



Brunswick Naval Air Station Reuse Master Plan

December 2007

Prepared for the Brunswick Local Redevelopment Authority
by Matrix Design Group

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Table of Contents

EXECUTIVE SUMMARY AND BACKGROUND

Section 1: Executive Summary 1

- ▶ Plan Vision and Intent 1
- ▶ Land Use and Transportation Framework 1
- ▶ Environmental Influences 7
- ▶ Plan Implementation Considerations 7
- ▶ Economic and Development Impacts 7
- ▶ Transportation and Infrastructure Impact Considerations 8
- ▶ Environmental Considerations 9
- ▶ Property Transfer Considerations 10
- ▶ Economic Feasibility and Public Benefit Analysis 11
- ▶ Management Considerations 12

Section 2: Background and Overview 13

- ▶ Property Setting and Description 13
- ▶ The Brunswick Local Redevelopment Authority 16
- ▶ The Federal Property Screening Process 19
- ▶ The Master Planning Process 25

EXISTING CONDITIONS AND PLANNING PROCESS

Section 3: Public Engagement Program 29

- ▶ Public Meetings and Events 29
- ▶ Community Survey 47
- ▶ Other Outreach Efforts 50

Section 4: Existing Conditions Assessment 53

- ▶ Market and Economic Analysis 53
- ▶ Community Planning Issues and Influences 67
- ▶ Transportation Issues and Influences 74
- ▶ Natural and Cultural Resources 82
- ▶ On-Base Conditions and Characteristics 87
- ▶ Buildings and Facilities 107
- ▶ Environmental Conditions 124
- ▶ Potential Suitability for Development 138



- ▶ Facilities Reuse Workshop 148
- ▶ Airport Feasibility Study Conclusions / Recommendations 148

Section 5: Reuse Alternatives and Plan Selection163

- ▶ Reuse Concepts 163
- ▶ Plan Alternatives173
- ▶ Plan Selection. 178

REUSE MASTER PLAN AND IMPLEMENTATION

Section 6: The BNAS Reuse Master Plan 179

- ▶ Plan Vision and Intent 179
- ▶ Land Use and Transportation Framework 179
- ▶ Environmental Influences 193

Section 7: Plan Implementation Considerations 195

- ▶ Economic and Development Impacts. 195
- ▶ Transportation and Infrastructure Impact Considerations. 198
- ▶ Environmental Considerations 199
- ▶ Property Transfer Considerations. 204
- ▶ Economic Feasibility and Public Benefit Analysis 212
- ▶ Management Considerations 213

Reuse Master Plan Consultant Team227

- Appendix A: Public Engagement**
- Appendix B: Market / Economic Data**
- Appendix C: BLRA Board Minutes and Actions**
- Appendix D: Building Assessments**
- Appendix E: Aviation Feasibility Study**
- Appendix F: State / Local / Homeless Screening**
- Appendix G: Environmental Supplemental Information**

Appendices are available for public review at the Midcoast Regional Redevelopment Authority office, Town of Brunswick planning office, and at the Curtis Memorial Library.



