MUNICIPAL STORMWATER MANAGEMENT PLAN

THE TOWNSHIP OF MANALAPAN

Submitted to:

THE MANALAPAN PLANNING BOARD

ADOPTED
MARCH 2005

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Addendum A

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ADDENDUM A

1.0 INTRODUCTION

The Township of Manalapan has consulted with Birdsall Engineering, Inc. and CME Associates to devise a Municipal Stormwater Management Plan (MSWMP) for Manalapan Township. This MSWMP outlines a strategy for Manalapan to alleviate the Township's stormwater management problems through the incorporation of more stringent stormwater policies within their Land Use Regulations. The creation of this MSWMP is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations, which were proposed in the New Jersey Registrar on January 6, 2003, and were made effective on February 2, 2004. This plan also includes the Stormwater Control Ordinance (Appendix A) that incorporates both the goals of this plan and stormwater management standards into existing Township's regulations by applying the N.J.A.C. 7:8 Stormwater Management design standards to "Major Development", which includes development or redevelopment projects that disturbs one or more acres of land, or proposes to add ¼ acre or more of impervious surface.

This plan will incorporate all of the required elements described in N.J.A.C. 7:8 Stormwater Management Regulations as well as the nine planning goals that should be addressed when devising municipal level stormwater management plans (N.J.A.C. 7:8-2.2). Further, the plan addresses groundwater recharge, stormwater quantity, and stormwater quality impacts by incorporating the N.J.A.C. 7:8 Stormwater Management design and performance standards for development applications. These standards are intended to minimize the adverse impact of stormwater runoff on water quantity, the loss of groundwater recharge that provides baseflow to receiving water bodies and reduce the discharge of pollutants to the maximum extent practicable and protect water quality. The plan incorporates the six control measures outlined within the Phase II New Jersey Pollutant Discharge Elimination System Stormwater Regulation Program Rules (N.J.A.C. 7:14A).

To accomplish these ends, this MSWMP reviews and evaluates the Township's existing ordinances, the Manalapan Township Master Plan and Reexamination Reports to ensure that nonstructural stormwater management techniques have been integrated into these documents to the maximum extent practicable. In addition, pursuant to N.J.A.C. 7:8 4-2, this MSWMP includes a Build Out Analysis (Appendix E), which projects future pollutant loading levels to HUC14 subwatersheds, at build out, under the Township's existing zoning standards. Also included is a Mitigation Plan (Section 6.4) that allows Manalapan Township, in limited circumstances, to waive the strict compliance of one or more of the performance standards where full compliance cannot be accommodated on site.

2.0 GOALS AND OBJECTIVES

To improve water quality, reduce the risk of flooding, and in turn improve the quality of life for residents of Manalapan, the incorporation of more stringent stormwater management techniques has been identified as a priority by both state and local level government agencies. Stormwater management requirements and best management practices will advance the goals and objectives of both the New Jersey Department of Environmental Protection and Manalapan Township.

The goals of this MSWMP are as follows and meet the minimum requirements set forth in N.J.A.C. 7:8:

- Reduce flood damage, including damage to life and property;
- Minimize, to the extent practical, any increase in stormwater runoff from any new development;
- Reduce soil erosion from any development or construction project;
- Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- Maintain groundwater recharge;
- Prevent, to the greatest extent feasible, an increase in nonpoint pollution;
- Maintain the integrity of stream channels for their biological functions, as well as for drainage;
- Minimize pollutants in stormwater runoff from new and existing development to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial, and other uses of water; and
- Protect public safety through the proper design and operation of stormwater basins.

In addition to the above, Manalapan Township has issued goals and objectives within the Manalapan Master Plan and Reexamination Reports that could be advanced by the implementation of the Township's Stormwater Control Ordinance, Manalapan Township Ord. No. 2006-13 and any amendment(s) thereafter. Accordingly, the following goals as cited below apply to this MSWMP:

- Secure safety from fire, flood, panic and other natural and man-made disasters (*Township of Manalapan Master Plan Reexamination Report 1994, 1999*);
- Promote desirable visual environment (*Township of Manalapan Master Plan Reexamination Report 1994, 1999*);
- Promote the conservation of open space and valuable natural resources and prevent urban sprawl and degradation of the environment through improper use of land (*Township of Manalapan Master Plan Reexamination Report 1994*); and

- Ensure that Township development does not conflict with development and the general welfare of neighboring municipalities, the County and the State as a whole (*Township of Manalapan Master Plan Reexamination Report 1999).*

This MSWMP will also incorporate the Goals and Objectives that have been established for areas within Watershed Management Area 9 (WMA 9). The goals for the Lower Raritan Basin include:

- An effective and publicly acceptable legal and institutional structure for implementation of the watershed management plan shall be created.
- Integrate water resource related considerations into land use planning and management. All bodies governing land use will consider the environmental impacts of development on water resources on a whole-municipality and a watershed basis. Sound land use planning will protect ground water and surface water resources.
- Management of stormwater and flood damage reduction will be performed on a watershed basis in the Lower Raritan WMA.
- The open water and other wetland resources of the Lower Raritan WMA will be protected and restored to enable them to demonstrate improved functions (flood storage capacity, aquifer and ground water recharge, etc.) and ecosystem services (support of human, plant and animal communities).
- To achieve appropriate water quality goals in the Lower Raritan WMA so that the ecological balance and appropriate uses of the watershed are maintained.

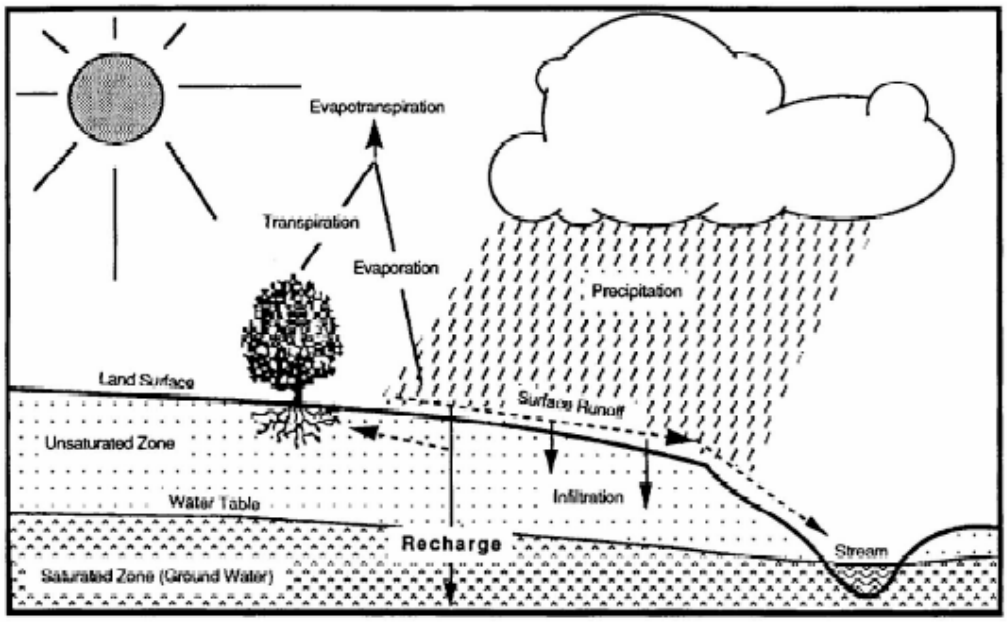
Source: Raritan Basin Watershed Alliance: Raritan Basin Watershed Management Plan http://www.raritanbasin.org/RBWMP_CD/index.htm Accessed March 8, 2005.

To achieve these goals, this plan examines the most pressing stormwater related issues facing Manalapan, and addressed the Township's design and performance standards by incorporating more comprehensive codes for managing stormwater. By examining the Township's history, demographics, and current conditions concerning water quality and quantity, a clearer picture can be drawn in regards to what stormwater management issue(s) face the Township, and what type of policy amendment(s) can be presented to manage them.

3.0 EFFECTS OF STORMWATER RUNOFF

The hydrologic cycle is defined as the constant cyclical movement of water from the ground to the atmosphere and back to the ground. As illustrated by the figure below, this process includes evaporation, transpiration, evapotranspiration, condensation, transport, precipitation, infiltration, percolation, surface runoff, and groundwater flow. Land development has a dramatic effect on the natural function of this process.

GROUNDWATER RECHARGE IN THE HYDROLOGIC CYCLE



Source: New Jersey Geological Survey Report GSR-32.

Prior to development, native vegetation acts to both intercept falling precipitation, and return water that has infiltrated into the ground through evapotranspiration. By clearing vegetation, compacting soil, and replacing it with impervious cover, lawns, or landscaping, the development process serves to reduce the natural rate of water that may infiltrate into the soil.

In developed areas, following a precipitation event, both the volume and the rate of stormwater runoff will increase in proportion to the amount of additional impervious cover generated by a given development. Often streets, gutters, channels and storm sewers are the tools with which this additional stormwater is carried to local waterways. These man-made stormwater management tools transport water more quickly which causes the stormwater flows in downstream waterways to peak faster and higher than would be produced in a natural state. The increased peak flow during and shortly after a

precipitation event produces greater fluctuations between normal and storm flow rates, which can increase channel erosion.

Table 1: The Effect of Impervious Cover on Runoff	
Share of Land With Impervious Cover	**Share of Rainwater that Becomes Runoff**
0% (natural state)	10 %
10-20%	20%
35-50%	30%
75-100%	75-100%
Source: NJDEP *Planning for Clean Water: The Municipal Guide* Trenton, NJ 2000**.**	

Not only does the development process increase the peak rate of stormwater flows, the addition of impervious cover also results in water pollution. Pollutants carried within stormwater runoff can take the form of nutrients such as nitrogen and phosphorous which encourage the growth of algae in downstream water ways, or trash and oils that accumulate on sidewalks and roadways between precipitation events. In locations where stormwater sewers discharge runoff directly into a stream, the aggregate accumulation of sediment and pollutants that are carried within it are dumped directly into local waterways. In addition to the chemical and physical contaminants, runoff from impervious systems also requires another form of pollution, heat. When rain falls on pavement that has collected heat through the day, the temperature of runoff can reach as high as 83 degrees Fahrenheit, which is sufficiently warm enough to damage sensitive plant and animal species. Table 2 as follows, includes a comprehensive list of the possible pollutants contained within untreated stormwater flows.

Table 2: Pollutants Carried in Stormwater
The following pollutants collected and carried in stormwater runoff can seriously degrade water quality in the community:
Nutrients- Include nitrogen and phosphorous, which plants need to grow. However, high levels can cause a health hazard in drinking water and stimulate excessive aquatic plant growth, which can ultimately lower dissolved oxygen levels in the water, causing fish and other aquatic life to smother. Algae blooms are examples of how excess nutrients pollute. Sources of excess nutrients include animal waste, fertilizers, septic systems, road salt applications and auto emissions. About half of the fertilizers applied to lawns in the New Jersey coastal zone enter streams and head to the bay and ocean.
Pathogens- Are disease causing bacteria and viruses associated with the presence of fecal matter. They affect human health directly when people contact contaminated water and consume shellfish. Sources include failing septic systems, animal waste, and boat sanitation facilities.
Sediment- Is fine particles of eroded soil or sand. Common origins are concentrated, excessive stormwater runoff from construction sites. Sediment smothers aquatic habitat, carries pollutants bound to soil particles, makes water cloudy and inhibits the breeding and movement of aquatic species.
Toxic Contaminants- Include pesticides as well as heavy metals such as copper, lead and zinc which are commonly found in old paint, tires, lawn chemicals and preservatives. They attach to sediments, resist breakdown, accumulate in organisms and represent threats to the food chain.
Debris- Consists of various items of trash, such as old tires, shopping carts and plastics. It comes from illegal dumping, street litter, and boating waste. It threatens aquatic life and detracts from recreational and aesthetic values.
Oil- Is one of the worst offenders. One gallon of oil dumped down a storm drain can create a slick up to 8 acres and may pollute up to 1 million gallons of water.
Thermal Stress- From elevated water temperatures reduces survival rates and disease resistance of valued native species and allows the spread of non-native (exotic) species. Water temperature rises because of increased pavement near streams, loss of vegetated stream buffers and stream channelization.
Source: Association of New Jersey Environmental Commissions (1998, Spring). ***ANJEC Report***

4.0 CURRENT CONDITONS

4.1 SETTING

The Township of Manalapan is situated in the western part of Monmouth County, west of Marlboro Township and north of Millstone Township. The Township's name is derived from the Native American phrase meaning "good bread", or place producing "good bread". The historic Battle of Monmouth took place on June 28, 1778 in Manalapan on land that is now part of Monmouth Battlefield State Park. The Township is also home to the headquarters of the Monmouth County Library System. Manalapan Township provides a suburban setting that has contributed greatly to its appeal among new residents. The community is just 15 miles from the Jersey Shore and 45 miles southwest of New York City. New Jersey State Highways, Route 33 and Route 9, run through town and provide access to the Garden State Parkway and the New Jersey Turnpike.

4.2 DEMOGRAPHICS

The Township of Manalapan is a large, partially rural community located in western Monmouth County. The Township has a land area of 30.85 square miles, and contained 33,423 residents as of the 2000 census.

In 1850, the population of Manalapan was 1,910 and the Township primarily consisted of farms and mills. The population of the Township grew very slowly as farms were passed down within a family from generation to generation. Significant growth occurred between 1960 and the present as developers bought and subdivided farms to construct single-family residences. In recent years, while much of the southern part of the Township has remained rural, the northern section has been developed with large, and fairly new, single-family homes. Commercial development is prominent along Route 9 and Route 33 corridors. The population of Manalapan has continued to grow since 1980; however, the growth rate has been steadily declining as the Township reaches build-out. Monmouth County as a whole has become the fourth fastest growing county in the state of New Jersey. Please refer to *Figure 9: Township Zoning Districts*.

Table 3: Manalapan Population Characteristics

Year	Population	% Change
1980	18,914	N/A
1990	26,716	41.2%
2000	33,423	25.1%
2004 (Projected)	37,272	11.5%

Source: Monmouth County Planning Board *At A Glance: Files and Data* accessed on February 24, 2005. http://www.monmouthplanning.com/AtAGlanceFiles/Manalapan%20Twp.pdf

4.3 WATERWAYS

There are two major streams with associated tributaries that pass through the Township: Manalapan Brook to the south and Matchaponix Brook to the north. There are six named tributaries to Matchaponix Brook: Pine Brook, Milford Brook, Tepehemus Brook, McGilliards Brook, Weamaconk Creek and Wemrock Brook. There are also two named tributaries to Manalapan Brook: Gander Brook and South River. Each of these waterways is discussed in greater detail within Section 4.6-*Water Quality* portion of this Plan. Please see *Figure 1: Township Waterways* for the location of each waterway.

4.4 WATERSHED

According to the Raritan Basin Watershed Management Project's website: (http://www.raritanbasin.org/WMA9_MCD.htm), Manalapan Township is located in the Lower Raritan Watershed Management Area, which falls within New Jersey Department of Environmental Protection Watershed Management Area #9. The Lower Raritan is a 352 square mile watershed located in Central New Jersey, which is surrounded by the Upper Passaic to the north, the Arthur Kill and Monmouth Watersheds to the east, the Millstone to the southwest and the North & South Branch of the Raritan River to the west.

Within this larger watershed network several sub watersheds exist within Manalapan, which include not only waterways that flow through Manalapan such as the Manalapan Brook and Matchaponix Brook subwatersheds, but also other water bodies outside the Township whose watershed extends into portions of Manalapan, such as the Millstone River watershed. Please refer to *Addendum A, Hydrologic Unit Code 14 (HUC14)* for further discussion of the Township's HUC14 and WMA boundaries and *Figure 8: Hydrologic Unit Code 14 (HUC 14)* for an illustration of same.

4.5 CATEGORY ONE WATERWAYS

There are designated Category One (C1) waterways located along the eastern border of the municipality which include McGellairds Brook, Matchaponix Brook, and Wemrock Brook. Category One waterways provide significant function to the ecology, recreational use, aesthetic value, water supply and fishery resources. A C1 designation is defined by the NJDEP and is the highest form of protection available within the State of New Jersey as regulated by N.J.A.C. 7:9B, Surface Water Quality Standards. C1 waterway limits are described in accordance with NJAC 7:8-5.5(h).

Category One designation provides additional protection to waterbodies to help prevent degradation of water quality. It regulates and discourages development within these protected areas. Without preventative measures to regulate development in designated waterbodies and land buffers, impairments or even destruction of our natural resources and their significant environmental qualities could occur.

4.6 WATER QUALITY

Changes in the Township's landscape have increased stormwater runoff volumes and pollutant loads to waterways that flow through the Township. Environmental concerns have brought about the development of studies, programs and networks intended to monitor the health of waterways and aid in determining methods to mitigate pollution where encountered. Among many programs, the New Jersey Department of Environmental Protection (NJDEP) has established an Ambient Biomonitoring Network (AMNET) to document the health of the State's waterways. There are now over 800 AMNET sites throughout the state of New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a five-year cycle. Streams are classified as "non-impaired", "moderately impaired", or "severely impaired" based upon a standardized inspection process. The data is used to generate a New Jersey Impairment Score (NJIS). According to these scores, the waterway is then classified as "non-impaired", "moderately impaired", or "severely impaired". These designations are determined by the following criteria:

Table 4: New Jersey Department of Environmental Protection AMNET Program Waterway Classification Criteria

Non-Impaired	Benthic community comparable to other undisturbed streams within the region. A community characterized by a maximum taxa richness, balanced taxa groups and good representation of intolerant individuals.
Moderately Impaired	Macroinvertebrate richness is reduced, in particular EPT taxa. Taxa composition changes result in reduced community balance and intolerant taxa become absent.
Severely Impaired	A dramatic change in the benthic community has occurred. Macroinvertebrates are dominated by a few taxa that are very abundant. Tolerant taxa are the only individuals present.

Source: New Jersey Department of Environmental Protection Bureau of Freshwater and Biological Monitoring (NJDEP/BFBM): *http://www.state.nj.us/dep/wmm/bfbm/*. Accessed: March 30, 2005.

Based on AMNET data, Manalapan Brook ranges from non-impaired upstream to moderately impaired downstream. Matchaponix Brook and its tributaries have also been classified as "moderately impaired". However, two of its tributaries, McGilliards Brook and Pine Brook, have been classified as "severely impaired" at AMNET monitoring sites located immediately upstream of their junctions with Matchaponix Brook.

In addition to the AMNET data, the NJDEP and other regulatory agencies collect water quality chemical data on streams in the state. The New Jersey Integrated Water Quality Monitoring and Assessment Report 305(b) and 303(d) (Integrated List) is required by the federal Clean Water Act to be prepared biennially and is a valuable source of water quality information. The integrated list is divided into five different sublists.

The following table illustrates how those sublists were determined.

Table 5: New Jersey Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(d) Integrated List) Sublist Criteria	
Sublist 1	Attaining a water quality standard and no use is threatened.
Sublist 2	Attaining some of the designated uses; no use is threatened; and insufficient or no data and information is available to determine if the remaining uses are attained or threatened.
Sublist 3	Insufficient or no data and information to determine if any designated use is attained.
Sublist 4	Impaired or threatened for one or more designated uses but does not require the development of a TMDL. (Three Categories). 1.TMDL has been completed. 2.Other enforceable pollution control requirements are reasonably expected to result in the attainment of the water quality standard in the near future. 3. Impairment is not caused by a pollutant.
Sublist 5	The water quality standard is not attained. The waterbody is impaired or threatened for one or more designated uses by a pollutant(s), and requires a TMDL.
Source: New Jersey Department of Environmental Protection: http://www.state.nj.us/dep/wmm/sgwqt/wat/integratedlist/integratedlist2004.html.Accessed March 30, 2005	

Sublist 2 of the Integrated List was utilized in past studies to designate total use status of water bodies. Recently, the NJDEP has chosen to develop the Integrated List by water body and specified pollutant, bit in terms of total support status of all uses as delineated in the USEPA assessment methodology. Therefore, the elimination of Sublist 2 occurred in recent NJDEP Integrated List studies as water bodies are no longer assessed according to their total use support status but by each specified pollutant.

Sublist 5 of the Integrated List constitutes the list of waters impaired or threatened by pollutants, for which the establishment of one or more TMDL's is necessary. A Total Maximum Daily Load (TMDL) is the amount of a pollutant that can be accepted by a waterbody without causing an exceedance of water quality standards or interfering with the ability to use a waterbody for one or more of its designated uses. An allowable load is allocated to the various sources of the pollutant such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and non-point sources, which interfere with stormwater runoff from agricultural areas and residential areas, along with

a margin of safety. Provisions may also be made for future sources in the form of reserve capacity. An implementation plan is developed to identify how the various sources will be reduced to the designated allocations. Implementation strategies may include improved stormwater treatment plants, adoption of ordinances, reforestation of stream corridors, retrofitting stormwater systems and other Best Management Practices.

The New Jersey 2004 Integrated Water Quality Monitoring and Assessment Report (305(b) and 303(b)) issued in June of 2004 assigned Manalapan Brook, Matchaponix Brook, McGelliards Brook, Pine Brook, Wemaconk Creek and Wemrock Brook to Sublist 5. Manalapan Brook does not meet water quality standards within Township borders for several parameters: phosphorus, fecal coliform, pH and lead. Matchaponix Brook was listed for not attaining water quality standards for fecal coliform and aquatic life parameters. McGelliards Creek, a tributary to the Matchaponix Brook, exceeds water quality criteria for aquatic life, phosphorus, and fecal coliform. Pine Brook and Weamaconk Creek, both tributaries to Matchaponix Brook, exceed water quality for aquatic life. Wemrock Brook does not attain water quality standards for phosphorus and fecal coliform. Additional information relating to the AMNET water quality testing as well as tables listing each waterway, its testing location, the non-attaining pollutants, and the data source, are provided in Appendix D and E of this report. Consequently, these said streams are “impaired” waterways. When more than one pollutant impairs an individual waterway, said waterway will remain on Sublist 5 until TDML’s for all pollutants are established and approved by the USEPA.

Manalapan Township and the Lower Raritan Watershed in general will continue to experience rapid development. As land development and subsequent impervious coverage continues to increase, stormwater related issues such as maintaining water quality, reducing impervious cover, and improving groundwater recharge will become even more crucial in order to attain the goals and objectives of both state and local governmental agencies.

4.7 WATER QUANTITY

Manalapan Township has exhibited water quantity problems including flooding, steam bank erosions, and diminished base flow in streams. Many of the culverts associated with road crossings in the Township are undersized. The size and design of culverts has been cited as a contributor to both the frequency and the severity of stormwater flow flooding, which is experienced in several locations throughout the Township. These locations are discussed in greater detail below in Section 4.8-*Existing Areas of Flooding and Proposed Solutions*.

The continually expanding amount of impervious surfaces in the Township has decreased groundwater recharge, and in turn contributed to the stormwater management issues that exist in Manalapan. The average annual groundwater recharge rates are shown graphically in *Figure 5: Groundwater Recharge Areas*. New Jersey Geologic Survey (NJGS) estimates groundwater recharge using methodology from NJGS Report GSR-32 "A Method for Evaluation of Ground-Water-Recharge Areas in New Jersey”. Land-

use/land-cover, soil and municipality-based climatic data were combined and used to produce an estimate of ground-water recharge in inches per year. Recharge was then ranked by volume (billions of gallons per year) using natural breaks in the percentage of total volume. Please refer to *Figure 2: Soil (SSURGO) Map* and *Figure 3: Existing Land Use*.

Wellhead protection areas are illustrated in *Figure 6: Wellhead Protection Areas*. It should be noted that in accordance with NJDEP data no community wellhead protections areas are located within the Township boarders. According to the NJDEP, "A Well Head Protection Area (WHPA) in New Jersey is a map area calculated around a Public Community Water Supply (PCWS) well that delineates the horizontal extent of ground water captured by a well pumping at a specific rate over a two, five, and twelve-year period of time for unconfined wells. The confined wells have a fifty foot radius delineated around each well serving as the well head protection area to be controlled by the water purveyor in accordance with Safe Drinking Water Regulations" (see NJAC 7:10-11.7(b) 1). Well Head Protection Area delineations are conducted in response to the Safe Drinking Water Act Amendments of 1986 and 1996 as part of the Source Water Area Protection Program (SWAP). The delineations are the first step in defining the sources of water to a public supply well. Within these areas, potential contamination will be assessed and appropriate monitoring will be undertaken as subsequent phases of the NJDEP SWAP program.

With regards to potable water supplies, the Bureau of Safe Drinking Waters Water Supply Administration within the New Jersey Department of Environmental Protection administers the Source Water Assessment Program (SWAP). According to the 2004 Source Water Assessment Report for Manalapan Township, Manalapan receives potable water from 4 different entities. First, the Manalapan Township Water Department operates three stations in the Township; Tracy Station, Knob Hill, and Millhurst. All three stations are public community water systems consist of no wells, no surface water intakes, no purchased ground water sources, and one purchased surface water source, which is United Water of Matchaponix.

Other surface potable water suppliers that serve the residents of Manalapan include the United Water Matchaponix. United Water Matchaponix is a public community water system consisting of one well, with no wells under the influence of surface water, one surface water intake, no purchased ground water sources, and no purchased surface water sources. This system's source water comes from an aquifer and surface water body, middle Potomac-Raritan-Magothy aquifer and the Matchaponix Brook. Also providing potable water is the Englishtown Water Department. The Englishtown Water Department is a public community water system consisting of 3 wells, none of which are under the influence of surface water, utilize surface water intakes, or purchased surface water sources. This system's source water comes from the upper Potomac-Raritan-Magothy aquifer and the middle Potomac-Raritan-Magothy aquifer. However, the Englishtown Water Department purchases water from one water system, Gordon's Corner, LC.

Lastly, Gordon's Corner Water Supply also serves residents of Manalapan Township. This public community water system consisting of nine (9) wells, three (3) purchased ground water sources, and one (1) purchased surface water source(s). This system's source water comes from the middle Potomac-Raritan-Magothy aquifer and the upper Potomac-Raritan-Magothy aquifer. This system purchases water from the following water systems: Freehold MUA, Marlboro MUA, Marlboro Water Department, and United Water Matchaponix.

Also, independent water-quality laboratories regularly test water samples from around the Township. The results of these water tests show no contaminants present that contain maximum contaminants levels (MCL's), as established by Federal and NJ State government agencies. Under Federal law, all water users now receive an annual report on the quality of their drinking water, listing only the contaminants that are detected in the water.

4.8 EXISTING AREAS OF FLOODING & PROPOSED SOLUTIONS

Stormwater management problems within Manalapan Township include flooding, stream bank erosion, and diminished base flow in streams. The waterways and locations at which flooding has been observed by Township staff includes:

- **Pine Brook***:* Within the Nottingham Estates development as flooding occurs along Birmingham Drive and Portsmouth Road.
- **Tepehemus Brook:** Just upstream of New Jersey State Highway Route 9 properties located on Maxwell Lane experience flooding.

Also, several years ago the Township completed a bank stabilization project to reduce erosion at the two locations listed below.

- **Tepehemus Brook:** Stormwater backs up and surcharges the storm sewer at a location on Alexandria Drive. The Township awarded and completed a capital improvement project to address same in 2007. Supplemental storm sewer was installed to re-route drainage runoff away from the surcharged area; additionally, the surcharged outfall pipe to Tepehemus Brook was demolished and removed.
- **Milford Brook:** Stormwater backs up at Tennent Road and floods adjacent properties.

Manalapan is continuously monitoring and correcting existing areas of flooding throughout the Township. The Township actively addresses drainage and flooding issues as they arise and are reported by residents. Each year, the Township includes drainage improvements as part of their Capital Improvement Program. Most of the reported flooding and drainage problems have been corrected. However, as flooding issues and strategies are more thoroughly addressed, the MSWMP may be amended to incorporate a list of additional areas that are prone to flooding and remove locations that have been repaired or reconstructed. Please see *Figure 4: Flood Prone Map (FEMA/Q3 Flood Data)* for an illustration of flood prone areas.

5.0 STORMWATER MANAGEMENT

5.1 INFRASTRUCTURE

Manalapan Township receives an average of almost 46 inches of rain a year. To manage the public risk that flooding imposes on residents, a substantial stormwater management system has been developed. As illustrated earlier in Table 2, both the amount and condition of the stormwater that finds its way into local waterways is determined in large part by the amount of impervious cover is present. With less absorption of rainwater into the ground, the increased runoff moves faster and collects more pollutants from the surface, which promotes erosion, damages stream banks, and in turn deposits sediment into streambeds.

The Township's Stormwater Control Ordinance and N.J.A.C. 7:8 set requirements on how to manage stormwater more effectively and provide guidelines on how to incorporate BMPs into the planning stages of project design. Some sites may be able to achieve standards set forth within these regulations through vegetative swales and buffers, and landscaping to control non-point source pollution. Other sites may require the construction of a stormwater basin or other structural BMPs.

In situations where the development of structural stormwater facilities are necessary, the NJDEP's Best Management Practice (BMP) Manual shall be consulted as it outlines alternatives and strategies to incorporate Best Management Practices (BMPs) into project site design. Possible alternatives include structural BMPs such as bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration basin, manufactured treatment devices, pervious paving systems, sand filters, vegetative filters and wet ponds. After implementing nonstructural stormwater management strategies to the maximum extent practical, structural BMPs may be incorporated into the Township's existing stormwater management infrastructure. The implementation of the Township's Stormwater Control Ordinance and BMP Manual will help to promote enhanced groundwater recharge, aid in improving the stormwater quality and potentially reduce the impacts of stormwater quantity that originates within Manalapan.

Also, Low Impact Development techniques, which coincide with the goals and functions of Stormwater Management BMP's, include additional means to promote the goals stated within this Municipal Stormwater Management Plan. When practical, incorporating techniques such as maximizing the amount of pervious land which is preserved, utilizing native vegetation for replanting, adding curb cuts to detain and filter stormwater, and using vegetated buffers are all encouraged in order to soften the ecological impact of development on surrounding habitats and waterways. Low Impact Development techniques are outline in §95-9.2.F.(8)(b) of the Township's Development Regulations.

5.2 STORM DRAINS

The Township has an annual Capital Improvement Program through which infrastructure improvements are designed and constructed. The construction or reconstruction of

drainage best management practices, and stormwater management improvements, such as the installation of perforated pipe and sump inlets within the Township are included in this program.

The responsibility of annually cleaning and inspection of the municipal separate storm sewer system (MS4) is undertaken by the Manalapan Township Department of Public Works. In addition to annual cleanings and inspections of the MS4 catch basins, the Public Works Department also relies on notice from residents when storm drains become blocked.

5.3 STORMWATER FACILITIES

Most of the stormwater management system within Manalapan Township relies on stormwater basins. There are three (3) general types of stormwater basins that are currently implemented within the municipality. First, "detention basins" are built strictly to detain stormwater for a period of time, while releasing water at a slow and controlled rate. They are designed to be dry between storm events. A second type of basin that is designed to manage stormwater flows is a "retention basin". These basins are designed to stay wet by retaining a permanent pool so as to mimic a natural pond or lake. The third common type of basin is an infiltration basin that is designed to attenuate flow while providing groundwater recharge benefits.

However, additional nonstructural and structural BMP facilities can be utilized to control stormwater runoff quantity, quality and provide groundwater recharge. Moreover, maintenance requirements for various stormwater management facilities differ in tasks performed and schedules. The township defers to the BMP Manual for the recommended maintenance requirements for each respective stormwater management facility. Maintenance tasks vary from mowing grass areas to tilling sand layer bottoms to performing drain tests. Additionally, from the effective date of adoptions for the stormwater control ordinance, approved stormwater management facilities are required to provide a maintenance and operations manual outlining all required maintenance tasks and associated schedules to help ensure proper function and operation of same.

A comprehensive listing and analysis of the stormwater basins operating within Manalapan Township are available at the Department of Public Works and the Freehold Soil Conservation District.

To regulate and prevent conditions which cause increased surface drainage, soil erosion and sedimentation, Manalapan Township's Landscaping/Shade Tree Ordinance requires forest management plans and clearing plans to protect not only the trees themselves, but also requires buffer areas around each tree so as not to disturb the root system. As mentioned above, the Manalapan Stormwater Control Ordinance incorporates stringent stormwater management policies, relative to stormwater management facilities, design and maintenance of same.

6.0 DESIGN AND PERFORMANCE STANDARDS

Section §95-9.2 (f) of the Township Development Regulations states the purpose and general provisions of stormwater management for new development. The ordinance requires that development shall use the best available technology to minimize off site stormwater runoff, increase on-site infiltration, simulate natural drainage systems, and minimize off-site discharge of pollution to ground and surface water and encourage natural filtration functions. Runoff from a site shall ultimately leave a site in the same watershed it originated and shall be released in such a manner so as to not overload existing drainage systems, create flooding, create a need for additional drainage facilities on other public or private lands, or increase predevelopment erosion on adjacent lands. Regarding the rate of runoff, peak rate from the site during and after development shall not exceed predevelopment peak rate. In areas of known flooding downstream, the development peak rate must be less than the pre-development rate. Regarding volume, the increase in runoff during and after development must be minimized. Recharge is encouraged in Hydro Soils Groups A and B.

To minimize the adverse impact of stormwater runoff on water quality, water quantity and the loss of groundwater recharge in receiving water bodies, the Township will adopt design and performance standards that comply with the stormwater management measures as presented in N.J.A.C. 7:8. The design and performance standards include amended language for the inclusion of maintenance requirements, and safety standards consistent with N.J.A.C. 7:8-6. The ordinances will be submitted to the County for review and approval within 24 months of the effective date of permit authorization (EDPA).

Further, by amending their current Land Use Regulations, it is the intention of the Township of Manalapan to incorporate both structural and nonstructural stormwater management strategies as presented in N.J.A.C. 7:8-5 to the maximum extent practicable. So as to minimize the adverse impact on water quality which is imposed by stormwater runoff, the proposed amendments to the Township's current development regulations include the incorporation of stricter stormwater management guidelines relating to water quantity, water quality, and groundwater recharge as identified in the design and performance standards as presented in N.J.A.C. 7:8-5.

Major developments must also meet one of two standards for groundwater recharge (N.J.A.C. 7:8-5.4(a)2.): (1) maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site or (2) infiltrate the increase in the stormwater runoff volume from pre-construction to post-construction for the two-year storm. For water quality (N.J.A.C. 7:8-5.5), stormwater management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in the stormwater runoff generated by the water quality design storm by 80 percent of the anticipated load from the major development.

To control stormwater runoff quantity impacts (N.J.A.C. 7:8-5.4 3.), a major development must meet one of three design standards: (1) demonstrate at no point in time that the post-construction runoff hydrograph exceed the pre-construction runoff hydrograph, (2) demonstrate there is no increase, as compared to the pre-construction condition, in the peak runoff rates of stormwater leaving the site for the 2, 10, 100-year storm event and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site, and (3) demonstrate the postconstruction peak runoff rates for the 2, 10 and 100-year storm events are 50, 75 and 80 percent, respectively, of the pre-construction runoff rates. However, for stormwater water runoff quantity requirement (3), stream encroachment standards (N.J.A.C. 7:13-2.8) will require for the 100-year storm event 75 percent of the pre-construction peak runoff rates. Prior to adoption, these ordinances will all be submitted to the Monmouth County Planning Board for review and approval within 24 months of the EDPA.

The second set of rules is the Phase II New Jersey Pollutant Discharge Elimination System Stormwater Regulation Program Rules (N.J.A.C. 7:14A). These rules are intended to address and reduce pollutants associated with existing stormwater runoff. The Rules establish a regulatory program for existing stormwater discharges as required under the Federal Clean Water Act. These rules govern the issuance of permits to entities that own or operate small municipal separate storm sewer systems, known as MS4s. Under this program permits must be secured by municipalities, certain public complexes such as universities and hospitals, and State, interstate and Federal agencies that operate or maintain highways. The permit program establishes the Statewide Basic Requirements that must be implemented to reduce nonpoint source pollutant loads from these sources. The Statewide Basic Requirements include measures such as: the adoption of ordinances (litter control, pet waste, wildlife feeding, proper waste disposal, etc.); the development of a municipal stormwater management plan and implementing ordinance(s); requiring certain maintenance activities (such as street sweeping and catch basin cleaning); locating discharge points and stenciling catch basins; and a public education component.

Owners or operators of small MS4s would be required to develop and implement a storm water management program designed to reduce the discharge of pollutants to the maximum extent practicable and protect water quality.

Control measures are expected to include, at a minimum, the following components:

- Public education and outreach
- Public involvement and participation
- Illicit discharge detection and elimination
- Construction site storm water runoff control
- Post-construction storm water management in new development and redevelopment
- Pollution prevention/good housekeeping for municipal operations

6.1 IMPLEMENTING NON-STRUCTURAL STORMWATER MANAGEMENT STRATEGIES

The implementation of non-structural Best Management Practices are strongly encouraged to be added to the Township's existing development regulations and applied to all new site design proposals. Whenever possible, the following nine strategies should be incorporated into site design:

- Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
- Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
- Maximize the protection of natural drainage features and vegetation;
- Minimize the decrease in the "time of concentration" from pre-construction to post construction. "Time of Concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the drainage area to the point of interest within a watershed;
- Minimize land disturbance including clearing and grading;
- Minimize soil compaction;
- Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;
- Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas; and
- Provide other source controls to prevent or minimize the use or exposure of pollutants at the site in order to prevent or minimize the release of those pollutants into stormwater runoff. These source controls include, but are not limited to:

    i. Site design features that help to prevent accumulation of trash and debris in drainage systems;

    ii. Site design features that help to prevent discharge of trash and debris from drainage systems;

    iii. Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

    iv. When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act N.J.S.A. 4:24-39 et seq., and implementing rules.

Also, Chapter 95 of the Township's Code, entitled "Development Regulations" was reviewed to evaluate the extent to which non-structural stormwater management techniques have been implemented into the site deign of a proposed development. This review included, but was not limited to existing provisions for Curbs and Gutters, Driveways and Accessways, Off-Street Parking and Loading, Streets, and Sidewalks. A summary of the of the pertinent provisions is presented below:

Section 3.4. Certificates and permits (F-Soil Removal, Fill and Relocation) This section states that no fill in excess of ten (10) cubic yards shall be placed on any property within the Township of Manalapan, nor shall any soil be removed from any property within the Township of Manalapan nor shall existing soil on any property be relocated on the same property in excess of ten (10) cubic yards without the prior approval of the Township. Approval of a site plan or subdivision showing such filling or removal or approval of grading plan by the Construction Official and/or the Planning Board or Township Engineer shall constitute such prior approval of the Township. See Chapter 188, Soil and Land Conservation, for details of permit application process. (Ord. #94-23, 7.28).

Section 7.34 (Floodway Setback, Elevation Above Water Table and Soil Removal) This section indicates that no structure shall: be built within fifty (50) feet of the calculated one-hundred (100) year floodway, a minimum of two (2) feet in elevation shall be required between the lowest floor elevation of a principal building and the groundwater table recorded between February 1 and April 30. Also, no person shall strip, excavate or otherwise remove topsoil, except as provided in the soil removal regulations of Manalapan Township found in Chapter 188, Soil and Land Conservation.

Section 8.3 (Environmental Design Requirements) The provisions in this section integrate a number of nonstructural stormwater management practices. Existing natural features, such as trees, brooks, drainage channels and views shall be retained. Whenever such features interfere with the proposed use of property, the retention of the maximum amount of such features consistent with the use of the property shall be required. Further, habitats of endangered or threatened species, significant trees, and woodland covering one (1) acre or more in which thirty (30) percent or more of the trees have an eight (8) inch or greater caliper or any grove of eight (8) or more trees having a ten (10) inch or greater caliper. The design shall be arranged to: (a) maintain or improve groundwater quality and recharge particularly to the Englishtown formation and to the Mount Laurel and Wenonah formations, (b) not exceed the capacity of water supply resources, (c) maximize the use of natural systems to protect surface and groundwater supplies, (d) prevent the discharge of pollutants that may contaminate or degrade surface water supplies, particularly in Category One watersheds (Weamaconk Creek and McGellairds Brook) and watersheds of public water supply (Manalapan Brook and Matchaponix Brook), (e) maintain wildlife corridors, (f) minimize the disturbance of steep slope areas, and (g) maintain stream corridors as unless a more restrictive federal, state, or local standard applies, disturbance of stream corridors shall be minimized and development shall maintain the following setbacks from streams: Sixty-five (65) feet is required where sewer service is provided, and one hundred fifty (150) feet where septic systems are regulated pursuant to Section 130-8.12.

Section 8.9 (Open Space Design Requirements) This section states that where open space is proposed or required as part of a development, it shall adhere to the requirements and provisions of the applicable planned development district. Developed common open space is to be designed to provide active and passive recreational facilities to serve the residents of the development. Undeveloped common open space is to be designed to

preserve important site amenities and environmentally sensitive areas. Absent other provisions specified for the particular type of planned development, at least twenty-five (25) percent of the gross tract area shall be restricted as common open space.

Section 8.12 (Stream Corridor Regulations) Through this stream corridor protection ordinance, the Township aims to protect stream corridors and stream corridor buffer areas. These features shall remain in their natural state, with no clearing or cutting of trees and brush (except for the removal of dead vegetation and pruning for reasons of public safety) altering of watercourses, regrading, or construction. This section also spells out the buffer requirements as the municipal agency may allow an average stream corridor buffer width of 100 feet from the 100-year flood line, thus allowing reasonable flexibility to accommodate site planning when necessitated by the size and shape of the tract and physical conditions thereon. For example, the stream corridor width may be reduced to a minimum of 75 feet from the 100-year flood line provided there is an equivalent increase in the width elsewhere on site and that all relevant permits are approved and attained prior to the municipality granting a reduction of same. This section also requires proactive remediation of stream buffers as the applicant shall rehabilitate any degraded areas within the stream corridor in a manner acceptable to the municipal agency, unless the applicant demonstrates that it is economically infeasible to do so.

Section 12.3 (Environmental Impact Statement) this section states that the data concerning the potential environmental impact of the use and development of land should be collected, compiled, analyzed and reported upon and that such a report will be of considerable value for the proper evaluation and review of land uses and individual development applications. Consequently, an environmental impact statement (EIS) shall accompany all applications for preliminary approval of subdivisions and site plans and shall provide the information needed to evaluate the effects of the proposed subdivision or site plan upon the environment. The contents of the EIS shall contain an analysis of the proposed developments impact upon Hydrology, Energy, Topography, Geology, Air Quality, Noise, Biology, Socioeconomic, Transportation, Land Use, Archeology, Aesthetics, and soil and minerals among other environmental impacts.

Exhibit 9.2 (Off-Street Parking Requirements for Nonresidential Land Uses--Subsection) This section outlines the parking ratios that shall be followed by proposed developments according to their use. To incorporate Low Impact Development principles, these ratios may be reduced further.

Chapter 201, Section 12 (Stormwater Regulations)-These provisions, which are currently in place have incorporated a number of nonstructural BMP's into the site design process. Further, both the goals and the current design standards that have been adopted by the Township are akin to those that have recently been adopted by the State and posted in N.J.A.C. 7:8.

As illustrated above, Manalapan Township has adopted a number of provisions to incorporate nonstructural stormwater management practices in the Land Development Regulations. However, several sections of the existing ordinance may be examined to

determine if additional nonstructural language is practicable. For example, the Township's landscaping requirements may be revised to require the use of native vegetation (which requires less fertilization and watering than non-native species). Also buffer areas may be utilized for stormwater management to disconnect impervious areas and to filter and treat stormwater. Secondly, design standards may be amended so as to incorporate pervious paving materials along sidewalks, driveways, and parking areas. Although amendments may be made, the Township's existing provisions have been found to be compatible with N.JA.C. 7:8-5.3 (Nonstructural Stormwater Management Strategies).

In addition, Appendix A provides the recorded Municipal Stormwater Control Ordinance and any amendments there of; this document complies with the State's N.J.A.C. 7:8 stormwater management design and performance standard regulations.

6.2 IMPLEMENTING STRUCTURAL STORMWATER MANAGEMENT STRATEGIES

As mentioned earlier, the NJDEP has implemented more rigid regulations regarding the volume, rate, and quality of stormwater originating on a new development site. Some sites may be able to achieve these standards through non-structural measures such as vegetative swales, buffers, and landscaping to control non-point source pollution. Other sites may require the building of a stormwater basin. In these cases, where the development of structural stormwater facilities is necessary, the New Jersey Department of Environmental Protection's BMP guide should be consulted. The structural BMP's utilized in low impact development concentrate on the following practices to be utilized in site development in conjunction with the non-structural methods described above:

- Bio-retention Systems – A bioretention system consists of a soil bed planted with native vegetation located above and underdrained sand layer. It can be configured either as a basin or a swale.

- Constructed Stormwater Wetlands – Constructed wetlands are wetlands systems designed to maximize the removal of pollutants from stormwater runoff through settling and both uptake and filtering by the vegetation.

- Dry Wells - A dry well is a subsurface storage facility that receives and temporarily stores stormwater runoff from roofs and structures. Discharge of the accumulated stormwater from a dry well occurs through infiltration into the surrounding soils.

- Extended Detention Basins - An extended detention basin is a facility constructed through excavation or embankments that provides temporary storage of stormwater runoff. It has an outlet structure that detains runoff inflow and allows for controlled outflow to aid in mitigating stormwater flows from development.

Usually this type of structure is utilized to provide both water quantity and water quality mitigation.

- Infiltrative Basins – Infiltration Basins are similar to detention basins in that they both temporarily store stormwater runoff generated from development project. The principal outlet to this type of basin is not a constructed outlet structure, but rather the highly permeable soils allowing for infiltration into the surrounding subsoils.

- Manufactured Treatment Devices – A manufactured treatment device is a pre-fabricated stormwater treatment structure utilizing settling, filtration, absorptive materials, vortex separation, vegetative components, and/or other appropriate technology to remove pollutants from stormwater runoff.

- Pervious Paving Systems – Pervious pavement utilizes paving material which allows for stormwater to infiltrate through the pavement rather than accumulate as is the case with standard paving material. Pervious pavement utilizes void areas within the paving material to provide for this permeable feature.

- Sand Filters – A sand filter consists of a forebay and an underdrained sand bed. Runoff entering the sand filter is conveyed first through the forebay, which removes trash, debris and coarse sediments, and then infiltrates through the sand bed to an outlet pipe at the bottom of said filter.

- Vegetative Filters – A vegetative filter is an area designed to remove suspended solids and other pollutants from stormwater runoff flowing through a length of vegetation, called a vegetative filter strip. The vegetation in a filter strip can range from turf grass to woody vegetation.

- Wet Ponds - A wet pond is a facility constructed through excavation or embankments that provides both permanent and temporary storage of stormwater runoff. It has an outlet structure that creates a permanent pool and detains and attenuates runoff inflows promoting the settlement of pollutants.

Further, all structural stormwater management measures (structural BMP's) shall be designed according to the following conditions:

- They should to take into account the existing site conditions, including, for example, environmentally critical areas, wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).

- They should be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall be parallel bars with one-inch (1") spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than one-third (1/3) the width of the diameter of the orifice or one-third (1/3) the width of the weir, with a minimum spacing between bars of one-inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of N.J.A.C. 7:8-7.D.

- They should be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are consistent with the relevant portions of the Residential Site Improvements Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement.

- At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of two and one-half inches in diameter.

- Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at Section N.J.A.C. 7:8-7.

- Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by this subchapter.

- Manufactured treatment devices may be used to meet the requirements of this subchapter, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.

- In order to ensure adequate long term operation as well as preventative and corrective maintenance of stormwater management measures and structural BMP's, the designers of such facilities shall submit to the municipality a *Maintenance Plan* indicating specific maintenance tasks and schedules as indicated in N.J.A.C. 7:8-5.8 "Maintenance Requirements". Refer to the Stormwater Control Ordinance, §95-9.3.11 for maintenance plan requirements.

By adhering to the State's design standards outlined in N.J.A.C. 7:8, the design engineer of each respective proposed development project will serve to improve stormwater quality, enhance groundwater recharge, and provide quantity control of stormwater runoff. Combined, these methods will serve to improve the environment and protect the

public interest by minimizing the risk of flooding and maintaining the Township's water supply through the future.

6.3 PLAN CONSISTENCY

Currently, Manalapan Township is not contained within the bounds of an adopted Regional Stormwater Management Plan (RSWMP) and no TMDL's have been developed for waters within the Township; therefore, this plan does not need to be consistent with any Regional Stormwater Management Plans, nor any TMDL's. However, TMDL's are being developed for several waterways that pass through the Township including, Matchaponix Brook, Wemrock Brook, and Manalapan Brook. All of these waterways have been classified as non-attainment areas due to phosphorus levels. If an adopted TMDL, or Regional Stormwater Management Plan were to apply more stringent stormwater management design standards to a particular waterway or watershed in the Township, then Manalapan's MSWMP and associated Stormwater Management Ordinance will be amended to incorporate those regulations.

This Municipal Stormwater Management Plan is consistent with the Residential Site Improvement Standards (RSIS) N.J.A.C. 5:21, and the Township will utilize the most current update of the RSIS in the stormwater management review of residential areas. Also, Manalapan's Stormwater Management Ordinance requires all new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards.

This Municipal Stormwater Management Plan is consistent with outside agency plans, based upon review of same; Monmouth County Growth Management Plan and the State Development and Redevelopment Plan. Also, the Municipal Stormwater Management Plan is consistent with the Township Master Plan and Development Regulations of same as referenced in the Goals section of this document.

Additionally based upon review of same, this plan is consistent with the ongoing efforts in the Raritan basin for watershed management and stormwater control, as also outlined in Section 2.0 of this plan. Moreover, the Township is aware and currently participating in efforts by the NJ Water Supply Authority (NJWSA) and the NJDEP regarding the Manalapan Brook Watershed Restoration and Protection Plan. Said project is in the preliminary stages and the Township is currently reviewing and locating problem site specific areas within the municipality to help better assess the current condition and health of the Manalapan Brook Watershed. At time of the approval and implementation of the Manalapan Brook Watershed Restoration and Protection Plan this Municipal Stormwater Management Plan will be revised to conform to the conditions and requirements set forth in same.

6.4 MITIGATION PLAN

OVERVIEW

A municipal mitigation plan is an element of the Municipal Stormwater Management Plan that allows municipalities to grant variances or exemptions to the design and performance standards for stormwater runoff quality, stormwater runoff quantity, and groundwater recharge established in N.J.A.C. 7:8-5, and adopted into the municipal stormwater control ordinance. The existence of a mitigation plan does not preclude the requirement that an applicant meet the design and performance standards for any one of the three key stormwater requirements, namely maintaining pre-development recharge, stormwater runoff quantity reduction and stormwater runoff quality. Instead, the mitigation plan allows the Manalapan Township, in limited circumstances to waive the strict compliance of one or more of the performance standards, where full compliance cannot be reasonably accommodated on site, provided that a mitigation plan has been approved by the county review agency under the requirements of N.J.A.C. 7:8-4. In addition, approval of a waiver or exemption from one of the three criteria outlined above provides no guarantee that, if requested, an exemption or waiver will be granted for either or both of the remaining criteria. However, under no circumstances shall Manalapan Township waive the Special Resources Protection Area (SRPA) established under the stormwater management rules at N.J.A.C. 7:8-5.5 (h).

