NJ Department of Environmental Protection

State Plan Endorsement

Opportunities & Constraints Assessment Report

Vineland Township, Cumberland County

Contents

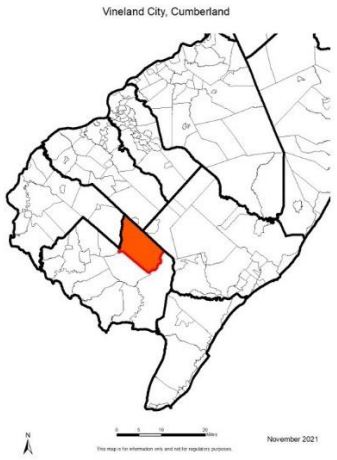
Introduction

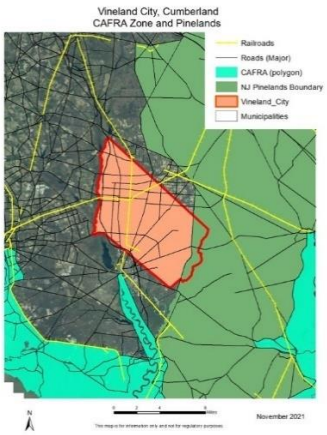
Municipal Plan Endorsement is a voluntary review process designed to ensure the coordination of state, county, and municipal planning efforts in achieving the goals and policies of the State Planning Act (Act). The State Development and Redevelopment Plan (State Plan) is the blueprint for achieving these goals and provides the template for coordination. The endorsement process expands upon the requirements of the Municipal Land Use Law (MLUL) and incorporates many planning initiatives of the State agencies.

This document constitutes the Department of Environmental Protection's (DEP) component of the State Opportunity and Constraints Assessment (OCA) conducted as part of the Plan Endorsement process. This document provides an overview of the Department's regulatory and policy concerns within the **City of Vineland, Cumberland County**. The information provided herein is intended to reflect the Department's current information concerning the Town. Recommendations may be found throughout the document **in bold** and are listed for easy reference in the Summary of and Recommendations section at the end of this report.

Overview

The City of Vineland, Cumberland County submitted a Municipal Self-Assessment (MSA) which was deemed complete by the Department of State's Office of Planning Advocacy (OPA) in October 2021. Vineland encompasses approximately 69 square miles and 41,160 acres including Pinelands in the east. Vineland is concentrating their future growth and planning western portion of the city. This growth area is outside of the jurisdiction of the New Jersey state Coastal Area Facilities Review Act (CAFRA) but the area to the east of Route 671 in the furthest south east portion of the city is in the Federal New Jersey Pinelands National Reserve (rural dev area). The Pinelands area is administered by the NJ Pinelands Commission. Any changes to existing planning areas must be consistent with not only the State Plan but also with ~~CAFRA and~~ the Pinelands Comprehensive Management Plan.



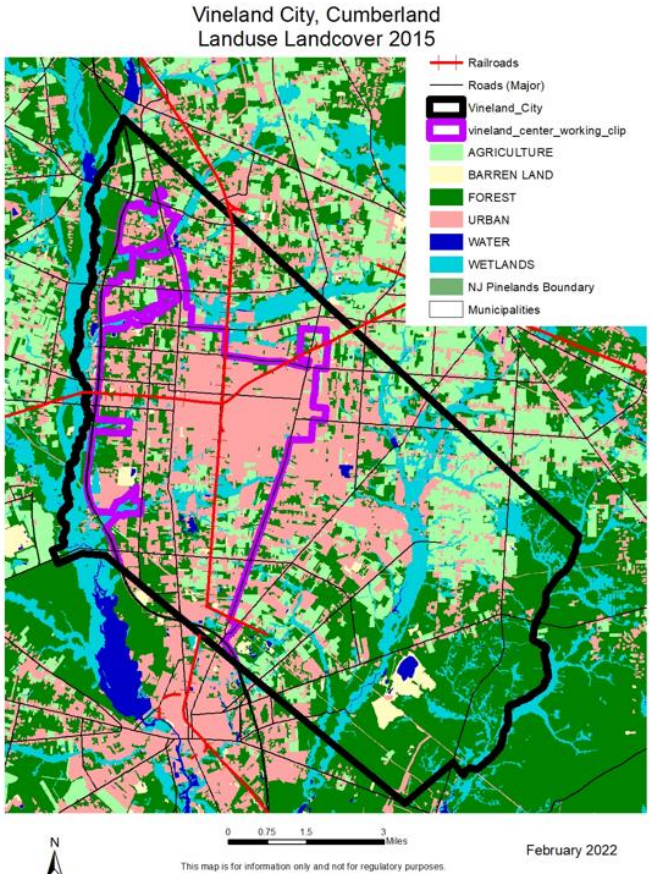


Vineland Characteristics

Vineland is a mature community that encompasses a total of 44,149.53 acres (69 sq mi) in Cumberland County. Approximately 7% of Vineland is within the Pinelands National Reserve to the east of the proposed center. While City development is concentrated outside the Pinelands Area and CAFRA area, land use throughout the municipality is divided between, public property/parks/preserved open space, roadways, schools (including Rowan University of South Jersey Campus), critical infrastructure, emergency services (including Inspira Hospital), municipal facilities, commercial and residential development, houses of worship, privately owned vacant land, and farmland. Within Vinelands city boundary, 36% is deemed residential (residential (14,817.6 acres based on NJDEP LULC 2015 dataset), 9.3% is designated commercial/industrial (4116 acres), 4622 acres is open space of which 4585 acres (10.4%) is State encumbered and 37 acres of Federally funded open space based on OPA State Plan dataset), 1210 acres (2.94%) is in the current Landis Sewerage Authority sewer service area, 19,939.37 acres (45%) is in Vineland public water service area, 6128.9 acres (13.9%) is designated as agricultural, and 65 acres (0.15%) is included in the Vineland Housing Authority.

Land Use Cover – City of Vineland

Vineland is composed of many different planning areas and significant areas of historic and natural resources designated for protection and preservation.

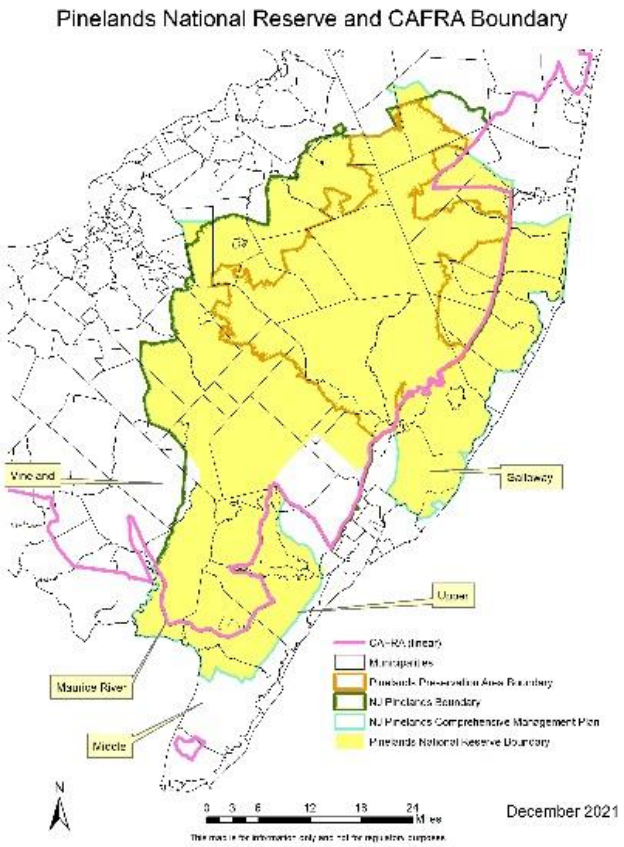


These include:

- New Jersey State Pinelands Jurisdiction – 3090 acres (7% of city)
- Agriculture = 6128.91 Acres (13.8% of total Land Area)
- Barren Land = 828 Acres (1.9%)
- Forest = 14,200.17 Acres (32.2%)
- Urban Land = 16,237.75 Acres (36.8%)
- Surface Water = 362.14Acres (0.8%)
- Wetlands = 6391.7 Acres (14.5%)

<u>Pinelands Area in Vineland.</u>

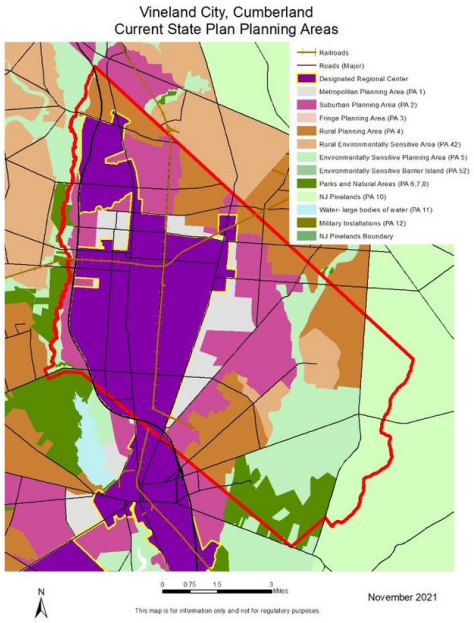
Vineland is not one of 56 municipalities that are located entirely or partially in the New Jersey Pinelands 1.1M acre Pinelands National Reserve. Located just outside of the NJ Pinelands National Reserve Boundary, approximately 3000 acres and 7.0% of the city to the east of Route 671 is located in the New Jersey Pinelands jurisdiction and is regulated by the NJ Pinelands Commission as per the Pinelands Comprehensive Management Plan (1989).



Any changes to ordinances, updates to the Master Plan, proposed changes to State Plan designated areas, or proposed redevelopment plans must be reviewed by the Pinelands Commission and also determine consistency with State Plan and with CAFRA Coastal Zone Rules.

Existing Vineland-Millville Regional Center

Vineland's current State Plan center designation was set to expire on June 30, 2020 but the expiration date has been extended. Vineland is proposing to restore and preserve the City's Borough's natural and historic resources, preserve open space, and to address sustainable economic development, stormwater management, affordable housing and congestion concerns consistent with the planning goals and objectives within the State Plan.

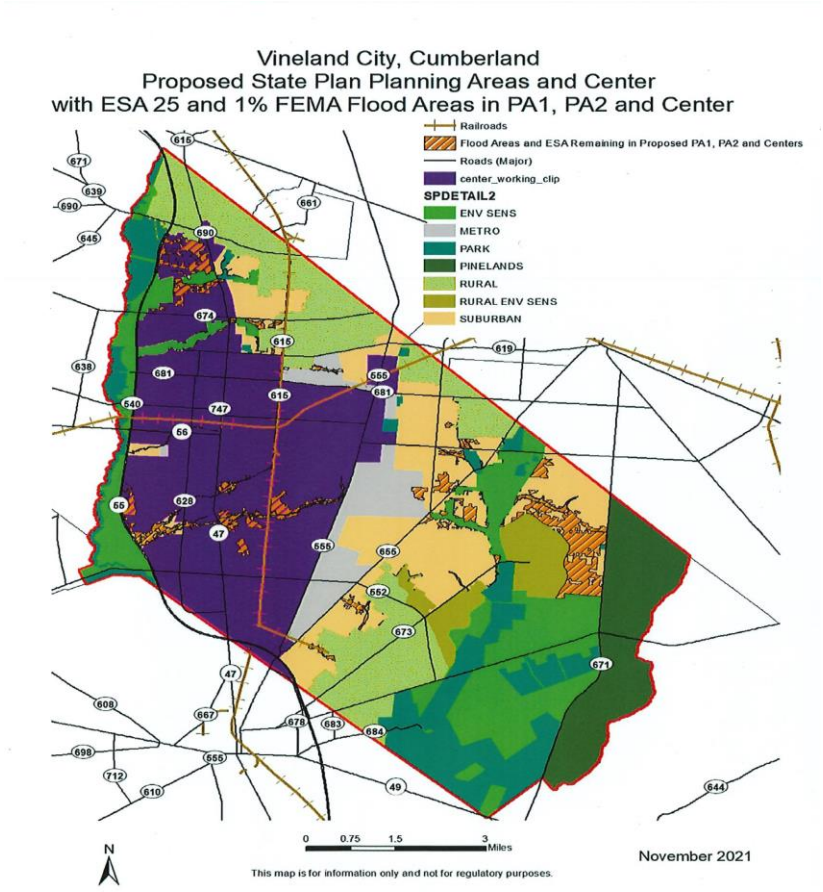


<u>Proposed Vineland Center</u>

Vineland is proposing for State Plan endorsement the readoption of the Vineland portion of the existing Vineland-Millville Regional Center. The proposed Vineland Center for State Plan endorsement, while largely avoiding environmentally sensitive areas, is primarily in Planning Area 1 (Urban) and Planning Area 2 (Suburban) as illustrated in the map below.

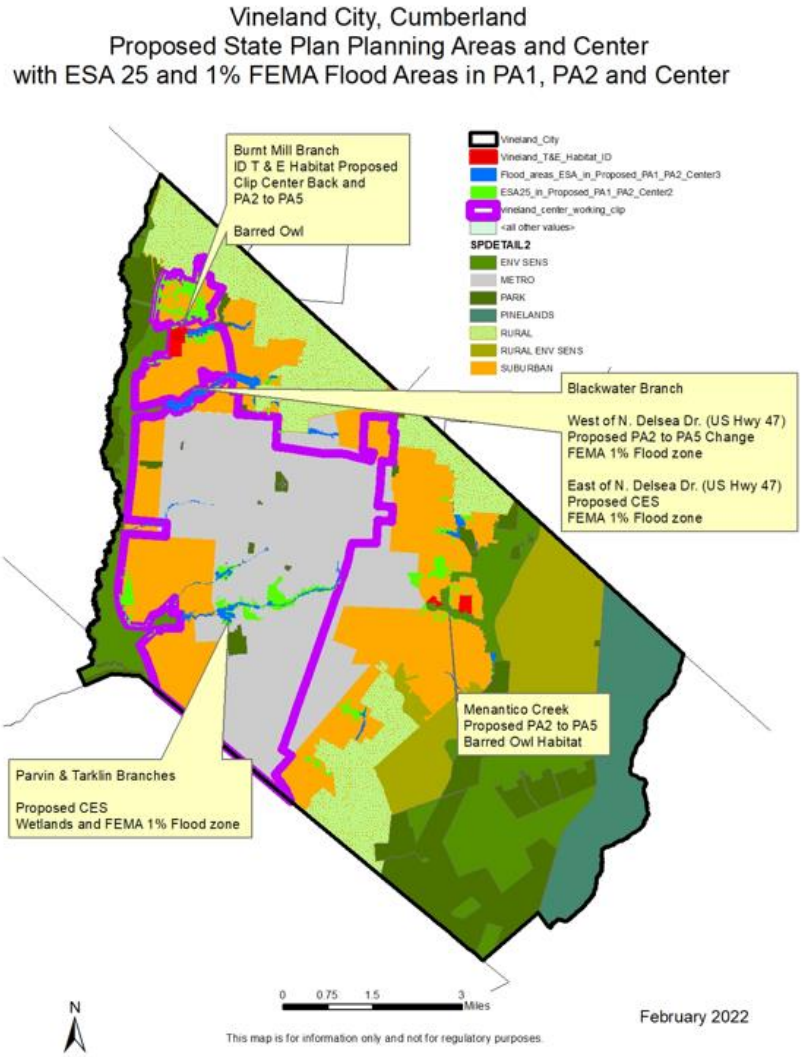
The MSA presented by Vineland proposes a center that includes the western portion of Vineland to the east of Route 55, north of border with Millville, to the west of Route 555 with a focus on east-west corridor along Landis Avenue.

The City Township has also identified areas in need of redevelopment within the City. The City includes two federally designated urban enterprise zones: central downtown commercial district along Landis Avenue and the Route 55/Garden Road Interchange in the northwest.



NJDEP Center Recommendation Summary: Based on the identification of additional parcels in environmentally sensitive areas, **the DEP recommends endorsement of the proposed center with the following adjustments to accurately reflect undeveloped parcels with threatened and endangered species habitat or within the 100 year flood zone**. These recommendations are based on a series of discussions between The City of Vineland, the Office of Planning and Advocacy (OPA) and the New Jersey Department of Environmental Protection (NJDEP).

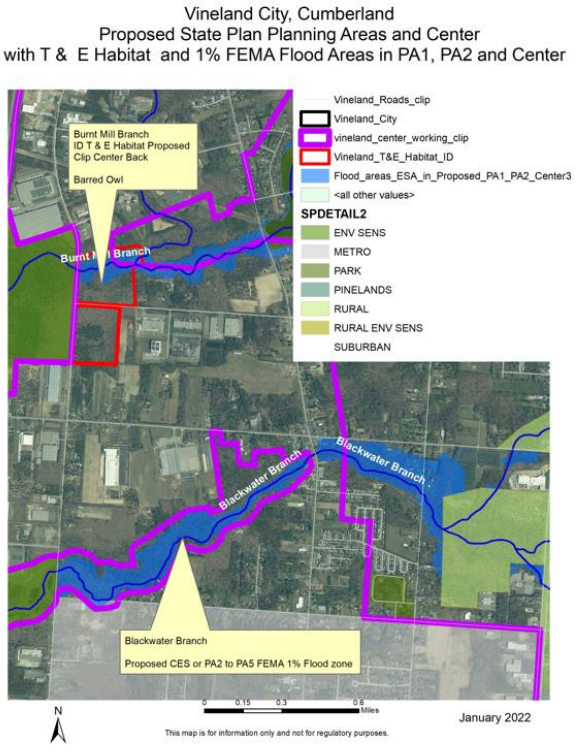
<u>Convert PA-2 to PA-5 or CES Overlay</u>: The DEP is recommending that three undeveloped areas currently designated as Planning Area 2 (Suburban) be converted to Planning Area 5 (Environmentally Sensitive) due to presence of environmental sensitive natural resources (Burnt Mill Branch, west portion of Blackwater Branch, and partial lots of Menantico Creek). In addition, the DEP recommends that two areas (Parvin and Tarklin Branches, east side Blackwater Branch) are in the flood zone and identified habitat and should have a critical environmentally sensitive (CES) zoning overlay.

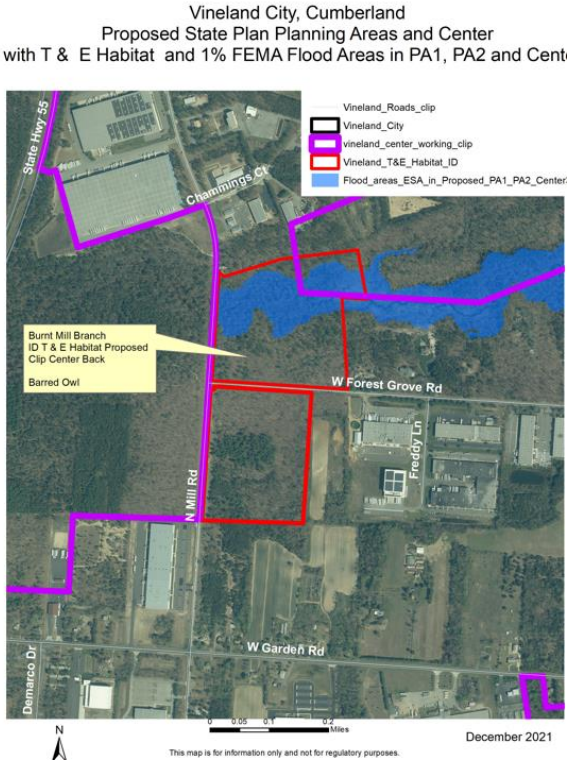


Total DEP Recommended Vineland Center Area: 13,154.4 acres
(Note: Surface water area not in above Proposed Planning Area acreage.

