INTERFACILITY TRAFFIC AREA AND VICINITY MASTER PLAN:

Virginia Beach, Virginia

URBAN DESIGN ASSOCIATES

Adopted by the City Council on December 12, 2017

AN ORDINANCE TO ADOPT AND INCORPORATE THE "INTERFACILITY TRAFFIC AREA AND VICINITY MASTER PLAN," DATED SEPTEMBER 2017, INTO THE VIRGINIA BEACH COMPREHENSIVE PLAN 2016, AND TO AMEND AND REVISE SECTIONS OF THE POLICY DOCUMENT OF THE VIRGINIA BEACH COMPREHENSIVE PLAN 2016: PLANNED LAND USE MAP (PERTAINING TO SPECIAL ECONOMIC GROWTH AREAS); EXECUTIVE SUMMARY; SECTION 1.3 (SUBURBAN AREA); SECTION 1.4 (PRINCESS ANNE & TRANSITION AREA); SECTION 1.6 (MILITARY INSTALLATIONS AND SUPPORT); AND SECTION 2.4 (ECONOMIC VITALITY).

WHEREAS, the public necessity, convenience, general welfare and good zoning practice so require;

WHEREAS, the Interfacility Traffic Area and Vicinity Master Plan, September 2017 has been updated and revised as exhibited in the attached Interfacility Traffic Area and Vicinity Master Plan, September 2017 (Exhibit A); and

WHEREAS, the Virginia Beach Comprehensive Plan 2016 Policy Document also has been amended to coordinate with the attached Interfacility Traffic Area and Vicinity Master Plan, September 2017 (Exhibit B).

NOW, THEREFORE, BE IT ORDAINED BY THE COUNCIL OF THE CITY OF VIRGINIA BEACH, VIRGINIA:

That the Comprehensive Plan of the City of Virginia Beach 2016 be, and hereby is, amended and reordained by:

1. The adoption of the Interfacility Traffic Area and Vicinity Master Plan, September 2017 attached as Exhibit A. Such document is made a part hereof, having been exhibited to the City Council and is on file in the Department of Planning; and

2 The revision to the Policy Document, pertaining to the Interfacility Traffic Area, as shown on the attached document entitled "Comprehensive Plan Policy Document Revisions", attached as Exhibit B. Such document is made a part hereof, having been exhibited to the City Council and is on file in the Department of Planning.

Adopted by the Council of the City of Virginia Beach, Virginia, on this 12th day of December, 2017.

APPROVED AS TO CONTENT:

Planning Department

APPROVED AS TO LEGAL SUFFICIENCY:

City Attorney's Office

CA14170
R-2
October 10, 2017

Interfacility Traffic Area and Vicinity Master Plan

PREPARED FOR
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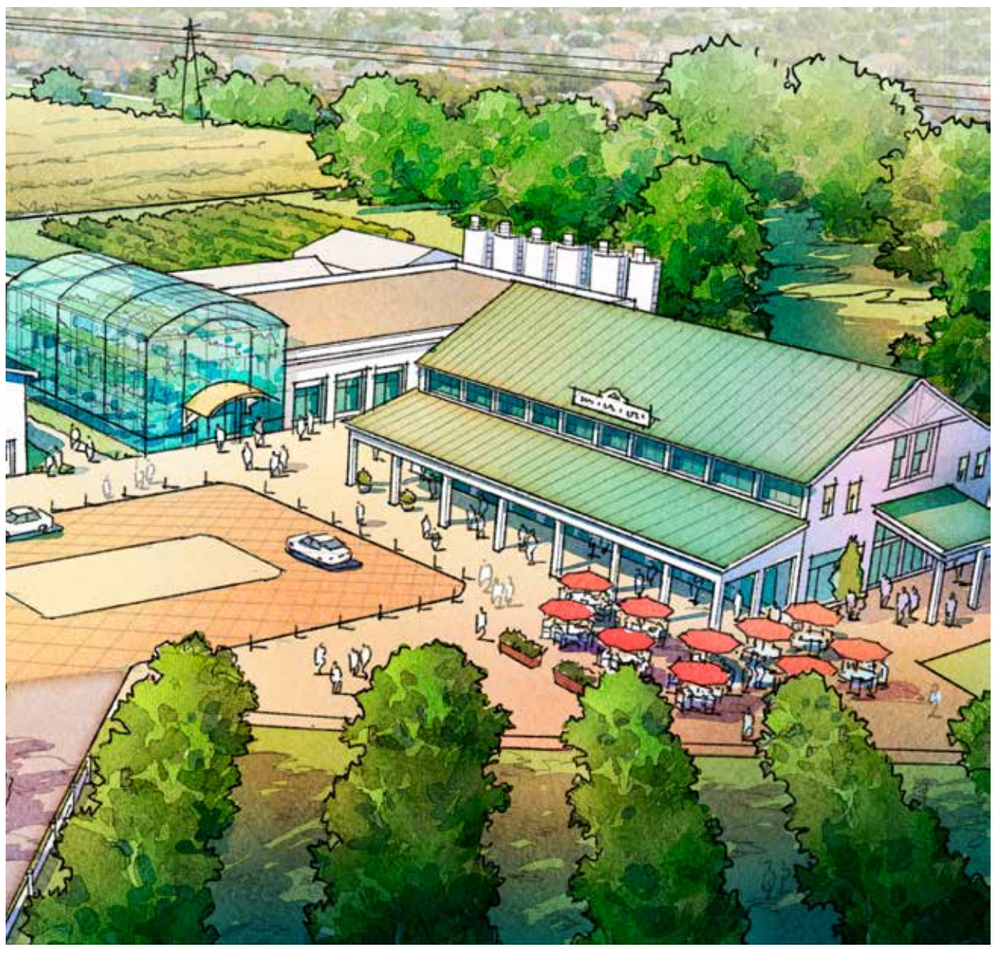

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Introduction

IN 2010, THE CITY OF VIRGINIA BEACH engaged Urban Design Associates (UDA), Landmark Design Group (VHB+LDG), and URS Corporation to participate in a planning and design process to determine the future of the Interfacility Traffic Area (ITA). The ITA is the area between Naval Air Station Oceana (NAS Oceana) and Naval Auxiliary Landing Field Fentress (NALF Fentress) in Chesapeake that is subject to frequent overflight by jet aircraft. The process led to City Council's adoption of the Interfacility Traffic Area and Vicinity Master Plan on January 25, 2011. At the same time the ITA Plan was adopted by the City Council, the City's 2009 Comprehensive Plan was amended to include the ITA Plan's recommendations. Those recommendations remain part of the 2016 Comprehensive Plan, and are found in Section 1.4 – Princess Anne Commons & Transition Area.

The City has recently acquired a large quantity of land in the ITA and development priorities have changed enough to revisit the 2011 ITA Plan. The City invited UDA, with their subconsultants VHB and WPL, to prepare a new master plan that includes portions of the 2010-11 Study Area and additional land areas to the south. This document records the analysis, design exploration, and preferred recommendations prepared in a public planning and design process conducted in 2016–2017.

REGIONAL LOCATOR MAP The ITA and Princess Anne Commons Study area is located just south of the Green Line, at the transition between the urbanized portion of the city and the rural areas to the south

EXISTING RESIDENTIAL
EXISTING INSTITUTIONS
EXISTING COMMERCIAL
EXISTING INDUSTRIAL
EXISTING LARGE TREE STANDS
EXISTING OPEN SPACE AND PARKS
EXISTING AGRICULTURE AND RESIDENTIAL LAND USE
EXISTING NON-RESIDENTIAL LAND USE

PORTRAIT OF EXISTING CONDITIONS The ITA Study Area (outlined in red) is illustrated with its existing land uses

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Princess Anne Commons, Interfacility Traffic Area, and the Comprehensive Plan

CHARACTERISTICS OF PRINCESS ANNE COMMONS AND THE TRANSITION AREA

- Quality Development
- Planned Mix of Public and Private Uses
- Exceptional Open Spaces
- Design with Nature

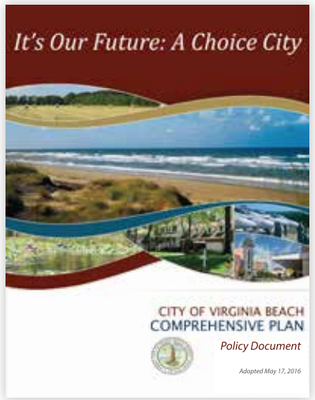
The 2016 Comprehensive Plan describes and explains the relationship between the Interfacility Traffic Area (ITA) and Princess Anne Commons (PAC) in Section 1.4 – Princess Anne Commons & Transition Area. The area is strategically located below the "Green Line," between the Suburban Area of the City to the north and the Rural Area to the south. The area is an important component of the City's overall smart growth land use planning strategy. Princess Anne Commons offers unique education, entertainment, recreation, habitat preservation, and quality economic development opportunities.

The vast majority of Princess Anne Commons is included in the ITA. The ITA is an overlay zoning district created in 2005 to address land use compatibility issues associates with frequent overflights of military jets in this part of the City.

During the time since the adoption of the 2011 ITA Plan, the City has acquired a large number of parcels within the ITA, purchased from private property owners willing to sell. The purchase of these parcels is the result of the City's partnership with the U.S. Navy to eliminate or significantly reduce uses that are not compatible with the jet traffic that flies over the area. Throughout the ITA Acquisition Program, over 1,500 acres of land have been acquired by the City of Virginia Beach. When combined with approximately 1,300 acres already owned, the City now controls approximately 60 percent of all land in the ITA. This ownership transition was not anticipated in the 2011 master plan for the ITA and is a primary reason why the City has decided to update the plan for the ITA/PAC, including the property south of Indian River Road purchased by the City in 2011 from the Rock Church (referred to as North Landing Park in this Plan).

The City also prepared studies related to natural resources, stormwater management and drainage, and scenic area designations that are summarized in the 2016 Comprehensive Plan and are further described on the next page. The vision for Princess Anne Commons includes the following general recommendations:

1. Strive to achieve extensive open space connectivity throughout the Commons
2. Protection of the most sensitive land
3. Residential development limited to areas outside of AICUZ-restricted areas
4. Mixed-use town center style development in the Municipal Center and Historic/Cultural District
5. Low impact campus style development for work, education, research, recreation, and worship (remainder of Princess Anne Commons)
6. Guidelines for building types to ensure appropriate quality and character
7. Expansion of suburban infrastructure in northern but not southern part of Princess Anne Commons and south of Indian River Road
8. Development remains limited along existing unimproved infrastructure
9. Potential for extension of mass transit service to Princess Anne Commons and the Municipal Center



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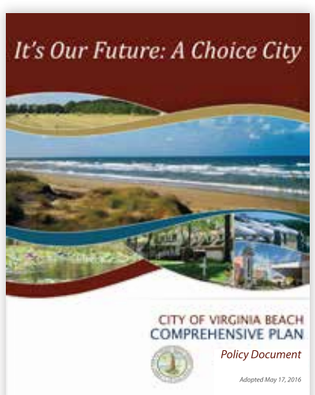
Summary of Planning Work To-Date



Significant land use and transportation studies have been undertaken for this part of the city. The following three plans and studies were found to be most relevant and useful to this effort:

The ITA and Vicinity Master Plan, 2011

The Master Plan was prepared with community involvement to provide planning policy guidance on future land use, transportation, environmental stewardship, and infrastructure. This update replaces the 2011 ITA Plan.

The Green Sea Blueway and Greenway Management Plan 2015

The Green Sea Plan was a unique planning collaboration between the cities of Chesapeake and Virginia Beach and Currituck County. The Plan develops a long-term management strategy to sustainably protect, conserve and manage natural resources, open space areas and recreation uses, activities and facilities. The geography of the study focuses on the Albemarle-Pamlico Sounds Watershed, the southern watershed in the City of Virginia Beach. The Princess Anne Commons area falls within the Albemarle watershed and under the purview of the Green Sea Plan. The study establishes several important planning frameworks for this study.

Comprehensive Plan, It's Our Future: A Choice City, 2016

The new Comprehensive Plan for Virginia Beach was adopted May 17, 2016 and plans through the Year 2040. The Interfacility Traffic Area and Vicinity Master Plan provides more specific planning initiatives that fit within the planning frameworks described in Section 1.4 - Princess Anne Commons & Transition Area. This chapter addresses issues important to the area including the southern watershed, stormwater management, the Interfacility Traffic Area, and special districts including North Princess Anne Commons, Princess Anne Corporate Park, Historic Princess Anne Center and the Municipal Center.

PLANS CONSULTED IN THE MASTER PLANNING PROCESS

- Conservation Planning for the Management and Protection of Natural Areas in the City of Virginia Beach, Virginia, December 1994
- Municipal Center Master Plan, April 1997
- Conservation Plan for the Southern Watershed Area, February 2001
- Strategic Plan for Agriculture in Chesapeake and Virginia Beach, March 2001
- Southern Watershed Area Multiple Benefits Conservation Plan, July 2001
- Southern Watershed Area Rural Area Preservation Program, September 2001
- Design Guidelines for Princess Anne Commons, January 2002
- Bikeways and Trails Plan, February 2011
- APZ-1 / CZ Master Plan, April 2008
- Virginia Beach Outdoors Plan, August 2016
- Comprehensive Plan, May 2016
- The Interfacility Traffic Area (ITA) & Vicinity Master Plan, January 2011
- Green Sea Blueway and Greenway Management Plan, July 2015
- Sea Level Rise and Storm Surge Impacts to Roadways in Hampton Roads, May 2016

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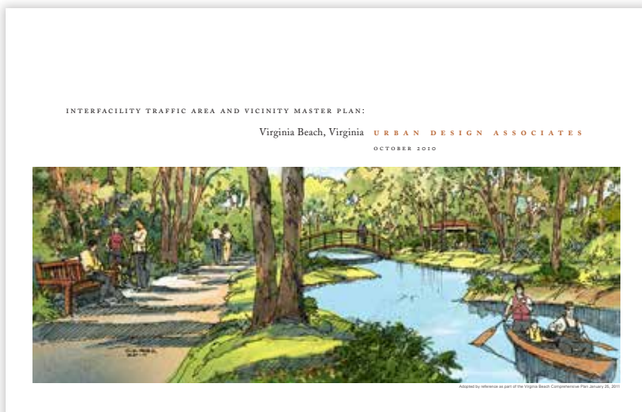
The 2011 Plan

The Interfacility Traffic Area (ITA) & Vicinity Master Plan was adopted as an amendment to the Comprehensive Plan in 2011. The plan was prepared with community involvement to provide planning policy and guidance with land use, transportation, environmental stewardship, infrastructure, public service delivery, economic vitality, AICUZ compatibility, housing and community design. The planning process included land owners who were interested in mixed-use development of large tracts of land on existing agricultural fields. The plan proposed a balance of development and environmental conservation in this important area of the city south of the Green Line.

Following the adoption of the plan, the City began acquiring much of the privately-owned land, including the Rock Church parcel that extends from Indian River Road to the North Landing River. The City also acquired the Brown Farm parcel, which was previously owned by Kempsville Presbyterian Church. Expansion of publicly owned land created new opportunities that were not anticipated in the 2011 plan:

1. City control of undeveloped land allowed for the consideration of land uses and activities dedicated solely to public benefit, which is not possible in parts of the city due to property control
2. Additional watershed and sea level rise studies prepared after 2011 provide new environmental planning frameworks for Princess Anne Commons Area
3. Additional property purchased by the City expanded the scope of the master planning effort
4. Reduced land area for mixed-use development and expanded conservation areas modified planned extensions of infrastructure



2016 MASTER PLAN UPDATE - WHAT HAS CHANGED SINCE 2011?

- Ownership/City-Owned Property
- Market and Economic Conditions
- City Properties
- Major Stakeholders
- Planned/Implemented Projects
- Increasing focus on stormwater and flood resiliency

PREFERRED MASTER PLAN (2011) The Illustrative Plan from 2011 demonstrated a vision for the ITA area that aimed to preserve the historic, cultural, and environmental assets of the land.

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Executive Summary: Interfacility Traffic Area & Princess Anne Commons Vision

PRINCESS ANNE COMMONS MASTER PLAN DESIGN PRINCIPLES

INFRASTRUCTURE

- Build an extensive and interconnected open space and trail network
- Expand the road infrastructure to improve mobility
- Improve safety of existing road networks in a way that is consistent with context/character
- Protect streams and waterways
- Improve storm resiliency in the ITA using advanced techniques to manage stormwater and flooding

LAND USE

- Protect the operational viability of Oceana and Fentress
- Concentrate commercial, institutional, and residential growth around existing developed areas (Municipal Center and Princess Anne Commons)
- Build centers for education, research, and wellness
- Continue the tradition of productive farming and focus on advancing the viability of small-scale farms
- Enhance sports tourism with passive recreation areas and additional active sports facilities
- Create a consolidated areas for a Municipal Services Facility
- Consider a variety of low-impact development models that are environmentally sound
- Preserve and enhance the historic, cultural, rural, and natural heritage of the area

Cornerstone priorities for the updated vision of the Interfacility Traffic Area and Princess Anne Commons(ITA/PAC) are economic development, agricultural research, the provision of quality municipal services, and conservation. The extent of publicly-owned land gives the City the ability add value, create new amenities for the public, and protect agricultural and ecologically important resources. The ITA/PAC will not only be the hub for economic development centered around bio-medical research and education, but it will also be the premier location for active and passive recreation and preservation of an extensive area of farmland.

New infrastructure will provide safety improvements and access in the ITA/PAC. Roads will be extended to create a logical network of access to new activities A robust system of open space and multi-use trails will provide an interconnected system for pedestrians and cyclists. The plan employs a careful balance of providing access, while still protecting the sensitive capes. The master plan also focuses on stormwater management and flood controls, improving a critical function in this part of the city.

The Master Plan identifies eight initiative areas. Each initiative contributes to achieving the overall vision of economic development, conservation, and agricultural research, recreation and the provision of quality municipal services. Initiatives will be explored in greater detail in the latter portion of this document.

1 Historic Princess Anne Center
2 Municipal Center
3 Bio-Tech Park
4 Sports Center
5 Preservation and Passive Recreation
6 City Municipal Services Facilities
7 Agricultural Production
8 North Landing Park

STUDY AREA The Illustrative Plan demonstrates the vision for the Princess Anne Commons Master Plan

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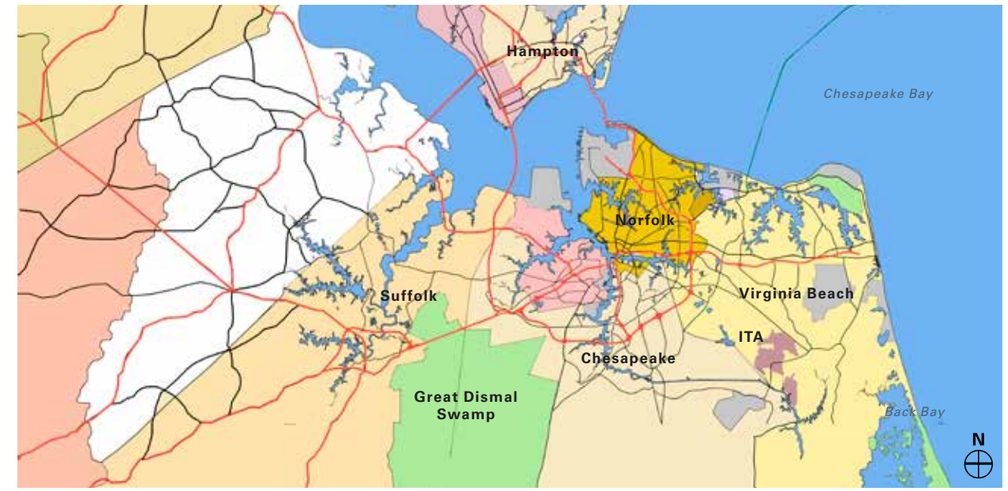
Analysis

THE CITY OF VIRGINIA BEACH encompasses an extensive area of land stretching from the Atlantic Ocean to the bordering independent cities of Norfolk and Chesapeake. Virginia Beach grew in reputation as a vacation spot and tourist destination in the 19th century, following the building of a railroad system that connected Norfolk to the oceanfront. Incorporated as a town in 1906 and then as a city in 1952, Virginia Beach began to stretch its boundaries eventually merging with Princess Anne County in 1963 as the population grew.

The physical environment of the city is incredibly diverse. Much of the northern area is urbanized with moderate to low density, while the southern part of the city is defined by a much more rural context. Separating these two distinct environments is an urban growth boundary, the Green Line was established in 1979 to promote growth and urban activity north of the line in accordance with the Comprehensive Plan. Just south of this line is an area designated by the city as Princess Anne Commons/Transition Area. It is identified by the City as a sensitive area that should be appropriately designed as Virginia Beach transitions from a more developed setting in the north to a more agricultural and environmentally sensitive area to the south.

The ITA Study Area is a critical component of the future of this area and the greater implications for the city. As a result, it was imperative that the design team study the existing regional and local conditions and acquire public input to be able to accurately provide a direction for the City's long-term planning efforts.

AERIAL IMAGERY OF SITE



REGIONAL LOCATOR MAP The ITA Study Area (highlighted in purple) lies within the city's Princess Anne Commons/Transition Area between the dense urban developments to the north and the abundance of natural amenities and rural environment to the south

AERIAL PHOTOGRAPH at the Rock Church property

AERIAL PHOTOGRAPH of the municipal center

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Public Process

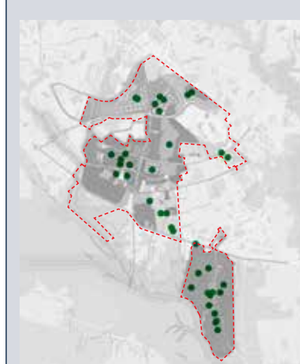
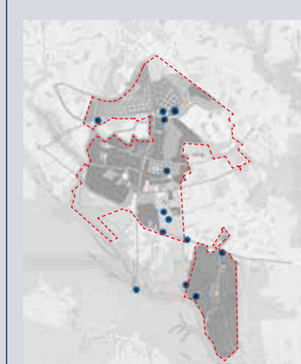
Residents and stakeholders participated in a series of public meetings to kick off the planning process. Following a presentation that analyzed the existing area, participants were asked to identify strengths, weaknesses, and areas of highest priority for change in the Study Area. Their input served as a guide to the community and helped to define the areas on which the plan should focus. This information was compiled and used as the guiding direction for design throughout the planning process.

During the charrette, stakeholders and residents were invited to provide input as the design emerged. The design team incorporated the input and synthesized the community's priorities into the Master Plan. At the conclusion of the charrette, the public was invited to a presentation of the design alternatives for the Study Area. After the public presentation, participants were asked to identify ideas they liked, disliked and areas of prioritized opportunity for change in the Study Area. Urban Design Associates complied the information and made alterations to the plan to incorporate the community feedback.

