Executive Summary

Review the recently completed Vanderbilt Recreational Pier Feasibility Study and obtain direction from the Board of County Commissioners on how to proceed.

Objective: Obtain direction from the Board of County Commissioners on how to proceed with the recently completed Vanderbilt Recreational Pier Feasibility Study.

Considerations: On June 26, 2007 the Board of County Commissioners approved a feasibility study to build a Recreational Pier at Vanderbilt Beach. This study is completed and contains the following elements:

- Technical report by Coastal Planning and Engineering (CP&E) discussing layout, permitting, costs, potential mitigation requirements and timeframe.
- An alternative phased approach which would construct critical public restrooms, offices, and snack bar/restaurant facilities to be built now and accommodate future pier construction.
- A traffic study conducted by Johnson Engineering on the impact this installation would have on the surrounding roadway infrastructure.
- A parking study conducted by Parks & Recreation analyzing parking capacity at the Vanderbilt Beach Parking Garage.
- A Crime analysis of the Naples Pier over the last 3 years with supporting documentation from Naples elected officials.

This report has not been reviewed, vetted or discussed with the public or any Advisory Boards. In addition to presenting this report, direction is requested from the Board of County Commissioners on how to proceed and what public organizations this report should be reviewed and discussed with.

Report Summaries and Conclusions:

CP&E Technical Report:
A recreational pier suitable for fishing and other uses can be constructed at the end of Vanderbilt Beach road entirely within county owned right-of-way. This pier would be 930 feet in length from the Erosion Control Line (ECL) and encompass 1,060 feet at full deck length. It would have a width of 22 feet to accommodate emergency vehicles and be 20 foot off the water. The structural portions of the pier would be designed to withstand a minimum 20 year storm based on FDEP state wide data. More probably, our design would resist a 50 year storm based on local data. A site specific wave height study would be required as part of the final design to determine this. Decking and handrail would be of wood/composite material and designed to be sacrificial during significant storm events. 3,700 SF of public restrooms, offices and snack bar/restaurant along with 1,700 SF of deck area adjacent to the snack bar/restaurant is included in this project. These facilities will be elevated and constructed directly above the existing Vanderbilt Beach

turnaround. These facilities, especially the public restrooms are critically needed. Replacement of existing public facilities will require elevated structure design to comply with revised FEMA guidelines.

Permitting for this project is possible and can be accomplished within 24 months. Permitting will be accomplished in phases with the overall site permit secured first. This pier will extend 380 feet over critical hardbottom habitat that will complicate the permitting process. FDEP has provided a wealth of information on the content of a pier application but not much on the permittability of building a pier over hardbottom. History however is on our side; all 6 recent pier projects throughout the state have been permitted. Some have required administrative hearings after initial applications have been rejected to be permitted.

Although we will modify our design when practical to avoid critical habitat, some mitigation will be required. $1,250,000 has been allotted in our construction cost estimate to fund mitigation and monitoring that FDEP will require. We believe that this is sufficient especially when viewed in combination with the recently constructed and unutilized one acre artificial reef. Examples of mitigation activities that the FDEP might require are the relocation of existing coral outcroppings and coral growth monitoring.

After permitting, which may require 2 years; this project can be constructed in 18 months. Overall preliminary cost estimates for the pier, site development, restrooms, offices, snack bar/restaurant along with the engineering, permits, mitigation and monitoring is estimated at approximately $8,640,000. These costs are broken down as follows:

- Pier engineering, permitting and construction mgt - $ 800,000
- Pier construction - $3,950,000
- Facilities engineering, permitting and construction mgt - $ 280,000
- Restrooms, offices, snack bar/restaurant construction - $2,360,000
- Mitigation and monitoring - $1,250,000

Funding would be from Beach Park Facilities Fund (183) utilizing Tourist Development Taxes. The next step in the appropriation process would be to authorize $330,000 to fund the preliminary design, permitting and request for additional information by FDEP to secure the permits. Sufficient reserves are budgeted in Beach Park Facilities Fund (183) to fund the $330,000 contract for Preliminary Design. Note that reserves are not sufficient to fund the entire project as estimated above.

Alternative Approach – Construct public restrooms, offices, and snack bar/restaurant facilities now:

In development of this feasibility study, it became obvious that a phased approach could be possible. If phased, this project would construct the restrooms, offices, snack bar/restaurant and deck overlook now while planning for and verifying that the pier can be constructed some time in the future. The restrooms, offices, snack bar/restaurant and deck overlook would be a stand-alone elevated structure; positioned directly above the existing Vanderbilt Beach turn-around as depicted on sheets 7 and 11 of the proposed layout drawings.

The benefit of the approach would be to provide critically needed facilities now that tie into a master plan and expand public beach access and use. The existing public bathrooms at Vanderbilt Beach are inadequate and in need of expansion and replacement. Any significant work on these bathrooms will require elevated construction to comply with recently revised FEMA flood guidelines. A significant investment must be spent in the near future to expand/replace these bathrooms. Adding the offices and snack bar/restaurant to the bathrooms provides the needed facilities, eliminates stand alone capital spending and preserves our ability to build a pier structure in the future.

Permitting for this facility would be significantly simpler than a combined pier/facility project and most probably could be accomplished within 12 months. Construction could be accomplished in an additional 12 months making the total project duration 2 years. Some ramp rework would be required if a pier was constructed in the future. Estimated costs for this alternate would be $2,640,000 and broken down as follows:

- Engineering, permitting and construction mgt - $ 280,000
- Building, deck and ramp construction - $2,160,000
- Site development, utilities, signage and landscaping - $ 200,000

The next step in the appropriation process would be to authorize funds for design and permitting to secure the permits, confirm the costs, engineer the project and obtain bids for funding the construction. Sufficient reserves are budgeted in Beach Park Facilities Fund (183) to fund the $330,000 contract for Preliminary Design. Reserves may be sufficient to fund this alternative depending upon overall project expenditures within the Beach Park Facilities fund (183).

Traffic Study

A traffic study conducted by Johnson Engineering on the impact additional pier traffic would have on the surrounding roadway infrastructure indicated that at build-out in 2009, county concurrency segments and non-concurrency segments will operate at acceptable levels of service and that the county's minimum level of service Standard D will be maintained. This study was based on direct traffic counts from the Naples Pier.

Parking Study

A parking study conducted by Parks & Recreation staff indicated that sufficient capacity exists in the existing Vanderbilt Beach Parking Garage to accommodate additional parking requirements of this proposed pier. Since beginning operation in March 2006, the Vanderbilt Beach Parking Garage averages only 4 times per month when parking capacity is reached and only averages closure for 29 minutes per occurrence usually between 10:30 am to 1:30 pm. March and April appear to be the busiest months with 13 to 16 closures occurring and averaging only 30 minutes per closure.

Naples Pier Crime Study

Several concerns were voiced relative to the increased crime that this type of facility would bring into the area. A review of the City of Naples police reports for the entire area surrounding the Naples Pier for the last 3 years did not support the implied concerns. Emails from Mayor Barnett and Vice Mayor Nocera also strongly support this position

indicating that the pier has been a very popular asset to the community with limited problems. The vast majority of the police reports were for fishing infractions like fishing with more that one pole or undersize catches. A summary of all infractions for the last 3 years is as follows:

Infractions	**2005**	**2006**	**2007**
Fishing and other infractions	42	61	61
Possession of Alcohol/Controlled Substance	12	20	19
Theft	5	5	4
Disorderly Conduct	2	4	7
Robbery	0	0	1
Criminal Mischief	1	4	2
Burglary	2	7	1
Traffic/Speeding	0	3	0
Battery/Fighting	1	2	0
Trespass	3	1	0
Total Police Reports	**68**	**107**	**95**

Advisory Committee Recommendations: No Advisory Committees or public groups/organizations have reviewed this feasibility study.

County Attorney Findings: The County Attorney has not reviewed or approved this item for form or legal sufficiency.

Fiscal Impact: The source of these funds will be Category "A" Beach Park Facilities Fund (183), Tourist Development Tax. Current budgeted Beach Park Facility Fund reserves total $1,924,800. While sufficient to fund preliminary design, a combination of reserves and other financing sources will be necessary to proceed with construction.

A budget amendment is necessary moving dollars from Fund (183) reserves to the appropriate Fund (183) project in order to fund any preliminary design contract.

Growth Management Impact: Depending on the approach and direction provided by the Board of County Commissioners the impact to the Growth Management Plan may vary. However, any approach taken will be consistent with the Conservation and Coastal Management Element Policies supporting Objective 10.3 that addresses developed coastal barriers and shorelines.

Recommendation: Obtain direction from the Board of County Commissioners on how to proceed with the recently completed Vanderbilt Recreational Pier Feasibility Study.

Prepared by: Gary McAlpin, CZM Director

COLLIER COUNTY

BOARD OF COUNTY COMMISSIONERS

Item Number: 10D

Item Summary: Review the recently completed Vanderbilt Recreational Pier Feasibility Study and obtain direction from the Board of County Commissioners on how to proceed. (Gary McAlpin, Coastal Zone Management Director)

Meeting Date: 1/15/2008 9:00:00 AM

Approved By		
Gary McAlpin	Costal Project Manager	Date
Public Services	Coastal Zone Management	1/3/2008 5:19 PM
Approved By		
Kathy Carpenter	Executive Secretary	Date
Public Services	Public Services Admin.	1/4/2008 8:32 AM
Approved By		
Marla Ramsey	Public Services Administrator	Date
Public Services	Public Services Admin.	1/4/2008 11:11 AM
Approved By		
OMB Coordinator	Applications Analyst	Date
Administrative Services	Information Technology	1/4/2008 12:55 PM
Approved By		
Mark Isackson	Budget Analyst	Date
County Manager's Office	Office of Management & Budget	1/8/2008 1:35 PM
Approved By		
Michael Smykowski	Management & Budget Director	Date
County Manager's Office	Office of Management & Budget	1/8/2008 4:20 PM
Approved By		
James V. Mudd	County Manager	Date
Board of County Commissioners	County Manager's Office	1/9/2008 1:50 PM

Vanderbilt Recreational Pier Feasibility Study

Prepared for:

Collier County Coastal Zone Management

Prepared by:

Coastal Planning & Engineering, Inc.
and
Bridge Design Associates, Inc.

December 2007
Revised January 2008

Vanderbilt Recreational Pier Feasibility Study

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Vanderbilt Recreational Pier Feasibility Study

The purpose of the feasibility study is to describe the design, permitting, scheduling and cost aspects of a project to build a pier at Vanderbilt Beach. The report was prepared as a planning and decision document. A proposed layout of the project was developed and is provided in Figure 1 and Sheets 1-11 at the end of this report. We suggest a two phase permit application approach. The first phase to be submitted for site approval, and the second phase for approval of technical design. Without site approval, investments into technical design would be excessive.

Bridge Design Associates, Inc. is the structural engineer for the project and Coastal Planning & Engineering, Inc. provides coastal engineering and permitting services. An architect, and civil and geotechnical engineer will be needed to round out the design team.

The end of Vanderbilt Beach Road is the only location in northern Collier County that has beach parking, public access and County owned property needed to support a recreational pier for county residents and visitors in northern Collier County. The County parking garage is a unique public structure supporting access to the beach. Collier County needs this type of facility to support the population growth in northern Collier County. No practical alternative is available. A pier the size of Naples' is desired. The proposed pier length will be 930 feet from the shoreline (ECL), and it will extend 380 feet over the hardbottom habitat regions mapped immediately offshore of the Vanderbilt Beach Road access point (vicinity of R-29). A shorter pier would not meet the County's needs.

This feasibility report describes the hardbottom substrate based on new and existing investigations, along with the subsurface conditions. A moderately detailed examination of the hardbottom habitat was an add on to this year's marine sidescan survey and groundtruthing work. Permittability is analyzed based on consultation with permit agencies and their actual practices on recent projects in Florida. Ultimately, it is not known how the agencies will treat the unique conditions at Vanderbilt Pier. The report includes a construction and total project cost estimate along with a list of tasks needed to bring the project to construction.

Proposed Pier Description

Purpose:	Recreational Pier Suitable for Fishing and Other Uses.
Length:	930 feet from ECL (1,060 ft at full deck height)
Width:	22 feet
Deck Height:	20 feet NAVD-any higher would be unsuitable for fishing
	Naples pier is approximately 12 feet high
Features:	Terminal T-section
	Fishing parapets/balconies
	3 shaded areas on pier
	Benches
	Others to be determined
	ADA ramp suitable for occasional light vehicles
Building on Pier:	
Restaurant, restrooms and office:	3,700 sf
Deck area adjacent to Restaurant:	1,700 sf

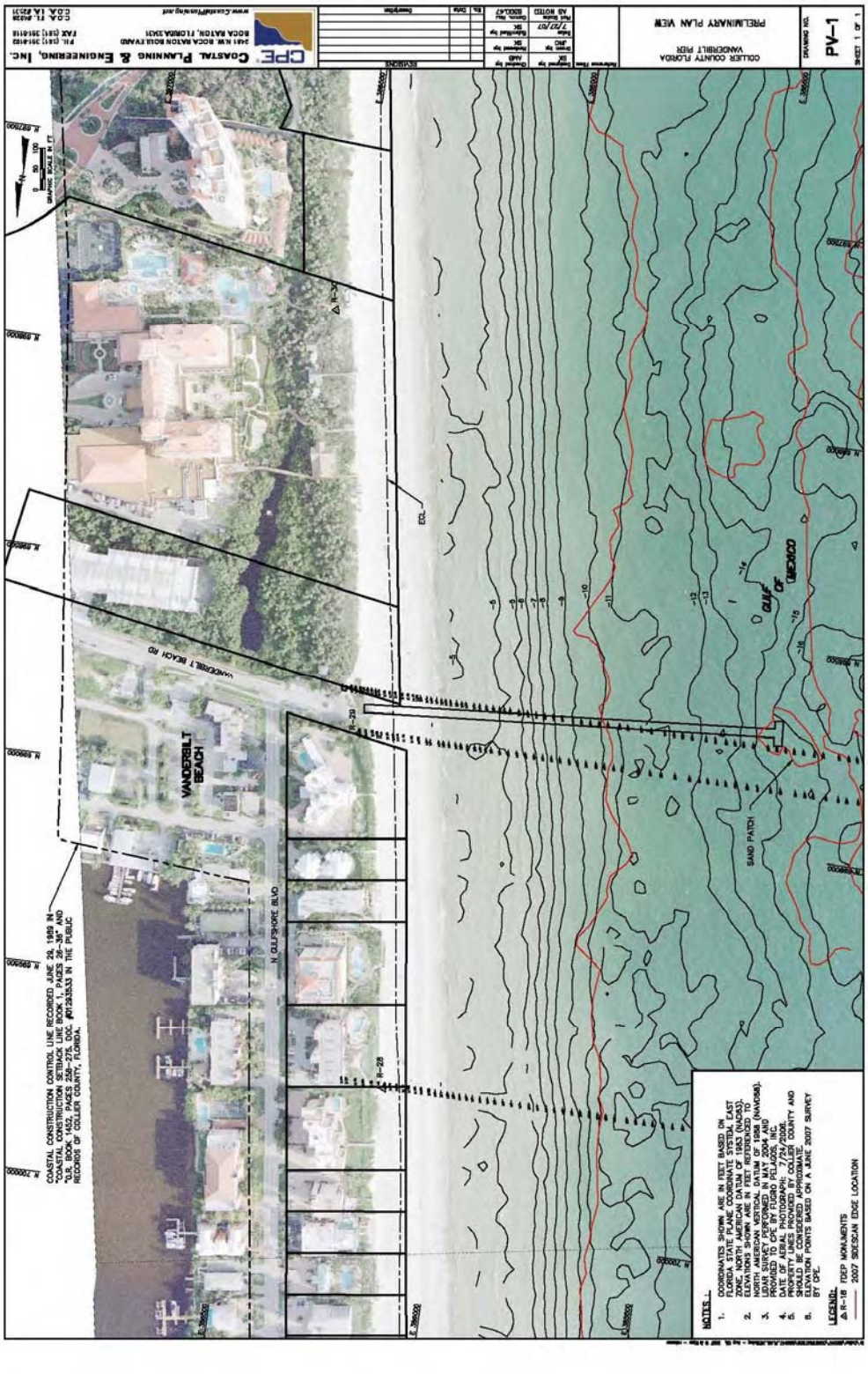


Figure 1: Map of Vanderbilt Beach showing property lines, hardbottom edge (red line), proposed pier alignment and vicinity.

Site Location

The siting of the pier is illustrated on Figure 1 and on plan Sheets 1-11 at the end of this report. The landward pier extension and the restaurant complex (facility) are located entirely within the Vanderbilt Beach Road right of way (Figure 1). The County owns the land to the south (Appendix G), where the parking garage is located. This property cannot be used as the piers' landward end given the deed restrictions which requires third party approval for any improvements. The County does not have a specific setback that pertains to a pier under these land use circumstances. A 30 foot setback is provided from the northern property and a nominal 6 foot setback is provided from the County property to the south.

The offshore portion of the pier is positioned to minimize hardbottom impact. The pier extends over 380 feet of hardbottom that terminates in a bare spot surrounded by offshore hardbottom. This bare spot was verified by a sidescan survey (Appendix C) and a diver investigation along the pier alignment. The plan is to conduct sufficient mapping of hardbottom point resources, so that the pier placement will avoid or minimize impact to the coral species before mitigation is proposed.

The pier includes a landward facility containing restrooms for the beach, an office and a small restaurant. The complex has been situated to FDEP guidance provided during the pre-application meeting. Only water dependent buildings can be located on the pier seaward of the ECL, which excludes a restaurant. The complex has been positioned within the seaward and landward alignment of adjacent development, landward of the ECL and will be elevated to meet CCCL building requirements.

Design Criteria, Risk and Water Levels

The State requires a pier to be designed to withstand the 20-year storm event.

CHAPTER 62B-33 :(k) Fishing or ocean piers or the extension of existing fishing or ocean piers shall be designed to withstand at a minimum the erosion, scour, and loads accompanying a twenty (20)-year storm event. Pier decking and rails may be designed to be an expendable structure. Major structures constructed on the pier shall be designed for the wind loads as set forth in the FBC.

The pier deck elevation should be designed for the 20-year storm elevation or 20 feet NAVD, since a deck any higher is undesirable for fishing. The State values (Appendix D) put the lowest horizontal structural member at 21.7 ft NGVD for the 100 year storm, and the equivalent 20-year storm level is also very high. In Figure 2 shown below, the measured 20-year return tide value is a couple of feet lower than that predicted by NOAA or Dean, even with adjustment for set up. After consultation with Ralph Clark (Appendix D), FDEP will provide the County the opportunity to reevaluate the design water level and wave height, so that a 20 year or higher design level can be achieved at the 20 foot deck height.

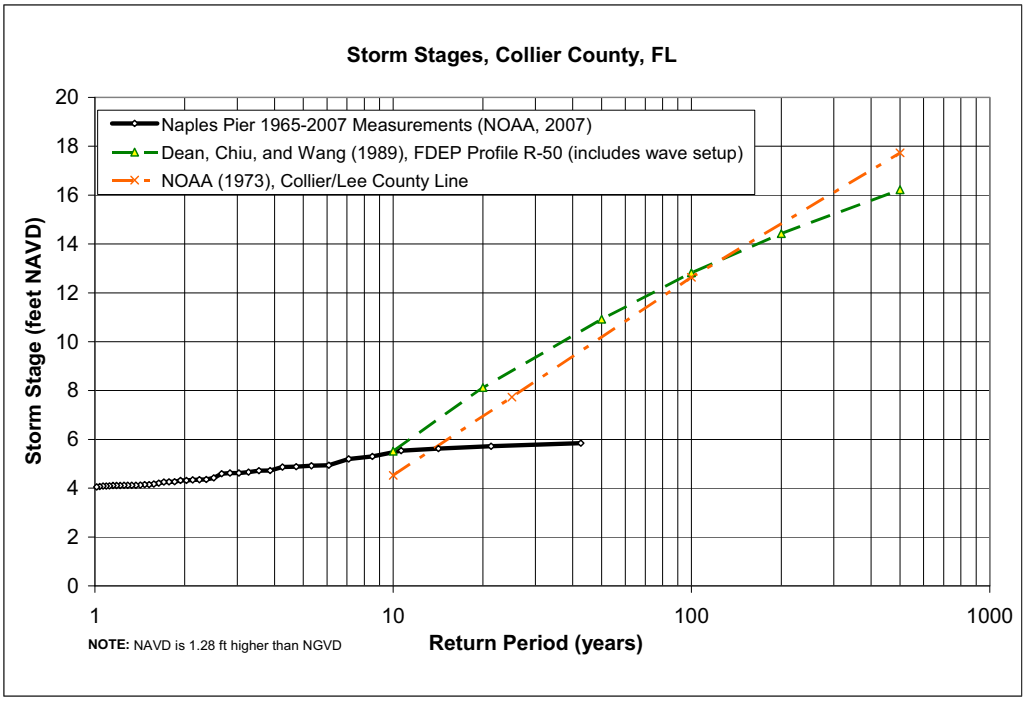


Figure 2: Storm stage frequency curve.

It is the structural engineers' intent to maximize the pier strength without compromising its purpose as a fishing and recreational pier. Loads caused by a 20-year and 50-year storm wave will be analyzed. With the results from the new storm water level and wave height study, it should be feasible to achieve or approach a 50-year design level for all design parameters.

The pictures provided below illustrate the pier design challenges and features. In Photo 1, storm waves have reached the elevation of the lowest cross-member and deck of the pier, and frangible deck features have been lost as a means of protecting the core structure. The pier deck will blow out in the design storm. Photo 2 shows where the deck has been knocked out by the waves and the cross-members have been lost on a couple of pile bents. The pier deck will be designed to be sacrificial, but the cross-members will be designed to survive the design storm.

Photographs 1 and 2 illustrate classic pier failure modes.

The engineering should be accomplished in two phases, the first to define the elevations for critical pier components, and the second to conduct the wave force analysis and design of the structural members.

Engineering and Technical Analysis

Engineering and Technical Analysis can be broken down into 3 main areas: coastal and hydraulic engineering, structural engineering and geology/geotechnical engineering. Ralph Clark provided the following guidance (Appendix A) on the engineering and technical calculations required for permit review by the FDEP (July 2007) based on his initial review of the Panama City Beaches recent pier project:

Wave height computations
Wave loads
Structural design computations
Design erosion and scour for 20 year storm
Geotechnical analysis
Pile tip elevations
Computations for pile breakout resistance

A precursor investigation is needed to determine the storm surge plus wave height elevation needed to design the pier decks, so that they can be reviewed and approved by FDEP prior to detailed design.

Photograph 3: Dania Pier was originally built over hardbottom. The pier includes a terminal t-section and a landward facility built on the deck.

Permitting

The procedures for permitting a pier are well defined, with the process generally leading to a permit, but changes must be expected to reach agreement with the permit agencies. A pre-permit application meeting was conducted with FDEP, and the results are summarized in Appendix A. The FDEP provided a wealth of information on the content of a pier permit application, but not

much on the permittability of building a pier over a hardbottom habitat. Piers built over hardbottom are not unusual, since there are a number of them on the east coast such as Dania Pier in Broward County (Photograph 3). An e-mail requesting advice on this issue was sent to all the pertinent permit agencies, and only one answer was received from NOAA Fisheries (Appendix B). Their response was similar to FDEP's guidelines where it provided instruction on how to permit the project. It is normal for the agencies to avoid making significant comments until they fully understand the environmental conditions at the site, which could take until late in the permit process at the 2nd requests for additional information stage. This is a means to control or limit their work load.