Burnt Mill Branch – **convert PA-2 to PA5**

- Convert PA-2 to PA-5 (Block 604, Lot 1; Block 603, Lot 14) of the Burnt Mill Branch and remove from the center for Barred Own Habitat and flooding areas
- Maintain narrow connecting corridor due to 1% flood zone and Rank 3 Barred Owl habitat
- North Mill Road and West Forest Grove Road without frontage allowed for development

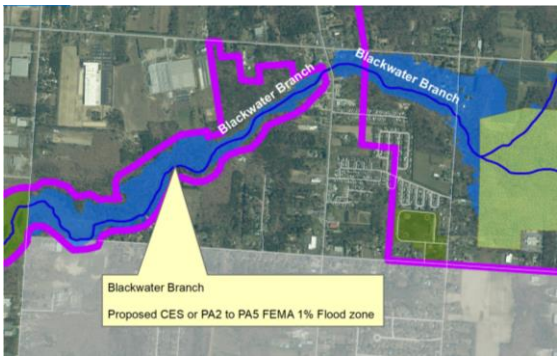




Note: Blue: 100 yr flood zone; Purple: ESA 25 acre

Blackwater Branch - CES (east) and PA2 convert to PA-5 (west)

- Blackwater Branch:
  - East of Rt 49 - Partial (CES) overlay due to flooding and habitat;
  - PA-2 convert to PA-5 as connected to PA-5 due to habitat and flooding

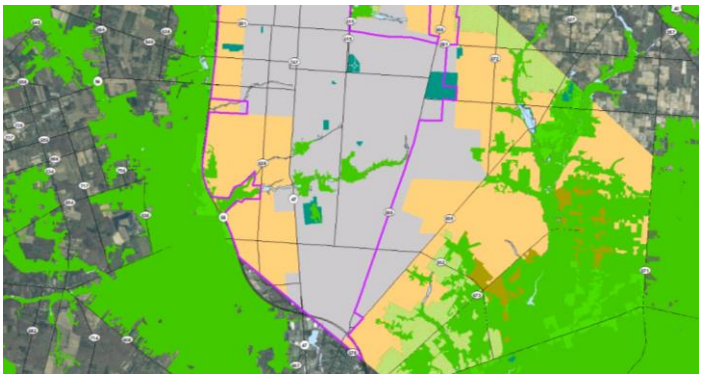


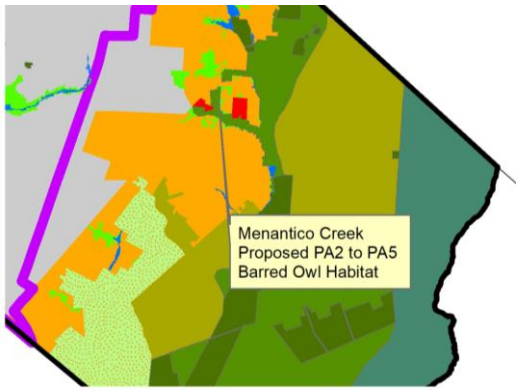
Parvin and Tarklin Branches - Proposed CES Overlay

- Partial (CES) overlay due to flooding and habitat
- western end of creek branch has been cut out of center (purple outline)
- remaining part of branch in center should have CES overlay due to wetlands and 1% flooding

Menantico Creek – PA-2 convert to PA-5

- Menantico Creek: outside the center in the west of the city along Route 655 - convert PA2 to PA-5 (partial parcels Block 5204, Lot 105; Block 5204, Lot 617)
- outside and to west of proposed center; Barred Owl Rank 3 habitat
- Menantico Creek is included as part of the Wild and Scenic Rivers Program and the Cumberland County Open Space and Recreation Plan identifies this area as a Tier 1 area for open space acquisition and preservation.



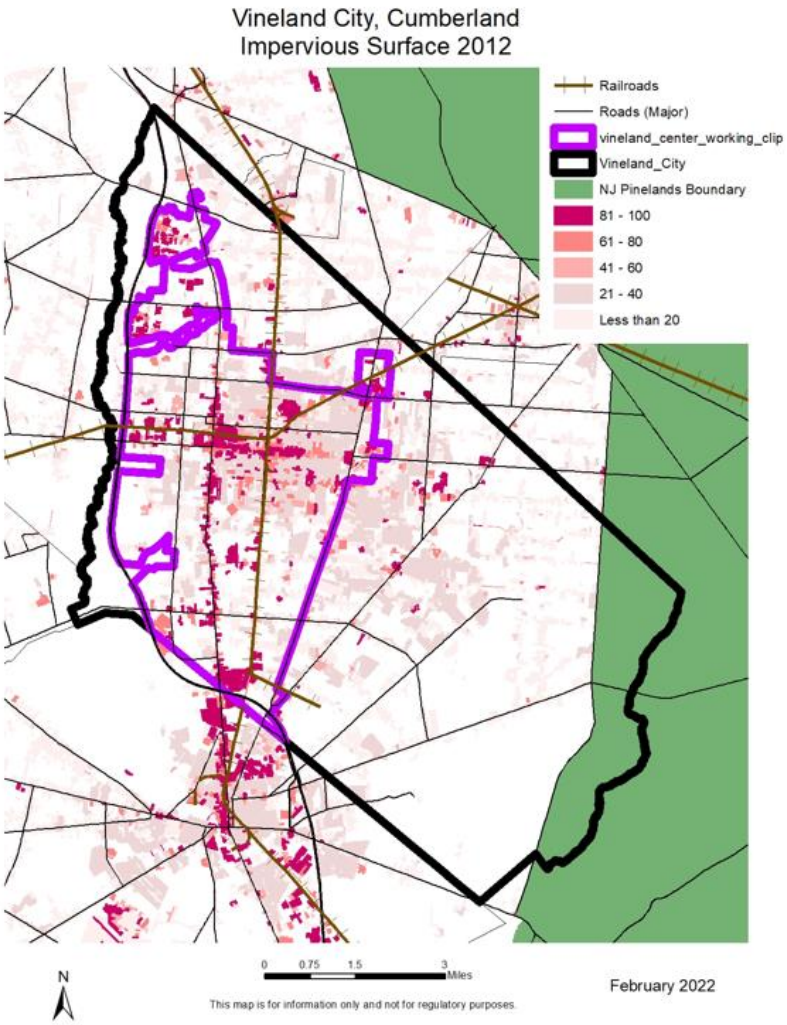


Proposed State Plan Planning Areas and Center
with T & E Habitat and 1% FEMA Flood Areas in PA1, PA2 and Cente

NJDEP MSA Comments: **The following represents the DEP's opportunities and constraints comments with a focus on the proposed cores.**

Impervious Surfaces

With additional development within the proposed core boundaries, Vineland must address how to manage and minimize any additional impervious surface. An increase in stormwater runoff may result in a discharge of excessive nutrient and pollutant loads to nearby surface water bodies. Additional stormwater runoff can also lead to soil and stream bank erosion and further degradation of valuable surface water bodies.



As a result of changing climate conditions, including increases in temperature and precipitation, the ability of the municipality to manage an increase in stormwater in situ will be challenged by an increase in new construction of impervious surfaces. The proposed center, as of 2015, includes a total of

4153.03 acres of impervious surfaces. This is an increase of 8.5% since 2012. City-wide, impervious surface cover increased 5.8% between 2012 and 2015.

	Acres of Impervious	Pct. Impervious
Vineland Center (13,154.4 ac)	4154.03	31.6%
Vineland City (41,160 ac)	7558.11	17.1%

Note: Numbers are approximate(2015).

Climate Change Impacts

In past OCA reports, DEP has largely focused on assessing the impacts to the development potential of municipalities based on environmental resources and water/wastewater capacity. In addition to addressing those issues, this OCA will consider the current and future impacts of climate change on those issues, as well as climate mitigation (e.g. greenhouse gas reduction, renewable energy) and climate resilience (e.g. vulnerability to increased flooding).

New Jersey issued its first *Scientific Report on Climate Change (*1*)* on June 26, 2020. The report details the latest science and describing the current and projected impacts of climate change, specific to New Jersey. As atmospheric levels of carbon dioxide and other greenhouse gases increase, Allentown can expect to see increases in average temperature, precipitation, flooding, and impacts to its extensive natural resources. Following, are key findings of the Scientific Report that may be germane to Allentown Borough.

Temperature

- New Jersey is warming faster than the rest of the Northeast region and the world.
- Since 1895, New Jersey's annual temperature has increased by 3.5° F.
- Historically unprecedented warming is projected for the 21st century with average annual temperatures in New Jersey increasing by 4.1° F to 5.7° F by 2050.
- Heatwaves are expected to impact larger areas, with more frequency and longer duration by 2050.
- Climate change could result in a 55% increase in summer heat-related mortalities.

Precipitation

- Annual precipitation in New Jersey is expected to increase by 4% to 11% by 2050.
- The intensity and frequency of precipitation events is anticipated to increase due to climate change.

1 https://www.nj.gov/dep/climatechange/docs/nj-scientific-report-2020.pdf

- Droughts may occur more frequently due to the expected changes in precipitation patterns.
- The size and frequency of floods will increase as annual precipitation increases.

Air Quality

- The effects of climate change are likely to contribute to an increase in air pollution, lead to increased respiratory and cardiovascular health problems, like asthma and hay fever, and a greater number of premature deaths.
- Environmental degradation from climate induced increases in air pollution will reduce visibility and cause damage to crops and forests.

Water Resources

- Water supplies will be stressed from the increase in the growing season and extreme temperatures expected due to climate change.
- Surface and groundwater quality will be impaired as increased nutrients and contaminants enter waters due to runoff from more intense rain events.

Agriculture

- The productivity of crops and livestock are expected to change due to the climate-induced changes in temperature and precipitation patterns.
- New Jersey may become unsuitable for specialty crops like blueberries and cranberries in the future as higher temperatures reduce necessary winter chills.

Forests

- The persistence of Southern pine beetle in New Jersey represents an early example of the destruction of invasive pests that can occur due to climate change impacts.
- Wildfire seasons could be lengthened, and the frequency of large fires increased due to the hot, dry periods that will result from increased temperatures.

Terrestrial Carbon Sequestration

- The loss of forest habitats to climate change will result in carbon losses and increase New Jersey's net greenhouse gas emissions.

Terrestrial Systems

- Climate change is likely to facilitate expansion of invasive plant species.
- 29% of New Jersey's bird species are vulnerable to climate change, including the American Goldfinch which is the state bird of New Jersey.

Freshwater Systems

- Freshwater fish, like brook trout, that need cold-water habitats are expected to lose habitat as water temperatures increase due to climate change.
- Reptiles with temperature-dependent sex determination could experience changes in sex ratios as New Jersey temperatures increase.

Climate Change Mitigation

As climate change, energy use, and environmental sustainability take on a larger role in New Jersey's policies, land use planning should promote energy efficiency, and specifically, integrate green building design and Greenhouse Gas (GHG) reduction into its planning and regulatory structures.

New Jersey's Global Warming Response Act calls for an 80% reduction of GHG emissions from 2006 levels by the year 2050. Released in October of 2020, the GWRA 80x50 Report2 was written in response to that mandate and builds on the State's previous efforts to address and reduce greenhouse gas emissions. The report analyzes New Jersey's emissions reductions to date, evaluates plans presently in place for further reducing emissions, and presents a set of strategies across seven emission sectors for policymakers to consider in formulating legislation, regulations, policy and programs.

The 80x50 Report concludes that, "New Jersey can meet its goal of reducing GHG emissions to 80% below 2006 levels by 2050 – protecting our people, economy, and environment from the worsening impacts of climate change to which our state is uniquely vulnerable. Reaching our 80x50 goal requires planning and collaboration across all economic sectors, levels of government, political boundaries, and administrations, all fixed on a carbon neutral future. Achieving this goal depends upon a swift and decisive transition away from our reliance on fossil fuels, accomplished through adaptive policies that also ensure reliability and remain responsive to the scope and pace of efforts to electrify the transportation and building sectors while expanding renewable energy sources. However, only by working in concert across time and economic sectors can we implement the long-term, structural changes to how we generate and use energy, build our homes and businesses, operate our industries, develop and preserve our land, grow our food, manage our waste, and transport our people and products."

While the 80x50 Report focuses on state-level actions, action at the municipal level will be crucial to meet the state's GHG reduction goals. The Municipal Plan Endorsement Guidelines identify a series of mandatory requirements that will make substantial progress. Additionally, New Jersey's climate change website identifies similar and additional actions for local governments at https://www.nj.gov/dep/climatechange/action.html.

Climate Resilience

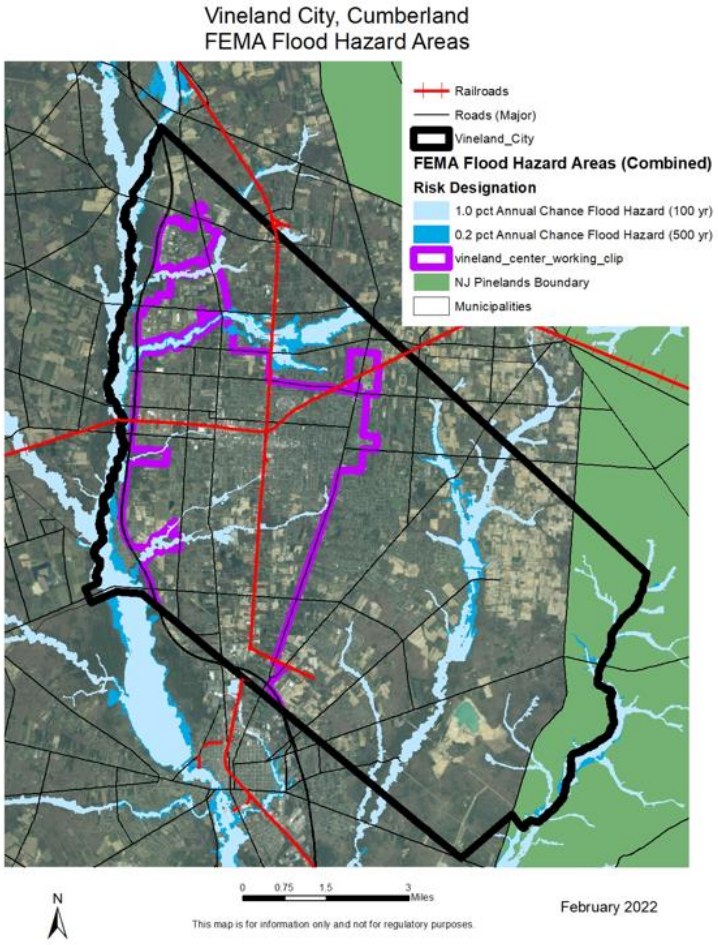
Pursuant to Governor Murphy's Executive Order 89, the state has released for public comment a Draft Climate Change Resilience Strategy (CCRS) to promote the long-term mitigation, adaptation, and resilience of New Jersey's economy, communities, infrastructure, and natural resources throughout the

2 https://www.nj.gov/dep/climatechange/docs/nj-gwra-80x50-report-2020.pdf

State in a manner consistent with the Scientific Report on Climate Change. Much like the 80x50 Report, the CCRS will identify state-level action, including guidance and strategies for municipalities to implement resiliency measures, including through changes to plans, by-laws, regulations, policies, or land use standards. Executive Order 89 also requires the Climate & Flood Resilience Program at DEP to provide technical guidance and support to counties and municipalities in their efforts to plan for and address the current and anticipated impacts of climate change in accordance with the CCRS. Plan Endorsement is one avenue for the state to provide that assistance.

Flooding

Vineland participates in the National Flood Insurance Program (NFIP). Several developed areas are within the flood zone. Approximately 3,314.51 acres (7.5%)of the city are in the FEMA 100 year flood hazard area and an additional 500.63 acres are in the FEMA 500 year flood hazard area for a total of 3,815.14 acres of the city in the floodplain. **Vineland has identified inadequacies with their existing stormwater management system to address repetitive flooding and increased precipitation events. Vineland should update its municipal annex to the Cumberland County Hazard Mitigation Plan on a regular interval to address changing climate conditions**.



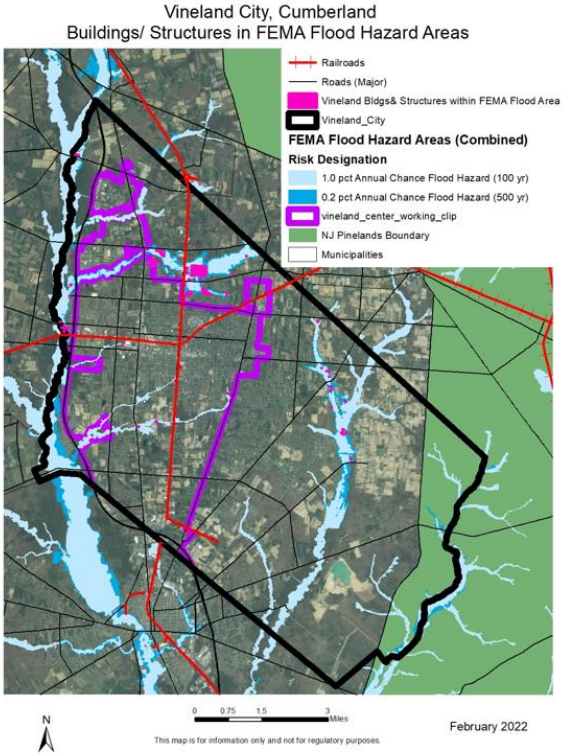
Flood Zones

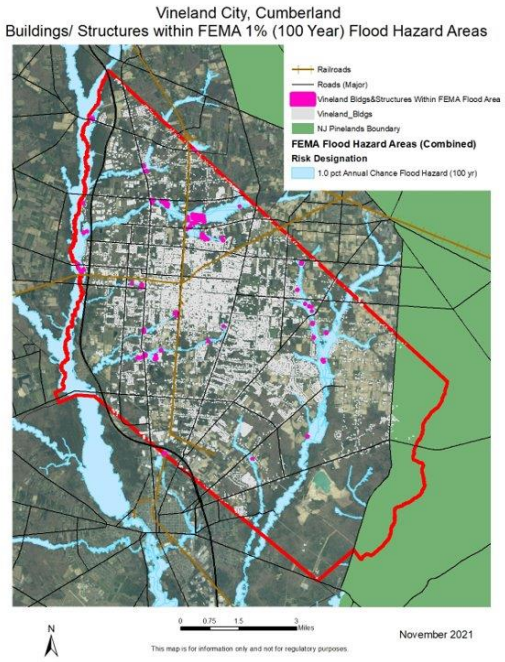
The Federal Emergency Management Agency (FEMA) maps Special Flood Hazard Areas (SFHA) adjacent to streams or rivers that experience flooding during periods of high precipitation and/or stormwater discharge. FEMA has identified flood hazard areas within Vineland. In total, 3816.14 acres (8.6%) of Vinelands total land cover (44,149.53 acres) falls within a FEMA SFHA.

Vineland City in Flood Hazard Zone	Acres	% of Total Municipal Area (41,160 acres)
100 - Year Floodplain	3,314.51	7.5
500 - Year Floodplain	additional 500.63	1.1
TOTAL	3815.14	8.6

Source: FEMA Flood Hazard Areas (Combined)
NJDEP LULC 2015 Surface Water Removed from FEMA Flood Hazard Area

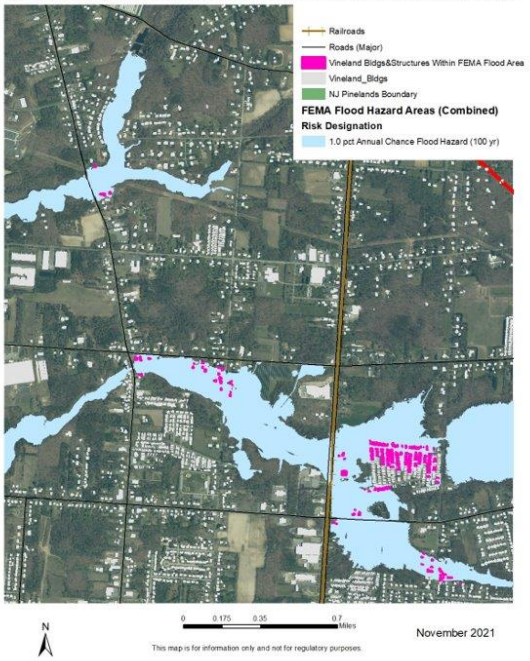
Many of Vinelands existing structures are located in the riparian flood zone.