ITA PUBLIC PROCESS KEY MILESTONES

11–14 October 2016	Initial Analysis and Focus Group Meetings
12 October 2016	Public Meeting
14–18 November 2016	Design Charrette
17 November 2016	Public Presentation of Design Alternatives

PUBLIC ASSESSMENT OF SITE

IDEAS PEOPLE LIKED	IDEAS PEOPLE DISLIKED	PRIORITIZED OPPORTUNITIES
» Appropriate transition from urban to rural uses » Extending and connecting the trail network » Location of a new school near the North Landing Park, with its potential environmental Awareness Center » Agricultural Research Center, focusing on viability of small farms in the Mid-Atlantic region, new high value crops, value added processing, distribution, training, sustainable farming and veteran training » Limited of no impact on existing homes	» Water and Flooring Concerns - Water displacement, potential well water drying up with new ditches, low soil level and water table » Traffic Congestion — truck traffic from Municipal Services Facility, traffic from agricultural research center, and tourist traffic » Noxious Odor/Sights/Smells- Potential odors from compost facility, lighting and exhaust from the traffic, garbage from trucks » Proximity of Municipal Services Facility to Recreational Facility — Municipal Services Facility facility perceived too close to recreational facilities, concerns for the safety of children.	» Preserve the Live Oak Grove » Position the Agricultural Research Center as an Agricultural Heritage Center » Preservation and Passive Recreation could have other uses, such as a drone area for High Tech users » Consider pavilions and beach area at the North Landing Park » Transparency of process — desire for public information to be available throughout the process » Hotel — prioritize sites for hotels to support medical and office complexes, destination events, and travelling sport tournaments
		

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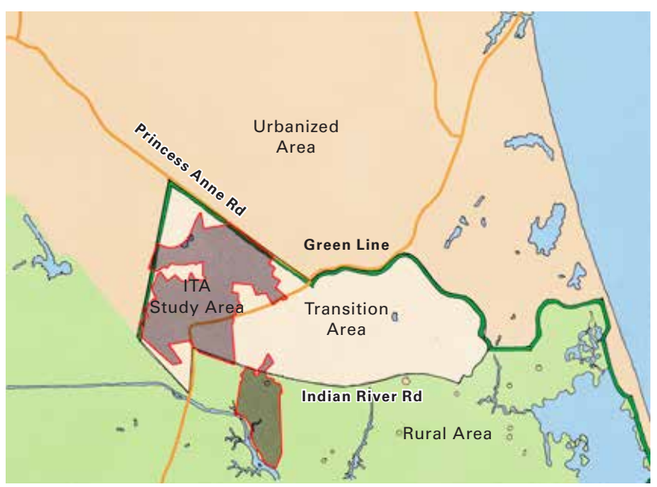
City Context

NAVAL AIR STATION OCEANA is major institution in Virginia Beach that is a major consideration through the master planning process



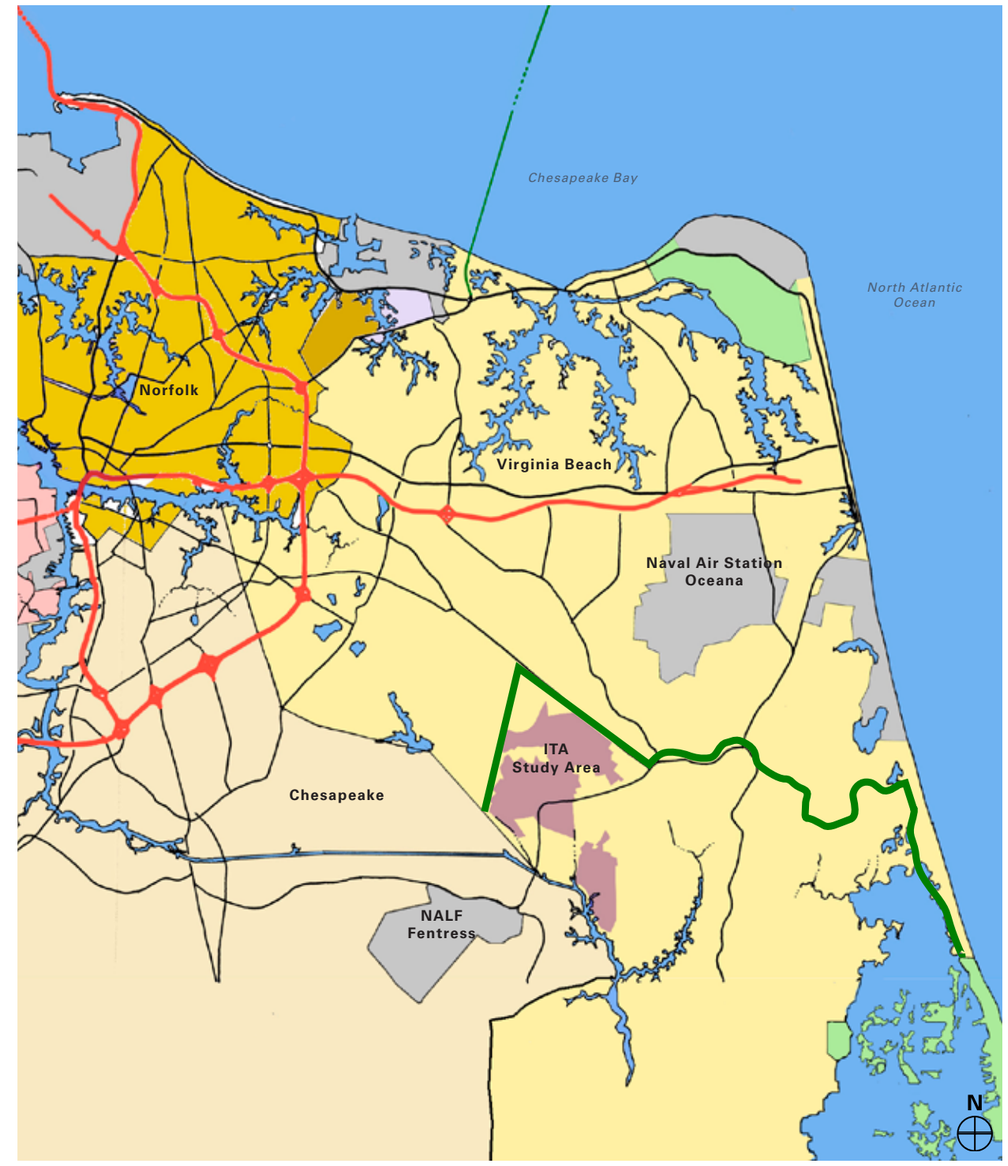
GREEN LINE BOUNDARY

Princess Anne Commons and the Green Line: Urban Boundaries

The physical environment of the city is incredibly diverse. Much of the northern area of Virginia Beach is devoted to moderately urbanized areas, while the southern part of the city is defined by a much more rural context. Separating these two distinct environments is an urban growth boundary, the Green Line, established in 1979 to promote growth and urban activity north of the line, and protect the city's agricultural base and ecologically sensitive lands to the south.

The 2016 Comprehensive Plan reaffirmed the Green Line, which is defined as the boundary that separates the more urbanized northern area of the city from the Princess Anne Commons, Transition Area, and the Rural Area. The extension of urban services for the purpose of supporting suburban and urban density residential development is not intended south of this line. The extension of sewer and water utilities is not intended south of Indian River Road.

The 2016 Comprehensive Plan identified the Interfacility Traffic Area (ITA) within Princess Anne Commons and a portion of the Transition Area south of the Green Line. The ITA is a critical area in the city with growth controls that protect the integrity of operations at NAS Oceana and NALF Fentress. The Comprehensive Plan clearly states that urban services should not be extended into the ITA to support residential development. The policies and regulations in this part of the city restrict development options but also create unique opportunities for facilities that would not be considered in areas that do not have those restrictions.



GREEN LINE LOCATION AND THE ITA AND VICINITY MASTER PLAN AREA

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CITY CONTEXT: OPEN SPACE

Public open space is critical to building a healthy community. Direct access to passive and active outdoor space for a community yields many positive effects and improves the overall quality of life, and natural areas are especially important for both human enjoyment and wildlife habitat. Although there are many natural areas in Virginia Beach, few offer the range in geographic diversity available within the ITA. Despite Virginia Beach's large land mass, there are only a handful of natural areas preserved for public access — First Landing State Park, Pleasure House Point Natural Area, and Stumpy Lake Natural Area each have specific characteristics serving the community.

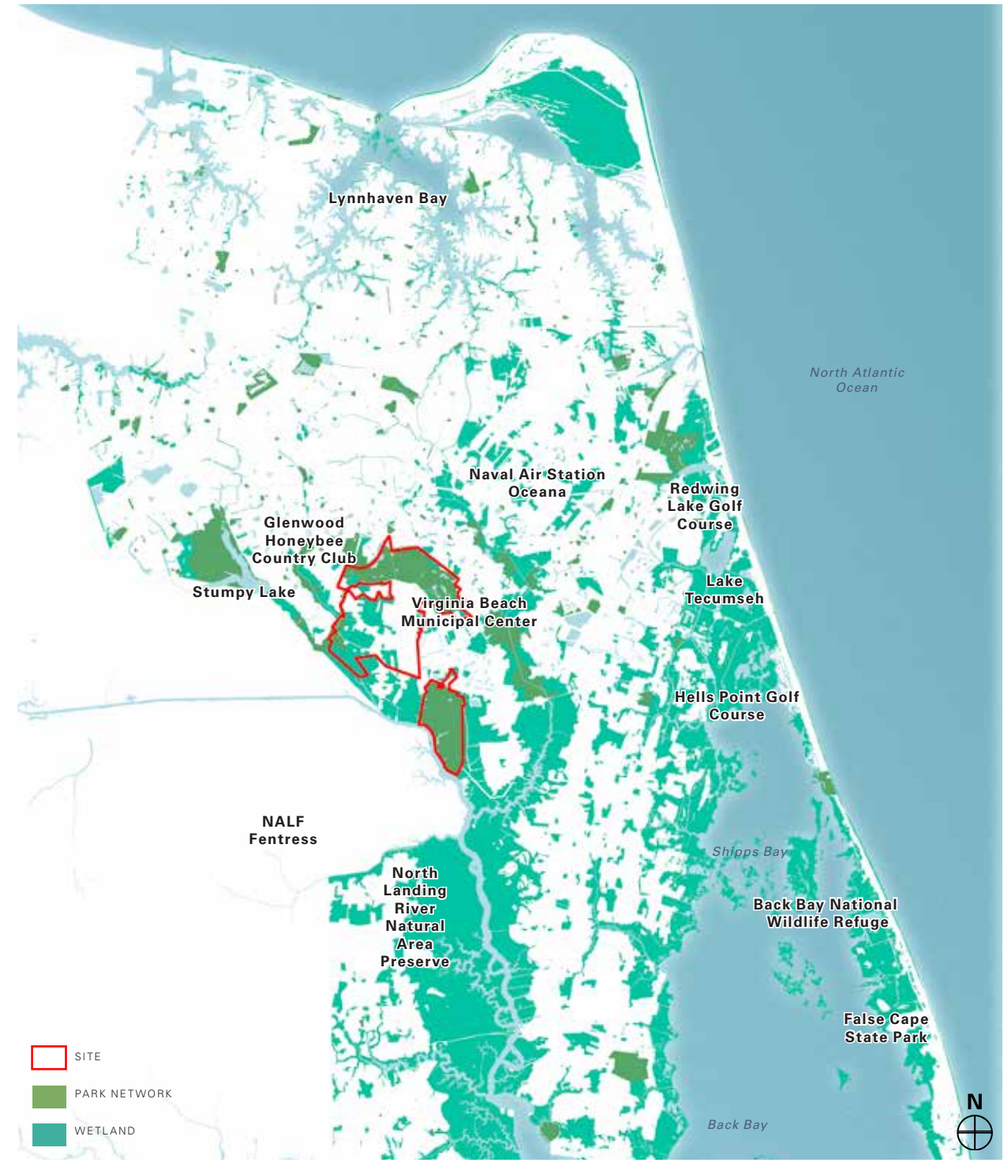
The ITA/PAC has the unique opportunity to provide a rich context of agricultural heritage, riparian forests, a preponderance of wildlife, and express access to the Intracoastal Waterway. It also remains as a bastion for land preservation south of the city's Green Line where development has been limited and transitions toward a more rural and natural aesthetic. Although many areas south of the ITA/PAC are considered to be undevelopable due to the low-lying ground and the existence of wetlands, there is inherent value to using these areas for stormwater retention, flood relief, and wetlands banking.

The land within the ITA/PAC possesses valuable natural resources, experiences, wildlife habitat, and a preserved natural environment at a level that many other areas and small parks and natural areas within the city cannot provide. Preserving these qualities of the ITA/PAC and corralling them into dedicated open space would continue to support the ITA/PAC's specific role of preservation and conservation.

Proposing additional open space within the ITA/PAC aligns with the 2016 Virginia Beach Outdoors Plan, the Green Sea Blueway & Greenway Management Plan, and the City's Comprehensive Plan, among other policies upheld by the City of Virginia Beach and other jurisdictions. Aiming to improve quality of life, these documents and policies were established to protect and enhance the natural resources, sensitive lands, and water supplies. Public open space is central to the ITA/PAC, and it will provide a unique opportunity for residents to connect to the natural and cultural heritage of Virginia Beach.

WEST NECK CREEK located to the east of the Study Area

EXISTING LIVE OAK NURSERY IN THE ITA



OPEN SPACE NETWORK There is an abundance of environmental amenities that cover a large portion of the area's shorelines and inland waterways.

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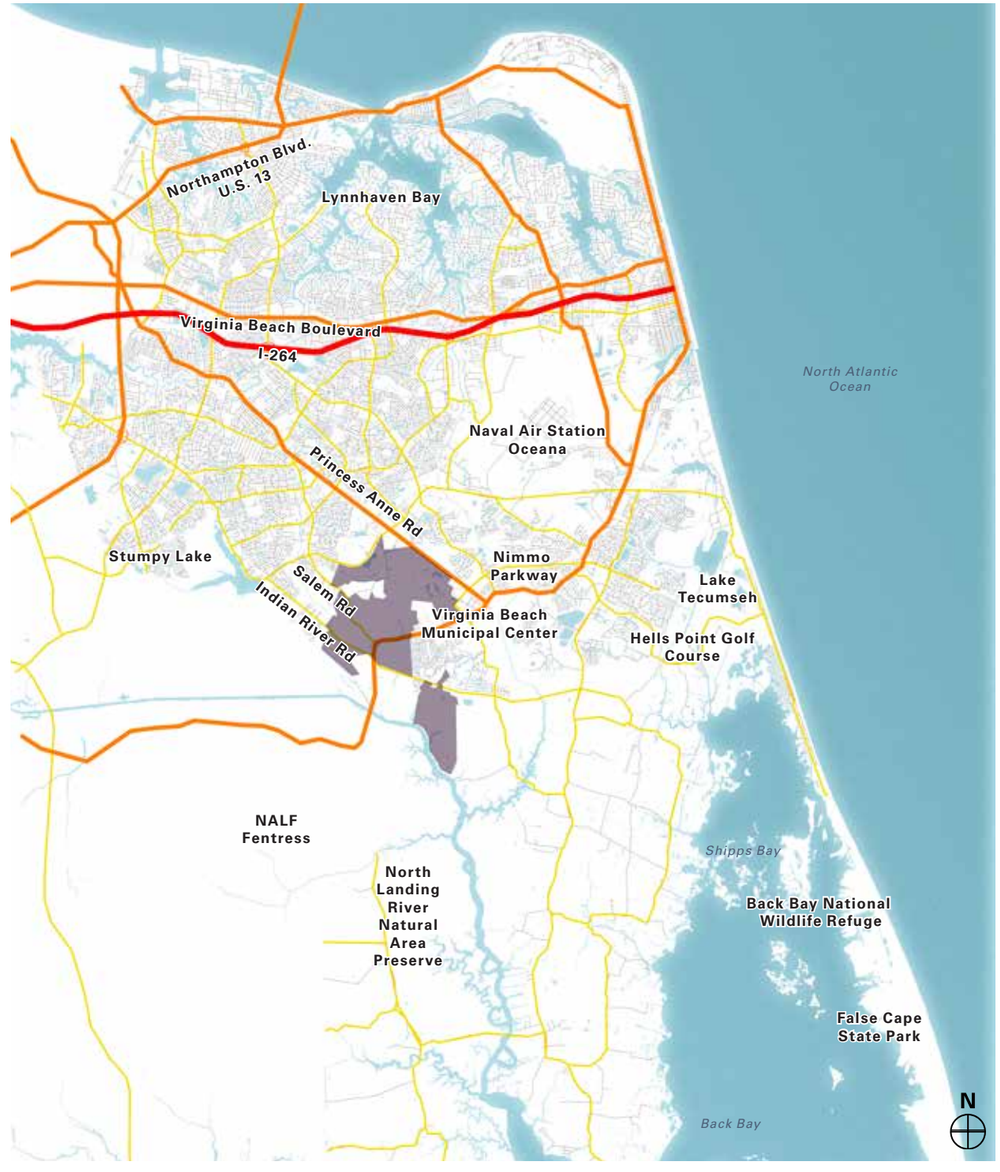
CITY CONTEXT: TRANSPORTATION

The transportation system that supports access to, from, and through Virginia Beach includes a network of interstates, arterials, and local streets. The primary regional access from the north is Interstate 64, and US 13 via the Chesapeake Bay Bridge-Tunnel while access from the west and south is primarily served by Interstate 264 and multi-lane US Routes 460, 58 and 17. The main mode of transportation is automobile travel.

Virginia Beach has developed a robust system of arterials and local streets to provide access throughout the city, but the network supporting the ITA/PAC is limited. The ITA/PAC is generally bounded by Princess Anne Road, Indian River Road, Dam Neck Road, Salem Road and Nimmo Parkway. Princess Anne Road, Dam Neck Road, and Nimmo Parkway are multi-lane divided facilities with shared use paths to promote bike riding and walking. The remainder of the roadway network is more rural in nature and is primarily two-lane facilities with narrow lanes, minimal shoulders, and no pedestrian/bicycle facilities. There is no direct access from the interstate system to the ITA/PAC.

Hampton Roads Transit (HRT) provides bus service (Routes 25 and 33) to the Virginia Beach Municipal Center via Princess Anne Road. Buses for each route arrive every hour. Route 25 provides access from the Municipal Center to HRT Light Rail Station at Newtown Road in Norfolk. Route 33 provides access from the Municipal Center to the Oceanfront. Both routes provide access to the Tidewater Community College's (TCC) Virginia Beach Campus. Improved public transportation directly between the Virginia Beach Town Center and the ITA/PAC would benefit commuting and leisure trips between the two.



TRANSPORTATION CONNECTIVITY An inefficient network of streets exists within the Study Area.

AERIAL PHOTOGRAPH at the intersection of Princess Anne Road and Dam Neck Road showing the farmers market and the existing public works facilities

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Site Analysis

The site analysis phase of the process is completed through comprehensive mapping and on-site documentation of the key areas in the Study Area and its local surroundings. The image and character of the Study Area and context are analyzed to identify precedents that will influence the vision for development.

AERIAL PHOTOGRAPH showing the Municipal Center in the foreground and Princess Anne road heading Northwest

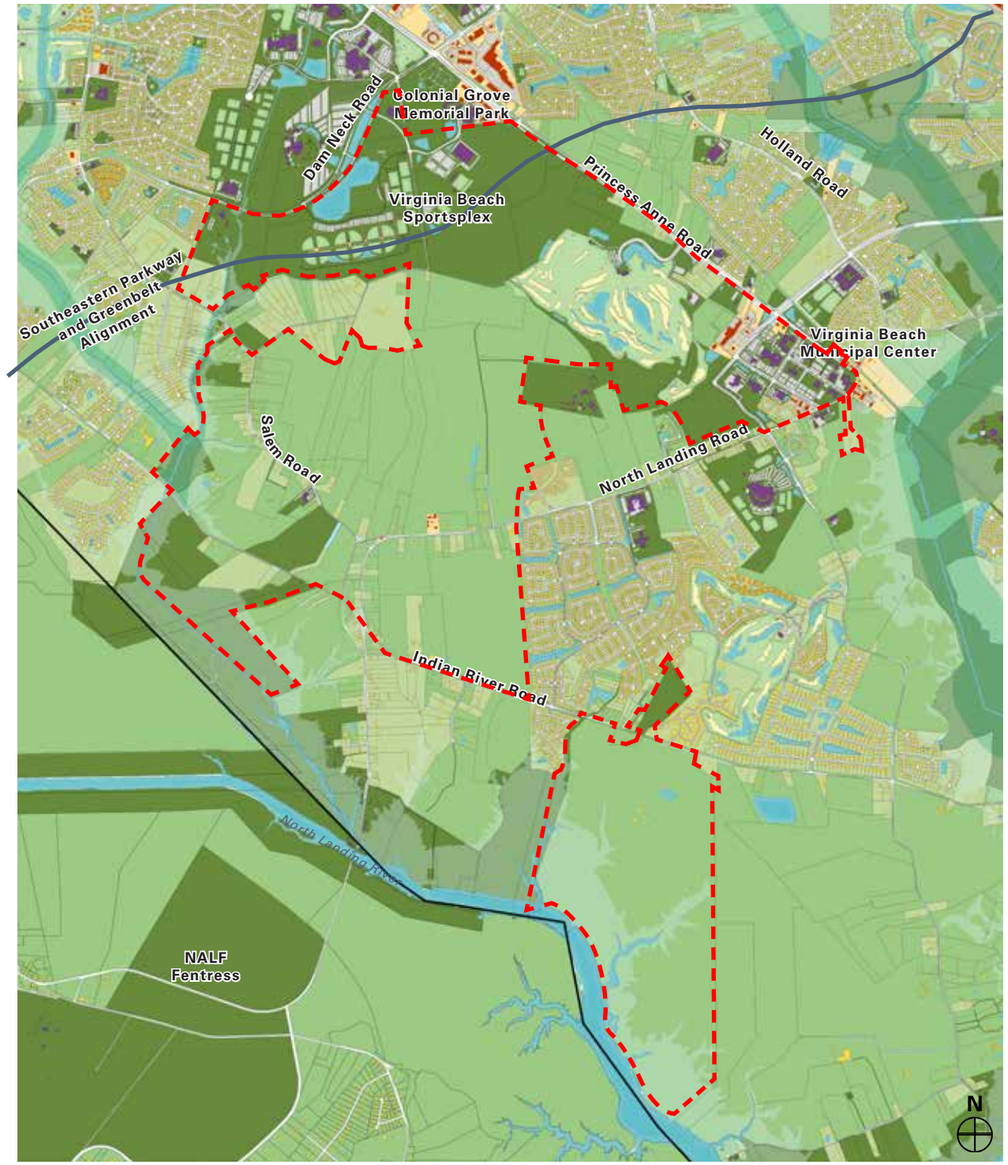
AERIAL PHOTOGRAPH showing existing farmland in the Study Area

Portrait of Existing Conditions

The Portrait of Existing Conditions documents the current uses and building locations within the site and the surrounding areas. It shows public open spaces, recreation, natural amenities, existing residential development, and agricultural lands. With the acquisition of the Rock Church property, the scope of analysis and the Study Area grew to include lands further south than originally studied in the 2011 Master Plan.

The Municipal Center, Historic District, and North Princess Anne Commons were studied in detail in the 2011 Master Plan. The plans for these areas and their influence have been accounted for in the plan. These vicinity areas carry more active, uses centered around employment and education. The centralization of this density allows for less intensive uses as well as conservation and preservation of the more sensitive lands and uses in the center of the ITA/PAC.

- EXISTING RESIDENTIAL
- EXISTING INSTITUTIONS
- EXISTING COMMERCIAL
- EXISTING INDUSTRIAL
- EXISTING LARGE TREE STANDS
- EXISTING OPEN SPACE AND PARKS
- EXISTING AGRICULTURE AND RESIDENTIAL LAND USE
- EXISTING NON-RESIDENTIAL LAND USE



STUDY AREA The Portrait of Existing Conditions shows the current land uses — much of which consists of recreational, agricultural, and natural areas.

