

QUONSET POINT DAVISVILLE

North Kingstown, Rhode Island

**PLANNING FOR THE PROPOSED PORT AND COMMERCE PARK:
AN OVERVIEW**

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INTRODUCTION

Grow Smart Rhode Island's Perspective on the Quonset Point Davisville Port and Commerce Park

The development of the Quonset Davisville Port and Commerce Park presents opportunities, raises complex questions and challenges us all to "do it right." It calls for the public discussion about Rhode Island's future that Grow Smart believes is essential.

While much of the public dialogue over the last year concerning Quonset Point Davisville has focused on the proposal for a new port facility, the Draft Master Plan prepared for the RIEDC also provides specific details concerning the development of the 3,000 acre commerce park and presents the relocation of RI-403 and the Third Rail as integral parts of the overall plan. Grow Smart Rhode Island believes that the entire package needs to be examined as a coherent entity.

The proposed development is an entrepreneurial venture. Like all entrepreneurial ventures, there is the potential for gains but there are also risks. Before undertaking such a venture, investors look carefully at the balance of potential risks and rewards. They want to be sure that the potential for risk has been minimized and that the potential for reward has been maximized.

In this case, the citizens of Rhode Island are major investors. By the time the Commerce Park is fully developed, the Draft Master Plan indicates that more than \$200 million (current dollars) in State funds will have been spent. State funds will help to finance on-site infrastructure improvements and two off-site projects -- the Freight Rail Improvement Project and the relocation of RI-403 -- that are considered integral to the proposed plan and to any serious effort to utilize Quonset Point more effectively. In addition, the State will have devoted more than \$100 million of the Federal highway dollars allocated to Rhode Island for the relocation of RI-403.

The potential rewards that have been suggested from the project are:

- increase in jobs in Rhode Island
- decrease in transportation costs for RI businesses
- attraction of new businesses, particularly transportation dependent businesses, to the state
- increased taxes and revenues for the State and the Town of North Kingstown
- funding for environmental improvements to Narragansett Bay

The potential risks that have been discussed are:

- increased low-density residential and commercial development in surrounding communities, resulting in loss of open space and loss of the traditional community character that is valued by Rhode Island residents and is a valuable economic development tool
- increased costs for community service in surrounding communities without offsetting revenues
- impacts on quality of life for the neighborhoods immediately adjacent to Quonset Point Davisville
- tying up of land assets during lengthy permitting process
- traffic congestion resulting from increased commuter and freight traffic without appropriate infrastructure
- increased air pollution
- degradation of Narragansett Bay and loss of marine habitat

Rhode Island citizens have the right and the responsibility to determine that questions about minimizing the potential for risk and maximizing the potential for reward have been asked and answered.

Report Objectives and Methodology

Recognizing that the Quonset Point Davisville Port and Commerce Park could have multiple impacts on the State of Rhode Island, the Board of Directors of Grow Smart Rhode Island established a Task Force to look objectively at Quonset's impact on surrounding communities, Quonset's integration into the transportation network, and related issues.

The following report was prepared at the request of that Task Force by Dan Varin, Rhode Island's former head of Statewide Planning and Municipal Affairs. Its primary purpose is to provide both the Task Force and the full Board with a succinct summary of:

- the proposed port and park project;
- planning studies already conducted about the proposed port and park project;
- an analysis of any gaps in the planning process and/or questions raised by existing studies that should be resolved to ensure that potential risks are minimized and potential rewards are maximized.

Five major documents were reviewed in the preparation of the report:

- *Quonset State Airport Master Plan* prepared in 1987 by the Statewide Planning Program as a condition of transferring the property from federal to state ownership
- *Comprehensive Reuse Plan, Davisville Construction Battalion Center* prepared in 1994 by the Maguire Group for the Davisville Base Reuse Committee
- *Quonset Davisville Planning Review Symposium*, a report on the two-session symposium sponsored by the Rhode Island Economic Development Corporation in May, 1996. The report was prepared by Maurice Freedman and Geoffrey Motte.

- *Master Plan, Quonset Davisville Port and Commerce Park* (draft) by Parsons Brinckerhoff Quade & Douglas, Inc., under contract to RI EDC in 1997
- The two-volume *Quonset/Davisville Port Alternatives Report* (1999) prepared to provide economic, social, and environmental baseline data for use by the Stakeholder Group established by Governor Lincoln Almond to study alternatives for the port development at Quonset Point.

Material from these and other sources is included to help summarize the planning that has been done to date. Inclusion does not convey acceptance or approval of the information or conclusions reached. Frequent reference to the sources used is made by endnotes in the form "[X-Y]" in which "X" is the document or interview as numbered in the "References" section and "Y" is the page, table, or section number.

Gaps That Require Attention

What is clear after reviewing the plans listed above is that there are a number of gaps -- ie, infrastructure needs not fully accounted for and implementation questions not yet answered. In order for the State of Rhode Island to maximize the rewards and minimize the risks associated with the Quonset Point Davisville Port and Commerce Park before entering into the full implementation of the plan, Grow Smart believes that the following gaps need to be addressed:

1. It must be determined whether the Hunt-Annaquatucket-Pettaquamscutt stream-aquifer system can supply sufficient water for a fully developed Commerce Park and Port and the surrounding communities that it currently supplies. To minimize the demand on water sources as much as possible, careful consideration should be given to innovative approaches that could be used to obtain water for the project and conserve water on the site. If sufficient water is not available from the current sources, then other potential sources must be identified, bearing in mind overall state needs.
2. Traffic and emission projections must be undertaken using the best traffic modelling programs available.
3. In projecting the timing of the development of the port and commerce park, it must be recognized that the relocation of RI-403 is not scheduled to be completed until thirteen years into the development of the Commerce Park and several years into the operation of the port. This creates three questions: Will the port's operation be affected in the years before completion of the RI-403 relocation? Can the commerce park attract business, and therefore begin to pay back the infrastructure investments being made, before RI-403 is completed? If the port and commerce park do attract business prior to the relocation of RI-403, what can be done to manage traffic on existing roads and highways?
4. The lack of a connection from RI-4 to I-95 southbound should be addressed.
5. There has been no comprehensive study of the impacts on facilities, land use, housing

market, urban sprawl, or other socioeconomic issues from the proposed development and no study of what steps can be taken to assist towns in dealing with those issues.

6. A conflict between the RI Department of Environmental Management and the Coastal Resources Management Center over water quality and water use classifications must be resolved early in the permitting process.

I. OVERVIEW OF QUONSET POINT DAVISVILLE

The site now known as Quonset Point Davisville is located in the Town of North Kingstown in Washington County. It consists of two sections. The larger portion is bounded by Narragansett Bay on the east and US-1 (the Post Road) on the west. The smaller portion, known as West Davisville, lies west of US-1.

The Quonset Point Naval Air Station and Air Rework Facility (NAS), the Davisville Construction Battalion Center (CBC) including the Davisville piers, and the West Davisville warehouse and storage area were major defense installations from 1939 through much of the Cold War era.

In 1973, the Navy declared most of Quonset Point NAS and the West Davisville area surplus to its needs, and land and buildings were offered to the State and North Kingstown for civilian use. In 1979, Rhode Island voters approved a \$25 million bond issue for purchase and cleanup of the property, and the land and facilities were sold or transferred to the State and the Town of North Kingstown. Efforts to develop Quonset Point Davisville as an industrial park began in the late 1970s, but to date have been only partly successful, despite extensive planning and marketing efforts.

The current proposals for a major port facility and expanded industrial park evolved from actions dating back to 1991. In that year, the Navy declared the Davisville CBC surplus. In 1996, voters approved a \$22 million bond issue to finance its purchase and cleanup, and the property was purchased by the State in 1998.

The site is managed by the Rhode Island Economic Development Corporation (RI EDC), successor to the Rhode Island Port Authority and Economic Development Corporation.

The Quonset Davisville site totals 3,047 acres, or 4.7 square miles. It includes Quonset State Airport, a golf course, the Davisville Piers, a marina, approximately 500 acres of wetlands and other environmentally sensitive areas, and approximately 1,320 acres that the most recent plan for the site has determined to be appropriate for development. In addition, the site contains roads and rights-of-way.

Of the 1,320 acres deemed appropriate for development, approximately 385 acres (30%) are currently in industrial use and approximately 935 are vacant. There are 104 companies on the site employing a total of more than 5,000 people. Those companies with more than 500 workers are General Dynamics' Electric Boat Division, the National Guard, and Toray Plastics. Those companies with 100-500 workers are Ocean State Jobbers, NORAD Auto Importers, Seafreeze Ltd., and Custom Design Inc. [20: Vol. I, 2-9 to 2-10]

Although the Davisville piers were not purchased by the state until 1998, they have been available for private use since the mid-1970s. Three companies currently use the piers. [36] NORAD receives vehicles by both ship and truck for processing at Davisville. Work done

includes such activities as installing air conditioners and upgrading seats. The numbers of vehicles received during two recent years were:

<u>Year</u>	<u>By ship</u>	<u>By truck</u>	<u>Total</u>
1996	26,927	13,406	40,333
1997	15,432	17,715	33,147

The Seafreeze Company operates five vessels. Fish and squid are off loaded at the bulkhead between Piers 1 and 2 for processing. Aran Fish also operates five vessels. Fish are off loaded at Pier 1 but are not processed at Davisville.