Including as depicted in the Burnt Mill Branch and Blackwater Branch Map, the Parvin and Tarkin Branches Map and the Menantico Creek Map resepctively below:

Vineland City, Cumberland
Buildings/ Structures within FEMA 1% (100 Year) Flood Hazard Areas



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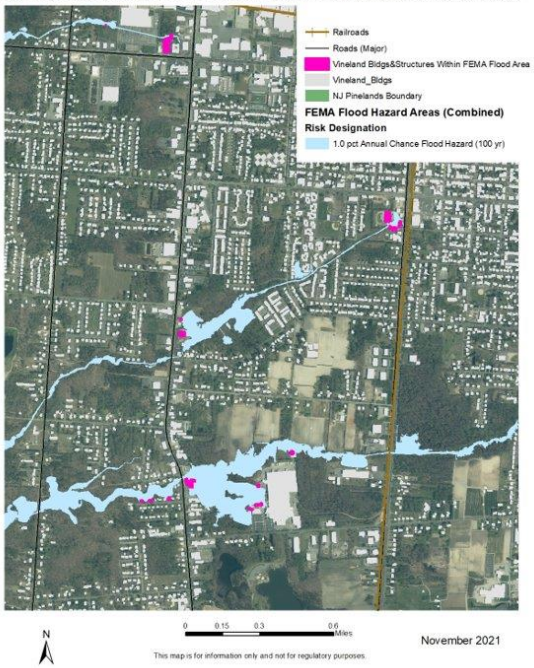

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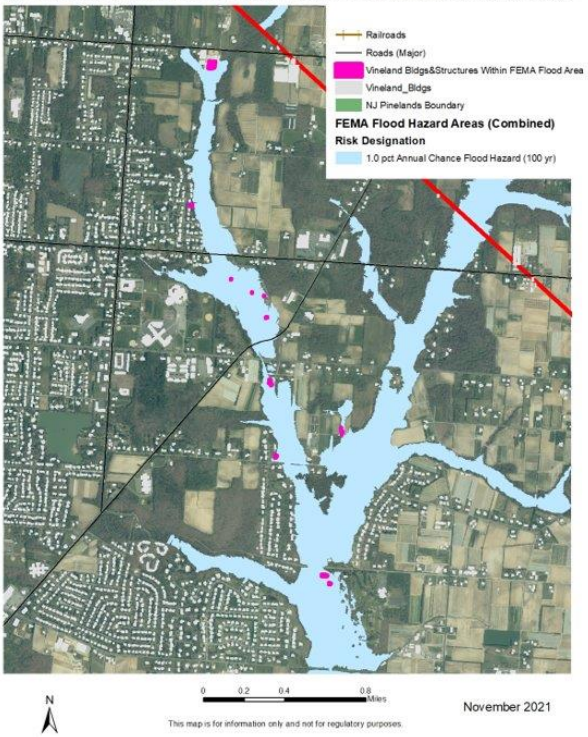


A limitation of the currently delineated SFHAs is that they do not consider projections of future precipitation due to climate change. While annual increases may not result in significant additional flooding, the increased frequency of shorter but more intense precipitation events is expected to result in additional flooding events. **As such, DEP recommends that Vineland utilize the SFHA for the 1.0 percent (100 year) and the 0.2 percent (500-year) storm for planning purposes.** This will allow Vineland to inform its current decisions in a manner that is protective of health and safety from future impacts.

Vineland should also consider flood hazard area riparian buffers of any waterway in future planning. The regulated area of the riparian zone (50, 150 or 300 feet) that may restrict future development in these areas depends on the designation of that regulated waterbody as per the Flood Hazard Area Control Act rules at N.J.A.C. 7:13-4.1 below:

(c) The width of the riparian zone is as follows:

1. The width of the riparian zone along any regulated water designated as a Category One water, and all upstream tributaries situated within the same HUC-14 watershed, is 300 feet;

2. Except for the regulated waters listed at (c)1 above, the width of the riparian zone along the following regulated waters is 150 feet:

   i. Any trout production water and all upstream waters (including tributaries);

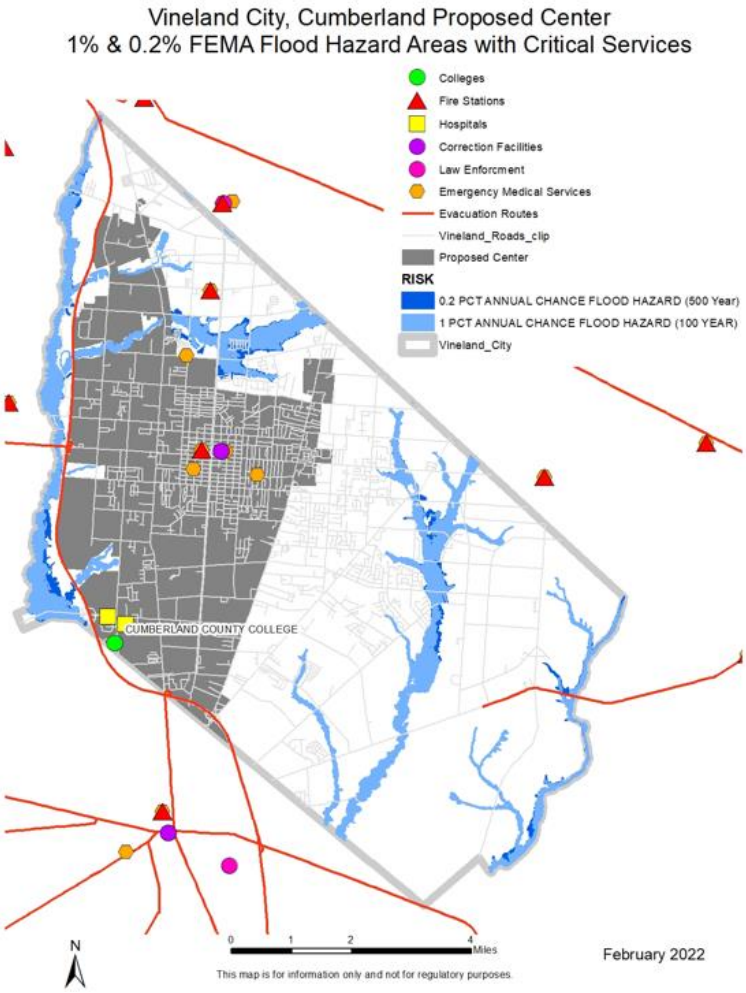
   ii. Any trout maintenance water and all upstream waters (including tributaries) located within one mile of a trout maintenance water (measured along the length of the regulated water); and

   iii. Any segment of a water flowing through an area that contains a threatened or endangered species, and/or present or documented habitat for those species, which is critically dependent on the regulated water for survival, and all upstream waters (including tributaries) located within one mile of such habitat (measured along the length of the regulated water). A list of critically dependent species is available from the Department at the website set forth at N.J.A.C. 7:13-1.3; and

3. For all other regulated waters not identified in (c)1 or 2 above, the width of the riparian zone is 50 feet.

Critical Facilities and Assets in Flood Zones

These flood-prone areas are subject to state and federal regulation which limits new construction and promotes open space preservation. In addition, municipal code should minimize new construction in flood hazard areas and mitigate for any redevelopment of existing structures. Of particular concern are adverse impact to existing assets, infrastructure and buildings within the flood zones, and how a municipality will mitigate for potential increased vulnerability to flooding. **Vineland should identify existing structures, critical infrastructure, emergency services, schools, etc. in or near flood zones** including any sewer service area wastewater treatment or potable water infrastructure, conveyance, utility piping, power line infrastructure, critical roadways or historic structures.



For example, while 3,815.14 acres of the entire 44,149.53 acre township (or the center?) is in the flood zone, 199.32 acres of the 19,939.37 acre sewer service area are in the combined 100 year and 500 year flood zone.

Vineland City Sewer Service Area in Flood Hazard Zone	Acres	% of Total Sewer Service Area (1210 acres)	% of Total Municipal Area (44, 149.53 acres)
100 - Year Floodplain	129.32	0.7	0.29
500 - Year Floodplain	Additional 70	0.3	0.16
TOTAL	199.32	1.0	00.45

Source: FEMA Flood Hazard Areas (Combined); NJDEP LULC 2015 Surface Water Removed from FEMA Flood Hazard Area

Vineland should regularly update map areas that flood frequently, including, but not limited to, repetitive loss (RL) and severe repetitive loss (SRL) properties. If a local Floodplain Administrator is interested in obtaining a copy of their community's RL and SRL properties list for planning purposes, a request must be made in writing on the municipality's letterhead and signed by the mayor. The municipality will be required to sign an Information Sharing Access Agreement with FEMA to protect Personally Identifiable Information associated with this list. For more information on this, please contact the Region II Insurance Representative, Marianne Luhrs at Marianne.luhrs@fema.dhs.gov.

Unimpeded transportation via road is critical to safety and are also subject to flooding. It is recommended that Vineland identify the linear feet of roadways including critical evacuation routes within the flood zone. It is likely that municipal and public works officials are fully aware of areas in the township that flood regularly.

Vineland should map areas that flood regularly, including roadways/intersections, with particular attention given to evacuation routes or critical access areas. The 1998 Master Plan and 2018 re-examination report recommend that zoning regulations be enhanced as well as building codes to encourage building outside of the flood zone and to minimize construction in flood prone areas to reconstruction of existing buildings. When evaluating any construction within the identified floodplain of Vineland, one must also consider the cost of damage and replacement in the event of flooding. Construction of any critical utility line and associated infrastructure, emergency services, or public services buildings (schools, hospitals, churches, etc.) should be avoided in the flood hazard area. By avoiding construction in floodplains, one can avoid adverse impacts also to critical roadways and provide a safe level of distance in the event of a flood. NJDEP also supports resiliency measures including elevating critical infrastructure and relocating critical infrastructure outfalls to insure uninterrupted power, sewer and potable water service.

DEP recommends that Vineland adopt a floodplain development ordinance that is consistent with the most recent standards and National Flood Insurance Programs. For guidance please review the riverine model ordinance at https://www.nj.gov/dep/floodcontrol/modelord.htm and FEMA guidance at https://www.fema.gov/floodplain-management/manage-risk/local.

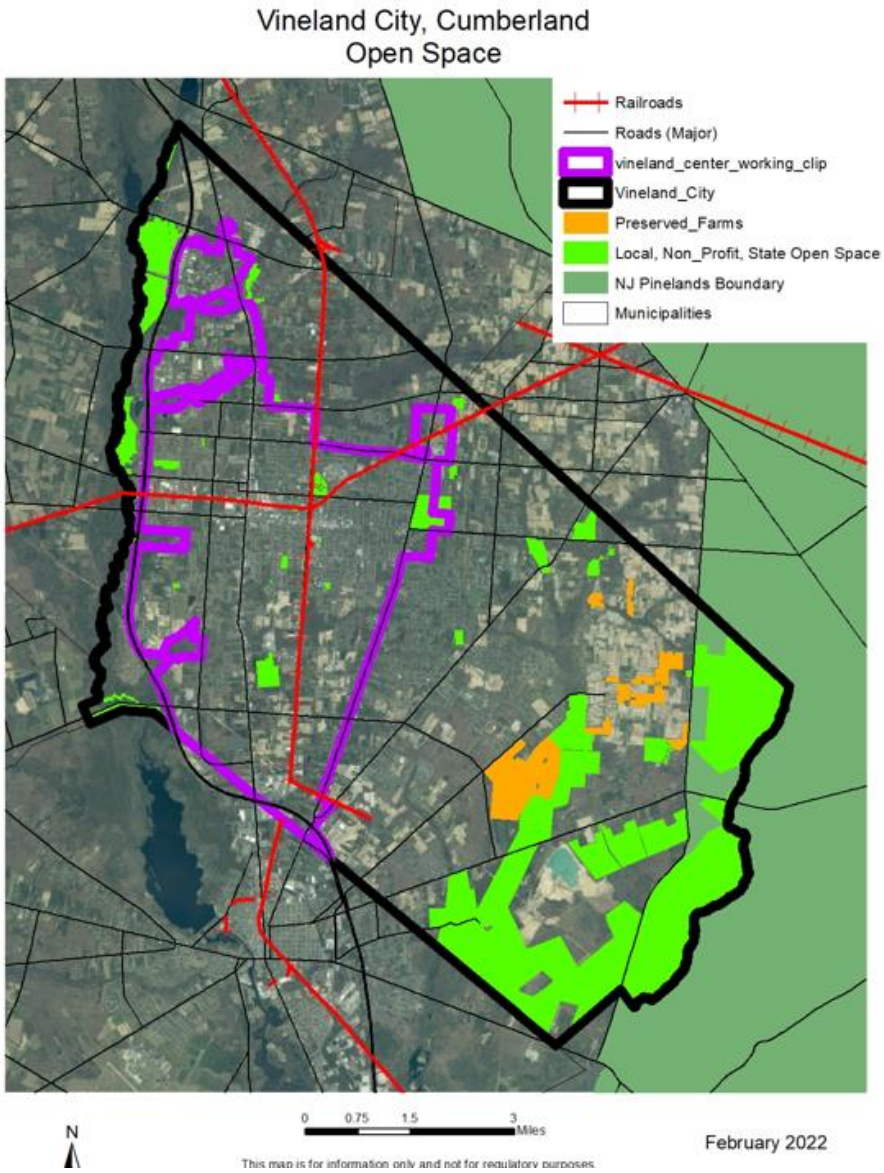
Future development within the floodplain requires a higher level of regulation through state and federal environmental rules for flood hazard areas. **Any proposed conceptual plan should be presented to DEP early in review process, before planning board approval, and before submittal of any permit applications to determine if the project has any fatal flaws rendering it un-permittable in its current design.**

Green infrastructure should be incorporated into all projects within the floodplain. By creating more open public space, Vineland gains flood zone buffer areas and additional recreation area as well as enhanced areas for stormwater management. Any opportunity in a flood area to enhance or expand a buffer area protects vulnerable residential areas and minimizes future flood events. **Vineland shall develop a stream corridor buffer area and protection ordinance.**

The DEP supports Vineland's recommendation in MSA to adopt a Flood Mitigation Plan and an All Hazards Mitigation Plan and Flood Ordinance to effectively manage stormwater runoff and mitigate the adverse impacts of climate related flooding within and adjacent to the township acres of identified floodplain.

Open Space

- Open space not only provides Vineland residents with recreational opportunities, it also acts as a means of climate change mitigation through enhanced tree cover shade and carbon sequestration. It also improves Vineland and the state's natural resources by mitigating stormwater runoff, acting as flood storage, and protecting habitat for threatened and endangered species. Within Vineland, there are approximately 8,244.59 acres of preserved state, federal and municipal park open space the following acres set aside for public recreation by Vineland: municipal owned (1,150.01 acres), Non-Profit (1,600.87 acres), State (4,657.65 acres), preserved farms (836.06 acres) as well as more than 3000 acres preserved within the NJ Pinelands. There are at least 18 municipal owned parks and recreation areas. Based on the projected population of Vineland and according to the National Recreation and Park Association standards, it is recommended that community needs require an additional acres of public parkland acquisition for direct recreational usage. **Vineland is included in the Cumberland County Open Space and Recreation Plan but should adopt as part of the City Master Plan an Open Space Greenway Plan and an updated Critical Natural Resources Analysis**. If older than ten years, **DEP recommends that Vineland update the natural resources inventory documents to account for any changes since the last inventory as well as climate change considerations.**



Green Acres

The Green Acres program was created in 1961 to meet New Jersey's growing recreation and conservation needs. Together with public and private partners, Green Acres has protected over a half a million acres of open space and provided hundreds of outdoor recreational facilities in communities around the State. The proposed center includes the Vineland State School and Romano Park (Block 3201, Lot 1) which is State owned and encumbered.

As a reminder to the Applicant, any use of Green Acres-encumbered parkland for purposes other than recreation and conservation, even temporary use, requires Green Acres review and approval at a minimum. Any easements or other conveyance of land granted for other than conservation and

recreation purposes (such as for utilities or road right-of-ways) on Green Acres-encumbered parkland must be reviewed by the Green Acres Program and will require Commissioner and State House Commission approval. A full jurisdictional determination by the Green Acres Program is required for any land which may have been held for recreation and conservation purposes by the municipality or the county at the time that they accepted Green Acres funding, regardless of whether the lands were listed on a Recreation and Open Space Inventory (ROSI). Please contact the Cumberland County Steward, Mackenzie Piggott, at mackenzie.piggott@dep.nj.gov with any questions or concerns.

The City of Vineland has received funding through 27 Green Acres funding projects and the City currently has two additional open funding projects with the Green Acres Program. Additionally, the City has received funding for parkland acquisition and development through the Land and Water Conservation Fund (LWCF) and UPARR (Urban Park and Recreation Recovery) Program, which are federal funding programs through the National Park Service (NPS). There are approximately 1302.14 acres of Green Acres-encumbered parkland owned/leased by the municipality and by nonprofits in the City of Vineland. The City also contains areas of land which are dedicated state-owned or unfunded non-profit parkland, largely along the periphery of the City boundaries. This includes the Upper Manumuskin River Preserve and portions of the Willow Grove Lake Preserve, Union Lake Wildlife Management Area, and Peaslee Wildlife Management Area.

The Green Acres-encumbered parkland identified within the City Center shapefile are as follows:

- Block/Lot: Block 701, Lot 5; Block 401, Lot 56
    - Park Name: Burnt Mill Pond
    - Total of 49.36 acres
    - Green Acres funded Project #0614-17-049, project is open with no payments made to date
- Block/Lot: Block 1604, Lot 1.01
    - Park Name: park was acquired with the intention of developing it into a Little League Complex
    - Owned and Managed by: South Vineland Little League
    - 8.10 acres
    - Green Acres funded Project #06-12-02, project closed
- Block/Lot: Block 2103, Lot 4
    - Park Name: Mercury Way/Frank A. Tejeras Park
    - 2.35 acres
    - Green Acres funded Project #0614-94-027
- Block/Lot: Block 3501, Lot 68
    - Park Name: Cultural and Recreation Area/Historic Site
    - 3.26 acres
    - Unfunded Green Acres-encumbered parkland
- Block/Lot: Block 2911, Lots 1, 6 – 10
    - Park Name: Carl V Arthur Park
    - 2.19 acres
    - Green Acres funded Project #0614-13-115, #0614-02-051
- Block/Lot: Block 2318, Lot 1; Block 2319, Lot 1; Block 2320, Lot 1; Block 2321, Lot 1; and Block 2322, Lot 1
    - Park Name: Landis Memorial

    - Total of 33.77 acres
    - Green Acres funded Project #0614-94-027, 0614-13-115, 0614-06-021, LWCF #34-100
- Block/Lot: Block 4102, Lots 1, 2, 15, 16
    - Park Name: Gonzalez Park
    - Total of 1.96 acres
    - Unfunded Green Acres-encumbered parkland
- Block/Lot: Block 4805, Lot 4
    - Park Name: Normandie Lane Park
    - 10.86 acres
    - Green Acres funded Project #0614-94-027, #0614-13-115, #0614-06-021, #0614-04-177, #0614-02-051, #0614-01-071
- Block/Lot: Block 4801, Lot 15
    - Park Name: West Earl Drive
    - 0.25 acres
    - Unfunded Green Acres-encumbered parkland
- Block/Lot: Block 699, Lot 18
    - Park Name: South West Avenue Mini Park
    - 0.59 acres
    - Unfunded Green Acres-encumbered parkland
- Block/Lot: Block 5501, Lot 1
    - Park Name: Walnut & Mill Park
    - 4.08 acres
    - Green Acres funded Project #0614-92-018
- Block/Lot: Block 4910, Lot 1
    - Park Name: Southside Park/Roberto Clemente Park
    - 3.65 acres total
    - Green Acres funded Project #0614-96-057, #0614-94-027, #0614-973, #0614-04-146, #0614-02-051
- Block/Lot: Block 474, Lot 1
    - Owner – NJDEP, Managed by – Vineland City
    - Park Name: Romano Sports Complex
    - Approximately 54.85 acres
    - Green Acres funded Project #0614-96-057, #0614-01-022, #0614-03-015, #0614-04-011
- Block/Lot: Block 963, Lot 26
    - Park Name: South Vineland Park/Anthony Campanella Park
    - 78.77 acres
    - Green Acres funded Project #0614-430, #0614-637, #0614-97-064

The DEP Green Acres Program has identified several parcels in Vineland that that should be revised by the Office of Planning and Assessment (OPA) in the Parks and Open Space GIS planning area layer of the current proposed State Map. Although many of the City's parks are identified in the Planning Area shapefile, there are some which were not included or accurately identified. The following parcel updates should be made to the State Planning Area map for Vineland as follows and any questions may be directed to John Thomas at John.Thomas@dep.nj.gov :

:

- Block 1604, Lot 1.01 is not included in the Parks layer, but is instead included in the Municipal layer. The Green Acres Program provided funding to South Vineland Little League for this park in 2015. As this parkland is currently being farmed several years after development was planned to commence, the Green Acres Program has been requesting a farm lease for this location and updated plans on how this parkland will be managed/developed into the future.
- The entirety of Block 3201, Lot 1 is coded as a Park, however, a portion of this parcel is Romano Park, while the other portion of the parcel is the Vineland Developmental Center, which would not be considered as parkland.
- Gonzalez Park at Block 4102, Lots 1, 2, 15, and 16 is not coded as a park and is included in the larger Metropolitan area.
- The Cultural and Recreation Area at Block 3501, Lot 68 is not coded as a park and is included in the larger Metropolitan area.
- Walnut & Mill Park at Block 5501, Lot 1 is not coded as a park and is included in the larger Suburban area.
- Bennetts Mill Natural Area at Block 118, Lot 2 is not coded as a park and is included in the larger Pinelands area.
- Block 7401, Lot 27 and Block 6503, Lot 60 are not coded as park but are included in a larger Environmentally Sensitive area.
- Pagluighi Park at Block 820, Lot 17 is not coded as a park and is included in a larger Suburban area.

No Green Acres-encumbered parkland was identified within or immediately adjacent to the listed Recent and Upcoming Development Activities or the State Agency Actions.

