



3059/24

### LETTER OF TRANSMITTAL

Christiana Executive Campus  
121 Continental Drive, Suite 207  
Newark, DE 19713  
Tel: 302-655-4451  
Fax: 302-654-2895

**TO:** Department of Natural Resources and Environmental Control (DNREC)  
Division of Water, Commercial and Government Services Section  
89 Kings Highway  
Dover, Delaware 19901

**RECEIVED**

**JUL 17 2024**

**DNREC**  
Division of Water

<b>DATE</b>	7/11/24	<b>JOB NO.</b>	SMYRN21004
<b>ATTENTION</b>	Division of Water, Commercial and Government Services Section		
<b>RE:</b>	North Duck Creek Phase 2 - OMB Extension		

**WE ARE SENDING YOU**  Attached  Under separate cover via UPS the following items:

Shop Drawings     Prints     Plans     Samples     Specifications  
 Copy of Letter     Change Order     Application; Fee Checks (2)

LIST OF ITEMS TRANSMITTED			
COPIES	DATE	NO:	DESCRIPTION
1			Application for Construction of Wastewater Collection and Conveyance Systems
1			Facility Estimated Build-Out Fixture Load Tabulation
1			North Duck Creek Utility Extension Phase 2 Plans (17 Sheets)
1			Permit Review Fee Check (\$825)
1			Public Notice Reimbursement Fee Check (\$300)

THESE ARE TRANSMITTED as checked below:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> For approval                      | <input type="checkbox"/> Approved as submitted            | <input type="checkbox"/> Resubmit _____ copies for approval   |
| <input type="checkbox"/> For your use                      | <input type="checkbox"/> Approved as noted                | <input type="checkbox"/> Submit _____ copies for distribution |
| <input type="checkbox"/> As requested                      | <input type="checkbox"/> Returned for corrections         | <input type="checkbox"/> Return _____ corrected prints        |
| <input checked="" type="checkbox"/> For review and comment | <input type="checkbox"/> _____                            |   |
| <input type="checkbox"/> FOR BIDS DUE _____                | <input type="checkbox"/> PRINTS RETURNED AFTER LOAN TO US |   |

**REMARKS** Please review the provided Application and Plans. Please return comments to ATTN: Eric Jenson or ejenson@pennoni.com.

COPY TO \_\_\_\_\_

SIGNED: *Eric Jenson*



July 11, 2024

SMYRN21004

DNREC  
Division of Water  
89 Kings Highway  
Dover, DE 19901

**RE: North Duck Creek Utility Extension – Phase 2 – OMB Extension  
Wastewater Collection and Conveyance Systems - Submission #1**

Dear Sir or Madam:

We are respectfully submitting plans and associated documents for the subject project for your review.

This project involves installation of a low-pressure force main conveyance pipe that will serve future facilities constructed on the adjacent State of Delaware/OMB property warehouse parcel. OMB will install on-site pumping facilities privately to connect. The force main crosses under the adjacent westbound SR-1 entrance ramp via horizontal directional drill and runs for approximate length of 1,250 feet. The force main then connects to existing gravity sewer owned by the Town of Smyrna and located with a utility easement parallel to SR-13. One new drop manhole will be installed at the point of transition to allow for an internal drop of approximately 8 vertical feet to the depth of existing gravity sewer; an existing gravity sewer pipe stub is already in place for the connection of this manhole.

Please don't hesitate to reach out if you have any questions or any additional documents are required.

Sincerely,

**PENNONI ASSOCIATES INC.**

A handwritten signature in blue ink that reads "Brian W. Miller".

Brian Miller, PE  
Senior Engineer

Enclosures: As Noted

BWM/edj

cc: Jason McNatt, Town of Smyrna  
Jacob Mitchell, Town of Smyrna  
Josh Little, Town of Smyrna



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) 739-2296

## 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. - **Hardcopy plans are provided for review. Signed and Sealed plans will be provided following review approval.**  
One (1) set of final construction plans and specifications (paper copy), if applicable, signed and sealed by a Delaware-registered Professional Engineer, or a Delaware-registered Professional Land Surveyor for gravity systems only.
3. One (1) electronic copy of final Plans. **This project includes the installation of 2" LPFM piping to serve a State of DE facility. Grinder pump calculations and technical information are being permitted under separate submission by the facility owner.**
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.delaware.gov/water/commercial-government/>

