

Municipal Stormwater Management Plan

for the

Borough of Franklin Lakes Bergen County, New Jersey



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I. INTRODUCTION

This Municipal Stormwater Management Plan (hereinafter the MSWMP or the Plan) documents the strategy for the Borough of Franklin Lakes (the Borough) to address stormwater-related impacts. The creation of this Plan is required by N.J.A.C. 7:14A-25 Municipal Stormwater Regulations.

This Plan contains the required elements described in N.J.A.C. 7:8 Stormwater Management Rules. The Plan addresses groundwater recharge, stormwater quantity and stormwater quality impacts by incorporating stormwater design and performance standards for new major developments, defined as projects that disturb one or more acres of land. These standards are intended to minimize the adverse impact of stormwater runoff on water quality, water quantity and the loss of groundwater recharge that provides baseflow in receiving water bodies.

A build-out analysis is required in this Plan based upon existing zoning and land available for development. The Plan also addresses the review and update of existing ordinances, the Borough Master Plan and other planning documents to allow for project designs that include low-impact development techniques. The Borough Master Plan was last reviewed in 2010 and is consistent with this document. The final component of this Plan is a mitigation strategy for when a variance or exemption of the design and performance standards is sought. As part of the mitigation section of the Plan, specific stormwater management measures are identified to lessen the impact of existing development.

II. GOALS

The goals of this MSWMP as well as a brief description of the Borough's strategies to implement the goals are as follows:

- ***Reduce flood damage, including damage to life and property.***

The Borough is currently incorporating several non-structural stormwater strategies into their Zoning and Site Plan ordinances. The purpose of some of these non-structural strategies is to reduce flooding and therefore reduce damage to life and property.

- ***Minimize, to the extent practical, any increase in stormwater runoff from any new development.***

Current Residential Site Improvement Standards (RSIS) require a reduction in runoff during all rain events for residential developments. Commercial developments will be required to follow all regulations in N.J.A.C. 7:8 and 7:15 to minimize any increase in stormwater runoff.

- ***Reduce soil erosion from any development or construction project.***

Currently, all development projects are required to obtain approval from the Bergen County Soil Conservation District if their area of disturbance is above 5,000 square feet. The BCSCD will only approve the application if the proper soil erosion measures have been proposed.

- ***Assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures.***

The Borough is working to eliminate pollution and minimize soil erosion by adopting various ordinances. Also, as part of their Stormwater Pollution Prevention Plan (SP3), the Borough

is required to retro-fit all existing inlets with new NJDEP approved curb pieces. This will also help limit litter in the Borough's stormwater systems and prevent any blockages.

- ***Maintain groundwater recharge.***

The Borough currently enforces existing ordinances limiting the amount of development that can occur on any particular site. This can maintain or increase the groundwater recharge by simply limiting the amount of maximum impervious coverage allowed. The Borough is also working to reinforce its current ordinance with new non-structural stormwater strategies such as driveway swales or porous pavement which will allow for increased groundwater recharge.

- ***Prevent, to the greatest extent feasible, an increase in non-point pollution.***

The Borough has recently adopted several ordinances with applicable fines to help prevent non-point source pollution. These ordinances include litter, wildlife feeding, pet waste, and yard waste management.

- ***Maintain the integrity of stream channels for their biological functions, as well as for drainage.***

As stated above, the Borough has adopted wildlife feeding and pet waste ordinances. These ordinances will decrease the amount of biological pollutants allowed to reach the Borough's waterways and assist in reducing or preventing TMDL's.

- ***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.

As part of the SP3, the Borough began a public education program. The Borough is required to inform its residents concerning the consequences of pollution and instruct them in its prevention.

- ***Protect public safety through the proper design and operation of stormwater basins.***

The Borough will require that future development must meet the Safety Standards for Stormwater Management Basins as outlined in N.J.A.C. 7:8-6.

To achieve these goals, this Plan outlines specific stormwater design and performance standards for new development. Preventative and corrective maintenance strategies are included in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to protect public safety.

III. STORMWATER DISCUSSION

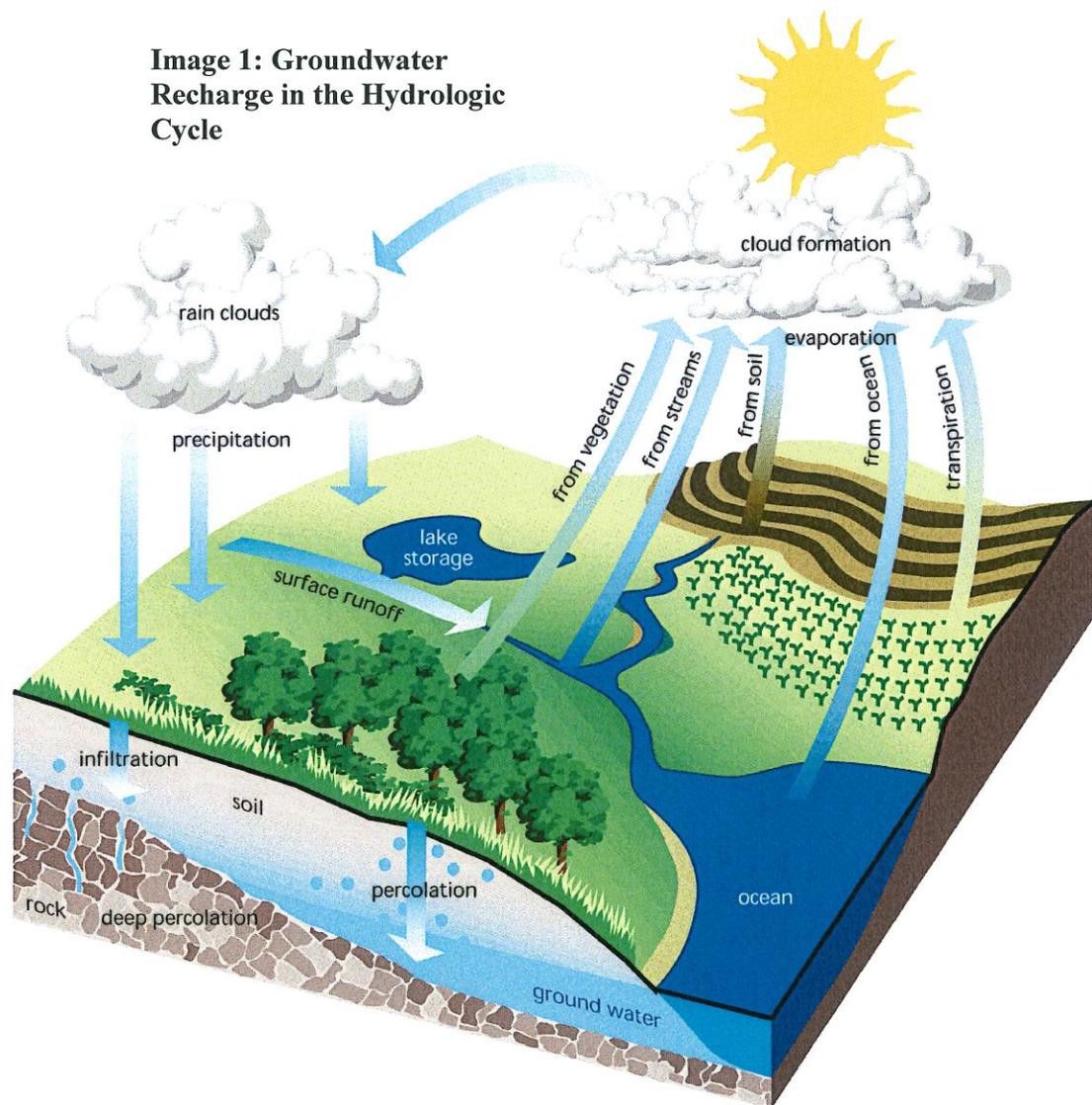
Land development can dramatically alter the hydrologic cycle (Image 1) of a site and ultimately, an entire watershed. Prior to development, native vegetation can either directly intercept precipitation or draw that portion that has infiltrated into the ground and return it to the atmosphere through evapotranspiration.

Development can remove this beneficial vegetation and replace it with lawn or impervious cover, reducing the site's evapotranspiration and infiltration rates. Clearing and grading a site can remove depressions that store rainfall. Construction activities may also compact the soil and diminish its infiltration ability, resulting in increased volumes and rates of stormwater runoff from the site.

Impervious areas that are connected to each other through gutters, channels and storm sewers can transport runoff more quickly than natural areas. This shortening of the transport or travel time quickens the rainfall-runoff response of the drainage area, causing flow in downstream waterways to peak faster and higher than natural conditions. These increases can create new and aggravate existing downstream flooding and erosion problems and increase the quantity of sediment in the channel.

Filtration of runoff and removal of pollutants by surface and channel vegetation is eliminated by storm sewers that discharge runoff directly into a stream. Increases in impervious area can also decrease opportunities for infiltration which, in turn, reduces stream base flow and groundwater recharge. Reduced base flows and increased peak flows produce greater fluctuations between normal and storm flow rates, which can increase channel erosion. Reduced base flows can also

negatively impact the hydrology of adjacent wetlands and the health of biological communities that depend on base flows. Finally, erosion and sedimentation can destroy habitat from which some species cannot adapt.



In addition to increases in runoff peaks, volumes and loss of groundwater recharge, land development often results in the accumulation of pollutants on the land surface that runoff can mobilize and transport to streams. New impervious surfaces and cleared areas created by development can accumulate a variety of pollutants from the atmosphere, fertilizers, animal wastes, and leakage and wear from vehicles. Pollutants can include metals, suspended solids, hydrocarbons, pathogens, and nutrients. In addition to increased pollutant loading, land development can adversely affect water quality and stream biota in more subtle ways. For example, stormwater falling on impervious surfaces or stored in detention or retention basins can become heated and raise the temperature of the downstream waterway, adversely affecting cold water fish species such as trout. Development can remove trees along stream banks that normally provide shading, stabilization, and leaf litter that falls into streams and becomes food for the aquatic community.

IV. BACKGROUND

Franklin Lakes encompasses 9.85-square miles in northwestern Bergen County, New Jersey and is named for many of the waterbodies found within the municipality. The Borough is largely built-out with only 741.5-acres of remaining developable open space, equating to approximately 11.8% of Franklin Lakes' total area. **Figure 1** illustrates Franklin Lakes' waterways while **Figure 2** depicts the Borough boundary on the United States Geological Survey (USGS) Quadrangle Maps.

The Borough depends on septic systems for 90% of its wastewater management while the remaining 10% is serviced by sanitary sewers. The sanitary sewer flows to the Northwest Bergen County Utility Authority in Waldwick, New Jersey. The sanitary sewer map is provided in **Figure 3**. United Water supplies about 50% of the Borough's potable water while the remainder of Franklin Lakes utilizes private wells.

The Borough's population increased from 8,769 residents in 1980 to 9,873 in 1990. The population then increased again to 10,422 residents in 2000. This population increase in the 1980's and 1990's most likely has resulted in demand for new development. In 1980, there were 2,568 dwelling units in the Borough. The number of dwelling units increased to 3,171 in 1990 to 3,395 in 2000. Recent development in the Borough includes an 80-unit senior housing development on Colonial Road which has recently finalized construction. Additionally, a 100-unit apartment complex has been proposed on Old Mill Road and another 70-unit development has been approved on Colonial Road. Other development currently under construction includes a 7-lot subdivision on Park Avenue, an 11-lot subdivision on Woodside Avenue, an 8-lot subdivision on Franklin Lakes Road and a 2-lot subdivision on McCoy Road.

Since Franklin Lakes is a primarily developed community, increased stormwater runoff volumes and pollutant loadings have likely impacted the Borough's waterways. Dwelling units constructed since the 1980s implement some of the new performance standards and best management practices (BMP) to alleviate increased stormwater runoff and pollutant loadings. However past development has likely not addressed groundwater recharge.

The overwhelming majority of the Borough lies within the Metropolitan Planning Area (PA-1). This planning area designated to areas that are considered Urban Redevelopment Area and are not subject to groundwater recharge requirements. A very small area in the north portion of the Borough is designated PA-6 (Park 1st Plan) which includes a portion of Campgaw Mountain.

The NJDEP is designating an increasing number of streams in the State as Category-1 (C1) waterways, especially those that provide drinking water and important habitat for threatened and endangered species as well as popular recreation fish such as trout. Streams can be designated as C1 based on their ecological significance, recreational or aesthetic significance, water supply significance, fisheries, shellfisheries or their location within publicly preserved open space. The C1 designation prevents further degradation in existing water quality. Moreover a 300' buffer is established around the C1 waterways and is referred to as a Special Water Resource Protection Area (SWRPA). The Borough contains no C1 designated waterways.

Franklin Lakes' major watercourses are as follows:

- Ho-Ho-Kus Brook (FW2-NT/SE2) – [HUC-14 – 02030103140010]

The Ho-Ho-Kus Brook generally flows from west to east in the northeastern portion of the Borough. The State assigns the river a Surface Water Quality Standard (SWQS) of FW2-NT/SE2 designation indicating a general surface water (FW2) and saline estuary (SE2) that does not support trout production or maintenance (NT).

- Spring Lake Brook (FW2-NT/SE2) – [HUC-14 – 02030103140010]

The Spring Lake Brook flows south to north through the northeastern part of the Borough and is a tributary to the Ho-Ho-Kus Brook. The brook has a FW2-NT/SE2 designation.

- Molly Ann Brook (FW2-NT) – [HUC-14 – 02030103120040]

The Molly Ann Brook flows north to south through the southeast part of the Borough. The brook has a FW2-NT designation indicating a general surface water (FW2) that does not support trout production or maintenance (NT).

- Pond Brook (FW2-NT) – [HUC-14 – 02030103100060]

The Pond Brook originates at Franklin Lakes and flows north then west to the Ramapo River in Oakland. The brook has a FW2-NT designation.

- Haledon Reservoir (FW2-NT) – [HUC-14 – 02030103120040]

The Haledon Reservoir is located on the Borough's southern border and is on-stream with Molly Ann Brook. The reservoir is designated FW2-NT.

-
- Franklin Lake (FW2-NT) – [HUC-14 – 02030103100060]

Franklin Lake is located in the southern part of the Borough and is on-stream with a tributary to Pond Brook. The lake is designated FW2-NT.

- Hoppers Lake (FW2-NT) – [HUC-14 – 02030103100060]

Hoppers Lake is located along the Borough's southwestern border and eventually outlets to Ramapo River. The lake is designated FW2-NT.

- Upper and Lower Blauvelt Lakes – [HUC-14 – 02030103100060]

The Upper and Lower Blauvelt Lakes are isolated waterways located in the southeastern part of the Borough. The two (2) waterbodies are not designated.

- Bakers Long Pond (FW2-NT) – [HUC-14 – 02030103100060]

Bakers Long Pond is located in the southeastern portion of the Borough and outlets to a tributary of Pond Brook. The pond is classified FW2-NT.

- Vitales Pond (FW2-NT) – [HUC-14 – 02030103100060]

Vitales Pond lies onstream with Pond Brook and is also designated FW2-NT.

- Conrad Pond (FW2-NT) – [HUC-14 – 02030103100060]

Conrad Pond is located near the western border of the Borough and eventually outlets to the Ramapo River. The pond is designated FW2-NT.

-
- Pulis Pond (FW2-NT) – [HUC-14 – 02030103100060]

Pulis Pond is located in the northern part of the Borough and is on-stream with a tributary to Pond Brook. The pond is designated FW2-NT.

- Shadow Lake (FW2-NT) – [HUC-14 – 02030103140010]

Shadow Lake is located in the northern part of the Borough and is on-stream with a tributary to Ho-Ho-Kus Brook. The lake is designated FW2-NT.

- De Yoe Pond (FW2-NT) – [HUC-14 – 02030103140010]

De Yoe Pond, located onstream with a tributary to Ho-Ho-Kus Brook, is designated FW2-NT.

- Bunker Pond (FW2-NT/SE2) – [HUC-14 – 02030103140010]

Bunker Pond, located near the northeastern border of the Borough onstream with the Ho-Ho-Kus Brook, is designated FW2-NT/SE2.

- Cooks Pond (FW2-NT/SE2) – [HUC-14 – 02030103140010]

Cooks Pond is located along the northeastern border of the Borough and is on-stream with the Ho-Ho-Kus Brook. The pond is designated FW2-NT/SE2.

- Parsons Pond (FW2-NT/SE2) – [HUC-14 – 02030103140010]

Parsons Pond is located in the northeastern portion of the Borough and is on-stream with the Spring Lake Brook. The pond is designated FW2-NT/SE2.

-
- Lawlin Pond (FW2-NT) – [HUC-14 – 02030103140010]

Lawlin Pond is located along the Borough’s eastern border and outlets to a tributary of the Ho-Ho-Kus Brook. The pond is designated FW2-NT.

- Clarks Pond (FW2-NT) – [HUC-14 – 02030103100060]

Clarks Pond outlets to a tributary of the Pond Brook and is designated FW2-NT.

A Map depicting the Borough’s major waterways is included as **Figure 1**.

Franklin Lakes lies in Watershed Management Area 3 (WMA-3) Pompton, Pequannock, Wanaque, Ramapo and Watershed Management Area 4 (WMA-4) Lower Passaic, Saddle. WMA-3 and WMA-4 are divided into smaller sub-watersheds and assigned 14-digit hydrologic Unit Codes (HUC-14). Franklin Lakes’s six (6) different HUC-14s are shown in **Figure 4**.

The NJDEP has established an Ambient Biomonitoring Network (AMNET) to document the health of the State’s waterways at over 800 sites throughout New Jersey. These sites are sampled for benthic macroinvertebrates by NJDEP on a 5-year cycle. Streams are classified as non-impaired, moderately impaired, or severely impaired based on the AMNET data. The data is used to generate a New Jersey Impairment Score (NJIS), which is based on a number of biometrics related to benthic macroinvertebrate community dynamics.

The NJDEP and other regulatory agencies collect water quality chemical data on streams throughout the State. These data show that the instream fecal coliform concentrations of the waterways that outlet to the Ramapo River near Oakland (i.e. Pond Brook) exceed the State’s criteria. This means that the waterways are impaired waterways and the NJDEP is required to

develop a Total Maximum Daily Load (TMDL) for these pollutants of each waterway. A 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. The allowable load is assigned to the various sources of the pollutant, such as stormwater and wastewater discharges, which require an NJPDES permit to discharge, and nonpoint source, which includes 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, re-forestation of stream corridors, retrofitting stormwater systems and other BMPs.

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. This combined report presents the extent to which New Jersey waters are attaining water quality standards and identifies waters that are impaired. Sublist 5 of the Integrated List identifies waters impaired or threatened by pollutants, for which one (1) or more TMDLs are needed. The Borough's waterways have no established TMDLs.

At locations throughout the Borough water quantity problems include flooding and stream bank erosion. The area around Woodside Avenue floods during heavy storm events. The Borough is currently upgrading the drainage system in the area. Tequesta Drive also has an undersized drainage system and floods during heavy storms. A drainage channel that travels through the Forest Glen area is silted and should be cleaned. A ditch and culvert in the McCoy Road vicinity

is silted and should be maintained. A culvert at McCoy Road is currently blocked and should be cleaned. Bergen County is addressing drainage improvements to an undersized drainage system on Colonial Road. Lastly, Glaser's Pond must be cleared and restored to its original depth as it is currently 90% silted.

Recently, 11,580 feet of the Pond Brook stream channel was restored. The reach traveled from Indian Trail Club on Franklin Lakes Road and along High Mountain Road to Colonial Road. Five (5) on-stream ponds were restored to original depth. These ponds included Upper and Lower Vitales Pond, two (2) unnamed ponds and Clarks Pond. Conrad Pond was also recently restored to its original depth.

Lastly, portions of the Borough contain or lie within wellhead protection areas. A wellhead protection area is divided into three (3) tiers. The 2-year (Tier 1), 5-year (Tier 2) and 12-year (Tier 3) are intended to represent the time of travel (TOT), a groundwater contaminant in the zones could be expected to reach a municipal potable supply well. The NJDEP then prioritizes the investigation and remediation of contaminated sites within the 2 and 5-year tiers. Wellhead protection areas are shown in **Figure 6**. The Borough may wish to adopt specific ordinances to further protect wellhead protection areas and minimize the infiltration of pollutants into aquifers.

V. DESIGN AND PERFORMANCE STANDARDS

The Borough has reviewed its existing ordinances and adopted the design and performance standards for stormwater management measures as presented in N.J.A.C. 7:8-5 to minimize the adverse impact of stormwater runoff on water quality and water quantity and loss of groundwater recharge in receiving water bodies. The design and performance standards include language for maintenance of stormwater management measures consistent with the Stormwater Management Rules at N.J.A.C. 7:8-5.8 Maintenance Requirements, and the safety standards consistent with N.J.A.C. 7:8-6 Safety Standards for Stormwater Management Basins. The ordinances have been submitted to Bergen County for review and approval.

In addition to the adoption of the above performance standards during construction projects, Borough inspectors will observe projects to ensure that the stormwater management measures are constructed and function as designed. The Borough will also assume responsibility for the operation and maintenance of the stormwater management facilities.

VI. PLAN CONSISTENCY

The Borough is not within a Regional Stormwater Management Planning Area, therefore, this Plan does not need to be consistent with any regional stormwater management plans (RSWMP). If any RSWMPs are developed in the future, this MSWMP will be updated as necessary to be consistent. Bergen County is currently creating a County Stormwater Management Plan that should be complete in the near future. This MSWMP will be updated as necessary to be consistent with the County Stormwater Management Plan.

The MSWMP is consistent with the Residential Site Improvement Standards (RSIS) detailed in N.J.A.C. 5:21. The Borough will utilize the most current RSIS during the stormwater management review of residential development. This MSWMP will be updated to be consistent with any future changes to the RSIS.

The Borough's existing ordinances also require new development and redevelopment plans to comply with New Jersey's Soil Erosion and Sediment Control Standards. Any project with over 5,000 square feet of disturbance will require approval from Bergen County Soil Conservation District. Additionally, if a project disturbs over 1-acre, a Request for Authorization (RFA) must be submitted to the NJDEP Bureau of Non-Point Pollution Control. Construction shall not begin until all required approvals are received. During construction, Borough inspectors will observe on-site soil erosion and sediment control measures and report any inconsistencies to the local Soil Conservation District.

As previously mentioned, a TMDL has been established for waterways that outlet to the Ramapo River near Oakland due to high fecal coliform concentrations. The Borough must implement goose management at various parks along the watercourses.

VII. NONSTRUCTURAL STORMWATER MANAGEMENT STRATEGIES

The Borough has adopted Ordinance #1345 – An Ordinance Establishing Storm Water Management Regulations for the Borough of Franklin Lakes. This ordinance has been submitted to the County for approval. The ordinance was amended (Ordinance #1345R) based on previous comments from County.

