

The seal of Passaic County, New Jersey, is faintly visible in the background. It features a central figure holding a scale of justice, surrounded by the words "PASSAIC COUNTY" and "NEW JERSEY".

PASSAIC COUNTY

NEW JERSEY

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PASSAIC COUNTY PLANNING BOARD

HIGHLANDS ELEMENT OF THE PASSAIC COUNTY MASTER PLAN

MAY 2011

PREPARED BY:

PASSAIC COUNTY PLANNING DEPARTMENT

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HIGHLANDS ELEMENT

OF THE PASSAIC COUNTY MASTER PLAN

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The Passaic County Board of Chosen Freeholders and/or Planning Board presented, discussed, and accepted public comment on a draft and this final Master Plan supplement at duly-noticed public meetings of November 12, 2009, December 8, 2009 and June 23, 2011. Copies of the document were made available for review by the public at least 20 days prior to the meetings, and adequate notice of the meeting advising that the Highlands Element was on the agenda for discussion and public comment was provided. This document is based on a model Highlands Element prepared and provided to all Highlands counties by the New Jersey Highlands Water Protection and Planning Council.

This element is being adopted by Passaic County because the Highlands Act requires that counties seeking Plan Conformance with the Highlands Regional Master Plan adopt revisions to county master plans to bring them into alignment with the Highlands Regional Master Plan. This Highlands Element sets forth the policies that shall guide the future land use and development for lands located within the *Passaic County* Highlands Region Preservation Area as delineated in the Highlands Water Protection and Planning Act. It addresses development review functions of the Planning Board, as well as functions of the Board of Chosen Freeholders regarding land and facility management under the jurisdiction of the county. Modifications required to tailor it for application to Passaic County were provided by the individual indicated below.

This plan was adopted by the Passaic County Planning Board
at a public meeting held on July 7, 2011

PREPARED BY:



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INTRODUCTION

The County of Passaic is located partially within the New Jersey Highlands Region. It is one of seven counties protected by and subject to the provisions of the Highlands Water Protection and Planning Act (“Highlands Act,” N.J.S.A. 13:20-1 et seq.). The Highlands Act was enacted by the State Legislature on August 10, 2004 for the purpose of protecting, enhancing and restoring Highlands natural resources, in particular water resources, which provide drinking water to over 5 million New Jersey residents. The Highlands Act created the Highlands Water Protection and Planning Council (the “Highlands Council”) and charged it with crafting a comprehensive master plan for the Highlands Region.

The Highlands Regional Master Plan (RMP) was adopted by the Highlands Council on July 17, 2008, and became effective on September 8, 2008. As the product of a long-term, participatory, and region-wide planning effort, the RMP is representative of the collective response of the wider community to the Legislature’s call for a Highlands comprehensive master plan. Passaic County places value in the regional planning process that was undertaken to fully develop the RMP and acknowledges its role in furthering the vision that it represents.

The Highlands Region encompasses some 1,343 square miles in the northwest part of New Jersey, encompassing 88 municipalities and portions of seven counties. The Highlands Act designates about half of the Highlands Region as Preservation Area (415,000 acres) and the other half as Planning Area (445,000 acres). The Act requires that county and municipal jurisdictions having lands in the Preservation Area conform to the Highlands RMP with respect to that area, while for lands located in the Planning Area, conformance is voluntary.

Passaic County is located partially in the Preservation Area and partially in the Planning Area. The county affirmatively seeks to align its land use planning program with the provisions of the RMP with respect to that portion of the county located within the Preservation Area. For purposes of this document, these lands shall henceforth be referred to as the “Passaic County Highlands Area” This supplement to the Passaic County Master Plan designated the “Highlands Element,” represents a first step toward achieving Plan Conformance with the Highlands RMP.

The Highlands Element sets forth the policies that shall guide the future land use and development of the Passaic County Highlands Area. It provides the rationale and the framework for the review and approval of land use and development activities over which the county has jurisdiction in a manner and location that is consistent with the protection of Highlands resources and with the Highlands RMP.

With regard to specific regulatory requirements, these shall apply to all land use and development activities over which the county has jurisdiction (including subdivisions of land and site plans for land along county roads, and for lands affecting county drainage facilities), existing and proposed county capital improvement projects, facilities and infrastructure for all lands under county jurisdiction (including lands leased by the county), and for all facilities owned and operated by the county including but not limited to roads,

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bridges, drainage facilities, offices, fire, police and rescue related facilities, parks and playgrounds, educational facilities, libraries, public works facilities and yards, treatment works, and storage depots. Specific uses, activities and development projects are listed as exemptions in the Highlands Act (N.J.S.A. 13:20-28). Land use activities, improvements and development projects that are exempt from the Highlands Act shall remain subject to all other applicable provisions of the underlying county Master Plan, its accompanying elements, and Development Regulations.

The Highlands Element amends or creates in limited form (where not already existing), each of the components of the county Master Plan, as provided in the sections that follow. The Highlands Element is intended to apply in conjunction with the language of the existing Passaic County Master Plan. In the event of conflicts between the two, the Highlands Element shall supersede regarding that portion of the county located within the Preservation Area, unless the existing county Master Plan provisions are more restrictive.

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POLICIES, GOALS & OBJECTIVES

The Passaic County Highlands Area is located in the northern portion of the county. It consists of approximately 78,789 acres of land (see Exhibit A, Passaic County Highlands Preservation Area) all of which lies within the Highlands Preservation Area.

The Passaic County Environmental Resource Inventory (ERI) (prepared by Michael La Place, dated May 2011 and adopted July 7, 2011) provides detailed information concerning the physical features, natural resources and specific characteristics of the county Highlands Area. The county ERI includes all of the information available through the Highlands RMP and supporting technical documents, which document the wide array of natural and cultural resources that characterize the New Jersey Highlands Region.

The county recognizes the unique value of the Passaic County Highlands Area and seeks to protect and enhance it, in keeping with the Highlands Act and the Highlands RMP. Accordingly, the overarching land use policy with respect to the Passaic County Highlands Area is to place priority emphasis on the protection, enhancement and restoration of Highlands natural and cultural resources while ensuring that land use and development activities occur only in a manner and location that is consistent with the Highlands RMP.

In keeping with this policy, the following goals of the Highlands Act and the Highlands RMP are adopted by the county and shall guide all land use and development activities of the county in the Highlands Area:

A. PRESERVATION AREA GOALS

1. To protect, restore, and enhance the quality and quantity of surface and ground waters;
2. To preserve extensive and, to the maximum extent possible, contiguous areas of land in its natural state, thereby ensuring retention of the unique and significant natural, scenic, and other resources representative of the Passaic County Highlands Area;
3. To protect the natural, scenic, and other resources of the Passaic County Highlands Area, including but not limited to contiguous forests, wetlands, vegetated stream corridors, steep slopes, and critical habitat for fauna and flora;
4. To preserve farmland, historic sites, and other historic resources;
5. To preserve outdoor recreation opportunities on publicly owned land;
6. To promote conservation of water resources;
7. To promote Brownfield remediation and redevelopment, where applicable;

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8. To promote compatible agricultural, horticultural, recreational, and cultural uses and opportunities within the framework of protecting the environment of the Passaic County Highlands Area; and
9. To prohibit or limit to the maximum extent possible construction or development which is incompatible with preservation of this unique area.

B. LAND USE PLANNING AND MANAGEMENT

The afore-listed goals for the use and development of lands and the management of County properties and facilities located within the Passaic County Highlands Area are consistent with and intended to apply equally and in conjunction with the purposes and requirements of the Highlands Act and the Highlands RMP. Nothing in the body of the Highlands Element shall be construed to imply that the provisions of the County Planning Act (N.J.S.A. 40:27-1 et seq.) are not also applicable to Passaic County in exercising its authority to engage in land use planning, management and regulation pertinent to the Highlands Area.

The County Planning Act requires the county planning board to make and adopt “a master plan for the physical development of the county” (N.J.S.A. 40:27-2). The Board of Chosen Freeholders with assistance from the County Planning Board may adopt and establish an official county map depicting infrastructure and facilities under county jurisdiction, or for which the county has participated in the financing or construction, and for the acquisition of land for any purpose (N.J.S.A. 40:27-5). The official county map is established to conserve and promote public health, safety, convenience and welfare. The county planning board also reviews and approves subdivisions of land and site plans for land along county roads, and for lands affecting county drainage facilities (N.J.S.A. 40:27-6.2 and 6.6).

The following intents and purposes are consistent with the Highlands Act and the Highlands RMP and shall guide the physical development of the county Highlands Area. These purposes are expressly incorporated herein for application to the county role in land use planning, management and regulation of the Passaic County Highlands Area, as follows:

- a. To guide the appropriate use or development of all lands in a manner that will promote public health, safety, convenience and general welfare;
- b. To promote development of Passaic County that does not conflict with the development and general welfare of neighboring counties or the state as a whole;
- c. To promote and coordinate with municipalities on the establishment of appropriate population densities and concentrations that will contribute to the well-being of persons, neighborhoods, communities and regions and preservation of the environment;
- d. To encourage the appropriate and efficient expenditure of public funds by the coordination of public development with land use policies;

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- e. To promote the provisions of sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial and industrial uses and open space, both public and private, according to their respective environmental requirements in order to meet the needs of all citizens;
- f. To encourage the location and design of transportation routes which will promote the free flow of traffic while discouraging location of such facilities and routes which result in congestion or blight;
- g. To promote a desirable visual environment through creative development techniques and good civic design and arrangement;
- h. To promote the conservation of historic sites and districts, open space, energy resources and valuable natural resources in Passaic County and to prevent urban sprawl and degradation of the environment through improper use of land;
- i. To encourage shared services and coordination of the various public and private procedures and activities shaping land development with a view of lessening the cost of such development and to the more efficient use of land; and
- j. To promote utilization of renewable energy resources.

C. RELATIONSHIP BETWEEN THE HIGHLANDS ACT, THE COUNTY PLANNING ACT & THE MLUL

The County Planning Act and the MLUL give authority to New Jersey county and municipal governments, respectively, to regulate land use and development within their borders. The two acts are interrelated and call for coordination between these levels of local government. The Highlands Act augments these authorities to allow counties and municipalities the power to enforce the goals, policies, objectives and programs of the Highlands RMP. The Highlands Act and the RMP together provide the regional perspective from which local decisions and actions will emanate.

As a result of the passage of the Highlands Act, the future of land use planning has significantly changed for both municipalities and counties in the Highlands Region. The New Jersey Supreme Court, in upholding the constitutionality of the Highlands Act in OFF, LLC v. State, 197 N.J. 418 (2008), affirmed the Appellate Division's decision, which emphasized the broad scope of the Highlands Act to protect the natural and agricultural resources of the Highlands through a coordinated system of regional land use controls. The Highlands Act creates a system in which a regional plan is designed to be implemented primarily through local government units. The net effect is that the statutory authority of local government units in the Highlands Region, inclusive of that provided under the County Planning Act and the MLUL, is not preempted by the Highlands Act, but rather is supplemented.

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The criteria for approval of development applications under the county regulations that will in part, effectuate this Highlands Element will incorporate aspects of the County Planning Act and the Highlands Act. To the extent that the County Planning Act or County land development review criteria for development approvals, waivers and any other relevant aspects are altered or supplemented by provisions indicated in the Highlands Element, authority for such modifications derives from the passage of the Highlands Act.

