

# MidAtlantic

## Engineering Partners

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August 4, 2021

Project #: CMU-2101

**Via Email (Laroccotj@cmcmua.com)**

Cape May County M.U.A  
1523 Route 9 North  
Swainton, NJ 08210

Attention: Mr. Thomas LaRocco, PE

Reference: 2021 Riser Replacements

Dear Mr. LaRocco:

**MidAtlantic Engineering Partners, LLC** (MidAtlantic), performed the replacement of three risers that were found to be broken during the annual Underwater Riser Inspection. The risers that were replaced are as follows:

- North Wildwood Riser 33 with 5-foot HDPE material
- Avalon Risers 17 and 19 with 10-foot HDPE material

Please refer to Appendix A for updated detailed inspection notes that include the newly installed risers. Under a separate email, I will electronically transmit via a link to the post construction dive video for your files.

We look forward to next year's opportunity to continue to provide professional engineering dive services. Please do not hesitate to contact myself with any questions at 646.852.0473 or [Slewis@midatlanticeng.com](mailto:Slewis@midatlanticeng.com).

Respectfully Submitted,

**MidAtlantic Engineering Partners, LLC**



W. Stuart Lewis, P.E.  
Sr. Project Manager

Attachments Appendix A – Detailed Notes

## **APPENDIX A**

### **DETAILED NOTES**

Location	Diffuser No.	2021 Inspection					Comments
		Riser Material	Opening Direction	Ht above ML (ft)	Flow	Maint Perform?	
Ocean City	C.O.						
Ocean City	C.O.	Steel					steel, ht - 106in
Ocean City	1	HDPE	North	8	Good	No	
Ocean City	2	Steel	South	9	Good	No	
Ocean City	3	Steel	North	8	Good	No	
Ocean City	4	Steel	South	9	Good	No	
Ocean City	5	Steel	South	8	Good	No	
Ocean City	6	Steel	South	8	Good	No	
Ocean City	7	Steel	North	8	Poor	Yes	
Ocean City	8	Steel	South	8	Good	No	
Ocean City	9	Steel	North	8	Good	No	
Ocean City	10	Steel	South	7	Good	No	
Ocean City	11	Steel	North	8	Fair	No	
Ocean City	12	Steel	South	7	Good	No	
Ocean City	13	Steel	North	9	Good	No	
Ocean City	14	Steel	South	10	Good	No	
Ocean City	15	Steel	North	8	Good	No	
Ocean City	16	Steel	South	11	Good	No	
Ocean City	17	Steel	North	8	Poor	Yes	
Ocean City	18	Steel	South	10	Good	No	
Ocean City	19	Steel	North	10	Good	No	
Ocean City	20	Steel	South	8	Good	No	
Ocean City	21	Steel	North	9	Good	No	
Ocean City	22	Steel	South	10	Fair	No	
Ocean City	23	Steel	North	10	Good	No	
Ocean City	24	Steel	South	11	Good	No	
Ocean City	25	HDPE	South	9	Good	No	
Ocean City	26	HDPE	South	10	Good	No	
Ocean City	27	Steel	North	9	Good	No	
Ocean City	28	Steel	North	10	Good	No	
Ocean City	29	Steel	North	10	Good	No	
Ocean City	30	Steel	South	10	Good	No	
Ocean City	31	Steel	South	9	Good	No	
Ocean City	32	Steel	South	10	Good	No	
Ocean City	33	Steel	North	11	Good	No	
Ocean City	34	Steel	South	12	Good	No	
Ocean City	35	Steel	North	12	Good	No	
Ocean City	36	Steel	South	10	Good	No	
Ocean City	37	Steel	North	12	Good	No	
Ocean City	38	Steel	South	10	Good	No	
Ocean City	39	Steel	North	10	Good	No	
Ocean City	40	Steel	South	9	Good	No	
Ocean City	41	Steel	North	11	Good	No	
Ocean City	42	Steel	South	10	Good	No	
Ocean City	43	Steel	South	9	Good	No	
Ocean City	44	Steel	North	9	Good	No	
Ocean City	45	Steel	South	9	Good	No	
Ocean City	46	Steel	North	10	Good	No	
Ocean City	47	Steel	South	10	Good	No	
Ocean City	48	Steel	North	10	Good	No	
Ocean City	49	Steel	South	9	Good	No	
Ocean City	50	Steel	North	9	Good	No	
Ocean City	51	Steel	South	10	Good	No	
Ocean City	52	Steel	South	10	Good	No	
Ocean City	53	Steel	South	10	Good	No	
Ocean City	54	Steel	South	11	None	Yes	Attempted to clear
Ocean City	55	Steel	South	9	Good	No	
Ocean City	56	Steel	North	9	Good	No	
Ocean City	57	Steel	North	9	None	Yes	Attempted to clear
Ocean City	58	Steel	South	10	None	Yes	Attempted to clear
Ocean City	59	Steel	North	11	None	Yes	Attempted to clear
Ocean City	60	Steel	South	9	None	Yes	Attempted to clear
Ocean City	61	FRP	North	9	None	Yes	Attempted to clear
Ocean City	C.O.	Steel		8			