The Cultural and Recreational Resources Section mentions that the number and total size of the City's parks and recreation areas is under the national average. The report identifies additional recreation and open space as a method of alleviating the effects that climate change is anticipated to have on the City. The City has actively applied for and accepted Green Acres funding along with federal open space and park development funding for decades. These known issues align with the mission of the Green Acres Program, and as we do with all municipalities, we would encourage the City to continue to apply for funding in future funding rounds for the acquisition or development of parkland to alleviate this identified need.

The Green Acres Program applauds the City of Vineland for working to preserve and maintain the City's parkland and is proud of its long-running partnership with the City to help achieve this shared mission.

As there are dedicated state owned, federally owned, and non-profit parkland parcels within the City, , any use of Green Acres-encumbered parkland for purposes other than recreation and conservation, even temporary use, requires Green Acres review and approval at a minimum. A full jurisdictional determination by GA is required for any land which may have been held for recreation and conservation purposes by the municipality or the county at the time that they accepted GA funding, regardless of whether the lands were listed on a Recreation and Open Space Inventory (ROSI).

Blue Acres - The Green Acres, Farmland, Blue Acres and Historic Preservation Bond Act of 2007 authorized $12 million for acquisition of lands in the floodways of the Delaware River, Passaic River or Raritan River and their respective tributaries for recreation and conservation. An additional $124 million was approved in the Green Acres, Water Supply and Floodplain protection, and Farmland And Historic Preservation Bond Act of 2009. Properties (including structures) that have been damaged by or may be

prone to incurring damage caused by storms or storm related flooding, or that may buffer or protect other lands from such damage, are eligible for acquisition. DEP encourages any town that has homes and neighborhoods that repetitively flood to consider contacting the DEP Blue Acres program regarding guidance for buyouts of flood prone properties (www.nj.gov/dep/greenacres/blue flood ac.html

DEP recommends that Vineland further work with Cumberland County and surrounding municipalities to provide and expand corridors of open space and natural features to protect historic structures, support habitat connectivity and adapt to changing climate conditions.

Natural and Historic Resources

New Jersey is the most densely populated state in the nation. One of the consequences of this is the extreme pressure that is placed on our natural resources. As the population grows, we continue to lose or impact the remaining natural areas of the state. As more and more habitat has been lost, people have also gained a greater understanding of and appreciation for the benefits and necessity of conserving the natural ecosystems of the state.

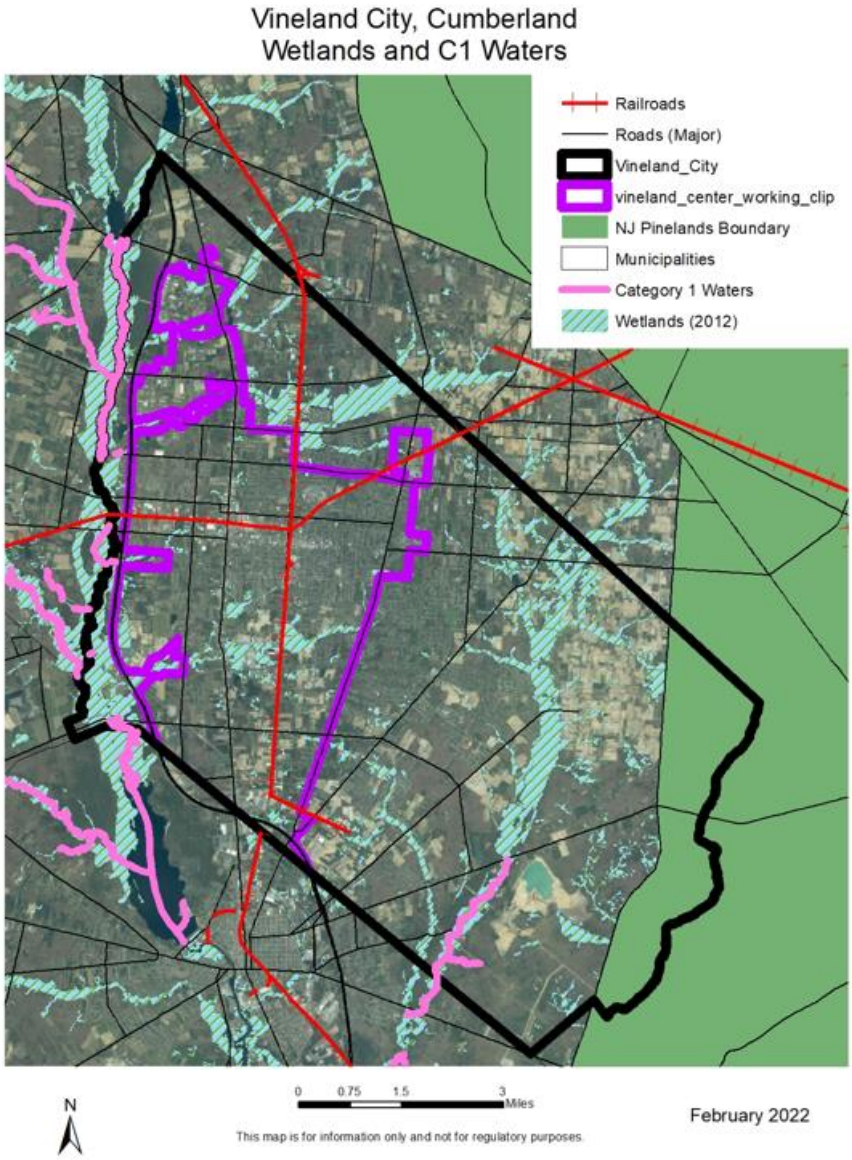
For example, we know that wetlands are critical for recharging aquifers, lessening the damage from flooding and naturally breaking down contaminants in the environment. Forests and grasslands protect the quality of our drinking water, help purify the air we breathe and provide important areas for outdoor recreation. Collectively, these habitats are of critical importance to the diverse assemblage of wildlife found in New Jersey, including endangered, threatened and special concern species.

Wetlands

Freshwater wetlands and transition areas (buffers) are regulated by the Freshwater Wetlands Protection Act rules (NJAC 7:7A). Previously misunderstood as wastelands, wetlands are now recognized for their vital ecological and socioeconomic contributions. Wetlands contribute to the social, economic, and environmental health of our state in many ways:

- Wetlands protect drinking water by filtering out chemicals, pollutants, and sediments that would otherwise clog and contaminate our waters.
- Wetlands soak up runoff from heavy rains and snow melts, providing natural flood control.
- Wetlands release stored flood waters during droughts.
- Wetlands provide critical habitats for a major portion of the state's fish and wildlife, including endangered, commercial and recreational species.
- Wetlands provide high quality open space for recreation and tourism.

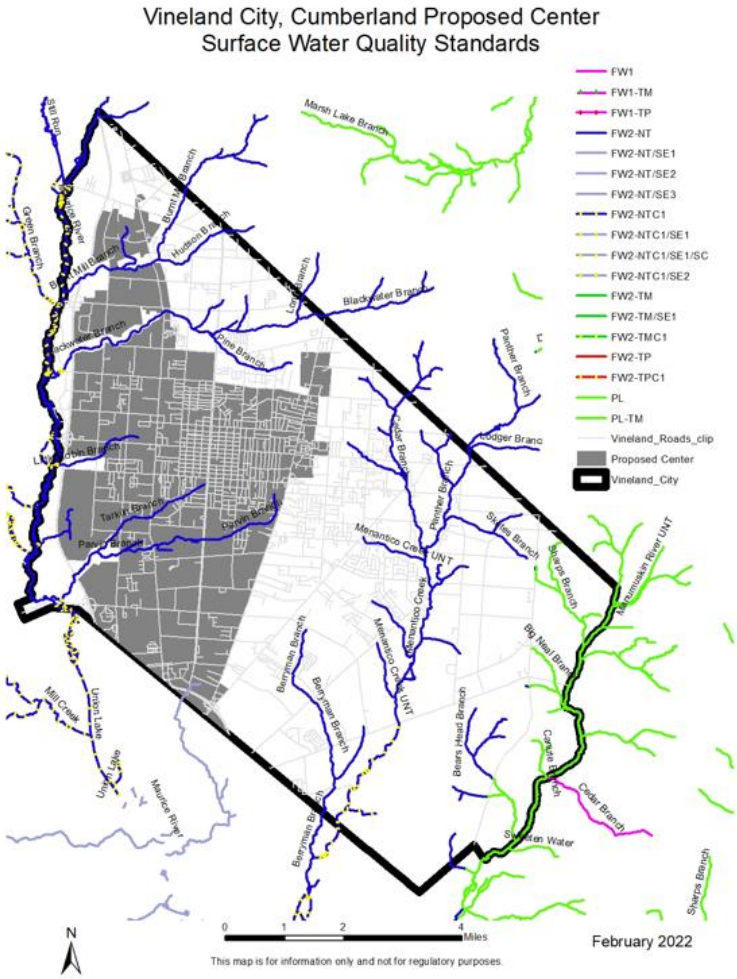
There are on-site activity limits on lands identified as wetlands. The NJ Freshwater Wetlands Protection Act requires DEP to regulate virtually all activities proposed in the wetland, including cutting of vegetation, dredging, excavation or removal of soil, drainage or disturbance of the water level, filling or discharge of any materials, driving of pilings, and placing of obstructions. The Department may also regulate activities within 150 feet of a wetland as a transition/buffer area.



Vineland has 14,200.17 acres of deciduous forested land and wetlands within those forested areas are protected under state and federal regulation. Category 1 (C1) or critically dependent wildlife (CDW) species are associated with these areas, require a riparian buffer of 300 feet. Wetlands outside C1 category riparian buffers would be 50 feet.

Surface Water

Vineland has several valuable and recreational bodies of water including streams, tributaries and lakes. These water bodies are subject to flooding which is exacerbated by an increase in impervious cover and a decrease in stormwater's ability to infiltrate the ground. Vineland surface water bodies include Category 1 waters



All surface waters in the town require at least a 50 -foot riparian zone buffer and C-1 classified streams require up to a 300 foot buffer, which are determined and regulated in the NJDEP Flood Hazard Area Control Act Rules.

<u>Surface Water Quality Standards</u>

The Surface Water Quality Standards (SWQS) are rules established under the New Jersey Administrative Code at N.J.A.C. 7:9B that include the policies, surface water classifications, and surface water quality criteria necessary to protect the quality of New Jersey's surface waters. The SWQS protect the health of

New Jersey waters and ensure that they are suitable for all existing and designated uses, including recreation and water supply. SWQS also protect the health of New Jersey citizens and visitors by ensuring that the waters at our bathing beaches are safe for swimming, that water supplies are suitable sources of drinking water, and that the fish and shellfish harvested from our waters are safe to eat. SWQS protect waters for other uses such as trout production and trout maintenance, and agricultural and industrial use.

The SWQS establish designated uses (e.g., drinking water supply, recreation, etc.) to the State's surface waters, classify surface waters based on those uses (e.g. FW1, FW2-TP, etc.), and set water quality criteria that protect the designated uses for each water classification. The SWQS contain various policies for protecting water quality, including general, technical, antidegradation, nutrients, and mixing zones. The SWQS also contain procedures for establishing and modifying water quality-based effluent limitations for NJPDES point sources and reclassifying specific stream segments.

Surface waters are classified based on the type of waterbody and the designated use of the waterbody. Freshwaters are classified as FW1 waters (not subject to any man-made wastewater discharges) and FW2 waters (all other freshwaters except Pinelands waters). FW1 waters are non-degradation waters set aside for posterity because of their unique ecological significance. FW2 waters are further classified based on their ability to support trout, which thrive in cooler stream temperatures. Trout classifications include trout production (FW2-TP), trout maintenance (FW2-TM), and non-trout (FW2-NT).

The SWQS establish antidegradation policies for all surface waters of the State (see N.J.A.C. 7:9B-1.5(d)). The antidegradation policies require that all existing and designated uses shall be maintained and protected for all surface waters of the State; impaired waters must be restored to meet SWQS; and existing water quality shall be maintained.

1. Category One (C1) Waters: This tier of antidegradation designation applies to surface waters designated as C1 waters (see N.J.A.C. 7:9B-1.4). C1 waters are protected from any measurable change to existing water quality because of their exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, or exceptional fisheries resources. C1 waters have more stringent antidegradation requirements than Category Two waters.
2. Category Two (C2) Waters: This tier of antidegradation designation applies to surface waters designated as C2 waters (see N.J.A.C. 7:9B-1.4). Some lowering of existing water quality may be allowed in C2 waters based upon a social and/or economic justification. However, all existing and designated uses must be protected in all cases and waterbodies that are generally not meeting criteria must be improved to meet water quality criteria. All waterbodies not designated as Outstanding Nature Resource Waters or Category One receive the Category Two antidegradation designation.

Additional information is also provided in the Antidegradation/Category One Fact Sheet.
The City of Vineland has 3,815.14 acres of floodplain that are protected under state and federal regulation. Overlays for protected areas in flood zone (C1) waters (300 foot buffer), C2 waters (50 foot buffer), Wetlands, Surface Water and Open Space (local, non-profit, State, Federal).

Vineland has several impaired waters within Vineland requiring a total maximum daily load (TMDL) restoration plan as outlined by US Clean Water Act. Information is available at https://www.nj.gov/dep/dwq/tmdl/0614.html

However, a stream corridor buffer plan would reduce sedimentation to valuable waterways in Vineland. Stormwater management would also be improved by preventing excessive sedimentation, reducing impervious surface, promoting on site stormwater management, and upgrading the existing city stormwater management system.

Open Waters - Surface Water Quality Standards (SWQS)

Burnt Mill Branch	(FW2-NT)
Blackwater Branch	(FW2-NT)
Little Robin Branch	(FW2-NT)
Parvin Branch	(FW2-NT)
Petticoat Branch	(FW2-NT/SE1)
Tributaries of the Maurice River	(FW2-NT)

Anadromous waters include: All waters (Union Lake Dam has a Fish Ladder)

Dam Safety

Burnt Mill Pond has a dam that was rehabilitated in 2016 under a permit from the DEP. A project in the vicinity of the dam was issued on June 20, 2020 a DEP Land Use Flood Hazard Area individual permit and a freshwater wetlands general permit #17 to develop the Burnt Mill Pond Park by reconstructing/extending a pedestrian trail, reconstructing a pedestrian bridge, constructing a fishing pier and providing accessible parking. for a proposed trail and fishing pier. Any associated impact to the dam or to the pond would require additional permits from the DEP.

Vulnerable, Threatened and Endangered Species

Despite being the most densely populated state in the nation, and the fifth smallest in area, New Jersey provides habitat for an incredible number and diversity of wildlife species. There are more than 400 species of vertebrate wildlife which can be found within the state, due in large part to the state's geographic position within North America, as well as 134 freshwater fish and 336 marine finfish. New Jersey lies at the southern edge of the range of many "northern" species and the northern edge of the range of many "southern" species.

Many imperiled species require large contiguous tracts of habitat for survival. The consequence of the rapid spread of suburban sprawl is the loss and fragmentation of important wildlife habitat and the isolation and degradation of the smaller habitat patches that remain. Small patches of fields, forests and wetlands interspersed with development provide habitat for common species that do well living near humans, but do not provide the necessary habitat for most of our imperiled wildlife. We need to conserve large, contiguous blocks of forests, grasslands and wetlands to assure the survival of imperiled species over the long-term.

Future increases in stormwater runoff, flooding and contamination will adversely impact terrestrial and aquatic species. Climate change can adversely impact plants, trees, aquatic and terrestrial animals,

reptiles, fish and birds. Increases in temperature and periods of drought can result in loss of suitable conditions for a tree or plant species to survive as well as a higher risk of wildfire.

The New Jersey Endangered Species Conservation Act was passed in 1973 and directed the New Jersey Department of Environmental Protection (DEP) to protect, manage and restore the state's endangered and threatened species.

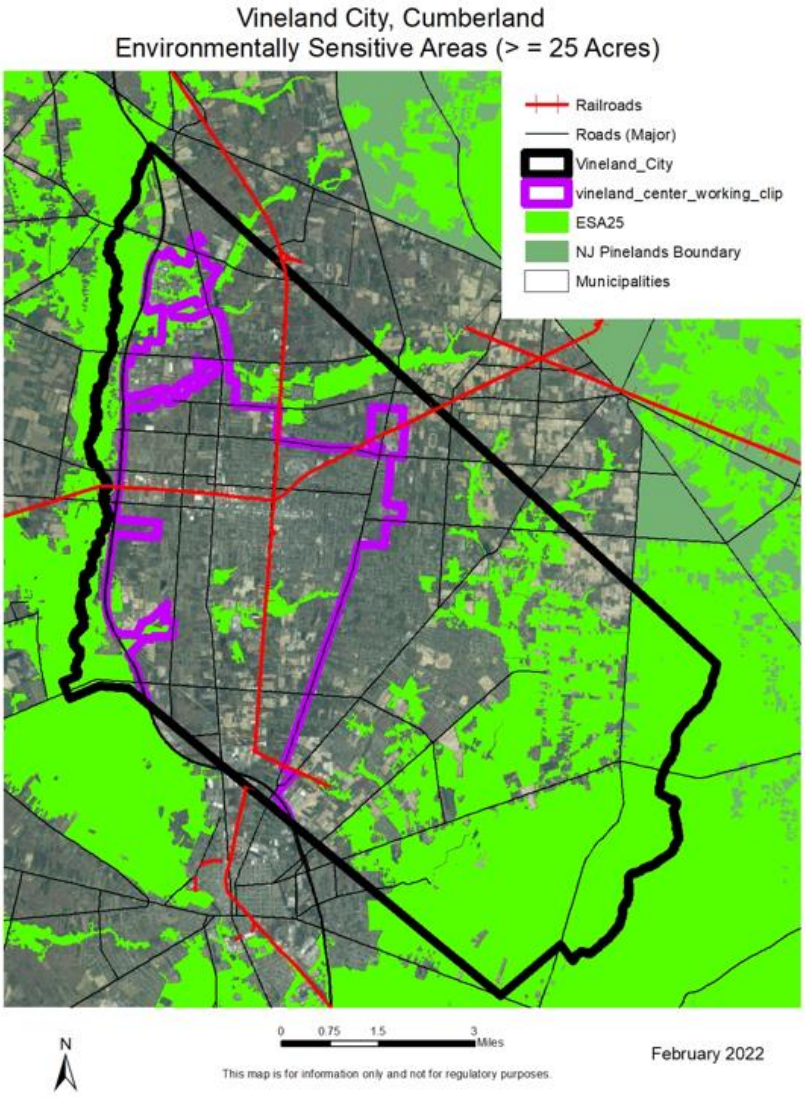
Endangered Species are those whose prospects for survival in New Jersey are in immediate danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance or contamination. Assistance is needed to prevent future extinction in New Jersey.

Threatened Species are those who may become endangered if conditions surrounding them begin to or continue to deteriorate.

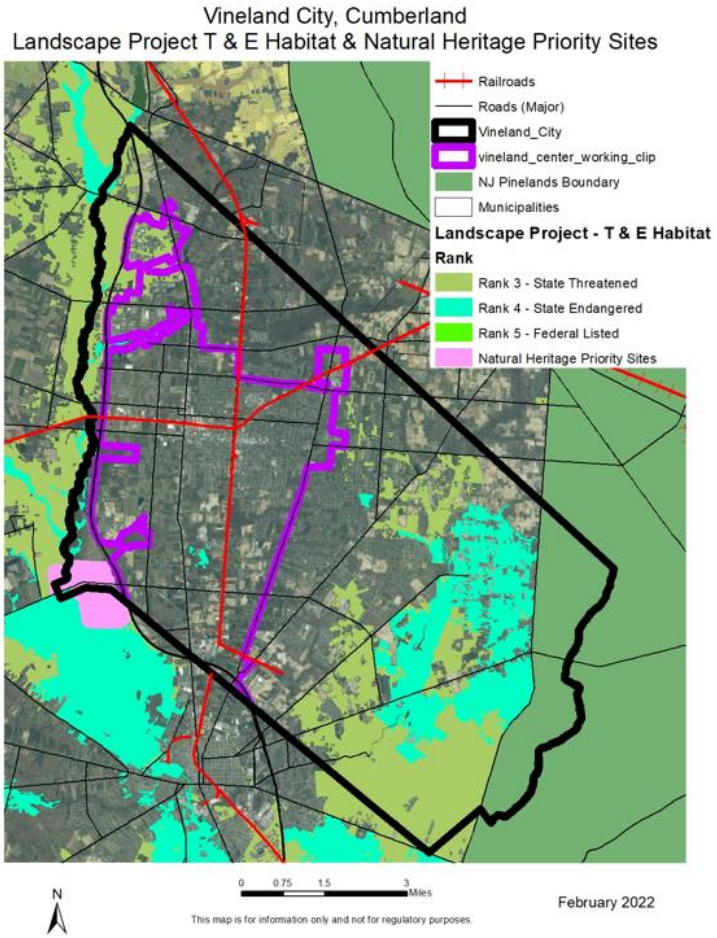
There are other classifications for wildlife as well, including Stable, Species of Special Concern and Undetermined. For a complete listing of species monitored by the ENSP, see the Species Status Listing. A full listing of the state's threatened and endangered species can be found at https://www.nj.gov/dep/fgw/tandespp.htm.