Supporting evidence for an exemption or waiver shall be prepared in the form of a "stormwater management report" which will be signed and sealed by a New Jersey licensed professional engineer. The report shall include at a minimum:

- Detailed hydrologic and hydraulic calculations identifying the sizing criteria for each BMP and the stormwater collection system based upon the anticipated peak flow and/or volume.

- A map of the planned project showing existing conditions with drainage boundaries and land features, including delineated wetlands, proposed improvements, including all BMPs, grading, utilities, impervious features, and landscaping.

- Construction details for each BMP with appropriate contact information.

When applying for a waiver, the applicants professional engineer must first demonstrate that on-site compliance is either a) not possible, or b) possible but would result in tangible negative environmental or structural impacts. Such impacts may include:

- If the strict application of the regulations would result in a reduction of open space and/or undisturbed buffer areas. It is important to note that in this situation, the applicant must demonstrate that such reductions are caused by compliance with State and local regulations and not an attempt to maximize buildable area.

- The degradation of groundwater quality due to the infiltration of poor quality runoff. For example, if runoff from a shopping plaza with heavy traffic volume will be directed to a protected water supply aquifer to achieve compliance, alternative recharge locations may be more practical and environmentally sound.

- The modification to the elevation of the groundwater table due to rapid infiltration of stormwater will have demonstrable negative impacts on local structures and/or local groundwater quality. For example, rapid infiltration in a highly pervious soil near a basement may cause flooding and settlement; and also

- Flooding due to changes in the time of peak for a storm attenuated in compliance with *N.J.A.C. 7:8* and the *New Jersey Stormwater Best Management Practices Manual.* Despite the requirement for peak reductions to be applied to the 2-year, 10-year and 100-year events, peak runoff from a sub-basin of a HUC-14 may actually experience increases due to changes to peak timing.

An applicant may also propose a mitigation project on a site that has not been identified in this mitigation plan. However, in each circumstance the selection of a mitigation project must incorporate the following requirements:

- The project must be within the same area that would contribute to the receptor impacted by that project. If there is no specific sensitive receptor impacted, then the location of the mitigation project may be located anywhere within the municipality, preferably at a location that would provide the greatest benefit.

- Legal authorization must be obtained to construct the project at the location selected. This includes the maintenance and any access needs for the project through throughout its operation.

- The mitigation project should be located close to the original development project. If possible, the mitigation project should be located at a similar distance from the identified sensitive receptor. This distance should not be based on actual location, but on a similar hydraulic distance to the sensitive receptor. For example, if a project for which a waiver is obtained discharges to a tributary, but the closest location discharges to the main branch of a waterway, it may be more beneficial to identify a location discharging to the same tributary.

- It is preferable to have one location that addresses any and all of the performance standards waived, rather than one location for each performance standard.

- The project location must demonstrate no adverse impacts to other properties.

- For projects addressing the groundwater recharge performance standard, a mitigation project site upstream of the location of the actual project site is preferable to a downstream location.

- Mitigation projects that address stormwater runoff quantity can choose to provide storage for proposed increases in runoff volume, as opposed to a direct peak flow reduction.

- Mitigation projects that address stormwater runoff quality can choose to address another pollutant other than TSS, which has been demonstrated to be of particular concern, such as streams that have been listed as an impaired waterbody for other pollutants. However, care must be taken to ensure that waivers that are granted for the TSS requirements do not result in the impairment of an existing unimpaired area.

All mitigation plans and reviews should consider the location of the mitigation project in relation to the property where the projected damage will occur. For example, if a project were unable to achieve the stormwater quantity performance standards upstream of an inadequate culvert, a mitigation project downstream of that culvert would not offer similar protection. Or, if the groundwater recharge is the major contributor to a wetlands area, the new project should continue to provide recharge to the wetlands area.

Also, in environmentally critical areas, the quality of stormwater that is being directed to infiltration facilities should be assessed. If the quality of stormwater that would be infiltrated following development poses a threat to groundwater supplies, off-site mitigation should be considered. Off-site mitigation should also be undertaken when on-site recharge is precluded by site conditions, or when stormwater quality assessments indicate that on-site stormwater infiltration will degrade ambient groundwater quality in environmentally sensitive areas. Environmentally critical areas include locations where groundwater is classified by the State as holding either special ecological significance, wellhead protection areas, areas of known groundwater contamination, or areas of on-going groundwater remediation. Groundwater recharge is of particular concern in areas discharging to Category 1 (C1) groundwater or in wellhead protection areas. Options for off-site groundwater recharge include:

- Retrofitting an existing stormwater basin
- Reducing the amount of impervious cover on site by adding vegetation or incorporating pervious paving materials
- Splitting flows to isolate high quality runoff and constructing infiltration basins to receive only the high quality runoff
- Acquiring upland recharge areas

SENSITIVE RECEPTORS

Mitigation measures to be employed to sensitive receptor areas begin with the planning and preliminary design stage; when appropriate, Manalapan will allow developers to fund studies to plan and engineer the most suitable mitigation measure for each project site, and each performance standard. An applicant may also provide compensatory mitigation through the contribution of funds when, due to the small amount of the waiver given for the performance standard, it is not practical to provide a full mitigation project. In these circumstances, the receipt of financial contributions shall be considered the completion of mandatory mitigation for that project. However, in these instances, the Township will be responsible to ensure that mitigation occurs based on the collection of these funds. If such a situation were to arise, a detailed description of the circumstances, funding amount and performance standard that was mitigated will be provided in Manalapan 's annual NJPDES report.

MITIGATION CRITERIA

The mitigation requirements listed below offer a hierarchy of options that are intended to offset the effect on groundwater recharge, stormwater quantity control, and/or stormwater quality control to an equal or greater extent than was created by the granting of a waiver or exemption from the stormwater management requirements.

The mitigation criteria are listed below in order of preference:

1) **Identify, design, and implement a compensating measure to mitigate impacts**- The preferred option is to identify and develop a compensating mitigation project in the same drainage area as the proposed development. In these cases, the applicant will address the same issue within the design and performance standards for which the variance or exemption is being sought, and demonstrate that the proposed mitigating measures provide equal or greater compensation to offset the non-complying aspect of the stormwater management system on site. The developer must also ensure the long-term maintenance of the project as outlined in Chapters 8 and 9 of the NJDEP Stormwater BMP Manual. If the Township agrees to control a new stormwater management facility, arrangement in the form of an escrow account will be made to stipulate the payment amount, schedule, and long term responsibilities of the facility to ensure that it functions to capacity.

2) **Complete a project identified by the municipality as equivalent to the environmental impact created by the exemption or variance-** If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in option 1, the mitigation project may provide measures that are not directly equivalent to the impacts for which the variance or exemption is being sought, but that addresses the same issue to an equal or greater extent. For example if a variance is given because the 80% TSS requirement has not been

met, the selected project may address water quality impacts that increase the siltation of a waterbody within the applicable HUC 14 subwatershed.

If these criteria cannot be met on-site, the Township has identified the retrofitting of existing basins as the primary mode for mitigation measures to follow. Through clearing sediment, expanding capacity, or bringing the basin into compliance with water quality standards, mitigation opportunities have the potential to significantly improve stormwater management issues that face Manalapan Township.

As many of the developments in Manalapan were constructed with curb and gutter drainage, stormwater is often funneled and released directly into an adjoining waterbody. As these methods are contrary to the stormwater management BMP's outlined in the NJDEP's BMP Manual and endorsed through the adoption of the State's new stormwater regulations, the retrofitting of these basins can dramatically improve the Township's existing stormwater management infrastructure. Mitigation projects can utilize a number of BMP's to offset the stormwater management of a project that is unable to comply with the new design standards. However, these BMP's, which may include sand filters, vegetative filters, or the incorporation of a manufactured treatment device, among other possibilities, will be engineered and applied on a site-by-site basis. In general, the engineering necessary to determine the mitigative measure that is most suited for a particular basin is the responsibility of the applicant, and must be determined and submitted by the applicant along with the particular projects site plan.

However, the retrofitting of basins within Manalapan is a vast undertaking given the sheer number of basins that have been constructed in the Township. As such, an appropriate mitigation measure may take place within the larger confines of the HUC-14 subwatershed area, or another portion of the Township, rather than the contributing area if the Manalapan Township Planning Board finds that the mitigation will equally protect public health, safety and welfare, the environment, and public and private property.

3) **Provide funding for municipal projects that would address existing stormwater impacts-** The third and least preferable stormwater mitigation option is for the applicant to provide funding or partial funding for an environmental enhancement project that has been identified in the Municipal Stormwater Management Plan, or towards the development of a Regional Stormwater Management Plan. The contributed funds must be equal or greater than the cost to implement the required on-site stormwater measure for which relief is requested including the cost of land, easements, engineering design, and long-term maintenance. However, with this option Manalapan Township, not the applicant is ultimately responsible for the design, property acquisition, construction, construction management, maintenance (short term and long term) and follow-up study, unless that project and its prospective costs have been outlined within this Mitigation Plan. Potential mitigation projects will be considered on a priority

basis accounting for the health, welfare and safety of the public, the environment, and public and private property. Potential projects will be given precedence should existing flooding, water quality or recharge data and residential complaints exist on file. Based upon existing project data, examples to mitigation projects may be retrofitting an undersized detention basin to control stormwater runoff volume or retrofitting municipal roads with roadside drainage without curbs that repeatedly flood roadways during small storm events.

REQUIREMENTS FOR MITIGATION PROJECTS

Whether the applicant is proposing the mitigation project, or Manalapan has identified the project within this Mitigation Plan, the following requirements for mitigation must be included in the project submission.

- **Impact from noncompliance-** The applicant must provide a table to show the required values, and the values provided in the project, and include an alternatives analysis that demonstrates that on-site compliance was maximized to the greatest extent practicable.

- **Narrative and Supporting Information Regarding the Need for the Waiver-** The waiver cannot be granted for a condition that was created by the applicant. If the applicant can provide compliance with the stormwater rules through a reduction in the scope of the project, the applicant has created the condition and a waiver cannot be issued. The applicant must provide a discussion and supporting information of the site conditions that would not allow the construction of a stormwater management facility to provide compliance with these requirements, and/or if the denial of the application would impose an extraordinary hardship on the applicant brought about by circumstances peculiar to the subject property. The site conditions to be considered are soil type, the presence of karst geology, acid soils, a high groundwater table, unique conditions that would create an unsafe design, as well as conditions that may provide a detrimental impact to public health, welfare, and safety.

- **Sensitive Receptor**- Identify the sensitive receptor related to the performance standard for which a waiver is sought. Demonstrate that the mitigation site contributes to the same sensitive receptor.

- **Design of the Mitigation Project**- Provide the design details of the mitigation project. This includes, but is not limited to, drawings, calculations, and other information needed to evaluate the mitigation project.

- **Responsible Party**- The mitigation project submission must list the party or parties responsible for the construction or maintenance of the mitigation project. Documentation must be provided to demonstrate that the responsible party is aware of, has authority to perform, and accepts the responsibility for the

construction and the maintenance of the mitigation project. Under no circumstances shall the responsible party be an individual single-family homeowner.

- **Maintenance**- The applicant must include a maintenance plan that addresses the maintenance criteria at N.J.A.C. 7:8-5 as part of a mitigation plan. In addition, if the maintenance responsibility is being transferred to Manalapan Township, or another entity, the entity responsible for the cost of the maintenance must be identified. Manalapan provides applicants with the option of conveying the mitigation project to the Township, provided that the applicant funds the cost of maintenance of the facility in perpetuity.

- **Permits**- The applicant is solely responsible to obtain any and all necessary local, State, or other applicable permits for the identified mitigation project or measure. The applicable permits must be obtained prior to the municipal approval of the project for which the mitigation is being sought.

- **Construction**- The applicant must demonstrate that the construction of the mitigation project coincides with the construction of the proposed project. A certificate of occupancy or final approval by the municipality for the application permit cannot be issued until the mitigation project or measure receives final approval. Any mitigation projects proposed by the municipality to offset the stormwater impacts of the Township's own projects must be completed within six months of the completion of the municipal project, in order to remain in compliance with Manalapan 's NJPDES General Permit.

FIGURES

LEGEND

- Manalapan Lakes
- Manalapan Streams
- Township Boundaries

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized.

OLD BRIDGE

MARLBORO

MONROE

ENGLISHTOWN

FREEHOLD

MILLSTONE

UN-CODED TRIBUTARY

PINE BK

MCGELLAIRDS BK

MILFORD BK

UNT TO 14344

TEPEHEMUS BK

MATCHAPONIX BK (WEAMACONK CK)

SOUTH R (MANALAPAN BK)

STILLHOUSE BK

GANDER BK

1 0.5 0 1 2 3 Miles

Figure 1:
Township Waterways

Manalapan Township
Monmouth County, NJ

LEGEND

Manalapan Lakes
Manalapan Streams

MUNAME

Adelphia loam, 0 to 2 percent slopes
Adelphia loam, 2 to 5 percent slopes
Adelphia-Urban land complex, 0 to 5 percent slopes
Atsion sand, 0 to 2 percent slopes
Colemantown loam, 0 to 2 percent slopes, occasionally flooded
Collington loam, 0 to 2 percent slopes
Collington sandy loam, 10 to 15 percent slopes, severely eroded
Collington sandy loam, 2 to 5 percent slopes
Collington sandy loam, 5 to 10 percent slopes, eroded
Collington-Urban land complex, 0 to 10 percent slopes
Colts Neck sandy loam, 10 to 15 percent slopes, eroded
Colts Neck sandy loam, 15 to 25 percent slopes, eroded
Colts Neck sandy loam, 2 to 5 percent slopes
Colts Neck sandy loam, 5 to 10 percent slopes
Colts Neck sandy loam, 5 to 10 percent slopes, eroded
Downer loamy sand, 0 to 5 percent slopes
Downer loamy sand, 5 to 10 percent slopes
Downer sandy loam, 0 to 2 percent slopes
Downer-Urban land complex, 0 to 5 percent slopes
Elkton loam, 0 to 2 percent slopes, rarely flooded
Evesboro sand, 0 to 5 percent slopes
Evesboro sand, 10 to 15 percent slopes
Evesboro sand, 15 to 25 percent slopes
Evesboro sand, 5 to 10 percent slopes
Evesboro-Urban land complex, 0 to 5 percent slopes
Fallsington loam, 0 to 2 percent slopes
Freehold loam, 0 to 2 percent slopes
Freehold loamy sand, 0 to 5 percent slopes
Freehold loamy sand, 5 to 10 percent slopes
Freehold sandy loam, 10 to 15 percent slopes
Freehold sandy loam, 10 to 15 percent slopes, eroded
Freehold sandy loam, 15 to 25 percent slopes, eroded
Freehold sandy loam, 2 to 5 percent slopes
Freehold sandy loam, 5 to 10 percent slopes
Freehold sandy loam, 5 to 10 percent slopes, eroded
Freehold-Urban land complex, 0 to 10 percent slopes
Hammonton loamy sand, 0 to 5 percent slopes
Hammonton sandy loam, 0 to 2 percent slopes
Hammonton sandy loam, 2 to 5 percent slopes
Hammonton-Urban land complex, 0 to 5 percent slopes
Holmdel sandy loam, 0 to 2 percent slopes
Holmdel sandy loam, 2 to 5 percent slopes
Holmdel-Urban land complex, 0 to 5 percent slopes
Humaquepts, frequently flooded
Keyport loam, 2 to 5 percent slopes
Keyport sandy loam, 0 to 2 percent slopes
Keyport sandy loam, 10 to 15 percent slopes
Keyport sandy loam, 2 to 5 percent slopes
Keyport sandy loam, 5 to 10 percent slopes
Keyport-Urban land complex, 0 to 10 percent slopes
Klej loamy sand, 0 to 5 percent slopes
Klej loamy sand, clayey substratum, 0 to 5 percent slopes
Klej loamy sand-Urban land complex, 0 to 5 percent slopes
Lakehurst sand, 0 to 5 percent slopes
Lakewood sand, 0 to 5 percent slopes
Lakewood sand, 5 to 10 percent slopes
Manahawkin muck, 0 to 2 percent slopes, frequently flooded
Marlton loam, 2 to 5 percent slopes
Marlton sandy loam, 5 to 10 percent slopes
Pemberton loamy sand, 0 to 5 percent slopes
Phalanx loamy sand, 5 to 10 percent slopes
Pits, sand and gravel
Sassafras sandy loam, 10 to 15 percent slopes
Sassafras sandy loam, 2 to 5 percent slopes
Sassafras sandy loam, 5 to 10 percent slopes
Shrewsbury sandy loam, 0 to 2 percent slopes
Tinton loamy sand, 0 to 5 percent slopes
Tinton loamy sand, 10 to 25 percent slopes
Tinton loamy sand, 5 to 10 percent slopes
Tinton-Urban land complex, 0 to 5 percent slopes
Udorthents, 0 to 8 percent slopes
Udorthents-Urban land complex, 0 to 5 percent slopes
Water
Woodstown loam, 0 to 2 percent slopes
Woodstown sandy loam, 2 to 5 percent slopes

1 0.5 0 1 2 3 Miles

N

OLD BRIDGE

MARLBORO

MONROE

ENGLISHTOWN

FREEHOLD

MILLSTONE

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized. The SSURGO soils layer was developed by the Natural Resources Conservation Service (NRCS), of the US Department of Agriculture, as part of the National Cooperative Soil Survey. The data are from the Soil Survey Geographic (SSURGO) database developed and maintained by the NRCS. This data set consists of georeferenced digital map data and computerized attribute data. All soil delineations and coding were performed by NRCS soil scientists. The NJDEP was responsible only for converting the original data to the ARCVIEW shapefiles in New Jersey State Plane Feet, NAD83, that are presented here. The New Jersey NRCS webpage (http://www.nj.nrcs.usda.gov) should be referenced for questions concerning the data.

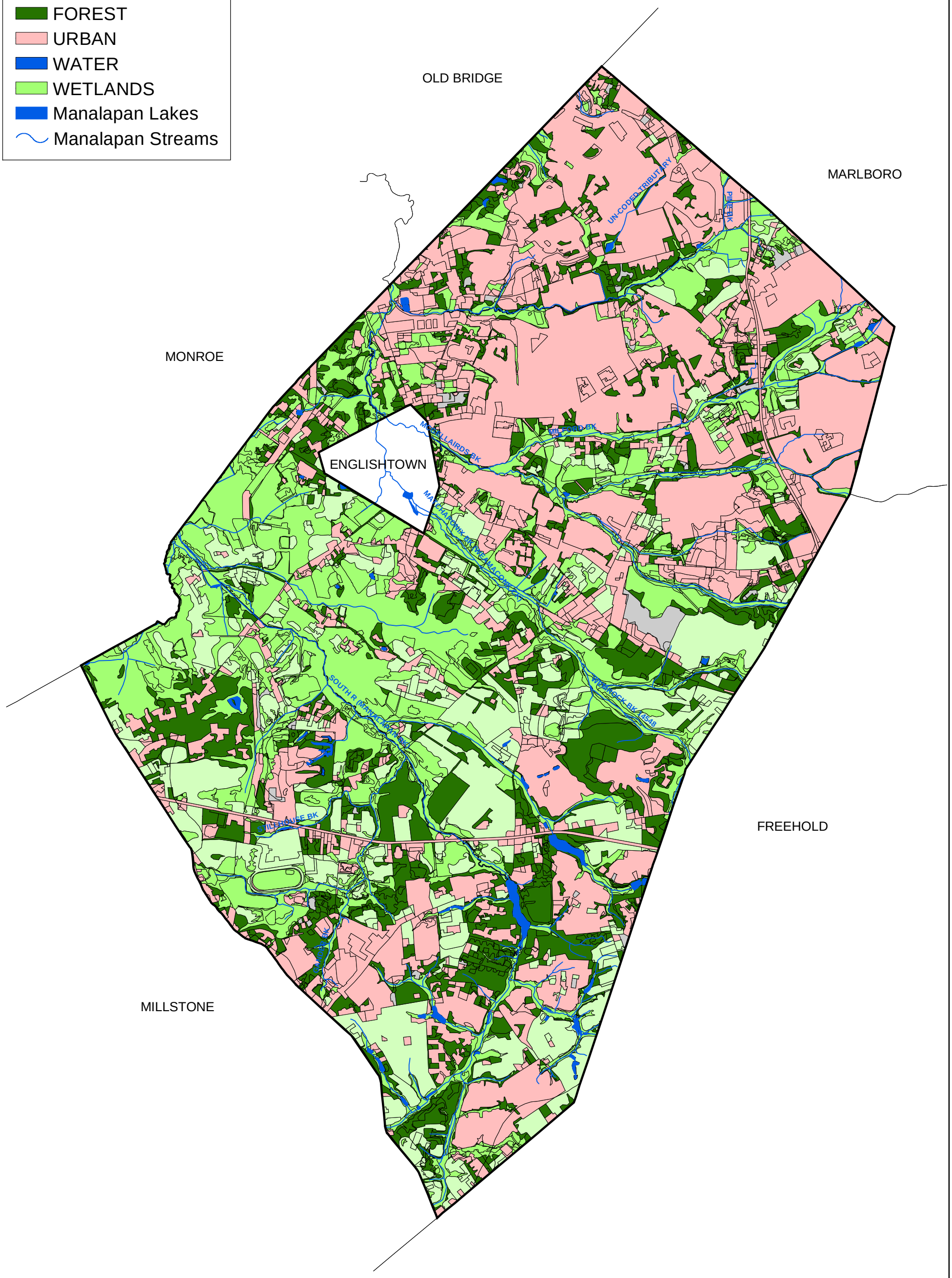
Figure 2:
Soils (SSURGO) Map

Manalapan Township
Monmouth County, NJ

LAND USE (2003)

- AGRICULTURE
- BARREN LAND
- FOREST
- URBAN
- WATER
- WETLANDS
- Manalapan Lakes
- Manalapan Streams

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized.



1 0.5 0 1 2 3 Miles

Figure 3:
Existing Land Use

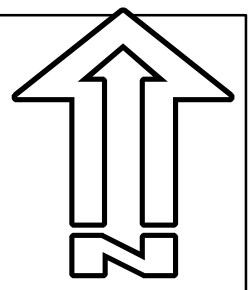
Manalapan Township
Monmouth County, NJ

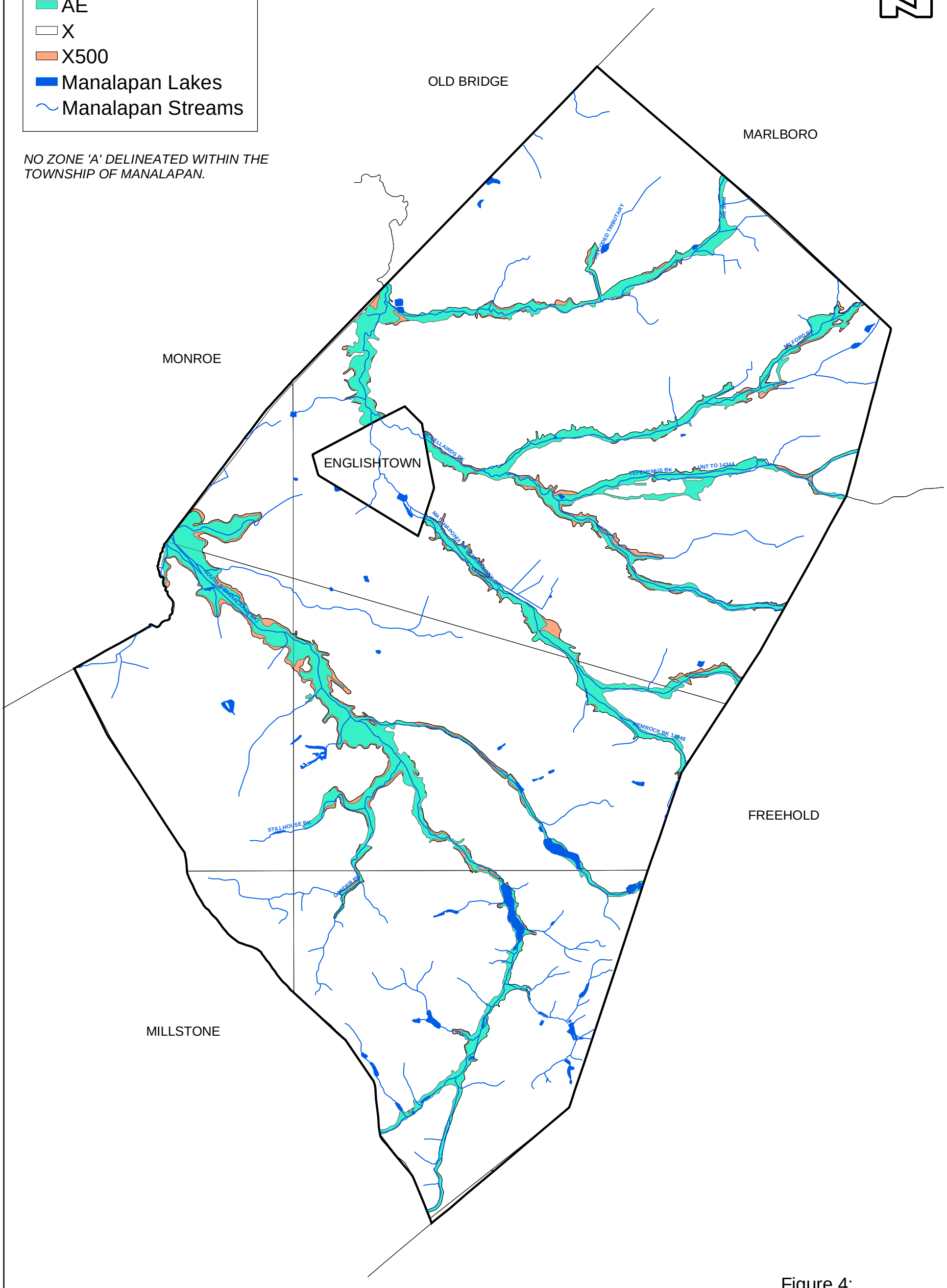
FEMA/FIRM
Q3 Flood Data

- A
- AE
- X
- X500
- Manalapan Lakes
- Manalapan Streams

NO ZONE 'A' DELINEATED WITHIN THE TOWNSHIP OF MANALAPAN.

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized.





1 0.5 0 1 2 3 Miles

Figure 4:
Flood Prone Map
(FEMA / Q3 Flood Data)

Manalapan Township
Monmouth County, NJ

Groundwater Recharge (inches per year)

- Manalapan Lakes
- Manalapan Streams
- 0.00
- 0.01 - 6.00
- 6.01 - 12.00
- 12.01 - 14.00
- 14.01 - 15.60

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized.

OLD BRIDGE

MARLBORO

MONROE

ENGLISHTOWN

FREEHOLD

MILLSTONE

1 0.5 0 1 2 3 Miles

Figure 5:
Groundwater Recharge Areas

Manalapan Township
Monmouth County, NJ

LEGEND

Manalapan Lakes

Manalapan Streams

Non-Community Wellhead Protection Area

TIER

1

2

3

Community Wellhead Protection Area

TIER

1

2

3

NO COMMUNITY WELLHEAD PROTECTION AREAS EXIST WITHIN TOWNSHIP BOUNDARY

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized.

OLD BRIDGE

MARLBORO

MONROE

ENGLISHTOWN

FREEHOLD

MILLSTONE

UNNAMED TRIBUTARY

PINE BK

MILFORD BK

MCGELLAIRDS BK

TEPEHEMUS BK

UNT TO 14344

MATCHAPONIX BK (WEAMACONK CK)

SOUTH BRANCH MANALAPAN BK)

HEMROCK BK 14548

STILLHOUSE BK

GRINDER BK

1 0.5 0 1 2 3 Miles

Figure 6:
Wellhead Protection Areas

Manalapan Township
Monmouth County, NJ

LEGEND

- Manalapan Streams
- Manalapan Lakes
- Wetlands

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OLD BRIDGE

MARLBORO

MONROE

ENGLISHTOWN

FREEHOLD

MILLSTONE

UN-CODED TRIBUTARY

PINE BK

MCGELLAIRDS BK

MILFORD BK

UNT TO 14344

TEPEHEMUS BK

SOUTH RAMANLAPAN BK

WEMROCK BK 14548

STILLHOUSE BK

GANDER BK

1 0.5 0 1 2 3 Miles

Figure 7:
Township Wetlands & Water Bodies

Manalapan Township
Monmouth County, NJ

APPENDIX A

STORMWATER CONTROL ORDINANCE

Article IX

Improvement Standards, Specific Criteria and Construction Specifications

§ Section 95-9.2. Improvement Standards

F. Stormwater management.

(1) Policy statement.

(a) It is hereby determined that the waterways within the Township of Manalapan are at times subjected to flooding; that such flooding is a danger to the lives and property of the public; that such flooding is also a danger to the natural resources of the Township of Manalapan, the county and the state; that development tends to accentuate flooding by increasing stormwater runoff, due to alteration of the hydrologic response of the watershed in changing from the undeveloped to the developed condition; that such increased flooding produced by the development of real property contributes increased quantities of waterborne pollutants, and tends to increase channel erosion; that such increased flooding, increased erosion, and increased pollution constitutes deterioration of the water resources of the Township of Manalapan, the county and the state; and that such increased flooding, increased erosion and increased pollution can be controlled to some extent by the regulation of stormwater runoff from such development. It is therefore determined that it is in the public interest to regulate the development of real property and to establish standards to regulate the additional discharge of stormwater runoff from such developments as provided in this chapter.

(b) The stormwater management plans submitted shall demonstrate careful consideration of the general and specific concerns, values and standards of the municipal Master Plan and applicable county, regional and state storm drainage control program, any County Mosquito Commission control standards, and shall be based on environmentally sound site planning, engineering and architectural techniques.

(c) Flood control, groundwater recharge, and pollutant reduction through nonstructural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with nonstructural stormwater management strategies and proper maintenance plans. Nonstructural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to stormwater. Source control plans should be developed based upon physical site conditions and the origin, nature, and the anticipated quantity or amount of potential pollutants. Multiple stormwater management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

(2) Purpose. It is the purpose of this section to establish minimum stormwater management requirements and controls for “major development,” as defined in § 95-9.2F(5).

(3) Applicability.

(a) This section shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:

[1] Non-residential major developments; and

[2] Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

(b) This section shall also be applicable to all major developments undertaken by Manalapan Township.

(4) Compatibility with other permit and ordinance requirements. Development approvals issued for subdivisions and site plans pursuant to this section are to be considered an integral part of development approvals under the subdivision and site plan review process and do not relieve the applicant of the responsibility to secure required permits or approvals for activities regulated by any other applicable code, rule, act, or ordinance. In their interpretation and application, the provisions of this section shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This section is not intended to interfere with, abrogate, or annul any other ordinances, rule or regulation, statute, or other provision of law except that, where any provision of this section imposes restrictions different from those imposed by any other ordinance, rule or regulation, or other provision of law, the more restrictive provisions or higher standards shall control.

(5) Definitions. Unless specifically defined below, words or phrases used in this section shall be interpreted so as to give them the meaning they have in common usage and to give this section its most reasonable application. The definitions below are the same as or based on the corresponding definitions in the Stormwater Management Rules at N.J.A.C. 7:8-1.2.

CAFRA CENTERS, CORES OR NODES — Those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

CAFRA PLANNING MAP — The geographic depiction of the boundaries for Coastal Planning Areas, CAFRA Centers, CAFRA Cores and CAFRA Nodes pursuant to N.J.A.C. 7:7E-5B.3.

COMPACTION — The increase in soil bulk density.

CORE — A pedestrian-oriented area of commercial and civic uses serving the surrounding municipality, generally including housing and access to public transportation.

COUNTY REVIEW AGENCY — An agency designated by the County Board of Chosen Freeholders to review municipal stormwater management plans and implementing ordinance(s). The county review agency may either be:

(a) A county planning agency; or

(b) A county water resource association created under N.J.S.A 58:16A-55.5, if the ordinance or resolution delegates authority to approve, conditionally approve, or disapprove municipal stormwater management plans and implementing ordinances.

DEPARTMENT — The New Jersey Department of Environmental Protection.

DESIGNATED CENTER — A State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village, or hamlet.

DESIGN ENGINEER — A person professionally qualified and duly licensed in New Jersey to perform engineering services that may include, but not necessarily be limited to, development of project requirements, creation and development of project design and preparation of drawings and specifications.

DEVELOPMENT — The division of a parcel of land into two or more parcels, the construction, reconstruction, conversion, structural alteration, relocation or enlargement of any building or structure, any mining excavation or landfill, and any use or change in the use of any building or other structure, or land or extension of use of land, by any person, for which permission is required under the Municipal Land Use Law , N.J.S.A. 40:55D-1 et seq. In the case of development of agricultural lands, development means: any activity that requires a State permit; any activity reviewed by the County Agricultural Board (CAB) and the State Agricultural Development Committee (SADC), and municipal review of any activity not exempted by the Right to Farm Act , N.J.S.A 4:1C-1 et seq.

DRAINAGE AREA — A geographic area within which stormwater, sediments, or dissolved materials drain to a particular receiving waterbody or to a particular point along a receiving waterbody.

ENVIRONMENTALLY CRITICAL AREAS — An area or feature which is of significant environmental value, including but not limited to: stream corridors; natural heritage priority sites; habitat of endangered or threatened species; large areas of contiguous open space or upland forest; steep slopes; and well head protection and groundwater recharge areas. Habitats of endangered or threatened species are identified using the Department's Landscape Project as approved by the Department's Endangered and Nongame Species Program.

EMPOWERMENT NEIGHBORHOOD — A neighborhood designated by the Urban Coordinating Council "in consultation and conjunction with" the New Jersey Redevelopment Authority pursuant to N.J.S.A 55:19-69.

EROSION — The detachment and movement of soil or rock fragments by water, wind, ice or gravity.

IMPERVIOUS SURFACE — A surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

INFILTRATION — The process by which water seeps into the soil from precipitation.

MAJOR DEVELOPMENT — Any development that provides for ultimately disturbing one or more acres of land or increasing the impervious coverage by more than a quarter acre. Disturbance for the purpose of this rule is the placement of impervious surface or exposure and/or movement of soil or bedrock or clearing, cutting, or removing of vegetation.

MUNICIPALITY — Any city, borough, town, township, or village.

NODE — An area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

NUTRIENT — A chemical element or compound, such as nitrogen or phosphorus, which is essential to and promotes the development of organisms.

PERSON — Any individual, corporation, company, partnership, firm, association, the Township of Manalapan, or political subdivision of this State subject to municipal jurisdiction pursuant to the Municipal Land Use Law , N.J.S.A. 40:55D-1 et seq.

POLLUTANT — Any dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, refuse, oil, grease, sewage sludge, munitions, chemical wastes, biological materials, medical wastes, radioactive substance (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.), thermal waste, wrecked or discarded equipment, rock, sand, cellar dirt, industrial, municipal, agricultural, and construction waste or runoff, or other residue discharged directly or indirectly to the land, ground waters or surface waters of the State, or to a domestic treatment works. “Pollutant” includes both hazardous and nonhazardous pollutants.

RECHARGE — The amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

SEDIMENT — Solid material, mineral or organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water or gravity as a product of erosion.

SITE — The lot or lots upon which a major development is to occur or has occurred.

SOIL — All unconsolidated mineral and organic material of any origin.

STATE DEVELOPMENT AND REDEVELOPMENT PLAN METROPOLITAN PLANNING AREA (PA1) — An area delineated on the State Plan Policy Map and adopted by the State Planning Commission that is intended to be the focus for much of the state’s future redevelopment and revitalization efforts.

STATE PLAN POLICY MAP — The geographic application of the State Development and Redevelopment Plan’s goals and statewide policies, and the official map of these goals and policies.

STORMWATER — Water resulting from precipitation (including rain and snow) that runs off the land’s surface, is transmitted to the subsurface, or is captured by separate storm sewers or other sewage or drainage facilities, or conveyed by snow removal equipment.

STORMWATER RUNOFF — Water flow on the surface of the ground or in storm sewers, resulting from precipitation.

STORMWATER MANAGEMENT BASIN — An excavation or embankment and related areas designed to retain stormwater runoff. A stormwater management basin may either be normally dry (that is, a detention basin or infiltration basin), retain water in a permanent pool (a retention basin), or be planted mainly with wetland vegetation (most constructed stormwater wetlands).

STORMWATER MANAGEMENT MEASURE — Any structural or nonstructural strategy, practice, technology, process, program, or other method intended to control or reduce stormwater runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of stormwater or to eliminate illicit or illegal non-stormwater discharges into stormwater conveyances.

TIDAL FLOOD HAZARD AREA — A flood hazard area, which may be influenced by stormwater runoff from inland areas, but which is primarily caused by the Atlantic Ocean.

URBAN COORDINATING COUNCIL EMPOWERMENT NEIGHBORHOOD — A neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

URBAN ENTERPRISE ZONES — A zone designated by the New Jersey Enterprise Zone Authority pursuant to the New Jersey Urban Enterprise Zones Act, N.J.S.A. 52:27H-60 et. seq.

URBAN REDEVELOPMENT AREA — Previously developed portions of areas:

(a) Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;

(b) Designated as CAFRA Centers, Cores or Nodes;

(c) Designated as Urban Enterprise Zones; and

(d) Designated as Urban Coordinating Council Empowerment Neighborhoods.

WATERS OF THE STATE — The ocean and its estuaries, all springs, streams, wetlands, and bodies of surface or ground water, whether natural or artificial, within the boundaries of the State of New Jersey or subject to its jurisdiction.

WETLANDS or WETLAND — An area that is inundated or saturated by surface water or ground water at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions, commonly known as hydrophytic vegetation.

(6) General standards.

(a) Design and performance standards for stormwater management measures.

[1] Stormwater management measures for major development shall be developed to meet the erosion control, groundwater recharge, stormwater runoff quantity, and stormwater runoff quality standards in § 95-9.2F(9). To the maximum extent practicable, these standards shall be met by incorporating nonstructural stormwater management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural stormwater management measures necessary to meet these standards shall be incorporated into the design.

[2] The standards in this section apply only to new major development and are intended to minimize the impact of stormwater runoff on water quality and water quantity in receiving water bodies and maintain groundwater recharge. The standards do not apply to new major development to the extent that alternative design and performance standards are applicable under a regional stormwater management plan or Water Quality Management Plan adopted in accordance with Department rules.

[3] Developments which are not considered a major development, as defined in § 95-9.2F(5), shall address the following:

[a] Runoff to remain in watershed. Runoff within a site shall ultimately leave the site in the same watershed in which it originated and shall be released in such a manner so as to not overload existing drainage systems, create flooding, create a need for additional drainage facilities on other public or private lands, or increase predevelopment erosion of adjacent lands.

[b] Rate of runoff. The peak rate of runoff from a site during and after development shall not exceed the predevelopment peak rate of runoff. Development upstream of known areas of problem flooding of properties shall be required to further reduce the peak rate of runoff below the predevelopment rate.

[c] Minimize volume increase. The increase in volume of runoff from a site, during and after development, from the predevelopment total of volume of runoff shall be minimized. Runoff control measures shall be used to retard or reduce runoff and increase recharge. Natural and artificial recharge areas and systems should be employed whenever practical to minimize the volume of surface water runoff. These include, but are not limited to, infiltration pits, dry wells, infiltration trenches, and the extensive use of sheet flow through vegetated areas. The use of runoff control/recharge devices should be considered in all known areas of aquifer or groundwater recharge as determined by United States Geological Survey studies and USDA HYDRO Soil Groups A and B as shown on Monmouth

County soil survey mapping. The use of such measures will not eliminate or reduce, even partially, the need for other requirements of this chapter.

[d] To the maximum extent practical, all projects shall be designed to incorporate nonstructural stormwater management strategies as identified in § 95-9.2F(8).

(7) Stormwater management requirements for major development.

(a) The development shall incorporate a maintenance plan for the stormwater management measures incorporated into the design of a major development in accordance with § 95-9.3F(11).

(b) The development shall comply with the standards set forth in § 95-9.2F(8) and 95-9.2F(9).

(c) Stormwater management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Natural Heritage Database established under N.J.S.A. 13:1B-15.147 through 15.150, particularly *Helonias bullata* (swamp pink) and/or *Clemmys muhlnebergi* (bog turtle).

(d) The following linear development projects are exempt from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 95-9.2F(9):

[1] The construction of an underground utility line provided that the disturbed areas are revegetated upon completion;

[2] The construction of an aboveground utility line provided that the existing conditions are maintained to the maximum extent practicable; and

[3] The construction of a public pedestrian access, such as a sidewalk or trail with a maximum width of 14 feet, provided that the access is made of permeable material.

(e) A waiver from strict compliance from the groundwater recharge, stormwater runoff quantity, and stormwater runoff quality requirements of § 95-9.2F(9) may be obtained for the enlargement of an existing public roadway or railroad; or the construction or enlargement of a public pedestrian access, provided that the following conditions are met:

[1] The applicant demonstrates that there is a public need for the project that cannot be accomplished by any other means;

[2] The applicant demonstrates through an alternatives analysis, that through the use of nonstructural and structural stormwater management strategies and measures, the option selected complies with the requirements of § 95-9.2F(9) to the maximum extent practicable;

[3] The applicant demonstrates that, in order to meet the requirements of § 95-9.2F(9), existing structures currently in use, such as homes and buildings, would need to be condemned; and

[4] The applicant demonstrates that it does not own or have other rights to areas, including the potential to obtain through condemnation lands not falling under Subsection F(7)(e)[3] above within the upstream drainage area of the receiving stream that would provide additional opportunities to mitigate the requirements of § 95-9.2F(9) that were not achievable on site.

(8) Nonstructural stormwater management strategies.

(a) To the maximum extent practicable, the standards in § 95-9.2F(6) shall be met by incorporating nonstructural stormwater management strategies set forth in this section into the design. The applicant shall identify the nonstructural measures incorporated into the design of the project. If the applicant contends that it is not feasible for engineering, environmental, or safety reasons to incorporate any nonstructural stormwater management measures identified in Subsection F(8)(b) below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

(b) Nonstructural stormwater management strategies incorporated into site design shall:

[1] Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;

[2] Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;

[3] Maximize the protection of natural drainage features and vegetation;

[4] Minimize the decrease in the time of concentration from preconstruction to post construction. "Time of concentration" is defined as the time it takes for runoff to travel from the hydraulically most distant point of the watershed to the point of interest within a watershed;

[5] Minimize land disturbance including clearing and grading;

[6] Minimize soil compaction;

[7] Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;

[8] Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;

[9] Provide other source controls to prevent or minimize the use or exposure of pollutants at the site, in order to prevent or minimize the release of those pollutants into stormwater runoff. Such source controls include, but are not limited to:

[a] Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy § 95-9.3F(5).

[b] Site design features that help to prevent discharge of trash and debris from drainage systems;

[c] Site design features that help to prevent and/or contain spills or other harmful accumulations of pollutants at industrial or commercial developments; and

[d] When establishing vegetation after land disturbance, applying fertilizer in accordance with the requirements established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq., and implementing rules.

(c) Any land area used as a nonstructural stormwater management measure to meet the performance standards in § 95-9.2F(9) shall be dedicated to a government agency, subjected to a conservation restriction filed with the appropriate county clerk's office, or subject to an approved equivalent restriction that ensures that measure or an equivalent stormwater management measure approved by the reviewing agency is maintained in perpetuity.

(d) Guidance for nonstructural stormwater management strategies is available in the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in § 95-9.3F(12), or found on the Web site at www.njstormwater.org.

(9) Erosion control, groundwater recharge and runoff quantity standards. This subsection contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control stormwater runoff quantity impacts of major development.

(a) The minimum design and performance standards for erosion control are those established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. and implementing rules.

(b) The minimum design and performance standards for groundwater recharge are as follows:

[1] The design engineer shall, using the assumptions and factors for stormwater runoff and groundwater recharge calculations at § 95-9.3F(1) & F(2), either:

[a] Demonstrate through hydrologic and hydraulic analysis that the site and its stormwater management measures maintain 100% of the average annual preconstruction groundwater recharge volume for the site; or

[b] Demonstrate through hydrologic and hydraulic analysis that the increase of stormwater runoff volume from preconstruction to postconstruction for the two-year storm is infiltrated.

[2] This groundwater recharge requirement does not apply to projects within the urban redevelopment area, or to projects subject to Subsection F(9)(b)[3] below.

[3] The following types of stormwater shall not be recharged:

[a] Stormwater from areas of high pollutant loading. High pollutant loading areas are areas in industrial and commercial developments where solvents and/or petroleum products are loaded/unloaded, stored, or applied, areas where pesticides are loaded/unloaded or stored; areas where hazardous materials are expected to be present in greater than "reportable quantities" as defined by the United States Environmental Protection Agency (EPA) at 40 CFR 302.4; areas where recharge would be inconsistent with Department approved remedial action work plan or landfill closure plan and areas with high risks for spills of toxic materials, such as gas stations and vehicle maintenance facilities; and

[b] Industrial stormwater exposed to source material. "Source material" means any material(s) or machinery, located at an industrial facility that is directly or indirectly related to process, manufacturing or other industrial activities, which could be a source of pollutants in any industrial stormwater discharge to groundwater. Source materials include, but are not limited to, raw materials; intermediate products; final products; waste materials; by-products; industrial machinery and fuels, and lubricants, solvents, and detergents that are related to process, manufacturing, or other industrial activities that are exposed to stormwater.

[4] The design engineer shall assess the hydraulic impact on the groundwater table and design the site so as to avoid adverse hydraulic impacts. Potential adverse hydraulic impacts include, but are not limited to, exacerbating a naturally or seasonally high water table so as to cause surficial ponding, flooding of basements, or interference with the proper operation of subsurface sewage disposal systems and other subsurface structures in the vicinity or downgradient of the groundwater recharge area.

(c) In order to control stormwater runoff quantity impacts, the design engineer shall, using the assumptions and factors for stormwater runoff calculations at § 95-9.3F, complete one of the following:

[1] Demonstrate through hydrologic and hydraulic analysis that for stormwater leaving the site, postconstruction runoff hydrographs for the two-, ten-, and one-hundred-year storm events do not exceed, at any point in time, the preconstruction runoff hydrographs for the same storm events;

[2] Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the preconstruction condition, in the peak runoff rates of stormwater leaving the site for the two-, ten-, and one-hundred-year storm events and that the increased volume or change in timing of stormwater runoff will not increase flood damage at or downstream of the site. This analysis shall include the analysis of impacts of existing land uses and projected land uses assuming full development under existing zoning and land use ordinances in the drainage area;

[3] Design stormwater management measures so that the postconstruction peak runoff rates for the two-, ten- and one-hundred-year storm events are 50%, 75% and 80%, respectively, of the preconstruction peak runoff rates. The percentages apply only to the postconstruction stormwater runoff that is attributable to the portion of the site on which the proposed development or project is to be constructed. The percentages shall not be applied to postconstruction stormwater runoff into tidal flood hazard areas if the increased volume of stormwater runoff will not increase flood damages below the point of discharge; or

[4] In tidal flood hazard areas, stormwater runoff quantity analysis in accordance with Subsections F(9)(c)[1], [2] and [3] above shall only be applied if the increased volume of stormwater runoff could increase flood damages below the point of discharge.

(d) Any application for a new agricultural development that meets the definition of major development at § 95-9.2F(5) shall be submitted to the appropriate Soil Conservation District for review and approval in accordance with the requirements of this section and any applicable Soil Conservation District guidelines for stormwater runoff quantity and erosion control. For the purposes of this section, "agricultural development" means land uses normally associated with the production of food, fiber and livestock for sale. Such uses do not include the development of land for the processing or sale of food and the manufacturing of agriculturally related products.

(e) Stormwater runoff quality standards.

[1] Stormwater management measures shall be designed to reduce the postconstruction load of total suspended solids (TSS) in stormwater runoff by 80% of the anticipated load from the developed site, expressed as an annual average. Stormwater management measures shall only be required for water quality control if an additional 1/4 acre of impervious surface is being proposed on a development site. The requirement to reduce TSS does not apply to any stormwater runoff in a discharge regulated under a numeric effluent limitation for TSS imposed under the New Jersey Pollution Discharge Elimination System (NJPDES) rules, N.J.A.C. 7:14A, or in a discharge specifically exempt under a NJPDES permit from this requirement. The water quality design storm is 1.25 inches of rainfall in two hours. Water quality calculations shall take into account the distribution of rain from the water quality design storm, as reflected in Table 1. The calculation of the volume of runoff may take into account the implementation of nonstructural and structural stormwater management measures.

Table 1: Water Quality Design Storm Distribution

Time (Minutes)	Cumulative Rainfall (Inches)	Time (Minutes)	Cumulative Rainfall (Inches)
0	0.0000	65	0.8917
5	0.0083	70	0.9917
10	0.0166	75	1.0500
15	0.0250	80	1.0840
20	0.0500	85	1.1170
25	0.0750	90	1.1500
30	0.1000	95	1.1750
35	0.1330	100	1.2000
40	0.1660	105	1.2250
45	0.2000	110	1.2334
50	0.2583	115	1.2417
55	0.3583	120	1.2500
60	0.6250		

[2] For purposes of TSS reduction calculations, Table 2 below presents the presumed removal rates for certain BMPs designed in accordance with the New Jersey Stormwater Best Management Practices Manual. The BMP Manual may be obtained from the address identified in § 95-9.3F(8), or found on the Department's Web site at www.njstormwater.org. The BMP Manual and other sources of technical guidance are listed in § 95-9.3F(8). TSS reduction shall be calculated based on the removal rates for the BMPs in Table 2 below. Alternative removal rates and methods of calculating removal rates may be used if the design engineer provides documentation demonstrating the capability of these alternative rates and methods to the review agency. A copy of any approved alternative rate or method of calculating the removal rate shall be provided to the Department at the following address: Division of Watershed Management, New Jersey Department of Environmental Protection, PO Box 418 Trenton, New Jersey, 08625-0418.

[3] If more than one BMP in series is necessary to achieve the required eighty-percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (A \times B)/100$$

Where:

R = total TSS percent load removal from application of both BMPs, and

A = the TSS percent removal rate applicable to the first BMP

B = the TSS percent removal rate applicable to the second BMP

Table 2: TSS Removal Rates for BMPs

Best Management Practice	TSS Percent Removal Rate
Bioretention Systems	90
Constructed Stormwater Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See § 95-9.3F(6)(j)
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

[4] If there is more than one onsite drainage area, the eighty-percent TSS removal rate shall apply to each drainage area, unless the runoff from the subareas converge on site in which case the removal rate can be demonstrated through a calculation using a weighted average.

[5] Stormwater management measures shall also be designed to reduce, to the maximum extent feasible, the postconstruction nutrient load of the anticipated load from the developed site in stormwater runoff generated from the water quality design storm. In achieving reduction of nutrients to the maximum extent feasible, the design of the site shall include nonstructural strategies and structural measures that optimize nutrient removal while still achieving the performance standards in § 95-9.2F(9).

