

3066/24



MORRIS & RITCHIE ASSOCIATES, INC.
Engineers, Architects, Planners,
Surveyors and Landscape Architects

LETTER OF TRANSMITTAL

111 Ruthar Drive
Newark, DE 19711
302-326-2200 / FAX 302-326-2399

DATE:	8/1/2024	JOB NO.:	21482
ATTN:	Julia Lau		
RE:	Paradise Meadows		
	W&S and PS&FM submission		

TO: DNREC Division of Water
Surface Water Discharge Section
89 Kings Hwy
Dover, DE 19901

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:
 Shop drawings Prints Plans Specifications
 Copy of letter Change order _____

COPIES	DATE	NO.	DESCRIPTION
1	8/1/2024	4	Application and Checklist for the Construction of Wastewater Collection and Conveyance Systems
1	8/1/2024	22	Water & Sewer plan set
1	8/1/2024	16	Off-site Forcemain plan set
1	8/1/2024	1	Narrative Summary
1	8/1/2024		Check in the amount of \$825
1	8/1/2024		Check in the amount of \$300

RECEIVED
AUG 05 2024
DNREC
Division of Water

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- As requested
- For review and comment
- FOR BIDS DUE _____
- Approved as submitted
- Approved as noted
- Returned for corrections
- Resubmit _____ copies for approval
- Submit _____ copies for distribution
- Return _____ corrected prints

Delivery Method:

- Hand deliver
- USPS / Fed Ex
- Pick up at MRA Office
- Signature Required

REMARKS:

Should you have any questions or comments, please contact John Hayes at (302) 326-2200.

COPY TO: File _____

Signed: _____

If enclosures are not as noted, kindly notify us at once.



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. 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.
- 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 08/01/2024

PROJECT INFORMATION			
Project Name and Location/ Address Paradise Meadows 28084 Cave Neck Road Milton, DE 19968			
Tax Parcel Number(s) 235-21.00-182.00			
County <input type="checkbox"/> Kent <input type="checkbox"/> New Castle <input checked="" 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 N/A	Wastewater Treatment/Disposal Facility Name Beaver Creek Regional Wastewater Treatment Facility		
Anticipated Construction Start Date Late Fall 2024	Treatment/Disposal Facility Owner and Operating Permit Number Artesian Wastewater Management, Inc.		
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 57,300	Peak 200,550	Peak Factor 3.5	Basis of Design Hazen - Williams
Description Residential Wastewater			
OWNER/DEVELOPER			
Company Name CNR Land Development, LLC			
Mailing Address 860 Hopewell Road			
City Chruchville	State MD	Zip 21028	
Contact Name John Richardson			
E-Mail Address jrichardson@dxiconstruction.com			
Telephone 410-838-2030	Cell	Fax	

ENGINEER					
Company Name					
Morris & Ritchie Associates, Inc.					
Mailing Address					
111 Ruthar Drive					
City			State		Zip
Newark			DE		19711
Contact Name					
John Hayes					
E-Mail Address					
JHayes@mragta.com					
Telephone		Cell		Fax	
302-326-2200					
GRAVITY SEWER INFORMATION					
Ownership	Type of Sewer System			If Other, list below	
<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	<input checked="" type="checkbox"/> Residential <input type="checkbox"/> Commercial <input type="checkbox"/> Industrial <input type="checkbox"/> Other?				
Type of Pipe	Length (ft)	Diameter (in)	Joint Specification	Min. Slope (ft/ft)	Min. Velocity (ft/sec)
PVC SDR 26	8,693	8"	Push-on	0.0040	2
DIP Class 52	1,244	8"	Push-on	0.0039	2
Minimum Pipe Cover (ft)	Number of Manholes	Drop manholes provided?		Maximum Distance Between Manholes (ft)	
6.10	53	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		390	
Minimum ten foot (10') horizontal & eighteen inch (18") vertical separation from water lines maintained?			If not, explain provisions to prevent cross-contamination:		
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
Explain any special challenges (for example, stream, highway and/or railroad crossings, directional drilling, elevated sewers, etc.)					
Comments					

