

# PORT EVERGLADES MASTER PLAN

---

## TABLE OF CONTENTS AND PROJECT INTRODUCTION

PRESENTED BY

DMJM HARRIS | AECOM

# TABLE OF CONTENTS

Element	Title	Page
<hr/>		
Table of Contents .....		iii
List of Figures.....		v
List of Tables.....		x
<b>EXECUTIVE SUMMARY (Separately bound)</b>		
<b>PROJECT INTRODUCTION .....</b>		<b>xii</b>
<b><u>PHASE I</u></b>		
<b>ELEMENT 1: EXISTING CONDITIONS ASSESSMENT .....</b>		
1.1	Introduction.....	1-1
1.2	Master Planning Context: Regional Setting and Port Environs .....	1-1
1.3	Land Uses .....	1-10
1.4	Opportunities and Constraints.....	1-12
1.5	Facilities Inventory.....	1-17
1.6	Current Projects Influencing Planning Opportunities.....	1-17
1.7	Berthing Analysis.....	1-30
1.8	Cargo Capacity Analysis.....	1-44
1.9	Container Wharf Operations.....	1-69
1.10	On-Port Traffic Circulation and Parking .....	1-76
1.11	Intermodal Transportation Network .....	1-84
1.12	Environmental Conditions .....	1-102
<b>ELEMENT 2: MARKET ASSESSMENT</b>		
2.1	Introduction.....	2-1
2.2	Historic Overview of Core Cargo and Cruise Operations .....	2-1
2.3	Containerized Cargo Market .....	2-9
2.4	Dry Bulk Cargo Market.....	2-58
2.5	Liquid Bulk Market .....	2-72
2.6	Cruise Market .....	2-96
2.7	Intermodal Rail Market/ICTF Utilization .....	2-183
<b>ELEMENT 3: PLAN DEVELOPMENT</b>		
3.1	Introduction .....	3-1
3.2	Conceptual Planning Process and Visioning Goals.....	3-1
3.3	Terminal Design Trends.....	3-2
3.4	Cargo Operational Enhancement Opportunities.....	3-13
3.5	Conceptual Planning Studies .....	3-19
3.6	Facility Needs Assessment .....	3-29
3.7	Conceptual Phase I 20-Year Vision Plan.....	3-37
3.8	Interface of Phase I Vision Plan with Ongoing Port and Adjacent Projects .....	3-46
3.9	Circulation and Parking.....	3-54

**ELEMENT 4: STRATEGY DEVELOPMENT**

4.1 Introduction.....4-1

4.2 Business and Asset Utilization Strategies .....4-2

4.3 Summary of Ten Key Business Strategy Concepts..... 4-10

**PHASE II**

4.4 Financial Strategies .....4-11

4.5 Economic Impact Analysis .....4-18

**ELEMENT 5: FINAL MASTER PLAN**

5.1 Introduction .....5-1

5.2 Evaluation of the Phase I, 20-Year Vision Plan .....5-1

5.3 The Final 20-Year Vision Plan ..... 5-12

5.4 The 5-Year Plan .....5-14

5.5 The 10-Year Vision Plan .....5-27

5.6 The 20-Year Vision Plan ..... 5-35

5.7 Vision Plan Summary.....5-41

**ELEMENT 6: PLAN IMPLEMENTATION**

6.1 Introduction .....6-1

6.2 Bulkhead Conditions .....6-1

6.3 ACOE Dredging and Widening Program ..... 6-7

6.4 Circulation and Traffic Considerations .....6-9

6.5 Plan Costs and Funding .....6-18

**APPENDICES**

A Environmental Workshop Responses

B Preliminary Obstacle Clearance Analysis by Jacobs Consultancy

C ROI and NPV Calculation Tables

D The Local and Regional Economic Impacts of Port Everglades

E Project-Decision Matrix for Projects in the 5-Year Plan

F Project Order-of-Magnitude Cost Estimates

G Bulkhead Order-of-Magnitude Cost Estimates

H People Mover Corridor Report by Lea + Elliot Team

I List of Acronyms

## LIST OF FIGURES

Figure	Title	Page
1.2-1	Core South Florida Region.....	1-1
1.2-2	South Florida Population Growth, 2000-2030.....	1-2
1.2-3	Port Everglades Jurisdictional Area.....	1-5
1.2-4	Port Everglades and Environs.....	1-6
1.3-1	Current Land Use Map.....	1-11
1.4-1	Opportunities and Constraints Map.....	1-13
1.7-1	Monthly Berth Utilization for Southport Berths.....	1-32
1.7-2	Monthly Berth Utilization for Midport Berths (16 - 21).....	1-34
1.7-3	Berth Utilization for Midport Berths (22 - 29).....	1-35
1.7-4	Northport Berth Utilization Summary.....	1-36
1.7-5	Berth Utilization for Northport Berths (8 - 15).....	1-37
1.7-6	Container Vessels - LOA vs. Number of Calls.....	1-38
1.7-7	Passenger Vessels - LOA vs. Number of Calls.....	1-39
1.7-8	Petroleum Vessels - LOA vs. Number of Calls.....	1-40
1.7-9	General Cargo Vessels - LOA vs. Number of Calls.....	1-41
1.7-10	Break-Bulk Vessels - LOA vs. Number of Calls.....	1-42
1.7-11	All Vessels - LOA vs. Number of Calls.....	1-43
1.8-1	Container Operations - Unit Berth Capacity.....	1-56
1.8-2	Container Operations - Unit Yard Capacity.....	1-62
1.8-3	Non-Containerized Cargo - Unit Berth Capacity.....	1-67
1.8-4	Non-Containerized Cargo - Unit Yard Capacity.....	1-68
1.9-1	Wharf Operations (Pre-Wilma).....	1-70
1.9-2	Wharf Operations (Post-Wilma Damage).....	1-71
1.9-3	Wharf Operations (Alternative A).....	1-72
1.9-4	Wharf Operations (Alternative B).....	1-73
1.9-5	Wharf Operations (Alternative C).....	1-74
1.10-1	Turning Movement Counts, Overall Map.....	1-77
1.10-2	Turning Movement Counts, Intersection 1 Raw Data.....	1-78
1.10-3	Turning Movement Counts, Intersection 2 Raw Data.....	1-78
1.10-4	Turning Movement Counts, Intersection 3 Raw Data.....	1-79
1.10-5	Average Daily Traffic, Overall Map.....	1-79
1.10-6	Average Daily Traffic, Intersection 1 Raw Data.....	1-80
1.10-7	Average Daily Traffic, Intersection 2 Raw Data.....	1-80
1.10-8	Average Daily Traffic, Intersection 3 Raw Data.....	1-81
1.10-9	Average Daily Traffic, Intersection 4 Raw Data.....	1-81
1.11-1	Congested Corridors in Florida.....	1-85
1.11-2	I-595 Study Map.....	1-87
1.11-3	The FEC System.....	1-89
1.11-4	South Florida East Coast Corridor Study Map.....	1-90
1.11-5	The CSX System.....	1-92
1.11-6	The Norfolk Southern System.....	1-93
1.12-1	Aerial Map of Port and Inlet.....	1-102