[6] Additional information and examples are contained in the New Jersey Stormwater Best Management Practices Manual, which may be obtained from the address identified in § 95-9.3F(8).

[7] In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, stormwater management measures shall be designed to prevent any increase in stormwater runoff to waters classified as FW1.

[8] Special water resource protection areas shall be established along all waters designated Category One at N.J.A.C. 7:9B, and perennial or intermittent streams that drain into or upstream of the Category One waters as shown on the USGS Quadrangle Maps or in the County Soil Surveys, within the associated HUC14 drainage area. These areas shall be established for the protection of water quality, aesthetic value, exceptional ecological significance, exceptional recreational significance, exceptional water supply significance, and exceptional fisheries significance of those established Category One waters. These areas shall be designated and protected as follows:

[a] The applicant shall preserve and maintain a special water resource protection area in accordance with one of the following:

[i] A three-hundred-foot special water resource protection area shall be provided on each side of the waterway, measured perpendicular to the waterway from the top of the bank outwards or from the centerline of the waterway where the bank is not defined, consisting of existing vegetation or vegetation allowed to follow natural succession.

[ii] Encroachment within the designated special water resource protection area under Subsection F(9)(d)[8][a][i] above shall only be allowed where previous development or disturbance has occurred (for example, active agricultural use, parking area or maintained lawn area). The encroachment shall only be allowed where applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable. In no case shall the remaining special water resource protection area be reduced to less than 150 feet as measured perpendicular to the top of bank of the waterway or centerline of the waterway where the bank is undefined. All encroachments proposed under this subparagraph shall be subject to review and approval by the Department.

[b] All stormwater shall be discharged outside of and flow through the special water resource protection area and shall comply with the Standard for Off-Site Stability in the “Standards For Soil Erosion and Sediment Control in New Jersey,” established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq.

[c] If stormwater discharged outside of and flowing through the special water resource protection area cannot comply with the Standard For Off-Site Stability in the “Standards for Soil Erosion and Sediment Control in New Jersey,” established under the Soil Erosion and Sediment Control Act,

N.J.S.A. 4:24-39 et seq., then the stabilization measures in accordance with the requirements of the above standards may be placed within the special water resource protection area, provided that:

[i] Stabilization measures shall not be placed within 150 feet of the Category One waterway;

[ii] Stormwater associated with discharges allowed by this section shall achieve a ninety-five-percent TSS postconstruction removal rate;

[iii] Temperature shall be addressed to ensure no impact on the receiving waterway;

[iv] The encroachment shall only be allowed where the applicant demonstrates that the functional value and overall condition of the special water resource protection area will be maintained to the maximum extent practicable;

[v] A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

[vi] All encroachments proposed under this section shall be subject to review and approval by the Department.

[d] A stream corridor protection plan may be developed by a regional stormwater management planning committee as an element of a regional stormwater management plan, or by a municipality through an adopted municipal stormwater management plan. If a stream corridor protection plan for a waterway subject to § 95-9.2F(9)(d)[8] has been approved by the Department of Environmental Protection, then the provisions of the plan shall be the applicable special water resource protection area requirements for that waterway. A stream corridor protection plan for a waterway subject to § 95-9.2F(9)(d)[8] shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in § 95-9.2F(9)(d)[8][a][i] above. In no case shall a stream corridor protection plan allow the reduction of the Special Water Resource Protection Area to less than 150 feet as measured perpendicular to the waterway subject to this subsection.

[e] Section 95-9.2F(9)(d)[8] does not apply to the construction of one individual single family dwelling that is not part of a larger development on a lot receiving preliminary or final subdivision approval on or before February 2, 2004, provided that the construction begins on or before February 2, 2009.

§ 95-9.3. Construction specifications. [Amended by Ord. No. 95-14]

F. Stormwater management system demand, strategy, and design.

(1) Stormwater runoff shall be calculated in accordance with the following:

(a) The USDA Natural Resources Conservation Service (NRCS) methodology, including the NRCS Runoff Equation and Dimensionless Unit Hydrograph, as described in the NRCS National Engineering Handbook Section 4 – Hydrology and Technical Release 55 – Urban Hydrology for Small Watersheds; or

(b) The Rational Method for peak flow and the Modified Rational Method for hydrograph computations for drainage areas under 20 acres.

(c) For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology and the Rational and Modified Rational Methods. A runoff coefficient or a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover have existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn, or park), with good cover (if the land use type is woods), or with good hydrologic condition and conservation treatment (if the land use type is cultivation).

(d) In computing preconstruction stormwater runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts that may reduce preconstruction stormwater runoff rates and volumes.

(e) In computing stormwater runoff from all design storms, the design engineer shall consider the relative stormwater runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of stormwater runoff from the site. To calculate runoff from unconnected impervious cover, urban impervious area modifications as described in the NRCS Technical Release 55, Urban Hydrology for Small Watersheds, and other methods may be employed.

(f) If the invert of the outlet structure of a stormwater management measure is below the flood hazard design flood elevation as defined at N.J.A.C. 7:13, the design engineer shall take into account the effects of tailwater in the design of structural stormwater management measures.

(2) Groundwater recharge may be calculated in accordance with the following:

(a) The New Jersey Geological Survey Report GSR-32 A Method for Evaluating Ground-Water Recharge Areas in New Jersey, incorporated herein by reference as amended and supplemented. Information regarding the methodology is available from the New Jersey Stormwater Best Management Practices Manual; at http://www.state.nj.us/dep/njgs/; or at New Jersey Geological Survey, 29 Arctic Parkway, P.O. Box 427 Trenton, New Jersey 08625-0427; (609) 984-6587.

(3) Stormwater management: system strategy.

(a) A system emphasizing a natural as opposed to an engineered drainage strategy shall be encouraged. This shall include, but not be limited to, the use of vegetative swales in lieu of storm sewer inlets and piping.

(b) The applicability of a natural approach depends on such factors as site storage capacity, open channel hydraulic capacity, and maintenance needs and resources.

(c) Hydraulic capacity for open channel or closed conduit flow shall be determined by the Manning Equation, or charts/nomographs based on the Manning Equation. The hydraulic capacity is termed "Q" and is expressed as discharge in cubic feet per second. The Manning Equation is as follows:

Q = (1.486 AR^ 2/3 S^ ½)/n

Where:

n = Manning's roughness coefficient

A = Cross-sectional area of flow in square feet

R = Hydraulic radius in feet (R = A/P, where P is equal to the Wetted Perimeter)

S = Slope of conduit in feet per foot

The Manning roughness coefficient to be utilized is shown in Exhibit 9-14.

[1] Velocities in open channels at design flow shall not be less than 0.5 foot per second and not greater than that velocity which will begin to cause erosion or scouring of the channel. Permissible velocities for swales, open channels and ditches are shown in Exhibit 9-15.

[2] Velocities in closed conduits at design flow shall be at least two feet per second but not more than the velocity which will cause erosion damage to the conduit.

(4) Stormwater management system design for pipe capacity, materials, and placement.

(a) Pipe size shall be dictated by design runoff and hydraulic capacity.

(b) Hydraulic capacity shall be determined by the Manning Equation, except where appropriate capacity shall be based on tailwater analysis and one-year high tide.

(c) In general, no pipe size in the storm drainage system shall be less than fifteen-inch diameter. A twelve-inch diameter pipe will be permitted as a cross-drain to a single inlet.

(d) All discharge pipes shall terminate with a precast concrete or corrugated metal end section or a cast-in-place concrete headwall with or without wingwalls as conditions require. In normal circumstances, a cast-in-place concrete headwall is preferred. Use of other types shall be justified by the designer and approved by the Engineer.

(e) Materials used in the construction of storm sewers shall be constructed of reinforced concrete, ductile iron, corrugated aluminum, or corrugated steel. In normal circumstances, reinforced concrete pipe is preferred. Use of other types shall be justified by the designer and approved by the Engineer. Specifications referred to, such as ASA, ASTM, AWWA, etc., should be the latest revision.

[1] Reinforced concrete pipe:

[a] Circular reinforced concrete pipe and fittings shall meet the requirements of ASTM C-76.

[b] Elliptical reinforced concrete pipe shall meet the requirements of ASTM C-507.

[c] Joint design and joint material for circular pipe shall conform to ASTM C-443.

[d] Joints for elliptical pipe shall be bell and spigot or tongue and groove sealed with butyl, rubber tape, or external sealing bands conforming to ASTM C-877.

[e] All pipe shall be Class III unless a stronger pipe (i.e., higher class) is indicated to be necessary.

[f] The minimum depth of cover over the concrete pipe shall be as designated by the American Concrete Pipe Association, as follows:

Pipe Diameter (inches)	ASTM Class Pipe	Minimum Cover (surface to top of pipe) (inches)	Pipe Diameter (inches)	ASTM Class Pipe	Minimum Cover (surface to top of pipe) (inches)
12	III	17	24	III	15
	IV	12		IV	6
	V	7		V	6
15	III	16	30	III	10
	IV	11		IV	6
	V	7		V	6
18	III	16	36 and above	III	6
	IV	10		IV	6
	V	6			

[2] Ductile iron pipe shall be centrifugally cast in metal or sand-lined molds to ANSI A21.51-1976 (AWWA C151-76). The joints shall conform to AWWA C111. Pipe shall be furnished with flanges where connections to flange fittings are required. Pipe should be Class 50 (minimum). The outside of the pipe

should be coated with a uniform thickness of hot applied coal tar coating and the inside lined cement in accordance with AWWA C104. Ductile iron pipe shall be installed with Class C, Ordinary Bedding.

[3] Corrugated aluminum pipe. Within the public right-of-way and where severe topographic conditions or the desire to minimize the destruction of trees and vegetation exists, corrugated aluminum pipe, pipe arch or helical corrugated pipe may be used. The material used shall comply with the Standard Specifications for Corrugated Aluminum Alloy Culvert and Under Drains AASHTO Designation M196 or the Standard Specification for Aluminum Alloy Helical Pipe AASHTO Designation M-211. The minimum thickness of the aluminum pipe to be used shall be:

[a] Less than twenty-four-inch diameter or equivalent: 0.75-inch (14-gauge).

[b] Twenty-four-inch diameter and less than forty-eight-inch diameter or equivalent: 0.105-inch (12-gauge).

[c] Forty-eight-inch but less than seventy-two-inch diameter or equivalent: 0.135-inch (10-gauge).

[d] Seventy-two-inch diameter or equivalent and larger: 0.164-inch (8-gauge).

[4] Corrugated steel pipe may be used in place of corrugated aluminum and shall meet the requirements of AASHTO Specification M-36. Coupling bands and special sections shall also conform to AASHTO M-36. All corrugated steel pipe shall be bituminous coated in accordance with AASHTO M-190, Type A minimum.

(f) Pipe bedding shall be provided as specified in "Design and Construction of Sanitary and Storm Sewers," ASCE Manuals and Reports on Engineering Practice No. 37, prepared by a Joint Committee of the Society of Civil Engineers and the Water Pollution Control Federation, New York, 1969.

(g) Maintenance easements shall be provided around stormwater facilities where such facilities are located outside of the public right-of-way. The size of the easement shall be dictated by working needs.

(h) Where storm pipes will be located within the seasonal high water table, they shall be constructed using reinforced concrete piping with watertight "o"-ring gaskets, or approved equal as determined by the Township Engineer.

(5) Stormwater management system design for inlets, catch basins, and manholes.

(a) For purposes of this subsection, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Subsection F(5)(c) below.

(b) Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surface to collect stormwater from that surface into a storm drain or surface water body under that grate:

[1] The New Jersey Department of Transportation (NJDOT) bicycle safe grate, which is described in Chapter 2.4 of the NJDOT Bicycle Compatible Roadways and Bikeways Planning and Design Guidelines (April 1996); or

[2] A different grate, if each individual clear space in that grate has an area of no more than 7.0 square inches, or is no greater than 0.5 inches across the smallest dimension.

[3] Examples of grates subject to this standard include grates in grate inlets, the grate portion (non-curb-opening portion) of combination inlets, grates on storm sewer manholes, ditch grates, trench grates, and grates of spacer bars in slotted drains. Examples of ground surfaces include surfaces of roads (including bridges), driveways, parking areas, bikeways, plazas, sidewalks, lawns, fields, open channels, and stormwater basin floors.

[4] Whenever design engineers use a curb-opening inlet, the clear space in that curb opening (or each individual clear space, if the curb opening has two or more clear spaces) shall have an area of no more than 7.0 square inches, or be no greater than 2.0 inches across the smallest dimension.

(c) This standard set forth in Subsection F(5)(b) above does not apply:

[1] Where the review agency determines that this standard would cause inadequate hydraulic performance that could not practicably be overcome by using additional or larger storm drain inlets that meet these standards;

[2] Where flows from the water quality design storm as specified in § 95-9.3F(9) are conveyed through any device (e.g., end-of-pipe netting facility, manufactured treatment device, or a catch basin hood) that is designed, at a minimum, to prevent delivery of all solid and floatable materials that could not pass through one of the following:

[a] A rectangular space 4 ⅝ inches long and 1 ½ inches wide (this option does not apply for outfall netting facilities); or

[b] A bar screen having a bar spacing of 0.5 inches.

[3] Where flows are conveyed through a trash rack that has parallel bars with one-inch spacing between the bars, to the elevation of the water quality design storm as specified in § 95-9.2F(9); or

[4] Where the New Jersey Department of Environmental Protection determines, pursuant to the New Jersey Register of Historic Places Rules at N.J.A.C. 7:4-7.2(c), that action to meet this standard is an undertaking that constitutes an encroachment or will damage or destroy the New Jersey Register listed historic property.

(d) Inlet spacing shall be designed to limit gutter flow width to six feet but shall not be more than 400 feet.

(e) Manhole spacing shall be increased with pipe size.

Pipe Size (inches)	Manhole Spacing (feet)
15 or less	500
18 to 36	600
42 to 60	700
60+	700+

(f) Manholes shall be precast concrete, brick or concrete block coated with two coats of portland cement mortar.

(g) If precast manhole barrels and cones are used, they shall conform to ASTM Specification C-473 with round rubber gaskets joints, conforming to ASTM Specification C-923. Maximum absorption shall be 8% in accordance with ASTM Specification C-478, Method A.

(h) If precast manholes are utilized, the top riser section shall terminate less than one foot below the finished grade and the manhole cover shall be flush with the finished grade.

(i) Manhole frames and covers shall be of cast iron conforming to ASTM Specification A-48 Class 30 and be suitable for H-20 loading capacity. All manhole covers in rights-of-way or in remote areas shall be provided with a locking device. The letters "Year 20___" and the words "MANALAPAN STORM SEWER" shall be cast integrally in the cover.

(6) Standards for structural stormwater management measures are as follows:

(a) Structural stormwater management measures shall be designed to take into account the existing site conditions, including, for example, environmentally critical areas, wetlands; flood-prone areas; slopes; depth to seasonal high water table; soil type, permeability and texture; drainage area and drainage patterns; and the presence of solution-prone carbonate rocks (limestone).

(b) Structural stormwater management measures shall be designed to minimize maintenance, facilitate maintenance and repairs, and ensure proper functioning. Trash racks shall be installed at the intake to the outlet structure as appropriate, and shall have parallel bars with one-inch spacing between the bars to the elevation of the water quality design storm. For elevations higher than the water quality design storm, the parallel bars at the outlet structure shall be spaced no greater than 1/3 the width of the diameter of the orifice or 1/3 the width of the weir, with a minimum spacing between bars of one inch and a maximum spacing between bars of six inches. In addition, the design of trash racks must comply with the requirements of Subsection F(8)(d).

(c) Structural stormwater management measures shall be designed, constructed, and installed to be strong, durable, and corrosion resistant. Measures that are

consistent with the relevant portions of the Residential Site Improvement Standards at N.J.A.C. 5:21-7.3, 7.4, and 7.5 shall be deemed to meet this requirement.

(d) At the intake to the outlet from the stormwater management basin, the orifice size shall be a minimum of 2 ½ inches in diameter.

(e) Stormwater management basins shall be designed to meet the minimum safety standards for stormwater management basins at Subsection F(8).

(f) The top of bank for stormwater management basins constructed in cut and toe of slope for basins constructed in fill shall be located no closer than 15 feet to an existing or proposed property line.

(g) Detention basins shall be sodded, attractively buffered and landscaped, and designed as to minimize propagation of insects, particularly mosquitoes. All landscaping and buffering shall be approved by the Township. No trees or shrubs shall be permitted on slopes or banks for facilities constructed in fill. All detention and retention basins with permanent dry weather pools of water shall have a water depth to minimize propagation of mosquitoes and provided with mechanical aeration for water quality.

(h) In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical. One section of the embankment shall have a flatter slope which will allow access to the bottom of the basin by maintenance vehicles.

(i) Stormwater management measure guidelines are available in the New Jersey Stormwater Best Management Practices Manual. Other stormwater management measures may be utilized provided the design engineer demonstrates that the proposed measure and its design will accomplish the required water quantity, groundwater recharge and water quality design and performance standards established by § 95-9.2F(9) of this section.

(j) Manufactured treatment devices may be used to meet the requirements of § 95-9.2F(9) of this section, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the New Jersey Department of Environmental Protection.

(7) Safety standards for stormwater management basins.

(a) This section sets forth requirements to protect public safety through the proper design and operation of stormwater management basins. This section applies to any new stormwater management basin.

[1] Requirements for trash racks, overflow grates and escape provisions.

[a] A trash rack is a device designed to catch trash and debris and prevent the clogging of outlet structures. Trash racks shall be installed at the intake to the outlet from the stormwater management basin to ensure proper functioning of the basin outlets in accordance with the following:

[i] The trash rack shall have parallel bars, with no greater than six-inch spacing between the bars.

[ii] The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.

[iii] The average velocity of flow through a clean trash rack is not to exceed 2.5 feet per second under the full range of stage and discharge. Velocity is to be computed on the basis of the net area of opening through the rack.

[iv] The trash rack shall be constructed and installed to be rigid, durable, and corrosion resistant and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.

[b] An overflow grate is designed to prevent obstruction of the overflow structure. If an outlet structure has an overflow grate, such grate shall meet the following requirements:

[i] The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

[ii] The overflow grate spacing shall be no less than two inches across the smallest dimension.

[iii] The overflow grate shall be constructed and installed to be rigid, durable, and corrosion resistant, and shall be designed to withstand a perpendicular live loading of 300 pounds per square foot.

[c] For purposes of this paragraph, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from stormwater management basins. Stormwater management basins shall include escape provisions as follows:

[i] If a stormwater management basin has an outlet structure, escape provisions shall be incorporated in or on the structure. With the prior approval of the reviewing agency identified in Subsection F(7)(a)[2][a] a freestanding outlet structure may be exempted from this requirement.

[ii] Safety ledges shall be constructed on the slopes of all new stormwater management basins having a permanent pool of water deeper than 2 ½ feet. Such safety ledges shall be comprised of two steps. Each step shall be four to six feet in width. One step shall be located approximately 2 ½ feet below the permanent water surface, and the second step shall be located one to 1 ½ feet above the permanent water surface. See Exhibit 9-16 for illustration of safety ledges in a stormwater management basin.

[iii] In new stormwater management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

[2] Variance or exemption from safety standards.

[a] A variance or exemption from the safety standards for stormwater management basins may be granted only upon a written finding by the appropriate reviewing agency (municipality, county or Department) that the variance or exemption will not constitute a threat to public safety.

(8) Sources for technical guidance.

(a) Technical guidance for stormwater management measures can be found in the documents listed at Subsections F(8)(d)[1] and F(8)(d)[2] below, which are available from Maps and Publications, New Jersey Department of Environmental Protection, 428 East State Street, P.O. Box 420, Trenton, New Jersey, 08625; (609) 777-1038.

(b) Guidelines for stormwater management measures are contained in the New Jersey Stormwater Best Management Practices Manual, as amended. Information is provided on stormwater management measures such as: bioretention systems, constructed stormwater wetlands, dry wells, extended detention basins, infiltration structures, manufactured treatment devices, pervious paving, sand filters, vegetative filter strips, and wet ponds.

(c) The New Jersey Department of Environmental Protection Stormwater Management Facilities Maintenance Manual, as amended.

(d) Additional technical guidance for stormwater management measures can be obtained from the following:

[1] The "Standards for Soil Erosion and Sediment Control in New Jersey" promulgated by the State Soil Conservation Committee and incorporated into N.J.A.C. 2:90. Copies of these standards may be obtained by contacting the State Soil Conservation Committee or any of the Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey 08625; (609) 292-5540;

[2] The Rutgers Cooperative Extension Service, (732) 932-9306; and

[3] The Soil Conservation Districts listed in N.J.A.C. 2:90-1.3(a)4. The location, address, and telephone number of each Soil Conservation District may be obtained from the State Soil Conservation Committee, P.O. Box 330, Trenton, New Jersey, 08625, (609) 292-5540.

(9) Requirements for a site development stormwater plan.

(a) Submission of site development stormwater plan.

[1] Whenever an applicant seeks municipal approval of a development subject to this section, the applicant shall submit all of the required components of the Checklist for the Site Development Stormwater Plan at Subsection F(9)(c) below as part of the submission of the applicant's application for subdivision or site plan approval.

[2] The applicant shall demonstrate that the project meets the standards set forth in this chapter.

[3] The applicant shall submit five copies of the materials listed in the checklist for site development stormwater plans in accordance with Subsection F(9)(c) of this section.

(b) Site development stormwater plan approval. The applicant's Site Development project shall be reviewed as a part of the subdivision or site plan review process by the municipal board or official from which municipal approval is sought. That municipal board or official shall consult the Engineer retained by the Planning and/or Zoning Board (as appropriate) to determine if all of the checklist requirements have been satisfied and to determine if the project meets the standards set forth in this section.

(c) Checklist requirements.

[1] The following information shall be required:

[a] Topographic base map. The reviewing engineer may require upstream tributary drainage system information as necessary. It is recommended that the topographic base map of the site be submitted which extends a minimum of 200 feet beyond the limits of the proposed development, at a scale of one inch equals 200 feet or greater, showing two-foot contour intervals. The map, as appropriate, may indicate the following: existing surface water drainage, shorelines, steep slopes, soils, erodible soils, perennial or intermittent streams that drain into or upstream of the Category One waters, wetlands and flood plains along with their appropriate buffer strips, marshlands and other wetlands, pervious or vegetative surfaces, existing man-made structures, roads, bearing and distances of property lines, and significant natural and manmade features not otherwise shown.

[b] Environmental site analysis. A written and graphic description of the natural and man-made features of the site and its environs. This description should include a discussion of soil conditions, slopes, wetlands, waterways and vegetation on the site. Particular attention should be given to unique, unusual, or environmentally sensitive features and to those that provide particular opportunities or constraints for development.

[c] Project description and site plan(s). A map (or maps) at the scale of the topographical base map indicating the location of existing and proposed

buildings, roads, parking areas, utilities, structural facilities for stormwater management and sediment control, and other permanent structures. The map(s) shall also clearly show areas where alterations occur in the natural terrain and cover, including lawns and other landscaping, and seasonal high ground water elevations. A written description of the site plan and justification of proposed changes in natural conditions may also be provided.

[d] Land use planning and source control plan. This plan shall provide a demonstration of how the goals and standards of § 95-9.2F are being met. The focus of this plan shall be to describe how the site is being developed to meet the objective of controlling groundwater recharge, stormwater quality and stormwater quantity problems at the source by land management and source controls whenever possible.

[e] Stormwater management facilities map. The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

[i] Total area to be paved or built upon, proposed surface contours, land area to be occupied by the stormwater management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of stormwater.

[ii] Details of all stormwater management facility designs, during and after construction, including discharge provisions, discharge capacity for each outlet at different levels of detention and emergency spillway provisions with maximum discharge capacity of each spillway.

[f] Calculations.

[i] Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in §95-9.2F(7), §95-9.2F(8) and §95-9.2F(9) of this section.

[ii] When the proposed stormwater management control measures (e.g., infiltration basins) depends on the hydrologic properties of soils, then a soils report shall be submitted. The soils report shall be based on onsite boring logs or soil pit profiles. The number and location of required soil borings or soil pits shall be determined based on what is needed to determine the suitability and distribution of soils present at the location of the control measure.

[g] Maintenance and repair plan. The design and planning of the stormwater management facility shall meet the maintenance requirements of § 95-9.3F(11).

[h] Waiver from submission requirements. The municipal official or board reviewing an application under this section may, in consultation with the

Municipal Engineer, waive submission of any of the requirements in § 95-9.3F(9)(c)[1] of this section when it can be demonstrated that the information requested is impossible to obtain or it would create a hardship on the applicant to obtain and its absence will not materially affect the review process.

(10) Detention facilities in flood hazard areas.

(a) There will not be stormwater management basins in the floodplain except for those on-stream and shall comply with all applicable regulations under the Flood Hazard Control Act, N.J.S.A. 58:16A-50 et seq., and the New Jersey Stormwater Management Act, N.J.S.A. 7:8 et seq.

(b) Stormwater management basins located in freshwater wetlands may be allowed only in accordance with the Freshwater Wetlands Protection Act, N.J.S.A. 13:9B-1 et seq., and any rules adopted pursuant thereto.

(11) Stormwater management facilities maintenance and repair.

(a) The design engineer shall prepare a maintenance plan for the stormwater management measures incorporated into the design of a major development.

(b) The maintenance plan shall contain specific preventative maintenance tasks and schedules; cost estimates, including estimated cost of sediment, debris, or trash removal; and the name, address, and telephone number of the person or persons responsible for preventative and corrective maintenance (including replacement). Maintenance guidelines for stormwater management measures are available in the New Jersey Stormwater Best Management Practices Manual. If the maintenance plan identifies a person other than the developer (for example, a public agency or homeowners' association) as having the responsibility for maintenance, the plan shall include documentation of such person's agreement to assume this responsibility, or of the developer's obligation to dedicate a stormwater management facility to such person under an applicable ordinance or regulation.

(c) If the person responsible for maintenance identified under § 95-9.3F(11)(b) above is not a public agency, the maintenance plan and any future revisions based on Subsection F(11)(f) shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

(d) Preventative and corrective maintenance shall be performed to maintain the function of the stormwater management measure, including but not limited to repairs or replacement to the structure; removal of sediment, debris, or trash; restoration of eroded areas; snow and ice removal; fence repair or replacement; restoration of vegetation; and repair or replacement of nonvegetated linings.

(e) The person responsible for maintenance identified under § 95-9.3F(11)(b) above shall maintain a detailed log of all preventative and corrective maintenance for the structural stormwater management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

(f) The person responsible for maintenance identified under § 95-9.3F(11)(b) above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

(g) The person responsible for maintenance identified under § 95-9.3F(11)(b) above shall retain and make available, upon request by any public entity with administrative, health, environmental, or safety authority over the site, the maintenance plan and the documentation required by this section.

(h) In the event that the stormwater management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the municipality shall so notify the responsible person in writing. Upon receipt of that notice, the responsible person shall have 14 days to effect maintenance and repair of the facility in a manner that is approved by the Municipal Engineer or his designee. The municipality, in its discretion, may extend the time allowed for effecting maintenance and repair for good cause. If the responsible person fails or refuses to perform such maintenance and repair, the municipality or county may immediately proceed to do so and shall bill the cost thereof to the responsible person.

(i) Prior to granting approval to any project subject to review under this chapter, the applicant shall enter into an agreement with the municipality (or county) to ensure the continued operation and maintenance of the stormwater management facility. This agreement shall be in a form satisfactory to the Municipal Attorney, and may include, but may not necessarily be limited to, personal guarantees, deed restrictions, covenants, and bonds. In cases where property is subdivided and sold separately, a homeowners' association or similar permanent entity should be established as the responsible entity, absent an agreement by a governmental agency to assume responsibility.

(j) An applicant seeking approval for construction of a stormwater management facility shall provide the funds necessary to permanently maintain the facility. The amount necessary to permanently maintain the facility shall be calculated by the Planning Board engineer.

(k) All stormwater management basins in any multifamily residential use development or nonresidential use development shall be owned and maintained by a homeowners' association or private owner. All stormwater management basins located within or as part of a single-family residential use development shall be dedicated to the Township of Manalapan. Prior to acceptance of any stormwater facility by the Township of Manalapan, same shall be certified by the Township Engineer to have been constructed in accordance with the requirements and specifications of this subsection and the approvals granted by the Planning Board or the Board of Adjustment of the Township of Manalapan. In addition, upon the posting of the performance guarantee with the Township as set forth in Article X below, the developer shall post with the Township an amount to be calculated by the Municipal Review Engineer for maintenance, to be placed in an escrow

maintenance account upon which funds shall be used exclusively for the purpose of the maintenance of such detention/retention facility.

(l) The maintenance fees required shall be for the purpose of reimbursing the Township for direct fees, costs, charges and expenses for the maintenance of a detention/retention facility, including but not limited to routine mowing, maintenance of landscaping, general maintenance concerning inlets, cleaning of property and long-range maintenance on a periodic basis.

(m) All costs, expenses, charges and fees incurred by the Township for the maintenance of a stormwater management basin shall be charged against the escrow fund established for the maintenance of such a basin.

(n) The Township shall conduct maintenance programs at its discretion and shall maintain liability insurance on the stormwater management facility out of the funds so created. The maintenance programs may include, but are not limited to:

[1] Routine mowing of the property. Mowing costs shall be estimated at the rate of one acre per hour. The cost per hour for Township labor and equipment shall be multiplied by the number of acres to be mowed. A base number shall also be included for the mobilization and the maintenance of the equipment.

[2] Maintenance of landscaping. The cost shall be based upon the number of hours for landscape maintenance multiplied by a rate per hour for labor and equipment. Any and all additional stock which shall be necessary to replace approved landscaping shall also be charged against the fund.

[3] General maintenance. The cost for general maintenance shall be based upon a one-hour mobilization time together with the total number of hours expended times the rate per hour for Township labor and equipment.

[4] Long-term maintenance. The long-term maintenance shall be calculated on a cost per acre and applied against the assumption that a residential detention/retention basin needs rejuvenation every 20 years. These amounts shall be reduced to an annualized cost.

[5] Insurance. The Township shall assume liability for the property and a portion of the fund shall be used for purchase of insurance for the detention/retention basin.

(o) Responsibility for maintenance shall not be assigned or transferred to the owner or tenant of an individual property in a residential development or project, unless such owner or tenant owns or leases the entire residential development project.

(12) New Jersey Department of Environmental Protection, Division of Coastal Resources approval.

(a) All projects containing stream encroachments within the flood hazard area and one-hundred-year floodplain, at locations having a drainage area of over 50 acres and all “projects of special concern,” as defined in N.J.A.C. 7:13.5, are subject to the approval of NJDEP, Division of Coastal Resources.

(b) All projects containing a drainage area over 50 acres must establish the one-hundred-year floodplain zone in accordance with N.J.A.C. 7:13-1.8.

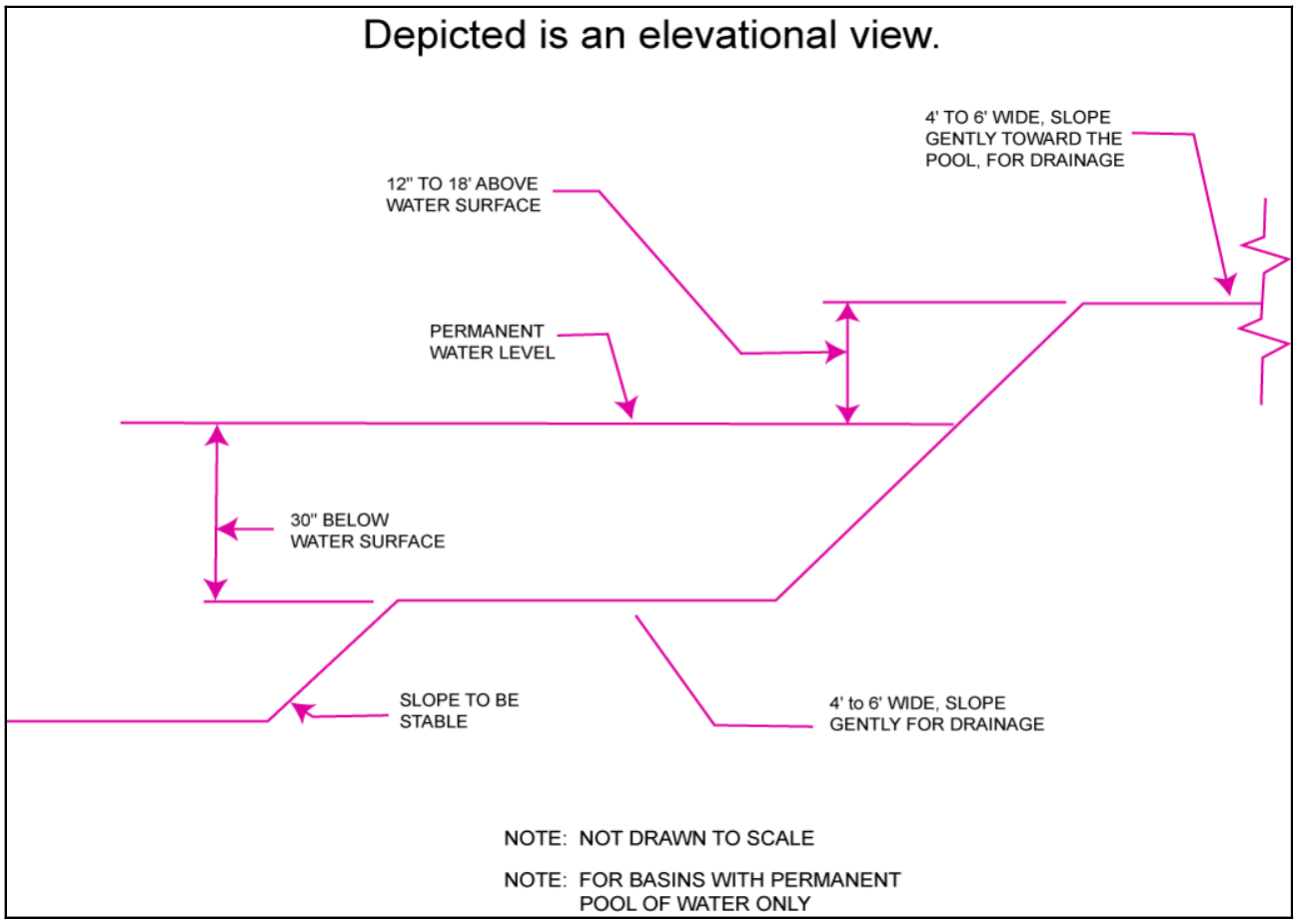
(13) Dedication of facilities. Where required, the stormwater management facilities shall be dedicated to the Township of Manalapan as a drainage utility easement, separately platted lot or right-of-way, where a separately platted lot is the preferred option. Stormwater Management facility dedication shall be 15 feet from the top of bank of facilities in cut and the toe of slope of facilities constructed in fill. Inlet and outlet piping and maintenance access shall be contained within thirty-foot-wide, minimum, drainage utility easements. No relocation, construction or reconstruction shall take place within the area of the easement, nor shall any structures be located within such area, nor shall any action be taken which may alter or impair the effectiveness of present or future drainage facilities or cause soil erosion without prior approving authority or Township Committee approval.

(14) Penalties. Any person, entity or associations who erects, constructs, alters, repairs, converts, maintains, fails to maintain as required in this section hereof, or otherwise uses any building, structure or land in violation of §§ 95-9.2F or 95-9.3F shall be subject to a fine of not more than $2,000 and/or a term of imprisonment of no more than 30 days or both. Each day that a violation persists shall be a separate violation hereof.

(15) Effective Date. Sections 95-9.2F or 95-9.3F shall take effect immediately upon the approval by the county review agency, or 60 days from the receipt of the section by the county review agency if the county review agency should fail to act.

(16) Severability. If the provisions of any part, subsection, paragraph, subdivision, or clause of § 95-9.2F or 95-9.3F shall be judged invalid by a court of competent jurisdiction, such order of judgment shall not affect or invalidate the remainder of any section, subsection, paragraph, subdivision, or clause of this section.

Manalapan Township Development Regulations
Exhibit 9-16
Required Safety Ledges with a Stormwater Management Wet Pond
Section 95-9.3F(7)(a)[1][c][ii]



APPENDIX B

AMNET TESTING RESULTS

Station: AN0448
Matchaponix Bk, Rt 527 , Manalapan Twp, Monmouth County
Freehold USGS Quadrangle
Date Sampled: 09/01/98

Family	Family Tolerance Value (FTV)	Number of Individuals
Chironomidae	6	31
Elmidae	4	13
Tubificidae	10	10
Hydrobiidae	8	9
Calopterygidae	5	7
BloodRed Chironomidae	8	7
Gammaridae	4	6
Hydropsychidae	4	5
Planorbidae	6	2
Physidae	7	2
Aeshnidae	3	1
Planariidae	4	1
Ephydridae	6	1
Coenagrionidae	9	1
Lumbriculidae	8	1
Cambaridae	5	1
Sphaeriidae	8	1
Heptageniidae	4	1

Statistical Analysis

Number of Taxa: 18
Total Number of Individuals: 100
% Contribution of Dominant Family: 31.00 % (Chironomidae)
Family Biotic Index: 6.18
Scraper/Filterer Collector Ratio: 2.33
Shredder/Total Ratio: 0.08
E+P+T (Ephemeroptera, Plecoptera, Trichoptera): 2
% EPT: 6.00
EPT/C: 0.16
NJIS Rating: 15
Biological Condition: Moderately Impaired
Habitat Analysis: 137
Deficiency(s) noted:
- Paucity of Clean Water Organisms -

Observations

Streamwater: Turbid....Flow: Slow....Width/Depth (ft): 17/2
Substrate: Sand,mud....StreamBank Vegetation/Stability: Trees,shrubs/Unstable
Canopy: Mostly Closed....Other: Rural/Forested/Commercial area; Water temp.21.6 /pH 6.2 /DO 6.9 /Cond.211

Station: AN0446
Milford Bk, Pease Rd , Manalapan Twp, Monmouth County
Freehold USGS Quadrangle
Date Sampled: 09/01/98

Family	Family Tolerance Value (FTV)	Number of Individuals
Hydropsychidae	4	80
Chironomidae	6	10
Calopterygidae	5	5
Tubificidae	10	3
Elmidae	4	1
Planariidae	4	1
Naididae	7	1
Tetrastemmatidae	7	1
Lymnaeidae	6	1
Veliidae	9	1

Statistical Analysis

Number of Taxa: 10
Total Number of Individuals: 104
% Contribution of Dominant Family: 76.92 % (Hydropsychidae)
Family Biotic Index: 4.54
Scraper/Filterer Collector Ratio: 0.03
Shredder/Total Ratio: 0.00
E+P+T (Ephemeroptera, Plecoptera, Trichoptera): 1
% EPT: 76.92
EPT/C: 7.69
NJIS Rating: 15
Biological Condition: Moderately Impaired
Habitat Analysis: 137
Deficiency(s) noted: Hydropsychidae Family Overwhelmingly Dominant - - Paucity of Clean Water Organisms -

Observations

Streamwater: Slightly Turbid....Flow: Slow....Width/Depth (ft): 11/1
Substrate: Gravel,sand....StreamBank Vegetation/Stability: Trees,shrubs/Unstable
Canopy: Mostly Closed....Other: Suburban/Forested; Water temp.20.2 /pH 7.2 /DO 7.3 /Cond.320

Station: AN0445
Tepehemus Bk, Tennent Rd , Manalapan Twp, Monmouth County
Freehold USGS Quadrangle
Date Sampled: 09/01/98

Family	Family Tolerance Value (FTV)	Number of Individuals
Chironomidae	6	43
Paludicellidae	7	24
Tubificidae	10	9
Corixidae	9	8
Physidae	7	5
Calopterygidae	5	1
Hydropsychidae	4	1
Elmidae	4	1
Empididae	6	1
Sphaeriidae	8	1
Tetrastemmatidae	7	1
Gerridae	8	1
Simuliidae	6	1
Corduliidae	5	1
BloodRed Chironomidae	8	1
Dytiscidae	5	1

Statistical Analysis

Number of Taxa: 16
Total Number of Individuals: 100
% Contribution of Dominant Family: 43.00 % (Chironomidae)
Family Biotic Index: 6.89
Scraper/Filterer Collector Ratio: 0.19
Shredder/Total Ratio: 0.00
E+P+T (Ephemeroptera, Plecoptera, Trichoptera): 1
% EPT: 1.00
EPT/C: 0.02
NJIS Rating: 12
Biological Condition: Moderately Impaired
Habitat Analysis: 134
Deficiency(s) noted:
- Paucity of Clean Water Organisms -

Observations

Streamwater: Slightly Turbid....Flow: Slow....Width/Depth (ft): 9/1
Substrate: Sand....StreamBank Vegetation/Stability: Trees,shrubs/Unstable
Canopy: Mostly Closed....Other: Rural/Forested/Agricultural cropland; Water temp.20.6 /pH 7.1 /DO 7.9 /Cond.181

APPENDIX C

NEW JERSEY 2004 LIST OF INTEGRATED WATERBODIES

New Jersey's EPA Approved 2004 Integrated List of Waterbodies

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
3	Raritan	09	Ambrose Brook at Behmer Rd in Piscataway	AN0425A	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Ambrose Brook at Raritan Ave in Middlesex	AN0425	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Ambrose Brook at School St. in No. Stelton	AN0425B	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Barclay Brook at Rt 527 in Old Bridge	AN0450	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Barclay Brook near Englishtown	01405285	Fecal Coliform, Dissolved Oxygen, Total Suspended Solids	NJDEP/USGS Data
1	Raritan	09	Barclay Brook near Englishtown	01405285	Phosphorus, Temperature, Nitrate, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Barclay Brook near Englishtown	01405285	pH	NJDEP/USGS Data
5	Raritan	09	Bound Brook	Bound Brook	PCBs, Dioxin	NJDEP Fish Tissue Monitoring
5	Raritan	09	Bound Brook at Bound Brook Rd in Middlesex	AN0424	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	Bound Brook at Middlesex	01403900	Fecal Coliform	NJDEP/USGS Data
5	Raritan	09	Bound Brook at Middlesex	01403900	Phosphorus, Total Suspended Solids	NJDEP/USGS Data
1	Raritan	09	Bound Brook at Middlesex	01403900	Temperature, pH, Dissolved Oxygen, Nitrate, Dissolved Solids, Unionized Ammonia	NJDEP/USGS Data
4	Raritan	09	Bound Brook at Route 28 at Middlesex	01403385	Fecal Coliform	NJDEP/USGS Data
5	Raritan	09	Bound Brook at Route 28 at Middlesex	01403385	Phosphorus	NJDEP/USGS Data
1	Raritan	09	Bound Brook at Route 28 at Middlesex	01403385	Temperature, pH, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Bound Brook at Woodbrook Rd in South Plainfield	AN0424B	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Carroll's Garden Lake	Carroll's Garden Lake	Fecal Coliform	Middlesex Co Public HD
5	Raritan	09	Cedar Brook at Cedarbook Ave. in So. Plainfield	AN0424A	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Cuckels Brook at Rt 28 in Bridgewater	AN0415	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Davidsons Mill Pond-09	Davidsons Mill Pond	Fish Community	NJDEP Clean Lakes, Freshwater Fisheries
4	Raritan	09	Davidsons Mill Pond-09	Davidsons Mill Pond	Phosphorus	NJDEP Clean Lakes, Freshwater Fisheries
5	Raritan	09	Deep Run at Rt 516 in Old Bridge	AN0454	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Deep Run at Rt 516 in Old Bridge	EWQ0454	Phosphorus, Nitrate, Total Suspended Solids	EWQ
1	Raritan	09	Deep Run at Rt 516 in Old Bridge	EWQ0454	Temperature, Dissolved Oxygen, Dissolved Solids, Unionized Ammonia	EWQ
5	Raritan	09	Deep Run at Rt 516 in Old Bridge	EWQ0454	pH	EWQ

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
5	Raritan	09	Deep Run at Rt 9 in Old Bridge	AN0453	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Devoe Lake-09	Devoe Lake	Mercury	NJDEP Clean Lakes, NJDEP Fish Tissue Monitoring
4	Raritan	09	Devoe Lake-09	Devoe Lake	Phosphorus	NJDEP Clean Lakes, NJDEP Fish Tissue Monitoring
3	Raritan	09	Dukes Brook at Dukes Pkwy in Hillsborough	AN0375	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	East Brunswick Community Lake-09	East Brunswick Community Lake	Fish Community	NJDEP Freshwater Fisheries
5	Raritan	09	Edmunds Creek	Adjacent to Mill Brook at 02030105-059-0.00; Trib to Lower Raritan River	PCBs	Remanded 303d List, (F.R. V.66, #195, 10/9/01)
3	Raritan	09	Farrington Lake-09	Farrington Lake	Phosphorus	NJDEP Clean Lakes, NJDEP Freshwater Fisheries
1	Raritan	09	Farrington Lake-09	Farrington Lake	Fish Community	NJDEP Clean Lakes, NJDEP Freshwater Fisheries
5	Raritan	09	Green Brook at Apple Tree Rd in Watchung.	AN0421B	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Green Brook at Clinton Ave in North Plainfield	AN0423	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Green Brook at Green Brook Park, Park Dr. in Raritan R	Green Brook at Green Brook Park, Park Dr. in Raritan R	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Green Brook at Main St in Bound Brook	AN0426	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Green Brook at New Providence Rd in Seeleys Mill	AN0421A	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	Green Brook at North Plainfield	01403470	Fecal Coliform	NJDEP/USGS Data
3	Raritan	09	Green Brook at North Plainfield	01403470	pH, Temperature, Dissolved Oxygen, Dissolved Solids, Total Suspended Solids	NJDEP/USGS Data
1	Raritan	09	Green Brook at North PlaInfield	01403470	Phosphorus, Nitrate, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Green Brook at off Mill Rd in Sebrings Mill	AN0426A	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Green Brook at Raymond Ave in Plainfield	AN0421	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Hercules Pond	Hercules Pond	Fecal Coliform	Middlesex Co Public HD
3	Raritan	09	Ireland Brook at Patricks Corners	01404470	Phosphorus, Fecal Coliform, Total Suspended Solids	NJDEP/USGS Data
5	Raritan	09	Ireland Brook at Patricks Corners	01404470	pH	NJDEP/USGS Data
1	Raritan	09	Ireland Brook at Patricks Corners	01404470	Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Ireland Brook at Riva Rd in South Brunswick	AN0433	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Iresick Brook at Rt 527 in Old Bridge	AN0452	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Lake Topanemus at Pond Rd in Freehold	61	Nitrate	Monmouth Co HD

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
3	Raritan	09	Lake Topanemus at Pond Rd in Freehold	61	pH, Total Suspended Solids	Monmouth Co HD
4	Raritan	09	Lake Topanemus-09	Lake Topanemus	Phosphorus	NJDEP Clean Lakes, Monmouth Co HD
5	Raritan	09	Lawrence Brook at Davidsons Mill Rd in South Brunswick	AN0431	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Lawrence Brook at Ridge Rd in South Brunswick	AN0430	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Lawrence Brook at Riva Rd in Milltown	AN0434	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Lawrence Brook at Riva Rd in Milltown	EWQ0434	Phosphorus, Temperature, Dissolved Oxygen, pH, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	EWQ
5	Raritan	09	Lawrence Brook on Davidson's Mill Rd, Black Horse	9-LAW-1	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Zinc	NJDEP Metal Recon
3	Raritan	09	Lawrence Brook on Davidson's Mill Rd, Black Horse	9-LAW-1	Nickel, Selenium	NJDEP Metal Recon
5	Raritan	09	Manalapan Brook at Federal Rd in Monearoe	AN0439	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	Manalapan Brook at Federal Rd near Manalapan	01405340, 9-MAN-1	Fecal Coliform	NJDEP/USGS Data, Metal Recon
5	Raritan	09	Manalapan Brook at Federal Rd near Manalapan	01405340, 9-MAN-1	Phosphorus, pH, Lead	NJDEP/USGS Data, Metal Recon
3	Raritan	09	Manalapan Brook at Federal Rd near Manalapan	01405340, 9-MAN-1	Arsenic, Cadmium, Mercury	NJDEP/USGS Data, Metal Recon
1	Raritan	09	Manalapan Brook at Federal Rd near Manalapan	01405340, 9-MAN-1	Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia, Chromium, Copper, Nickel, Selenium, Zinc	NJDEP/USGS Data, Metal Recon
5	Raritan	09	Manalapan Brook at Old Forge Rd in Monearoe	AN0440	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Manalapan Brook at Rt 33 in Manalapan	AN0438	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Manalapan Brook at Rt 524 in Ely	EWQ0437	pH	EWQ
1	Raritan	09	Manalapan Brook at Rt 524 in Ely	EWQ0437	Phosphorus, Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	EWQ
1	Raritan	09	Manalapan Brook at Rt 524 in Millstone	AN0437	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	Manalapan Brook near Spotswood	01405440, EWQ0440, 9-MAN-2	Fecal Coliform	NJDEP/USGS Data, EWQ, Metal Recon
5	Raritan	09	Manalapan Brook near Spotswood	01405440, EWQ0440, 9-MAN-2	pH, Lead, Zinc	NJDEP/USGS Data, EWQ, Metal Recon

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
3	Raritan	09	Manalapan Brook near Spotswood	01405440, EWQ0440, 9-MAN-2	Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Selenium	NJDEP/USGS Data, EWQ, Metal Recon
1	Raritan	09	Manalapan Brook near Spotswood	01405440, EWQ0440, 9-MAN-2	Phosphorus, Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data, EWQ, Metal Recon
4	Raritan	09	Manalapan Lake-09	Manalapan Lake	Phosphorus	NJDEP Clean Lakes
4	Raritan	09	Matchaponix Brook at Englishtown	01405195	Fecal Coliform	NJDEP/USGS Data
3	Raritan	09	Matchaponix Brook at Englishtown	01405195	Phosphorus, pH	NJDEP/USGS Data
1	Raritan	09	Matchaponix Brook at Englishtown	01405195	Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Matchaponix Brook at Rt 527 in Manalapan	AN0448	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Matchaponix Brook at Spotswood	01405302, EWQ0451	Fecal Coliform, Temperature, Dissolved Oxygen, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data, EWQ
5	Raritan	09	Matchaponix Brook at Spotswood	01405302, EWQ0451	Phosphorus, pH, Nitrate	NJDEP/USGS Data, EWQ
5	Raritan	09	Matchaponix Brook at Texas Rd in Monearoe	AN0451	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	McGellairds Brook at Rt 527 in Englishtown	AN0447	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	McGellairds Brook at Rt 9 in Freehold	AN0444, MB-97	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	McGolliard Brook at Main St in Englishtown	22	Fecal Coliform	Monmouth Co HD
5	Raritan	09	McGolliard Brook at Main St in Englishtown	22	Phosphorus	Monmouth Co HD
1	Raritan	09	McGolliard Brook at MaIn St in Englishtown	22	Nitrate	Monmouth Co HD
3	Raritan	09	McGolliard Brook at Main St In Englishtown	22	pH, Total Suspended Solids	Monmouth Co HD
1	Raritan	09	Middle Brook at Talmage Ave in Bridgewater	AN0420	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Middle Brook E Br at Gilbride Rd in Bridgewater	AN0419	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Middle Brook E Br at Green Valley Rd in Warren	AN0418	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Middle Brook W Br at Chimney Rk Rd at Martinsville	01403171	Fecal Coliform	NJDEP/USGS Data