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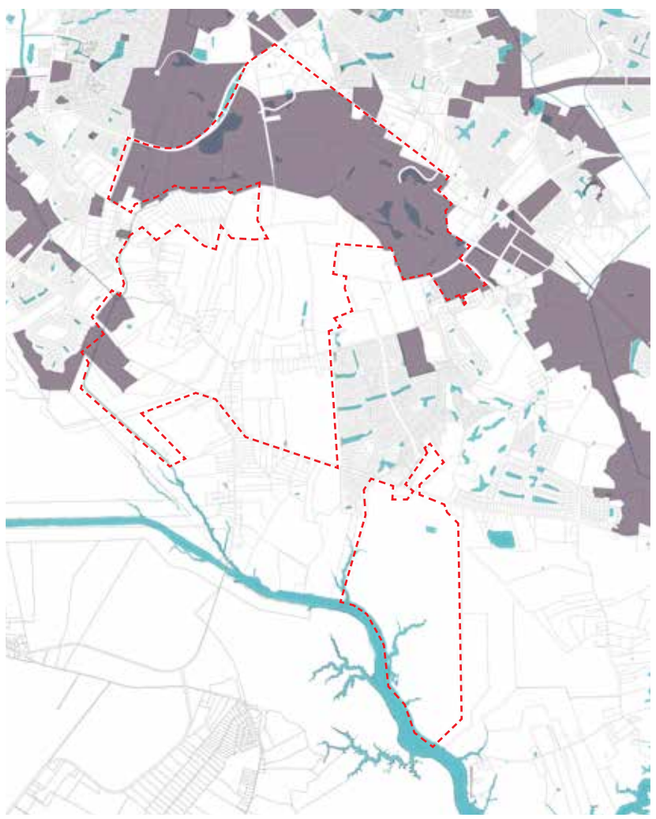
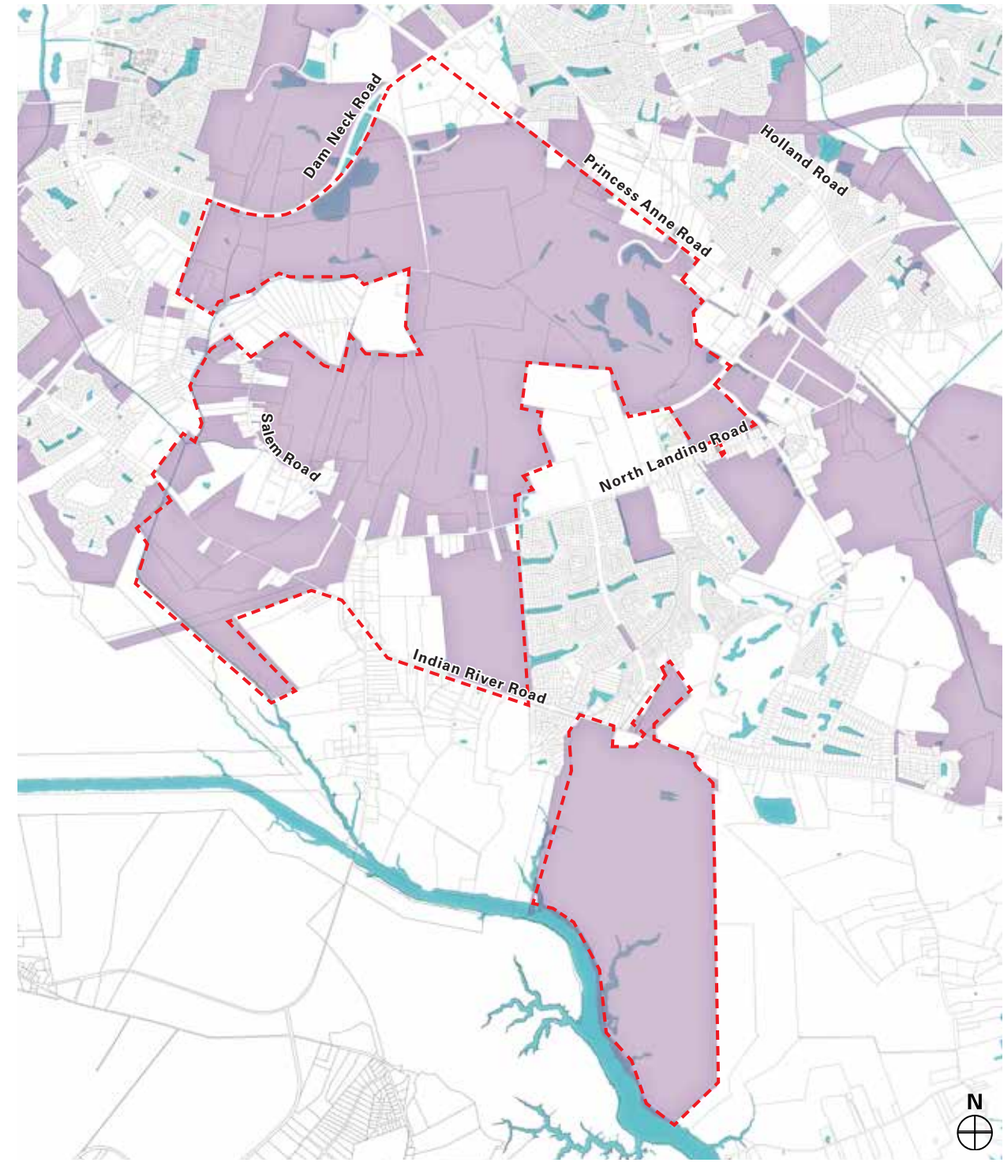
City-Owned Property

Since the 2011 Master Plan, the City acquired the majority of property within the ITA/PAC. With large portions of the Study Area being owned solely by the City, there is a great opportunity to have a greater impact on the overall development. Land control will help with creating a unified vision and achieving the overall goals of the design frameworks presented later in this document. Land use restrictions for this area as a result of its location in the ITA overlay zoning district were the primary driver in the effort to acquire land. A vast amount of the City-owned land in the Study Area is located south of the Green Line and is impacted by the AICUZ. These limitations have created an opportunity to offer innovative design approaches that will have a sustainable impact on the region. The restrictions and resulting opportunities are discussed in more detail later in this plan.



CITY-OWNED PROPERTY (2010) shown above in dark purple are the city-owned parcels in 2010 during the original master plan document and analysis



CITY-OWNED PROPERTY 2016 The Xray presents areas that are colored in purple as city owned, when compared with the image to the left you can see the strong effort of the city to acquire land with the Study Area in past six years

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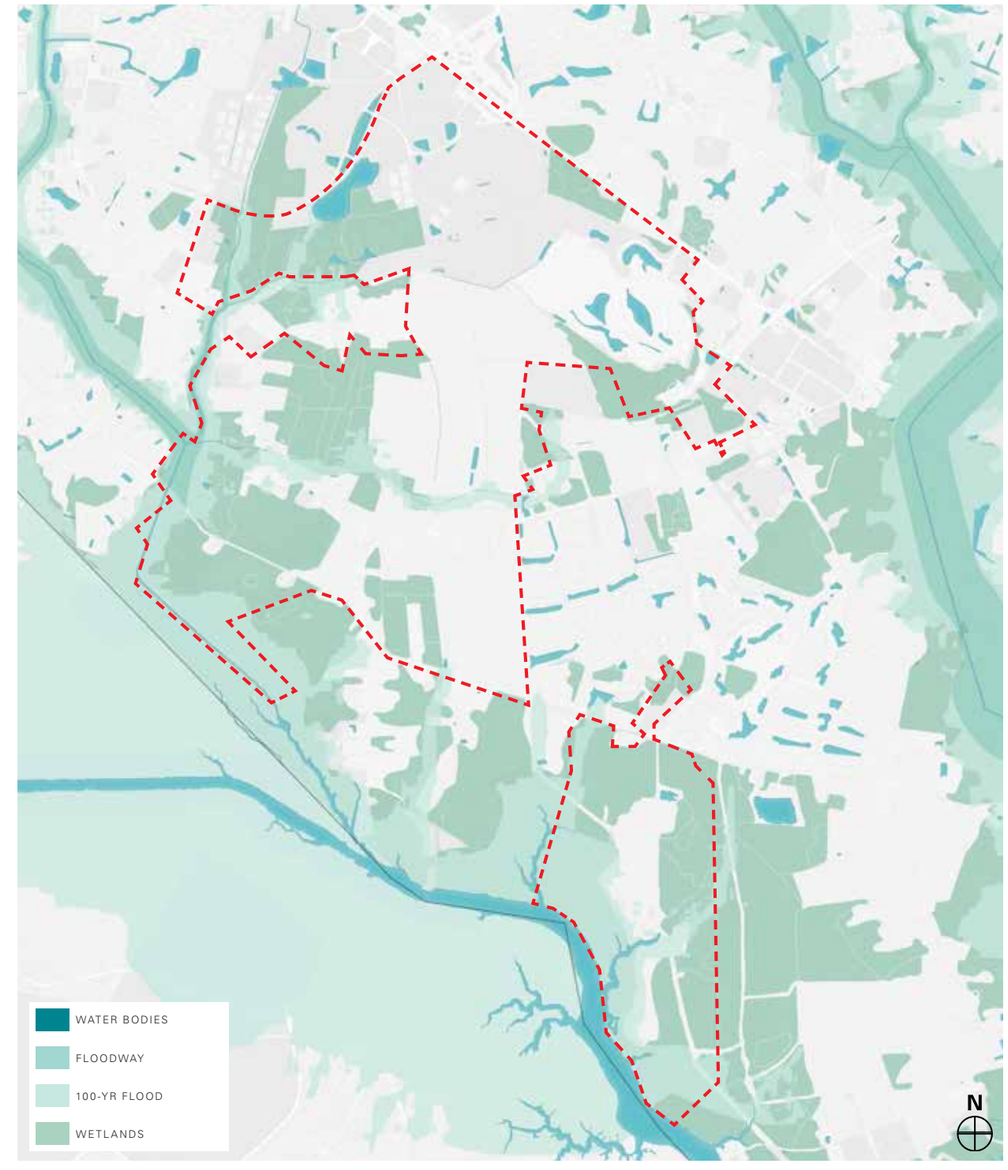
Floodplains and Wetlands

The Interfacility Traffic Area, Princess Anne Commons and the southern portion of the city are home to large portions of environmentally sensitive land, including wetlands, floodways, and water bodies. Land that is considered wetlands is land that consists of marshes or swamps and is typically saturated. A floodway is a channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood. Water bodies include lakes, ponds, rivers and oceans that make up the water system of the region. All three systems should be thought of as interconnected and play a role in the environmental health of the region. When wetlands, floodways, and water bodies are overlaid, a network of environmentally sensitive land is revealed. Understanding the location of these systems guides future land use decisions towards responsible development. Providing ample setbacks and buffering from these areas will help with preventing flooding and handling additional stormwater during events.

AERIAL PHOTOGRAPH showing North Landing River

AERIAL PHOTOGRAPH Mouth of West Neck Creek



ENVIRONMENTALLY-SENSITIVE LAND There are large portions of environmentally sensitive land in the western and eastern portions of the ITA/PAC along the North Landing River watershed

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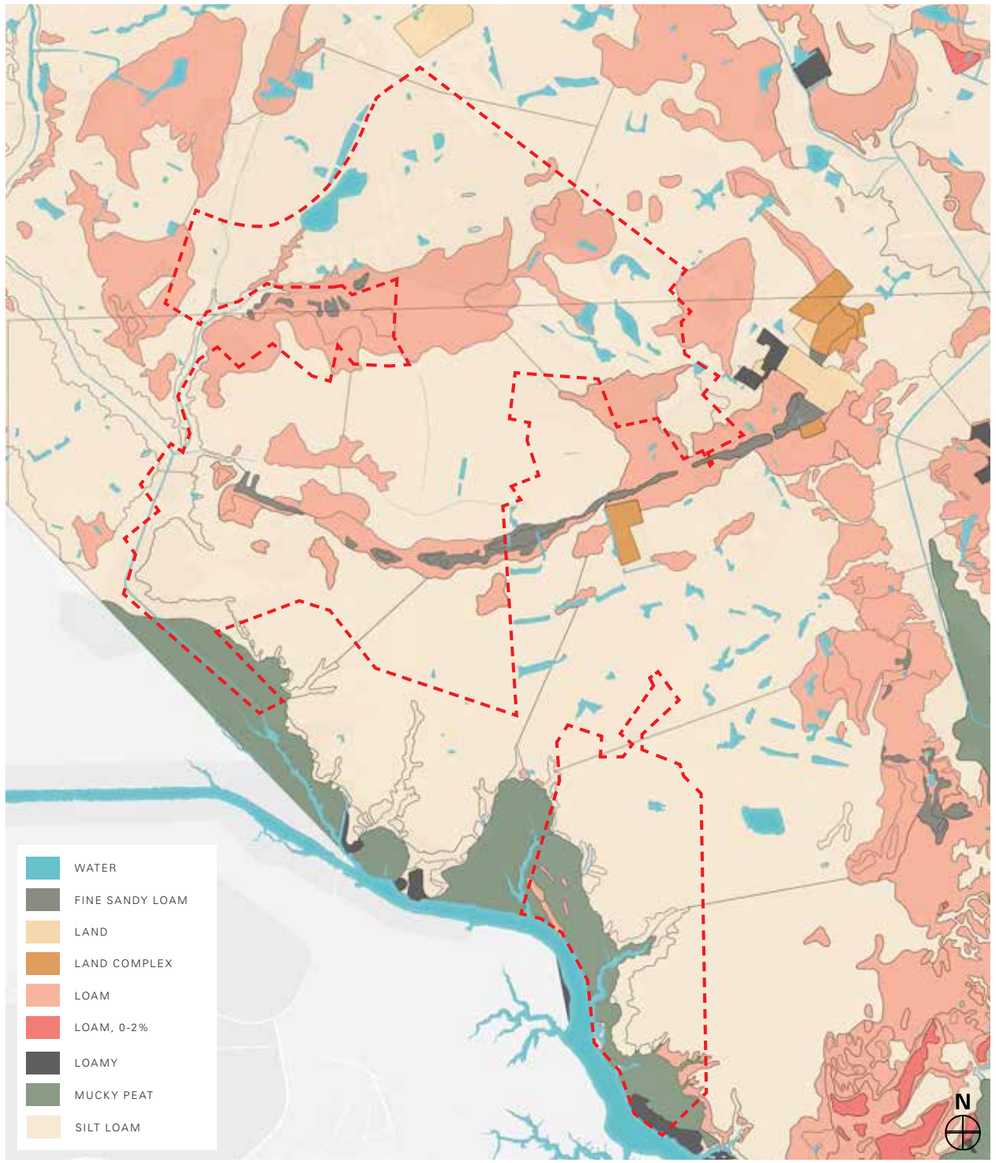
Soil Types

Much of the ITA/PAC consists of silt, loam, fine sandy loam, and mucky peat soils. More specifically, the soils in the ITA/PAC are largely comprised of Nawney silt loam, Acredale, Tomotley, Nimmo, and Dorovan soils. These soil series are characterized as deep, nearly level and very poorly drained, but relatively good for crops and forests. Nawney silt loam tends to be on floodplains and drainage ways with the soil being low in natural fertility, moderate in organic matter, and frequently flooded, especially during Fall through Spring. Naturally, this soil is limited to woodland and wildlife habitat. Acredale soil is moderate in organic matter content and can be used to cultivate crops if excess water is removed. Tomotley loam has similar characteristics and areas with this soil type can be drained and is well suited for crop cultivation. The potential for growing trees in this type of soil is very high. However, community development is not well suited for this soil type due to issues with the seasonal high water table. Nimmo loam soil is typically found in low depressions and can also be used to cultivate crops if excess water is drained. Dorovan soils are found near waterways and wetlands and contain much rich organic matter, but are very poorly drained. Although not as abundant in the ITA/PAC, Dragston and Munden fine sandy loam are present in small portions of this land mass. These soils are also deep and nearly level, however, they tend to have slightly better drainage and are commonly used for crop cultivation, community development or woodland use. With the ability to drain some of the soils in the ITA/PAC, there is an opportunity for agricultural use, and with intentions of limited development and recreation and preservation, proper drainage and flood control measures can ensure the best use of the land.



SOIL TYPES

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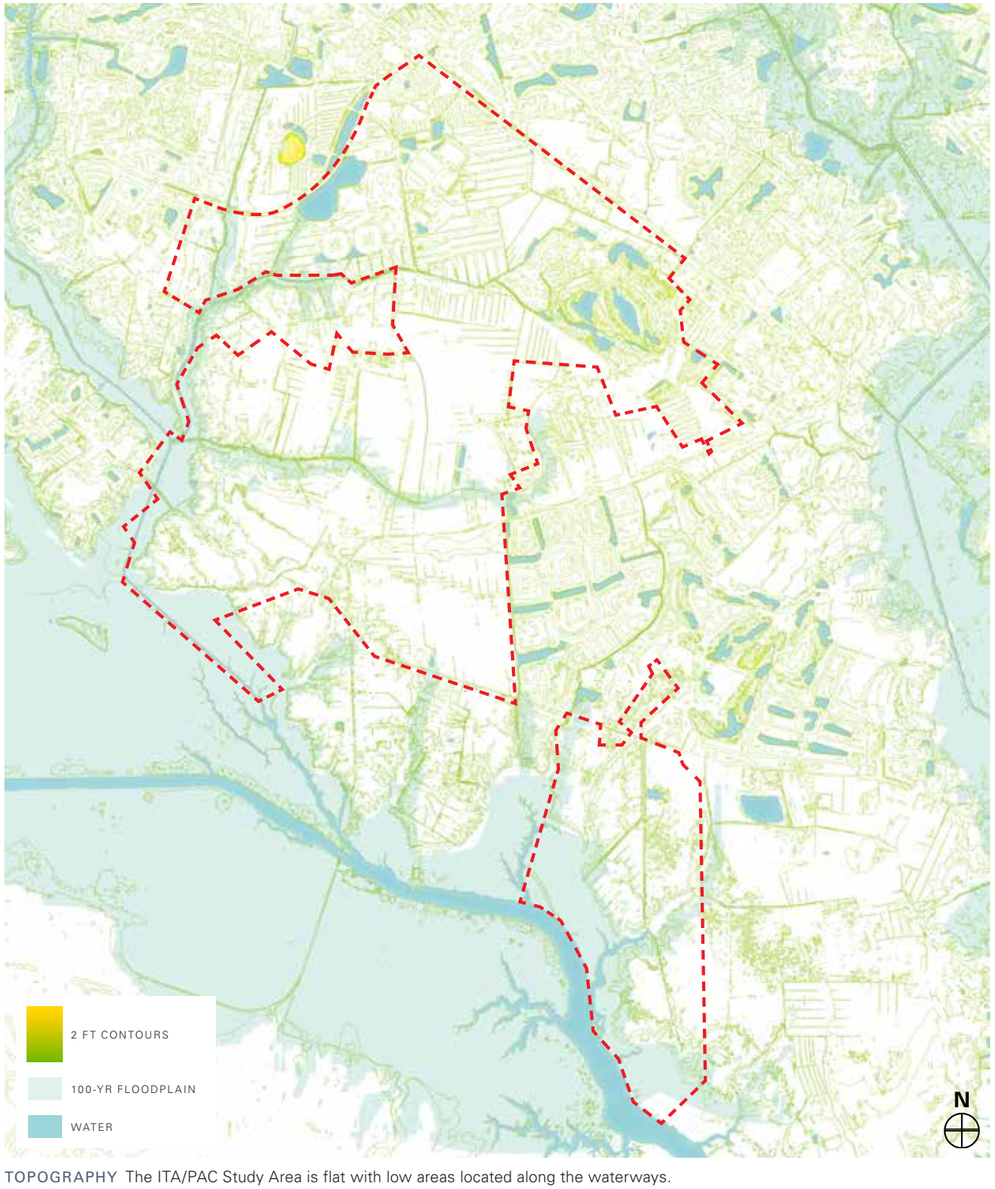
Topography

The ITA/PAC topography consists of narrow, subdued well-drained ridges and broad poorly-drained flats and coastal areas. This means that other than a few ridge lines, often along roadways, much of the ITA/PAC is flat and does not drain well. The Study Area is relatively flat with a high water table which makes flooding and stormwater management a major concern. While the Study Area has many environmental and policy-based restrictions, there is a unique opportunity to propose innovative stormwater management methods, which is a model for similar regions facing issues of stormwater and sea-level rise. The use of canals and stream restoration will complement the natural features of the Study Area to prepare the region for future environmental threats.

AERIAL PHOTOGRAPH Former Brown Farm



TOPOGRAPHY The ITA/PAC Study Area is flat with low areas located along the waterways.

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AICUZ

The Interfacility Traffic Area (ITA) was identified by the Navy as a specific priority because of potential encroachment on NAS Oceana and NALF Fentress prior to the 2005 Hampton Roads Joint Land Use Study (JLUS). Following the JLUS and the 2005 Defense Base Realignment and Closure (BRAC) Commission's report, the City enacted ordinances to limit further incompatible development and dedicated financial resources to acquire land from willing sellers in the ITA.

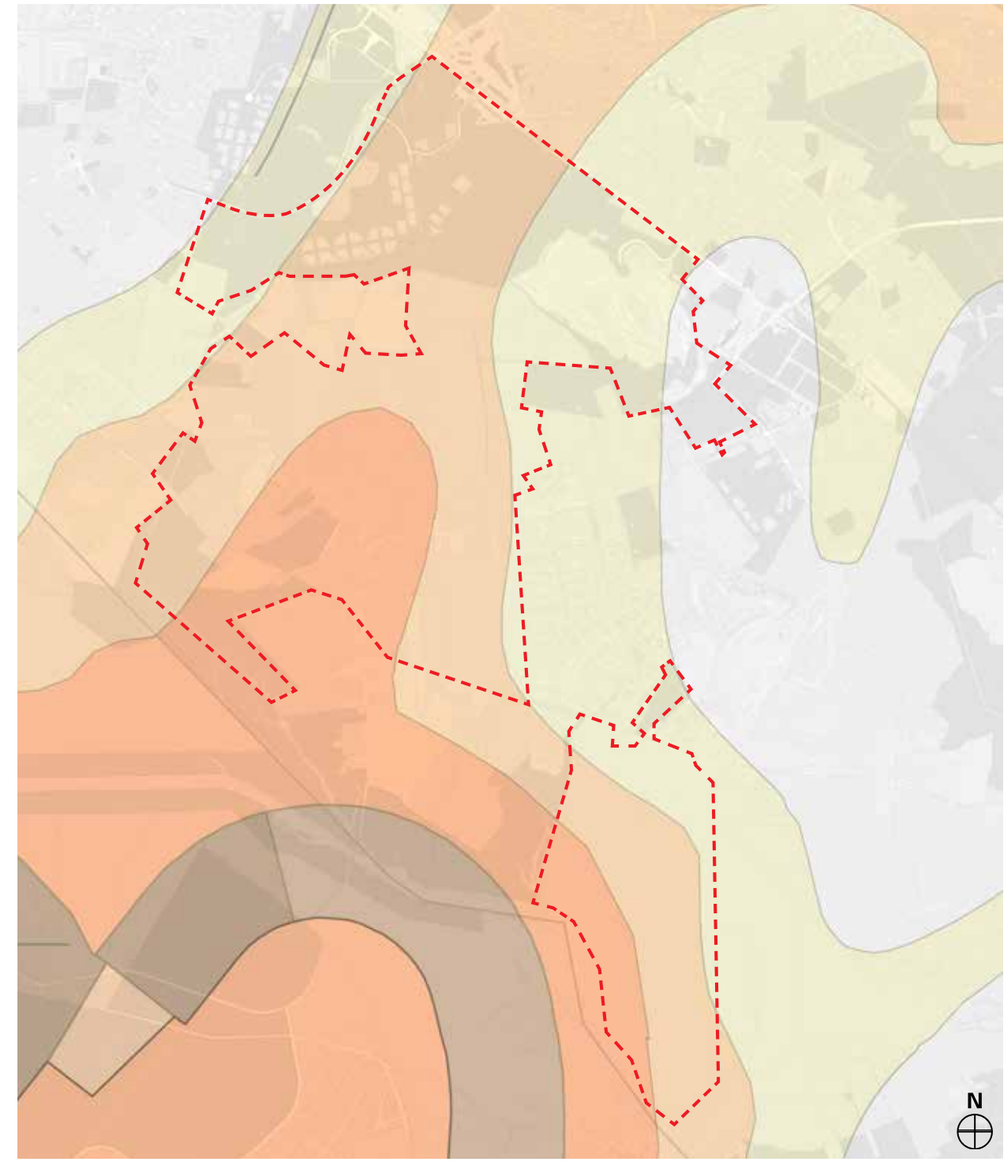
The types and intensities of development in the ITA are now limited by the city's AICUZ Overlay Ordinance and the underlying zoning. These, in turn, are based on the noise contours depicted on the 2005 AICUZ Planning Map. Simply put, the greater the noise contour, the more restrictive the development options, which has a dramatic effect in the ITA. For the most part, residential redevelopment above one unit per 15 acres is prohibited within the ITA. Therefore the true mixing of uses, a consistent attitude about job-housing balance, and other development typologies that rely on a significant residential component are not allowed in this location.