Table of Exhibits

<i>Exhibit 1: BNAS Reuse Master Plan Map</i>	2
<i>Exhibit 2: Land Use Program</i>	3
<i>Exhibit 3: Regional Context Map</i>	13
<i>Exhibit 4: BNAS Vicinity Map</i>	15
<i>Exhibit 5: Federal-to-Federal Requests for BNAS Property Map</i>	20
<i>Exhibit 6: Estimated Demand for Homeless Shelter and Supported Housing</i>	25
<i>Exhibit 7: Planning Areas Map</i>	35
<i>Exhibit 8: Preferred Land Use by Planning Area - Airport Scenario</i>	40
<i>Exhibit 9: Preferred Land Use by Planning Area - Non-Airport Scenario</i>	40
<i>Exhibit 10: Visioning Results by Planning Area Map - Airport Scenario</i>	41
<i>Exhibit 11: Visioning Results by Planning Area Map - Non-Airport Scenario</i>	42
<i>Exhibit 12: Visioning Results by Planning Area Map - Transportation and Access</i>	42
<i>Exhibit 13: Population Table</i>	56
<i>Exhibit 14: Brunswick Regional 2020 Population Forecast</i>	57
<i>Exhibit 15: Midcoast Economic Clusters</i>	58
<i>Exhibit 16: Fastest Growing Sectors in Midcoast (2004-2020)</i>	58
<i>Exhibit 17: Change in Midcoast Clusters</i>	59
<i>Exhibit 18: Town of Brunswick Land Use Map</i>	69
<i>Exhibit 19: Regulatory Zones Map</i>	73
<i>Exhibit 20: Regional and Community Transportation Systems Map</i>	75
<i>Exhibit 21: Baseline Traffic Figures</i>	79
<i>Exhibit 22: Future Trip Generation</i>	80
<i>Exhibit 23: Wetland Conditions Map</i>	84
<i>Exhibit 24: Natural Habitats Map</i>	86
<i>Exhibit 25: Historic and Cultural Influences Map</i>	88
<i>Exhibit 26: Historic Bowdoin College and Town Common Parcels Map</i>	89
<i>Exhibit 27: On-Base Land Uses Map</i>	90
<i>Exhibit 28: Wastewater Collection System Map</i>	97
<i>Exhibit 29: Water Distribution Map</i>	99
<i>Exhibit 30: Natural Gas Distribution Map</i>	103
<i>Exhibit 31: Points of Access Map</i>	105
<i>Exhibit 32: BNAS Build-out in 1940s</i>	111
<i>Exhibit 33: BNAS Build-out in 1950s</i>	112
<i>Exhibit 34: BNAS Build-out in 1960s</i>	112
<i>Exhibit 35: BNAS Build-out in 1970s</i>	113
<i>Exhibit 36: BNAS Build-out in 1980s</i>	113
<i>Exhibit 37: BNAS Build-out in 1990s</i>	114
<i>Exhibit 38: BNAS Build-out in 2000s</i>	114
<i>Exhibit 39: Environmental Constraints Related to Reuse</i>	126
<i>Exhibit 40: Known Environmental Sites</i>	128



<i>Exhibit 41: Potential Munitions and Explosives of Concern Sites Map</i>	130
<i>Exhibit 42: Restrictions on Groundwater Use and Activities Map</i>	132
<i>Exhibit 43: Potential Areas of Environmental Concern Map</i>	134
<i>Exhibit 44: Abandoned Utilities Map</i>	136
<i>Exhibit 45: Development Suitability Table</i>	138
<i>Exhibit 46: Areas Least Suitable for Development Map</i>	140
<i>Exhibit 47: Summary of Areas Least Suitable for Development Map</i>	141
<i>Exhibit 48: Areas Moderately Suitable for Development Map</i>	143
<i>Exhibit 49: Summary of Areas Moderately Suitable for Development Map</i>	144
<i>Exhibit 50: Areas Most Suitable for Development Map</i>	146
<i>Exhibit 51: Development Suitability and Environmental Constraints Map</i>	147
<i>Exhibit 52: Civilian Aviation Activities</i>	150
<i>Exhibit 53: Aviation Feasibility Study Process</i>	152
<i>Exhibit 54: Potential Brunswick Airport Civilian Employment</i>	154
<i>Exhibit 55: Potential Brunswick Airport Regional Economic Benefits</i>	154
<i>Exhibit 56: Noise Impact Map</i>	155
<i>Exhibit 57: Airport Break-Even Analysis</i>	158
<i>Exhibit 58: Based Aircraft Projected Growth Rate</i>	160
<i>Exhibit 59: Airport Concept A-1 Land Use Table and Map</i>	165
<i>Exhibit 60: Airport Concept A-2 Land Use Table and Map</i>	167
<i>Exhibit 61: Non-Airport Concept N-1 Land Use Table and Map</i>	169
<i>Exhibit 62: Non-Airport Concept N-2 Map and Land Use Table</i>	171
<i>Exhibit 63: Plan Alternative “A” Land Use Table and Map</i>	175
<i>Exhibit 64: Plan Alternative “B” Land Use Table and Map</i>	177
<i>Exhibit 65: Reuse Master Plan Map</i>	180
<i>Exhibit 66: Land Use Program</i>	181
<i>Exhibit 67: Airport Operations District Location Map</i>	182
<i>Exhibit 68: Aviation-Related Business District Location Map</i>	183
<i>Exhibit 69: Professional Office District Location Map</i>	184
<i>Exhibit 70: Community Mixed Use District Location Map</i>	185
<i>Exhibit 71: Business and Technology Industries District Location Map</i>	186
<i>Exhibit 72: Education District Location Map</i>	187
<i>Exhibit 73: Residential District Location Map</i>	188
<i>Exhibit 74: Recreation and Open Space District Location Map</i>	189
<i>Exhibit 75: Natural Areas District Location Map</i>	190
<i>Exhibit 76: Open Space System Map</i>	193
<i>Exhibit 77: BNAS Employment</i>	196
<i>Exhibit 78: Total Wages</i>	197
<i>Exhibit 79: State Income Tax</i>	197
<i>Exhibit 80: Local Property Tax</i>	197
<i>Exhibit 81: Recommended PBC Location Map</i>	207
<i>Exhibit 82: MRRRA Estimated 2008 Budget</i>	213



