

The Environmental Resource Inventory

Harrington Park Environmental Commission RFQ for Consultant to Prepare

The Harrington Park Environmental Commission (HPEC) has received funding to create an updated Environmental Resource Inventory (ERI) for the Borough with funding from both the Borough of Harrington Park and United Water of New Jersey. This new ERI will replace the last related document that was prepared in 1992 and applied only to watershed corridors.

Two New Jersey state laws give environmental commissions the authority and responsibility for conducting ERIs:

The Environmental Commission Enabling Legislation (*N.J.S.A. 40:56A*) states that "A...commission organized under this act shall have power to conduct research into the use and possible use of the open land areas of the municipality.... It shall keep an index of all open marshlands, swamps and other wetlands, in order to obtain information on the proper use of such areas, and may from time to time recommend to the planning board, or, if none, to the mayor and governing body of the municipality, plans and programs for inclusion in a municipal master plan and the development and use of such areas."

The *Municipal Land Use Law* (MLUL) 40:55D-1 *et seq.*) Requires municipalities to have a land use plan element in their master plan, "including but not necessarily limited to, topography, soil conditions, water supply, drainage, flood plain areas, marshes, and woodlands...." (*N.J.S.A. 40:55D-28b(2)*).

The Environmental Resource Inventory (ERI), also called a Natural Resource Inventory (NRI), or Index of Natural Resources, is a compilation of text and visual information about the natural resource characteristics and environmental features of an area.

An ERI is an unbiased report of integrated data. It provides baseline documentation for measuring and evaluating resource protection issues. The ERI is an objective index and description of features and their functions, rather than an interpretation or recommendation. Identifying significant environmental resources is the first step in their protection and preservation.

The ERI is an important tool for environmental commissions. The ERI is a dynamic document, not cast in concrete. The commission should add to, revise and refine it as members gain knowledge and more data become available. The ERI is a notebook of the accumulated information about an area.

An ERI has text, maps, tables, figures and graphics that describe and compare information on the natural and environmental characteristics and features of an area. The basic ERI information covers climate, geology, geography/topography, soils, hydrology, vegetation, wildlife and habitat, critical areas and land use. It is important to include a characterization of local relationships to regional resources such as open space, watersheds, surface and groundwater, and wetlands.

The text of the ERI should start with a general description of the region and the municipality's place in it. It should proceed to describe the natural and environmental characteristics and features of the municipality (ideally also shown on maps) and how the features relate to each other and the local environment. The report should be factual and objective. Any recommendations arising from the ERI should be published in a separate report. The report should be in a form that can be adopted into the master plan as part of the conservation element.

An inventory of undeveloped public and private open space must be part of the ERI. Parks, natural areas, camps, farms, historic sites, undeveloped real estate, school complexes, easements and abandoned railroad rights-of-way are examples of the types of areas that should be listed and mapped.

The ERI should include a series of maps, ideally all at the same scale, showing relevant characteristics and features. Scale compatibility of maps is an important consideration, as it will allow accurate comparison from map to map, and use of acetate overlays, if desired. All maps contained in the ERI should display a title, bar scale, scale ratio and key. The areas of concentration shall include but not be limited to the following:

A. GEOGRAPHY/TOPOGRAPHY

1. NJ physiographic region and sub regions
2. Relief, elevation, steep slopes

B. GEOLOGY

1. Bedrock type and characteristics (structure, type, age)
2. Depth to bedrock
3. Unconsolidated materials (loose rocks, sands) and thickness
4. Mineral resources (sand, gravel, metals, etc.)
5. Geologic cross sections

C. HYDROLOGY

1. Groundwater

- a. aquifer outcrops; location, extent, thickness
- b. direction and rate of groundwater movement
- c. groundwater recharge and discharge areas (possibly outside municipality)
- d. depth to groundwater
- g. private well areas - characterization and trends
- h. quality of groundwater; pollutant sources, cleanups/remediation
- i. areas served by septic - characterization and trends

2. Surface Water

- a. types, location, names, direction of flow (Including Mapped demarcation of all C-1 water course areas)
- b. watersheds and sub watersheds
- c. designation/classification of surface water bodies and tributaries
- d. stream buffers
- e. low flow of streams - mean 7 day/10 year recurrence interval
- f. floodplains, wetlands, marshes, bogs
- g. erosion, sedimentation
- h. water quality - dissolved oxygen, suspended solids, etc.
- i. monitoring and sampling programs
- j. liquid waste and disposal systems
- k. intakes, outfalls, dams
- l. municipal storm water infrastructure and management

D. SOILS

1. Soil types, texture, stoniness, depth, hydrological types
2. Shrink-swell potential
3. Frost heave potential
4. Erodibility, potential soil loss in cubic feet per year
5. Percolation rates
6. Depth to groundwater
7. Surface runoff, permeability, perviousness
8. Fertility (vegetative capability)
9. pH
10. Nutrient absorption