1.12-2 ACOE and EPA Map of Proposed ODMS ..... 1-107

1.12-3 Reported Sightings and Likely Presence of Endangered or Threatened Species ..... 1-109

1.12-4 2006 Seagrass Mapping and Assessment..... 1-117

1.12-5 Percent Cover of All Dominant Coral Species in All Zones ..... 1-118

  

2.2-1 Tonnage at Port Everglades..... 2-2

2.2-2 Comparison of Tonnages at Port Everglades by Cargo Type..... 2-3

2.2-3 TEU Movements at Port Everglades ..... 2-4

2.2-4 Cruise Passengers at Port Everglades by Cruise Type..... 2-5

2.2-5 Comparison of Cruise Passengers at Port Everglades by Cruise Type ..... 2-5

2.2-6 Comparison of Ship Calls at Port Everglades by Type..... 2-6

2.2-7 Port Revenues FY 96/97 - FY 05/06..... 2-7

2.2-8 Port Revenues FY 96/97..... 2-8

2.2-9 Port Revenues FY 05/06..... 2-8

  

2.3-1 Historical TEUs Handled at Port Everglades ..... 2-9

2.3-2 Share of Port Everglades Containerized Cargo by Trade Route ..... 2-10

2.3-3 Share of Port Everglades Containerized Cargo by Trade Route – FY 2006 Short Tons ..... 2-10

2.3-4 Total Containerized Cargo Activity by Port Range (TEUs) ..... 2-14

2.3-5 Imported Containerized Cargo Tonnage by Overseas Trading Area ..... 2-14

2.3-6 Share of Imported Containerized Tonnage by Detailed Trade Area ..... 2-15

2.3-7 Imported Containerized Tonnage by Port Range ..... 2-15

2.3-8 Containerized Cargo Activity at North Atlantic Ports (TEUs) ..... 2-16

2.3-9 Containerized Cargo Activity at South Atlantic Ports (TEUs)..... 2-17

2.3-10 Containerized Cargo Activity at Gulf Coast Ports (TEUs)..... 2-17

2.3-11 South Atlantic Ports Historical Containerized Growth (TEUs)..... 2-18

2.3-12 Indexed Container Growth of South Atlantic Ports (TEUs ..... 2-18

2.3-13 Historical Asian Trade at Key South Atlantic Ports (Tons) ..... 2-19

2.3-14 Florida Ports Container Activity (TEUs ..... 2-19

2.3-15 Port Everglades and Florida Ports Indexed Growth  
In Comparison to US and South Atlantic Ports (TEUs)..... 2-20

2.3-16 Container Throughput at the Port of Charleston (TEUs)..... 2-21

2.3-17 Port of Charleston Historical Trading Patterns for Containerized Cargo ..... 2-21

2.3-18 Charleston Share of Containerized Cargo by Trade Lane 2006 (TEUs) ..... 2-22

2.3-19 Container Throughput at the Port of Savannah (TEUs)..... 2-23

2.3-20 Port of Savannah Historical Trading Partners for Containerized Cargo ..... 2-24

2.3-21 Savannah Share of Containerized Cargo by Trade Lane 2006 (TEUs) ..... 2-24

2.3-22 Container Throughput at JAXPORT (TEUs) ..... 2-26

2.3-23 JAXPORT Historical Trading Partners for Containerized Cargo ..... 2-26

2.3-24 JAXPORT Share of Containerized Cargo by Trade Lane 2006 (TEUs ..... 2-27

2.3-25 Container Throughput at the Port of Palm Beach (TEUs)..... 2-28

2.3-26 Port of Palm Beach Share of Containerized Cargo by Trade Lane - 2006 Loaded TEUs..... 2-28

2.3-27 Container Throughput at the Port of Miami (TEUs) ..... 2-29

2.3-28 Port of Miami Historical Trading Partners of Import Containerized Cargo ..... 2-30

2.3-29 Miami Share of Containerized Cargo by Trade Lane - 2006 Loaded TEUs ..... 2-30

2.3-30 Containerized Throughput at the Port of Tampa ..... 2-32

2.3-31 Historical Imported Containerized Trade at the Port of Tampa..... 2-32

2.3-32 Port of Tampa Share of Containerized Cargo by Trade Lane - 2006 Loaded TEUs..... 2-33

2.3-33 Concentration of Distribution Centers of Top Florida Importers ..... 2-37

2.3-34 Port Advantage to Selected Inland Destinations, Ranked by Miles ..... 2-37

2.3-35 Concentration of Key Exporter DC and Consolidation Facilities ..... 2-43

2.3-36 Comparison of Terminal Throughput Cost per Box ..... 2-47

2.3-37 Port Everglades and Port of Miami Combined Historical Container Throughput (TEUs) ..... 2-51

2.3-38 Florida and South Florida Population Growth ..... 2-52

2.3-39 Asia and China GDP Growth..... 2-52

2.3-40 Latin America and Caribbean GDP Growth ..... 2-53

2.3-41 Low/Base and High Unconstrained Forecast..... 2-55

2.3-42 Low/High Unconstrained Forecast..... 2-56

2.4-1 Summary Chart of Base, High, and Low Forecasts ..... 2-67

2.4-2 Baseline Forecast Summary ..... 2-68

2.4-3 High Forecast Summary ..... 2-69

2.4-4 Low Forecast Summary ..... 2-69

2.4-5 Needs Assessment Forecast Summary..... 2-70

2.5-1 Port Everglades Petroleum Markets ..... 2-72

2.5-2 Port Everglades Annual Petroleum Throughput and Revenue ..... 2-73

2.5-3 Petroleum Terminals at Port Everglades ..... 2-74

2.5-4 Terminal Tank Working Capacity Comparisons ..... 2-75

2.5-5 Port Everglades Product Distribution..... 2-77

2.5-6 U.S. Gulf Coast Petroleum Sources ..... 2-78

2.5-7 Foreign Petroleum Sources..... 2-78

2.5-8 East Coast Petroleum Sources ..... 2-78

2.5-9 Port Everglades Foreign Petroleum Imports by Region ..... 2-80

2.5-10 Distribution of Tankers Calling at Port Everglades by LOA ..... 2-82

2.5-11 Distribution of Tankers Calling at Port Everglades by Beam Width ..... 2-83

2.5-12 Distribution of Fully Loaded Tankers Calling at Port Everglades by Draft..... 2-83

2.5-13 Total Petroleum Products Received at Port Everglades 1999-2003 ..... 2-85

2.5-14 Total Petroleum Products Received at Port Everglades FY 03/04-FY05/06 ..... 2-85