Some of the private firms began operations at Quonset Point Davisville, while others relocated there from other places. The Electric Boat Division is an expansion of the main facility in Groton, Connecticut. Auto imports were previously handled at the Port of Providence. The National Guard was relocated here from T. F. Green State Airport due to lack of space for ground facilities and conflict with the growing number of air carrier operations on the runway system. Some Rhode Island firms needing space for expansion moved to Quonset Davisville from other parts of the state. [1]

With the acquisition of the Davisville piers and waterfront, the Rhode Island Economic Development Corporation (RI EDC) decided to explore prospects for development of a major port facility, while retaining and expanding the industrial park. An intensive planning effort followed, including formulation of tentative development plans, economic and environmental studies, review by a group of stakeholders, and consideration of widely differing concepts for the future of Quonset Davisville.

The *Master Plan (Draft)* prepared by Parsons Brinckerhoff Quade & Douglas, Inc., and associated consultants, [18] under a \$ 225,000 contract with RI EDC, was published in December, 1997, and approved as a preliminary plan by RI EDC in May, 1998. It presents a land use and development plan for the site. Salient features of the plan include:

- Development of currently vacant developable land as follows:

<u>Use/activity</u>	<u>Acres</u>
Manufacturing	383
Distribution	468
Office, hotel, retail, other support functions	40
Total	891

- A container cargo port designed to handle a projected 800,000 twenty-foot-equivalent units (TEU's) in the first year and 3,400,000 in year 25. [21:4] The plan proposes to dredge channels serving this area to a depth of 51 feet. Automobiles would continue to be imported, and the total annual number of vehicles handled is projected to increase from 35,000 in 1993

to as many as 110,000 in 2010. [18: 5-22] Existing activities are anticipated to continue at Davisville Pier 1. [18:5-22]

- Continued operation of the airport to avoid violation of the FAA covenants and support the National Guard and general aviation operations. Shortening of runway 5/23, from 4,500 feet to 3,000 feet. This would still accommodate 95 percent of the nation's general aviation aircraft.
- Construction of a new, relocated RI-403 and the partial third rail along with on-site infrastructure improvements at the commerce park. The plan also calls for an enhanced public transit service to an intermodal facility at the entrance to the site, operation of an internal bus system, and development of a system of internal bike paths.

II. EXAMINATION OF SPECIFIC FEATURES WITH ANY PLANNING GAPS IDENTIFIED

After reviewing the major planning documents prepared to date for the Quonset Davisville site, a number of gaps in planning have been identified.

On-Site Infrastructure

Quonset Point Davisville is well equipped with the infrastructure needed to support economic development. Water, sewer, central steam, electric, and gas systems, major roads, and railroad lines are valuable assets. Many other industrial sites in Rhode Island have few, if any, of these. There are three problem areas: the source water supply may not be adequate, the sewer system does not serve West Davisville, and the railroad tracks are in need of major repair or replacement.

Water Supply and Wastewater Treatment

The water system for the Quonset Davisville service area is operated by the RI EDC. The three wells serving Quonset Davisville have a total pumping capacity of 4.6 million gallons per day (MGD.) Approximately 65 miles of water mains serve all parts of the site, and are in generally good condition. Water use is metered for each customer.

Current average water use at Quonset Davisville is only 0.59 MGD. However, when the port and park are fully developed it is projected that the average daily demand for water could be as high as 3.17 (MGD). [18: 8-1 to 8-2]

While the three wells serving Quonset Davisville have the capacity to pump more than the projected average daily demand, the critical question is whether sufficient water is available. The wells serving Quonset Davisville draw their water from the Hunt-Annaquatucket-Pettaquamscutt stream-aquifer system. The North Kingstown and Kent County Water Authorities also draw water from this source. Both systems have experienced growth in their service areas since the Navy's departure.

The projected average daily demand for water generated by the North Kingstown and Kent County Water Authorities plus the projected demand generated by Quonset Davisville Port and Commerce Park at full buildout may exceed the quantity of groundwater available in the Hunt-Annaquatucket-Pettaquamscutt stream-aquifer system. Source water availability will be determined by the U.S. Geological Survey's study of the stream-aquifer system, which is under way but will not be completed until 2000. If the aquifer system cannot provide sufficient water, then other potential source(s) must be identified and careful consideration given as to how Rhode Island's total water supply should be allocated to meet needs in all parts of the state.

With approximately 70% of the Commerce Park remaining to be developed, the development of the park offers an opportunity to consider innovative approaches for procuring and conserving water.

The wastewater collection and treatment system is also owned and operated by the RIEDC. Approximately 20 miles of trunk and lateral sewers serve most of the former Quonset Naval Air Station. Sewers have recently been extended to West Davisville.

The wastewater treatment facility was upgraded by the RIEDC (then known as the RI Port Authority) in 1992 and provides secondary treatment. Pretreatment of industrial wastewater is required. Existing capacity is 1.78 MGD average daily flow and 3.56 MGD peak flow. Future flows are projected at 3.48 MGD (average) and 6.4 MGD (peak), excluding any contribution by the Town of North Kingstown. Provision for substantially expanding capacity adequate to meet projected future needs was designed into the plant. The Master Plan (Draft) includes a projected cost of \$4.7 million in 1997 dollars to expand the wastewater treatment facility's capacity.

[18:8-14]

Storm drainage is separated from sanitary sewers. *A stormwater management plan has not yet been prepared.*

On-Site Transportation Infrastructure

Roads

The major roads on the site have recently been reconstructed and are in good condition and suitable locations. Other roads providing access to the industrial locations are in fair to poor condition. This network does not meet the needs of an industrial site. Some can be reconstructed but most should be eliminated and replaced by a more functional system that provides better sites for industrial use, makes truck access more direct, and minimizes auto/truck conflicts. [18: 7-1 to 7-7]

Rail System

The Seaview Railroad operates freight rail service on the site over RI EDC's system of 6.4 route miles and about 23 track miles. The two main trunk lines, serving Electric Boat and the Davisville piers, can be retained but the *Master Plan (Draft)* calls for the remainder of the system to be reconfigured to provide better access to industrial sites and a multiple track storage yard for the port.

Extensive rehabilitation is needed. Most track dates from about 1940, and some was second-hand at that time. Ties are timber and in very poor condition.. Furthermore, the capacity of typical freight cars has almost tripled since this system was built, from 40 tons to 100-110 tons. Newer rail cars used to transport containers have even greater capacity -- usually 125 tons.

Grade crossings (roadway/rail intersections) are located throughout the site and are in varying condition. Extensive upgrading and uniform safety treatment are needed. [18: 7-17 to 7-21]

The *Master Plan (Draft)* shows a total cost of \$28.3 million in 1997 dollars to upgrade roads and bridges, and to upgrade the on-site rail system. [18: Tables 11.6,7,&8]

Financing for On-Site Infrastructure

The *Master Plan (Draft)* projects that the cost of on-site infrastructure improvements in 1997 dollars will be approximately \$68 million. [18: Tables 11-6, 11-7, and 11-8] *The Master Plan [Draft]* projects that those costs, escalated to the time of construction at 3.5% per year, will be between just under \$88 million [18: Table 11-10] and just under \$91 million [18: Tables 11-6, 11-7, and 11-8]. The financing discussion for on-site infrastructure costs in the *Master Plan (Draft)* is based on the \$88 million projection. The *Master Plan (Draft)* projects that over the 20-year development period, revenues from land sales and leases will be more than sufficient to cover the \$88 million on-site infrastructure improvement costs. However, because infrastructure improvements must be made during the first few years of the entire build-out period, and much of the sales/lease revenues will not be realized until the later years of the project, a deficit is anticipated for most of the first fifteen years. [18: 11-9 to 11-12]

The *Master Plan (Draft)* therefore suggests that on-site infrastructure improvements throughout the commerce park be financed by a combination of state bonds and other funds. Bonds totalling \$ 26.7 million are proposed, and a net gain on the transactions of \$7,100,000 is anticipated, but not until the last five years of the development program. State and federal grants, together with tax increment funding, are discussed as other potential sources of funds. User fees for rail or other services are not recommended since they would detract from marketing the site.

Off-site Transportation Infrastructure

Traffic Projections

Any discussion of transportation infrastructure capacity must be based on traffic projections. Traffic projections for Quonset Point Davisville include freight rail, freight trucking, and worker-generated traffic. Since the majority of freight in and out of Quonset Davisville will be associated with the port, freight rail and freight trucking projections are based on two assumptions: the percentage of freight handled by rail, truck and boat and the number of containers that will be handled at the port.

The *Master Plan (Draft)* assumes that 70% of the containers shipped between Quonset and other points in the United States will be shipped by train and only 20% will be shipped by truck. (The other 10% is projected to be shipped by boat.)