These restrictions create a great design challenge that puts emphasis on the type and quality of the development rather than the density of the development.

AICUZ PROVISIONS

- Limit maximum residential density to that allowed 'by right' under existing zoning
- Promote business growth that aligns with the City's economic growth strategy and conforms to the Oceana Land Use Conformity Program

CONTEXT IMAGE Naval Air Station Oceana



AICUZ Xray of noise contours in the ITA/PAC, with the Study Area being limited by the AICUZ Overlay Ordinance.

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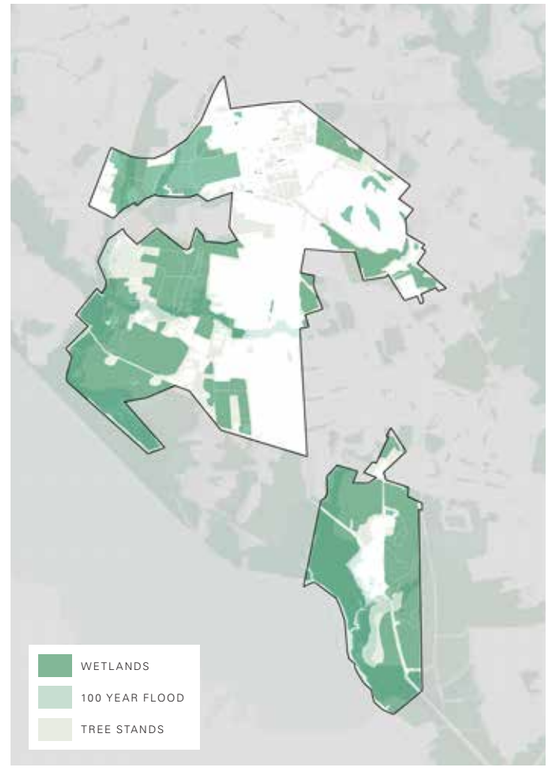
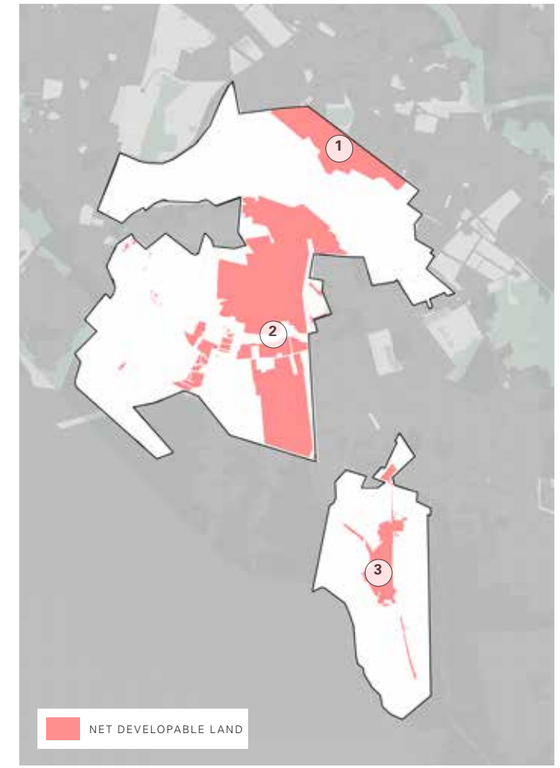
Developable Land Analysis

Site information was used to analyze the Study Area's development potential. Through a process of subtraction, the design team layered the existing network of waterways, wetlands, forested areas, and parks that must be protected from development consideration. The existing developed land was also overlaid with the ecological constraints to define further what is developable. This developable land yields analysis was used in establishing alternative land uses. The developable area includes much of the high-quality farm land that is currently being used for agricultural production. While this land is physically developable, the ethic of conservation and the land use restrictions overlaying these parcels provide a valid justification for maintaining lower intensity uses on these parcels that further the dedication to conservation.



NATURAL CONSTRAINTS
The wetlands are expansive and include swamps, marshes, and bogs that are located in low areas adjacent to many of the areas' waterways. Wetlands account for a great percentage of forested areas or shrubland vegetation. Forested areas that do not overlap wetland designations still are likely soils that are undevelopable due to their moisture content.

NATURAL AND BUILT CONSTRAINTS
The green network consists of identified waterways, wetlands, forested areas, parks, preserved opens spaces, utility easements, privately owned and planned development. This represents the lands within the ITA/PAC site boundary that are not developable.



NET DEVELOPABLE AREA
Subtracting the Natural and Built Constraints, there are three major patches of developable land. These areas combined equate to a net of 822 acres.
1. Bio-Medical Park 155 ac
2. Brown and Brenneman Farms 590 ac
3. North Landing Park 77 ac

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Illustrative Master Plan

THE INTERFACILITY TRAFFIC AREA & VICINITY MASTER PLAN focuses on conservation and preservation of sensitive uses, amenities for residents, employment, municipal services, and recreation. Employment and research will be focused in the bio-medical park adjacent to the Virginia Beach National Golf Course. More dense development remains clustered along Princess Anne Road at the Municipal Center and North Princess Anne Commons. The active recreation around Dam Neck Road can be expanded to include new types of recreation and sports not currently offered. Existing farmland provides opportunities for the conservation of valuable productive land in Virginia Beach, possibly evolving into a research farm. Special destinations could be developed that fit with the natural environment, including an agricultural research center, Wildlife Rehabilitation Center, environmental conservation center, and Municipal Services Facility. Enhancing natural features will allow improved stormwater management and flood controls. Throughout the area, trail and open space would connect the uses.

ILLUSTRATIVE VIEW Preservation and Passive Recreation

ILLUSTRATIVE VIEW Agricultural Production

ILLUSTRATIVE VIEW North Landing Park

ILLUSTRATIVE PLAN

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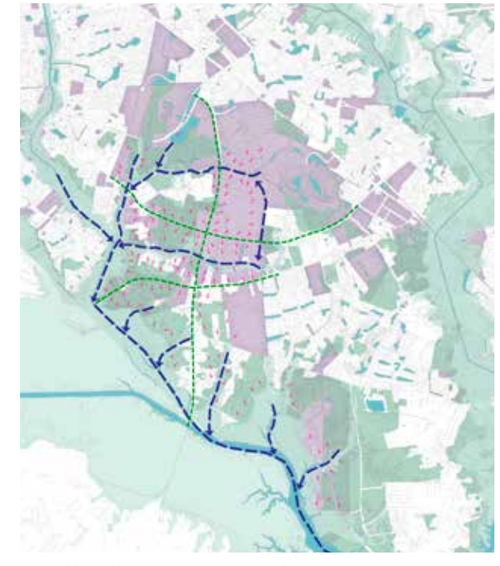
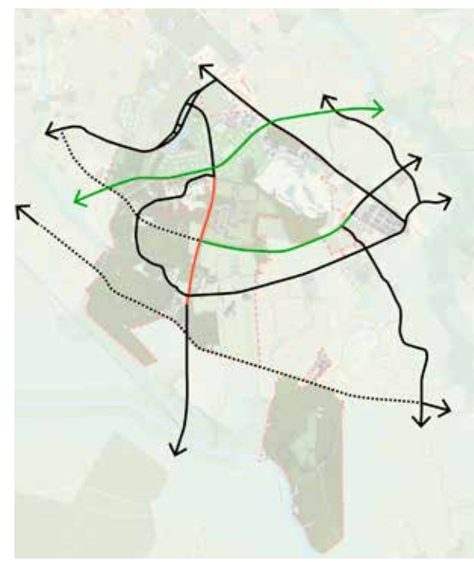
Development Frameworks

AS VIRGINIA BEACH FACES GROWTH PRESSURES, decisions about public infrastructure, residential development, and the protection of ecologically sensitive lands will shape the built and natural environment of the future city. Frameworks are the systems that facilitate and connect uses and future development — roads, utilities, stormwater, and trails. In the Princess Anne Commons and ITA area, the city's Master Transportation Plan in the 2016 Comprehensive Plan planned for the extension of Nimmo Parkway.

ENVIRONMENTAL CONSTRAINTS



STORMWATER + UTILITIES FRAMEWORK



ROAD FRAMEWORK

TRAIL FRAMEWORK

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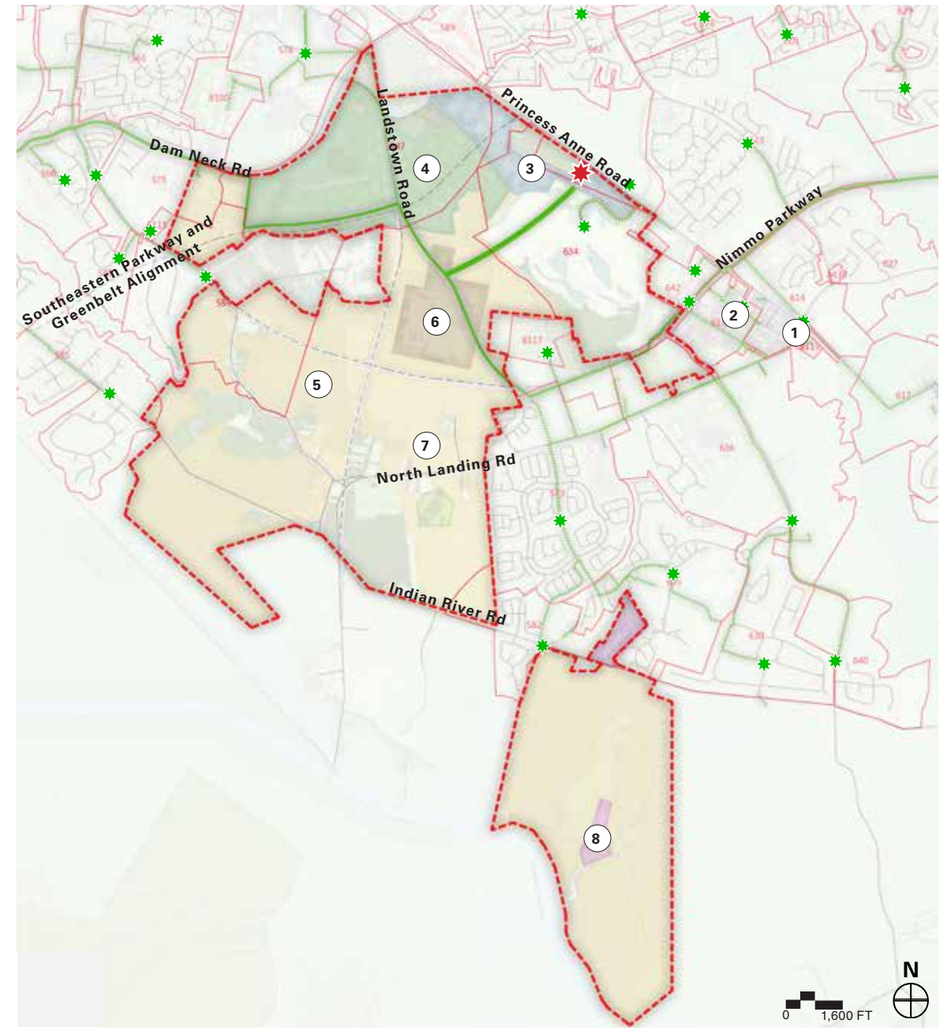
Sanitary Sewer

Implementation of the Master Plan may require both the upgrading of existing facilities and the installation of new facilities. In addition to existing City maintained sanitary sewer collection lines, a 42-inch HRSD force main is located along Landstown Road and extends across the proposed City Municipal Services Facilities development. New connection lines to this force main will be required to serve some of the new development areas. The sanitary sewer plan shows the location of this force main. New pump stations will be required to support most of the development indicated within the Master Plan, and the approximate locations of the new public stations are also shown on the plan. The following summarizes the improvements required to serve each of the developments discussed on page 36.

HISTORIC PRINCESS ANNE AREA

The Historic Princess Anne Area is currently within the existing service areas for pump stations 613 and 614. It is anticipated that investigations of the existing sanitary sewer system capacity will need to be performed for any proposed development within the area. Upgrades to the existing system may be required for increased development density.

- ITA BOUNDARY
- PROPOSED CITY FORCE MAIN
- EXISTING HRSD FORCE MAIN
- EXISTING FORCE MAIN
- PROPOSED PUMP STATION
- EXISTING PUMP STATION
- PUMP STATION SERVICE AREAS
- # INITIATIVE AREA *See Illustrative Plan for listing of Initiative Areas



PCA/ITA SEWER MASTER PLAN provided by City of Virginia Beach, Department of Public Utilities, January 2017

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MUNICIPAL CENTER

The Municipal Center is currently within the existing service areas for pump stations 613 and 614. It is anticipated that investigations of the existing sanitary sewer system capacity will need to be performed for any proposed development within the area. Upgrades to the existing system may be required for increased development density.

BIO-TECH PARK

The Bio-Tech Park will substantially increase sanitary sewer demands within the Study Area. Potentially, a small portion of the Bio-Tech Park may be served by the existing Princess Anne Meadows pump station northeast of the site. The remaining portion of the site will be served by a new pump station within existing Pump Station 634 service area, and the force main connection will likely be into the 42-inch HRSD force main west of the site. This new pump station will replace the existing Pump Station 634 which serves the Virginia Beach National Golf Club. Gravity sanitary sewer connections could be constructed from the Golf Club to the proposed pump station.

SPORTS CENTER

The Sports Center is located within Pump Station 647 service area. A portion of the Sports Center site may be served by the existing pump station collection system within Landstown Road. However, other developments within the Sports Center may require the installation of a private grinder lift station and force main due to the difficulties of installing gravity sanitary sewer mains within proximity of the 42-inch HRSD force main. The size and depth of the HRSD force main creates difficulty maintaining required slopes and separation between the force main and a potential gravity system.

PRESERVATION AND PASSIVE RECREATION

The Preservation and Passive Recreation development is not currently served by an existing pump station. It is not anticipated this development will generate large sanitary sewer flows, therefore an extensive gravity sanitary sewer network onsite would likely not be necessary. Small private grinder pump stations to service any anticipated sewer flows with force main connections should adequately serve the development.

CITY MUNICIPAL SERVICE FACILITIES

The City Municipal Service Facilities center, like the Biotech Park, is anticipated to substantially increase sanitary sewer flows within the Study Area. Currently, this area is not located within an existing pump station service area as it is mostly undeveloped land. A proposed private grinder pump station to serve the site should be designed and constructed to with a force main connection to the existing 42-inch HRSD force main. This pump station will be maintained on site by Facilities personnel.

AGRICULTURAL PRODUCTION

Agricultural Production is not serviced by an existing pump station as it is mostly undeveloped City property. Development of this site will require the installation of a private grinder pump station to process any anticipated sewer flows with a force main connection to the City force main existing within North Landing Road. This main eventually discharges into the 42-inch HRSD force main northeast of the proposed development.

NORTH LANDING PARK

The North Landing Park development is not anticipated to produce high sanitary sewer flows. Comparable to the Preservation and Passive Recreation Development, the area is not currently served by a pump station and an extensive gravity sanitary sewer network should not be required for the development. Proposed private grinder pump stations on site with force main connections to the existing City force main within Indian River Road should adequately serve the development pump station and an extensive gravity sanitary sewer network should not be required for the development. Proposed private grinder pump stations on site with force main connections to the existing City force main within Indian River Road should adequately serve the development.

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Water Distribution and Fire Protection

Most additional development within the ITA will require the installation of new water systems because minimal existing facilities are currently in place. This Master Plan depicts the suggested locations of new water mains throughout the Study Area. The locations of the proposed lines are shown on the ITA water service exhibit. Since the 2010 Master Plan, a new 20-inch water line has been constructed and installed within Princess Anne Road. New water distribution systems with adequate fire flow capacity will need to be constructed as a part of the development expense along the new roadways.

HISTORIC PRINCESS ANNE CENTER

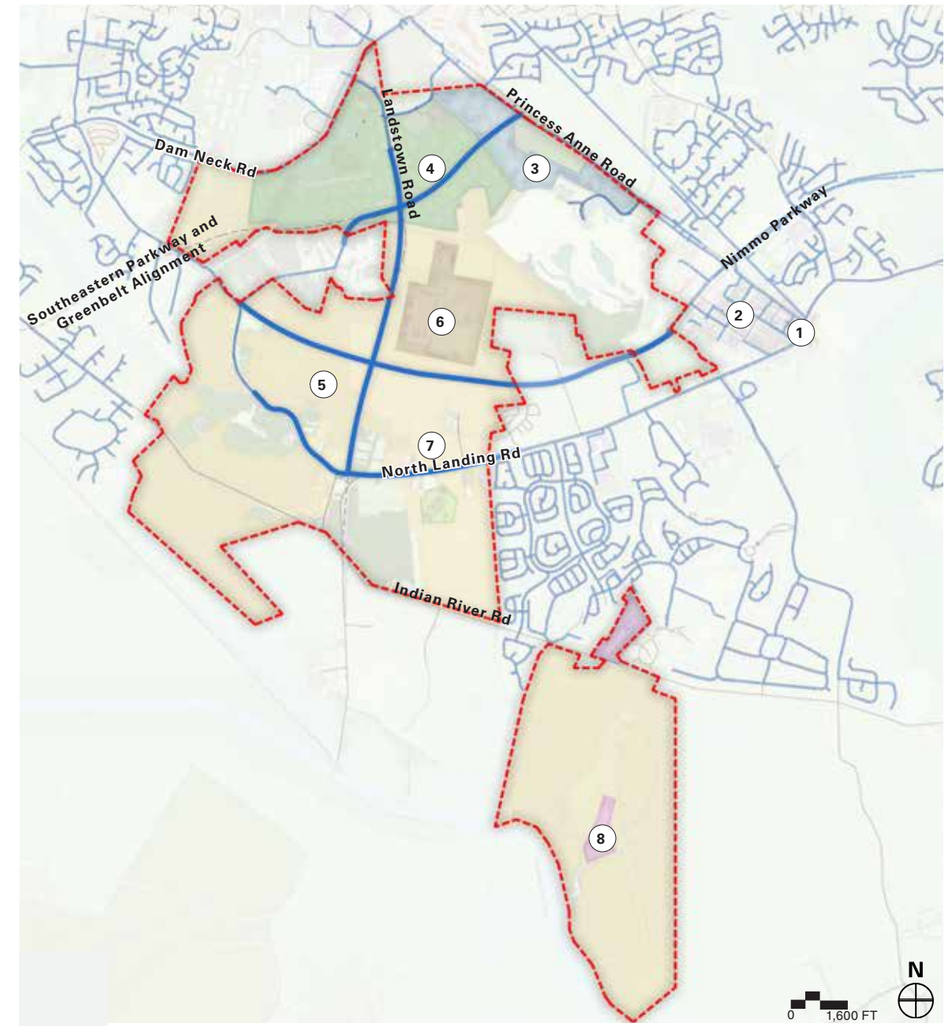
The Historical Princess Anne Center is served by an existing water system supplying the area's domestic and fire flow. The area is not currently anticipating a large amount of new development that would impact the system beyond routine maintenance and replacement of outdated piping. However, detailed water modeling would need to be performed to determine which existing systems need to be upgraded, or new loops installed, to provide adequate domestic and fire flow to the new facilities.

ITA BOUNDARY

PROPOSED WATER MAIN

EXISTING WATER LINE

INITIATIVE AREA
*See Illustrative Plan for listing of Initiative Areas



PCA/ITA WATER MASTER PLAN provided by City of Virginia beach, Department of public utilities January 2017

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MUNICIPAL CENTER

Similar to the Historic Princess Anne Center, the Municipal Center is served by an existing water distribution system for both domestic and fire flow. The area is not currently anticipating a large amount of new development that would impact the system beyond routine maintenance and replacement of outdated piping. However, detailed water modeling would need to be performed to determine which existing systems need to be upgraded, or new loops installed, to provide adequate domestic and fire flow to the new facilities.

BIO-TECH PARK

The Bio-Tech Park development will substantially increase the domestic and fire flow demand within the Study Area. New services will need to be extended to this facility from one of the existing water mains located within proximity of the site. Potentially, a portion of the site may be served by the existing 20-inch main within Princess Anne Road. However more than likely the development will rely on a proposed water main within the Southeastern Parkway.

SPORTS CENTER

The Sports Center requires a fair amount of domestic and fire flow demand especially during large sports events. Service is currently provided from an existing distribution system within Dam Neck Road and Landstown Road. Proposed water mains east within Landstown Road and south within Southeastern Parkway should be able to service future development.

PRESERVATION AND PASSIVE RECREATION

The Preservation and Passive Recreation development will have a low impact on domestic and fire flow demands for the area as it will be mainly left undeveloped aside from the trail systems and small facility buildings. Any required water distribution service should be supplied from the proposed water main east within Landstown Road and south within the Salem Road Extension.

CITY MUNICIPAL SERVICE FACILITIES

Similar to the Bio-Tech Park, City Municipal Services Facilities will have a substantial increase on the domestic and fire flow demand within the Study Area. Multiple proposed water mains are planned within the surrounding development areas that should be able to accommodate demands from the facilities. Such proposed water mains are located north within Southeastern Parkway, west within Landstown Road, and south in Nimmo Parkway.

AGRICULTURAL PRODUCTION

Agricultural Production will most likely have a low impact on domestic and fire flow demand but a high irrigation demand. Adequate water distribution will be supplied from the proposed water mains north in Nimmo Parkway, west in Landstown Road, and south within North Landing Road.

NORTH LANDING PARK

North Landing Park, like the Preservation and Passive Recreation, is not anticipated to have a high domestic and fire flow demand as it is a low-density development. A water main extension was installed south of Indian River Road to serve a small neighborhood adjacent to the park. Potentially this water main can continue to be extended south into the park. Detailed water modeling would need to be performed to determine if the existing system requires upgrades to provide adequate domestic and fire flow to the development.

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Stormwater Management Plan

STORMWATER MANAGEMENT OBJECTIVES

- Increase resiliency to sea-level rise, storms, and wind-driven tides
- Exceed the latest stormwater regulations with public infrastructure to incentivize development
- Utilize cutting edge stormwater solutions to maximize public education opportunities

STORMWATER PLAN SUMMARY

- Two major east/west drainageways
- Soil types match drainage patterns
- Road alignments follow ridgelines
- Capitalize on existing flow and increase the capacity

OBJECTIVES

The ITA/PAC Study Area is one of the few areas of Virginia Beach that has remained mostly undeveloped. With a focus on agriculture, it remains a rural area of the city using poor infiltration and high groundwater to enhance crop production. This area of the city creates an opportunity for unique projects that enhance the agriculture and natural resources of the city and promote education. The AICUZ and zoning requirements help enforce the City's desire to leave the area open for recreational parks and trails.

Stringent stormwater regulations focusing on water quality and water quantity combined with the Study Area's proximity to the North Landing River creates a design challenge but also an opportunity for new development. Due to the undeveloped nature of the Study Area, every project constructed within this area will be required to provide stormwater management while striving to minimize the amount of impervious footprint added. Stormwater management facilities can be designed to prepare for larger future development, a current focus throughout other parts of the city. Stormwater management will also help mitigate the impacts of sea level rise, large storm events, and tidal effects directly influenced by the proximity of the North Landing River. Flooding during larger storm events is a key component for careful development design in this area of the city. However, the river generates opportunities for connectivity between stormwater management facilities and the natural waterways.