2.5-15 Competitive Florida Port Supply Overlap..... 2-86

2.5-16 Population Comparison 2000-2030 ..... 2-88

2.5-17 Port Everglades Petroleum Throughput Forecast 1999-2020..... 2-90

2.5-18 Forecast Domestic and Foreign Supply 1999-2020 ..... 2-91

2.5-19 Annual Tanker Calls at Port Everglades 1999-2020 ..... 2-92

2.5-20 Annual Barge Calls at Port Everglades 1999-2020 ..... 2-93

2.5-21 Annual LPG Barge Calls at Port Everglades 1999-2020 ..... 2-93

2.6-1 Conventional Worldwide Cruise Passenger Growth, 1990-2005 ..... 2-99

2.6-2 Historic and Projected North American Industry Berth Supply..... 2-103

2.6-3 Projected North American and Worldwide Passenger Levels, 2005 – 2020 ..... 2-104

2.6-4 Cruise Capacity by Cruise Group ..... 2-105

2.6-5 Growth by Length of Cruise, North American Operators ..... 2-112

2.6-6 Worldwide Cruise Region Seasonality..... 2-113

2.6-7 North American Capacity Placement by Region, 1997 - 2005..... 2-114

2.6-8 Primary Caribbean Cruise Target Sectors ..... 2-117

2.6-9 North American Capacity Placement..... 2-122

2.6-10 Regions of Importance to Port Everglades, Passenger Bed-Nights..... 2-124

2.6-11 Cruise Revenue Passenger Throughput, FY 2000 - FY 2006 ..... 2-129

2.6-12 Cruise Vessel Throughput, FY 2000 - FY 2006 ..... 2-129

2.6-13 Revenue Cruise Passengers per Vessel, FY 2000 - FY 2006 ..... 2-130

2.6-14 Cruise Revenue Passenger Growth, FY 1996-FY 2006..... 2-131

2.6-15 Cruise Line Activity, FY 2006 ..... 2-131

2.6-16 Regional Homeport Passenger Throughput..... 2-134

2.6-17 Historical Traffic for Port Everglades, 1996 - 2006..... 2-137

2.6-18 Passenger per Vessel Projections, 2.5 Percent Annual Multi-Day Growth ..... 2-138

2.6-19 Daily / Non-Conventional Revenue Passenger Projections ..... 2-139

2.6-20 Daily / Non-Conventional Cruise Call Projections ..... 2-140

2.6-21 Approach A – Natural Growth Trend Regression Analysis, 2007 - 2026 ..... 2-141

2.6-22 Regions of Importance to Port Everglades, Passenger Bed-Nights..... 2-142

2.6-23 Approach B Projections - Multi-Day Target Market Capture, 2007 - 2026 ..... 2-143

2.6-24 Approach C – Scenario-Based Projections, 2007 - 2026 ..... 2-145

2.6-25 Range of Revenue Total Passenger Projections ..... 2-146

2.6-26 Cruise Vessel Calls..... 2-151

2.6-27 Passengers per Cruise Vessel ..... 2-152

2.6-28 Passengers per Vessel Comparison ..... 2-153

2.6-29 Combined Vessel Call Projections, 2007 - 2026 ..... 2-154

2.6-30 Monthly Passenger Traffic, 2000 - 2006 ..... 2-155

2.6-31 Monthly Vessel Calls, 2000 - 2006 ..... 2-156

2.6-32 Monthly Passenger Traffic Percentages, 2000 - 2006 ..... 2-157

2.6-33 Monthly Passenger Model ..... 2-158

2.6-34 Monthly Passenger Traffic - 2010 ..... 2-158

2.6-35 Monthly Passenger Traffic - 2015 ..... 2-159

2.6-36 Monthly Passenger Traffic - 2020 ..... 2-159

2.6-37 Peak Month Passengers, March 11.88 Percent (5-year average), 2007 - 2026 ..... 2-160

2.6-38 Peak Month Vessel Calls, March 11.88 Percent (5-year average), 2007 - 2026 ..... 2-160

2.6-39 Port Everglades Daily Passenger Traffic Comparison, 2000 – 2006 ..... 2-161

2.6-40 Saturday/Sunday Traffic by Percentage ..... 2-162

2.6-41 Friday / Monday Traffic ..... 2-163

2.6-42 Traffic Comparison, Port of Los Angeles ..... 2-164

2.6-43 Traffic Comparison, Port Everglades ..... 2-164

2.6-44 Caribbean Per Diems by Length of Cruise, 2006 Annualized ..... 2-165

2.6-45 Peak Day Passengers, Sunday 29.33 Percent (5-year Average), 2007 - 2026 ..... 2-166

2.6-46 Peak-Day Berth Demand, Sunday 29.33 Percent (5-year Average), 2007 - 2026 ..... 2-166

2.6-47 Cruise Calls per Day, 2000 - 2006 ..... 2-167

2.6-48 Berth LOA versus Passenger Volumes – (B Low) Low Projection, 2007 - 2026 ..... 2-168

2.6-49 Berth LOA versus Passenger Volumes (B Mid) Medium Projection, 2007-2026 ..... 2-169

2.6-50 Berth LOA versus Passenger Volumes – (C3) High Projection, 2007 - 2026 ..... 2-170

2.6-51 Metric - Passenger Use ..... 2-171

2.6-52 Average Cruise Vessel Length, 1980 - 2006 ..... 2-180

  

2.7-1 Potential TEUs Moving through an ICTF at Port Everglades ..... 2-183

  

3.3-1 Vertical Window of Accessibility ..... 3-3

3.3-2 Current Horizontal Window of Accessibility for Pivot Passenger Boarding Bridge ..... 3-4

3.3-3 Proposed Horizontal Window of Accessibility for Rail/Mobile Passenger Bridges ..... 3-5

3.3-4 Passenger Flow Diagram ..... 3-6

3.3-5 Minimum Setback without Service Road ..... 3-7

3.3-6 Minimum Setback with One-Lane Service Road ..... 3-8

3.3-7 Minimum Setback with Two-Lane Service Road ..... 3-8

3.3-8 Elevated Coning Platform ..... 3-9

  

3.5-1 Existing Slip Configuration ..... 3-19

3.5-2 Recommended Slip Option “A” ..... 3-23

3.5-3 Recommended Slip Option “B” ..... 3-23

3.5-4 Recommended Slip Option “C” ..... 3-23

3.5-5 Reconfigured Slips - Cross Section ..... 3-24

3.5-6 Reconfigured Slips - Plan View ..... 3-24

3.5-7 Proposed Approach Channel Turning Basin ..... 3-27

3.5-8 Proposed DCC Turning Basin ..... 3-28

  

3.6-1 Containerized Cargo - Market Forecast ..... 3-29

3.6-2 Non-Containerized Cargo - Market Forecast ..... 3-30

3.6-3 Containerized Cargo - Number of Berths Required ..... 3-31

3.6-4 Containerized Cargo - Terminal Area Required (Gross Acres) ..... 3-32

3.6-5 Non-Containerized Cargo - Number of Berths Required ..... 3-33

3.6-6 Non-Containerized Cargo - Terminal Area Required (Gross Acres) ..... 3-34

  