The experience of other United States ports suggests that the percentage assigned to rail is high and the percentage assigned to truck is low. [46: 17] However, other ports that began operation long before the introduction of container cargo and that have grown under physical constraints over the subsequent years may not be able to approach the level of rail use that a port at Quonset, designed to facilitate rail freight use, may achieve. Therefore, the 70 % estimate for rail freight may be reasonable. A study of the rail-truck breakdown for freight from the port at Halifax might be useful, since Halifax was also designed to facilitate rail access. However, in looking at Halifax figures it would be important to bear in mind that Halifax rail freight rates may be lower since the railroad is owned by the Canadian government. If the rates are lower, then that could encourage rail usage.

Container volume is expressed in TEUs (twenty-foot equivalent units.) The *Master Plan (Draft)* projects that Quonset's start-up volume could be expected to be 528,000 TEUs, and that that volume could increase to 800,000 TEUs by 2010. [18: 5-6] The developers have projected that at full build-out the port might handle as many as 3,400,000 TEUs. [21]

Freight Rail Projections

Currently, there are two freight trains per day (throughout this discussion, the term "train" refers to a one-way trip.) The *Master Plan (Draft)* projects up to six container trains per day (approximately 4,000 feet in length) in the year 2010, plus one or two trains for general freight and auto traffic, for a total of 6-8 trains. [18: 7-24] The Freight Rail Improvement Project study anticipated a demand of up to 10 freight trains per day. [23 and 24]

Truck/Automobile Traffic Projections

The Environmental Impact Study conducted for the proposed expansion of Route 403 used significantly lower traffic figures than are projected in the current *Master Plan (Draft.)*

The *Master Plan (Draft)* estimates that, at build-out, the average daily traffic to and from the site (both the port and commerce park) will be 71,671 vehicles, with a morning peak hour inbound of 8,973 and an afternoon peak hour outbound of 7,724.

The subject of traffic projections also raises the issue of air quality. The US Environmental Protection Agency sets standards for six pollutants under the Clean Air Act Amendments of 1990. Rhode Island is well within the standards established for five of the six pollutants. However, the state already exceeds the latest ozone level standards established by USEPA, and it is expected that the state will continue to do so for the foreseeable future. This means that any new business or industrial activity that emits volatile organic compounds can only be introduced in the state if its sponsors can demonstrate that there has been a reduction in volatile organic compounds at some other source. This hindrance to economic development possibilities would be eliminated if the state were able to bring its ozone level into compliance with the new standards. The state's ability to do that could be lessened if automobile and truck traffic were to increase markedly as a result of port and commerce park-generated traffic.

Trip generation analysis done for the Master Plan (Draft) utilizes trip generation rates calculated by the Institute of Traffic Engineers by averaging experience at a number of "light industrial" parks throughout the country, none of which may closely approximate the actual conditions expected at this site. This method provides a problematic "first cut" estimate, but planning for the port and commerce park has progressed well beyond that point. A project of this size, and the high volume of freight movement involved, will affect Rhode Island's transportation system at points away from the site. A system-wide analysis using the standard four-step simulation modeling process is essential. The employment and other data projected for the site at various years to build-out should be loaded into transportation models at the corresponding time periods and a full-scale trip generation, distribution, modal split, and assignment performed for year 2020. This is the only way to portray the effect of this major project on the entire ground transportation system. Similar modelling should be done for emissions.

Railroad

The on-site freight rail system at Quonset Davisville connects to the Amtrak main line at West Davisville. The main line freight service is operated by the Providence and Worcester Railroad.

Along the 22+ miles of track between West Davisville and the "Boston switch" in Central Falls, passenger service and freight service either share the same track or run on existing sections of parallel track. The Amtrak main line is scheduled to be converted to high speed rail in October, 1999, and, following that conversion, the number of Amtrak and MBTA commuter trains running on the main line is projected to increase. The existing main line alone could not handle the increases projected for both freight and passenger trains.

To address this situation, the Department of Transportation completed a major investment study in 1996 and a final environmental impact statement and Section 4(f) evaluation in 1998 and determined that a partial third track, paralleling the Amtrak main line for almost 8

miles, could be constructed. The preferred alternative [plan] developed as a result of the project Environmental Impact Statement would locate the third rail additions in Hillsgrove (Warwick), Cranston, and from Atwells Avenue in Providence to the Boston Switch in Central Falls. The partial third track, combined with existing freight track, will remove freight traffic from all but 5 of the 22 miles of Amtrak main line affected. [24:7]

This project is scheduled in the state's Transportation Improvement Program for fiscal years 1998 to 2001. The estimated cost of the third rail project is \$122 million. [23 and 24] The project is being funded with a combination of special appropriations from the Federal Railroad Administration and state general obligation bonds. The Federal-state cost split is 50-50. Federal aid highway funds will be used to increase highway bridge clearances at some locations. [24: 16]

The project will require the State to issue general obligation bonds in the amount of \$50 million, authorized by Rhode Island voters in 1996, and \$18 million in Federal and State highway funds. [FY 2000 Budget, FY 2000-FY2004 Capital Budget: 40-41.]

Roads/Highways

Quonset can be approached by road from the north and south via US-1 (the Post Road) and from the west via RI-403 (Davisville Road/Devil's Food Road.) The annual average daily traffic (AADT) on the routes leading to and from Quonset is already high, given the age and condition of the roads:

Road	1997 AADT
US-1 north of Quonset Davisville	18,500
US-1 south of Quonset Davisville	2,500
RI-403 west of Davisville	13,000

RI-403 is the principal means of access to Quonset Davisville by road. This two-lane road connects RI-4 at Frenchtown Road with the main entrance to the Quonset Davisville site. RI-403 is not a viable truck route and will not have adequate capacity if the site is fully developed as planned. The road frontage is heavily built up with housing, and several streets in new subdivisions have been connected to the road. The number of driveways and intersecting streets and the lack of separation of traffic moving in opposing directions create major safety issues.

Furthermore, few major industrial parks have been successfully developed on secondary roads. Businesses will generally not select a site in an area not directly served by a limited access highway, regardless of other advantages and amenities offered. Absence of a satisfactory highway connection has been a factor retarding development of Quonset Davisville since the Navy made it available to the state for development.

Transportation 2010: Ground Transportation Plan, State Guide Plan Element 611 published in 1992, recommended that RI-403 be relocated, and a final Environmental Impact Statement was completed in 1995. This relocation is going forward, divided into two phases:

- Phase I will be the construction of the interchange of US-1 and RI-403 extending west to School Street. [43] Rhode Island's current Transportation Improvement Program (TIP), which covers Fiscal Years 1999-2004, schedules Phase I to be completed in fiscal years 1999-2002, at a cost of \$50 million. That funding is allocated in the state's current Transportation Improvement Plan.
- Phase II will be the construction of the new highway itself. Phase II is tentatively programmed for fiscal years 2005 to 2011 at a projected cost of \$61.5 million. [39:6.8 and tables following and 43.]

The plan for the relocation of RI-403 raises two questions. First, the construction of Phase II of RI-403 is not scheduled to begin until 2005, seven years into the scheduled development of the commerce park and conceivably a year or so into the operation of the port. Given the anticipated availability of funding, the construction will not be completed until 2011, thirteen years into the development of the commerce park and seven years into the operation of the port. Even if funding were not a constraint, the project could only be accelerated enough to advance the completion date by 2-3 years due to the volume of material to be moved and the complexity of construction. [43]

Second, a critical missing link in the highway system providing access to Quonset Davisville has not been addressed. This is the essential connection between Routes RI-4 and I-95 to and from the south and west. [18:5-6] There are only two choices for accessing I-95 southbound from RI-4 or to accessing RI-4 from I-95 northbound. The first is to exit one highway and travel on Division Street and Route 2 in East Greenwich to reach the other highway. The majority of truck and commuter traffic will likely follow this route, and the existing link utilizing Division Street will probably prove to be unwieldy and inadequate.

[Quonset Davisville location map was inserted here in original copy]

The second option is using RI-138 or RI-102, which both extend east-west across Washington County, to link I-95 on the west and US-1 on the east. Any trucks taking one of these routes would exacerbate an already significant problem. These two-lane, winding rural roads serve existing centers and large areas of farm, forest, or undeveloped land. Both roads must accommodate a significant part of any commuter traffic that originates in Washington County. RI-138 passes through Kingston Village, and impacts of higher traffic volumes on Kingston Village are of particular concern to residents and historic preservationists (the village is on the National Register of Historic Places). Signs and other devices can shift some traffic to US-1 in Westerly (exacerbating the problems of the half-complete Westerly Bypass), Charlestown, and South Kingstown, but this would offer only a small degree of relief.

Public Transit

The provision of a variety of transportation alternatives with an emphasis on public transportation could

- increase the ability of inner-city residents without automobiles to access jobs at Quonset
- mitigate traffic congestion around Quonset at peak hours and mitigate pollution impacts
- make urban centers more attractive residential choices.

Current bus service by RIPTA to Quonset Davisville is provided by the routes connecting Providence with Jamestown and Narragansett. There are nine round trips daily, and the time schedule is not coordinated with work schedules of the major employers at the site. The boarding point at Quonset is on US-1 at the main gate and is not within easy walking distance of any major employer now at the site.

