Proposed Visitor Contact Location / Restrooms
12	Alternate Visitor Contact Locations / Restrooms





As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS - Cape Lookout National Seashore Passenger Ferry Transportation Feasibility Study September