3.7-1 Phase I 20-Year Vision Plan ..... 3-38

3.7-2 Vision Plan Area 1 ..... 3-40

3.7-3 Vision Plan Area 2 ..... 3-41

3.7-4 Vision Plan Area 3 ..... 3-42

3.7-5 Vision Plan Area 4 ..... 3-43

3.7-6 Vision Plan Area 5 ..... 3-44

3.7-7 Vision Plan Area 6 ..... 3-45

3.8-1 Phase I Concept for By-Pass Road ..... 3-49

3.8-2 Proposed ACOE Harbor-Deepening Project ..... 3-53

3.9-1 On-Port Rail Alignment Diagram ..... 3-55

4.5-1 Flow of Economic Impacts of Seaport Activity Economy ..... 4-19

5.2-1 Tenant/Stakeholder Input 20-Year Vision Plan ..... 5-2

5.2-2 Revised 20-Year Vision Plan ..... 5-3

5.2-3 Northport Slip Study: Plan View ..... 5-4

5.2-4 Northport Slip Study - Section View ..... 5-6

5.2-5 Conservation Easement Impact Map ..... 5-7

5.2-6 Conservation Easement Impact Map on Aerial ..... 5-8

5.2-7 ICW -Midport Berth Expansion ..... 5-9

5.2-8 Aviation Flight Surfaces Impact Map ..... 5-10

5.2-9 Impact of FLL Flight Surfaces ..... 5-10

5.2-10 Berth 33A and Dania Cut-Off Canal Development ..... 5-11

5.3-1 Final 20-Year Vision Plan ..... 5-12

5.4-1 Berth Location Map ..... 5-15

5.4-2 Conceptual By-Pass Road ..... 5-16

5.4-3 By-Pass Road at Spangler Boulevard ..... 5-17

5.4-4 DRI/Security Map at Convention Center ..... 5-18

5.4-5 Potential Location of Crushed Rock Aggregate Vessel ..... 5-20

5.4-6 Locations of 5-Year Plan Projects ..... 5-24

5.4-7 5-Year Plan ..... 5-26

5.5-1 Pier I Barge Slip - Plan View ..... 5-28

5.5-2 Turning Notch Berthing Study A ..... 5-29

5.5-3 Turning Notch Berthing Study B ..... 5-29

5.5-4 Locations of 10-Year Vision Plan Projects ..... 5-32

5.5-5 10-Year Vision Plan ..... 5-34

5.6-1 Locations of 20-Year Vision Projects ..... 5-38

5.6-2 20-Year Vision Plan ..... 5-40

6.2-1 Aerial Photo with Berth Numbers ..... 6-2

6.2-2 Condition of Bulkhead at Berth 22 ..... 6-3

6.2-3 Bulkhead Replacements Needed within 20 Years ..... 6-4

6.2-4 Master Plan Bulkhead Replacement ..... 6-5

6.2-5 Phased Implementation of Bulkhead Reconstruction ..... 6-6

6.4-1 Bus Circulation Pattern ..... 6-10

6.4-2 Privately Owned Vehicle Embarkation Circulation Pattern ..... 6-11

6.4-3 Privately Owned Vehicle Debarkation Circulation Pattern ..... 6-12

6.4-4 Taxi Embarkation Circulation Pattern ..... 6-13

6.4-5 Taxi Debarkation Circulation Pattern ..... 6-14

6.4-6 Parking Structures ..... 6-15

6.4-7 Passenger Circulation Pattern ..... 6-16



## LIST OF TABLES

Table	Title	Page
1.2-1	Broward County Total Population and Employment in Selected Years.....	1-4
1.3-1	2006 Land Uses at Port Everglades.....	1-10
1.7-1	Fiscal Year 2005 Vessel Type Breakdown .....	1-31
1.7-2	Southport Berth Utilization Summary.....	1-32
1.7-3	Midport Berth Utilization Summary .....	1-33
1.7-4	Northport Berth Utilization Summary .....	1-36
1.8-1	List of Port’s Container, Break-Bulk, and Dry Bulk Tenants Interviewed.....	1-44
1.8-2	Port Everglades Container Berth Operations Data.....	1-45
1.8-3	Port Everglades Container Cranes Data.....	1-46
1.8-4	Average Container Dwell Time (Days).....	1-47
1.8-5	Breakdown of Containers Handled by Direction and Type .....	1-47
1.8-6	Container Storage Mode and Stack Density .....	1-48
1.8-7	Gross Terminal Area vs. Net Cargo-Storage Area .....	1-48
1.8-8	Break-Bulk Cargo Existing Operations .....	1-49
1.8-9	Dry Bulk Cargo Existing Operations .....	1-50
1.8-10	Unit Berth Capacity of a Terminal with Standard Dock-Side Cranes .....	1-53
1.8-11	Unit Berth Capacity of a Terminal with Ship-Mounted Cranes .....	1-54
1.8-12	Unit Berth Capacity of a Terminal with RO/RO Operations .....	1-55
1.8-13	Container Operations - Unit Berth Capacity Summary .....	1-56
1.8-14	Container Dwell Times and Inventory Peaking Factors.....	1-58
1.8-15	Cargo Storage Operations Type and Stacking Height Assumptions.....	1-59
1.8-16	Peak Import TGS Required at One Million TEUs .....	1-60
1.8-17	Slot Density Assumptions .....	1-61
1.8-18	Container Operations - Unit Yard Capacity Summary (TEU/Acre).....	1-62
1.8-19	Average Dwell Time Impacts on Storage Turnover .....	1-63
1.8-20	Break-Bulk Cargo (Steel) - Unit Throughput Capacity.....	1-64
1.8-21	Break-Bulk Cargo (Lumber) - Unit Throughput Capacity.....	1-65
1.8-22	Dry Bulk Cargo (Cement) - Unit Throughput Capacity .....	1-65
1.8-23	Dry Bulk Cargo (Aggregates) - Unit Throughput Capacity.....	1-66
1.8-24	Non-Containerized Cargo – Berth Capacity Summary).....	1-67
1.8-25	Non-Containerized Cargo - Yard Capacity Summary.....	1-68
1.10-1	2006 Parking Parameters .....	1-83
1.11-1	FLL Passenger, Cargo, and Aircraft Operations .....	1-94
1.12-1	Protected Wildlife Potentially Present in Southern Broward County around Port Everglades..	1-110
1.12-2	Acreage of Seagrass by Species in October 2006.....	1-116
2.2-1	Percent Tonnage Change at Port Everglades by Cargo Type .....	2-3
2.2-2	Ship Calls at Port Everglades.....	2-6
2.3-1	Port Everglades FY 2006 Container Throughput by Terminal .....	2-11
2.3-2	Top Florida Importers by Port, Carrier, and Florida Distribution Center Location.....	2-35
2.3-3	Distances in Miles to Key South and Central Florida Consumption Points .....	2-38
2.3-4	Top Florida Exporters by Port and Distribution Center Location.....	2-40
2.3-5	Lease Rates in Key Florida Markets.....	2-44