Section 1: Executive Summary



This section of the Brunswick Naval Air Station Reuse Master Plan report provides a brief overview of the reuse master plan, and introduces a variety of implementation issues and marketing strategies for further consideration. The Midcoast Regional Redevelopment Authority (MRRRA), the entity charged with implementation of this plan, will rely on findings and recommendations of this report and move forward with more detailed financial, physical, and regulatory planning. This information, along with the background and findings of this extensive planning effort, is provided in subsequent sections of this report, and in the appendix that follows.

Plan Vision and Intent

The Reuse Master Plan for the Brunswick Naval Air Station (BNAS) represents a unique opportunity to establish a vibrant live, work, play and educate environment and centers of excellence for technology innovation, environmental sustainability, and “green” community development. Viewed from an economic development perspective, the plan provides a framework from which a variety of corporate, business, academic, recreational, and community services can flourish, and from a community development perspective, the plan promotes a strong sense of place based on smart growth principles that will serve as a model for future sustainable development throughout the region.

Land Use and Transportation Framework

The structure and relationship between future land uses and the transportation system proposed for redevelopment of the base is highlighted below and further described in **Section 6**. This includes a description and a diagrammatic illustration of the proposed land use program; a description and a diagrammatic illustration of each of the land use districts; a summary of transportation and open space elements; and a discussion of how environmental conditions influenced the Reuse Master Plan.

Land Use Program

The land use program shown in the following exhibits provides a summary of proposed land use districts with corresponding areas allocated for each land use type. As indicated on the exhibit, only 51% of the total base property has been allocated for development (approximately 1,630 acres); and, 49% (approximately 1,570 acres) of the base has been dedicated to a variety of active and passive areas for recreation, open space, and natural areas. This figure does not include parks, open space, and natural drainage or buffer areas that will be incorporated as part of the 1,630 acres planned for development.

Exhibit 2: Land Use Program Table is color-coded to correspond with the land use districts shown on **Exhibit 1: BNAS Reuse Master Plan Map**.

