



# Barnegat Township Engineering Office

900 West Bay Avenue, Barnegat, New Jersey 08005  
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 Sanitary Sewer GIS Mapping**

Dear Mayor & Township Committee:

As per Resolution 2024-21, Van Cleef Engineering Associates was selected as Township of Barnegat 2024 Sanitary Sewer 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 Sanitary Sewer 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 sanitary sewer mains and lateral information for newly constructed infrastructure.

Van Cleef Engineering Associates provided the enclosed quote of \$80,000.00 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 \$80,000.00, as 2024 Township of Barnegat Sanitary Sewer 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 Sanitary Sewer GIS Services  
Township of Barnegat**

Dear Mr. Otto:

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

In accordance with your request for proposal, Van Cleef Engineering Associates is pleased to provide professional services for the preparation of Sanitary Sewer 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 Sanitary Sewer 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 – Pump Station Service Area Analysis**

Van Cleef will utilize existing Barnegat Township Sanitary Sewer GIS data to identify number of homes being serviced per Pump Station; 29 Pump Stations total. This will be done by identifying Sanitary Sewer Pipeline connections from each Pump Station as it branches throughout the service area of the Municipality. An attribute field will be created in the Pump Station dataset which will record the number of homes contributing. A Pump Station Attribute Field will also be added to the Pipeline (2623) and Manhole Dataset (2668) identifying which Pump Station they contribute to. Homes will be defined as residential dwellings which will be identified utilizing Barnegat Residential Zone data and Impervious Surface data, a building located on a Residential Parcel will be counted as a Home. Commercial buildings will not be included in this analysis but can be added in the future.

**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 – Estimated Age of Pipe 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 (2623) 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 3 – County Sanitary Sewer Data Request**

Van Cleef will reach out to Ocean County to request existing Sanitary Sewer data to add to the Barnegat Township Sanitary Sewer GIS database. County Data will have different symbology which will allow Barnegat Township to easily identify what features they are responsible for. The dataset will be added to the Web Map Application with the attribute table it is provided with. Van Cleef will not make any changes to the attributes of the County provided data at this time. In the event that Ocean County does not possess or provide an electronic Sanitary Sewer dataset, Van Cleef will set up field maps so that Barnegat Township is able to collect that information in the field.

#### **Task 4 – GPS Homeowner Grinder Pumps**

Van Cleef will set up Field Maps to enable Barnegat Township to GPS locate and inspect Homeowner Grinder Pumps. **This will include Van Cleef setting up a list of Barnegat Township’s requested attributes and drop-down domains for this dataset.** All field locations and inspections will be completed by Barnegat Township.

#### **Task 5 – GPS Private Manhole Features**

Van Cleef will set up Field Maps to enable Barnegat Township to GPS locate and inspect Private Manholes and Private Pipelines within the Municipality. The symbology within Barnegat **Township’s Sanitary Sewer Web Map Application** will differ from assets that Barnegat Township is responsible for maintaining so they can easily distinguish between the two. This scope of work does not include Van Cleef digitizing provided as-builts of private complexes. All field locations and inspections will be completed by Barnegat Township.

#### **Task 6 – GPS Grease Trap Features**

Van Cleef will set up Field Maps to enable Barnegat Township to GPS locate and inspect Sanitary Sewer Grease Traps. 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 7 – Trouble Spot Identification Mapping**

Van Cleef will set up Field Maps to enable Barnegat Township to locate and record Trouble Spots within the Sanitary Sewer System. This will be an attribute field and inspection form that will allow Barnegat Township and Van Cleef to track trouble areas and features within the system. As work orders are completed by the Township, data will be updated by the field users to track the Date, and nature of the issue so that we can

begin to understand the limitations and weaknesses of the system for more dynamic asset management. A new Web Map Application and Dashboard will be designed specifically track Trouble Spots within the system.

#### **Task 8 – Sewer Jetting Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to record Sewer Jetting 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 – Manhole Inspection and Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to record Manhole Inspection and Maintenance. Van Cleef will utilize and expand the current Manhole dataset to include fields requested by the Municipality including Date of Inspection, Inspector, Need to be Cleaned, Need to be Repaired, Notes, etc.

#### **Task 10 – Blow Off Inspections and Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to record Blow-Off Inspection and Maintenance. Van Cleef will utilize and expand the current Blow-Off dataset to include fields requested by the Municipality including Date of Inspection, Inspector, Need to be Cleaned, Need to be Repaired, Notes, etc.

#### **Task 11 – Pump Station Inspections and Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to record Pump Station Inspection and Maintenance. Van Cleef will utilize and expand the current Pump Station dataset to include fields requested by the Municipality including Date of Inspection, Inspector, Need to be Cleaned, Need to be Repaired, Notes, etc.

#### **Task 12 – Cleanout Inspections and Maintenance**

Van Cleef will set up Field Maps to enable Barnegat Township to record Cleanout Inspection and Maintenance. Van Cleef will utilize and expand the current Cleanout dataset to include fields requested by the Municipality including Date of Inspection, Inspector, Need to be Cleaned, Need to be Repaired, Notes, etc.

#### **Task 13 Camera Inspection Web Application Video Linking**

Van Cleef will receive Sewer Camera Videos from Barnegat Township and attach them to the correlating Pipe Segment. Barnegat has not indicated how many videos need to be linked so the cost estimate is based off 200 videos. Van Cleef plans to upload the videos to Microsoft Teams or Youtube (depending on Barnegat Township's software access) and link the URL to the feature. This will help keep storage costs lower than attaching the video directly to the feature in ArcGIS Online as well as maintain peak performance. This does not include any video editing by Van Cleef such as clipping the data to length. This section assumes that there is a way to identify which pipe is being represented within the video using a Unique Identifier.

#### **Task 14 – 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.

**Task 15 – Open Requests, Project Development, Database Backups**

This task gives allotted time for requests outside of the scope of work highlighted in this proposal that relate to Sanitary Sewer GIS. This includes updates to created datasets, expansion of attribute tables to best serve Barnegat Township, adjustment of symbology, continuous database backups, etc. This section is not to exceed 100 hours of GIS support.

**FEES**

It is proposed that the above Outlined Scope of Services be performed on a Lump Sum Basis for Tasks 1 through 15:

ENGINEERING DESIGN & CONSTRUCTION MANAGEMENT FEES		
PHASES	PAYMENT	AMOUNT
Tasks 1-15: Pump Station Service Area Analysis, Estimated Age of Pipe Analysis, County Sanitary Sewer Data Request, GPS Homeowner Grinder Pumps, GPS Private Manhole Features, GPS Grease Trap Features, Trouble Spot Identification Mapping, Sewer Jetting Maintenance, Manhole Inspection and Maintenance, Blow Off Inspections and Maintenance, Pump Station Inspections and Maintenance, Cleanout Inspections and Maintenance, Camera Inspection Web Application Video Linking, Tax Map/GIS Parcel Web Application Updates, Open Requests, Project Development, Database Backups.	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

WPK 8/19/24  
w-08-55-624-011