2.3-6 Schedule of Base Tariff Charges..... 2-45

2.3-7 Tariff Incentive Discount Rates ..... 2-46

2.3-8 Freight Rates to Key Consumption and Distribution Points ..... 2-49

2.3-9 Nautical Distance form Panama Canal ..... 2-50

2.3-10 Low/Base Containerized Forecast by Terminal..... 2-54

2.3-11 High Unconstrained Containerized Forecast by Terminal ..... 2-55

  

2.4-1 Florida Economic Forecasts..... 2-59

2.4-2 Broward County and Florida Population Projections ..... 2-60

2.4-3 Economic Forecasts: Broward County, and the State of Florida ..... 2-61

2.4-4 Summary of Baseline, High, and Low Forecasts Port Everglades Dry Bulk  
and Neo-Bulk Cargo..... 2-65

2.4-5 Summary Comparison of Base, High and Low Forecasts Port Everglades Dry Bulk  
and Neo-Bulk Cargo..... 2-67

  

2.5-1 International Tanker Fleet Characteristics (2004) ..... 2-80

2.5-2 U.S-Flagged Tanker Fleet Characteristics (2004)..... 2-81

2.5-3 U.S.-Flagged Barge Fleet Characteristics ..... 2-81

2.5-4 LPG Barge Fleet Characteristics..... 2-81

2.5-5 Summary of Florida Port Data (2003)..... 2-84

2.5-6 Population Growth in 12-County Market..... 2-89

  

2.6-1 Cruise Passenger Source Regions, 1990 - 2005 ..... 2-101

2.6-2 Primary Cruise Groups by Brand, Vessels, and Market Segment, 2006..... 2-109

2.6-3 Cruise Demographic Profiles, North Americans..... 2-111

2.6-4 Cruise Capacity Placement by Region, North American Operators..... 2-115

2.6-5 Fit of Port Everglades within Identified Target Markets (Summary)..... 2-121

2.6-6 Destination Selection: What Is Important to the Cruise Lines? ..... 2-126

2.6-7 Attractiveness of Port Everglades ..... 2-135

2.6-8 Projection Range of Overall Port Everglades Cruise Passenger and  
Call Throughput, 2007 - 2026 ..... 2-147

2.6-9 Assessment of Berth Demand for Port Everglades, 2007 to 2026..... 2-172

2.6-10 Cruise Vessels on Order Worldwide, October 2006..... 2-176

2.6-11 Cruise Vessels Delivered Worldwide, September 2006 ..... 2-177

2.6-12 Evolution of the Modern Cruise Vessel..... 2-178

2.6-13 Sample of Large Cruise Vessel Types..... 2-179

2.6-14 Recommended Design Vessels for Port Everglades..... 2-182

  

3.5-1 Slip Width Study Summary ..... 3-21

3.5-2 Turning Basin Study Summary..... 3-26

  

3.6-1 Summary – 2026 Market-Based Needs Assessment..... 3-35

3.6-2 Comparison of 2026 Market-Based Berth Needs and Vision Plan Concepts..... 3-35

3.6-3 Comparison of 2026 Market-Based Acreage Needs and Vision Plan Concepts ..... 3-36

  

3.9-1 2006 Parking Parameters ..... 3-56

3.9-2 Projected Future Parking Requirements..... 3-57

  

4.4-1 Economic Impact Analysis: Crushed Rock Facility..... 4-15

4.4-2 One-Time Impact of Construction for Crushed Rock Facility..... 4-16

4.4-3 Economic Impact Analysis: Cruise Terminal 18 Expansion..... 4-16

4.4-4 One-Time Impact of Construction for Cruise Terminal 18 Expansion ..... 4-17

4.4-5 Project-Decision Matrix: Crushed Rock Facility and Cruise Terminal 18 Expansion ..... 4-17

  

4.5-1 Summary of the Local and Regional Economic Impacts Generated by Port Everglades..... 4-21

  

5.2-1 Northport Slip Width Analysis..... 5-5

5.2-2 Northport Slip Width Analysis..... 5-6

5.3-1 Dedicated Berth Capacity Estimate..... 5-13

5.3-2 Shared Berth Capacity Estimate ..... 5-13

5.4-1 5-Year Plan Goals ..... 5-14

5.4-2 5-Year - Master Plan Projects ..... 5-23

5.4-3 5-Year Vision Plan - Capacity Assessment..... 5-25

5.5-1 10-Year Vision Plan Goals ..... 5-27

5.5-2 10-Year Vision Plan - Master Plan Projects..... 5-31

5.5-3 10-Year Vision Plan - Capacity Assessment..... 5-33

5.6-1 20-Year Vision Plan Goals ..... 5-35

5.6-2 20-Year Vision Plan - Master Plan Projects..... 5-37

5.6-3 20-Year Vision Plan - Capacity Assessment..... 5-39

5.7-1 Vision Plan Summary - Container Terminals ..... 5-41

5.7-2 Vision Plan Summary - Non-Container Terminals..... 5-42

5.7-3 Vision Plan Summary - Cruise Terminals ..... 5-43

5.7-4 Vision Plan Summary - Petroleum Terminals ..... 5-44

6.3-1 Recommended Schedule of Improvements w/ACOE Dredging..... 6-7

6.5-1 5-Year Capital Improvement Plan ..... 6-20

6.5-2 Funding the 5-Year Capital Improvement Plan ..... 6-21

6.5-3 5-Year CIP..... 6-22

6.5-4 5 -Year CIP Project Funding Sources..... 6-24

6.5-5 10-Year Vision Development Program ..... 6-26

6.5-6 20-Year Vision Development Program ..... 6-27

6.5-7 Dredging Program Cost Allocations..... 6-28

## PROJECT INTRODUCTION

### Planning Goal

The Broward County Board of County Commissioners (Board) retained the services of the DMJM Harris Consultant Team to prepare a new *Port Everglades Master Plan* (Plan) and issued a notice to proceed for Phase I in August 2006 and for Phase II in April 2007. In preparing the Plan, the Consultant Team assessed the changes that have occurred regionally, nationally, and internationally since 2001, when the Port prepared a 2020 Vision Master Plan, whose adoption was interrupted by the events of 9/11.

The goal of this Plan, whose planning horizon is 2026, is to:

*Create a plan to maximize market share and revenue through a realistic 5-year facility development program within a framework of 10- and 20- year vision plans.*

Once the Plan is approved by the Board, the Consultant Team will update the Deepwater Port Component of the Coastal Management Element in Broward County's Comprehensive Plan as well as Port-related goals, objectives, and policies in the Transportation Element, consistent with the mandated requirements of Chapter 163, Florida Statutes.