**BRUNSWICK NAVAL AIR STATION REUSE MASTER PLAN
BRUNSWICK, MAINE**



Exhibit 1: BNAS Reuse Master Plan Map

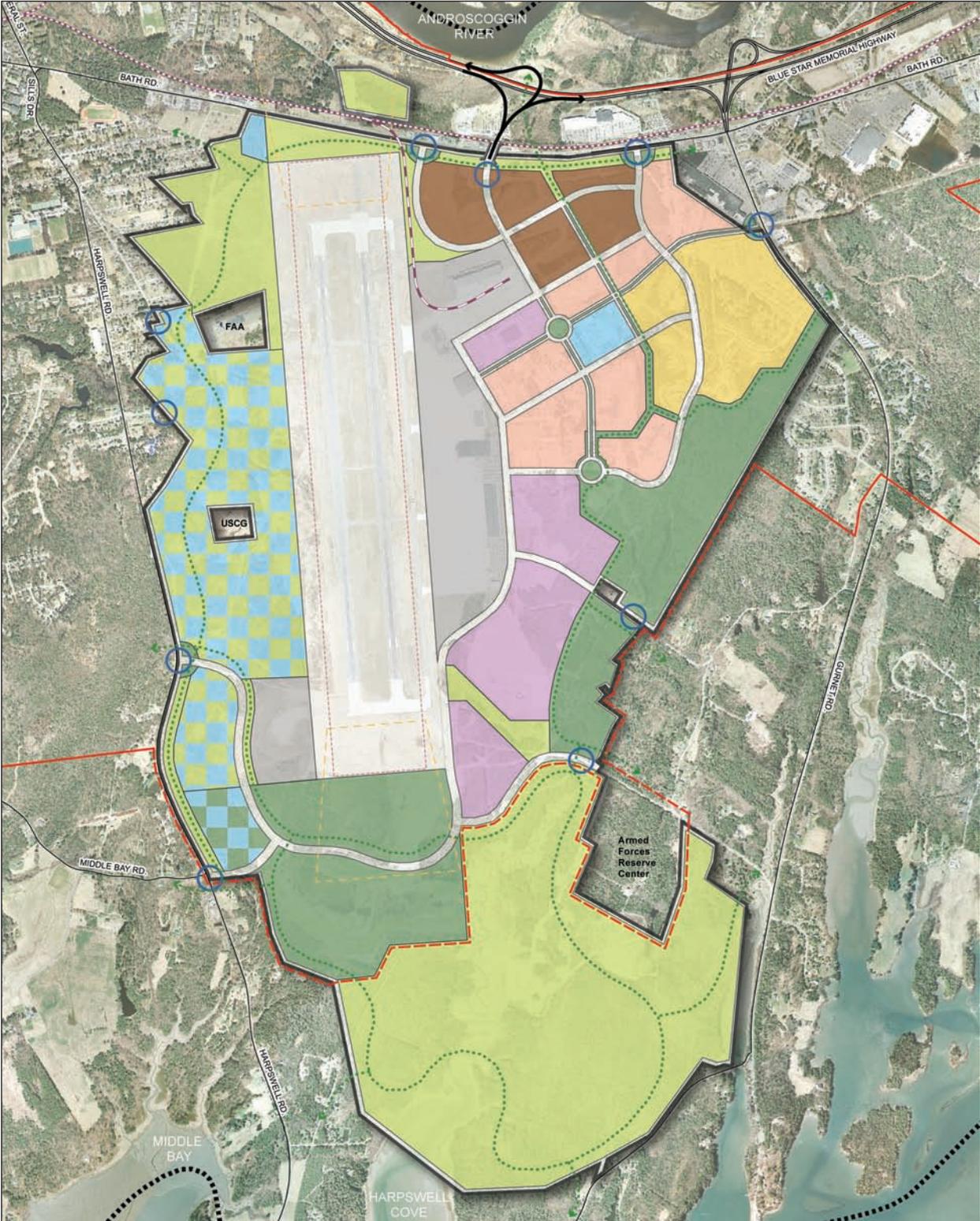


Exhibit 2: Land Use Program

Proposed Land Use Program

LAND USE DISTRICTS		SURPLUS ACRES	PERCENT OF TOTAL
Land Development	Airport Operations	500	16%
	Aviation-Related Business	230	7%
	Professional Office	120	4%
	Community Mixed Use	175	5%
	Business and Technology Industries	190	6%
	Education	200	6%
	Residential	215	7%
	SUBTOTAL	1,630	51%
Open Space	Recreation / Open Space	510	16%
	Natural Areas	1,060	33%
	SUBTOTAL	1,570	49%
GRAND TOTAL		3,200	100%

Legend

- B N A S Surplus Property
- Town of Brunswick
- State Highway
- Major Road
- Railroad
- Runway Protection Zone
- Runway Object Free Area
- Existing Town Growth Boundary
- Potential Town Growth Boundary
- Potential Pedestrian / Bike Trail
- Potential New Interchange
- Potential Railroad Spur
- Access Points

Notes:

- 

1. Checkered blue-light green area totals 320 acres, of which an undefined 175 acres have been assigned in the table above to Education and 145 acres to Natural Areas.
- 

2. Checkered blue-dark green area totals 30 acres, all of which has been assigned in the table above to Recreation / Open Space; however, Education would be an allowed use, if needed.
- 

3. Checkered light green-dark green (East Brunswick Transmitter Site) area totals 70 acres, of which an undefined 35 acres have been assigned in the table above to Recreation / Open Space and 35 acres to Natural Areas.
- 

4. The Runway Object Free Area provides a 500-foot buffer to the east and west of the two runways. The Airport Operations land use district extends an additional 500 feet beyond the Runway Object Free Area, resulting in a 1,000-foot buffer parallel to the runways.