The Master Plan (Draft) estimates that single occupancy vehicle trips to the site could be reduced by 5 to 10 percent with improved transit service. [18: 7-13] Even this level of transit usage would be hard to achieve for a work force living in very low density housing scattered over a broad area. Virtually no housing is being built today in Rhode Island at the 7 dwelling units per acre needed to justify a minimal level of bus transit service. Very little vacant land is zoned for housing at this density.

Quonset State Airport

Quonset State Airport occupies 754 acres within the Quonset Davisville Industrial Park boundaries. The airport currently has two runways. Runway 16/34, the primary runway, is 7,998 feet long and is the longest runway in the State. Runway 5/23 is 4,003 feet long. It provides the necessary alignment with crosswinds needed for smaller aircraft. The main operator at the airport is the Air National Guard.

The airport and the golf course were transferred to the state and town, respectively, in the mid-1970s under federal law providing for such transfers, contingent on their continued maintenance and use for the purposes specified.

The conditions accompanying transfer of the airport appear in the deed. Those of most interest to development of a port and commerce park can be summarized as follows [17: 252-276]:

The property must be used for public airport purposes forever, and must be maintained in a safe and serviceable condition.

Aerial approaches must be kept clear; the state must prevent the "construction, erection, alteration, or growth" of any obstruction.

Aircraft of any federal agency can use the airport without charge; during a national emergency, the United States has the right of exclusive or non-exclusive use of the airport.

When requested, the state will furnish to the United States facilities for air traffic control, weather or communications activities related to air traffic control, within four months of a written request.

The state may not enter into any transaction that affects its ability to observe all restrictions and covenants.

The property may be reclaimed by the United States within 60 days of failure to comply with any terms, conditions, reservations, or restrictions. Reversion may also occur if any clause of the deed is declared invalid.

An adjoining parcel in industrial use is designated as an airport revenue area. All revenues from this parcel must be used to support Quonset State Airport or, if not needed for this purpose, may be used at any other state airport.

The airport deed restrictions have major implications for development of part of the property. For example, the entire area between the main runway and the seawall is covered by air navigation restrictions. [29: 2.32] FAA regulations would also limit, for example, the areas in which the tall cranes used at a container cargo port could be located.

As a result, the *Master Plan (Draft)* includes a cost estimate of \$70 to 100 million for relocating the airport. [18: 4-20] This represents the costs of land acquisition and construction, but does not include costs of constructing highway access and other supporting infrastructure for a relocated airport. Neither does it include the costs of relocating existing residents and businesses from the site chosen. Any feasible airport site in Rhode Island would require some relocation of residents and, probably, a few businesses.

Impact of Quonset Point Davisville on Surrounding Communities

A project of this scope raises questions both about the impacts of residential/commercial development that may be stimulated by the project and about quality of life issues. The *Alternatives Report* states that "No assessment of impacts on facilities, land use, housing market, urban sprawl, or other socioeconomic issues from the proposed development has been conducted." [20: Vol. I, 5-94]

The past two decades have seen clear demographic trends in Rhode Island, including the movement of large numbers of people to coastal and rural communities and the aging of the population. The Statewide Planning Program's 1997 population forecasts through the year 2020 take those factors into account. The forecasts also take into account some further economic development at Quonset Davisville, but not all the employment increases projected for the particular plan now undergoing review. Those forecasts project that Washington County will continue to be the most rapidly growing area of the state through the year 2020. Kent and Newport Counties are also expected to experience population growth, while the rest of the state sees a stable or slightly declining population. [30: 5-97]

Projected Population Growth in Rhode Island, 1990-2020

<u>Area</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2020</u>
State of R I	1,003,464	1,011,960	1,031,245	1,056,581
Percent change		0.8	1.9	2.5
Washington County	115,005	121,409	135,468	151,933
Percent change		5.6	11.6	12.2

In 1997-98, during its update of the *Industrial Land Use Plan*, the Statewide Planning Program prepared forecasts of employment within Rhode Island. Washington County is projected to see even more rapid growth in employment than in population in the next two decades. [27]

Projected Number of People Working in Rhode Island and in Washington County

<u>Area</u>	<u>1990</u>	<u>2000</u>	<u>2010</u>	<u>2020</u>
State of R I	405,772	446,670	491,543	537,812
Percent change		10.1	10.0	9.4
Washington County	80,089	86,702	98,146	110,986
Percent change		8.2	13.2	13.1

This pattern is consistent with the post-World War II trend of suburbanization and decentralization. Employment growth, like population growth, is shifting to the southern part of the state.

The preliminary *Master Re-Use Plan* for the port and industrial park prepared in 1996 by QPD Intermodal, Inc. (QPDI – now known as Quonset Point Partnership) estimated that "annual direct and indirect jobs" would exceed 14,000 once the site was fully developed. [8: C-6] The *Master Plan (Draft)* prepared in 1997 for the RIEDC substantially increased the 1996 projections. It estimates a total of about 26,928 jobs at build-out:

Existing commerce park employees - 1997	4,500
Additional commerce park employees at total build-out	18,676
Seaport	3,752
 Total	 26,928

The plan noted that 2/3, or approximately 2,500, of the 3,752 employees associated with the seaport would be "at-place" employees. This presumably means jobs located on the site. The remaining 1,200 or more jobs apparently include truck drivers, crews of ships, and others who come to the site but are based at other locations. [18: Table 4.6]

The impact of the employment numbers envisioned in the *Draft Master Plan* at full development could be much greater than anything experienced in the past six decades. The peak level of employment at Quonset Davisville came in 1942, when 15,350 Navy personnel and civilians worked at the site. [27] The *Master Plan (Draft)* projection for employment at Quonset Davisville at full build-out exceeds the 1942 figure by more than 10,000 workers. Furthermore, a large portion of the earlier peak were Navy personnel who lived in base housing. Suburbanization was a minor factor in the state in 1939-41, so most civilian employees commuted from the then-established urban centers or lived in temporary housing on-site.

Communities most likely to experience growth impacts due to development at Quonset Point Davisville

The *Alternatives Report* includes a "socioeconomic baseline" based on the presumption that the area most likely to be influenced by the port and commerce park is defined by the pattern of residence of the workers presently located there. Commuting convenience was also factored into consideration. [20: Vol. I, 5-94 to 5-137] Based on those considerations, the report identifies thirteen municipalities where new employees at Quonset Davisville are most likely to live. They are North Kingstown, Warwick, Coventry, West Warwick, Cranston, South Kingstown, Providence, East Greenwich, Exeter, Johnston, Narragansett, West Greenwich, and Jamestown. Residents from those communities accounted for about 72 percent of total employment at Quonset Davisville in 1995 and more than 81 percent of total employment in North Kingstown in 1990. [26: 1.26] Communities outside of this region would also be affected, but presumably to a lesser degree.

The report then surveys four factors indicative of the capacity of those thirteen communities to accommodate and manage additional development: (1) availability of municipal services including water and sewer systems; (2) capacity of schools and planned expansions; (3) police and fire protection; and (4) growth management measures in place or planned.

A fifth significant factor, not analyzed in the report, is the availability of vacant land. Large amounts of vacant land in a municipality tend both to attract development and to hold land prices down. Little development can occur in a community that has little vacant land.

By combining the *Alternatives Report's* assessment of capacity to accommodate growth for each of the thirteen municipalities with the factor of vacant land available in each municipality, towns can be grouped into the following categories. The categories are ranked in descending order of towns likely to be presented with the greatest challenges in managing growth pressures while protecting their community character.

Towns that have ten or more square miles of vacant land and limited municipal services to support growth: Coventry, Exeter, Johnston, West Greenwich.

Towns that have ten or more square miles of vacant land and strong municipal services to support growth: Cranston, North Kingstown, South Kingstown.

Towns that have five to ten square miles of vacant land and strong municipal services that support growth: East Greenwich, Warwick.

Towns that have less than five square miles of vacant land: Jamestown, Narragansett, Providence, West Warwick.

Population and employment trends and projections indicate that Washington County is an area where both population and employment are going to grow more rapidly than in other parts of the state. While it is difficult to project what percentage of the additional 23,000 employees projected to gain jobs at Quonset will choose to live in nearby communities, we believe that it is safe to say that an increase of 23,000 jobs in one community will create a substantial demand for housing in that area.

Increased residential development leads to increased demand for municipal facilities and services and a consequent increase in costs. Many of the suburban and rural towns in Washington County that will be most directly affected are already having difficulty dealing with the planning responsibilities and community service costs.

The prospect of increased housing demand underscores the particular need for the towns most likely to be affected by Quonset-driven housing demand to develop effective strategies to provide a range of housing choices and to conserve open land. Many towns at this time are responding to housing demand by increasing the minimum lot size to two to five acres. This strategy actually consumes open land, increases the cost of housing, and reduces housing options for people of modest means. It also does not support public transportation.

An alternative approach would be to identify areas most suitable for more intensive use, and provide the infrastructure (schools, utilities, transportation) necessary to support higher density housing and concentrated commercial development. Priority would be given to development in already established urban and town centers and in designated new development centers. A large part of the port and commerce park-related development could

then be guided to these areas, while at the same time the capabilities of private sector builders and other entrepreneurs would be utilized. Use of public transit would be enhanced and the cost of providing essential governmental facilities and services would be reduced.