1. **Non-Major Highlands Development.** A waiver may be issued or authorized by the Highlands Council on a case-by-case basis from the requirements of the RMP or any amendments to a master plan, development regulations or other regulations adopted by a local government unit specifically to conform them with the RMP: 1) if determined to be necessary in order to protect public health and safety; 2) for redevelopment in accordance with a Highlands Redevelopment Area Designation (see Land Use Plan, Section C); or 3) in order to avoid the taking of property without just compensation. Any waiver issued shall be conditioned upon a determination that the proposed development meets the requirements prescribed for a finding as listed in Section 36.a of the Highlands Act to the maximum extent possible. Waivers to requirements of the RMP are addressed separately from New Jersey Department of Environmental Protection (NJDEP) waivers to its Highlands Preservation Area regulations at N.J.A.C. 7:38.
2. **Major Highlands Development.** With respect to the Preservation Area, the Highlands Council will coordinate with NJDEP during Highlands permit review for any major Highlands development including the review of waivers on a case-by-case basis: 1) if determined to be necessary in order to protect public health and safety; 2) for redevelopment in accordance with a Highlands Area Designation (see Land Use Plan, Section C); or 3) in order to avoid the taking of property without just compensation.

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LAND USE PLAN

A. HIGHLANDS ZONES AND SUB-ZONES

The Passaic County Highlands Area includes the Highlands Zones and Sub-Zones from the Highlands Regional Master Plan listed and described below. These Zones are configured as depicted in Exhibit B (“Land Use Capability Map Zones”) and are herewith incorporated into the Land Use Plan as an overlay to the existing county Land Use Plan. The Highlands Council delineation of Highlands Zones finds basis in the underlying natural resources, the extent of existing development and supporting infrastructure, and the potential to support new development or redevelopment. Highlands Zones are intended to ensure that the density and intensity of future development and/or redevelopment do not exceed the capacity of the land, natural resources and existing infrastructure to support it. Where development applications filed with the County Planning Board are subject to municipal review and approval in a municipality for which the Highlands Council has approved Plan Conformance, the County Planning Board will rely upon the municipal decision. Where development applications to the County Planning Board are subject to municipal review and approval in a municipality for which the Highlands Council has not approved Plan Conformance, the County Planning Board will rely solely upon review by the Highlands Council.

The Highlands Zones include three primary zones (the Protection Zone, the Conservation Zone, and the Existing Community Zone) and four sub-zones (the Wildlife Management Sub-Zone, the Conservation Zone–Environmentally Constrained Sub-Zone, the Existing Community Zone–Environmentally Constrained Sub-Zone, and the Lake Community Sub-Zone) each with its own purpose, application and development criteria. Of these, the Passaic County Highlands Area includes the following:

1. **Protection Zone.** The Protection Zone consists of the highest quality natural resource value lands that are essential to maintaining water quality, water quantity and sensitive ecological resources and processes. Land acquisition is a high priority for lands in the Protection Zone and development activities will be extremely limited. Any development will be subject to stringent limitations on consumptive and depletive water use, degradation of water quality, and impacts to environmentally sensitive lands and natural resources.
 - a. **Wildlife Management Sub-Zone.** The Wildlife Management Sub-Zone consists of areas managed by the United States Fish and Wildlife Service as part of the National Wildlife Refuge System, and lands within the Wildlife Management Area System administered by the NJDEP Division of Fish & Wildlife’s Bureau of Land Management. These areas are part of a network of lands and waters for conservation, management, and where appropriate, restoration of fish, wildlife and plant resources and their habitats and permit compatible wildlife-dependent recreational uses.
2. **Existing Community Zone.** The Existing Community Zone consists of areas of concentrated development representing existing communities. These areas tend to have limited environmental constraints due to previous development patterns, and may have existing infrastructure that can support additional development and/or

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redevelopment. Where served by adequate supporting infrastructure, lands within the Existing Community Zone may be suited to higher densities and intensities of development (see Section C, below) than other Zones. This Zone may have the greatest potential to accommodate mixed-use development projects and center-based planning initiatives, generally, where utility capacity exists.

- a. **Existing Community Zone–Environmentally Constrained Sub-Zone.** The Existing Community Zone–Environmentally Constrained Sub-Zone consists of significant contiguous critical habitat, steep slopes and forested lands within the Existing Community Zone that should be protected from further fragmentation. They serve as regional habitat “stepping stones” to larger contiguous critical habitat and forested areas. As such, they are not appropriate for significant development, and are best served by land preservation and protection. Development is subject to stringent limitations on consumptive and depletive water use, degradation of water quality, and impacts to environmentally sensitive lands.
- b. **Lake Community Sub-Zone.** The Lake Community Sub-Zone consists of patterns of community development that are within the Existing Community Zone within 1,000 feet of lakes. Lakes are defined to include those 10 acres or greater in size with lake management areas consisting of lands within the first 1,000 feet (or less, depending on the protection focus) from the lake shoreline. The purpose for the sub-zone is to protect and enhance water quality, resource features, shoreline recreation, scenic quality, and community character. This zone incorporates unique regulatory requirements to prevent degradation of water quality, harm to lake ecosystems, and watershed pollution, while promoting natural aesthetic values within the Existing Community Zone.

The intents and purposes listed above for the Highlands Zones and Sub-Zones shall guide land use and development in the Highlands Area of the county and shall be recognized in the development or expansion of all county facilities and infrastructure. Land use and development is subject to compliance with: a) all resource constraints (discussed at length in the Conservation Plan Element); b) all applicable provisions of both the NJDEP Highlands Water Protection and Planning Act Rules (N.J.A.C. 7:38) and the New Jersey Department of Agriculture (NJDA) Agricultural Development in the Highlands Rules (N.J.A.C. 2:92); and c) the density and intensity requirements set forth in the section that follows, responsibility for which will primarily lie with the municipalities (see Section B, Density and Intensity of Development).

B. DENSITY AND INTENSITY OF DEVELOPMENT

The physical potential for development and redevelopment within the county in each Highlands Zone and Sub-Zone of the Passaic County Highlands Area is limited by existing natural features, resource protection priorities, and the capacity of the land and available infrastructure to support it. This section sets forth a capacity-based planning framework intended to ensure that future development and redevelopment do not exceed carrying

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capacity. These provisions will apply primarily to the development and redevelopment of lands under county ownership or jurisdiction.

Permitted densities and intensities of development shall comport with the provisions of the Highlands RMP (including, where pertinent, information from Highlands Council Technical Reports and all data related thereto that are incorporated by reference in the Highlands RMP), and the applicable provisions of the Preservation Area Rules adopted by the NJDEP (N.J.A.C. 7:38). As provided therein, the framework for setting development density and intensity guidelines relies primarily on water and wastewater capacity analyses, with natural resource constraints to be applied largely on a project-specific basis at the development review level.

To the extent feasible, permitted density and intensity allowances for the Highlands Area must also reflect county goals and objectives with respect to promoting growth in the county and for development or expansion of areas under county jurisdiction.

County proposals for development within the Highlands Area will require reviews for consistency on a project-by-project basis. The major criteria for assessing the proposed density or intensity of development include the following:

1. **Base Maps/Data.** Base data regarding water availability and wastewater treatment capacity appear in the technical information provided in the Conservation Plan and Utility Services Plan Elements, which includes associated mapping identified as Exhibits T, EE, and FF. These include, respectively, the Passaic County Highlands Area: Net Water Availability Map, Public Community Water Systems Map, and Highlands Domestic Sewerage Facilities Map. All are herewith adopted and incorporated as a component of the Highlands Element.
2. **Water Availability.** As provided under Conservation Plan Element Section G, Water Resources Availability.
3. **Public Water Supply and Wastewater Utilities.** Where properties are served by existing water and wastewater utility infrastructure having sufficient available capacity, the density and intensity for development or expansion of areas shall be consistent with current county practices.
4. **Public Water Supply Utilities – Key Provisions.** New, expanded or extended public water systems are prohibited unless approved through a Highlands Applicability Determination or a Highlands Preservation Area Approval with waiver pursuant to N.J.A.C. 7:38.
5. **Wastewater Utilities – Key Provisions.** New, expanded or extended wastewater collection and treatment systems and community on-site treatment facilities are prohibited unless approved through a Highlands Applicability Determination or a Highlands Preservation Area Approval with waiver pursuant to N.J.A.C. 7:38.

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6. Septic Systems – Key Provisions.

- a. **Major Highlands Development.** Development proposals involving the installation of one or more new individual subsurface disposal systems (or aggregate of equivalent disposal units as provided at N.J.A.C. 7:38) shall meet NJDEP septic system density requirements as set forth at N.J.A.C. 7:38.
- b. **Non-Major Highlands Development.** In the event any County project classifies as a non-Major Highlands Development (i.e., consists of residential development not meeting impervious surface/disturbance thresholds that define a Major Highlands Development), septic system density shall be determined on the basis of nitrate dilution analysis in accordance with the Highlands Area Land Use Ordinance of the Preservation Area municipality in which the project is located.

C. REDEVELOPMENT PLANNING

The County Planning Board will examine the potential for redevelopment opportunities within the Highlands Area. The term “redevelopment” is used herein to refer to reconstruction or re-use of previously developed and underutilized properties (which include Preservation Area sites having 70% or more area in impervious surface), and to the rehabilitation and re-use of “brownfield” sites (identified as such by NJDEP), including sites eligible for designation as Highlands Redevelopment Areas by the Highlands Council. Unless specifically stated otherwise, neither the term “redevelopment,” nor the phrase “in need of redevelopment” is used herein to invoke the definitions, processes, powers or any other facet of the provisions of the New Jersey Local Redevelopment and Housing Law (N.J.S.A. 40A:12A-1 et seq.).

County involvement in redevelopment activities may occur in one or more ways. First, counties may become involved as a regulatory or cooperative partner regarding municipal or property owner petitions for Highlands Redevelopment Areas that affect county lands or facilities and county roads or county drainage systems. Second, pursuant to the Local Redevelopment and Housing Law (N.J.S.A. 40A:12A-4c.), the municipality is responsible for the implementation of redevelopment plans and projects. However, under this statute the county is authorized to assume a role in the redevelopment process. Third, pursuant to the County Improvement Authorities Law (P.L. 1957, c.183, N.J.S.A. 40:14b-1 et seq.) a county improvement authority is authorized to undertake redevelopment projects and may act as a redevelopment entity, and pursuant to N.J.S.A. 40A:12A-4c., may contract with a municipality or other public body to carry out a redevelopment project for portions under county jurisdiction.

Highlands Area Redevelopment Area planning is a process distinct from the Local Redevelopment and Housing Law, and refers to the identification of previously developed areas that: a) are suitable for re-use, reconstruction or reversion to “greenfields” (e.g., parklands, conservation areas, dedicated open space) without designation as a Highlands Redevelopment Area; or b) may be eligible for designation by the Highlands Council as

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Highlands Redevelopment Areas. Highlands Redevelopment Areas are typically characterized by: ready access to or potential for water and wastewater utility infrastructure (and available or potential capacities); existing transportation infrastructure and/or services with links to viable transportation networks; proximity to supporting community facilities and services; and suitability for increased development intensity in keeping with smart growth planning principles. Where brownfields are involved in the Preservation Area, NJDEP identification of the brownfield site is a necessary step prior to Highlands Council designation of a Highlands Redevelopment Area. In the Preservation Area, applications for major Highlands developments within a Highlands Redevelopment Area must be submitted to NJDEP for a Highlands Preservation Area Approval (HPAA) with Redevelopment Waiver.

It is the intent of this Plan Element to encourage redevelopment where appropriate within the Highlands Area, to ensure optimal and efficient use of land. By maximizing the use of previously developed areas and areas in need of environmental clean-up or other improvements, the county may assist municipalities in promoting and implementing redevelopment projects or desirable new development (or new green spaces), while protecting lands that contain sensitive environmental features and important Highlands resources. This approach is intended to guide development toward the most suitable locations within the county and its municipalities, to encourage environmental clean-up where needed, and to maximize the use of existing infrastructure to meet future needs. The county may also identify lands or facilities under county jurisdiction for redevelopment projects or activities and may become involved as a regulatory or cooperative partner with municipalities or property owners proposing Highlands Redevelopment Area projects.