The best strategy for permitting this project while minimizing expensive engineering and environmental services is to do a two phase permitting process. The first phase would be to provide a plan layout similar to plan Sheets 1-11, along with sufficient engineering and natural resources information. The permit would be accompanied with a request to submit the detailed engineering and design (as requested by Ralph Clark) with the plans and specifications at a later date. In essence, the first submittal would be for site approval, while the second phase would be for approval of the technical design.

Sidescan Survey Geotechnical Investigation Results

Coastal Planning & Engineering geologists conducted a nearshore sidescan survey off of Collier County on June 15 and 16, 2007. The results of the survey covered the proposed pier location and are provided in Appendix C. Included in the figures are comparisons to the diver verified hardbottom edge of 2006 and the nearshore sidescan survey conducted in 2003.

During the sidescan sonar survey conducted in June 2007, a number of possible and probable hardbottom areas were interpreted from the sidescan sonar data. These sites were verified using scuba diver groundtruthing. These operations were conducted using DGPS positions integrated into the HYPACKMAX® program. Target transects were laid out based on sidescan interpretations and generally oriented across transitions between what was interpreted as sandy bottoms and potential rock outcrops or other identified features of interest. The entire hardbottom extended along the proposed pier alignment was diver investigated. This operation was integrated with the annual monitoring program.

A sub-surface investigation was conducted by a geotechnical sub-contractor at the edge of the beach to determine the substrate for the pier piles. The findings were similar to those found during the foundation investigation for the County garage. The top 28 feet consisted of various qualities of sand, with some rocks found at 18.5' below the surface (Appendix C).

Diver Investigation of Vanderbilt Pier (R-29) Alignment

After the sidescan survey was completed, the results were groundtruthed and a preliminary investigation was made of the marine resources along the possible pier alignment. The results confirmed the hardbottom edges shown on Figure 1 and in Appendix C. This operation also confirmed the gap within the hardbottom region proposed for the seaward terminating T-section. A description of the results follow:

The following photograph represents knobby star corals (*Solenastrea* sp.). These coral colonies are approximately 1-2' tall and are in good health. They occur roughly every 10 meters along the proposed pier location.

The following photograph is of a massive starlet coral (*Siderastrea* sp.). These corals form rounded domes along the bottom of the reef. They can grow to be 1' across.

The following photographs include two fish species that are commonly found within the proposed pier area, the sheepshead (*Archosargus probatocephalus*) and gray snappers (*Lutjanus griseus*).

The nearshore region in the vicinity of Vanderbilt Road access point has been monitored periodically since 2003 as part of the Collier County Beach Renourishment Project. The results of this investigation are summarized in Appendix G. The proposed pier location is next to FDEP Monument R-29. Diver transects were run in 2006 at R28+550 and R29+700. The hardbottom region in this area has between 41.4% and 79.9% average sediment coverage and between 43.3% and 15.9% macroalgae coverage, which can be seen in the photographs above.

The DVD accompanying this report contains a five minute segment of underwater digital video taken over the proposed Collier County pier alignment. The following indented items describe the major elements on the video clip:

> The transect tape in the video represents the vector line where the pier would be built. Use this tape as a reference as the video is shot from east to west, away from shore.
>
> The large, yellowish structures are hard coral formations. As seen in the video, this area contains some of the largest corals seen in the nearshore. These corals would mostly likely have to be carefully transplanted away from this area prior to the start of pier construction.
>
> The round, brownish structures along the bottom are also hard corals. These too may have to be transplanted or mitigated for.
>
> The area in the video shows mostly low to moderate relief (<2 ft), with the reef dominated by macroalgae cover.
>
> Several fish species are seen in the video. Most common are snappers and sheepshead, both of which are favorites of fishermen.

Natural Resource Management

The nearshore hardbottom contains a number of natural resources that require special management practices as part of the permitting and construction process. The permit application will need to identify the means of avoiding or minimizing impacts to the hardbottom resources, or where this is not practical, mitigate for any impacts. An environmental monitoring and mitigation plan will be prepared as part of the permit process. Since the hardbottom area is common to the pier and County beach nourishment projects, a joint monitoring and mitigation program may be feasible. The county has already constructed 1.1 acres of hardbottom mitigation, some or all of which might count towards mitigation of pier impacts.

The pier may directly impact the hardbottom habitat by causing a shadow over the habitat or by debris caused by driving pier piles during construction. Indirectly, fishing hooks, lines, sinkers and related debris may impact the habitat. The direct shadowing may extend to a region 1 to 4 times the pier width, which may call for mitigation up to 0.8 acre in conjunction with construction impacts. Mitigation of 0.8 acres will cost $800,000, if not offset by the existing reef. Relocation of corals can also mitigate for the impact, and would cost approximate $200,000 from within the pier shadow. The Uniform Mitigation Assessment Methodology (UMAM) calculation in conjunction consultation with permit agencies is required to determine the actual amount of mitigation required. A detailed inventory of individual corals is proposed as a basis for planning avoidance, minimization and mitigation of impacts. These costs are included in Table 2.

A summary of major environmental and permit issues is listed below.

Table 1
Environmental & Permitting Issue Summary

- Major permit Issues
  - Coral and hardbottom habitat for 380 feet of the pier route
  - Modifications of and construction over dunes
  - Concerns of neighbors

- No substantive comments received from permit agencies
  - Insufficient information developed at time of coordination
  - Insufficient time to review data provided to agencies

- Investigation Finding
  - Knobby star coral (1-2' height) every 10 meters (30 feet)
  - Starlet (up to 1' diameter) corals

- Permit considerations- strategy:

  Avoid – May not be possible or acceptable to County
  - Select another location-none suitable in County control

  Minimize –
  - Terminate T-section in hardbottom void
  - Map coral and position pier piles to avoid where feasible
  - Assign Fishing/no fishing zones by pier configuration

  Mitigate –
  - Transplant Large Coral
  - Mitigate for hardbottom impacts

- Permit Requirements/Restrictions
  - Building types restricted on state lands seaward of ECL
  - Special disposal of fish and other waste created on pier
  - Shading analysis

Schedule and Cost

Design, permitting and construction of this project will take between 36 and 42 months, if there are no major permit issues. Permitting could take up to two years based on recent experience with complex projects. Major complex issues are often brought up late during the permitting process. Construction will take about 2 weeks per pier pile bent, for a total time of at least 54 weeks, if the landward construction can be done simultaneously. Bid, award, and materials acquisition will take up the remaining 18 month construction window. The four phases and times of the project are summarized below.

Preliminary Design and Permitting Phase	6 months
Detailed Design Phase	6 months
Request for Additional Information (RAI) Phase	6-12 months
Construction Phase	18-months

Tables 2 and 3 are the construction and total project cost estimates based on the plan shown in Sheets 1-11. These estimates are preliminary and will be modified as the design and the environment becomes better defined. The construction cost estimate (Table 2) includes the cost of the pier, restaurant facility with foundation street work and landscaping. The total project cost estimate (Table 3) lists the design, permitting and engineering tasks required to implement the project. The list breaks the project down into four phases.

There are advantages to constructing the restaurant and restroom facility separate from the pier. The combined structure planning will have to progress at the speed of the slowest design and permitting process, which will be the pier. The restaurant and restroom facility can be permitted and built in a much shorter period of time. The second advantage is permitting. The pier will require a state JCP permit and a Federal permit. The facility will need a state CCCL permit, but no federal permit. Both will need building and zoning for the upland end of the structures. The pier is a civil structure while the facility is largely architectural. Their will be additional cost of separating the structures, but the speed of construction can be accelerated. The cost directly related to the facility (restaurant and restroom) design and construction are bolded on Tables 2 and 3. Common upland costs are assigned to the facility.

We propose that a permit without the detailed calculations and design be submitted with a request to submit the detailed design at a future date, once the site has been approved. This should reduce detailed design expenses that may be wasted should a change in site layout be called for.

The environmental cost will depend to a large part on the decisions made by the permit agencies. We have tried to anticipate these based on previous experience.

TABLE 2
VANDERBILT RECREATIONAL PIER WITH SMALL RESTAURANT CONSTRUCTION ESTIMATE

Item No	Item Description	Est. Qty	Unit	Unit Price	Price
1	Mobilization	1	LUMP SUM	$144,000	$144,000
2	New Concrete Beams - Fabrication & Installation (Incl. all incidental items such as concrete curbs, bearing pads, closure pours & sealer)				
2.1	Type A (20'long)	240	LF	$214	$51,360
2.2	Type B (40 long)	4,800	LF	$214	$1,027,200
3	New Prestressed Piles - Fabrication & Installation				
3.1	18" x 65' (101 EACH)	6,565	LF	$125	$820,625
4	PDA Testing	9	EACH	$4,200	$37,800
5	Pile Cap				
5.1	New Pile Caps - Fabrication & Installation (Incl. Secondary Casting & Sealer) (Incl. Light Bollards)	13	EACH	$21,080	$274,040
5.2	New Pile Cap Fishing Section (INCLUDE PIER NEAR RESTAURANT	15	EACH	$26,114	$391,710
5.3	New Pile Cap at Tee End	2	EACH	$56,633	$113,266
6	New Wood Railing & Decking (Incl. Hardware)				
6.1	Wood Railing	2,320	LF	$119	$276,080
6.2	3x6 Wood Decking	25,600	SF	$18	$460,800
6.3	Misc. Wood Blocking for Pile Caps	1	LUMP SUM	$13,000	$13,000
7	Canopies (Supply, Hardware & Installation)	4	EACH	$34,000	$136,000
8	Fish Cleaning Stations (Incl. Hardware & Plumbing)	3	EACH	$8,000	$24,000
	Scalise Marine FT 44 LF (4) leg fish cleaning station, or equal				
9	Misc. Lighting Repairs - Fixtures & Outlets	1	LUMP SUM	$180,000	$180,000
10	**Streets, Drainage, Landscaping and Access.**	**1**	**LUMP SUM**	**$150,000**	**$150,000**
11	**Restaurant, Office & Restroom Facilty w/Foundation**	**5,400**	**SF**	**$400**	**$2,160,000**
12	**Utilities**	**1**	**LUMP SUM**	**$50,000**	**$50,000**
	Pier Sub-total				$3,949,881
	Facility Sub-Total (Restaurant, Office, & Restrooms)				**$2,360,000**
	TOTAL ESTIMATE				**$6,309,881**

Bold cost are associated with the restaurant/restroom facility and site work at the street end.

TABLE 3
VANDERBILT RECREATIONAL PIER
PRELIMINARY TOTAL COST ESTIMATE

Phase	Task	Cost	Time (Months)
I. Preliminary Design and Permitting			6
	Coastal Wave & Water Level Study	$19,700	
	Detailed Marine Resource Mapping	$90,000	
	Dune and Beach Resource Mapping	$5,000	
	Construction and State Lands Survey	$25,000	
	Offshore Borings and Geotechnical Report	$21,600	
	Develop Site Plan and Permit Sketches	$18,000	
	Prepare & Submit Permit Application (1)		
	Technical	$20,000	
	Marine Sciences	$10,000	
	County	$5,000	
II. Detailed Design			6
	Receive Initial Permit Agency Guidance & Questions	$0	
	Wave Force and Pier Impact Analysis	$48,300	
	Pier Structural Design	$147,000	
	Facilty Foundation Design	**$49,000**	
	Design of Facilty (Restaurant, Office & Restrooms)	**$89,000**	
	Streets, Drainage & Landscaping Design	**$12,000**	
	Site Utilities	**$20,000**	
	CCCL Permit	**$12,000**	
	Prime	$15,000	
III. Response to Agency Request for Additional Information			6-12
	RAI Cycle (3 Times)	$60,000	
	Prepare and Submit Plans & Specifications	$30,000	
	Submit Detailed Design and Calculations to FDEP	$10,000	
	County Building & Zoning	**$5,000**	
	Prepare Environmental Monitoring & Mitigation Plan	$10,000	
	Prepare Addition Studies or Documents (EA/EIS) as Needed	TBD	
IV. Construction			
	Bid and Award	$20,000	18
	Pier Construction	$3,949,881	
	Facility Construction	**$2,360,000**	
	Construction Management Pier Structural	$82,500	
	Facility Foundation	**$41,250**	
	Architectural	**$54,000**	
	Civil & Landscape	**$7,500**	
	Prime-Coastal	$51,823	
	Construct or Implement Mitigation Plan		
	Construct Mitigation	$800,000	
	Relocate Coral	$200,000	
	Monitoring Pre-Construction	$50,000	
	During-Construction (monthly)	$150,000	
	Post-Construction	$50,000	
V. Separate Project Permit and Construction Supplement		**$100,000**	
Pier Sub-total		$5,938,804	
Facility (Restaurant, Office & Restrooms)		**$2,699,750**	
TOTAL		$8,638,554	36-42

Note: Item II and III will have some time overlap
Bold cost are associated with the restaurant/restroom facility and site work at the street end.

Special Pier Features

A number of special features have been integrated into the feasibility level design shown in Sheets 1-11. During the study, features from a wide variety of piers where investigated to assist in formulating the select design. Examples of pier layouts, shade canopies, pier buildings and restaurants are provided in Appendix G. The pier has been designed to appeal to both fishermen and non-fisherman. Nooks protruding out from the pier have been included to serve the fishermen, while covered pier areas are created for those who just want to observe nature. The alternating covered and uncovered areas create areas for the public without the intrusion of fishermen. The photograph of Juno Pier from Florida's east coast illustrates some of these features.

Photograph 4. Juno Pier, Palm Beach County Florida

Conclusions

The construction of a pier at the Vanderbilt Beach access point is feasible, based on the preliminary investigation conducted for this study. Permitting of a long pier will depend on developing a monitoring and mitigation program acceptable to the permit agencies. The pier design and permitting should begin with an effort to seek site approval before moving to a detailed design phase.

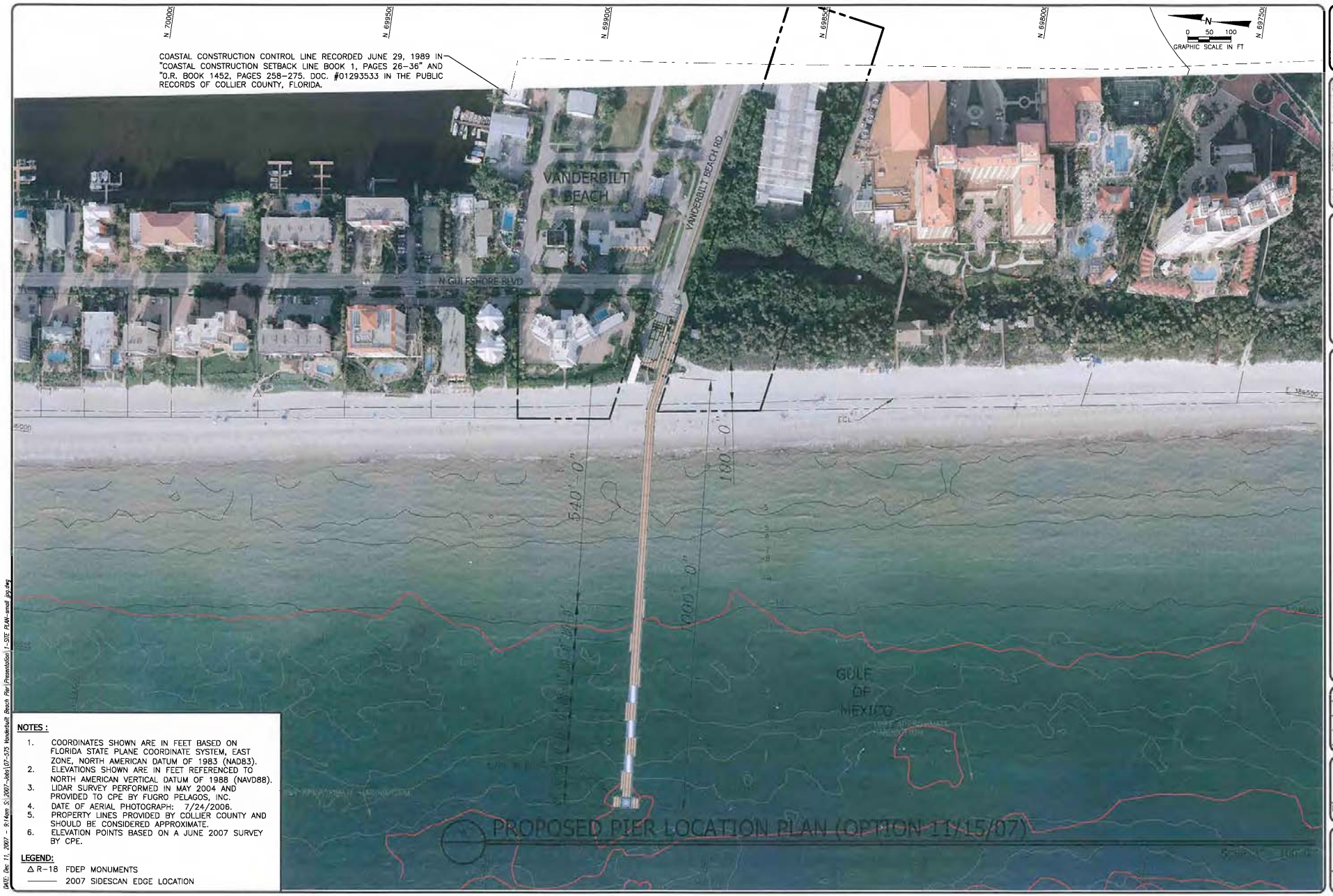
References

Coastal Planning & Engineering, Inc., Collier County Beach Renourishment Project One Year Post-Construction Engineering Report, October 2007.

Makowski, C., and Kruempel, C., 2006. Collier County Beach Renourishment Project: 2006 Post-Construction Environmental Monitoring Report. Boca Raton, Florida: Coastal Planning & Engineering, Inc. (Prepared for Collier County, Florida and FDEP).

P:\Collier\8500.47 Pier\Vanderbilt Pier Study 122007.doc

PLAN SHEETS 1-11



NOTES :

1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. ELEVATIONS SHOWN ARE IN FEET REFERENCED TO NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).
3. LIDAR SURVEY PERFORMED IN MAY 2004 AND PROVIDED TO CPE BY FUGRO PELAGOS, INC.
4. DATE OF AERIAL PHOTOGRAPH: 7/24/2006.
5. PROPERTY LINES PROVIDED BY COLLIER COUNTY AND SHOULD BE CONSIDERED APPROXIMATE.
6. ELEVATION POINTS BASED ON A JUNE 2007 SURVEY BY CPE.

LEGEND:

△ R-18 FDEP MONUMENTS

——— 2007 SIDESCAN EDGE LOCATION

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE

BRIDGE DESIGN ASSOCIATES, INC.

Proposed Recreational Pier

Vanderbilt Pier

Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SHEET

PROJECT No. 07-575

DATE: Dec 11, 2007 - 9:14am S:\2007-Jobs\07-575 Vanderbilt Beach Pier\Presentation\1-SITE PLAN-small jpg.dwg

VERIFY SCALE

1"

BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

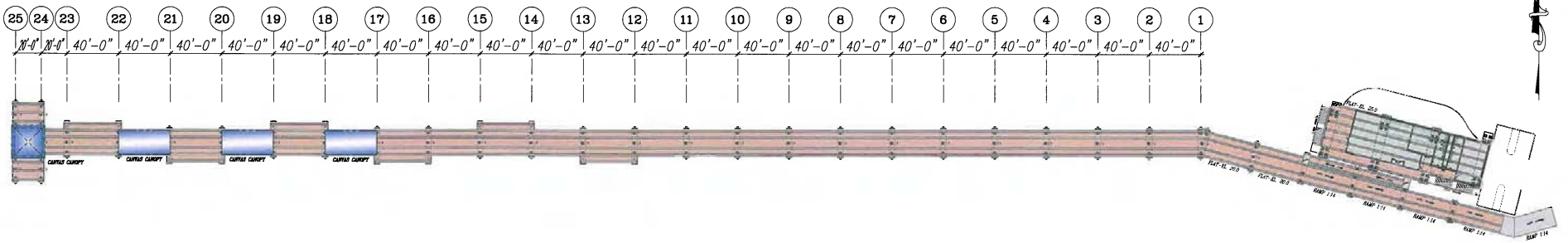
DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38797

SHEET

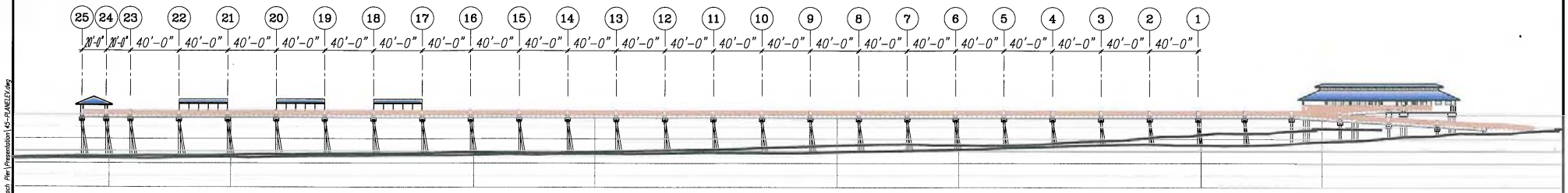
PROJECT NO. 07-575


Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida
BRIDGE DESIGN ASSOCIATES, INC.
CONSULTING ENGINEERS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.
NO.
REVISION
DATE
BY
AS NOTED
FLAT-EL 25.0
FLAT-EL. 20.0
RAMP 1:14
DOWN
100'-0"
PARTIAL PROPOSED RESTAURANT LOCATION
DATE: Dec 11, 2007 - 9:51am S:\2007-Jobs\07-575 Vanderbilt Beach Pier\Presentation\3-PARTIAL RESTAURANT PLAN-small



A PROPOSED PIER PLAN (OPTION 11/15/07)

Scale: 1" = 40'-0"



B PROPOSED PIER ELEVATION (OPTION 11/15/07)

Scale: 1" = 40'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
3035 Vista Parkway, Suite 700, West Palm Beach, FL 33411
Tel. (561) 689-3660 Fax (561) 686-3684
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4357

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN	C.A.B.
CHECKED	B.C.R.
DATE	11/15/07
SCALE	AS NOTED

SEAL
Brian C. Rheault-38797
FLORIDA P.E. NAME & NUMBER

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PROJECT NO.