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
1	Raritan	09	Middle Brook W Br at Chimney Rk Rd at Martinsville	01403171	Phosphorus, Temperature, Dissolved Oxygen, pH, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data
3	Raritan	09	Middle Brook W Br at Chimney Rock Rd in Bridgewater	AN0417	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Middle Brook W Br at Crim Rd in Bridgewater	AN0416	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Mile Run at Rt 527 in Franklin	AN0429	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Milford Brook at Pease Rd in Manalapan	AN0446	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Mill Brook at Woodbridge Ave in Edison	AN0436	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	New Market Pond-09	New Market Pond	Fish Community, PCBs, Dioxin	NJDEP Clean Lakes, NJDEP Fish Tissue Monitoring, Freshwater Fisheries
3	Raritan	09	New Market Pond-09	New Market Pond	Phosphorus	NJDEP Clean Lakes, NJDEP Fish Tissue Monitoring, Freshwater Fisheries
5	Raritan	09	New York-New Jersey Harbor-Upper-09	Upper New York Harbor	PCBs, Dioxin, PAHs, Pesticides	HEP (GLEC)
3	Raritan	09	Oakeys Brook at Davidsons Mill Rd in North Brunswick	AN0432	Benthic Macroinvertebrates	NJDEP AMNET
4	Raritan	09	Peters Brook at Rt 28 at Somerville	01400395	Fecal Coliform	NJDEP/USGS Data
3	Raritan	09	Peters Brook at Rt 28 at Somerville	01400395	Phosphorus, pH	NJDEP/USGS Data
1	Raritan	09	Peters Brook at Rt 28 at Somerville	01400395	Temperature, Dissolved Oxygen, Nitrate, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data
5	Raritan	09	Peters Brook at Rt 28 in Somerville	AN0376	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Pine Brook at Pension Rd in Manalapan	AN0449	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Raritan Bay	Raritan Bay-1 thru 7	Dissolved Oxygen, Fecal Coliform, Copper, Nickel, Lead, Mercury	NJDEP Coastal Monitoring, Shellfish Monitoring, IEC, HEP (GLEC)
5	Raritan	09	Raritan Bay	Raritan Bay-1 thru 7	Total Coliform	NJDEP Coastal Monitoring, Shellfish Monitoring, IEC, HEP (GLEC)
1	Raritan	09	Raritan Bay - Sandy Hook Bay	Sandy Hook Bay	Arsenic, Chromium, Copper, Lead, Mercury, Nickel, Silver, Zinc	HEP (GLEC)
5	Raritan	09	Raritan Bay and Tidal Tributaries	Raritan Bay and Tidal Tributaries	PCBs, Dioxin	NJDEP Fish Tissue Monitoring
5	Raritan	09	Raritan River	Raritan River	Mercury	NJDEP Fish Tissue Monitoring
5	Raritan	09	Raritan River abv Millstone River conf in Bridgewater	AN0377	Benthic Macroinvertebrates	NJDEP AMNET

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
1	Raritan	09	Raritan River at Fieldville Dam (I287) in Piscataway	AN0428	Benthic Macroinvertebrates	NJDEP AMNET
1	Raritan	09	Raritan River at Landing Lane in Johnson Pk in Piscataway	01404170	Temperature, Dissolved Oxygen, Nitrate, Dissolved Solids, Unionized Ammonia	EWQ
5	Raritan	09	Raritan River at Landing Lane in Johnson Pk in Piscataway	01404170	Phosphorus, Total Suspended Solids	EWQ
3	Raritan	09	Raritan River at Landing Lane in Johnson Pk, Piscataway	01404170	pH	EWQ
4	Raritan	09	Raritan River at Manville	01400500	Fecal Coliform	NJDEP/USGS Data, EWQ
5	Raritan	09	Raritan River at Manville	01400500	Phosphorus	NJDEP/USGS Data, EWQ
1	Raritan	09	Raritan River at Manville	01400500	Temperature, pH, Dissolved Oxygen, Nitrate, Dissolved Solids, Total Suspended Solids, Unionized Ammonia	NJDEP/USGS Data, EWQ
4	Raritan	09	Raritan River at Queens Bridge	01403300	Fecal Coliform	NJDEP/USGS Data, NAWQA, HEP (GLEC)
5	Raritan	09	Raritan River at Queens Bridge	01403300	Phosphorus, Total Suspended Solids, Arsenic, Benzene	NJDEP/USGS Data, NAWQA, HEP (GLEC)
1	Raritan	09	Raritan River at Queens Bridge	01403300	Temperature, pH, Dissolved Oxygen, Nitrate, Dissolved Solids, Unionized Ammonia, Chromium, Copper, Lead, Nickel, Selenium, Zinc, Mercury	NJDEP/USGS Data, NAWQA, HEP (GLEC)
3	Raritan	09	Raritan River at Queens Bridge	01403300	Cadmium	NJDEP/USGS Data, NAWQA, HEP (GLEC)
5	Raritan	09	Raritan River Estuary	Raritan River Estuary	Total Coliform	HEP (GLEC), IEC, NJDEP Shellfish Monitoring
1	Raritan	09	Raritan River Estuary	Raritan River Estuary	Copper, Lead, Mercury, Nickel	HEP (GLEC), IEC, NJDEP Shellfish Monitoring
1	Raritan	09	Raritan River Estuary	RR1, RR2	Fecal Coliform	HEP (GLEC), IEC, NJDEP Shellfish Monitoring
5	Raritan	09	Raritan River Estuary, Reach 02030105-001	Raritan River Estuary, Reach 02030105-001	Arsenic, Cadmium, Zinc	HEP (GLEC)
5	Raritan	09	Raritan River Estuary, Reach 02030105-002	Raritan River Estuary, Reach 02030105-002	Arsenic, Cadmium, PCBs	HEP (GLEC)
3	Raritan	09	Raritan River trib at Rt 527 in Franklin	AN0427	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Sawmill Brook at Ryders Ln in East Brunswick	AN0435	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	South River	South River	Arsenic, Cadmium, Chromium, Copper, Lead, Mercury	304(l)
3	Raritan	09	South River at Rt 535 in South River	01406580	pH	EWQ
1	Raritan	09	South River at Rt 535 in South River	01406580	Temperature, Dissolved Oxygen, Total Suspended Solids, Unionized Ammonia	EWQ

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
5	Raritan	09	Stony Brook at Sunlit Dr. in Watchung	AN0422A	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Stony Brook at Westend Ave in North Plainfield	AN0422	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Tennent Brook at Old Bridge-South Amboy Rd in Old Bridge	AN0455	Benthic Macroinvertebrates	NJDEP AMNET
3	Raritan	09	Tepehemus Brook at Tennent Rd in Manalapan	AN0445	Benthic Macroinvertebrates	NJDEP AMNET
5	Raritan	09	Tributary to Lake Topanemus at Pond Rd in Freehold	61	Phosphorus	Monmouth Co HD
4	Raritan	09	Tributary to Lake Topanemus at Pond Rd in Freehold	61	Fecal Coliform	Monmouth Co HD
1	Raritan	09	Washington Valley Reservoir-09	Washington Valley Reservoir	Fish Community	NJDEP Freshwater Fisheries
3	Raritan	09	Watchung Lake-09	Watchung Lake	Phosphorus	NJDEP Clean Lakes
5	Raritan	09	Weamaconk Creek at Rt 522 in Englishtown	AN0443, MB-81	Benthic Macroinvertebrates	NJDEP AMNET, Monmouth Co HD
3	Raritan	09	Weamaconk Creek at Rt 9 in Freehold	AN0441, MB-82	Benthic Macroinvertebrates	NJDEP AMNET,Monmouth Co HD
5	Raritan	09	Weamaconk Lake-09	Weamaconk Lake	Phosphorus	NJDEP Clean Lakes
4	Raritan	09	Weemaconk Creek at Main St in Manalapan	9	Fecal Coliform	Monmouth Co HD
5	Raritan	09	Weemaconk Creek at Main St in Manalapan	9	Phosphorus	Monmouth Co HD
1	Raritan	09	Weemaconk Creek at MaIn St in Manalapan	9	Nitrate	Monmouth Co HD
3	Raritan	09	Weemaconk Creek at Main St In Manalapan	9	pH, Total Suspended Solids	Monmouth Co HD
4	Raritan	09	Wemrock Brook at Rt #9 (After 1St Pipe) in Freehold	69	Fecal Coliform	Monmouth Co HD
5	Raritan	09	Wemrock Brook at Rt #9 (After 1St Pipe) in Freehold	69	Phosphorus	Monmouth Co HD
3	Raritan	09	Wemrock Brook at Rt #9 (After 1St Pipe) In Freehold	69	pH, Total Suspended Solids	Monmouth Co HD
4	Raritan	09	Wemrock Brook at Rt #9 (Before Pipes) in Freehold	68	Fecal Coliform	Monmouth Co HD
5	Raritan	09	Wemrock Brook at Rt #9 (Before Pipes) in Freehold	68	Phosphorus	Monmouth Co HD
3	Raritan	09	Wemrock Brook at Rt #9 (Before Pipes) In Freehold	68	pH, Total Suspended Solids	Monmouth Co HD
1	Raritan	09	Wemrock Brook at Rt 9 (after 1st Pipe) in Freehold	69	Nitrate	Monmouth Co HD
1	Raritan	09	Wemrock Brook at Rt 9 (before Pipes) in Freehold	68	Nitrate	Monmouth Co HD

Sublist	Wtrshd Region	WMA	Station Name/Waterbody	Site ID	Parameters	Data Source
3	Raritan	09	Wemrock Brook at Wemrock Rd in Freehold	AN0442	Benthic Macroinvertebrates	NJDEP AMNET

APPENDIX D

MONMOUTH COUNTY HEALTH DEPARTMENT WATER QUALITY SAMPLING RESULTS

The Monmouth County Department of Health (MCHD) monitors 62 representative stations throughout Monmouth County. Stations are sampled quarterly for fecal coliform and twice annually for ammonia and total phosphorus. The MCHD Environmental Laboratory analyzes the samples. Standards are: Fecal Coliform - 200 fecal colonies/100 ml, Ammonia - 0.05 mg/L, Phosphorus - 0.1 mg/l.

Showing results for: WEEMACONK CREEK, MANALAPAN

Collection Date	Fecal Coliform	Ammonia	Phosphorus	Ph	TSS	Turbidity
9/27/2007	290			6.94	6	7.8
11/15/2004	10		0.1	6.74	2.4	5.87
6/9/2004	180	0.11	0.08	6.64	11.6	19.4
2/19/2004	< 10			6.77	3.6	6.24
9/11/2003	270	< 0.1	0.05	7	4.8	16
6/24/2003	120			6.64	8	16.2
3/11/2003	< 10	0.21	0.1	6.03	8.4	6.5
12/17/2002	10			6.4	6.4	4.3
10/15/2002	80	1.15	0.56	7.06	8	7
6/18/2002	130			7.2	6.4	15.2
3/19/2002	20	< 0.1	0.09	7.1	9	
12/11/2001	50			6.9	4	
10/16/2001	170	0.39	0.04	7	6	
6/18/2001	168			6.83	5	
3/20/2001	< 10	< 0.07	0.02	6.82	0	
12/19/2000	< 4					
10/17/2000	180	< 0.05	0.058			
6/20/2000	310					
3/21/2000	< 10	0.24	0.04			
12/15/1999	310					
10/13/1999	120	0.11	0.06			
6/22/1999	< 10					
3/9/1999	< 10	0.24	< 0.02			

Monmouth County Rapid Bioassessment

The Monmouth County Health Department (MCHD) also conducts Rapid Bioassessment (RBA) to determine the health of various stream across the county. The following tables illustrate the results of RBA testing that has been completed for waterways in Manalapan Township.

Biological Assessment	NJIS Score	Habitat Assessment	Habitat Score
Non-impaired	24-30	Optimal	16-20
Moderately Impaired	9-21	Suboptimal	11-15
Severely Impaired	0-6	Marginal	6-10
		Poor	0-5

Rapid Bioassessment Sites	Sample Date	NJIS Score	Habitat Assessment Score
Manalapan Brook, 251 Woodward Rd, Manalapan @ South River Site Code:PARKMB	4/19/2001	24	16
Manalapan Brook, 251 Woodward Rd, Manalapan @ South River Site Code:PARKMB	10/17/2001	21	183
Manalapan Brook, 251 Woodward Rd, Manalapan @ South River Site Code:PARKMB	10/21/2002	18	16.8
Manalapan Brook, 251 Woodward Rd, Manalapan @ South River Site Code:PARK MB	10/22/2002	18	16.8
Manalapan Brook, Woodward Rd., Manalapan @ South River Site Code:MB2	6/6/2003	9	12.8
Pine Brook, Manalapan @ South River Site Code:87	11/17/1999	0	15.9

Biological Assessment	NJIS Score	Habitat Assessment	Habitat Score
Non-impaired	24-30	Optimal	16-20
Moderately Impaired	9-21	Suboptimal	11-15
Severely Impaired	0-6	Marginal	6-10
		Poor	0-5

Rapid Bioassessment Sites	Sample Date	NJIS Score	Habitat Assessment Score
Pine Brook, Manalapan @ South River Site Code:87	11/17/1999	0	15.9
Weamaconk Creek, E. Main St, Manalapan @ South River Site Code:81	5/17/2000	15	15.6
Weamaconk Creek, E. Main St, Manalapan @ South River Site Code:81	3/15/2001	9	13.6
Weamaconk Creek, E. Main St, Manalapan @ South River Site Code:82	11/5/1999	0	13.4
Weamaconk Creek, E. Main St, Manalapan @ South River Site Code:97	11/17/1999	0	15.9
Weamaconk Creek, E. Main St, Manalapan @ South River Site Code:81	10/23/2000	12	16.5
Wemrock Brook, Manalapan @ South River Site Code:93	11/4/1999	0	16.1
Wemrock Brook, Manalapan @ South River Site Code:81	11/9/1999	0	16.7

ADDENDUM A

MUNICIPAL STORMWATER MANAGEMENT PLAN (MSWMP)

Prepared for the

Township of Manalapan

Monmouth County, New Jersey

Prepared by

Gregory R. Valesi, PE, PP

Township Engineer

NJ PE Lic. No. 34458
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CME Associates
1460 Route 9 South
Howell, NJ 07731

June 2006

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APPENDIX

A.1 Nonstructural Stormwater Management Strategies

As stated and outlined in section *6.1 Implementing Nonstructural Stormwater Management Strategies* of this MSWMP, the Township is currently implementing nonstructural stormwater management techniques. However as required by N.J.A.C. 7:8-4.2(c)8., the Township has reviewed and evaluated the entire Master Plan including land use plan elements and development regulations to address compliance with nonstructural stormwater management strategies. The Township has provided a list of the sections in the Land Use and Zoning Ordinances that are to be modified to incorporate said strategies.

Chapter 95 of the Township Code, entitled *Development Regulations*, was reviewed and evaluated with regards to incorporating nonstructural stormwater management strategies, as provided in *Section 95-9.2.8. Nonstructural Stormwater Management Strategies* of *Article IX – Improvement Standards, Specific Criteria and Construction Specifications*, under *Section 95-9.2. Improvement Standards.* Several revisions were recommended to be made to Article VII – General Zoning Provisions, Article VII – Design Requirements, and Article IX – Improvement Standards, Specific Criteria and Construction Specifications of the chapter to incorporate these strategies.

The following are the sections of the Township Master Plan and associated elements identified for revision.

§ 95-7.21 Performance standards

This section provides for pollution source control. It prohibits materials, odors and wastes from be deposited on-site or released into the atmosphere which will adversely effect any other properties within Manalapan. It is recommended the subsection regarding solid waste be amended to require non-residential site plans to provide refuse containers throughout their sites in addition to trash enclosures.

§ 95-7.22. Property maintenance

This section requires owners of properties containing residential or nonresidential uses to maintain all aspects of their development including, but not limited to, landscaping, buffers, roads, parking areas, sidewalks, stormwater management facilities etc. It is recommended a statement be added to this section to require property owners or the identified responsible party to comply with the approved Stormwater Operations and Maintenance Manual prepared in accordance with Section 95-9.3 of the Township Code.

§ 95-7.34. Floodway setback, elevation above water table, soil removal and residential dwelling runoff

Currently this section prohibits structures from being constructed 50 feet from a 100-year flood zone and requires basement floor elevations a minimum of two feet from the groundwater table as observed between February 1 and April 30 of any given year. Recommended amendments to this section include requiring basement floor elevations to be 2 feet above the seasonal high water table as determined by a licensed professional engineer through the use of test pits. These test pits shall be witnessed by the Township Engineer. This amendment will ensure that basement sump drains will not be constructed

within the groundwater table at any time during the year. In addition to the above, additional language is recommended to require all roof leaders to discharge onto lawn areas as opposed to discharging on impervious driveways.

§ 95-8.2. Site analysis

This section requires certain aspects to be considered when designing subdivisions and site plans. This includes, but is not limited to, geology and soil conditions, topographical conditions, climate, existing vegetation, road networks, landmarks, etc. General requirements also include a statement relative to reducing the amount of impervious coverage to the maximum extent possible. It is recommended that an additional requirement be included to indicate that the Stormwater management system shall be designed to incorporate nonstructural strategies to the maximum extent possible.

§ 95-8.5. Landscape design requirements

This section currently regulates the landscape design incorporated into all site plans and/or subdivisions no matter what the use. Minimum standards for plant material, quantity, and layout are presented. In addition, requirements for buffers are identified for every non-residential site, which abuts a residential development. Although this section already indicates that native vegetation should be used, it is recommended that additional passages regarding the use of native vegetation be added to further emphasize its importance. In addition, it is recommended a section be added to allow buffers to be used for nonstructural stormwater management techniques to treat runoff and to disconnect impervious pavement.

§ 95-9.2(A)(4). Improvement Standards – Curbs and Gutters

This section currently requires curbs be provided along all pavement edges for drainage purposes, safety, and delineation. It is recommended this section be amended to allow for flush curb and/or curb cuts to be provided to allow vegetative swales or other nonstructural methods of stormwater conveyance to be utilized.

§ 95-9.2(A)(6). Improvement Standards – Sidewalks and pedestrian paths

The section specifies where sidewalk is required and the width of sidewalk to be provided. It is recommended that language be added to this section to require developers to design sidewalks to discharge stormwater into lawn areas. It is also recommended that additional language be added to indicate sidewalks should be disconnected from impervious areas. This includes, wherever possible, avoiding placing sidewalk directly abutting curb or pavement areas.

§ 95-9.2(B)(2). Improvement Standards – Size of Parking Spaces

As per this section, 10 foot wide by 20 foot deep stalls shall be provided for all non-employee/non-handicap parking spaces. It is recommended this be amended to allow all non-employee spaces/non-handicap spaces to be 10 feet wide by 18 feet deep to reduce impervious coverage; however, in order to utilize 10 by 18 spaces, the applicant must

provide a conforming plan utilizing 10 by 20 foot spaces. This will ensure that an applicant requesting a reduction in parking space dimensions will not increase building square footage or provide additional impervious area as a result of decreased percent impervious.

§ 95-9.3(F)(3) & (4) Construction specifications

This section specifies the requirements for storm sewer piping and inlet construction. It also addresses stormwater conveyance system strategy. It is recommended this section be amended to stress that stormwater conveyance should be accomplished through the use of nonstructural strategies, such as vegetative swales, to the maximum extent possible. In addition, if stormsewer pipes must be constructed, it is recommended that language be added to require these pipes to be water tight when located within the groundwater table to ensure no infiltration of groundwater into the stormsewer system.

The Township would like to advise that although the Township enforces a maximum allowable impervious coverage requirement for each respective zone, the applicant and/or developer satisfying the percent impervious requirement is **not** relieved of the responsibility to comply with the nonstructural stormwater management strategies and associated stormwater ordinance.

Review of the implementation of nonstructural stormwater management strategies shall be up to the discretion of the Planning Board or Zoning Board of Adjustment based upon the advice of the Board Engineer to determine if nonstructural stormwater management strategies have been implemented to the maximum extent practical. If the Board deems the proposed development as not implementing the nonstructural stormwater management strategies to the maximum extent practical, the Board shall request additional measures be taken to further incorporate nonstructural stormwater management strategies to the maximum extent practical.

A.2 Land Use Build-Out Analysis

A land use build-out analysis is a planning tool to help the municipality evaluate anticipated pollutant loads resulting from development assuming full build-out and zoning requirements as of May 2006. Build-out pollutant load computations quantify the projection of pollutant loads from maximum build-out of developable areas and will provide incite on how that will environmentally impact the Township, its watersheds and downstream water quality conditions. A build-out analysis is not only useful for communities with undeveloped land, but for areas with significant redevelopment potential, as many urban and older suburban properties have the potential to be redeveloped in the future and are not currently developed to the full extent allowed under current zoning requirements.

The MSWMP is required to include a land use build-out analysis with information regarding the Township relative to the each respective Hydrologic Unit Code 14 (HUC14) drainage area boundary and zoning districts. For each HUC14 drainage area that falls within the Township, the following must be determined: the full development impervious coverage, total developable area (either developed or undeveloped) and the anticipated pollutant loading based on full development.

Hydrologic Unit Code 14 (HUC14)

Watersheds are defined by the United States Geological Survey (USGS). The most basic defined watershed area, or hydrologic unit, is a unique defined feature having a minimum size of 3,000 acres. The base hydrologic unit is given a unique hydrologic unit code (HUC) fourteen (14) digits long; hence, the terminology Hydrologic Unit Code 14 (HUC14).

The hydrologic unit network is hierarchical. HUC14 drainage areas can be combined to form larger watershed areas such as HUC11, HUC8, HUC6, HUC4, watershed management areas (WMA) and watershed regions. As a defined HUC drainage area increases, the number of identifying digits decreases. Larger HUC drainage areas formed from smaller HUC drainage areas share the same beginning digits; this is reflected in the HUC identifying digits. The correlation between HUC identifying digits can be noted as follows: as an example, a portion of HUC14 *02030105150020* falls within Manalapan Township, this HUC14 is an example of the most basic defined drainage area, this drainage area is then combined with multiple HUC14 drainage areas to form a portion of HUC11 *020301051500*, which is further combined to form HUC8 *02030105*, and so on to form HUC6 *020301* and HUC4 *0203*.

Watershed Management Areas (WMA) is the most basic defined watershed management unit as issued by the NJDEP. WMAs are used to characterize and assess watersheds and considered a more ecologically sound hydrologic unit for the purposes of environmental planning and management. As mentioned above, HUC14 *02030105150020* falls within Manalapan Township and is combined with other HUC14 drainage areas to form a portion of WMA9 (Lower Raritan, South River, Lawrence WMA), and the Raritan Watershed Region (Watershed Region ID 2), as defined by the NJDEP.

The Township is divided into eleven (11) HUC14 areas and falls within three (3) WMA; see *Figure 8: Hydrologic Unit Code 14 (HUC-14)* included in Addendum A for a visual representation of the HUC14 and WMA areas relative to the Township boundary. The eleven (11) HUC14 drainage areas have been examined and a land use build-out analysis assuming full development meeting existing zoning criteria has been conducted for each HUC14, respectively.

Land Use Build-Out Analysis Procedure

The land use build-out analysis consists of two phases. The first phase visually depicts changes on a map by manipulating spatial data and associated attribute tables, as efficiently performed utilizing current computer software application, Geographic Information System (GIS), which is a computerized system for developing, analyzing, and displaying spatial data. GIS allows the municipality to combine GIS based data sources into “layers” that can be visually represented to convey spatial information and analysis; such as zoning districts, tax maps, HUC14 drainage areas, land use parameters, and topographic maps. The second phase calculates the pollutant loading for each zone within each HUC14 drainage area, again assuming full land use build-out for all developable land to the maximum extent allowed under zoning requirements as of May 2006.

The steps associated with the build-out analysis procedure are as enumerated below. Please note that the analyzed GIS data files were provided by the Township of Manalapan and New Jersey Department of Environmental Protection Bureau of Geographic Information Systems (GIS). GIS data is only as accurate as the sources it references. This information is not exact and should only be used for initial general comparison purposes; if further analysis within a HUC14 drainage area is required or requested, it is

recommended that an analysis of a project defined drainage area be conducted and thoroughly performed in accordance with the standards set forth by the Environmental Protection Agency (EPA) and the New Jersey Department of Environmental Protection (NJDEP).

Build-Out Analysis Procedure

1. The following GIS shape files were obtained for geo-processing, references as noted:
   - State Municipal Coverage – obtained from NJDEP Bureau of GIS
   - Zoning Districts – provided by the Township as of May 2006
     (See Figure 9: Township Zoning District)
   - HUC14 – obtained from NJDEP Bureau of GIS
   - 1997 Land Use – obtained from NJDEP Bureau of GIS
   - Wetlands – obtained from NJDEP Bureau of GIS
     (See Figure 7: Township Wetlands and Waterbodies)
   - Open Space – obtained from NJDEP Bureau of GIS
     (copulation of municipal, county and state dedicated open space)
2. The Township boundary was exported from the state municipality coverage via GIS.
3. A feature class was created in GIS consisting of the Land Use, HUC14 and Wetlands data layers. The feature class was then clipped by the Township Boundary, as exported from the state municipal coverage data file.
4. The zoning district and HUC14 data files in GIS were intersected creating 'unique' polygons that associate zoning and HUC14 parameters to said polygons making them suitable for further geo-processing.
5. Separate land use classifications relative to each HUC14 and zone (i.e. urban and water polygons) were then exported via GIS from the Land Use data file creating new data sets for further geo-processing.
6. Three (3) excel spreadsheets were created to properly establish the land use build-out calculations. Comparative HUC14 data relative to each zone was inputted into said spreadsheet as determined above.
   - *Table E1: Pollutant Loads by Land Cover* was created to determine pollutant loads relative to land cover for total phosphorus, total nitrogen and total suspended solids, as referenced by the NJ BMP Manual.
   - *Table E2: Build-Out Calculations* was created to determine total developable area and maximum build-out impervious per zone associated HUC14 drainage area, outputs. Inputs values consist of total zone area within HUC14, percent existing impervious, wetlands/water area, open space lots and allowable impervious.

- *Table E3: Nonpoint Source Loads at Build-Out* was created to determine pollutant loads in lbs/yr for each zone and HUC14 for total phosphorous, total nitrogen and total suspended solids assuming full build-out.

7. Total areas for zones relative to HUC14 drainage areas were determined via GIS geo-processing; said values were inputted into *Table E2*.
8. Land covers per zone were then classified in accordance with *Table E1* utilizing NJDEP 1997 Land Use land cover descriptions and practical engineering judgment; land cover classifications per zones were then inputted into *Table E2*.
9. Impervious coverage data, a field extracted from the land use data file, was analyzed and totaled for each zone within its relative HUC14 via GIS. The calculated data was then inputted into *Table E2*.
10. A visual examination of the land use coverage data was conducted by comparing the 1997 NJDEP Land Use descriptions for the 'unique' polygons to state aerials issued 2002-03. If necessary, land use coverage data was revised accordingly to incorporate recent development and other land use cover discrepancies.
11. Wetlands and water land use coverages, fields extracted the land use data file, were analyzed and summed for each zone within its relative HUC14 via GIS geo-processing. The calculated data was then inputted into *Table E2*.
12. Open space areas relative to HUC14 drainage area was analyzed via GIS. The calculated data was then inputted into *Table E2*.
13. Allowable impervious coverage values were inputted into *Table E2*; information based upon Township standards.
14. *Table E2* then automatically computed the developable area, build-out impervious area and all summations via inputted excel formulas.
15. *Table E3* then automatically computed all pollutant loads and summations via inputted excel formulas and references.

A detailed land use build-out analysis for the Township was conducted as outlined above. See *Appendix E* for all associated tables; *Table E1: Pollutant Loads by Land Cover, Table E2 Build-out Calculations* and *Table E3: Nonpoint Source Loads at Build-Out*.

APPENDIX E

Land Use Build-Out Analysis

Table E1: Pollutant Loads

Table E2: Build-Out Calculations

Table E3: Nonpoint Loads by Land Cover

Table E1: Pollutant Loads by Land Cover

June 2006

Land Cover	Total Phosphorus (TP) Load *(lbs/acre/yr)*	Total Nitrogen (TN) Load *(lbs/acre/yr)*	Total Suspended Solids (TSS) Load *(lbs/acre/yr)*
High, Medium Density Residential	1.4	15	140
Low Density, Rural Residential	0.6	5	100
Commercial	2.1	22	200
Industrial	1.5	16	200
Urban, Mixed Urban, Other Urban	1	10	120
Agricultural	1.3	10	300
Forest, Water, Wetlands	0.1	3	40
Barrenland/Transitional Area	0.5	5	60

Source: New Jersey Best Management Practices (BMP) Manual, dated February 2004, last revised April 2004

Table E2: Build-Out Calculations

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Area *(acres)*	Existing Impervious *(%)*	Existing Impervious *(acres)*	Wetlands/ Water Area *(acres)*	Open Space Lots *(acres)*	Developable Area *(acres)*	Allowable Impervious *(%)*	Build-Out Impervious *(acres)*
HUC ID No. 02030105140010									
C-3	*Commercial*	89.0	33.0%	29.34	6.51	0.00	82.44	75%	61.83
CD	*High, Medium Density Residential*	492.7	2.1%	10.56	131.45	0.00	361.20	50%	180.60
CD-KH	*High, Medium Density Residential*	271.8	1.6%	4.41	64.33	0.00	207.42	50%	103.71
GCRC	*High, Medium Density Residential*	265.8	0.9%	2.51	33.25	0.00	232.50	30%	69.75
LB-M	*High, Medium Density Residential*	40.7	26.0%	10.56	0.17	0.00	40.48	50%	20.24
PB	*High, Medium Density Residential*	73.8	7.9%	5.84	6.15	69.76	-2.16	50%	-1.08
R-20	*Low Density, Rural Residential*	161.8	8.5%	13.73	27.37	0.00	134.38	30%	40.31
R-40	*High, Medium Density Residential*	166.9	8.3%	13.80	24.92	0.00	141.93	30%	42.58
R-40/20	*High, Medium Density Residential*	41.3	5.2%	2.16	2.27	0.00	38.98	30%	11.69
R-AG	*Low Density, Rural Residential*	51.0	4.2%	2.16	15.53	0.00	35.42	15%	5.31
R-AG/4	*Low Density, Rural Residential*	1318.3	3.1%	40.91	511.36	0.00	806.89	15%	121.03
R-R	*Low Density, Rural Residential*	2249.8	4.2%	95.21	296.50	0.00	1953.25	20%	390.65
SED-20	*Industrial*	660.8	3.6%	23.52	227.68	0.00	433.07	25%	108.27
SED-20W	*Industrial*	150.8	5.0%	7.50	21.64	0.00	129.11	25%	32.28
SED-5	*Industrial*	97.8	16.9%	16.48	8.00	0.00	89.75	70%	62.83
VC	*High, Medium Density Residential*	141.6	1.9%	2.65	11.00	0.00	130.56	75%	97.92
	Totals:	***6273.1***	***4.5%***	***281.34***	***1388.13***	***69.76***	***4815.22***	***28%***	***1347.92***

Table E2: Build-Out Calculations

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Area *(acres)*	Existing Impervious *(%)*	Existing Impervious *(acres)*	Wetlands/ Water Area *(acres)*	Open Space Lots *(acres)*	Developable Area *(acres)*	Allowable Impervious *(%)*	Build-Out Impervious *(acres)*
HUC ID No. 02030105140020									
CD	*High, Medium Density Residential*	48.6	0.0%	0.00	6.88	0.00	41.74	50%	20.87
GCRC	*High, Medium Density Residential*	15.6	0.4%	0.07	0.00	0.00	15.62	30%	4.68
ML-TH	*High, Medium Density Residential*	3.9	8.5%	0.33	0.00	0.00	3.90	65%	2.54
PB	*Low Density, Rural Residential*	62.1	18.4%	11.44	52.60	0.00	9.52	50%	4.76
R-20	*Low Density, Rural Residential*	3.5	9.6%	0.34	0.00	0.00	3.50	25%	0.88
R-5	*High, Medium Density Residential*	142.6	0.0%	0.00	6.61	0.00	136.01	50%	68.00
R-40	*High, Medium Density Residential*	0.2	55.0%	0.11	0.00	0.00	0.20	30%	0.06
R-40/20	*High, Medium Density Residential*	79.0	7.6%	6.00	14.26	0.00	64.76	30%	19.43
R-AG	*Low Density, Rural Residential*	169.6	4.1%	7.00	72.53	0.00	97.09	15%	14.56
R-AG/4	*Low Density, Rural Residential*	2389.2	1.4%	34.28	1563.00	0.00	826.17	15%	123.92
R-R	*Low Density, Rural Residential*	14.7	22.8%	3.36	0.00	0.00	14.72	20%	2.94
	Totals:	***2929.1***	***2.1%***	***62.93***	***1715.88***	***0.00***	***1213.19***	***36%***	***262.64***
HUC ID No. 02030105150010									
GCRC	*High, Medium Density Residential*	215.3	1.2%	2.57	31.67	0.00	183.63	30%	55.09
LB-T	*High, Medium Density Residential*	72.8	11.5%	8.35	12.00	0.00	60.80	50%	30.40
LI	*Industrial*	135.3	23.7%	32.00	49.40	0.00	85.90	70%	60.13
PB	*Low Density, Rural Residential*	1326.9	1.8%	24.29	184.84	1022.16	119.88	50%	59.94
R-R	*Low Density, Rural Residential*	24.0	43.9%	10.54	0.00	0.00	24.00	20%	4.80
SED-5	*Industrial*	62.6	10.7%	6.68	1.15	0.00	61.45	70%	43.02
RE	*Low Density, Rural Residential*	222.3	4.6%	10.24	77.60	0.00	144.70	15%	21.71
RT	*Low Density, Rural Residential*	40.3	2.4%	0.95	2.23	0.00	38.07	20%	7.61
R-20	*Low Density, Rural Residential*	53.0	40.6%	21.50	3.50	0.00	49.50	20%	9.90
R-AG	*Low Density, Rural Residential*	50.3	5.0%	2.49	4.74	0.00	45.56	15%	6.83
R-AG/4	*Low Density, Rural Residential*	231.3	5.7%	13.28	124.40	0.00	106.90	15%	16.04
R-40/20	*High, Medium Density Residential*	58.3	7.5%	4.39	19.77	0.00	38.53	30%	11.56
	Totals:	***2492.4***	***5.5%***	***137.28***	***511.30***	***1022.16***	***958.92***	***41%***	***327.02***

Table E2: Build-Out Calculations

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Area *(acres)*	Existing Impervious *(%)*	Existing Impervious *(acres)*	Wetlands/ Water Area *(acres)*	Open Space Lots *(acres)*	Developable Area *(acres)*	Allowable Impervious *(%)*	Build-Out Impervious *(acres)*
HUC ID No. 02030105150020									
PB	*Low Density, Rural Residential*	257.7	28.3%	73.02	44.35	191.89	21.47	50%	10.74
OP-10/PRC-M	*Commercial*	60.5	7.6%	4.58	11.92	0.00	48.59	40%	19.44
R-20/PD	*High, Medium Density Residential*	101.8	19.5%	19.88	47.14	0.00	54.68	20%	10.94
OP-3	*Commercial*	30.7	86.6%	26.60	0.17	0.00	30.54	60%	18.32
R-30	*High, Medium Density Residential*	36.6	2.8%	1.01	12.52	0.00	24.09	60%	14.45
OP-10A	*Commercial*	25.0	0.0%	0.00	3.61	0.00	21.40	65%	13.91
R-20	*High, Medium Density Residential*	1009.7	12.3%	124.40	108.00	0.00	901.71	20%	180.34
C-1	*Commercial*	88.0	47.7%	41.98	6.84	0.00	81.17	75%	60.88
R-40/20	*High, Medium Density Residential*	106.7	19.0%	20.30	39.60	0.00	67.11	30%	20.13
RE	*Low Density, Rural Residential*	259.7	16.6%	43.06	162.83	0.00	96.88	15%	14.53
OP-10	*Commercial*	54.6	45.8%	25.02	27.47	0.00	27.14	65%	17.64
OP	*Commercial*	8.3	88.1%	7.32	0.00	0.00	8.31	60%	4.99
	Totals:	***2039.4***	***19.0%***	***387.16***	***464.45***	***191.89***	***1383.09***	***30%***	***386.31***
HUC ID No. 02030105150030									
C-2	*Commercial*	47.0	83.0%	39.04	2.84	0.00	44.18	75%	33.14
C-2M	*Commercial*	42.2	39.6%	16.73	14.00	0.00	28.20	75%	21.15
C-3	*Commercial*	56.6	85.2%	48.23	3.36	0.00	53.27	75%	39.95
LB-W	*High, Medium Density Residential*	8.0	15.7%	1.26	1.77	0.00	6.24	50%	3.12
OP	*Commercial*	33.0	31.1%	10.26	9.40	0.00	23.60	60%	14.16
OP-3	*Commercial*	52.0	19.2%	9.97	25.75	0.00	26.25	60%	15.75
PB	*Low Density, Rural Residential*	35.1	29.6%	10.39	0.00	0.00	35.05	50%	17.53
R-20	*High, Medium Density Residential*	1318.8	13.2%	173.88	79.20	0.00	1239.64	20%	247.93
R-40/20	*High, Medium Density Residential*	363.0	31.6%	114.87	169.20	0.00	193.81	30%	58.14
RE	*Low Density, Rural Residential*	123.0	56.7%	69.74	75.70	0.00	47.30	15%	7.10
RT	*Low Density, Rural Residential*	35.1	43.2%	15.15	2.62	0.00	32.48	20%	6.50
	Totals:	***2113.9***	***24.1%***	***509.52***	***383.84***	***0.00***	***1730.02***	***27%***	***464.45***

Table E2: Build-Out Calculations

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Area *(acres)*	Existing Impervious *(%)*	Existing Impervious *(acres)*	Wetlands/ Water Area *(acres)*	Open Space Lots *(acres)*	Developable Area *(acres)*	Allowable Impervious *(%)*	Build-Out Impervious *(acres)*
HUC ID No. 02030105150040									
C-2	*Commercial*	20.0	82.8%	16.56	0.00	0.00	20.00	75%	15.00
C-3	*Commercial*	13.0	77.5%	10.07	4.95	0.00	8.05	75%	6.04
LB-W	*High, Medium Density Residential*	49.0	37.8%	18.54	23.83	0.00	25.17	50%	12.59
LI	*Industrial*	98.3	19.7%	19.38	20.16	0.00	78.14	70%	54.70
PB	*Low Density, Rural Residential*	134.0	35.0%	46.89	14.00	0.00	120.00	50%	60.00
R-20	*High, Medium Density Residential*	1217.4	10.7%	130.00	105.10	0.00	1112.31	20%	222.46
R-20/PRC	*High, Medium Density Residential*	207.0	78.7%	163.00	11.80	0.00	195.20	20%	39.04
R-40/20	*High, Medium Density Residential*	512.0	16.0%	82.03	280.00	0.00	232.00	30%	69.60
RE	*Low Density, Rural Residential*	328.0	12.8%	42.00	158.64	0.00	169.36	15%	25.40
RT	*Low Density, Rural Residential*	6.0	33.3%	2.00	2.94	0.00	3.06	20%	0.61
R-TF/TH	*High, Medium Density Residential*	148.0	28.4%	42.00	80.90	0.00	67.10	35%	23.49
	Totals:	***2732.7***	***20.9%***	***572.47***	***702.32***	***0.00***	***2030.39***	***48%***	***528.92***
HUC ID No. 02030105150050									
RE	*Low Density, Rural Residential*	1.3	0.0%	0.00	0.08	0.00	1.22	10%	0.12
R-40/20	*High, Medium Density Residential*	102.2	47.3%	48.33	39.70	0.00	62.50	30%	18.75
C-2	*Commercial*	13.5	14.6%	1.97	3.70	0.00	9.80	75%	7.35
R-20	*High, Medium Density Residential*	418.5	10.3%	43.11	37.30	0.00	381.20	20%	76.24
	Totals:	***535.5***	***17.4%***	***93.41***	***80.78***	***0.00***	***454.72***	***23%***	***102.46***
HUC ID No. 02030105100070									
LI	*Industrial*	51.5	0.0%	0.00	0.00	0.00	51.50	70%	36.05
R-40/20	*High, Medium Density Residential*	10.0	0.0%	0.00	0.00	0.00	9.95	30%	2.99
R-40	*High, Medium Density Residential*	30.8	0.0%	0.00	0.00	0.00	30.80	30%	9.24
	Totals:	***92.3***	***0.0%***	***0.00***	***0.00***	***0.00***	***92.25***	***52%***	***48.28***

Table E2: Build-Out Calculations

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Area *(acres)*	Existing Impervious *(%)*	Existing Impervious *(acres)*	Wetlands/ Water Area *(acres)*	Open Space Lots *(acres)*	Developable Area *(acres)*	Allowable Impervious *(%)*	Build-Out Impervious *(acres)*
HUC ID No. 02030105150060									
LI	*Industrial*	4.0	93.5%	3.74	1.88	0.00	2.12	70%	1.48
R-40/20	*High, Medium Density Residential*	95.0	17.7%	16.80	22.60	0.00	72.40	30%	21.72
R-40	*High, Medium Density Residential*	12.2	0.0%	0.00	1.90	0.00	10.30	30%	3.09
PB	*Low Density, Rural Residential*	48.3	16.0%	7.75	10.24	0.00	38.06	50%	19.03
R-4	*High, Medium Density Residential*	49.7	21.7%	10.80	10.41	0.00	39.29	60%	23.57
R-20	*High, Medium Density Residential*	127.0	20.5%	25.98	14.34	0.00	112.66	25%	28.17
RE	*Low Density, Rural Residential*	68.1	14.5%	9.85	37.60	0.00	30.50	15%	4.58
	Totals:	***404.3***	***18.5%***	***74.92***	***98.97***	***0.00***	***305.33***	***32%***	***101.64***
HUC ID No. 02030104100010									
R-R	*Low Density, Rural Residential*	45.0	22.4%	10.08	9.20	0.00	35.80	20%	7.16
R-AG/4	*Low Density, Rural Residential*	71.0	0.0%	0.00	8.30	0.00	62.70	15%	9.41
	Totals:	***116.0***	***8.7%***	***10.08***	***17.50***	***0.00***	***98.50***	***17%***	***16.57***
HUC ID No. 02030105100010									
R-40	*High, Medium Density Residential*	22.0	14.4%	3.16	2.35	0.00	19.65	30%	5.90
SED-20W	*Commercial*	30.9	0.0%	0.00	2.18	0.00	28.72	25%	7.18
	Totals:	***52.9***	***6.0%***	***3.16***	***4.53***	***0.00***	***48.37***	***12%***	***13.08***

Table E3: Nonpoint Source Loads at Build-Out

June 2006

HUC14 and Zone	Land Cover *Classified in accordance with Table E1*	Total Developable Area *(acres)*	TP Load *(lbs/acre/yr)*	TP *(lbs/yr)*	TN Load *(lbs/acre/yr)*	TN *(lbs/yr)*	TSS Load *(lbs/acre/yr)*	TSS *(lbs/yr)*
HUC ID No. 02030105140010								
C-3	*Commercial*	82	2.10	173	22	1,814	200	16,488
CD	*High, Medium Density Residential*	361	1.40	506	15	5,418	140	50,568
CD-KH	*High, Medium Density Residential*	207	1.40	290	15	3,111	140	29,039
GCRC	*High, Medium Density Residential*	233	1.40	326	15	3,488	140	32,550
LB-M	*High, Medium Density Residential*	40	1.40	57	15	607	140	5,667
PB	*High, Medium Density Residential*	-2	1.40	-3	15	-32	140	-302
R-20	*Low Density, Rural Residential*	134	0.60	81	5	672	100	13,438
R-40	*High, Medium Density Residential*	142	1.40	199	15	2,129	140	19,870
R-40/20	*High, Medium Density Residential*	39	1.40	55	15	585	140	5,457
R-AG	*Low Density, Rural Residential*	35	0.60	21	5	177	100	3,542
R-AG/4	*Low Density, Rural Residential*	807	0.60	484	5	4,034	100	80,689
R-R	*Low Density, Rural Residential*	1,953	0.60	1,172	5	9,766	100	195,325
SED-20	*Industrial*	433	1.50	650	16	6,929	200	86,614
SED-20W	*Industrial*	129	1.50	194	16	2,066	200	25,822
SED-5	*Industrial*	90	1.50	135	16	1,436	200	17,950
VC	*High, Medium Density Residential*	131	1.40	183	15	1,958	140	18,278
	Totals:	***4,815***		***4,520***		***44,158***		***600,995***

Table E3: Nonpoint Source Loads at Build-Out

June 2006

HUC ID No. 02030105140020								
CD	*High, Medium Density Residential*	42	1.40	58	15	626	140	5,843
GCRC	*High, Medium Density Residential*	16	1.40	22	15	234	140	2,186
ML-TH	*High, Medium Density Residential*	4	1.40	5	15	59	140	546
PB	*Low Density, Rural Residential*	10	0.60	6	5	48	100	952
R-20	*Low Density, Rural Residential*	4	0.60	2	5	18	100	350
R-5	*High, Medium Density Residential*	136	1.40	190	15	2,040	140	19,041
R-40	*High, Medium Density Residential*	0	1.40	0	15	3	140	28
R-40/20	*High, Medium Density Residential*	65	1.40	91	15	971	140	9,066
R-AG	*Low Density, Rural Residential*	97	0.60	58	5	485	100	9,709
R-AG/4	*Low Density, Rural Residential*	826	0.60	496	5	4,131	100	82,617
R-R	*Low Density, Rural Residential*	15	0.60	9	5	74	100	1,472
	Totals:	***1,213***		***938***		***8,688***		***131,807***
HUC ID No. 02030105150010								
GCRC	*High, Medium Density Residential*	184	1.40	257	15	2,754	140	25,708
LB-T	*High, Medium Density Residential*	61	1.40	85	15	912	140	8,512
LI	*Industrial*	86	1.50	129	16	1,374	200	17,180
PB	*Low Density, Rural Residential*	120	0.60	72	5	599	100	11,988
R-R	*Low Density, Rural Residential*	24	0.60	14	5	120	100	2,400
SED-5	*Industrial*	61	1.50	92	16	983	200	12,290
RE	*Low Density, Rural Residential*	145	0.60	87	5	724	100	14,470
RT	*Low Density, Rural Residential*	38	0.60	23	5	190	100	3,807
R-20	*Low Density, Rural Residential*	50	0.60	30	5	248	100	4,950
R-AG	*Low Density, Rural Residential*	46	0.60	27	5	228	100	4,556
R-AG/4	*Low Density, Rural Residential*	107	0.60	64	5	535	100	10,690
R-40/20	*High, Medium Density Residential*	39	1.40	54	15	578	140	5,394
	Totals:	***959***		***934***		***9,245***		***121,945***

Table E3: Nonpoint Source Loads at Build-Out

June 2006

HUC ID No. 02030105150020								
PB	*Low Density, Rural Residential*	21	0.60	13	5	107	100	2,147
OP-10/PRC-MLC	*Commercial*	49	2.10	102	22	1,069	200	9,718
R-20/PD	*High, Medium Density Residential*	55	1.40	77	15	820	140	7,655
OP-3	*Commercial*	31	2.10	64	22	672	200	6,108
R-30	*High, Medium Density Residential*	24	1.40	34	15	361	140	3,373
OP-10A	*Commercial*	21	2.10	45	22	471	200	4,280
R-20	*High, Medium Density Residential*	902	1.40	1,262	15	13,526	140	126,239
C-1	*Commercial*	81	2.10	170	22	1,786	200	16,234
R-40/20	*High, Medium Density Residential*	67	1.40	94	15	1,007	140	9,395
RE	*Low Density, Rural Residential*	97	0.60	58	5	484	100	9,688
OP-10	*Commercial*	27	2.10	57	22	597	200	5,428
OP	*Commercial*	8	2.10	17	22	183	200	1,662
	Totals:	***1,383***		***1,994***		***21,083***		***201,928***
HUC ID No. 02030105150030								
C-2	*Commercial*	44	2.10	93	22	972	200	8,836
C-2M	*Commercial*	28	2.10	59	22	620	200	5,640
C-3	*Commercial*	53	2.10	112	22	1,172	200	10,654
LB-W	*High, Medium Density Residential*	6	1.40	9	15	94	140	874
OP	*Commercial*	24	2.10	50	22	519	200	4,720
OP-3	*Commercial*	26	2.10	55	22	578	200	5,250
PB	*Low Density, Rural Residential*	35	0.60	21	5	175	100	3,505
R-20	*High, Medium Density Residential*	1,240	1.40	1,735	15	18,595	140	173,550
R-40/20	*High, Medium Density Residential*	194	1.40	271	15	2,907	140	27,133
RE	*Low Density, Rural Residential*	47	0.60	28	5	237	100	4,730
RT	*Low Density, Rural Residential*	32	0.60	19	5	162	100	3,248
	Totals:	***1,730***		***2,453***		***26,031***		***248,140***

Table E3: Nonpoint Source Loads at Build-Out

June 2006

HUC ID No. 02030105150040								
C-2	*Commercial*	20	2.10	42	22	440	200	4,000
C-3	*Commercial*	8	2.10	17	22	177	200	1,610
LB-W	*High, Medium Density Residential*	25	1.40	35	15	378	140	3,524
LI	*Industrial*	78	1.50	117	16	1,250	200	15,628
PB	*Low Density, Rural Residential*	120	0.60	72	5	600	100	12,000
R-20	*High, Medium Density Residential*	1,112	1.40	1,557	15	16,685	140	155,723
R-20/PRC	*High, Medium Density Residential*	195	1.40	273	15	2,928	140	27,328
R-40/20	*High, Medium Density Residential*	232	1.40	325	15	3,480	140	32,480
RE	*Low Density, Rural Residential*	169	0.60	102	5	847	100	16,936
RT	*Low Density, Rural Residential*	3	0.60	2	5	15	100	306
R-TF/TH	*High, Medium Density Residential*	67	1.40	94	15	1,007	140	9,394
	Totals:	***2,030***		***2,636***		***27,806***		***278,929***
HUC ID No. 02030105150050								
RE	*Low Density, Rural Residential*	1	0.60	1	5	6	100	122
R-40/20	*High, Medium Density Residential*	63	1.40	88	15	938	140	8,750
C-2	*Commercial*	10	2.10	21	22	216	200	1,960
R-20	*High, Medium Density Residential*	381	1.40	534	15	5,718	140	53,368
	Totals:	***455***		***642***		***6,877***		***64,200***
HUC ID No. 02030105100070								
LI	*Industrial*	52	1.50	77	16	824	200	10,300
R-40/20	*High, Medium Density Residential*	10	1.40	14	15	149	140	1,393
R-40	*High, Medium Density Residential*	31	1.40	43	15	462	140	4,312
	Totals:	***92***		***134***		***1,435***		***16,005***