E. VEGETATION

1. Types of vegetation
2. Fire hazard, history of wildfire
3. Pollution-affected types
4. Historic, recreational, economic value
5. Known/possible habitats for endangered/ threatened plant species
6. Forest cover
7. Agricultural areas
8. Characterization of street tree resource

F. CRITICAL ENVIRONMENTAL AREAS

A separate critical environmental areas map, showing environmental features that merit special consideration or protection, shall be compiled to help with the town's resource planning. Features that shall be displayed on the map include:

- Wetlands (see "G")
- Steep slopes (see "A")
- Floodplains, floodways (see "C")
- Aquifer recharge areas (see "C")
- Prime agricultural soil areas (see "D" and "E")
- Soil limitation areas (see "D" and "H")
- Endangered/threatened species habitat (see "E" and "F")
- Trout associated waters (see "C")
- Water supply - surface waters and groundwater (see "C")

F. WILDLIFE

1. Species inventory
2. Rare, threatened and endangered species
3. Nuisance and invasive species
4. Economically valuable species
5. Abundance and distribution of significant species within habitat and season

G. WETLANDS

1. Identifying factors
 - a. Wetlands vegetation (hydrophytes)
 - b. Wetlands soils (hydric soils)
 - c. Hydrology (presence of water sufficient to support wetlands vegetation)
2. Types of wetlands
 - a. Salt water
 - b. Fresh water
 - c. Vernal habitats (Vernal Ponds)
 - d. Restorations and engineered wetlands
3. Wetlands classifications and buffers
 - a. Exceptional Resource Value wetlands
 - b. Ordinary Resource Value wetlands
 - c. Intermediate Resource Value wetlands

H. LAND USE

1. Existing
 - a. Open space, public and private (including easements)
 - b. Roads, railroads, pipelines, reservoirs
 - c. Recreation areas, public and private
 - d. Agricultural areas
 - e. Industrial areas
 - f. Waste treatment and disposal facilities (sewage and solid waste)
 - c. Environmentally sensitive areas

The Consultant shall access public data bases for purposes of securing as much information as is necessary for the ERI such as the NJDEP GIS database of basic geologic and environmental information for New Jersey available using ArcView software to access more than 50 "layers" of digital data (flood areas, contaminated sites, wetlands, etc.) from the NJDEP's GIS webpage: (www.nj.gov/dep/gis). All such information should be from only the most recently updated sources.

The consultant shall work with HPEC and volunteers from the Harrington Park Green Team, Harrington Park public-school students, residents and local officials all to reduce the cost of the ERI where possible under a "work-in-kind" concept. The consultant shall utilize computer-based geographic and mapping information systems called Geographic Information Systems, or GIS, to create local databases and make ERI maps. The GIS programs should be able to digitally display and print layers of information as separate maps or, as needed, combine various layers on the same map. The GIS system shall be a contemporary version that is compatible with that of the NJDEP and the Bergen County Department of Planning and Economic Development. The final report, including the GSI information, shall be fully accessible by the public through use of common PC/MAC software once the information is loaded into the Borough database.

In addition to the above, a map, both digital and hard copy, shall be provided delineating the borders between Harrington Park town property, United Water property and all other property within the Borough. These maps shall be created in overlay form so that the 3 property ownership categories can be seen separately or in combination.

The cover sheet and/or the title sheet of the ERI shall list the HPEC as the sponsor of the document. The Borough of Harrington Park and United Water of New Jersey will be listed as contributors of its financing.

The final products shall include:

Eight (8) printed and bound copies in 8-1/2" x 11" booklet form with bound 11"x17" colored fold outs of the resources graphics

Full blue print sized color enlargements of the graphics, laminated and mounted on a board for use as a flip chart. The mounting connectors shall be removable so that the exhibits can be arranged in various orders

-Three (3) computer disks of the entire ERI, including text and graphics.

-Three (3) computer disks with the GIS files.

Consultant shall meet on a regular basis with HPEC to discuss the progress of the project. A representative of the consultant will present the finished ERI document during a regularly scheduled meeting of the HPEC. At that meeting the HPEC membership will vote to accept or reject (requesting adjustments) of the finished document.

It is intended that the proposal shall be a flat fee proposal that includes all costs associated with its preparation, mapping, printing, presentation including costs associated with data download and external programming and including interface with HPEC, its volunteers, assistants and all other municipal personnel. Consultant shall in its proposal identify any additional areas that should be included in the scope of this proposal as well as areas that it believes may be eliminated and the basis of its opinion for the same, all for the purpose of achieving the lowest cost to the HPEC. All maps, reports, charts and software shall be exclusively the property of the HPEC, except where such documents, maps and data are already protected by copyright.

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