A guiding principle of this Plan is that it should consistently reflect the Port's mission statement:

*The mission of Port Everglades is to manage the County's Port-related assets to maximize the economic benefits to the citizens and businesses of Broward County and of the State of Florida. The Port will manage the County's assets in a financially responsible, environmentally sound manner, consistent with local, state, and federal rules and regulations which govern international and domestic trade, transportation and the Port industry.*

### Work Products

This planning assignment comprises the following key work products:

- Existing Port facility assessment.
- Market assessment for containerized cargo, non-containerized cargo, and cruise operations.
- 10- and 20- year Vision Plans.
- 5-year Capital Improvement Plan.
- Business, financial strategies, and asset utilization strategies.
- Updated Deepwater Port Component of the Coastal Management Element in Broward County's Comprehensive Plan and Port-related goals, objectives, and policies in the Transportation Element

***“We know that reaching a balance between financial stability, capital development, and security operations is achievable. Our goal is that the updated Port Everglades Master Plan will plot a course for how we can expand and enhance existing facilities in the most economical and efficient manner.”***

Port Everglades Director  
Phillip C. Allen.

These work products have been organized into three phases. The results of the Phase I and Phase II tasks are included in this document; Phase III is scheduled for completion following approval of this Phase I and Phase II document.

## Phase I

The specific tasks completed in Phase I and documented herein include the following:

**Assessment of Existing Facilities and Infrastructure Assets at the Port.** In conducting this assessment, the Consultant Team looked both at on-Port facilities and at the connecting intermodal network. Specifically, the Consultant Team evaluated the deepwater facilities within the Port's approximately 2,190 acres of jurisdictional area as well as the cargo, cruise, and petroleum storage infrastructure; and reviewed the Port's Interstate highway, freight rail, and airport connections and synergies.

**Market Assessment for Containerized Cargo, Non-Containerized Cargo, and Cruise.** Specialized sub-consultants on the Consultant Team assessed the markets for the Port's core cargo and cruise businesses.

**Forecast of Unconstrained Infrastructure Needs Based on the 2026 "Goal Line" Established by the Market Assessments.** The Consultant Team integrated the results of the respective market assessments for cargo and cruise businesses with the results of one-on-one tenant and stakeholder interviews to identify the ideal number of berths and the terminal areas needed to achieve the forecasted throughputs by the 2026 planning horizon.

**Application of Site-Specific Physical Constraints, based on the Infrastructure Assessment, to Identify Potential Opportunities to Reach the 2026 "Goal Line."** Keeping in mind the Port's mission statement, and its emphasis on economic benefit and environmental stewardship, the Consultant Team looked at the physical opportunities and constraints within the Port area to develop realistic infrastructure improvement concepts.

**Identification of Cargo and Cruise Needs to Meet Market Forecasts.** The previous tasks, performed in an iterative process and facilitated by frequent workshops with the Port's senior staff, resulted in the Consultant Team's identifying the key parameters of Port development. These include:

- **Containerized Cargo**
  - Add longer/flexible berths to accommodate ships carrying up to 6,800 twenty-foot equivalent container units or TEUs.
  - Increase yard utilization; use higher density stacking equipment.
  - Add gantry cranes, including post-Panamax cranes, that is, cranes able to load and unload the ships that cannot traverse the Panama Canal in its current dimensions.
  - Deepen and widen the Port's approach channel and inner harbor.
- **Non-Containerized Cargo**
  - Add crushed rock as a potential major import commodity.

- **Petroleum**
  - Increase receiving system efficiencies.
  - Add berth efficiencies and safety for larger vessels.
  - Deepen and widen Port's approach channel and inner harbor.
- **Cruise**
  - Increase berth lengths to handle 1,100-foot ships, the type of vessel used for planning purposes.
  - Address parking needs.
  - Increase the Port's cruise season and weekday use, as practical.
  - Continue the dual use of berths for cargo and cruise, as feasible.

**Interface with On-Going Programs of Sister County Agencies and Other Stakeholders.** Planning for Port Everglades' future development and expansion cannot occur in a vacuum as several of the entities located in proximity to the Port are engaged in their own concurrent planning initiatives. Consequently, the Consultant Team, in conjunction with Port staff, maintained frequent contacts with these entities to address issues of mutual interest and coordinate planning efforts. In many cases, these planning efforts will not be concluded in the same timeframe as the Port's Plan, so final outcomes may not be determined by the end of this planning process. The Consultant Team will, however, continue to monitor these efforts throughout the remaining phases of Plan preparation. The summary below notes the issues the Consultant Team identified during the interface with these entities:

- **Fort Lauderdale-Hollywood International (FLL) Airport Master Plan.** FLL is preparing a new Master Plan and awaiting the results of a Draft Environmental Impact Statement being prepared by the Federal Aviation Administration for a potential runway extension. In coordinating its efforts with the Broward County Aviation Department, the Consultant Team focused on issues of common interest, including:
  - Consideration of a potential shared Airport/Seaport facility on the Dynegy property, located east of US 1, north of Eller Drive.
  - Evaluating obstacle clearances associated with current and future air and sea operations
- **Broward County Intermodal Center -- Sunport -- and People Mover Study.** The Florida Department of Transportation (FDOT), Port Everglades, and FLL, with Broward County as the project sponsor, have been addressing opportunities to develop an Intermodal Center (IMC) and a People Mover system to provide a regional transportation hub that will, among other uses, provide a direct connection between the Airport and the Seaport. The outcome of the Project Development and Environmental Study (PD&E) for this initiative is not yet known; but the Consultant Team determined that the 20-year Vision Plan for the Port has the flexibility to accommodate alternative corridors, alternative locations for the IMC, and potential seaport station locations. A seaport station for the

new People Mover system would be located at each of the two cruise passenger intermodal centers: one would be at Northport and the other at Midport.

- Railway Initiatives. The Consultant Team assessed the market potential and physical requirements of implementing an intermodal container transfer facility (ICTF) in Southport to accommodate both international containerized cargo movements and the potential addition of imported crushed rock and other bulk products used in the cement and ready-mix concrete industry. In addition, to ensure that the design criteria of the Eller Drive Overpass, which FDOT is pursuing, accommodate the potential rail provider's anticipated operations if the ICTF is constructed, the Consultant Team facilitated discussions with Port staff, FDOT, and the potential rail providers.
- U.S. Army Corps of Engineers (ACOE) Dredging Program. The ACOE is currently evaluating a dredging program for the Port. The Consultant Team took the parameters of this program into consideration in developing the 20-year Vision Plan presented in this document, and coordinated the ACOE's channel and inner harbor deepening and widening findings with the Plan.
- Calypso Pipeline Proposal. Regulatory agencies have considered two proposals to develop natural gas pipelines off the South Florida coast. The potential location of the tunnel shaft for the Calypso pipeline was coordinated with the infrastructure improvement options identified in the Vision Plan. AES, the proposer for a second pipeline, abandoned the initiative during Phase II of this planning process.
- Broward County Convention Center Master Plan. The Convention Center is looking at future expansion and is committed to mitigating traffic on adjacent roadways. As part of its collaborative efforts during the planning process, the Consultant Team worked with Port staff and the Convention Center's planners to achieve mutual agreement on appropriate land use, traffic circulation, and security modifications. These efforts resulted in public access concepts for the Convention Center to facilitate its future development opportunities while maintaining the Port's security perimeter, as required by federal and state law.