Table E3: Nonpoint Source Loads at Build-Out

June 2006

HUC ID No. 02030105150060								
LI	*Industrial*	2	1.50	3	16	34	200	424
R-40/20	*High, Medium Density Residential*	72	1.40	101	15	1,086	140	10,136
R-40	*High, Medium Density Residential*	10	1.40	14	15	155	140	1,442
PB	*Low Density, Rural Residential*	38	0.60	23	5	190	100	3,806
R-4	*High, Medium Density Residential*	39	1.40	55	15	589	140	5,501
R-20	*High, Medium Density Residential*	113	1.40	158	15	1,690	140	15,772
RE	*Low Density, Rural Residential*	31	0.60	18	5	153	100	3,050
	Totals:	***305***		***373***		***3,896***		***40,131***
HUC ID No. 02030104100010								
R-R	*Low Density, Rural Residential*	36	0.60	21	5	179	100	3,580
R-AG/4	*Low Density, Rural Residential*	63	0.60	38	5	314	100	6,270
	Totals:	***99***		***59***		***493***		***9,850***
HUC ID No. 02030105100010								
R-40	*High, Medium Density Residential*	20	1.40	28	15	295	140	2,751
R-R	*Commercial*	29	2.10	60	22	632	200	5,744
	Totals:	***48***		***88***		***927***		***8,495***

APPENDIX F

Appendix of Figures

Figure 8: Hydrologic Unit Codes 14 (HUC14)

Figure 9: Township Zoning Districts

LEGEND

Manalapan Streams

Manalapan HUC14s

HUC14

- 02030104100010
- 02030105100010
- 02030105100070
- 02030105140010
- 02030105140020
- 02030105150010
- 02030105150020
- 02030105150030
- 02030105150040
- 02030105150050
- 02030105150060

Manalapan Lakes

Watershed Management Area (WMA)

Township Boundaries

Old Bridge Township

Marlboro Township

Monroe Township

Freehold Boro

Millstone

Millstone Township

Monmouth Watershed

Freehold Township

Barnegat Bay Watershed

Assiscunk, Crosswicks, and Doctors

02030105150050

UN-CODED TRIBUTARY

02030105150060

PINE BK

02030105150040

02030105150030

MILFORD BK

MCGELLAIRDS BK

TEPEHEMUS BK

UNT TO 14344

02030105150020

MATCHAPONIX BK (WEAMACONK CK)

02030105140020

02030105150010

SOUTH R (MANALAPAN BK)

Text

02030105100070

STILLHOUSE BK

02030105100010

02030105100010

02030105140010

GANDER BK

02030105100010

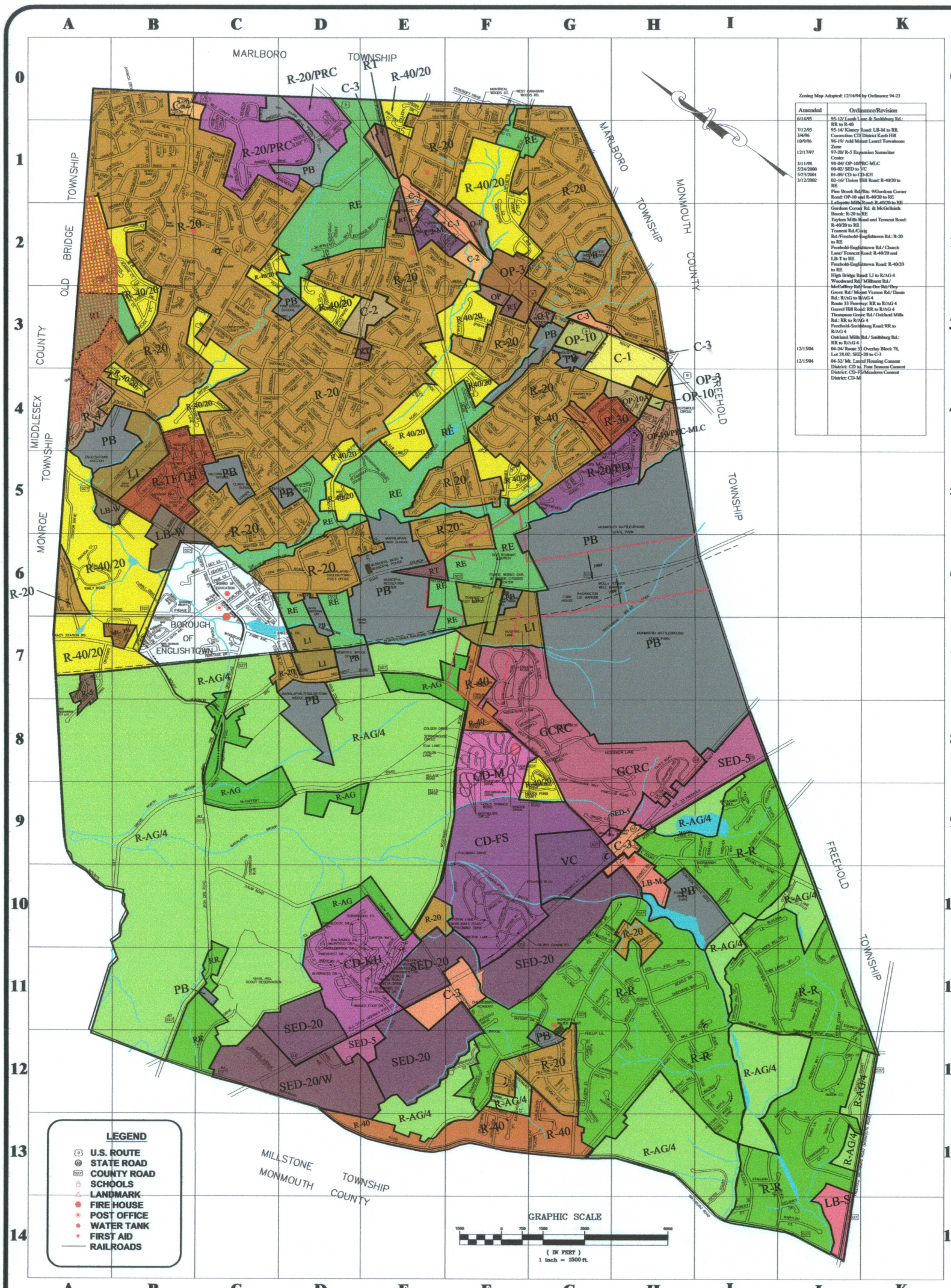
02030104100010

0 1,500 3,000 6,000 9,000 12,000 Feet

This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, this secondary product has not been verified by NJDEP and is not state authorized. Watersheds (DEPHUC14) are delineated from 1:24,000-scale (7.5-minute) USGS quadrangles. The delineations have been developed for general purpose use by USGS District staff over the past 20 years. Arc and polygon attributes have been included in the coverage with basin names and ranks of divides, and 14-digit hydrologic unit codes. The New Jersey state boundary as originally defined in the USGS source coverage does not match that used by the NJDEP. Therefore the coverage was edited by the NJ Geological Survey to remove the USGS state boundary and insert the NJDEP state boundary, thus resolving most potential clipping errors. Database publication date: 2000

Figure 8:
Hydrologic Unit Code 14
(HUC 14)

Manalapan Township
Monmouth County, NJ



Zoning Map Adopted: 12/14/94 by Ordinance 94-23

Amended	Ordinance/Revision
6/14/95	95-12/ Lamb Lane & Smithburg Rd.: RR to R-40
7/12/95	95-14/ Kinney Road: LB-M to RR
3/4/96	Correction CD District Knob Hill
10/9/96	96-19/ Add Mount Laurel Townhouse Zone
12/1/97	97-20/ R-5 Expansion Samaritan Center
3/11/98	98-04/ OP-10/PRC-MLC
5/24/2000	00-02/ SED to VC
5/23/2001	01-09/ CD to CD-KH
3/12/2002	02-16/ Union Hill Road: R-40/20 to RE
	Pine Brook Rd/Rte. 9/Gordons Corner Road: OP-10 and R-40/20 to RE
	Lafayette Mills Road: R-40/20 to RE
	Gordons Corner Rd. & McGellairds Brook: R-20 to RE
	Taylors Mills Road and Tennent Road: R-40/20 to RE
	Tennent Rd./Craig Rd./Freehold-Englishtown Rd.: R-20 to RE
	Freehold-Englishtown Rd./ Church Lane/ Tennent Road: R-40/20 and LB-T to RE
	Freehold-Englishtown Road: R-40/20 to RE
	High Bridge Road: LI to R/AG 4
	Woodward Rd./ Millhurst Rd./ McCaffrey Rd./ Iron Ore Rd./ Dey Grove Rd./ Mount Vernon Rd./ Dunn Rd.: R/AG to R/AG 4
	Route 33 Freeway: RR to R/AG 4
	Gravel Hill Road: RR to R/AG 4
	Thompson Grove Rd./ Oakland Mills Rd.: RR to R/AG 4
	Freehold-Smithburg Road: RR to R/AG 4
	Oakland Mills Rd./ Smithburg Rd.: RR to R/AG 4
12/1/5/04	04-24/ Route 33 Overlay Block 78, Lot 28.02: SED-20 to C-3
12/1/5/04	04-32/ Mt. Laurel Housing Consent District: CD to Four Seasons Consent District: CD-FS/Meadows Consent District: CD-M

ROAD NAMES AND LOCATIONS

Abilene Lane	F4	Knob Hill Court	F3	Oak Knoll Road	B4, B5, C4, C5
Adams Court	G5	Knollwood Court	B4	Oak Rise Drive	B4, B5
Alexandria Drive	F4, G3, G4	Knox Lane	G2, H2	Oakland Mills Road	G13, H12, H11, H10
Allen Court	H5	Kristin Court	B0	Ogden Lane	G1
Alyssa Lane	F5, G5	Kudjdra Court	G12, H12	Old Cider Mill Road	I10, I11, J10
Amalie Court	B2	Lafayette Mills Road	F1, F2, G0, G2	Old Monmouth Drive	D6, E8
Amanda Court	A6	Lamb Lane	E13, F13, F12, G11, G12	Old Queens Boulevard	C4, C3, D3, D4, D5
Amberly Drive	C0, D0, C1, D1	Lancelot Road	C2, D2	Oldwyck Court	D0
Amstel Lane	B5	La Salita Avenue (Boro of Englishtown)	B7, C6	Orchard Hill Drive	I11
Andrea Court	C2, D2	Lauren Court North	G12	Overlook Way	C1
Annapolis Drive	C4	Lauren Court South	G12	Paddington Court	E2
Anne Court	H11	LaValley Drive	C11, C12	Oxford Road	B4, C4
Apache Drive	B3, C2, C3	Lee Road	E4	Park Avenue	D12
Apollo Road	B1, C1, C2	Lenape Lane	C3	Parkview Way	A4
Appaloosa Drive	I13, I14	Leonard Road	F7	Pasture Pond Path	I13
Apple Blossom Lane	I10, J10	Lewis Street	A6	Patterson Lane	G2, G3
Applegate Terrace	I9	Lexington Drive	D3	Patton Court	H9
Appomatox Road	B1	Lightfoot Drive	H4	Peachtree Lane	I11
Arbach Lane	B2	Lincolnshire Drive	G4	Pease Road	B2, C2, D2, D3, E3, E4
Arbor Court	F1, F2	Little John Road	C1	Pence Road	E2, E3
Argyle Lane	G4	Livingston Lane	F2, G2, G1	Pension Hill Rd (aka Suydam Rd.)	B4
Arrowood Road	C1, D1	Locksley Lane	A1, B1	Pension Road	A3, A4, B4, B5, C5
Arthurs Court	C2	Locust Grove Lane	E1	Pheasant Way	I9
Ashby Court	B1	Logan Lane	G1	Phillip Lane	G12
Astor Drive	G10, H10	Lone Star Lane	B5	Pine Brook Road	B4, B3, C3, C2, D2, D1, E1
Atrium Way	B5	Longbow Drive	C2	Pine Cluster Circle	C0, C1
Augusta Drive	E11	Longstreet Road	G1	Pinetree Lane	A4
Autumn Drive	F12	Longwood Drive	B4, B5	Pinehurst Drive	D11, E11
Baily Court	B6	Lowell Road	C5, C6	Pinewood Drive	B1, B2
Bafusord Drive	E10, E11	Lynn Court	B2	Plainridge Court	D5, E5
Baron Court	C2	Madigan Lane (formerly Warwick Rd.)	C1, C2	Plaza 9	G3
Barrister Lane	G4	Madison Avenue	C12	Plymouth Lane	G4
Basswood Drive	B2	Madison Court	H4	Poe Place	D5
Beachwood Drive	G11, G12	Main Street	F5, F7	Pond Road	H3
Beagle Drive	H11, I11	Mallard Court	C5	Portsmouth Road	C3
Beaver Creek Court	C5	Manalapan Woods Drive	F12	Pound Place	D2
Becket Road	C1, C2, D2	Manor Court	E3	Precedent Place	I10
Beechwood Drive	G11, G12	Manor Drive	E3	Premier Way	I9
Beena Way	C2	Maple Crest	B5	Prestwick Road	E11
Belaire Lane	F4	Maple Knoll Lane	I12	Princeton Drive	F3
Belle Terre Drive	F4, G4	Marigold Drive	F11	Quail Court	I9
Berkshire Court	E11	Marylou Court	J14	Quebec Woods Court	F0
Beth Drive	D4	Martin Court	F4	Queen Court	J12
Birch Drive	F1	Maxwell Lane	G2, G3	Quid Place	D2
Birmingham Drive	C3	McBride Road	A6, A7	Railroad Avenue	D7
Blackfoot Drive	B2, B3	McCaffery Road	C9, D9, D8, E8, F8	Randall Drive	J14
Blair Lane	E4, E5	McGellairds Crossing Road	C6	Red Fox Run	H11
Blenheim Road	B1, C1, C2	McIntosh Lane	H2	Regal Road	F5
Bloomfield Road	F7, F8	Meadow Court	F3	Regency Way	J12
Blue Jay Court	D5	Meadow Green Circle	C0	Reston Road	F5
Bobbie Court	H11	Meadow Lane	G2	Revere Way	D3
Bonnie Drive	B2	Medford Court	D0, D1	Richard Court	C4
Brandywine Court (was Wilhedge Court)	F13	Metro Court	F2	Richmond Road	A1, B1
Brentwood Drive	D3	Mercer Lane	H3	Rifkin Court	I13, I14
Briar Hill Drive	F3, G3	Merion Drive	E2	Road "A"	E1, E2
Briarheath Avenue	E0, F0	Merlin Drive	B0	Roberts Court	I14
Bridge Plaza Drive	B0	Michael Lane	G11, H11	Robertville Road	G1
Brighton Drive	B3	Micki Terrace	F1	Robin Court	B2
Brittany Court	E1	Mill Road	H12, I12, I11, J12	Rockingham Court	D5, E5
Brookview Lane	A4	Millhurst Road	D7, E7, F7, F8, G8, G9	Ross Terrace	H5
Brookwood Lane	E3	Milton Avenue	D6	Rowena Road	B1
Browning Place	C5	Mohawk Lane	B3, C2, C3	Roxbury Lane	B4, C4
Bryce Court	C5	Molly Pitcher Drive	G4, H4	Royal Court	E2
Bunker Hill Drive	E4	Monkton Road	F7, F8	Rudyard Drive	D5
Bur Court	B2	Monterey Lane	F4, G4	Rumford Way	G5, H5
Burke Street	B5	Monticello Court	B2	Ryan Road	H2, H3
Caitlin Way	F5	Montreal Woods Court	F0	Saddlebrook Drive	D11, E11
Cambridge Court	B3	Morganville Road	E0, E1	Salem Court	C3
Camelot Court	B2, C2	Mount Avenue	B5, C5, C6	Salem Lane	F4
West Canadian Woods Rd	F0, F1	Mount Vernon Road	B7, B8 C8, C9	Salter Court	H9
Candeub Court	A0, B0, B1	Muirfield Drive	E10, E11	Samaritan Way	A7, A8
Candido Court	G8	Nairn Road	E11	Sandpiper Drive	C4, C5, D5
Canterbury Road	D4	Narrowbrook Court	H4, H5	Sandybrook Road	E3
Canvasback Road	C4, C5	Nature Drive	F11, G11	Sanford Street	B5
Carl Street	B0	Navajo Road	B2, C2	Saratoga Drive	D4, E4, E3
Carlisle Court	E3	Nead Drive	B1	Saupe Drive	B2
Carole Court	H9	New Beginnings Crossing	A7, A8	Sawgrass Drive	D11, E11
Carrie Drive	B3	Newport Drive	F4	Saxony Court	B1
Castle Court	B1	NJ State Highway 33	C12, D12, D11, E11, F11, F12 G10, G11, H9, H10, I9, I10	Scott Lane	G2
Castleton Court	E5	Normandy Court	I9, I10	Shawnee Court	B3
Catlett Court	G1	North Parsonage Way	F7, F8, G7	Sheffield Drive	C3, D3, D4
Cedar Court	A4	Northwood Circle	D5, D6	Shepherd Way	H11, I11
Cedar Ridge Court	B3	Notting Hill Court	J12, J13	Sheridan Road	B1, B2
Center Drive	F2	Nottingham Road	C1	Sherman Court	B2
Century Way	G5, H5	Oak Knoll Road	B4, B5, C4, C5	Sherri Drive	E0
Chamber Lane	F1, G1	Oak Rise Drive	B4, B5	Sherwood Road	B1, C1
Champions Way	F12	Oakland Mills Road	G13, H12, H11, H10	Shilling Road	D2, D3, E2
Chandlier Road (was Connie Road)	G10	Ogden Lane	G1	Shiloh Road	B1
Chantilly Lane	E11	Old Cider Mill Road	I10, I11, J10	Shinnecock Court	D10, E10
Chatham Drive	G4, G5	Old Monmouth Drive	D6, E8	Shinnecock Drive	D10, D11, E10, E11
Chaucer Road	D6	Old Queens Boulevard	C4, C3, D3, D4, D5	Shira Lane	J12, J13
Chelsea Road	D4	Oldwyck Court	D0	Short Oaks Court	A4
Cherokee Drive	B3, C3	Orchard Hill Drive	I11	Silverleaf Way	D2
Cherry Hill Lane	F4, G4	Overlook Way	C1	Smallwood Lane	G2, G3
Chesapeake Road	C3	Paddington Court	E2	Smithburg Road	B12, C12, D12, D13, E13, F13, G13, H13, I14, J14
Chestnut Hill	H12	Oxford Road	B4, C4	Smock Ct.	G8
Chestnut Way	B5, C5	Park Avenue	D12	Sobechko Road	A5, B5, B4
Christie Court	G13	Parkview Way	A4	Spruce Hollow Drive	F11, G11
Church Lane	E8, F8	Pasture Pond Path	I13	Spruce Way	B2
Claytons Lane	A0	Patterson Lane	G2, G3	Squire Road	C1
Clinton Drive	G2, H2	Patton Court	H9	St. Andrews Place	D10, D11
Clydesdale Court	H4	Peachtree Lane	I11	Stallion Drive	I13
Cobb Court	G1	Pease Road	B2, C2, D2, D3, E3, E4	Station Street	D7
Colby Avenue	C4	Pence Road	E2, E3	Stayman Court	J11
Colby Court	C4, C5	Pension Hill Rd (aka Suydam Rd.)	B4	Steward Lane	H3
Colleen Court	D0, E1	Pension Road	A3, A4, B4, B5, C5	Stirling Court	F7, F8
Colonial Court	G1	Pheasant Way	I9	Stonebridge Court	J13
Colony Lane	H4, H5	Phillip Lane	G12	Stratford Drive	C4, D3, D4
Concord Drive	D3	Pine Brook Road	B4, B3, C3, C2, D2, D1, E1	Sugar Maple Avenue	F1
Conmack Lane	D4, D5	Pine Cluster Circle	C0, C1	Sugarloaf Place	G13
Connor Drive	A5, A6	Pinetree Lane	A4	Summer Drive	J11
Conover Lane	H10	Pinehurst Drive	D11, E11	Summit Avenue	G12
Conover Street	C7, D7	Pinewood Drive	B1, B2	Summit Court	G12
Constitution Court	D3, E3	Plainridge Court	D5, E5	Sunnywoods Lane	G5
Constitution Place	E3, E4	Plaza 9	G3	Sunningdale Circle	E10, E11
Cooper Hawk Drive	C4, C5	Plymouth Lane	G4	Susan Court	H12
Cornell Place	D4, D5	Poe Place	D5	Sussex Place	D4
Cornwallis Court	F7, G7	Pond Road	H3	Sutton Drive	F5, G5, G4
Corporate Center Drive (private road)	H4	Portsmouth Road	C3	Sweetmans Lane	G13, G12, G11, H10, H9
Cortland Place	J11	Pound Place	D2	Symmes Drive	F5, F4, G4, G3
Cotswold Circle	H4	Precedent Place	I10	Tall Woods Drive	H12, I12
Country Lane	F3	Premier Way	I9	Tamar Court	J13
Country Oaks Drive	B3, B4	Prestwick Road	E11	Tamarack Drive	E1, F1
Countryside Court	C3	Princeton Drive	F3	Tarrytown Road	C3
Cortland Place	J11	Quail Court	I9	Taylor Lake Court	H9
Covenhaven Road	G8	Quebec Woods Court	F0	Taylors Mills Road	D6, D5, E4, F4,
Coventry Court	C1, D1	Queen Court	J12	Templar Road	A1
Covered Bridge Boulevard	D1	Quid Place	D2	Tennent Road	E1, E2, E3, F3, F4, F5, F6
Cozy Drive	J10	Railroad Avenue	D7	Terence Drive	E6, F6, F5
Craig Road	F5, G5, G4, H4, H3	Randall Drive	J14	Thomas Drive	E5, E6, F5, F6
Crane Court	C5	Red Fox Run	H11	Thompson Grove Road	H9, H10, I10, I11, J11, J12, K12
Crawford Road	H8, H9	Regal Road	F5	Thompson Lane	E3
Crest Fruit Court	J11, J12	Regency Way	J12	Thoreau Drive	C5, D5
Cross Slope Court	D11	Reston Road	F5	Tiffany Court	G5
Crown Court	D2	Revere Way	D3	Timber Lane	E3
Crusade Court	B1	Richard Court	C4	Timothy Place	E5
Curtis Court	H5	Richmond Road	A1, B1	Topanga Court	G4
Crystal Court	J13,J14	Rifkin Court	I13, I14	Topelle Road	B0
Dana Court	I10,J10	Road "A"	E1, E2	Toronto Woods Court	F1
Dancer Lane	J10, J11	Roberts Court	I14	Towne Drive	E2
Danielle Drive	D4	Robertville Road	G1	Tracy Drive	G0
Darby Court	F5	Robin Court	B2	Tracy Station Road	A7, B7
Darlington Drive	G12, G13	Rockingham Court	D5, E5	Tudor Place	C4
Dartmoor Drive	G1	Ross Terrace	H5	Tuppence Road	D2, D3, E3
Daum Road	C10, D10, E10	Rowena Road	B1	Turnberry Drive	D11, E11, E10
Dayton Lane	G2	Roxbury Lane	B4, C4	Turtle Hollow Drive	I9
Debbie Court	E1	Royal Court	E2	Twin Lakes Drive	I11, J11
Debracy Court	B1	Rudyard Drive	D5	U.S. Highway Route-9	D0, D1, E1, E2, F2, F3, G3, H3,H4
Deerbrook Run	C9, C10	Rumford Way	G5, H5	Union Hill Road	A4, A3, B3, B2, B1, B0
Deer Way	A4	Ryan Road	H2, H3	Utility Road	B4
Delaney Drive	J14	Saddlebrook Drive	D11, E11	Vail Valley Drive	C5
Derek Court	F4	Salem Court	C3	Valley Forge Way	E4
Derry Meeting Drive	H4	Salem Lane	F4	Valley Road	F12, G12
Devon Drive North & South	E5, F5	Salter Court	H9	Vanclave Road	G8, H9
Day Grove Road	B9, B10, C9	Samaritan Way	A7, A8	Vanessa Lane	H3
Dickinson Lane	G3	Sandpiper Drive	C4, C5, D5	Veronica Court	F8
Division Hill	G4	Sandybrook Road	E3	Vicksburg Place	B1
Doe Drive	A4	Sanford Street	B5	Victorian Hill	I9, I10
Dogwood Court	F1	Saratoga Drive	D4, E4, E3	Village Court	C4
Donna Court	A2	Saupe Drive	B2	Villanova Drive	I12
Doral Court	E3	Sawgrass Drive	D11, E11	Walden Court	B3
Dorchester Way	G5	Saxony Court	B1	Walnut Lane	D4
Dortmunder Drive	B5	Scott Lane	G2	Warwick Drive	C4
Drew Court	E2, F2	Shawnee Court	B3	Washingtons Advance	E11
Eaglewood Court	F12, F13	Sheffield Drive	C3, D3, D4	Waterville Road	H3
East Parsonage Way	G8, H8, H9	Shepherd Way	H11, I11	Wayne Court	E2
Eastwood Boulevard	B0	Sheridan Road	B1, B2	Wellington Court	C3
Edinburgh Court	F12	Sherman Court	B2	Weiner Court	B2
Edwards Lane	H3	Sherri Drive	E0	Wendi Way	E10, E11
Eliot Road	D5, D6	Sherwood Road	B1, C1	Wentworth Drive	D4, E4
Elisa Court	B3	Shilling Road	D2, D3, E2	Westbrook Way	F8, G8
Elizabeth Place	C4	Shiloh Road	B1	West Parsonage Way	D6, E6
Elridge Way	D2, E2	Shinnecock Court	D10, E10	Wheatley Road	C4, D4
Emily Road	A6, B6	Shinnecock Drive	D10, D11, E10, E11	Whitehall Way	E10
Equinox Lane	J11, J12, K12	Shira Lane	J12, J13	Whittemarsh Drive	G9, H9
Eric Court	D4	Short Oaks Court	A4	Whitlock Court	C5
Erwin Street	B5	Silverleaf Way	D2	Whitman Boulevard	C5, C6, D5
Essex Circle	G5	Smallwood Lane	G2, G3	Whittier Drive	E0, E1
Excalibur Drive	J12	Smithburg Road	B12, C12, D12, D13, E13, F13, G13, H13, I14, J14	Wickatunk Road	C0, C1
Fairfield Court	G3	Smock Ct.	G8	Wild Turkey Way	F1, F2
Falcon Drive	I9	Sobechko Road	A5, B5, B4	Wildflower Court	A7
Fallow Drive	A4	Spruce Hollow Drive	F11, G11	Wilfred Road	E1, F1
Fallswood Lane	F12, F13	Spruce Way	B2	Willow Grove Way	A5, B5, B6, C6
Farm Tree Road	C6, D6	Squire Road	C1	Wilson Avenue	G3, H3
Fawn Run	A4	St. Andrews Place	D10, D11	Wilson Court	B4, C3, C4
Finch Court	A7,B7	Stallion Drive	I13	Wiltshire Drive	E2, F2
Forest Drive	A4	Station Street	D7	Winding Woods Way	G4, G5
Forman Court	H2	Stayman Court	J11	Winfield Drive	D11
Forman Lane	H2, H3	Steward Lane	H3	Winged Foot Drive	B4
Fountayne Lane	I9, J9, J10	Stirling Court	F7, F8	Winners Circle	J11, J12
Foxboro Lane	F3	Stonebridge Court	J13	Winter Court	C3, D3
Foxcroft Drive	F0	Stratford Drive	C4, D3, D4	Winthrop Drive	A6, B6
Franklin Lane	E1, E2, F2	Sugar Maple Avenue	F1	Wood Avenue	B3, B4
Freehold Road	F8, G6, H6, I6 G7, H7, I7	Sugarloaf Place	G13	Woodcrest Terrace	G2
Freehold–Smithburg Rd. aka Monmouth Rd (Rt. 537)	J14, J13, K13, K12	Summer Drive	J11	Woodland Lane	B3
Friar Lane	B2, C2	Summit Avenue	G12	Woodhollow Drive	E2, E3, F2, F3
Gainsborough Court	H4, H5	Summit Court	G12	Woodland Circle	F0
Galahad Drive	C1, C2	Sunnywoods Lane	G5	Woodview Drive	E9, E10, E11, F8, F9, F11, F12, G12
Gander Lane	F12	Sunningdale Circle	E10, E11	Woodward Road	G10, H10
Ganton Way	F12	Susan Court	H12	Wyndham Lane	C4
Gawain Drive	C1, C2	Sussex Place	D4	Yale Avenue	H8, H9
Gemini Lane	I11, I12	Sutton Drive	F5, G5, G4	Yates Road	C1
Gettysburg Drive	A1, B1	Sweetmans Lane	G13, G12, G11, H10, H9	Yeaman Way	D3
Genesis Street	A7	Symmes Drive	F5, F4, G4, G3	Yorktowne Drive	
Glendale Drive	F3	Tall Woods Drive	H12, I12		
Georgetowne Drive	D4	Tamar Court	J13		
Glen Wood Court	D3	Tamarack Drive	E1, F1		
Glo-Bar Terrace	B5, C5	Tarrytown Road	C3		
Gold Court	D7, D8	Taylor Lake Court	H9		
Gordon Street	E0, F0	Taylors Mills Road	D6, D5, E4, F4,		
Gordons Corner Road	C6, C5, D5, D4, D3, E3, E2, E1	Templar Road	A1		
Gramercy Lane	G11	Tennent Road	E1, E2, E3, F3, F4, F5, F6		
Grandview Lane (was Manor View Lane)	F13	Terence Drive	E6, F6, F5		
Grant Road	B1	Thomas Drive	E5, E6, F5, F6		
Gravel Hill Road	I9, I10, J10	Thompson Grove Road	H9, H10, I10, I11, J11, J12, K12		
Gray Court	C2	Thompson Lane	E3		
Grayson Lane	G1, G2	Thoreau Drive	C5, D5		
Green Ridge Drive	D3	Tiffany Court	G5		
Greenfield Road	G2	Timber Lane	E3		
Greenleaf Drive	D5, D6	Timothy Place	E5		
Gristmill Drive	G4, H4	Topanga Court	G4		
Hampton Court	E2	Topelle Road	B0		
Hancock Lane	H4,H5	Toronto Woods Court	F1		
Hanover Drive	C4,D4	Towne Drive	E2		
Hapeney Drive	D2, E2	Tracy Drive	G0		
Hawkins Corner Road	A0,B0	Tracy Station Road	A7, B7		
Hawthorne Avenue	D3	Tudor Place	C4		
Hearthstone Drive	C8, D8	Tuppence Road	D2, D3, E3		
Heather Drive	E1, E0, F0, F1	Turnberry Drive	D11, E11, E10		
Hedgerow Lane	F8, G8, H8	Turtle Hollow Drive	I9		
Hemlock Court	F11, G11	Twin Lakes Drive	I11, J11		
Hendrickson Court	F8, G8	U.S. Highway Route–9	D0, D1, E1, E2, F2, F3, G3, H3,H4		
Herbert Drive	A5	Union Hill Road	A4, A3, B3, B2, B1, B0		
Herbert Drive	A5	Utility Road	B4		
Heron Court	7A, 7B	Vail Valley Drive	C5		
Hickory Court	B3	Valley Forge Way	E4		
Hickory Road	B5	Valley Road	F12, G12		
Hidden Pond Court	F9, G9	Vanclave Road	G8, H9		
High Bridge Road	C7, C8	Vanessa Lane	H3		
Highland Drive	E1, F1	Veronica Court	F8		
Highland Ridge Road	H12, I12, I13	Vicksburg Place	B1		
Hill Court	A4	Victorian Hill	I9, I10		
Hillcrest Road	G12	Village Court	C4		
Hillside Road	G12	Villanova Drive	I12		
Holiday Road	E1	Walden Court	B3		
Hopi Court	B2	Walnut Lane	D4		
Hugging Lane	F7	Warwick Drive	C4		
Independence Blvd.	E3, E4	Washingtons Advance	E11		
Ives Lane (private)	F3	Waterville Road	H3		
Inverness Drive	D11	Wayne Court	E2		
Iris Circle	F2, G2	Wellington Court	C3		
Iron Ore Road	D7, C7, C8, C9, C10, C11, B11, B12	Weiner Court	B2		
Iroquois Road	B3	Wendi Way	E10, E11		
Ivanhoe Drive	A1, B1	Wentworth Drive	D4, E4		
Ivy Lane	G11	Westbrook Way	F8, G8		
Jamestowne Road	D4	West Parsonage Way	D6, E6		
Jared Lane	C4,	Wheatley Road	C4, D4		
Jeanine Court	A2, B2, B3	Whitehall Way	E10		
Jeannette Court	G11	Whittemarsh Drive	G9, H9		
Jennifer Lane	F3	Whitlock Court	C5		
Jerry Court	H11	Whitman Boulevard	C5, C6, D5		
Jordan Place	F4	Whittier Drive	E0, E1		
Joseph Street	G11, G12, H11, H12	Wickatunk Road	C0, C1		
Joyce Court	A2, B2	Wild Turkey Way	F1, F2		
Judge Lane	J10	Wildflower Court	A7		
Juniper Avenue	E1	Wilfred Road	E1, F1		
Kathleen Court	A3, B3, B4	Willow Grove Way	A5, B5, B6, C6		
Keats Court	C5, C6	Wilson Avenue	G3, H3		
Kelso Place	E2, E3	Wilson Court	B4, C3, C4		
Kelton Place	E2	Wiltshire Drive	E2, F2		
Kensington Drive	E2, E3	Winding Woods Way	G4, G5		
Kent Place	E3	Winfield Drive	D11		
Kentucky Court	A1, B1	Winged Foot Drive	B4		
Kerwin Court	A3, B3	Winners Circle	J11, J12		
Kilmer Drive	C5, C6	Winter Court	C3, D3		
Kimberly Court	A3, B3	Winthrop Drive	A6, B6		
King Court	J12	Wood Avenue	B3, B4		
Kingsley Drive	E2, E3	Woodcrest Terrace	G2		
Kingswood Way	B0	Woodland Lane	B3		
Kinney Road	H9, H10, I9, J9	Woodhollow Drive	E2, E3, F2, F3		
Kipling Way	D5	Woodland Circle	F0		
Knight Street	B5	Woodview Drive	E9, E10, E11, F8, F9, F11, F12, G12		
		Woodward Road	G10, H10		

LEGEND

- U.S. ROUTE
- STATE ROAD
- COUNTY ROAD
- SCHOOLS
- LANDMARK
- FIRE HOUSE
- POST OFFICE
- WATER TANK
- FIRST AID
- RAILROADS

SUBURBAN RESIDENTIAL

R-40	Single Family
R-40/20	Single Family
R-30	Single Family
R-20	Single Family
R-5	Single Family Affordable Housing
R-4	Single Family
R-T	Residential Transition
ML-TH	Mount Laurel Townhouse
R-TF/TH	Two-Family & Townhouses

SUBURBAN CONSERVATION

RE	Residential Environmental

PLANNED DEVELOPMENT

R-20/PRC	Planned Retirement Community
R-20/PD	Planned Development Option
C2-M	Neighborhood Business/Multifamily Option

COMMERCIAL

C-1	Regional Commercial Shopping Center
C-2	Neighborhood Shopping Center
C-3	General Commercial
LB-M	Limited Business-Millhurst
LB-S	Limited Business-Smithburg
LB-T	Limited Business-Tennent
LB-W	LB-W Limited Business-Wilson Avenue
LI	Light Industrial
OP	Office Professional
OP-3	Office Park
OP-10	Office Park
OP-10A	Office Park
OP-10/PRC-MLC	Planned Retirement/Mount Laurel Contribution

OVERLAY AREAS

- Air Hazard Area (Boundaries are interpreted in accordance with N.J.A.C. 16:62.1.1 et seq., Air Safety and Hazardous Zoning)
- Flood Hazard Area (Boundaries are generalized and must be interpreted in accordance with the references cited by the Township Development Regulations)
- Freehold Road - Tennent Road Landmark Corridor
- New Jersey State Highway Route #33

CORRIDOR DEVELOPMENT AREA

GCRC	Golf Course Residential Community
CD-FS	Consent District - Four Seasons
CD-KH	Consent District - Knob Hill
CD-M	Consent District - Meadows
SED-5	Special Economic Development
SED-20/W	Special Economic Development/ Warehouse Distribution
SED-20	Special Economic Development
VC	Village Commercial

RURAL CONSERVATION AREA

R-AG	Rural Agriculture
R-R	Rural Residential
R-E	Residential Environmental
R-AG/4	Rural Agriculture

PUBLIC AREA

PB	Public Use District

DIRECT DIALING PHONE NUMBERS

GENERAL INFORMATION	446-3200
ADMINISTRATION	446-8308
BUILDING INSP./CONST.	446-8320
MUNICIPAL CLERK	446-8316
CODE INFORCEMENT	446-8322
COMMUNITY COUNSELING	308-3342
COURT VIOLATIONS	446-6656
FIRE EMERGENCY	911
FIRST AID EMERGENCY	911
HEALTH / REGISTRAR	446-8345
PLANNING	446-8350
POLICE	446-4300
POLICE EMERGENCY	911
PUBLIC ASSISTANCE	446-8362
RECREATION	446-8355
REFUSE / RECYCLING	446-8309
ROAD	446-8403
SENIOR CITIZEN CENTER	446-8401
TAX ASSESSOR	446-8311
TAX COLLECTOR	446-8359
ZONING	446-8351

FIGURE 9: TOWNSHIP ZONING DISTRICTS

MANALAPAN TOWNSHIP

MONMOUTH COUNTY, NEW JERSEY

CME ASSOCIATES
CONSULTING AND MUNICIPAL ENGINEERS
3141 BORDENTOWN AVENUE, PARLIN, NEW JERSEY 08859 —— 1460 ROUTE 9 SOUTH, HOWELL, NEW JERSEY 07731–1194
GREGORY R. VALESI, P.E.& P.P.
NEW JERSEY PROFESSIONAL ENGINEER LIC. No. 34458
REVISED TO JANUARY 2006, JH

APPENDIX G

Existing Pollutant Loads of Developable Land Area per HUC14 Drainage Areas

Existing Developable Area Nonpoint Source Pollutant Load calculations have been performed via geoprocessing of existing land use data obtained from the New Jersey Department of Environmental Protection (NJDEP) Bureau of Geographic Information Systems (GIS), referenced digital data acquired from <http://www.state.nj.us/dep/gis/>.

The secondary GIS product providing the database file for analysis in this Appendix has not been verified by the NJDEP and is not state authorized. The 1995/97 Land Use/ Land Cover (LU/LC) polygon shapefiles for New Jersey's Watershed Management Areas have been created by comparing the 1986 LU/LC layers from the NJDEP Bureau of GIS database to the 1995/97 color infrared digital imagery and delineating areas of change. All GIS data layer polygons retain the original 1986 land use code, as well as being given a 1995-97 land use code so that change analysis can be done directly from these data sets.

The 1995/97 LU/LC FINAL data set utilized for this analysis has been available for download from the NJDEP Bureau of GIS website, as referenced above, as of February 2, 2001.

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150060	2.54	UNDIFFERENTIATED BARREN LANDS	BARREN LAND	0.5	1.27	5	12.72	60	12.72
02030105150060	0.26	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.78	40	0.78
02030105150060	0.72	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.16	40	2.16
02030105150060	0.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.92	40	2.92
02030105150060	0.98	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.10	3	2.93	40	2.93
02030105150060	1.09	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.27	40	3.27
02030105150060	1.10	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.30	40	3.30
02030105150060	1.13	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.40	40	3.40
02030105150060	1.14	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.41	40	3.41
02030105150060	1.80	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.18	3	5.39	40	5.39
02030105150060	1.98	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.20	3	5.95	40	5.95
02030105150060	2.12	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.35	40	6.35
02030105150060	2.68	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.27	3	8.04	40	8.04
02030105150060	3.19	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.32	3	9.57	40	9.57
02030105150060	3.30	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.33	3	9.90	40	9.90
02030105150060	4.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.42	3	12.66	40	12.66
02030105150060	5.41	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.54	3	16.22	40	16.22
02030105150060	5.66	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.57	3	16.98	40	16.98
02030105150060	7.12	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.71	3	21.36	40	21.36
02030105150060	11.22	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	1.12	3	33.67	40	33.67
02030105150060	20.00	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.00	3	60.01	40	60.01
02030105150060	0.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.63	100	0.63
02030105150060	0.13	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.13	10	1.30	120	1.30
02030105150060	0.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.71	100	0.71
02030105150060	0.16	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.16	10	1.63	120	1.63
02030105150060	0.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.24	15	2.53	140	2.53
02030105150060	0.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.10	5	0.85	100	0.85
02030105150060	0.19	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.27	15	2.90	140	2.90
02030105150060	0.21	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.29	15	3.15	140	3.15
02030105150060	0.21	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.21	10	2.15	120	2.15
02030105150060	0.23	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.33	15	3.50	140	3.50
02030105150060	0.24	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.34	15	3.64	140	3.64
02030105150060	0.28	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.28	10	2.83	120	2.83
02030105150060	0.32	RECREATIONAL LAND	URBAN	1.0	0.32	10	3.21	120	3.21
02030105150060	0.34	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.20	5	1.70	100	1.70
02030105150060	0.41	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.57	15	6.08	140	6.08
02030105150060	0.41	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.25	5	2.05	100	2.05
02030105150060	0.44	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.44	10	4.44	120	4.44
02030105150060	0.45	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.64	15	6.81	140	6.81
02030105150060	0.46	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.65	15	6.91	140	6.91
02030105150060	0.46	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.46	10	4.64	120	4.64
02030105150060	0.60	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.36	5	2.98	100	2.98
02030105150060	0.61	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.61	10	6.14	120	6.14
02030105150060	0.62	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.87	15	9.35	140	9.35
02030105150060	0.65	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.91	15	9.76	140	9.76
02030105150060	0.69	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.69	10	6.91	120	6.91
02030105150060	0.75	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.06	15	11.30	140	11.30
02030105150060	0.84	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.51	5	4.21	100	4.21
02030105150060	0.86	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.20	15	12.84	140	12.84
02030105150060	0.91	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.54	5	4.53	100	4.53
02030105150060	0.95	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.32	15	14.18	140	14.18
02030105150060	0.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.57	5	4.76	100	4.76
02030105150060	1.01	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.41	15	15.12	140	15.12
02030105150060	1.08	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.65	5	5.38	100	5.38
02030105150060	1.10	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.55	15	16.56	140	16.56
02030105150060	1.27	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.77	15	18.98	140	18.98
02030105150060	1.30	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.81	15	19.44	140	19.44
02030105150060	1.54	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.16	15	23.13	140	23.13
02030105150060	1.56	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.19	15	23.41	140	23.41
02030105150060	1.59	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	1.59	10	15.91	120	15.91
02030105150060	1.61	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.26	15	24.19	140	24.19
02030105150060	1.69	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.01	5	8.45	100	8.45
02030105150060	1.80	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.51	15	26.94	140	26.94
02030105150060	1.85	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.85	10	18.53	120	18.53
02030105150060	1.86	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.11	5	9.28	100	9.28
02030105150060	1.93	INDUSTRIAL	URBAN	1.5	2.90	16	30.88	200	30.88
02030105150060	2.11	RECREATIONAL LAND	URBAN	1.0	2.11	10	21.08	120	21.08
02030105150060	2.11	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	2.11	10	21.10	120	21.10
02030105150060	2.19	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.31	5	10.95	100	10.95
02030105150060	2.29	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.38	5	11.46	100	11.46
02030105150060	2.30	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.22	15	34.51	140	34.51
02030105150060	2.30	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.22	15	34.55	140	34.55
02030105150060	2.33	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.27	15	35.00	140	35.00
02030105150060	2.40	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.44	5	12.00	100	12.00
02030105150060	2.56	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.54	5	12.82	100	12.82
02030105150060	3.26	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.57	15	48.92	140	48.92
02030105150060	3.40	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.75	15	50.93	140	50.93
02030105150060	3.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.18	5	18.17	100	18.17
02030105150060	3.69	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	3.69	10	36.89	120	36.89
02030105150060	3.92	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	3.92	10	39.20	120	39.20
02030105150060	6.63	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	9.28	15	99.48	140	99.48
02030105150060	7.46	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	10.45	15	111.92	140	111.92
02030105150060	8.87	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	12.41	15	133.00	140	133.00
02030105150060	9.00	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.40	5	44.99	100	44.99
02030105150060	9.06	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.44	5	45.32	100	45.32
02030105150060	9.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.50	5	45.83	100	45.83
02030105150060	9.77	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	13.68	15	146.58	140	146.58
02030105150060	9.90	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	9.90	10	98.95	120	98.95
02030105150060	12.03	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	7.22	5	60.13	100	60.13
02030105150060	12.37	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	12.37	10	123.70	120	123.70
02030105150060	13.03	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	13.03	10	130.31	120	130.31
02030105150060	13.66	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	19.12	15	204.91	140	204.91
02030105150060	17.49	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	17.49	10	174.86	120	174.86
02030105150060	51.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	71.85	15	769.82	140	769.82
			Totals:		**300**		**3223**		**3223**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150050	0.20	TRANSITIONAL AREAS	BARREN LAND	0.5	0.10	5	0.99	60	0.99
02030105150050	0.40	TRANSITIONAL AREAS	BARREN LAND	0.5	0.20	5	2.01	60	2.01
02030105150050	1.04	TRANSITIONAL AREAS	BARREN LAND	0.5	0.52	5	5.18	60	5.18
02030105150050	1.48	TRANSITIONAL AREAS	BARREN LAND	0.5	0.74	5	7.41	60	7.41
02030105150050	1.80	TRANSITIONAL AREAS	BARREN LAND	0.5	0.90	5	9.00	60	9.00
02030105150050	2.01	TRANSITIONAL AREAS	BARREN LAND	0.5	1.01	5	10.06	60	10.06
02030105150050	2.51	TRANSITIONAL AREAS	BARREN LAND	0.5	1.25	5	12.54	60	12.54
02030105150050	0.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.60	40	0.60
02030105150050	0.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.61	40	0.61
02030105150050	0.21	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.02	3	0.63	40	0.63
02030105150050	0.27	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.81	40	0.81
02030105150050	0.83	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.50	40	2.50
02030105150050	1.05	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.11	3	3.15	40	3.15
02030105150050	1.24	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.73	40	3.73
02030105150050	1.34	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	4.03	40	4.03
02030105150050	1.46	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.15	3	4.38	40	4.38
02030105150050	1.49	MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN	FOREST	0.1	0.15	3	4.47	40	4.47
02030105150050	1.76	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.18	3	5.27	40	5.27
02030105150050	1.92	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.19	3	5.77	40	5.77
02030105150050	2.00	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.20	3	6.01	40	6.01
02030105150050	2.29	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.23	3	6.88	40	6.88
02030105150050	2.34	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.23	3	7.01	40	7.01
02030105150050	2.46	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.25	3	7.39	40	7.39
02030105150050	2.97	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.30	3	8.92	40	8.92
02030105150050	3.56	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.36	3	10.67	40	10.67
02030105150050	3.80	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.38	3	11.41	40	11.41
02030105150050	4.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.45	3	13.49	40	13.49
02030105150050	5.35	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.54	3	16.05	40	16.05
02030105150050	5.60	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.56	3	16.80	40	16.80
02030105150050	7.64	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.76	3	22.92	40	22.92
02030105150050	7.76	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.78	3	23.28	40	23.28
02030105150050	8.30	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.83	3	24.89	40	24.89
02030105150050	9.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.94	3	28.13	40	28.13
02030105150050	0.14	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.19	15	2.08	140	2.08
02030105150050	0.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.70	100	0.70
02030105150050	0.15	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.22	15	2.31	140	2.31
02030105150050	0.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.24	15	2.60	140	2.60
02030105150050	0.19	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.19	10	1.93	120	1.93
02030105150050	0.21	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.13	5	1.06	100	1.06
02030105150050	0.23	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.14	5	1.15	100	1.15
02030105150050	0.26	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.26	10	2.57	120	2.57
02030105150050	0.28	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.17	5	1.38	100	1.38
02030105150050	0.28	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.17	5	1.40	100	1.40
02030105150050	0.31	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.43	15	4.66	140	4.66
02030105150050	0.31	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.19	5	1.57	100	1.57
02030105150050	0.32	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.32	10	3.18	120	3.18
02030105150050	0.35	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.35	10	3.52	120	3.52
02030105150050	0.37	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.52	15	5.58	140	5.58
02030105150050	0.39	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.54	15	5.78	140	5.78
02030105150050	0.42	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.58	15	6.26	140	6.26
02030105150050	0.42	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.59	15	6.36	140	6.36
02030105150050	0.44	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.62	15	6.63	140	6.63
02030105150050	0.45	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.27	5	2.24	100	2.24
02030105150050	0.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.31	5	2.55	100	2.55
02030105150050	0.53	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.74	15	7.96	140	7.96
02030105150050	0.55	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.77	15	8.25	140	8.25
02030105150050	0.65	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.39	5	3.27	100	3.27
02030105150050	0.66	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.40	5	3.32	100	3.32
02030105150050	0.67	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.67	10	6.71	120	6.71
02030105150050	0.72	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.01	15	10.77	140	10.77
02030105150050	0.72	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.01	15	10.77	140	10.77
02030105150050	0.72	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.43	5	3.61	100	3.61
02030105150050	0.73	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.73	10	7.27	120	7.27
02030105150050	0.81	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.49	5	4.07	100	4.07
02030105150050	0.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.55	5	4.60	100	4.60
02030105150050	0.97	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.97	10	9.74	120	9.74
02030105150050	0.99	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.39	15	14.85	140	14.85
02030105150050	1.00	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.00	10	10.02	120	10.02
02030105150050	1.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.67	5	5.62	100	5.62
02030105150050	1.24	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.24	10	12.40	120	12.40
02030105150050	1.24	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.74	15	18.60	140	18.60
02030105150050	1.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.76	5	6.36	100	6.36
02030105150050	1.46	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.87	5	7.28	100	7.28
02030105150050	1.48	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.07	15	22.14	140	22.14
02030105150050	1.50	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.10	15	22.52	140	22.52
02030105150050	1.52	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.91	5	7.58	100	7.58
02030105150050	1.59	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.23	15	23.90	140	23.90
02030105150050	1.62	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	1.62	10	16.20	120	16.20
02030105150050	1.62	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.27	15	24.33	140	24.33
02030105150050	1.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.98	5	8.14	100	8.14
02030105150050	2.03	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.85	15	30.49	140	30.49
02030105150050	2.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.28	5	10.71	100	10.71
02030105150050	2.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.32	5	11.01	100	11.01
02030105150050	2.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.25	15	34.79	140	34.79
02030105150050	2.70	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.70	10	26.99	120	26.99
02030105150050	2.88	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.88	10	28.80	120	28.80
02030105150050	3.07	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.29	15	45.99	140	45.99
02030105150050	3.09	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.32	15	46.32	140	46.32
02030105150050	3.28	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.59	15	49.18	140	49.18
02030105150050	3.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.65	15	49.84	140	49.84
02030105150050	3.36	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.70	15	50.39	140	50.39
02030105150050	3.82	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	5.35	15	57.30	140	57.30
02030105150050	4.02	COMMERCIAL/SERVICES	URBAN	2.1	8.45	22	88.49	200	88.49
02030105150050	5.22	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.13	5	26.11	100	26.11
02030105150050	5.28	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.17	5	26.41	100	26.41
02030105150050	5.55	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.33	5	27.73	100	27.73
02030105150050	5.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.45	5	28.71	100	28.71
02030105150050	6.28	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	8.80	15	94.27	140	94.27
02030105150050	7.21	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	10.10	15	108.22	140	108.22

