



WEST WINDSOR TOWNSHIP

DEPARTMENT OF COMMUNITY DEVELOPMENT DIVISION OF ENGINEERING

REQUEST FOR PROPOSAL for ENGINEERING SERVICES LITTLE BEAR BROOK FLOOD HAZARD ASSESSMENT and WEST WINDSOR REDEVELOPMENT AREA REGIONAL STORMWATER MANAGEMENT ANALYSIS

INTRODUCTION

[Recipients of this RFP are encouraged to visit the Township's website and review a copy of the Master Plan, at <http://www.westwindsornj.org/MasterPlan/mpcoverpage.html> (Windows OS users can save pertinent chapters as a pdf through the right click on the title and "save as" function) as well as review the Zoning Map, viewable at <http://www.westwindsornj.org/maps.html> to aid in their understanding of this Introduction. A limited scope map is attached hereto indicating Little Bear Brook water HUC-14 limits on a portion of the Zoning Map.]

On March 23, 2009 West Windsor Township formally adopted a Redevelopment Plan for approximately 350 acres of land surrounding the Princeton Junction Train Station at West Windsor. A complete copy of the history of this effort, as well as the Redevelopment Plan itself, can be obtained from the Township's website at <http://www.westwindsornj.org/redevelopment/index.html>. (Windows users can save it as a pdf through the right click on the title and "save as" function)

The Township is pursuing a regional approach to stormwater management for the Redevelopment Area in order to utilize a minimal number of centralized locations for stormwater management in lieu of each development parcel being responsible for its own on-site facilities. The Sarnoff property (zone RP10) would be responsible for its own stormwater management when developed in accordance with its GDP approval, and any related subsequent amendments. Similarly, those properties south of the Dinky tracks on Wallace Road and County Route Rte 571 (zone RP7-RP9) already being developed could reasonably be expected to manage their marginal increases in stormwater on-site. Therefore, the idea of a regional approach to stormwater management applies primarily to the portion of the Redevelopment Area situated between Alexander Road and Washington Road, and north of the train tracks. These areas are identified as zones RP1 through RP6.

There have been planning assumptions made as to which parcel in the RP1-RP6 Redevelopment Area should be utilized for regional stormwater management. However, to date there has not been an engineering study for the selected parcel, to validate those assumptions. Questions that would need to be answered for any parcel intended to be utilized for a regional stormwater management facility include:

- Size and elevation of the parcel in relation to the other parcels and Redevelopment Area improvements as well as the elevation of the parcel in relation to the receiving waterway; and
- Environmental restrictions (wetlands, floodplains, stream buffers, threatened & endangered species habitats, etc.) and their limits on and adjacent to the parcel; and
- Geotechnical investigation to determine the properties and suitability of the native soils, including the depth to the seasonal high water table; and

- Parcel boundary lines, zoning regulations and underlying ownership.

This study of regional stormwater management for the Redevelopment Area is one of the goals of the services to be obtained through this RFP.

A large portion of the Redevelopment Area lies within the Little Bear Brook watershed. Little Bear Brook is a relatively small stream and the limits of its watershed are completely contained in the northwest portion of the Township. It is a tributary of the Millstone River with a watershed drainage area of approximately 3.3 square miles. Headwaters for the Little Bear Brook begin in Bear Swamp, east of Meadow Road at its western border, US Route 1 at its northern border, crossing the Amtrak corridor to include several residential developments and the municipal complex at its southern border, and out to Millstone River at its eastern border.

By comparison, the total drainage area to the Millstone River at the point of confluence with Little Bear Brook is significantly larger. Headwaters begin, appropriately, in Millstone Township in Monmouth County. From there it travels through Monroe, East Windsor and Cranbury Townships, as well as the Boroughs of Hightstown and Roosevelt, before it reaches West Windsor Township. These towns have contributed 39.3 square miles of upstream drainage area to the Millstone at the WWT border. As it heads through West Windsor Township towards the Stony Brook and Carnegie Lake, it picks up another 42.5 square miles of drainage area from not only West Windsor lands, but also from Monroe, Cranbury, South Brunswick and Plainsboro Townships, for a total drainage area of 81.8 square miles at its confluence with the Stony Brook.