Landscape Project

Designed to guide strategic wildlife habitat conservation, the Landscape Project is a pro-active, ecosystem-level approach for the long-term protection of imperiled species and their important habitats in New Jersey. The project began in 1994 to protect New Jersey's biological diversity by maintaining and enhancing imperiled wildlife populations within healthy, functioning ecosystems. The Landscape Project focuses on large land areas called "landscape regions" that are ecologically similar with regard to their plant and animal communities. Using an extensive database that combines imperiled and priority species location information with land-use/land-cover data, the Landscape Project identifies and map areas of critical importance for imperiled species within each landscape region.



Landscape Project critical habitat maps were developed to provide users with peer-reviewed, scientifically-sound information that is easily accessible. Critical habitat maps were designed for use by anyone, but especially those individuals and agencies who have the responsibility for making land-use decisions, i.e., municipal and county planners and local planning boards, state agencies, natural resource and lands managers, the general public, etc. Critical area maps can be integrated with planning and protection programs at every level of government - state, county and municipal, can provide the basis for proactive planning, zoning and land acquisition projects.



Most importantly, the critical information Landscape Project products provide can be used for planning purposes before any actions, such as proposed development, resource extraction (such as timber harvests) or conservation measures, occur. Proper planning with accurate, legally and scientifically sound information will result in less conflict. Less time will be wasted, and less money spent, attempting to resolve endangered and threatened species issues.

Additional information about the Landscape Project can be found at https://www.nj.gov/dep/fgw/ensp/landscape/index.htm.

Vineland City Landscape Rank ,3,4,5 Threatened and Endangered Species including the NJ Pinelands are the following:

- Rank 1 – 5469.29 Acres (12.4%)
- Rank 2 – 2,601.9 Acres (5.9%)
- Rank 3 - 6,858.56 Acres (15.5%)
- Rank 4 - 7,720.90 Acres (17.5 %)
- Rank 5 - 0.0 Acres

These rankings define the following habitat types:

- Rank 1 is assigned to species-specific habitat patches that meet habitat-specific suitability requirements but do not contain confirmed sightings of endangered, threatened, and special concern wildlife species.
- Rank 2 is assigned to species-specific patches containing one or more occurrences of habitats of special concern.
- Rank 3 is assigned to species-specific habitat patches containing one or more occurrences of State threatened species.
- Rank 4 is assigned to species-specific habitat patches with one or more occurrences of State endangered species.
- Rank 5 is assigned to species-specific habitat patches containing one or more occurrences of wildlife listed as endangered and threatened pursuant to the Federal Endangered Species Act of 1973.

Proposed Vineland Center Assessment

Key: F – Fed, S – State , E – Endangered , T – Threatened , SC – Special Concern, S – Stable
CSP - Consensus State Status Pending Rule Revision
SOA – Species Occurrence Area indicate possible presence
L – Landscapes indicate habitats valued for

General comment

The Center boundary proposed by Vineland City largely avoided E&T habitats. However some adjustments have been made due to flooding or identified habit. For example, In the area of the Burnt Mill Branch, parcels east of North Mill Road and North of West Forest Grove Rd likely feature a measure of barred owl habitat. Wetlands contiguous with Burnt Mill Branch would likely be of exceptional resource value and feature 150 ft wetland buffers. Of all the lands in this area, Block 603, Lot 14 and Block 604, lot 1 feature the best upland habitats. In the Menantico Creek area, habitat for the Cope's gray treefrog has also been identified. Northern Pine Snake occurrence buffers may overlap with the proposed center in the same area as the Shermans Avenue NHP site, but no habitats valued for them occur on the east side of NJ-55 in the proposed center. For some other habitat mapped by Landscape 3.3 has been identified as compromised and provides largely marginal habitat for the documented species or existing regulations will provide sufficient protection to mapped areas so as not to warrant their removal from the Suburban Planning Area.

Borderline habitat areas identified above within the Vineland Center should be reviewed prior to any planning board approval of a development plan with an updated natural resources inventory, habitat suitability assessment and adherence to all DEP regulations.

Identified Habitat and Species

Avian Species

Bald Eagle	(S-E) Foraging	SOA/L
Barred Owl	(S/T) Breeding/Non-breeding Sighting	SOA/L

Great Blue Heron	(SC) Foraging	SOA/L

Terrestrial species

*Northern Myotis	(F/T – CSP/E)	
*Little Brown Bat	(CSP/E)	
*Tri-colored Bat	(CSP/E)	
Big Brown Bat	(CSP/SC) Maternity Colony	SOA

*(*These Bats are found statewide in forested habitats)*

Aquatic species

**Banner Clubtail	(S/T) Exuviae Sighting/ Larvae Sighting	SOA/L
**Robust Baskettail	(S/T) Occupied Habitat	SOA/L
**Eastern Pondmussel	(S/T) Live Individual Sighting	SOA/L

*(** These species are found in the main stem Maurice River and might be found in any of the Maurice River tributaries listed in the Open Waters section of this document.)*

Landscape Project 3.3

Delaware Bay

<1% - Rank 4

<10% - Rank 3

10% - Rank 2

15% - Rank 1

>64% - No Rank

Freshwater Mussel Habitat

A survey may be needed to determine presence/absence of Eastern Pondmussel at base and downstream of Burnt Mill Pond Dam.

Vineland should continue to promote ongoing and proposed community environmental education and public outreach events.

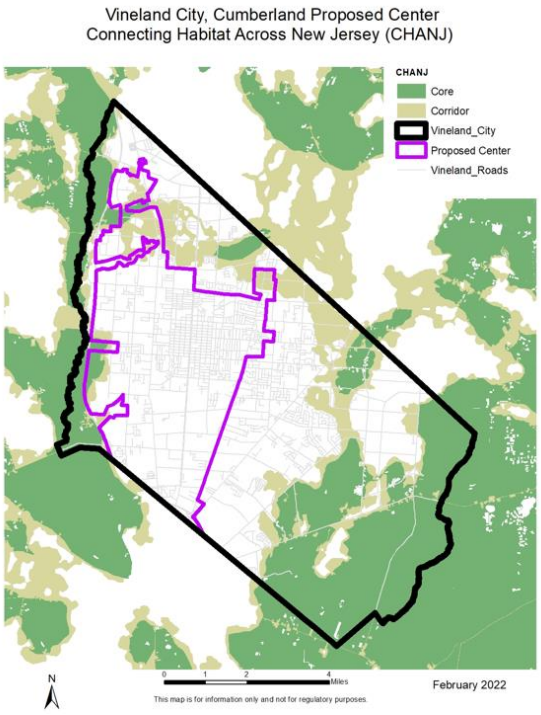
Vineland should update it's Natural Resources Inventory and update its Conservation Plan. DEP supports Vineland's commitment to conservation and renewable energy, although it encourages the Township to pursue it in an ecologically responsible manner.

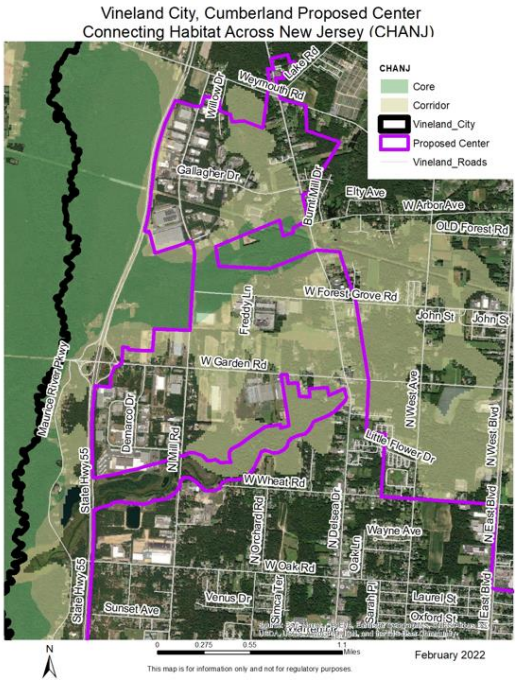
Vineland should continue to protect the city's open spaces and the recolonization and reuse of open field habitats for ground nesting and foraging birds. Further research is needed to determine the causes and nature of direct and indirect effects of the placement of solar arrays on and/or over ground nesting habitat on birds.

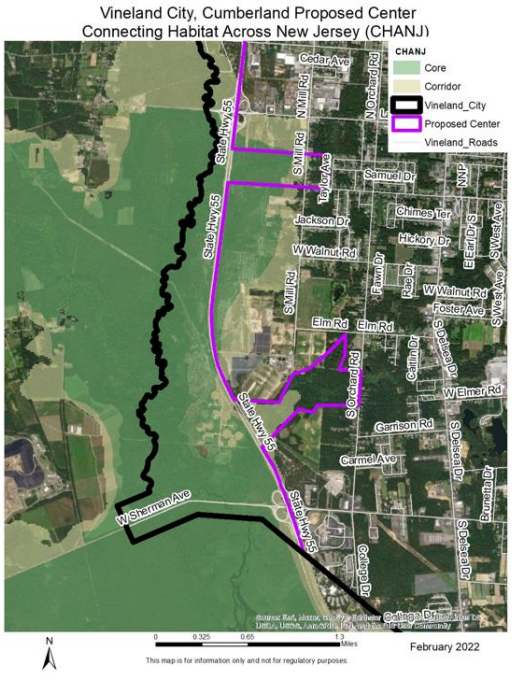
Connecting Habitat Across New Jersey (CHANJ) Mapping

A review of the Department's CHANJ mapping (information on this mapping found at https://www.nj.gov/dep/fgw/ensp/chanj.htm) shows that in proximity to the proposed center , there are identified wildlife travel corridors that could serve as viable wildlife passageway through Vineland and around the proposed center primarily for nesting birds and bog turtle. A passageway classified as a more restricted wildlife corridor is shown in brown. While a passageway classified as less restrictive to wildlife movement is shown in tan, based on the land cover features occurring within it.

There is some overlap of habitat corridors with the Vineland Center. Habitats along the Burnt Mill Brook (tributary of the Maurice River) corridor in northwest of proposed center and along South Mill Road in South west of proposed center corridor and are within CHANJ Core and Corridor Areas. This data suggest that there is or could be movement between larger habitat areas adjacent to the proposed center.







Note: Cores: Patches of contiguous natural land cover (land and water) at least 78.5 ha in size, which are likely to meet the habitat needs (shelter, forage/prey, reproduction) of most terrestrial wildlife species, especially if functionally linked to other Cores.

Corridors: Continuous swaths of habitat representing the most efficient movement routes between Cores. The Corridors are displayed in color gradients (1-5) based on a cost- weighted distance analysis. Gradient 1 (lightest color) represents the most optimal move-through habitat, whereas gradient 5 (darkest color) is the most marginal.

As noted above, this area is classified as a fairly unrestricted wildlife movement corridor from core habitat around the proposed cores. Given the potential significance of this area as a landscape habitat connector/wildlife movement corridor, **DEP recommends that Vineland incorporate a habitat corridor overlay into the zoning ordinance.** By reducing the development potential of this critical area, the likelihood that this area will remain a suitable corridor is significantly increased.

Vernal Pools and Vernal Habitats

There are no known vernal pools within the proposed center. However, there are nine mapped vernal pools elsewhere in Vineland. In 2001, DEP partnered with Rutgers University Center for Remote Sensing and Spatial Analysis (CRSSA) to develop a method for mapping potential vernal pools throughout New Jersey. Through an on-screen visual interpretation of digital orthophotography, CRSSA identified over 13,000 potential pools throughout the state. A subset of these pools was field verified and confirmed, with an 88% accuracy rate, to meet the physical characteristics to qualify as a vernal pool (Lathrop et al. 2005). This source indicates that Vineland may have 192 potential vernal pools o

In accordance with N.J.A.C. 7:7A-1.4, the term “vernal habitat” includes a vernal pool - or the area of ponding - plus any freshwater wetlands adjacent to the vernal pool. Vernal habitat areas mapped in the

Landscape Project rely upon those data developed by the DEP and CRSSA to identify sites that should be field checked for possible identification as vernal habitat areas. DEP staff is in the process of field-verifying these pools. The Department also maps vernal habitat areas based upon on-the-ground assessment of sites not captured by the CRSSA mapping. The Landscape Project includes all of the CRSAA-identified sites, as well as sites identified by on-the-ground reconnaissance.

State Wildlife Action Plan

The **State Wildlife Action Plan** (SWAP) is a strategic and cost-effective strategy for preserving the state's wildlife resources for the future. Recovering species that have reached threatened or endangered status is typically more costly than preventative actions that keep species populations from reaching such declines. Proactive management actions identified in the SWAP are intended to keep species from becoming threatened or endangered or to aid in the recovery of those that are already listed.

State Wildlife Action Plans are proactive plans created by virtually every state and U.S. territory that assess the health of each state's wildlife and habitats, identify the problems they face, and outline the actions that are needed to conserve them over the long term. The New Jersey Wildlife Action Plan identifies both priority species and habitats, assesses the threats they face and outlines actions to take to improve or stabilize their condition.

New Jersey's State Wildlife Action Plan (2018) was approved by the U.S. Fish and Wildlife Service in July 2018. New Jersey's Plan serves as a blueprint for conserving our wildlife heritage over the next decade. The Plan identifies priority actions over the next five to ten years to address the myriad threats facing our wildlife populations and their habitats. It also identifies species of greatest conservation need in New Jersey, as well as 107 focal species that are of the highest conservation priority.

New Jersey's State Wildlife Action Plan can be found at
https://www.nj.gov/dep/fgw/ensp/wap/pdf/wap_plan18.pdf

Natural Heritage Priority Sites

Following a review of Natural Heritage Grid Mapping layer, Natural Heritage Priority Sites are located in Vineland including state-listed plants, data sensitive species, ecological communities or cave terrestrial communities. The Shermans Avenue NHP Site boarders the proposed center on the southwest. To the west of Route 55 and outside the proposed center, Northern Pine Snake occurrence buffers may exist in the same area as the Shermans Avenue NHP site but no habitats valued for them occur on the east side of NJ-55. This potential habitat would be evaluated in any required land use permit application for development in this area.

Natural Heritage Grid Map (This layer indicates occurrences of State Listed plants)

The Natural Heritage Grid Map indicates that there are two occurrences of State listed plants within the proposed center:

Pine Barren Boneset (S/E)

Black-fruit Spike-rush (S/E)

In addition, the Natural Heritage Grid Map values grids for the following data sensitive species/ecological communities: Hairy Primrose-willow, Hyssop Hedge-nettle, Pine Barren Smoke Grass, Hazel Dodder, Rose-color Coreopsis, Mudbank Crown Grass, Red Milkweed, Racemed Milkwort, Narrow-leaf Bluecurls, Eastern Silvery Aster, and Pineland Tick-trefoil.

All valued grids overlay the Burnt Mill Branch stream corridor and the area of the proposed center along N. Main Road between Phillip Street & E. Oak Road.

A full listing of Rare Plant Species and Ecological Communities Presently Recorded in the NJ Natural Heritage Database for Monmouth County can be found at: https://www.nj.gov/dep/parksandforests/natural/heritage/textfiles/monmouth.pdf.

There are no NHPS overlap with the proposed Vineland Center .

More information about State Endangered plant species and Plant Species of Concern and the codes used on the list of species can be found at:

https://www.nj.gov/dep/parksandforests/natural/heritage/njplantlist.pdf

https://www.nj.gov/dep/parksandforests/natural/heritage/nhpcodes_2010.pdf

Within the proposed center, partially developed and disjointed or unsuitable habitat may be reviewed if any development is proposed in this area through an updated natural resources survey and a habitat suitability determination.

Forest Fire Management and Mitigation

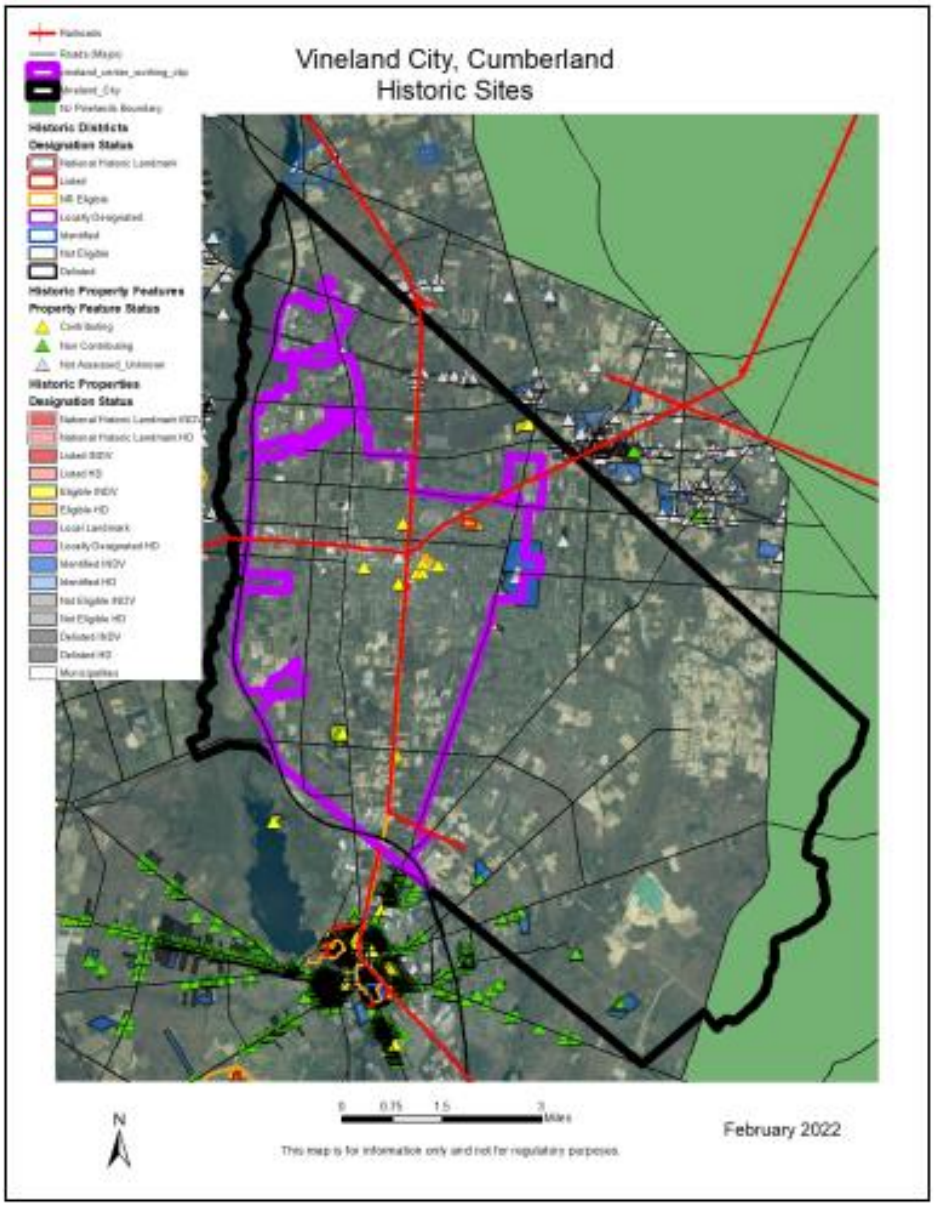
Adverse effects of climate change increases in average daily temperature contribute to an increase in the potential for forest fires. Public and private property, infrastructure, public safety, and utilities could be compromised in a wildfire emergency. The impacts of a wildfire event can be reduced through the enhancement of the Township's emergency response plan and through the implementation of pre-event wildfire mitigation and response measures. Forest fuel loading conditions are characterized by fire hazard ratings (map below) and through coordination with the New Jersey Forest Fire Service and the New Jersey Emergency Management Program.

Vineland has not adopted a Wildfire Protection Plan (CWPP) with NJ Forest Fire Service and should update their Community Forest Management Plan and street tree species inventory in the town center and proposed redevelopment areas . Vineland should also consider initiating a Community Stewardship Incentive Program.

