



# Barnegat Township Engineering Office

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Tel 609.698.0080 ext 148  
[www.barnegat.net](http://www.barnegat.net)

August 19, 2024

Mayor & Township Committee  
Township of Barnegat  
900 West Bay Avenue  
Barnegat, NJ 08005

**Attention: Donna Manno, Clerk**

**Re: Professional Services Contract, 2024 Water GIS Mapping**

Dear Mayor & Township Committee:

As per Resolution 2024-21, Van Cleef Engineering Associates was selected as Township of Barnegat 2024 Water GIS Mapping Consultant. Subsequently, meetings were held with representatives of Van Cleef in order to request costs for services related to the Township's existing Water GIS system. These services include additional interactive web mapping, creation and editing of geodatabase using ESRI ArcPro, and assistance to current Township GIS personnel regarding data management. The overall goal is to update the current mapping, utilize existing software applications to add additional field data, as well as add water mains and valve/hydrant information, and web applications for all.

Van Cleef Engineering Associates provided the enclosed quote of \$80,000 for this work, which is within the Township budgetary estimate. Therefore, I recommend Van Cleef Engineering Associates of Toms River, New Jersey, be approved for work totaling \$80,000, as 2024 Township of Barnegat Water GIS Mapping Consultant.

By copy of this letter, I am requesting Township Clerk, Ms. Donna Manno, to prepare the necessary approving resolution for same, to be placed on the September 3, 2024 Township Committee meeting agenda.

If I can be of further assistance, please contact my office.

Very Truly Yours

A handwritten signature in black ink, appearing to read 'Kurt J. Otto'.

Kurt J. Otto, PE, CME, CFM  
Township Water and Sewer Engineer

KO/ko  
enclosure

cc: Martin Lisella, Administrator  
Tom Lombarski, Township CFO  
Christopher Dasti, Esq., Township Water and Sewer Attorney  
Roger Budd – Township Water/Sewer

August 13<sup>th</sup>, 2024

*Revised August 19, 2024*

Barnegat Township  
900 West Bay Avenue  
Barnegat Township, NJ 08005

Attn: Mr. Kurt Otto, PE, CME, CFM  
Township Engineer

**RE: Proposal for Water System GIS Services  
Township of Barnegat**

Dear Mr. Otto:

Van Cleef Engineering Associates is pleased to present this proposal for Geographic Information System (GIS) Consulting Services to assist the Township in Water System GIS management and expansion.

In accordance with your request for proposal, Van Cleef Engineering Associates (Van Cleef) is pleased to provide professional services for the preparation of Water System Mapping and Database Management using Geographic Information Systems (GIS). Van Cleef will create and expand existing interactive web map applications and accompanying geodatabases using ESRI ArcPro and ArcGIS Online to manage the Township's Water System. The final product will be hosted on Barnegat Township's ArcGIS Online account and Van Cleef will maintain data management and editing rights in the event that more data will be added in later phases or general updates are needed.

**SCOPE OF WORK** shall be as follows:

**Task 1 – Overall Water System Web Application, Field Collector, and Dashboard**

Van Cleef will utilize existing Barnegat Township Water System GIS data to build a Web Map Application, Field Collector setup, and Dashboard to manage the Water System assets using ArcGIS Online. The datasets currently available on Barnegat Township's ArcGIS Online include Water Meters (7588), Fire Hydrants (979), and Water Pipes (1281). Van Cleef will also populate this Web Map Application with the data imported in Task 4, and created in Task 7, 8, and 10.

**OFFICE LOCATIONS**

[www.vancleefengineering.com](http://www.vancleefengineering.com)

Hillsborough, NJ  
908-359-8291

Mt. Arlington, NJ  
862-284-1100

Phillipsburg, NJ  
908-454-3080

Doylestown, PA  
215-345-1876

Pottstown, PA  
610-323-4040

Hamilton, NJ  
609-689-1100

Toms River, NJ  
732-573-0490

Freehold, NJ  
732-303-8700

Bethlehem, PA  
610-332-1772

### **Task 2 – Fire Hydrant Flushing and Maintenance Web Application, Field Collector, and Dashboard**

Van Cleef will create a Web Map Application specialized in Fire Hydrant Flushing and Maintenance. This will allow Field users to keep track of day-to-day activities including maintenance, inspections, and repairs on Fire Hydrants throughout the Municipality. Barnegat Township will provide Van Cleef with a list of attributes they would like to record. All field records and inspections will be completed by Barnegat Township.

### **Task 3 – Water Valve Operating and Maintenance Web Application, Field Collector, and Dashboard**

Van Cleef will create a Web Map Application specialized in Water Valve Operation and Maintenance. This will allow Field Users to keep track of day-to-day activities including maintenance, inspections, and repairs on Water Valves throughout the Municipality. Barnegat Township will provide Van Cleef with a list of attributes they would like to record. All field records and inspections will be completed by Barnegat Township.

### **Task 4 – Existing Data Review and Upload**

The Township of Barnegat will provide existing Water System GIS data to Van Cleef to be reviewed, processed, and added to the Overall Web Map Application. Each data file will need to be projected into the correct spatial coordinate system to ensure spatial accuracy of the data. Barnegat Township will provide Van Cleef with a list of attributes they would like added to each of the datasets prior to being uploaded to ArcGIS Online. If available, Barnegat Township will provide Van Cleef with reference data so the data can be reviewed for spatial and tabular accuracy. This can include documents such as as-builts and records of the data system.