As can be expected by the aforementioned drainage area comparison, drainage within the Little Bear Brook is greatly affected by the flow of the Millstone River during the low frequency, high intensity storm events. At these times, backwater conditions within the Millstone River cause flood waters to travel up the Little Bear Brook. The most recent of these events was in August 2011 during Hurricane Irene, which inundated several dozen residential and commercial structures along the Little Bear Brook and the Millstone River. This storm also caused flooding of US Route 1 at the Millstone River, Washington Road and Alexander Road. For these reasons the Township recognizes that any attempt to plan for one or more regional stormwater management facilities in the Redevelopment Area should occur in conjunction with a study of the Little Bear Brook watershed.

One factor heavily influencing the design of a regional stormwater management facility for the Redevelopment Area is this backwater influence from the Millstone River. Therefore, this RFP seeks services to affirm watershed data for the Little Bear Brook, confirm hazard properties and facilities, and to explore potential mitigation improvements as its second goal.

WORK SCOPE

The following sections provide a proposed scope of work outline for the two aforementioned tasks. These lists are preliminary and the Township welcomes potential additions and modifications that consultants believe can aid in achieving the project goals. In their review of this RFP, Consultants are encouraged to offer comments on this scope, and to provide recommended expansions with comments as they may deem necessary, in order to provide the Township a complete work product. Any such recommendations should be issued in the form of an RFI for consideration by West Windsor Township a minimum of two weeks prior to submission deadline.

It is assumed by West Windsor Township that the majority of the work items under the two goals, while separate, has overlapping data requirements and can therefore be undertaken simultaneously. Any consultant disagreeing with this assumption should respond in an RFI why they believe this cannot occur.

Goal 1 – Little Bear Brook Watershed Study

Scope of Work: The consultant will undertake the following tasks with the ultimate goal of producing a final report to the Township.

- 1) Public Meetings/Outreach:
 - a) One (1) meeting at project initiation to obtain input from designated Township representatives.
 - b) One (1) public meeting at project initiation to obtain public input on hazards, problems, past events and possible solutions.
 - c) One (1) public meeting following completion of tasks 2 through 4 to obtain feedback and additional input.
 - d) One (1) meeting with Township representatives following completion of tasks 2 through 4 and the public meeting under task 1c.
 - e) A survey sent to at least 90% of residents and property owners in the watershed to solicit input to the plan.
 - f) One (1) public presentation upon completion of task 7. Currently anticipated that this would occur during a regular Township Council meeting.
- 2) Review of existing watershed and watershed studies: Research available literature and describe the extent of flood depth and damage potential. Include a bibliography as part of the summary report. *A list of those currently known is included at the end of this section.*
- 3) Hazard Assessment: This will include a map and description of the existing flood hazard, including identification of the flood risk (what storm events and frequencies) and a discussion of past floods.
- 4) Risk Assessment: This work should include:
 - a) Overall assessment of vulnerability from hazards identified in task 3.
 - b) Review of all properties that have submitted FEMA flood insurance claims, properties without flood insurance that have documented flood damage, and properties in repetitive loss areas. During this time of gathering data, staff and the consultant will gather community input by neighborhood meetings and field work to supplement existing data. After compiling data and completing the analysis, consultant will prepare an updated map and written discussion of repetitive loss properties.
 - c) Identify at-risk critical facilities and infrastructure within the flood hazard area. A table of pertinent surveys, hydrologic and hydraulic data for each structure is to be included, along with a narrative of where the information was obtained, type of methodology, and the applicable dates of the data.
 - d) Review development and population trends in the watershed and along the stream corridor.
- 5) Mitigation Strategy
 - a) Develop goals for flood hazard mitigation.