BLRA
BRUNSWICK LOCAL REDEVELOPMENT AUTHORITY

**BRUNSWICK NAVAL AIR STATION
REUSE MASTER PLAN**



PLANNING DECISIONS WRIGHT - PIERCE ENGINEERS ECONOMIC RESEARCH ASSOCIATES WBRC ARCHITECTS + ENGINEERS



Land Use Districts

Based on the inventory and assessment of local, regional, and state market conditions, and influenced by the availability of existing on-base infrastructure and facility assets, the land use program illustrated above is described below:

Airport Operations District

The 500-acre Airport Operations District, shown in light gray on the plan, contains the two existing 8,000-foot long runways, taxiways and adjacent buffer zones surrounding the active airfield.

Aviation-Related Business District

The intent of the 230-acre Aviation-Related Business District, identified in dark gray on the plan, is to provide an area dedicated primarily to aviation-related business, industry, transportation and distribution, technology employment and other uses that rely on, or directly benefit from, proximity to airport facilities and operations. Such uses could include general and corporate aviation, aircraft maintenance / repair / overhaul, aviation-related manufacturing, and government and aerospace research and development.

Professional Office District

The intent of the 120-acre Professional Office District, identified in brown on the plan, is to provide an employment center serving corporate and professional office needs of the area. Some retail and community support uses (e.g. hotels, food service, and day care) could be integrated into this district. Primary uses in this district will include administrative, corporate, and professional offices (e.g. law, medical, insurance, architectural, engineering, finance, and real estate), and similar office uses. Uses could be accommodated within this district in stand-alone buildings, in a campus setting, or in a more compact office complex.

Community Mixed Use District

The intent of the 175-acre Community Mixed Use District, shown in light orange on the plan, is to provide a centralized area that encourages a compact pedestrian-oriented mix of community-related uses that will provide a variety of live, work, play and educate opportunities. Typical uses could include neighborhood-scale retail, professional offices, business and support services, restaurants, hotels and conference centers, health and fitness centers, day care centers, civic and cultural uses (e.g. churches, libraries, and museums), parks, and government buildings. A variety of higher-density attached housing types such as town homes, condominiums and apartments (including affordable rental and home ownership, and assisted / independent care senior housing) could also be included.



Business and Technology Industries District

The intent of the 190-acre Business and Technology Industries District, shown in purple on the plan, is to provide a high-tech employment center that will accommodate large-scale technology uses, such as technology-based research and development, energy parks, laboratories, light manufacturing, and warehouse and distribution uses. Facilities could be developed as stand-alone buildings on several acres or in a campus / corporate park setting. This district could also accommodate those activities that are normally considered industrial in nature, but which produce few, if any, external effects that may be adverse to nearby properties or to the community in general.

Education District

The intent of the 200-acre Education District, light blue on the plan, is to allow for university and college-level academic, administrative and support facilities. Typical uses will include college classrooms, administrative and support facilities, college athletic and sporting events, and student / faculty housing. More detailed studies are being conducted in the checkered areas on the plan to determine specific locations for educational versus natural area uses.

Residential District

The intent of the 215-acre Residential District, shown in yellow on the plan, is to provide for a variety of housing types in a compact, pedestrian-oriented setting. Typical uses will include single-family attached / detached, multi-family apartments, assisted / senior housing, and retirement / second homes. The proposed density of the McKeen Street housing area is five dwelling units per acre, and eight dwelling units per acre for the on-base housing areas. Residential uses in the Community Mixed Use District are proposed at a density of 24 dwelling units per acre.

Recreation and Open Space District

The intent of the 510-acre Recreation and Open Space District, identified on the plan in dark green, is to provide suitable areas for a variety of commercial and public outdoor active and passive recreational opportunities for the community. Recreational uses could include public parks, sports fields, golf courses, public gardens, bicycle trails, and equestrian facilities.

Natural Areas District

The intent of the 1,060-acre Natural Areas District, light green on the plan, is to preserve, maintain and enhance existing natural areas for the long-term benefit of area residents and the surrounding community; as such, only those uses that will not significantly alter the environment and/or will provide opportunities to experience the environment will be considered. Pedestrian trails, nature and interpretive centers,



environmental education, and other non-intrusive outdoor passive recreation and educational uses could also be included. More detailed studies are being conducted in the checkered areas to determine specific locations for natural versus educational uses.