VIII. LAND USE/BUILD-OUT ANALYSIS

As previously mentioned, since Franklin Lakes contains 741.5-acres of developable land, greater than the State's 640-acre build-out analysis threshold, a build-out analysis is required. Based upon the aforementioned we have included **Figure 7** illustrating the existing land use in the Borough based on NJDEP's 1995/97 GIS information. Moreover, **Figure 4** illustrates the HUC-14s within the Borough; **Figure 5** presents Franklin Lakes' groundwater recharge areas; **Figure 8** illustrates the Borough's constrained lands; **Figure 9** presents the Borough's zoning; and **Figure 10** depicts floodplains located within the Borough. Appendix B contains the actual Build-Out Analysis.

IX. MITIGATION PLANS

This mitigation plan is provided for a proposed development that is granted a variance or exemption from the stormwater management design and performance standards. Presented is a hierarchy of mitigation options.

Mitigation Project Criteria

- A. The mitigation project must be implemented in the same drainage area (HUC-14) as the proposed development. The project must provide additional groundwater recharge benefits or protection from stormwater runoff quality and quantity from previously developed property that does not currently meet the design and performance standards outlined in the MSWMP. The developer must ensure the long-term maintenance of the project, including the maintenance requirements under Chapters 8 and 9 of the NJDEP Stormwater BMP Manual.

The applicant can select one (1) of the following projects listed to compensate for the deficit from the performance standards resulting from the proposed project. More detailed information or a list of additional projects can be obtained from the Borough Engineer. Listed below are general projects that can be used to address the mitigation requirement.

1. Water Quality

- a) Retrofit an existing stormwater management facility on a Borough-owned property to provide the removal of 80 percent of total suspended solids (TSS) from the parking lot runoff.
- b) Retrofit the existing parking area on a Borough-owned property to provide the removal of 80 percent of TSS.

2. Water Quantity

- a) Install stormwater management measures in an open space to reduce the peak flow from an upstream development on the receiving stream by 20 cubic feet per second (cfs), 35 cfs, and 100 cfs for the 2, 10, and 100-year storms respectively.

3. Groundwater Recharge

- a) Retrofit an existing Borough-owned property to provide an additional 300,000 cubic feet of average annual groundwater recharge.
- b) Replace an existing deteriorated impervious parking lot on a Borough-owned property.

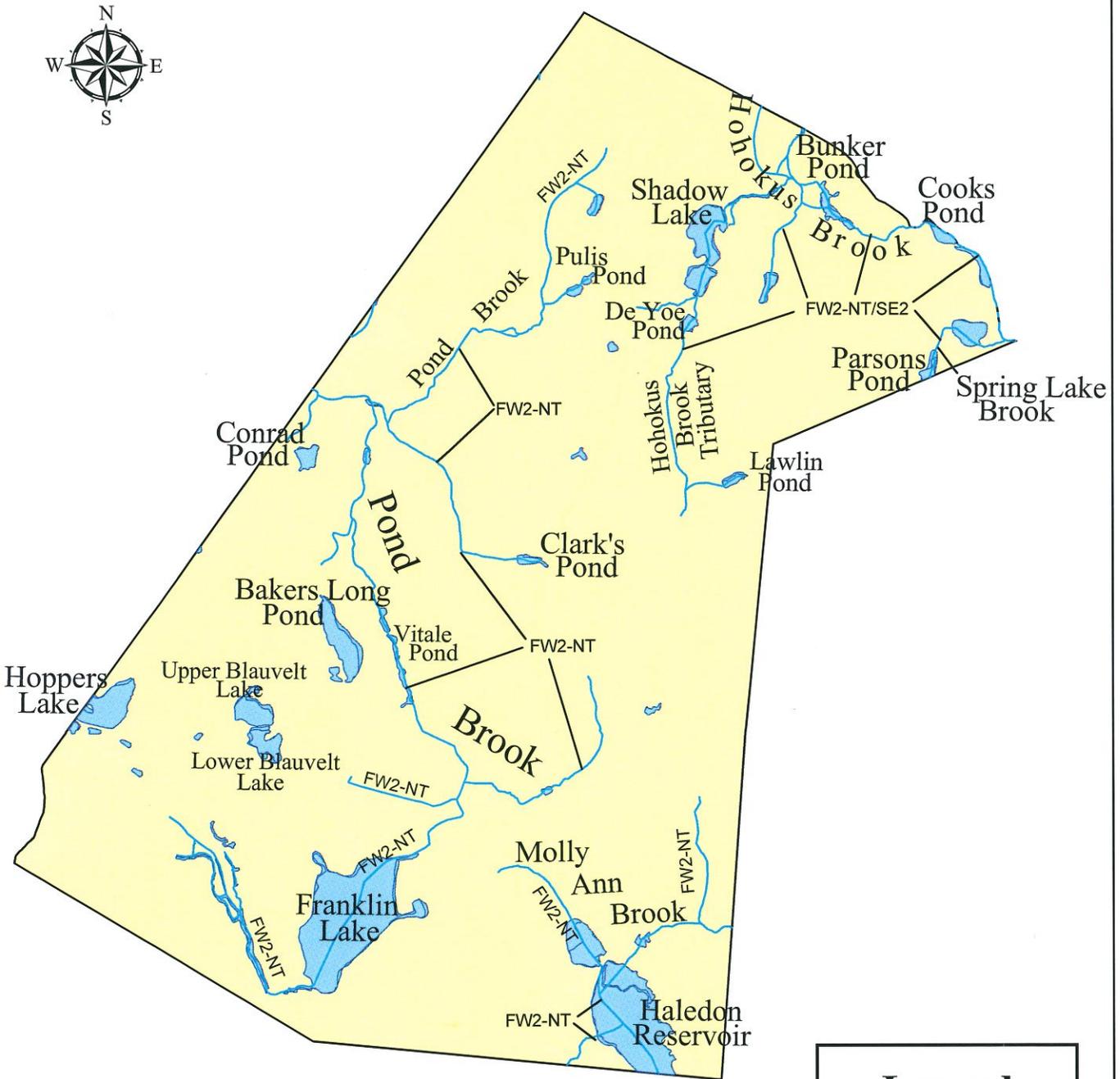
B. If a suitable site cannot be located in the same drainage area as the proposed development, as discussed in Option A, the mitigation project may provide mitigation that is not equivalent to the impacts for which the variance or exemption is sought, but that addresses the same issue. For example, if a variance is given because the 80 percent TSS requirement is not met, the selected project may address water quality impacts due to a fecal impairment. Listed below are specific projects that can be used to address the mitigation option.

1. Water Quality

- a) Re-establish a vegetative buffer (minimum 50 foot wide) along 1,500 linear feet of the shoreline at one of the Borough's lakes or ponds as a goose control measure and to filter stormwater runoff from the high goose traffic areas.
- b) Provide goose management measures, including public education at the Borough's parks.

The municipality may allow a developer to provide funding or partial funding to the municipality for a project that has been identified by the Borough Engineer or towards the development of a RSMP. The funding must be equal to or greater than the cost to implement the mitigation outlined above, including costs associated with purchasing the property or easement for mitigation, and the cost associated with the long-term maintenance requirements of the mitigation measure.

Figure 1: Borough of Franklin Lakes Waterways



Legend

- Lakes
- Streams

Source: Waterways layer taken from the New Jersey Department of Environmental Protection, Streams and Lakes shapefile(11/99), Surface Water Quality Standards shapefile (11/2003) & National Soil Information System (NASIS) database for Bergen County (2005).



Figure 3: Borough of Franklin Lakes Sanitary Sewer Map



*All sewage conveyed to the Northwest Bergen County Utilities Authority

Legend

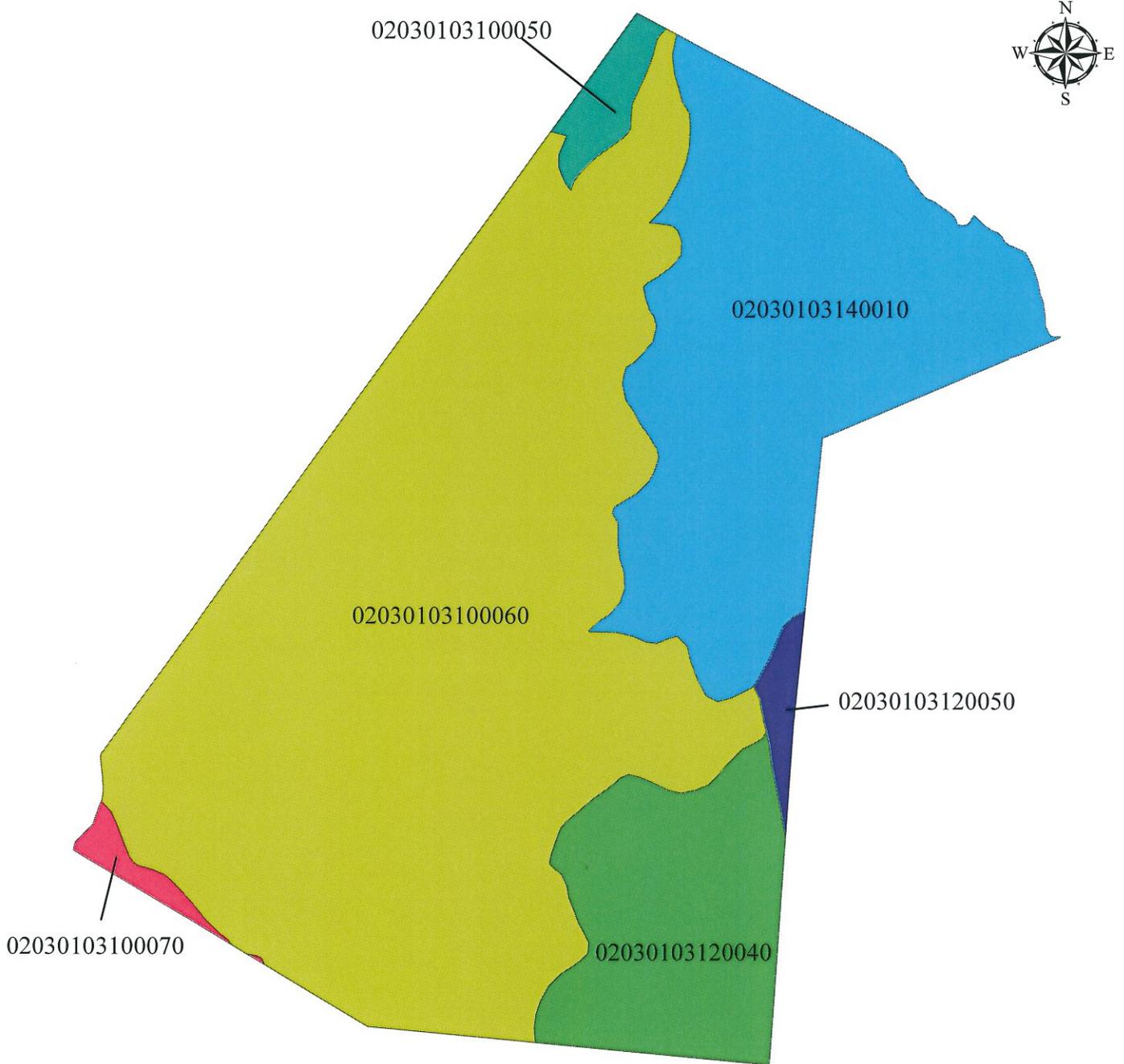
SEWER TYPE

- Ground Water Discharge
- Ground Water Discharge <20,000 gallons/day
- Septic
- Surface Water

2,800 Feet 1400 Feet 0 2,800 Feet

Source: Sewer Service Status Layer taken from the New Jersey Department of environmental Protection, Sewer Service Status, Cross Acceptance shapefile (2004).

Figure 4: Hydrologic Units (HUC-14) in the Borough of Franklin Lakes



Legend

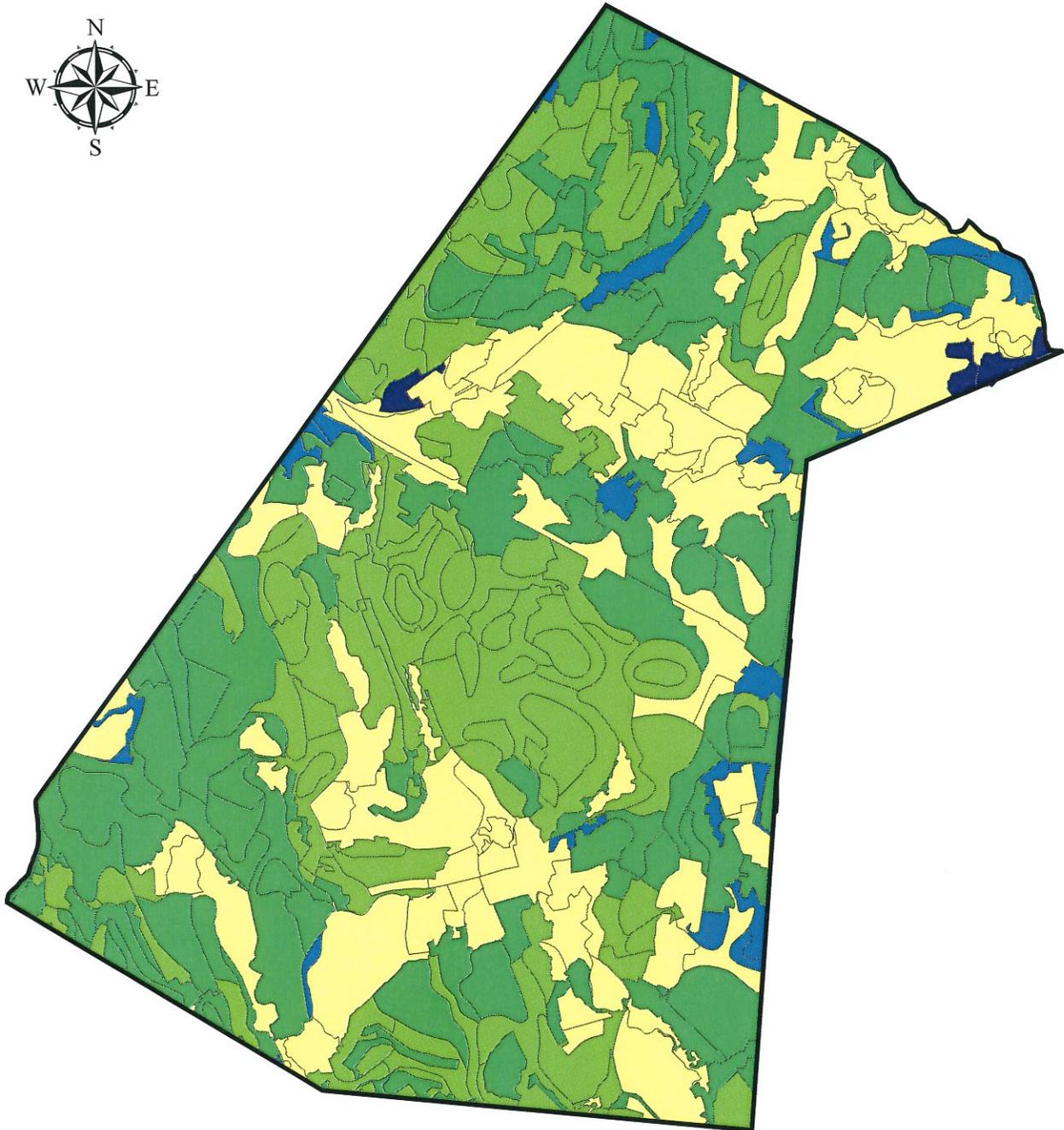
HUC14 - Sub-Watershed Name

- Ramapo R (Crystal Lk br to Bear Swamp Bk)
- Crystal Lake/Pond Brook
- Ramapo R (below Crystal Lake bridge)
- Molly Ann Brook
- Goffle Brook
- Hohokus Bk (above Godwin Ave)



Source: Watershed information taken from the New Jersey Department of Environmental Protection HUC-14 shapefile (2000).

Figure 5: Groundwater Recharge Areas in the
Borough of Franklin Lakes



Legend

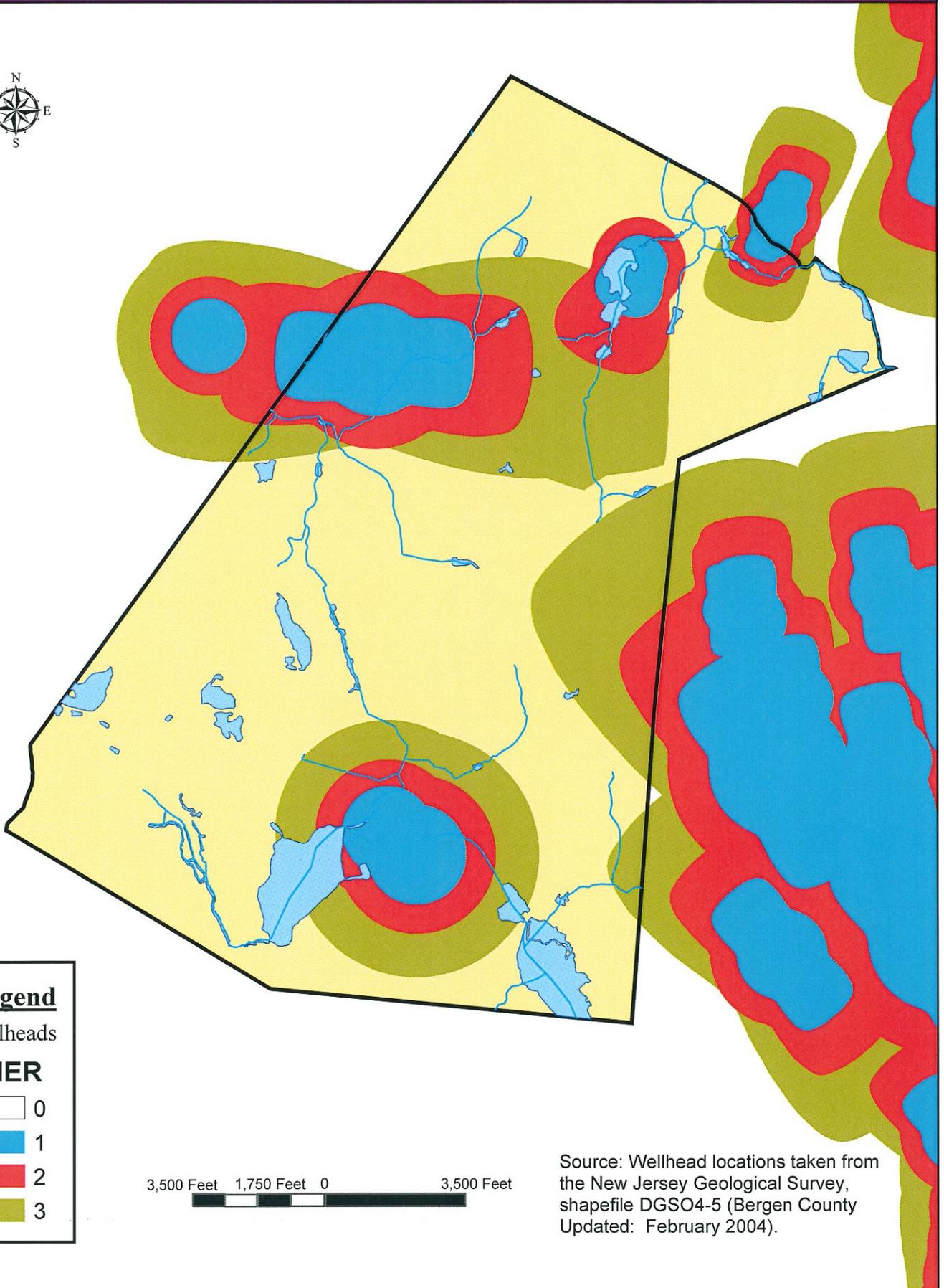
GWR inches/year

-  0.00 - 2.79
-  2.80 - 12.62
-  12.63 - 14.78
-  14.79 - 16.72
-  16.73 - 19.61

3,500 Feet 1750 Feet 0 3,500 Feet

Source: Taken from the New Jersey Geological Survey, shapefile DGSO2-3 (Publication Date Not Available).

Figure 6: Wellhead Protection Areas in the Borough of Franklin Lakes



Legend

Wellheads

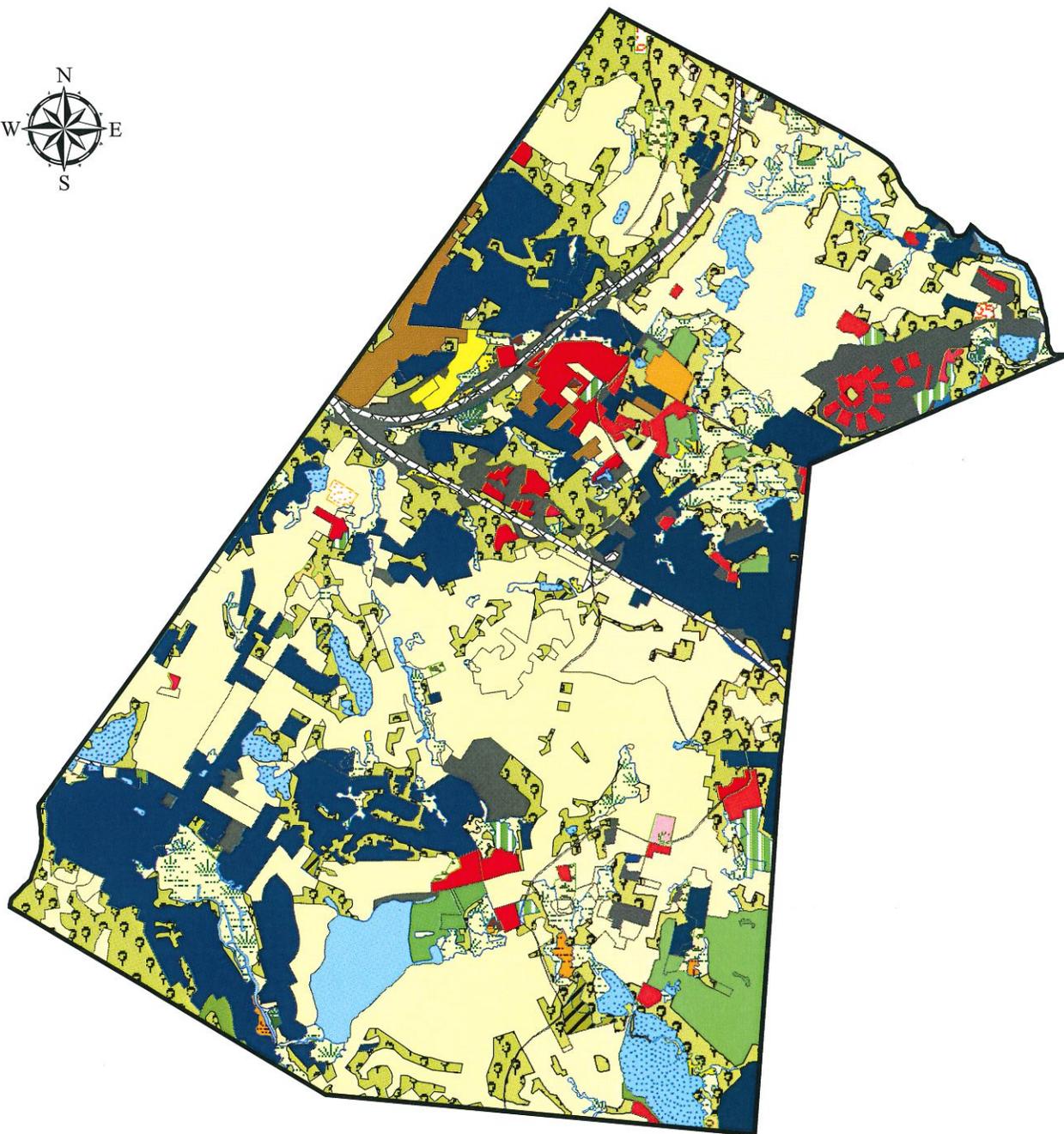
TIER

-  0
-  1
-  2
-  3

3,500 Feet 1,750 Feet 0 3,500 Feet

Source: Wellhead locations taken from the New Jersey Geological Survey, shapefile DGSO4-5 (Bergen County Updated: February 2004).