Stormwater management provides many additional benefits to development aside from a regulatory aspect. They can provide aesthetic and artistic benefits, recreational use through trails and blueways, and visual benefits when properly mixed amongst large amounts of pavement. A common objective for the design stages will be to incorporate the stormwater management facilities to meet the current stormwater regulation requirements while enhancing the aesthetic natural environment connectivity. Three stormwater management objectives have been determined important for the Study Area:

1. Increasing resiliency to sea level rise,
2. Implementing public infrastructure using the latest design regulations, and
3. Maximizing public education opportunities through the utilization of stormwater strategies.

Increasing Resiliency

To increase the resiliency of the region, multiple stormwater management methods are available for implementation. Strategies for implementation are permeable paving, construction of wet ponds, swales, and constructed wetlands. These strategies will control water quality and quantity entering nearby water systems and enhance the rural character of the region.

Public Infrastructure

Due to the sites proximity to North Landing River and the City's existing regulations, stormwater management practices focusing on water quality and quantity are enforced to preserve ecological sensitivity. The City's enforcement of stormwater regulations creates an opportunity for innovative development that increases the resilience of the region through its public infrastructure systems.

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Education Opportunities

Lastly, through the utilization of stormwater management strategies, the ITA/PAC can maximize educational and connective opportunities. Various design strategies include the integration of recreational trails which provide opportunities for mobility and recreation, the creation of connective green/blue networks to enhance environmental sustainability, and additional aesthetic elements to enhance the rural nature of the region.

SEA LEVEL RISE

Having an understanding of climate change impacts for master planning is essential for long-term development. Virginia Beach has been susceptible to the effects of both sea level rise and land subsidence. Multiple studies have been completed researching the impacts of climate change with a focus on the effects that sea level rise will continue to have on the Hampton Roads Region. According to a report from May 2016 by the Hampton Roads Transportation Planning Organization titled *Sea Level Rise and Storm Surge Impacts to Roadways in Hampton Roads*, Hampton Roads is second to New Orleans for increased susceptibility to sea level rise throughout the United States, where these areas are seeing higher and more frequent storm surges than before.

Sea level rise is defined as the effect of thermal expansion, the temperature of the ocean rising and expanding, ice melting, and tidal influences, thermal expansion, and other factors. Additionally, subsidence of the earth is defined as the downward shift of the Earth's surface typically caused by compaction of the surface or an extraction of liquid beneath the surface. With Hampton Roads being a coastal region paired with the drawdown of groundwater for wells and other industries, the region is already impacted by the effects of both sea level rise and land subsidence.

Virginia Institute of Marine Science has studied sea level rise and predicts the Hampton Roads area will see an approximate 1.5-foot increase in the base flood elevation over the next 50 years, the design life of most of the roadway infrastructure. Roadway networks within Hampton Roads must consider evacuation routes and emergency vehicle traffic among other situations during large storm events making it imperative that new roadway networks be designed to best mitigate the effects of flooding from the sea level rise. The ITA Study Area drains to the Albemarle Sound, which is vulnerable to storm surges during large storm events.

It is imperative to consider the effects of sea-level rise when designing new infrastructure for both roadways and building development within the Hampton Roads Region. Roadways in the ITA Study Area will need to create ridgelines to create positive drainage from the centerline of the roadway into channels and swales along the roadways to contain the stormwater. Therefore, preventing roadway flooding and flooding of the surrounding parcels. Other development projects throughout the Study Area should be designed to include Low Impact Development (LID) BMPs to detain stormwater from larger storm events in order to assist in flood prevention measures. There is a large amount of natural wetlands within the area, and preserving these features creates natural floodways for the stormwater to remain in during larger storm events without negatively impacting surrounding development.

LOCAL FLOODING during Hurricane Matthew 2016

COASTAL FLOODING during 2012 Hurricane Sandy event

STORMWATER MANAGEMENT Stream Restoration

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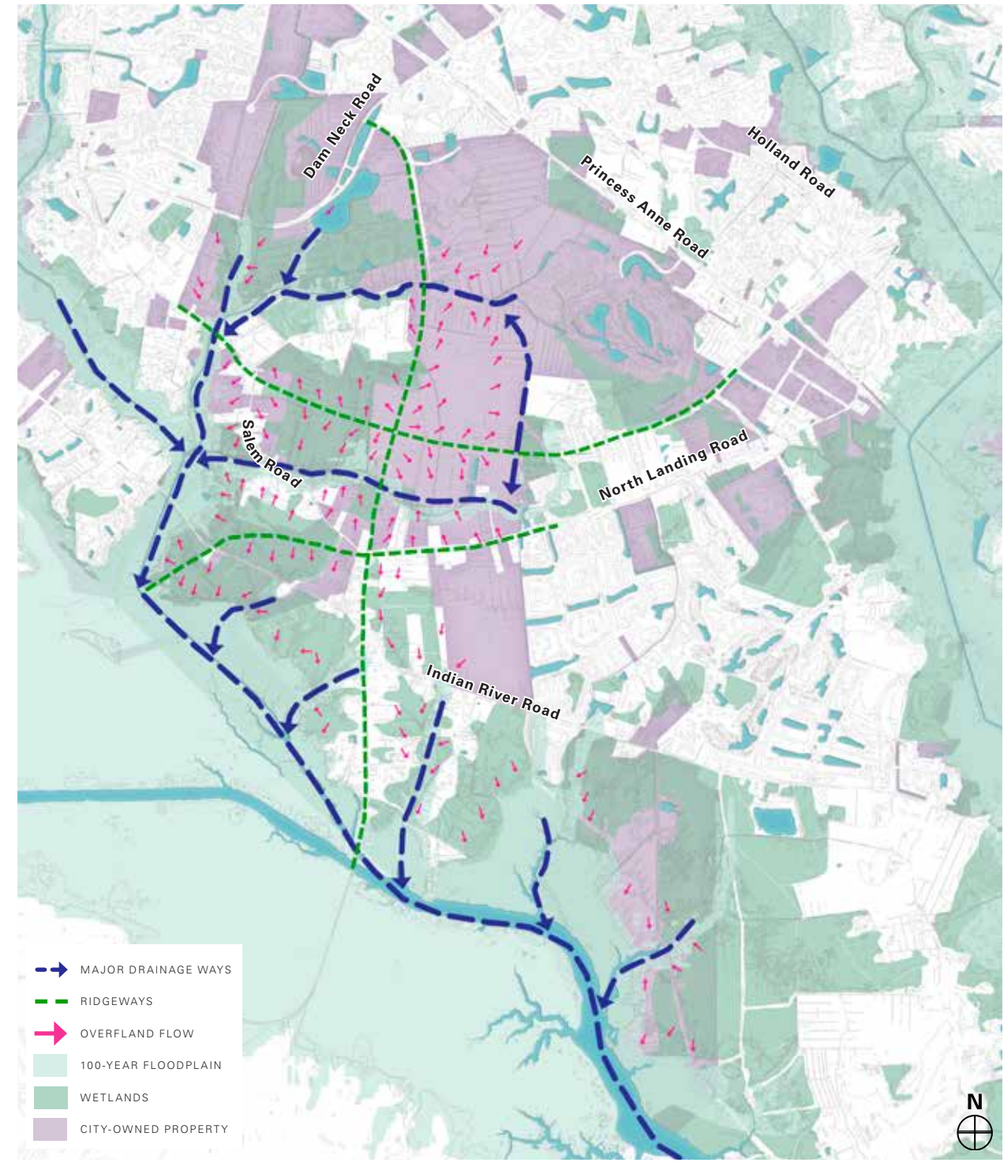
STORMWATER MANAGEMENT PLAN

A Stormwater Management Master Plan allows for proactive mitigation of future development and creates the opportunity to uniquely develop a site with compliant and cost effective stormwater management methods. This helps to reduce the impacts of projects and natural effects of sea level rise and tidal influences. Stormwater management regulations focus on reducing the amount of pollutants discharged into receiving bodies of water, such as the Intracoastal Waterway, Back Bay, and Atlantic Ocean. Building low impact stormwater management facilities and utilizing infiltration as much as possible is a major goal of the current Department of Environmental Quality Stormwater Management Regulations. Unfortunately, this area of Virginia Beach does not contain soils that promote infiltration. The proximity of the North Landing River and flat topography creates high groundwater elevations.

Stormwater management in this area should focus on connectivity with the natural waterways and wetlands offering opportunities to utilize and improve upon the already existing stormwater drainage patterns. The natural drainage patterns follow the existing roadways as ridgelines splitting the drainage area in an east and west side of the Study Area. However, all the drainage follows natural streams that ultimately discharge directly into North Landing River, suggesting a new transportation network should follow these ridgelines to emulate the existing drainage pattern flow. Increasing the capacity of these natural waterways will benefit the development when larger storm events will raise the water level for an extended amount of time. Increasing flow capacity can also offset the future effects of sea level rise.

The undeveloped nature of this area, combined with the desire to maintain as much open space as possible and the proximity to the river, promotes opportunities for unique development of stormwater management. A new transportation network provides opportunities to construct multiple wet and dry swales, as well as grass channels to convey roadway drainage to the natural waterways. These channels and swales can connect into large BMP facilities, such as wet ponds, creating a larger stormwater collection area and providing longer detention times. This method is especially helpful during larger storm events. Utilizing low impact development designs minimizes the developmental impacts to the existing land as a result of the increase in impervious footprint. Certain low impact development facilities such as swales, grass channels, and even larger facilities like wet ponds can be easily incorporated into nature park design and roadway infrastructure. The Study Area contains large amounts of naturally developed wetlands. Thus, constructing new development and roadways around these wetlands or incorporating them into the proposed stormwater management facilities and trail designs maintains some consistency in this area of the city.

Impacts from sea level rise, such as large storm events occurring more frequently and higher elevations of groundwater and surface waters can be problematic for the Study Area. These impacts can be addressed during the early planning and design phases by providing large stormwater facilities and minimizing the new impervious footprint. For example, a wet pond can be designed to serve as a regional facility for multiple projects while maximizing the amount of open space footprint.



EXISTING DRAINAGE PATTERN DIAGRAM

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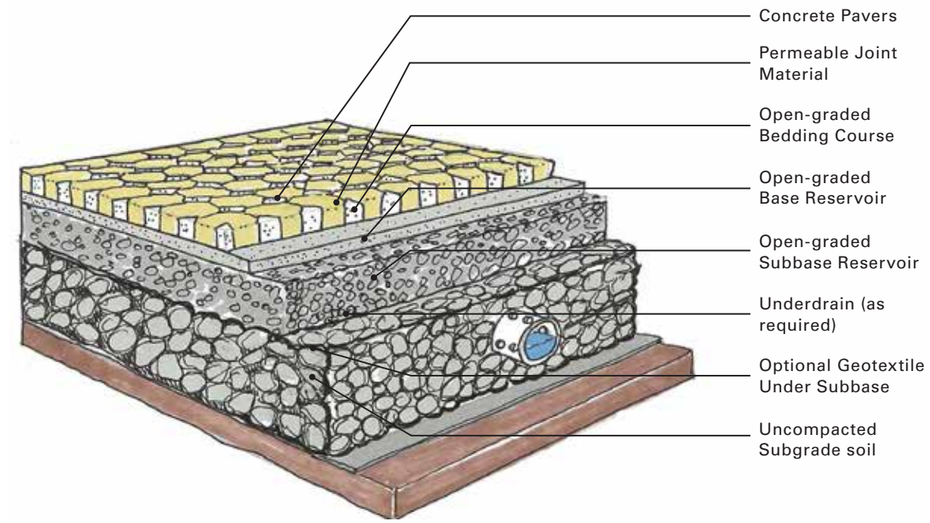
Stormwater Management Methods

PERMEABLE PAVING

Traditional pavement is completely impervious. Impervious areas have comparatively high peak stormwater runoff rates because the rainfall cannot infiltrate through the surface. Permeable Pavement allows for a portion of the stormwater rainfall to infiltrate into the subsurface. Thus, it decreases peak runoff rates when compared to traditional pavement while extracting runoff pollutants as the run-off filters through the system. Retrofit of existing surface parking lots and construction of pathways are good opportunities to utilize permeable pavers. Impervious liners and underdrains are typically required beneath the surface if high groundwater levels or poorly infiltrating soils are present.



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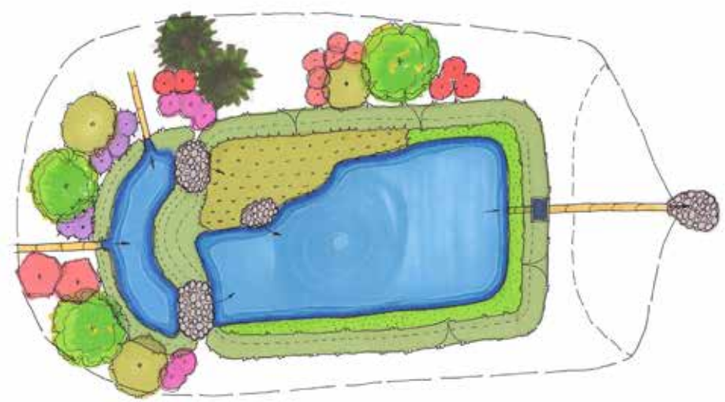
PERMEABLE PAVING EXAMPLE

PERMEABLE PAVING EXAMPLE

PERMEABLE PAVING EXAMPLE

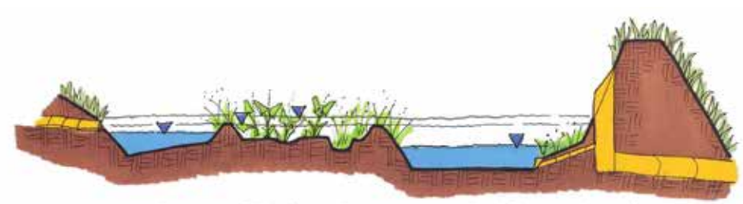
WET POND

Wet ponds consist of a permanent pool of standing water that serves as a settling basin for suspended solids and other pollutants deposited during storm events. Wet ponds are widely applicable for most land uses, however, they are best utilized for larger drainage areas. Essentially, wet ponds allow polluting particles to settle as well allow natural biological processes time to decompose pollution laden runoff. Impervious liners may be necessary in cases where well infiltrating soils are present in order to provide a constant water level for the permanent pool. In certain situations, these larger BMPs are designed to be regional facilities for multiple development projects. This strategy is applicable to the Study Area where the larger facilities can serve as an aesthetic piece of landscaping surface feature but can also double as flood storage and water quality treatment for a large area.

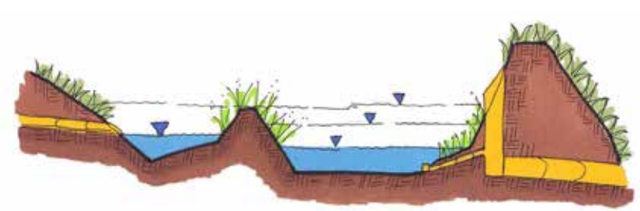


WET POND PLAN

WET POND EXAMPLE



LEVEL 2 PROFILE with upper shelf wetland



LEVEL 1 PROFILE without upper shelf wetland

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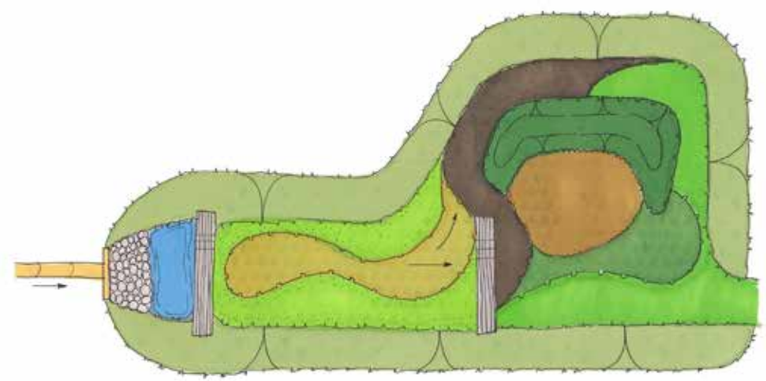
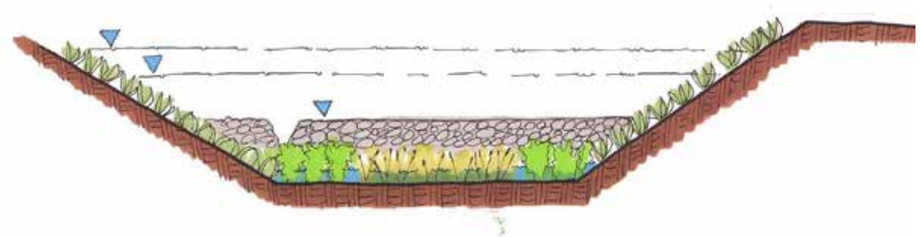
WET SWALE

Wet swales consist of a drainage conveyance system which provides runoff filtering and nutrient treatment. Typically, wet swales consist of wetlands vegetation which encourages particle settling, biological uptake and microbial activity. While wet swales do not provide a significant reduction in runoff volume, they are moderately successful in providing pollutant removal while conveying runoff downstream. Wet swales are well suited for flat coastal regions with typically high water tables, such as this Study Area.



WET SWALE PLAN

WET SWALE EXAMPLE



WET SWALE PLAN

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CONSTRUCTED WETLAND

Constructed wetlands are shallow depressions that receive runoff for water quality treatment. Typically less than a foot in depth, constructed wetlands provide a dense and diverse biological environment that microorganisms and other natural decomposers thrive in. Runoff from each new storm event replenishes the wetlands water level and results in long residence times that further encourages pollutant removal processes to operate. Constructed wetlands are the final element in a roof-to-stream runoff reduction sequence and provide final stormwater quality before discharge into a natural water body. Due to the Study Area's close proximity to North Landing River and large amount of natural wetlands, constructed wetlands would be a successful stormwater management facility to meet the stormwater management regulation requirements. Wetlands can also be an added feature to wet ponds or swales for additional water quality benefit and flood control. Wetlands typically are also included with wet swales, another feature suggested for the Study Area.

CONSTRUCTED WETLAND EXAMPLE

CONSTRUCTED WETLAND BASIN PLAN

LEVEL 2 PROFILE

LEVEL 1 PROFILE

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Road Frameworks Plan

TRANSPORTATION GOALS

- Address safety concerns
- Relieve congestion
- Increase network capacity
- Maximize developmental areas
- Improve regional access for city amenities, tourism and emergency response

The Fiscally-Constrained Hampton Roads 2040 Long Range Transportation Plan (LRTP) contains many significant surface transportation improvements within the Princess Anne Commons Master Plan Study Area. The LRTP includes projects with appropriated federal, state and local monies.

In addition to the LRTP, the City's 2016 Comprehensive Plan includes a Master Transportation Plan (MTP). . A component of the MTP is the Primary Roadway Network Plan Map, which includes a number of existing and proposed roads within the ITA/PAC Study Area, including Landstown Road, Nimmo Parkway, Indian River Road, West Neck Parkway, West Neck Road and Salem Road. The identification of these roads was based on capacity, safety and land use. However, during the analyses for the Interfacility Traffic Area and Vicinity Master Plan, it was determined that a different roadway network would better support the developmental goals of the Study Area. The following pages describe the proposed Primary Roadway Network. The priority of the road improvements would be (numbers correspond to those on map):

1 Landstown Road Extension

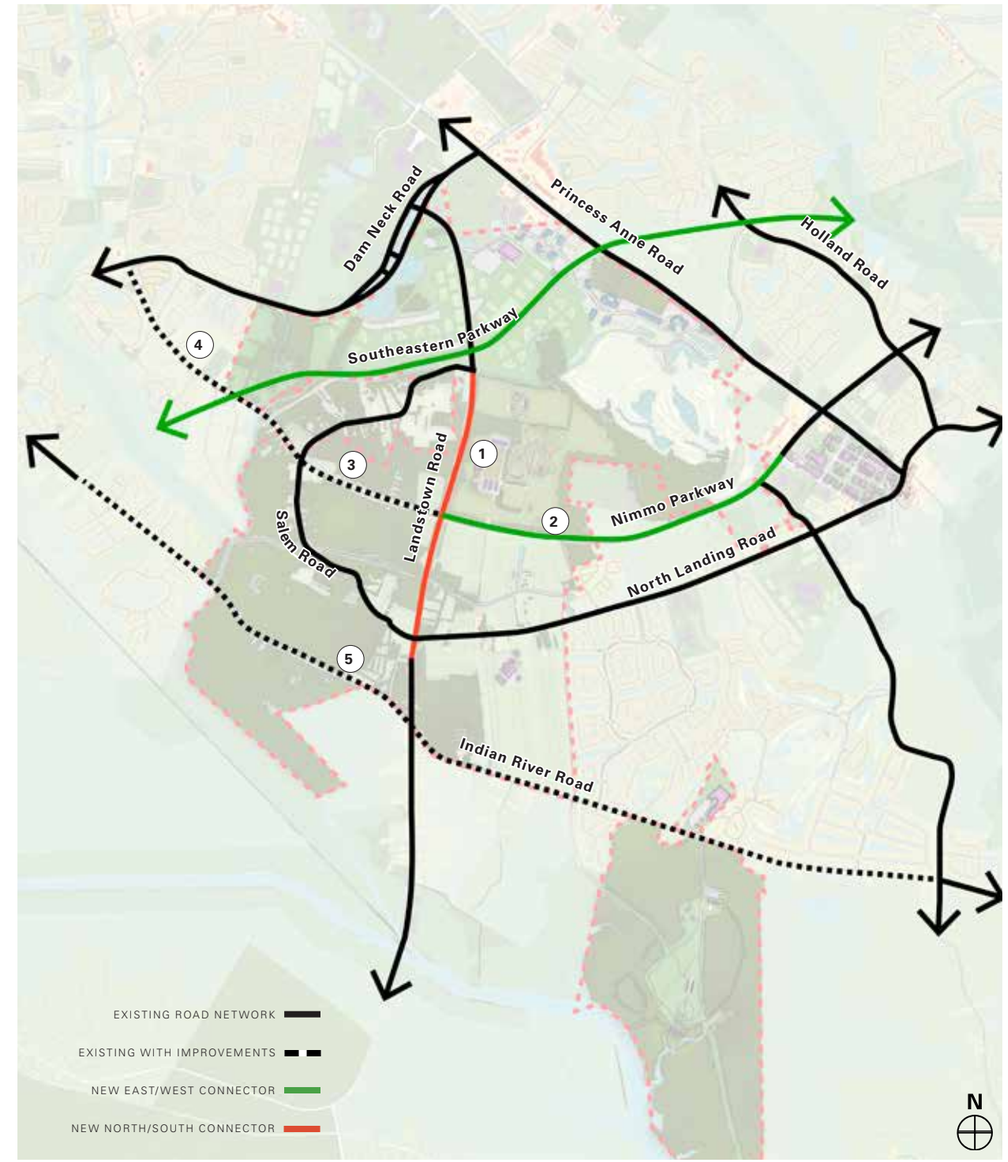
2 Nimmo Parkway Extension (current terminus to Landstown Road Extended)

3 Nimmo Parkway Extension (Landstown Road Extended to Salem Road)

4 Salem Road Improvements (Nimmo Parkway Extension to Dam Neck Road)

5 Indian River Road Improvements

These recommended changes to the Master Transportation Plan must be validated through the City's traffic model to ensure the impact on the overall system is positive.