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150050	7.38	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.43	5	36.92	100	36.92
02030105150050	8.45	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.07	5	42.26	100	42.26
02030105150050	9.24	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	12.93	15	138.53	140	138.53
02030105150050	9.39	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.63	5	46.95	100	46.95
02030105150050	10.11	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	6.07	5	50.57	100	50.57
02030105150050	13.67	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	8.20	5	68.36	100	68.36
02030105150050	14.74	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	20.63	15	221.05	140	221.05
02030105150050	16.16	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	9.70	5	80.81	100	80.81
02030105150050	203.94	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	122.37	5	1,019.72	100	1,019.72
			Totals:		**325**		**3,180**		**3,180**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150040	0.12	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.16	10	1.20	300	1.20
02030105150040	0.39	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.51	10	3.89	300	3.89
02030105150040	0.56	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.73	10	5.61	300	5.61
02030105150040	0.74	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.96	10	7.42	300	7.42
02030105150040	0.79	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.02	10	7.87	300	7.87
02030105150040	1.21	OTHER AGRICULTURE	AGRICULTURE	1.3	1.57	10	12.07	300	12.07
02030105150040	4.01	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	5.22	10	40.12	300	40.12
02030105150040	6.05	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.87	10	60.54	300	60.54
02030105150040	8.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	10.78	10	82.90	300	82.90
02030105150040	16.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	21.10	10	162.30	300	162.30
02030105150040	30.76	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	39.99	10	307.60	300	307.60
02030105150040	0.47	TRANSITIONAL AREAS	BARREN LAND	0.5	0.24	5	2.37	60	2.37
02030105150040	0.71	UNDIFFERENTIATED BARREN LANDS	BARREN LAND	0.5	0.35	5	3.55	60	3.55
02030105150040	0.81	UNDIFFERENTIATED BARREN LANDS	BARREN LAND	0.5	0.40	5	4.03	60	4.03
02030105150040	1.33	TRANSITIONAL AREAS	BARREN LAND	0.5	0.66	5	6.63	60	6.63
02030105150040	1.48	TRANSITIONAL AREAS	BARREN LAND	0.5	0.74	5	7.40	60	7.40
02030105150040	1.92	TRANSITIONAL AREAS	BARREN LAND	0.5	0.96	5	9.60	60	9.60
02030105150040	2.18	TRANSITIONAL AREAS	BARREN LAND	0.5	1.09	5	10.90	60	10.90
02030105150040	2.45	TRANSITIONAL AREAS	BARREN LAND	0.5	1.23	5	12.26	60	12.26
02030105150040	2.61	TRANSITIONAL AREAS	BARREN LAND	0.5	1.31	5	13.06	60	13.06
02030105150040	2.77	TRANSITIONAL AREAS	BARREN LAND	0.5	1.39	5	13.86	60	13.86
02030105150040	2.93	TRANSITIONAL AREAS	BARREN LAND	0.5	1.46	5	14.64	60	14.64
02030105150040	3.38	TRANSITIONAL AREAS	BARREN LAND	0.5	1.69	5	16.92	60	16.92
02030105150040	4.39	TRANSITIONAL AREAS	BARREN LAND	0.5	2.19	5	21.93	60	21.93
02030105150040	5.00	UNDIFFERENTIATED BARREN LANDS	BARREN LAND	0.5	2.50	5	24.99	60	24.99
02030105150040	5.22	TRANSITIONAL AREAS	BARREN LAND	0.5	2.61	5	26.08	60	26.08
02030105150040	6.44	TRANSITIONAL AREAS	BARREN LAND	0.5	3.22	5	32.22	60	32.22
02030105150040	0.11	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.01	3	0.32	40	0.32
02030105150040	0.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.01	3	0.45	40	0.45
02030105150040	0.18	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.02	3	0.55	40	0.55
02030105150040	0.24	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.71	40	0.71
02030105150040	0.24	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.73	40	0.73
02030105150040	0.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.84	40	0.84
02030105150040	0.29	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.86	40	0.86
02030105150040	0.29	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.87	40	0.87
02030105150040	0.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.12	40	1.12
02030105150040	0.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.20	40	1.20
02030105150040	0.47	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.42	40	1.42
02030105150040	0.51	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.53	40	1.53
02030105150040	0.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.55	40	1.55
02030105150040	0.58	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.06	3	1.75	40	1.75
02030105150040	0.66	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	1.99	40	1.99
02030105150040	0.81	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.42	40	2.42
02030105150040	0.81	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.42	40	2.42
02030105150040	0.85	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.56	40	2.56
02030105150040	0.96	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.87	40	2.87
02030105150040	0.98	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.93	40	2.93
02030105150040	1.01	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.10	3	3.04	40	3.04
02030105150040	1.02	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.06	40	3.06
02030105150040	1.05	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.11	3	3.16	40	3.16
02030105150040	1.11	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.11	3	3.33	40	3.33
02030105150040	1.18	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.12	3	3.53	40	3.53
02030105150040	1.19	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.57	40	3.57
02030105150040	1.20	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.12	3	3.59	40	3.59
02030105150040	1.21	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.63	40	3.63
02030105150040	1.21	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.64	40	3.64
02030105150040	1.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.67	40	3.67
02030105150040	1.26	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.77	40	3.77
02030105150040	1.26	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.78	40	3.78
02030105150040	1.31	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.92	40	3.92
02030105150040	1.36	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.08	40	4.08
02030105150040	1.37	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.14	3	4.10	40	4.10
02030105150040	1.37	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.11	40	4.11
02030105150040	1.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.20	40	4.20
02030105150040	1.47	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.42	40	4.42
02030105150040	1.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.55	40	4.55
02030105150040	1.53	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.58	40	4.58
02030105150040	1.54	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.61	40	4.61
02030105150040	1.54	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.62	40	4.62
02030105150040	1.56	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.16	3	4.69	40	4.69
02030105150040	1.58	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.74	40	4.74
02030105150040	1.65	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	4.96	40	4.96
02030105150040	1.69	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.17	3	5.06	40	5.06
02030105150040	1.80	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.18	3	5.39	40	5.39
02030105150040	1.89	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.19	3	5.68	40	5.68
02030105150040	1.93	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.79	40	5.79
02030105150040	2.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	6.03	40	6.03
02030105150040	2.02	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	6.06	40	6.06
02030105150040	2.14	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.42	40	6.42
02030105150040	2.14	CONIFEROUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.43	40	6.43
02030105150040	2.19	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.22	3	6.57	40	6.57
02030105150040	2.23	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.22	3	6.68	40	6.68
02030105150040	2.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.11	40	7.11
02030105150040	2.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.11	40	7.11
02030105150040	2.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.19	40	7.19
02030105150040	2.68	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.27	3	8.04	40	8.04
02030105150040	2.71	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.27	3	8.12	40	8.12
02030105150040	2.88	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.29	3	8.64	40	8.64
02030105150040	2.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	8.97	40	8.97
02030105150040	3.02	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	9.05	40	9.05
02030105150040	3.06	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.19	40	9.19
02030105150040	3.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.45	40	9.45
02030105150040	3.33	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.33	3	9.99	40	9.99
02030105150040	3.54	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.35	3	10.61	40	10.61
02030105150040	3.80	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.38	3	11.40	40	11.40
02030105150040	4.27	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.43	3	12.82	40	12.82
02030105150040	4.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.44	3	13.13	40	13.13
02030105150040	4.57	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.46	3	13.70	40	13.70
02030105150040	4.84	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.48	3	14.53	40	14.53

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150040	4.86	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.49	3	14.59	40	14.59
02030105150040	5.13	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.51	3	15.40	40	15.40
02030105150040	5.16	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.52	3	15.47	40	15.47
02030105150040	5.85	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.58	3	17.54	40	17.54
02030105150040	5.88	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.59	3	17.64	40	17.64
02030105150040	6.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.65	3	19.50	40	19.50
02030105150040	6.56	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.66	3	19.69	40	19.69
02030105150040	7.06	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.71	3	21.18	40	21.18
02030105150040	7.30	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.73	3	21.89	40	21.89
02030105150040	7.46	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.75	3	22.39	40	22.39
02030105150040	9.46	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.95	3	28.39	40	28.39
02030105150040	9.47	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.95	3	28.41	40	28.41
02030105150040	9.57	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.96	3	28.70	40	28.70
02030105150040	9.92	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.99	3	29.75	40	29.75
02030105150040	28.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.85	3	85.50	40	85.50
02030105150040	34.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	3.44	3	103.14	40	103.14
02030105150040	35.86	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	3.59	3	107.58	40	107.58
02030105150040	0.10	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.06	5	0.51	100	0.51
02030105150040	0.11	COMMERCIAL/SERVICES	URBAN	2.1	0.22	22	2.31	200	2.31
02030105150040	0.11	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.15	15	1.64	140	1.64
02030105150040	0.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.58	100	0.58
02030105150040	0.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.60	100	0.60
02030105150040	0.12	COMMERCIAL/SERVICES	URBAN	2.1	0.26	22	2.72	200	2.72
02030105150040	0.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.64	100	0.64
02030105150040	0.15	COMMERCIAL/SERVICES	URBAN	2.1	0.31	22	3.22	200	3.22
02030105150040	0.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.73	100	0.73
02030105150040	0.15	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.15	10	1.47	120	1.47
02030105150040	0.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.75	100	0.75
02030105150040	0.16	RECREATIONAL LAND	URBAN	1.0	0.16	10	1.59	120	1.59
02030105150040	0.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.10	5	0.84	100	0.84
02030105150040	0.17	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.10	5	0.84	100	0.84
02030105150040	0.18	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.26	15	2.74	140	2.74
02030105150040	0.19	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.26	15	2.79	140	2.79
02030105150040	0.19	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.27	15	2.85	140	2.85
02030105150040	0.19	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.12	5	0.96	100	0.96
02030105150040	0.19	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.12	5	0.97	100	0.97
02030105150040	0.20	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.20	10	2.01	120	2.01
02030105150040	0.20	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.29	15	3.07	140	3.07
02030105150040	0.21	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.29	15	3.12	140	3.12
02030105150040	0.21	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.29	15	3.12	140	3.12
02030105150040	0.22	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.13	5	1.09	100	1.09
02030105150040	0.23	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.32	15	3.46	140	3.46
02030105150040	0.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.14	5	1.16	100	1.16
02030105150040	0.25	RECREATIONAL LAND	URBAN	1.0	0.25	10	2.46	120	2.46
02030105150040	0.27	COMMERCIAL/SERVICES	URBAN	2.1	0.56	22	5.83	200	5.83
02030105150040	0.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.16	5	1.36	100	1.36
02030105150040	0.28	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.17	5	1.38	100	1.38
02030105150040	0.28	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.28	10	2.78	120	2.78
02030105150040	0.28	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.17	5	1.41	100	1.41
02030105150040	0.32	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.19	5	1.59	100	1.59
02030105150040	0.34	COMMERCIAL/SERVICES	URBAN	2.1	0.70	22	7.38	200	7.38
02030105150040	0.34	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.48	15	5.12	140	5.12
02030105150040	0.35	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.35	10	3.47	120	3.47
02030105150040	0.40	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.24	5	1.99	100	1.99
02030105150040	0.41	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.25	5	2.06	100	2.06
02030105150040	0.42	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.58	15	6.23	140	6.23
02030105150040	0.42	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.42	10	4.21	120	4.21
02030105150040	0.44	COMMERCIAL/SERVICES	URBAN	2.1	0.92	22	9.69	200	9.69
02030105150040	0.45	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.62	15	6.68	140	6.68
02030105150040	0.45	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.27	5	2.23	100	2.23
02030105150040	0.45	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.27	5	2.27	100	2.27
02030105150040	0.46	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.46	10	4.57	120	4.57
02030105150040	0.51	RECREATIONAL LAND	URBAN	1.0	0.51	10	5.05	120	5.05
02030105150040	0.51	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.71	15	7.62	140	7.62
02030105150040	0.51	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.51	10	5.11	120	5.11
02030105150040	0.52	RECREATIONAL LAND	URBAN	1.0	0.52	10	5.23	120	5.23
02030105150040	0.53	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.74	15	7.95	140	7.95
02030105150040	0.55	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.33	5	2.74	100	2.74
02030105150040	0.56	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.33	5	2.78	100	2.78
02030105150040	0.57	COMMERCIAL/SERVICES	URBAN	2.1	1.19	22	12.50	200	12.50
02030105150040	0.57	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.34	5	2.86	100	2.86
02030105150040	0.57	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.57	10	5.74	120	5.74
02030105150040	0.61	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.37	5	3.07	100	3.07
02030105150040	0.64	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.64	10	6.43	120	6.43
02030105150040	0.66	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.66	10	6.57	120	6.57
02030105150040	0.68	COMMERCIAL/SERVICES	URBAN	2.1	1.42	22	14.87	200	14.87
02030105150040	0.72	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.00	15	10.76	140	10.76
02030105150040	0.73	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.73	10	7.32	120	7.32
02030105150040	0.74	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.74	10	7.35	120	7.35
02030105150040	0.76	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.76	10	7.60	120	7.60
02030105150040	0.78	COMMERCIAL/SERVICES	URBAN	2.1	1.64	22	17.19	200	17.19
02030105150040	0.79	COMMERCIAL/SERVICES	URBAN	2.1	1.65	22	17.34	200	17.34
02030105150040	0.81	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.49	5	4.07	100	4.07
02030105150040	0.81	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.49	5	4.07	100	4.07
02030105150040	0.82	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.14	15	12.26	140	12.26
02030105150040	0.83	RECREATIONAL LAND	URBAN	1.0	0.83	10	8.31	120	8.31
02030105150040	0.87	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.87	10	8.65	120	8.65
02030105150040	0.87	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.52	5	4.33	100	4.33
02030105150040	0.90	COMMERCIAL/SERVICES	URBAN	2.1	1.88	22	19.75	200	19.75
02030105150040	0.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.55	5	4.59	100	4.59
02030105150040	0.94	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.31	15	14.03	140	14.03
02030105150040	0.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.57	5	4.76	100	4.76
02030105150040	0.97	COMMERCIAL/SERVICES	URBAN	2.1	2.04	22	21.33	200	21.33
02030105150040	0.98	COMMERCIAL/SERVICES	URBAN	2.1	2.06	22	21.60	200	21.60
02030105150040	1.00	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.60	5	4.98	100	4.98
02030105150040	1.01	COMMERCIAL/SERVICES	URBAN	2.1	2.13	22	22.32	200	22.32
02030105150040	1.02	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.43	15	15.27	140	15.27
02030105150040	1.03	COMMERCIAL/SERVICES	URBAN	2.1	2.17	22	22.77	200	22.77
02030105150040	1.04	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.04	10	10.40	120	10.40

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150040	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.38	100	5.38
02030105150040	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.42	100	5.42
02030105150040	1.11	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	1.11	10	11.08	120	11.08
02030105150040	1.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.70	5	5.79	100	5.79
02030105150040	1.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.64	15	17.62	140	17.62
02030105150040	1.19	COMMERCIAL/SERVICES	URBAN	2.1	2.50	22	26.19	200	26.19
02030105150040	1.24	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.74	5	6.18	100	6.18
02030105150040	1.24	RECREATIONAL LAND	URBAN	1.0	1.24	10	12.40	120	12.40
02030105150040	1.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.76	5	6.36	100	6.36
02030105150040	1.27	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.27	10	12.74	120	12.74
02030105150040	1.28	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.77	5	6.38	100	6.38
02030105150040	1.28	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.77	5	6.39	100	6.39
02030105150040	1.29	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.29	10	12.86	120	12.86
02030105150040	1.32	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.79	5	6.59	100	6.59
02030105150040	1.35	COMMERCIAL/SERVICES	URBAN	2.1	2.83	22	29.65	200	29.65
02030105150040	1.35	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.89	15	20.29	140	20.29
02030105150040	1.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.82	5	6.83	100	6.83
02030105150040	1.37	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.37	10	13.66	120	13.66
02030105150040	1.38	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.93	15	20.72	140	20.72
02030105150040	1.40	COMMERCIAL/SERVICES	URBAN	2.1	2.93	22	30.71	200	30.71
02030105150040	1.41	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.97	15	21.13	140	21.13
02030105150040	1.42	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.85	5	7.11	100	7.11
02030105150040	1.43	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.43	10	14.33	120	14.33
02030105150040	1.44	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.44	10	14.38	120	14.38
02030105150040	1.45	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.03	15	21.78	140	21.78
02030105150040	1.48	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.48	10	14.77	120	14.77
02030105150040	1.50	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.90	5	7.48	100	7.48
02030105150040	1.52	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.52	10	15.18	120	15.18
02030105150040	1.52	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.52	10	15.20	120	15.20
02030105150040	1.53	COMMERCIAL/SERVICES	URBAN	2.1	3.22	22	33.74	200	33.74
02030105150040	1.53	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.53	10	15.34	120	15.34
02030105150040	1.54	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.92	5	7.69	100	7.69
02030105150040	1.57	COMMERCIAL/SERVICES	URBAN	2.1	3.29	22	34.51	200	34.51
02030105150040	1.60	COMMERCIAL/SERVICES	URBAN	2.1	3.36	22	35.19	200	35.19
02030105150040	1.60	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.96	5	8.01	100	8.01
02030105150040	1.60	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.96	5	8.02	100	8.02
02030105150040	1.61	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.97	5	8.05	100	8.05
02030105150040	1.64	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.29	15	24.56	140	24.56
02030105150040	1.66	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.00	5	8.32	100	8.32
02030105150040	1.70	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.02	5	8.49	100	8.49
02030105150040	1.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.05	5	8.72	100	8.72
02030105150040	1.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.05	5	8.75	100	8.75
02030105150040	1.76	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.05	5	8.79	100	8.79
02030105150040	1.77	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.47	15	26.49	140	26.49
02030105150040	1.78	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.50	15	26.74	140	26.74
02030105150040	1.82	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.54	15	27.25	140	27.25
02030105150040	1.86	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.12	5	9.32	100	9.32
02030105150040	1.91	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.15	5	9.55	100	9.55
02030105150040	1.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.16	5	9.68	100	9.68
02030105150040	1.98	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	1.98	10	19.75	120	19.75
02030105150040	2.01	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.20	5	10.03	100	10.03
02030105150040	2.04	INDUSTRIAL	URBAN	1.5	3.06	16	32.69	200	32.69
02030105150040	2.12	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.97	15	31.80	140	31.80
02030105150040	2.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.29	5	10.77	100	10.77
02030105150040	2.17	COMMERCIAL/SERVICES	URBAN	2.1	4.56	22	47.78	200	47.78
02030105150040	2.22	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.10	15	33.24	140	33.24
02030105150040	2.23	RECREATIONAL LAND	URBAN	1.0	2.23	10	22.31	120	22.31
02030105150040	2.26	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.36	5	11.30	100	11.30
02030105150040	2.29	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	3.21	15	34.40	140	34.40
02030105150040	2.33	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.33	10	23.27	120	23.27
02030105150040	2.34	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.41	5	11.71	100	11.71
02030105150040	2.36	INDUSTRIAL	URBAN	1.5	3.55	16	37.82	200	37.82
02030105150040	2.40	INDUSTRIAL	URBAN	1.5	3.60	16	38.39	200	38.39
02030105150040	2.41	COMMERCIAL/SERVICES	URBAN	2.1	5.06	22	53.00	200	53.00
02030105150040	2.50	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.50	5	12.48	100	12.48
02030105150040	2.51	RECREATIONAL LAND	URBAN	1.0	2.51	10	25.10	120	25.10
02030105150040	2.51	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.52	15	37.72	140	37.72
02030105150040	2.56	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.54	5	12.82	100	12.82
02030105150040	2.68	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.61	5	13.41	100	13.41
02030105150040	2.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.63	5	13.55	100	13.55
02030105150040	2.75	COMMERCIAL/SERVICES	URBAN	2.1	5.77	22	60.49	200	60.49
02030105150040	2.79	COMMERCIAL/SERVICES	URBAN	2.1	5.86	22	61.34	200	61.34
02030105150040	2.80	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.80	10	28.00	120	28.00
02030105150040	2.85	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	3.99	15	42.71	140	42.71
02030105150040	2.85	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.85	10	28.53	120	28.53
02030105150040	2.92	COMMERCIAL/SERVICES	URBAN	2.1	6.12	22	64.16	200	64.16
02030105150040	2.96	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.96	10	29.60	120	29.60
02030105150040	3.29	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	4.60	15	49.29	140	49.29
02030105150040	3.35	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.70	15	50.31	140	50.31
02030105150040	3.36	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.70	15	50.35	140	50.35
02030105150040	3.44	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.06	5	17.19	100	17.19
02030105150040	3.48	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.88	15	52.26	140	52.26
02030105150040	3.49	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.09	5	17.43	100	17.43
02030105150040	3.57	RECREATIONAL LAND	URBAN	1.0	3.57	10	35.69	120	35.69
02030105150040	3.59	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.15	5	17.96	100	17.96
02030105150040	3.60	RECREATIONAL LAND	URBAN	1.0	3.60	10	35.97	120	35.97
02030105150040	3.64	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.18	5	18.20	100	18.20
02030105150040	3.80	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	3.80	10	38.01	120	38.01
02030105150040	3.84	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	5.38	15	57.64	140	57.64
02030105150040	3.87	COMMERCIAL/SERVICES	URBAN	2.1	8.13	22	85.14	200	85.14
02030105150040	3.90	RECREATIONAL LAND	URBAN	1.0	3.90	10	38.96	120	38.96
02030105150040	3.91	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	5.48	15	58.67	140	58.67
02030105150040	3.97	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	5.56	15	59.59	140	59.59
02030105150040	4.05	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.43	5	20.26	100	20.26
02030105150040	4.12	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	5.76	15	61.75	140	61.75
02030105150040	4.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.56	5	21.34	100	21.34
02030105150040	4.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.56	5	21.36	100	21.36
02030105150040	4.29	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	4.29	10	42.94	120	42.94
02030105150040	4.44	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	6.21	15	66.54	140	66.54

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150040	4.46	COMMERCIAL/SERVICES	URBAN	2.1	9.37	22	98.17	200	98.17
02030105150040	4.72	RECREATIONAL LAND	URBAN	1.0	4.72	10	47.16	120	47.16
02030105150040	4.75	COMMERCIAL/SERVICES	URBAN	2.1	9.97	22	104.43	200	104.43
02030105150040	4.85	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	6.80	15	72.82	140	72.82
02030105150040	4.90	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	6.87	15	73.57	140	73.57
02030105150040	4.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.95	5	24.60	100	24.60
02030105150040	5.00	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	5.00	10	49.95	120	49.95
02030105150040	5.35	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.21	5	26.73	100	26.73
02030105150040	5.36	ATHLETIC FIELDS (SCHOOLS)	URBAN	1.0	5.36	10	53.56	120	53.56
02030105150040	5.46	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	5.46	10	54.56	120	54.56
02030105150040	5.71	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.42	5	28.53	100	28.53
02030105150040	5.71	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	8.00	15	85.66	140	85.66
02030105150040	5.86	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	5.86	10	58.63	120	58.63
02030105150040	5.89	RECREATIONAL LAND	URBAN	1.0	5.89	10	58.94	120	58.94
02030105150040	5.92	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	8.28	15	88.73	140	88.73
02030105150040	6.03	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.62	5	30.13	100	30.13
02030105150040	6.48	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.89	5	32.38	100	32.38
02030105150040	6.54	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.92	5	32.69	100	32.69
02030105150040	6.54	COMMERCIAL/SERVICES	URBAN	2.1	13.74	22	143.98	200	143.98
02030105150040	6.57	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	9.20	15	98.57	140	98.57
02030105150040	6.67	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	6.67	10	66.70	120	66.70
02030105150040	6.71	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	9.40	15	100.72	140	100.72
02030105150040	7.08	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	7.08	10	70.76	120	70.76
02030105150040	7.30	RECREATIONAL LAND	URBAN	1.0	7.30	10	73.00	120	73.00
02030105150040	7.57	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	10.59	15	113.52	140	113.52
02030105150040	7.63	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	7.63	10	76.32	120	76.32
02030105150040	7.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.67	5	38.95	100	38.95
02030105150040	7.82	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	10.94	15	117.24	140	117.24
02030105150040	8.23	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	8.23	10	82.28	120	82.28
02030105150040	8.93	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	12.50	15	133.93	140	133.93
02030105150040	9.50	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	5.70	5	47.49	100	47.49
02030105150040	9.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.95	5	49.58	100	49.58
02030105150040	9.97	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	9.97	10	99.68	120	99.68
02030105150040	11.02	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	15.43	15	165.30	140	165.30
02030105150040	11.18	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	15.65	15	167.69	140	167.69
02030105150040	11.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	15.85	15	169.85	140	169.85
02030105150040	11.49	COMMERCIAL/SERVICES	URBAN	2.1	24.14	22	252.86	200	252.86
02030105150040	11.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	7.05	5	58.71	100	58.71
02030105150040	12.88	INDUSTRIAL	URBAN	1.5	19.32	16	206.05	200	206.05
02030105150040	13.51	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	13.51	10	135.14	120	135.14
02030105150040	13.76	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	19.26	15	206.35	140	206.35
02030105150040	14.26	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	14.26	10	142.64	120	142.64
02030105150040	15.50	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	9.30	5	77.48	100	77.48
02030105150040	15.53	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	21.75	15	232.99	140	232.99
02030105150040	15.82	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	9.49	5	79.09	100	79.09
02030105150040	19.27	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	26.98	15	289.10	140	289.10
02030105150040	19.31	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	19.31	10	193.07	120	193.07
02030105150040	20.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	12.12	5	100.98	100	100.98
02030105150040	21.89	ATHLETIC FIELDS (SCHOOLS)	URBAN	1.0	21.89	10	218.88	120	218.88
02030105150040	25.79	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	36.10	15	386.79	140	386.79
02030105150040	34.52	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	34.52	10	345.16	120	345.16
02030105150040	38.29	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	22.98	5	191.46	100	191.46
02030105150040	44.42	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	44.42	10	444.25	120	444.25
02030105150040	59.51	RECREATIONAL LAND	URBAN	1.0	59.51	10	595.08	120	595.08
02030105150040	65.58	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	39.35	5	327.90	100	327.90
02030105150040	85.37	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	51.22	5	426.84	100	426.84
02030105150040	134.23	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	134.23	10	1,342.27	120	1,342.27
02030105150040	230.05	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	138.03	5	1,150.24	100	1,150.24
02030105150040	361.83	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	217.10	5	1,809.13	100	1,809.13
			Totals:		**1714**		**16880**		**16880**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150030	0.54	OTHER AGRICULTURE	AGRICULTURE	1.3	0.70	10	5.38	300	5.38
02030105150030	0.62	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.81	10	6.21	300	6.21
02030105150030	0.69	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.89	10	6.85	300	6.85
02030105150030	0.73	OTHER AGRICULTURE	AGRICULTURE	1.3	0.95	10	7.27	300	7.27
02030105150030	1.18	OTHER AGRICULTURE	AGRICULTURE	1.3	1.53	10	11.80	300	11.80
02030105150030	1.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.59	10	12.27	300	12.27
02030105150030	1.61	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.09	10	16.06	300	16.06
02030105150030	1.96	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.54	10	19.57	300	19.57
02030105150030	3.31	OTHER AGRICULTURE	AGRICULTURE	1.3	4.31	10	33.13	300	33.13
02030105150030	3.50	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.55	10	35.02	300	35.02
02030105150030	4.84	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.29	10	48.36	300	48.36
02030105150030	6.62	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	8.61	10	66.20	300	66.20
02030105150030	7.01	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.11	10	70.11	300	70.11
02030105150030	7.99	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	10.39	10	79.92	300	79.92
02030105150030	9.86	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	12.82	10	98.64	300	98.64
02030105150030	10.66	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	13.85	10	106.55	300	106.55
02030105150030	12.50	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	16.25	10	125.03	300	125.03
02030105150030	13.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	17.28	10	132.91	300	132.91
02030105150030	15.08	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	19.60	10	150.75	300	150.75
02030105150030	0.24	ALTERED LANDS	BARREN LAND	0.5	0.12	5	1.19	60	1.19
02030105150030	0.27	ALTERED LANDS	BARREN LAND	0.5	0.14	5	1.37	60	1.37
02030105150030	0.34	ALTERED LANDS	BARREN LAND	0.5	0.17	5	1.72	60	1.72
02030105150030	5.26	ALTERED LANDS	BARREN LAND	0.5	2.63	5	26.32	60	26.32
02030105150030	0.11	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.01	3	0.33	40	0.33
02030105150030	0.20	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.02	3	0.59	40	0.59
02030105150030	0.26	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.03	3	0.79	40	0.79
02030105150030	0.34	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	1.03	40	1.03
02030105150030	0.54	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.05	3	1.62	40	1.62
02030105150030	0.67	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.07	3	2.01	40	2.01
02030105150030	0.78	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.33	40	2.33
02030105150030	0.79	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.36	40	2.36
02030105150030	0.85	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.08	3	2.54	40	2.54
02030105150030	0.91	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.72	40	2.72
02030105150030	0.92	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.76	40	2.76
02030105150030	0.94	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.83	40	2.83
02030105150030	0.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.91	40	2.91
02030105150030	0.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.98	40	2.98
02030105150030	1.00	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.01	40	3.01
02030105150030	1.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.11	40	3.11
02030105150030	1.05	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.15	40	3.15
02030105150030	1.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.45	40	3.45
02030105150030	1.16	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.48	40	3.48
02030105150030	1.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.60	40	3.60
02030105150030	1.20	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.61	40	3.61
02030105150030	1.23	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.68	40	3.68
02030105150030	1.23	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.12	3	3.68	40	3.68
02030105150030	1.25	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.74	40	3.74
02030105150030	1.26	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.13	3	3.78	40	3.78
02030105150030	1.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.83	40	3.83
02030105150030	1.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.19	40	4.19
02030105150030	1.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.20	40	4.20
02030105150030	1.45	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.36	40	4.36
02030105150030	1.49	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.47	40	4.47
02030105150030	1.56	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.16	3	4.67	40	4.67
02030105150030	1.56	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.69	40	4.69
02030105150030	1.60	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.79	40	4.79
02030105150030	1.66	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	4.99	40	4.99
02030105150030	1.69	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.06	40	5.06
02030105150030	1.71	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.14	40	5.14
02030105150030	1.73	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.18	40	5.18
02030105150030	1.75	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.18	3	5.26	40	5.26
02030105150030	1.77	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.18	3	5.31	40	5.31
02030105150030	1.78	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.18	3	5.34	40	5.34
02030105150030	1.86	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.19	3	5.59	40	5.59
02030105150030	1.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.66	40	5.66
02030105150030	1.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.68	40	5.68
02030105150030	1.92	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.19	3	5.77	40	5.77
02030105150030	1.95	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.85	40	5.85
02030105150030	1.97	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.20	3	5.91	40	5.91
02030105150030	2.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	6.04	40	6.04
02030105150030	2.09	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.28	40	6.28
02030105150030	2.11	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.21	3	6.34	40	6.34
02030105150030	2.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.23	3	6.84	40	6.84
02030105150030	2.31	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.23	3	6.92	40	6.92
02030105150030	2.32	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.23	3	6.95	40	6.95
02030105150030	2.38	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.24	3	7.15	40	7.15
02030105150030	2.39	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.18	40	7.18
02030105150030	2.44	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.31	40	7.31
02030105150030	2.47	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.41	40	7.41
02030105150030	2.49	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.47	40	7.47
02030105150030	2.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.56	40	7.56
02030105150030	2.57	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.26	3	7.70	40	7.70
02030105150030	2.61	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.26	3	7.84	40	7.84
02030105150030	2.63	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.26	3	7.89	40	7.89
02030105150030	2.77	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.28	3	8.32	40	8.32
02030105150030	3.06	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.18	40	9.18
02030105150030	3.06	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.31	3	9.19	40	9.19
02030105150030	3.27	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.33	3	9.81	40	9.81
02030105150030	3.40	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.34	3	10.19	40	10.19
02030105150030	3.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.35	3	10.50	40	10.50
02030105150030	3.62	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.36	3	10.85	40	10.85
02030105150030	3.79	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.38	3	11.38	40	11.38
02030105150030	3.96	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	11.88	40	11.88
02030105150030	4.01	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOS	FOREST	0.1	0.40	3	12.03	40	12.03
02030105150030	4.19	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.42	3	12.57	40	12.57
02030105150030	4.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.42	3	12.59	40	12.59
02030105150030	4.61	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.46	3	13.83	40	13.83
02030105150030	5.21	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.52	3	15.63	40	15.63
02030105150030	5.75	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.58	3	17.26	40	17.26

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150030	5.98	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.60	3	17.95	40	17.95
02030105150030	6.16	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.62	3	18.49	40	18.49
02030105150030	6.35	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.64	3	19.06	40	19.06
02030105150030	6.45	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.64	3	19.34	40	19.34
02030105150030	8.44	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.84	3	25.31	40	25.31
02030105150030	10.30	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	1.03	3	30.90	40	30.90
02030105150030	12.54	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.25	3	37.63	40	37.63
02030105150030	22.45	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.25	3	67.35	40	67.35
02030105150030	0.10	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.14	15	1.55	140	1.55
02030105150030	0.11	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.57	100	0.57
02030105150030	0.15	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.09	5	0.73	100	0.73
02030105150030	0.15	COMMERCIAL/SERVICES	URBAN	2.1	0.32	22	3.40	200	3.40
02030105150030	0.19	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.11	5	0.95	100	0.95
02030105150030	0.20	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.28	15	2.96	140	2.96
02030105150030	0.20	RECREATIONAL LAND	URBAN	1.0	0.20	10	1.98	120	1.98
02030105150030	0.26	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.26	10	2.62	120	2.62
02030105150030	0.26	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	0.26	10	2.63	120	2.63
02030105150030	0.26	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.37	15	3.96	140	3.96
02030105150030	0.28	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.17	5	1.40	100	1.40
02030105150030	0.29	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.29	10	2.92	120	2.92
02030105150030	0.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.44	15	4.73	140	4.73
02030105150030	0.34	COMMERCIAL/SERVICES	URBAN	2.1	0.72	22	7.52	200	7.52
02030105150030	0.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.22	5	1.84	100	1.84
02030105150030	0.41	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.25	5	2.06	100	2.06
02030105150030	0.47	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.65	15	6.98	140	6.98
02030105150030	0.47	COMMERCIAL/SERVICES	URBAN	2.1	0.98	22	10.31	200	10.31
02030105150030	0.47	COMMERCIAL/SERVICES	URBAN	2.1	0.99	22	10.37	200	10.37
02030105150030	0.49	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.29	5	2.45	100	2.45
02030105150030	0.50	COMMERCIAL/SERVICES	URBAN	2.1	1.06	22	11.08	200	11.08
02030105150030	0.54	COMMERCIAL/SERVICES	URBAN	2.1	1.13	22	11.84	200	11.84
02030105150030	0.56	COMMERCIAL/SERVICES	URBAN	2.1	1.17	22	12.30	200	12.30
02030105150030	0.56	COMMERCIAL/SERVICES	URBAN	2.1	1.18	22	12.36	200	12.36
02030105150030	0.57	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.80	15	8.58	140	8.58
02030105150030	0.61	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.36	5	3.03	100	3.03
02030105150030	0.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.38	5	3.15	100	3.15
02030105150030	0.63	COMMERCIAL/SERVICES	URBAN	2.1	1.33	22	13.97	200	13.97
02030105150030	0.64	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.64	10	6.37	120	6.37
02030105150030	0.69	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.42	5	3.47	100	3.47
02030105150030	0.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.45	5	3.76	100	3.76
02030105150030	0.76	INDUSTRIAL	URBAN	1.5	1.14	16	12.12	200	12.12
02030105150030	0.80	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.48	5	4.01	100	4.01
02030105150030	0.81	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.14	15	12.22	140	12.22
02030105150030	0.83	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.83	10	8.30	120	8.30
02030105150030	0.83	COMMERCIAL/SERVICES	URBAN	2.1	1.75	22	18.33	200	18.33
02030105150030	0.90	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.26	15	13.54	140	13.54
02030105150030	0.91	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.55	5	4.55	100	4.55
02030105150030	0.92	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.55	5	4.62	100	4.62
02030105150030	0.93	COMMERCIAL/SERVICES	URBAN	2.1	1.96	22	20.53	200	20.53
02030105150030	0.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.56	5	4.70	100	4.70
02030105150030	0.95	COMMERCIAL/SERVICES	URBAN	2.1	1.99	22	20.85	200	20.85
02030105150030	0.96	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.57	5	4.79	100	4.79
02030105150030	0.97	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.97	10	9.74	120	9.74
02030105150030	0.98	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.98	10	9.82	120	9.82
02030105150030	1.00	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.60	5	4.99	100	4.99
02030105150030	1.00	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.00	10	10.02	120	10.02
02030105150030	1.04	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.45	15	15.53	140	15.53
02030105150030	1.04	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.62	5	5.18	100	5.18
02030105150030	1.05	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.47	15	15.71	140	15.71
02030105150030	1.06	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.06	10	10.57	120	10.57
02030105150030	1.06	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.64	5	5.32	100	5.32
02030105150030	1.08	COMMERCIAL/SERVICES	URBAN	2.1	2.26	22	23.67	200	23.67
02030105150030	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.40	100	5.40
02030105150030	1.09	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.09	10	10.90	120	10.90
02030105150030	1.10	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.66	5	5.52	100	5.52
02030105150030	1.11	COMMERCIAL/SERVICES	URBAN	2.1	2.32	22	24.33	200	24.33
02030105150030	1.15	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.15	10	11.48	120	11.48
02030105150030	1.16	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.16	10	11.64	120	11.64
02030105150030	1.17	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.17	10	11.66	120	11.66
02030105150030	1.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.63	15	17.49	140	17.49
02030105150030	1.18	COMMERCIAL/SERVICES	URBAN	2.1	2.49	22	26.04	200	26.04
02030105150030	1.19	COMMERCIAL/SERVICES	URBAN	2.1	2.49	22	26.10	200	26.10
02030105150030	1.19	COMMERCIAL/SERVICES	URBAN	2.1	2.49	22	26.11	200	26.11
02030105150030	1.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.72	5	5.99	100	5.99
02030105150030	1.20	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.20	10	11.99	120	11.99
02030105150030	1.25	INDUSTRIAL	URBAN	1.5	1.87	16	20.00	200	20.00
02030105150030	1.25	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.75	15	18.76	140	18.76
02030105150030	1.26	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.26	10	12.55	120	12.55
02030105150030	1.26	COMMERCIAL/SERVICES	URBAN	2.1	2.65	22	27.79	200	27.79
02030105150030	1.27	INDUSTRIAL	URBAN	1.5	1.91	16	20.38	200	20.38
02030105150030	1.28	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.28	10	12.78	120	12.78
02030105150030	1.29	COMMERCIAL/SERVICES	URBAN	2.1	2.70	22	28.27	200	28.27
02030105150030	1.30	COMMERCIAL/SERVICES	URBAN	2.1	2.74	22	28.66	200	28.66
02030105150030	1.31	COMMERCIAL/SERVICES	URBAN	2.1	2.75	22	28.83	200	28.83
02030105150030	1.33	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.80	5	6.65	100	6.65
02030105150030	1.36	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.82	5	6.81	100	6.81
02030105150030	1.38	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.38	10	13.78	120	13.78
02030105150030	1.39	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.83	5	6.95	100	6.95
02030105150030	1.39	COMMERCIAL/SERVICES	URBAN	2.1	2.93	22	30.66	200	30.66
02030105150030	1.42	COMMERCIAL/SERVICES	URBAN	2.1	2.99	22	31.32	200	31.32
02030105150030	1.42	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.42	10	14.24	120	14.24
02030105150030	1.44	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.02	15	21.61	140	21.61
02030105150030	1.45	ATHLETIC FIELDS (SCHOOLS)	URBAN	1.0	1.45	10	14.46	120	14.46
02030105150030	1.45	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.87	5	7.24	100	7.24
02030105150030	1.47	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.47	10	14.73	120	14.73
02030105150030	1.48	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.48	10	14.75	120	14.75
02030105150030	1.49	COMMERCIAL/SERVICES	URBAN	2.1	3.13	22	32.80	200	32.80
02030105150030	1.56	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.56	10	15.55	120	15.55
02030105150030	1.67	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.67	10	16.74	120	16.74
02030105150030	1.70	COMMERCIAL/SERVICES	URBAN	2.1	3.57	22	37.39	200	37.39

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150030	1.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.05	5	8.71	100	8.71
02030105150030	1.79	COMMERCIAL/SERVICES	URBAN	2.1	3.76	22	39.34	200	39.34
02030105150030	1.82	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.82	10	18.16	120	18.16
02030105150030	1.82	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	1.82	10	18.23	120	18.23
02030105150030	1.87	COMMERCIAL/SERVICES	URBAN	2.1	3.93	22	41.20	200	41.20
02030105150030	1.88	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.13	5	9.41	100	9.41
02030105150030	1.89	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.13	5	9.46	100	9.46
02030105150030	1.91	COMMERCIAL/SERVICES	URBAN	2.1	4.01	22	41.96	200	41.96
02030105150030	1.92	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.15	5	9.59	100	9.59
02030105150030	1.93	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.70	15	28.94	140	28.94
02030105150030	1.98	COMMERCIAL/SERVICES	URBAN	2.1	4.15	22	43.49	200	43.49
02030105150030	2.00	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.00	10	20.00	120	20.00
02030105150030	2.03	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.22	5	10.13	100	10.13
02030105150030	2.08	COMMERCIAL/SERVICES	URBAN	2.1	4.37	22	45.73	200	45.73
02030105150030	2.18	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.31	5	10.88	100	10.88
02030105150030	2.30	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.38	5	11.52	100	11.52
02030105150030	2.34	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.34	10	23.39	120	23.39
02030105150030	2.38	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	2.38	10	23.83	120	23.83
02030105150030	2.39	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.39	10	23.88	120	23.88
02030105150030	2.40	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.40	10	24.01	120	24.01
02030105150030	2.41	COMMERCIAL/SERVICES	URBAN	2.1	5.06	22	52.97	200	52.97
02030105150030	2.42	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.39	15	36.33	140	36.33
02030105150030	2.51	COMMERCIAL/SERVICES	URBAN	2.1	5.26	22	55.14	200	55.14
02030105150030	2.51	RECREATIONAL LAND	URBAN	1.0	2.51	10	25.13	120	25.13
02030105150030	2.53	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.52	5	12.64	100	12.64
02030105150030	2.53	COMMERCIAL/SERVICES	URBAN	2.1	5.31	22	55.65	200	55.65
02030105150030	2.60	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.64	15	38.95	140	38.95
02030105150030	2.61	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.65	15	39.08	140	39.08
02030105150030	2.62	COMMERCIAL/SERVICES	URBAN	2.1	5.50	22	57.62	200	57.62
02030105150030	2.63	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.58	5	13.17	100	13.17
02030105150030	2.64	COMMERCIAL/SERVICES	URBAN	2.1	5.54	22	57.99	200	57.99
02030105150030	2.73	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.64	5	13.66	100	13.66
02030105150030	2.83	INDUSTRIAL	URBAN	1.5	4.24	16	45.20	200	45.20
02030105150030	2.88	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	2.88	10	28.80	120	28.80
02030105150030	2.90	COMMERCIAL/SERVICES	URBAN	2.1	6.10	22	63.89	200	63.89
02030105150030	2.93	COMMERCIAL/SERVICES	URBAN	2.1	6.15	22	64.47	200	64.47
02030105150030	3.11	COMMERCIAL/SERVICES	URBAN	2.1	6.54	22	68.51	200	68.51
02030105150030	3.17	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	3.17	10	31.70	120	31.70
02030105150030	3.18	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.91	5	15.88	100	15.88
02030105150030	3.18	COMMERCIAL/SERVICES	URBAN	2.1	6.68	22	69.95	200	69.95
02030105150030	3.33	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	3.33	10	33.28	120	33.28
02030105150030	3.37	COMMERCIAL/SERVICES	URBAN	2.1	7.08	22	74.15	200	74.15
02030105150030	3.39	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.03	5	16.95	100	16.95
02030105150030	3.40	RECREATIONAL LAND	URBAN	1.0	3.40	10	33.97	120	33.97
02030105150030	3.40	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.04	5	17.01	100	17.01
02030105150030	3.46	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.08	5	17.32	100	17.32
02030105150030	3.58	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.15	5	17.92	100	17.92
02030105150030	3.69	COMMERCIAL/SERVICES	URBAN	2.1	7.76	22	81.25	200	81.25
02030105150030	3.81	COMMERCIAL/SERVICES	URBAN	2.1	8.01	22	83.89	200	83.89
02030105150030	3.84	COMMERCIAL/SERVICES	URBAN	2.1	8.07	22	84.56	200	84.56
02030105150030	3.97	COMMERCIAL/SERVICES	URBAN	2.1	8.35	22	87.43	200	87.43
02030105150030	4.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.48	5	20.68	100	20.68
02030105150030	4.29	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	4.29	10	42.93	120	42.93
02030105150030	4.39	COMMERCIAL/SERVICES	URBAN	2.1	9.21	22	96.49	200	96.49
02030105150030	4.44	INDUSTRIAL	URBAN	1.5	6.66	16	71.05	200	71.05
02030105150030	4.54	COMMERCIAL/SERVICES	URBAN	2.1	9.54	22	99.99	200	99.99
02030105150030	4.88	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.93	5	24.40	100	24.40
02030105150030	4.94	COMMERCIAL/SERVICES	URBAN	2.1	10.38	22	108.72	200	108.72
02030105150030	5.32	RECREATIONAL LAND	URBAN	1.0	5.32	10	53.19	120	53.19
02030105150030	5.39	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	5.39	10	53.86	120	53.86
02030105150030	5.70	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.42	5	28.51	100	28.51
02030105150030	6.35	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.81	5	31.76	100	31.76
02030105150030	6.51	RECREATIONAL LAND	URBAN	1.0	6.51	10	65.15	120	65.15
02030105150030	6.71	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1.0	6.71	10	67.12	120	67.12
02030105150030	7.35	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.41	5	36.77	100	36.77
02030105150030	7.55	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	10.57	15	113.25	140	113.25
02030105150030	7.65	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.59	5	38.25	100	38.25
02030105150030	8.20	COMMERCIAL/SERVICES	URBAN	2.1	17.22	22	180.44	200	180.44
02030105150030	8.42	COMMERCIAL/SERVICES	URBAN	2.1	17.67	22	185.15	200	185.15
02030105150030	9.06	ATHLETIC FIELDS (SCHOOLS)	URBAN	1.0	9.06	10	90.59	120	90.59
02030105150030	9.98	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.99	5	49.91	100	49.91
02030105150030	10.25	COMMERCIAL/SERVICES	URBAN	2.1	21.53	22	225.53	200	225.53
02030105150030	10.36	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	6.21	5	51.78	100	51.78
02030105150030	10.99	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	15.39	15	164.84	140	164.84
02030105150030	12.38	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	17.33	15	185.64	140	185.64
02030105150030	13.46	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	8.07	5	67.28	100	67.28
02030105150030	13.95	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	19.54	15	209.32	140	209.32
02030105150030	14.11	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	19.75	15	211.64	140	211.64
02030105150030	14.27	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	8.56	5	71.35	100	71.35
02030105150030	18.27	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	10.96	5	91.36	100	91.36
02030105150030	75.67	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	105.94	15	1,135.07	140	1,135.07
02030105150030	169.42	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	101.65	5	847.09	100	847.09
02030105150030	175.22	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	245.31	15	2,628.32	140	2,628.32
02030105150030	516.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	309.72	5	2,581.00	100	2,581.00
			Totals:		**1486**		**14617**		**14617**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150020	0.17	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.22	10	1.67	300	1.7
02030105150020	0.23	OTHER AGRICULTURE	AGRICULTURE	1.3	0.30	10	2.29	300	2.3
02030105150020	0.28	OTHER AGRICULTURE	AGRICULTURE	1.3	0.37	10	2.85	300	2.8
02030105150020	0.32	CONFINED FEEDING OPERATIONS	AGRICULTURE	1.3	0.42	10	3.20	300	3.2
02030105150020	0.45	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.58	10	4.46	300	4.5
02030105150020	0.60	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.77	10	5.95	300	6.0
02030105150020	0.72	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.93	10	7.17	300	7.2
02030105150020	0.79	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.03	10	7.93	300	7.9
02030105150020	0.92	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.20	10	9.23	300	9.2
02030105150020	1.03	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.34	10	10.31	300	10.3
02030105150020	1.06	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.38	10	10.60	300	10.6
02030105150020	1.66	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.16	10	16.59	300	16.6
02030105150020	1.89	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	2.46	10	18.89	300	18.9
02030105150020	1.92	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	2.50	10	19.22	300	19.2
02030105150020	2.08	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.70	10	20.80	300	20.8
02030105150020	2.40	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.12	10	23.97	300	24.0
02030105150020	2.57	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.35	10	25.74	300	25.7
02030105150020	2.92	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.80	10	29.25	300	29.2
02030105150020	2.98	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.87	10	29.76	300	29.8
02030105150020	3.33	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.33	10	33.31	300	33.3
02030105150020	3.48	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.53	10	34.83	300	34.8
02030105150020	3.89	CONFINED FEEDING OPERATIONS	AGRICULTURE	1.3	5.06	10	38.93	300	38.9
02030105150020	3.95	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	5.14	10	39.50	300	39.5
02030105150020	4.48	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	5.83	10	44.82	300	44.8
02030105150020	4.88	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.34	10	48.80	300	48.8
02030105150020	5.42	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.04	10	54.18	300	54.2
02030105150020	5.96	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.75	10	59.63	300	59.6
02030105150020	17.49	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	22.74	10	174.93	300	174.9
02030105150020	23.10	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	30.03	10	230.99	300	231.0
02030105150020	25.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	32.87	10	252.86	300	252.9
02030105150020	42.02	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	54.62	10	420.16	300	420.2
02030105150020	0.30	TRANSITIONAL AREAS	BARREN LAND	0.5	0.15	5	1.48	60	1.5
02030105150020	0.56	EXTRACTIVE MINING	BARREN LAND	0.5	0.28	5	2.81	60	2.8
02030105150020	0.79	TRANSITIONAL AREAS	BARREN LAND	0.5	0.39	5	3.95	60	3.9
02030105150020	1.30	TRANSITIONAL AREAS	BARREN LAND	0.5	0.65	5	6.51	60	6.5
02030105150020	1.49	TRANSITIONAL AREAS	BARREN LAND	0.5	0.74	5	7.43	60	7.4
02030105150020	2.68	EXTRACTIVE MINING	BARREN LAND	0.5	1.34	5	13.42	60	13.4
02030105150020	4.38	TRANSITIONAL AREAS	BARREN LAND	0.5	2.19	5	21.90	60	21.9
02030105150020	15.34	TRANSITIONAL AREAS	BARREN LAND	0.5	7.67	5	76.70	60	76.7
02030105150020	0.18	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.02	3	0.54	40	0.5
02030105150020	0.26	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.03	3	0.77	40	0.8
02030105150020	0.37	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.04	3	1.11	40	1.1
02030105150020	0.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.13	40	1.1
02030105150020	0.41	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.22	40	1.2
02030105150020	0.45	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.34	40	1.3
02030105150020	0.54	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.05	3	1.61	40	1.6
02030105150020	0.55	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.65	40	1.6
02030105150020	0.72	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.16	40	2.2
02030105150020	0.83	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.08	3	2.49	40	2.5
02030105150020	0.93	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.79	40	2.8
02030105150020	0.96	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.88	40	2.9
02030105150020	0.99	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.10	3	2.97	40	3.0
02030105150020	1.07	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.21	40	3.2
02030105150020	1.13	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.40	40	3.4
02030105150020	1.13	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.40	40	3.4
02030105150020	1.14	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.42	40	3.4
02030105150020	1.15	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.11	3	3.44	40	3.4
02030105150020	1.18	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.12	3	3.53	40	3.5
02030105150020	1.31	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.93	40	3.9
02030105150020	1.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.12	40	4.1
02030105150020	1.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.14	40	4.1
02030105150020	1.38	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.14	3	4.15	40	4.2
02030105150020	1.63	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.90	40	4.9
02030105150020	1.65	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.16	3	4.95	40	4.9
02030105150020	1.70	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.17	3	5.09	40	5.1
02030105150020	1.70	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.09	40	5.1
02030105150020	1.71	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.17	3	5.12	40	5.1
02030105150020	1.74	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.21	40	5.2
02030105150020	1.79	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.18	3	5.36	40	5.4
02030105150020	1.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	5.92	40	5.9
02030105150020	2.00	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	6.01	40	6.0
02030105150020	2.06	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.21	3	6.19	40	6.2
02030105150020	2.28	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.23	3	6.84	40	6.8
02030105150020	2.33	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.23	3	6.99	40	7.0
02030105150020	2.40	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.24	3	7.21	40	7.2
02030105150020	2.84	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.28	3	8.52	40	8.5
02030105150020	2.91	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.29	3	8.74	40	8.7
02030105150020	3.18	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.54	40	9.5
02030105150020	3.21	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.64	40	9.6
02030105150020	3.21	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.64	40	9.6
02030105150020	3.22	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.32	3	9.67	40	9.7
02030105150020	3.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.34	3	10.10	40	10.1
02030105150020	3.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.35	3	10.56	40	10.6
02030105150020	3.64	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.36	3	10.93	40	10.9
02030105150020	3.64	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.36	3	10.93	40	10.9
02030105150020	3.69	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.37	3	11.08	40	11.1
02030105150020	3.85	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.38	3	11.54	40	11.5
02030105150020	4.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	12.02	40	12.0
02030105150020	4.03	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	12.10	40	12.1
02030105150020	4.48	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.45	3	13.45	40	13.5
02030105150020	4.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.45	3	13.56	40	13.6
02030105150020	4.66	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.47	3	13.97	40	14.0
02030105150020	5.29	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.53	3	15.87	40	15.9
02030105150020	6.66	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.67	3	19.99	40	20.0
02030105150020	6.77	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.68	3	20.32	40	20.3
02030105150020	7.39	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.74	3	22.16	40	22.2
02030105150020	7.66	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.77	3	22.98	40	23.0
02030105150020	9.09	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.91	3	27.27	40	27.3
02030105150020	9.44	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.94	3	28.32	40	28.3