Transportation System

The nature and magnitude of transportation demands associated with redevelopment of the facility, as well as the ability of the existing transportation systems to accommodate these demands, are paramount considerations addressed in the Reuse Master Plan. A recurring theme from the public was the desire to provide viable alternatives to single passenger automobile travel, and sensitivity to other uses in the vicinity of the base. The transportation framework plan element of the Reuse Master Plan addresses both off-site and on-site capacity-related improvements, including:

- ▶ The creation of a new connector spur and interchange that will connect to US Route 1 west of the present interchange at Cook’s Corner
- ▶ New secondary points-of-access onto the adjacent street systems at Bath Road / Gurnet Road / Harpswell Road
- ▶ New east / west connector linking Gurnet and Harpswell Roads
- ▶ The widening of Bath Road
- ▶ The creation of a new network of pedestrian / bicycle trails

Rail Service Considerations and Access

The base has historically been served directly by rail, via an at-grade crossing of Bath Road. The rail spur once extended into the site roughly parallel to the main base entrance. While the re-creation of both passenger and freight rail access onto the site provides an incentive for certain future development, the reintroduction of a grade crossing on Bath Road would present a number of challenges. Initial evaluation suggests that creation of grade-separated rail access could be achieved through elevating Bath Road across the north end of the site, which would allow a new rail spur alignment further to the west.

Pedestrian Considerations

Significant public input has also indicated the need to create a facility characterized by “walkability.” The improvements incorporated into the plan provide pedestrian access throughout the redevelopment, with a focus on connectivity with those types of land uses which tend to generate pedestrian traffic, or interface with other transportation modes. Proposed transit stops will be located to correspond with complementary land use elements and transportation nodes.



Open Space System

Over 1,500 acres (49%) of the site are dedicated to open space and natural areas, where wetlands, drainageways, wildlife corridors and other sensitive natural systems are prevalent. Urban parks and formal open spaces are envisioned in the more developed areas, with pedestrian linkages to ensure connectivity not only throughout the property, but also into the adjacent neighborhoods and community. This approach promotes the concept of conservation and preservation of site and area-wide natural systems, while also providing a variety of locations and conditions for both active and passive recreational activities.

Environmental Influences

A detailed opportunities and constraints analysis was performed with respect to environmental conditions to help guide the development of the Reuse Master Plan. The analysis produced an implementation strategy that will best position designated land use districts for redevelopment. As a result, specific recommendations have been incorporated into the land use master plan described in **Section 6** of this report.

Taking environmental conditions into consideration while developing the Reuse Master Plan facilitates a quick start to base redevelopment, which creates momentum, optimism, and decreases the community's anxiety over the closure of the historic military installation.

Plan Implementation Considerations

As the MRRRA focuses on implementation of the Reuse Master Plan for redevelopment of the Brunswick Naval Air Station, more detailed planning, market and economic studies, building and environmental investigations, and other activities must be programmed. The following section provides a discussion of a variety of issues that will aid MRRRA in making decisions related to future economic development, transportation and infrastructure, environmental cleanup, and property transfer.

Economic and Development Impacts

The following development impact estimates (in current dollars) represent the jobs, wages and taxes that could be generated, assuming full build-out of the BNAS site according to the Reuse Master Plan. All new development has been included, as well as the reuse of select existing buildings for education tenants. There will be additional public benefit conveyances (PBCs) which will result in the repositioning of select facilities, but such uses are not likely to contribute a level of jobs and wages comparable



to new development. Consequently, Economics Research Associates, Inc. (ERA) did not include them in this analysis. Neither construction labor nor short-term employment impacts generated by residential development have been included.

