

3015/24

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February 27, 2024

State of Delaware  
Department of Natural Resources and Environmental Control  
Division of Water - Commercial and Government Services Section  
89 Kings Highway  
Dover, Delaware 19901



Attn: Julia Lau

RE: Sussex Tech High School  
DBF #3153A006.E01

Dear Ms. Lau:

On behalf of Sussex Technical High School, we are pleased to submit the permit application for the Construction of Wastewater Collection and Conveyance Systems for the construction of 4,023 linear feet of 8" PVC, SDR-26 gravity main, new pump station and 50 linear feet of 4" PVC force main that will tie-in to the existing force main currently serving the campus. The proposed sewer will be operated by Artesian and will discharge into the Town's sewer collection. Please find enclosed the following documents:

- Construction Documents (Sheets C-001 to C-004 and C-501 to C-508)
- Application
- Check #4075 in the amount of \$825.00 for Permit Review Fee
- Check #4075 in the amount of \$300.00 for Public Notice Fee

Should you have any questions regarding this submission, please contact me at (302) 424-1441 or via e-mail at [rwl@dbfinc.com](mailto:rwl@dbfinc.com).

Sincerely,  
DAVIS, BOWEN & FRIEDEL, INC.

Handwritten signature of Ring W. Lardner in black ink.

Ring W. Lardner, P.E.  
Principal

Enc.



Department of Natural Resources  
and Environmental Control  
89 Kings Hwy  
Dover, DE 19901  
dnrec.delaware.gov

Division of Water  
Commercial and Government Services Section

Phone: (302) 739-9946  
Fax: (302) 739-8369

## INSTRUCTIONS FOR COMPLETING THE PERMIT APPLICATION FOR THE CONSTRUCTION OF WASTEWATER COLLECTION AND CONVEYANCE SYSTEMS

The following items must accompany the application. **Please note that incomplete application packages will be returned in their entirety and not reviewed until such time as all required information is received.**

- 1. A narrative summary of the intended purpose and design of the proposed facilities.
- 2. One (1) set of final construction plans and specifications, if applicable, signed and sealed by a Delaware-registered Professional Engineer, or a Delaware-registered Professional Land Surveyor for gravity systems only. One (1) electronic copy of final Plans.
- 3. One (1) electronic copy of final Plans.
- 4. The final plans must be drawn to scale showing slopes, inverts, pipe types and sizes, existing and proposed ground surfaces, tops of manholes, water lines, stormwater and stream crossings, encasements shown in plan and profile, and other information if pertinent or requested.
- 5. For pump/lift stations and force mains, include all calculations and pump/performance curves.
- 6. A check made payable to the State of Delaware for eight hundred twenty-five dollars (\$825.00), the non-refundable permit review fee. This fee covers the initial review and one follow-up review of any corrections or changes made to address the Division's comments. An additional eight hundred twenty-five dollars (\$825.00) non-refundable review fee must be submitted for resubmission of the plans if changes are made to the project which trigger a complete review of the permit application.
- 7. Your permit will have a public notice requirement if your system includes force mains or pump/lift stations. Include a check made payable to the State of Delaware for three hundred dollars (\$300.00) for the reimbursement of legal notices if the system has a force main connection or a pump/lift station.
- Please submit the completed application package, as outlined above, to DE DNREC, Division of Water, Commercial and Government Services Section, 89 Kings Highway, Dover, DE 19901. Please note, a new application, including the review fee, must be submitted if the Division's comments are not addressed or if requested supplemental information is not provided within one (1) year of the comment or request date.
- The following items must be submitted prior to permit issuance:
  - 8. Verification from the appropriate county or municipal planning authority that the project has the proper zoning approval.
  - 9. A letter from the owner/operator of the wastewater facilities to which the proposed collection and conveyance facilities connect. The letter must include confirmation that the owner/operator has approved the project, that the owner/operator will take responsibility for treating and disposing of the wastewater to be conveyed and that the downstream facilities have the capacity to manage the additional flows without causing or contributing to violations of Delaware's Environmental Protection Act (7 Del. C., Chapter 60) and the regulations promulgated thereafter. This includes, but is not limited to, unauthorized discharges such as overflows at manholes and violations of the treatment system's operating permit (for example, the National Pollutant Discharge Elimination System (NPDES) permit).