Figure 7: Existing Land Use in the Borough of Franklin Lakes



Legend

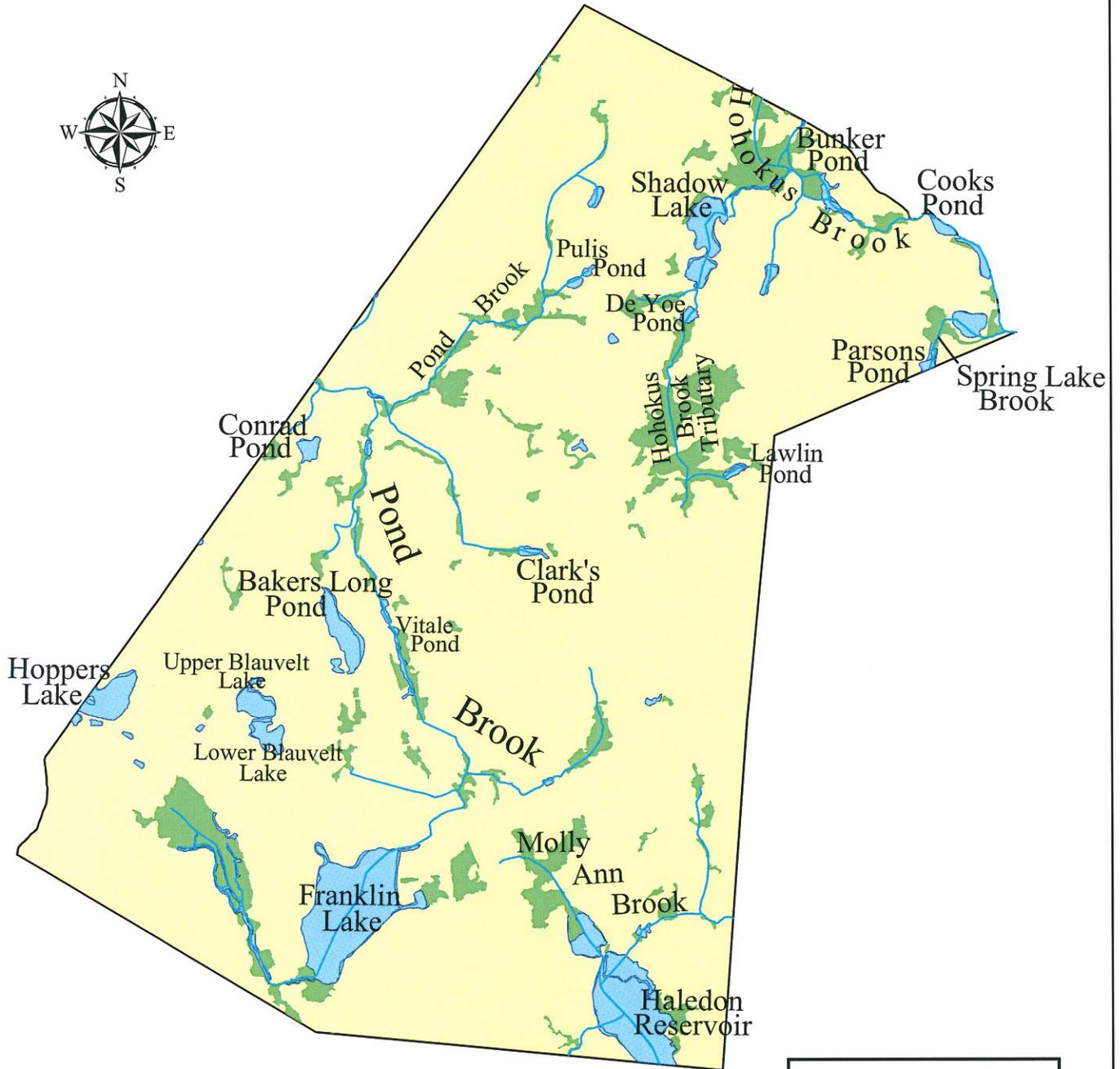
1995/97 Land Use/Land Cover

- | | |
|---|---|
| ARTIFICIAL LAKES | MIXED FOREST (>50% DECIDUOUS WITH 10-50% CROWN CLOSURE) |
| ATHLETIC FIELDS (SCHOOLS) | MIXED FOREST (>50% DECIDUOUS WITH >50% CROWN CLOSURE) |
| COMMERCIAL/SERVICES | MIXED FORESTED WETLANDS (DECIDUOUS DOM.) |
| CROPLAND AND PASTURELAND | NATURAL LAKES |
| DECIDUOUS BRUSH/SHRUBLAND | OLD FIELD (< 25% BRUSH COVERED) |
| DECIDUOUS FOREST (10-50% CROWN CLOSURE) | ORCHARDS/VINEYARDS/NURSERIES/HORTICULTURAL AREAS |
| DECIDUOUS FOREST (>50% CROWN CLOSURE) | OTHER AGRICULTURE |
| DECIDUOUS SCRUB/SHRUB WETLANDS | OTHER URBAN OR BUILT-UP LAND |
| DECIDUOUS WOODED WETLANDS | RECREATIONAL LAND |
| DISTURBED WETLANDS (MODIFIED) | RESIDENTIAL, RURAL, SINGLE UNIT |
| HERBACEOUS WETLANDS | RESIDENTIAL, SINGLE UNIT, LOW DENSITY |
| INDUSTRIAL | RESIDENTIAL, SINGLE UNIT, MEDIUM DENSITY |
| MIXED FOREST (>50% CONIFEROUS WITH 10%-50% CROWN CLOSURE) | STREAMS AND CANALS |
| MIXED FOREST (>50% CONIFEROUS WITH >50% CROWN CLOSURE) | TRANSITIONAL AREAS |
| | TRANSPORTATION/COMMUNICATIONS/UTILITIES |

3,500 Feet 1750 Feet 0 3,500 Feet

Source: Land Use Information taken from the New Jersey Department of Environmental Protection, 1995/97 Land Use/Land Cover shapefile (12/2000).

Figure 8: Freshwater Wetlands and Water Land Uses within the Borough of Franklin Lakes (Constrained Land)



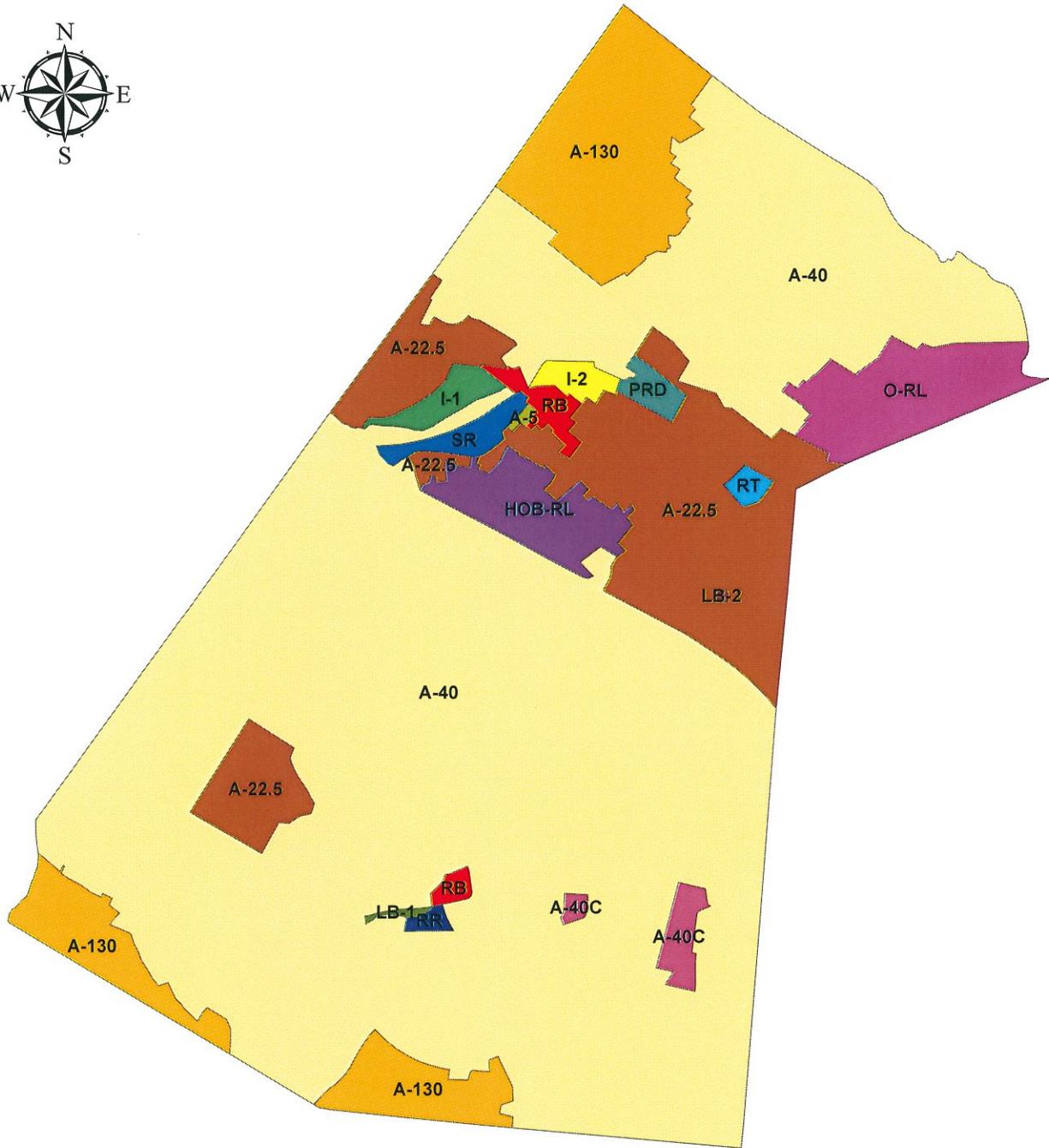
Source: Wetlands layer taken from the New Jersey Department of Environmental Protection, wetlands shapefile (11/1999) & Waterways information taken from National Soil Information System (NASIS) for Bergen County (2005).

3,500 Feet 1750 Feet 0 3,500 Feet

Legend

- Lakes
- Streams
- Wetlands

Figure 9: Zoning Districts in the Borough of Franklin Lakes

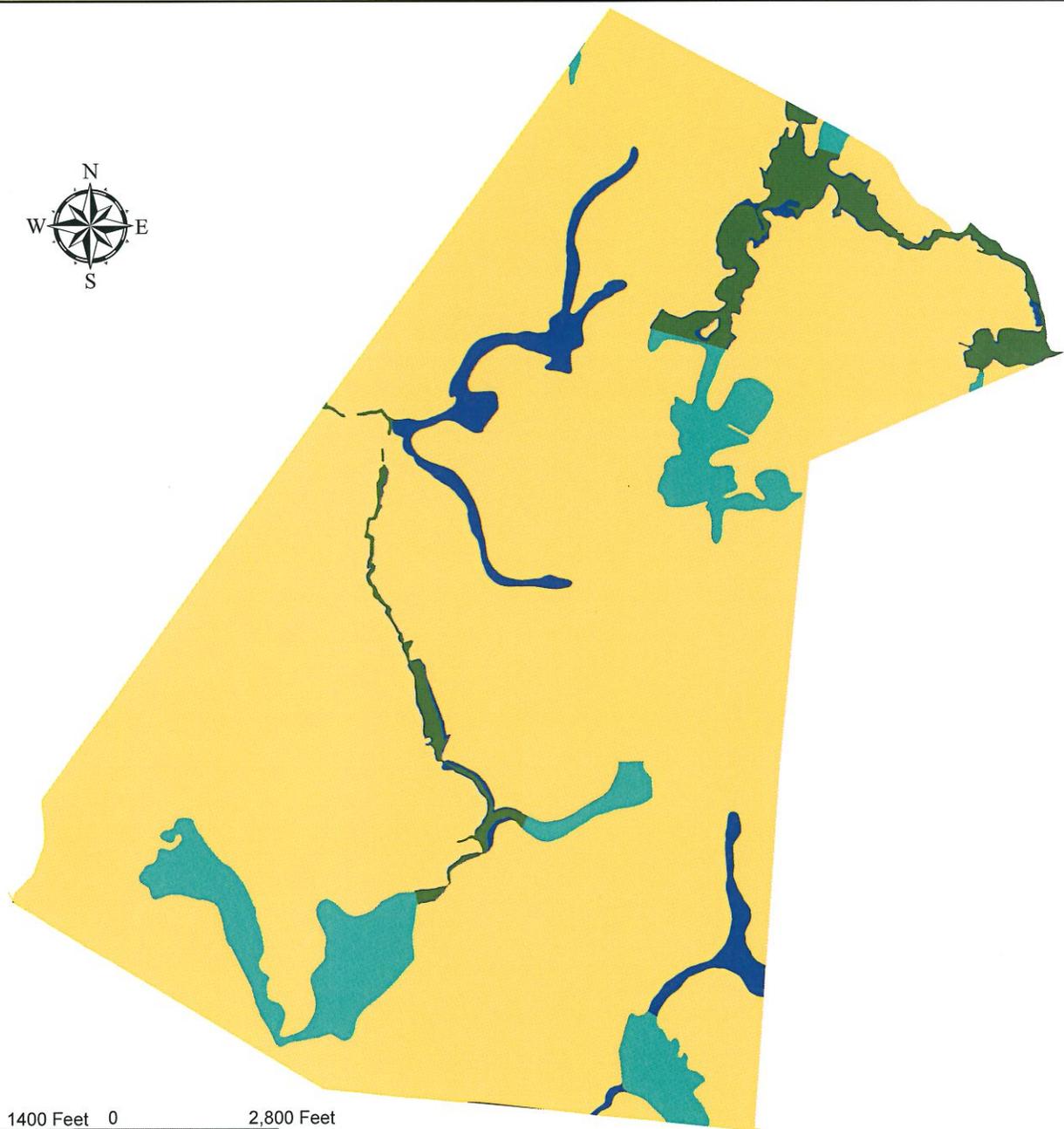


Source: Zoning Map, Borough of Franklin Lakes, Joseph H. Burgis (January 2001).



Legend	
Zoning Districts	
Residential - A-130	Highway Office Building Research & Laboratory - HOB-RL
Residential - A-22.5	Industrial - I-1
Residential - A-40	Industrial - I-2
Residential - A-40C	Limited Business - LB-1
Residential - A-5	Limited Business - LB-2
	Office Research Laboratory - O-RL
	Planned Residential District - PRD
	Retail Business - RB
	Recreation Residential - RR
	Residential Townhouse - RT
	Senior Citizen - SR

Figure 10: Borough of Franklin Lakes Floodplain Map



Legend

ZONE

- 100IC - 100-year discharge contained in channel/culvert
- 500IC - 500-year discharge contained in channel/culvert
- A - 100-year flood; no base flood elevations determined
- AE - 100-year flood; base flood elevations determined
- AH - Flood depth of 1-3 feet (usually areas of ponding); average depth determined
- AO - Flood depth of 1-3 feet (usually sheet flow on sloping terrain); average depth determined
- FWIC - Floodway contained in culvert
- X - Areas outside 500-year floodplain
- X500 - Area of 500-year floodplain

Source: Federal Emergency Management Agency (FEMA) Q3 Flood Data, Bergen County, New Jersey, 1996.

ORDINANCE 1345

AN ORDINANCE ESTABLISHING STORM WATER MANAGEMENT REGULATIONS FOR THE BOROUGH OF FRANKLIN LAKES

WHEREAS, the Borough of Franklin Lakes is required by New Jersey State statutes to establish a minimum storm water management requirements and controls for major developments; and

WHEREAS the following ordinance is adopted in order to comply with State statutes

IT IS HEREBY ORDAINED by the Mayor and Council of the Borough of Franklin Lakes as follows:

Section 1: Scope and Purpose

A. Policy Statement

Flood control, groundwater recharge, and pollutant reduction through non-structural or low impact techniques shall be explored before relying on structural BMPs. Structural BMPs should be integrated with non-structural storm water management strategies and proper maintenance plans. Non-structural strategies include both environmentally sensitive site design and source controls that prevent pollutants from being placed on the site or from being exposed to storm water. 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 storm water management BMPs may be necessary to achieve the established performance standards for water quality, quantity, and groundwater recharge.

B. Purpose

It is the purpose of this ordinance to establish minimum storm water management requirements and controls for “major development,” as defined in Section 2.

C. Applicability

1. This ordinance shall be applicable to all site plans and subdivisions for the following major developments that require preliminary or final site plan or subdivision review:
 - a. Non-residential major developments; and
 - b. Aspects of residential major developments that are not pre-empted by the Residential Site Improvement Standards at N.J.A.C. 5:21.

2. This ordinance shall also be applicable to all major developments undertaken by Franklin Lakes.

D. Compatibility with Other Permit and Ordinance Requirements

Development approvals issued for subdivisions and site plans pursuant to this ordinance 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 ordinance shall be held to be the minimum requirements for the promotion of the public health, safety, and general welfare. This ordinance 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 ordinance 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.

Section 2: Definitions

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

“CAFRA Planning Map” means 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.

“CAFRA Centers, Cores or Nodes” means those areas within boundaries accepted by the Department pursuant to N.J.A.C. 7:8E-5B.

“Compaction” means the increase in soil bulk density.

“Core” means a pedestrian-oriented area of commercial and civic uses serving the surrounding Borough of Franklin Lakes, generally including housing and access to public transportation.

“County review agency” means an agency designated by the County Board of Chosen Freeholders to review municipal storm water management plans and implementing ordinance(s). The county review agency may either be:

A county planning agency; or 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 storm water management plans and implementing ordinances.

“Department” means the New Jersey Department of Environmental Protection.

“Designated Center” means a State Development and Redevelopment Plan Center as designated by the State Planning Commission such as urban, regional, town, village,

or hamlet.

“Design engineer” means 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” means 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” means a geographic area within which storm water, sediments, or dissolved materials drain to a particular receiving water body or to a particular point along a receiving water body.

“Environmentally critical areas” means 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 Non-game Species Program.

“Empowerment Neighborhood” means 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” means the detachment and movement of soil or rock fragments by water, wind, ice or gravity.

“Impervious surface” means a surface that has been covered with a layer of material so that it is highly resistant to infiltration by water.

“Infiltration” is the process by which water seeps into the soil from precipitation.

“Major development” means any “development” that provides for ultimately disturbing one or more acres of land. 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” means any city, borough, town, township, or village.

“Node” means an area designated by the State Planning Commission concentrating facilities and activities which are not organized in a compact form.

“Nutrient” means a chemical element or compound, such as nitrogen or phosphorus,

which is essential to and promotes the development of organisms.

“Person” means any individual, corporation, company, partnership, firm, association, [*insert name of municipality*], 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” means 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 non-hazardous pollutants.

“Recharge” means the amount of water from precipitation that infiltrates into the ground and is not evapotranspired.

“Sediment” means 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” means the lot or lots upon which a major development is to occur or has occurred.

“Soil” means all unconsolidated mineral and organic material of any origin.

“State Development and Redevelopment Plan Metropolitan Planning Area (PA1)” means 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” is defined as the geographic application of the State Development and Redevelopment Plan’s goals and statewide policies, and the official map of these goals and policies.

“Storm water” means 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.

“Storm water runoff” means water flow on the surface of the ground or in storm sewers, resulting from precipitation.

“Storm water management basin” means an excavation or embankment and related areas designed to retain storm water runoff. A storm water 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 storm water wetlands).

“Storm water management measure” means any structural or –non-structural strategy, practice, technology, process, program, or other method intended to control or reduce

storm water runoff and associated pollutants, or to induce or control the infiltration or groundwater recharge of storm water or to eliminate illicit or illegal non-storm water discharges into storm water conveyances.

“Tidal Flood Hazard Area” means a flood hazard area, which may be influenced by storm water runoff from inland areas, but which is primarily caused by the Atlantic Ocean.

“Urban Coordinating Council Empowerment Neighborhood” means a neighborhood given priority access to State resources through the New Jersey Redevelopment Authority.

“Urban Enterprise Zones” means 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” is defined as previously developed portions of areas:

- (1) Delineated on the State Plan Policy Map (SPPM) as the Metropolitan Planning Area (PA1), Designated Centers, Cores or Nodes;
- (2) Designated as CAFRA Centers, Cores or Nodes;
- (3) Designated as Urban Enterprise Zones; and
- (4) Designated as Urban Coordinating Council Empowerment Neighborhoods.

“Waters of the State” means 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” means 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.

Section 3: General Standards

A. Design and Performance Standards for Storm water Management Measures

1. Storm water management measures for major development shall be developed to meet the erosion control, groundwater recharge, storm water runoff quantity, and storm water runoff quality standards in Section 4. To the maximum extent practicable, these standards shall be met by incorporating non-structural storm water management strategies into the design. If these strategies alone are not sufficient to meet these standards, structural storm water management measures necessary to meet these standards shall be incorporated into the design.

2. The standards in this ordinance apply only to new major development and are intended to minimize the impact of storm water 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 storm water management plan or Water Quality Management Plan adopted in accordance with Department rules.

Section 4: Storm water Management Requirements for Major Development

A. The development shall incorporate a maintenance plan for the storm water management measures incorporated into the design of a major development in accordance with Section 10.

B. Storm water management measures shall avoid adverse impacts of concentrated flow on habitat for threatened and endangered species as documented in the Department' Landscape Project or 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).

C. The following linear development projects are exempt from the groundwater recharge, storm water runoff quantity, and storm water runoff quality requirements of Sections 4.F and 4.G:

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.