- b) Develop a set of recommended activities based on risks identified in task 4 to include: Identification and evaluation of cost effective and technically feasible mitigation actions considered.
 - i) Preventative activities (e.g., planning and zoning, storm water management regulations)
 - ii) Property protection (e.g., retrofitting, insurance, relocation, elevation)
 - iii) Natural resource protection (e.g., erosion control, wetlands protection, floodplain protection) Identify areas that provide natural and beneficial functions that should be protected or potentially enhanced (floodplains, wetlands, riparian buffers)
- c) Emergency services: Include a description of the needs and procedures for warning and evacuating residents and visitors. Address potential for critical facilities protection.
- d) Structural Projects: Assess and define potential capital improvement projects to mitigate flood hazards.
 - i) Conceptual raising of Alexander Road (*Mercer County Bridge #761.2*) above the NJ Flood Hazard Area elevation. Develop conceptual plan and cost estimates including an outline of permitting requirements and feasibility of obtaining said permits, right-of-way requirements, utility requirements, etc. *See also Goal 2, task 1.*
 - ii) Conceptual raising of Washington Road (*Mercer County Bridge #761.1*) above the NJ Flood Hazard Area elevation. Develop conceptual plan and cost estimates including an outline of permitting requirements and feasibility of obtaining said permits, right-of-way requirements, utility requirements, etc. *See also Goal 2, task 1.*
 - iii) Assessment of changes in the watershed that may have impacted channel flow rates and capacities, including sedimentation of waterways, infrastructure condition, and vegetation, and resulting benefit of a potential remediation program (e.g., stream cleaning program, catch basin retrofit). Include tabulated preliminary cost estimates and permitting requirements.
 - iv) Assess any other potential local improvement project or regional project, that could be undertaken to mitigate flooding of at risk properties along the Little Bear Brook, recognizing the flow rate and volume of the Millstone River during the flood events.
- 6) Action Plan: Prioritize recommended activities. Strategies must be affordable, implementable and able to be permitted through State agency general permits.
- 7) Final Report and Public Information / Presentation (maps, outreach projects, technical assistance and training).

Studies for Little Bear Brook and Millstone River on record with West Windsor Township:

- o *NJDEP Division of Water Resources, Delineation of Floodway and Flood Hazard Area, Millstone River and Little Bear Brook* prepared by O'Brien & Gere dated 11-20-1984 and 11-27-1984.
- o *Flood Insurance Study, West Windsor Township, Mercer County, NJ, Community 340256* Federal Emergency Management Agency, dated November 1, 1983 (hydrologic and hydraulic analysis conducted by Justin and Courtney, Inc. under subcontract to the NJDEP May 1980).
- o *Upper Bear Swamp, Little Bear Brook and Millstone River Watershed Analysis, The Estates at Princeton Junction* prepared by Taylor Wiseman and Taylor, project 18425.0004, revised through October 1, 2002.

- *Millstone River Watershed Flood Damage and Mitigation Analysis Report* prepared by USDA Natural Resources Conservation Service dated December 2004.
- Potential source of additional information is the ongoing *Millstone River Basin Study* being conducted jointly by the NJDEP and the US Army Corps of Engineers, New York District.

Goal 2 – Redevelopment Area Stormwater Management Plan

At this time the Township is seeking to have a preliminary engineering study performed to designate area(s) for regional stormwater management in the Redevelopment area. This process will involve the following tasks:

1) Meetings:

- a. One (1) meeting at project initiation to obtain input from designated Township representatives.
 - b. Upon completion of base mapping and initial layout of proposed improvements, including confirmation of assessment of regulatory approvals and permit requirements. One (1) meeting with Township representatives upon completion of tasks 1-8.
 - c. Two (2) meetings with Township representatives, one each upon completion of tasks 9 and 10.
 - d. One (1) public meeting / presentation upon completion of task 10.
- 2) Obtain aerial topographic mapping of this part of the Redevelopment Area so that elevations on each parcel are known and are in a common datum from a common source. Boundary to include RP1-RP6 parcels, with minimum overlap of 100 feet. In the areas of Alexander Road and Washington Road, obtain sufficient overlap to be utilized in the development of Goal 1, Task 5. Document prepared utilizing NAVD 1988 at 2-foot contour intervals with supplemental spot elevations in critical locations (including waterways, stormwater outfalls, outlet structures and stream crossings) and all record benchmarks utilized identified. *Consultant shall provide a separate fee for this task, with an option for aerial topography based on record stock photography no more than 5 years old versus a new flight.*
- 3) Overlay of municipal GIS parcel map data layer, with adjustment based on established property corner markers and monumentation from record plans on file with the municipality. Data layer to be provided by Township to successful consultant.
- 4) Overlay of aerial photography and known environmental restrictions from known sources (DEP, FEMA, etc.). Sources and data layers utilized shall be the most current available from their respective source.
- 5) Overlay of preliminary geotechnical information from USDA SCS sources. Areas of potential moderate to high groundwater recharge within the study area are to be prioritized for locating all or portions of stormwater management facilities. Include separate fee for supplemental on-site sampling. On-site sampling to follow protocol of Appendix E of the NJDEP *New Jersey Stormwater Best Practices Manual*, as amended. For budgeting purposes, provide the per unit fee for soil sampling, assuming a minimum of eight (8) separate sampling locations. Payment for soil sampling will be based on actual number of samples performed.
- 6) Overlay the Redevelopment Area layout, zone boundaries and roadway configurations based on approved Ordinances.