### **Task 5 – Water Main Inspection, Maintenance, and Review**

Van Cleef will set up Field Maps to enable Barnegat Township to record Water Main Location, Inspection, Maintenance, and Field Verification. Barnegat Township will provide Van Cleef with a list of attributes they would like to record in addition to the field that are already present in the dataset. All field records and inspections will be completed by Barnegat Township. Van Cleef will use Water Main, Fire Hydrant, and Water Valve locations to review and digitize Hydrant Service lines and Valve Service lines by connecting the located points to the Water Mains. If Barnegat Township knows the pipe size and material used throughout the Municipality for those features that information can be updated to the dataset as well.

### **Task 6 – Water Quality Web Map Application**

Van Cleef will create a Web Map Application that will help visualize water quality complaints by residents of Barnegat Township. This will help to visualize areas affected by Discolored Water, Pressure Issues, Taste, and Odor. Barnegat Township will be responsible for data entry when a work order is received. Data can be recording using points or attributing complaints to specific parcels to create a record database and aid in the response time and efficiency.

#### **Task 7 – GPS Water Sampling Sites and Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to locate Water Sampling Sites and record maintenance. Barnegat Township will provide Van Cleef with a list of attributes they would like to record. All field records and inspections will be completed by Barnegat Township.

#### **Task 8 – GPS Cut and Cap Features**

Van Cleef will set up Field Maps to enable Barnegat Township to locate Cut and Cap sites and record maintenance. Barnegat Township will provide Van Cleef with a list of attributes they would like to record. All field records and inspections will be completed by Barnegat Township.

#### **Task 9 – Water Meters Switch outs and Trouble Shooting**

Van Cleef will utilize existing Water Meter data to create a Water Meter Status Web Map Application. This will enable Barnegat Township to keep track of service records of Water Meters throughout the Township. Barnegat Township will provide Van Cleef with a list of attributes they would like to record. All field records and inspections will be completed by Barnegat Township.

#### **Task 10 GPS Wells and Record Major Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to GPS locate and inspect Wells and record maintenance. Barnegat Township will provide a list of desired attributes and domain drop-down lists to be set up for field collection. All field locations and inspections will be completed by Barnegat Township.

#### **Task 11 – Estimated Age of Pipe (Water Main) Analysis**

Van Cleef will create an Estimated Age of Pipe field in the existing Pipeline data layer. Using data provided by the Township of Barnegat and supplemented with the most up-to-date Mod IV Parcel and Year Constructed data, Van Cleef will populate the Pipeline dataset (1281) with the information accessible. In many cases, there will not be information available for areas of the Township, the data will be left blank in those areas until new information arises, verified by the Township in the field, or when that section has been reconstructed with a definitive date of service.

**Task 12 – Tax Map/GIS Parcel Web Application Updates**

Van Cleef will update all Web Map Applications with the most up-to-date version of Parcels/Tax Maps available. This does not include the service of updating the tax maps themselves. The application updates will utilize what is accessible and/or provided and will include MOD IV dataset. This data will be added to all Water System Web Map Applications free of charge due to completion of Sanitary Sewer updates.

**FEES**

It is proposed that the above Outlined Scope of Services be performed on a Lump Sum Basis for Tasks 1 through 12:

ENGINEERING DESIGN & CONSTRUCTION MANAGEMENT FEES		
PHASES	PAYMENT	AMOUNT
Tasks 1-12: Overall Water System Web Application, Field Collector, and Dashboard, Fire Hydrant Flushing and Maintenance Web Application, Field Collector, and Dashboard, Water Valve Operating and Maintenance Web Application, Field Collector, and Dashboard, Existing Data Review and Upload, Water Main Inspection, Maintenance, and Review, Water Quality Web Map Application, GPS Water Sampling Sites and Maintenance, GPS Cut and Cap Features, Water Meters Switch outs and Trouble Shooting, GPS Wells and Record Major Maintenance, Estimated Age of Pipe (Water Main) Analysis, Tax Map/GIS Parcel Web Application Updates.	Lump Sum	\$80,000.00
<b>TOTAL</b>		<b>\$80,000.00</b>

**PAYMENT TERMS**

Invoices shall be rendered on a percent complete basis for the Lump Sum Engineering Services. For budgeted items, the Township will only be billed for the actual time spent on the project.

**PROPOSAL EXCLUSIONS**

Items not included in this proposal are: Field location services provided by Van Cleef.

Time Schedule

Professional GIS services can begin immediately upon acceptance of this proposal with our office anticipating completion within 12 months.

Thank you for the opportunity to submit this proposal. We look forward to continuing our work with the Township on this project. Should you have any questions concerning this matter, please do not hesitate to contact our office.

Very truly yours,

VAN CLEEF ENGINEERING ASSOCIATES, LLC



Robert Chankalian, PE CME  
Branch Manager

RJC/MH

cc: Mason Herman, VCEA Geospatial Manager

*WPH 8/19/24*

*W-08-55-624-012*