D. A waiver from strict compliance from the groundwater recharge, storm water runoff quantity, and storm water runoff quality requirements of Sections 4.F and 4.G 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 non-structural and structural storm water management strategies and measures, the option selected complies with the requirements of Sections 4.F and 4.G to the maximum extent practicable;
3. The applicant demonstrates that, in order to meet the requirements of Sections 4.F and 4.G, 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 D.3 above within the

upstream drainage area of the receiving stream, that would provide additional opportunities to mitigate the requirements of Sections 4.F and 4.G that were not achievable on-site.

E. Non-structural Storm water Management Strategies

1. To the maximum extent practicable, the standards in Sections 4.F and 4.G shall be met by incorporating non-structural storm water management strategies set forth at Section 4.E into the design. The applicant shall identify the non-structural 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 non-structural storm water management measures identified in Paragraph 2 below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

2. Non-structural storm water management strategies incorporated into site design shall:

- a. Protect areas that provide water quality benefits or areas particularly susceptible to erosion and sediment loss;
- b. Minimize impervious surfaces and break up or disconnect the flow of runoff over impervious surfaces;
- c. Maximize the protection of natural drainage features and vegetation;
- d. 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 watershed to the point of interest within a watershed;
- e. Minimize land disturbance including clearing and grading;
- f. Minimize soil compaction;
- g. Provide low-maintenance landscaping that encourages retention and planting of native vegetation and minimizes the use of lawns, fertilizers and pesticides;
- h. Provide vegetated open-channel conveyance systems discharging into and through stable vegetated areas;
- i. 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 storm water runoff. Such source controls include, but are not limited to:

- (1) Site design features that help to prevent accumulation of trash and debris in drainage systems, including features that satisfy Section 4.E.3.

below;

(2) Site design features that help to prevent discharge of trash and debris from drainage systems;

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

(4) 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.

3. Site design features identified under Section 4.E.2.i.(2) above shall comply with the following standard to control passage of solid and floatable materials through storm drain inlets. For purposes of this paragraph, "solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard see Section 4.E.3.c below.

a. Design engineers shall use either of the following grates whenever they use a grate in pavement or another ground surface to collect storm water 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 seven (7.0) square inches, or is no greater than 0.5 inches across the smallest dimension. 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 storm water basin floors.

b. 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 seven (7.0) square inches, or be no greater than two (2.0) inches across the smallest dimension.

c. This standard 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 Section 4.G.1 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 four and five-eighths inches long and one and one-half 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 (1") spacing between the bars, to the elevation of the water quality design storm as specified in Section 4.G.1; 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.

4. Any land area used as a non-structural storm water management measure to meet the performance standards in Sections 4.F and 4.G 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 storm water management measure approved by the reviewing agency is maintained in perpetuity.

5. Guidance for non-structural storm water management strategies is available in the New Jersey Storm water Best Management Practices Manual. The BMP Manual may be obtained from the address identified in Section 7, or found on the Department's website at www.njstormwater.org.

F. Erosion Control, Groundwater Recharge and Runoff Quantity Standards

1. This subsection contains minimum design and performance standards to control erosion, encourage and control infiltration and groundwater recharge, and control storm water 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 storm water runoff and groundwater recharge calculations at Section 5, either:

(a) Demonstrate through hydrologic and hydraulic analysis that the site and its storm water management measures maintain 100 percent of the average annual pre-construction groundwater recharge volume for the site; or

(b) Demonstrate through hydrologic and hydraulic analysis that the increase of storm water runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

(2) This groundwater recharge requirement does not apply to projects

within the “urban redevelopment area,” or to projects subject to (3) below.

(3) The following types of storm water shall not be recharged:

(a) Storm water 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 storm water 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 storm water 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 storm water.

(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 storm water runoff quantity impacts, the design engineer shall, using the assumptions and factors for storm water runoff calculations at Section 5, complete one of the following:

(1) Demonstrate through hydrologic and hydraulic analysis that for storm water leaving the site, post-construction runoff hydrographs for the two, 10, and 100-year storm events do not exceed, at any point in time, the pre-construction runoff hydrographs for the same storm events;

(2) Demonstrate through hydrologic and hydraulic analysis that there is no increase, as compared to the pre-construction condition, in the peak runoff rates of storm water leaving the site for the two, 10, and 100-year storm events and that the increased volume or change in timing of storm water 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 storm water management measures so that the post-

construction peak runoff rates for the 2, 10 and 100 year storm events are 50, 75 and 80 percent, respectively, of the pre-construction peak runoff rates. The percentages apply only to the post-construction storm water 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 post-construction storm water runoff into tidal flood hazard areas if the increased volume of storm water runoff will not increase flood damages below the point of discharge; or

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

2. Any application for a new agricultural development that meets the definition of major development at Section 2 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 storm water 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.

G. Storm water Runoff Quality Standards

1. Storm water management measures shall be designed to reduce the post-construction load of total suspended solids (TSS) in storm water runoff by 80 percent of the anticipated load from the developed site, expressed as an annual average. Storm water 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 storm water 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 non-structural and structural storm water management measures.

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 Storm water Best Management Practices Manual. The BMP Manual may be obtained from the address identified in Section 7, or found on the Department's website at www.njstormwater.org. The BMP Manual and other sources of technical guidance are listed in Section 7. 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 80 percent TSS reduction for a site, the applicant shall utilize the following formula to calculate TSS reduction:

$$R = A + B - (AXB)/100$$

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

4. If there is more than one onsite drainage area, the 80 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. Storm water management measures shall also be designed to reduce, to the maximum extent feasible, the post-construction nutrient load of the anticipated load from the developed site in storm water 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 non-structural strategies and structural

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		

Table 2: TSS Removal Rates for BMPs	
Best Management Practice	TSS Percent Removal Rate
Bioretention Systems	90
Constructed Storm water Wetland	90
Extended Detention Basin	40-60
Infiltration Structure	80
Manufactured Treatment Device	See Section 6.C
Sand Filter	80
Vegetative Filter Strip	60-80
Wet Pond	50-90

measures that optimize nutrient removal while still achieving the performance standards in Sections 4.F and 4.G.

6. Additional information and examples are contained in the New Jersey Storm water Best Management Practices Manual, which may be obtained from the address identified in Section 7.

7. In accordance with the definition of FW1 at N.J.A.C. 7:9B-1.4, storm water management measures shall be designed to prevent any increase in storm water 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:

(1) A 300-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 is provided.

(2) Encroachment within the designated special water resource protection area under Subsection (1) 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 storm water 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 storm water 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:

(1) Stabilization measures shall not be placed within 150 feet of the Category One waterway;

(2) Storm water associated with discharges allowed by this section shall achieve a 95 percent TSS post-construction removal rate;

(3) Temperature shall be addressed to ensure no impact on the receiving waterway;

(4) 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;

(5) A conceptual project design meeting shall be held with the appropriate Department staff and Soil Conservation District staff to identify necessary stabilization measures; and

(6) 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 storm water management planning committee as an element of a regional storm water management plan, or by Franklin Lakes through an adopted municipal storm

water management plan. If a stream corridor protection plan for a waterway subject to Section 4.G(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 G.8 shall maintain or enhance the current functional value and overall condition of the special water resource protection area as defined in G.8.a.(1) 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. Paragraph G.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.

Section 5: Calculation of Storm water Runoff and Groundwater Recharge

A. Storm water runoff shall be calculated in accordance with the following:

1. The design engineer shall calculate runoff using one of the following methods:

- 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.

2. For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the pre-construction 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 at Section 5.A.1.a and the Rational and Modified Rational Methods at Section 5.A.1.b. 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).

3. In computing pre-construction storm water runoff, the design engineer shall account for all significant land features and structures, such as ponds, wetlands, depressions, hedgerows, or culverts, that may reduce pre-construction storm water runoff rates and volumes.

4. In computing storm water runoff from all design storms, the design engineer shall consider the relative storm water runoff rates and/or volumes of pervious and impervious surfaces separately to accurately compute the rates and volume of storm water 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.

5. If the invert of the outlet structure of a storm water 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 storm water management measures.

B. Groundwater recharge may be calculated in accordance with the following:

1. 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 Storm water 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.

Section 6A: Standards for Structural Storm water Management Measures

A. Standards for structural storm water management measures are as follows:

1. Structural storm water 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).

2. Structural storm water 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 (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 Section 8.D.

3. Structural storm water 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.

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

5. Storm water management basins shall be designed to meet the minimum safety standards for storm water management basins at Section 8. 4C. Manufactured treatment devices may be used to meet the requirements of Section

Section 6B: Non-Structural Stormwater Strategies

Buffers - Buffer areas are required along all lot and street lines separating residential uses from arterial and collector streets, separating a nonresidential use from either a residential use or residential zoning district line, and along all street lines where loading and storage areas can be seen from the street. The buffer area shall use native vegetation, which requires less fertilization and watering than non-native species. Buffer areas may be used for stormwater management by disconnecting impervious surfaces and treating runoff from these impervious surfaces. Preservation of natural wood tracts and limiting land disturbance for new construction must be incorporated where practical.

Curbs and Gutters - Curb cuts or flush curbs with curb stops are encouraged where practical to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas where practical.

Drainage Systems - An existing ordinance may require that all streets be provided with inlets and pipes where the same are necessary for proper drainage. The use of natural vegetated swales in lieu of inlets and pipes are encouraged where practical.

Driveways and Access Ways - The use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge should be considered for driveways and access ways where practical. Consideration should be given for subsurface soil conditions. The use of crowned driveways is also encouraged to promote disconnectivity between impervious surfaces and grass areas to promote groundwater recharge.

5. **Natural Features** - Natural features, such as trees, brooks, swamps, hilltops, and views, are to be preserved whenever possible, and that care be taken to preserve selected trees to enhance soil stability and landscaped treatment of the area. In addition, forested areas shall be maintained to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees.

Nonconforming Uses, Structures or Lots - The existing ordinance may allow an applicant/owner of an existing use to propose additions or alterations that exceed the permitted building and/or lot coverage percentages. The applicant should mitigate the impact of the additional impervious surfaces unless the stormwater management plan for the development provided for these increases in impervious surfaces. This mitigation effort must address water quality, flooding and groundwater recharge.

Off-site and Off-tract Improvements - Any off-site and off-tract stormwater management and drainage improvements must conform to the "Design and Performance Standards" described.

7. **Off-street Parking and Loading** - Parking lots with more than 10 spaces and all loading areas should allow for flush curb with curb stop, or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped

areas for stormwater management. The use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers should be utilized where practical. A developer may demonstrate that fewer spaces would be required, provided area is set aside for additional spaces if necessary. Pervious paving could be provided overflow parking areas.

8. Performance Standards - This section can provide for pollution source control must be evaluated in order to prohibit materials or wastes from being deposited upon a lot in such form or manner that they can be transferred off the lot, directly or indirectly, by natural forces such as precipitation, evaporation or wind. Materials and wastes that might create a pollutant or a hazard shall be enclosed in appropriate containers.

Shade Trees - The existing ordinance may require a minimum of shade trees per lot to be planted in the front yard. In addition to this section, the Borough may have a Tree Preservation Ordinance that restricts and otherwise controls the removal of mature trees throughout the Borough. This ordinance should recognize that the preservation of mature trees and forested areas must be considered in the management of environmental resources, particularly watershed management, air quality, and ambient heating and cooling. A "critical disturbance area" that extends beyond the driveway and building footprint where clearing of trees cannot occur shall be depicted on the plan minimizing land disturbance. Identification of forested areas and the percentage of wooded areas be protected from disturbance shall also be provided.

Sidewalks - Sidewalks should be designed to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces or use permeable paving materials where appropriate.

Soil Erosion and Sediment Control - The applicant shall comply with the New Jersey Soil Erosion and Sediment Control Standards and should incorporate signs to retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.

Further guidance on the implementation of these strategies can be found in the NJDEP Stormwater Best Management Practices Manual, April 2004, as amended.

Section 7: Sources for Technical Guidance

A. Technical guidance for storm water management measures can be found in the documents listed at 1 and 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; telephone (609) 777-1038.

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

2. The New Jersey Department of Environmental Protection Storm water Management Facilities Maintenance Manual, as amended.

B. Additional technical guidance for storm water 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.

Section 8: Safety Standards for Storm water Management Basins

A. This section sets forth requirements to protect public safety through the proper design and operation of storm water management basins. This section applies to any new storm water management basin.

B. Requirements for Trash Racks, Overflow Grates and Escape Provisions

1. 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 storm water management basin to ensure proper functioning of the basin outlets in accordance with the following:
 - a. The trash rack shall have parallel bars, with no greater than six inch spacing between the bars.
 - b. The trash rack shall be designed so as not to adversely affect the hydraulic performance of the outlet pipe or structure.
 - c. 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.
 - d. 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 lbs/ft sq.
2. 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:
 - a. The overflow grate shall be secured to the outlet structure but removable for emergencies and maintenance.

- b. The overflow grate spacing shall be no less than two inches across the smallest dimension.
- c. 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 lbs./ft sq.

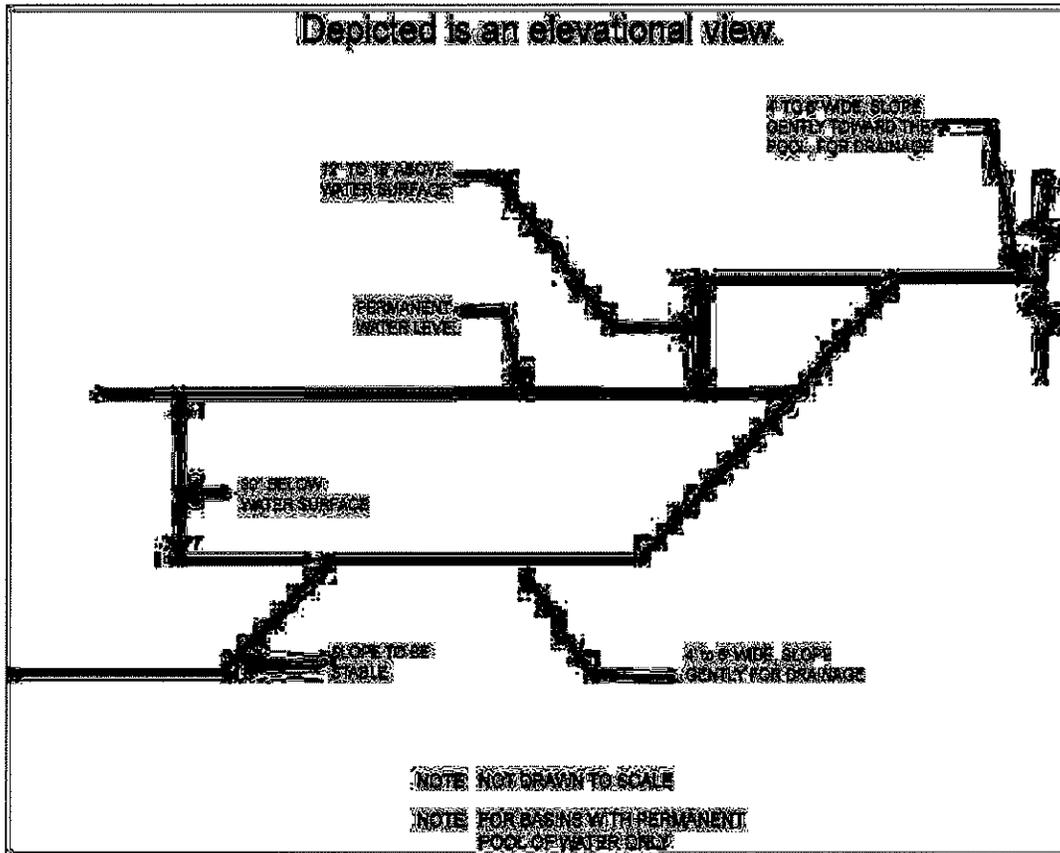
3. For purposes of this paragraph 3, escape provisions means the permanent installation of ladders, steps, rungs, or other features that provide easily accessible means of egress from storm water management basins. Storm water management basins shall include escape provisions as follows:

- a. If a storm water 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 Section 8.C a freestanding outlet structure may be exempted from this requirement.
- b. Safety ledges shall be constructed on the slopes of all new storm water management basins having a permanent pool of water deeper than two and one-half 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 two and one-half feet below the permanent water surface, and the second step shall be located one to one and one-half feet above the permanent water surface. See Section 8.D for an illustration of safety ledges in a storm water management basin.
- c. In new storm water management basins, the maximum interior slope for an earthen dam, embankment, or berm shall not be steeper than 3 horizontal to 1 vertical.

C. Variance or Exemption from Safety Standards

1. A variance or exemption from the safety standards for storm water management basins may be granted only upon a written finding by the appropriate reviewing agency (of Franklin Lakes) that the variance or exemption will not constitute a threat to public safety.

D. Illustration of Safety Ledges in a New Storm water Management Basin



Section 9: Requirements for a Site Development Storm water Plan

A. Submission of Site Development Storm water Plan

1. Whenever an applicant seeks municipal approval of a development subject to this ordinance, the applicant shall submit all of the required components of the Checklist for the Site Development Storm water Plan at Section 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 ordinance.
3. The applicant shall submit [*specify number*] copies of the materials listed in the checklist for site development storm water plans in accordance with Section 9.C of this ordinance.

B. Site Development Storm water 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 ordinance.

C. Checklist Requirements

The following information shall be required:

1. 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 1"=200' or greater, showing 2-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.

2. 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.

3. 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 storm water 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.

4. Land Use Planning and Source Control Plan

This plan shall provide a demonstration of how the goals and standards of Sections 3 through 6 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, storm water quality and storm water quantity problems at the source by land management and source controls whenever possible.

5. Storm water Management Facilities Map

The following information, illustrated on a map of the same scale as the topographic base map, shall be included:

- a. Total area to be paved or built upon, proposed surface contours, land area to be occupied by the storm water management facilities and the type of vegetation thereon, and details of the proposed plan to control and dispose of storm water.
- b. Details of all storm water 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.

6. Calculations

- a. Comprehensive hydrologic and hydraulic design calculations for the pre-development and post-development conditions for the design storms specified in Section 4 of this ordinance.
- b. When the proposed storm water 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.

7. Maintenance and Repair Plan

The design and planning of the storm water management facility shall meet the maintenance requirements of Section 10.

8. Waiver from Submission Requirements

The municipal official or board reviewing an application under this ordinance may, in consultation with the municipal engineer, waive submission of any of the requirements in Sections 9.C.1 through 9.C.6 of this ordinance 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.

Section 10: Maintenance and Repair

A. Applicability

1. Projects subject to review as in Section 1.C of this ordinance shall comply with the requirements of Sections 10.B and 10.C.

B. General Maintenance

1. The design engineer shall prepare a maintenance plan for the storm water management measures incorporated into the design of a major development.
2. 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 storm water management measures are available in the New Jersey Storm water 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 storm water management facility to such person under an applicable ordinance or regulation.

3. 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 or project.

4. If the person responsible for maintenance identified under Section 10.B.2 above is not a public agency, the maintenance plan and any future revisions based on Section 10.B.7 below shall be recorded upon the deed of record for each property on which the maintenance described in the maintenance plan must be undertaken.

5. Preventative and corrective maintenance shall be performed to maintain the function of the storm water management measure, including 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 non-vegetated linings.

6. The person responsible for maintenance identified under Section 10.B.2 above shall maintain a detailed log of all preventative and corrective maintenance for the structural storm water management measures incorporated into the design of the development, including a record of all inspections and copies of all maintenance-related work orders.

7. The person responsible for maintenance identified under Section 10.B.2 above shall evaluate the effectiveness of the maintenance plan at least once per year and adjust the plan and the deed as needed.

8. The person responsible for maintenance identified under Section 10.B.2 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 Sections 10.B.6 and 10.B.7 above.

9. The requirements of Sections 10.B.3 and 10.B.4 do not apply to storm water management facilities that are dedicated to and accepted by Franklin Lakes or another governmental agency.

10. In the event that the storm water management facility becomes a danger to public safety or public health, or if it is in need of maintenance or repair, the Borough of Franklin Lakes shall so notify the responsible person in writing. Upon receipt of that

notice, the responsible person shall have fourteen (14) days to effect maintenance and repair of the facility in a manner that is approved by the municipal engineer or his designee. The Borough of Franklin Lakes, 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 Borough of Franklin Lakes or County may immediately proceed to do so and shall bill the cost thereof to the responsible person.

B. Nothing in this section shall preclude the Borough of Franklin Lakes from requiring the posting of a performance or maintenance guarantee in accordance with N.J.S.A. 40:55D-53.

Section 11: Penalties

Any person who erects, constructs, alters, repairs, converts, maintains, or uses any building, structure or land in violation of this ordinance shall be subject to a fine of not less than \$1000 per violation.

Section 12: Effective Date

This ordinance shall take effect immediately upon the approval by the county review agency, or sixty (60) days from the receipt of the ordinance by the county review agency if the county review agency should fail to act.

Section 13: Severability

If the provisions of any section, subsection, paragraph, subdivision, or clause of this ordinance 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 ordinance.

Approved: _____
G. Thomas Donch, Mayor

Attest: _____
Sally Bleeker, Borough Clerk

Introduced: 4/12/06

Adopted: 5/10/06

ORDINANCE NO. 1371R

**AN ORDINANCE AMENDING ORDINANCE NO. 1345
OF THE CODE OF THE BOROUGH OF FRANKLIN LAKES
ENTITLED "STORM WATER MANAGEMENT"**

WHEREAS, a review of the Storm Water management of the Borough of Franklin Lakes indicates that several modifications are required; and

WHEREAS, said modifications have been recommended by the municipal engineer and municipal attorney; and therefore

IT IS HEREBY ORDAINED by the Mayor and Council of the Borough of Franklin Lakes, County of Bergen, and State of New Jersey as follows:

Section I: In Section 2 of the Storm Water Management Ordinance entitled "Definitions," the definitions of "CAFRA Planning Map," "CAFRA Centers," "Cores," and "Nodes" are hereby deleted.

Section II: Section 2 of the Storm Water Management Ordinance entitled "Definitions" is hereby supplemented by the addition of the following:

"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.

"Review agency" means Bergen County Department of Planning and Economic Development.

"Solid and floatable materials" means sediment, debris, trash, and other floating, suspended, or settleable solids. For exemptions to this standard, see Section 4.E.3.c below.

"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 storm water 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 storm water.

Section III: Section 4 of the Storm Water Management Ordinance entitled "Storm Water Management requirements for major development"; Table 2 entitled "TSS removal rates for BMPs" is hereby amended; "the manufactured treatment device removal rate" is changed from "see Section 6 C" to "see Section 6.A.6".