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

Application must be complete, typewritten or clearly printed

Date Application Submitted July 11, 2024

PROJECT INFORMATION			
Project Name and Location/ Address			
North Duck Creek Utility Extension - Phase 2 Dupont Highway (SR-13); Intersection of Dupont Highway (SR-13) and Duck Creek Road (RD 486)			
Tax Parcel Number(s) 28-003.00-005 - DE (OMB); 28-002.00-033 - DE, Smyrna Rest Area			
County <input type="checkbox"/> Kent <input checked="" type="checkbox"/> New Castle <input type="checkbox"/> Sussex	Watershed (www.dnrec.delaware.gov/swc/wa/Pages/WatershedAssessment.aspx) <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	Wastewater Treatment/Disposal Facility Name  Kent County Regional Wastewater Treatment Facility		
Anticipated Construction Start Date  FALL 2024 - SPRING 2025	Treatment/Disposal Facility Owner and Operating Permit Number  Kent County Department of Public Works		
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?</u> (circle one)			
Design Flow (gallons/day) Average 102,000 GPD	Peak 408,000 GPD	Peak Factor 4.0 (10 States Std.)	Basis of Design See attached estimated build-out fixture load
Description This project involves installation of a low pressure force main conveyance pipe that will serve future facilities constructed on the adjacent State of Delaware/OMB property warehouse facility. OMB will install on-site pumping facilities privately to connect. The force main connects to existing gravity sewer to the southeast owned by the Town of Smyrna.			
OWNER/DEVELOPER			
Company Name Town of Smyrna			
Mailing Address 27 South Market Street			
City Smyrna	State DE	Zip 19977	
Contact Name Jason McNatt, Director of Public Works			
E-Mail Address JMcNatt@Smyrna.Delaware.gov			
Telephone (302) 653-9231	Cell	Fax	

ENGINEER					
Company Name <b>Pennoni Associates, Inc.</b>					
Mailing Address <b>121 Continental Drive</b>					
City <b>Newark</b>		State <b>Delaware</b>		Zip <b>19320</b>	
Contact Name <b>Brian Miller, PE</b>					
E-Mail Address <b>BMiller@Pennoni.com</b>					
Telephone <b>(302) 351-5266</b>		Cell		Fax	
GRAVITY SEWER INFORMATION					
Ownership <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	Type of Sewer System <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Other?			If Other, list below <b>Municipal</b>	
Type of Pipe	Length (ft)	Diameter (in)	Joint Specification	Min. Slope (ft/ft)	Min. Velocity (ft/sec)
Minimum Pipe Cover (ft)	Number of Manholes <b>1</b>	Drop manholes provided? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Maximum Distance Between Manholes (ft) <b>300</b>	
Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained? <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.)  <b>This project includes installation of 2" low pressure force main piping via directional drill across Duck Creek Road (RD 486) at its transition into the southbound entrance ramp onto SR-1 just north of the intersection of Dupont Highway (SR-13) and Duck Creek Road (RD 486) to avoid open cut excavation of the ramp and adjacent tax ditch. A Letter of No Objection has been received for the tax ditch crossing.</b>					
Comments  <b>The low pressure force main will serve future facilities constructed on the adjacent State of Delaware/OMB property warehouse facility. The Town of Smyrna's existing gravity sewer termination is located approximately 1,100 feet south of the OMB parcel along SR-13. One new drop manhole will be installed adjacent to the existing terminal manhole in order to provide an approximate 8-FT internal drop between the LPFM and existing gravity sewer elevation. The force main then extends directly from the new drop manhole to the OMB site.</b>					