Redevelopment projects and activities that conform to density and intensity allowances and meet all other requirements of the applicable land use regulations (specifically including those developed for the Highlands Area and the Highlands Preservation Area Rules at N.J.A.C. 7:38), do not require Highlands Redevelopment Area designation and may proceed as of right in accordance with all municipal and county procedural requirements. Any municipally-sponsored or county contracted redevelopment project proposed pursuant to N.J.S.A. 40A:12A, while perhaps also requiring Highlands Council Redevelopment Area designation, must be advanced in accordance with all applicable statutory requirements, including preparation and adoption by the Governing Body of a Redevelopment Plan. The municipal Planning Board, in making any determination of “area in need of redevelopment” pursuant to N.J.S.A. 40A:12A within the Highlands Area, will incorporate the considerations listed below for Highlands Redevelopment Area designations in evaluating the applicable criteria under N.J.S.A. 40A:12A-5.

1. Definitions.

- a. A “brownfield” site consists of a commercial or industrial site that is currently vacant or underutilized and on which there has been or is suspected to have been, a contaminant discharge. The site remains a brownfield until the contamination has been fully addressed.

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- b. A “grayfield” site consists of a site supported by existing infrastructure that contains an industrial or commercial facility (not excluding one having a residential component) exhibiting signs of abandonment or underutilization relative to its designed intent, but without evidence or expectation of contamination.
- c. A “redevelopment project” or “redevelopment activity” refers to the re-use, reconstruction or conversion to alternate use of a brownfield site, a grayfield site, or a previously developed site that is currently vacant or underutilized in the Highlands Area. Redevelopment projects and activities may include but are not limited to: removal, reconstruction or adaptive reuse of existing buildings and other structures; construction of new buildings and other structures; and conversion or restoration of a site or portions of a site for open space, recreation or conservation purposes of any kind.
- d. A “Highlands Redevelopment Area” consists of the entirety or a portion of a property or group of properties designated as such by the Highlands Council, and which includes one or more of the following: a) a brownfield site; b) a grayfield site; and c) any previously developed site in the Highlands Area. A Highlands Redevelopment Area may include the intervening or surrounding lands which are significantly affected by or are necessary to support such sites, and will be subject to a Highlands Council-approved redevelopment plan setting forth the full scope and details of the proposed redevelopment.

2. **Redevelopment Projects and Activities.**

- a. Redevelopment projects and activities that comply with all applicable land use regulations (specifically including those developed for the Highlands Area) are encouraged in all Areas, Zones and Sub-zones of the Highlands Area. Such projects and activities are also subject to all applicable municipal, county, State and federal regulatory requirements.
- b. Redevelopment projects and activities involving conversion to greenfields are particularly encouraged in environmentally constrained areas, where compliance with Highlands Area municipal ordinance provisions for new development may not be feasible.

3. **Highlands Redevelopment Areas.** In assessing the potential for Highlands Redevelopment Area designations and with the governing municipality serving as project lead, the County Planning Board incorporates the following relevant considerations:

- a. Any redevelopment project or activity permitted under the auspices of a Highlands Redevelopment Area plan should be designed and developed in accordance with smart growth and Low Impact Development principles (see Section K).

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- b. Identification of opportunities for redevelopment projects and activities that are potentially suitable for Highlands Redevelopment Area designation in the Highlands Area should include use of the Highlands Council Redevelopment and Infill Analysis Tool. This review should also include any sites depicted in Exhibit DD, “Highlands Contaminated Sites Inventory.” Information on Highlands Contaminated Site Inventories is available in the Highlands Council *Regional Land Use Conditions and Smart Design Guidelines Technical Report*.

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CONSERVATION PLAN

The basis for the Conservation Plan Element is the Passaic County Highlands Area Environmental Resource Inventory (ERI), which is herewith adopted and incorporated in its entirety as an integral component of the Master Plan. The ERI (which will be further supplemented through the Plan Conformance process) was developed based on the vast store of resource information, technical data, and scientific analyses that provide the foundation for the Highlands RMP, including all Highlands Technical Reports and guidance documents. The ERI identifies, categorizes and delineates the wide array of natural resources and resource areas existing in the Passaic County Highlands Area, and serves as a preeminent guidance document in Highlands Area community planning. The ERI depicts both Preservation Area and Planning Area resources to provide a regional appreciation for Highlands Resources, but for purposes of this Conservation Plan, only the Preservation Area portion is directly applicable. In keeping with the general goals of the Highlands Element, it is the overarching policy of the Conservation Plan to safeguard the natural resources of the Passaic County Highlands Area, ensuring sustainable use of renewable resources, protecting environmentally critical areas, and preserving significant natural areas. This policy directly advances the intents and purposes of the Highlands Act, is consistent with and furthers purposes as set forth under the MLUL (N.J.S.A 40:55D-2) and the County Planning Act (N.J.S.A. 40:27-2), and will apply to all development applications and decisions for lands and facilities under county jurisdiction.

A. FOREST RESOURCES

Highlands Area Forest Resource delineations appear in the ERI maps duplicated herein at Exhibit D, "Forest Resource Area," Exhibit E, "Total Forest Area," and Exhibit F, "Forest Subwatersheds."

This Plan seeks to balance the need to protect forest resources, biodiversity and water resources with the economic use and continued sustainable management of forests. It encourages active stewardship of forest resources in order to optimize the benefits and services forests provide such as clean air, clean water, soil protection, recreation area, wildlife habitat and availability of forest products. The below-listed goals and objectives will guide the regulation and management of Forest Resources in the Passaic County Highlands Area.

1. To protect and preserve extensive and, to the maximum extent possible, contiguous forests.
2. To limit development in the Forest Resource Area.
3. Where development is permitted in the Forest Resource Area, to avoid deforestation and require submission of and compliance with a Forest Mitigation Plan.

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4. To prohibit clear-cutting in the Forest Resource Area or within any portion of the Total Forest Area except in accordance with a Forest Management Plan approved by the State Forester.
5. To require compliance with the NJDEP Preservation Area Rules (N.J.A.C. 7:38) regarding forest protection in the case of all “major developments,” as defined therein.
6. To ensure that site-specific forest resources are identified through project review and that those to remain are protected both during the construction of an approved development project and by conservation easement post-construction.
7. To permit forestry activities within a Forest Resource Area or within the forested lands within a High Integrity Forest Subwatershed only in compliance with an approved Forest Management Plan.
8. To maintain forest cover in the natural and built environment of the Passaic County Highlands Area to the maximum extent possible.

B. HIGHLANDS OPEN WATERS AND RIPARIAN AREAS

Highlands Open Waters and Riparian Areas within the Highlands Area appear in ERI mappings duplicated herein at Exhibit G, “Highlands Open Waters” and Exhibit H, “Highlands Riparian Areas.” Closely related and also duplicated herein, are Exhibit I, “Watershed Value,” and Exhibit J, “Riparian Integrity.” This Plan recognizes and incorporates the descriptions, definitions, delineations and values regarding Highlands Open Waters and Riparian Areas as discussed in the ERI.

Highlands Open Waters are defined by the Highlands Act as all springs, streams including intermittent streams, wetlands, and bodies of surface water, whether natural or artificial (excluding swimming pools), located wholly or partially within the boundaries of the Highlands Region. The Highlands Act and the Highlands RMP establish the importance of providing protective buffers adjacent to Highlands Open Waters. Key functional values that such buffers provide or contribute to, include but are not limited to habitat, stormwater and flood water retention and filtration, water quality protection, temperature moderation, aquatic ecosystem integrity and channel integrity. Highlands Riparian Areas are the lands associated with and bordering Highlands Open Waters, but often extending beyond the Highlands Open Water buffers, that provide critical hydrologic, ecologic and pollutant attenuation functions for the Open Waters.

The below-listed goals and objectives will guide the regulation and management of Highlands Open Waters and Riparian Areas in the Passaic County Highlands Area.

1. To protect, restore and enhance Highlands Open Waters and Riparian Areas.
2. To require protective buffers adjacent to Highlands Open Waters of sufficient width and composition to protect the integrity of the water resource from impairment due

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to proximate land uses and development activities. Minimum standards for such buffers should be consistent with those of the NJDEP and the RMP.

3. To limit disturbances within established Highlands Open Waters buffer areas to previously disturbed areas, only, with jurisdiction over any waivers from this restriction left to the Highlands Council or the NJDEP, as applicable. Approval of buffer disturbances in previously disturbed areas should occur only where an applicant can satisfactorily demonstrate that: a) the encroachment cannot be avoided, b) the disturbance is the minimum feasible, and c) any adverse impacts will be mitigated to result in no net loss of functional value (in accordance with the functional value assessment approach discussed in the ERI).
4. To seek opportunities to restore the functional value of Highlands Open Waters buffers where existing development or land uses have reduced or impaired their quality.
5. To seek opportunities to enhance Highlands Open Waters buffers by improving functional values while ensuring no net loss (see ERI functional value assessment approach).
6. To prohibit modifications to Riparian Areas in the Protection Zone except where a waiver is approved by the NJDEP or the Highlands Council.
7. To limit disturbance of existing natural vegetation or increases in impervious area within High and Moderate Integrity Riparian Areas in all other Zones and Sub-Zones to the minimum feasible in areas beyond Highlands Open Waters buffer requirements; protect the water quality of adjacent Highlands Open Waters; and maintain or restore habitat value of the Riparian Area.
8. To restrict modifications to Riparian Areas in Existing Community Zones, other than those addressed by Objective 7, above, that would alter or be detrimental to the water quality and habitat value of a Riparian Area.
9. To require use of Low Impact Development Best Management Practices (see Section K) for any development activity proposed within a Riparian Area to minimize both alteration of natural vegetation and increase in impervious area and to provide for mitigation through restoration of impaired Riparian Areas in the same HUC14 subwatershed.

C. STEEP SLOPES

Steep slopes within the Highlands Area appear in the ERI mapping duplicated herein at Exhibit K, "Steep Slope Protection Areas." This Plan recognizes and incorporates the descriptions, definitions, delineations and values regarding steep slopes as discussed in the ERI.

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Passaic County is particularly concerned with the potential negative impacts of land development practices that do not properly consider the constraints and challenges presented by steep slope areas. As discussed in the ERI, disturbance of such areas can trigger erosion and sedimentation, resulting in the loss of topsoil. Silting of wetlands, lakes, ponds and streams damages and degrades wetland and aquatic habitats, especially trout streams, which require rigorous water quality protections. Steep slope disturbance can also result in the loss of habitat quality, degradation of surface water quality, silting of wetlands, and alteration of drainage patterns. These processes, when severe, can result in land slumping and landslides that can damage both developed property and ecosystems. The severity and extent of slopes, soil characteristics, and land cover all affect the potential for damages from the disturbance of steep slopes.

Accordingly, the below-listed goals and objectives will guide the regulation and management of the Steep Slope Protection Areas in the Passaic County Highlands Area.

1. To encourage the update and improvement of maps and delineations of Steep Slope Protection Areas as better information becomes available (i.e., through enhanced mapping anticipated to be made available from the Highlands Council) and as new areas are identified through project reviews pertaining to individual sites and properties.
2. Land disturbance within all Steep Slope Protection Areas should incorporate Low Impact Development (see Section K) techniques to minimize the extent of such disturbance and the potential negative impacts resulting from it.
3. Land disturbance within areas of Severely and Moderately Constrained Slopes should be prohibited altogether, with exceptions only for linear development meeting the requirements of NJDEP Preservation Area Rules (at N.J.A.C. 7:38-3.8(c)1-4).

D. CRITICAL HABITAT

Critical Habitat within the Highlands Area appears in the ERI mappings duplicated herein at Exhibit L, "Critical Wildlife Habitat," Exhibit M, "Significant Natural Areas," and Exhibit N, "Vernal Pools." This Plan recognizes and incorporates the descriptions, definitions, delineations and values regarding Critical Habitat as discussed in the ERI.