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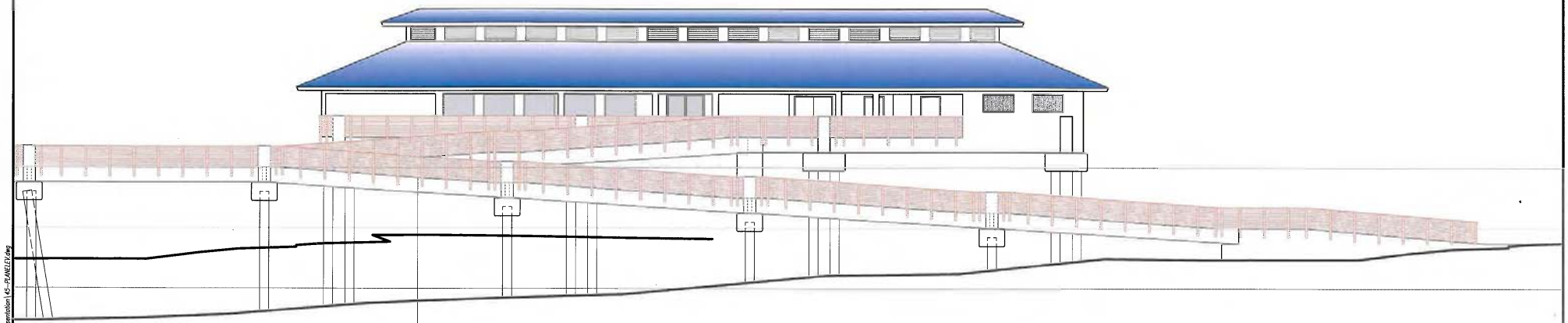

A PROPOSED SOUTH RESTAURANT ELEVATION (OPTION 11/15/07)

Scale: 1/8" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
2035 Vista Parkway, Suite 200, West Palm Beach, FL 33411
Tel. (561) 686-3600 Fax (561) 686-3644
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4952

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN	C.A.B.
CHECKED	B.C.R.
DATE	11/15/07
SCALE	AS NOTED

SEAL
Brian C. Rheoult-38797
FLORIDA P.E. NAME & NUMBER

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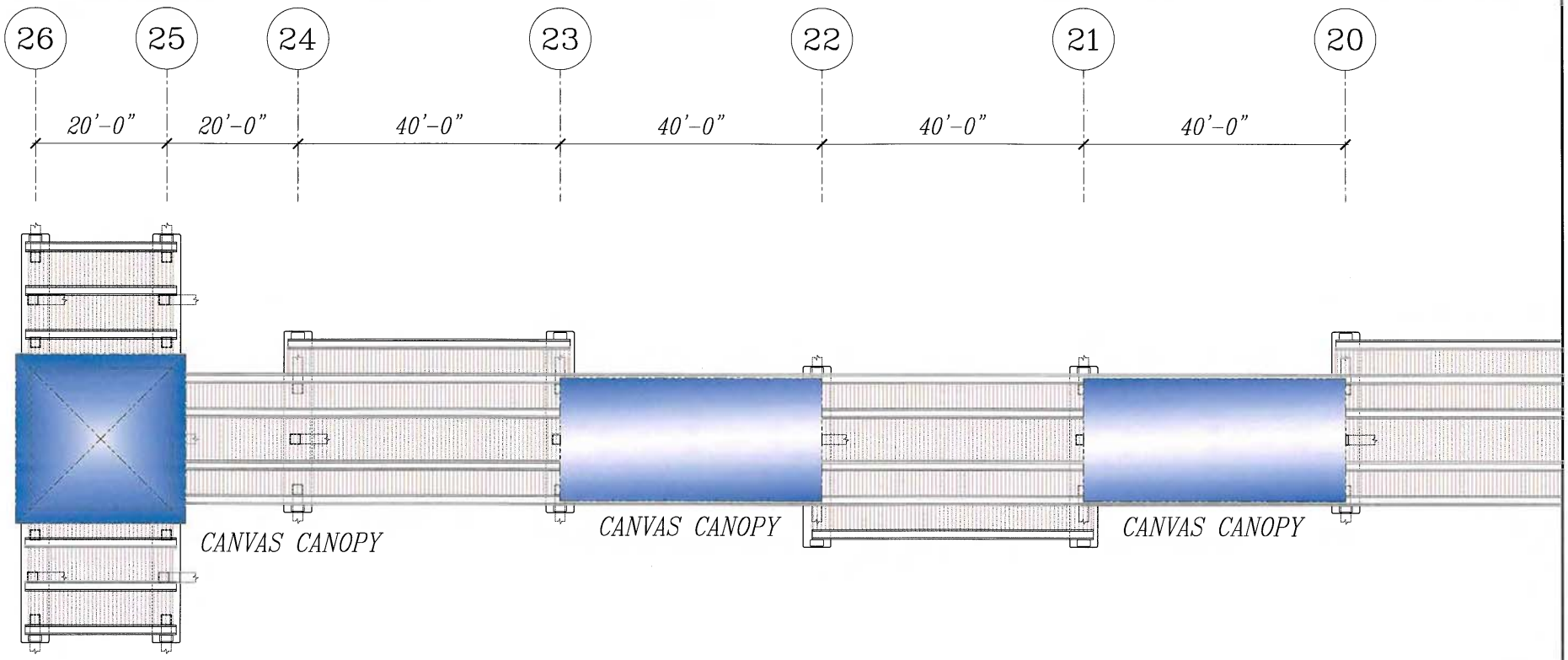

A PROPOSED PARTIAL PIER TEE END PLAN (OPTION 11/15/07)

Scale: 1/8" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
2035 Vista Parkway, Suite 200, West Palm Beach, FL 33411
Tel. (561) 686-3555 Fax (561) 686-3554
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4959

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38787
FLORIDA P.E. NAME & NUMBER

SHEET C5
PROJECT No.

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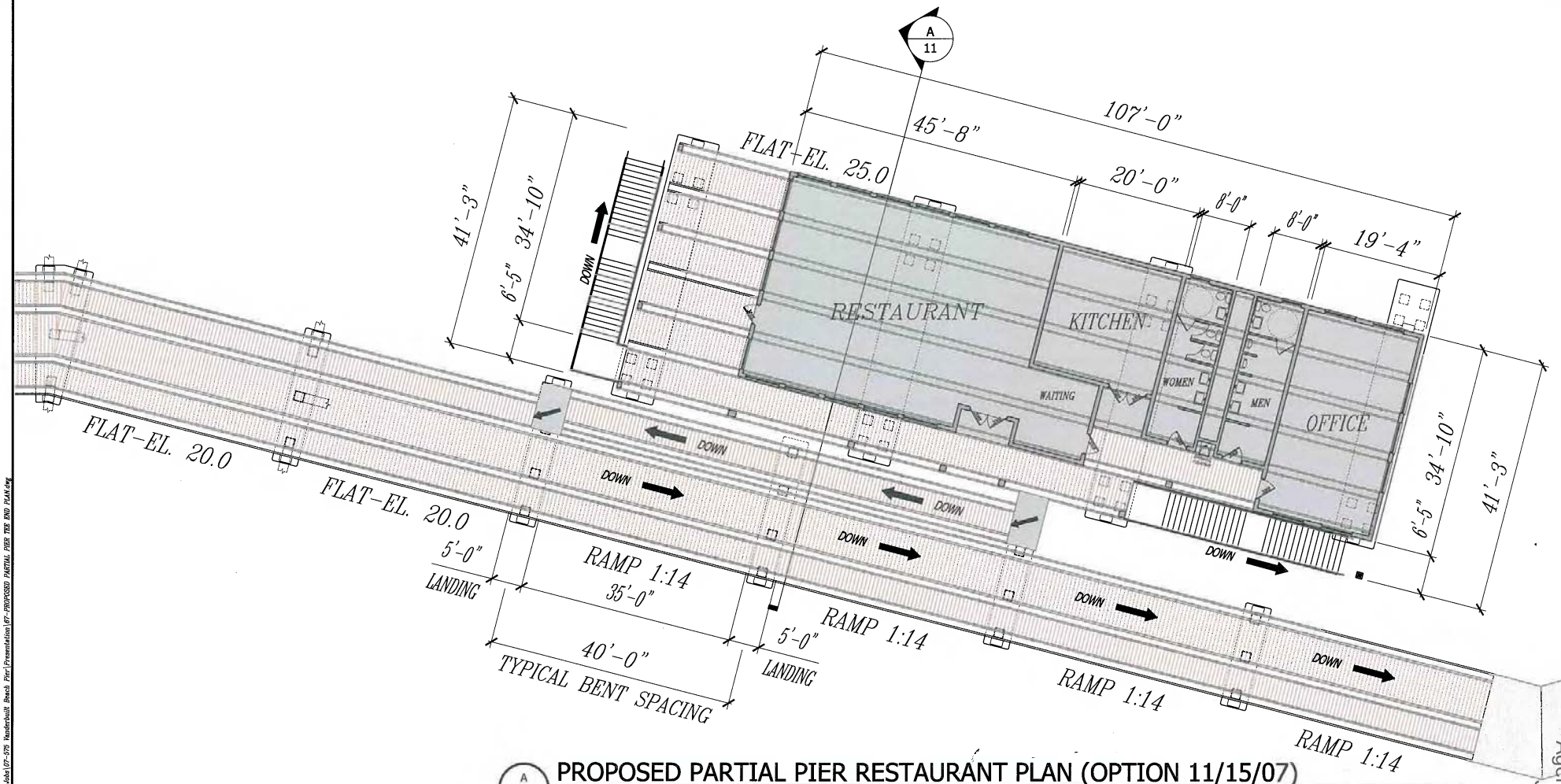

A PROPOSED PARTIAL PIER RESTAURANT PLAN (OPTION 11/15/07)

Scale: 1/8" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
3035 Vista Parkway, Suite 200, West Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 686-3664
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4939

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38767
FLORIDA P.E. NAME & NUMBER

SHEET NO. 1 OF 1
PROJECT NO.

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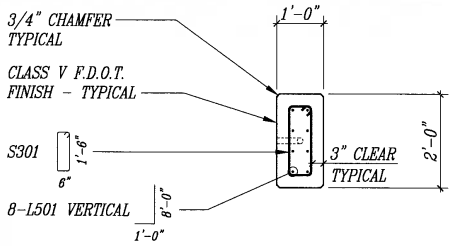

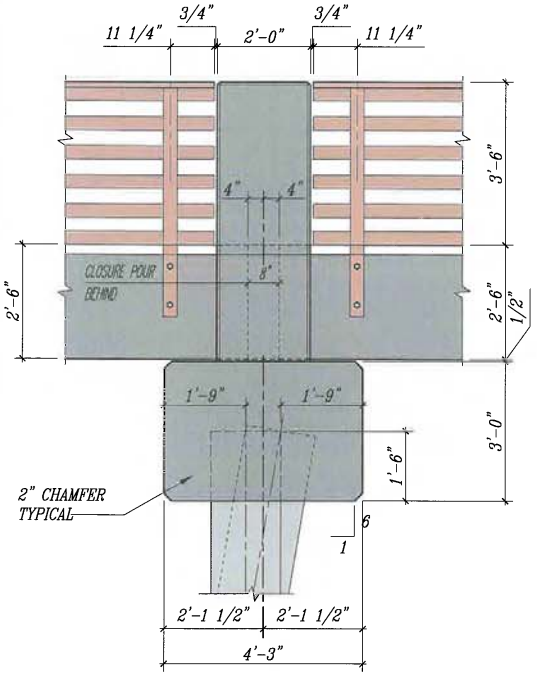

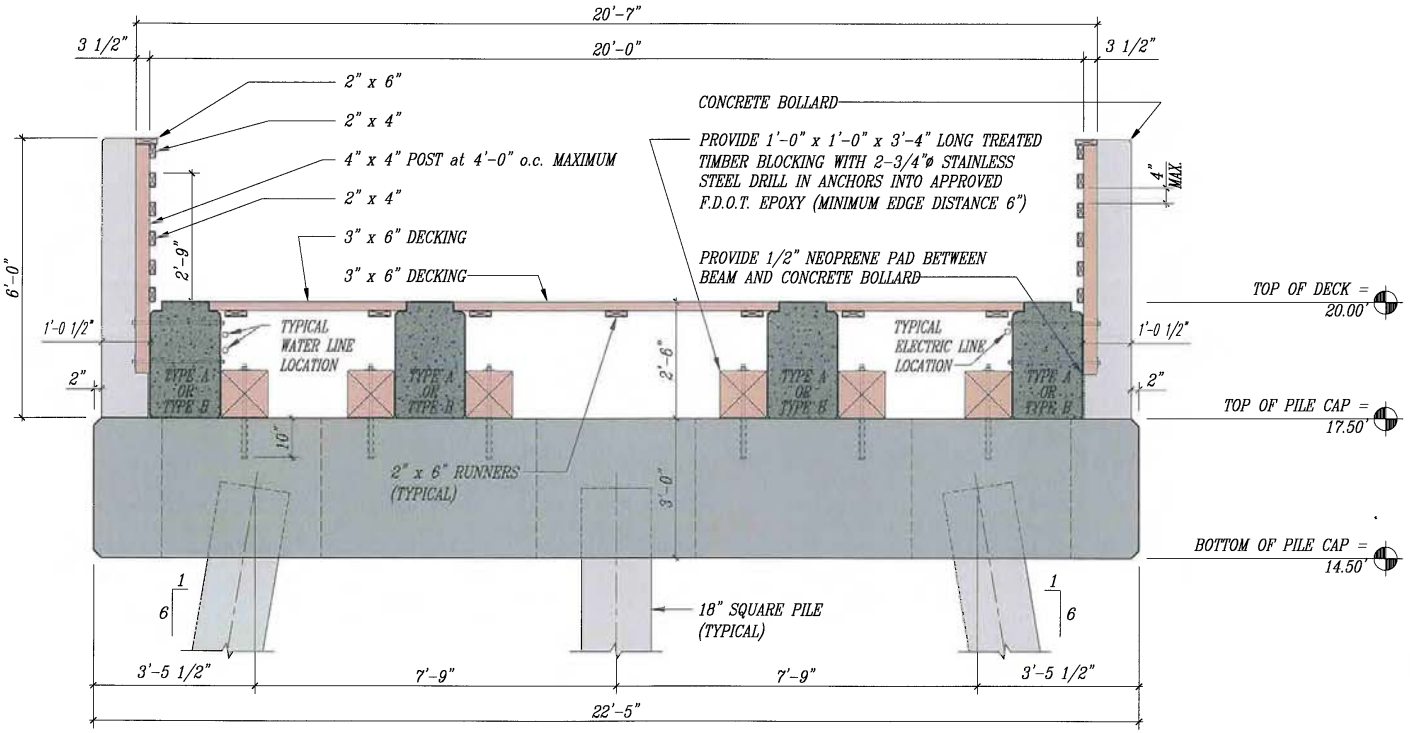

PROVIDE SLEEVE THROUGH BEAM CLOSURE POURS FOR ELECTRICAL TO BOLLARDS.

B PROPOSED BOLLARD ELEVATION

Scale: 3/4" = 1'-0"

A PROPOSED TYPICAL PIER SECTION

Scale: 3/4" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
3035 Vista Parkway, Suite 100, West Palm Beach, FL 33411
Tel. (561) 686-3480 Fax (561) 686-3864
CONSULTING ENGINEERS
FLORIDA E.B. NO. 4852

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38797
FLORIDA P.E. NAME & NUMBER

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PROJECT NO:

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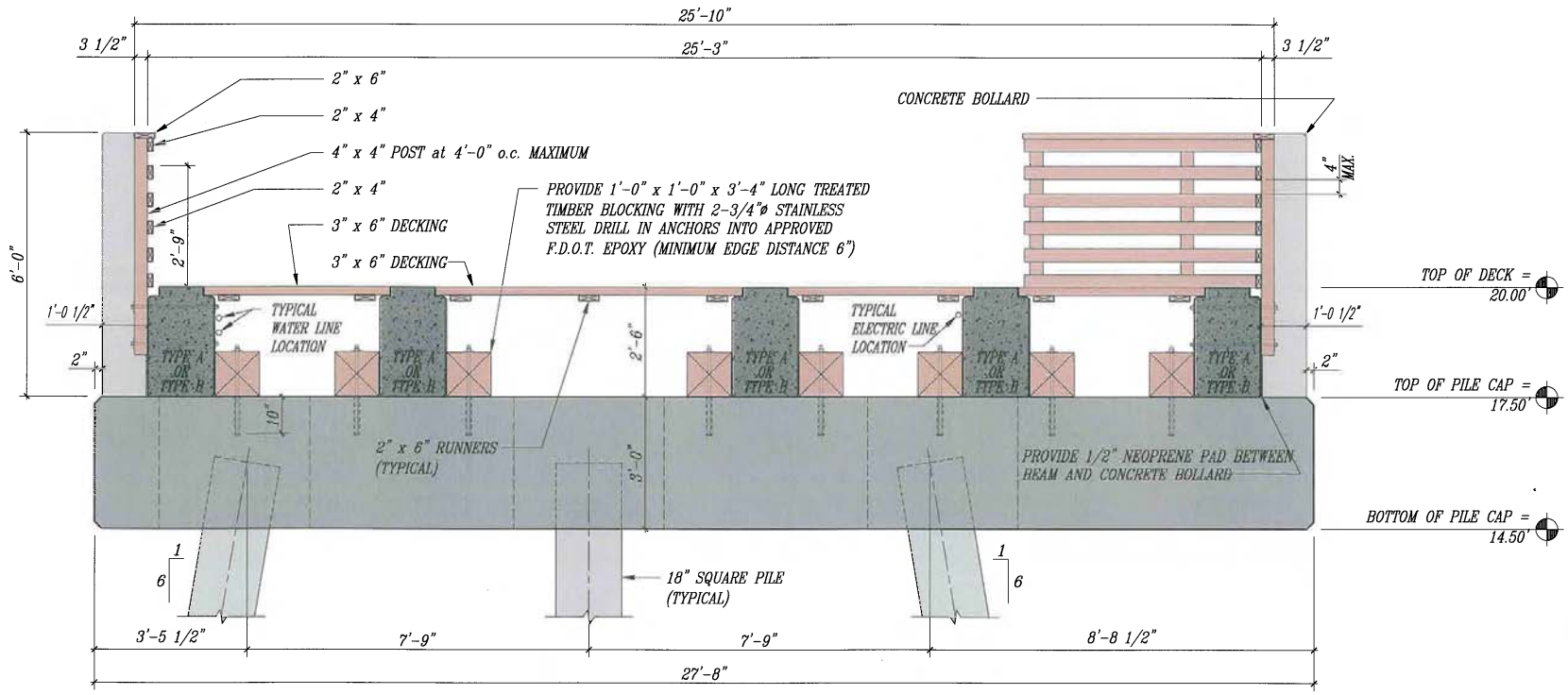

PROVIDE SLEEVE THROUGH BEAM CLOSURE POURS FOR ELECTRICAL TO BOLLARDS.

A PROPOSED CANTILEVERED FISHING PIER SECTION

Scale: 3/4" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
3030 Vista Parkway, Suite 200, West Palm Beach, FL 33411
Tel. (561) 686-3460 Fax (561) 686-3464
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4852

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38797
FLORIDA P.E. NAME & NUMBER

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PROJECT NO.

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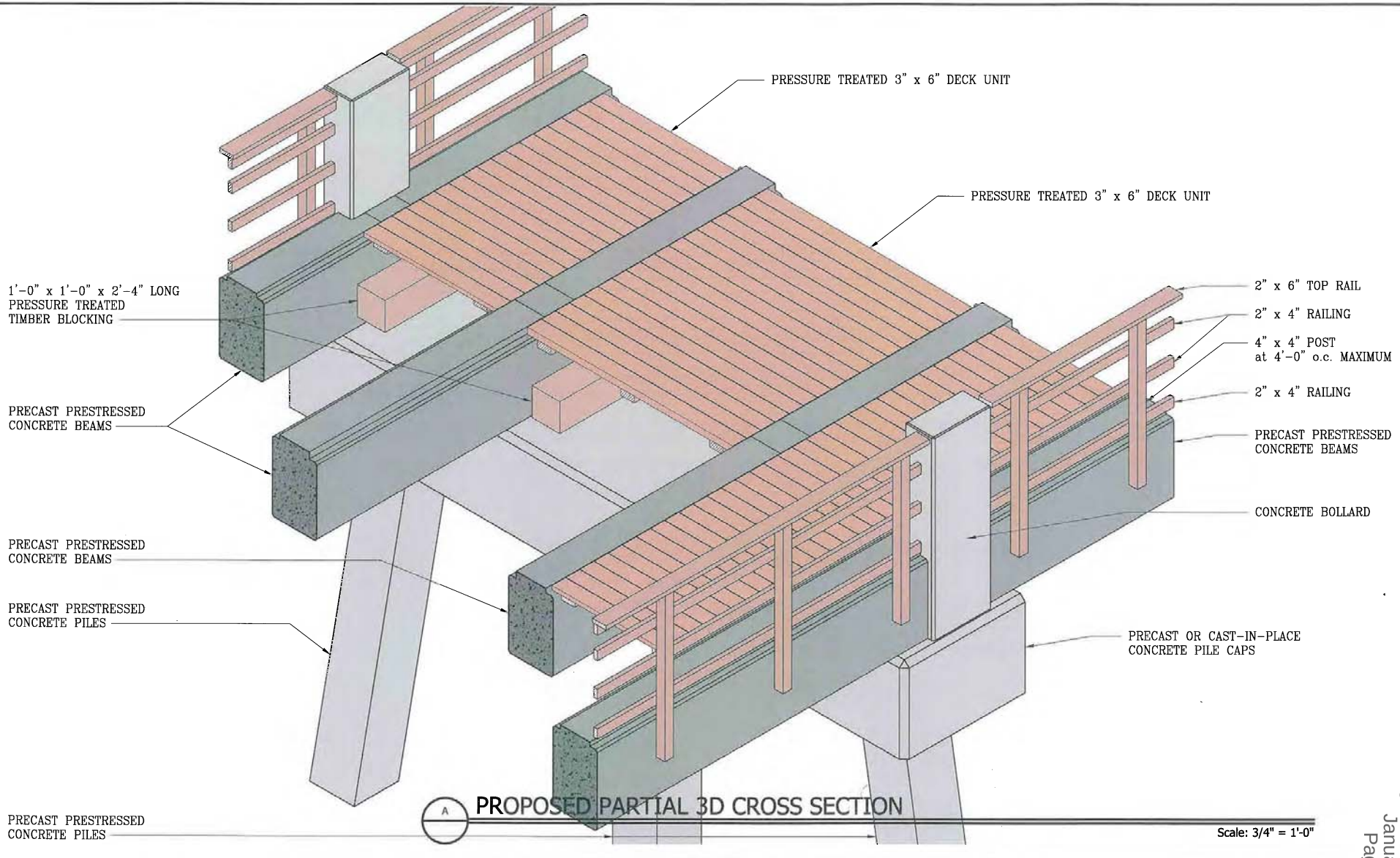

A PROPOSED PARTIAL 3D CROSS SECTION

Scale: 3/4" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
2035 Vista Parkway, Suite 200, West Palm Beach, FL 33411
Tel. (561) 686-3660 Fax (561) 686-3664
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4932

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN C.A.B.
CHECKED B.C.R.
DATE 11/15/07
SCALE AS NOTED

SEAL
Brian C. Rheault-38797
FLORIDA P.E. NAME & NUMBER

SHEET 1 OF 1
PROJECT NO.