Current operations at BNAS generate:

- ▶ Total employment of 4,863
- ▶ Total annual wages of roughly \$115,000,000
- ▶ An average annual wage of roughly \$24,000

These figures assume full build-out of the entire site over a period of 20 years. The Reuse Master Plan could generate the following development impacts in current dollars:

- ▶ Total employment of 13,800 workers
- ▶ Total annual wages of \$732,390,000
- ▶ An average annual wage of roughly \$53,000
- ▶ Total annual income taxes of \$40,849,000
- ▶ Total annual commercial and residential property taxes of \$19,011,000, which could be a source of tax increment financing (TIF) to assist in funding reinvestment in public infrastructure and other base redevelopment activities; property valuation that is not sheltered in a TIF district would be subject to the impact of the state's school funding formula, county tax assessment and state municipal sharing formula

Transportation and Infrastructure Impact Considerations

Preliminary "order of magnitude" estimates were developed relative to the degree of public sector capital investment that will be necessary for implementation of the 20-year redevelopment plan. The majority of costs relate to the rehabilitation of existing facilities and the construction of new transportation and utility infrastructure. Primary components include:

- ▶ Arterial, collector and local streets
- ▶ Water and sewer systems
- ▶ Storm drainage
- ▶ Electrical transmission and distribution
- ▶ Telecommunications



The total projection for these costs (through build out) is estimated at approximately \$240 million, which includes a contingency allowance of 25 percent and approximately 18 percent for “soft costs” such as engineering, permitting, and related items.

The time frames necessary for implementation of utility and transportation infrastructure improvements will be dictated to a large extent by the rate at which new businesses and residents occupy the facility; phasing may also be driven by the logistics of transfer-of-ownership and operations responsibility of any utility systems. The need for capacity-related improvements to the transportation network in the vicinity of the base will be dictated primarily by the rate at which existing facilities are reused, and new facilities are constructed.

Environmental Considerations

Numerous environmental issues must be considered prior to and during implementation of the plan. Environmentally-impacted sites on the property are at various stages of investigation, remediation, and closure; some potential areas of environmental concern have not been assessed at all. A number of known environmentally-impacted areas have not been adequately investigated to determine the nature and extent of contamination. Environmental investigation and site characterization for known and potential environmentally-impacted sites are critical elements to redevelopment because the extent of contamination must be defined prior to estimating costs for remediation to be protective of human health and the environment for the land use(s) described in the plan, and to adequately estimate and consider long term obligations (e.g., long term monitoring or land use controls). The environmental strategy for cleanup and redevelopment in accordance with the Reuse Master Plan includes filling identified data gaps while coordinating further site investigation, remediation, and closure of contaminated sites consistent with the redevelopment schedule and priorities.

Appendix G contains details on the known and potential environmental issues, how they relate to the land uses described in this Reuse Master Plan, and the status of the Navy’s investigation and planned cleanup.

Environmental Phasing

During the development of the Reuse Master Plan, certain areas have been identified as priorities in redevelopment phasing. The priority areas include property that may be transferred to the MRRRA prior to 2011 base closure, areas that will be developed to include special activity centers or economic centers, and areas that will require significant cleanup time or areas that have not yet been investigated and may require a long lead time for investigation and remediation. Priorities related to environmental investigation and cleanup have been identified, along with the reasoning associated with the priorities, as reported in detail in **Section 7**.



Following investigation and the determination of the nature and extent of contamination at impacted sites, the environmental cleanup process will proceed to remedy selection and implementation to position properties for transfer with as few land use controls (LUCs) as possible. Schedules for cleanup of individual sites will be driven by redevelopment phasing and priorities.

Property Transfer Considerations

A number of property transfer mechanisms may be used to convey all or portions of the BNAS property to new owners. The Brunswick Local Redevelopment Authority (BLRA), the entity charged with developing this Reuse Master Plan, envisions that: (1) properties identified and approved by the BLRA Board of Directors through the Notice of Interest (NOI) process will be transferred via the appropriate public benefit conveyance authority; (2) the MRRRA may seek to acquire portions of the property via an Economic Development Conveyance; and/or (3) the MRRRA may negotiate with the Navy to acquire select parcels within the property via the Negotiated Sale transfer mechanism. It is also assumed that the Navy will likely make select parcels available to the highest bidder via Public Sales. Such transfers would require consistency with this Reuse Master Plan, and be subject to zoning and other land use controls and restrictions that may be placed on the property by the Town of Brunswick and/or the MRRRA. Information related to potential property transfer mechanisms and recommendations made by the BLRA Board of Directors for implementation of the Plan are provided in **Section 7**; they include:

- ▶ Public Benefit Conveyances (PBCs) allow the transfer of surplus military property for a specified public purpose at up to a 100 percent discount, which may be conveyed to eligible public agencies and private not-for-profit organizations to provide for certain public goods and services.
- ▶ Homeless Assistance Provisions identify the unmet needs of the homeless in the vicinity of the base. Using information provided from area homeless service providers and the Maine State Housing Authority, a report entitled *Report on the Homeless in Midcoast Maine* was created to assist the BLRA in understanding the scope of homeless needs in the vicinity. Based upon the NOI evaluations and interviews, recent homeless studies, and recommendations from the BLRA's Homeless and Housing Committee, Tedford Housing's proposal was selected because it most closely addressed the identified needs of the homeless in the vicinity. The BLRA agreed to establish a homeless services trust fund to be capitalized by future base property sales / transfers or development exactions to support both housing and related services for homeless persons. Providing service funding also allows the homeless to integrate throughout the community and lessen the impact on municipal services in one area by spreading the demand over a wider area. More details regarding this approach are provided in **Section 7**.



- ▶ Economic Development Conveyances provide for the transfer of select properties within the base to the MRRA at a discounted price or at fair market value for the purpose of job creation.
- ▶ Negotiated Sales are available only to a public entity for a public purpose such as the provision of affordable housing. Negotiated sale authority requires the payment of fair market value.
- ▶ Public Sales (auctions to the highest bidder) may be used by the Navy for properties not conveyed via other mechanisms.

Economic Feasibility and Public Benefit Analysis

Economic Feasibility

The Reuse Master Plan, as presented in this overall study, supports the uses and industries targeted in Economics Research Associates' January 2007 report. In that report, ERA identified composite research and development and manufacturing, information technology, biomedical, radio frequency identification, open-source software and alternative energy as technology-based industries that should be targeted tenants for a Maine Center of Innovation. The Business and Technology Industries District, outlined in the Reuse Master Plan, would serve as the location for the Center. ERA has coordinated with aviation consultant Edwards and Kelcey in reviewing the potential for on-site airport operations. The Edwards and Kelcey Aviation Feasibility Study confirmed the potential for general and corporate aviation, government agencies, maintenance, repair and overhaul, and research and development activities. Consequently, the Reuse Master Plan designates 500 acres for airport operations and 230 acres for aviation-related businesses. In addition, ERA has underlined the demand for a hotel and conference center, linked to a golf course, as well as supportive retail, second homes, retirement homes, education and aviation. The Reuse Master Plan takes all of this into account and designates an appropriate mix of land-use districts providing for flexibility and expansion.

Public Benefit Analysis

There are several benefits likely to result from the proposed Public Benefit Conveyances at the base. ERA considered the following PBCs as likely to occur and generate significant benefits. The buildings and land to be occupied by Bowdoin College and Southern Maine Community College will result in:

- ▶ Access to advanced technology training and education
- ▶ Potential synergies with relevant firms and industries
- ▶ Pipeline of entry-level workers for targeted industries



Over 1,000 acres of open space and conservation land along with select community recreational facilities will be transferred to the Town of Brunswick. The land and existing buildings potentially provide:

- ▶ Walking, biking and cross-country skiing trails
- ▶ Access to green space for residential homeowners
- ▶ A marsh and bay water trail for recreational boaters
- ▶ Access for canoes and kayaks to promote low-impact exploration of the coastal habitat
- ▶ Commercial shellfish opportunities for local shellfish harvesters
- ▶ Facilities for gym use, and health and wellness programming
- ▶ Future athletic field space
- ▶ Recreational programming for area youths
- ▶ An attractive amenity to commercial residential and resort development
- ▶ A higher quality of life

Management Considerations

The Midcoast Regional Redevelopment Authority is a public municipal corporation chartered by the State Legislature with the responsibility to implement the Reuse Master Plan prepared for the BNAS property in Brunswick and the Topsham Annex in Topsham, Maine. Members of the Authority have been appointed by the governor and confirmed by the legislature. Presently, the proposed staffing model will include an executive director, a deputy director, a planning and environmental manager, a property manager, grants and communications coordinator and an executive administrative assistant. The estimated MRRA budget for 2008 is \$858,911.

Section 7 of this report outlines how economic development at BNAS can best be accomplished by leveraging the assets of various regional, state and federal resources. The action plan is loosely based upon the phasing strategy outlined for facility development. The plan should be considered only as a basic guide for future planning, bearing in mind that an element of flexibility should be maintained as the project progresses.