Biodiversity is the variety of plant species, animal species and all other organisms found in a particular environment and is a critical indicator of ecological integrity. Habitat protection is critical to maintaining biodiversity including the many rare, threatened and endangered plant and animal species of the Highlands Region. There are three categories of Critical Habitat in the Highlands Region: 1) Critical Wildlife Habitat (habitat for rare, threatened or endangered animal species); 2) Significant Natural Areas (regionally significant ecological communities, including habitat for documented threatened and endangered plant species); and 3) vernal pools (confined, ephemeral wet depressions that support distinctive, and often endangered, species that are specially adapted to periodic extremes in water pool levels). Critical Wildlife Habitat and Significant Natural Areas are designated based on the

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presence of, and associated habitat required for, the survival and propagation of species of concern. Vernal pools shown in Exhibit N are those certified by the NJDEP. To protect the habitat requirements of vernal pool-breeding wildlife, the Highlands Council has determined that a terrestrial habitat buffer of 1,000 feet around vernal pools is required.

The below-listed goals and objectives will guide the regulation and management of the Highlands Area Critical Habitat in the Passaic County Highlands Area.

1. To prohibit the direct impact of new human development or expansion or increased intensity of existing development within Critical Habitat.
2. To promote the restoration and enhancement of impaired lands in Critical Habitat.
3. To ensure that Critical Habitat is protected according to the standards and criteria outlined in any applicable Habitat Conservation and Management Plan.
 - a. Prohibit direct impacts from new development or expansion or increased intensity of existing development that will jeopardize the continued existence of, or result in the likelihood of the destruction or adverse modification of Critical Habitat, except as permitted through the issuance of a waiver from the Highlands Council or the NJDEP.
 - b. Prohibit indirect impacts from activity that is off-site, adjacent to, or within Critical Habitat that will jeopardize the continued existence of, or result in the likelihood of the destruction or adverse modification of Critical Habitat, except as permitted through the issuance of a waiver from the Highlands Council or the NJDEP.
 - c. Prohibit modification of a vernal pools protection buffer, except as permitted through the issuance of a waiver from the Highlands Council or the NJDEP.
 - d. Prohibit modifications to the delineation of Critical Wildlife Habitat and Significant Natural Areas, except as permitted through the issuance of a waiver from the Highlands Council or the NJDEP.

E. CARBONATE ROCK

Carbonate Rock Areas within the Highlands Area appear in the ERI mapping duplicated herein at Exhibit R, "Carbonate Rock Areas." This Plan recognizes and incorporates the descriptions, definitions, delineations, and issues of concern regarding carbonate rock areas as discussed in the ERI.

Of particular concern to Passaic County are the potential negative impacts of land development practices that do not properly consider the constraints and challenges presented by carbonate rock areas. As discussed in the ERI, dissolution of underlying carbonate rocks (such as limestone and dolomite) by surface water or ground water can cause surface depressions and the development of such features as sinkholes, sinking streams, enlarged bedrock fractures, caves and underground streams. Sinkholes function as

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funnels, directing surface water runoff into karst aquifers with little or no attenuation of any transported contaminants. Stormwater basins, septic system leaching fields, sewers, agricultural runoff, lawn runoff, underground pipelines and soil disturbance may also contribute contaminants directly to ground water through karst features. Soils in sinkhole bottoms may be thin or non-existent. In addition to ground water concerns, karst areas can lead to public safety concerns. Sinkholes present a geologic hazard as they may undermine such infrastructure as stormwater basins, roads, water and sewer lines, septic systems and natural gas lines.

Accordingly, the below-listed goals and objectives will guide the regulation and management of the Carbonate Rock Areas in the Passaic County Highlands Area.

1. To encourage the update and improvement of maps and delineations of Carbonate Rock Areas as better information becomes available (i.e., through enhanced mapping technologies) and as new areas are identified through project reviews pertaining to individual sites and properties.
2. For the development or expansion of county facilities or infrastructure, to develop maps identifying all lands that drain into established Carbonate Rock Areas, for easy reference by county agencies and departments, applicants, reviewing officials and Land Use Boards. This will ensure that consideration is given to the protection of affected Carbonate Rock Areas (whether on- or off-site) during the course of development reviews.
3. To carefully examine land development applications for potential impacts to Carbonate Rock Areas, whether by direct disturbance or by indirect means such as introduction of additional stormwater runoff.
 - a. To require documentation of any and all information, technical data, geotechnical studies and analyses that may be necessary to locate and determine the extent of affected carbonate rock features during the course of project design and development reviews.
 - b. To ensure that potential carbonate-rock-related hazards to public health or safety, to existing structures (including public infrastructure), and to ground or surface water quality are avoided, minimized or otherwise addressed by incorporation of appropriate measures and design features into project plans prior to approval of such development proposals. Preference should be given to nonstructural approaches, where feasible, including but not limited to avoiding carbonate rock features altogether, and ensuring that existing conditions relating to them (where satisfactory) are not modified.
4. To ensure that issues and concerns related to carbonate rock are similarly evaluated and addressed in the planning, design, construction and maintenance of public infrastructure projects.

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5. To prohibit, from Carbonate Rock Areas and from lands identified as draining into such areas, the construction or installation of new uses, structures or facilities that present an unacceptable risk of discharge, including but not limited to: solid waste landfills, hazardous waste storage and disposal facilities, hazardous materials storage and handling facilities, and underground storage tanks.

F. LAKE MANAGEMENT

Lake Management Areas within the Highlands Area appear in the ERI mapping duplicated herein at Exhibit S, "Lake Management Area." This Plan recognizes and incorporates the descriptions, definitions, delineations and issues of concern regarding lake management as discussed in the ERI. Definitions include those pertinent to four lake management tiers: the Shoreland Protection Tier, the Water Quality Management Tier, the Scenic Resources Tier, and the Lake Watershed Tier.

Of particular concern to Passaic County are the potential negative impacts of land development practices that do not properly consider the constraints and challenges presented by Lake Management Areas. As discussed in the ERI, overdeveloped, damaged and poorly managed shore land areas can degrade water quality, harm lake ecosystems, diminish natural aesthetic values, and cause an overall loss of property values for lake communities. Lakes can also be harmed by pollutant sources in the watershed area draining to them. Polluted lakes can, in turn, damage downstream streams and rivers.

The Passaic County Highlands Area includes one or more Lake Management Areas that are affected by the existence of many subsurface septic systems and in some cases, cesspools, which process sanitary wastewater in proximity to the lake.

Accordingly, the below-listed goals and objectives will guide the regulation and management of the Highlands Lake Management Area for the Passaic County Highlands Area.

1. To prevent degradation of lake water quality, protect lake ecosystems, and promote lake area aesthetic values in the Lake Community Sub-Zone.
2. To protect lake water quality and associated ecosystems for all lakes from the impacts of present and future development. Applicable management strategies should address direct and proximate potential impacts from such activities as shoreline modification and development, dredging and pollutant discharges including those from septic systems, cesspools and other forms of wastewater management.
 - a. Ensure that land use and development activities in the Shoreland Protection Tier(s) do not damage on-shore and near-shore ecological resources and cause direct pollutant loadings to lake waters.

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- b. Ensure that land use and development activities in the Water Quality Management Tier(s) do not contribute continuous pollutant loadings to lake waters.
3. To protect the character of the Passaic County Highlands Lake Management Area(s).
 - a. Ensure that development is compatible with shoreline uses and activities and occurs at a scale and intensity appropriate to the Lake Management Area(s).
 - b. Protect the visual and scenic resources in the Scenic Resources Tier(s) through such means as vegetative screening, limits on tree removal, shore line building/disturbance setbacks, and building height limitations.
4. To maximize opportunities for public access to lakes and lake areas (excluding those under private ownership/management) for appropriate passive and active recreational uses that do not degrade lake environments.
5. To maintain lakes or restore (if applicable) lake beds and downstream areas when lakes are drained by or under the jurisdiction of the County. Damages to lake bed and downstream stream habitat, for example, should be prevented, mitigated or restored as needed following the breach or removal of a dam.

G. WATER RESOURCES AVAILABILITY

Highlands Area water availability is represented by the ERI mapping duplicated herein at Exhibit T, "Net Water Availability." (A map depicting the HUC14 Subwatersheds of the municipality appears at Exhibit C, "HUC14 Subwatershed Boundaries.") This Plan recognizes and incorporates the descriptions, definitions, analyses and issues of concern regarding water availability as discussed in the ERI. Based on the Low Flow Margin analytical method described in the ERI, the Passaic County Highlands Area lies within all or portions of six (6) HUC14 subwatersheds having positive net water availability, and all or portions of seven (7) HUC14 subwatersheds determined to be in deficit (13 for the whole area).

The availability of water for human use is a critical factor in determining the capacity for growth and continued economic vitality in the Passaic County Highlands Area. The availability of water for ecological purposes is critical to sustaining the aquatic ecosystems of streams, ponds and lakes. Of particular concern to Passaic County is the potential for overuse of water to reduce base flows, impair ecological function and integrity, and reduce the reliability of potable water supplies that county residents depend upon.

Accordingly, the below-listed goals and objectives will guide the regulation and management of Passaic County Highlands Area water availability.

1. To protect, restore and enhance the availability of surface and ground water in the Passaic County Highlands Area.

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2. To ensure that increasing water demands do not exceed or contribute to the exceedance of Net Water Availability or exacerbate existing deficits of subwatersheds.
3. To strictly limit consumptive and depletive water uses within the water availability in each HUC14 subwatershed.
4. To ensure efficient use of limited water availability (Conditional Water Availability) within a Current Deficit Area with appropriate standards regarding its use and rigorous requirements for mitigation, effective until such time as municipal or subwatershed-based Water Use and Conservation Management Plans have been developed and adopted.
5. To ensure efficient use of water through conformance with any municipal or subwatershed-based Water Use and Conservation Management Plan approved by the Highlands Council.
6. To require and incorporate the use of water conservation, recycling and reuse methods (where appropriate) and devices for any redevelopment or development activity, including renovations to existing buildings, to minimize consumptive water use. This should include mandatory collection and use of stormwater to serve non-agricultural irrigation needs and to the extent feasible, other non-potable purposes.
7. To ensure that proposed public water supply and wastewater service areas, and new or increased water allocations and transfers will not directly or indirectly cause or contribute to a Net Water Availability deficit, and where feasible will instead help to mitigate any existing deficit.
8. To ensure efficient and effective use of water availability, reduction and elimination of water deficits and mitigation of new consumptive or depletive use in any Current Deficit Areas or subwatersheds that could become deficit areas based on projected development and water uses.
9. To promote and participate in the development and implementation of municipal, subwatershed, county or regional Water Use and Conservation Management Plans in concert with affected municipalities.

H. PRIME GROUND WATER RECHARGE AREAS

Prime Ground Water Recharge Areas within the Highlands Area appear in the ERI mapping duplicated herein at Exhibit U, "Prime Ground Water Recharge Areas." This Plan recognizes and incorporates the descriptions, definitions and delineations for Prime Ground Water Recharge Areas (PGWRAs) as discussed in the ERI. Prime Ground Water Recharge Areas are those lands within a HUC14 subwatershed that most efficiently provide in the aggregate, 40 percent of total drought recharge volume for the HUC14 subwatershed, as determined in accordance with parameters set forth in the ERI. Protection of such areas is clearly vital to

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maintaining the quality and quantity of the ground water resources upon which both human and non-human communities in the Highlands Area so heavily rely.

Accordingly, the below-listed goals and objectives will guide the regulation and management of the Highlands Prime Ground Water Recharge Areas in the Passaic County Highlands Area.

1. To protect, enhance and restore the quantity and quality of Prime Ground Water Recharge Areas.
2. To require use of Low Impact Development (see Section K) and other Best Management Practices to maximize natural ground water recharge and minimize the need for engineered recharge methods.
3. To restrict land use and development activities that reduce natural ground water recharge volumes in PGWRAs or that may contribute to or result in degradation of ground water quality, whether directly or indirectly.
4. To avoid disturbance of lands identified as PGWRAs to the maximum extent feasible, and to minimize such disturbance where it cannot be avoided. Where disturbances do occur in PGWRAs, to require mitigation measures to enhance pre-construction recharge volumes.
5. To prohibit land uses and activities that pose significant risk of ground water contamination from locations delineated as PGWRAs. Such uses (and any structures devoted or related thereto) should include at minimum, those designated as Major or Minor Potential Contaminant Sources (PCS) by the Highlands Council (see Appendices A, B, and C).
6. To identify and implement opportunities for the restoration or enhancement of recharge in PGWRAs and other lands through such means as the retrofit or rehabilitation of stormwater recharge facilities, land management improvements, and reforestation.
7. To achieve a net improvement in ground water volume and quality through enhanced infiltration, pretreatment and other available means.