Quality of life ramifications of the project are of more concern to current residents of areas near Quonset Davisville. The two major problems anticipated are noise and light caused by port operations. A derivative concern is reduction in property values. [6 and 9] Both land use regulations and operating controls can reduce, but not completely eliminate, those concerns. The capital improvement program includes almost \$ 7 million for landscaping and buffers. This should permit a significant effort toward separating nearby residential communities from the port and commerce park, and reducing their adverse impacts. Selection and treatment of the buffer areas are critical.

Noise and light are more difficult to handle, particularly for those residences within sight or earshot of the port. The stated intent is to load and unload ships during daylight hours so as to avoid higher labor costs. It is doubtful if this practice can be adhered to without exception. Operating rules similar to those followed at some airports can help.

Some local officials and residents of the towns most likely to be affected do not feel that they have had an adequate opportunity to raise these issues and to hear how they will be addressed. [1 and 11] This can be accommodated during preparation of the EIS, but this does not guarantee successful resolution.

Financing

The projects to be financed can be divided into three categories:

- the port,
- on-site infrastructure improvements at the commerce park,
- off-site infrastructure projects (construction of RI-403 and the Freight Rail Improvement Project).

Plans call for the port to be privately financed.

The *Master Plan (Draft)* suggests that on-site infrastructure improvements throughout the commerce park be financed by a combination of state revenue bonds and other sources of funds. State and federal grants, together with tax increment funding, are discussed as other potential sources of funds. User fees for rail or other services are not recommended since they would detract from marketing the site.

More specifics are needed about the combination of methods that will be used to finance on-site infrastructure improvements at the commerce park.

As noted above, each of the two major off-site infrastructure projects will be financed by a combination of federal and state funds. Federal-aid highway funds to finance 80% of Phase I of the RI-403 relocation are already programmed in the current Transportation Improvement Program. Funding for Phase II will depend on future federal allocations. While continuation of

federal assistance to transportation projects can reasonably be expected, specifics such as the annual funds available, matching ratios, and eligibility requirements are more speculative. State matching funds to finance the other 20% of Phase I and II are provided from general obligation bond issues issued every two years. Both General Assembly and voter approval are required for completion of this project.

State and federal governments will share the cost of the third rail project equally. The state share has been approved as part of a 1996 general obligation bond issue. Federal funds are appropriated to the Federal Railroad Administration as needed. Federal-aid highway funds will also be used to finance some bridge modifications and provide minimum overhead clearance.

Dredging

Issues concerning dredging in Narragansett Bay and disposal of the dredged material have been discussed, sometimes heatedly, for two decades or more without resolution. The major issue has been the main shipping channel to the Port of Providence, which requires removal and disposal of 4 million cubic yards of material. However, even maintenance dredging at small marinas has been stalled by the disposal issue. A recent proposal by the Riverside Cemetery in Pawtucket to accept dredged material would account for about 2 million cubic yards, if this site proves to be usable. [47]

The *Master Plan (Draft)* projects that as much as 14 million cubic yards of material would be dredged for the shipping channels associated with the port at Quonset Point. The *Master Plan (Draft)* proposes to use the dredge as fill for the port. The alternatives put forth by the Stakeholders' Group, however, suggest that significant quantities of dredge material might have to be disposed of off-site.

The implicit assumption that the contentious issue of dredge material disposal will be easily resolved is not valid. Consideration of the port project with "worst case" cost estimates for dredging is needed.

TOTAL COST OF ON-SITE AND OFF-SITE INFRASTRUCTURE IMPROVEMENTS

Where varying cost estimates have been given in different plans, the most recent cost estimate for each project is used. All cost estimates are in millions of current dollars for the year the estimates were prepared (shown in parentheses next to total cost).

On-Site Infrastructure	Total	Fed Share	RI Share
Capital investments completed or committed, 1995 to present, including pier repairs and upgrading, water and sewer upgrading, park entrance. [20: Vol. I, Table 3.6-1]	\$ 8.6		
Infrastructure costs projected prior to Master Plan (Draft) and not included in Master Plan costs: Pier repair, maintenance dredging, and building repair or demolition already scheduled: [8: 10 and 11]	\$ 45.9 (1996)		\$45.9
Master Plan Phase I 1998-2002: Road/bridge construction and upgrading, rail, water and sewer, signage, landscaping, design and contingency fees	\$ 20.2 (1997)		\$20.2*
Master Plan Phase II 2003-2007: Road/bridge construction and upgrading, water and sewer, signage, landscaping, intermodal center, golf course underpass, bike paths, design and contingency fees	\$ 26.2 (1997)		\$26.2*
Master Plan Phase III 2008-2012: Road/bridge construction, rail, water and sewer, signage, landscaping, bike paths, design and contingency fees	\$ 21.7 (1997)		\$21.7*
Total On-Site Infrastructure Costs, Phases I, II, and III	\$ 68.1 (1997)		\$68.1
Off-Site Infrastructure			
New Route RI-403 [32] (already spent)	\$ 19.0	\$15.2	\$ 3.8
(to be spent)	\$ 111.5	\$89.2	\$22.3
Third rail project	\$ 122.0	\$61.0	\$61.0
Total infrastructure costs off-site	\$ 252.5	\$165.4	\$87.1

*To be financed partially through revenue bonds.

Permitting

A major disagreement between state agencies must be resolved early in the permitting process. This concerns the water quality and water use classifications of that part of Narragansett Bay adjoining Quonset Davisville and the shipping channels, extending to the main channel, where dredging must occur and piers and bulkheads would be built. [20: Vol. II, 5-4 to 5-7]

RI DEM designates the waters around the Davisville Piers and extending along most of the eastern face of the Quonset bulkhead, extending out to the eastern edge of the dredged channel, as Class SB. The remaining waters of concern are designated Class SA.

Detailed parameters are set for each class. Class SB waters are designated for primary and secondary contact recreational activities, shellfish harvesting for controlled relay and purification, and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling, and have good aesthetic value. Class SA waters are designated for shellfish harvesting for direct human consumption - the activity most sensitive to water quality. They are also for primary and secondary contact recreational activities and fish and wildlife habitat. They shall be suitable for aquacultural uses, navigation, and industrial cooling, and have good aesthetic value.

The Coastal Resources Management Council designates the same waters as Type 6, "Industrial Waterfronts and Commercial Navigation Channel."

The goals for Type 6 waters and adjacent lands under CRMC jurisdiction are to encourage and support modernization and increased commercial activity related to shipping and commercial fisheries. Highest priority uses for Type 6 waters and lands are (a) berthing, loading, and unloading, and servicing of commercial vessels; (b) construction and maintenance of port facilities, navigation channels, and berths; and (c) construction and maintenance of facilities required for the support of commercial shipping and fishing. The Council must prohibit activities that detract from or interfere with these priority uses.

The RIDEM and CRMC classifications, and their underlying goals, appear to be in direct conflict. In theory, it might be possible to achieve the RI DEM water quality standards while at the same time achieving CRMC water use goals, but in practice this seems to be very unlikely. Acting in accordance with US EPA requirements, RI DEM has designated no waters for uses comparable to those sought by CRMC.

Although the RI DEM classifications are not intended to be a form of water use zoning, as the CRMC classifications are, they indicate that the activities proposed in the Master Plan may not be able to meet the quality standards set for SA and SB waters. There are, in effect, no lower classifications.

What Happens After Build-Out?

Considerable concern has been raised about the chances for success of the port and commerce park. All of the projections and determinations of resulting needs for facilities and services and economic and environmental impacts have been based upon complete development of the Quonset Davisville site over a period of approximately twenty years. Not surprisingly, no real attention has been paid to the prospect of a much more successful project than has been planned. But it is extremely unlikely that the twenty year reality will precisely match expectations. Either less or more development than anticipated is a more likely outcome.

What happens if the port and commerce park create momentum for continuation of development well beyond that planned for, and that can be accommodated at, Quonset Davisville? Can any significant extension of either part of the project be accommodated beyond the boundaries of Quonset Davisville? Obviously, most concern must be about a shortfall in expectations. But the law of unintended consequences demands that some consideration must be given to another possibility: a more successful project more quickly than planned for.

[Table was inserted here in original copy: “Flowchart showing timing of different companies of Quonset Davisville Port and Commerce Park”]

APPENDIX A: PLANNING FOR QUONSET DAVISVILLE

Major planning activities and other relevant events are summarized here in chronological order.