Section IV: Paragraph E of Section 4 of the Storm Water Management Ordinance entitled “Storm Water Management Requirements for Major Development,” is hereby amended to read as follows:

1. To the maximum extent practicable, the standards in Sections 4.F and 4.G shall be met by incorporating non-structural storm water management strategies set forth at Section 4.E into the design. The applicant shall identify the non-structural 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 non-structural storm water management *strategies identified under paragraph 4.E.2* below into the design of a particular project, the applicant shall identify the strategy considered and provide a basis for the contention.

Section V: Paragraph 4.E.3 is hereby amended to delete the second and third sentences.

Section VI: Paragraph 4.E.4 is hereby amended to read as follows:

4. Any land area used as a non-structural storm water management measure to meet the performance standards in Sections 4.F and 4.G shall be dedicated to a government agency, subjected to a conservation restriction filed with the *Bergen County Clerk’s* office, or subject to an approved equivalent restriction that ensures that measure or an equivalent storm water management measure approved by the reviewing agency is maintained in perpetuity.

Section VII: Paragraph 4.F.1.b.(3)(b) is hereby amended to delete the second and third sentences.

Section VIII: Paragraph 4.F.2 is hereby amended to delete the second and third sentences.

Section IX: Paragraph 4.G.6 is hereby amended to read as follows:

6. Additional information and examples of *stormwater quality BMPs* are contained in the New Jersey Storm water Best Management Practices Manual, which may be obtained from the address identified in Section 7.

Section X: Paragraph 5.A.1.a is hereby amended to read as follows:

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 superceding document*, or

Section XI: Section 6 of the Storm Water Management Ordinance entitled “Standards for Structural Storm Water Management Measures” is hereby amended to read as follows:

Section 6: Standards for Structural and Non Structural Storm Water Management Measures

A. Standards for structural storm water management measures are as follows:

1. Structural storm water 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).
2. Structural storm water 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 (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 Section 8.D.
3. Structural storm water 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.
4. At the intake to the outlet from the storm water management basin, the orifice size shall be a minimum of two and one-half inches in diameter.
5. Storm water management basins shall be designed to meet the minimum safety standards for storm water management basins at Section 8.
6. Manufactured treatment devices may be used to meet the requirements of Section 4, provided the pollutant removal rates are verified by the New Jersey Corporation for Advanced Technology and certified by the Department.
7. *Where tailwater will affect the hydraulic performance of a stormwater management measure, the design engineer shall include such effects in the measure's design.*

B. Standards for non-structural storm water management measures are as follows:

1. Buffers - Buffer areas are required along all lot and street lines separating residential uses from arterial and collector streets, separating a nonresidential use from either a residential use or residential zoning district line, and along all street lines where loading and storage areas can be seen from the street. The buffer area shall use native vegetation, which requires less fertilization and watering than non-native species. Buffer areas may be used for stormwater management by

disconnecting impervious surfaces and treating runoff from these impervious surfaces. Preservation of natural wood tracts and limiting land disturbance for new construction must be incorporated where practical.

2. Curbs and Gutters - Curb cuts or flush curbs with curb stops are encouraged where practical to allow vegetated swales to be used for stormwater conveyance and to allow the disconnection of impervious areas where practical.

3. Drainage Systems - An existing ordinance may require that all streets be provided with inlets and pipes where the same are necessary for proper drainage. The use of natural vegetated swales in lieu of inlets and pipes are encouraged where practical.

4. Driveways and Access Ways - The use of pervious paving materials to minimize stormwater runoff and promote groundwater recharge should be considered for driveways and access ways where practical. Consideration should be given for subsurface soil conditions. The use of crowned driveways is also encouraged to promote disconnectivity between impervious surfaces and grass areas to promote groundwater recharge.

5. Natural Features - Natural features, such as trees, brooks, swamps, hilltops, and views, are to be preserved whenever possible, and that care be taken to preserve selected trees to enhance soil stability and landscaped treatment of the area. In addition, forested areas shall be maintained to ensure that leaf litter and other beneficial aspects of the forest are maintained in addition to the trees.

6. Nonconforming Uses, Structures or Lots - The existing ordinance may allow an applicant/owner of an existing use to propose additions or alterations that exceed the permitted building and/or lot coverage percentages. The applicant should mitigate the impact of the additional impervious surfaces unless the stormwater management plan for the development provided for these increases in impervious surfaces. This mitigation effort must address water quality, flooding and groundwater recharge.

7. Off-site and Off-tract Improvements - Any off-site and off-tract stormwater management and drainage improvements must conform to the "Design and Performance Standards" described.

8. Off-street Parking and Loading - Parking lots with more than 10 spaces and all loading areas should allow for flush curb with curb stop, or curbing with curb cuts to encourage developers to allow for the discharge of impervious areas into landscaped areas for stormwater management. The use of natural vegetated swales for the water quality design storm, with overflow for larger storm events into storm sewers should be utilized where practical. A developer may demonstrate that fewer spaces would be required, provided area is set aside for additional spaces if necessary. Pervious paving could be provided overflow parking areas.

9. Performance Standards - The depositing of materials or wastes on a property in such form or manner that they can be transferred off the lot, directly or indirectly, by natural forces such as precipitation, evaporation or wind is strictly prohibited. Materials and wastes that might create a

pollutant or a hazard shall be enclosed in appropriate containers.

10. Sidewalks - Sidewalks shall be designed to discharge stormwater to neighboring lawns where feasible to disconnect these impervious surfaces or use permeable paving materials where appropriate.

11. Soil Erosion and Sediment Control - The applicant shall comply with the New Jersey Soil Erosion and Sediment Control Standards and should incorporate designs to retain and protect natural vegetation; minimize and retain water runoff to facilitate groundwater recharge; and install diversions, sediment basins, and similar required structures prior to any on-site grading or disturbance.

12. To the extent possible it shall be required that applicants follow the strategies contained in the NJDEP Stormwater Best Management Practices Manual, April 2004, as amended.

Section XII: Paragraph 7.B.3 is hereby amended to read as follows:

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. Guidance may be obtained from the Bergen County Soil Conservation District, 700 Kinderkamack Road, Suite 106, Oradell, New Jersey 07649, (201)261-4407.

Section XIII: Paragraph 9.A.3 is hereby amended to read as follows:

3. The applicant shall submit 12 copies of the materials listed in the checklist for site development storm water plans in accordance with Section 9.C of this ordinance.

Section XIV: All other parts of Ordinance No. 1345 shall remain in full force and effect.

Section XV: In the event that any portion of this Ordinance is declared unenforceable by a court of competent jurisdiction, it is the intent that the remainder of the Ordinance be enforceable.

Section XVI: This Ordinance shall become effective immediately upon passage and publication in accordance with law.

Approved: _____
Maura R. DeNicola, Mayor

Attest: _____
Sally Bleeker, Borough Clerk

Introduced: 9/18/07

Adopted: 10/16/07

Borough of Franklin Lakes Build-out Analysis

HUC14 and Zone	Total Area (acres)	Existing Impervious (%)	Existing Impervious (acres)	Wetlands/ Water Area (acres)	Developable Area (acres)	Allowable Impervious (%)	Build-Out Impervious (acres)
02030103100050 ID#1							
Residential District (A-130)	105.50	8.93%	9.42	2.53	102.97	25%	25.74
Residential (A-40)	0.74	20.27%	0.15	0.00	0.74	25%	0.19
TOTALS	106.24	9.01%	9.57	2.53	103.71	25%	25.93
02030103140010 ID#2							
Residential (A-130)	93.81	4.90%	4.60	0.00	93.81	25%	23.45
Residential (A-40)	732.66	11.17%	81.87	117.99	614.67	25%	153.67
Residential (22.5)	598.17	12.56%	75.16	87.92	510.25	25%	127.56
Highway Office Building Research & Lab (HOB-RL)	8.53	4.45%	0.38	0.00	8.53	95%	8.10
Limited Business (LB-2)	1.43	56.64%	0.81	0.00	1.43	75%	1.07
Planned Residential (PRD)	23.16	45.60%	10.56	0.83	22.33	50%	11.17
Residential Townhouse (R-1)	12.14	2.22%	0.27	0.00	12.14	50%	6.07
Office Research & Laboratory (O-RL)	189.73	15.20%	28.83	20.45	169.28	5%	8.46
TOTALS	1,659.63	12.20%	202.48	227.19	1,432.44	24%	339.56
02030103100070 ID#3							
Residential (A-130)	49.56	5.37%	2.66	0	49.56	25%	12.39
TOTALS	49.56	5.37%	2.66	0	49.56	25%	12.39
02030103100060 ID#4							
Residential District - (A-130)	321.65	9.55%	30.71	5.78	315.87	25%	78.97
Residential - (A-22.5)	227.43	17.76%	40.40	21.35	206.08	25%	51.52
Residential - (A-40)	2828.66	13.87%	392.28	342.00	2,486.66	25%	621.67
Residential - (A-5)	3.13	29.39%	0.92	0	3.13	50%	1.57
Highway Office Building & Laboratory - (HOB-RL)	122.35	13.26%	16.22	8.82	113.53	95%	107.85
Industrial - (I-1)	36.46	42.40%	15.46	4.78	31.68	75%	23.76
Industrial - (I-2)	24.55	62.85%	15.43	1.79	22.76	75%	17.07
Limited Business - (LB-1)	4.21	5.46%	0.23	0.13	4.08	75%	3.06
Retail Business - (RB)	41.90	64.65%	27.09	0.57	41.33	75%	31.00
Recreation-Residential - (RR)	8.60	36.86%	3.17	0.40	8.20	35%	2.87
Senior Citizen - (SR)	36.13	4.62%	1.67	11.77	24.36	60%	14.62
TOTALS	3,655.07	14.87%	543.58	397.39	3,257.68	29%	953.94

Borough of Franklin Lakes Build-out Analysis

HUC14 and Zone	Total Area (acres)	Existing Impervious (%)	Existing Impervious (acres)	Wetlands/ Water Area (acres)	Developable Area (acres)	Allowable Impervious (%)	Build-Out Impervious (acres)
2030103120050 ID#5							
Residential - (A-40)	55.82	11.45%	6.39	0	55.82	25%	13.96
Residential - (A-22 5)	1.04	0.00%	0.00	0	1.04	25%	0.26
TOTALS	56.86	11.24%	6.39	0	56.86	25%	14.22
2030103120040 ID#6							
Residential - (A-130)	6.31	4.75%	0.30	0	6.31	25%	1.58
Residential - (A-40)	655.90	8.26%	54.15	131.89	524.01	25%	131.00
Residential - (A-40C)	39.52	11.59%	4.58	6.07	33.45	25%	8.36
TOTALS	701.73	8.41%	59.03	137.96	563.77	25%	140.94

Pollutant Loads by Land Cover

Land Cover	Total Phosphorus Load (lbs/acre/year)	Total Nitrogen Load (lbs/acre/year)	Total Suspended Solids Load (lbs/acre/year)
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: NJDEP Stormwater Best Management Practices Manual 2004.

Non-Point Source Loads at Build-Out

HUC14 and Zone	Developable Area (acres)	TP (lbs/acre/yr)	TP (lbs/yr)	TN (lbs/acre/yr)	TN (lbs/yr)	TSS (lbs/acre/yr)	TSS (lbs/yr)
02030103100050 ID#1							
Residential District (A-130)	102.97	0.6	61.78	5	514.85	100	10,297
Residential (A-40)	0.74	0.6	0.44	5	3.7	100	74
TOTALS	103.71		62.23		518.55		10,371
02030103140010 ID#2							
Residential (A-130)	93.81	0.6	56.29	5	469.05	100	9381
Residential (A-40)	614.67	0.6	368.80	5	3073.35	100	61467
Residential (A-22.5)	510.25	1.4	714.35	15	7653.75	140	71435
Highway Office Building Research & Lab. (HOB-RL)	8.53	1.0	8.53	10	85.3	120	1023.6
Limited Business (LB-2)	1.43	2.1	3.00	22	31.46	200	286
Planned Residential (PRD)	22.33	1.4	31.26	15	334.95	140	3126.2
Residential Townhouse (R-T)	12.14	1.4	17.00	15	182.1	140	1699.6
Office Research & Laboratory (O-RL)	169.28	1.0	169.28	10	1692.8	120	20313.6
TOTALS	1,432.44		1368.51		13,523		168,732
02030103100070 ID#3							
Residential (A-130)	49.56	0.6	29.74	5	247.8	100	4,956
TOTALS	49.56		29.74		247.80		4,956
02030103100060 ID#4							
Residential District - (A-130)	315.87	0.6	189.52	5	1579.35	100	31,587.00
Residential - (A-22.5)	206.08	1.4	288.51	15	3,091.20	140	28,851.20
Residential - (A-40)	2,486.66	0.6	1492.00	5	12,433.30	100	248,666.00
Residential - (A-5)	3.13	1.4	4.38	15	46.95	140	438.20
Highway Office Building & Laboratory - (HOB-RL)	113.53	1.0	113.53	10	1,135.30	120	13,623.60
Industrial - (I-1)	31.68	1.5	47.52	16	506.88	200	6,336.00
Industrial - (I-2)	22.76	1.5	34.14	16	364.16	200	4,552.00
Limited Business - (LB-1)	4.08	2.1	8.57	22	89.76	200	816.00
Retail Business - (RB)	41.33	2.1	86.79	22	909.26	200	8,266.00
Recreation-Residential - (RR)	8.20	1.4	11.48	15	123.00	140	1,148.00
Senior Citizen - (SR)	24.36	1.4	34.10	15	365.4	140	3,410.40
TOTALS	3,257.68		0.00		20,644.56		347,694

HUC14 and Zone	Developable Area (acres)	TP (lbs/acre/yr)	TP (lbs/yr)	TN (lbs/acre/yr)	TN (lbs/yr)	TSS (lbs/acre/yr)	TSS (lbs/yr)
2030103120050 ID#5							
Residential - (A-40)	55.82	0.6	33.49	5	279.1	100	5,582.00
Residential - (A-22.5)	1.04	1.4	1.46	15	15.6	140	145.60
TOTALS	56.86		0.00		294.7		5,728
2030103120040 ID#6							
Residential - (A-130)	6.31	0.6	3.79	5	31.55	100	631.00
Residential - (A-40)	524.01	0.6	314.41	5	2620.05	100	52,401.00
Residential - (A-40C)	33.45	1.4	46.83	15	501.75	140	4,683.00
TOTALS	563.77		365.02		3,153.35		57,715



Adopted September 15, 2010

**2010 MASTER PLAN
REEXAMINATION REPORT**

**BOROUGH OF FRANKLIN LAKES
BERGEN COUNTY, NEW JERSEY**

Prepared by

Borough of Franklin Lakes Planning Board

in consultation with

Phillips Preiss Grygiel LLC
33-41 Newark Street
Third Floor, Suite D
Hoboken, New Jersey 07030

Adopted September 15, 2010

The original of this report was signed and
sealed in accordance with N.J.S.A. 13:41-1.2



Paul Grygiel

New Jersey Professional Planner License # 5518

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I. Introduction

Planning Context

The Borough of Franklin Lakes is a nearly ten-square mile suburban municipality located at the outer edge of New Jersey's most populous county. Like many other communities in Bergen County, Franklin Lakes benefits from its proximity to New York City, yet its separation from more urbanized areas contributes to its distinct character. It is a municipality typified by suburban homes, a modest downtown, some corporate offices and limited commercial areas, as well as a number of lakes, ponds, parks, recreation facilities, and open spaces. Franklin Lakes is also traversed by two major highways (Interstate Route 287 and New Jersey Route 208) and a freight railroad, which may one day see the restoration of passenger service.

There are some issues facing Franklin Lakes, however. The amount of vacant and underutilized land in the community has been substantially reduced due to continued residential development. The Borough's central business district could benefit from improvements, and there is a need to maintain the viability of the non-residential tax base. In addition, changes to the Borough's zoning map are needed to address inconsistencies between land use classifications, zoning designations and actual land uses. There has also been an ongoing need to respond to changes in state affordable housing mandates. More broadly, changes in economy have had impacts at the local level.

Document Overview

The Borough of Franklin Lakes Planning Board has commissioned the preparation of this Master Plan Reexamination in order to address these and other issues, as well as to address the requirements of the Municipal Land Use Law (MLUL) of the State of New Jersey. The MLUL at N.J.S.A. 40:55D-89 mandates that a municipality's governing body shall, at least every six years, provide for a general reexamination of its master plan and development regulations by the planning board, which shall prepare and adopt by resolution a report on the findings of such reexamination.

There are five elements which the reexamination report must include:

- 1) A section outlining the major problems and objectives relating to land development in the municipality at the time of the adoption of the last reexamination report.
- 2) A section describing the extent to which such problems and objectives have been reduced or have increased subsequent to that date.
- 3) A section discussing the extent to which there have been significant changes in the assumptions, policies, and objectives forming the basis for the master plan or development regulations as last revised, with particular regard to the density and distribution of population and land uses, housing conditions, circulation, conservation of natural resources, energy conservation, collection, disposition and recycling of designated recyclable materials, and changes in state, county and municipal policies and objectives.
- 4) A section setting forth the recommended changes to the master plan or development regulations, if any, including underlying objectives, policies and standards, or whether a new plan or regulations should be prepared.

- 5) A section setting forth the recommendations of the planning board concerning the incorporation of redevelopment plans adopted pursuant to the "Local Redevelopment and Housing Law" into the land use plan element of the municipal master plan, and recommended changes, if any, in the local development regulations necessary to effectuate the redevelopment plans of the municipality.

The most recent master plan reexamination for the Borough of Franklin Lakes was adopted in 2004, meaning the Planning Board must adopt a Reexamination Report in 2010 in order to comply with N.J.S.A. 40:55D-89.

Therefore, the Planning Board retained a consultant to prepare a new reexamination. The planning process has incorporated extensive review of existing conditions and documents, as well as public meetings. This process also will incorporate the recently adopted Environmental Resource Inventory for the Township into the Master Plan.

Summary of Recommendations

This document includes recommendations for both small and large changes, which can be implemented through amendments to zoning and other actions. The Master Plan Reexamination's key ideas and initiatives can be summarized as follows:

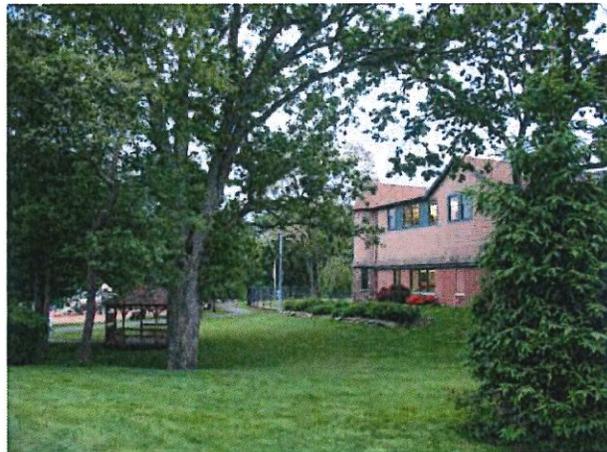
- Certain modifications have been made to the Master Plan's goals and objectives to reflect current conditions.
- The Borough's recently adopted Environmental Resource Inventory (ERI) has been incorporated into the Master Plan, with particular emphasis on its resource protection goals. A new section of the Land Use Ordinance is recommended to be created to implement some of the recommendations of the ERI.
- An Existing Zoning Map has been prepared that accurately shows all of the zoning districts in the municipality. Specifically, the MF-AH1 Multifamily - Affordable Housing, MF-AH2 Senior Citizen Multifamily - Affordable Housing and the REC Recreation zones have been mapped, two lots at the end of Tice Road that were recently rezoned from I-2 to RB are shown in their new zoning district and the correct designation is provided for the OB-RL zone. It is also recommended that the name of the MF-AH2 zone be amended to reflect the change in status of the development in that zoning district that resulted from a change in State law.
- The existing RB Retail Business zone is recommended to be divided into two separate zones that better reflect the particular characters. Various changes are proposed to the use and bulk standards for one of these new zones, the RB-1 district.
- The rear portion of the Franklin Crossing Shopping Center, currently located in the I-1 zone, is recommended to be placed in the same zone as the front portion of the property (RB, or the new RB-1 zone if such a zone is created).
- It is recommended that the Borough's existing two industrial zones be consolidated into one zone, which would retain the I-1 Industrial designation. A number of changes are suggested for the permitted uses in this zone.
- A new zone combining attributes of the existing industrial and retail business zones is recommended to be created for the remaining two lots on Tice Road currently located in the I-2 zone.

The remainder of this document includes discussion of the above topics and addresses the relevant requirements for a reexamination report.

II. Major Problems and Objectives Relating to Land Development in the 2004 Master Plan Reexamination

The overall goals of the Borough of Franklin Lakes' 2004 Master Plan Reexamination were to preserve the existing low-density residential character of the Borough, protect its environmentally sensitive features and revitalize the central business district. These goals generally reinforce those outlined in the 1998 Master Plan Reexamination Report, and are summarized below, along with their related policy statements from the 2004 Reexamination. Note that in some instances below the language does not reflect current conditions, standards or objectives, as this section simply restates information from the 2004 Master Plan Reexamination as required by the Municipal Land Use Law.

Goal/Policy Statement 1 from 2004: To maintain and enhance existing areas of stability in the community; to encourage a land use pattern that establishes areas which have their own uniform development characteristics. A principal goal of the 2004 Plan was to preserve and protect the residential character and existing density of the community, and reinforce the Borough's commercial business areas, by restricting incompatible land uses from established neighborhoods, and limiting intensities of use to the levels prescribed in the Plan.



Franklin Lakes is a stable suburban community with excellent community facilities, parks, open spaces and other amenities that enhance residents' quality of life.

Goal/Policy Statement 2 from 2004: To guide development along the Route 287 corridor and its associated interchanges in

Franklin Lakes in a manner that encourages low-density detached residential development and discourages commercial development. Development of this area should be consistent with the map designations shown on the Land Use Plan map. Those non-residential uses that currently exist within the Borough, and are likewise designated as such on the Land Use Plan map, are an exception and their continuation affirms a long-standing policy of the Borough.

Goal/Policy Statement 3 from 2004: To ensure that any prospective development and/or redevelopment is responsive to Franklin Lakes' environmental features. The 2004 Master Plan Reexamination affirmed the Borough's goal to limit development in steeply sloped areas (defined as any slope with a minimum 15% grade), wetlands and floodplains, as well as retain existing vegetation (particularly trees with a caliper of six inches or more and clusters of trees which may be of lesser caliper, if deemed appropriate).

Goal/Policy Statement 4 from 2004: To ensure that any future development of the community's infrastructure be limited to accommodate the Borough's present level of intensity of development as identified in the Plan, except for the provision of sufficient infrastructure to accommodate the redevelopment of the central business district, as envisioned in the adopted central business district plan. This goal was modified in the 2004 Master Plan Reexamination to reflect the adoption of the central business district plan by the Borough.¹

¹ This statement appears to be erroneous, as the Planning Board has no record of such a plan being adopted.