Cultural and Historic Resources

The 2018 Master Plan re-examination included a brief summary of Vinelands recognized historic structures including the Landis Theater which was added to the National Register of Historic Places in 2000. Vineland but did not include in the MSA a detailed description of the buildings, lots and blocks and other historic sites within the proposed center, the results of a Historic and Cultural Resources Survey or confirmation of an updated Historic Preservation Plan Element in the Master Plan re-examination of 2018 or if the City has a Historic Preservation Implementation Ordinance. The City

should clarify if and when any additional areas were added to the State and National Registers of Historic Places. **The City shall confirm any Historic District boundaries with the NJ State Historic Preservation Office and update the historic sites inventory.**



It is also critical to protect our cultural and historic resources. The New Jersey Historic Preservation Office (HPO) administers a variety of programs that offer protection for historic properties. The HPO consults with federal agencies under Section 106 of the National Historic Preservation Act for federally

funded, licensed or permitted projects. At the state level, the New Jersey Register of Historic Places Act requires that actions by state, county, or local governments, which may impact a property listed in the New Jersey Register of Historic Places, be reviewed and authorized through the HPO. The HPO also provides advice and comment for a number of permitting programs within the Department of Environmental Protection, including some permits required under the Division of Land Resource Protection. The Historic Preservation Office also maintains an inventory of historic properties in each municipality.

The New Jersey and National Registers of Historic Places listings include properties and historic districts in New Jersey for which a formal action was taken by the State Historic Preservation Officer or designee. The listings itemize the buildings, structures, sites, objects, and districts listed on the New Jersey Register of Historic Places (SR) and the National Register of Historic Places (NR). They also include resources that have received Certifications of Eligibility (COE), opinions of eligibility from the State Historic Preservation Officer (SHPO Opinion), or Determinations of Eligibility (DOE) from the Keeper of the National Register. These properties and historic districts all meet the New Jersey and National Register criteria for significance in American history, archaeology, architecture, engineering or culture, and possess integrity of location, design, setting, materials, workmanship, feeling and association. Properties that have been entered on the New Jersey and/or National Registers of Historic Places are listed by their historic names, which may be different from their current names. Properties that have SHPO Opinions or DOE's are listed by their historic name, when known. The listings are updated regularly to reflect ongoing additions and corrections. The most effective way to protect historic resources and promote our architectural and archaeological heritage is through local stewardship.

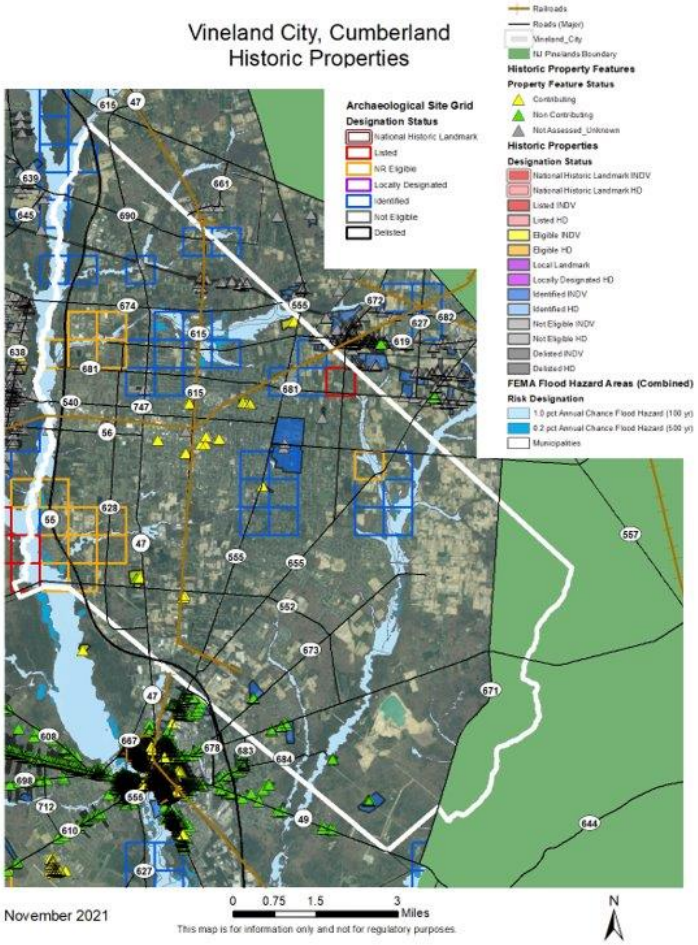
When implemented at the local level, historic preservation activities may take the form of master plan elements, comprehensive zoning ordinances, the establishment of a local historic preservation commission, regulated code enforcement, or public education and outreach programs. Local initiatives have far reaching effects on preserving historic resources for future generations. The HPO provides technical assistance, training, and other resources for historic preservation to New Jersey's communities through a variety of programs, including the Certified Local Government (CLG) program. The CLG program is a formalized partnership between the National Park Service, the States, and local municipalities. To become a CLG, a local government must a) enact a preservation ordinance that establishes a Historic Preservation Commission, b) establish criteria and procedures for the designation of local historic properties and the review of proposed changes to those properties, c) maintain a system for the survey and inventory of historic properties, d) provide for adequate public participation in the local historic preservation program, including the process of nominating properties to the National Register of Historic Places, and e) perform the responsibilities delegated to the local government in the certification agreement. The requirements for certification are outlined in the document “New Jersey’s Certified Local Government Guidelines,” available from the Historic Preservation Office (HPO) or online at http://www.state.nj.us/dep/hpo/3preserve/clgguides8_07.pdf.

One of the chief benefits of this partnership for local governments is access to grant funding. Each federal fiscal year, New Jersey sets aside ten percent of the state’s allocation of federal historic

preservation funds for pass-through as sub-grants to communities participating in the CLG program. The total amount of available funding varies each year with the federal allocation. Finally, the Historic Preservation Office maintains the State's Cultural Resources Geographic Information System (CRGIS) to record the location and extent of cultural resources in our statewide inventory. LUCY is our NJCRGIS Online Map Viewer. It is an ARCGIS Online based web mapping application delivering HPO CRGIS data in an intuitive, browser-based format. LUCY can be found at https://njdep.maps.arcgis.com/apps/webappviewer/index.html?id=44ce3eb3c53349639040fe205d69bb79. https://www.state.nj.us/dep/hpo/1identify/gis_LUCY_User_Guide_1.0.pdf.

Historic Resources in Floodprone Areas

Within the proposed Vineland Center, there are several areas of historic and cultural significance including the Landis Avenue Historic District. Several historic buildings may be in the flood zone. However, Vineland should update their historic structure inventory throughout the City and determine if any parcel identified by lot and block are in the 100 or 500 year flood zone and indicate if any are in the proposed center.



Vineland shall update it's Historic Preservation Plan of the Master Plan to include climate resilience and social equity –

- **Update the Historic Districts Inventory** – Vineland should provide a table in any master plan re-evaluation of all lots and blocks in historic districts, if they are in a core, and if they are in the a) 100 or 500 year flood zone, 2) rank 3,4,5 threatened and endangered species habitat, 3) SSA or 4) public water system.
- **Update the Vineland Historic Preservation Implementation Ordinance to address Climate Resilience**
    - **Historic structures should be evaluated and protected with enhanced stormwater management plans and flood minimization plans.** DEP adopted Elevation Design Guidelines for Historic Properties in December 2019, which can be found at https://www.state.nj.us/dep/hpo/images/_MULT_DG_32_v2_ID14078r.pdf.
    - **Zoning Update** - Vineland should revise the City code to implement within the historic districts the following: define and adopt an historic district buffer area, adopt architectural and development standards within and adjacent to the district, establish an Historic Preservation Commission, continue to update the historic sites inventory and include historic sites in capital improvement program especially related to flood resiliency

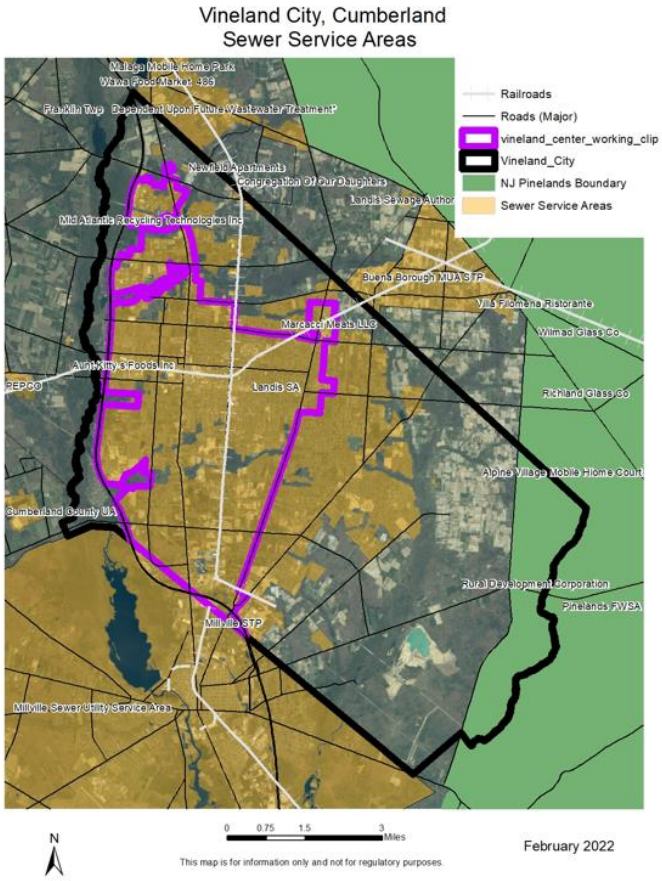
Wastewater and Water Supply

Wastewater Analysis

The infrastructure to collect and convey sanitary wastewater within the municipality is owned and operated by the Landis Sewerage Authority (LSA) which serves not only Vineland but also Cumberland County College, located partially in the City of Millville and partially in the City of Vineland; Meredith Farms Corp., located on Harding Highway in Franklin Township, Gloucester County; and B & B Poultry Co. Inc., located on Almond Road in Pittsgrove Township, Salem County. Several pump stations and miles of sanitary sewer lines are included in the system that serves Vineland as well as neighboring communities. The current Cumberland County Future Wastewater Service Area Map (FWSA) Map was adopted on February 15, 2016. Neighboring City of Millville is not included in the County draft WMP. since they were not included in the FWSA map when it was adopted in 2016. There is currently no adopted Wastewater Management Plan (WMP) associated with the map but The FWSA map for the County that was adopted in 2016 established the SSA for the County that could be used as the basis for the WMP. The County submitted a draft WMP including a chapter entitled, "Landis Sewerage Authority" which includes Vineland pursuant to 7:15-4.2(c).

- The City is currently pursuing expanding the sewer service area to a neighborhood along Utopia Lane in need to septic system relief and an application for a WMP amendment is currently under review by the NJDEP

- The City has also submitted to NJDEP for review a WMP amendment for an extension of the SSA to a proposed 55+ age restricted development on the former Rudy's Airport property to west of proposed center.

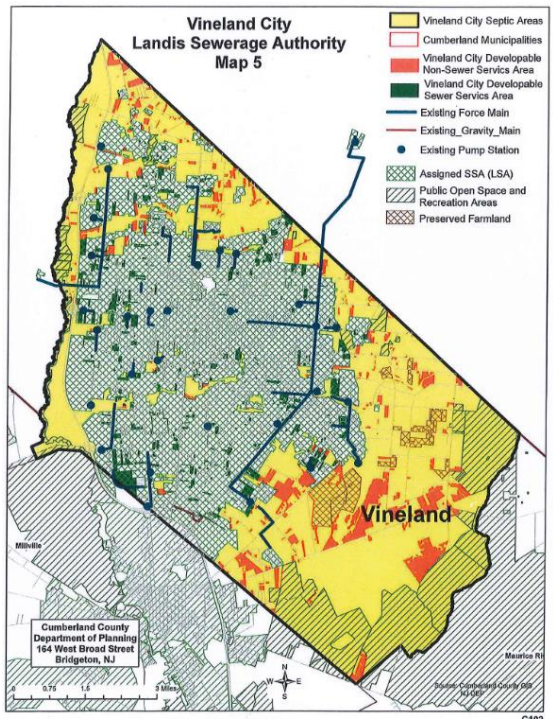


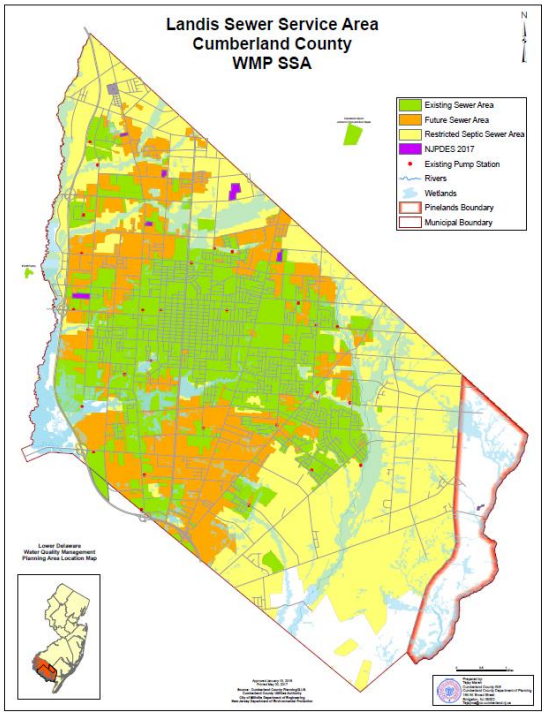
Capacity Analysis

After 2008, the Landis Sewerage Authority expanded it's capacity to 10.2 MGD but according to the 2018 Master plan re-examination report, the associated collection system was deemed to be inefficient and costly.

The WQMP rule at NJAC 7:15-4.5(b)5 adopted in 2013 requires that if the "existing permitted flow is 80% or more at the time of WMP development, a municipality must determine, as part of the buildout analysis, if remaining projected growth (for buildout of the SSA) will result in a capacity deficiency and, if the potential for a capacity deficiency exists." **Vineland shall confirm that the limit the** Landis **Linden Sewerage Authority is currently permitted to discharge up to in MGD, via recent discharge monitoring reports (DMR) data how many MGD the WTP is discharging on a monthly average, is above 80% of the permitted capacity including proposed ten-year development plan until next master plan re-examination plan in 2028. Vineland shall assess the County-wide draft WMP buildout analysis for the**

entire LSA in MGD and percent capacity and if that accommodates any future center development in Vineland.





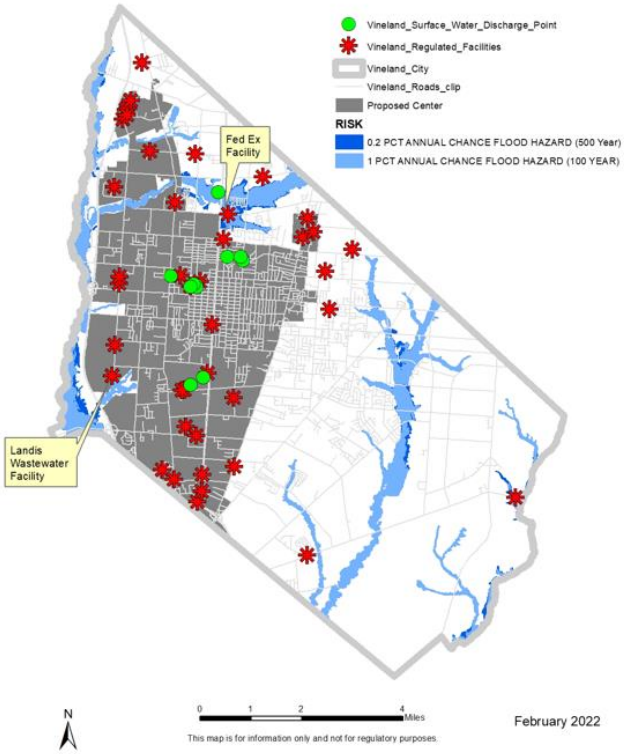
Wastewater Infrastructure in Floodprone Areas

Critical utility infrastructure like powerlines, sewers, and potable water lines can be adversely impacted by flooding. The LSA wastewater treatment plant sewer service area covers 19,939.37 acres and 45% of the total 44,149.53 acres (69 square miles) of Vineland.

Vineland has several building facilities with discharges to surface water that are regulated by the NJDEP with a New Jersey Pollutant Discharge Elimination System (NJPDES) permit. Some of these facilities are also in the flood zone.

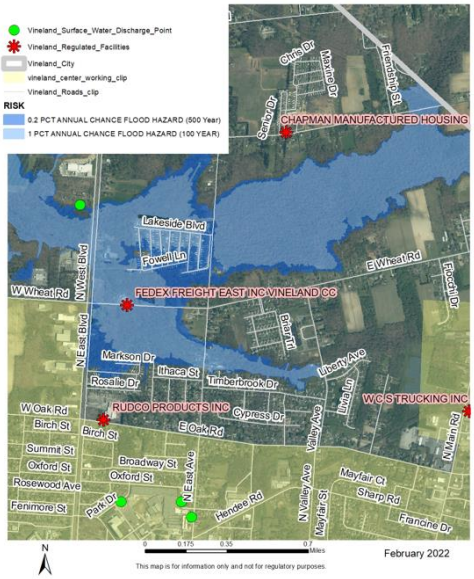
Vineland should provide an updated map of wastewater piping in the center and elsewhere in the Township, and update its Wastewater Management Plan as necessary to include additional proposed development, additional adopted WMP amendments, infrastructure upgrades and increased capacity needs.

Vineland City, Cumberland Proposed Center
1% & 0.2% FEMA Flood Hazard Areas with Regulated Facilities &
Surface Water Discharge Points



February 2022

Vineland City, Cumberland Proposed Center
with Regulated Facilities within 1% & 0.2% FEMA Flood Hazard Areas



February 2022

Vineland City, Cumberland Proposed Center
1% & 0.2% FEMA Flood Hazard Areas with Landis Wastewater Facility

February 2022

Water Supply

The City of Vineland is serviced primarily by two (2) sources of potable water – the Vineland City Water Utility and via private wells. It is recommended that Vineland, for public health purposes, identify all parcels not connected to public water supply and on private wells with a map and table of lots and blocks

Vineland City Water Utility (Vineland) has its own water supply system consisting of 15 wells. Two of these Wells 16 and 17 have been approved by the Bureau of Water Allocation and Well Permitting (BWAWP) but do not have the Permit to Operate from the Bureau of Water System Engineering (BWSE). Well 16 and 17 cannot be used until the approval from BWSE is obtained.

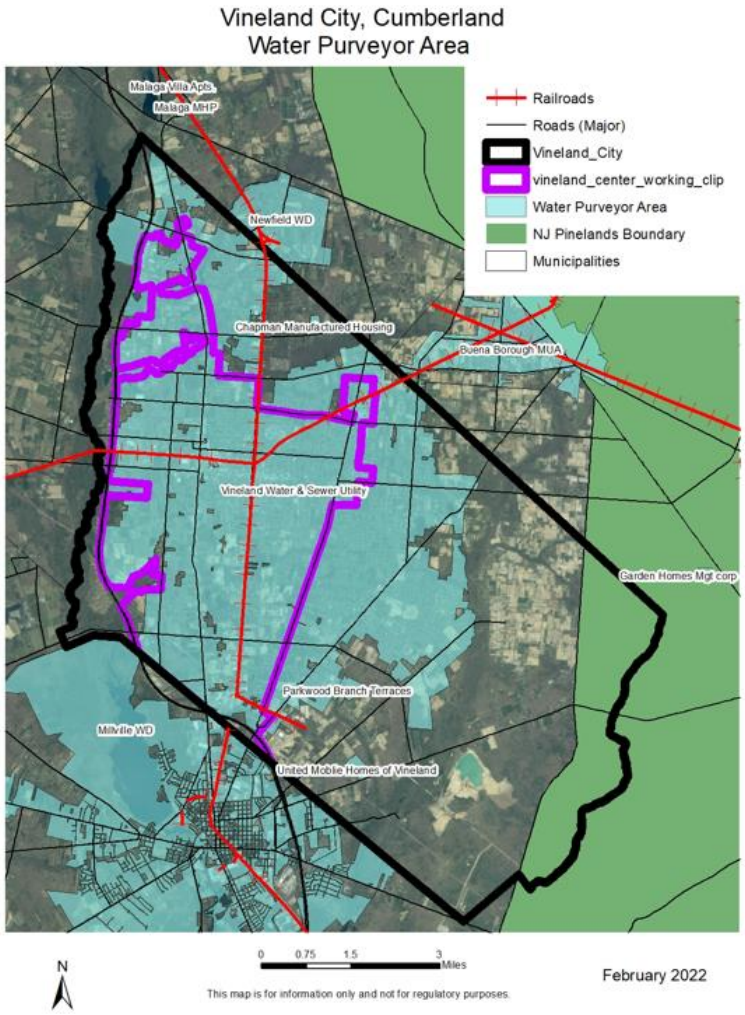
All wells are completed within the Kirkwood-Cohansey water table aquifer system (K-C system). Twelve of the 15 wells are located within the USGS Upper Maurice River Basin Study Area (UMR Study Area) as defined in the USGS Scientific Investigations Report 2005-5258. The findings of this report indicate that groundwater withdrawals from the K-C system in the UMR Study Area have the capability to reduce base flow in the Maurice River and reduce the size of the wetland areas near or adjacent to the river especially during extended periods of little or no precipitation.