PUMP/LIFT STATION INFORMATION				
Ownership <input type="checkbox"/> Public <input type="checkbox"/> Private		Type of Wastewater <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other?		If Other, list below
Pump Station Flows (gallons/day) Design		Average	Peak	Peak Factor
Basis of Design			Pump Type	
Will peak flows be accommodated if largest unit fails? <input type="checkbox"/> Yes <input type="checkbox"/> No		Pump calc's and pump curves attached? <input type="checkbox"/> Yes <input type="checkbox"/> No	Cycle Time (minutes)	Wet Well Detention Time (minutes)
Check valves provided on discharge line? <input type="checkbox"/> Yes <input type="checkbox"/> No			Gate valves provided on discharge line? <input type="checkbox"/> Yes <input type="checkbox"/> No	
If not, explain alternate procedure:				
Ventilation provided in wet well? <input type="checkbox"/> Yes <input type="checkbox"/> No		Dry Well? <input type="checkbox"/> Yes <input type="checkbox"/> No	Is an alarm system included? <input type="checkbox"/> Yes <input type="checkbox"/> No	Alternate source of power? <input type="checkbox"/> Yes <input type="checkbox"/> No
What other provisions for emergency operations?				
Height of Influent Above Pump (suction head) (ft)		Height of Effluent Above Pump (discharge head) (ft)		Friction Loss (ft)
Pump Design Point	Pump Operating Point	Static Head (ft)	Total Head (ft)	Required Motor Horsepower (hp)
FORCE MAIN INFORMATION				
Type of Pipe <b>HDPE DR-11</b>		Length (ft) <b>1,240 LF</b>		Diameter (in) <b>2.0"</b>
Hazen-Williams "C" Design Factor	Type of Joints <b>Fused HDPE</b>	Velocity Under Design Conditions (ft/sec)	Minimum Pipe Cover (ft) <b>4.0 FT</b>	
Air relief valves specified? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Clean-outs provided? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Maximum distance between clean-outs (ft) <b>200 LF</b>		
Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		If not, explain provisions to prevent cross-contamination:		
Comments <b>The low pressure force main 2.0" DIA. size is based upon estimated build-out fixture count information (attached) provided by the OMB site engineer and is sized as the assumed maximum diameter pipe that could be required for the build-out flow. Final flow values are subject to minor changes by the OMB site Owner/Engineer and they are responsible for design and sizing of the appropriate grinder pump unit(s) on site to accommodate site needs and ensure cleansing velocity for the provided low pressure force main.</b>				



GSS Smyrna  
 5408 DuPont Parkway

Site Buildout  
 Estimated Plumbing Fixture Load

Existing Building					
Fixture	Quantity	Drainage Units		Demand Units	
		DFU	Total	WSFU	Total
Kitchen Sink	1	2	2	1.4	1.4
Lavatory	2	1	1	2	4
Water Closet	2	4	4	5	10
Service Sink	1	2	2	3	3
Drinking Fountain	2	0.5	0.5	0.25	0.5
Floor Drain	0	2	2	0	0
Hose Bib	2	0	0	3	6
Total:				24.9	WSFU
Demand:				21.5	GPM

Proposed Warehouse					
Fixture	Quantity	Drainage Units		Demand Units	
		DFU	Total	WSFU	Total
Kitchen Sink	1	2	2	1.4	1.4
Lavatory	3	1	1	2	6
Water Closet	3	4	4	5	15
Service Sink	3	2	2	3	9
Drinking Fountain	2	0.5	0.5	0.25	0.5
Floor Drain	4	2	2	0	0
Hose Bib	5	0	0	2.25	11.25
Total:				43.15	WSFU
Demand:				27.7	GPM

Future Storage Building					
Fixture	Quantity	Drainage Units		Demand Units	
		DFU	Total	WSFU	Total
Kitchen Sink	1	2	2	1.4	1.4
Lavatory	2	1	1	2	4
Water Closet	2	4	4	5	10
Service Sink	1	2	2	3	3
Drinking Fountain	2	0.5	0.5	0.25	0.5
Floor Drain	0	2	2	0	0
Hose Bib	2	0	0	3	6
Total:				24.9	WSFU
Demand:				21.5	GPM

Total Site WSFU:	92.95	WSFU
Total Site Demand:	70.7	GPM

**RECEIPT**

	July 18th, 2024					<b>81</b>
<i>RCVD FROM</i>	Pennoni					\$825.00
	Eight Hundred twenty-five dollars and 00/100					<i>DOLLARS</i>
<i>FOR</i>	Plan review fee WPCC 3059/24 North Duck Creek Utility Extension Phase 2					
<i>ACCT</i>	\$	825.00		x	<i>CHECK #</i>	345158
<i>PAYMENT</i>	\$	825.00			<i>CASH</i>	
	\$	-			<i>OTHER</i>	BY <i>Kevin Bronson</i>

DNREC, Commercial & Government Services Section, 89 Kings Hwy, Dover, DE 19901

**RECEIPT**

	July 18th, 2024					<b>82</b>
<i>RCVD FROM</i>	Pennoni					\$300.00
	Three Hundred Dollars and 00/100					<i>DOLLARS</i>
<i>FOR</i>	WPCC Legal Notice Reimbursement 3059/24					
<i>ACCT</i>	\$	300.00		x	<i>CHECK #</i>	345159
<i>PAYMENT</i>	\$	300.00			<i>CASH</i>	
	\$	-			<i>OTHER</i>	BY <i>Kevin Bronson</i>

DNREC, Commercial & Government Services Section, 89 Kings Hwy, Dover, DE 19901