Goal/Policy Statement 5 from 2004: To encourage and provide buffer zones to separate incompatible land uses. This goal promotes the use of appropriate buffers to minimize adverse impacts to residential and other properties, which can be accomplished through adequate open space buffer widths with planting elements, such as multiple rows of plant materials and planting clusters, and supplemented by aesthetically pleasing fencing, where appropriate.

Goal/Policy Statement 6 from 2004: To promote the detached residential cluster of development in areas characterized by environmentally sensitive features and extensive woodland vegetation as a means of preserving steep slopes, wetlands, wooded area, retaining open space and reducing infrastructure costs. This goal supports the use of cluster development to permit greater flexibility in subdivision design, and consequently more creative design for the development of sites identified in the 2004 Plan; its intent is not to encourage increased development intensity on these sites.

Goal/Policy Statement 7 from 2004: To discourage the creation of flag lots in the Borough. The Borough continues to maintain that flag lots result in the overutilization of properties and hinders emergency service access.

Goal/Policy Statement 8 from 2004: To preserve the spacious setting of housing sites that characterize the Borough's residential areas. This goal reaffirms support for the prevailing development pattern, with broad minimum lot widths and side yard setbacks between detached dwellings, including broader minimum side yard setbacks as linear building dimensions increase, as a proportion of total lot width.

Goal/Policy Statement 9 from 2004: To preserve and enhance the Borough's central business district by defining its functional role in the community; to enhance the quality of life within the commercial center through an appropriate mixture of activities; to introduce circulation improvements that advance the flow of traffic, improve property utilization and encourage pedestrian activity; to encourage the utilization of specified design elements identified in the Master Plan; to permit a reasonable level of development in the business district; and to encourage the consolidation and expansion of off-street parking to provide greater convenience for shoppers and reduce conflicting traffic movements on Franklin Avenue. This goal was modified in the 2004 Master Plan Reexamination to recognize the need for circulation improvements that will increase the ease of traffic and pedestrian movements in the central business district.

Goal/Policy Statement 10 from 2004: To address the community's housing obligation in a manner consistent with other goals and objectives set forth herein. At the time of the 2004 Master Plan Reexamination, the Borough had adopted its COAH "Second Round" housing element and fair share plan, which received a judgment of repose in 2001; the Borough expressed its intention to review the housing element and fair share plan upon the expiration of its judgment of repose.

Goal/Policy Statement 11 from 2004: To promote a safe and efficient traffic circulation system that serves the community, while retaining the community's country setting within the overall framework of a two-lane circulation system. There are deficiencies within the existing circulation system that impede traffic flow. The 2004 Master Plan Reexamination supports improving the effectiveness of certain intersections, while avoiding substantive road widening that could have a negative impact on the character and country setting of the community.

Goal/Policy Statement 12 from 2004: To preserve the historic features of the Borough as an integral part of the community's unique character. This goal was modified in the 2004 Master Plan Reexamination to include: "in the event that the preservation of a particular resource conflicts with other Borough goals, the significance of the particular resource should be weighed relative to the nature of the conflicting goal."

Goal/Policy Statement 13 from 2004: To support the overall philosophy of the State Development and Redevelopment Plan (SDRP) as a means of providing growth management on a state-wide basis while retaining the principles of home-rule. The 2004 Master Plan Reexamination reaffirmed the Borough's support for the general principles set forth in the SDRP.

In addition, two planning and zoning recommendations were made as part of the 2004 Master Plan Reexamination. First, to help further the Borough's goals with regard to the central business district, it was recommended that consideration be given to rezoning two parcels located at the end of Tice Road from the I-2 Industrial zone to the Retail Business zone (Block 1518, Lot 10 and Block 1519.01, Lot 1). Second, the 2004 Reexamination recommended the definition of "tree" in the Borough Zoning Ordinance at §18-126B(1)d should be revised to "any living tree having a single or multi-stemmed trunk with a diameter (caliper measure) of 6" or greater, measured at three feet above natural grade."²

² The definition of "tree" is now located in § 300-124B(1) of the Land Use Ordinance.

III. Current Status of Problems and Objectives Set Forth in the 2004 Master Plan Reexamination

This chapter examines the extent to which there have been significant changes in the problems and objectives forming the basis for the 2004 Master Plan Reexamination, as described in Chapter II of this current Reexamination Report.

The overall goals of the Borough of Franklin Lakes' 2004 Master Plan Reexamination, which were to preserve the existing low-density residential character of the Borough, protect its environmentally sensitive features and revitalize the central business district, remain valid in 2010. Each of the goals outlined in the 2004 Reexamination as described in Chapter II is listed below, followed by a discussion of its current status.

Goal/Policy Statement 1 from 2004: To maintain and enhance existing areas of stability in the community; to encourage a land use pattern that establishes areas which have their own uniform development characteristics. A principal goal of the 2004 Plan was to preserve and protect the residential character and existing density of the community, and reinforce the Borough's commercial business areas, by restricting incompatible land uses from established neighborhoods, and limiting intensities of use to the levels prescribed in the Plan.

Status in 2010: *This goal remains valid as a general guiding principle. The Planning Board recognizes that mixed-use development and somewhat greater density may be appropriate in the central business district as recommended in the Borough's adopted Housing Element and Fair Share Plan and elsewhere in this Reexamination Report. However, development intensity should be limited to the recommended levels set forth in this Reexamination Report and the implementing zoning regulations.*



The Master Plan recommends continuation of the land use policies that have successfully limited the intrusion of highway commercial development from Interstate Route 287 and New Jersey Route 208.

Goal/Policy Statement 2 from 2004: To guide development along the Route 287 corridor and its associated interchanges in Franklin Lakes in a manner that encourages low-density detached residential development and discourages commercial development. Development of this area should be consistent with the map designations shown on the Land Use Plan map. Those non-residential uses that currently exist within the Borough, and are likewise designated as such on the Land Use Plan map, are an exception and their continuation affirms a long-standing policy of the Borough.

Status in 2010: *This goal remains valid.*

Goal/Policy Statement 3 from 2004: To ensure that any prospective development and/or redevelopment is responsive to Franklin Lakes' environmental features. The 2004 Master Plan Reexamination affirms the Borough's goal to limit development in steeply sloped areas (defined as any slope with a minimum 15% grade), wetlands and floodplains, as well as retain existing vegetation (particularly trees with a caliper of six inches or more and clusters of trees which may be of lesser caliper, if deemed appropriate).

Status in 2010: This goal remains valid as a general guiding principle, with certain modifications. The word “limit” may be more properly replaced with “manage.” In addition, the Planning Board believes the threshold of eight inches for tree caliper in the current definition of “tree” is more appropriate than six inches. It is also noted that while a 15% grade is a minimum threshold for steep slopes, there are three categories of steep slopes (15 to 19.99%, 20 to 24.99% and 25% or greater) that are treated differently in the Zoning Ordinance. Lastly, the categories and thresholds for environmentally sensitive areas should be consistent with those listed in the Borough’s recently adopted Environmental Resource Inventory.

Goal/Policy Statement 4 from 2004: To ensure that any future development of the community’s infrastructure be limited to accommodate the Borough’s present level of intensity of development as identified in the Plan, except for the provision of sufficient infrastructure to accommodate the redevelopment of the central business district, as envisioned in the adopted central business district plan. This goal was modified in the 2004 Master Plan Reexamination to reflect the adoption of the central business district plan by the Borough.

Status in 2010: This goal remains valid. It is noted that the Northwest Bergen Utilities Authority has proposed to extend its sanitary sewer network to serve the downtown area of Franklin Lakes, and the Borough has been evaluating the proposal to ensure it is consistent with local objectives.

Goal/Policy Statement 5 from 2004: To encourage and provide buffer zones to separate incompatible land uses. This goal promotes the use of appropriate buffers to minimize adverse impacts to residential and other properties, which can be accomplished through adequate open space buffer widths with planting elements, such as multiple rows of plant materials and planting clusters, and supplemented by aesthetically pleasing fencing, where appropriate.

Status in 2010: This goal remains valid. Buffer requirements should be correlated with the “no disturbance areas” ordinance now being considered.

Goal/Policy Statement 6 from 2004: To promote the detached residential cluster of development in areas characterized by environmentally sensitive features and extensive woodland vegetation as a means of preserving steep slopes, wetlands, wooded area, retaining open space and reducing infrastructure costs. This goal supports the use of cluster development to permit greater flexibility in subdivision design, and consequently more creative design for the development of sites identified in the 2004 Plan; its intent is not to encourage increased development intensity on these sites.

Status in 2010: There are only two zones in Franklin Lakes that permit the use of cluster zoning techniques: the A-130 and A-40C zones. Cluster developments have been constructed in both of the two locations of the A-40C zone. This goal should be maintained in the Master Plan. However, any new or revised zoning regulations crafted to implement this recommendation should be carefully designed to reflect the language of this goal and maintain appropriate design characteristics.

Goal/Policy Statement 7 from 2004: To discourage the creation of flag lots in the Borough. The Borough continues to maintain that flag lots result in the overutilization of properties and hinders emergency service access.

Status in 2010: This goal remains valid.

Goal/Policy Statement 8 from 2004: To preserve the spacious setting of housing sites that characterize the Borough's residential areas. This goal reaffirms support for the prevailing development pattern, with broad minimum lot widths and side yard setbacks between detached dwellings, including broader minimum side yard setbacks as linear building dimensions increase, as a proportion of total lot width.

Status in 2010: *This goal remains valid.*

Goal/Policy Statement 9 from 2004: To preserve and enhance the Borough's central business district by defining its functional role in the community; to enhance the quality of life within the commercial center through an appropriate mixture of activities; to introduce circulation improvements that advance the flow of traffic, improve property utilization and encourage pedestrian activity; to encourage the utilization of specified design elements identified in the Master Plan; to permit a reasonable level of development in the business district; and to encourage the consolidation and expansion of off-street parking to provide greater convenience for shoppers and reduce conflicting traffic movements on Franklin Avenue. This goal was modified in the 2004 Master Plan Reexamination to recognize the need for circulation improvements that will increase the ease of traffic and pedestrian movements in the central business district.

Status in 2010: *This goal remains valid.*

Goal/Policy Statement 10 from 2004: To address the community's housing obligation in a manner consistent with other goals and objectives set forth herein. At the time of the 2004 Master Plan Reexamination, the Borough had adopted its COAH "Second Round" housing element and fair share plan, which received a judgment of repose in 2001; the Borough expressed its intention to review the housing element and fair share plan upon the expiration of its judgment of repose.

Status in 2010: *This goal remains valid. The Borough's COAH "Second Round" Housing Element and Fair Share Plan adopted in 2001 has been replaced by its "Third Round" plan, which was adopted in late 2008. Franklin Lakes petitioned COAH in December 2008 for certification of this plan and is awaiting a decision as to whether this certification will be granted. The Borough has addressed its housing obligation consistent with COAH's current rules, but should be prepared to revise its plan should there be changes to the state's affordable housing mandates.*

Goal/Policy Statement 11 from 2004: To promote a safe and efficient traffic circulation system that serves the community, while retaining the community's country setting within the overall framework of a two-lane circulation system. There are deficiencies within the existing circulation system that impede traffic flow. The 2004 Master Plan Reexamination supports improving the effectiveness of certain intersections, while avoiding substantive road widening that could have a negative impact on the character and country setting of the community.

Status in 2010: *This goal remains valid.*

Goal/Policy Statement 12 from 2004: To preserve the historic features of the Borough as an integral part of the community's unique character. This goal was modified in the 2004 Master Plan Reexamination to include: "in the event that the preservation of a particular resource conflicts with other Borough goals, the significance of the particular resource should be weighed relative to the nature of the conflicting goal."

Status in 2010: *This goal remains valid.*

Goal/Policy Statement 13 from 2004: To support the overall philosophy of the State Development and Redevelopment Plan (SDRP) as a means of providing growth management on a state-wide basis while retaining the principles of home-rule. The 2004 Master Plan Reexamination reaffirmed the Borough's support for the general principles set forth in the SDRP.

Status in 2010: The Master Plan continues to support the general principles of the SDRP. However, most of Franklin Lakes is currently located in PA-1, the Metropolitan Planning Area, according to the SDRP. This planning area also covers much of Bergen County, including densely developed communities. It is noted that the population density of Franklin Lakes according to the 2000 Census is 1,142 people per square mile. The figures are much higher for a number of Bergen County municipalities, including Fort Lee (14,435), Hackensack (10,451), Teaneck (6,449) and even Ridgewood (4,204), yet all of these municipalities are located in the same state planning area. It is strongly recommended that the portions of the Borough located in PA-1 be placed in PA-2 (Suburban Planning Area) or PA-3 (Fringe Planning Area), which more accurately reflect the established character and population density of Franklin Lakes.

In addition, the following two planning and zoning recommendations were made as part of the 2004 Master Plan Reexamination:

To help further the Borough's goals with regard to the central business district, consider rezoning two parcels located at the end of Tice Road from the I-2 Industrial zone to the Retail Business zone (Block 1518, Lot 10 and Block 1519.01, Lot 1).

Status in 2010: An ordinance making this change was introduced by the Mayor and Council in 2005, but was not adopted at that time. This zoning change was subsequently enacted in 2010.

The definition of "tree" in the Borough Zoning Ordinance at §18-126B(1)d should be revised to "any living tree having a single or multi-stemmed trunk with a diameter (caliper measure) of 6" or greater, measured at three feet above natural grade."

Status in 2010: The definition of "tree," which is now located in § 300-124B(1) of the Land Use Ordinance, was modified in 2005. The threshold in the current definition is eight inches, which the Planning Board finds to be appropriate.



Franklin Lakes is a large municipality with low population density and a variety of natural features, yet the State Plan classifies it the same as much more densely developed communities.

IV. The Extent to Which There Have Been Significant Changes in Assumptions, Policies and Objectives Forming the Basis for the Master Plan or Development Regulations as Last Revised

For the most part, the goals and objectives which formed the basis for the Borough's Master Plan as last revised remain valid at the present time. However, some changes have occurred that impact Franklin Lakes, as described in this chapter.

The Borough has remained generally stable in terms of population and development. Table 1 shows Franklin Lakes' population increased by over four percent between 2004 and 2008 according to State estimates. A more accurate figure for the current population will be determined by the 2010 Census.

Table 1: Estimated Population, Borough of Franklin Lakes, 2004 to 2008

Year	Residents	Change	
		Number	Percent
2004	11,127	-	-
2005	11,146	19	0.17
2006	11,147	1	0.01
2007	11,502	335	3.19
2008	11,619	117	1.02
Change, 2004 to 2008		492	4.42

Source: State of New Jersey, Department of Labor and Workforce Development

Table 2 indicates that there was an average increase of 41.2 dwellings per year from 2003 to 2008 as determined by building permits, although this number is skewed by the addition of 100 multifamily units in 2006. The average number of one- and two-family unit building permits issued per year from 2004 to 2008 is 31.0. Table 3 shows that there was an average of 24.8 residential demolitions per year from 2003 to 2008.

Table 2: Residential Building Permits Issued, Borough of Franklin Lakes, 2003 to 2008

Year	1&2 Family	Multifamily	Mixed-Use	Total
2003	<i>Breakdown by unit type not available</i>			30
2004	44	0	0	44
2005	36	0	1	37
2006	37	100	3	140
2007	26	0	0	26
2008	12	0	0	12
Total	155	100	4	289

Source: State of New Jersey Department of Community Affairs, Division of Codes and Standards

Table 3: Residential Demolition Permits Issued, Borough of Franklin Lakes, 2003 to 2008

Year	1&2 Family	Multifamily	Mixed-Use	Total
2003	<i>Breakdown by unit type not available</i>			27
2004	27	0	0	27
2005	29	0	4	33
2006	27	0	4	31
2007	16	0	5	21
2008	9	0	1	10
Total	108	0	14	149

Source: State of New Jersey Department of Community Affairs, Division of Codes and Standards

With the exception of 2006, residential building permits issued have generally declined over the past five years. The relative jump in population observed in Franklin Lakes in 2007 and 2008 can likely be attributed to the addition of 100 multifamily units in the Borough during 2006. Overall, the average household size in Franklin Lakes has been decreasing over the past several decades (e.g., from 3.89 persons per household in 1970 to 3.13 in 2000), consistent with trends seen throughout northern New Jersey.

The changes noted in Tables 1 through 3 are not substantial in the context of long-term development trends in Franklin Lakes. As shown in Table 4, the Borough’s population experienced its largest increases on a percentage basis during the 1920s and 1960s. A more accurate figure for the current population will be determined by the 2010 Census.

Table 4: Historical Population, Borough of Franklin Lakes, 1920 to 2008

Year	Residents	Change	
		Number	Percent
1920	383	–	--
1930	893	510	133.2%
1940	1,203	310	34.7%
1950	2,021	818	68.0%
1960	3,316	1,295	64.1%
1970	7,550	4,234	127.7%
1980	8,769	1,219	16.1%
1990	9,873	1,104	12.6%
2000	10,422	549	5.6%
2008*	11,619	1,197	11.5%

*Estimate

Sources: 2004 Franklin Lakes Master Plan Reexamination; State of New Jersey Department of Labor and Workforce Development

Since the 2004 Master Plan Reexamination was adopted, there have been certain governmental actions that relate to the Borough’s land use policies and objectives.

At the local level, an **Environmental Resource Inventory (ERI)** was adopted in 2009 by the Franklin Lakes Environmental Commission. The Planning Board then adopted the ERI as an amendment to the Conservation Plan Element of the Borough’s Master Plan. This document is being formally integrated into the Master Plan as part of this Reexamination Report. A portion of the ERI is included in the Appendix of this Reexamination Report.

There have also been plans put forth by the Northwest Bergen Utilities Authority to extend sanitary **sewer service** to the downtown area of Franklin Lakes. The Borough has been evaluating this proposal to ensure its consistency with plans for the central business district and vicinity.

The Borough of Franklin Lakes purchased the Haledon Reservoir in 2006. This nearly 150-acre property located in the southeast corner of the Borough includes a 70-acre lake that was formerly used as a water supply reservoir. In 2009, the reservoir property was renamed the **Franklin Lakes Nature Preserve**.

At the state level, in December 2004, the New Jersey Council on Affordable Housing (COAH) adopted its "Third Round" rules covering the period from 2004 to 2018. A successful legal challenge was mounted to these rules, which were invalidated by a New Jersey Appellate Court decision in January 2007. This decision upheld some sections of COAH's "Third Round" rules, invalidated other aspects of them and remanded certain issues to COAH. In December 2007, COAH released revised rules which went into effect on June 2, 2008. In contrast to COAH's prior rules, the "Third Round" rules utilize a "growth share" approach, by which municipal affordable housing obligations are determined by the amount of new market-rate residential and non-residential growth. The Franklin Lakes Planning Board adopted a Housing Element and Fair Share Plan in 2008 which was prepared consistent with COAH's rules. This document was endorsed by the Mayor and Council and submitted to COAH in December 2008 as part of the Borough's petition for certification, which is still pending.

However, the future of COAH is uncertain. The first bill introduced in the 2010 session of the New Jersey State Senate, S-1, proposes to abolish COAH and provide a new means of calculating and addressing affordable housing needs. Also, the Transition Team for Governor Christie issued a report which addressed COAH and called for its abolition and new mechanisms for providing affordable housing. There are also court cases pending that address COAH and, in particular, growth share. All of these factors point towards major potential changes to affordable housing requirements, and it is unclear what their exact form will be. But as it has been determined that municipalities have a constitutional obligation to provide a realistic opportunity for affordable housing, this obligation will not go away without amending the state constitution. Franklin Lakes should continue to monitor the implementing regulations for addressing the municipal affordable housing obligation, and should ensure that any new developments that are approved provide an affordable housing component that addresses any applicable state requirements.

Also at the state level, the New Jersey State Planning Commission and Office of Smart Growth have been slowly moving towards adoption of an updated **State Development and Redevelopment Plan (SDRP)**. The purpose of the SDRP according to the State Planning Act at N.J.S.A. 52:18A-200(f) is to:

Coordinate planning activities and establish Statewide planning objectives in the following areas: land use, housing, economic development, transportation, natural resource conservation, agriculture and farmland retention, recreation, urban and suburban redevelopment, historic preservation, public facilities and services, and intergovernmental coordination.

The SDRP was originally adopted in 1992. A revised version of the plan was adopted by the State Planning Commission in 2001. While required by the State Planning Act to be revised and re-adopted every three years, the SDRP has only been re-adopted once during the 18 years since its original adoption.

As noted in Chapter III of the Reexamination, the current SDRP designates nearly all of Franklin Lakes' land area in PA-1, the Metropolitan Planning Area, which covers much of Bergen County. It is

strongly recommended that the portions of the Borough located in PA-1 be placed in PA-2 (Suburban Planning Area) or PA-3 (Fringe Planning Area) in the next version of the SDRP.

Increased interest in **sustainability** in recent years has made its way into state law, as the Municipal Land Use Law was amended in 2008 to permit a “green buildings and environmental sustainability plan element” as part of a municipal master plan. The Municipal Land Use Law was further amended in 2009 to allow wind and solar facilities as permitted uses on parcels of land comprising 20 or more contiguous acres in industrial zones and to make renewable energy facilities an “inherently beneficial use” (i.e., one that serves the public interest by its very existence), and in 2010 to prevent municipalities from unreasonably limiting “small wind energy systems” (i.e., turbines that generate power primarily for on-site consumption) and to exempt solar panels from impervious surface or impervious cover designation.

The above changes in State law are intended to make it easier for property owners to install wind turbines, solar panels and other renewable energy facilities, but it is recognized that there may be impacts on nearby properties from such installations. It is recommended that the Borough consider zoning changes to properly guide the installation of renewable energy facilities to minimize negative community impacts, and that applicants for such facilities utilize appropriate design. Potential standards could include prohibiting facilities in front yard areas, mandating setbacks from side and rear property lines, setting maximum height regulations and requiring screening for such facilities.

Franklin Lakes is currently pursuing “**Sustainable Jersey**” certification. Sustainable Jersey is a municipal recognition and incentive program started in 2009 that includes required and elective actions that municipalities can implement to receive the certification. While a municipality can cite zoning and master plan changes as part of its application for certification, Sustainable Jersey does not dictate zoning or supersede local authority. Franklin Lakes has only taken the first step towards certification so far: registering for the program. As of June 1, 2010, 271 of New Jersey’s 566 municipalities had registered but only 34 had been certified. This program requires periodic renewal (every three years). It also will require certified communities to take additional steps beyond the initial application in order to renew their certification.

Another change affecting land use and development that has occurred since 2004 is a downturn in the **economy**. Though attributed to a variety of factors, results have included reduced housing values, increased retail vacancies and higher unemployment. Another result is more stringent lending standards, which have negatively impacted the ability of prospective homebuyers to obtain mortgages, as well as made it more difficult for developers to obtain financing for non-residential development. The fallout from the economic crisis will also have future impacts on real estate as loans expire, particularly for commercial properties that have declined in value and are facing declining income as well. But it is anticipated that Franklin Lakes will be well-positioned for continued investment as the economy recovers due to the Borough’s attributes such as its location, highway access and established character.