NEW ROAD NETWORK DIAGRAM

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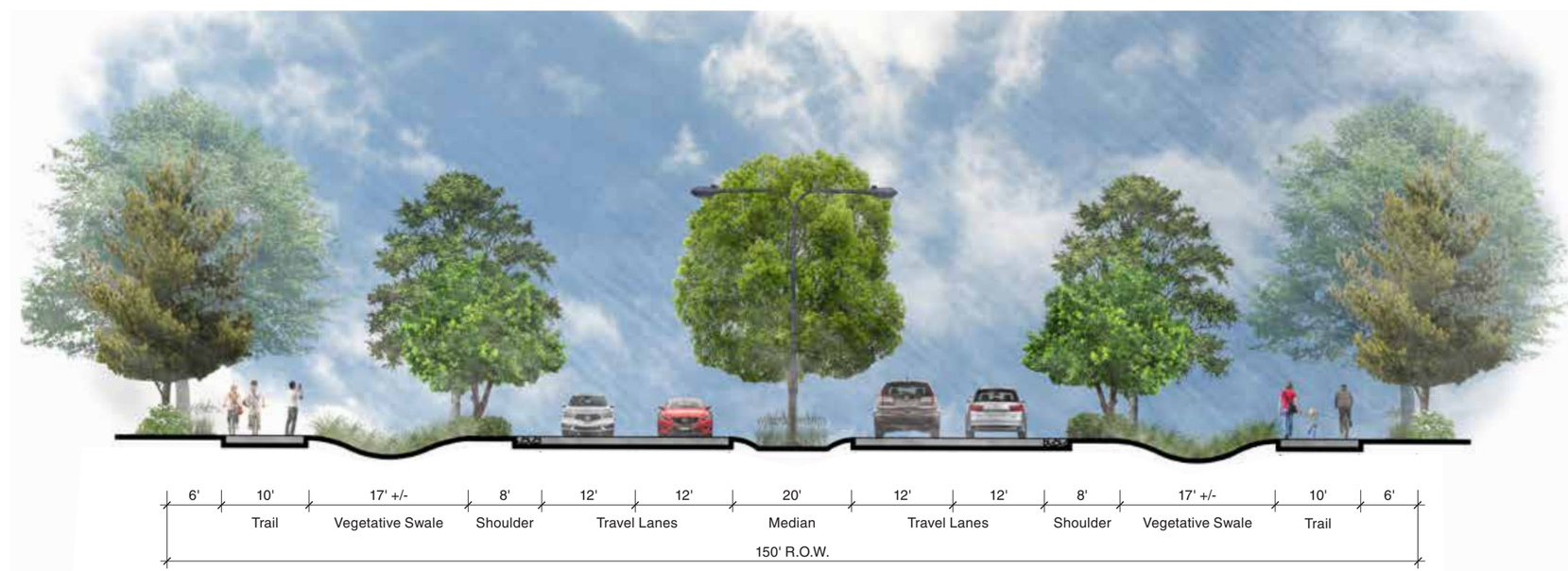
ROAD SECTIONS: NIMMO PARKWAY

Nimmo Parkway is a four-lane divided principal arterial that connects General Booth Boulevard to West Neck Road near the Virginia Beach Municipal Center. Currently, there are plans to extend Nimmo Parkway to the west to provide access to the proposed Veterans Care Center (VCC).

In order to provide an additional east-west roadway to support development of the ITA/PAC and alleviate traffic on the two-lane sections of North Landing Road and Indian River Road, it is recommended that Nimmo Parkway be extended from its current terminus west to Salem Road. In addition, Salem Road should be widened from the Nimmo Parkway extension west to Dam Neck Road.

The proposed typical section would be similar to existing Nimmo Parkway and have four travel lanes, a raised median, on-road bike facilities, wide swales and 10-foot wide shared use paths. The facility would be constructed within a 150-foot right-of-way.



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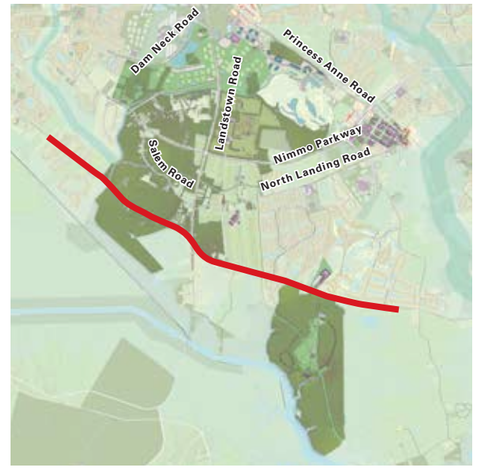
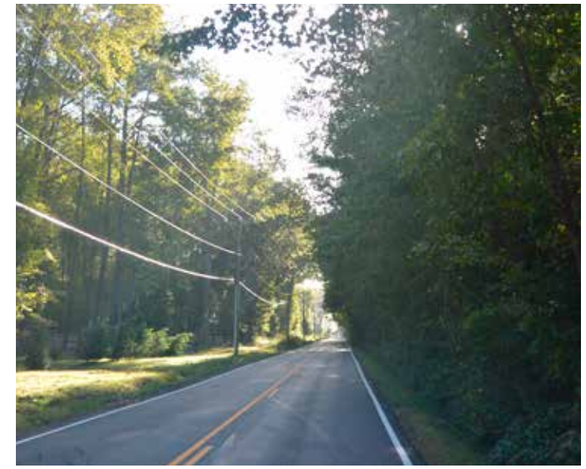
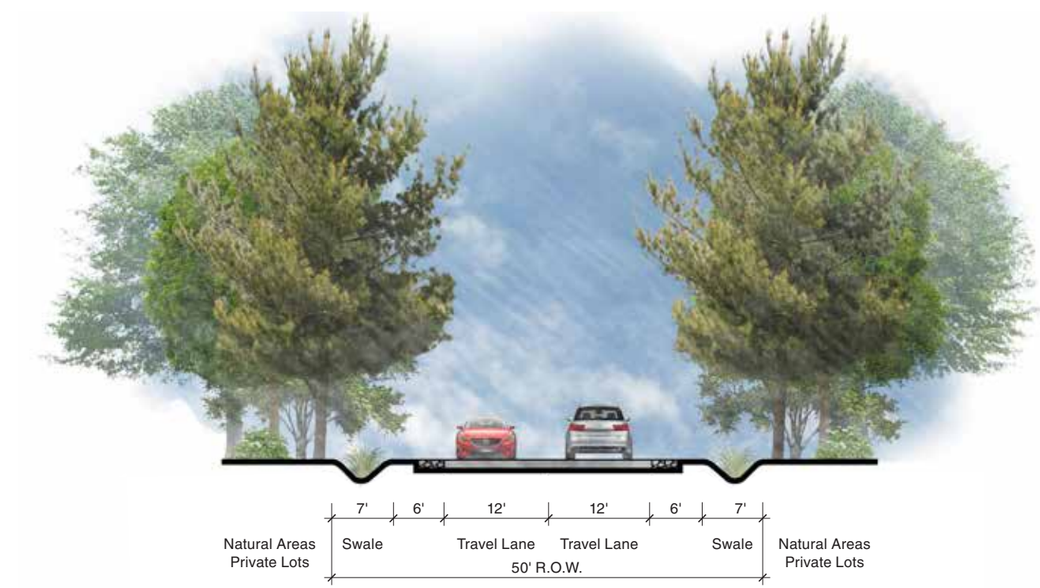
ROAD SECTIONS: INDIAN RIVER ROAD

Indian River Road is a two-lane rural roadway with narrow lanes and substandard shoulders that travels in the east-west direction along the southern boundary of the ITA/PAC Study Area. Safety concerns have been raised by Virginia Beach citizens based on the existing roadway conditions, travel speeds and traffic volumes.

Based on the 2040 LRTP, traffic on Indian River Road is expected to decrease as the other roadway improvements/connections are made within the ITA/PAC area. Based on this expected decline in traffic volumes and the limited existing right-of-way, it is recommended that the improvements to Indian River Road be limited to shoulder widening and spot safety improvements to address substandard conditions. Indian River Road should retain its rural feel and continue to function as one of Virginia's designated Scenic Byways. As recommended as part of the Trail Network, a multi-purpose trail should be integrated into improvements to Indian River Road as possible.







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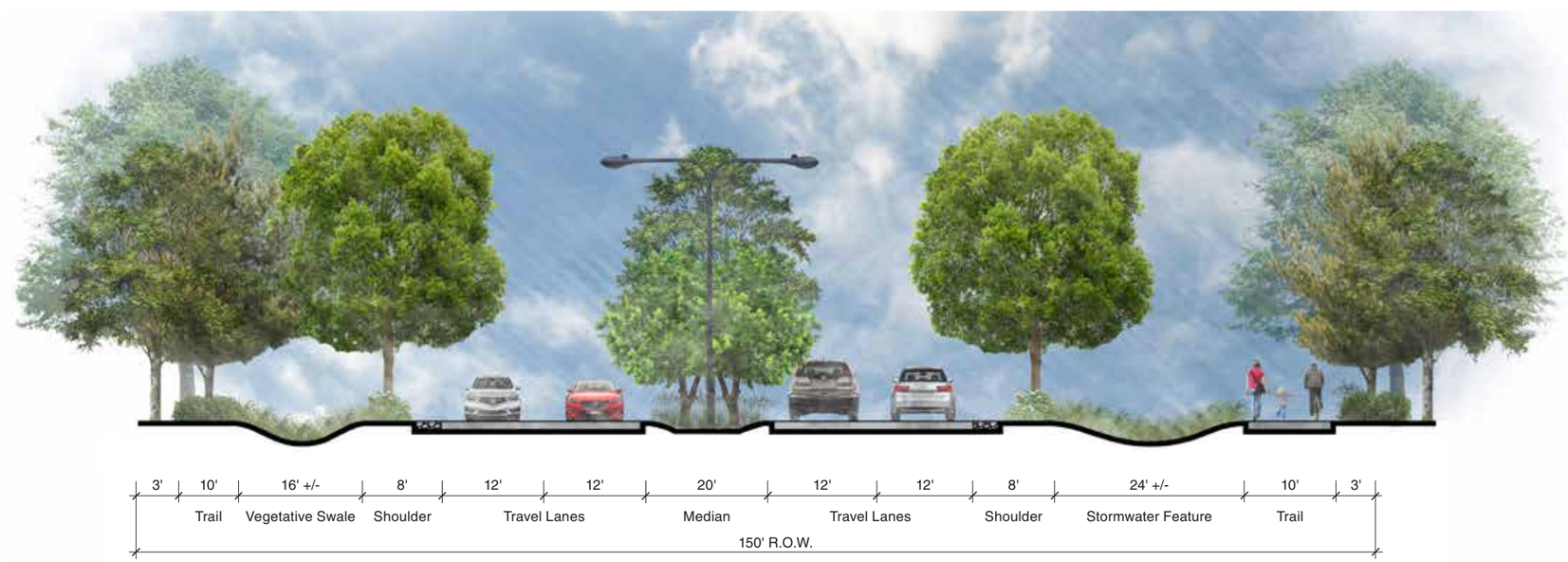
ROAD SECTIONS: LANDSTOWN ROAD

Landstown Road currently extends south from Dam Neck Road. As it passes the recreational facilities it turns west and connects with Salem Road. Plans are currently under design to widen the northern segment of Landstown Road from Landstown Centre Way to the curve to the west in anticipation of development needs in the ITA/PAC Study Area. It is recommended that Landstown Road be extended south from where it currently curves to the west to provide a north-south connection between Dam Neck Road and North Landing Road. This connection would be a four-lane divided parkway style road with on-road bicycle facilities and shared use paths on both sides of the road similar to the proposed Nimmo Parkway. The typical section below shows an alternative design that would allow for a larger stormwater feature on one side of the road. The alignment of the proposed Landstown Road Extension maximizes the developable area on either side of the proposed roadway.

The Landstown Road Extension would provide a direct connection to the City of Chesapeake via Mount Pleasant Road. By providing a higher speed road with increased capacity, it is expected that the construction of the Landstown Road Extension in conjunction with the Nimmo Parkway improvements would reduce traffic on both Indian River Road and North Landing Road east of the proposed Landstown Road extension. This will need to be validated by the City's traffic demand modeling.



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Trail Network

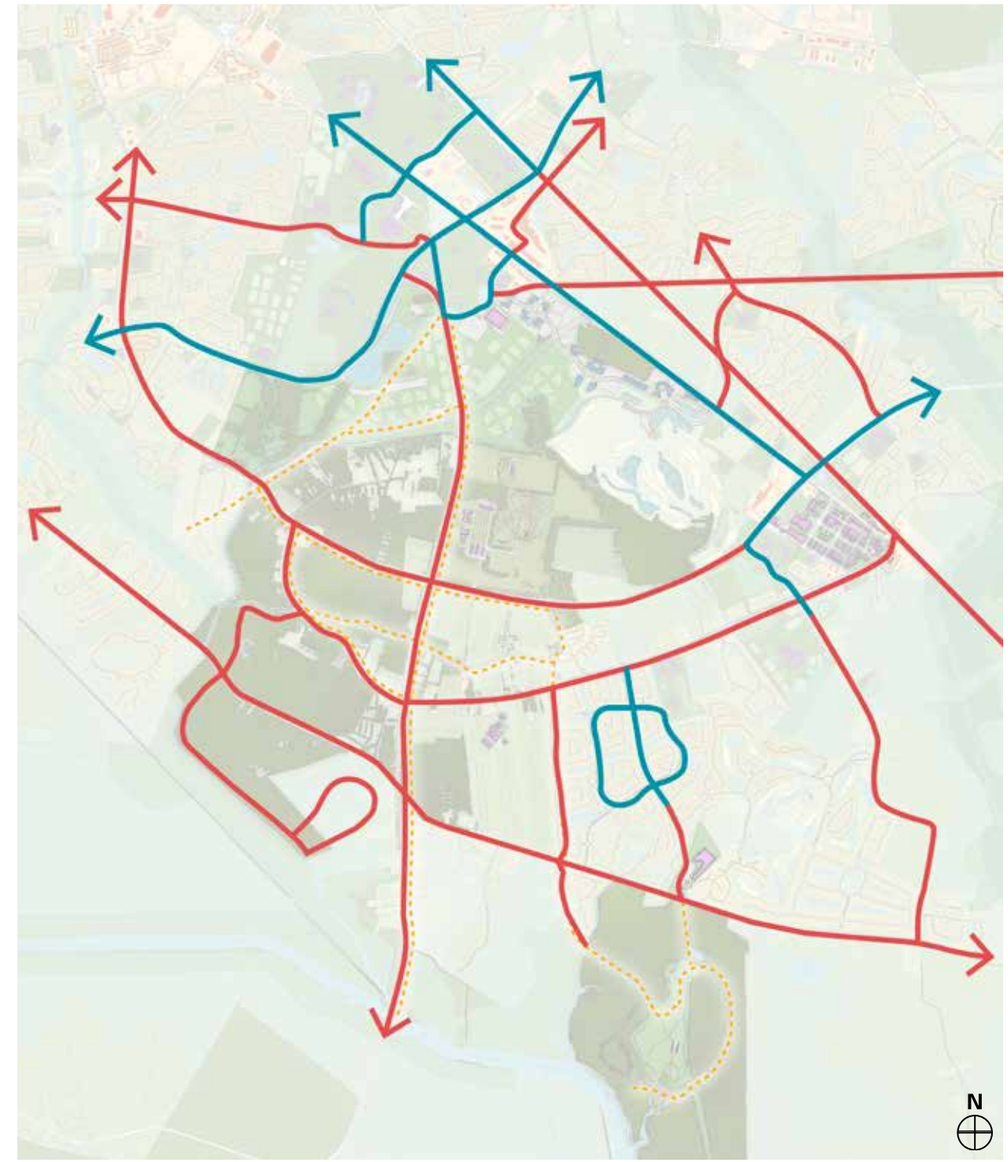
Bikeways and trails are valuable assets to a community. Incorporating these amenities into the community fabric can bring economic benefits, clarify the transportation network hierarchy, enhance quality of life, protect the natural environment, improve water and air quality, prevent flood damage, and embrace cultural identity. Bike and trail systems have the ability to direct the course of development in the ITA/PAC and to incorporate additional green infrastructure given the ITA/PAC's unique natural resources, geographic location, and existing development framework.

Although Virginia Beach encompasses a large area of land with many existing roads, the ITA/PAC currently lacks solid connectivity for bicyclists and pedestrians. Many existing trails and roads are not appropriate for bicycle and pedestrian traffic. These existing trail and bike systems are incomplete and lacking signage for orientation, and in many cases are not wide enough to support safe travel. The city has long desired to provide a complete bike and trail systems city-wide, including complete streets and a clear hierarchy within the transportation network. For example, the 2011 Virginia Beach Bikeways and Trails Plan encourages logical corridors with complete streets and full bike and pedestrian facilities throughout the city. The ITA/PAC is no exception.

EXISTING NETWORK

PLANNED NETWORK

PROPOSED NETWORK EXTENSION



TRAIL NETWORK DIAGRAM

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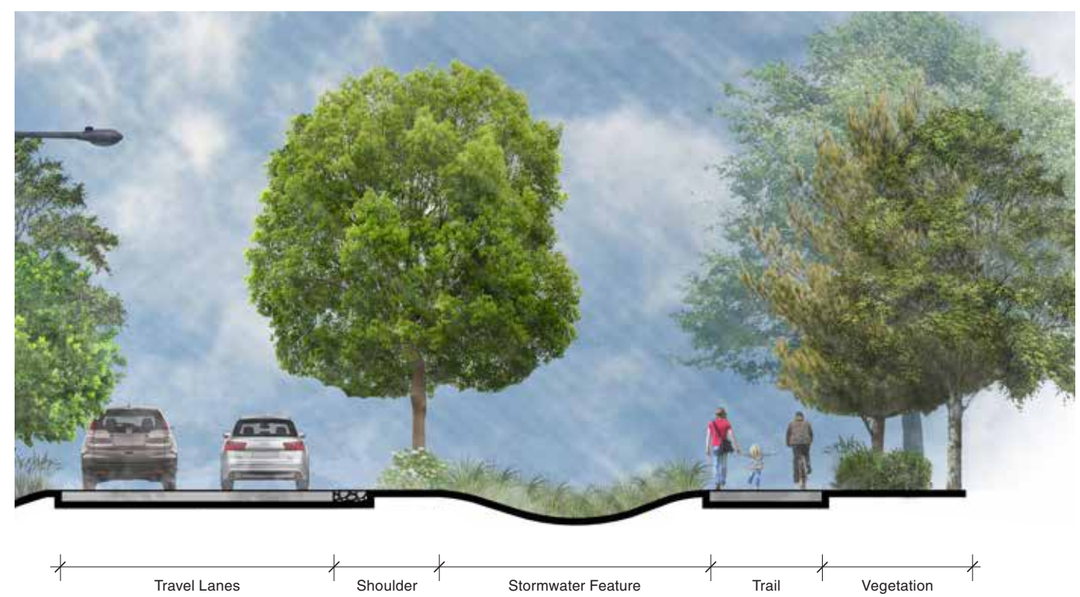
The ITA Master Plan upholds the City's overarching transportation goals with recommendations for bikeways and trails that will use existing infrastructure and proposed street networks to make a more connected system. Roads proposed within the ITA/PAC would be considered as 'complete streets' accommodating a balance of vehicular, bicycle, and pedestrian traffic with minimal conflicts. These streets would connect neighborhoods and destinations near and within the ITA/PAC, improving transportation and access to recreational functions within Virginia Beach.

Not all trails and bikeways in the ITA/PAC are proposed along streets. Secondary trail and bike systems are diverted from streets in order to provide access to alternative uses such as educational trails, nature walks, horseback riding, and various activities in the non-developed parts of the ITA/PAC. The ITA/PAC also has the potential to host long-distance and cross country running courses of various distances as well as 5K races if given the available space and meeting the layout requirements of the course. Some portions of the secondary trail network incorporate "blueway" trails. These connect a system of waterways and canals allowing for non-motorized boating access throughout the watershed.

Bikeways and trail systems proposed in the ITA/PAC, whether along roads, fields, woodlands, or canals, provide a necessary backbone to shape and spur development and community growth. They can help to balance circulation from one area to another, and they provide a logical connection to places within and outside of the ITA/PAC giving a sense of unity and cohesion to the area.



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Land Use Plan

THE INTERFACILITY AND TRAFFIC AREA AND PRINCESS ANNE COMMONS CAN be considered a special land reserve available for a range of uses not possible in other residential or commercial areas of the city. The development restrictions inherent with land south of the Green Line and AICUZ restrictions that limit development allow the City to consider this area for a range of interesting environmental, educational, recreational, and economic activities that will benefit the citizens of Virginia Beach.

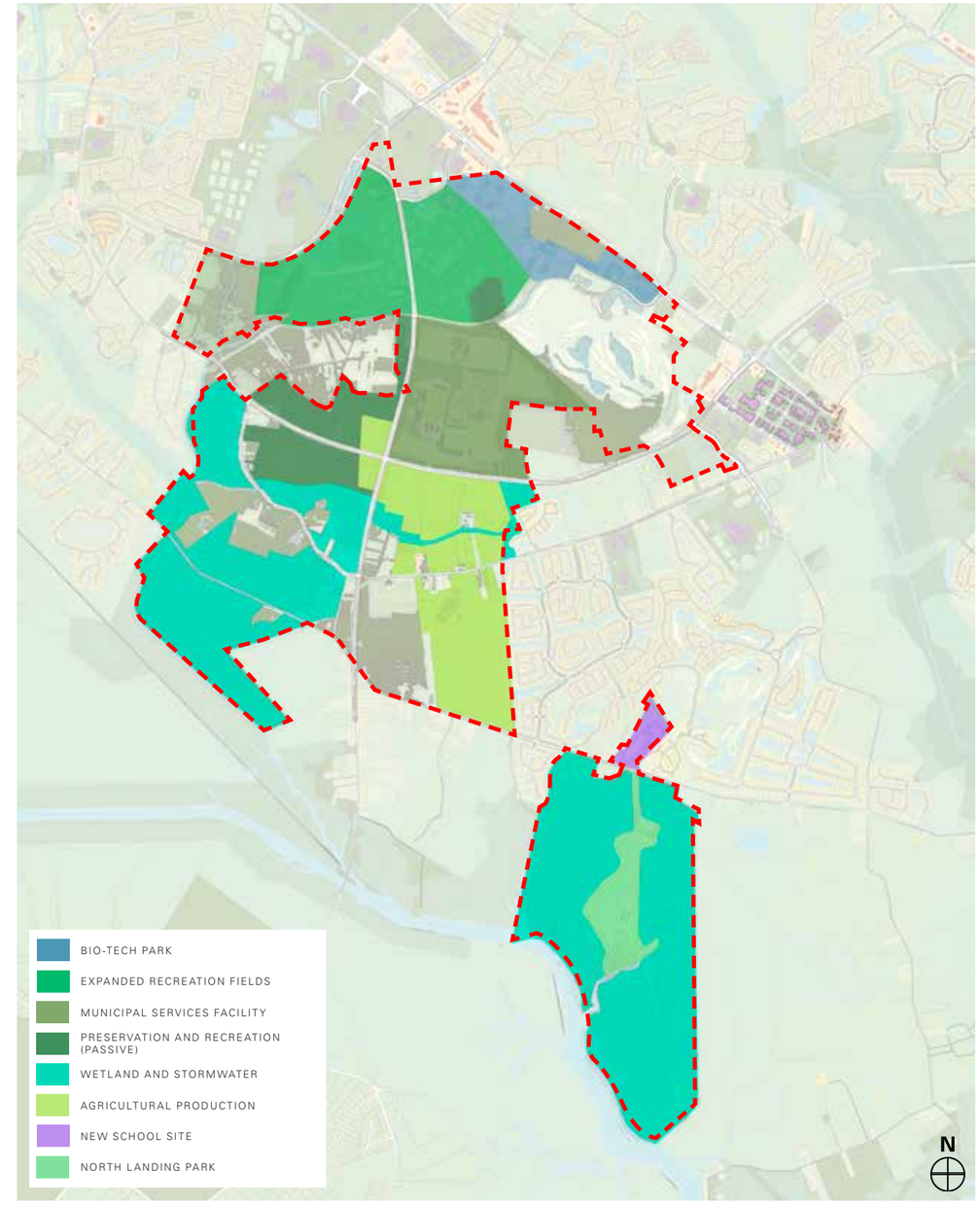
- North Princess Anne will grow as an important commercial and research corridor building on the Sentara Princess Anne Hospital, success of LifeNet, and the growing cluster of university related medical research facilities.
- Recreational opportunities will grow with new areas for passive and active outdoor sports.
- The City will have space it needs to build a new solid waste transfer station to replace the Landstown Transfer Station.
- The future of farming in the city will benefit from new research facilities and institutional affiliations that focus on sustainable agriculture.
- Large areas of the ITA/PAC will remain natural wetlands as part of a vast coastal ecosystem and a portion of the North Landing Park site could be potentially be used for a new research center will be developed along the North Landing River to expand ecological research of the Albemarle watershed.