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150020	11.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.13	3	33.84	40	33.8
02030105150020	11.82	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	1.18	3	35.47	40	35.5
02030105150020	13.83	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.38	3	41.48	40	41.5
02030105150020	13.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.40	3	41.98	40	42.0
02030105150020	15.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.52	3	45.65	40	45.7
02030105150020	16.66	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	1.67	3	49.99	40	50.0
02030105150020	26.92	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	2.69	3	80.77	40	80.8
02030105150020	0.12	COMMERCIAL/SERVICES	URBAN	2.1	0.24	22	2.55	200	2.5
02030105150020	0.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.58	100	0.6
02030105150020	0.12	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.12	10	1.16	120	1.2
02030105150020	0.12	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	0.12	10	1.18	120	1.2
02030105150020	0.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.61	100	0.6
02030105150020	0.12	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.17	15	1.83	140	1.8
02030105150020	0.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.63	100	0.6
02030105150020	0.15	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.20	15	2.18	140	2.2
02030105150020	0.17	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.10	5	0.86	100	0.9
02030105150020	0.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.24	15	2.60	140	2.6
02030105150020	0.19	COMMERCIAL/SERVICES	URBAN	2.1	0.40	22	4.14	200	4.1
02030105150020	0.20	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.28	15	3.01	140	3.0
02030105150020	0.21	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.13	5	1.06	100	1.1
02030105150020	0.21	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.13	5	1.07	100	1.1
02030105150020	0.22	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.30	15	3.25	140	3.2
02030105150020	0.39	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.55	15	5.92	140	5.9
02030105150020	0.46	COMMERCIAL/SERVICES	URBAN	2.1	0.96	22	10.02	200	10.0
02030105150020	0.47	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.35	100	2.3
02030105150020	0.50	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.69	15	7.44	140	7.4
02030105150020	0.50	COMMERCIAL/SERVICES	URBAN	2.1	1.05	22	10.95	200	11.0
02030105150020	0.51	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	0.51	10	5.07	120	5.1
02030105150020	0.62	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.37	5	3.12	100	3.1
02030105150020	0.66	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.39	5	3.28	100	3.3
02030105150020	0.69	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.97	15	10.38	140	10.4
02030105150020	0.78	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.78	10	7.83	120	7.8
02030105150020	0.79	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.11	15	11.87	140	11.9
02030105150020	0.79	COMMERCIAL/SERVICES	URBAN	2.1	1.66	22	17.44	200	17.4
02030105150020	0.81	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.49	5	4.06	100	4.1
02030105150020	0.84	COMMERCIAL/SERVICES	URBAN	2.1	1.77	22	18.51	200	18.5
02030105150020	0.85	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.51	5	4.25	100	4.2
02030105150020	0.90	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.90	10	8.96	120	9.0
02030105150020	0.96	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.96	10	9.57	120	9.6
02030105150020	0.97	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.58	5	4.83	100	4.8
02030105150020	0.97	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.97	10	9.66	120	9.7
02030105150020	0.98	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.37	15	14.64	140	14.6
02030105150020	1.04	COMMERCIAL/SERVICES	URBAN	2.1	2.19	22	22.89	200	22.9
02030105150020	1.06	COMMERCIAL/SERVICES	URBAN	2.1	2.22	22	23.23	200	23.2
02030105150020	1.06	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.64	5	5.30	100	5.3
02030105150020	1.09	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.09	10	10.85	120	10.9
02030105150020	1.10	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	1.10	10	11.00	120	11.0
02030105150020	1.11	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.11	10	11.14	120	11.1
02030105150020	1.13	RECREATIONAL LAND	URBAN	1	1.13	10	11.32	120	11.3
02030105150020	1.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.68	5	5.67	100	5.7
02030105150020	1.15	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.15	10	11.46	120	11.5
02030105150020	1.16	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.16	10	11.57	120	11.6
02030105150020	1.18	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.71	5	5.90	100	5.9
02030105150020	1.21	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.73	5	6.05	100	6.1
02030105150020	1.26	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.75	5	6.28	100	6.3
02030105150020	1.26	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.75	5	6.29	100	6.3
02030105150020	1.28	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.28	10	12.77	120	12.8
02030105150020	1.28	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.28	10	12.78	120	12.8
02030105150020	1.37	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.37	10	13.70	120	13.7
02030105150020	1.37	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.37	10	13.71	120	13.7
02030105150020	1.42	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.85	5	7.09	100	7.1
02030105150020	1.44	COMMERCIAL/SERVICES	URBAN	2.1	3.02	22	31.65	200	31.6
02030105150020	1.46	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.87	5	7.28	100	7.3
02030105150020	1.48	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.89	5	7.39	100	7.4
02030105150020	1.56	RECREATIONAL LAND	URBAN	1	1.56	10	15.61	120	15.6
02030105150020	1.59	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.95	5	7.93	100	7.9
02030105150020	1.62	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.62	10	16.22	120	16.2
02030105150020	1.67	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.67	10	16.74	120	16.7
02030105150020	1.70	COMMERCIAL/SERVICES	URBAN	2.1	3.57	22	37.42	200	37.4
02030105150020	1.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.07	5	8.96	100	9.0
02030105150020	1.85	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.60	15	27.82	140	27.8
02030105150020	1.88	RECREATIONAL LAND	URBAN	1	1.88	10	18.75	120	18.8
02030105150020	1.93	COMMERCIAL/SERVICES	URBAN	2.1	4.06	22	42.48	200	42.5
02030105150020	1.96	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.74	15	29.35	140	29.4
02030105150020	1.99	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	1.99	10	19.89	120	19.9
02030105150020	2.06	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.06	10	20.64	120	20.6
02030105150020	2.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.30	5	10.83	100	10.8
02030105150020	2.39	COMMERCIAL/SERVICES	URBAN	2.1	5.02	22	52.57	200	52.6
02030105150020	2.41	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.41	10	24.14	120	24.1
02030105150020	2.47	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.47	10	24.71	120	24.7
02030105150020	2.70	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.62	5	13.51	100	13.5
02030105150020	2.74	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.64	5	13.68	100	13.7
02030105150020	2.82	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.95	15	42.37	140	42.4
02030105150020	3.05	COMMERCIAL/SERVICES	URBAN	2.1	6.41	22	67.15	200	67.1
02030105150020	3.17	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.43	15	47.49	140	47.5
02030105150020	3.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.90	5	15.85	100	15.8
02030105150020	3.20	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.92	5	16.01	100	16.0
02030105150020	3.34	COMMERCIAL/SERVICES	URBAN	2.1	7.02	22	73.53	200	73.5
02030105150020	3.57	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.57	10	35.74	120	35.7
02030105150020	3.58	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.15	5	17.90	100	17.9
02030105150020	3.63	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	5.08	15	54.40	140	54.4
02030105150020	3.78	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.78	10	37.78	120	37.8
02030105150020	3.98	COMMERCIAL/SERVICES	URBAN	2.1	8.35	22	87.53	200	87.5
02030105150020	4.06	OTHER URBAN OR BUILT-UP LAND	URBAN	1	4.06	10	40.63	120	40.6
02030105150020	4.06	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.44	5	20.32	100	20.3
02030105150020	4.08	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.45	5	20.40	100	20.4
02030105150020	4.18	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.51	5	20.88	100	20.9
02030105150020	4.26	COMMERCIAL/SERVICES	URBAN	2.1	8.96	22	93.83	200	93.8
02030105150020	4.28	COMMERCIAL/SERVICES	URBAN	2.1	8.99	22	94.17	200	94.2

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150020	4.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.62	5	21.87	100	21.9
02030105150020	4.38	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.63	5	21.88	100	21.9
02030105150020	4.42	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	6.19	15	66.29	140	66.3
02030105150020	4.43	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.66	5	22.15	100	22.1
02030105150020	4.46	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	6.25	15	66.95	140	66.9
02030105150020	4.82	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.89	5	24.12	100	24.1
02030105150020	5.10	COMMERCIAL/SERVICES	URBAN	2.1	10.71	22	112.20	200	112.2
02030105150020	5.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.08	5	25.64	100	25.6
02030105150020	5.16	COMMERCIAL/SERVICES	URBAN	2.1	10.83	22	113.47	200	113.5
02030105150020	5.37	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.22	5	26.83	100	26.8
02030105150020	5.39	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.23	5	26.95	100	27.0
02030105150020	5.62	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.37	5	28.09	100	28.1
02030105150020	5.87	OTHER URBAN OR BUILT-UP LAND	URBAN	1	5.87	10	58.74	120	58.7
02030105150020	6.26	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	6.26	10	62.58	120	62.6
02030105150020	6.59	COMMERCIAL/SERVICES	URBAN	2.1	13.84	22	144.95	200	145.0
02030105150020	6.73	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.04	5	33.65	100	33.6
02030105150020	7.25	COMMERCIAL/SERVICES	URBAN	2.1	15.23	22	159.57	200	159.6
02030105150020	7.64	COMMERCIAL/SERVICES	URBAN	2.1	16.05	22	168.12	200	168.1
02030105150020	7.70	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.62	5	38.50	100	38.5
02030105150020	7.85	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	11.00	15	117.81	140	117.8
02030105150020	9.00	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	12.60	15	135.02	140	135.0
02030105150020	9.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	5.48	5	45.68	100	45.7
02030105150020	9.16	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	12.83	15	137.41	140	137.4
02030105150020	9.25	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	12.95	15	138.72	140	138.7
02030105150020	9.88	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	13.83	15	148.20	140	148.2
02030105150020	10.75	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	6.45	5	53.77	100	53.8
02030105150020	11.85	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	16.59	15	177.79	140	177.8
02030105150020	12.32	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	17.24	15	184.75	140	184.8
02030105150020	13.49	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	13.49	10	134.85	120	134.9
02030105150020	13.76	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	19.26	15	206.34	140	206.3
02030105150020	16.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	9.67	5	80.60	100	80.6
02030105150020	18.74	OTHER URBAN OR BUILT-UP LAND	URBAN	1	19	10	187	120	187
02030105150020	18.85	COMMERCIAL/SERVICES	URBAN	2.1	39.58	22	414.61	200	414.6
02030105150020	19.98	COMMERCIAL/SERVICES	URBAN	2.1	41.95	22	439.48	200	439.5
02030105150020	20.12	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	28.17	15	301.81	140	301.8
02030105150020	21.03	RESIDENTIAL, HIGH DENSITY, MULTIPLE DWELLING	URBAN	1	21.03	10	210.30	120	210.3
02030105150020	21.20	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	12.72	5	106.02	100	106.0
02030105150020	28.87	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	28.87	10	288.72	120	288.7
02030105150020	44.51	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	62.31	15	667.63	140	667.6
02030105150020	53.02	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	74.22	15	795.25	140	795.3
02030105150020	80.73	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	113.02	15	1,210.95	140	1,211.0
02030105150020	155.50	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	217.70	15	2,332.52	140	2,332.5
02030105150020	304.02	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	425.63	15	4,560.27	140	4,560.3
			Totals:		**1782**		**18561**		**18561**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150010	0.10	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.13	10	1.03	300	1.0
02030105150010	0.45	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	0.58	10	4.46	300	4.5
02030105150010	0.50	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.65	10	4.98	300	5.0
02030105150010	0.60	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.78	10	5.99	300	6.0
02030105150010	0.92	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	1.19	10	9.19	300	9.2
02030105150010	1.14	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.48	10	11.36	300	11.4
02030105150010	1.14	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.48	10	11.40	300	11.4
02030105150010	1.18	OTHER AGRICULTURE	AGRICULTURE	1.3	1.53	10	11.78	300	11.8
02030105150010	1.37	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.78	10	13.70	300	13.7
02030105150010	1.54	OTHER AGRICULTURE	AGRICULTURE	1.3	2.01	10	15.44	300	15.4
02030105150010	1.59	OTHER AGRICULTURE	AGRICULTURE	1.3	2.06	10	15.88	300	15.9
02030105150010	2.00	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.60	10	20.03	300	20.0
02030105150010	2.13	OTHER AGRICULTURE	AGRICULTURE	1.3	2.76	10	21.26	300	21.3
02030105150010	2.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.90	10	22.27	300	22.3
02030105150010	2.24	OTHER AGRICULTURE	AGRICULTURE	1.3	2.92	10	22.43	300	22.4
02030105150010	2.67	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	3.47	10	26.72	300	26.7
02030105150010	2.75	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.57	10	27.49	300	27.5
02030105150010	2.94	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	3.82	10	29.42	300	29.4
02030105150010	3.12	OTHER AGRICULTURE	AGRICULTURE	1.3	4.06	10	31.20	300	31.2
02030105150010	3.28	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.26	10	32.77	300	32.8
02030105150010	3.35	OTHER AGRICULTURE	AGRICULTURE	1.3	4.35	10	33.46	300	33.5
02030105150010	3.35	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.35	10	33.48	300	33.5
02030105150010	3.76	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.89	10	37.63	300	37.6
02030105150010	4.73	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.15	10	47.31	300	47.3
02030105150010	4.77	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.21	10	47.74	300	47.7
02030105150010	4.95	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.43	10	49.49	300	49.5
02030105150010	4.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.46	10	49.68	300	49.7
02030105150010	5.81	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.56	10	58.13	300	58.1
02030105150010	5.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.77	10	59.74	300	59.7
02030105150010	6.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	8.09	10	62.26	300	62.3
02030105150010	7.09	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.22	10	70.91	300	70.9
02030105150010	7.85	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	10.21	10	78.52	300	78.5
02030105150010	9.46	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	12.30	10	94.62	300	94.6
02030105150010	12.07	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	15.69	10	120.72	300	120.7
02030105150010	16.32	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	21.22	10	163.22	300	163.2
02030105150010	18.39	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	23.90	10	183.86	300	183.9
02030105150010	19.88	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	25.85	10	198.85	300	198.8
02030105150010	20.38	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	26.49	10	203.79	300	203.8
02030105150010	20.55	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	26.72	10	205.51	300	205.5
02030105150010	21.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	27.68	10	212.94	300	212.9
02030105150010	53.56	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS	AGRICULTURE	1.3	69.62	10	535.58	300	535.6
02030105150010	83.05	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	107.96	10	830.47	300	830.5
02030105150010	86.15	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	112.00	10	861.53	300	861.5
02030105150010	137.01	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	178.11	10	1,370.10	300	1,370.1
02030105150010	0.21	TRANSITIONAL AREAS	BARREN LAND	0.5	0.10	5	1.03	60	1.0
02030105150010	2.05	TRANSITIONAL AREAS	BARREN LAND	0.5	1.03	5	10.26	60	10.3
02030105150010	42.83	TRANSITIONAL AREAS	BARREN LAND	0.5	21.42	5	214.16	60	214.2
02030105150010	0.12	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.01	3	0.36	40	0.4
02030105150010	0.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.60	40	0.6
02030105150010	0.23	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.70	40	0.7
02030105150010	0.29	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.03	3	0.88	40	0.9
02030105150010	0.36	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.04	3	1.07	40	1.1
02030105150010	0.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.12	40	1.1
02030105150010	0.51	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.54	40	1.5
02030105150010	0.53	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.05	3	1.58	40	1.6
02030105150010	0.60	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.06	3	1.79	40	1.8
02030105150010	0.63	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.06	3	1.88	40	1.9
02030105150010	0.71	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.07	3	2.14	40	2.1
02030105150010	0.95	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.84	40	2.8
02030105150010	1.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.02	40	3.0
02030105150010	1.12	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.35	40	3.3
02030105150010	1.21	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.12	3	3.63	40	3.6
02030105150010	1.24	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.12	3	3.72	40	3.7
02030105150010	1.27	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.13	3	3.80	40	3.8
02030105150010	1.40	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.14	3	4.20	40	4.2
02030105150010	1.43	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.28	40	4.3
02030105150010	1.44	MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSUR	FOREST	0.1	0.14	3	4.33	40	4.3
02030105150010	1.47	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.15	3	4.40	40	4.4
02030105150010	1.48	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.43	40	4.4
02030105150010	1.60	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.79	40	4.8
02030105150010	1.74	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.21	40	5.2
02030105150010	1.76	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.18	3	5.27	40	5.3
02030105150010	1.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.66	40	5.7
02030105150010	1.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	5.90	40	5.9
02030105150010	1.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	5.92	40	5.9
02030105150010	2.55	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.26	3	7.66	40	7.7
02030105150010	2.84	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.28	3	8.53	40	8.5
02030105150010	2.87	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.29	3	8.60	40	8.6
02030105150010	2.87	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.29	3	8.62	40	8.6
02030105150010	2.98	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	8.95	40	9.0
02030105150010	3.08	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.31	3	9.24	40	9.2
02030105150010	3.09	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.31	3	9.28	40	9.3
02030105150010	3.10	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.31	3	9.31	40	9.3
02030105150010	3.17	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.50	40	9.5
02030105150010	3.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.66	40	9.7
02030105150010	3.29	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.33	3	9.86	40	9.9
02030105150010	3.43	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.34	3	10.30	40	10.3
02030105150010	4.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	12.02	40	12.0
02030105150010	4.16	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.42	3	12.48	40	12.5
02030105150010	4.18	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.42	3	12.55	40	12.5
02030105150010	4.48	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.45	3	13.44	40	13.4
02030105150010	4.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.45	3	13.51	40	13.5
02030105150010	4.52	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.45	3	13.57	40	13.6
02030105150010	4.55	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.46	3	13.65	40	13.7
02030105150010	4.56	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.46	3	13.68	40	13.7
02030105150010	4.63	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.46	3	13.90	40	13.9
02030105150010	4.67	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.47	3	14.01	40	14.0
02030105150010	4.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.50	3	14.98	40	15.0
02030105150010	5.04	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.50	3	15.12	40	15.1

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150010	5.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.50	3	15.13	40	15.1
02030105150010	5.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.54	3	16.19	40	16.2
02030105150010	5.92	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.59	3	17.76	40	17.8
02030105150010	6.19	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.62	3	18.58	40	18.6
02030105150010	6.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.64	3	19.06	40	19.1
02030105150010	6.71	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.67	3	20.12	40	20.1
02030105150010	7.08	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.71	3	21.24	40	21.2
02030105150010	7.17	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.72	3	21.50	40	21.5
02030105150010	8.34	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.83	3	25.01	40	25.0
02030105150010	8.72	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.87	3	26.17	40	26.2
02030105150010	9.73	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.97	3	29.18	40	29.2
02030105150010	11.39	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	1.14	3	34.17	40	34.2
02030105150010	12.62	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.26	3	37.87	40	37.9
02030105150010	15.91	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.59	3	47.74	40	47.7
02030105150010	16.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.61	3	48.44	40	48.4
02030105150010	20.25	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	2.02	3	60.74	40	60.7
02030105150010	20.55	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	2.05	3	61.65	40	61.6
02030105150010	39.86	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	3.99	3	119.59	40	119.6
02030105150010	52.74	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	5.27	3	158.22	40	158.2
02030105150010	77.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	7.80	3	233.97	40	234.0
02030105150010	0.10	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.14	15	1.52	140	1.5
02030105150010	0.11	RECREATIONAL LAND	URBAN	1	0.11	10	1.13	120	1.1
02030105150010	0.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.78	100	0.8
02030105150010	0.18	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.18	10	1.76	120	1.8
02030105150010	0.18	INDUSTRIAL	URBAN	1.5	0.28	16	2.95	200	2.9
02030105150010	0.20	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	0.20	10	2.02	120	2.0
02030105150010	0.22	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.31	15	3.34	140	3.3
02030105150010	0.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.14	5	1.19	100	1.2
02030105150010	0.27	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.16	5	1.34	100	1.3
02030105150010	0.27	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.38	15	4.06	140	4.1
02030105150010	0.28	RECREATIONAL LAND	URBAN	1	0.28	10	2.79	120	2.8
02030105150010	0.30	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.18	5	1.50	100	1.5
02030105150010	0.30	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.18	5	1.50	100	1.5
02030105150010	0.31	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.31	10	3.13	120	3.1
02030105150010	0.46	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.31	100	2.3
02030105150010	0.47	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.33	100	2.3
02030105150010	0.48	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.29	5	2.40	100	2.4
02030105150010	0.49	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.49	10	4.92	120	4.9
02030105150010	0.58	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.82	15	8.74	140	8.7
02030105150010	0.59	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	0.83	15	8.89	140	8.9
02030105150010	0.61	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.36	5	3.03	100	3.0
02030105150010	0.62	RECREATIONAL LAND	URBAN	1	0.62	10	6.18	120	6.2
02030105150010	0.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.38	5	3.16	100	3.2
02030105150010	0.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.45	5	3.75	100	3.7
02030105150010	0.76	INDUSTRIAL	URBAN	1.5	1.13	16	12.09	200	12.1
02030105150010	0.77	INDUSTRIAL	URBAN	1.5	1.16	16	12.35	200	12.4
02030105150010	0.78	COMMERCIAL/SERVICES	URBAN	2.1	1.64	22	17.18	200	17.2
02030105150010	0.79	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.11	15	11.86	140	11.9
02030105150010	0.84	RECREATIONAL LAND	URBAN	1	0.84	10	8.39	120	8.4
02030105150010	0.90	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.54	5	4.52	100	4.5
02030105150010	0.91	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.54	5	4.53	100	4.5
02030105150010	0.91	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.54	5	4.54	100	4.5
02030105150010	0.93	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.56	5	4.63	100	4.6
02030105150010	0.93	COMMERCIAL/SERVICES	URBAN	2.1	1.95	22	20.46	200	20.5
02030105150010	0.94	INDUSTRIAL	URBAN	1.5	1.40	16	14.97	200	15.0
02030105150010	0.95	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.33	15	14.26	140	14.3
02030105150010	0.98	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.98	10	9.78	120	9.8
02030105150010	1.02	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.02	10	10.19	120	10.2
02030105150010	1.04	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.45	15	15.54	140	15.5
02030105150010	1.04	RECREATIONAL LAND	URBAN	1	1.04	10	10.44	120	10.4
02030105150010	1.09	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.09	10	10.94	120	10.9
02030105150010	1.19	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.71	5	5.95	100	5.9
02030105150010	1.20	INDUSTRIAL	URBAN	1.5	1.81	16	19.27	200	19.3
02030105150010	1.22	INDUSTRIAL	URBAN	1.5	1.83	16	19.50	200	19.5
02030105150010	1.30	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.78	5	6.49	100	6.5
02030105150010	1.33	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.33	10	13.29	120	13.3
02030105150010	1.36	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.82	5	6.80	100	6.8
02030105150010	1.55	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.55	10	15.50	120	15.5
02030105150010	1.58	RECREATIONAL LAND	URBAN	1	1.58	10	15.83	120	15.8
02030105150010	1.60	INDUSTRIAL	URBAN	1.5	2.39	16	25.54	200	25.5
02030105150010	1.61	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.96	5	8.03	100	8.0
02030105150010	1.66	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	2.32	15	24.87	140	24.9
02030105150010	1.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.05	5	8.73	100	8.7
02030105150010	1.79	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.79	10	17.90	120	17.9
02030105150010	1.83	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.10	5	9.16	100	9.2
02030105150010	1.87	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.87	10	18.67	120	18.7
02030105150010	1.90	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.14	5	9.48	100	9.5
02030105150010	1.94	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.94	10	19.40	120	19.4
02030105150010	1.96	INDUSTRIAL	URBAN	1.5	2.94	16	31.39	200	31.4
02030105150010	1.98	COMMERCIAL/SERVICES	URBAN	2.1	4.16	22	43.56	200	43.6
02030105150010	2.17	COMMERCIAL/SERVICES	URBAN	2.1	4.55	22	47.64	200	47.6
02030105150010	2.29	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	3.21	15	34.36	140	34.4
02030105150010	2.62	COMMERCIAL/SERVICES	URBAN	2.1	5.50	22	57.59	200	57.6
02030105150010	2.67	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.60	5	13.36	100	13.4
02030105150010	2.74	RECREATIONAL LAND	URBAN	1	2.74	10	27.42	120	27.4
02030105150010	2.77	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.77	10	27.66	120	27.7
02030105150010	2.87	INDUSTRIAL	URBAN	1.5	4.31	16	45.97	200	46.0
02030105150010	2.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.77	5	14.74	100	14.7
02030105150010	3.08	INDUSTRIAL	URBAN	1.5	4.62	16	49.28	200	49.3
02030105150010	3.10	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.10	10	30.98	120	31.0
02030105150010	3.15	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.89	5	15.74	100	15.7
02030105150010	3.30	RECREATIONAL LAND	URBAN	1	3.30	10	33.04	120	33.0
02030105150010	3.31	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.99	5	16.57	100	16.6
02030105150010	3.45	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.45	10	34.47	120	34.5
02030105150010	3.52	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	4.93	15	52.77	140	52.8
02030105150010	3.57	COMMERCIAL/SERVICES	URBAN	2.1	7.50	22	78.53	200	78.5
02030105150010	3.69	COMMERCIAL/SERVICES	URBAN	2.1	7.75	22	81.20	200	81.2
02030105150010	3.69	COMMERCIAL/SERVICES	URBAN	2.1	7.76	22	81.27	200	81.3
02030105150010	3.84	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.30	5	19.19	100	19.2

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105150010	3.89	RECREATIONAL LAND	URBAN	1	3.89	10	38.87	120	38.9
02030105150010	3.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.36	5	19.69	100	19.7
02030105150010	4.19	OTHER URBAN OR BUILT-UP LAND	URBAN	1	4.19	10	41.91	120	41.9
02030105150010	4.23	OTHER URBAN OR BUILT-UP LAND	URBAN	1	4.23	10	42.32	120	42.3
02030105150010	4.47	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.68	5	22.34	100	22.3
02030105150010	4.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.77	5	23.08	100	23.1
02030105150010	4.70	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	6.58	15	70.55	140	70.5
02030105150010	4.78	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	6.70	15	71.76	140	71.8
02030105150010	5.44	COMMERCIAL/SERVICES	URBAN	2.1	11.43	22	119.74	200	119.7
02030105150010	5.71	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.43	5	28.55	100	28.5
02030105150010	5.92	INDUSTRIAL	URBAN	1.5	8.88	16	94.77	200	94.8
02030105150010	6.24	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.75	5	31.22	100	31.2
02030105150010	6.59	RECREATIONAL LAND	URBAN	1	6.59	10	65.92	120	65.9
02030105150010	6.83	OTHER URBAN OR BUILT-UP LAND	URBAN	1	6.83	10	68.27	120	68.3
02030105150010	6.92	INDUSTRIAL	URBAN	1.5	10.38	16	110.69	200	110.7
02030105150010	7.31	RECREATIONAL LAND	URBAN	1	7.31	10	73.10	120	73.1
02030105150010	7.61	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.56	5	38.04	100	38.0
02030105150010	8.00	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	4.80	5	40.01	100	40.0
02030105150010	8.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.18	5	43.14	100	43.1
02030105150010	9.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.48	5	45.64	100	45.6
02030105150010	9.16	RECREATIONAL LAND	URBAN	1	9.16	10	91.63	120	91.6
02030105150010	10.19	RECREATIONAL LAND	URBAN	1	10.19	10	101.93	120	101.9
02030105150010	10.38	OTHER URBAN OR BUILT-UP LAND	URBAN	1	10.38	10	103.76	120	103.8
02030105150010	12.79	OTHER URBAN OR BUILT-UP LAND	URBAN	1	12.79	10	127.86	120	127.9
02030105150010	13.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	7.94	5	66.20	100	66.2
02030105150010	16.59	RECREATIONAL LAND	URBAN	1	16.59	10	165.89	120	165.9
02030105150010	19.41	INDUSTRIAL	URBAN	1.5	29.12	16	310.56	200	310.6
02030105150010	19.86	OTHER URBAN OR BUILT-UP LAND	URBAN	1	19.86	10	198.57	120	198.6
02030105150010	21.84	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	13.10	5	109.18	100	109.2
02030105150010	38.78	RECREATIONAL LAND	URBAN	1	38.78	10	387.83	120	387.8
02030105150010	68.47	RECREATIONAL LAND	URBAN	1	68.47	10	684.66	120	684.7
			Totals:		**1,324**		**12,347**		**12,347**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140020	0.21	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.28	10	2.13	300	2.1
02030105140020	0.28	OTHER AGRICULTURE	AGRICULTURE	1.3	0.36	10	2.80	300	2.8
02030105140020	0.36	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.47	10	3.59	300	3.6
02030105140020	0.38	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.49	10	3.80	300	3.8
02030105140020	0.39	OTHER AGRICULTURE	AGRICULTURE	1.3	0.50	10	3.88	300	3.9
02030105140020	0.41	OTHER AGRICULTURE	AGRICULTURE	1.3	0.53	10	4.07	300	4.1
02030105140020	0.65	OTHER AGRICULTURE	AGRICULTURE	1.3	0.84	10	6.49	300	6.5
02030105140020	0.70	OTHER AGRICULTURE	AGRICULTURE	1.3	0.90	10	6.95	300	7.0
02030105140020	0.70	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.91	10	7.03	300	7.0
02030105140020	0.76	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.99	10	7.63	300	7.6
02030105140020	0.89	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.16	10	8.94	300	8.9
02030105140020	0.90	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.16	10	8.96	300	9.0
02030105140020	0.99	OTHER AGRICULTURE	AGRICULTURE	1.3	1.29	10	9.92	300	9.9
02030105140020	1.17	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.52	10	11.72	300	11.7
02030105140020	1.22	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.58	10	12.17	300	12.2
02030105140020	1.37	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.79	10	13.75	300	13.7
02030105140020	1.53	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.99	10	15.31	300	15.3
02030105140020	1.59	OTHER AGRICULTURE	AGRICULTURE	1.3	2.06	10	15.86	300	15.9
02030105140020	1.71	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.23	10	17.15	300	17.1
02030105140020	2.06	OTHER AGRICULTURE	AGRICULTURE	1.3	2.68	10	20.59	300	20.6
02030105140020	2.27	OTHER AGRICULTURE	AGRICULTURE	1.3	2.95	10	22.69	300	22.7
02030105140020	2.31	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.00	10	23.06	300	23.1
02030105140020	2.38	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.09	10	23.78	300	23.8
02030105140020	2.39	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.11	10	23.94	300	23.9
02030105140020	2.48	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.22	10	24.79	300	24.8
02030105140020	2.84	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.69	10	28.36	300	28.4
02030105140020	2.89	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.76	10	28.93	300	28.9
02030105140020	2.94	OTHER AGRICULTURE	AGRICULTURE	1.3	3.82	10	29.40	300	29.4
02030105140020	2.94	OTHER AGRICULTURE	AGRICULTURE	1.3	3.82	10	29.42	300	29.4
02030105140020	2.99	OTHER AGRICULTURE	AGRICULTURE	1.3	3.88	10	29.86	300	29.9
02030105140020	3.04	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	3.96	10	30.45	300	30.4
02030105140020	3.11	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.04	10	31.09	300	31.1
02030105140020	3.18	OTHER AGRICULTURE	AGRICULTURE	1.3	4.13	10	31.77	300	31.8
02030105140020	3.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.20	10	32.31	300	32.3
02030105140020	3.33	OTHER AGRICULTURE	AGRICULTURE	1.3	4.32	10	33.25	300	33.3
02030105140020	3.42	OTHER AGRICULTURE	AGRICULTURE	1.3	4.45	10	34.23	300	34.2
02030105140020	3.64	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	4.73	10	36.38	300	36.4
02030105140020	3.70	OTHER AGRICULTURE	AGRICULTURE	1.3	4.82	10	37.05	300	37.0
02030105140020	3.81	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.95	10	38.08	300	38.1
02030105140020	3.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	5.17	10	39.75	300	39.7
02030105140020	4.28	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	5.56	10	42.76	300	42.8
02030105140020	4.46	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	5.79	10	44.57	300	44.6
02030105140020	4.91	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.38	10	49.11	300	49.1
02030105140020	5.28	OTHER AGRICULTURE	AGRICULTURE	1.3	6.86	10	52.75	300	52.8
02030105140020	5.80	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.54	10	57.96	300	58.0
02030105140020	6.32	OTHER AGRICULTURE	AGRICULTURE	1.3	8.21	10	63.16	300	63.2
02030105140020	6.58	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	8.55	10	65.78	300	65.8
02030105140020	7.07	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.19	10	70.67	300	70.7
02030105140020	7.39	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.60	10	73.86	300	73.9
02030105140020	8.86	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	11.52	10	88.60	300	88.6
02030105140020	8.88	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	11.55	10	88.83	300	88.8
02030105140020	9.36	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	12.17	10	93.63	300	93.6
02030105140020	11.93	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	15.51	10	119.28	300	119.3
02030105140020	11.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	15.56	10	119.68	300	119.7
02030105140020	16.65	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	21.65	10	166.52	300	166.5
02030105140020	17.65	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	22.94	10	176.46	300	176.5
02030105140020	20.47	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	26.61	10	204.72	300	204.7
02030105140020	21.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	27.68	10	212.92	300	212.9
02030105140020	21.50	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	27.95	10	215.03	300	215.0
02030105140020	23.92	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	31.10	10	239.20	300	239.2
02030105140020	29.72	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	38.64	10	297.21	300	297.2
02030105140020	39.71	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	51.63	10	397.14	300	397.1
02030105140020	68.44	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	88.97	10	684.37	300	684.4
02030105140020	86.20	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	112.06	10	862.00	300	862.0
02030105140020	1.03	TRANSITIONAL AREAS	BARREN LAND	0.5	0.51	5	5.13	60	5.1
02030105140020	3.26	TRANSITIONAL AREAS	BARREN LAND	0.5	1.63	5	16.32	60	16.3
02030105140020	0.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.60	40	0.6
02030105140020	0.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.06	40	1.1
02030105140020	0.72	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.07	3	2.15	40	2.1
02030105140020	0.72	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.07	3	2.16	40	2.2
02030105140020	0.76	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.28	40	2.3
02030105140020	0.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.66	40	2.7
02030105140020	0.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.66	40	2.7
02030105140020	0.90	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.69	40	2.7
02030105140020	0.94	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.82	40	2.8
02030105140020	0.96	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.10	3	2.88	40	2.9
02030105140020	1.03	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.10	3	3.08	40	3.1
02030105140020	1.10	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.11	3	3.30	40	3.3
02030105140020	1.12	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.11	3	3.37	40	3.4
02030105140020	1.17	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.51	40	3.5
02030105140020	1.21	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.64	40	3.6
02030105140020	1.27	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.13	3	3.82	40	3.8
02030105140020	1.27	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.82	40	3.8
02030105140020	1.29	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.13	3	3.87	40	3.9
02030105140020	1.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	4.04	40	4.0
02030105140020	1.36	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.07	40	4.1
02030105140020	1.54	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.15	3	4.61	40	4.6
02030105140020	1.55	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.15	3	4.64	40	4.6
02030105140020	1.57	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.70	40	4.7
02030105140020	1.57	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.16	3	4.72	40	4.7
02030105140020	1.59	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.76	40	4.8
02030105140020	1.76	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.18	3	5.27	40	5.3
02030105140020	1.76	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.18	3	5.29	40	5.3
02030105140020	2.02	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.20	3	6.06	40	6.1
02030105140020	2.07	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.21	40	6.2
02030105140020	2.20	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.22	3	6.60	40	6.6
02030105140020	2.35	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.24	3	7.06	40	7.1
02030105140020	2.47	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.40	40	7.4
02030105140020	2.48	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.45	40	7.5

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140020	2.54	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.61	40	7.6
02030105140020	2.69	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.27	3	8.06	40	8.1
02030105140020	2.71	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.27	3	8.14	40	8.1
02030105140020	2.81	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.28	3	8.42	40	8.4
02030105140020	3.44	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.34	3	10.31	40	10.3
02030105140020	3.48	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.35	3	10.45	40	10.4
02030105140020	3.53	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.35	3	10.59	40	10.6
02030105140020	3.55	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.36	3	10.66	40	10.7
02030105140020	3.92	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.39	3	11.76	40	11.8
02030105140020	3.95	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	11.86	40	11.9
02030105140020	4.40	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.44	3	13.21	40	13.2
02030105140020	4.42	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.44	3	13.25	40	13.3
02030105140020	4.80	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.48	3	14.40	40	14.4
02030105140020	5.85	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.59	3	17.56	40	17.6
02030105140020	5.99	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.60	3	17.96	40	18.0
02030105140020	6.63	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.66	3	19.89	40	19.9
02030105140020	7.15	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.72	3	21.46	40	21.5
02030105140020	8.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.90	3	26.92	40	26.9
02030105140020	9.01	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.90	3	27.03	40	27.0
02030105140020	9.49	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.95	3	28.47	40	28.5
02030105140020	9.99	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	1.00	3	29.96	40	30.0
02030105140020	10.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.01	3	30.44	40	30.4
02030105140020	10.53	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.05	3	31.59	40	31.6
02030105140020	11.87	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.19	3	35.61	40	35.6
02030105140020	25.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.60	3	77.98	40	78.0
02030105140020	31.36	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	3.14	3	94.09	40	94.1
02030105140020	154.41	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	15.44	3	463.24	40	463.2
02030105140020	0.10	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.06	5	0.51	100	0.5
02030105140020	0.11	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.11	10	1.09	120	1.1
02030105140020	0.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.08	5	0.67	100	0.7
02030105140020	0.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.08	5	0.67	100	0.7
02030105140020	0.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.08	5	0.69	100	0.7
02030105140020	0.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.74	100	0.7
02030105140020	0.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.15	5	1.24	100	1.2
02030105140020	0.35	INDUSTRIAL	URBAN	1.5	0.53	16	5.60	200	5.6
02030105140020	0.46	COMMERCIAL/SERVICES	URBAN	2.1	0.96	22	10.06	200	10.1
02030105140020	0.46	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.32	100	2.3
02030105140020	0.50	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.30	5	2.52	100	2.5
02030105140020	0.56	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.79	15	8.42	140	8.4
02030105140020	0.65	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.91	15	9.71	140	9.7
02030105140020	0.65	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.92	15	9.82	140	9.8
02030105140020	0.66	COMMERCIAL/SERVICES	URBAN	2.1	1.38	22	14.50	200	14.5
02030105140020	0.70	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.42	5	3.48	100	3.5
02030105140020	0.79	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.11	15	11.91	140	11.9
02030105140020	0.83	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.50	5	4.14	100	4.1
02030105140020	0.87	RECREATIONAL LAND	URBAN	1	0.87	10	8.73	120	8.7
02030105140020	0.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.55	5	4.62	100	4.6
02030105140020	0.98	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.59	5	4.92	100	4.9
02030105140020	1.02	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.61	5	5.11	100	5.1
02030105140020	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.38	100	5.4
02030105140020	1.10	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.66	5	5.52	100	5.5
02030105140020	1.11	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.67	5	5.55	100	5.6
02030105140020	1.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.68	5	5.67	100	5.7
02030105140020	1.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.68	5	5.70	100	5.7
02030105140020	1.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.69	5	5.75	100	5.8
02030105140020	1.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.69	5	5.79	100	5.8
02030105140020	1.19	RECREATIONAL LAND	URBAN	1	1.19	10	11.90	120	11.9
02030105140020	1.20	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.72	5	5.98	100	6.0
02030105140020	1.21	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.69	15	18.11	140	18.1
02030105140020	1.21	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.73	5	6.04	100	6.0
02030105140020	1.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.75	5	6.25	100	6.3
02030105140020	1.29	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.77	5	6.43	100	6.4
02030105140020	1.29	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.77	5	6.44	100	6.4
02030105140020	1.31	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.78	5	6.54	100	6.5
02030105140020	1.36	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.36	10	13.64	120	13.6
02030105140020	1.39	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.84	5	6.97	100	7.0
02030105140020	1.49	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.89	5	7.46	100	7.5
02030105140020	1.49	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	2.09	15	22.38	140	22.4
02030105140020	1.56	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.94	5	7.82	100	7.8
02030105140020	1.65	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.99	5	8.27	100	8.3
02030105140020	1.72	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	1.72	10	17.22	120	17.2
02030105140020	1.76	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.06	5	8.81	100	8.8
02030105140020	1.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.07	5	8.94	100	8.9
02030105140020	1.81	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.09	5	9.05	100	9.0
02030105140020	1.83	COMMERCIAL/SERVICES	URBAN	2.1	3.85	22	40.33	200	40.3
02030105140020	1.89	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.14	5	9.47	100	9.5
02030105140020	1.95	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.95	10	19.51	120	19.5
02030105140020	1.96	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.18	5	9.81	100	9.8
02030105140020	1.97	INDUSTRIAL	URBAN	1.5	2.96	16	31.60	200	31.6
02030105140020	2.07	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.24	5	10.35	100	10.4
02030105140020	2.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.28	5	10.70	100	10.7
02030105140020	2.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.29	5	10.75	100	10.7
02030105140020	2.18	RECREATIONAL LAND	URBAN	1	2.18	10	21.83	120	21.8
02030105140020	2.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.36	5	11.34	100	11.3
02030105140020	2.37	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.42	5	11.87	100	11.9
02030105140020	2.42	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.45	5	12.08	100	12.1
02030105140020	2.44	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.46	5	12.20	100	12.2
02030105140020	2.48	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.49	5	12.42	100	12.4
02030105140020	2.56	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.53	5	12.78	100	12.8
02030105140020	2.59	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.56	5	12.97	100	13.0
02030105140020	2.65	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.65	10	26.53	120	26.5
02030105140020	2.73	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.64	5	13.65	100	13.6
02030105140020	2.77	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	3.88	15	41.59	140	41.6
02030105140020	2.80	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.68	5	13.99	100	14.0
02030105140020	2.93	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.93	10	29.26	120	29.3
02030105140020	3.10	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.86	5	15.50	100	15.5
02030105140020	3.13	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	4.38	15	46.96	140	47.0
02030105140020	3.15	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.15	10	31.51	120	31.5
02030105140020	3.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.92	5	15.98	100	16.0