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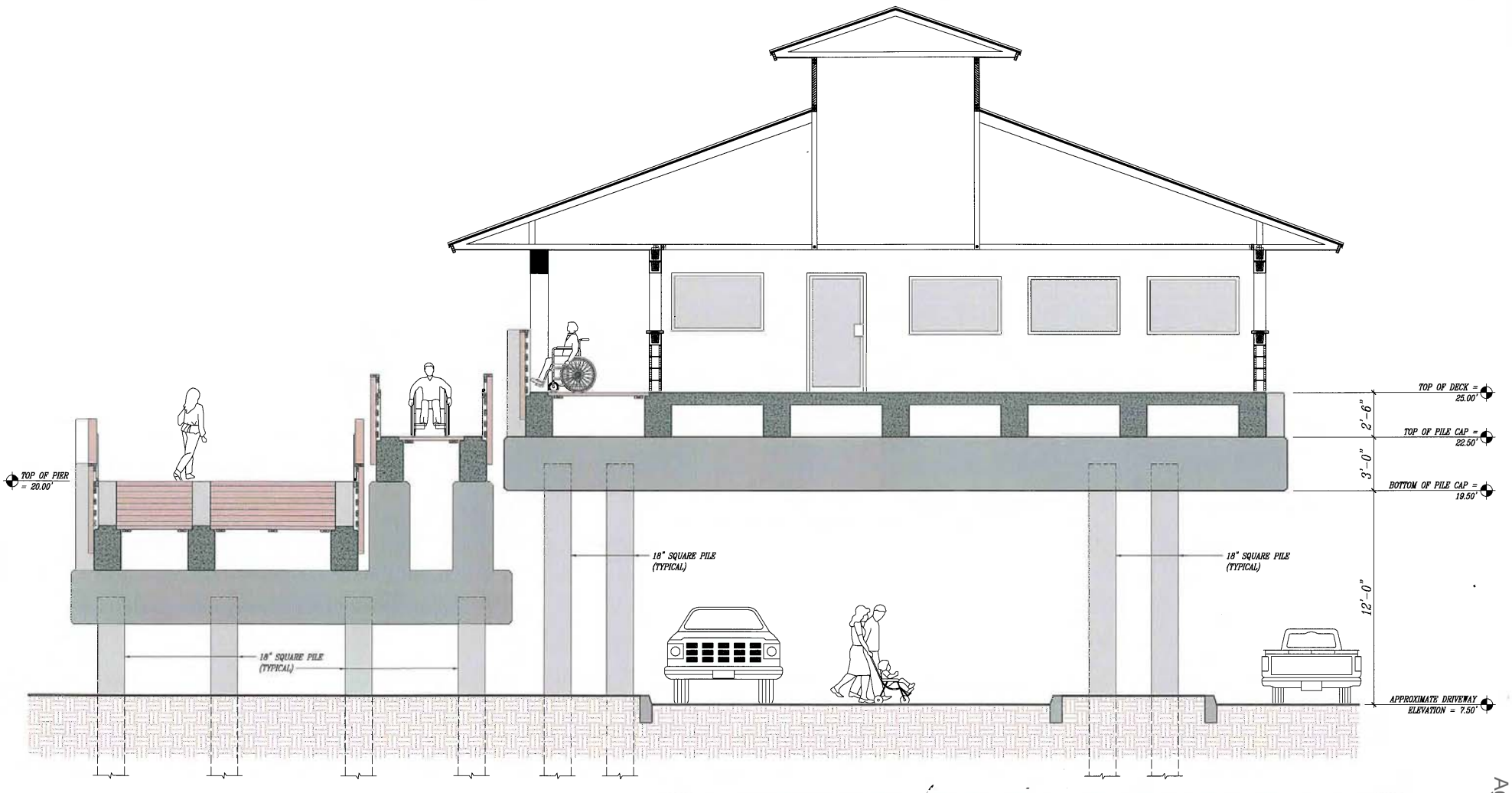

A PROPOSED TRANSVERSE OFFICE SECTION (OPTION 11/15/07)

Scale: 1/2" = 1'-0"

VERIFY SCALE
1"
BAR IS ONE INCH ON ORIGINAL DRAWINGS. ADJUST SCALES AS NECESSARY.

NO.	REVISION	DATE	BY

BRIDGE DESIGN ASSOCIATES, INC.
2035 Vista Parkway, Suite 220, West Palm Beach, FL 33411
Tel. (561) 686-3600 Fax (561) 686-3644
CONSULTING ENGINEERS
FLORIDA C.A. NO. 4934

Proposed Recreational Pier
Vanderbilt Pier
Collier County, Florida

DRAWN	C.A.B.
CHECKED	B.C.R.
DATE	11/15/07
SCALE	AS NOTED

SEAL

Brian C. Rheault-38797
FLORIDA P.E. NAME & NUMBER

SHEET NO. 1 OF 1
PROJECT NO.

DATE: Nov 21, 2007 - 2:04pm S:\2007-Jobs\07-376 Vanderbilt Beach Pier\Presentation\11-15ST- TRANSVERSE-SECTION.dwg

APPENDIX A

VANDERBILT PIER PRE-PERMIT APPLICATION MEETING

Conference Report

Date: July 6, 2007
Location: FDEP Conference Room, Tallahassee, FL
Subject: Vanderbilt Pier Pre-Application Meeting

Participants: FDEP: Martin Seeling, Jamie Christoff, Ralph Clark
Collier County: Gary McAlpin
CPE: Steve Keehn

The FDEP indicated that the following issues need to be addressed during the permit process.

The County is considering dividing the pier into fishing and observation zone, and has not yet decided on an entrance fee. The latter may impact whether the State sovereign lands lease has an annual fee. The deciding point is between whether fees are revenue generating or just for maintenance. County will prepare an operations plan.

Lighting will need to conform to sea turtle guidelines. A shading analysis of the Gulf bottom is required.

The design and permit application must address sinks, garbage and water disposal, along with other utilities. Fish cleaning may create BOD impacts. Fish carcasses can harm feeding birds. Disposal by grinding, downfall pipeline below water level or other methods should be identified. Trash collection, monofilament recycling and other matters addressed. Address construction debris.

Pier construction not prohibited over hardbottom habitat, but agency will look at impacts –avoid, minimize, mitigate. Annual clean-up around pier reduces impacts.

The bottom will be videoed before and after construction. Secondary impacts due to fishing and construction must be considered. Annual clean-up part of plan.

Shading will affect algal and stony corals. Relocation of colonies may need to be considered, but a reef for mitigation is not required. Ralph Clark has a list of calculations needed (attached).

The lease required by the State for a pier is addressed in Rule 1821. All structures on pier (seaward of ECL) must be water dependent, i.e. no casino/gift shops/restaurants. Bait shops are marginally acceptable. A legal survey will be required, with names and addresses of owners within 1,000 feet.

The State design criteria for the pier is the 20 year storm and Florida building codes. Address design forces and structural design/uplift forces. Goal 1-year completion time.

State lease must be signed and returned to FDEP before a NTP is issued. County must specify whether they want short or long term lease.

The County will need to coordinate with FWS, NMFS, FWC, FWRI, Vladimir from FDEP and Office of Aquatic Preserves. Leslie Greg may be the POC from FWC.

Address disposal of bio four/BOD material.

Position concession on north side, so prevailing winds are at their back.

Permit application must address affects on shoreline caused by pier. Does it impact hardbottom?

Plan must include methods to recover injured birds/mammals/pelicans. Spill and emergency response plan (sewage) needed. May have to address impervious surface and storm water impacts – how disposed.

Pier will be suitable for forklift, golf carts or other light vehicles for servicing and emergencies.

Local building permits.

ENCL

- FDEP memo December 29, 2006
  Subject: Panama City Pier – Design Computations
- Standard Pier Permit Conditions from FDEP

p:\collier\8500.47\conference report

Steve Keehn

From: McAlpinGary [GaryMcAlpin@colliergov.net]
Sent: Tuesday, July 10, 2007 11:29 AM
To: Steve Keehn
Cc: Bridgebbd@aol.com; ramsey_m
Subject: RE: Vanderbilt Beach Pier Location

Steve,

Thank you. Before we set the location, we will need to look at the required elevation and access to that pier elevation by the public. Tied in will also be the proposed restroom rebuild and location of the ECL. I would like to keep the restrooms east of the ECL if possible but at the same elevation as the pier accessible with ramps from Gulf Shore drive. I believe that the county owns 340 ft of access between R29+000 on the north to R29+340 to the south. A survey can confirm the points. I took them off GIS.

Additionally, some other thoughts:

- The pier should be between 950 and 1,000 feet long with a Tee at the end. What are your thoughts on the length of the Tee?
- Width of the pier should accommodate emergency vehicles.
- Open Air Gazebo's for shade and to encourage sitting. One at the end for sure. The Naples pier has two and I don't want to appear to be copying their design so, we are open for suggestions for the other locations.
- Water available on the pier at various locations.
- We want to encourage sitting and enjoying the sunset and want portions of the pier off limit for fishing.
- Benches along both sides of the pier and in the Gazebo areas.
- Commissioner Halas wants to have 3 foot extension on the side of the pier for fishing. My thoughts are that they might be 3'X8' spaced along the outside.
- The restroom facility should also include a small shop, a bait sales area, a snack bar and an area to sell drinks, along with a manager's office.
- All lighting needs to be turtle friendly with shields

Height, public access and the location of the ECL will determine the layout. Let's start working on some rough concepts now. I would like to have some concept sketches to share with key individuals when the Board gets back in session in early September. That means that want to have worked it with my management prior to the fact.

Gary

From: Steve Keehn [mailto:Skeehn@coastalplanning.net]
Sent: Tuesday, July 10, 2007 8:45 AM
To: McAlpinGary
Cc: Bridgebbd@aol.com
Subject: Vanderbilt Beach Pier Location

Attached is a pdf drawing of the proposed pier location for your use.

Stephen Keehn PE
Senior Coastal Engineer
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Blvd., Boca Raton, Fl 33431
Phone 561-391-8102 (Fax 9116)
Mobile 561-441-5499
skeehn@coastalplanning.net

Telephone Conference Report

Date: June 27, 2007
Participants: Gary McAlpin, Steve Keehn
Subject: Vanderbilt Pier Guidance

- FDEP Meeting scheduled for July 10th (6th).

The following guidance was provided by Gary on the pier:

- The County wants pier length similar to Naples. A 500' pier is unacceptable.
- Restroom needs to be rebuilt to FEMA standards – 19 feet above MHW.
- The pier deck should have a gazebo at Gulf end and center, with a little T-section on the end.
- A 20 foot wide pier with fishing nook (3'x6') every 50 feet is desired.
- The pier deck should have room and rated for emergency vehicle for the length of the pier.
- Consider a refreshment stand/bait shop with appropriate facilitates at end of pier.
- Benches will be placed along pier.
- Design transition to beach access and parking garage.
- Possible topics:
  Lighting
  24 Hour Operations
  Public Benefit
  Species Relocation

p:\collier\8500.47\telephone conference report

Telephone Conference Report

Date: July 17, 2007
Participants: Gary McAlpin, Collier County
Subject: Vanderbilt Pier

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1. Locate restrooms and bar on pier landward of ECL with bait shop, snack bar and manager's office.

2. Turn key design.
   Coastal, structural and arch details.

3. Friday – Definition
   Design – Build

4. Looking for layout – rendering.

5. Reef and hardbottom – concerns from agencies. Get any controversy out now.

6. Gazebo at end and middle of pier. Benches at strategic locations.

7. Elevations beach/pier.

8. Similar to Juno Pier.

p:\collier\8500.47\telephone conference report 7-19-07

Clark, Ralph

From: Clark, Ralph
Sent: Friday, December 29, 2006 11:19 AM
To: 'Dave Hemphill'
Cc: Christoff, Jamie; Seeling, Martin; Brantly, Robert
Subject: Panama City Pier - Design Computations

Dave:

Per our discussions, the following additional information is what I will be requesting during our engineering review of the Panama City Pier application for a Joint Coastal Permit. The JCP application does not explicitly state this information, and this design information will be necessary for a coastal engineering and structural review of the structure in order to determine design adequacy for a 20-year storm event, which is the Department's standard for ocean piers. During my initial review of the application, I may raise additional questions based upon the information submitted, but I wanted to let you know up front that I will need the following design computations.

1. Design wave height computations.
2. Design wave load computations.
3. Structural design computations using the design wave loads.
4. Design erosion and scour computations for profile changes due to a 20-year storm event.
5. Geotechnical analysis.
6. Pile tip elevations (not shown in the preliminary plans you provided me).
7. Computations for pile breakout resistance and design of pile tip elevations showing connectivity to the storm tide, wave loads, and soil conditions.

Should you have any questions, please let me know.

Ralph Clark

STANDARD PIER PERMIT CONDITIONS

(1) The following standard permit conditions shall apply to this permit unless waived by the Department or modified by special permit condition: In the event of a conflict between a standard condition and a special condition the special condition shall prevail.

(a) The permittee shall carry out the construction or activity for which the permit was granted in accordance with the plans and specifications which were approved by the Department as part of the permit. Any deviation therefrom, without written approval from the Bureau, shall be grounds for suspension of the work and revocation of the permit pursuant to Section 120.60(7), Florida Statutes, and may result in assessment of civil fines or issuance of an order to alter or remove the unauthorized structure, or both. No other construction or activities shall be conducted. No modifications to project size, location, or structural design are authorized without prior written approval from the Department. A copy of the permit, notice to proceed, approved plans, any modifications, time extensions, or permit transfers shall be conspicuously displayed at the project site.

(b) The permittee shall conduct the construction or activity authorized under the permit using extreme care to prevent any adverse impacts to the beach and dune system, marine turtles, nests and their habitat or adjacent property and structures.

(c) The permittee shall allow any duly authorized member of the staff to enter upon the premises associated with the project authorized by the permit for the purpose of ascertaining compliance with the terms of the permit and with the rules of the Department, until all construction or activities authorized or required in the permit have been completed, and all reports, certifications, or other documentation of project performance are received and accepted by the Department.

(d) The permittee shall hold and save the State of Florida, the Department, its officers and employees, harmless from any damage, no matter how occasioned and no matter what the amount, to persons or property which might result from the construction or activity authorized under the permit and from any and all claims and judgements resulting from such damage.

(e) The permittee shall allow the Department to use all records, notes, monitoring data and other information relating to construction or any activity under the permit, which are submitted, for any purpose it may deem necessary or convenient, except where such use is otherwise specifically forbidden by law.

(f) The permittee shall not disturb existing beach and dune topography and vegetation except as expressly authorized in the permit. Before the project is considered complete, any disturbed topography or vegetation shall be restored as prescribed in the permit, with suitable fill material or revegetated with appropriate beach and dune vegetation.

(g) All fill material placed seaward of the control line shall be sand which is similar to that already existing on the site in both coloration and grain size. All such fill material shall be free of construction debris, rocks, clay, or other foreign matter, shall be obtained from a source landward of the coastal construction control line or from a source authorized pursuant to Section 161.041, Florida Statutes and shall, in general, not contain greater than 5 percent fines (passing the #200 sieve) or gravel exclusive of shell material (retained by the #4 sieve) and be free of coarse gravel or cobbles.

(h) If surplus sand fill results from any approved excavation seaward of the control line, such material shall be distributed seaward of the control line on the site, as directed by the Bureau staff, unless otherwise specifically authorized by the permit.

(i) Any native salt resistant vegetation destroyed during construction shall be replaced with plants of the same species or, by authorization of the Bureau, with other native salt-resistant vegetation suitable for beach and

dune stabilization. Unless otherwise specifically authorized by the staff, all plants installed in beach and coastal areas - whether to replace vegetation displaced, damaged, or destroyed during construction or otherwise - shall be of species indigenous to Florida beaches and dunes, such as sea oats, sea grape, saw palmetto, panic grass, saltmeadow hay cordgrass, seashore saltgrass, and railroad vine.

(j) All topographic restoration and revegetation work is subject to approval and acceptance by the Department staff, and the status of restoration shall be reported as part of the final certification of the actual work performed.

(k) This permit has been issued to a specified property owner and is not valid for any other person unless formally transferred. An applicant requesting transfer of a permit shall sign two copies of the permit transfer agreement form, agreeing to comply with all terms and conditions of the permit, and return both copies to the Bureau. No work may proceed under the permit until a copy of the transfer agreement approved by the Department has been received by the new owner. A copy of the transfer agreement shall be displayed on the construction site along with the permit. An expired permit may not be transferred.

(l) The permittee shall immediately inform the Bureau of any change of mailing address of the permittee and authorized agent until all requirements of the permit are met.

(m) The permittee shall provide periodic progress reports certified by an engineer or architect (as appropriate due to the nature of the project) registered in the State of Florida on the form "Periodic Report" - DEP Form 73-111 (Revised 1-85) to the Bureau. The reports shall be submitted on a monthly basis beginning at the start of construction and continuing until all work has been completed. The engineer or architect shall certify that all construction as of the date of each report has been performed in compliance with the plans and the project description approved as a part of the permit, and with all conditions of the permit, or shall specify any deviation from the plans, project description or conditions of the permit. The report shall also state the percent of completion of the project and each major individual component.

(n) All construction on the permitted structure shall stop when the foundation pilings have been installed. At that time the permittee shall provide a certification by a professional land surveyor registered pursuant to Chapter 472, Florida Statutes, that all aspects of the location, and all elevations of the foundation construction are in accordance with both the plans and the project description approved by the Department of Environmental Protection as part of the permit. This certification shall be on a form "Foundation Location Certification" - DEP Form 73-114 (Revised 1-85), hereby incorporated by reference and attached hereto. The foundation location certification shall be based upon such surveys performed in accordance with Chapter 472, Florida Statutes, as are necessary to determine the actual elevations, configuration, and the dimensioned relationship of the installed pilings to the control line. This certification shall also specify the actual pile tip and pile head elevations and any grade beam or cap elevations. Any deviation from the foundation location and elevations as permitted shall be clearly noted and described in detail as part of the certification. Construction shall stop and the certification shall be submitted and accepted prior to proceeding with further vertical construction. The Bureau shall notify the permittee of approval or rejection of the certification within fourteen (14) working days after staff receipt of the certification. All survey information upon which the certification is based shall be made available to the Bureau upon request

(o) The permittee shall provide the Department with a final report certified by an engineer or architect registered in the State of Florida within thirty (30) days following completion of the work. This certification shall state that: all locations and elevations specified by the permit have been verified; that all major structures are specifically constructed in accordance with Section 62B-33.007(5), Florida Administrative Code; other construction and activities authorized by the permit have been performed in compliance with the plans and project description approved as a part of the permit, and all conditions of the permit; or shall describe any deviations from the approved plans, project description or permit conditions and any work not performed. Such certification shall not relieve the permittee of the provisions of (1)(a) above. If none of the permitted work is performed, the permittee shall inform

the Department in writing no later than 30 days following expiration of the permit. The final certification shall be on the form "Final Certification" DEP Form 73-115B (Revised 1-85).

(2) The permittee agrees to provide free access on or about the pier to department employees for the purpose of conducting observations or data acquisition. Sufficient space shall be provided for the installation and maintenance of scientific instrumentation such as those used to record tides, waves, sediment, temperature, turbidity, water quality, meteorology, hydrology, and hydrographics.

(3) The permittee agrees to allow bureau staff engineers access immediately following major storm events to evaluate any structural damage and/or beach and coastal erosion conditions.

General: Copies of any forms referenced above may be obtained by writing to the Department of Environmental Protection, Bureau of Beaches and Wetland Resources, 3900 Commonwealth Boulevard, Mail Station 310, Tallahassee, Florida 32399, or by telephoning (850)487-4475.

Rule Chapter: 18-21

Chapter Title: SOVEREIGNTY SUBMERGED LANDS MANAGEMENT

Board of Trustees of Internal Improvement Trust Fund

Departmental

18-21 : SOVEREIGNTY SUBMERGED LANDS MANAGEMENT

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Proposed rules open for public comment: 0
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Recent Activities Since 4/20/2007 (90 days) refresh

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Rule versions that became effective: 0
Rule Proposals published: 0
Meeting and Hearing notices published: 1

Click on the rule number to see the detail of the rule.
Press **Ctrl-F** to search by text.

Rule No	Rule Title	Latest Version	Effective Date
18-21.001	Intent		3/27/1982
18-21.002	Scope and Effective Date		3/15/1990
18-21.003	Definitions		1/1/2006
18-21.004	Management Policies, Standards, and Criteria		10/27/2005
18-21.00401	Additional Requirements and Procedures for Concurrent Review of Related Applications		10/12/1995
18-21.00405	Grandfather Provisions		3/15/1990
18-21.0041	Florida Keys Marina and Dock Siting Policies and Criteria		2/25/1985
18-21.005	Forms of Authorization		3/8/2004
18-21.0051	Delegation of Authority		10/27/2005
18-21.0056	Procedures for the Review of Applications to Conduct Geophysical Testing		1/25/1987
18-21.007	Applications for Letter of Consent		12/11/2001
18-21.0077	Applications for Use Agreements		1/25/1987
18-21.008	Applications for Lease		8/10/2005
18-21.0081	Grandfather Structure Applications		8/10/2005
18-21.0082	Applications for Special Event Authorizations		10/15/1998
18-21.009	Applications for Public Easement		8/10/2005
18-21.010	Applications for Private Easement		8/10/2005
18-21.011	Payments and Fees		1/1/2006
18-21.012	Spoil Islands		3/27/1982

APPENDIX B

REQUEST FOR COMMENT
VANDERBILT BEACH, FLORIDA PIER FEASIBILITY STUDY

AND

NOAA NATIONAL MARINE FISHERIES SERVICES (NMFS)
E-MAIL RESPONSE DATED AUGUST 31, 2007

Steve Keehn

From: Mark Sramek [Mark.Sramek@noaa.gov]
Sent: Friday, August 31, 2007 8:55 AM
To: Steve Keehn
Cc: Mike Nowicki
Subject: [Fwd: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study]
Attachments: PRELIMINARY PLAN VIEW.pdf

Dear Mr. Keehn:

NOAA's National Marine Fisheries Service (NMFS), Southeast Region, Habitat Conservation Division, has reviewed your August 30, 2007, electronic mail (e-mail) message and project aerial plan view concerning the construction of a pier in the Gulf of Mexico, in Collier County, Florida. Coastal Planning & Engineering, Incorporated, is preparing a feasibility report which would include the design and anticipated environmental impacts from the project. The proposed pier would be similar to the existing Naples Pier and would extend approximately 950 feet into the Gulf of Mexico. Approximately 400 feet of the structure would be constructed over marine hard/live bottom habitats. Your e-mail is requesting our agency's comments concerning natural resources occurring in the project area that are within NMFS management responsibilities.

Marine habitats in the project area are designated as essential fish habitat (EFH) as identified in the 2005 generic amendment of the Fishery Management Plans for the Gulf of Mexico. The generic amendment was prepared by the Gulf of Mexico Fishery Management Council as required by the 1996 amendment to the Magnuson-Stevens Fishery Conservation and Management Act. The proposed project would require authorization from the Department of the Army, Corps of Engineers, Jacksonville District Regulatory Division. Federal agencies that permit activities potentially impacting EFH are required to consult with NMFS and, as a part of the consultation process, prepare an EFH assessment. Regulations require that EFH assessments include:

1. A description of the proposed action;

2. An analysis of the effects (including cumulative effects) of the proposed action on EFH, the managed fish species, and major prey
species;

3. The Federal agency's views regarding the effects of the action on EFH; and,

4. Proposed mitigation, if applicable.

EFH consultation should be initiated as soon as specific project design and construction impact information are available. EFH consultation can be initiated independent of other project review tasks or can be incorporated in environmental planning documents. Upon review of the EFH assessment, NMFS will determine if it is necessary to provide EFH conservation recommendations on the project.

Finally, the project area is within the known distribution limits of a federally listed threatened species under purview of NMFS. In accordance with the Endangered Species Act of 1973, as amended, it is your responsibility to review this proposal and identify actions that may affect endangered or threatened species. Determinations involving listed species should be reported to our Protected Resources Division

at the letterhead address. If it is determined that the activities
may adversely affect any species listed as endangered or threatened under Protected Resources Division purview, formal consultation must be initiated.

Thank you for consideration of these comments. If you have additional questions regarding preparation of an EFH assessment for this project, please contact me by telephone at (727) 824-5311, or replying to this e-mail message.

-------- Original Message --------
Subject:FW: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study
Date: Tue, 28 Aug 2007 16:46:50 -0400
From: Steve Keehn <Skeehn@coastalplanning.net>
To: Mark.Sramek@noaa.gov

Subject: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study

Collier County is planning a new Gulf of Mexico pier at Vanderbilt Beach, Florida. Coastal Planning & Engineering, Inc. is preparing a feasibility report to develop the design, permitting, environmental, scheduling and cost aspects of the project need permit, design and build the pier. The report will be a decision document for the County. As such, we would appreciate your comments and guidance addressing the environmental and permitting issues important to your specific agency. In particular, we need to identify the type field investigations, biological reports & studies and environmental documents required to address critical resources and permitting.

The site is located 8 mile north of Naples Florida on the southwest Florida coast. The proposed pier would be similar in size to the Naples' pier, extending approximately 950 feet from the shoreline into the Gulf of Mexico. The pier project will extend approximately 400 feet over the nearshore hardbottom habitat region. A preliminary pier alignment is shown on the attached drawing. A T-section is proposed at the seaward end, sited within a suspected sand patch.