V. Specific Changes Recommended for the Master Plan and Development Regulations

Introduction

Based on the assumptions, policies and objectives discussed above, a few specific changes are being recommended for the master plan and development regulations as part of this reexamination report. The recommended master plan/zoning changes and follow-up studies are set forth below.

2010 Master Plan Goals

The current goals of the Franklin Lakes Master Plan as established by the 2010 Reexamination are as follows:

Goal 1: To maintain and enhance existing areas of stability in the community; to encourage a land use pattern which establishes areas which have their own uniform development characteristics. A principal goal of this plan is to preserve and protect the residential character and existing density of the community, and reinforce the Borough's commercial and business areas, by restricting incompatible land uses from established neighborhoods, and limiting intensities of use to the levels prescribed herein. Non-residential uses and mixed uses should only be permitted in the Borough's central business district and other designated locations.

Goal 2: To guide development along the Route 287 corridor and its associated interchanges in Franklin Lakes in a manner that encourages low-density detached residential development and discourages commercial development. Development of this area should be consistent with the map designations shown on the Land Use Plan map.

Goal 3: To ensure that any prospective development and/or redevelopment is responsive to Franklin Lakes' environmental features and sensitive to the Borough's particular physical characteristics. The Borough seeks to manage development in steeply sloped areas as defined in the Zoning Ordinance, wetlands and floodplains, as well as retain existing vegetation, particularly trees with a caliper of eight inches or more and clusters of trees which may be of lesser caliper, if deemed appropriate. The categories and thresholds for environmentally sensitive areas should be consistent with those listed in the Borough's Environmental Resource Inventory.

Goal 4: To ensure that any future development of the community's infrastructure be limited to accommodate the Borough's present level of intensity of development as identified in the Plan, except for the provision of sufficient infrastructure to accommodate the redevelopment of the central business district.

Goal 5: To encourage and provide buffer zones to separate incompatible land uses.

Goal 6: To promote detached residential cluster development in areas characterized by environmentally sensitive features and extensive woodland vegetation as a means of preserving steep slopes, wetlands, wooded areas and other features, retaining open space and reducing infrastructure costs.

Goal 7: To discourage the creation of flag lots in the Borough.

Goal 8: To preserve the spacious setting of housing sites that characterize the Borough's residential areas.

Goal 9: To preserve and enhance the Borough's central business district by defining its functional role in the community; to enhance the quality of life within the commercial center through an appropriate mixture of activities; to introduce circulation improvements that advance the flow of traffic, improve property utilization and encourage pedestrian activity; to encourage the utilization of specified design elements identified in the Master Plan; to permit a reasonable level of development in the business district; and to encourage the consolidation and expansion of off-street parking to provide greater convenience for shoppers and reduce conflicting traffic movements on Franklin Avenue.



The Master Plan supports continued improvements to the Borough's Central Business District.

Goal 10: To address the Borough's affordable housing obligation in a manner consistent with other goals and objectives set forth herein.

Goal 11: To promote a safe and efficient traffic circulation system that serves the community, while retaining the community's country setting within the overall framework of a two-lane circulation system.

Goal 12: To preserve the historic features of the Borough as an integral part of the community's unique character.

Goal 13: To support the overall philosophy of the State Development and Redevelopment Plan (SDRP) as a means of providing growth management on a state-wide basis while retaining the principles of home-rule. The portions of Franklin Lakes currently located in PA-1, the Metropolitan Planning Area, should be placed in PA-2 (Suburban Planning Area) or PA-3 (Fringe Planning Area), which more accurately reflect the established character and population density of Franklin Lakes.

Resource Protection Goals

The Borough's Environmental Resource Inventory (ERI), which was adopted in 2009, includes the following resource protection goals for Franklin Lakes:

- Provide the opportunity for economic success and sustainability, while protecting the resources vital to the quality of life of the residents of the Borough of Franklin Lakes and the habitat needs of flora, fauna and wildlife.
- Protect to the fullest extent practical wellhead areas and areas of significant groundwater recharge in order to ensure ample, clean potable drinking water.
- Protect historical sensitive features and landmarks from disturbance, degradation and development.

- Implement measures that decrease the opportunity for the generation and release of point and non-point source pollutants.
- Maintain, restore or improve as needed, the quality of streams, ground water, air, soil, rural character and overall quality of life.
- Preserve, protect and maintain large, intact areas of native vegetation from future fragmentation and reduction.
- Protect both regionally and locally important species of concern by protecting habitat, maintaining corridors of movement and connections among habitat, and by maintaining significant ecological processes in protected areas.
- Establish and implement best-management practices for the protection of native species and their essential habitat.

The ERI has been adopted by the Planning Board as an amendment to the Master Plan Conservation Element. These goals are listed within the Reexamination to reaffirm their importance in the Borough's planning and zoning efforts.

The ERI also includes various specific recommendations, which have been included in the Appendix of this Reexamination Report. A number of these recommend changes to the Borough's Land Use Ordinance, including the zoning regulations. One such recommendation is create an ordinance to minimize clear cutting of forested areas. The Land Use Ordinance at § 300-124B includes detailed tree removal standards which address this objective. However, additional ordinance amendments intended to protect natural vistas, wildlife habitats, historic landmarks and similar features could be considered. The creation of a wellhead protection ordinance that restricts certain high risk land uses, such as gasoline stations, in the vicinity of these wells could also be considered in order to support the protection of designated wellhead areas. An appropriate location for an environmental features ordinance that includes wellhead protection and other provisions would be a revised and expanded Article XVII, which currently includes steep slope requirements. This Article would be properly renamed from "Protection of Critical Slope Areas" to "Protection of Environmental Features."

Recommended Zoning and Master Plan Changes

Zoning Map Amendments

A map showing the existing zoning districts within the Borough of Franklin Lakes is included at the end of this chapter. This map includes three zoning districts that are included in the text of the Zoning Ordinance but have not previously been shown on the Zoning Map. These are the MF-AH1 Multifamily – Affordable Housing zone, which replaced the R-T Residential Townhouse zone; the MF-AH2 Senior Citizen Multifamily – Affordable Housing zone, which covers a portion of the SR zone; and the REC Recreation zone, which encompasses Franklin Lake and certain adjacent lands. The Existing Zoning map also shows the new zoning designation for two lots at the end of Tice Road that were recently rezoned from I-2 to RB as well as the correct designation for the OB-RL zone.

It is recommended that the name of the MF-AH2 zone be amended to reflect the change in status of the development in that zoning district. The regulations of the MF-AH2 zone district permit the development of no more than 84 senior citizen multifamily residential dwelling units, of which 15 percent are required to be affordable units. A development consistent with this zoning was approved in 2004 but was not constructed. In 2009, a State law was passed (N.J.S.A. 45:22A-46.3) which enabled approved age-restricted developments of the type approved in the MF-AH2 zone to be converted to non-age-restricted developments. An amended development was recently approved for an age-targeted development (i.e., a project that is intended to attract older residents but does not

have a formal age restriction) for the property that comprises this zone. In light of the State law that permitted this change in permitted use, the Borough should consider changing the name of this zoning district. A potential new name is the MF-AH2 Age-Targeted Multifamily – Affordable Housing zone.

A few additional amendments are recommended to the Borough's existing zoning districts, as described in the remainder of this section and illustrated on the "Potential Zoning Changes" map at the end of this chapter.



The portion of the existing RB zone located at the intersection of Franklin Lake Road and High Mountain Road should be placed in a new RB-2 zone, which will maintain the existing RB zone's regulations.

RB District

The Borough's RB Retail Business zone is divided into two sections. The first, larger section includes approximately 25 acres located along Franklin Avenue roughly between Pulis Avenue and Circle Avenue. This area encompasses Franklin Lakes' central business district. The second section is comprised of a single lot that is just over 10 acres in area and developed with a shopping center and professional offices. This second section is located at the intersection of Franklin Lake Road and High Mountain Road, approximately one and two-third miles away from the other portion of the RB zone.

It is recommended that the existing RB zone be split into two separate zones, one for each of the two areas described above. The central business district should be located in a new RB-1 Retail Business 1 zone and the other portion should be designated RB-2 Retail Business 2. This recommendation is consistent with the Borough's 2008 Housing Element and Fair Share Plan.

The regulations of the RB-1 zone should emphasize the zone's role as Franklin Lakes' central business district. In particular, mixed commercial/residential buildings should be permitted, but only if such residential uses include a minimum setaside of affordable dwellings consistent with the Borough's Fair Share Plan. Design guidelines should be provided to help promote new development and redevelopment that is attractive and consistent with a walkable downtown setting.

The existing RB zone regulations should be utilized as the RB-2 zone's regulations.

In addition, the Franklin Crossing shopping center on Franklin Avenue (Block 1400, Lot 1.01; Block 1410, Lot 1; Block 1513, Lots 1 and 2) is currently split between two zones, with the front portion in the RB zone and the rear in the I-1 zone. As the portion located in the I-1 zone is developed with a commercial use consistent with RB zone use regulations, it is recommended the portion currently in the I-1 zone be rezoned to RB, or the new RB-1 zone if such a zone is created.

I-1 and I-2 Districts

There are currently two industrial zones in Franklin Lakes: the I-1 and I-2 zone districts. The I-1 zone is located along Commerce Street, south of Franklin Avenue and northwest of Route 287. The I-2 zone is located on Susquehanna Avenue and Tice Road, flanking the NYS&W railroad tracks to the west of Pulis Avenue. These two zones encompass approximately 55 acres. They are currently developed with some industrial and office uses, although some properties are utilized for other purposes such as commercial recreation.

The purposes, use regulations and bulk standards for the two industrial zones are almost exactly the same. In fact, the only difference in the regulations for these zones is that automobile body shops are permitted in the I-2 zone but are not permitted in the I-1 zone. It is therefore recommended that the Borough's existing two industrial zones be consolidated into one zone, which should retain the I-1 Industrial designation. The new I-1 zone should permit automobile body shops as a principal permitted use.

It is also recommended that certain additional uses be permitted in the new I-1 zone. While this type of older industrial zone, with relatively small lot sizes and an off-highway location, may no longer be as desirable as it once was as a location for new "traditional" light industrial uses, it still serves a valid purpose. Industrial zones such as those in Franklin Lakes have in recent years allowed for "heavy" commercial uses that might not be appropriate in a traditional retail zone, but provide a service for suburban residents. These include offices, storage and/or workshops for contractors and artisans, such as cabinet makers, carpenters, contractors, landscapers, pest control companies and plumbers. Adding indoor commercial recreation as well as gyms, health clubs and spas to the list of permitted principal uses in the new I-1 zone would reflect a trend that has occurred in Franklin Lakes and elsewhere.

Another option could be allowing medical and dental offices, although such uses tend to be more intense in terms of parking and traffic demands compared to other uses noted above.

It is recommended that the regulations of the new I-1 zone clarify that office uses are permitted in the zone as an accessory use to a permitted industrial use, and as such the office use must occupy less than 50 percent of a building's floor area. This change would be consistent with development applications in recent years in the Borough's industrial zones.

The Borough's 2008 Housing Element and Fair Share Plan recommended allowing certain residential uses with affordable housing components in the industrial zones. However, this plan has not yet been certified by COAH, meaning Franklin Lakes' affordable housing obligation may change. In light of the uncertainties surrounding COAH, it is recommended that no changes be made to permit residential uses in the new I-1 zone until there is a clearer picture as to whether Franklin Lakes' affordable housing obligation will be modified and/or if there are new state regulations for addressing this obligation.

Tice Road

Until recently, there were two properties in the portion of the I-2 zone located on Tice Road. The 2004 Master Plan Reexamination recommended the following zoning amendment:

To help further the Borough's goals with regard to the central business district, consider rezoning two parcels located at the end of Tice Road from the I-2 Industrial zone to the Retail Business zone (Block 1518, Lot 10 and Block 1519.01, Lot 1).



The existing I-2 zone has limitations as a traditional light industrial zone, which has resulted in a number of vacancies.

An ordinance that would have made this change was introduced by the Mayor and Council in 2005, but was not adopted. However, the Mayor and Council did enact this zoning amendment in mid-2010. It is recommended that these lots be placed in the new RB-1 zone if such a zone is created.

In light of the above zoning change, there are only two remaining lots in this portion of the existing I-2 zone (Block 1517, Lots 1 and 2). These two lots are now isolated industrially zoned lots abutting a church, the Franklin Lakes Middle School and properties in the RB zone, and are separated from the remainder of the existing I-2 zone/new I-1 zone by two streets and a railroad right-of-way. Due to these factors, consideration should be given to creating a new I-RB zone. This zone would be a hybrid of the I-1 and RB-1 zones, which would allow a wider range of uses than either zone, which in turn would enable market forces to determine what type of development would make sense on these two parcels.



The two remaining parcels located on Tice Road in the I-2 zone are recommended to be rezoned.

Renewable Energy

In recognition of increased interest in sustainability and recent amendments to the Municipal Land Use Law discussed above, it is recommended the Land Use Ordinance be amended to provide reasonable standards for solar panels, wind turbines and other renewable energy facilities while minimizing the impacts of such facilities on nearby properties and the community as a whole. Potential standards could include prohibiting facilities in front yard areas, mandating setbacks from side and rear property lines, setting maximum height regulations and requiring screening for such facilities.

Commercial Uses on Public Property

There is a somewhat substantial amount of publicly owned property within Franklin Lakes. It is the policy of the Master Plan to discourage the operation of commercial enterprises on public properties, particularly when located within single-family residential zones. Any such commercial uses should be designed to minimize impacts such as traffic, noise and lighting on nearby residential properties. Consideration should be given to amending the detached single-family residential district regulations in § 300-107 of the Zoning Ordinance to formalize the above recommendations.

Environmental Features Ordinance

As discussed in the “Resource Protection Goals” subsection above, consideration should be given to expanding Article XVII, “Protection of Critical Slope Areas,” to include additional regulations for environmental features protection and renaming this Article “Protection of Environmental Features.”

Other Land Use Ordinance Issues

The following changes are recommended to the sections of the Franklin Lakes Land Use Ordinance listed below:

- § 300-56: This section provides requirements for bikeways. While generally acceptable, some of these requirements defer to the Master Plan (or Official Map) as to location and design of bicycle paths and lanes. Per the requirements of § 300-56C(1), the minimum paved width of a bicycle path shall be five feet.
- § 300-98: The definition of “lot width” (measured at required setback line) conflicts with § 300-105B, which requires the minimum required lot width to be measured at the “sixty-five-foot line,” and thus should be amended to be consistent. Similarly, a note should be added to the Schedule of Area and Bulk Regulations indicating lot width is measured at the sixty-five-foot line.
- § 300-98: The definition of “nonconforming use” has an incomplete reference to the adoption date of the zoning ordinance.
- § 300-98: Consideration should be given to adding defining the terms “cabana” and “shed,” or at least amending the definition of “accessory building or use” to clarify requirements for these particular types of structures.
- § 300-100: This section should be updated once a new Zoning Map is adopted that includes all existing zoning districts.
- § 300-104E: This subsection allows only one principal use on a lot, with limited exceptions in the RB zone. It will need to be changed to allow mixed commercial/residential uses on a lot if such a use mix is permitted in certain zones.
- § 300-104F: This subsection allows only one principal building on a lot, except in the HOB-RL zone. While this restriction may make sense for single-family residential districts, it is at variance with existing conditions in some areas of the Borough. For example, some recently constructed multifamily developments include multiple buildings as do some properties in the RB zone. Consideration should be given to clarifying this restriction.
- § 300-108: The regulations of the R-T Residential Townhouse District should be deleted, as this district was replaced by the MF-AH1 district.
- § 300-110: an erroneous reference to the R-T District in the PRD District regulations at § 300-110D should be deleted and replaced by the PRD District.
- § 300-113B: Consideration should be given to modifying the list of permitted uses in the RB District to remove outdated or inappropriate uses, and to add any additional uses that are deemed to be appropriate for the RB District.
- § 300-120B: This subsection providing regulations for townhouse residential dwelling units in the R-T District should be deleted, as this zone has been replaced by the MF-AH1 district which has its own distinct regulations.
- § 300-120I(9): The first sentence of this subsection should be amended to read as follows to address an internal inconsistency: “No business activity, other than the rental of storage space or as permitted by § 300-120I(14), shall be permitted.”
- § 300-124A: The buffer and planting requirements should be coordinated with the Borough’s “no disturbance areas” ordinance.
- Form 5 of the Application Checklist in Appendix A, item 28 has an incomplete reference to the environmental impact statement requirements. This item should be reworded to refer to the environmental impact report, with reference to § 300-67 and 75.

There are also some inconsistencies between portions of the Land Use Ordinance and other chapters of the Borough Code that relate to zoning and development, including the following:

- § 425-25C: This subsection of the Streets and Sidewalks chapter provides the following requirements: “No driveway shall be located less than three feet from the side lot line nor less than 12 feet from the driveway on the adjoining property.” However, § 300-71D(4)(d) mandates greater setbacks generally (10 feet for the first 50 feet of the property, 20 feet beyond a 50 foot setback) and § 300-71D(4)(j) provides additional standards for residential zones. § 425-25C should be amended to reflect these other changes or at least refer to the applicable subsections of the Land Use Ordinance.
- § 453-1E: This subsection of the Trees chapter requires street trees to be planted within the right-of-way of public streets, which is contrary to the Planning Board’s practice in recent years and conflicts with § 300-66C and § 300-79C of the Land Use Ordinance, which requires trees to be planted 10 to 15 feet from the curblane. These various requirements should be revisited and made consistent with one another.

VI. Recommendations of the Planning Board Concerning the Incorporation of Redevelopment Plans into the Land Use Element and Local Development Regulations

In 1994, the Municipal Land Use Law in New Jersey was amended to include, as part of the Master Plan Reexamination report, recommendations of the Planning Board concerning the incorporation of redevelopment plans (adopted pursuant to the Local Redevelopment and Housing Law of 1992) into the land use element, and accompanying changes to the development regulations. The Local Redevelopment and Housing Law (LRHL) affords municipalities the authority to designate areas “in need of redevelopment,” provided they meet specific statutory criteria, as well as to prepare and implement redevelopment plans for such areas.

There are few, if any, locations within Franklin Lakes that could reasonably qualify as redevelopment areas. The most likely candidates would appear to be within the Borough’s industrial zones, but zoning changes are being recommended for these areas which are intended to spur the private development market to invest in these areas. If such changes are not successful, consideration could be given to investigating particular sites or focused areas that clearly have characteristics such as dilapidated or obsolete buildings, faulty arrangement or design, deleterious land uses or other factors that “are detrimental to the safety, health, morals, or welfare of the community” as required by the LRHL. A formal investigation would need to be undertaken to determine whether any such areas actually meet the statutory criteria set forth in the LRHL. It is not recommended that any redevelopment area investigations be undertaken at this time.

Appendix: Resource Management Recommendations from the 2009 Franklin Lakes Environmental Resource Inventory

An Environmental Resource Inventory (ERI) was prepared for the Borough of Franklin Lakes by Princeton Hydro, LLC and adopted by the Borough's Environmental Commission in August 2009. In order to emphasize their importance, the Resource Management Recommendations included in Section 1.6 of the ERI (pages 16-25) are provided in the remainder of the Appendix.

This section includes an outline of potential recommendations to better manage the environmental resources, which the Borough can consider implementing. This summary of recommendations is based upon the detailed descriptions and mapping of the Borough's environmental resources provided within Section III of this ERI report.

Quality of life issues continue to be a major reason why families and businesses choose to locate in specific communities. Access to schools, businesses, transportation hubs, clean water, parks and open space are desirable community assets. Based on the above findings, the management recommendations included in the ERI are intended to assist the Borough in sustaining a good quality of life and achieving the following resource protection goals:

- Provide the opportunity for economic success and sustainability, while protecting the resources vital to the quality of life of the residents of the Borough of Franklin Lakes and the habitat needs of flora, fauna and wildlife.
- Protect to the fullest extent practical well head areas and areas of significant groundwater recharge in order to ensure ample, clean potable drinking water.
- Protect historical sensitive features and landmarks from disturbance, degradation and development.
- Implement measures that decrease the opportunity for the generation and release of point and non-point source pollutants.
- Maintain, restore or improve as needed, the quality of streams, ground water, air, soil, rural character and overall quality of life.
- Preserve, protect and maintain large, intact areas of native vegetation from future fragmentation and reduction.
- Protect both regionally and locally important species of concern by protecting habitat, maintaining corridors of movement and connections among habitat, and by maintaining significant ecological processes in protected areas.
- Establish and implement best-management practices for the protection of native species and their essential habitat.

To bring these various goals to fruition will require the implementation of both long-term and short-term resource management measures and practices. These recommendations are designed to support existing environmental protection efforts, and to build upon existing zoning and land development regulations for the Borough. These recommendations contain regulatory and non-regulatory goals, objectives, and strategies to preserve, enhance, maintain and restore the Borough's environmental and cultural resources.