- 1893-1939 The Rhode Island Militia Brigade held their first encampment on the site, using a much smaller area than makes up the site today. Surrounding land, now part of the site, was occupied by summer homes and farms. The area was a training ground for troops in World War I. From 1919-39, the Rhode Island National Guard used the area for training.
- 1939 Expansion of the site and construction of the Quonset Point Naval Air Station began. Surrounding land was acquired by purchase or condemnation and more than a square mile of Narragansett Bay was filled. Later, the Construction Battalion Center was located at Davisville, with a supporting warehouse and open storage area at West Davisville. At peak periods more than 15,000 naval and civilian personnel worked at the two bases. A high level of training, aircraft rebuilding, and other activities continued throughout World War II and the subsequent Cold War.
- 1973 The Navy announced closure of Quonset Point Naval Air Station and substantial reductions at the CBC facility at Davisville. The General Services Administration initiated the surplus property disposal process under federal statutes. In addition to the Navy, the Federal Aviation Administration (the airport) and the Department of the Interior (the golf course and other recreational facilities) were involved.
- The Governor's Office and Statewide Planning Program began planning for base reuse. The Town of North Kingstown initiated a similar process at the local level. Two documents were produced at the state level: a reuse plan for all surplus Navy properties and an economic impact analysis. [13: Ch.3]
- 1973-77 Disagreements among state and town officials, environmental groups, and others stalled transfer of the property and planning for its reuse. A consortium of five environmental organizations filed suit to prevent transfer of the property, demanding the US General Services Administration prepare an environmental impact statement on the proposed transfers of ownership.
- 1977 The University of Rhode Island prepared an environmental assessment of the property, identifying sensitive areas and species. [13: Ch.3] This provided additional much needed data for the reuse planning process but did not calm environmentalists' concerns.

- 1975-78 Reuse efforts initially emphasized manufacturing, and a strong attempt was made to secure location of a Volkswagen plant (which was built in Pennsylvania). Electric Boat expanded its Groton operation into the former seaplane base and air rework facility. Several firms supporting exploration of offshore oil and gas at George's Bank and Baltimore Canyon leased buildings and piers. Other firms, but few manufacturers, used other existing buildings, but there was little new construction. Electric Boat's automated welding shop is a major exception. Thirty companies were operating at the industrial park by this time.
- 1978 The US General Services Administration prepared an environmental impact statement for the area. Formal mediation led to agreement by the disputing parties and their adoption of a statement of development restrictions for the property.
- 1978 The state acquired most of the former Quonset Naval Air Station by transfer or purchase. The golf course was transferred to the Town of North Kingstown. Housing area separate from the main base were transferred to the Town or to non-profit housing agencies.
- 1979 The 1977 lawsuit was terminated by a consent decree establishing a procedure for review of any "project" undertaken by the Port Authority and Department of Economic Development (now RI EDC). Review involves the Department of Environmental Management, Coastal Resources Management Council, and Statewide Planning Program staff, culminating with binding decisions by the State Planning Council. This process is still in effect. [19]
- 1984 The State Planning Council adopted the *State Airport System Plan*, element 640 of the State Guide Plan. The plan includes an inventory, operations data, and forecasts of future activity for all state and privately-owned airports. Roles are assigned for each of six state airports. Quonset State Airport is designated as a reliever airport for T. F. Green State Airport. An improvement program, cost estimates, and sources of funds are programmed for all state airports for the period 1985 to 2004. This plan was amended in 1992 as it pertains to T. F. Green State Airport. [31]
- 1987 The State Planning Council approved the *Quonset State Airport Master Plan*. This document was required by the Federal Aviation Administration as a condition of transfer of the project to state ownership. A detailed inventory of the airport is made and present and future roles are assigned, consistent with the State Airport System Plan. Detailed forecasts of activities and operations are presented. Present and future demands are compared with a capacity analysis and needs for additional or expanded facilities are identified. Environmental factors are described and an airport layout plan is presented in ten large scale drawings. A development program, cost estimates, and funding sources are recommended for five, ten, and twenty year periods. [29]

This plan delineates the Part 77 "imaginary surfaces" within which the use of land and height of structures and trees is regulated so as to prevent obstacles to aerial navigation and safety. Of particular interest is the extent of the imaginary surfaces that extend over the entire area between runway 16/34 and the seawall, the carrier pier, and adjoining water. The Davisville piers are not affected by these control surfaces.

- 1991 The Navy announced closure of the CBC at Davisville, to occur in 1994. This added 900 acres to the area available for disposal, although all was not suitable for development. The Department of Defense initiated environmental studies, convened a Base Reuse Committee, led by the Town of North Kingstown, and provided funding for planning studies.
- 1994 The Base Reuse Committee completed the plan for reuse of the area. This was accepted by federal, state, and local agencies and other concerned parties.
- 1994 RI EDC issued a Request for Proposals for preparation of a business plan for port facilities at the Quonset Davisville Industrial Park. The RFP sought preparation of a long-range development plan that adheres to the "Comprehensive Reuse Plan " by the Davisville Base Reuse Committee, is economically feasible, is sensitive to environmental, historic, and archeological resources on the site, addresses impacts on surrounding communities, and includes a public participation component. The plan must also contain a land use and infrastructure plan, proposed methods of financing, a time schedule, development costs, projection of the economic impact of the plan and the legal structure necessary to implement the plan. [8]
- 1995 A group of interested parties formed QPD Intermodal, Inc. (QPDI) and submitted a joint proposal for planning and development of the port facilities. RI EDC accepted this proposal and entered into an interim development agreement with QPDI in May, 1995. A preliminary "Master Development Plan" was completed by QPDI in December, 1995. QPDI is now known as Quonset Point Partners (QPP).
- 1996 RI EDC convened two planning symposia to evaluate QPDI's preliminary plan (see above) and prospects for development of a port and commerce park at Quonset Davisville. The symposia reviewed information on the area and its facilities, efforts to market the area, the changing shipping patterns and equipment used in marine commerce, and the prospects for port development at several locations on the east coast was reviewed. Participants then considered three topics in subgroups: land use, the airport, and port development. Each group produced a list of issues.

The participants met again two weeks later to review information collected on each topic in the interval. Conclusions and recommendations were presented for land use, the airport, and port development, but several questions were unresolved in all three areas. Among these were storage of

liquid bulk cargo (petroleum products), the future of the airport and air cargo, and the container port, which would require extensive filling for disposal of dredge spoil, cranes, laydown of containers, storage of dry bulk cargo, and truck and rail access.

The *Quonset Davisville Planning Review Symposium* summarizes both sessions, presents the discussion and recommendations for each of the three major topics considered, analyzes the economic impact of port development, and projects the growth of cargo (containers) to be handled in four phases. Environmental and permitting concerns are reviewed. The report presents numerous concerns to be considered in a forthcoming master plan for the site. [8]

1997 Parsons Brinckerhoff Quade & Douglas and associated consultants, then prepared a more detailed and definitive draft *Master Plan, Quonset Davisville Port and Commerce Park* [18] under a \$ 225,000 contract with RI EDC. The draft was published in December, 1997, and approved as a preliminary plan by RI EDC in May, 1998. This plan analyzes the market for a port and industrial park and presents a land use and development plan for the site. Salient features of the plan include:

- Development of existing vacant developable land as follows:

<u>Use/activity</u>	<u>Acres</u>
Manufacturing	383
Distribution	468
Office, hotel, retail, and other support functions	40
Total	891

- A seaport extending from the Davisville piers to the south end of the Airport, and extending the existing shoreline with approximately 550 acres of fill. Channels serving this area would be dredged to a depth of 51 feet. The port would handle a projected 800,000 twenty-foot equivalent units (TEU's) in the first year and 3,400,000 in year 25. [21:4] Automobiles would continue to be imported and total annual vehicle throughput is projected to increase from 35,000 (in 1993) to 110,000. [18: 5-22] Existing activities are anticipated to continue at Davisville Pier 1. [18:5-22]
- A recommendation to continued operation of the airport to avoid violation of the FAA covenants and support the National Guard and general aviation operations. Shorten runway 5/23, the primary runway from the standpoint of wind direction, from 4,500 feet to 3,000 feet. This would still accommodate 95 percent of the nation's general aviation aircraft.

- Construction of RI-403 and the third track, and development of a freight rail yard on the site; reconfiguration of the internal street system except for arterial roads; enhancement of public transit service to an intermodal facility at the entrance to the site and operation an internal bus system, and development of a system of internal bike paths.

The *Master Plan* also evaluates existing utilities and recommends improvements, and proposes standards for landscaping, signs, greenways, buffers, and street cross-sections. Environmental constraints are reviewed.

A twenty-year implementation program is outlined, including marketing, land use controls, a capital improvement program and an analysis of financial requirements.

1998 Adverse reaction to the master plan, and particularly to filling of Narragansett Bay, led Governor Almond to appoint a "Stakeholders' Group" in May. Meetings began in June. Their work, and the plans produced, are summarized in Appendix B.

1998 QPP presented six alternative plans for the "Container Terminal Development Project" in August. The document outlines market requirements, project specifications based on a projected 3,400 000 trailer-equivalent units (TEU's) in year 25, vessel, rail, and truck movements, existing port infrastructure (marine channels and terminal area), and the channel dredging process. The alternatives are characterized by six physical and economic factors. The four most significant are: [21: 27-28]

Total terminal area:	644 to 753 acres
Filled land:	61 to 383 acres
Development cost:	\$ 607.7 to \$ 829.5 million
Costs per TEU in year 1:	\$ 66.66 to \$ 90.99 each

All six alternatives are geared to the same kind of port and the same projected level of port activity. Three would modify the airport runway layout, and three would eliminate the airport. The location and extent of filled area is varied in each.