The County has selected this specific location as it provides the best beach access to residents and visitors who do not live near the beach. The access point at the end of Vanderbilt Blvd (vicinity of FDEP monument R-29) is the only locally controlled public access point within the beach area located between Wiggins Pass and Clam Pass, and it services a county area extending almost 20 miles inland. The access point has ample public parking.

The current investigation is rudimentary, sufficient for planning more detailed work for the permitting and design stage. It will be supplement by the existing comprehensive nearshore monitoring program (Collier County Beach Nourishment Project, Environmental Monitoring FDEP Permit No. 0222355-001-JC 2006 with the latest report dated January 2007). In addition to a previously planned side scan survey, a one day diver investigation of the proposed pier alignment is planned for this month. The attached map shows the edge of the nearshore habitat region based on this years side scan results. Detailed investigations will be planned once the pier project permitting phase is formally approved by the County.

We have already discussed this project with the FDEP Joint Coastal Permitting section. They provided guidance on State lands, turtle lighting, hardbottom habitat shading and impacts, design standards among other permitting and environmental issue. They suggested we coordinate specifically with your agencies on this project, and ask for your guidance.

Please provide any comments or questions to myself or our project senior biologist Chris Makowski (561-391-8102).

Please forward this document to the any other environmental profession that may be pertinent to this type of permit action..

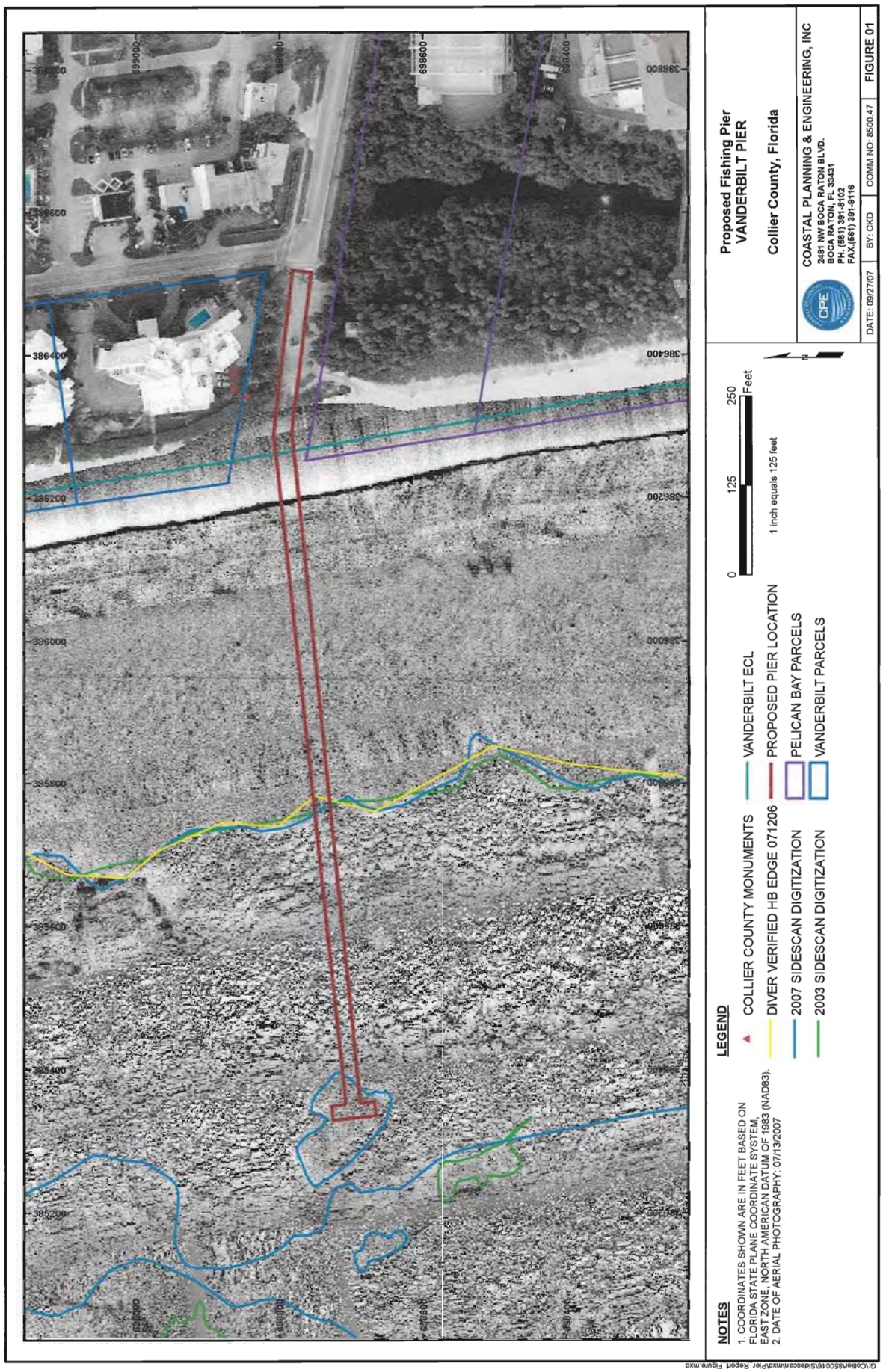
Thanks

Stephen Keehn PE
Senior Coastal Engineer
Coastal Planning & Engineering, Inc.
2481 NW Boca Raton Blvd., Boca Raton, Fl 33431
Phone 561-391-8102 (Fax 9116)
Mobile 561-441-5499
skeehn@coastalplanning.net

APPENDIX C

GEOTECHNICAL EXPLORATION RESULTS

2007 Sidescan Survey Results
2007 Standard Penetration Boring Results (GFA)
2004 Geotechnical Exploration Results from the Vanderbilt Beach Parking Garage (Forge Engineering, Inc.)


Proposed Fishing Pier
VANDERBILT PIER
Collier County, Florida
COASTAL PLANNING & ENGINEERING, INC
2481 NW BOCA RATON BLVD.
BOCA RATON, FL 33431
PH.(561) 391-8102
FAX.(561) 391-8116
DATE: 09/27/07
BY: CKD
COMM NO: 8500.47
FIGURE 01
LEGEND
COLLIER COUNTY MONUMENTS
DIVER VERIFIED HB EDGE 071206
2007 SIDESCAN DIGITIZATION
2003 SIDESCAN DIGITIZATION
VANDERBILT ECL
PROPOSED PIER LOCATION
PELICAN BAY PARCELS
VANDERBILT PARCELS
0
125
250
Feet
1 inch equals 125 feet
N
NOTES
1. COORDINATES SHOWN ARE IN FEET BASED ON FLORIDA STATE PLANE COORDINATE SYSTEM, EAST ZONE, NORTH AMERICAN DATUM OF 1983 (NAD83).
2. DATE OF AERIAL PHOTOGRAPHY: 07/13/2007
G:\Collier\8500\4\Sidescan\mxd\Pier_Report_Figure.mxd

GFA INTERNATIONAL
REPORT OF GEOTECHNICAL EXPLORATION
PROPOSED PIER
WEST END OF VANDERBILT BEACH ROAD
NAPLES, COLLIER COUNTY, FLORIDA
FOR
COASTAL PLANNING AND ENGINEERING, INC.
OCTOBER 9, 2007

GFA

October 9, 2007

Coastal Planning and Engineering, Inc.
Attention: Mr. Steve Keehn
2481 NW Boca Raton Boulevard
Boca Raton, Florida 33431
Phone: (561) 391-8102
Fax: (561) 391-9116

Reference: Proposed Vanderbilt Beach Pier
West End of Vanderbilt Beach Road
Collier County, Florida
GFA Project No. 07-0667

Dear Mr. Keehn:

GFA has completed the subsurface exploration for the above-referenced project in accordance with the geotechnical investigation services agreement for this project. The scope of services was completed in accordance with our geotechnical proposal (P-07-0296.geo).

The purpose of our subsurface exploration was to classify the nature of the subsurface soils and general geomorphic conditions. This report contains the results of our subsurface exploration for the project to date.

It is our understanding that the proposed project will consist of new pier construction. No preliminary site plans, construction details, or structural loads are available at this time.

A total of one (1) standard penetration test (SPT) boring to a depth of approximately 75 feet below ground surface (BGS) was completed for this study. The boring was located at the west end of Vanderbilt Beach Road, at the south side of the roundabout, in Naples, Collier County, FL, according to site sketch delivered to GFA by the client. Please see Appendix D: "Record of Test Borings" for a detailed description of the conditions found in the boring.

We appreciate the opportunity to be of service to you on this project and look forward to a continued association. Please do not hesitate to contact us if you have any questions or comments, or if we may further assist you as your plans proceed.

Respectfully Submitted,
GFA INTERNATIONAL
Florida Certificate of Authorization Number 4930

Chris New, E.I.
Senior Staff Engineer

10/9/07
Christopher J. Pacitto, P.E.
Professional Engineer #59445
State of Florida

Copies: 3, Addressee

TABLE OF CONTENTS

GFA

1.0 INTRODUCTION

1.1 Scope of Services

The objective of our geotechnical services was to collect subsurface data for the subject project, summarize the test results, and discuss any apparent site conditions that may have geotechnical significance for building construction. The following scope of services are provided within this report:

1. Prepare records of the soil boring logs depicting the subsurface soil conditions encountered during our field exploration.

2. Conduct a review of each soil sample obtained during our field exploration for classification and additional testing if necessary.

1.2 Project Description

It is our understanding that the proposed project will consist of new pier construction. No preliminary site plans, construction details, or structural loads are available at this time.

2.0 OBSERVATIONS

2.1 Site Inspection

The recovered samples were not examined, either visually or analytically, for chemical composition or environmental hazards. GFA would be pleased to perform these services for an additional fee, if required.

2.2 Field Exploration

A total of one (1) standard penetration test (SPT) boring to depth of approximately 75 feet below ground surface (BGS) was completed for this study. The location of the boring performed is illustrated in Appendix B: "Test Location Plan". The SPT boring method was used as the investigative tool within the boring. Penetration tests were performed in substantial accordance with ASTM Procedure D-1586, "Penetration Test and Split-Barrel Sampling of Soils". This test procedure consists of driving a 1.4-inch I.D. split-tube sampler into the soil profile using a 140-pound hammer falling 30 inches. The number of blows per foot, for the second and third 6-inch increment, is an indication of soil strength.

The soil samples recovered from the soil boring were visually classified and their stratification is illustrated in Appendix D: "Record of Test Boring". It should be noted that soil conditions might vary between the strata interfaces, which are shown. The soil boring data reflect information from a specific test location only. Site specific survey staking for the test locations was not provided for our field exploration. The indicated depth and location of each test was approximated based upon existing grade and estimated distances and relationships to obvious landmarks. The boring depths were confined to the zone of soil likely to be stressed by the proposed construction and knowledge of vicinity soils.

2.3 Laboratory Analysis

Soil samples recovered from our field exploration were returned to our laboratory where they were visually examined in general accordance with ASTM D-2488. Samples were evaluated to obtain an accurate understanding of the soil properties and site geomorphic conditions. After a thorough visual examination of the recovered site soils, no laboratory tests were deemed neccessary. Bag samples of the soil encountered during our field exploration will be held in our laboratory for your inspection for 30 days and then discarded unless we are notified otherwise in writing.

2.4 Geomorphic Conditions

The boring logs derived from our field exploration are presented in Appendix D: "Record of Test Borings". The boring log depicts the observed soils in graphic detail. The Standard Penetration Test boring indicates the penetration resistance, or N-values logged during the drilling and sampling activities. The classifications and descriptions shown on the log is generally based upon visual characterizations of the recovered soil samples. All soil samples reviewed have been depicted and classified in general accordance with the Unified Soil Classification System, modified as necessary to describe typical southwest Florida conditions. See Appendix E: "Discussion of Soil Groups", for a detailed description of various soil groups.

2.5 Hydrogeological Conditions

On the dates of our field exploration, the groundwater table was encountered at depths of approximately 1.5 feet below the existing ground surface. The groundwater table will fluctuate seasonally depending upon local rainfall and other site specific and/or local influences. Brief ponding of stormwater may occur across the site after heavy rains.

No additional investigation was included in our scope of work in relation to the wet seasonal high groundwater table or any existing well fields in the vicinity. Well fields may influence water table levels and cause significant fluctuations. If a more comprehensive water table analysis is necessary, please contact our office for additional guidance.

3.0 REPORT LIMITATIONS

This consulting report has been prepared for the exclusive use of the current project owners and other members of the design team for the proposed Pier at the west end of Vanderbilt Beach road in Naples, Collier County, Florida. This report has been prepared in accordance with generally accepted local geotechnical engineering practices; no other warranty is expressed or implied. The evaluation submitted in this report, is based in part upon the data collected during a field exploration, however, the nature and extent of variations throughout the subsurface profile may not become evident until the time of construction. If variations then appear evident, it may be necessary to reevaluate information and professional opinions as provided in this report. In the event changes are made in the nature, design, or locations of the proposed structure, the evaluation and opinions contained in this report shall not be considered valid, unless the changes are reviewed and conclusions modified or verified in writing by GFA International.

Please also find in Appendix F a supplement by the American Society of Foundation Engineers (ASFE) that is entitled "Important Information About Your Geotechnical Engineering Report". The supplement will help explain further limitations of geotechnical reports, the nature of geotechnical issues and information concerning the management of your geotechnical risks.

4.0 BASIS FOR RECOMMENDATIONS

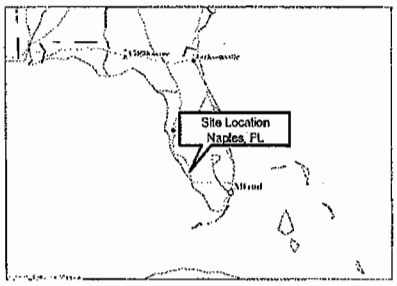
The analysis and recommendations submitted in this report are based on the data obtained from the tests performed at the locations indicated on the attached figure in Appendix B. This report does not reflect any variations, which may occur between any other borings. While the boring is representative of the subsurface conditions at its respective location and for its vertical reaches, local variations characteristic of the subsurface soils of the region are anticipated and may be encountered. The delineation between soil types shown on the soil log is approximate and the description represents our interpretation of the subsurface conditions at the designated boring locations on the particular date drilled.

Any third party reliance of our geotechnical report or parts thereof is strictly prohibited without the expressed written consent of GFA International. The methodology (ASTM D-1586) used in performing our borings and for determining penetration resistance is specific to the sampling tools utilized and does not reflect the ease or difficulty to advance other tools or materials.

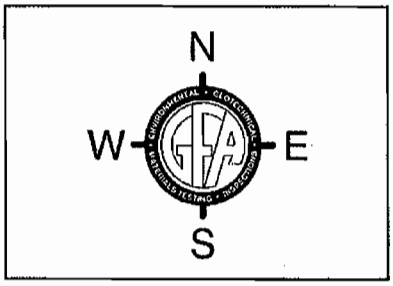
GFA

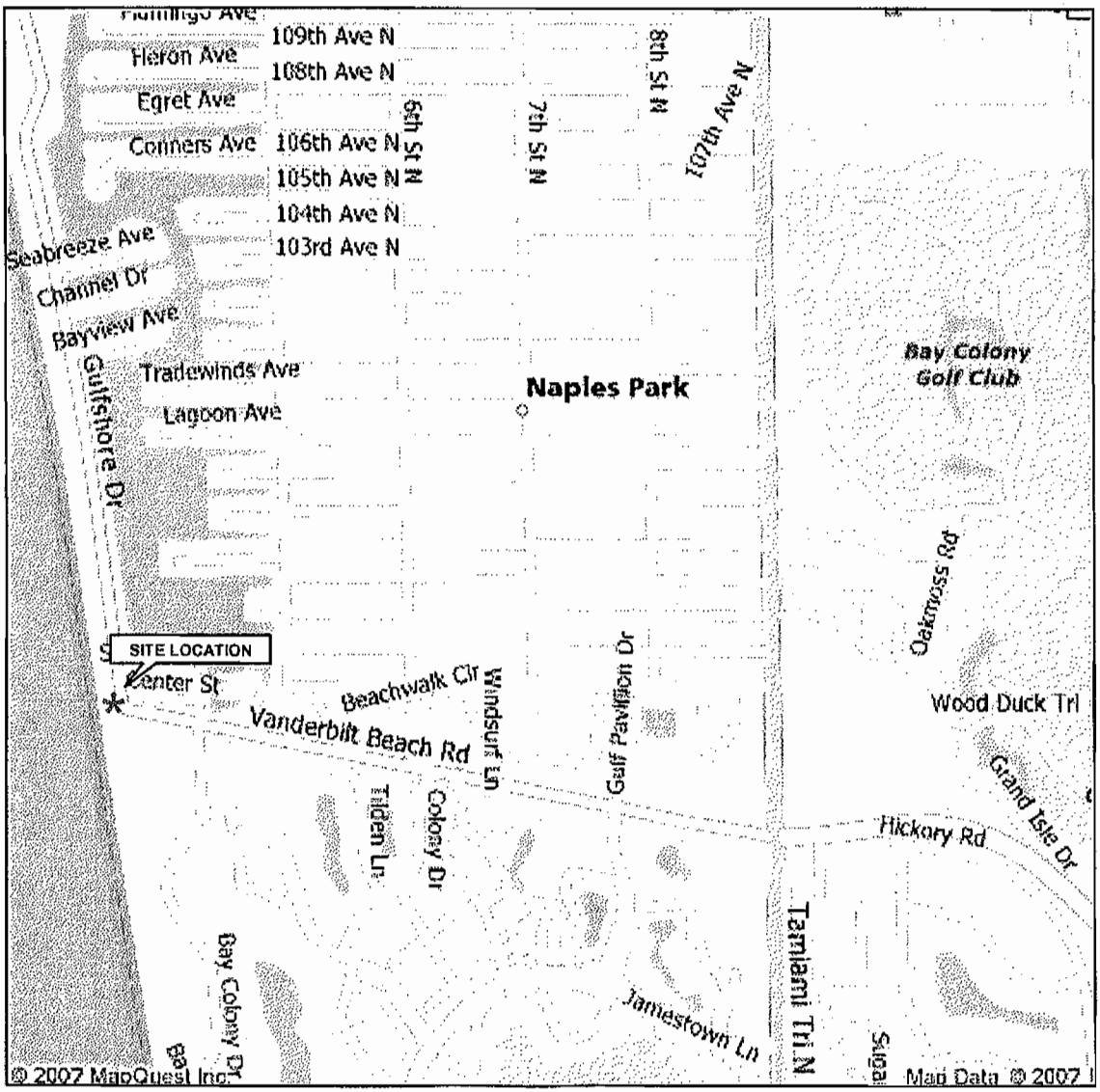
Appendix A - Vicinity Map

Vicinity Map



Proposed Pier
West End of Vanderbilt Beach Rd.
Naples, Collier County
Florida

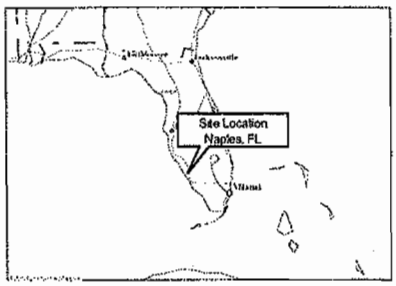




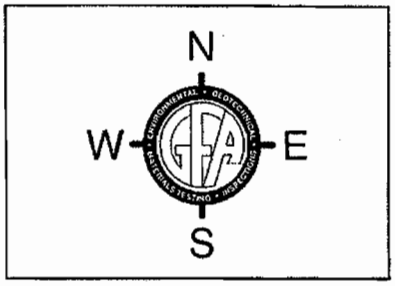
*Scale is an approximation and may not be accurate.

Appendix B - Test Location Plan

Test Location Plan



Proposed Pier
West End of Vanderbilt Beach Rd.
Naples, Collier County
Florida



*Scale is an approximation and may not be accurate.

Appendix C - Legend of Test Symbols & Notes Related to Boring

KEY TO SYMBOLS

Symbol Description

Strata symbols

 Sand (SP)

 Silt (ML)

 Weathered limestone (WLS)

Misc. Symbols

 Water table at boring completion

 Boring continues

Soil Samplers

 Standard penetration test

Notes:

1. Boring locations were estimated from existing features.
2. These logs are subject to the limitations, conclusions, and recommendations in this report.
3. Results of tests conducted on samples recovered are reported on the logs.

**NOTES RELATED TO
RECORDS OF TEST BORING AND
GENERALIZED SUBSURFACE PROFILE**

1. Groundwater level was encountered and recorded (if shown) following the completion of the soil test boring on the date indicated. Fluctuations in groundwater levels are common; consult report text for a discussion.

2. The boring location was identified in the field by offsetting from existing reference marks and using a cloth tape and survey wheel.

3. The borehole was backfilled to site grade following boring completion, and patched with asphalt cold patch mix when pavement was encountered.

4. The Record of Test Boring represents our interpretation of field conditions based on engineering examination of the soil samples.

5. The Record of Test Boring is subject to the limitations, conclusions and recommendations presented in the Report text.

6. "Field Test Data" shown on the Record of Test Boring indicated as 11/6 refers to the Standard Penetration Test (SPT) and means 11 hammer blows drove the sampler 6 inches. SPT uses a 140-pound hammer falling 30 inches.

7. The N-value from the SPT is the sum of the hammer blows required to drive the sampler the second and third 6-inch increments.

8. The soil/rock strata interfaces shown on the Records of Test Boring are approximate and may vary from those shown. The soil/rock conditions shown on the Records of Test Boring refer to conditions at the specific location tested; soil/rock conditions may vary between test locations.

9. Relative density for sands/gravels and consistency for silts/clays are described as follows:

SPT BLOWS/FOOT	CPT KG/CM^2	SANDS/GRAVELS RELATIVE DENSITY	SPT BLOWS/FOOT	CPT KG/CM^2	SILTS/CLAYS CONSISTENCY
0-4	0-16	Very loose	0-1	0-3	Very soft
5-10	17-40	Loose	2-4	4-9	Soft
11-30	41-120	Medium Dense	5-8	10-17	Firm
31-50	over 120	Dense	9-15	18-31	Stiff
over 50		Very Dense	16-30	32-60	Very stiff
			31-50	over 60	Hard

10. Grain size descriptions are as follows:

NAME	SIZE LIMITS
Boulder	12 Inches or more
Cobbles	3 to 12 Inches
Coarse Gravel	¾ to 3 Inches
Fine Gravel	No. 4 sieve to ¾ inch
Coarse Sand	No. 10 to No. 4 sieve
Medium Sand	No. 40 to No. 10 sieve
Fine Sand	No. 200 to No. 40 sieve
Fines	Smaller than No. 200 sieve

11. Definitions related to adjectives used in soil/rock descriptions:

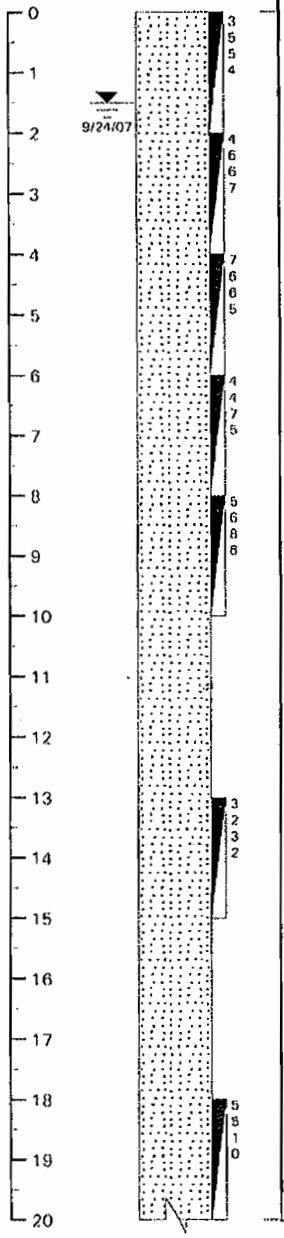
PROPORTION	ADJECTIVE	APPROXIMATE ROOT DIAMETER	ADJECTIVE
Up to 10%	with a trace	Less than 1/32"	Fine roots
10 to 30%	with some	1/32" to ¼"	Small roots
30 to 50%	with	¼" to 1"	Medium roots
		Greater than 1"	Large roots

GFA

Appendix D - Record of Test Boring

RECORD OF TEST BORING

PROJECT/LOCATION: PROPOSED PIER AT VANDERBILT BEACH, NAPLES, FL **BORING NO:** B-1
PROJECT NO: 07-0667 **START:** 9/24/07 **FINISH:** 9/24/07 **WEATHER:** N/A
BORING LOCATION: SEE SITE PLAN **DRILLER:** ROBERT LAINKO
DRILL: DIETRICH D-50 **DRILL CONTRACTOR:** GFA INTERNATIONAL
ELEV.: N/A **GROUNDWATER:** 1.5' **DATE CHECKED:** 9/24/07
BORING METHOD: SPT/MUD ROTARY **FLUID LOSS:** N/A



ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	REC. (%)	STANDARD PENETRATION TEST DEPTH	N	CURVE 10 30 50
			Light brown to light gray with some shell and a trace of silt.	100	0'-2'	10	
			Light gray with some shell.	100	2'-4'	12	
				100	4'-6'	12	
				100	6'-8'	11	
		SAND (SP) Very Loose to Medium Dense		100	8'-10'	14	
			Gray with some shell and a trace of silt.	75	13'-15'	5	
			Gray with traces of silt, rock and shell.	50	18'-20'	6	

Soil and rock samples recovered using ASTM D-1586 test procedures.