- Visit us on the web at: <https://dnrec.alpha.delaware.gov/water/surface-water/>

**APPLICATION FOR THE CONSTRUCTION OF  
WASTEWATER COLLECTION AND CONVEYANCE SYSTEMS**

Application must be complete, typewritten or clearly printed

Date Application Submitted 2/27/2024

| PROJECT INFORMATION  |  |   |                  |
|--|--|---|------------------|
| Project Name and Location/ Address<br>Sussex Technical High School Pump Station<br>17099 County Seat Highway<br>Georgetown, DE 19947   |  |   |                  |
| Tax Parcel Number(s)<br>2-31-19.00-7.00, 8.01 and 14.01  |  |   |                  |
| County<br><input type="checkbox"/> Kent <input type="checkbox"/> New Castle <input checked="" type="checkbox"/> Sussex   |  | Watershed ( <a href="http://www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment.aspx">www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment.aspx</a> )<br><input type="checkbox"/> Chesapeake Bay <input checked="" type="checkbox"/> DE Bay/Estuary <input type="checkbox"/> Inland Bays/Atl Ocean <input type="checkbox"/> Piedmont |                  |
| Sewer District or Interceptor<br><br>Town of Georgetown  |  | Wastewater Treatment/Disposal Facility Name<br><br>Town of Georgetown Spray Irrigation  |                  |
| Anticipated Construction Start Date<br><br>4/1/2024  |  | Treatment/Disposal Facility Owner and Operating Permit Number<br><br>Georgetown Spray Irrigation, Town of Georgetown, 359297-09   |                  |
| Please note, construction permits expire three (3) years from the date of permit issuance.   |  |   |                  |
| Are you requesting plan review and comment on <u>WPCC Construction Permit issuance? (circle one)</u>   |  |   |                  |
| Design Flow (gallons/day)<br>Average<br>24,000   |  | Peak<br>96,000  | Peak Factor<br>4 |
| Basis of Design<br>240 GPD / EDU   |  |   |                  |
| Description<br>Sussex Tech will install a new pump station with backup generation along with 50 linear feet of 4" force main to tie-in to the existing force main to replace the existing pump station. The school will also install 4,023 linear feet of 8" PVC gravity force main to support the new school. |  |   |                  |
| OWNER/DEVELOPER  |  |   |                  |
| Company Name<br>Sussex Technical School District   |  |   |                  |
| Mailing Address<br>17099 County Seat Highway   |  |   |                  |
| City<br>Georgetown   |  | State<br>DE   | Zip<br>19947     |
| Contact Name<br>Hud Athey  |  |   |                  |
| E-Mail Address<br>Hud.Athey@sussexvt.k12.de.us   |  |   |                  |
| Telephone<br>(302) 856-0961  |  | Cell  | Fax              |

| <b>ENGINEER</b>   |   |  |  |   |                               |
|---|---|--|--|---|-------------------------------|
| Company Name<br>Davis, Bowen & Friedel, Inc.  |   |  |  |   |                               |
| Mailing Address<br>1 Park Avenue  |   |  |  |   |                               |
| City<br>Milford   |   |  | State<br>DE  |   | Zip<br>19963                  |
| Contact Name<br>Ring W. Lardner, P.E.   |   |  |  |   |                               |
| E-Mail Address<br>rwl@dbfinc.com  |   |  |  |   |                               |
| Telephone<br>(302) 424-1441   |   | Cell<br>(302) 632-9779   |  | Fax<br>(302) 424-0430                         |                               |
| <b>GRAVITY SEWER INFORMATION</b>  |   |  |  |   |                               |
| Ownership<br><input checked="" type="checkbox"/> Public <input type="checkbox"/> Private  | Type of Sewer System<br><input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other? |  |  | If Other, list below                          |                               |
| Type of Pipe<br>PVC, SDR-26   | Length (ft)<br>4,023  | Diameter (in)<br>6"  | Joint Specification<br>Bell and Spigot                     | Min. Slope (ft/ft)<br>0.0028                  | Min. Velocity (ft/sec)<br>2.0 |
| Minimum Pipe Cover (ft)<br>3.0  | Number of Manholes<br>20  | Drop manholes provided?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |  | Maximum Distance Between Manholes (ft)<br>400 |                               |
| Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   |  | If not, explain provisions to prevent cross-contamination: |   |                               |
| Explain any special challenges (for example, stream, highway and/or railroad crossings, directional drilling, elevated sewers, etc.)<br>None.                                   |   |  |  |   |                               |
| Comments<br>The project is using a vacuum system with division valves to isolate the system and vacuum pits to collect the individual lot wastewater.                           |   |  |  |   |                               |