FUTURE PLANNED ACREAGE

- Bio-Tech Park (140 ac)
- Expanded Rec Fields (386 ac)
- Municipal Services Facilities (288 ac)
- Preservation and Passive Recreation (171 ac)
- Wetland and Stormwater (1,135 ac)
- Agricultural Production (345 ac)
- New School Site (30 ac)
- North Landing Park (93 ac)

TOTAL ACREAGE OF USES

- 2,588 Acres



PROPOSED LAND USE DIAGRAM

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Economic Development, Recreation, and Conservation

The unique mix of uses planned for the ITA/PAC will improve the economic vitality of Virginia Beach. Expansion of sports fields and specialized sports facilities will attract families and sports leagues from across the Hampton Roads region and beyond, benefiting nearby hotels and restaurants. The blueways and greenways trail networks will be used by people of all ages for hiking, boating, and equestrian sports. The Bio-Tech Park will provide jobs for researchers in the medical and technology fields, building on the synergies created by Sentara Princess Anne Hospital, LifeNet, and university research facilities nearby.

New education opportunities can be created with facilities that host tourists, students, and families interested in learning more about agriculture, recycling, and ecosystems of the inland waterways. These experiences will expose people to food production, plant and wildlife issues, conservation of the environment, and resource management. Virginia Beach has the ability to cater to the growing eco-tourism market with the broad array of activities that are possible in this unique coastal environment.

As major land owners of the area, the City has the ability to team with universities, research foundations, sports providers, and private businesses in creative pursuits that benefit citizens in multiple ways. The City is in the drivers seat.

As new initiatives described in this master plan are realized, this area of the city should add an important dimension to the message delivered by promoters of Virginia Beach. Few cities anywhere will have the clustered resources and range of activities that elevate the quality of life for its citizens.

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Initiative Areas

THE INTERFACILITY TRAFFIC AREA & VICINITY Master Plan includes several Initiative Areas that will become unique destinations for citizens and visitors of Virginia Beach. They include new active sports venues, new passive recreational areas, family oriented educational centers, research facilities and office areas. The master plan includes development concepts for the Virginia Beach Municipal Center and the historic Princess Anne Center at the corner of Princess Anne Boulevard and North Landing Road. These Initiative Areas are described in greater detail in the following pages.

PLACES

1 Historic Princess Anne Center
2 Municipal Center
3 Bio-Tech Park
4 Sports Center
5 Preservation and Passive Recreation
6 City Municipal Services Facility
7 Agricultural Production
8 North Landing Park

1. HISTORIC PRINCESS ANNE CENTER

2. MUNICIPAL CENTER

4. SPORTS CENTER

6. CITY MUNICIPAL SERVICES FACILITY

3. BIO-TECH PARK

5. PRESERVATION AND PASSIVE RECREATION

7. AGRICULTURAL PRODUCTION

8. NORTH LANDING PARK

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Historic Princess Anne Center

DESIGN DIRECTIVES

- Capitalize on historic character and buildings on North Landing Road
- Focus parking behind buildings
- Line streets and spaces with low-rise mixed-use buildings of two and three stories
- Focus attention on appropriate streetscaping elements to enforce the historic character including street lamps, planters, benches, and other elements
- Develop consistent architectural character using Virginia precedents such as Williamsburg
- Restore and reuse the Buffington House as a public or private community amenity
- Courthouse building preserved

LAND AREA

- 33 Acres

Princess Anne and North Landing areas hold great significance in the history of Princess Anne County and the City of Virginia Beach. This area sits at the geographic center of the City. The county seat moved here in 1823–1824, with the construction of Princess Anne Courthouse. A jail building also sat adjacent to the courthouse. The crossroads of Princess Anne and North Landing Roads became an important center as civilians, lawyers, judges, and others traveled to the courthouse to tend to civic matters. The rail line terminated near the courthouse, making it possible for people to reach this location from the region.

There is a strong desire to restore and reinforce the district's historic character. Buildings should be evaluated to determine whether renovation and reuse is feasible, and efforts should be made to keep historic buildings when possible. Some buildings may have historical, but not architectural importance. In this case, replacing a few key buildings with new development that fits into the historic character may help to revive and strengthen the area.

The design of the public space can also help establish Virginia Beach as a green city. Preservation, adaptive reuse, sensitive infill, and emerging stormwater management trends will improve performance, and enhance character. Small streetscaping details such as increased sidewalk widths, appropriate lighting, street furniture, small pedestrian spaces that link back to Princess Anne Courthouse and the Municipal Center will bring life back to the historic courthouse area.

By restoring the commercial intersection at Princess Anne and North Landing Roads and maintaining the historic character of both the landscape and the built environment, a dynamic node and gateway will be reinforced.

EXISTING MUNICIPAL BUILDINGS
EXISTING MUNICIPAL INFILL BUILDINGS
EXISTING COMMERCIAL BUILDINGS
EXISTING MIXED-USE BUILDINGS
PARKING GARAGES
AICUZ 65 DNL LINE

HISTORIC PRINCESS ANNE CENTER
The intersection of Princess Anne Road and North Landing Road functioned as an important part of Princess Anne County's civic and judicial life

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View down Princess Anne Road in Historic/Cultural District.

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Municipal Center

DESIGN DIRECTIVES

- Capitalize on historic character and buildings in the Municipal Center
- Create structured parking decks to free land for development
- Line streets and spaces with new mixed-use buildings to create a consistent pedestrian network
- Introduce a mix of residential units into the district to enliven the complex around the clock and provide attainable housing for City workers
- Cumulative infrastructure impacts must be studied and the Capital Improvement Program amended for more intense development than what is considered in the Program Capacity.

LAND AREA

- 92 Acres
- *300,000 square feet of new office space for mixed-use or flexible government space

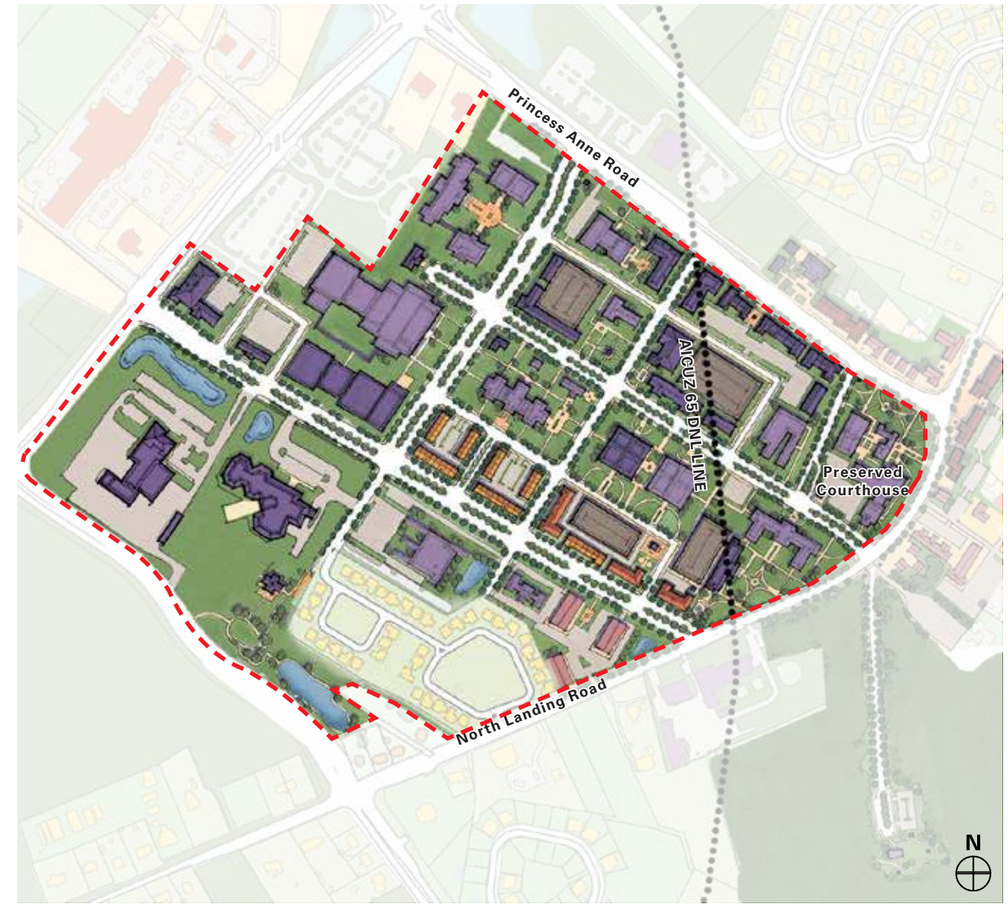
Prior to the consolidation of Virginia Beach and Princess Anne County in 1963, the Princess Anne Courthouse area and surrounding community served as the county seat. Since then, the area has been established as a Municipal Center and historical/cultural district that has maintained numerous homes and the historic courthouse.

As a major employment center in the region, the Municipal Center brings thousands of employees to its campus daily. While the existing building stock has been sufficient in meeting the current operational needs, the many agencies that work on the campus are beginning to reach maximum capacity. Along with the demand for additional municipal building space, recommendations for residential development in the district have been voiced to satisfy the lack of residential development options for employers in the area.

The Municipal Center provides the opportunity for development that is not affected by the AICUZ restrictions. By capitalizing on this opportunity and introducing the potential for infill development in place of the surface parking, a variety of options is created.

Introducing new mixed-use development along George Mason Drive and single-family residential off of North Landing Road will provide an assortment of housing options and create a more active street environment within the district.

The creation of a true mixed-use campus is a long-term vision for the City of Virginia Beach. Emerging trends nationally show land becoming more valuable as development pressures increase so that the infill development will occur as land values and market demands allow. New municipal buildings, private offices, and potentially a hotel can add economic diversity and help support the vitality of the existing retail and potentially support additional small shops. Parking decks, concealed by buildings, will have the capacity for existing and future development.



ILLUSTRATIVE PLAN

The Illustrative Plan depicts the integration of residential infill (yellow and orange) along with the development of new municipal buildings. The historic value of the district is enhanced by the restoration of the campus gardens and the commercial node. Structured parking will allow some of the existing lots to receive this new development, enhancing the campus-like environment.

- EXISTING MUNICIPAL BUILDINGS
- NEW MUNICIPAL INFILL BUILDINGS
- EXISTING COMMERCIAL BUILDINGS
- NEW COMMERCIAL INFILL BUILDINGS
- NEW MULTI-FAMILY RESIDENTIAL
- NEW SINGLE-FAMILY RESIDENTIAL
- PARKING GARAGES
- AICUZ 65 DNL LINE

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Photograph of existing condition at George Mason Drive.

View of George Mason Drive with infill development.

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Photograph of existing condition in the Municipal Center area.

View of new development with cafe and residential infill buildings.

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Bio-Tech Park

DESIGN DIRECTIVES

- Provide office and commercial development potential for the City of Virginia Beach
- Group buildings along streets and place parking behind to improve the quality of the pedestrian experience
- Employ landscaping and sustainable stormwater management techniques to "green" the development and link it to the trail and open space framework
- Cumulative infrastructure impacts must be studied and the Capital Improvement Program amended for more intense development than what is considered in the Program Capacity.

LAND AREA

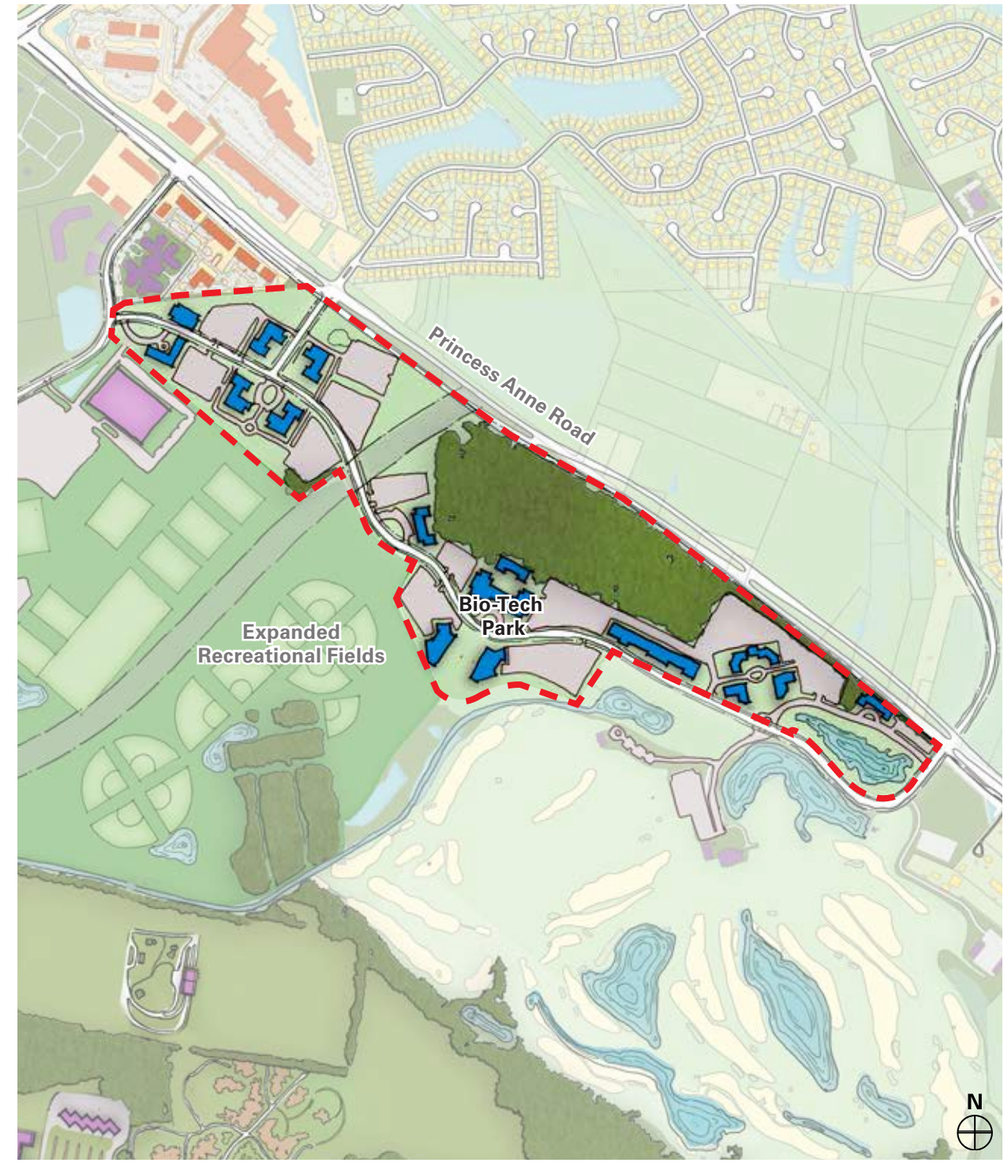
- 140 Acres

The Princess Anne Corporate Park was originally intended to take advantage of the Southeastern Expressway and Greenbelt. While the future of the Southeastern Expressway is uncertain a major transportation facility of some type will be located in the alignment reserved for it, and that combined with significant land available along Princess Anne Road to create an office and research complex that will focus on biomedical technology. This complex will complement the existing medical and research institutions nearby to the northwest. Proximity to the Athletic Complex also provides an opportunity for health and wellness related business to locate in this corporate park.

The actual density of the development will be largely market-driven. Offices that locate here will, however, incorporate the regional trail network that will wind through the site. This complex will also enjoy proximity and views into Virginia Beach National Golf Club to the southeast, as well as views of the wooded area adjacent to Princess Anne Road that will be preserved, primarily due to the area consisting of non-tidal wetlands. This wooded area also offers a unique trail opportunity as part of the research park. In those places where this wooded area does not exist along Princess Anne Road, existing vegetation will be preserved to the extent possible and will be enhanced consistent with the *Design and Development Guidelines - Princess Anne Commons Biomedical Park* (adopted by the City Council in November 2016).

Development standards for this corporate park must incorporate stormwater best management practices, have minimum thresholds for energy performance, and incorporate low-impact development principles. Structured parking should be considered if economically feasible to reduce impermeable surface area and increase development capacity.

In this area, the intended alignment of the Southeastern Expressway and Greenbelt is maintained should this route be constructed.



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Sports Center

DESIGN DIRECTIVES

» Improved access with construction of Landstown Road

» New athletic fields for ball sports with the intention of enhancing existing and developing new facilities to improve opportunities for attracting tournaments

LAND AREA

» 386 Acres

Amateur sports is a rapidly growing past time and healthy activity enjoyed by people of all ages. The popularity of sports has increased demand for expanded City facilities. This area is an ideal place in the city to create a major active sports center building on the existing athletic facilities that are there. With construction of Landstown Road, access to additional large flat land areas will enable the City to build more athletic fields and specialized facilities.

ATHLETIC FIELDS

There is tremendous demand for baseball, softball, soccer and football fields and they can be arranged to accommodate league tournaments. The fields could be clustered together with convenient parking and service pavilions. The plan includes a baseball park with grandstands.

SOUTHEASTERN EXPRESSWAY ALIGNMENT

The Southeastern Expressway Alignment should be protected. Temporary uses including parking and access drives may be considered.

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Preservation and Passive Recreation

DESIGN DIRECTIVES

- Use stormwater facilities to expand wildlife habitat
- Increase tree, shrubs, and plant life
- Design the area for recreational canoeing, kayaking, fishing, hiking, and ornithology
- Build informational kiosks and interpretive displays
- Trails for equestrian, bicycling and hiking
- Design stormwater facilities capable of storing water during storm events

LAND AREA

- 171 Acres

Central to the ITA/PAC, a recreational area is proposed to span between the future Landstown Road, Salem Road, and Nimmo Parkway extensions. An abundance of natural resources in this area supports an array of ecological, cultural, and recreational opportunities.

From an ecological standpoint, there are many opportunities. Given the need to store rainwater from heavy and frequent storm events, the North Landing River, along with its streams, tributaries, and floodplains can be used for both staged storage and flood protection while providing critical habitat for wildlife. Wetlands restorations and enhancement projects, check dams, and canals can help to promote improved drainage and allow for increased biodiversity. An increase in trees, shrubs, and herbaceous plant life can trap carbon and reduce urban heat island effects for areas of limited development nearby.

Opportunities for recreation, exploration, and education within this recreational area are equally abundant. While this space can serve as green infrastructure to provide flood control, it can also lead to recreational functions at the same time. Canoeing, kayaking, fishing, hiking, and bird watching are all supported by these measures. The recreational area would also be accessible to utility vehicles, bicycles, and equestrians. These alternative modes of travel would play a specific role in the ITA/PAC's transportation network, providing a much-needed separation between standard roadway traffic and other multi-purpose facilities.

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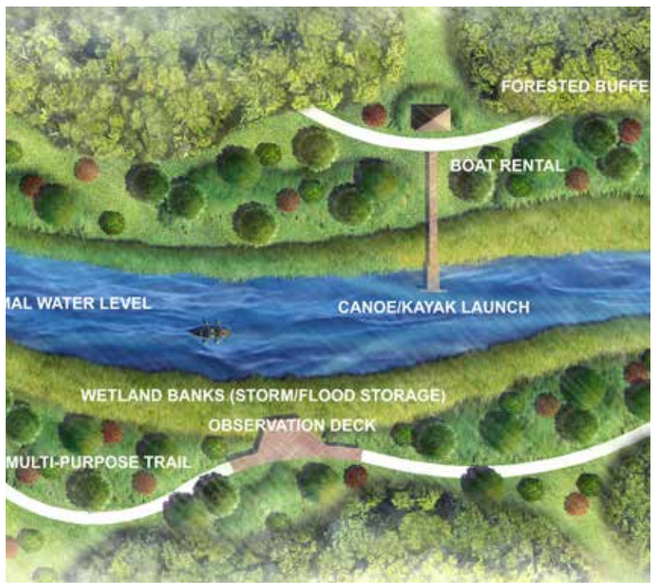
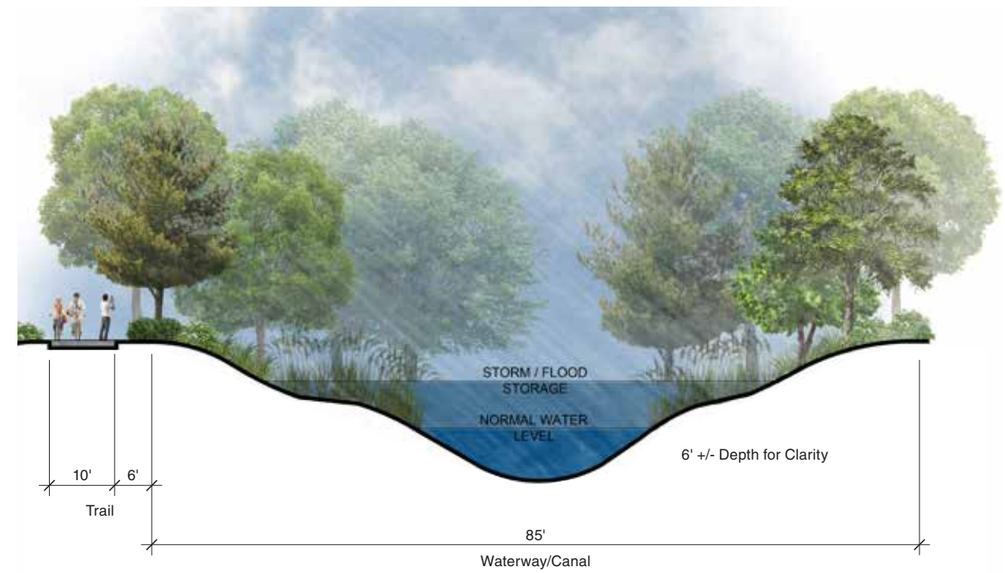
Because of the native plant species that would be preserved and encouraged in the recreational area, there are opportunities for education. Informational kiosks and interpretive displays along trails may provide unique learning experiences for Master Gardener groups and school field trips. Other facilities may also be supported, including seating areas, wildlife viewing blinds, boardwalks, canoe/kayak launches, shelters, and bridges to accompany the trails. Different lengths of trails can accommodate a variety of uses including cross-country racing and hiking. Equestrian facilities are proposed adjacent to the recreational area along with trails which would be specifically slated for horseback riding.

Tying green infrastructure and flood-control together is an important aspect of the design. The existing natural ditches and small streams that flow through the site would be expanded and turned into canal-like channels for both boating access and flood control. The channels would be excavated down 6 to 8 feet deep in order to maintain water circulation and clarity, allow for boat draft, and promote fish populations. The banks of the channels would be sloped shallow enough to prevent erosion and allow for shoreline vegetation establishment. The top of banks would be set at elevations sufficient to allow for temporary storage of rainwater and flooding during heavy rainfall events. Trails are proposed along the channels and under roadways for better connection throughout the ITA/PAC.