RECORD OF TEST BORING

PROJECT/LOCATION: PROPOSED PIER AT VANDERBILT BEACH, NAPLES, FL **BORING NO:** B-1

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	REC. (%)	STANDARD PENETRATION TEST DEPTH	N	CURVE 10 30 50
21			Bit chatter from 20.5' to 21. 5'.				
22							
23	10 10	**SAND (SP) Very Loose to Medium Dense**	Gray with a trace of silt.				
24				100	23'-25'	1	
25							
26							
27			Bit chatter from 26.5' to 28'.				
28	4 3 2 2		Light gray with sand, clay and a trace of rock.				
29				100	28'-30'	5	
30							
31							
32							
33	1 1 1 1		Light gray with sand and a trace of rock.				
34				200	33'-35'	2	
35							
36		**SILT (ML) Very Soft to Firm**					
37							
38	1 2 2 2						
39				100	38'-40'	3	
40							
41							
42							
43	1 1 1 1		Light gray with sand.				
44				100	43'-45'	2	
45							

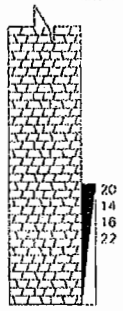
RECORD OF TEST BORING

PROJECT/LOCATION: PROPOSED PIER AT VANDERBILT BEACH, NAPLES, FL BORING NO: B-1

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	REC. (%)	STANDARD PENETRATION TEST DEPTH	STANDARD PENETRATION TEST N	STANDARD PENETRATION TEST CURVE (10 30 50)
46							
47							
48	1 1 2 2	**SILT (ML) Very Soft to Firm**	Light brown to green with traces of clay and sand.				
49				100	48'-50'	3	
50							
51							
52							
53	6 2 5 6		Tan with some silt.				
54				100	53'-55'	7	
55							
56							
57			Bit chatter from 57' to 58'.				
58	20 19 17 19		Light gray.				
59				100	58'-60'	36	
60		**WEATHERED LIMESTONE (WLS) Loose to Very Dense**					
61							
62							
63	14 8 4 7						
64				50	63'-65'	12	
65							
66			Bit chatter from 66' to 68'.				
67							
68	15 24 27 9						
69				100	68'-70'	51	
70							

RECORD OF TEST BORING

PROJECT/LOCATION: PROPOSED PIER AT VANDERBILT BEACH, NAPLES, FL BORING NO: B-1

ELEV./ DEPTH	SOIL SYMBOLS AND FIELD TEST DATA	MAJOR SOIL COMPONENT	OTHER COMPONENTS	REC. (%)	STANDARD PENETRATION TEST DEPTH	N	CURVE 10 30 50
71		**WEATHERED LIMESTONE (WLS) Loose to Very Dense**	Light gray.				
72							
73							
74				100	73'-75'	30	
75							
76							
77							
78							
79							
80							
81							
82							
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95							

Appendix E - Discussion of Soil Groups

DISCUSSION OF SOIL GROUPS

COARSE GRAINED SOILS

GW and SW GROUPS. These groups comprise well-graded gravelly and sandy soils having little or no plastic fines (less than 5 percent passing the No. 200 sieve). The presence of the fines must not noticeably change the strength characteristics of the coarse-grained fraction and must not interface with its free-draining characteristics.

GP and SP GROUPS. Poorly graded gravels and sands containing little of no plastic fines (less than 5 percent passing the No. 200 sieve) are classed in GP and SP groups. The materials may be called uniform gravels, uniform sands or non-uniform mixtures of very coarse material and very fine sands, with intermediate sizes lacking (sometimes called skip-graded, gap-graded or step-graded). This last group often results from borrow pit excavation in which gravel and sand layers are mixed.

GM and SM GROUPS. In general, the GM and SM groups comprise gravels or sands with fines (more than 12 percent passing the No. 200 sieve) having low or no plasticity. The plasticity index and liquid limit of soils in the group should plot below the "A" line on the plasticity chart. The gradation of the material is not considered significant and both well and poorly graded materials are included.

GC and SC GROUPS. In general, the GC and SC groups comprise gravelly or sandy soils with fines (more than 12 percent passing the No. 200 sieve), which have a fairly high plasticity. The liquid limit and plasticity index should plot above the "A" line on the plasticity chart.

FINE GRAINED SOILS

ML and MH GROUPS. In these groups, the symbol M has been used to designate predominantly silty material. The symbols L and H represent low and high liquid limits, respectively, and an arbitrary dividing line between the two is set at a liquid limit of 50. The soils in the ML and MH groups are sandy silts, clayey silts or inorganic silts with relatively low plasticity. Also included are loess type soils and rock flours.

CL and CH GROUPS. In these groups the symbol C stands for clay, with L and H denoting low or high liquid limits, with the dividing line again set at a liquid limit of 50. The soils are primarily inorganic clays. Low plasticity clays are classified as CL and are usually lean clays, sandy clays or silty clays. The medium and high plasticity clays are classified as CH. These include the fat clays, gumbo clays and some volcanic clays.

GFA

OL and OH GROUPS. The soil in the OL and OH groups are characterized by the presence of organic odor or color, hence the symbol O. Organic silts and clays are classified in these groups. The materials have a plasticity range that corresponds with the ML and MH groups.

HIGHLY ORGANIC SOILS

The highly organic soils are usually very soft and compressible and have undesirable construction characteristics. Particles of leaves, grasses, branches, or other fibrous vegetable matter are common components of these soils. They are not subdivided and are classified into one group with the symbol PT. Peat humus and swamp soils with a highly organic texture are typical soils of the group.

GFA

Appendix F –
Important Information About Your Geotechnical Engineering Report by ASFE

GFA

Important Information About Your

Geotechnical Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

The following information is provided to help you manage your risks.

Geotechnical Services Are Performed for Specific Purposes, Persons, and Projects

Geotechnical engineers structure their services to meet the specific needs of their clients. A geotechnical engineering study conducted for a civil engineer may not fulfill the needs of a construction contractor or even another civil engineer. Because each geotechnical engineering study is unique, each geotechnical engineering report is unique, prepared *solely* for the client. No one except you should rely on your geotechnical engineering report without first conferring with the geotechnical engineer who prepared it. *And no one — not even you* — should apply the report for any purpose or project except the one originally contemplated.

Read the Full Report

Serious problems have occurred because those relying on a geotechnical engineering report did not read it all. Do not rely on an executive summary. Do not read selected elements only.

A Geotechnical Engineering Report Is Based on A Unique Set of Project-Specific Factors

Geotechnical engineers consider a number of unique, project-specific factors when establishing the scope of a study. Typical factors include: the client's goals, objectives, and risk management preferences; the general nature of the structure involved, its size, and configuration; the location of the structure on the site; and other planned or existing site improvements, such as access roads, parking lots, and underground utilities. Unless the geotechnical engineer who conducted the study specifically indicates otherwise, do not rely on a geotechnical engineering report that was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

Typical changes that can erode the reliability of an existing geotechnical engineering report include those that affect:

- the function of the proposed structure, as when it's changed from a parking garage to an office building, or from a light industrial plant to a refrigerated warehouse,
- elevation, configuration, location, orientation, or weight of the proposed structure,
- composition of the design team, or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project changes—even minor ones—and request an assessment of their impact. *Geotechnical engineers cannot accept responsibility or liability for problems that occur because their reports do not consider developments of which they were not informed.*

Subsurface Conditions Can Change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. *Do not rely on a geotechnical engineering report* whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. *Always* contact the geotechnical engineer before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Most Geotechnical Findings Are Professional Opinions

Site exploration identifies subsurface conditions only at those points where subsurface tests are conducted or samples are taken. Geotechnical engineers review field and laboratory data and then apply their professional judgment to render an opinion about subsurface conditions throughout the site. Actual subsurface conditions may differ—sometimes significantly—from those indicated in your report. Retaining the geotechnical engineer who developed your report to provide construction observation is the most effective method of managing the risks associated with unanticipated conditions.

A Report's Recommendations Are *Not* Final

Do not overrely on the construction recommendations included in your report. *Those recommendations are not final,* because geotechnical engineers develop them principally from judgment and opinion. Geotechnical engineers can finalize their recommendations only by observing actual

subsurface conditions revealed during construction. *The geotechnical engineer who developed your report cannot assume responsibility or liability for the report's recommendations if that engineer does not perform construction observation.*

A Geotechnical Engineering Report Is Subject to Misinterpretation

Other design team members' misinterpretation of geotechnical engineering reports has resulted in costly problems. Lower that risk by having your geotechnical engineer confer with appropriate members of the design team after submitting the report. Also retain your geotechnical engineer to review pertinent elements of the design team's plans and specifications. Contractors can also misinterpret a geotechnical engineering report. Reduce that risk by having your geotechnical engineer participate in prebid and preconstruction conferences, and by providing construction observation.

Do Not Redraw the Engineer's Logs

Geotechnical engineers prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. To prevent errors or omissions, the logs included in a geotechnical engineering report should *never* be redrawn for inclusion in architectural or other design drawings. Only photographic or electronic reproduction is acceptable, *but recognize that separating logs from the report can elevate risk.*

Give Contractors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can make contractors liable for unanticipated subsurface conditions by limiting what they provide for bid preparation. To help prevent costly problems, give contractors the complete geotechnical engineering report, *but* preface it with a clearly written letter of transmittal. In that letter, advise contractors that the report was not prepared for purposes of bid development and that the report's accuracy is limited; encourage them to confer with the geotechnical engineer who prepared the report (a modest fee may be required) and/or to conduct additional study to obtain the specific types of information they need or prefer. A prebid conference can also be valuable. *Be sure contractors have sufficient time* to perform additional study. Only then might you be in a position to give contractors the best information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions.

Read Responsibility Provisions Closely

Some clients, design professionals, and contractors do not recognize that geotechnical engineering is far less exact than other engineering disciplines. This lack of understanding has created unrealistic expectations that have led to disappointments, claims, and disputes. To help reduce the risk of such outcomes, geotechnical engineers commonly include a variety of explanatory provisions in their reports. Sometimes labeled "limitations" many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The equipment, techniques, and personnel used to perform a *geoenvironmental* study differ significantly from those used to perform a *geotechnical* study. For that reason, a geotechnical engineering report does not usually relate any geoenvironmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated environmental problems have led to numerous project failures.* If you have not yet obtained your own geoenvironmental information, ask your geotechnical consultant for risk management guidance. *Do not rely on an environmental report prepared for someone else.*

Obtain Professional Assistance To Deal with Mold

Diverse strategies can be applied during building design, construction, operation, and maintenance to prevent significant amounts of mold from growing on indoor surfaces. To be effective, all such strategies should be devised for the *express purpose* of mold prevention, integrated into a comprehensive plan, and executed with diligent oversight by a professional mold prevention consultant. Because just a small amount of water or moisture can lead to the development of severe mold infestations, a number of mold prevention strategies focus on keeping building surfaces dry. While groundwater, water infiltration, and similar issues may have been addressed as part of the geotechnical engineering study whose findings are conveyed in this report, the geotechnical engineer in charge of this project is not a mold prevention consultant; ***none of the services performed in connection with the geotechnical engineer's study were designed or conducted for the purpose of mold prevention. Proper implementation of the recommendations conveyed in this report will not of itself be sufficient to prevent mold from growing in or on the structure involved.***

Rely on Your ASFE-Member Geotechnical Engineer for Additional Assistance

Membership in ASFE/The Best People on Earth exposes geotechnical engineers to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a construction project. Confer with you ASFE-member geotechnical engineer for more information.

ASFE
THE BEST PEOPLE ON EARTH

8811 Colesville Road/Suite G106, Silver Spring, MD 20910
Telephone: 301/565-2733 Facsimile: 301/589-2017
e-mail: info@asfe.org www.asfe.org

HGER06041 0MRP

FORGE
ENGINEERING, INC.
FORENSIC, GEOTECHNICAL AND
CONSTRUCTION CONSULTANTS

Report of Geotechnical Exploration

PROPOSED VANDERBILT BEACH PARKING GARAGE

South of Vanderbilt Beach Road, East of Ritz Carlton Naples, Collier County, Florida

Forge Engineering Project Number 864-001.01

This report has been prepared for the exclusive use of Walker Parking Consultants for specific application to the proposed Vanderbilt Beach Parking Garage. Forge Engineering, Inc. has endeavored to comply with generally accepted geotechnical engineering practice common to the local area. FORGE makes no other warrant, express, or implied.

Project Information

Our understanding of your needs for this project is based on discussions with you, together with some assumptions we have made based on our experience in the area. We have also received a copy of an undated and untitled boundary survey plan of the existing Vanderbilt Beach Parking Lot.

We understand the proposed new parking garage will be constructed at the location of the existing parking lot south of Vanderbilt Beach Road. You indicated the 3-level structure will encompass about 40,920 square feet of ground floor area (330 feet by 124 feet), and be built with pre-cast concrete columns and floor slabs supported on auger-cast pilings.

Maximum column loads are estimated to be on the order of 625 kips. We assume up to two feet of structural fill will be required over the site to raise existing site grade to finished subgrade elevation.

Site Conditions

As shown on the appended Site Location Map, the site is located on the south side of Vanderbilt Beach Road and east of the Ritz Carlton in Naples, Collier County, Florida. The west side of the site is bordered by mangroves, while further to the west is the Gulf of Mexico.

At the time of our exploration, the site was currently being used as an asphaltic parking lot for the nearby Vanderbilt Beach. The surface over the site appeared to be at the elevation of the Vanderbilt Beach Road.

Subsurface Conditions

The subsurface conditions across the site were explored with eight Standard Penetration Test borings drilled to a depth of 60 feet below the existing ground surface. The number, depth, and location of the borings were determined by FORGE. The boring locations were determined in the field by a representative from FORGE by referencing existing site features shown on the provided plans to those found at the site. The borings were drilled by FORGE and the approximate boring locations are shown on the Field Exploration Plan, in the Appendix.

Soil samples obtained from the borings were classified by a geotechnical engineer from FORGE. Boring logs summarizing the findings are in the Appendix. The generalized subsurface conditions encountered at the boring locations are summarized in the following table:

GENERALIZED SOIL PROFILE			
DEPTH (FT)		SOIL DESCRIPTION	USC[1]
FROM	TO		
0	3	Loose to Medium Dense SAND to Slightly Silty SAND; Occasional Roots	SP, SP-SM
3	6.5	Very Loose to Loose Organic SAND, with Silt	SP-SM
6.5	13	Very Loose to Medium Dense Silty SAND, Occasional Shell	SM
13	17	Very Hard LIMESTONE, (Boulders)[2]	N/A
17	60	Very Loose to Dense Very Silty SAND, with Gravel (Weathered Limestone)	SM

(1) Unified Soil Classification
(2) LIMESTONE was not encountered in B-2, B-3, B-4 and B-6.

The groundwater level was encountered in the borings at an approximate depth of 4 to 5.3 feet below the existing ground surface at the time of drilling. The groundwater level will vary with rainfall, construction activities, and tidal fluctuations of the nearby Gulf of Mexico.

Evaluation and Recommendations

Our evaluation is based on the project information provided to us, the findings of our field exploration program, laboratory testing, and our experience in the area. The subsurface conditions will vary across the site. Should new information become available during design or the conditions encountered during construction be substantially different from the information presented in this report, please contact us so we may evaluate the new information.

Due to the anticipated column loads and the near surface organic soil stratum encountered in the borings, shallow foundations, and slabs-on-grade without soil improvement would undergo excessive total and differential settlement and are not favorable options. It is our opinion based on our local experience, an end user risk assessment, a limited cost analyses performed on similar projects, and the subsurface conditions the proposed structure should be founded on deep foundations.

Auger-Cast Piles

At this site an augercast pile will achieve its capacity through skin friction primarily in the weathered limestone stratum. We calculate the following design capacities are available for piles installed into the weathered limestone stratum as follows:

ESTIMATED DESIGN COMPRESSIVE CAPACITIES (TONS) AUGER-CAST PILES		
Pile Depth (feet)	14-inch Diameter	18-inch Diameter
45	50	N/A
50	65	80
55	80	100
60	N/A	130

The above design capacities are based on a factor of safety of two and appropriate grout strength. To confirm these design values and to meet current building codes load tests must be conducted. We recommend a maximum design uplift capacity of one-half the compressive capacity be assigned to these piles. Should a higher uplift capacity be required, then load testing should be completed to confirm the desired capacity is

available. The following table is presented to provide designers with lateral load design parameters for the assumed compressive design values.

ESTIMATED LATERAL LOAD/DEFLECTION AUGER-CAST PILES				
DIAMETER	ULTIMATE LATERAL LOAD (kips)	DEFLECTION (inches)	MAXIMUM MOMENT (inch-pounds)	DEPTH TO ZERO MOMENT (feet)
14-inch	5	0.1	19×10^4	16
	10	0.3	92×10^4	23
18-inch	10	0.1	50×10^4	24
	70	0.8	43×10^5	39

Linear interpolation is appropriate for values between those listed. We recommend that a factor of safety of at least two be associated with the ultimate lateral load. Once the compressive design values are confirmed, FORGE should be engaged to conduct a final level lateral analysis specific to each pile type and load.

Auger-cast piles require careful observation/monitoring by a representative from FORGE at the time of installation to verify the conditions assumed in design are achieved during construction of test and production elements.

We recommend the auger-cast pile foundation installation specifications include a section similar to the one presented below:

1. The pile contractor used to install the test piles shall be the same contractor used for the production piles.

2. The auger-cast pile contractor shall submit evidence the essential men proposed for this project has minimum of 5 years experience in the installation of auger-cast piles.

3. The equipment used to install the auger-cast piles shall be capable of penetrating to the maximum required depths.

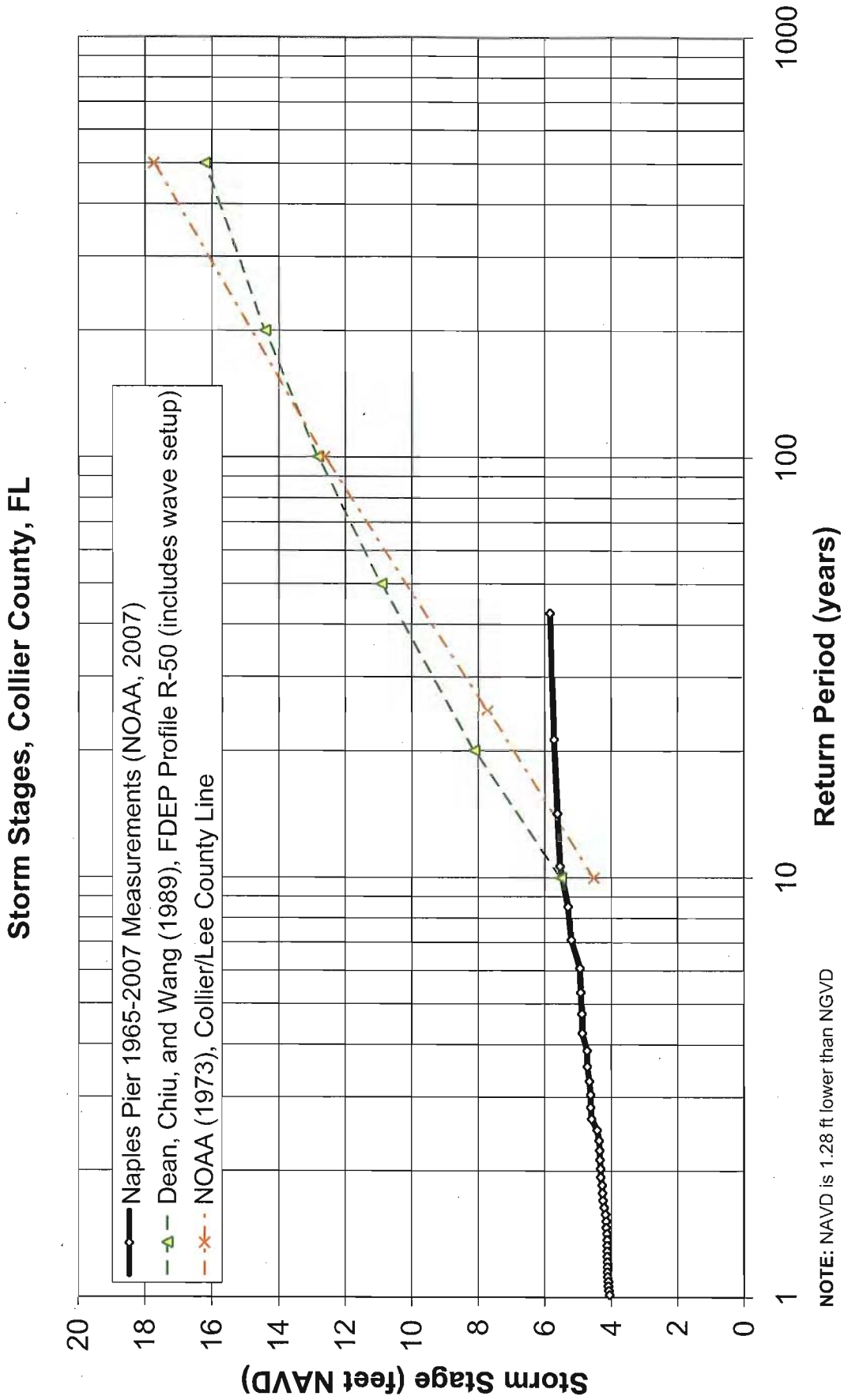
4. The grout for the auger-cast piles shall have a minimum 28-day compressive strength of at least 5000-psi or as directed by the structural engineer.