PUMP/LIFT STATION INFORMATION				
Ownership <input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	Type of Wastewater <input checked="" 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 288,000 GPD	Average 57,300 GPD	Peak 200,550 GPD	Peak Factor 3.5	
Basis of Design 288,000 GPD		Pump Type Submersible - FLYGT MODEL NP-3127 SH 3		
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)	Wet Well Detention Time (minutes) 2.35 minutes	
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? Emergency bypass pump connection				
Height of Influent Above Pump (suction head) (ft) 3 ft	Height of Effluent Above Pump (discharge head) (ft) 37.25 ft		Friction Loss (ft) 50.13 ft	
Pump Design Point 200gpm @ 87ft (TDH)	Pump Operating Point 209gpm @ 91ft (TDH)	Static Head (ft) 37.25 ft	Total Head (ft) 87 ft	Required Motor Horsepower (hp) 12 Hp
FORCE MAIN INFORMATION				
Type of Pipe C900 PVC DR 18		Length (ft) 6,334 ft	Diameter (in) 6"	
Hazen-Williams "C" Design Factor 120	Type of Joints Bell and socket	Velocity Under Design Conditions (ft/sec) 2.2 fps	Minimum Pipe Cover (ft) 4 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)		
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				

MORRIS & RITCHIE ASSOCIATES, INC.

ENGINEERS, ARCHITECTS, PLANNERS, SURVEYORS,
AND LANDSCAPE ARCHITECTS



Paradise Meadows Narrative Summary

The intended purpose of this proposed facilities is to provide sanitary sewer service to 191 single family lots and a clubhouse. The proposed subdivision is on Cave Neck Road – S088, approximately 3450' southwest of Hudson Road – S258. The project is being developed by CNR Land Development, LLC. Under this contract approximately 8,693 feet of 8" PVC gravity sanitary sewer, 1,244 feet of 8" DIP Class 52 gravity sanitary sewer, and 53 Manholes will be constructed. The gravity sewer flows to a proposed onsite Pump Station that will discharge a proposed onsite 6" forcemain to an existing 8" forcemain on Hudson Road.

The site will use 8" PVC SDR 26 and 8" DIP Class 52 pipes. The manholes are Sussex County Engineering Department S-101 standard manholes. Slopes on the gravity sewer varies, but a minimum of 0.39% was used for the 8" lines. Each lot is serviced by lateral and a sewer lateral chart is provided on the plans.

The plans have been reviewed by the Sussex County Engineering Department. We are seeking the approval of the Wastewater Construction Permit.

111 Ruthar Drive, Newark, DE 19711 (302) 326-2200 Fax: (302) 326-2399 www.mragta.com

Abingdon, MD ♦
(410) 515-9000

Laurel, MD ♦
(410) 792-9792

Towson, MD ♦
(410) 821-1690

Georgetown, DE ♦
(302) 855-5734

Newark, DE ♦
(302) 326-2200

Sterling, VA ♦
(703) 674-0161

PLANNING & ZONING COMMISSION

ROBERT C. WHEATLEY, CHAIRMAN
KIM HOEY STEVENSON, VICE-CHAIRMAN
R. KELLER HOPKINS
J. BRUCE MEARS
HOLLY J. WINGATE



Sussex County

DELAWARE
sussexcountyde.gov
302-855-7878 T
302-854-5079 F
JAMIE WHITEHOUSE, AICP, MRTPI
DIRECTOR

November 18, 2022

Mr. Phillip L. Tolliver, P.E.
Principal
Morris & Ritchie Associates, Inc.
18 Boulden Circle, Suite 36
New Castle, DE 19720