1999

At least four persons or groups publicized plans for all or part of Quonset Davisville early in the year. In some cases, these respond to the draft Master Plan and the Stakeholder's process.

The USS Saratoga Museum Foundation, Inc. proposed mooring the aircraft carrier Saratoga at the carrier pier. Thirty acres of land would be used for support facilities. The ship is currently mothballed in Newport. [10]

Professor Dennis Nixon, Marine Affairs/URI, urged a comprehensive view of marine commerce in Narragansett Bay. All commercial port activities would be concentrated at Quonset Davisville, including petroleum product storage and transshipment. The Port of Providence would be converted to other uses, as suggested by Mayor Cianci in his "three cities" plan. [16]

John J. Kupa, Sr., Ecological Associates, Inc., proposes using 11.6 miles of shoreline, extending from the Davisville piers to the carrier pier, for park and recreational purposes. The filled area east of runway 16/34 would be excavated and restored as a beach. [12]

Brian Bishop of Rhode Island Wise Use and a stakeholder proposes full development of port potential, together with recreation and buffer areas and environmental enhancement. Filled areas would total 420 acres, with slightly more than half for port use and the remainder for new parks and habitat. [40]

All of these plans retain commerce park and some or all of the other elements of the Master Plan, at least conceptually. The first and second propose additions to that plan, the third would eliminate the port from the Master Plan, and the fourth would create a port comparable in capacity to that in the Master Plan.

1999

Town of North Kingstown retains VZM/TranSystems to develop an alternatives analysis.

APPENDIX B: SUMMARY OF THE STAKEHOLDER PROCESS

The *Master Plan (Draft)* for the proposed port and commerce park submitted to RI EDC in December, 1997, generated many public expressions of concern and opposition to the proposed port development plan. In response, Governor Lincoln Almond created a Stakeholder Process in June, 1998 to provide a broad forum for consideration of the port development plans and their potential impacts on Rhode Island. The group of 62 included representatives of 52 organizations and interests (some with more than one representative). They are:

- Boating - recreational - 1
- Business and tourism organizations, chambers of commerce - 6
- Community associations - 2
- Companies located at Quonset Davisville - 5
- Development, real estate - 3
- Environmental groups - 5
- Federal agencies - 4
- Fishing - 4
- General Assembly - 4
- Labor unions and trades organizations - 5
- Local government - 1
- National Guard - 3
- Rhode Island state agencies - 7
- Quonset Point Partners - 1

A resource group of representatives of eleven governmental and private agencies assisted the Stakeholder's Group, and there were several observers. Professional facilitators conducted the process.

Stakeholders met both as a whole group eighteen times between June 9, 1998 and March 22, 1999. [20: Pt. A] In addition, Databank, Overlap, Economic and Environmental Subcommittees held multiple meetings.

Over the course of the process the group received a total of __ technical reports prepared by consultants and advisors on topics ranging from the airport to water quality.

The stakeholders compiled a list of "interests and concerns" under six headings:

Airport Issues: eg, What is the impact of the port on the National Guard, air cargo, and air traffic? Are there conflicts between aircraft operations and ships and cranes?

Economic Issues: eg, Is the port economically viable? What is the anticipated volume of use and number of jobs? What state and federal investments are required? What is the value of the bay for all purposes, and how will these be affected?

Environmental Issues: eg, How much dredging is necessary? How much filling? What are the effects of each on wildlife, fishing, etc.

General Issues: Integration of port plans with state and local plans, security, crime, and aesthetics.

Quality of Life Issues: Lighting, noise, impacts on environmental quality and recreation, volume of marine and truck traffic.

Broader Issues: eg, The state's need for economic development, impact on air quality, increased housing and related activity in nearby communities, water supply and wastewater treatment and disposal, and the affect on economic development in other municipalities. What is "responsible" development of the site?

A *Quonset Davisville Port Alternatives Report* was issued in January, 1999 in response to the issues and concerns summarized above. The two-volume document provides baseline economic and environmental data. Some of the most pertinent topics discussed in the 337-page main volume are:

Economic aspects of the port: employment, revenue, and taxes, and economic risks such as loss of fishing and tourism employment and income.

The economics of port operation: changes in trade and cargo handling techniques and equipment, ship characteristics, the "hub port" concept, ship operations, physical requirements in a port.

A market analysis by QPP, the project sponsors: growth in world trade, increased use of containers and demands for facilities on the Atlantic coast; a comparison of Quonset Davisville with New York, Norfolk, Baltimore, Halifax, and Boston.

Foreign trade zones: characteristics, activities, values.

Methods of financing port development: revenue bonds, port revenues (fees), general obligation bonds, state and federal grants, loans, and others.

Port operating costs: labor, equipment, utilities, highway and rail access.

QPP's development and lease obligations.

Projections of revenue from all major sectors.

The report presents eight alternatives or variations on alternatives for port development at Quonset Davisville. These, and the differing characteristics of each, are:

<u>Type of Port</u>	<u>Water depth</u>	<u>Cargo type</u>
Deep water "mega-port"	60-65 feet	No restrictions
Load center port	52 feet	No restrictions
Load center port	52 feet	Containers only
Regional distribution center port	45 feet	No explicit restriction
Baseline port	Current depth	Current cargoes, ship repair and building, vehicle handling, seafood
Port not handling commercial cargoes	Current depth	Fishing and processing (replacing Galilee), casino gambling, cruise ships, recreational boating
No build/no maintenance	None	None

The volume of cargoes handled, size and number of facilities needed, and vessel draft requirements are outlined for each alternative above, except for the last one. These "functional" alternatives are not related to the "physical and economic" alternatives referred to in Appendix A.

Evaluation criteria are then listed for application to each of the functional alternatives. These include size of the port, financial criteria, economic criteria, acceptability, net economic impacts, dredging and filling required, economic and environmental impacts during construction, environmental impacts during operation, quality of life considerations, business impacts on other industries (fishing, recreational boating), and port operation and maintenance.

A preliminary application of these criteria to the eight alternatives listed above identified four with higher potential:

Baseline port, maintained and marketed.

Baseline port upgraded as a niche port.

Regional distribution center port.

Load center port limited to containers.

Full application of the criteria to the alternatives, however, was a function of the Stakeholder's Group.

Quonset State Airport is discussed in some detail, since most port alternatives affect, and are affected by, the airport. Four significant areas of conflict are identified:

- Aviation navigation and safety standards including "imaginary surfaces" in Part 77 of FAA regulations (see the summary of the *Quonset State Airport Master Plan* in Appendix A.) These are affected by the height of both ships at the proposed quayside (130 feet) and cranes used to handle containers (300 feet).
- Terminal instrument procedures. Runway 16/34 has one of only two instrument landing systems in the state (the other is at T F Green State Airport). This greatly increases the capability to handle operations in adverse weather. The ILS operation severely restricts activities around the airport.
- Electronic and visual landing aids. Large metal reflective surfaces such as containers can degrade ILS signals. Design of the container storage and handling facilities may alleviate this problem. New technology may also help, but it is not yet approved for civilian operation and not installed anywhere in the US.
- Air traffic control and traffic patterns: Changes in aircraft traffic patterns may reduce some conflicts as outlined above but require approval by FAA.

Several actions are considered to reduce or eliminate the problems above, including eliminating or relocating runways or relocating the airport entirely. Some are expensive (up to \$ 100 million) and extremely difficult to accomplish for both physical and political reasons and FAA approval is required in all cases. The report does not speculate on the ability of the port project to carry the cost of these but does cast considerable doubt on the possibility of relocating the airport entirely.

More than half of the *Alternatives Report* is devoted to environmental issues raised by stakeholders. Summaries of longer technical reports are presented on numerous topics within the categories of marine environment; terrestrial environment; air quality and noise; socioeconomic baseline; operations plan; human use baseline and potential impacts of the port; and construction impacts, dredging, and disposal. (Full reports on the first three topics are published in a separate Appendix) No overall characterization of the results is possible, or even useful, since evaluation of the results of many of the more than fifty topics addressed depends on a balancing of damage incurred with benefits gained. Significant conflicts are identified in dredging and disposal, loss of wildlife habitat including a beach that is home to a bird listed as a state-designated threatened species, conflicts between shipping, commercial fishing, and recreational boating, and others.
[11]

Means of mitigating at least some environmental impacts at the port are discussed in the standard order of preference: avoid; minimize, restore or rehabilitate; reduce or eliminate; and

compensate. A wide variety of techniques are suggested but the costs and the ability of the project to carry these costs are not dealt with.

RI DEM severely criticized some of the reports included in the *Alternatives Report*, in a 17 page document dated January 15, 1999. [15] Although complaining that the time available for review and comment was insufficient (two weeks over the Christmas holidays), the department made preliminary comments on sixteen reports, and declined to comment on two other reports dealing with noise since they have no jurisdiction in this area.