I. WATER QUALITY

This Plan incorporates the descriptions, definitions and summary data regarding water quality by HUC14 subwatershed, as discussed in the ERI. In addition, it incorporates as Exhibit V, "HUC 14 subwatersheds on NJDEP Impaired Waters List," as duplicated from the ERI. Water quality affects drinking water, recreation, ecosystems and aesthetic beauty. The most common parameters that may impair surface and ground water quality are fecal coliform bacteria, phosphorus, temperature, arsenic and nitrate-nitrogen. These and other contaminants can cause human health risks if ingested and harm to native biota. Introduction of such contaminants may result in non-attainment of designated water uses for the water body.

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Water quality is influenced by the type and intensity of land use adjacent to and upstream of the water body. Pollutants are contributed to the environment from a wide variety of nonpoint sources (NPS) including human development (through stormwater and residential runoff, septic systems, fertilizer applications on lawns, and brownfields or contaminated sites), domestic or captive animals, agricultural practices (crop farming, livestock, and manure applications), and wildlife (large populations). Pollutants from these sources can reach water bodies directly, through overland runoff, or through stormwater conveyance facilities. Point sources also exist, primarily wastewater treatment plants serving communities or industrial facilities. These are regulated directly by the NJDEP.

Accordingly, the below-listed goals and objectives apply to the management and regulation of water quality in the Passaic County Highlands Area.

1. To protect, restore and enhance water quality in the Highlands Area.
2. To remedy the pollutant sources associated with existing or historic land uses in conjunction with redevelopment opportunities.
3. To ensure that land use and development is permitted only in such locations, at such densities, and in such manner as to ensure sustainable use of the Passaic County Highlands Area water resources and continued protection and management of critical lands for water quality purposes.
4. To promote land use and development within the county in support of sustainable use of the Passaic County Highlands Area water resources and continued protection and management of critical lands for water quality purposes.
5. To ensure that the county portion of any Areawide Water Quality Management Plan or a county Wastewater Management Plan, if ever undertaken by the County, will not directly or indirectly support development or activities that would be in violation of any adopted Total Maximum Daily Load (TMDL) limits established by NJDEP.
6. To adopt and implement stormwater management controls through a Stormwater Management Plan.
7. To require use of applicable Low Impact Development (see Section K) and Best Management Practices to protect the quality of ground and surface waters.

J. WELLHEAD PROTECTION

Wellhead Protection Areas within the Highlands Area appear in the ERI mapping duplicated herein at Exhibit W, "Wellhead Protection Areas." This Plan recognizes and incorporates the descriptions, definitions and delineations for Wellhead Protection Areas (WHPAs) as discussed in the ERI. Highlands Area WHPAs are delineated for community water supply wells based upon time of travel, reflecting the time required for ground water to flow into

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the well. WHPAs are composed of three tiers based upon a 2-year (Tier 1), 5-year (Tier 2), and 12-year (Tier 3) time of travel. Each tier includes the area of each smaller tier within it.

Protection of ground water resources that directly provide water to public water system wells is vital to the public health, safety and welfare of the community. It is also of primary importance to ensure continued availability of clean drinking water to all that rely upon it. Through regulation of land use, physical facilities and other activities within WHPAs, the potential for ground water contamination can be reduced by preventing the introduction and migration of pollutants into ground water sources that supply water supply wells.

Accordingly, the below-listed goals and objectives will guide the regulation and management of the Highlands Wellhead Protection Areas in the Passaic County Highlands Area.

1. To identify and ensure proper management of existing county land uses within Wellhead Protection Areas that have a significant potential for contributing pollutants of concern to ground water.
2. To protect and enhance ground water and water supply resources within Wellhead Protection Areas consistent with the source water assessments for each water supply source.
3. To prohibit land uses and activities that pose significant risk of ground water contamination from locations delineated as Tier 1 Wellhead Protection Areas. Such uses (and any structures devoted or related thereto) should include at minimum, those designated by the Highlands Council as Major or Minor Potential Contaminant Source (PCS) or as potential sources of pathogenic contaminants (see Appendices A, B and C).
4. To prohibit land uses and activities that pose significant risk of ground water contamination from locations delineated as Tier 2 Wellhead Protection Areas. Such uses (and any structures devoted or related thereto) should include at minimum, those designated as Major or Minor PCS by the Highlands Council (see Appendices A, B and C).
5. To require that land uses and activities that pose significant risk of ground water contamination in locations delineated as Tier 3 Wellhead Protection Areas, incorporate ongoing management of toxic chemical sources and prohibition of non-permitted discharges, so that the potential for ground water contamination is minimized and the opportunity for discharge discovery and control is maximized. Such uses (and any structures devoted or related thereto) should include at minimum, those designated as Major or Minor PCS by the Highlands Council (see Appendices A, B and C).
6. To ensure that stormwater management plans pertinent to both county development projects and county-wide planning, address wellhead protection requirements.

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7. To encourage stormwater reuse for non-agricultural irrigation and other non-potable water purposes to minimize the volume of stormwater discharges (other than from clean sources) within a Tier 1 or Tier 2 Wellhead Protection Area.
8. To restrict development activities that pose threats to the water quality of public water system wells.
9. To ensure that development activities and existing land use activities implement best management practices to protect the quality of ground water within Wellhead Protection Areas.
10. To ensure that the uses, structures or activities permitted within utility service areas, as proposed within the county portion of the Areawide Water Quality Management Plan will not adversely affect any Wellhead Protection Area.

K. LOW IMPACT DEVELOPMENT

This Plan embraces the concept of Low Impact Development (LID) and seeks to ensure its maximum use in land development activities throughout the Highlands Area. LID encompasses a broad array of development and management techniques that can minimize or mitigate the potential adverse impacts of land use and development on the natural environment. LID is used in stormwater management, resource management, “green” building, and sustainable site design. In stormwater management for example, LID techniques can be employed to capture rainfall, filter it through existing vegetation, and maximize its absorption by on-site soils in order to recharge ground water supplies. In site design, LID would incorporate strategies to reduce site disturbance, limit impervious coverage, and integrate existing natural features affecting the site and its immediate surroundings into the proposed layout and design.

To accomplish such aims, specific LID standards should be developed and incorporated into Passaic County land development practices. Passaic County is proactive in this regard in that the Passaic County Board of Chosen Freeholders adopted green building design standards on June 24, 2008 (Resolution R-08-537).

The county will also assist municipalities in promoting the use of LID in development projects. Because LID practices and innovations continue to emerge, these should include, but by no means be limited to the following:

1. Stormwater management LID standards that preserve or mimic the natural hydrologic features and characteristics of the land.
 - a. Use of stormwater management features that maintain, restore and enhance the pre-existing natural drainage patterns of the site.
 - b. Limitations on impervious coverage allowances to maximize stormwater infiltration and reduce runoff.

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- c. Requirements for site-specific hydrologic studies which identify the velocity, volume and pattern of water flow into, through and flowing from a parcel proposed for development.
 - d. Requirements that stormwater management systems employ a “design with nature” approach by use of grass channels, dry swales, wet swales (vegetated channels designed to retain water or marshy conditions that support wetland vegetation), infiltration basins, bio-swales and water gardens, constructed wetlands, green roofs, and other low impact approaches to attenuate and control stormwater and provide multiple environmental benefits.
2. LID practices that minimize land disturbance during construction activities.
 - a. Requirements for site-specific analysis of environmental features and constraints as an integral component of site design.
 - b. Limitations on site disturbance, soil compaction, clearing and grading to the minimum necessary to allow for permissible development.
 - c. Provisions to minimize soil erosion and airborne dust during construction and to protect streams and other water bodies from silt and sedimentation.
 3. LID best management practices where any development application proposes disturbance of a Highlands Area resource, including but not limited to Steep Slope Protection Areas, Forest Areas, Critical Habitat Areas, Highlands Open Waters and Riparian Areas, and Prime Ground Water Recharge Areas.
 - a. Highlands Area resources should be identified as a first step in site planning.
 - b. To the maximum extent practicable Highlands Area resources should be avoided or their disturbance minimized through site design.
 - c. The quality and value of Highlands Area resources located on development sites should be maintained by use of LID strategies that minimize the impacts of development to the maximum extent possible.
 4. LID practices in design of sites, buildings, structures and roadways. Development and redevelopment projects should follow a prescribed conservation design planning process that considers existing site features and site context; maximizes opportunities for open space and connections to open space systems; and incorporates LID practices in all aspects of stormwater management, site layout and resource protection. In addition to the previously listed items (1-3, above) these include but are not limited to the following:
 - a. Use of water conservation measures in site layout and structures, including but not limited to such practices as water efficient landscaping (including use of

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native and drought-tolerant non-invasive plant species), rain collection systems, use of gray water, and water-efficient landscape irrigation.

- b. Use of low maintenance landscaping that encourages retention and planting of native vegetation and minimizes lawn areas and use of fertilizers and pesticides.
- c. Use of pervious paving materials and minimization of impervious surfaces.
- d. Use of micro-climate conditions to maximize solar gain for winter heating and minimize solar gain during high temperature summer conditions.
- e. Re-use and recycling of building materials.
- f. Inclusion of energy-efficient features in site layouts and buildings.
- g. Roadway design standards (subject to Residential Site Improvement Standards limitations) that incorporate LID techniques to address stormwater management, limit impervious coverage, ensure planting of native and drought-resistant vegetation, and integrate other “green street” design initiatives.

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UTILITY SERVICES PLAN

It is the overarching policy of this Plan to ensure that development of the Highlands Area does not exceed the available environmental and infrastructural capacity to support it. The Utilities Services Plan recognizes and incorporates the following Exhibits, as described and discussed in the ERI and duplicated herein: Public Community Water Systems Map (Exhibit EE); and Highlands Domestic Sewerage Facilities Map (Exhibit FF).

This Plan recognizes that future development must only occur within the carrying capacity of the water resources, water supply, and wastewater utilities available to support it. Accordingly, the below-listed goals and objectives will guide Passaic County planning, regulation and management of water and wastewater utilities, and the use and maintenance of septic systems for lands and facilities managed by the county or under county jurisdiction.

1. To ensure that there is no expansion or creation of public water supply systems, wastewater collection and treatment systems and community on-site treatment facilities in the Preservation Area unless approved through a Highlands Applicability Determination (HAD) or an HPAA with waiver pursuant to the NJDEP Preservation Area rules at N.J.A.C. 7:38.
2. To identify those lands that may be appropriate for the extension or creation of public water supply systems, wastewater collection and treatment systems and community on-site treatment facilities that would meet the waiver requirements of the NJDEP Preservation Area rules at N.J.A.C. 7:38 regarding public health and safety or potential Highlands Redevelopment Areas.
3. To require that development where supported by new or expanded public water supply systems or wastewater collection and treatment systems as permitted in the Preservation Area, occurs at a density and intensity that ensures efficiency and cost-effectiveness of the public infrastructure.
4. To ensure that Carbonate Rock Areas and Wellhead Protection Areas are considered and appropriately protected in the design and construction of any new or expanded wastewater collection or treatment system.
5. To ensure that on-site wastewater system discharges do not exceed the natural capacity of ground water to attenuate loadings, exacerbate existing nitrate impairment, or contribute to potential nitrate impairment for subwatersheds of the Highlands Area.
6. To ensure that all development in areas not served by public water supply or wastewater collection and treatment systems is at a density that can be supported by on-site wells and individual subsurface disposal systems (also known as septic systems), respectively. With respect to septic systems, to determine such densities on the basis of NJDEP Preservation Area Rules, with nitrate dilution analysis to apply in the event of any non-Major Highlands Development.