- **Land Use Ordinances** – The Borough provides land use ordinances and zoning that affect where and how residential and commercial development can occur. Additional development ordinances, such as measures to minimize clear cutting of forested areas, to protect natural

vistas, to protect historic landmarks could also be considered. The Borough can also evaluate the existing setback requirements, height restrictions, impervious cover limitations, and Floor Area Ratios (FAR) to ensure that infill projects or re-development projects continue to provide adequate land and buffers to protect septic system functions, groundwater recharge, groundwater quality, reduce stormwater runoff, and protect local wildlife habitats and neighborhood sensitive features. (Section 2.10 and 3.7)

- Wellhead Protection Areas – The NJDEP provides mapping of Wellhead Protection Areas (WHPA) to identify vital water supplies. Future development or growth near these wellhead protection areas should be carefully evaluated to ensure that the water quality and groundwater recharge of these community wells are not degraded. The protection of designated wellhead areas can be supported by the adoption of a local ordinance that restricts certain high risk land uses, such as gasoline stations from impacting these wells. The Highlands RMP recommends the adoption of wellhead protection ordinances and several communities in New Jersey have adopted such an ordinance. Several communities in New Jersey have adopted such an ordinance and the Borough should also consider adopting a wellhead protection ordinance. (Section 3.11)
- Ground Water Quality – Homeowners should be encouraged to periodically test wells and understand their water quality to safeguard their family's health. Various treatment systems that can be installed to address commonly detected contaminants such as elevated levels of iron or arsenic. Annual testing for nitrates and pathogens and possibly volatile organic compounds (VOCs) should also be considered. Given the reliance of the majority of the Borough on groundwater for drinking water, well head zones should be protected from impairment, including actions that could contaminate or degrade the quality of the groundwater. (Section 2.10 and 3.14)
- Groundwater Recharge – The Borough could work with the NJDEP and the United Water New Jersey to better assess current ground water recharge conditions and determine whether existing groundwater and stormwater protections are adequate, or whether additional zoning measures are needed to protect public wells, such as limiting impervious coverage or floor area ratios within wellhead protection areas. (Section 3.12)
- Septic Management – The majority of the Borough relies on on-site septic systems and pathogens have been detected in local streams. Onsite septic systems need to be properly constructed and maintained, and septic tanks should be pumped out routinely (at least once every three years). The NJDEP adopted new Water Quality Management Plan (WQMP) Rules in July 2008 that require municipalities to adopt Septic Management Plans and require mandatory septic maintenance programs, possibly via an ordinance. Therefore to protect surface water and groundwater supplies, the Borough should develop educational programs that promote the routine pump out septic system tanks on a three year cycle, and provide guidance to homeowners in the proper maintenance and inspection of septic systems. Guidance for septic systems and wells can be disseminated through brochures, at community events, and via sponsored educational programs. Some New Jersey communities within the Highlands and the Pinelands are adopting septic management programs that require a license, a limited fee, and proof that the septic tank is pumped out every three years. (Section 2.10 and 3.14)
- Surface Water Resources – Twenty streams, lakes and ponds are present in the Borough, and valued by the residents. In 2006, the Borough acquired the Haledon Reservoir. The water quality of the Borough's streams and open waters are best protected through the implementation and strict adherence to the requirements for stormwater management detailed in the State's stormwater management regulations and in the Borough's Municipal Stormwater Management Plan (MSWMP) and Ordinance. The acquisition and protection of

- stream corridors, riparian zones or wetlands in the form of preserved open space or through conservation easements could also be considered. (Section 3.18, 3.19, and 3.20)
- The Haledon Reservoir Advisory Committee outlined measures to remove debris from the wooded areas, improve safety concerns and pedestrian access.
 - Dams are present on each of these lakes, and are required by the NJDEP Dam Safety rules to be inspected and maintained New Jersey Dam Safety Standards. The Environmental Commission initiated an inventory of these dams (N.J.A.C. 7:20) <http://www.state.nj.us/dep/nhr/engineering/damsafety/standard.pdf>
 - The NJDEP has reported that Hohokus Brook and Pond Brook are impaired by pathogens (fecal coliforms) and the community should work to assess sources of these impairments and reduce these loadings.
 - The Borough has participated with the Geese Peace organization to obtain training techniques to humanly reduce Canada geese populations and lessen the impact the geese have on water resources and parklands. This will help to address some of the pathogen impacts.
 - Lake or pond management educational programs could also be sponsored in the community. Through education, preservation and improved management of riparian zones, improvements can be realized for stream quality, and the biological integrity of stream ecosystems, including adjacent riparian zones and wetlands.
- Stormwater Management – In 2004, the NJDEP Stormwater rules required municipalities to adopt a stormwater management plan and a variety of ordinances that address: stormwater controls for new developments, pet waste, litter and dumping controls, yard waste, wildlife feeding, and illicit connections. In addition, the community must ensure appropriate stormwater maintenance, record and monitor stormwater outfalls, and provide public education on stormwater pollution issues. The Borough has submitted annual reports to the NJDEP documenting their compliance with these various measures. (Section 2.11, 3.19, and 3.20)
 - The Borough could consider modifying the Stormwater Plan and Ordinance to address more strict controls for redevelopment projects. The current ordinance addresses new development, and many redevelopment projects will be exempt from implementing significant stormwater management controls.
 - The Borough could consider reducing fertilizer applications on parkland in order to reduce the potential for runoff impacts to local surface waters.
 - If the Borough identifies impacts to streams and water quality from existing development, these areas and stormwater infrastructure can be included on a Municipal Stormwater Mitigation List. Developing a Stormwater Mitigation List is a voluntary action, but this Mitigation List can identify opportunities to improve stormwater management and water quality that can include: stormwater management upgrades, catch basin retrofits and new installations, improved recharge, peak flow mitigation, pollutant reduction, and stream bank restoration (N.J.A.C. 7:8-5.1). New development projects or redevelopment projects could assist in addressing these potential stormwater BMP upgrades or retrofit opportunities, as conditions of approving a variance or waiver of complying within the stormwater regulations and ordinance.
 - Where feasible, stormwater BMPs that encourage groundwater recharge and minimize the volume of stormwater runoff should be promoted, including the use of on-site systems such as rain gardens and roof-top runoff connections to drywells. (Section 2.11)
 - Open Space Preservation – The Borough has preserved 374 acres of land and open waters. Inventories of the natural flora and fauna were conducted on certain parcels in 1974 and are proposed to be updated in the Community Forest Plan. Critical habitat for threatened and

endangered species are present on some of these parcels, and understanding this information can lead to improve stewardship, improved management of these resources and improved habitat for these rare species. (Section 3.22)

- The information presented in the map of Environmentally Sensitive Lands or constrained land, can help to identify and prioritize additional land acquisition for the purpose of preserving and/or protecting wildlife habitats, significant environmental and scenic resources, water and water quality. Parcels designated as sensitive to disturbance or development should be prioritized and set aside for passive recreation and habitat preservation. Attention should also be given to parcels located within or adjacent to the more developed sectors of the Borough to serve the local residents. These open space acquisitions could be used to meet both the passive and active recreation demands of the community.
- Prior to 1950, the history of the Borough included a vibrant farming community. Today only 20 acres of farmland remain. Preserving the remaining farmlands would serve to preserve this history and protect ground water recharge for the public wells.
- Based on the NJDEP Green Acres data from November 2008, 28 of the 70 communities in Bergen County provide an open space tax program.
- Greenway Plan - Within the Borough nearly 1,200 acres of undeveloped forest and wetlands remain. Much of these lands are located within the regulated riparian zone for the streams and along the ridges and steep slopes. The Borough could consider formally adopting a Greenway Plan that encourages additional connection and linkage of open space and parklands throughout the Borough. Conservation easements should continue to be acquired including areas along stream riparian zones, the 100-year flood plain, wetland, and wetland transition areas, state open waters, steep slopes, and other significant natural and environmental features. The Greenway Plan could provide additional public access via passive hiking trails where appropriate. (Section 1.7 and 3.22)
- Pedestrian Paths and Bikeways - The Borough recognizes the importance of pedestrian paths and bikeways for both recreational and alternative transportation uses. Increased emphasis could be placed on making the existing and future commercial areas more accessible by safe pedestrian paths. In addition, bicycle racks could be provided in shopping areas, library and all recreational areas. When applications for future development projects are submitted to the Borough for review, provide recommendations that the connection of safe pedestrian paths and bikeways be incorporated into the plans. (Section 2.3, 2.5, and 3.22)
- Easement Documentation - The Borough has created a digital database of some of the existing conservation easements. Additional efforts should continue in order to develop and implement a comprehensive plan to identify and catalog the location of each conservation easement within the Borough. Efforts should be taken to incorporate an inventory of existing easements into GIS mapping. In the upcoming years, the Borough could perform baseline inspections of these conservation easements and routine inspections in the years to come, to ensure these areas are not illegally altered or encroached upon. (Section 3.22)
- Community Forest Plans - The 1974 ERI included a detailed inventory of the flora and fauna on several parcels, including the dominant forest type and wildlife habitats on these parcels. Critical habitat for threatened and endangered species are present on some of these parcels, and understanding this information can lead to improve stewardship, improved management of these resources and improved habitat for these rare species. The data from the 1974 ERI should be referenced and incorporated into any future Community Forestry Plan or forest inventory. (Section 3.23 and 3.26)

- Environmentally Sensitive Areas – A composite of various environmental GIS data layers was completed for the Borough identifying parcels where future development may be constrained by the presence of environmentally sensitive resources and regulations and policies that protect these sensitive resources. The constraints may include areas including the 100-year flood hazard zones, wetlands, riparian zones, open space, steep slopes, wellhead protection areas, and wildlife habitat for threatened or endangered species. Resources located within these areas are especially vulnerable to land disturbance and development activities. The Borough can consider land use regulations that will limit development or require the implementation of additional safe guards when development activities are proposed in areas identified as environmentally sensitive or constrained lands. (Section 1.7, 2.5 and 3.27)
- Protection of Scenic Views – Preserving scenic resources was identified as a goal in the 1999 Historic Inventory Report prepared for the Borough. These areas included scenic vistas from high ridges, vistas of lakes, ponds, wetlands and forested areas. Preserving scenic views can include restrictions on: cell towers, water towers, utility lines, billboards, and building heights within these areas. The preservation of scenic views can also include encouraging conservation easements or the acquisition of lands. In order to support the preservation of local scenic views, the community can also sponsor activities such as community walks, and photograph contests, and encourage voluntary protection measures. (Section 2.5, 3.8)
- Historic Preservation – The Borough should continue to preserve historic and cultural resources, and consider the creation of a historic district area to be consistent with the guidelines provided by the New Jersey Historic Preservation Office. The Borough should create an inventory and photo documentation of each historic property that is eligible to be registered on the State Historic Registry. This inventory/survey should be periodically updated to reflect the changes that have occurred within the Borough. If a historic district is adopted, the Borough can consider ordinances to ensure that future development will not be threatened or disturb the integrity of the historic landmarks or district. (Section 3.28)
- Increase Recycling Efforts – The NJ State League of Municipalities (NJSLOM) reports that New Jersey achieved a 45% recycling rate for municipal solid waste (MSW) in 1995; and 61% recycling rate for total solid waste (TSW) in 1997. However, recycling rates in New Jersey have declined, and in 2003 New Jersey recycled 33% of MSW and 52% of TSW. State funding for municipalities may become available for recycling enhancement programs that include: purchase of recycling containers, maintenance of a municipal drop-off center, management of a municipal compost site, household hazardous waste events, costs related to education and outreach for the municipal recycling program, or for the enhancement/enforcement of the local recycling ordinance. Section 1.7 and 2.3)
 - The Borough could continue to sponsor community cleanup days, which were well supported by the community.
 - Members of the EC are reviewing the Borough's waste and recycling program and ordinances to ensure that the solid waste recycling ordinance conforms to the new regulations regarding electronic waste recycling that go into effect on July 1, 2009. The Borough officials are reviewing the current recycling program and evaluating measures to increase the efficiency of the program, expand the recycling services that are offered, increase the participation, and increase the volume of materials recycled.
 - Increasing recycling efforts at the municipal offices and local schools could be evaluated.
 - Requiring redevelopment or infill projects to follow LEED certification guidance, would also compel the recycling of demolition materials from these projects, reducing the solid waste that would go to a landfill.

- Future Development and Redevelopment – Future appropriate development and redevelopment should be implemented in a manner that is sensitive to 1) the historic nature of the community, 2) mindful of the important water supply wells and wellhead protection areas, 3) sensitive to the various waterways and environmental constraints within the Borough, 4) sensitive to critical wildlife habitats, and 5) mindful of a community desire to protect and maintain these resources into the future. Policies and ordinances should be created to ensure future redevelopment occurs in an appropriate manner. (Section 1.7, 2.3, and 3.27)
- Green Building and Development – In 2008, that state of New Jersey amended the Municipal Land Use Law (MLUL) to authorize a local planning board to include in its Master Plan a green buildings and environmental sustainability plan element (MLUL 40:55D-28 (15)). Green building construction practices were also inserted into the State Uniform Construction Code Act (UCC). Green buildings are designed to minimize the negative impact of buildings on the environment and their occupants and may consider five broad areas including: sustainable site planning; safeguarding water and water efficiency; energy efficiency and renewable energy; conservation of materials and resources; and indoor environmental quality. The concept of green development incorporates environmental concerns early in the site design process, and addresses environmental issues holistically to integrated systems, such as stormwater measures and landscaping designs. The amendment to the MLUL encourages towns to adopt plans and ordinances that encourage and facilitate green building projects. (Section 1.7 and 2.3)
- Energy Planning – Energy planning is not addressed in this ERI, but the Borough could join several New Jersey communities that are undertaking efforts to audit their energy uses for municipal buildings, fire stations, schools, senior centers and libraries. Communities are identifying measures such as switching to energy efficient fluorescent lights, and improving winterizing windows and doors. Some communities are incorporating solar energy projects into public buildings; evaluating the use of renewable energy providers; and incorporating biodiesel for municipal diesel vehicles. The Borough could consider similar efforts to reduce its carbon footprint, be more energy efficient and realize cost savings.

An energy audit of all facilities owned and operated by a municipality will reveal annual energy use and costs associated with particular buildings and facilities, costs of suggested improvements, potential energy and cost savings, and the length of time that will be needed to recoup improvement costs. Recommendations in an audit can range from improved energy data management, to appropriate energy-saving technologies, to structural improvements and system retrofits, to behavior change strategies for energy conservation. (Section 1.7, 2.3, and 3.3)

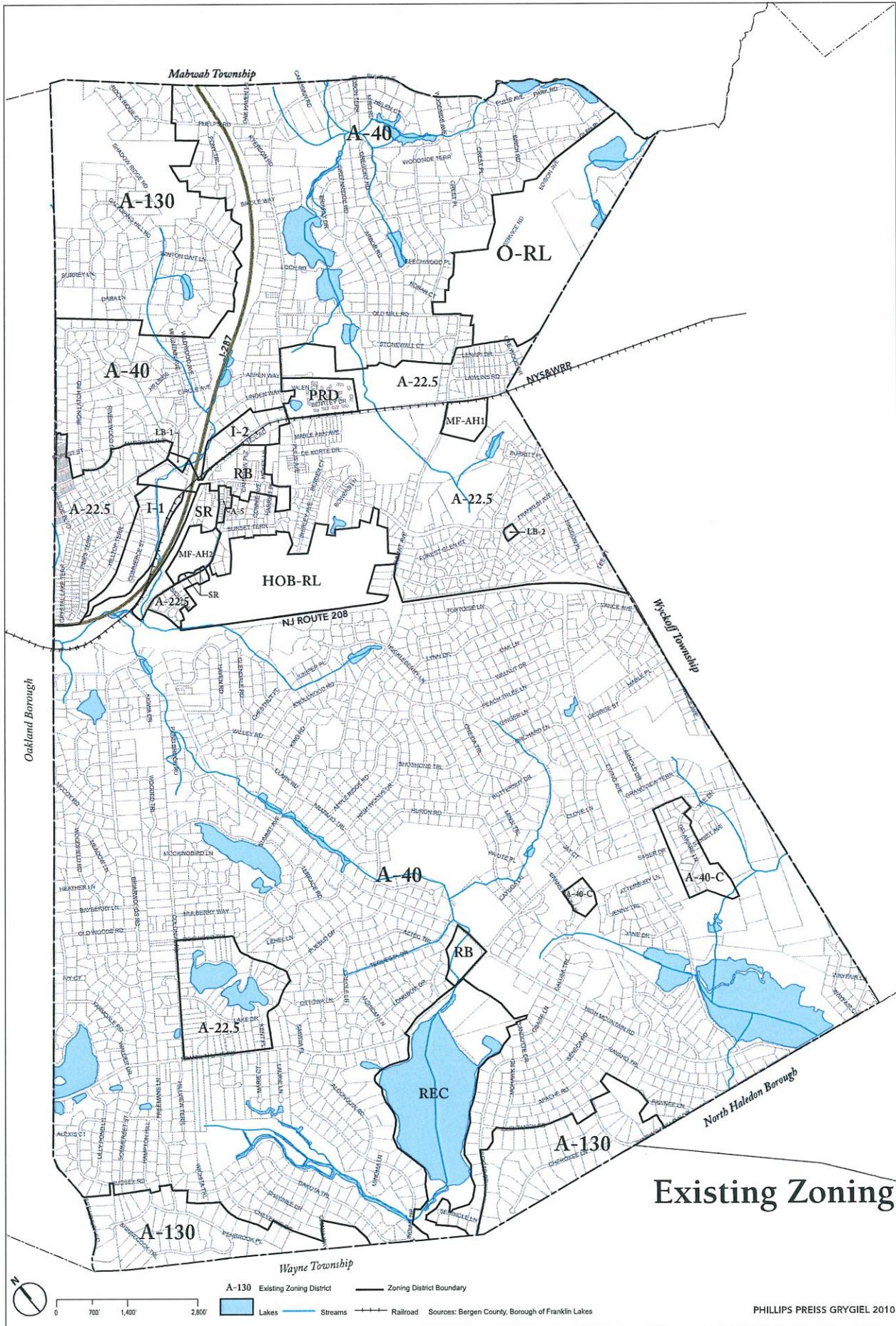
Funding for conducting an energy audit is available through The New Jersey Board of Public Utilities, Office of Clean Energy (BPU) Municipal/Local Government Energy Audit Program. <http://www.njcleanenergy.com/commercialindustrial/programs/local-government-energy-audit/local-government-energyaudit>

- A Municipal Carbon Footprint – The NJDEP Office of Science and Technology January 2008 report on greenhouse gas emissions reports that CO2 emissions are increasing primarily from fossil fuel use, and land-use changes provide other significant contributions. Completing a Municipal Carbon Footprint provides an inventory of the GHG emissions from potential sources such as municipal facilities, fleet, and operations. The Carbon Footprint measures the amount of greenhouse gas (GHG) emissions produced by local government operations in a given year. Data from the energy audit can assist in the creation of the Carbon Footprint and policies can then be evaluated to reduce the municipal greenhouse gas

emissions. The footprint will also enable a municipality to track its progress and determine if new policies are having an impact. (Section 1.7, 2.3 and 3.3)

- Highlands Region – The Borough is located outside of the Highlands Region, and the Highland rules and regulations do not apply directly to the Borough. However, planning policies within the July 2008 Highland Regional Master Plan could be considered for adoption for the Borough, such as the wellhead protection ordinance. (Section 2.8)
 - The Highlands Water Protection and Planning Act (Highlands Act, HWPPA N.J.S.A. 13:20-1 et seq.) was signed into law in August 2004 to preserve open space and protect the state's greatest diversity of natural resources including the vital drinking water resources in this region.
 - The Highlands Act and Regulations created the Highlands Water Protection and Planning Council (the Highlands Council), and established two distinct development zones, the Highlands Preservation Area and the Highlands Planning Area. It also required the Highland Council to develop the Highland Regional Master Plan (RMP) for the entire region, which was adopted in July 2008. Development in the Highlands Region is subject to these rules, with regional standards to be implemented through the Highlands Regional Master Plan (RMP). The RMP contains various planning and development policies that the Borough could also consider.
- Keep the Public Involved – It is important to cultivate a sense of community identity and pride, so residents know why their community is special. Educate the community through news articles, special hikes, and workshops to energize their interest and input on local planning issues and some of the recommendations outlined in this report. Increasing the understanding of your community resources will promote more responsible use and preservation. (Section 1.7 and 2.3)

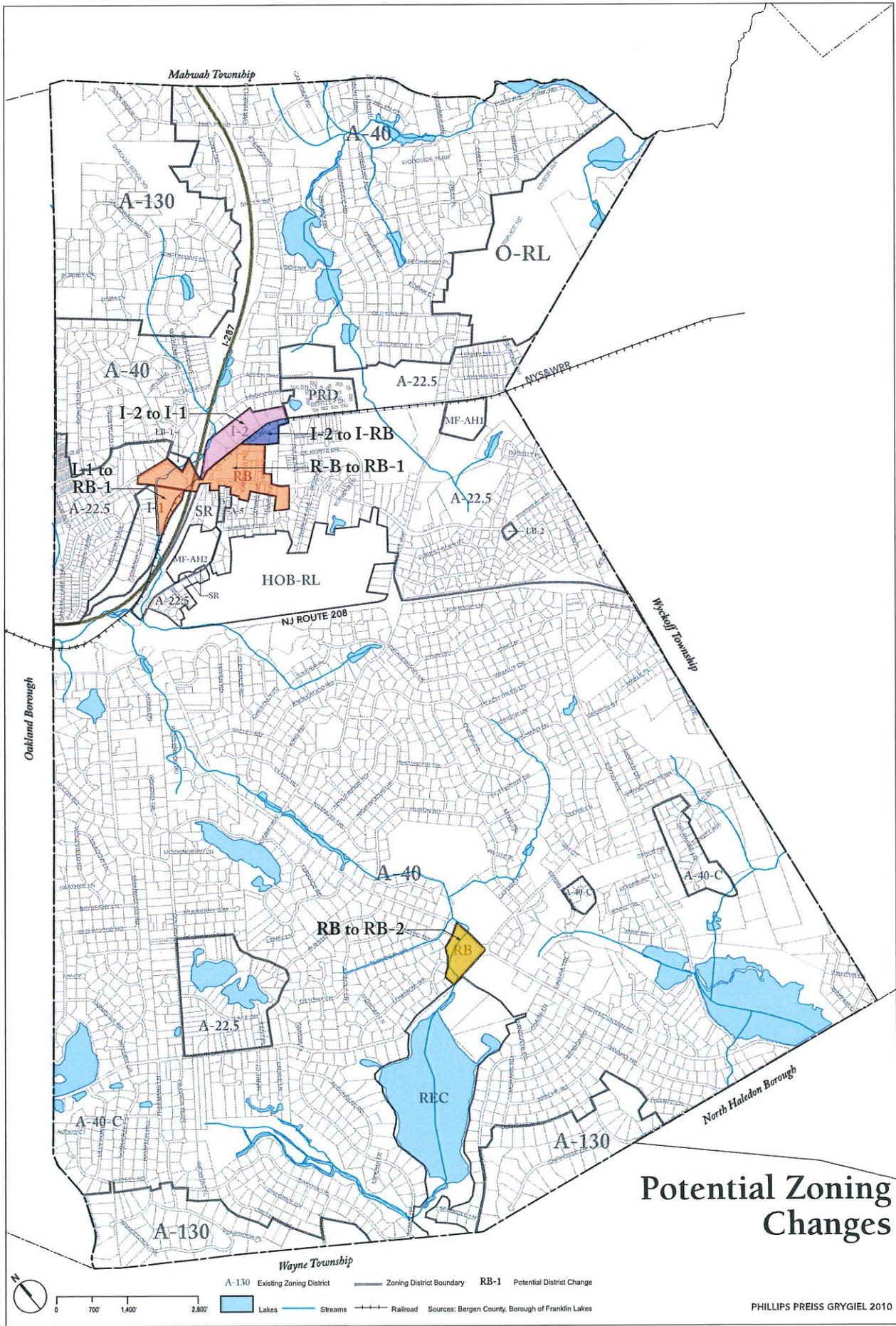
Borough of Franklin Lakes 2010 Master Plan Reexamination



Existing Zoning

A-130 Existing Zoning District — Zoning District Boundary
 Lakes Streams ——— Railroad Sources: Bergen County, Borough of Franklin Lakes

Borough of Franklin Lakes 2010 Master Plan Reexamination



Potential Zoning Changes



0 700 1,400 2,800

A-130 Existing Zoning District Zoning District Boundary RB-1 Potential District Change
 Lakes Streams Railroad Sources: Bergen County, Borough of Franklin Lakes