By email to: ptolliver@mragta.com

Re: Notice of Decision Letter for the Preliminary Subdivision Plan for Paradise Meadows (2022-03) for the establishment of a cluster subdivision to consist of 191 single-family lots, private roads, open space, and proposed amenities to include pergolas, a clubhouse, inground pool and tot lot to be located on the south side of Cave Neck Road (S.C.R. 88)
Tax Parcel: 235-21.00-182.00

Dear Mr. Tolliver,

At their meeting of **Thursday, November 17th, 2022**, the Planning & Zoning Commission **approved the Preliminary Subdivision Plan for Paradise Meadows (2022-03)** for the establishment of a cluster subdivision to consist of 191 single-family lots, private roads, open space, and proposed amenities to include pergolas, a clubhouse, inground pool and tot lot to be located on the south side of Cave Neck Road (S.C.R. 88), approximately 1.3 miles east of the intersection of Cave Neck Road (S.C.R. 88) and Diamond Farm Road (S.C.R. 257). The property lies within the Low Density Area per Sussex County's 2018 Comprehensive Plan. The parcel is also not located within the Henlopen Transportation Improvement District (TID). The parcel is zoned Agricultural Residential (AR-1) Zoning District.

The Preliminary Subdivision Plan is valid for three (3) years from the date of Planning Commission decision. A Final Subdivision Plan shall be approved within three (3) years of the date of approval of the Preliminary Plan or the action of the Planning Commission shall be deemed canceled. Unless an extension is granted, approval shall be rendered null and void if substantial construction is not commenced within five (5) years of the date of recordation of the final plat.

As part of their motion, the Planning Commission acted to approve the development subject to the following conditions (which shall be clearly annotated on the Revised Preliminary and Final Subdivision Plans):

- A. There shall be no more than 191 lots within the subdivision.
- B. The Final Site Plan shall confirm that approximately 45% of the site remains as open space.
- C. The developer shall establish a homeowner's association responsible for the maintenance of streets, roads, buffers, stormwater management facilities and other common areas.



- D. The stormwater management system shall meet or exceed the requirements of the State and County. The Final Site Plan shall contain the approval of the Sussex Conservation District for the design and location of all stormwater management areas and erosion and sedimentation control facilities.
- E. There shall be a vegetated or forested buffer that is at least 30 feet wide installed along the perimeter of this subdivision adjacent to lands of other ownership. This buffer shall utilize existing forest or similar vegetation if it exists in the buffer area. Where trees currently exist in the buffer area, stump removal or construction activities that disturb the existing grade of the area within the buffer shall be prohibited. If any existing trees or similar vegetation dies or is removed from the buffer area for any reason, the trees or vegetation will be replanted to meet the standards of Section 99-5 of the Subdivision Code. All silt fencing shall be located along the interior limit of the buffer area (the edge of the buffer nearest the interior development) and the Final Site Plan shall identify the "Limit of Disturbance" to prevent disturbance of buffer area.
- F. As proffered by the Applicant, there shall be a minimum setback from nontidal wetlands to any buildings of at least 30 feet. Where trees or other vegetation currently exist in the buffer area, stump removal or construction activities that disturb the existing grade of the area within the buffer shall be prohibited unless indicated on the Final Site Plan. All silt fencing shall be located along the interior limit of this buffer area (the edge of the buffer nearest the interior development) and the Final Site Plan shall identify the "Limit of Disturbance" to prevent disturbance of buffer area except as noted on the Final Site Plan.
- G. The development shall comply with all DelDOT entrance and roadway improvement requirements.
- H. Sidewalks shall be installed on both sides of all internal streets with a connection to the DelDOT multi-modal path. A system of downward screened streetlighting shall also be provided.
- I. Amenities including a clubhouse, pool and tot lot shall be constructed and open to use by residents of this development on or before the issuance of the 95th residential building permit. The Final Site Plan shall contain details as to the size and location of these amenities.
- J. The subdivision shall be served by publicly regulated central water system providing drinking water and fire protection.
- K. Street design shall meet or exceed Sussex County standards.
- L. Road naming and addressing shall be subject to the review and approval of the Sussex County Geographic Information Office.
- M. Construction, site work, and deliveries shall only occur on the site between the hours of 7:00am through 5:00pm, Monday through Friday and 8:00am through 2:00pm on Saturday. No Sunday hours shall be permitted. A 24-inch by 36-inch "NOTICE" sign confirming these hours in English and Spanish shall be prominently displayed at the site entrance during construction.
- N. The Applicant shall coordinate with the local school district regarding the location of a school bus stop within the subdivision. If required by the school district, the location of the bus stop area shall be shown on the Final Site Plan.