Passaic County Master Plan Highlands Element

LAND PRESERVATION AND LAND STEWARDSHIP PLAN

The existing Master Plan has an Open Space and Recreation Plan Element (adopted April 2001 and in the process of being updated) providing detailed information on existing and proposed open space preservation and recreational opportunities in the County. This Plan supplements the existing Element, as applicable to the Highlands Area, to include the additional information and goals and objectives listed below.

A mapped inventory of Preserved Lands in the Passaic County Highlands Area, current through July 2011, appears at Exhibit O, "Preserved Lands" (duplicated from the ERI, with amendments, see attached memo). This Plan in addition incorporates (from the ERI) Exhibit P "Highlands Conservation Priority Areas," and Exhibit Q, "Highlands Special Environmental Zone." This Plan recognizes and incorporates the definitions, derivations and delineations used to develop these maps, as provided in the ERI.

Preserved Lands in the Passaic County Highlands Area include lands under ownership by municipalities, the County, the State, the federal government and non-profit land trusts. In addition, Preserved Lands includes dedicated easements (such as Conservation Easements) to the extent these are currently known and identified (i.e., by deed description) for mapping purposes. (The Passaic County Board of Chosen Freeholders and Planning Board recognizes and will address the need for a more complete inventory of all such easements after Basic Plan Conformance has been attained, with the assistance of the Highlands Council and updated municipal inventories.) In total for the Passaic County Highlands Area, the maps indicate 29,232 acres of Preserved Lands. Approximately 7% is currently used for active recreational purposes, 1 % constitutes preserved farmland, and 92% is set aside for other preservation purposes, including passive recreational uses.

Highlands Conservation Priority Area lands are those designated a high priority for preservation due to exceptional water and ecological resource value. The priority order derives from the Highlands Council Resource Assessment methodology, which identifies and ranks Highlands lands based on a combination of indicators, including but not limited to: watershed conditions, Highlands Open Waters, riparian areas, prime ground water recharge areas, forests, critical habitat and steep slopes.

Lands within the Highlands Special Environmental Zone are those having the highest priority ranking for preservation based on the Highlands Council Resource Assessment and for which development is expressly prohibited. Preservation of these lands is vital to:

- a) protecting Highlands Area water resources and environmentally sensitive lands;
- b) protecting water supply reservoirs and other critical water features;
- c) creating large contiguous areas of environmentally sensitive lands;
- d) creating habitat corridors; and
- e) connecting existing preserved open space.

Passaic County Master Plan Highlands Element

The following goals and objectives will guide the future identification, prioritization, dedication and stewardship of Preserved Lands in the Passaic County Highlands Area:

1. To apply Highlands Council prioritization criteria in making determinations regarding non-agricultural Land Preservation (whether by fee simple or easement dedication), which are ordered as follows:
 - a. Lands within the Highlands Special Environmental Zone;
 - b. Lands within Highlands Conservation Priority Areas; and
 - c. Lands within Highlands Resource Areas generally, including but not limited to forested portions of Forest Resource Areas, Critical Habitat Areas, and Riparian Areas, particularly any portion of a Resource Area designated as “High Integrity” or “High Resource Value.”
2. To maintain a current Recreation and Open Space Inventory (ROSI) where required by the NJDEP Green Acres Program for lands or facilities under County jurisdiction.
3. To seek ways to establish and fund local land acquisition for preservation and stewardship programs or to expand existing open space and stewardship programs.
4. To identify lands subject to stewardship programs within this Land Preservation and Land Stewardship Plan and to provide that information to the Highlands Council.
5. To require that conservation or land stewardship easements imposed during the course of development applications be enforceable by the Highlands Council and at least one of the following entities, as qualified and amenable in accordance with the particular circumstances: the County Agriculture Development Board (CADB), the SADC, Green Acres, or a non-profit land trust organized pursuant to § 501 (c)(3) of the federal tax code and engaged in the protection of land for the purpose of providing long-term stewardship of land resources.
6. To establish a stewardship and monitoring program for preserved lands owned by or dedicated to Passaic County. This objective may be accomplished by the county directly or with the assistance of a non-profit land trust organized pursuant to § 501 (c)(3) of the federal tax code and engaged in the protection of land for the purpose of providing long-term stewardship of land resources. The County of Passaic has advanced this goal proactively, in that it engages the assistance of the New Jersey Conservation Foundation as well as Palisades Interstate Park Commission (PIPC) for management of several of the large, forested preserved lands in the Preservation Area.
7. To develop and implement a Forest Management Plan or Forest Stewardship Plan consistent with the standards of the New Jersey Forest Stewardship Program for application to county-owned forest lands; document is currently in draft form.

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8. To ensure periodic monitoring of easement restrictions protecting Critical Habitat Areas, associated species and ecological communities from any changes in land use or management practices that would impair these resources.
9. To implement Riparian Area restoration practices on Preserved Lands that give priority to ecological and watershed protection measures.
10. To encourage municipalities to consider the use of TDR to guide growth and development away from ecologically sensitive and agriculturally important lands and towards lands which have the capacity to support additional human development without compromising the ecological integrity of the Highlands Area.
11. To encourage municipalities to consider the use of TDR to maximize the preservation of Preservation Area properties outside of the Existing Community Zone or a Highlands Redevelopment Area, with emphasis on properties with the highest Conservation Priority scores and Agricultural Priority scores.
12. To identify and preserve opportunities for outdoor recreation, including a variety of active and passive recreation options, in such locations and in such manner as to ensure environmental resource protections, while addressing the needs of the local population for physical activity, social interaction, connection with nature and the natural environment, and enjoyment of the outdoors.

Passaic County Master Plan Highlands Element

AGRICULTURE RETENTION/FARMLAND PRESERVATION PLAN

The existing Master Plan has an Agriculture Retention/Farmland Preservation Plan Element providing detailed information on existing and proposed farmland preservation priorities in the community. This Plan supplements the existing Element, as applicable to the Highlands Area, to include the additional information and goals and objectives listed below.

A mapped inventory of Preserved Farmland in the Passaic County Highlands Area, current through July 2011, appears at Exhibit O, "Preserved Farms, SADC Easements, All Agricultural Uses" (duplicated from the ERI, with amendments, see attached memo). In addition, this Plan incorporates Exhibit AA, "Important Farmland Soils" (also duplicated from the ERI). This Plan recognizes and incorporates the definitions, derivations and delineations used to develop these maps, as provided in the ERI and in all background technical data which derive from: the NJDA, the SADC, the NJDEP, the Natural Resources Conservation Service (NRCS), the Highlands RMP and the Highlands Council *Sustainable Agriculture Technical Report*.

Preserved Farmland includes farms that are preserved through the SADC Farmland Preservation Program, farms that have final approval from the SADC, and farms under the SADC eight-year easement program. In addition, Passaic County Preserved Farmland includes farmlands preserved by the County in conjunction with the County Agricultural Development Board. *All Agricultural Uses* includes lands currently serving farming or other agricultural purposes, whether permanently deed restricted or not. The map of *Important Farmland Soils* provides a delineation of the four farmland soil classifications as prepared by the United States Department of Agriculture (USDA), NRCS, Soil Survey Geographic Database for farmland soil quality, including:

- a) Prime Farmland Soils - Soils having the best combination of physical and chemical characteristics for producing food, feed, forage, fiber and oilseed crops. It has the soil quality, growing season and moisture supply needed to produce high yields of crops when treated and managed according to acceptable farming methods. Prime farmland soils are not excessively erodible or saturated with water for a long period of time, and they either do not flood frequently or are protected from flooding.
- b) Soils of Statewide Importance – Soils that produce high yields of crops when treated and managed according to acceptable farming methods. This soil may support yields as high as Prime farmland if conditions are favorable.
- c) Unique Farmland Soils - Soils used for special crops (such as cranberries in the New Jersey Pinelands). Unique soils are determined on a statewide basis by the State Soil Conservation Committee.
- d) Locally Important Farmland Soils - Soils designated and ranked by the County Agriculture Development Board. Locally Important Farmland Soils includes those soils that are not Prime or of Statewide Importance and are used for the production of high value food, fiber or horticultural crops.

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The overriding policy of this Plan is to ensure the long-term sustainability of agricultural resources and the viability of agriculture as an industry in the Highlands Area. Achieving this aim requires maintenance of a healthy agricultural environment with a sufficient agricultural land base. Accordingly, the below-listed goals and objectives will guide the future land use and management of agricultural lands in the Passaic County Highlands Area.

1. To promote the Right to Farm Act, in coordination with the CADB and the SADC, and to incorporate land use regulations and policies that are consistent with and further its intents and purposes.
2. To promote and coordinate with municipalities regarding the use of TDR to guide growth and development away from ecologically sensitive and agriculturally important lands and towards lands which have the capacity to support additional human development without compromising the ecological integrity of the Highlands Area.
3. To promote and coordinate with municipalities regarding the use of TDR to maximize the preservation of Preservation Area properties outside of the Existing Community Zone or a Highlands Redevelopment Area, with emphasis on properties with the highest Conservation Priority scores.
4. To promote the long-term viability of the local agricultural industry by promoting and utilizing existing County, State and federal agriculture related programs and developing programs where appropriate, in support of direct marketing, organic farming, niche markets, agri-tourism initiatives such as farmers' markets and roadside stands (located on or off the site of an active farm), ancillary business opportunities, community supported agriculture, and other such projects, programs or activities.

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COUNTY FACILITIES AND INFRASTRUCTURE PLAN

The existing Master Plan does not have a County Facilities and Infrastructure Plan Element providing detailed information on all existing and proposed county capital improvement projects, facilities, and infrastructure for all lands under county jurisdiction (including lands leased by the county), and for all facilities owned and operated by the county including but not limited to roads, bridges, drainage facilities, offices, fire, police and rescue related facilities, parks and playgrounds, educational facilities, libraries, public works facilities and yards, treatment works, storage depots, and so forth. This portion of the Highlands Element shall serve as such with respect to the Passaic County Highlands Area.

The overriding policy of this Plan is to ensure that county facilities and infrastructure within the Passaic County Highlands Area reflect community needs and maximize the efficiency of existing infrastructure and facilities, while protecting Highlands Area resources by recognizing and giving priority to the intents and purposes listed above for the Highlands Zones and Sub-Zones. Achieving this aim requires attention to the design and location of county facilities and infrastructure. The intents and purposes for the Highlands Zones and Sub-Zones shall guide land use development in the county and shall be recognized in the development or expansion of all county facilities and infrastructure, as expressed in the Capital Improvement Program, the NJTPA Transportation Improvement Plan, and other relevant plans and initiatives. Land use and development in the Highlands Area of the county is subject to compliance with: a) all resource constraints (discussed at length in the Conservation Plan Element); b) all applicable provisions of both the NJDEP Highlands Water Protection and Planning Act Rules (N.J.A.C. 7:38) and the NJDA Agricultural Development in the Highlands Rules (N.J.A.C. 2:92); and c) the density and intensity requirements set forth in Section B of the Land Use Plan, Density and Intensity of Development. Accordingly, the below-listed goals and objectives will guide the planning and management of county facilities and infrastructure in the Passaic County Highlands Area.

This Plan supports the Passaic County Board of Chosen Freeholders' adoption of Land and Facilities Regulations governing the use and development of County lands and facilities. As proposed, the Passaic County Land and Facilities Regulations reflect the general intents and purposes of this Master Plan Highlands Element, and the specific goals and objectives listed hereunder.

1. General.

- a. To advise against the development or expansion of any of the following county facilities or infrastructure from any portion of the Highlands Area designated a "Carbonate Rock Area" (as defined and delineated in the Conservation Plan Element) or from any lands identified as draining into a designated Carbonate Rock Area: solid waste landfills, hazardous waste storage and disposal facilities, hazardous materials storage and handling facilities, and underground storage tanks.