APPENDIX D

STORM STAGE RETURN PERIOD FIGURES AND TABLES

AND

TELEPHONE CONFERENCE REPORT WITH RALPH CLARK
DATED NOVEMBER 13, 2007
SUBJECT: STORM WATER LEVEL



P:\Collier\8500.47 Pier\waves_and_water_levels\Naples_Pier_Storm_Surge_Review.xls Chart1 (3) 12/17/2007 4:17 PM

Telephone Conference Report

Date: November 13, 2007
Time: 1:30 PM
Subject: Storm Water Level and Wave Height Calculation for Pier Design
Participants: Ralph Clark, FDEP, B BCS

I talked to Ralph Clark about the design water level and wave height for a pier at the 20 year return interval. The published water level plus wave height would push the deck height above 20 FT NGVD, which is the desired height for a fishing pier. The published height values appear to be larger than suggested by recent history measurements and experience. Using a combination of the water level history from the Naples Pier tide station, water levels hind cast from historic storms produced by the Corps of Engineers, and model studies, a lower combined height may be justified. Ralph states that with the proper supporting information the FDEP may be able to accept a combined height lower than the published FDEP values.

Ralph Clark is assembling a report on the existing pier performance in the State of Florida. His information shows that the Naples Pier was constructed in 1961 and it was damaged by Tropical Storm Keith on November 23, 1988, which had a 6 FT storm tide. Damage from Hurricane Donna in the 1960's is not known. The FDEP research arm at FSU is in the process of recalculation water level return interval information on Panhandle, Florida. The work is being conducted by Robert Wang.

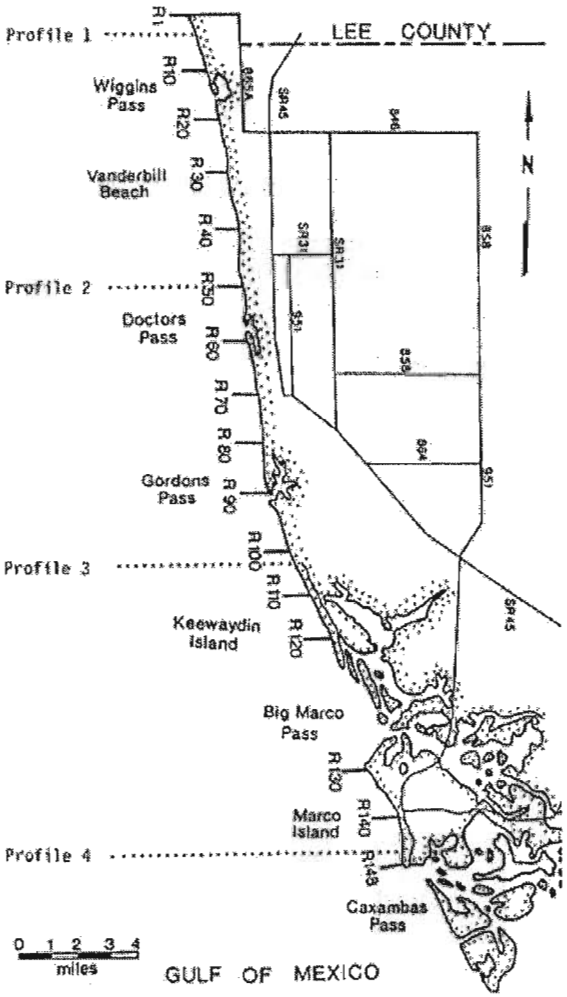
Ralph said he would be willing to review a combined water level and wave height report prior to submittal of a entire permit package and give his opinion on its suffienciency.

p/collier/8500.47/telephone conference report Nov 13, 07

FLORIDA STATE UNIVERSITY

COLLIER COUNTY

Combined Total Storm Tide Values for Various Return Periods				
Return Period TR (years)	Combined Total Storm Tide Level* above NGVD (ft.)			
	Profile One	Profile Two	Profile Three	Profile Four
500	18.9	17.5	16.3	15.1
200	16.9	15.7	14.5	13.9
100	15.2	14.1	13.1	12.9
50	13.1	12.2	11.5	11.5
20	10.0	9.4	9.4	9.4
10	7.1	6.8	7.1	7.1
*Includes contributions of: wind stress, barometric pressure, dynamic wave set-up and astronomical tide.				



Collier County
Profile Locations

DATA

Download the 100 year Hydrograph data file

County	Florida State Plan Coordinates for Range Monument			100 - Year Storm Elevation (ft.)	100 - Year Storm Design Grade Elevation (ft.)
Collier					
R001	R001	726436.250	223078.062	22.4	1.9
R002	R002	725495.193	223418.505	22.4	1.9
R003	R003	726436.250	223078.063	22.4	1.9
R004	R004	723568.245	223968.293	22.3	1.9
R005	R005	722601.976	224364.440	22.3	1.9
R006	R006	721661.000	224773.188	22.3	1.9
R022	R022	705668.011	228699.451	21.9	1.9
R023	R023	704714.375	229032.625	21.9	1.9
R024	R024	703700.135	229177.605	21.8	1.9
R025	R025	702657.772	229595.787	21.8	1.9
R026	R026	701679.032	229607.882	21.8	1.9
R027	R027	700695.375	229750.313	21.7	1.9
R028	R028	699512.530	229922.136	21.7	1.9
R029	R029	698675.639	230101.954	21.7	1.9
R030	R030	697665.976	230298.027	21.7	1.9
R031	R031	696642.183	230465.698	21.6	1.9
R032	R032	695653.088	230651.516	21.6	1.9
R033	R033	694660.188	230862.125	21.6	1.9
R034	R034	693648.875	231040.750	21.6	1.9
R035	R035	692656.378	231168.587	21.5	1.9
R045	R045	682488.589	232239.212	21.3	1.9
R046	R046	681383.119	232299.047	21.3	1.9
R047	R047	680409.685	232314.060	21.2	1.9
R048	R048	679476.707	232328.825	21.2	1.9
R049	R049	678409.602	232343.589	21.2	1.9
R050	R050	677323.866	232373.165	21.2	1.9
R051	R051	675998.160	232474.314	21.1	1.9
R052	R052	675120.608	232594.199	21.1	1.9
R053	R053	674076.534	232689.818	21.1	1.9
R054	R054	673006.100	232711.616	21.0	1.9
R055	R055	671959.812	232734.833	21.0	1.9
R056	R056	671040.457	232825.414	21.0	1.9
R057	R057	670276.305	232902.238	21.0	1.9
R058	R058	668531.334	233456.764	20.9	1.9
R059	R059	667557.580	233607.481	20.9	1.9
R060	R060	666513.772	233905.400	20.9	1.9
R061	R061	665477.166	234198.203	20.9	1.9
R062	R062	664456.753	234191.994	20.8	1.9
R063	R063	663472.688	234413.688	20.8	1.9
R064	R064	662560.667	234574.574	20.8	1.9
R065	R065	661782.691	234659.134	20.8	1.9
R066	R066	660976.765	234838.515	20.7	1.9
R067	R067	660180.777	234914.559	20.7	1.9
R068	R068	659373.809	234980.285	20.7	1.9
R069	R069	658564.431	235034.690	20.7	1.9
R070	R070	657769.998	235111.455	20.6	1.9
R071	R071	656975.926	235229.700	20.6	1.9
R072	R072	656184.737	235369.073	20.6	1.9

El. = NGVD

APPENDIX E

PIER EXAMPLE PHOTOGRAPHS

EXAMPLES OF PIERS, COVERING FOR SHADE AND FACILITIES

Dania Pier

Dania Pier was original built over hardbottom. The pier includes a terminal t-section and a landward facility built on a elevated deck.

DECK LAYOUT & BUILDINGS

Pensacola Pier

Commercial Pier, Ft. Lauderdale

Pompano Beach Pier

Juno Beach Pier

Naples Pier

Tournofolk, UK

SHADE

Pier with unique design

Marine shade cover

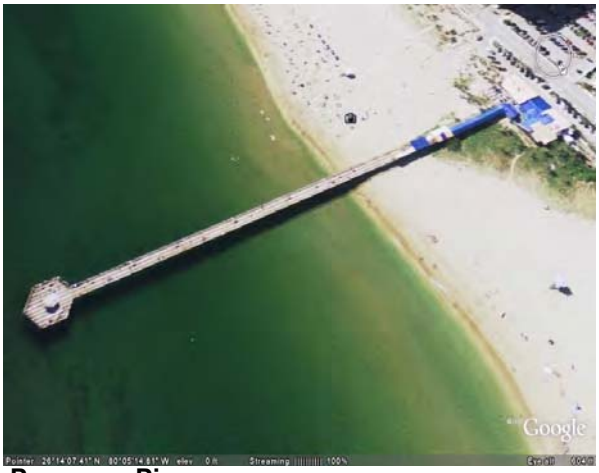
Deerfield

Jacksonville Pier

Gazebo at Commercial Pier

Juno Beach Pier

VIEW OF ALONG PIER LENGTH

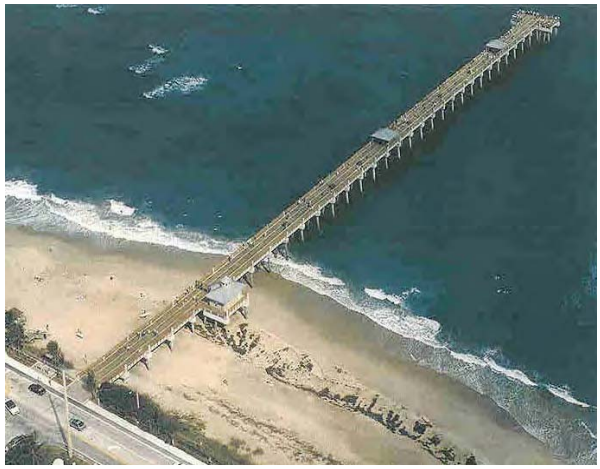


Pompano Pier

Deerfield

Deerfield Pier

Dania Beach Pier



Juno Pier

PIER BUILDINGS AND FACILITES

Old Jacksonville Pier Restaurant

Gravesend Town Pier, UK

Restaurant shaded dining

New Jacksonville Pier during construction

Wrest Point

Bradenton City Pier

APPENDIX F

SUMMARY OF SEDIMENT AND NATURAL RESOURCE COVERAGE VICINITY OF PROPOSED PIER (2006 POST-CONSTRUCTION ENVIRONMENTAL MONITORING REPORT)

TRANSECT NAME	AVG SEDIMENT % COVER	AVG MAX SEDIMENT DEPTH (cm)	AVG MAX RELIEF (cm)	AVG BARE HARD SUBSTRATE % COVER
R26+460	83.2	23.3	1.6	3.9
R27+626	83.7	17.3	6.4	2.3
R28+550	41.4	5.0	14.7	2.5
R29+700	79.9	15.5	11.9	1.8
R31+480	52.7	6.1	14.8	3.1
R33+760	60.5	8.9	17.1	5.6

TRANSECT NAME	AVG MACROALGAE % COVER	AVG TURF ALGAE / CYANOBACTERIA % COVER	AVG ENCRUSTING RED ALGAE % COVER	AVG OCTOCORAL % COVER	AVG STONY CORAL % COVER	AVG SPONGE % COVER
R26+460	20.1	2.6	0	0	0.29	1.2
R27+626	13.8	10.1	0	0	0.42	2.3
R28+550	43.3	20.5	0.2	0.01	0.71	4.4
R29+700	15.9	6.1	0.1	0.05	0.34	2.1
R31+480	33.3	16.8	0.8	0	1.1	2.2
R33+760	22.1	16.1	0	0.11	0.98	4.4

APPENDIX G

PROPERTY SOUTH OF VANDERBILT BEACH ROAD RIGHT-OF-WAY

Steve Keehn

From: McAlpinGary [GaryMcAlpin@colliergov.net]
Sent: Friday, August 31, 2007 2:40 PM
To: Steve Keehn
Subject: FW: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study
Attachments: Coral Ridge QCD to CC 966-1864.pdf; Vanderbilt Beach County Land.ppt

---

From: ZimmermanSue
Sent: Friday, August 31, 2007 1:17 PM
To: McAlpinGary
Cc: mott_t; RussellHans
Subject: RE: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study

Gary:

Attached is a copy of the Quit-Claim Deed from Coral Ridge-Collier Properties, Inc. (a predecessor to WCI) to Collier County, together with an aerial of the property identified by folio no. 00168400005. It appears from the legal description attached to the Quit-Claim Deed as Exhibit A that this property extends to the Mean High Water Line on the western border. We would suggest:

1. Have the legal descriptions for all three exhibits to the attached Quit-Claim Deed plotted and confirmed by a surveyor;
2. Based on the reservations contained in the Quit-Claim Deed and Declarations of Covenants and Restrictions, this matter should be reviewed by the County Attorneys Office to determine that a pier would be permitted; and
3. Based on the Preliminary Plan View, it appears that the pier extends from the right-of-way area, so if the legal description from the attached Quit-Claim Deed does not include the right-of-way area, then you might want to check with Transportation as to the legal description and western extent of the Vanderbilt Beach Road right-of-way.

Please do not hesitate to contact us with any additional questions or comments. Thank you.

Sue

From: mott_t
Sent: Thursday, August 30, 2007 8:17 PM
To: ZimmermanSue
Subject: FW: Request for Comment - Vanderbilt Beach, Fl Pier Feasibility Study
Importance: High

Sue,

Can you please help with this?

Thanks,

t

From: McAlpinGary
Sent: Monday, August 13, 2007 10:54 AM
To: mott_t

Folio No. 00168400005

TRAFFIC, PEDESTRIAN AND BICYCLE STUDY

Vanderbilt Fishing Pier

Prepared by:
Johnson Engineering, Inc.

JOHNSON
ENGINEERING

December 2007

Table of Contents

I. Introduction and Summary

A. Purpose of report and study objectives

This report was generated to evaluate the number of vehicular traffic, pedestrian and bicycle trips generated by the proposed recreational fishing pier and to determine the level of service impacts to the adjacent roadway network. The information presented in this report can also be used to address roadway concurrency requirements of Collier County's Land development Code and the Transportation Element, Policy 5.1 of Collier County's Growth Management Plan.

B. Executive summary

1. Site location and study area:
   The Vanderbilt Fishing Pier is to be located within Township 48 South, Range 25 East, and Section 32 of Collier County Florida. The physical property is approximately 100 foot wide right-of-way extension of Vanderbilt Beach Road west of Gulf Shore Drive. This report examines an area of influence that is similar in character and size of Naples existing and historic Fishing Pier located at the terminus of 12th Avenue South.

2. Principal findings:
   The surrounding roadway network will be capable of accommodating the vehicular traffic attracted to the proposed Fishing Pier recreational facility including the projected build-out year background traffic with remaining capacity available for future growth. Roadway concurrency and traffic operations, currently and at the horizon year of 2009, will function at an acceptable level of service. Pedestrian sidewalks and protected crossings leading to the proposed Fishing Pier and beach access are currently in place.

3. Conclusions and recommendations
   Traffic impacts of the proposed project can be accommodated within the County Transportation Concurrency Network without offsite improvements. Level of service analysis demonstrates the availability of roadway capacity currently and at the project's build-out year, 2009. The proposed project will not impact any Collier County Concurrency Segments that are currently operating or projected to operate at an unacceptable level of service within the projected five-year planning period. Therefore, this project is consistent with the County's Growth Management Plan, Transportation Element and Policy 5.1.

Figure 1: Location Map

II. Proposed Project

The Vanderbilt Fishing Pier is to be located within Township 48 South, Range 25 East, and Section 32 of Collier County Florida. The physical property is approximately 100 foot wide right-of-way extension of Vanderbilt Beach Road west of Gulf Shore Drive. Public parking is currently available at the newly opened Vanderbilt Parking Garage facility located within walking distance of the proposed pier boardwalk. The parking garage opens at 8:30 A.M. and has a vehicular capacity of 340 parking spaces. The adjacent roadways leading to the site are Vanderbilt beach Road from the east and Gulf Shore Drive from the north. Other connecting roadways include Vanderbilt Drive and U.S.41, Tamiami Trail North.

III. Area Conditions

The proposed Fishing Pier location is currently a County Public Beach access with the following land use characteristics surrounding the subject site: Residential Tourist Overlay and Commercial, C-3, and Residential, RSF-3, to the north. Residential multi-family zoning, RMF-6, located to the east and PUD, Pelican Bay, to the south. The surrounding urban area is 95% built out with sporadic infill residential lots located mostly to the north-east. The project study area of influence was determined based on 2%, 2%, 3% rule in accordance with Collier County's TIS Guidelines and Procedures as amended. Traffic distribution was evaluated using formulas based on the gravity model generator - attractor pairing methodology.

The adjacent roadways consist of 2-lane urban roadway sections north-south collector, Gulf Shore Drive and 2-lane east-west collector roadway, Vanderbilt Beach Road. Vanderbilt Drive is currently a 2-lane collector north-south roadway that is planned to be widened to a 4-lane facility according to Collier County 2030 Long Range Transportation Plan. Tamiami Trail, U.S. 41 is a major State Arterial 6-lane facility intersecting Vanderbilt Beach Road east of Vanderbilt Drive. Collier County CAT system currently operates a transit bus route along Tamiami Trail, U.S. 41 (Red Route 1A & 1B) providing an alternative transportation mode to the area. Pedestrian sidewalks and protected crossings leading to the proposed Fishing Pier and beach access are currently in place.

IV. Projected Traffic

A. Site traffic (2009 horizon year)

The Institute of Transportation Engineers Trip Generation, 7th Edition, is the industry standard reference for estimating vehicular trip generation numbers for commonly sought land use categories. However, a specific land use code for fishing piers is not available and the closest relevant land use referenced in the 7th Edition is a County or City Park.

To better evaluate trip generation numbers for the proposed Vanderbilt Fishing Pier, a traffic count survey of Naples existing Fishing Pier was conducted to determine the actual number of vehicles arriving and parking during a typical weekday. The survey also included pedestrian and bicycle traffic counts arriving to the pier. The following table summarizes the observed traffic multimodal arrivals attracted to Naples historic fishing pier:

Table 1
Trip Generation Summary

Parking Lot North Driveway	Parking Lot West Driveway	Angle Parking	Total Vehicular Arrivals	Pedestrian Arrivals	Bicycle Arrivals	AM Peak of Adjacent Street	PM Peak Of Adjacent Street
359	57	85	501	126	31	70	30

Due to the nature of recreational activities at the fishing pier, the patronage or visiting public will spend anywhere between one hour to a full day at the fishing pier. The vehicular average daily traffic (ADT), therefore, will be compared to the ADT of the adjacent roadways as an alternative to the PM peak hour as normally done. The adjacent roadway capacities (Service Volumes) were converted to ADT using the following formula:

$$ADT = \left(\frac{\text{SERVICE VOLUME}}{\text{PEAK SEASON FACTOR x DIRECTIONAL DISTRIBUTION FACTOR}} \right)$$

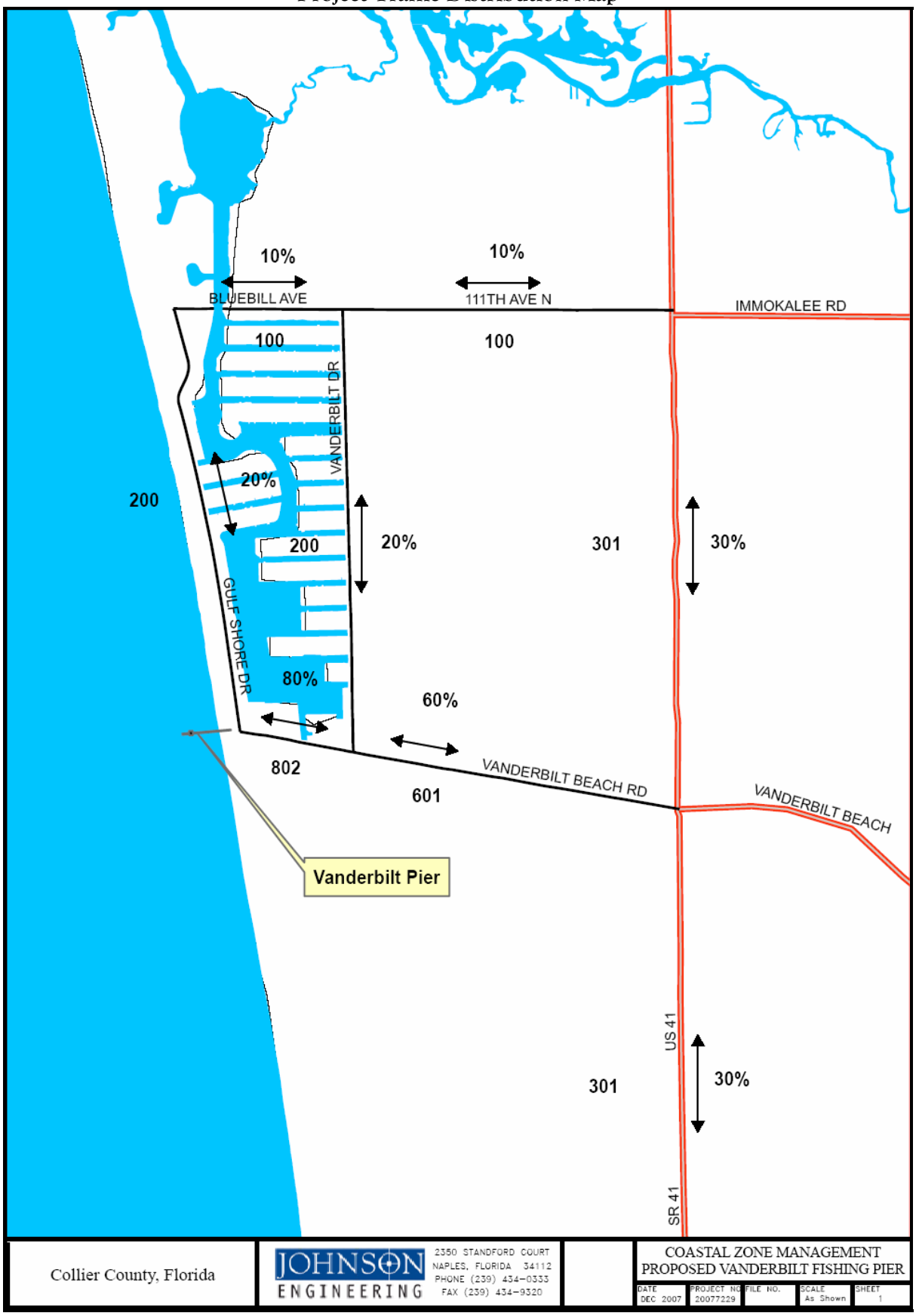
Service Volumes, Peak Season and Directional Distribution Factors were obtained from Collier County's Latest Concurrency Segment Tables. Service Volumes for segments not covered by County Concurrency were determined by similar 2-lane collector facilities. The vehicular, pedestrian and bicycle arrivals represent one way trips. The vehicular trips will return to their origin sometime after the duration of the visit. Therefore, the estimated trips that are impacting the adjacent segment are twice that of the observed arrivals.

The trips were distributed on adjacent roadways consistence with the distribution map (Figure 2). Manual site traffic assignments were then cataloged for each County road segment in ADT and presented in the table below followed by the distribution map.