DEM states that data used in some reports are old, incomplete, in error, or not from locations near Quonset Davisville. Equipment used in some studies is thought to be the wrong type. Some essential conclusions were lacking, such as that dredging could only take place in one month of the year. The study area was defined differently for different purposes and some impact areas have not been established. The terrestrial habitat around Quonset Point and human use of the bay were not studied. Some assumptions or conclusions are called confusing or are disputed. The air quality analysis is considered particularly inadequate. Regulations and standards are misinterpreted and the activities proposed at the site are not analyzed in terms of these regulations and standards.

US EPA reviewed seven of the environmental characterization studies. These were found to "contain a good deal of valuable information" but may not present "enough information to allow for various types of judgments the stakeholders at large will be responsible for making." EPA noted stakeholder's disagreement on inclusion of opinions or conclusions regarding impacts in these reports, but favors their inclusion. "Some of the experts who wrote the reports have been working with their subject organisms in Narragansett Bay for decades, and arguably know more about them than anyone else." [35]

A blank evaluation matrix is presented for use by stakeholders in comparing alternative port plans against more than fifty factors or considerations.

The Stakeholder's Group received the *Alternatives Report* and an equally lengthy *Appendix* on January 19, and held an all-day workshop with the consultants on February 2. On February 8, the Stakeholders held a second all-day workshop to design their own port alternatives. Consultants then analyzed the alternatives as rated by the stakeholders using the matrix, and a second all-day workshop with the consultants was held on March 12. A final workshop was held on March 22nd. [22]

The final report of the Stakeholders Group does not recommend a specific port alternative. Rather, it presents a list of 24 principles to guide the development of a port at Quonset Point Davisville.

APPENDIX C: APPROVALS AND PERMITS REQUIRED

The size and complexity of the Quonset Davisville Port and Commerce Park will require numerous formal approvals or permits from different federal, state, and local agencies as well as compliance with other laws or regulations not involving a formal approval or permitting process. A list of approvals and permits required appears on the following pages. Those approvals and permits that pertain to the entire project, and that must be obtained prior to its construction, are designated with an {A}. Approvals and permits required for specific sites and structures are designated with a {B}.

This vast array of laws, regulations, approvals, and permits could obscure the essence of any major project. A consolidated review and approval procedure is essential if there is to be effective consideration of the real values and problems of a large-scale development such as the Quonset Point Davisville Port and Commerce Park.

Since the final list of approvals and permits required will depend upon final design of facilities and specific conditions encountered, the following list may contain some actions which will, in the end, not be required at Quonset Davisville. It may also omit actions that may be required.

FEDERAL

{A} The National Environmental Policy Act (42 USC 4321 et seq.) (NEPA)
Federal channel dredging and permitting of other activities (below and on next page) constitute major federal actions. NEPA therefore requires preparation of a full environmental impact statement. Procedures are established by the Council on Environmental Quality (40 CFR 1500-1508).

The process is coordinated by a lead federal agency. This will probably be the Corps of Engineers due to their responsibilities under Section 404 of the Clean Water Act. Other federal participants may include the Environmental Protection Agency, Fish and Wildlife Service, National Marine Fisheries Service, US Coast Guard, and perhaps others. State agencies that may participate include the Rhode Island Department of Environmental Management (RI DEM) and the Coastal Resources Management Council (CRMC).

The process begins with a scoping meeting, at which issues to be addressed in the Environmental Impact Statement are identified. (In this instance, the Stakeholder Process may serve as the scoping meeting.) The lead agency then promulgates a scoping document. The developer prepares a draft EIS, which is released for public comment. The final EIS responds to public comments and may designate a preferred alternative, mitigation measures, or other requirements. The federal permitting process then begins.

{A} Rivers and Harbors Act (33 USC 401, 403)
Regulation of construction in and activities that may affect navigable waters of the US.

- {A} Fish and Wildlife Coordination Act (16 USC 661 et seq.)**
Review of impacts on marine and bird life affected.
- {A} Endangered Species Act (16 USC 1531-1543)**
Species listed as protected under this act are identified and their habitat is protected.
- {A} Marine Protection Research and Sanctuary Act (33 USC 103)**
Impacts of a project on marine sanctuaries are identified. Part of Narragansett Bay is designated as a marine sanctuary.
- {A} Federal Aviation Administration regulations (14 CFR Part 77)**
Proposed development affecting airports and air traffic safety must be approved.
- {B} Executive Order 11990**
Wetlands are protected from adverse federal or federally-funded actions.
- {B} Executive Order 11988**
Areas subject to flooding are restricted from federal or federally-funded development.

STATE, INCLUDING FEDERAL PROGRAMS ADMINISTERED BY THE STATE

- {A} State Guide Plan conformance (RIGL 42-64-14a)**
RIEDC projects must be found to conform to the State Guide Plan by the State Planning Council. The very broad definition of "project" in this statute includes most RI EDC actions in connection with this proposal. Project review forms are prepared by RI EDC and reviewed by RI DEM and CRMC prior to State Planning Council review for any project on former Navy base land.
- {A} Rhode Island Intergovernmental Review Process (Intergovernmental Cooperation Act of 1968, Presidential Executive Order 12372, and Gubernatorial Executive Order 83-11)**
Proposed federal actions, including draft EIS, permits, licenses, grants, or loans are reviewed by the Statewide Planning Program for consistency with state and local plans.
- {A} Coastal Resources Management**
Development in the coastal region must comply with the CRMC's Coastal Resources Management Plan and any applicable special area management plans.
- {A} Clean Water Act (33 USC 1251 et seq.)**
RI DEM issues Section 404 water quality certifications for projects that do not adversely affect water quality.

- {B} Clean Air Act (42 USC 7401 et seq.)**
RI DEM issues permits to facilities and activities that comply with the State Implementation Plan for Air Quality and applicable Air Pollution Control Regulations.
- {A} RI pollution discharge elimination system (RIGL 46-12, 42-17.1, 42-35)**
RI DEM administers permits for discharge of pollutants into the waters of the state, including stormwater discharges.
- {A} Wetlands Act (RIGL 2-1, 42-17.1 and 17.6, and 42-35)**
RI DEM administers permits for any activity causing alteration of a wetland.
- {A} National Historic Preservation Act (16 USC 470)**
Sites and districts on the National Register of Historic Places are protected from development. Some are located at Quonset Davisville. RI EDC and the RI Historical Preservation & Heritage Commission have signed an agreement on preservation of historic structures, and there are no outstanding issues.
- {B} Safe Drinking Water Act (42 USC 300 and RIGL 46-13.2)**
The Department of Health must approve drinking water sources.
- {B} Underground storage facilities (RIGL 46-12, 46-13.1, 42-17. 42-35, and 23-19.1)**
RI DEM regulates storage of petroleum and other products underground.
- {B} Hazardous waste management act (RIGL 23-19.1)**
Collection, transportation, storage, and disposal of hazardous waste is regulated by RI DEM.
- {B} Groundwater protection (RIGL 46-12, 46-13.1, 23-18.9. 23-19.1, 42-17.1, and 42-17.6)**
The quality of groundwater is protected by RI DEM.
- {B} Injection wells and other subsurface waste disposal of hazardous and other wastes RIGL 46-12 and 42-17.1)**
RI DEM issues permits for injection wells and other subsurface disposal systems.
- {B} On-Site sewage disposal (RIGL 42-17.1, 23-19.5, and 5-56.1)**
Septic systems and other methods of wastewater disposal on-site are regulated by RI DEM.
- {B} Resource Conservation and Recovery Act (42 USC 6901-6992)**
Landfills and hazardous or toxic materials disposal sites must be cleaned up.
- {B} Comprehensive Environmental Response, Conservation, and Liability Act (42 USC 9601-9675)**
Remediation of "Superfund" sites.

- {B} Tie-in to a solid waste treatment facility (RIGL 46-12)**
Tie-in to a wastewater treatment facility at Quonset Davisville would require a RI DEM wastewater treatment facility and/or sewer system expansion/modification order of approval.

- {B} Flood hazards (42 USC 4001-4128)**
Areas subject to flooding must comply with the structural and land use requirements of the National Flood Insurance Program and, under some circumstances such as involvement of a federally-insured lending institution, structures must be insured against flood loss. Much of the Quonset Davisville site is subject to flooding.

LOCAL, INCLUDING STATE LAWS OR REGULATIONS ADMINISTERED BY MUNICIPALITIES

- {A} Comprehensive community plan (RIGL 45-22.2)**
All municipal land use decisions must conform to the comprehensive plan adopted in accordance with state enabling legislation.

- {A} Zoning (RIGL 45-24)**
Privately-owned land at Quonset Davisville is subject to a local zoning ordinance adopted in accordance with state law. If the State continues to own some of the land and leases it to businesses, then that land may also be subject to local zoning.

- {A} Subdivision of land (RIGL 45-23)**
Any division of land into two or more parcels must be approved by the North Kingstown Planning Board, acting in accordance with ordinances and regulations adopted under state enabling legislation.

- {B} Erection of buildings or structures**
The State Building Code is administered by local building officials, who issue building, electrical, plumbing, and occupancy permits. For buildings or structures on state-owned land, these functions are performed by the State Building Code Commissioner.

[Much of this information was supplied or corrected by RI DEM.]

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