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- b. To advise against the development or expansion of county facilities or infrastructure that are designated as a Major or Minor PCS or that are designated by the Highlands Council as a potential source of pathogenic contaminants (see Appendices A, B and C) where otherwise permitted by county development regulations from any portion of the Highlands Area delineated as a “Tier 1 Wellhead Protection Area” (as defined and delineated in the Conservation Plan Element).
- c. To advise against the development or expansion of county facilities or infrastructure that are designated as a Major PCS by the Highlands Council (see Appendices A and C) where otherwise permitted by county development regulations from any portion of the Highlands Area delineated as a “Prime Ground Water Recharge Area” or as a “Tier 2 Wellhead Protection Area” (as defined and delineated in the Conservation Plan Element).
- d. To recommend development and implementation of an approved Operations and Contingency Plan regarding the development or expansion of county facilities or infrastructure, which are designated a Minor PCS by the Highlands Council (see Appendix B) where otherwise permitted by county development regulations from any portion of the Highlands Area delineated as a “Prime Ground Water Recharge Area” or within a designated “Tier 2 Wellhead Protection Area” (as defined and delineated in the Conservation Plan Element). An Operations and Contingency Plan is submitted to and approved by the appropriate Board of Health. It provides detailed information concerning a PCS, demonstrates how the PCS and the site supporting it will be designed and managed, what means are available to contain and remedy any contaminant discharges, and the required emergency notification procedures in the event of same.
- e. To recommend development and implementation of an approved Operations and Contingency Plan regarding the development or expansion of county facilities or infrastructure, which are designated as a Major or Minor PCS by the Highlands Council (see Appendices A, B and C), where otherwise permitted by county development regulations within a designated “Tier 3 Wellhead Protection Area” (as defined and delineated in the Conservation Plan Element).
- f. To advise against the development or expansion of county facilities or infrastructure that fall within a designated “Highlands Special Environmental Zone” (as defined and delineated in the Land Preservation & Land Stewardship Plan Element), where otherwise permitted by county development regulations unless in conjunction with a waiver permitting such construction from the Highlands Council.
- g. To strongly recommend compliance with Highlands resource requirements for: steep slopes, Critical Habitat, Forest Areas, Carbonate Rock Areas, Open Water and Riparian Areas, agricultural resources, Prime Ground Water Recharge

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Areas, Lake Management Areas, Wellhead Protection Areas, and historic, cultural and scenic resources, and the use of best management practices techniques for Low Impact Development and Stormwater Management. Where development applications filed with the County Planning Board are subject to municipal review and approval in a municipality for which the Highlands Council has approved Plan Conformance, the County Planning Board will rely upon the municipal decision and Highlands Council review.

- h. To locate and promote maintenance of county facilities and services that support compact development patterns and shared services, and provide a high level of service.
- i. To identify existing and planned county facilities and to encourage shared service opportunities with municipalities, neighboring counties and at a regional level.
- j. To consider stormwater management, LID and scenic and historic resources (specifically bridges and scenic byways as defined and delineated in the Highlands Region Historic and Cultural Resources Inventory and the Highlands Scenic Resources Inventory in the Historic Preservation Plan below) in the design and construction of any county roadways, bridges and related facilities.
- k. To promote storm water management controls in the Passaic County Storm water Management Plan for county drainage facilities
- l. To identify for all county facilities, as applicable, realistic options to enhance energy efficiencies, incorporate “green” building materials and technologies, reduce pollutant emissions, and minimize “carbon footprints;” and to develop a county strategy for implementing them.
- m. To promote all feasible LID techniques in the design, development, operation and management of existing and proposed county facilities and infrastructure. (For description and discussion of LID techniques, see the Conservation Plan Element.)
- n. To coordinate with municipalities to identify opportunities for redevelopment projects and activities, including brownfield redevelopment, that are potentially suitable for Highlands Redevelopment Area designation in the Highlands Area with assistance by the Highlands Council Redevelopment and Infill Analysis Tool.
- o. To encourage that all capital improvement projects for the development or expansion of county facilities and infrastructure in the Preservation Area, subject to Section 16 of the Highlands Act (N.J.S.A. 13:20-16), receive a consistency determination from the Highlands Council prior to county approval and construction; and that all capital projects in the Planning Area be submitted to the Highlands Council for non-binding comment.

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2. Transportation/Circulation. Exhibits GG, Highlands Roadway Network and HH, Highlands Transit Network provide illustration of the transportation infrastructure of the Passaic County Highlands Area.

- a. To advise against road improvements where roads are constrained by topography, adjacent forested lands, or other sensitive environmental features such as critical habitat.
- b. To promote that road improvements are designed to enhance community character and to avoid adverse impacts to adjoining or otherwise affected properties.
- c. To encourage that proposed transportation improvements support state and regional planning goals and are consistent with the goals of the Highlands Element.
- d. To encourage that transportation facilities and infrastructure are designed and located in a manner that achieves optimal efficiencies in land use and provision of service, while at the same time, protecting the environmental resources and critical environmental areas of the Highlands Area.
- e. To advise for any county projects for lands in the Preservation Area involving the disturbance of two acres or more of land, or a cumulative increase of impervious surface by one acre or more, that the county adheres to the specific requirements of Highlands Area transportation project review.
- f. To advise against road improvements in areas for which a Growth-Inducing Study demonstrates that proposed improvements do not support the resource protection and smart growth policies otherwise established by the Highlands Element, or that are likely to be growth-inducing for lands with limited or no capacity to support human development without adverse impact on Highlands Area resources.

3. Historic, Cultural, Archaeological and Scenic Resources

- a. To advise that the impact of proposed human development on the historic, cultural, archaeological and scenic resources of the Highlands Area should be addressed during development review.
- b. To advise that County development projects should be preceded by development and consideration of a report identifying potential historic, cultural and archaeological resources on the subject property or immediately adjacent properties.
- c. To advise that historic, cultural and archaeological resources identified through review of County development projects are: a) evaluated for inclusion on the survey of historic sites incorporated into this document (at Exhibit BB); and b)

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submitted to the Highlands Council for possible inclusion in the Highlands Region Historic and Cultural Resources Inventory.

- d. To advise that development applications identify and protect any scenic resources in the Highlands Region that are listed on the Highlands Scenic Resources Inventory (incorporated into this document at Exhibit CC) and may be affected by the proposed development.
- e. To advise that human development does not adversely affect the character or value of resources, which are listed on the Highlands Region Historic and Cultural Resource Inventory, and the Highlands Scenic Resources Inventory to the maximum extent practicable.
- f. To at minimum, utilize State and National Register criteria, as applied at the local level, in considering sites and districts for historic designation and use the U.S. Secretary of the Interior's Standards for the Treatment of Historic Properties as guidance for historic and cultural preservation review.
- g. To utilize Highlands Scenic Resource designation standards, as applied at the local level, in considering scenic resources for designation.

It is important to note that the Passaic County Board of Chosen Freeholders established the "Passaic County History and Tourism Board" in 2010 with the mission of establishing a long range plan for a strong partnership between the public sector and business community to promote Passaic County's various historical resources, including but not limited to:

1. Great Falls National Park and Historic District;
2. The First Ridge of the Watchung Mountains Revolutionary Defense Line;
3. The Great North-South Colonial Highway (U.S. Route 202);
4. Lambert Castle and Observation Tower;
5. Dey Mansion and Plantation House;
6. Pietro Botto House/American Labor Museum;
7. Valley View Sanatorium;
8. Hamilton-Van Wagoner House;
9. Wayne Museum;
10. Morris Canal Historic District;
11. Van Riper-Hopper House;
12. The Manor and Forges of Ringwood;

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13. Long Pond Iron Works Museum;
14. Schuyler-Colfax House;
15. Skylands State Botanical Gardens and Arboretum;
16. Paterson-Thomas Rogers Building;
17. Hinchliffe Stadium;
18. Garret Mountain Reservation-Rifle Camp Park;
19. Laurelwood Arboretum;
20. John W. Rea House;
21. Goffle Brook Park;
22. Weasel Brook Park;
23. Passaic River and its tributaries;
24. Dundee Canal Industrial Historic District;
25. Wawayanda State Park;
26. Norven Green State Forest;
27. Abram Hewitt State Forest;
28. Wanaque and Monksville Reservoirs;
29. Additional sites or districts not herein named but deemed of historic, cultural, or archaeological significance by the Passaic County Board of Chosen Freeholders;
30. Any sites or districts listed in the Highlands Historic, Cultural and Archaeological Resources Inventory; and
31. Any sites or districts listed on the National Register of Historic Places or State of New Jersey Register of Historic Places.

The anticipated History & Tourism Plan endeavors to enable present and future generations of Passaic County residents to enjoy a sense of pride and community élan to enjoy a better place to grow, to live, to work and to play;

Seeks to establish standards for the maintenance, preservation, and use of all sites and districts named above; and

Seeks to establish explicit provisions and criteria for all County development projects involving or potentially affecting sites and districts named above.

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SUSTAINABLE ECONOMIC DEVELOPMENT PLAN

A sustainable economy is important to the well-being of Passaic County and the wider economic region of which it is a part. It is the intent of the County to examine this issue and to prepare an economic development plan for future adoption, which will set forth strategies for strengthening the local economy and the county contribution toward the wider regional economy to which it belongs. The County Planning Department has already begun work on this Element in conjunction with the County Department of Economic Development.

The goals and objectives of the Sustainable Economic Development Plan for the Passaic County Highlands Area, include but are not limited to:

1. To develop appropriate strategies to improve the local tax base and create jobs and economic opportunities, while remaining consistent with the other policies and objectives of the Highlands Element.
2. To identify appropriate opportunities for development and redevelopment, including possible brownfield redevelopment that may further the goal of economic sustainability.
3. To encourage development of business incubator programs, particularly those focused on advancing specific goals and objectives of the Highlands Element, such as initiatives in compact design, native species landscaping, Low Impact Development, energy efficiency and resource conservation.
4. To coordinate with the Highlands Council and other applicable state and/or county agencies to develop or participate in eco-, agri-, and heritage tourism programs, as appropriate.

An integral component of the County's efforts with regard to Sustainable Economic Development Planning will include the work of the Passaic County History and Tourism Board, as noted in the previous section.

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RELATIONSHIP OF MASTER PLAN TO STATE/REGIONAL/LOCAL PLANS

By adoption of this Highlands Element, the Passaic County Master Plan is brought into alignment with the Highlands RMP with respect to the Preservation Area. The Highlands Element incorporates all of the goals, policies and objectives of the Highlands RMP that are relevant to the use and development of land in the Passaic County Highlands Area. The Highlands Element calls for the development and adoption of various land use regulations and specific resource management plans, which together will effectuate its vision and in so doing, advance the intents and purposes of the Highlands RMP.

The Highlands Act provides that any portion of a county located in the Highlands Preservation Area is exempt from the State Planning Commission (SPC) Plan Endorsement process. It provides further that once the RMP has attained Plan Endorsement from the SPC for the Planning Area, Highlands Council approval of Plan Conformance with respect to lands in the Planning Area shall be deemed the equivalent of Plan Endorsement.

By aligning the county Master Plan with the Highlands RMP, its consistency with the State Development and Redevelopment Plan (SDRP) is achieved for the Passaic County Highlands Area. A map depicting the county's SDRP Planning Areas [and if applicable, Designated Centers] appears at Exhibit II. The Highlands Element furthers SDRP goals, policies and objectives in many ways, not least of which are the following:

1. Seeking to protect, preserve, restore and enhance the natural resources of the Highlands Area;
2. Encouraging the use of smart growth principles in locations of the Area deemed appropriate for development and redevelopment;
3. Protecting historic, cultural and aesthetic resources;
4. Encouraging a sustainable local economy;
5. Protecting agricultural resources, supporting local agricultural businesses, and promoting sustainable agricultural practices;
6. Preserving open space and providing for an array of active and passive recreational opportunities; and
7. Ensuring a viable and well-integrated transportation network that incorporates and encourages multi-modal options and efficiency of land use.