- 7) Perform preliminary stormwater management calculations for the existing and full-buildout conditions, assuming full construction of all intermodal transportation infrastructure, as well as maximum permitted parcel impervious coverage under buildout. Establishing the minimum required storage volume and peak rate reductions are the goal of this item for the different zones, independently and in combination.
- 8) Identify conceptual basin locations based on the results of the prior tasks for review and discussion with Township representatives.
- 9) Performing preliminary grading and drainage designs to determine minimum required stormwater management area(s) and reasonably ensure functioning of collection and management systems by gravity design. Stormwater collection and runoff parameters would be expected to meet the minimum standards imposed by municipal ordinances, as well as applicable regulatory agency regulations. Parcel boundaries, zoning and ownership issues will likely require this to be an iterative process with several alternative solutions for the Township's consideration. On-site soil sampling would be undertaken during this task. This stage would also define the preliminary environmental permitting requirements, and allow for cost estimates to be developed. Any stormwater management facility must function adequately during all regulatory design storm events.
- 10) Upon completion of task 9, perform an additional evaluation of what maximizing stormwater management facilities capacities beyond requirements of task 9 achieves in flood mitigation for the Little Bear Brook watershed, with a indication of the level of proposed facility capacity increase and corresponding extent of flood mitigation achieved.
- 11) Final Report and Presentation. One (1) public presentation upon completion of task 10. Currently anticipated that this would occur during a regular Township Council meeting.

INCIDENTALS AND DELIVERABLES

- 1) Task Deliverable Dates
 - Goal 1 – Tasks 1-4: Due 45 calendar days after project award
 - Goal 1 – Tasks 5-7: Due 90 calendar days after project award
 - Goal 2 – Tasks 1-7: Due 45 calendar days after project award
 - Goal 2 – Tasks 8-11: Due 90 calendar days after project award
- 2) Payment Schedule: Payments shall be made on the completion of each task, as follows:
 - Goal 1 – Tasks 1-4: 40% of total contracted price
 - Goal 1 – Tasks 5-7: 60% of total contracted price
 - Goal 2 – Tasks 1-7: 50% of total contracted price
 - Goal 2 – Tasks 8-11: 50% of total contracted price
 - Aerial Topographic Survey: 100% upon completion and receipt of paper and electronic files
 - Soil Sampling: 100% upon completion and receipt of paper and electronic report files
- 4) Project deliverables are to be in a hard copy format and in an electronic/digital format compatible with the Township's computer systems. All written material is to be supplemented and supported by graphic elements such as maps, figures, diagrams and tables wherever possible. The Township's typical desktop is a IBM

compatible system with Windows XP / Windows 7. Electronic report material is to be compatible with Microsoft Office 2003. Surveys and resulting base mapping are to be provided in AutoCAD format on DVD. Project created mapping is to be provided in AutoCAD or ArcGIS format, as applicable on DVD. Project deliverables include copies of all presentation material (hard copy and electronic/digital) such as poster boards and PowerPoint presentations.

PROPOSAL SUBMISSION REQUIREMENTS

- Firm Experience and Workload: provide a general overview of your firm and the firm's experience at providing Engineering Services associated with preparation of similar watershed analysis and regional stormwater management plans. Include any information you believe should be highlighted from your proposal or any key considerations for the selection committee to consider that are not covered in the proposal requirements.
 - Provide a list of current projects and percent complete for the office which will be conducting the work.
- Project Understanding
 - Understanding of the project purpose and goals
- Critical success factors
- Key challenges
- Firm's Approach to Project: Listing of project tasks and activities to be conducted by consulting company; including discussion on permits and other regulatory approvals.
- Project Schedule
 - A proposed schedule from kickoff through completion of the final report for the project
 - The firm's procedures and methods for assuring that the schedule will be met
 - The person responsible for assuring the schedule, and a record of their proven performance in schedule compliance
- Proposed fees for Goal 1, Goal 2, fees for aerial topography with option, and fee for soil sampling. Please note that proposals shall be prepared based on a not-to-exceed fee basis, including all reimbursable costs.
- Firm personnel standard hourly rate schedule.
- N.J. Business Registration Certificate: Certificate required pursuant to C57, PL2004; failure to provide may result in rejection of proposal.
- Resume(s) for those persons who will make up the consultant team.
- Identify any exceptions to the requirements stated herein.