**Identification of Potential Traffic Mitigation Measures.** On-port traffic circulation was identified as a serious concern, not only in the context of future expansion, but also for current mobility and efficiency. Among the measures the Consultant Team identified to improve the Port's immediate-term and longer-term traffic circulation at cargo and cruise terminals are the following:

- Increase intermodal zone areas at cruise facilities.
- Lengthen the cruise passenger drop-off curb and reduce pedestrian and vehicular congestion at cruise facilities.
- Incorporate intermodal rail use to reduce truck traffic.
- Locate empty containers off Port to reduce truck trips to and from the Port.
- Use right-hand turns for truck traffic to reduce queuing in McIntosh Road.
- Promote queuing inside container terminals.

**Conducting a Business, Financial, and Asset Utilization Strategy Workshop.** The Consultant Team met with the Port's senior staff to discuss potential business, financial, and asset utilization strategies to achieve the optimum productivity and benefit from the Port's existing assets.

**Preparation of Conceptual 20-Year Vision Plans.** As the culmination of the Phase I planning process with Port senior staff, during which a series of 20-year planning alternatives were developed and refined, the Consultant Team discussed the conceptual 20-Year Vision Plan at a workshop with the Board in anticipation of pursuing the subsequent phases of this project.

### **Phase II Summary**

The following tasks were completed in Phase II:

**Meetings and Workshops with Tenants and Other Stakeholders to Gain Input on the Conceptual 20-Year Vision Plan.** After the February 2007 workshop with the Board, the Consultant team conducted a series of meetings and workshops with the Port's senior staff, tenants, and other stakeholders to obtain their thoughts and comments on the Conceptual 20-Year Vision Plan.

**Refinement of the 10- and 20-Year Vision Plans.** With the input from the above meetings, the Consultant Team engaged in an iterative process of Plan refinement to address the concerns of Port stakeholders.

**Identification of the Economic Impact of Port Operations.** The Consultant Team analyzed the impact of Port operations. This analysis identified the employment, employee earnings, business revenue, and state and local taxes attributable to those operations.

**Development of Financial Strategies for Plan Implementation.** To assist the Port in Plan implementation, the Consultant Team worked with staff to create mechanisms for identifying project benefits. From this collaboration, a Project-Decision Matrix was created which provides the Port with a tool to assess the environmental, economic, and other aspects of a given project.

**Preparation of a Cost-Feasible 5-Year Capital Improvement Plan.** The Consultant Team worked with Port and other County staff to identify the various types of funding available for the projects needed in the first five years of Plan implementation.

### **Phase III Summary**

Upon approval of the Plan presented in this document, the Consultant Team will update the Deepwater Port Component of the Coastal Element in the Broward County Comprehensive Plan and the relevant Transportation Element goals, objectives, and policies. This task will be conducted in cooperation with the Broward County Planning Department. The updated document will be transmitted for review and approval to the Florida Department of Community Affairs and the other regulatory state and local agencies charged with commenting on the Plan.



## The Consultant Team

The members of the Consultant Team and their responsibilities in developing this Plan are summarized below.

### **DMJM Harris/JWD - Prime Consultant**

**Responsibility: Lead the Consultant Team.** DMJM Harris with its Port Planning Division, JWD, is the prime consultant on the Team and is assigned to lead the preparation of the Plan. DMJM Harris/JWD's responsibilities include project management, port planning, transportation planning, facility planning, infrastructure planning, outreach to public/agencies and tenants/users, and business and financial strategy development.

Supporting DMJM Harris on this initiative are nine specialized subconsultants, each of whose expertise is contributing to the success of this planning process.

### **Bermello Ajamil & Partners (B&A) - Cruise Assessment**

**Responsibility: Assess Cruise Market and Cruise Needs.** Bermello Ajamil & Partners analyzed current cruise traffic throughput, reviewed and assessed current multi-day and one-day passenger projections to forecast future passenger and market potential, and recommended new and improved berthing facilities based on these forecasts.

### **Construction Management Services, Inc. (CMS) - Cost Estimating/Scheduling Support**

**Responsibility: Establish Cost Estimates and Schedules.** Once the 5-, 10-, and 20-Year Plans have been identified in Phase II, CMS will provide cost estimates and conceptual schedules for the construction of capital improvement projects and analyze the constructability of the projects in a sequential implementation plan.

### **Dickey Consulting Services (DCS) - Public Outreach**

**Responsibility: Develop Public Outreach Program.** Dickey Consulting Services has assisted in the creation of the Public Outreach Program, a comprehensive outreach and public involvement program that ensures the input and concerns of all interested parties are considered. DCS's role has included assisting DMJM Harris in establishing effective working relations with the various stakeholders and fostering consensus during the planning process. DCS has coordinated, recorded, and documented public and stakeholder meetings.

### **Lakdas/Yohalem Structural Engineers - Marine Structural Constructability**

**Responsibility: Review Marine Structures.** Lakdas/Yohalem has assisted in reviewing engineering reports and will provide constructability reviews for proposed marine infrastructure improvements.

### **Martin Associates (MA) - Container Cargo Assessment/Economic Impact Analysis**

**Responsibility: Assess Containerized Cargo Markets.** Martin Associates profiled the markets served by the Port's marine container terminals and quantified the expected throughput from current users. Near-term forecasts were developed through interviews with the shippers/consignees, terminal operators, and steamship lines. Using published economic

demographic forecasts, MA developed long-term growth rate scenarios to apply to the potential cargo markets. Total future throughput was then projected under several scenarios as to the likelihood of the Port's attracting new containerized cargo. In Phase II, MA developed an economic impact model to analyze the benefits of proposed infrastructure improvements.

**J.D. Sanchez Consulting, Inc. – Planning Assistance, Master Plan Report Preparation, and Update of the Relevant Portions of the Broward County Comprehensive Plan to Incorporate the Port Master Plan**

**Responsibility: Assist with Planning Tasks, Coordinate Master Plan Report Preparation, and Update the Relevant Portions of the Broward County Comprehensive Plan to Incorporate the Port Master Plan.** J.D. Sanchez Consulting contributed a historical perspective of Port Everglades' development and its regional and statewide maritime industry context. The firm is responsible for authoring sections of the Plan that fall within its expertise and for organizing and editing Plan documentation. The firm will help revise the Deepwater Port Component of the Coastal Management Element of the County's Comprehensive Plan and the relevant goals, objectives, and policies of the Transportation Element during Phase III of this assignment.