Vineland has an allocation permit that limits the water diversion to 502 million gallons per month (mgm) and 3,916 million gallons per year (mgy) at a maximum rate of 17,450 gallons per minute (gpm). However, the allocation is limited to 3,243 mgy for the sources located in the UMR Study Area. The BWAWP anticipates that any future increases in annual allocation would only come from sources located outside the UMR Study Area.

Historically Vineland's per capita water use exceeded the rates recommended by the Department. The Department recommends average per capita water use rates of less than 100 gallons per capita per day (gpcd) and peak per capita water use rates of less than150 gpcd. However, since 2014 the per capita water use was reduced to comply with the Department's recommended rates.

The BWSE Deficit/Surplus analysis indicates that the system has a surplus of water available to service all existing customers and future projects that received approval from the BWSE. There are no contracts for purchasing and/or selling water from other system, although there are two emergency interconnections with adjacent systems, Buena Vista and Newfield.

Although the overall water availability is not an issue for this system, transferring water within the system from South to North may become an issue, especially considering the constraints within the UMR Study Area where additional annual allocation may not be available. Also, the K-C system is susceptible to ground water contamination considering that all the wells are completed within a water table aquifer system and that they are located in an area with a history of agriculture and industry.



Capacity Analysis

The Bureau of Water Systems Engineering (BWSE) Deficit/Surplus webpage indicates that the Vineland's sources of potable water, system (Vineland Water and Sewer Utility (PWSID #: 0614003 Water Treatment system has a surplus of water available to service all pending projects that have received approval through the BWSE. The BWSE's Deficit/Surplus analysis for the Township indicates these facilities have sufficient treatment capacity and infrastructure to meet public demand via the 13 active potable supply wells and water treatment plants has a total capacity of 20.730 MGD. This capacity is more than their summer and peak demand.

Attached is the Deficit/Surplus Table Actual Demand (updated as of 11/30/2021) for the public community water system (Vineland Water and Sewer Utility (PWSID #: 0614003)) that serve Vineland in Cumberland County.

Firm Capacity:		17.692	**MGD**							
Allocation Limits:				**Contract Limits:**				**Total Limits:**		
	(Monthly)	502.000	**MGM**	(Monthly)		**MGM**		(Monthly)	502.000	**MGM**
	(Yearly)	3,645.000	**MGY**	(Yearly)		**MGY**		(Yearly)	3,645.000	**MGY**
Five Year Peak Demand:				**Allocated Demand:**				**Deficit/Surplus:**		
	(Daily)	10.471	**MGD**	(Daily)	0.805	**MGD**		(Monthly)	164.920	**MGM**
	Month/Year	07/2018		(Monthly)	12.478	**MGM**		(Yearly)	1,006.000	**MGY**
	(Monthly)	324.600	**MGM**	(Yearly)	97.942	**MGY**				
	Month/Year	07/2018						**Firm-Peak Total:**		
	(Yearly)	2,541.100	**MGY**	**Total Peak Demand:**				(Daily)	6.416	**MGD**
	Year	2017		(Daily)	11.276	**MGD**				
				(Monthly)	337.078	**MGM**				
				(Yearly)	2,639.042	**MGY**	**WAP Number:**	5148		

- Total capacity of all combined sources - 20.352 MGD
- Firm capacity (total capacity-largest source) - 17.692 MGD
- Water Allocation limits = 502.000 MGM, 3,645.000 MGY
- Current (utilized) peak demands = 10.471 MGD, 324.600 MGM, 2,541.000 MGY
- Surplus (available) water = 6.416 MGD, 164.920 MGM, 1,006.000 MGY

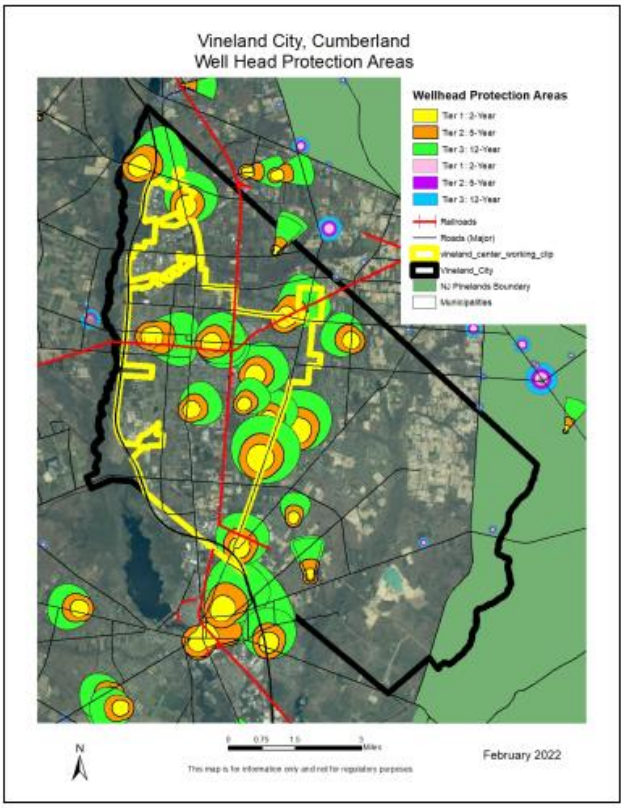
Water Supply Infrastructure in Flood prone Areas

Potable drinking water is provided to the residents of the City of Vineland Water and Sewer Authority through the City Water Department public community supply wells and via private, non-community wells. **Vineland shall determine how many acres of the water purveyor area is within a flood zone. Vineland shall identify any water supply infrastructure located in the flood zone and determine their specific vulnerability to flooding events. Additionally, DEP recommends that Vineland perform a similar analysis for private wells and both inform the owners of their vulnerability and identify potential solutions to that vulnerability. A Well Search should be conducted to inventory all currently documented private domestic wells within the City**.

Well Head Protection Areas

The DEP has identified land surrounding public community wells, known as Well Head Protection Areas, from which contaminants may move through the ground to be withdrawn in water taken from the well have been delineated. Protection of the public health, safety, and welfare through protection of ground water resources, ensures a supply of safe and healthful drinking water. Well Head Protection Areas (WHPA) are mapped areas calculated around a Public Community Water Supply (PCWS) well in New Jersey that delineates the horizontal extent of groundwater captured by a well pumping at a specific rate over a two-, five-, and twelve-year period of time for confined wells. The confined wells have a fifty-foot radius delineated around each well that defines the well head protection area, which must be acquired and controlled by the water purveyor in accordance with Safe Drinking Water Regulations (see NJAC 7:10-11.7(b)1). WHPA delineations are conducted in response to the Safe Drinking Water Act Amendments of 1986 and 1996 as part of the Source Water Assessment Program

(SWAP). The delineations are the first step in defining the sources of water to a public supply well. Within these areas, potential contamination will be assessed and appropriate monitoring will be undertaken as subsequent phases of the SWAP. WHPA delineation methods are described in *Guidelines for Delineation of Well Head Protection Areas in New Jersey.(www.state.nj.us/deo/njgs/whpaguide.pdf)*



Vineland has identified a wellhead protection areas around the community and non-community public supply wells in its planning documents and has adopted a Water Conservation Plan within it's Municipal Water Conservation Ordinance. If not already completed, Vineland should adopt a Wellhead Protection Ordinance. A well head protection map was included in the MSA and should be updated if older than 10 years.

Stormwater Management

Improvements to surface water infiltration and stormwater management can be implemented in many ways including replacing impervious pavement with pervious surfaces, maintain and restore all surface water bodies potential for additional stormwater retention through dredging and silt control, constructing green infrastructure, requiring buffers to surface water bodies, restoring wetland areas, adhering to state requirements for stormwater management best management practices, and adding stricter municipal building codes. To reduce flooding as temperatures and precipitation rise, **DEP recommends that Vineland continue to address stormwater runoff and improve stormwater retention**

on site at its source including updating their stormwater ordinance and stormwater management plan.

Vineland's Stormwater Ordinance is in compliance, but they are out of compliance with their stormwater NJPDES MS4 permit. While Vineland updated their Stormwater Management Plan and Ordinance by the deadline of March 15, 2021 but is out of compliance with their NJPDES MS-4 permit as they have not submitted their electronic outfall pipe map which was due in December of 2020. Also, based on their 2020 annual report, they have not updated their SPPP for the new permit, did not meet their public education requirements for 2020, did not conduct the required annual employee training in 2020, and do not have a prioritized list of outfall needed scour repair (this is required unless they don't have any needing that repair.)

Vineland should also inventory and update their maps of any stormwater outfalls located within the flood zone and determine their specific vulnerability to flooding events. Zoning ordinance and building codes should be updated to incorporate overlays for aquifer recharge, stream corridor and greenway conservation, and steep slope erosion control.

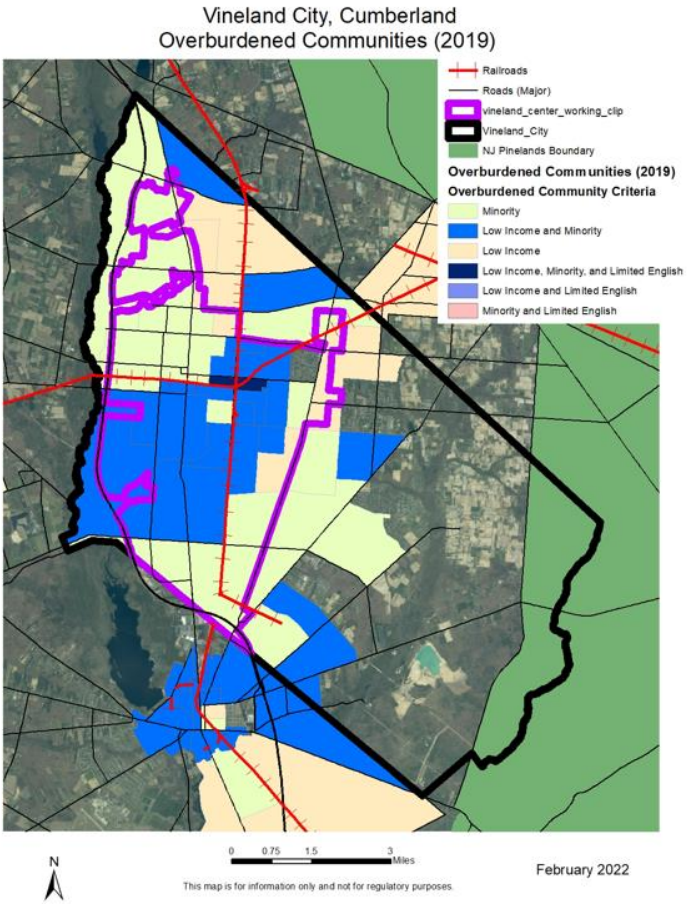
Vineland should seek opportunities to install green infrastructure measures and expand stream corridor buffer areas to offset increased stormwater, but also to lower the impacts of the heat-island effect by reducing the amount of impervious surfaces.

Social Vulnerability and Human Health

Population Assessment

The City of Vineland has a population of approximately 60,780 . Between 2010 and 2020, population growth in Vineland increased by only 0.1%. Housing is concentrated in the center area and overall includes 23,477 housing units of which 5.5% (1301) were vacant (2020) and more than 38% are rental units. . The 2015 Housing Plan Element of the Master plan indicates that 80% of the housing units were constructed before 1980. Transportation and evacuation routes are concentrated along Route 55, Route Landis Avenue and Route 467 (Delsea Drive). Approximately 42% of the municipality residents racially identify as white in 2020 and for 37.9% of the population, English is a second language. However, 13.7% of Vineland residents are living below the poverty line.

In planning for climate change related resilience measures, Vineland must also consider the vulnerability of various populations within the Borough to adverse effects of climate change. All residents of Vineland are vulnerable to adverse impacts of a climate change, including an increase in temperature and precipitation and a degradation of natural resources. However, climate change also impacts residents differently based on their location in the City, their social and economic situation, and their ability to anticipate, resist, or recover from a natural hazard.



For those living near Vineland's flood zones, increased stormwater runoff under elevated precipitation and current impervious cover conditions could lead to catastrophic flooding. Any vulnerable residents that are adjacent to or in the floodplain may be at greater risk to flooding. Vineland should evaluate residents living in tracts close to or in the floodplain including the elderly, disabled, minorities, and those without personal transportation to identify the social vulnerabilities they may face as a result of increased flooding. For example, if there are people without cars who rely on public transportation, increased flooding could result in loss of wages or their jobs if they cannot get to work on flooded days.

Environmental Justice

As of September 2020, New Jersey has passed new environmental justice legislation and guidance, building on Executive Order 23 to mandate integration of equity considerations into government decision-making. All municipalities should seek to reduce disproportionate environmental and public health stressors and increase environmental and public health benefits for communities of concern, which defined as community block groups having concentrations of low-income, minority, or limited English-proficient residents. Municipalities should empower residents, particularly their most socially vulnerable residents, to meaningfully participate in decision-making that affects their environment, communities, and health. More information can be found on the Office of Environmental Justice Website, https://www.nj.gov/dep/ej/.

The 2015 Vineland Housing and Fair Share Plan in accordance with Municipal Land Use Law (MLUL) is included in the Housing Element of the Master Plan. The Master Plan re-examination Report (2018) and Municipal Self Assessment (2021) provide a general summary of housing availability and area (65 acres) in the Vineland Housing Authority. Vineland shall meet any requirements of the Council on Affordable Housing (COAH), identify vacant properties and acres completed under COAH rules NJSA 5:97-5.1 and identify efforts to meet affordable housing obligations through the development of vacant land and rehabilitation of vacant or underutilized existing buildings. Although it may be difficult to meet required affordable housing units because the lack of available vacant land, the DEP does not support affordable housing in flood zones. Vineland should determine if any vacant lots under consideration for affordable housing construction have regulated wetlands, are in the 100 year flood zone, or have identified state or federal threatened or endangered species and habitat.

Vineland adopted their Housing Element of the Master Plan and their affordable housing ordinance in 2020. **Vineland should develop an overlay for proposed affordable housing on vacant or underutilized land including any areas proposed in the cores or areas deemed in need of redevelopment and to incorporate recent climate resilience and environmental justice guidance.**

Healthy Communities

DEP strongly encourages Vineland to work with its municipal and county Offices of Emergency Management (OEMs) to review their Emergency Management Plans and complete a Hazard Mitigation Plan as a matter of planning, especially but not limited to potential flooding of critical utilities, roadways and historic structures located in the flood zone and vulnerable to flooding related to increased precipitation. Water, sewer utilities, and piping are subject to flooding. **Vineland should document that they have an up to date Emergency Master Plan and that they have received an approval letter from NJ State Police for their Local Emergency Management Plan.**

Department of Health data is limited, at this time, for Vineland due to its size. DOH data is more available for municipalities with larger populations. Data for Vineland can be found at https://www-doh.state.nj.us/doh-shad/.

Greenhouse Gas Emission Reduction

The degradation of air quality and elevated temperatures can lead to negative health issues. Elevated temperatures can interrupt power supply to all residences which could impact those who need electricity for medical equipment in their homes and loss of air conditioning could increase heat stress and its associated impacts. **Vineland shall conduct an energy audit of all municipal owned buildings to identify energy inefficiencies. Vineland shall also explore utilization of alternative fuels and green energy.**

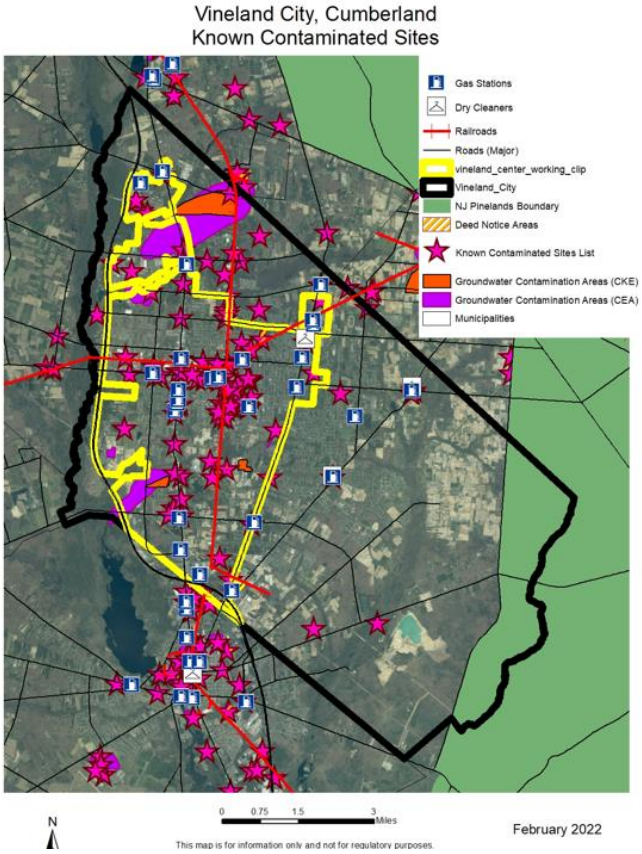
Traffic congestion relief is a priority in Vineland along it's existing and proposed commercial and evacuation routes as they explore alternative bikeways, walking paths and additional parking.

Vineland shall adopt a Greenhouse Gas Emissions Reduction Ordinance that encompasses energy efficiency and sustainable alternatives to transportation including bike paths and walking trails. The DEP has a model ordinance available as guidance.

Contaminated Sites, Solid and Hazardous Waste, & Recycling

Known Contaminated Sites

A GIS review indicates Known Contaminated Sites in and adjacent to proposed center that may be an ongoing source of contamination or active remediation **. To protect public health, Vineland should maintain and update a map of known contaminated sites and their remediation status**. A KCSL Inventory should not only include maps but also a table of site name, address, lot and block, NJDEP Program Interest Number, and note which sites are within the boundary of the proposed Cores or areas in need of redevelopment or identified for any future housing needs. **Vineland should also conduct an inventory of home sources of contamination including residential underground heating oil tanks and septic systems**. More than 50 contaminated sites are located within or immediately adjacent to the proposed center including dry cleaners, underground storage tanks and gas stations. Adhering to DEP regulations for spill prevention and completing any required remediation and long-term groundwater monitoring of existing contamination are required in order to protect this valuable resource and public health.



These known contaminated sites in the area of the proposed center are also identified with Groundwater Contamination Areas undergoing either active remediation or remediation through natural attenuation.

Brownfields

Vineland has identified several areas in need of redevelopment Including vacant properties within the proposed center and , outside of the center, the former Rudy's Airport between Willow Grove Lake and Route 55 and north of County Road 639 (Weymouth Road), the Energy and Minerals Redevelopment Area and the Vineland Developmental Center West Campus

Vineland should identify if any of these Known Contaminated Sites (KCS) meet the DEP definition of a brownfield site.

The Brownfield Act (N.J.S.A. 48:3-51) defines "brownfield" as:

> "[A]ny former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant."

The Solar Act (N.J.S.A. 48:3-51) also defines "brownfield" as:

> "[A]ny former or current commercial or industrial site that is currently vacant or underutilized and on which there has been, or there is suspected to have been, a discharge of a contaminant."

It is often difficult for municipalities to identify their brownfields. It's even tougher for municipalities to navigate through the cleanup process and partner with willing developers. Sustainable Jersey is a good place to start.