METHOD OF EVALUATION

A technical review committee composed of Township personnel will review the submitted proposals based on the evaluation factors noted. Proposals will be evaluated with regard to all required content. A short-list of engineering consultants may be selected from among those submitting proposals on this project for further presentations and staff interviews. However, at its discretion, West Windsor may dispense with interviews and select a firm to perform the work. Firms will be evaluated on the basis of the following factors:

- Firm History and Capability to Perform Project

- Relevant Project Experience
 - Qualifications of Project Team
 - Familiarity with Area and Project
 - Project Understanding and Approach
 - Firm Workload and Ability to Meet Schedule
 - References
- West Windsor expects to evaluate proposals and provide written notification of the short-listed firms within 14 calendar days of receipt of proposals. If interviews are held, they will be scheduled within 2 weeks of short-list notification.
 - Should the selected Consultant fail to enter into a contract with the Township, including completion of the Professional Services Agreement and all associated paperwork, within ten (10) working days the Township may then, at its option, accept the proposal of another respondent.
 - West Windsor reserves the right to reject any and all of the proposals submitted in response to this RFP, without justification.

ADDITIONAL CONDITIONS

- West Windsor has no liability whatsoever for any costs, fees or expenses incurred by the applicant with respect to the preparation, submission or presentation of the RFP.
- Professional Services Agreement: The successful Consultant will be required to enter into the Township’s standard Professional Services Agreement (draft available upon request). The Consultant should comment in the Proposal Cover Letter on any issues that may be of concern with the Township’s standard agreement. The following additional and supplemental paperwork will also be required:
 - Certificate of Employee Information per NJAC 17:27-1.1 et seq.
 - Affidavit of Compliance with Township Code Chapter 4-22.1 et seq. (Political Contributions, i.e., “Pay-to-Play”)
 - Affirmative Action Contract
 - Business Entity Disclosure Certification
 - Political Contribution Disclosure Form
 - Stockholder Disclosure Certification
 - Proof of Insurance (*see following subsection*)

Copies will be forwarded to the selected consultant for completion.

- Insurance and Indemnification: If it becomes necessary for the consultant, hereinafter referred to as “contractor” either as principal or by agent or employee, to enter upon the premises or property of the owner in order to construct, erect, inspect, make delivery or remove property hereunder, the contractor hereby covenants and agrees to take use, provide and make all proper, necessary and sufficient precautions,

safeguards, and protection against the occurrence of happenings of any accident, injuries, damages, or hurt to person or property during the course of the work herein covered and his/her sole responsibility.

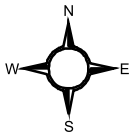
The contractor further covenants and agrees to indemnify and save harmless the owner from the payment of all sums of money or any other consideration(s) by reason of any, or all, such accidents, injuries, damages, or hurt that may happen or occur upon or about such work and all fines, penalties and loss incurred for or by reason of the violation of any owner regulation, ordinance or the laws of the State, or the United States while said work is in progress.

The contractor shall maintain sufficient insurance to protect against all claims under Workers Compensation, General Liability, Business Automobile Liability and Professional Liability. The Contractor shall be subject to approval for adequacy of protection and certificates of such insurance shall be provided to the Township. In all cases where a Certificate of Insurance is required, the Township of West Windsor is to be named as an additional insured referenced on the Certificate of Insurance. The Certificate shall contain a 30-day notice of cancellation.

- Contact: Any questions or requests for clarification are to be directed in writing, via email, to Francis Guzik, PE, Township Engineer, or Brian Aronson, Assistant Manager of Engineering, West Windsor Township at fguzik@westwindsortwp.com or baronson@westwindsortwp.com or by fax to 609-275-4850.

End RFP

Attachment: LBB HUC14 Map



LITTLE BEAR BROOK HYDROLOGIC UNIT COVERAGE (HUC 14) MAP

Scale : 1" = 2000'



Legend

- Parcels (thin black line)
- Redevelopment Area (green outline)
- Zoning Districts (red outline)
- NJDEP HUC 14 Area (yellow fill)
- Little Bear Brook HUC 14 Area (light yellow fill)