**Michael L. Sclar, Associates (MLSA) - General Cargo Assessment**

**Responsibility: Assess Non-Container Cargo Markets.** MLSA developed forecasts for the non-containerized general cargo market, including dry bulk and neo-bulk. MLSA forecasts, based on historical Port Everglades reported cargoes, economic and population forecasts, detailed trade data from the Journal of Commerce PIERS system, and one-on-one interviews with shippers and terminal operators for major commodities, were used to evaluate the infrastructure needed to accommodate these markets

**Sandra Walters Consulting, Inc. (SWC) - Environmental Habitat Analysis**

**Responsibility: Analyze Environmental Impacts.** Sandra Walters Consulting assisted in identifying the environmental conditions affecting Port development and in preparing an environmental analysis of the proposed infrastructure development. The analysis updated documentation of known constraints based on published data. SWC incorporated the Port's Green Port Initiative into the Plan as well as comments from the public, including comments received by the County at the Port Everglades Environmental Workshop conducted on March 10, 2006. The latter document is in the Appendix.

**Public Outreach Program**

The Public Outreach Program for this master planning initiative was developed to invite input into the planning process from all parties/stakeholders interested in the Port's growth and expansion. The program, comprising an aggressive schedule of participation, was designed to dispense information to the public, tenants, governmental entities, regulatory agencies, and other stakeholders and to encourage their participation and comments. Through workshops and one-on-one interviews conducted by the Consultant Team as an essential part of Plan preparation, the input and concerns of all interested stakeholders have been recorded and taken into account to the maximum extent possible.

**Public Meetings.** Three public meetings were held at the Broward County Main Library during the planning initiative; two of these meetings were held in Phase I and one in Phase II. The purpose of these meetings was to inform the public about the intended goals, planning process, and progress of Plan development, and receive input. To encourage awareness and participation, advertisements appeared in local newspapers, postcards were mailed to homeowners groups and community publications, and television and radio stations were contacted. Audio and video tapes have been made of these public meetings. The Power Point presentations made during the meetings are available on-line through the project website.

**Tenant, Stakeholder, Municipality, and Agency Meetings.** A kick-off meeting and subsequent update meetings and workshops/charrettes were also held with Port tenants and stakeholders, including public agencies. These included two Phase I meetings and a third workshop/meeting conducted in Phase II, all held at cruise terminals on the Port.

In addition to these meetings, the Port Director organized “Focus Group” workshops whose participants were individuals from each of the Port’s business sectors; these participants were asked to advise the Director on the progress and content of the Plan.

Meetings were also held during Phase I with representatives of the municipalities within the Port Everglades Development District: the City of Fort Lauderdale, the City of Hollywood, and the City of Dania Beach.

Two 2-day System of Intensive Team Effort (SITE) meetings were held with the Port’s key decision-makers, the first at the start of the planning process and the second once the series of market assessments had been completed.

**One-on-One Interviews with Port Tenants and Stakeholders.** In addition to the group workshops, one-on-one interviews were held with most of the Port’s terminal operators, tenants, and other stakeholders to gather information regarding their current operations, future plans, and any concerns. Additional interviews were held during the Phase II Plan refinement process.

**Workshops with the Board and County Administration.** Two workshops were conducted with the Board; one was held in Cruise Terminal 18 at the completion of Phase I and one was held during Phase II at the Broward County Governmental Center. Comments and input received from Board members were incorporated into the Plan. Workshop meetings were also conducted with Broward County Administration to discuss project progress.

**Website.** To both present accurate information to those interested in this planning process and receive their comments, the Consultant Team created and continues to host a project website. The project website address is [www.portevergladesmasterplanupdate.com](http://www.portevergladesmasterplanupdate.com). The website has proved to be a valuable tool that gives stakeholders an opportunity to check current meeting schedules, and access meeting presentations they may have missed or wish to review. They may also communicate their questions, comments, and concerns via an email link. All questions submitted are answered, and general questions are posted on the FAQ page of the website. The website is also a vehicle by which Port Everglades can convey additional information concerning this project.

**Summary.** Through the Public Outreach Program, everyone who has a stake in Plan development has had an opportunity to participate in the planning process. Port Everglades recognizes the impact the Port has, not only on its tenants and users, but also on the surrounding communities. Addressing and resolving issues and concerns throughout the planning process have fostered an effective working relationship and consensus between the various stakeholders' interests and the recommendations contained in the ultimate Plan.

## Plan Organization

The Phase I and Phase II Master Plan document that follows this Project Introduction contains six elements. The contents of each element are summarized below.

**Element 1**, the Existing Conditions Assessment, opens with a look at the Port's master planning context and regional setting, continues with an update of Port facilities and operational conditions, and discusses transportation and environmental concerns and initiatives.

**Element 2**, the Market Assessment, provides a historic perspective on the Port's core businesses as a prelude to a commodity-by-commodity forecast of the Port's potential cargo and cruise throughput over the 20-year planning horizon. This element also discusses other business opportunities, including intermodal rail, short-sea shipping, the Foreign-Trade Zone No.25, the potential impacts of eventual trade with a free Cuba, and warehousing and distribution center proliferation.

**Element 3**, Plan Development, documents the results of the iterative process the Consultant Team conducted with continual input from the Port's senior staff, tenants, and other stakeholders, County Administration, governmental agencies, and the Board. It presents the alternative development concepts evaluated during Phase I, which resulted in the Conceptual 20-Year Vision Plan. The infrastructure improvements identified in Phase I were refined in Phase II and evaluated for their economic benefits, return on incremental investment, and environmental and transportation impacts as input into the final 20-Year and 10-Year Vision Plans and realistic, cost-feasible 5-Year Capital Improvement Plan (CIP).

**Element 4**, Strategy Development, assesses the potential business and asset utilization strategies the Port can implement to achieve its planning goals. In addition, this element describes how the Port proposes to finance the capital improvements envisioned in this Master Plan for the 5-, 10-, and 20-year periods. It also contains two examples of the Port's approach to identifying the economic benefits, environmental impacts, and return on incremental investment of proposed capital improvements. The concluding section of this element contains an economic impact analysis prepared by Martin Associates in September 2007.

**Element 5**, the Final Plan, presents the ultimate Master Plan, which was refined as a result of the iterative planning process conducted with the Port senior staff, Port tenants and users, the public, local municipalities, and varied agencies as well as workshops with the Board. It outlines the projects proposed for implementation in the 5-, 10-, and 20-year periods, identifies their costs, and summarizes how these projects meet the goals for each of these milestones.

**Element 6**, Plan Implementation, first discusses several development issues, including bulkhead conditions, the ACOE studies, and circulation and traffic considerations. It then presents a realistic and implementable 5-Year CIP and shows the sources of CIP funding. This element concludes with estimated funding for the 10- and 20-Year Vision Plans.