CANAL PLAN



CANAL SECTION

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View of the Preservation and Passive Recreation area

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City Municipal Services Facilities

DESIGN DIRECTIVES

- SPSA transfer Station
- Public Works Municipal Services Facilities Operations and Maintenance
- Citizen Waste Drop-Off

LAND AREA

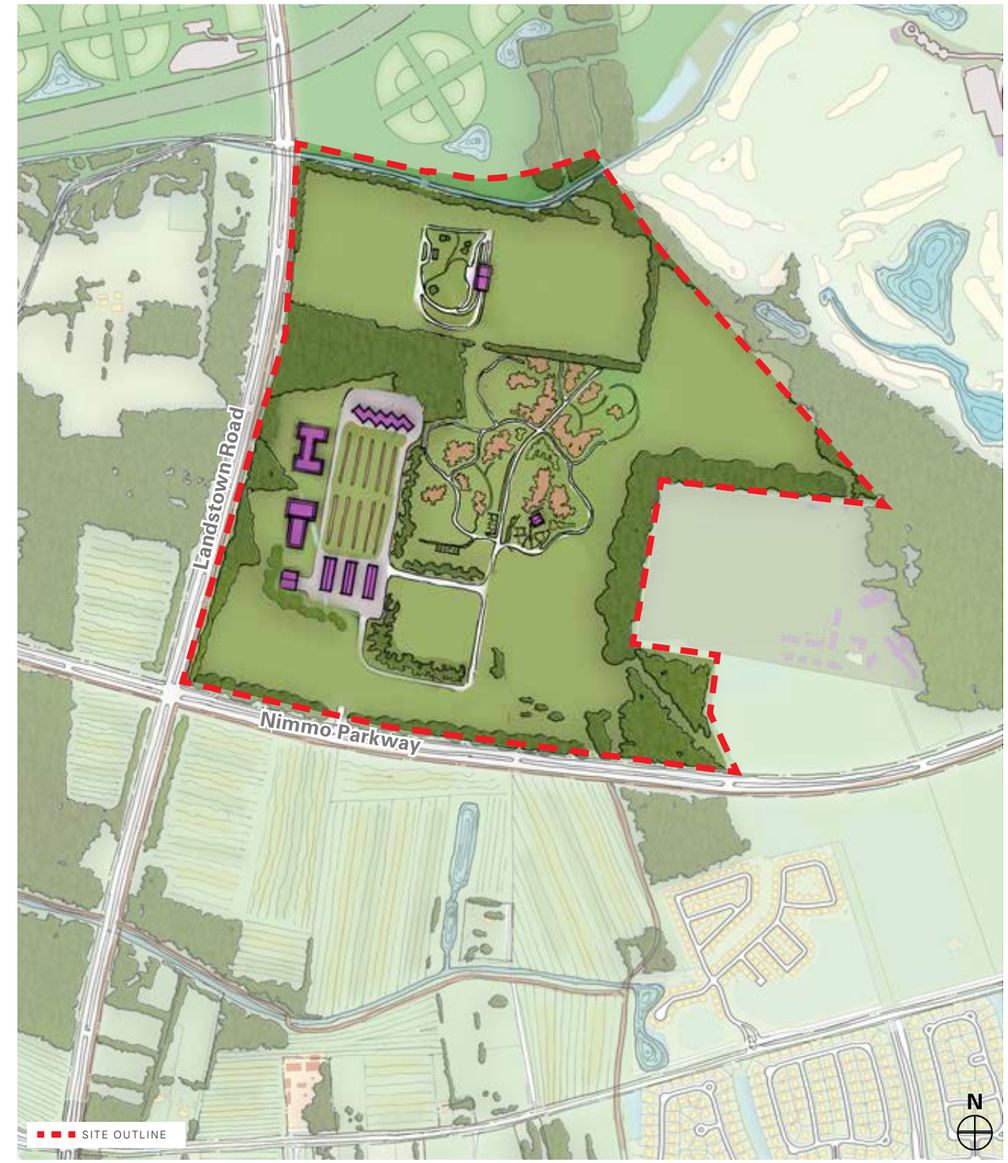
- 288 Acres with 167 usable acres

A large parcel is designated for use by the City to develop a new solid waste transfer station, which will replace the exiting transfer station at the corner of Concert Drive and Rosemont Road. The land designation provides sufficient space for future City operations, stormwater areas and perimeter landscaped buffer areas that would screen and buffer operations from adjacent land uses and City roads. Anticipated uses include:

- A Transfer Station with access roads and site circulation, parking for transfer trailers, scales, a scale house and canopy (12-15 acres)
- Solid Waste Management administrative offices and parking lot for City employees, City collection vehicle parking, maintenance area and vehicle refueling area (8-10 acres)
- Citizens waste (MSW and CDD) and recycling materials, household hazardous waste (HWW) drop-off (5-10 acres)

Site planning criteria include the following strategies:

- The location of the City facility is adjacent to new roads either under construction or in the planning stages that are capable of withstanding anticipated load limits.
- Located above the 100-year floodplain and designed with proper stormwater retention and drainage facilities.
- Minimum 50-foot buffers from the property boundary, and any perennial stream or river.
- Minimum 400-foot buffer from any residence, health care facility, school, recreational park area or similar public institution.
- Minimum 200-foot buffer along perimeter roads and parkways.
- Continue agricultural uses until the land is needed for a City service function.



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Agricultural Production

Cultivation of the land has been an essential activity in the ITA/PAC for three centuries. The agricultural industry has evolved and changed across the United States and agriculture in Virginia Beach is no exception. Local family farms find it increasingly difficult to compete with large industrial scaled operations. Other issues challenge the sustainability of farming in the southern areas of the city.

Agricultural research is essential to finding new markets and techniques for farming near major urban centers. The farm to table movement and the increasing importance of locally grown food products is a promising new market dynamic. The ITA/PAC is an ideal location, in between the urbanized northern part of the city and the rural southern part of the city, to locate a research farm and educational facility. City owned land should remain in cultivation to prevent agricultural land from reverting to wetlands. These prime fields can be used to experiment with agricultural products and test new methods and techniques.

Eventually, the City can create a collaboration with a university research program and build an educational facility and visitor center for agricultural studies. This facility could be used to educate those interested in careers in farming and also as an outreach program to introduce school children to the farming process. Activities could include training, crop experimentation, testing, food processing, distribution methods, farming economics, and test kitchens for developing new products.

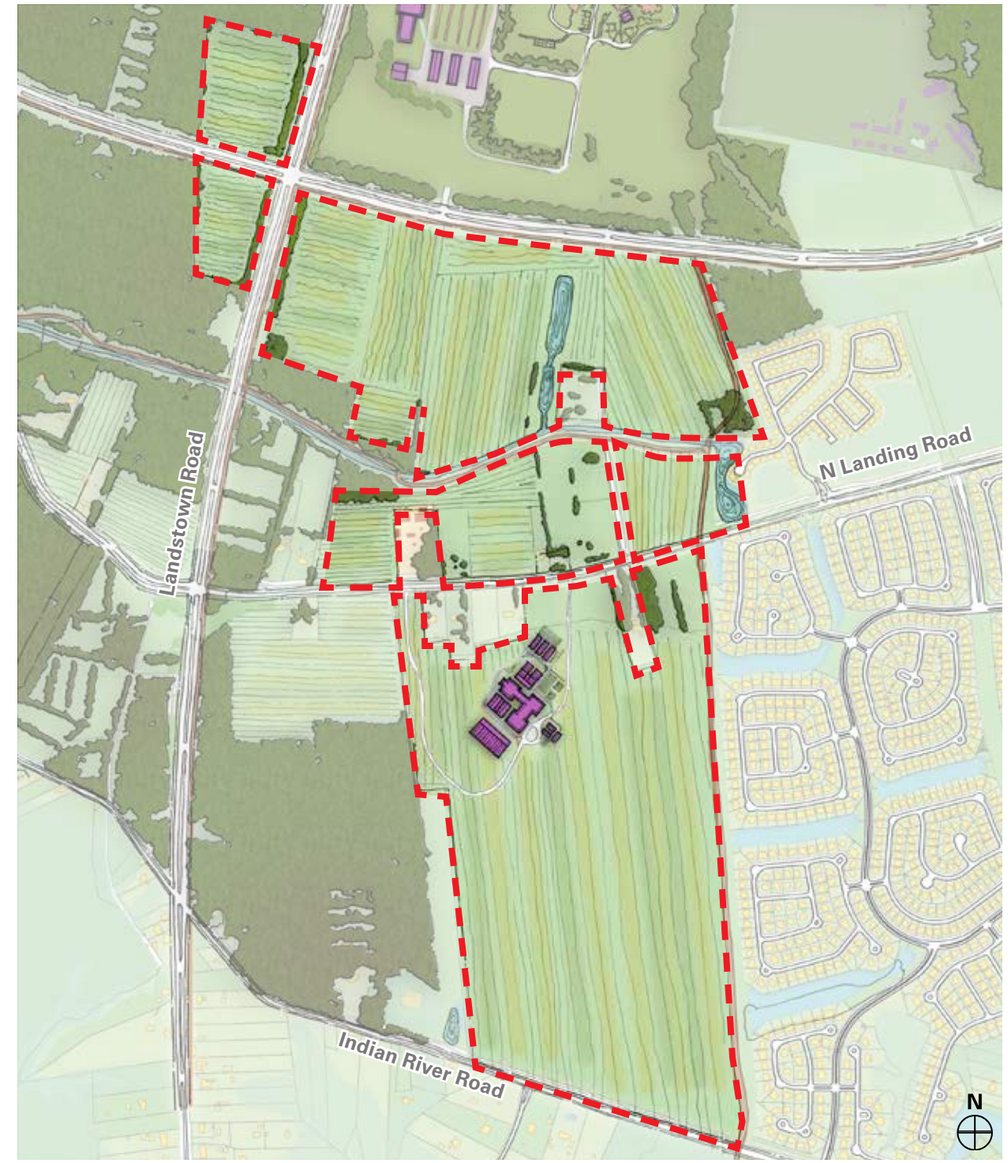
DESIGN DIRECTIVES

- Agricultural land preservation
- Crop experimentation and testing
- Nursery Stock
- Value-added processing
- High-value crops
- University and Industry affiliations
- Distribution methods and opportunities
- Educational outreach
- Small-farm economic viability
- Training young Farmers
- Test Kitchen and Farm-to-table restaurant

LAND AREA

- 345 Acres

* This square foot figure is intended as a reasonable estimate of the amount of development that can be accommodated in this area based on existing and planned infrastructure.



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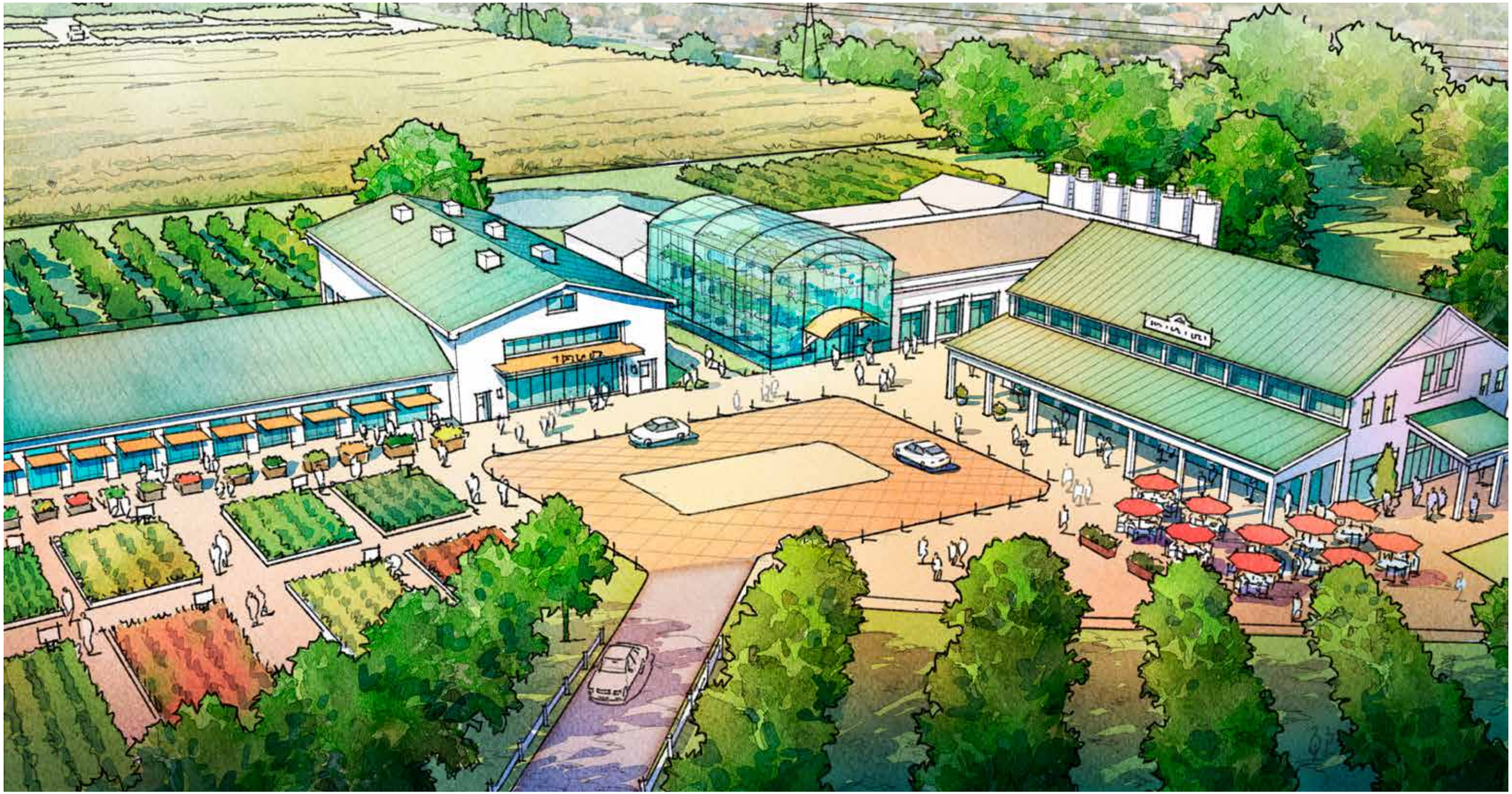

Aerial perspective of an agricultural research and education facility

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Flower Fields at Carlsbad Ranch, California

The Flower Fields at Carlsbad Ranch, California, is a working example of an existing farm that due to the economic climate in the early 90s, found a way to increase economic profit by building a visitor center with guided tours. The total area of the flower fields is 50 acres and is situated in urban development. The flower fields attract over 200,000 people annually during a ten-week blooming season with reported expenditures of up to 2 million in nearby Carlsbad. There is an economic and tourist opportunity for the ITA, which is a short-term solution to revive agricultural businesses and to create longer-term viability.

CC JoeWolf

CC MrMeePice

James Madison University in Harrisonburg, VA

At James Madison University in Harrisonburg, Virginia, an agricultural farm internship program is offered to students as a connection of local and small farmers to JMU students. The program is immersive with a balance of classroom and hands-on training to guide students with interests in learning methods of agriculture. Principles of the internship program include understanding the relationship between local farming and local ecology, engaging small-scale farming techniques, articulating how small-scale farm operate as a viable business, and identify the strengths and limitations of small-scale farming.

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North Landing Park

DESIGN DIRECTIVES

- Passive Recreation Focus
- Adventure ropes course
- Walking, Running, and Equestrian Trails
- Wildlife Observation
- Kayak Launch Points, Fishing Access
- Picnic Areas
- Camping and Chickees

LAND AREA

- 792-acre property with 93 usable acres

The southern half of Virginia Beach is situated in the headwaters of the Albemarle watershed, a large part of the North Carolina inland waterway. The historic North Landing River forms the southern edge of the ITA/ PAC and includes the waterway, associated wetlands, and tributaries. The ecology and storm dynamics of this watershed are very different in many respects to the Chesapeake Bay and in need of further study.

Most of North Landing Park is wetlands. Existing agricultural fields can be used to provide access to nature trails and potentially a kayak launching point on the North Landing River. The land can also potentially be used for a campground with shower and toilet facilities. In the longer term, a new environmental research facility similar to the Brock Center could be developed on the site. This center would continue research and outreach activities envisioned in the Green Sea Blueway and Greenway Management Plan endorsed by Virginia Beach, Currituck County and the City of Chesapeake.

NORTH LANDING RIVER LOOKING SOUTH

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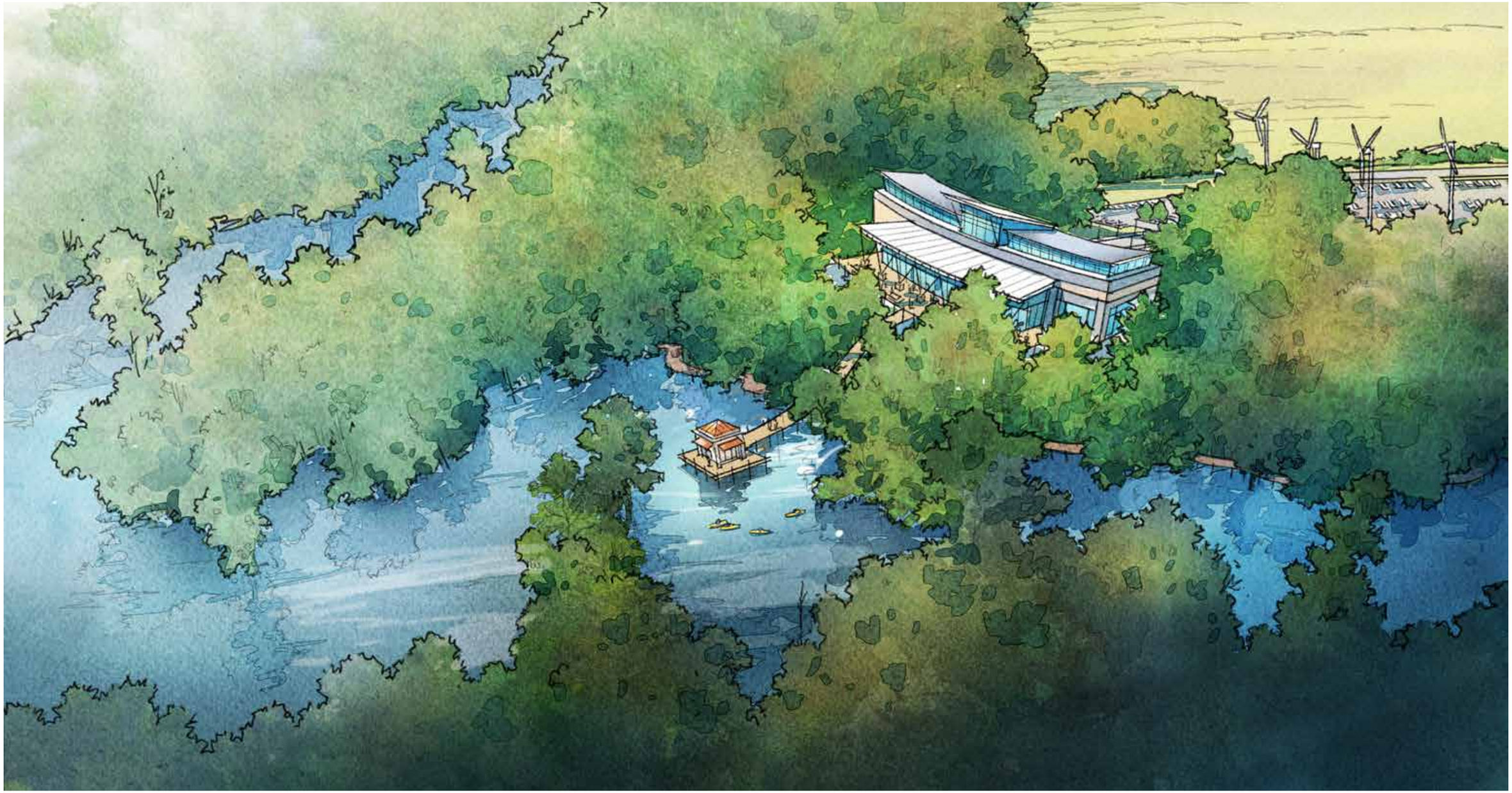

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Aerial perspective of proposed North Landing Environmental Center

Brock Environmental Research Center, Virginia Beach

The Brock Environmental Center located along the Lynnhaven River in Virginia Beach is an example of potential Ecological Research Centers that potentially could reside in the ITA especially in locations where the AICUZ regulations restrict typical development. Opening in 2014, the Brock is the largest independent conservation organization dedicated solely to save the Bay, serving as a watchdog. They fight for effective, science-based solutions to the pollution degrading the Chesapeake Bay and its rivers and streams. The property is on 10 acres with the facility being 10,000 square feet. Space is divided equally among office, community and utility space. A feature of the Brock is an outdoor pavilion for up to 75 students, which opens the space up to group tours and outdoor activities. This local example shows the potential for the ITA to capture potential researchers and students to protect the environmental integrity of the region.

Rice Center For Environmental Life Sciences, Virginia Commonwealth University

The Rice Center for Environmental Life Science housed at the Virginia Common Wealth University is another example of a potential environmental center that applies to the ITA. The larger scope of the Rice Center is the science and policy of large rivers and their fringing riparian and wetland landscapes, with the James River as a focal point of the research. Opening in 2008, the facility is located on 494 acres along the James River. The research center is 4,900 square feet which contain classrooms, wet laboratories, conference rooms, office space and large multi-purpose rooms for students and visiting researcher. Other amenities of the facility include two boat houses and six slips which are shared with the Virginia Department of Game and Inland Fisheries. This precedent exemplifies the potential for the ITA to create partnerships to help find/manage new facilities and attract outside research talent to the ITA.

CC BryceSpivey

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Implementation

Implementation of the initiatives outlined in this master plan will occur over a number of years and involve a range of sponsors and stakeholders. Much of the land in the ITA/PAC is owned by the City and positions them to be a partner with private entities in future development. Initiatives can be considered in two primary categories; Public initiatives involving the City; and public/private partnerships that include additional stakeholders.

Road and Trail Infrastructure

» This work will be primarily the responsibility of the City with possible state and federal funding.

Stormwater Infrastructure

» District wide stormwater infrastructure such as channels and regional detention will be the responsibility of the City however site specific stormwater systems may involve other stakeholders.

Municipal Services

» These facilities will be built by the City.

Parks and Recreation Facilities

» These facilities are likely to be built by the City however private sports providers are increasingly teaming with municipalities to build and operate sports venues.

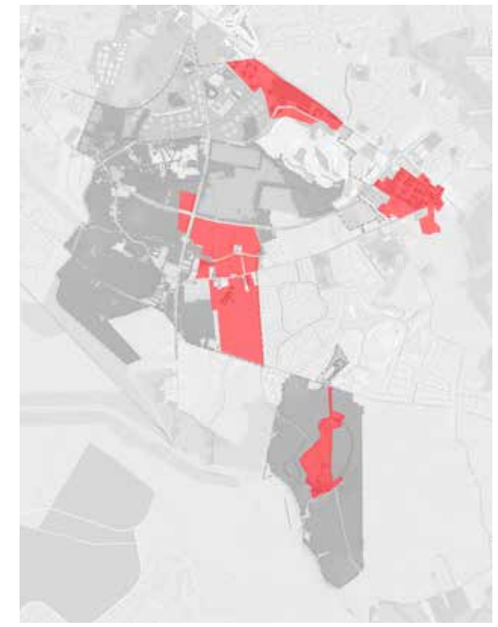
Bio Tech Park

» The City will provide development ready pads with road and utility infrastructure and private entities will build the facilities.

Agricultural Research Center and North Landing River Ecology Center

» The City may partner with a university or research entity to build these facilities.

Public initiatives



Public/Private partnerships

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