The Highlands Element modifies the relationship of the Passaic County development plan to those of its municipalities and contiguous counties insofar as it affects the intents for use and development of County lands and facilities within the Passaic County Highlands Area. Given that the Highlands Element introduces a substantial number of new constraints to such development based on environmental resources and carrying capacities, it is anticipated that the future impacts from County development initiatives within the Highlands Area will be reduced from previous trends. A complete understanding will not exist however, until further analysis is undertaken to determine the full impacts of conformance with the RMP on the county Land Use Plan. An important component of that analysis will be in regard to watershed-based planning. To the extent that Passaic County shares a HUC14 subwatershed with other county entities, a cooperative planning effort involving all parties will be vital to ensuring sound use and management of the available

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water resources. The land uses, the permitted densities and intensities of development, and the locations and extent of anticipated growth in neighboring Highlands municipalities and counties that are also pursuing conformance with the RMP are all subject to change. Until information is available concerning such decision-making, a comparison between these master plans will not be meaningful. Further discussion of these aspects will therefore be provided in the next amendment to the Master Plan.

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ACRONYMS

CADB	County Agriculture Development Board
ERI	Environmental Resourced Inventory
HAD	Highlands Applicability Determination
HPAA	Highlands Preservation Area Approval
HUC	Hydrologic Unit Code
LID	Low Impact Development
MLUL	Municipal Land Use Law (of the State of New Jersey)
NJDA	New Jersey Department of Agriculture
NJAC	New Jersey Administrative Code
NJDEP	New Jersey Department of Environmental Protection
NJSA	New Jersey Statutes Annotated
NPS	Nonpoint Source
NRCS	Natural Resources Conservation Service
PCS	Potential Contaminant Source
PGWRA	Prime Ground Water Recharge Area
RMP	Regional Master Plan (of the New Jersey Highlands Water Protection and Planning Council)
ROSI	Recreation and Open Space Inventory
SADC	State Agriculture Development Committee
SCD	Soil Conservation District
SDRP	State Development and Redevelopment Plan
SHPO	State Historic Preservation Office
SPC	State Planning Commission
TDR	Transfer of Development Rights
TMDL	Total Maximum Daily Load
USDA	United States Department of Agriculture
WHPA	Wellhead Protection Area

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EXHIBITS

- A.** Passaic County Highlands Preservation Area
- B.** Land Use Capability Map Zones
- C.** HUC14 Subwatershed Boundaries
- D.** Forest Resource Area
- E.** Total Forest Area
- F.** Forest Subwatersheds
- G.** Highlands Open Waters
- H.** Highlands Riparian Areas
- I.** Watershed Value
- J.** Riparian Integrity
- K.** Steep Slope Protection Areas
- L.** Critical Wildlife Habitat
- M.** Significant Natural Areas
- N.** Vernal Pools
- O.** Preserved Lands
- P.** Highlands Conservation Priority Areas
- Q.** Highlands Special Environmental Zone
- R.** Carbonate Rock Areas
- S.** Lake Management Area
- T.** Net Water Availability
- U.** Prime Ground Water Recharge Areas
- V.** HUC 14s on NJDEP Impaired Waters List
- W.** Wellhead Protection Areas
- X.** (Reserved)
- Y.** (Reserved)
- Z.** Preserved Farms, SADC Easements, All Agricultural Uses
- AA.** Important Farmland Soils
- BB.** Historic, Cultural, and Archaeological Resource Inventory
- CC.** Baseline Scenic Resources Inventory
- DD.** Highlands Contaminated Sites Inventory
- EE.** Public Community Water Systems Map
- FF.** Highlands Domestic Sewerage Facilities Map
- GG.** Highlands Roadway Network
- HH.** Highlands Transit Network
- II.** SDRP Planning Areas & Designated Centers
(Placeholder provided; to be updated by County.)

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APPENDIX A MAJOR POTENTIAL CONTAMINANT SOURCES

Land uses and activities determined by the Highlands Council (based on New Jersey Safe Drinking Water Act regulations and NJDEP regulations) to be Major Potential Contaminant Sources include the following:

1. Permanent storage or disposal of hazardous wastes, industrial or municipal sludge or radioactive materials, including solid waste landfills.
2. Collection and transfer facilities for hazardous wastes, solid wastes that contain hazardous materials, and radioactive materials.
3. Any use or activity requiring the underground storage of a hazardous substance or waste in excess of an aggregate total of 50 gallons.
4. Underground fuel and chemical storage and oil tanks regulated by NJDEP under provisions of the Underground Storage of Hazardous Substances Act (N.J.S.A. 58:10A-21 et seq.).
5. Above-ground storage facility for a hazardous substance or waste with a cumulative capacity greater than 2,000 gallons.
6. Any industrial treatment facility lagoon.
7. Any facility with a SIC Code number included under the New Jersey Safe Drinking Water Act Regulations at N.J.A.C 7:10A-1.14, Table II(N)A, with a toxicity number of II or greater. (See Appendix C.)
8. Automotive service center (repair & maintenance).
9. Landfill.
10. Dry cleaning processing facility.
11. Road salt storage facility.
12. Cemetery.
13. Highway maintenance yard.
14. Truck, bus, locomotive maintenance yard.
15. Site for storage and maintenance of heavy construction equipment and materials.
16. Site for storage and maintenance of equipment and materials for landscaping, excluding household storage and maintenance of such equipment.

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17. Livestock operation containing 300 or more Animal Units (AU) [1 AU= 1000 pounds of live animal weight] as defined by the NJ Department of Agriculture in its Criteria and Standards for Animal Waste Management, at NJAC 2:91.
18. Quarrying and/or mining facility.
19. Asphalt and/or concrete manufacturing facility.
20. Junkyard/auto recycling and scrap metal facility.
21. Residential or agricultural motor fuel in NJDEP exempted underground storage tanks (i.e., under 1,000 gallons).

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APPENDIX B MINOR POTENTIAL CONTAMINANT SOURCES

Land uses and activities determined by the Highlands Council (based on New Jersey Safe Drinking Water Act regulations and NJDEP regulations) to be Minor Potential Contaminant Sources include the following:

1. Underground storage of hazardous substance or waste of less than 50 gallons.
2. Underground heating oil storage tank with a capacity of less than 2,000 gallons.
3. Sewage treatment facility regulated by a NJPDES permit granted under NJAC 7:14A.
4. Sanitary sewer system, including sewer line, manhole, or pump station.
5. Industrial waste line.
6. Septic leaching field.
7. Facility requiring a ground water discharge permit issued by the NJDEP pursuant to N.J.A.C 7:14A et seq.
8. Stormwater retention-recharge basin.
9. Dry well.
10. Storm water conveyance line.
11. Waste oil collection, storage and recycling facility.
12. Agricultural chemical bulk storage and mixing or loading facility including crop dusting facilities.
13. Above-ground storage of hazardous substance or waste in quantities of less than 2,000 gallons.
14. Livestock operation containing 8 or more Animal Units (AU) [1 AU= 1000 pounds of live animal weight] or those receiving 142 or more tons of animal waste per year as defined by the NJ Department of Agriculture pursuant to its Criteria and Standards for Animal Waste Management, at NJAC 2:91.

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APPENDIX C MAJOR POTENTIAL POLLUTANT SOURCES

Facilities with Toxicity Ratings of II or Greater

N.J.A.C. 7:10A-1.14(c)4, Table II(N)A

<i>SIC Code for Industrial Facility*</i>	<i>Description of Industrial Facility which includes activities that may release hazardous substances</i>	<i>Toxicity Rating</i>
Any SIC Code	All ground water remediation of toxic substances, including priority pollutants	V
Any SIC Code	Contaminated storm water runoff from any type of facility listed below	
0721	Crop dusting and spraying	IV
10xx	Metal mining	V
12xx	Coal mining	III
1475	Phosphate rock mining	IV
22xx	Textile mills with finishing operations (dyeing, coating, etc.)	V
2491	Wood preserving	VI
2493	Reconstituted wood products	II
25xx	Furniture & fixtures with metal finishing	V
261x, 262x, 263x	Pulp, paper, and paperboard mills	V
27xx	Printing & publishing	II
2812	Inorganic chemicals, alkalies & chlorine	V
2813	Industrial gases	II
2816	Inorganic pigments	IV
2819	Industrial inorganic chemicals	IV
282x	Plastic materials & synthetic resins	V
283x	Drugs	V
284x	Soaps, detergents, etc.	III
285x	Paints, etc.	IV
2861	Gum & wood chemicals	III
2865, 2869	Industrial organic chemicals	VI
2879	Pesticides & agricultural chemicals	VI
289x, except 2891	Miscellaneous chemical products	IV
2891	Adhesives & sealants	V
29xx	Petroleum refining	V
30xx	Rubber & plastic products	IV
3111	Leather tanning & finishing	IV
331x, except 3313	Steel mills	VI
3313	Electrometallurgical products, except steel	III
332x	Iron & steel foundries	V
333x	Primary smelting, nonferrous metals	VI
334x	Secondary smelting, nonferrous metals	V
335x	Rolling, drawing, extruding, nonferrous metals	V
336x	Nonferrous foundries	V
339x	Miscellaneous primary metals products	V

**SIC (Standard Industrial Classification) Codes are determined from the Federal Manual (1987) issued by the United States Office of Management and Budget.*

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<i>SIC Code for Industrial Facility*</i>	<i>Description of Industrial Facility which includes activities that may release hazardous substances</i>	<i>Toxicity Rating</i>
341x, 342x, 343x, 344x, 345x, 346x, except 3431 & 3463	Fabricated metal products, with metal finishing	V
3431	Enameled sanitary ware, cast iron basis	VI
3463	Nonferrous forgings	V
347x	Plating & coating	V
348x	Ordinance, with metal finishing	V
348x	Ordinance, explosive load, assembly, packing	IV
349x, except 3497	Miscellaneous fabricated metal products, with metal finishing	V
3497	Metal foil & leaf	V
35xx	Industrial/commercial machinery & equipment, with metal finishing	V
36xx	Electronic equipment, with metal finishing or porcelain enameling	V
3624	Carbon & graphite products	V
3671	Cathode ray tubes	V
3672	Printed circuit boards	V
3674	Semiconductors	VI
3679	Electronic crystals only	III
3691, 3692	Batteries	IV
37xx, except 3731	Transportation equipment, with metal finishing	V
3731	Ship building	IV
38xx	Measuring, analyzing & controlling instruments, with metal finishing	V
3844, 3845	Measuring, analyzing & controlling instruments, with electron tube manufacture	V
3861	Photographic related chemicals	V
39xx	Miscellaneous manufacturing industries, with metal finishing	V
4231	Trucking terminals	III
4493	Marinas	III
4499	Water transportation services	III
46xx	Pipelines, except natural gas	V
4911, 4931	Electric services	IV
4941	Water supply treatment (public and industrial)	IV
4953	Solid waste facilities	IV
4953	Hazardous waste treatment facilities	VI
5052	Coal & other minerals & ores	V
5093	Scrap & waste materials	VI
5169	Chemicals & allied products	VI
5171	Petroleum bulk stations & terminals	V
5191	Farm supplies	IV
7211, 7215, 7216 & 7217	Laundries, dry-cleaning & carpet/upholstery cleaning	II

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<i>SIC Code for Industrial Facility*</i>	<i>Description of Industrial Facility which includes activities that may release hazardous substances</i>	<i>Toxicity Rating</i>
7213, 7218	Linen supply & industrial launderers	IV
7342	Disinfecting & pest control services	VI
7389	Solvents recovery services only	VI
7542	Car & truck washes	II
7699	Repair shops, with metal finishing	V
8062	General medical & surgical hospitals	VI
8069	Specialty hospitals	VI
8071	Medical laboratories	VI
8731	Commercial research organizations	IV
8733	Non-commercial research organizations	IV

**SIC (Standard Industrial Classification) Codes are determined from the Federal Manual (1987) issued by the United States Office of Management and Budget.*