| PUMP/LIFT STATION INFORMATION   |   |   |  |   |
|---|---|---|--|---|
| Ownership<br><input checked="" type="checkbox"/> Public <input type="checkbox"/> Private  |   | Type of Wastewater<br><input type="checkbox"/> Residential <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other? |  | If Other, list below  |
| Pump Station Flows (gallons/day)<br>Design<br>96,000  |   | Average<br>24,000   | Peak<br>4  | Peak Factor<br>240 GPD / EDU (100 EDUs)   |
| Basis of Design   |   |   | Pump Type<br>Submersible   |   |
| Will peak flows be accommodated if largest unit fails?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |   | Pump calc's and pump curves attached?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  | Cycle Time (minutes)<br>7.5  | Wet Well Detention Time (minutes)<br>7.5  |
| Check valves provided on discharge line?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   |   |   | Gate valves provided on discharge line?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   |
| If not, explain alternate procedure:<br>N/A   |   |   |  |   |
| Ventilation provided in wet well?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |   | Dry Well?<br><input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No   | Is an alarm system included?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No            | Alternate source of power?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| What other provisions for emergency operations?<br>Pump Station to be operated by Artesian and ties into their SCADA system.  |   |   |  |   |
| Height of Influent Above Pump (suction head) (ft)<br>6  |   | Height of Effluent Above Pump (discharge head) (ft)<br>15   |  | Friction Loss (ft)<br>55.90'  |
| Pump Design Point<br>68GPM @ 78.30'   | Pump Operating Point<br>74 @ 78'  | Static Head (ft)<br>22.30'  | Total Head (ft)<br>78.30'  | Required Motor Horsepower (hp)<br>6.5   |
| FORCE MAIN INFORMATION  |   |   |  |   |
| Type of Pipe<br>PVC   |   | Length (ft)<br>50   |  | Diameter (in)<br>4"   |
| Hazen-Williams "C" Design Factor<br>120   | Type of Joints<br>Bell and Spigot   | Velocity Under Design Conditions (ft/sec)<br>1.69   | Minimum Pipe Cover (ft)<br>3.0   |   |
| Air relief valves specified?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No   | Clean-outs provided?<br><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Maximum distance between clean-outs (ft)<br>N/A   |  |   |
| Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained?<br><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |   | If not, explain provisions to prevent cross-contamination:  |  |   |
| Comments  |   |   |  |   |

**RECEIPT**

March 6th, 2024

**21**

RCVD FROM Davis, Bowen & Friedel, Inc. \$825.00  
FOR Eight Hundred twenty-five dollars and 00/100 DOLLARS  
Plan review fee WPCC 3015/24 Sussex Technical High School

|         |    |        |                                     |         |                         |
|---------|----|--------|-------------------------------------|---------|-------------------------|
| ACCT    | \$ | 825.00 | <input checked="" type="checkbox"/> | CHECK # | 4074                    |
| PAYMENT | \$ | 825.00 | <input type="checkbox"/>            | CASH    |                         |
|         | \$ | -      | <input type="checkbox"/>            | OTHER   | BY <u>Kevin Bronson</u> |

DNREC, Surface Water Discharges Section, 89 Kings Hwy, Dover, DE 19901

**RECEIPT**

March 6th, 2024

**22**

RCVD FROM Davis, Bowen & Friedel, Inc. \$300.00  
FOR Three Hundred Dollars and 00/100 DOLLARS  
WPCC Legal Notice Reimbursement 3015/24

|         |    |        |                                     |         |                         |
|---------|----|--------|-------------------------------------|---------|-------------------------|
| ACCT    | \$ | 300.00 | <input checked="" type="checkbox"/> | CHECK # | 4075                    |
| PAYMENT | \$ | 300.00 | <input type="checkbox"/>            | CASH    |                         |
|         | \$ | -      | <input type="checkbox"/>            | OTHER   | BY <u>Kevin Bronson</u> |

DNREC, Surface Water Discharges Section, 89 Kings Hwy, Dover, DE 19901