



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 _____

PROJECT INFORMATION			
Project Name and Location/ Address Kent County Regional Resource Recovery Facility Biosolids Capacity Expansion Project 139 Milford Neck Road, Milford, DE 19963			
Tax Parcel Number(s) 5-00-14200-01-5500-000; 5-00-14200-01-2000-000			
County <input checked="" type="checkbox"/> Kent <input 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 Resource Recovery Facility (KC RRRF)	
Anticipated Construction Start Date February 1, 2026		Treatment/Disposal Facility Owner and Operating Permit Number DE 0020338	
Please note, construction permits expire three (3) years from the date of permit issuance.			
Are you requesting plan review and comment or WPCC Construction Permit issuance? (circle one)			
Design Flow (gallons/day) Average 20,000,000		Peak	Peak Factor
			Basis of Design Existing RRRF capacity
Description This project is for improvements to biosolids handling at the existing wastewater treatment facility. Overall capacity of the facility or discharge to receiving waters will not change.			
OWNER/DEVELOPER			
Company Name Kent County Levy Court			
Mailing Address 555 Bay Rd.			
City Dover		State Delaware	Zip 19901
Contact Name Andy Riggi			
E-Mail Address andy.riggi@kentcountyde.gov			
Telephone 302-744-2430		Cell	Fax

ENGINEER					
Company Name Rummel, Klepper & Kahl					
Mailing Address 700 East Pratt St					
City Baltimore			State Maryland		Zip 21202
Contact Name Maia Tatinclaux					
E-Mail Address mtatinclaux@rkk.com					
Telephone 410-462-9260		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 Process drains from sludge dewatering and drying	
Type of Pipe epoxy-lined DIP	Length (ft) 200	Diameter (in) 12	Joint Specification restrained mechanical	Min. Slope (ft/ft) .02	Min. Velocity (ft/sec) 2
Minimum Pipe Cover (ft) 3.5	Number of Manholes 2	Drop manholes provided? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Maximum Distance Between Manholes (ft) 30	
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.)					
Comments The gravity sewer included in this project is to convey process drains from the new sludge dewatering and drying equipment to the filtrate and condensate pump station. See attached plans for location.					

FILTRATE AND CONDENSATE PUMP/LIFT STATION INFORMATION				
Ownership <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		Type of Wastewater <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Other?		If Other, list below Process drainage from sludge dewatering and drying
Pump Station Flows (gallons/day) Design 3,888,000		Average 1,908,000	Peak 3,888,000	Peak Factor Based on max. conditions of sludge processing operation
Basis of Design Hidrostal F6K-M4 FE4T4			Pump Type Submersible Screw Impeller	
Will peak flows be accommodated if largest unit fails? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Pump calc's and pump curves attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cycle Time (minutes) min of 10
		Wet Well Detention Time (minutes) min of 2.6		
Check valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			Gate valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
If not, explain alternate procedure:				
Ventilation provided in wet well? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Dry Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is an alarm system included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
		Alternate source of power? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
What other provisions for emergency operations? Sludge dewatering and drying can be stopped if there is a failure at the pump station.				
Height of Influent Above Pump (suction head) (ft) 8 ft		Height of Effluent Above Pump (discharge head) (ft) 19.5		Friction Loss (ft) 66
Pump Design Point 1,350 gpm	Pump Operating Point 1,350 gpm	Static Head (ft) 19.5	Total Head (ft) 70	Required Motor Horsepower (hp) 50
FORCE MAIN INFORMATION				
Type of Pipe Epoxy lined ductile iron		Length (ft) 1226		Diameter (in) 12
Hazen-Williams "C" Design Factor 150 (new)	Type of Joints Restrained mechanical		Velocity Under Design Conditions (ft/sec) 3.76	Minimum Pipe Cover (ft) 3.5 ft
Air relief valves specified? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Clean-outs provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Maximum distance between clean-outs (ft) NA	
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 See attached condensate and filtrate pump station design documents including calculations, drawings, system and pump curves.				

PLANT WATER PUMP/LIFT STATION INFORMATION				
Ownership <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private		Type of Wastewater <input type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Other?		If Other, list below Treated plant effluent water
Pump Station Flows (gallons/day) Design 2,800,000		Average 1,400,000	Peak 2,800,000	Peak Factor Based on max. water demand during sludge processing operation
Basis of Design KSB K 100-401			Pump Type Submersible Closed Impeller	
Will peak flows be accommodated if largest unit fails? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Pump calc's and pump curves attached? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Cycle Time (minutes) min of 10
Check valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Gate valves provided on discharge line? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
If not, explain alternate procedure:				
Ventilation provided in wet well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Dry Well? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is an alarm system included? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Alternate source of power? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				
What other provisions for emergency operations? Water tower provides some storage capacity and existing plant water pump station will remain in-service as backup.				
Height of Influent Above Pump (suction head) (ft) 3.5 ft		Height of Effluent Above Pump (discharge head) (ft) 128 (water tower el.)		Friction Loss (ft) 10
Pump Design Point 972 gpm	Pump Operating Point 1,020 gpm	Static Head (ft) 128	Total Head (ft) 141	Required Motor Horsepower (hp) 56
FORCE MAIN INFORMATION				
Type of Pipe Cement lined ductile iron		Length (ft) 995 112		Diameter (in) 12 16
Hazen-Williams "C" Design Factor 120	Type of Joints Restrained mechanical		Velocity Under Design Conditions (ft/sec) 2.6 - 5.5	Minimum Pipe Cover (ft) 3.5 ft
Air relief valves specified? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Clean-outs provided? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Maximum distance between clean-outs (ft) NA	
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 See attached plant water pump station design documents including calculations, drawings, system and pump curves. 16" piping is between plant effluent box and plant water pump station wet well - the pipe will always be full/under pressure.				