Table 2
Trip Assignment

SEGMENT NUMBER	ROADWAY NAME	FROM/TO (SEGMENT)	ASSIGNED TRIPS ADT	SERVICE VOLUME	% SERVICE VOLUME
109	Vanderbilt Beach Road	Gulf Shore Drive to US 41	**802**	25460	**3.15%**
100	Tamiami Trail US 41	Immokalee Road to Vanderbilt Beach Road	**301**	65280	**0.46%**
101	Tamiami Trail US 41	Vanderbilt Beach Road to Gulf Park Drive	**301**	71537	**0.42%**
39	111th Avenue N.	Gulf Shore Dr to Vanderbilt Drive	**100**	13032	**0.77%**
40	111th Avenue N.	Vanderbilt Dr to U.S. 41	**100**	19426	**0.55%**
N/A	Vanderbilt Drive	111 Ave. to Vanderbilt Beach Road	**200**	22276*	**0.89%**
N/A	Gulf Shore Drive	Bluebill Ave to Vanderbilt Beach Road	**200**	16900*	**1.18%**

Figure 2
Project Traffic Distribution Map



B. Non-site traffic (2009 horizon year)

Traffic growth leading up to the horizon year was determined by a comparison of the County's 2006 Average Daily Traffic report and the County's latest Concurrency Table and 2006 AUIR. An estimate of the background traffic volumes was determined from a best fit linear trend analysis obtained by tabulating traffic count data taken at stations within the impacted area. A current copy of the concurrency segment table was also obtained from Collier County Transportation Staff. The following Background Traffic growth rates and projected ADTs were determined from the County's 2006 ADT Report followed by the County Roadway Segments Background Volumes with and without the project.

Table 3
Background Traffic (2009)
(2006 ADT Report)

STA	SEGM #	LOCATION	2002 ADT	2003 ADT	2004 ADT	2005 ADT	2006 ADT	% Growth	2009 Proj.
524	109	Vanderbilt Beach Road west of U.S. 41	19171	20036	20680	20080	19579	0.45%	20339
577	100	US 41 (SR 45) south of 99th Ave North	47581	49071	53423	51118	52282	2.41%	56420
563	101	US 41 (SR 45) south of Vanderbilt Beach Rd.	44546	46390	49739	0*	45504	1.40%	49967
633	N/A	Vanderbilt Dr. north of Vanderbilt Bch Rd.	7670	6958	7223	7526	6135	-3.26%	5851
585	39	111th Ave North west of Vanderbilt Dr (CR 901)	4593	4774	5500	0*	4402	0.33%	4901
613	40	111th Ave North west of Vanderbilt Dr (CR 901)	8493	8383	9292	0*	7721	-1.66%	7698

* Indicates that counts were not taken due to 2005 Hurricane.

Table 4
Concurrency Segments
Background Volumes (2009 without Project)

SEGMENT NUMBER	ROADWAY NAME	FROM/TO (SEGMENT)	BACKGROUND ADT	SERVICE VOLUME	% SERVICE VOLUME
109	Vanderbilt Beach Road	Gulf Shore Drive to US 41	**20339**	25460	**79.90%**
100	Tamiami Trail US 41	Immokalee Road to Vanderbilt Beach Road	**56420**	65280	**86.42%**
101	Tamiami Trail US 41	Vanderbilt Beach Road to Gulf Park Drive	**49967**	71537	**69.85%**
39	111th Avenue N.	Gulf Shore Dr to Vanderbilt Drive	**4901**	13032	**37.60%**
40	111th Avenue N.	Vanderbilt Dr to U.S. 41	**7698**	19426	**39.63%**
N/A	Vanderbilt Drive	111 Ave. to Vanderbilt Beach Road	**5851**	22276*	**26.27%**
N/A	Gulf Shore Drive	Bluebill Ave to Vanderbilt Beach Road	**5400**	16900*	**31.95%**

* Service volumes were calculated based on similar roadway characteristics.

Table 5
Concurrency Segments
Background Volumes (2009 with Project)

SEGMENT NUMBER	ROADWAY NAME	FROM/TO (SEGMENT)	BACKGROUND + Project	SERVICE VOLUME	% SERVICE VOLUME
109	Vanderbilt Beach Road	Gulf Shore Drive to US 41	**21141**	25460	**83.04%**
100	Tamiami Trail US 41	Immokalee Road to Vanderbilt Beach Road	**56721**	65280	**86.90%**
101	Tamiami Trail US 41	Vanderbilt Beach Road to Gulf Park Drive	**50268**	71537	**70.27%**
39	111th Avenue N.	Gulf Shore Dr to Vanderbilt Drive	**5001**	13032	**38.37%**
40	111th Avenue N.	Vanderbilt Dr to U.S. 41	**7798**	19426	**40.14%**
N/A	Vanderbilt Drive	111 Ave. to Vanderbilt Beach Road	**6051**	22276*	**27.16%**
N/A	Gulf Shore Drive	Bluebill Ave to Vanderbilt Beach Road	**5600**	16900*	**33.14%**

* Service volumes were calculated based on similar roadway characteristics.

Table 5 illustrates that the County Concurrency Segments and non Concurrency Segments will operate at an acceptable level of service including the project trips applied at the horizon year. The County's Minimum Level of Service Standard D will be maintained.

V. Analysis

A. Site access:
Roadway access to the site will be from the existing Vanderbilt Garage access point connection onto Vanderbilt Beach Road. Pedestrian traffic will walk to the fishing pier via existing protected crosswalks and sidewalks for an approximate distance of 350 feet from the garage driveway.

B. Capacity and level of service:
As demonstrated in Tables 4 and 5 of this report and in accordance with Collier County Concurrency Management rules, future roadway conditions will accommodate the proposed project traffic.

C. Traffic safety:
The proposed project will not create a traffic safety concern based on the projected operating level of service conditions within the area of influence. Pedestrian and bicycle facilities should be reevaluated at time of site planning and design to insure a safer inter-modal interaction.

VI. Improvement Analysis

The arterial and collector level of service analysis of this report demonstrates the availability of capacity to accommodate both the project and background (non-site) traffic at the proposed horizon year with no improvement necessary.

VII. Conclusion

Traffic impacts of the proposed development can be accommodated within the impacted transportation network and at the proposed build-out year without offsite improvement. The proposed project will not impact any Collier County Concurrency Segments or intersections that are currently operating or are projected to operate at an unacceptable level of service within the projected five-year planning period. Therefore, this project is consistent with the County's Growth Management Plan, Transportation Element and Policy 5.1 and should pass the County Roadway Concurrency determination.

APPENDIX I

TRAFFIC, PEDESTRIAN AND BICYCLE SURVEY

Johnson Engineering, Inc.
2350 Stanford Court
Naples, FL 34112
www.johnsonengineering.com

File Name : Vehicle Parking Counts
Site Code : 00000000
Start Date : 11/7/2007
Page No : 1

Naples Pier Parking Average Daily Traffic

Groups Printed- Unshifted

	PIER PARKING From North	PIER PARKING From East	PIER PARKING From West	
Start Time	North Driveway	Angle Parking	West Driveway	Int. Total
08:15 AM	35	11	1	47
08:30 AM	7	1	0	8
08:45 AM	11	2	2	15
Total	53	14	3	70
09:00 AM	3	2	0	5
09:15 AM	6	1	2	9
09:30 AM	3	3	1	7
09:45 AM	4	2	0	6
Total	16	8	3	27
10:00 AM	6	2	0	8
10:15 AM	12	2	2	16
10:30 AM	9	2	2	13
10:45 AM	10	5	2	17
Total	37	11	6	54
11:00 AM	16	1	2	19
11:15 AM	17	1	1	19
11:30 AM	4	4	1	9
11:45 AM	7	0	0	7
Total	44	6	4	54
12:00 PM	16	2	6	24
12:15 PM	11	0	3	14
12:30 PM	5	1	0	6
12:45 PM	5	1	1	7
Total	37	4	10	51
01:00 PM	6	0	1	7
01:15 PM	5	2	0	7
01:30 PM	7	0	2	9
01:45 PM	4	3	1	8
Total	22	5	4	31
02:00 PM	6	1	1	8
02:15 PM	12	3	2	17
02:30 PM	8	1	2	11
02:45 PM	12	0	1	13
Total	38	5	6	49
03:00 PM	13	2	3	18
03:15 PM	8	3	2	13
03:30 PM	8	3	3	14
03:45 PM	10	0	3	13
Total	39	8	11	58
04:00 PM	4	2	0	6
04:15 PM	4	1	1	6
04:30 PM	4	2	2	8
04:45 PM	8	1	3	12
Total	20	6	6	32

Johnson Engineering, Inc.
2350 Stanford Court
Naples, FL 34112
www.johnsonengineering.com

File Name : Vehicle Parking Counts
Site Code : 00000000
Start Date : 11/7/2007
Page No : 2

Groups Printed- Unshifted

	PIER PARKING From North	PIER PARKING From East	PIER PARKING From West	
Start Time	North Driveway	Angle Parking	West Driveway	Int. Total
05:00 PM	7	1	1	9
05:15 PM	4	3	0	7
05:30 PM	6	2	1	9
05:45 PM	1	2	0	3
Total	18	8	2	28
06:00 PM	8	2	0	10
06:15 PM	5	0	2	7
06:30 PM	11	3	0	14
06:45 PM	5	0	0	5
Total	29	5	2	36
07:00 PM	3	5	0	8
07:15 PM	3	0	0	3
07:30 PM	0	0	0	0
Grand Total	359	85	57	501
Apprch %	100	100	100	
Total %	71.7	17	11.4	

Johnson Engineering, Inc.
2350 Stanford Court
Naples, FL 34112
www.johnsonengineering.com

File Name : bicycles peds
Site Code : 00000000
Start Date : 11/29/2007
Page No : 1

Pedestrian and Bicycle Arrival Counts

Groups Printed- Unshifted

	Naples Pier From North	Naples Pier From East	
Start Time	Peds	Bicycles	Int. Total
08:30 AM	6	0	6
08:45 AM	1	0	1
Total	7	0	7
09:00 AM	6	0	6
09:15 AM	2	0	2
09:30 AM	3	2	5
09:45 AM	2	0	2
Total	13	2	15
10:00 AM	5	2	7
10:15 AM	2	2	4
10:30 AM	3	2	5
10:45 AM	1	1	2
Total	11	7	18
11:00 AM	2	0	2
11:15 AM	3	0	3
11:30 AM	5	1	6
11:45 AM	0	0	0
Total	10	1	11
12:00 PM	5	0	5
12:15 PM	0	1	1
12:30 PM	0	0	0
12:45 PM	0	0	0
Total	5	1	6
01:00 PM	1	0	1
01:15 PM	0	0	0
01:30 PM	6	3	9
01:45 PM	0	3	3
Total	7	6	13
02:00 PM	1	0	1
02:15 PM	3	0	3
02:30 PM	2	1	3
02:45 PM	0	0	0
Total	6	1	7
03:00 PM	3	0	3
03:15 PM	0	0	0
03:30 PM	3	1	4
03:45 PM	3	0	3
Total	9	1	10
04:00 PM	2	0	2
04:15 PM	2	0	2
04:30 PM	0	2	2
04:45 PM	0	2	2
Total	4	4	8

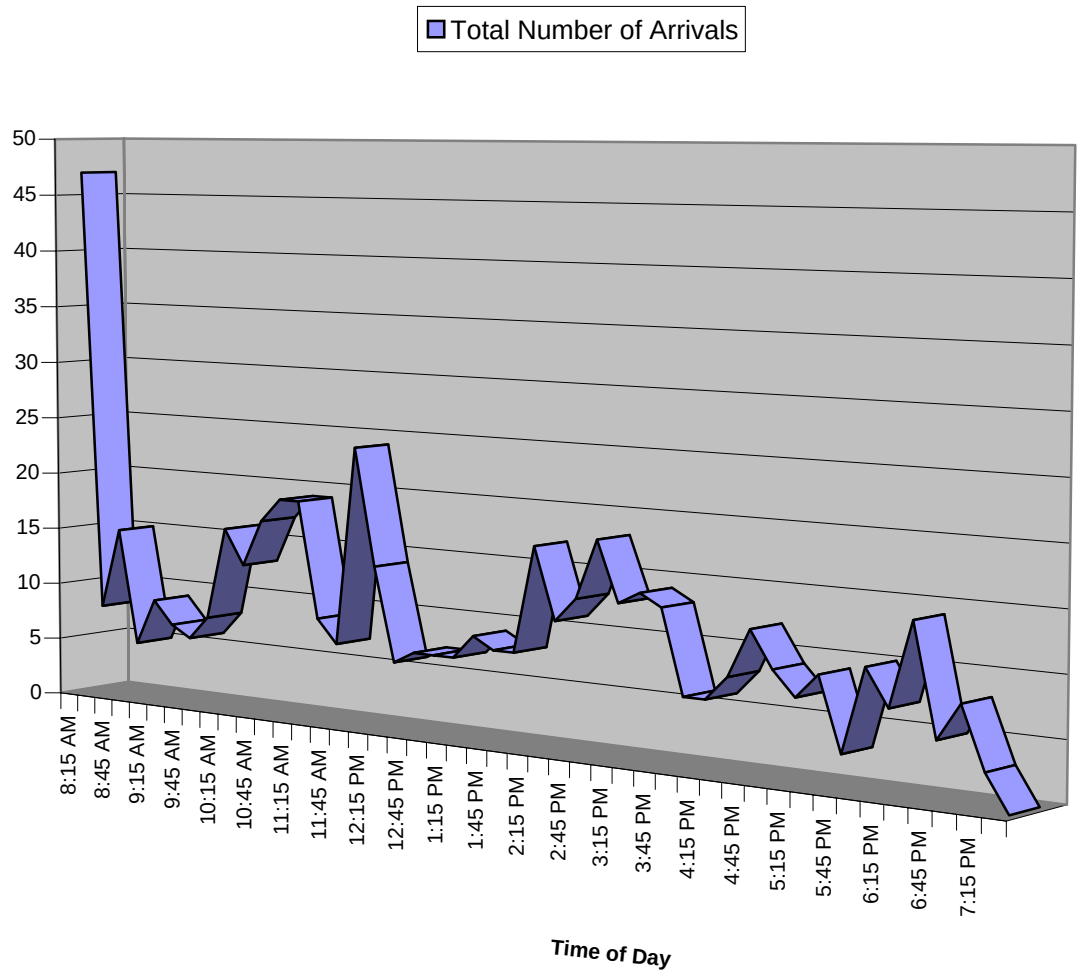
Johnson Engineering, Inc.
2350 Stanford Court
Naples, FL 34112
www.johnsonengineering.com

File Name : bicycles peds
Site Code : 00000000
Start Date : 11/29/2007
Page No : 2

Groups Printed- Unshifted

	Naples Pier From North	Naples Pier From East	
Start Time	Peds	Bicycles	Int. Total
05:00 PM	3	1	4
05:15 PM	5	1	6
05:30 PM	1	0	1
05:45 PM	6	0	6
Total	15	2	17
06:00 PM	11	2	13
06:15 PM	11	0	11
06:30 PM	6	2	8
06:45 PM	2	2	4
Total	30	6	36
07:00 PM	2	0	2
07:15 PM	2	0	2
07:30 PM	5	0	5
Grand Total	126	31	157
Apprch %	100	100	
Total %	80.3	19.7	

Naples Pier Parking
Vehicular Activity



Vanderbilt Parking Garage Availability Summary

Month	Number of Times Full per Month	Average Minutes Full	Approximate Time	Comments
March-06	10	41	11:00 AM to 2:30PM	Opening Month
April-06	3	50	11:00 AM to 1:30PM	
May-06	3	40	11:00 AM to 2:00PM	
June-06	0	0		
July-06	2	45	10:30 AM to 2:00PM	
August-06	2	30	11:00 AM to 2:00PM	
September-06	3	30	9:00 AM to 1:00PM	
October-06	1	30	10:00 AM to 11:00AM	
November-06	0	0		
December-06	3	30	11:00 AM to 1:30PM	
January-07	4	45	11:00 AM to 2:00PM	
February-07	7	47	10:30 AM to 1:00PM	
March-07	13	35	10:00 AM to 3:00PM	Twice on two days
April-07	16	33	10:00 AM to 3:00PM	Twice on three days
May-07	3	30	10:30 AM to 11:30PM	
June-07	3	30	10:00 AM to 2:00PM	
July-07	3	30	10:00 AM to 2:00PM	
August-07	1	30	10:00 AM to 11:00PM	
September-07	2	30	11:00 AM to 12:30PM	
October-07	0	0		
November-07	0	0		
Average	**4**	**29**		

To: Gary McAlpin

From: Ellen Mayberry
12-6-07

VANDERBILT BEACH GARAGE
GARAGE FULL, DATES & TIMES

2006

DATE	TIME	LENGTH	COUNT TOTALS
MARCH			
3-6	First Day, did not get full.		564
3-9	2:00 pm	1 hour	1153
3-11	12:00 pm	1 hour	664
3-14	10:30 am	30 mins	463
3-15	11:00 am	30 mins	887
3-16	11:00 am	1 hour	640
3-18	11:00 am	30 mins	715
3-19	12:00 pm	1 hour	823
3-21	10:30 am	20 mins	602
3-28	12:30 pm	30 mins	524
3-31	10:30 am	30 mins	574
APRIL			
4-15	11:00 am	30 mins	913
4-16	11:30 am	1 hour	1018
4-20	11:00 am	1 hour	536
MAY			
5-7	1:00 pm	30 mins	695
5-28	11:00 am	30 mins	840
5-29	11:00 am	1 hour	612
JUNE			
	No closings this month		
JULY			
7-4	12:00 pm	1 hour	725
7-15	10:30 am	30 mins	482
AUGUST			
8-13	1:00 pm	30 mins	543
8-20	11:00 am	30 mins	394
SEPTEMBER			
9-16	9:00 am	30 mins	401

9-23	12:00 pm	30 mins	459
9-30	12:00 pm	30 mins	444
OCTOBER			
10-1	10:00 am	30 mins	507
NOVEMBER			
	No closings this month		
DECEMBER			
12-28	12:00 pm	30 mins	639
12-29	11:00 am	30 mins	743
12-30	12:30 pm	30 mins	686

2007

DATE	TIME	LENGTH	COUNT TOTALS
JANUARY			
1-6	11:00 am	1 hour	635
1-13	12:00 pm	1 hour	626
1-15	1:00 pm	30 mins	560
1-20	1:30 pm	30 mins	705
FEBRUARY			
2-10	12:00 pm	30 mins	720
2-20	12:30 pm	30 mins	580
2-21	11:30 am	30 mins	706
2-22	12:15 pm	1 hour	631
2-23	11:30 am	1 hour	705
2-24	11:00 am	1 hour	754
2-25	10:30 am	1 hour	834
MARCH			
3-8	10:40 am	30 mins	733
3-9	11:00 am	30 mins	642
3-10	10:00 am	30 mins	852
3-11 Closed	10:00 am	30 mins	
Twice	1:00 pm	30 mins	906
3-13	11:00 am	30 mins	715
3-15	11:00 am	30 mins	678
3-18	12:00 pm	30 mins	596
3-23	10:30 am	1 hour	878
3-24	10:00 am	30 mins	845
3-25	10:00 am	1 hour	961
3-31 Closed	12:00 pm	30 mins	
Twice	2:00 pm	30 mins	818

APRIL				
4-1	Closed	11:00 am	1 hour	
	Twice	1:00 pm	30 mins	960
4-3		11:00 am	30 mins	811
4-4		12:00 pm	30 mins	828
4-7		11:00 am	30 mins	707
4-8		1:00 pm	30 mins	745
4-13		12:00 pm	30 mins	770
4-14		10:30 am	30 mins	810
4-18		11:00 am	30 mins	490
4-21		1:00 pm	1 hour	653
4-22	Closed	12:00 pm	30 mins	
	Twice	2:00 pm	30 mins	855
4-24		10:00 am	30 mins	366
4-28		11:00 am	20 mins	657
4-29	Closed	12:00 pm	30 mins	
	Twice	2:00 pm	30 mins	859
MAY				
5-5		10:30 am	30 mins	642
5-27		10:45 am	30 mins	840
5-28		11:00 am	30 mins	805
JUNE				
6-3		1:00 pm	30 mins	698
6-9		10:00 am	30 mins	638
6-23		10:00 am	30 mins	661
JULY				
7-4		1:00 pm	30 mins	603
7-8		1:00 pm	30 mins	619
7-14		10:00 am	30 mins	572
AUGUST				
8-19		10:00 am	30 mins	573
SEPTEMBER				
9-2		11:00 am	30 mins	810
9-3		12:00 pm	30 mins	672
OCTOBER				
		No closings this month		
NOVEMBER				
		No closings this month		

Naples Pier Crime Analysis

Infractions	2005	2006	2007
Fishing and other infractions	42	61	61
Possession of Alcohol/Controlled Substance	12	20	19
Theft	5	5	4
Disorderly Conduct	2	4	7
Robery	0	0	1
Criminal Mischief	1	4	2
Burglary	2	7	1
Traffic/Speeding	0	3	0
Battery/Fighting	1	2	0
Tresspass	3	1	0
Total Police Reports	**68**	**107**	**95**

McAlpinGary

From: HalasFrank
Sent: Friday, July 27, 2007 3:18 PM
To: mudd_j; ochs_l
Cc: ramsey_m; McAlpinGary
Subject: FW: Naples Pier/Vanderbilt Pier

FYI

From: jIM Burke [mailto:therightperson@msn.com]
Sent: Thursday, July 26, 2007 10:22 PM
To: HalasFrank
Subject: Fw: Naples Pier/Vanderbilt Pier

Frank, FYI----- Original Message -----

From: drjohnnys@aol.com
To: therightperson@msn.com
Sent: Thursday, July 26, 2007 9:58 PM
Subject: Re: Naples Pier/Vanderbilt Pier

Your not, Jim Our Pier has been an asset to our community with limited problems ..I would be a great idea for it to happen in the northern end of town, I believe the commmunity would love it...Vice Mayor Johnny Nocera

-----Original Message-----
From: jIM Burke <therightperson@msn.com>
To: citycouncil@naplesgov.com
Sent: Thu, 26 Jul 2007 3:45 pm
Subject: Naples Pier/Vanderbilt Pier

Mayor Barnett, we spent a bit of time together during the "Annexation Wars." I was always accompanied by the "Professor." The reason for this email is that the suggestion of a Vanderbilt Pier has caused a number of emails, from PB residents, denouncing such an idea and citing the Naples Pier as a glaring example of why a Pier is a bad idea. The NP is cited as a center for "drugs, illicit sex, vandalism, assorted criminal activities and a gathering place for undesirables." These emails are being sent to the CCC and I have seen most of them. A rewcnt one has caused me to ask myself what have I missed? I am sure that this criminal and illicit sexual activity would have received sensational coverage from local news outlets. I haven't seen it. In adition my experiences with the Naples Pier have been most pleasant. Am I missing something?
=

McAlpinGary

From: HalasFrank
Sent: Friday, July 27, 2007 3:20 PM
To: mudd_j; ochs_l
Cc: ramsey_m; McAlpinGary
Subject: FW: Naples Pier/Vanderbilt Pier

From: jIM Burke [mailto:therightperson@msn.com]
Sent: Friday, July 27, 2007 9:43 AM
To: Mayornaples@aol.com
Subject: Re: Naples Pier/Vanderbilt Pier

Mayor Bill, your sentiments are my feelings also. thank you for the info.

> ----- Original Message -----
> **From:** Mayornaples@aol.com
> **To:** therightperson@msn.com
> **Cc:** mmoose@naplesgov.com
> **Sent:** Friday, July 27, 2007 8:43 AM
> **Subject:** Re: Naples Pier/Vanderbilt Pier
>
> **Dear Jim,**
>
> **Thanks for your e-mail.**
>
> **As you know I am celebrating my 34th year here in Naples. The Naples Pier has been a stellar landmark for Naples as long as I can remember. It serves our young and old alike. It draws tourists and locals, all enjoy walking on it, or under it, sitting on a bench on it, fishing off of it, or just watching a sunset from the end of it. I love the Naples Pier. and to this day my family, friends, and myself continue to use and enjoy it.**
>
> **For some person or persons to allege that the Naples Pier is anything other than what I described above is ludicrous, and they must be delusional!**
>
> **We monitor it closely at night, there is always a beach patrol officer nearby to assist citizens and answer questions.**
>
> **What else can I possibly say?**
>
> **Best Regards,**
> **Mayor Bill**