- O. There shall be a building setback of at least 50 feet from any lands in an Agricultural Preservation District. The Final Site Plan and Declaration of Restrictions shall also include the Agricultural Use Protection Notice.
- P. The Final Site Plan shall include a Landscape Plan depicting all landscaping to be provided or preserved in all of the buffer areas. The Landscape Plan shall also clearly show all forested areas that will be preserved. The Landscape Plan shall also identify all "Limits of Disturbance" within the site.
- Q. The Final Site Plan shall include a Grading Plan for the site. No building permit shall be issued for individual lots until an individual lot grading plan has been supplied to and approved by Sussex County. No certificate of occupancy shall be issued until a grading certificate is submitted to the Building Code Department demonstrating general conformity with the individual site grading plan.
- R. A revised Preliminary Site Plan either depicting or noting these conditions must be submitted to the Office and Planning and Zoning.
- S. The Final Site Plan shall be subject to the review and approval of the Planning and Zoning Commission.

The Final Subdivision Plan must comply with the County's Zoning and Subdivision Codes, including submission of agency approval letters to the Planning and Zoning Office. The agency approvals required for Final Subdivision Plan approval include but are not limited to: the Sussex Conservation District, Office of the State Fire Marshal, Sussex County Engineering Department, Sussex County Geographic Information Office (F.K.A. Sussex County Mapping and Addressing Department), Office of Drinking Water (Public Health), the Delaware Department of Transportation (DelDOT) and the local school district with regard to any proposed bus stop provisions.

Once all agency approvals have been obtained, please submit a minimum of **one (1) full-size (24 " x 36")** and **one (1) electronic PDF copy** of a Final Subdivision Plan to the Planning and Zoning Office for consideration on the next available agenda for Planning Commission. It is recommended that **two (2) copies** of a check print are first submitted to staff for review.

Please note that a \$10.00 per lot fee will be required to be paid prior to the approval of any Final Subdivision Plan. For 191 lots, the fee is \$1,910.00.

Please feel free to contact me during business hours with any question from 8:30 AM – 4:30 PM, Monday through Friday, at 302-855-7878.

Sincerely,



Ms. Lauren DeVore, AICP
Planner III

CC: Mr. Andy Wright, Chief Code Official – Building Code
Mr. John Ashman, Director of Utility Planning & Design – Engineering – Utility Planning
Ms. Susan Isaacs, Engineering Project Coordinator – Engineering – Public Works

Mr. Christopher Flathers, P.E. Senior Project Manager – Morris & Ritchie Associates, Inc.
Paradise Meadows (2022-03) file

RECEIPT

	August 5th, 2024		91
RCVD FROM	Morris & Ritchie Associate INC		\$825.00
	Eight Hundred twenty-five dollars and 00/100		DOLLARS
FOR	Plan review fee WPCC 3066/24 Paradise Meadows		
ACCT	\$ 825.00	x	CHECK # 1819
PAYMENT	\$ 825.00		CASH
	\$ -		OTHER BY Kevin Bronson

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

RECEIPT

	August 5th, 2024		92
RCVD FROM	Morris & Ritchie Associate INC		\$300.00
	Three Hundred Dollars and 00/100		DOLLARS
FOR	WPCC Legal Notice Reimbursement 3066/24		
ACCT	\$ 300.00	x	CHECK # 1820
PAYMENT	\$ 300.00		CASH
	\$ -		OTHER BY Kevin Bronson

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