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140020	3.25	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.25	10	32.47	120	32.5
02030105140020	3.52	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.11	5	17.58	100	17.6
02030105140020	3.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.18	5	18.15	100	18.1
02030105140020	3.71	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	3.71	10	37.06	120	37.1
02030105140020	3.86	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.31	5	19.29	100	19.3
02030105140020	4.27	OTHER URBAN OR BUILT-UP LAND	URBAN	1	4.27	10	42.68	120	42.7
02030105140020	4.33	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.60	5	21.64	100	21.6
02030105140020	4.37	COMMERCIAL/SERVICES	URBAN	2.1	9.18	22	96.15	200	96.1
02030105140020	4.72	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.83	5	23.62	100	23.6
02030105140020	5.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.15	5	26.22	100	26.2
02030105140020	5.30	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.18	5	26.50	100	26.5
02030105140020	5.56	COMMERCIAL/SERVICES	URBAN	2.1	11.68	22	122.40	200	122.4
02030105140020	5.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.37	5	28.08	100	28.1
02030105140020	5.73	RECREATIONAL LAND	URBAN	1	5.73	10	57.31	120	57.3
02030105140020	6.15	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	8.61	15	92.28	140	92.3
02030105140020	6.63	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.98	5	33.15	100	33.2
02030105140020	6.65	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.99	5	33.26	100	33.3
02030105140020	7.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.57	5	38.08	100	38.1
02030105140020	7.85	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	10.99	15	117.72	140	117.7
02030105140020	8.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.88	5	40.65	100	40.6
02030105140020	8.34	ATHLETIC FIELDS (SCHOOLS)	URBAN	1	8.34	10	83.43	120	83.4
02030105140020	8.40	INDUSTRIAL	URBAN	1.5	12.59	16	134.34	200	134.3
02030105140020	8.50	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.10	5	42.50	100	42.5
02030105140020	9.53	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	5.72	5	47.63	100	47.6
02030105140020	12.30	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	7.38	5	61.51	100	61.5
02030105140020	15.74	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	22.04	15	236.13	140	236.1
02030105140020	17.38	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	10.43	5	86.89	100	86.9
02030105140020	20.76	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	12.46	5	103.81	100	103.8
02030105140020	22.56	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	13.54	5	112.79	100	112.8
			Totals:		**1,009**		**9,140**		**9,140**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	0.11	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	0.14	10	1.08	300	1.1
02030105140010	0.11	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.15	10	1.15	300	1.1
02030105140010	0.12	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	0.16	10	1.23	300	1.2
02030105140010	0.18	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	0.23	10	1.78	300	1.8
02030105140010	0.24	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.31	10	2.38	300	2.4
02030105140010	0.24	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	0.32	10	2.42	300	2.4
02030105140010	0.25	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.33	10	2.51	300	2.5
02030105140010	0.27	CONFINED FEEDING OPERATIONS	AGRICULTURE	1.3	0.35	10	2.72	300	2.7
02030105140010	0.34	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.45	10	3.43	300	3.4
02030105140010	0.39	OTHER AGRICULTURE	AGRICULTURE	1.3	0.50	10	3.86	300	3.9
02030105140010	0.40	OTHER AGRICULTURE	AGRICULTURE	1.3	0.52	10	3.96	300	4.0
02030105140010	0.40	OTHER AGRICULTURE	AGRICULTURE	1.3	0.52	10	3.98	300	4.0
02030105140010	0.57	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.74	10	5.67	300	5.7
02030105140010	0.58	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.75	10	5.80	300	5.8
02030105140010	0.62	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.80	10	6.17	300	6.2
02030105140010	0.71	OTHER AGRICULTURE	AGRICULTURE	1.3	0.93	10	7.13	300	7.1
02030105140010	0.83	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.07	10	8.26	300	8.3
02030105140010	0.87	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.13	10	8.66	300	8.7
02030105140010	0.91	OTHER AGRICULTURE	AGRICULTURE	1.3	1.19	10	9.15	300	9.1
02030105140010	0.96	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.24	10	9.57	300	9.6
02030105140010	0.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.26	10	9.66	300	9.7
02030105140010	0.97	OTHER AGRICULTURE	AGRICULTURE	1.3	1.26	10	9.70	300	9.7
02030105140010	0.98	OTHER AGRICULTURE	AGRICULTURE	1.3	1.28	10	9.84	300	9.8
02030105140010	1.03	OTHER AGRICULTURE	AGRICULTURE	1.3	1.33	10	10.26	300	10.3
02030105140010	1.03	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.34	10	10.29	300	10.3
02030105140010	1.03	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.34	10	10.32	300	10.3
02030105140010	1.13	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	1.47	10	11.30	300	11.3
02030105140010	1.29	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	1.68	10	12.90	300	12.9
02030105140010	1.48	OTHER AGRICULTURE	AGRICULTURE	1.3	1.93	10	14.85	300	14.8
02030105140010	1.55	OTHER AGRICULTURE	AGRICULTURE	1.3	2.02	10	15.54	300	15.5
02030105140010	1.57	OTHER AGRICULTURE	AGRICULTURE	1.3	2.04	10	15.70	300	15.7
02030105140010	1.58	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.05	10	15.79	300	15.8
02030105140010	1.59	OTHER AGRICULTURE	AGRICULTURE	1.3	2.06	10	15.85	300	15.9
02030105140010	1.59	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	2.06	10	15.87	300	15.9
02030105140010	1.69	OTHER AGRICULTURE	AGRICULTURE	1.3	2.19	10	16.87	300	16.9
02030105140010	1.72	OTHER AGRICULTURE	AGRICULTURE	1.3	2.24	10	17.25	300	17.2
02030105140010	1.83	OTHER AGRICULTURE	AGRICULTURE	1.3	2.38	10	18.33	300	18.3
02030105140010	1.87	CONFINED FEEDING OPERATIONS	AGRICULTURE	1.3	2.44	10	18.75	300	18.7
02030105140010	1.90	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	2.47	10	18.98	300	19.0
02030105140010	2.10	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	2.73	10	20.97	300	21.0
02030105140010	2.14	OTHER AGRICULTURE	AGRICULTURE	1.3	2.79	10	21.45	300	21.4
02030105140010	2.22	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	2.88	10	22.18	300	22.2
02030105140010	2.26	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	2.94	10	22.59	300	22.6
02030105140010	2.27	OTHER AGRICULTURE	AGRICULTURE	1.3	2.95	10	22.72	300	22.7
02030105140010	2.36	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.07	10	23.62	300	23.6
02030105140010	2.38	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.10	10	23.81	300	23.8
02030105140010	2.40	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.12	10	24.03	300	24.0
02030105140010	2.76	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.59	10	27.61	300	27.6
02030105140010	2.88	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.75	10	28.83	300	28.8
02030105140010	2.96	OTHER AGRICULTURE	AGRICULTURE	1.3	3.85	10	29.59	300	29.6
02030105140010	3.04	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	3.96	10	30.44	300	30.4
02030105140010	3.20	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	4.16	10	32.01	300	32.0
02030105140010	3.31	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	4.30	10	33.06	300	33.1
02030105140010	3.59	OTHER AGRICULTURE	AGRICULTURE	1.3	4.67	10	35.90	300	35.9
02030105140010	3.66	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.76	10	36.65	300	36.6
02030105140010	3.72	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	4.84	10	37.24	300	37.2
02030105140010	3.87	OTHER AGRICULTURE	AGRICULTURE	1.3	5.03	10	38.72	300	38.7
02030105140010	4.01	CONFINED FEEDING OPERATIONS	AGRICULTURE	1.3	5.21	10	40.09	300	40.1
02030105140010	4.10	OTHER AGRICULTURE	AGRICULTURE	1.3	5.34	10	41.05	300	41.0
02030105140010	4.27	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	5.55	10	42.66	300	42.7
02030105140010	4.91	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.38	10	49.07	300	49.1
02030105140010	4.92	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.40	10	49.19	300	49.2
02030105140010	4.97	OTHER AGRICULTURE	AGRICULTURE	1.3	6.46	10	49.66	300	49.7
02030105140010	5.02	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	6.52	10	50.17	300	50.2
02030105140010	5.06	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.57	10	50.56	300	50.6
02030105140010	5.13	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.67	10	51.28	300	51.3
02030105140010	5.18	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	6.73	10	51.78	300	51.8
02030105140010	5.49	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.14	10	54.94	300	54.9
02030105140010	5.57	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.24	10	55.66	300	55.7
02030105140010	5.97	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	7.76	10	59.67	300	59.7
02030105140010	6.03	OTHER AGRICULTURE	AGRICULTURE	1.3	7.84	10	60.30	300	60.3
02030105140010	6.30	OTHER AGRICULTURE	AGRICULTURE	1.3	8.19	10	63.01	300	63.0
02030105140010	6.34	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	8.24	10	63.40	300	63.4
02030105140010	6.40	OTHER AGRICULTURE	AGRICULTURE	1.3	8.32	10	63.98	300	64.0
02030105140010	6.72	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	8.73	10	67.19	300	67.2
02030105140010	7.05	OTHER AGRICULTURE	AGRICULTURE	1.3	9.17	10	70.53	300	70.5
02030105140010	7.39	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	9.60	10	73.87	300	73.9
02030105140010	7.50	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	9.76	10	75.04	300	75.0
02030105140010	7.61	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.89	10	76.06	300	76.1
02030105140010	7.66	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	9.96	10	76.59	300	76.6
02030105140010	7.74	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	10.06	10	77.36	300	77.4
02030105140010	8.22	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	10.68	10	82.16	300	82.2
02030105140010	8.29	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	10.78	10	82.89	300	82.9
02030105140010	8.57	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	11.14	10	85.66	300	85.7
02030105140010	9.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	12.00	10	92.29	300	92.3
02030105140010	9.49	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	12.34	10	94.95	300	94.9
02030105140010	9.69	OTHER AGRICULTURE	AGRICULTURE	1.3	12.60	10	96.88	300	96.9
02030105140010	10.05	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	13.06	10	100.48	300	100.5
02030105140010	10.95	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	14.24	10	109.51	300	109.5
02030105140010	11.06	OTHER AGRICULTURE	AGRICULTURE	1.3	14.38	10	110.60	300	110.6
02030105140010	11.70	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	15.21	10	116.99	300	117.0
02030105140010	11.97	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	15.56	10	119.69	300	119.7
02030105140010	12.09	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	15.72	10	120.91	300	120.9
02030105140010	12.42	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	16.14	10	124.17	300	124.2
02030105140010	13.06	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	16.98	10	130.58	300	130.6
02030105140010	13.27	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	17.25	10	132.71	300	132.7
02030105140010	14.38	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	18.70	10	143.84	300	143.8
02030105140010	15.40	OTHER AGRICULTURE	AGRICULTURE	1.3	20.02	10	153.96	300	154.0
02030105140010	15.46	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	20.10	10	154.59	300	154.6

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	15.90	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	20.67	10	159.02	300	159.0
02030105140010	16.09	OTHER AGRICULTURE	AGRICULTURE	1.3	20.92	10	160.92	300	160.9
02030105140010	16.28	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	21.16	10	162.75	300	162.8
02030105140010	16.84	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	21.89	10	168.40	300	168.4
02030105140010	18.16	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	23.60	10	181.58	300	181.6
02030105140010	18.23	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	23.70	10	182.28	300	182.3
02030105140010	18.54	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	24.10	10	185.38	300	185.4
02030105140010	18.75	OTHER AGRICULTURE	AGRICULTURE	1.3	24.38	10	187.53	300	187.5
02030105140010	19.09	OTHER AGRICULTURE	AGRICULTURE	1.3	24.82	10	190.93	300	190.9
02030105140010	19.45	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	25.28	10	194.45	300	194.5
02030105140010	21.75	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	28.28	10	217.55	300	217.5
02030105140010	24.81	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	32.25	10	248.06	300	248.1
02030105140010	26.53	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	34.49	10	265.27	300	265.3
02030105140010	26.63	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	34.62	10	266.32	300	266.3
02030105140010	26.87	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	34.93	10	268.67	300	268.7
02030105140010	31.13	OTHER AGRICULTURE	AGRICULTURE	1.3	40.46	10	311.27	300	311.3
02030105140010	33.04	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	42.95	10	330.39	300	330.4
02030105140010	33.36	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	43.37	10	333.61	300	333.6
02030105140010	38.72	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	50.34	10	387.19	300	387.2
02030105140010	40.26	OTHER AGRICULTURE	AGRICULTURE	1.3	52.34	10	402.63	300	402.6
02030105140010	44.94	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	58.42	10	449.39	300	449.4
02030105140010	60.15	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	78.19	10	601.50	300	601.5
02030105140010	68.13	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	88.57	10	681.33	300	681.3
02030105140010	84.00	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	109.20	10	839.99	300	840.0
02030105140010	107.64	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	139.93	10	1,076.36	300	1,076.4
02030105140010	172.88	ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREA	AGRICULTURE	1.3	224.74	10	1,728.76	300	1,728.8
02030105140010	202.77	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	263.60	10	2,027.67	300	2,027.7
02030105140010	0.21	TRANSITIONAL AREAS	BARREN LAND	0.5	0.10	5	1.03	60	1.0
02030105140010	0.35	TRANSITIONAL AREAS	BARREN LAND	0.5	0.18	5	1.75	60	1.8
02030105140010	0.37	TRANSITIONAL AREAS	BARREN LAND	0.5	0.18	5	1.83	60	1.8
02030105140010	0.75	TRANSITIONAL AREAS	BARREN LAND	0.5	0.37	5	3.73	60	3.7
02030105140010	0.76	TRANSITIONAL AREAS	BARREN LAND	0.5	0.38	5	3.80	60	3.8
02030105140010	0.77	TRANSITIONAL AREAS	BARREN LAND	0.5	0.38	5	3.83	60	3.8
02030105140010	0.85	TRANSITIONAL AREAS	BARREN LAND	0.5	0.42	5	4.24	60	4.2
02030105140010	1.05	TRANSITIONAL AREAS	BARREN LAND	0.5	0.52	5	5.23	60	5.2
02030105140010	1.05	TRANSITIONAL AREAS	BARREN LAND	0.5	0.53	5	5.27	60	5.3
02030105140010	1.18	TRANSITIONAL AREAS	BARREN LAND	0.5	0.59	5	5.89	60	5.9
02030105140010	1.24	TRANSITIONAL AREAS	BARREN LAND	0.5	0.62	5	6.20	60	6.2
02030105140010	1.42	TRANSITIONAL AREAS	BARREN LAND	0.5	0.71	5	7.09	60	7.1
02030105140010	1.46	TRANSITIONAL AREAS	BARREN LAND	0.5	0.73	5	7.28	60	7.3
02030105140010	1.51	TRANSITIONAL AREAS	BARREN LAND	0.5	0.76	5	7.56	60	7.6
02030105140010	1.89	TRANSITIONAL AREAS	BARREN LAND	0.5	0.94	5	9.44	60	9.4
02030105140010	2.14	UNDIFFERENTIATED BARREN LANDS	BARREN LAND	0.5	1.07	5	10.68	60	10.7
02030105140010	2.29	TRANSITIONAL AREAS	BARREN LAND	0.5	1.15	5	11.47	60	11.5
02030105140010	2.38	TRANSITIONAL AREAS	BARREN LAND	0.5	1.19	5	11.91	60	11.9
02030105140010	2.64	TRANSITIONAL AREAS	BARREN LAND	0.5	1.32	5	13.19	60	13.2
02030105140010	3.17	TRANSITIONAL AREAS	BARREN LAND	0.5	1.59	5	15.87	60	15.9
02030105140010	5.47	TRANSITIONAL AREAS	BARREN LAND	0.5	2.74	5	27.36	60	27.4
02030105140010	0.10	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.01	3	0.31	40	0.3
02030105140010	0.11	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.01	3	0.33	40	0.3
02030105140010	0.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.46	40	0.5
02030105140010	0.16	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.02	3	0.49	40	0.5
02030105140010	0.18	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.02	3	0.54	40	0.5
02030105140010	0.24	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.02	3	0.72	40	0.7
02030105140010	0.25	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.03	3	0.76	40	0.8
02030105140010	0.36	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.07	40	1.1
02030105140010	0.37	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.04	3	1.10	40	1.1
02030105140010	0.40	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.04	3	1.20	40	1.2
02030105140010	0.52	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.05	3	1.57	40	1.6
02030105140010	0.57	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.06	3	1.70	40	1.7
02030105140010	0.62	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.06	3	1.87	40	1.9
02030105140010	0.63	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.06	3	1.88	40	1.9
02030105140010	0.63	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.06	3	1.88	40	1.9
02030105140010	0.68	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.05	40	2.0
02030105140010	0.69	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.06	40	2.1
02030105140010	0.70	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.09	40	2.1
02030105140010	0.71	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.07	3	2.12	40	2.1
02030105140010	0.74	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.07	3	2.23	40	2.2
02030105140010	0.75	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.07	3	2.24	40	2.2
02030105140010	0.76	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.29	40	2.3
02030105140010	0.80	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.40	40	2.4
02030105140010	0.82	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.08	3	2.45	40	2.5
02030105140010	0.84	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.08	3	2.51	40	2.5
02030105140010	0.86	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.09	3	2.59	40	2.6
02030105140010	0.87	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.09	3	2.62	40	2.6
02030105140010	0.89	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.09	3	2.66	40	2.7
02030105140010	0.89	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.09	3	2.67	40	2.7
02030105140010	0.97	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.90	40	2.9
02030105140010	0.98	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.10	3	2.95	40	3.0
02030105140010	0.98	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.10	3	2.95	40	3.0
02030105140010	0.99	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.97	40	3.0
02030105140010	1.00	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	2.99	40	3.0
02030105140010	1.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.03	40	3.0
02030105140010	1.01	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.10	3	3.04	40	3.0
02030105140010	1.02	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.10	3	3.07	40	3.1
02030105140010	1.03	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.10	40	3.1
02030105140010	1.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.10	3	3.12	40	3.1
02030105140010	1.12	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.11	3	3.36	40	3.4
02030105140010	1.15	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.12	3	3.46	40	3.5
02030105140010	1.19	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.12	3	3.57	40	3.6
02030105140010	1.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.59	40	3.6
02030105140010	1.21	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.12	3	3.64	40	3.6
02030105140010	1.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.12	3	3.66	40	3.7
02030105140010	1.33	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	3.99	40	4.0
02030105140010	1.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.13	3	4.05	40	4.0
02030105140010	1.35	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.14	3	4.05	40	4.1
02030105140010	1.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.06	40	4.1
02030105140010	1.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.12	40	4.1
02030105140010	1.41	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.14	3	4.22	40	4.2

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	1.46	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.15	3	4.38	40	4.4
02030105140010	1.47	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.15	3	4.40	40	4.4
02030105140010	1.49	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.15	3	4.46	40	4.5
02030105140010	1.50	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.15	3	4.50	40	4.5
02030105140010	1.53	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.15	3	4.58	40	4.6
02030105140010	1.53	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.15	3	4.58	40	4.6
02030105140010	1.54	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.15	3	4.61	40	4.6
02030105140010	1.55	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.16	3	4.66	40	4.7
02030105140010	1.57	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.70	40	4.7
02030105140010	1.57	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.16	3	4.71	40	4.7
02030105140010	1.60	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.16	3	4.80	40	4.8
02030105140010	1.60	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.16	3	4.81	40	4.8
02030105140010	1.61	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.16	3	4.82	40	4.8
02030105140010	1.62	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.16	3	4.85	40	4.9
02030105140010	1.62	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.16	3	4.87	40	4.9
02030105140010	1.65	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.17	3	4.96	40	5.0
02030105140010	1.67	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.17	3	5.00	40	5.0
02030105140010	1.69	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.08	40	5.1
02030105140010	1.70	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.09	40	5.1
02030105140010	1.70	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.17	3	5.11	40	5.1
02030105140010	1.73	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.19	40	5.2
02030105140010	1.74	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.17	3	5.23	40	5.2
02030105140010	1.78	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.18	3	5.34	40	5.3
02030105140010	1.82	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.18	3	5.47	40	5.5
02030105140010	1.88	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.63	40	5.6
02030105140010	1.88	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.19	3	5.63	40	5.6
02030105140010	1.88	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.19	3	5.64	40	5.6
02030105140010	1.93	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.19	3	5.78	40	5.8
02030105140010	1.94	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.19	3	5.81	40	5.8
02030105140010	1.96	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.20	3	5.87	40	5.9
02030105140010	2.02	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.20	3	6.05	40	6.1
02030105140010	2.04	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.20	3	6.11	40	6.1
02030105140010	2.07	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.22	40	6.2
02030105140010	2.11	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.21	3	6.34	40	6.3
02030105140010	2.13	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.21	3	6.40	40	6.4
02030105140010	2.15	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.44	40	6.4
02030105140010	2.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.21	3	6.45	40	6.4
02030105140010	2.15	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.21	3	6.45	40	6.4
02030105140010	2.15	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.22	3	6.45	40	6.5
02030105140010	2.16	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.22	3	6.47	40	6.5
02030105140010	2.17	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.22	3	6.51	40	6.5
02030105140010	2.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.23	3	6.85	40	6.8
02030105140010	2.31	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.23	3	6.93	40	6.9
02030105140010	2.32	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.23	3	6.96	40	7.0
02030105140010	2.34	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.23	3	7.02	40	7.0
02030105140010	2.34	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.23	3	7.03	40	7.0
02030105140010	2.34	CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.23	3	7.03	40	7.0
02030105140010	2.37	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.11	40	7.1
02030105140010	2.38	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.24	3	7.13	40	7.1
02030105140010	2.38	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.24	3	7.15	40	7.2
02030105140010	2.40	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.24	3	7.20	40	7.2
02030105140010	2.46	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.37	40	7.4
02030105140010	2.47	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.40	40	7.4
02030105140010	2.48	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.44	40	7.4
02030105140010	2.50	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.25	3	7.49	40	7.5
02030105140010	2.52	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.57	40	7.6
02030105140010	2.54	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.25	3	7.62	40	7.6
02030105140010	2.55	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.26	3	7.66	40	7.7
02030105140010	2.66	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.27	3	7.97	40	8.0
02030105140010	2.66	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.27	3	7.97	40	8.0
02030105140010	2.67	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.27	3	8.00	40	8.0
02030105140010	2.69	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.27	3	8.08	40	8.1
02030105140010	2.72	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.27	3	8.17	40	8.2
02030105140010	2.78	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.28	3	8.34	40	8.3
02030105140010	2.83	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.28	3	8.49	40	8.5
02030105140010	2.85	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.29	3	8.56	40	8.6
02030105140010	2.98	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.30	3	8.94	40	8.9
02030105140010	2.98	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	8.95	40	8.9
02030105140010	3.00	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	9.01	40	9.0
02030105140010	3.01	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	9.03	40	9.0
02030105140010	3.03	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.30	3	9.10	40	9.1
02030105140010	3.05	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.30	3	9.15	40	9.1
02030105140010	3.05	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.30	3	9.15	40	9.1
02030105140010	3.05	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.16	40	9.2
02030105140010	3.06	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.31	3	9.18	40	9.2
02030105140010	3.08	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.25	40	9.3
02030105140010	3.13	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.31	3	9.40	40	9.4
02030105140010	3.16	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.32	3	9.47	40	9.5
02030105140010	3.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.32	3	9.61	40	9.6
02030105140010	3.21	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.32	3	9.63	40	9.6
02030105140010	3.23	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.32	3	9.70	40	9.7
02030105140010	3.26	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.33	3	9.78	40	9.8
02030105140010	3.45	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	0.34	3	10.34	40	10.3
02030105140010	3.52	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.35	3	10.55	40	10.5
02030105140010	3.62	CONIFEROUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.36	3	10.85	40	10.9
02030105140010	3.65	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.36	3	10.94	40	10.9
02030105140010	3.65	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.36	3	10.94	40	10.9
02030105140010	3.80	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.38	3	11.40	40	11.4
02030105140010	3.91	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.39	3	11.72	40	11.7
02030105140010	3.93	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.39	3	11.79	40	11.8
02030105140010	3.98	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	11.93	40	11.9
02030105140010	4.03	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.40	3	12.10	40	12.1
02030105140010	4.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	12.12	40	12.1
02030105140010	4.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.40	3	12.12	40	12.1
02030105140010	4.08	PLANTATION	FOREST	0.1	0.41	3	12.23	40	12.2
02030105140010	4.25	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.43	3	12.76	40	12.8
02030105140010	4.34	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.43	3	13.02	40	13.0
02030105140010	4.35	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.43	3	13.04	40	13.0
02030105140010	4.43	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.44	3	13.28	40	13.3

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	4.54	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.45	3	13.61	40	13.6
02030105140010	4.67	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.47	3	14.01	40	14.0
02030105140010	4.80	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.48	3	14.41	40	14.4
02030105140010	4.83	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.48	3	14.49	40	14.5
02030105140010	4.84	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.48	3	14.52	40	14.5
02030105140010	5.03	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.50	3	15.08	40	15.1
02030105140010	5.04	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.50	3	15.13	40	15.1
02030105140010	5.24	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.52	3	15.72	40	15.7
02030105140010	5.35	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.54	3	16.05	40	16.1
02030105140010	5.39	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.54	3	16.17	40	16.2
02030105140010	5.55	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.56	3	16.66	40	16.7
02030105140010	5.73	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.57	3	17.19	40	17.2
02030105140010	5.98	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.60	3	17.95	40	17.9
02030105140010	6.27	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.63	3	18.82	40	18.8
02030105140010	6.27	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.63	3	18.82	40	18.8
02030105140010	6.37	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.64	3	19.12	40	19.1
02030105140010	6.75	MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLO	FOREST	0.1	0.68	3	20.25	40	20.3
02030105140010	6.84	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.68	3	20.51	40	20.5
02030105140010	7.06	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.71	3	21.18	40	21.2
02030105140010	7.22	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.72	3	21.66	40	21.7
02030105140010	7.45	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.75	3	22.35	40	22.4
02030105140010	7.64	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.76	3	22.93	40	22.9
02030105140010	7.75	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.77	3	23.25	40	23.2
02030105140010	8.10	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.81	3	24.29	40	24.3
02030105140010	9.45	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.94	3	28.35	40	28.3
02030105140010	9.74	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.97	3	29.23	40	29.2
02030105140010	10.30	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.03	3	30.89	40	30.9
02030105140010	10.58	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	1.06	3	31.73	40	31.7
02030105140010	10.60	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	1.06	3	31.81	40	31.8
02030105140010	11.11	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	1.11	3	33.33	40	33.3
02030105140010	11.24	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.12	3	33.73	40	33.7
02030105140010	11.58	DECIDUOUS FOREST (10-50% CROWN CLOSURE)	FOREST	0.1	1.16	3	34.74	40	34.7
02030105140010	12.32	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.23	3	36.96	40	37.0
02030105140010	14.99	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	1.50	3	44.98	40	45.0
02030105140010	15.20	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.52	3	45.60	40	45.6
02030105140010	15.55	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.56	3	46.66	40	46.7
02030105140010	16.56	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.66	3	49.69	40	49.7
02030105140010	16.64	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.66	3	49.92	40	49.9
02030105140010	17.32	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.73	3	51.97	40	52.0
02030105140010	17.50	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	1.75	3	52.49	40	52.5
02030105140010	19.81	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	1.98	3	59.42	40	59.4
02030105140010	20.11	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.01	3	60.33	40	60.3
02030105140010	21.73	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.17	3	65.19	40	65.2
02030105140010	22.78	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	2.28	3	68.34	40	68.3
02030105140010	23.03	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	2.30	3	69.08	40	69.1
02030105140010	23.13	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	2.31	3	69.38	40	69.4
02030105140010	27.39	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	2.74	3	82.18	40	82.2
02030105140010	32.86	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	3.29	3	98.58	40	98.6
02030105140010	34.67	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	3.47	3	104.01	40	104.0
02030105140010	39.72	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	3.97	3	119.17	40	119.2
02030105140010	41.75	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	4.17	3	125.24	40	125.2
02030105140010	43.02	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	4.30	3	129.05	40	129.1
02030105140010	46.55	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	4.65	3	139.64	40	139.6
02030105140010	47.52	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	4.75	3	142.56	40	142.6
02030105140010	50.28	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	5.03	3	150.84	40	150.8
02030105140010	50.95	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	5.10	3	152.86	40	152.9
02030105140010	56.56	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	5.66	3	169.68	40	169.7
02030105140010	64.92	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	6.49	3	194.76	40	194.8
02030105140010	78.44	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	7.84	3	235.31	40	235.3
02030105140010	88.45	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	8.84	3	265.34	40	265.3
02030105140010	0.12	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.07	5	0.62	100	12.3
02030105140010	0.13	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.18	15	1.91	140	17.8
02030105140010	0.13	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.13	10	1.29	120	15.5
02030105140010	0.13	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.65	100	13.0
02030105140010	0.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.08	5	0.68	100	13.6
02030105140010	0.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.08	5	0.69	100	13.8
02030105140010	0.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.08	5	0.70	100	14.0
02030105140010	0.15	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.09	5	0.73	100	14.5
02030105140010	0.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.75	100	15.0
02030105140010	0.15	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.21	15	2.26	140	21.0
02030105140010	0.15	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.09	5	0.76	100	15.2
02030105140010	0.16	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.22	15	2.41	140	22.5
02030105140010	0.17	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.10	5	0.86	100	17.3
02030105140010	0.19	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.11	5	0.93	100	18.6
02030105140010	0.19	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.11	5	0.94	100	18.9
02030105140010	0.19	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.11	5	0.95	100	19.0
02030105140010	0.20	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.20	10	1.95	120	23.4
02030105140010	0.21	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.13	5	1.07	100	21.4
02030105140010	0.22	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.13	5	1.09	100	21.8
02030105140010	0.22	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.13	5	1.11	100	22.3
02030105140010	0.22	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.22	10	2.24	120	26.9
02030105140010	0.24	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.15	5	1.21	100	24.2
02030105140010	0.25	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.15	5	1.23	100	24.6
02030105140010	0.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.15	5	1.26	100	25.2
02030105140010	0.25	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.35	15	3.80	140	35.5
02030105140010	0.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.15	5	1.27	100	25.3
02030105140010	0.26	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.37	15	3.95	140	36.9
02030105140010	0.31	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.19	5	1.56	100	31.1
02030105140010	0.31	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.44	15	4.70	140	43.9
02030105140010	0.32	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.19	5	1.60	100	32.0
02030105140010	0.33	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.46	15	4.95	140	46.2
02030105140010	0.34	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.47	15	5.07	140	47.3
02030105140010	0.34	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.34	10	3.44	120	41.3
02030105140010	0.35	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.21	5	1.74	100	34.8
02030105140010	0.35	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.21	5	1.77	100	35.4
02030105140010	0.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.22	5	1.83	100	36.5
02030105140010	0.38	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.53	15	5.71	140	53.3
02030105140010	0.40	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.56	15	5.96	140	55.7
02030105140010	0.40	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.24	5	1.99	100	39.8

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	0.40	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.24	5	2.02	100	40.3
02030105140010	0.41	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.25	5	2.07	100	41.4
02030105140010	0.45	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.45	10	4.47	120	53.7
02030105140010	0.45	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.27	5	2.24	100	44.8
02030105140010	0.45	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.27	5	2.26	100	45.3
02030105140010	0.46	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.27	5	2.28	100	45.6
02030105140010	0.47	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.34	100	46.7
02030105140010	0.47	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.28	5	2.35	100	47.0
02030105140010	0.47	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.28	5	2.37	100	47.5
02030105140010	0.48	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.29	5	2.41	100	48.2
02030105140010	0.50	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	0.70	15	7.45	140	69.5
02030105140010	0.50	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.50	10	5.04	120	60.5
02030105140010	0.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.30	5	2.53	100	50.5
02030105140010	0.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.30	5	2.53	100	50.6
02030105140010	0.52	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.31	5	2.62	100	52.3
02030105140010	0.52	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.31	5	2.62	100	52.4
02030105140010	0.55	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.33	5	2.74	100	54.8
02030105140010	0.56	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.33	5	2.78	100	55.5
02030105140010	0.56	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.33	5	2.78	100	55.7
02030105140010	0.59	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.35	5	2.95	100	59.0
02030105140010	0.61	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.36	5	3.04	100	60.8
02030105140010	0.62	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.37	5	3.08	100	61.5
02030105140010	0.63	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.38	5	3.14	100	62.8
02030105140010	0.63	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.38	5	3.17	100	63.4
02030105140010	0.66	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.40	5	3.30	100	66.0
02030105140010	0.70	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.42	5	3.51	100	70.2
02030105140010	0.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.42	5	3.53	100	70.7
02030105140010	0.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.43	5	3.54	100	70.9
02030105140010	0.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.43	5	3.55	100	71.0
02030105140010	0.73	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.44	5	3.64	100	72.8
02030105140010	0.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.44	5	3.68	100	73.7
02030105140010	0.74	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.44	5	3.69	100	73.7
02030105140010	0.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.47	5	3.95	100	78.9
02030105140010	0.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.48	5	3.97	100	79.5
02030105140010	0.80	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.80	10	7.95	120	95.4
02030105140010	0.80	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.80	10	7.99	120	95.9
02030105140010	0.80	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.80	10	8.00	120	95.9
02030105140010	0.80	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.48	5	4.00	100	80.0
02030105140010	0.80	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	1.12	15	12.02	140	112.1
02030105140010	0.81	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.81	10	8.13	120	97.5
02030105140010	0.85	COMMERCIAL/SERVICES	URBAN	2.1	1.78	22	18.62	200	169.3
02030105140010	0.86	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.51	5	4.29	100	85.7
02030105140010	0.89	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.53	5	4.46	100	89.1
02030105140010	0.90	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.54	5	4.52	100	90.4
02030105140010	0.91	OTHER URBAN OR BUILT-UP LAND	URBAN	1	0.91	10	9.12	120	109.4
02030105140010	0.91	COMMERCIAL/SERVICES	URBAN	2.1	1.92	22	20.12	200	182.9
02030105140010	0.92	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.55	5	4.61	100	92.2
02030105140010	0.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.56	5	4.69	100	93.7
02030105140010	0.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.57	5	4.71	100	94.2
02030105140010	0.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.57	5	4.75	100	94.9
02030105140010	0.96	RECREATIONAL LAND	URBAN	1	0.96	10	9.57	120	114.9
02030105140010	0.96	COMMERCIAL/SERVICES	URBAN	2.1	2.01	22	21.08	200	191.6
02030105140010	0.96	COMMERCIAL/SERVICES	URBAN	2.1	2.02	22	21.11	200	191.9
02030105140010	0.96	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.58	5	4.80	100	96.0
02030105140010	0.97	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.58	5	4.87	100	97.5
02030105140010	1.00	COMMERCIAL/SERVICES	URBAN	2.1	2.09	22	21.90	200	199.0
02030105140010	1.00	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.60	5	4.99	100	99.7
02030105140010	1.00	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.60	5	5.00	100	100.0
02030105140010	1.01	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.60	5	5.04	100	100.7
02030105140010	1.01	RECREATIONAL LAND	URBAN	1	1.01	10	10.11	120	121.3
02030105140010	1.01	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.61	5	5.07	100	101.4
02030105140010	1.02	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.61	5	5.10	100	102.1
02030105140010	1.02	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.61	5	5.11	100	102.2
02030105140010	1.02	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.61	5	5.11	100	102.2
02030105140010	1.03	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.62	5	5.17	100	103.3
02030105140010	1.04	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.62	5	5.20	100	104.0
02030105140010	1.04	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.63	5	5.21	100	104.2
02030105140010	1.05	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.63	5	5.25	100	104.9
02030105140010	1.06	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.64	5	5.29	100	105.9
02030105140010	1.07	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.64	5	5.36	100	107.2
02030105140010	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.38	100	107.7
02030105140010	1.08	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.65	5	5.41	100	108.1
02030105140010	1.10	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.10	10	11.02	120	132.3
02030105140010	1.11	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.67	5	5.57	100	111.4
02030105140010	1.12	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.67	5	5.60	100	112.1
02030105140010	1.13	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.13	10	11.30	120	135.6
02030105140010	1.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.69	5	5.72	100	114.3
02030105140010	1.14	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.69	5	5.72	100	114.4
02030105140010	1.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.69	5	5.79	100	115.7
02030105140010	1.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.70	5	5.79	100	115.9
02030105140010	1.16	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.70	5	5.82	100	116.4
02030105140010	1.17	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.17	10	11.70	120	140.4
02030105140010	1.19	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.72	5	5.97	100	119.4
02030105140010	1.20	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.72	5	5.99	100	119.8
02030105140010	1.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.72	5	6.01	100	120.2
02030105140010	1.20	COMMERCIAL/SERVICES	URBAN	2.1	2.53	22	26.48	200	240.7
02030105140010	1.21	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.73	5	6.05	100	121.0
02030105140010	1.21	RECREATIONAL LAND	URBAN	1	1.21	10	12.13	120	145.6
02030105140010	1.22	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.73	5	6.09	100	121.7
02030105140010	1.22	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.73	5	6.09	100	121.8
02030105140010	1.22	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.73	5	6.09	100	121.9
02030105140010	1.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.74	5	6.15	100	123.0
02030105140010	1.23	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.23	10	12.30	120	147.7
02030105140010	1.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.74	5	6.18	100	123.6
02030105140010	1.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.75	5	6.24	100	124.8
02030105140010	1.26	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.76	5	6.32	100	126.3
02030105140010	1.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.76	5	6.36	100	127.2
02030105140010	1.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.76	5	6.36	100	127.3
02030105140010	1.29	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.77	5	6.44	100	128.8

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	1.29	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.77	5	6.45	100	128.9
02030105140010	1.29	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	1.81	15	19.41	140	181.1
02030105140010	1.31	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.79	5	6.56	100	131.2
02030105140010	1.31	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.79	5	6.57	100	131.3
02030105140010	1.32	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.79	5	6.62	100	132.4
02030105140010	1.33	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.80	5	6.66	100	133.2
02030105140010	1.34	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.34	10	13.36	120	160.3
02030105140010	1.34	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.81	5	6.72	100	134.4
02030105140010	1.37	COMMERCIAL/SERVICES	URBAN	2.1	2.87	22	30.04	200	273.1
02030105140010	1.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.82	5	6.85	100	136.9
02030105140010	1.39	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.84	5	6.96	100	139.2
02030105140010	1.39	COMMERCIAL/SERVICES	URBAN	2.1	2.93	22	30.66	200	278.7
02030105140010	1.39	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.84	5	6.97	100	139.5
02030105140010	1.44	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.86	5	7.19	100	143.9
02030105140010	1.45	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.87	5	7.24	100	144.7
02030105140010	1.45	COMMERCIAL/SERVICES	URBAN	2.1	3.04	22	31.84	200	289.4
02030105140010	1.46	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	2.05	15	21.95	140	204.9
02030105140010	1.46	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.88	5	7.32	100	146.4
02030105140010	1.47	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.47	10	14.74	120	176.9
02030105140010	1.48	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.89	5	7.41	100	148.2
02030105140010	1.49	COMMERCIAL/SERVICES	URBAN	2.1	3.14	22	32.85	200	298.6
02030105140010	1.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.90	5	7.53	100	150.6
02030105140010	1.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.91	5	7.57	100	151.4
02030105140010	1.52	COMMERCIAL/SERVICES	URBAN	2.1	3.19	22	33.40	200	303.6
02030105140010	1.55	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.93	5	7.74	100	154.8
02030105140010	1.59	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.59	10	15.89	120	190.7
02030105140010	1.59	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.95	5	7.95	100	159.0
02030105140010	1.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.97	5	8.09	100	161.7
02030105140010	1.62	RECREATIONAL LAND	URBAN	1	1.62	10	16.18	120	194.1
02030105140010	1.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.97	5	8.10	100	162.0
02030105140010	1.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.98	5	8.15	100	163.0
02030105140010	1.64	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.64	10	16.38	120	196.5
02030105140010	1.64	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.98	5	8.19	100	163.9
02030105140010	1.66	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.99	5	8.29	100	165.8
02030105140010	1.67	COMMERCIAL/SERVICES	URBAN	2.1	3.50	22	36.71	200	333.8
02030105140010	1.70	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.02	5	8.52	100	170.4
02030105140010	1.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.02	5	8.54	100	170.8
02030105140010	1.71	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.02	5	8.54	100	170.8
02030105140010	1.71	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.03	5	8.54	100	170.9
02030105140010	1.73	COMMERCIAL/SERVICES	URBAN	2.1	3.64	22	38.15	200	346.8
02030105140010	1.74	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.04	5	8.68	100	173.7
02030105140010	1.77	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.06	5	8.84	100	176.7
02030105140010	1.77	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	2.48	15	26.61	140	248.4
02030105140010	1.79	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.79	10	17.90	120	214.7
02030105140010	1.80	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.08	5	8.99	100	179.8
02030105140010	1.80	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.08	5	9.00	100	179.9
02030105140010	1.81	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.81	10	18.08	120	216.9
02030105140010	1.82	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.82	10	18.24	120	218.8
02030105140010	1.84	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.84	10	18.39	120	220.6
02030105140010	1.85	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.11	5	9.24	100	184.9
02030105140010	1.85	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.85	10	18.53	120	222.4
02030105140010	1.87	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.12	5	9.36	100	187.3
02030105140010	1.90	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.90	10	18.98	120	227.7
02030105140010	1.90	INDUSTRIAL	URBAN	1.5	2.85	16	30.39	200	379.9
02030105140010	1.91	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.15	5	9.54	100	190.9
02030105140010	1.91	OTHER URBAN OR BUILT-UP LAND	URBAN	1	1.91	10	19.10	120	229.1
02030105140010	1.93	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.16	5	9.63	100	192.7
02030105140010	1.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.16	5	9.71	100	194.1
02030105140010	1.94	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.17	5	9.71	100	194.3
02030105140010	1.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.17	5	9.73	100	194.5
02030105140010	1.95	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.17	5	9.73	100	194.6
02030105140010	1.97	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.18	5	9.86	100	197.2
02030105140010	1.98	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.19	5	9.91	100	198.1
02030105140010	2.00	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.00	10	20.04	120	240.4
02030105140010	2.02	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.21	5	10.08	100	201.6
02030105140010	2.03	COMMERCIAL/SERVICES	URBAN	2.1	4.26	22	44.67	200	406.1
02030105140010	2.05	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.23	5	10.25	100	205.0
02030105140010	2.05	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.23	5	10.26	100	205.3
02030105140010	2.06	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.06	10	20.56	120	246.7
02030105140010	2.07	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.24	5	10.33	100	206.6
02030105140010	2.07	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.07	10	20.71	120	248.5
02030105140010	2.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.28	5	10.65	100	213.0
02030105140010	2.15	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.15	10	21.45	120	257.4
02030105140010	2.15	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.15	10	21.54	120	258.4
02030105140010	2.17	COMMERCIAL/SERVICES	URBAN	2.1	4.55	22	47.67	200	433.3
02030105140010	2.18	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.31	5	10.90	100	217.9
02030105140010	2.19	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.19	10	21.88	120	262.6
02030105140010	2.19	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.31	5	10.95	100	219.0
02030105140010	2.20	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.32	5	11.00	100	220.0
02030105140010	2.21	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.32	5	11.03	100	220.6
02030105140010	2.23	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.34	5	11.13	100	222.6
02030105140010	2.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.34	5	11.17	100	223.4
02030105140010	2.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.34	5	11.17	100	223.4
02030105140010	2.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.34	5	11.18	100	223.7
02030105140010	2.27	COMMERCIAL/SERVICES	URBAN	2.1	4.77	22	49.94	200	454.0
02030105140010	2.29	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.38	5	11.46	100	229.2
02030105140010	2.30	COMMERCIAL/SERVICES	URBAN	2.1	4.84	22	50.67	200	460.7
02030105140010	2.32	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.39	5	11.60	100	231.9
02030105140010	2.33	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.40	5	11.64	100	232.7
02030105140010	2.34	COMMERCIAL/SERVICES	URBAN	2.1	4.91	22	51.44	200	467.6
02030105140010	2.34	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.40	5	11.69	100	233.9
02030105140010	2.35	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.41	5	11.77	100	235.4
02030105140010	2.36	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.41	5	11.79	100	235.7
02030105140010	2.36	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.42	5	11.79	100	235.9
02030105140010	2.37	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.42	5	11.85	100	237.0
02030105140010	2.38	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.43	5	11.92	100	238.5
02030105140010	2.38	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	3.34	15	35.77	140	333.9
02030105140010	2.39	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.39	10	23.95	120	287.4
02030105140010	2.40	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.44	5	12.00	100	240.0

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	2.49	COMMERCIAL/SERVICES	URBAN	2.1	5.22	22	54.70	200	497.3
02030105140010	2.50	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.50	5	12.48	100	249.7
02030105140010	2.51	COMMERCIAL/SERVICES	URBAN	2.1	5.27	22	55.18	200	501.7
02030105140010	2.51	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.51	5	12.55	100	250.9
02030105140010	2.52	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.51	5	12.62	100	252.5
02030105140010	2.54	COMMERCIAL/SERVICES	URBAN	2.1	5.33	22	55.86	200	507.8
02030105140010	2.54	RECREATIONAL LAND	URBAN	1	2.54	10	25.45	120	305.4
02030105140010	2.55	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.53	5	12.77	100	255.3
02030105140010	2.60	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.56	5	12.99	100	259.7
02030105140010	2.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.58	5	13.17	100	263.4
02030105140010	2.66	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.60	5	13.32	100	266.4
02030105140010	2.67	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.60	5	13.33	100	266.6
02030105140010	2.67	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.60	5	13.35	100	267.0
02030105140010	2.70	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.70	10	26.96	120	323.5
02030105140010	2.72	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.63	5	13.61	100	272.3
02030105140010	2.77	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.66	5	13.85	100	277.0
02030105140010	2.82	COMMERCIAL/SERVICES	URBAN	2.1	5.92	22	62.07	200	564.2
02030105140010	2.85	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.71	5	14.23	100	284.5
02030105140010	2.86	RECREATIONAL LAND	URBAN	1	2.86	10	28.57	120	342.9
02030105140010	2.87	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.72	5	14.35	100	287.0
02030105140010	2.92	OTHER URBAN OR BUILT-UP LAND	URBAN	1	2.92	10	29.16	120	349.9
02030105140010	3.00	RECREATIONAL LAND	URBAN	1	3.00	10	29.97	120	359.6
02030105140010	3.01	RECREATIONAL LAND	URBAN	1	3.01	10	30.15	120	361.8
02030105140010	3.04	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.82	5	15.18	100	303.5
02030105140010	3.04	COMMERCIAL/SERVICES	URBAN	2.1	6.38	22	66.81	200	607.4
02030105140010	3.06	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.84	5	15.30	100	306.1
02030105140010	3.10	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.86	5	15.51	100	310.2
02030105140010	3.12	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.87	5	15.61	100	312.1
02030105140010	3.17	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	1.90	5	15.86	100	317.2
02030105140010	3.20	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.20	10	31.97	120	383.6
02030105140010	3.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	1.94	5	16.17	100	323.4
02030105140010	3.33	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.00	5	16.67	100	333.5
02030105140010	3.34	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.00	5	16.68	100	333.6
02030105140010	3.38	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.38	10	33.84	120	406.1
02030105140010	3.44	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.07	5	17.22	100	344.5
02030105140010	3.48	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.09	5	17.42	100	348.4
02030105140010	3.62	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.17	5	18.08	100	361.6
02030105140010	3.63	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.63	10	36.25	120	435.0
02030105140010	3.63	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	5.09	15	54.51	140	508.7
02030105140010	3.65	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.19	5	18.23	100	364.5
02030105140010	3.70	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.22	5	18.48	100	369.7
02030105140010	3.72	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.23	5	18.61	100	372.2
02030105140010	3.79	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.27	5	18.96	100	379.1
02030105140010	3.88	OTHER URBAN OR BUILT-UP LAND	URBAN	1	3.88	10	38.78	120	465.4
02030105140010	3.91	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.35	5	19.56	100	391.1
02030105140010	3.99	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.39	5	19.96	100	399.1
02030105140010	4.02	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.41	5	20.12	100	402.5
02030105140010	4.04	COMMERCIAL/SERVICES	URBAN	2.1	8.49	22	88.97	200	808.8
02030105140010	4.14	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.48	5	20.69	100	413.9
02030105140010	4.15	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	5.81	15	62.29	140	581.4
02030105140010	4.47	OTHER URBAN OR BUILT-UP LAND	URBAN	1	4.47	10	44.71	120	536.5
02030105140010	4.49	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.70	5	22.47	100	449.4
02030105140010	4.68	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.81	5	23.38	100	467.5
02030105140010	4.76	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.86	5	23.79	100	475.9
02030105140010	4.79	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	2.88	5	23.97	100	479.4
02030105140010	4.81	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	2.89	5	24.07	100	481.4
02030105140010	5.06	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.03	5	25.28	100	505.7
02030105140010	5.18	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.11	5	25.90	100	518.0
02030105140010	5.21	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.13	5	26.04	100	520.9
02030105140010	5.23	COMMERCIAL/SERVICES	URBAN	2.1	10.98	22	115.07	200	1,046.1
02030105140010	5.35	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.21	5	26.77	100	535.5
02030105140010	5.42	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.25	5	27.10	100	542.1
02030105140010	5.43	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.26	5	27.15	100	543.0
02030105140010	5.49	INDUSTRIAL	URBAN	1.5	8.23	16	87.78	200	1,097.2
02030105140010	5.54	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.33	5	27.71	100	554.2
02030105140010	5.75	OTHER URBAN OR BUILT-UP LAND	URBAN	1	5.75	10	57.53	120	690.4
02030105140010	5.86	INDUSTRIAL	URBAN	1.5	8.79	16	93.73	200	1,171.6
02030105140010	5.92	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	3.55	5	29.60	100	591.9
02030105140010	6.07	RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY	URBAN	1.4	8.50	15	91.09	140	850.2
02030105140010	6.23	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.74	5	31.17	100	623.4
02030105140010	6.26	OTHER URBAN OR BUILT-UP LAND	URBAN	1	6.26	10	62.60	120	751.2
02030105140010	6.55	COMMERCIAL/SERVICES	URBAN	2.1	13.76	22	144.19	200	1,310.8
02030105140010	6.57	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	3.94	5	32.85	100	657.0
02030105140010	6.68	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.01	5	33.40	100	668.1
02030105140010	6.83	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.10	5	34.14	100	682.8
02030105140010	6.92	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.15	5	34.62	100	692.4
02030105140010	7.61	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.57	5	38.05	100	761.0
02030105140010	7.74	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.64	5	38.68	100	773.6
02030105140010	7.88	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	4.73	5	39.42	100	788.4
02030105140010	8.51	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	5.11	5	42.57	100	851.4
02030105140010	9.27	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.56	5	46.37	100	927.4
02030105140010	9.31	OTHER URBAN OR BUILT-UP LAND	URBAN	1	9.31	10	93.12	120	1,117.4
02030105140010	9.35	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.61	5	46.75	100	935.0
02030105140010	9.67	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	5.80	5	48.36	100	967.3
02030105140010	9.71	OTHER URBAN OR BUILT-UP LAND	URBAN	1	9.71	10	97.11	120	1,165.3
02030105140010	9.95	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	5.97	5	49.77	100	995.4
02030105140010	10.37	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	6.22	5	51.83	100	1,036.7
02030105140010	11.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	6.76	5	56.34	100	1,126.9
02030105140010	11.64	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	16.30	15	174.64	140	1,630.0
02030105140010	13.87	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	8.32	5	69.36	100	1,387.2
02030105140010	14.15	INDUSTRIAL	URBAN	1.5	21.23	16	226.47	200	2,830.8
02030105140010	14.83	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	8.90	5	74.17	100	1,483.4
02030105140010	15.11	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	9.07	5	75.55	100	1,510.9
02030105140010	15.27	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	9.16	5	76.34	100	1,526.7
02030105140010	15.33	RECREATIONAL LAND	URBAN	1	15.33	10	153.26	120	1,839.2
02030105140010	17.07	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	10.24	5	85.34	100	1,706.8
02030105140010	19.26	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	11.56	5	96.32	100	1,926.4
02030105140010	19.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	11.85	5	98.76	100	1,975.2
02030105140010	21.55	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	12.93	5	107.76	100	2,155.1

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105140010	21.57	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	12.94	5	107.83	100	2,156.6
02030105140010	21.63	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	12.98	5	108.17	100	2,163.3
02030105140010	23.24	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	13.94	5	116.20	100	2,324.0
02030105140010	29.31	RECREATIONAL LAND	URBAN	1	29.31	10	293.09	120	3,517.1
02030105140010	34.31	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	20.59	5	171.57	100	3,431.4
02030105140010	38.25	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	22.95	5	191.26	100	3,825.3
02030105140010	46.75	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	28.05	5	233.74	100	4,674.8
02030105140010	48.23	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	28.94	5	241.17	100	4,823.3
02030105140010	49.23	TRANSPORTATION/COMMUNICATIONS/UTILITIES	URBAN	1.4	68.92	15	738.44	140	6,892.1
02030105140010	76.09	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	45.66	5	380.46	100	7,609.2
02030105140010	86.18	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	51.71	5	430.88	100	8,617.7
02030105140010	98.35	RECREATIONAL LAND	URBAN	1	98.35	10	983.50	120	11,802.0
02030105140010	102.59	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	61.55	5	512.95	100	10,259.1
02030105140010	131.20	RECREATIONAL LAND	URBAN	1	131.20	10	1,311.98	120	15,743.7
02030105140010	168.13	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	100.88	5	840.63	100	16,812.6
			Totals:		**3,759**		**34,472**		**225,541**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105100070	0.00000	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.0
02030105100070	0.00011	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.0
02030105100070	0.00000	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.0
02030105100070	0.00020	OTHER AGRICULTURE	AGRICULTURE	1.3	0.00	10	0.00	300	0.1
02030105100070	0.00000	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.00	3	0.00	40	0.0
02030105100070	0.00001	DECIDUOUS BRUSH/SHRUBLAND	FOREST	0.1	0.00	3	0.00	40	0.0
02030105100070	0.00001	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.0
02030105100070	0.00002	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.0
02030105100070	0.00016	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.00	3	0.00	40	0.0
02030105100070	0.00001	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00001	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00003	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00002	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.0
02030105100070	0.00000	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.0
			Totals:		**0.00**		**0.00**		**0.1**

Table G10: Existing Developable Area Nonpoint Source Pollutant Loads for HUC14 02030105100010

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030105100010	0.00000	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.00
02030105100010	0.00002	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	DECIDUOUS FOREST (>50% CROWN CLOSURE)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00001	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	MIXED DECIDUOUS/CONIFEROUS BRUSH/SHRUBLAND	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00000	OLD FIELD (< 25% BRUSH COVERED)	FOREST	0.1	0.00	3	0.00	40	0.00
02030105100010	0.00001	OTHER URBAN OR BUILT-UP LAND	URBAN	1.0	0.00	10	0.00	120	0.00
02030105100010	0.00004	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00001	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00001	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00002	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00002	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00001	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.00
02030105100010	0.00000	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.00
			Totals:		**0.00**		**0.00**		**0.02**

HUC14	Area (AC)	Land Cover Description (NJDEP LandUse95)	Land Cover Type (NJDEP LandUse95)	Total Phosphorus Load (lbs/ac/yr)	Total Phosphorus (lbs/yr)	Total Nitrogen Load (lbs/ac/yr)	Total Nitrogen (lbs/yr)	Total Suspended Solids (lbs/ac/yr)	Total Suspended Solids (lbs/yr)
02030104100010	0.00005	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.01
02030104100010	0.00000	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.00
02030104100010	0.00000	CROPLAND AND PASTURELAND	AGRICULTURE	1.3	0.00	10	0.00	300	0.00
02030104100010	0.00003	OTHER AGRICULTURE	AGRICULTURE	1.3	0.00	10	0.00	300	0.01
02030104100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00006	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.01
02030104100010	0.00013	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.01
02030104100010	0.00005	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00003	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00000	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00002	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00001	RESIDENTIAL, RURAL, SINGLE UNIT	URBAN	0.6	0.00	5	0.00	100	0.00
02030104100010	0.00010	RESIDENTIAL, SINGLE UNIT, LOW DENSITY	URBAN	0.6	0.00	5	0.00	100	0.01
			Totals:		**0.00**		**0.00**		**0.06**