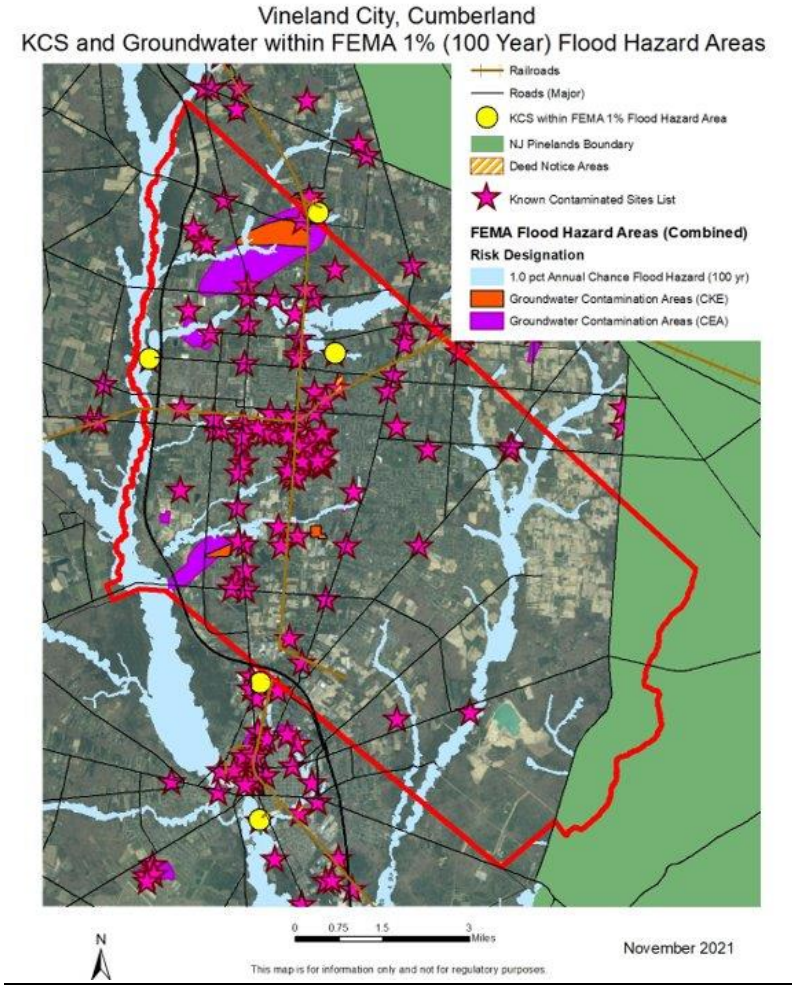
Many municipalities are part of the Sustainable Jersey Certification Program. There are Actions within Sustainable Jersey specific to brownfields. They are: Brownfield Inventory and Prioritization; Brownfield Reuse Planning; Brownfield Marketing; and Brownfield Assessment and Investigation.

Each of these Sustainable Jersey Actions provide information on why they are important and how they can be accomplished. There are also resources provided to help municipalities accomplish the Action goals and examples of what other municipalities have done. The DEP has also created programs to aid municipalities with the cleanup of their brownfield sites.

If the City pursues brownfield cleanup and development in the future, DEP recommends taking actions as part of the Sustainable Jersey Certification Program. These actions include Brownfield Inventory and Prioritization, Brownfield Reuse Planning, Brownfield Marketing, and Brownfield Assessment and Investigation. Each of these Sustainable Jersey Actions provide information on why they are important and how they can be accomplished. There are also resources provided to help municipalities accomplish the Action goals and examples of what other municipalities have done. The DEP has also created programs to aid municipalities with the cleanup of their brownfield sites.

Contaminated Sites and Waste Facilities in Flood-prone Areas

Vineland, upon updating it's inventory of known contaminated sites, should identify if any of the identified KCSs are in the 100 year flood zone. An initial review by NJDEP of sites in the proposed cores does not indicate major facilities within the flood zone but this should be confirmed.



Solid and Hazardous Waste

DEP recommends that Vineland update their waste management plan to encourage increased recycling and reduction of solid waste removal by public, and private facilities that either collect, transfer, process, or dispose of solid waste or recyclables on its municipal inventory. Vineland should also continue to inform its residents of any opportunities for recycling including additional drop-off depot locations and opportunities for residents, any Borough plans to build additional waste management facilities in town, and any additional waste facilities or services to provide a more holistic view of how the City manages its waste.

Recycling

Vineland Township adopted a Recycling Ordinance and Program in 2011 and is Bronze Certified by Sustainable Jersey. If not already done so, Vineland should provide the NJDEP a recycling statement of consistency to meet the requirements of N.J.S.A. 13:1E-99.11 et seq. (Recycling Act), NJ Statewide Mandatory Source Separation and Recycling Act. As part of their plan, has identified a recycling coordinator and should provided the State with tonnage reports each year and publicize recycling provisions every six months.

The City has met its obligation to list at least one municipal recycling ordinance, but **the 2011 recycling ordinance should be updated and expanded upon. DEP recommends that the City notify the State of any future updates to the 2011 recycling ordinances adopted through a statement of consistency, pursuant to N.J.S.A. 13:1E-99.16(b).** Future communication with the State should also include long-term plans including recycling education campaigns, how the municipality plans to enforce proper recycling practices, and potential plans to build upon the current recycling infrastructure in order to provide the State with an understanding of how the municipality plans to improve its current recycling system.

Assessment of Proposed Planning Areas

The city presented a general overview of areas outside of the center determined to be in need of redevelopment. The Department offers the following preliminary comments:

As general guidance for early planning for any new major development project, especially if it requires an extension of sewer and critical infrastructure or a planning area amendment, it is recommended that the City submit to the Office of Planning and Assessment as early as possible in the planning process a map of the proposed development with project description, GIS shp files, a table with impacted lots and block, current lot use as developed commercial, residential or vacant, pristine or previously disturbed, forested or open, and any area in the proposed development parcels within the 100 year flood zone or within threatened and endangered species habitat. Coordination with NJDOT and the Pinelands Commission is also required and recommended before planning board approval. In addition, as multiple NJDEP permits and approvals may be required to complete a proposed development project, the DEP recommends early planning consultation with the Department prior to planning board approval to identify any permitting requirements and constraints. A pre-application conceptual meeting can be scheduled with the NJDEP through the Office of Permitting and Project Navigation at (609) 292-3600 and https://www.nj.gov/dep/pcer/

Sewer Service Area Extension - Utopia Lane

An amendment to the county-wide Wastewater Management Plan (WMP) is currently under review by the NJDEP as a public health necessity for extending the line to residents with failing or outdated systems

Sewer Extension - 55+ residential development at former Rudy's Airport

An application for amendment to the WMP has been submitted to the NJDEP and is currently under review as redevelopment for a senior housing community would require the current sewer system to be extended.

Conclusion

FYI Mapping is still in negotiations and not yet final.

The NJDEP has consulted with OPA and provided some adjustments to the center proposed by the City of Vineland in the MSA as follows:

- **CES Overlay**: Include a partial CES overlay of two (2) areas of undeveloped, forested habitat and/or in flood zone and an updated natural resources inventory and habitat suitability determination be conducted prior to any development approval for:
    - East of Rt 49 portion of the Blackwater Branch
    - Parvin and Tarkin Branches
- **PA-2 to PA-5**: The NJDEP recommends the conversion of PA-2 to PA-5 for three (3) undeveloped areas to eliminate several properties within the 100 year flood zone, wetlands or threatened and endangered species habitat connected to existing PA-5:
    - Burnt Mill Branch (Lot 1, Block 604; Lot 14, Block 603)
    - West of Rt 49 portion of the Blackwater Branch
    - Menantico Creek west of Rt 655 (partial Block 5204, Lot 105; partial Block 5204, Lot 617)

To be consistent with not only the Municipal Land Use Law, the State Plan, the Pinelands CMP and underlying land use and natural resources, modifications to the Proposed Center as presented by Vineland in the MSA were made to avoid and minimize impacts to threatened and endangered species and habitat, Wetlands, Flood Zones, Historic Resources, Surface Water Quality and Critical Infrastructure. These modifications are responsive to projected climate change impacts, allowing Vineland to avoid, prepare for, minimize the effect of, adapt to and recover from extreme weather events and changes in environmental conditions that have the potential to adversely affect the resources and residents of the City of Vineland.

Summary of Recommendations

Assessment of Proposed Center

In reviewing the Vineland Master Plan adopted in 1998 and 2008, a 2018 Re-examination Report and the State Plan endorsement Municipal Self Assessment dated October 2021, endorsement of a Vineland Center portion of the Vineland-Millville Regional Center promotes preservation of historic districts, preservation of natural resources, and growth of public access conservation areas. Vineland last updated it's Master Plan, Natural Resources Inventory and Land Use Inventory in 2018 and they should be updated in the center for additional climate and EJ impacts.

1. The City needs to further identify in proposed preservation or redevelopment areas any vulnerabilities to future flooding and adverse impacts related to climate change. Resiliency actions and restrictions should be applied to any sections in flood zones. DEP can offer Technical Assistance in clarifying development constraints for sites.

2. Future development in the proposed center will likely be limited by a shortage of available vacant and open land, overlapping restrictions of Special Flood Hazard Areas, and regulated riparian zones. The City's zoning ordinance should be updated to include overlays that address stormwater management, aquifer recharge, steep slopes, 100 year and 500 year flood zones

and critical habitat and habitat corridors. This includes a CES overlay for structures in the 100 year and 500 year flood zone and environmentally sensitive areas (ESA).

3. Vineland should update its Land Development Ordinance to include sustainable development practices.

4. Vineland must demonstrate consistency with the State Plan, the Pinelands Comprehensive Management Plan, and NJDEP guidance for climate resilience and environmental Justice. While not required in State Plan Endorsement rules, guidance or templates, Vineland did not provide in the MSA a summary table of all ordinances and plans with most recent date each was adopted or updated. I**t is recommended that Vineland maintain an updated summary table of all ordinances and plans** and include it in future Master Plan re-examination reports. Attached is only one example of a summary table that Vineland may use to track and update their current ordinances and plans and update as needed to reflect any changes. Any State Plan required ordinances or plans currently missing need to be created and adopted. Any existing ordinances, plans, zoning, etc. may need to be reviewed and updated to include climate resilience, updated inventories data, and social vulnerability and environmental justice.

Climate Change Resiliency

1. **Vineland should prepare for climate impacts described in the state Climate Change Science Report and available on the NJDEP website by completing a climate vulnerability assessment and adopting a Climate Resiliency Plan and incorporate climate resiliency into all applicable ordinances**.
2. This analysis has an extended focus on increased precipitation and flooding. The City should also prepare for impacts of increased heat.
3. Vineland shall update it's Hazard Mitigation Plan and chapter in County Plan and shall include a NJ State Police approval letter for the Local Emergency Management Plan.
4. Vineland adopted a tree management plan in 2007 but should update it to also prepare long-term adaptive management forestry practices to preserve its tree cover as precipitation and temperatures increase.
5. Vineland should expand its conservation corridors connecting parks and walkable community areas via easements and additional open space preservation.

Flooding

1. To address flooding increases, largely due to increases in intense short-term rain events, DEP recommends that Vineland utilize the Special Flood Hazard Area for the 1.0 percent (100 year) and 0.2 percent (500-year) storm. In assessing flood vulnerability, the City should evaluate its sewer, water, and stormwater infrastructure vulnerability , as well as its transportation and evacuation routes.
2. Vineland is included in the Cumberland County Open Space and Recreation Plan. The City should identify open space, vacant, and underutilized land vulnerable to future flooding and

should maintain up to date mapping and inventory of areas that flood regularly, including repetitive loss (RL) and severe repetitive loss (SRL) properties, roadways and intersections, with particular attention to evacuation routes or critical access areas.

3. Future development in the City will likely be limited by overlapping restrictions of Special Flood Hazard Areas and riparian zones, wetlands, and critical environmental species habitat.

4. When evaluating any construction within the identified floodplain of Vineland, the City and others involved must also consider the cost of damage and replacement in the event of flooding.

   - Any proposed conceptual redevelopment or conservation plan should be presented to NJDEP early in the review process, before planning board approval, and before submittal of any permit applications to determine if the project has any fatal flaws rendering it un-permittable in its current design. Pre-application guidance is available at https://www.nj.gov/dep/pcer/

5. The DEP recommends that Vineland, as per the 2018 Master Plan Re-examination Report, enhance its own zoning regulations and building codes to encourage building outside of the flood zone and to minimize construction in flood prone areas to reconstruction of existing buildings. Flood zone area new construction or redevelopment of existing buildings should avoid high density concentration and areas of severe flooding.

   - Construction of any critical utility line and associated infrastructure, emergency services, or public services buildings (schools, hospitals, churches, etc.) should be avoided in the flood hazard area and any currently within the flood zone should be mitigated for flood resilience. When evaluating any construction within the identified floodplain of Galloway, one must also consider the cost of damage and replacement in the event of flooding.

6. DEP recommends that Vineland adopt an updated floodplain development ordinance (https://www.ecode360.com/35610472) that is consistent with the most recent standards and National Flood Insurance Programs. For Guidance please review the riverine model ordinance at https://www.nj.gov/dep/floodcontrol/modelord.htm#:~:text=The%20Model%20Ordinance%20identifies%20the,not%20be%20the%20Construction%20Official and FEMA guidance at https://www.fema.gov/floodplain-management/manage-risk/local.

7. DEP encourages any town that has homes and neighborhoods that repetitively flood to consider contacting the DEP Blue Acres program regarding buyouts. (https://www.nj.gov/dep/greenacres/blue_flood_ac.html)

8. Green infrastructure should be incorporated into all projects within the floodplain.

<u>Historic Resources</u>

1. Vineland shall update its Historic and Cultural Resources Inventory and update its Historic Preservation Implementation Ordinance to include climate resilience. Historic structures within

the City's Historic Districts should continue to be evaluated and protected with enhanced stormwater management and flood minimization plans within the municipal code.

2. Revise the City code to implement within the historic districts the following:

- Adopt an updated Historic district overlay with defined historic district buffer area;
- Adopt architectural and development standards within and adjacent to the district;
- Maintain an Historic Preservation Commission;
- Continue to update the historic sites inventory and include historic sites in capital improvement program especially related to flood resiliency; and
- Adopt an Historic vista ordinance - https://www.ecode360.com/35605049?highlight=vistas&searchId=4417242711656817#35605049)

<u>Open Space and Wildlife</u>

DEP recommends that Vineland regularly update their natural resources inventory and adopt a resource conservation protection overlay. With a deficit of acres of center recreation land, the City should identify additional parkland for public community use in proximity to it's center s and walkable areas.

Vineland should adopt an Open Space and Recreation Plan Element to enhance the Vineland chapter included in the Cumberland County Open Space and Recreation Plan in order to further protect Vineland open spaces and expand conservation easements.

- Continue to work with Cumberland County and surrounding municipalities to provide and expand corridors of open space and natural features.
- Support habitat connectivity, adaptation to changing climate conditions, and to protect historic structures between and including town NGO, state, and federal open space within Vineland
- Vineland should also incorporate conservation easement tracking and monitoring in its Open Space Plan and a Habitat Conservation Protection ordinance.

Vineland should expand on its existing long-term tree shade and forestry adaptive management practices to preserve its tree cover as precipitation and temperatures increase.

- Update its tree ordinance to protect trees during development and in accordance with 2016 Community For -est Management Plan
- Adopt a Community Wildfire Protection Plan utilizing guidance from NJ Forest Fire Service

Vineland should promote the recolonization and reuse of open field habitats for ground nesting and foraging birds.

Vineland shall continue to expand public outreach and educational opportunities.

Vineland should adopt a Farmland Preservation ordinance.

Wastewater, Water Supply, and Stormwater

1. Vineland should regularly re-assess vulnerability of the municipal stormwater, wastewater management system and potable water supply system infrastructure that serves the town including any treatment plants, pump stations, delivery piping or outfalls in the flood zone, determine their specific vulnerability to flooding events, and evaluate resiliency solutions.

2. Stormwater Management - DEP recommends that Vineland continue to address stormwater runoff and improve stormwater retention on site at its source, reduce flooding and maintain water quality as temperatures and precipitation rise. Improvements can be implemented in many ways, including replacing impervious pavement with pervious surfaces, maintaining and restoring all surface water bodies potential for additional stormwater retention through dredging and silt control, constructing green and natural infrastructure, requiring buffers to surface water bodies, restoring wetland areas, adhering to state requirements for stormwater management best management practices, and adding stricter municipal building codes.

3. DEP recommends that Vineland come into compliance with their MS4 permit and update it's stormwater pollution prevention plan.
   - Vineland shall achieve compliance with the MS4 permit by submitting to DEP updated outfall location maps at its wastewater treatment plant and elsewhere in the borough.
   - Inventory and update maps of any stormwater outfalls located within the flood zone and determine their specific vulnerability to flooding events.
   - If not already done, it is recommended that Vineland update it's ordinance to incorporate overlays for aquifer recharge, stream corridor and greenway conservation, and steep slope erosion control.
   - Adopt an Impervious Surface Reduction Plan - Evaluate and reduce impervious surfaces and improve stormwater in-situ recharge.
   - Stream Corridor and Green Infrastructure - Vineland should seek opportunities to install green infrastructure measures and expand stream corridor buffer areas to offset increased stormwater runoff and to lower the impacts of heat-island effect directly related to the amount of impervious surfaces.

4. Wastewater Management – Vineland shall identify if any wastewater treatment facility buildings or pump stations are located in the flood zone as well as any piping in the floodzone.

Several houses on Utopia Lane in need of expansion of sewer service area to relieve failing septic systems as a health priority should be evaluated if they are located in a flood zone.

- DEP supports ongoing resiliency improvement measures at the Vineland wastewater treatment facilities and infrastructure inclusion in an updated municipal chapter of the Cumberland County Hazard Mitigation Plan relocating any conveyance or outfall pipe.
- While the sewer service area includes all of Vineland, the City should also identify any active commercial or home septic systems.
- The current sewer service area also includes areas identified as habitat for threatened and endangered species. Future evaluation of the County approved sewer service area may eliminate those species habitat areas. Such parcels would be subject for review either through a Municipal Chapter of the Cumberland County Wastewater Management Plan or through a site specific amendment pursuant to the DEP Water Quality Management rules.

5. Potable water supply system – Vineland shall determine if any of it's potable water treatment infrastructure is located in the 100 year flood zone including outfalls, conveyance piping and wellhead protection areas. Vineland shall identify any water supply infrastructure located in the flood zone and determine their specific vulnerability to flooding events.

- Additionally, DEP recommends that Vineland inventory any private domestic wells within the City and within the proposed center and both inform the owners of their vulnerability and identify potential solutions to that vulnerability.
- Vineland shall update maps and prepare tables of location, capacity, etc. of the wellhead protection area around the community public supply wells in its planning documents.
- Vineland shall update as necessary it's existing Water Conservation Plan to address climate resilience.

<u>Contaminated Sites, Solid and Hazardous Waste, and Recycling</u>

1. Vineland shall complete a Known Contaminated Sites Inventory of the City as well as of the Center. There are many identified sites in and adjacent to the center and Vineland shall delineate which sites are currently undergoing active or passive remediation efforts and regular groundwater monitoring. Vineland should identify if any of these Known Contaminated Sites (KCS) also meet the current DEP definition of a brownfield site and evaluate for redevelopment.

2. If the City pursues brownfield cleanup and development in the future, DEP recommends taking actions as part of the Sustainable Jersey Certification Program.

3. Vineland should also expand its inventory of potential sources of contamination by identifying all commercial and private home underground storage tanks and septic systems.

4. Vineland should update it's recycling ordinance and update its municipal solid waste and recycling management plan to identify not only public, but also private facilities that either collect, transfer, process, or dispose of solid waste or recyclables on its municipal inventory. Vineland should notify the State of any update to its recycling ordinances adopted through a statement of consistency, pursuant to N.J.S.A. 13:1E-99.16(b).

Environmental Justice and Social Vulnerability

1. As per new environmental justice legislation, all municipalities should seek to reduce disproportionate stressors and increase benefits for socially vulnerable populations and frontline communities. Vineland can do this by empowering residents, particularly its most socially vulnerable residents, to meaningfully participate in decision-making that affects their environment, communities, and health.

2. Vineland shall update its last land use inventory of 2006 and discussed in re-examination report of 2018 to further identify sustainable development potential while meeting conservation and environmental protection goals.

3. Vineland shall update its affordable housing ordinance to include climate resilience and shall develop an overlay for proposed affordable housing on vacant or underutilized land.

4. The City should update any assessment of any Redevelopment Areas vulnerable to future flooding, with regulated wetlands and/or with identified critical species habitat during the planning process that would limit any future affordable housing.

Greenhouse Gas Reduction and Energy

1. All communities are encouraged to implement actions to meet New Jersey's goals for greenhouse gas emissions reduction. The Sustainable Jersey Gold Star in Energy identifies a suite of actions and levels of performance that municipalities can take to reduce greenhouse gas emissions. Information on the goals star standard can be found at https://www.sustainablejersey.com/actions/gold-star-standards.

2. DEP supports Vineland's commitment to pursue the utilization of renewable energy, although it encourages the City to pursue it in an ecologically responsible manner. Vineland shall conduct an energy audit of all municipal buildings and adopt an updated Energy Master Plan.

3. DEP supports renewable energy through solar arrays installation, although it expresses concerns for their placement in ground nesting habitats for birds. Vineland should continue to protect the City's open spaces and the recolonization and reuse of open field habitats for ground nesting and foraging birds as they evaluate sustainable, renewable and alternative energy sources and sites.

4. Vineland shall adopt a Greenhouse Gas Emissions Reduction Ordinance that encompasses energy efficiency and sustainable alternatives to transportation including bike paths, walking trails and contiguous sidewalks and potential congestion relief bypass route around downtown historic Allentown. For guidance please refer to the Great Plains Institute database of climate ordinances at:

https://www.betterenergy.org/blog/database-of-climate-ordinances-now-available-to-planners/?mc_cid=ee681f368d&mc_eid=64c234231d

Attachments

Municipal Ordinance Checklist.docx

Additional maps