Location	Diffuser No.	2021 Inspection					Comments
		Riser Material	Opening Direction	Ht above ML (ft)	Flow	Maint Perform?	
Avalon/Seven Mile	1	Steel	South	5	Good	No	
Avalon/Seven Mile	2	Steel	North	5	Good	No	Small leak observed in top flange
Avalon/Seven Mile	3	Steel	South	4	Good	No	
Avalon/Seven Mile	4	Steel	North	5	Good	No	
Avalon/Seven Mile	5	Steel	South	5	Good	No	Top 5' FRP
Avalon/Seven Mile	6	Steel	North	5	Good	No	
Avalon/Seven Mile	7	Steel	South	5	Good	No	Top 5' FRP
Avalon/Seven Mile	8	Steel	North	5.5	Good	No	
Avalon/Seven Mile	9	HDPE	North	8	Good	No	
Avalon/Seven Mile	10	HDPE	South	8.5	Good	No	
Avalon/Seven Mile	11	HDPE	North	10	Good	No	
Avalon/Seven Mile	12	HDPE	North	10	Good	No	
Avalon/Seven Mile	13	Steel	South	6	Good	No	No Leak Noted
Avalon/Seven Mile	14	Steel	North	6.5	Good	No	
Avalon/Seven Mile	15	Steel	South	5	Good	No	
Avalon/Seven Mile	16	Steel	North	6	Good	No	
Avalon/Seven Mile	17	HDPE	North	10	Good	Yes	Replaced 10-feet of riser with new HDPE section during 2021 Inspection.
Avalon/Seven Mile	18	Steel	North	6	Good	No	close to 17, ~5 ft
Avalon/Seven Mile	19	HDPE	North	10	Good	Yes	Replaced 10-feet of riser with new HDPE section during 2021 Inspection.
Avalon/Seven Mile	20	Steel	North	6	Good	No	
Avalon/Seven Mile	21	Steel	South	5	Good	No	
Avalon/Seven Mile	22	Steel	North	6	Good	No	
Avalon/Seven Mile	23	Steel	South	6	Good	No	
Avalon/Seven Mile	24	Steel	North	6	Good	No	
Avalon/Seven Mile	25	Steel	South	6	Good	No	
Avalon/Seven Mile	26	Steel	North	6	Good	No	
Avalon/Seven Mile	27	Steel	South	6	Good	No	
Avalon/Seven Mile	28	Steel	North	6	Good	No	Top 5' FRP
Avalon/Seven Mile	29	Steel	South	7	None	Yes	1"x3" hole in southern diffuser arm
Avalon/Seven Mile	30	Steel	North	6	Poor	Yes	Attempted to clean.
Avalon/Seven Mile	31	Steel	South	6	Poor	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	32	Steel	North	5	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	33	Steel	South	6	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	34	Steel	North	5	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	35	Steel	South	5	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	36	Steel	North	5	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	37	Steel	South	5	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	38	HDPE	East	3	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	39	Steel	South	6	None	Yes	Extremely heavy marine growth, attempted to clean.
Avalon/Seven Mile	C.O.	Steel		8			Hardware MN

Location	Diffuser No.	2021 Inspection					Comments
		Riser Material	Opening Direction	Ht above ML (ft)	Flow	Maint Perform?	
Wildwood South	1						Missing, Blind flange previously installed.
Wildwood South	2	FRP	South	9	Good	No	
Wildwood South	3	Steel	North	7	Good	No	
Wildwood South	4	Steel	South	5	Good	No	
Wildwood South	5	Steel	North	6	Good	No	
Wildwood South	6	Steel	South	5	Good	No	
Wildwood South	7	HDPE	South	6	Good	No	
Wildwood South	8	Steel	South	6	Good	No	
Wildwood South	9	Steel	North	4	Good	No	
Wildwood South	10	HDPE	North	5	Good	No	
Wildwood South	11	Steel	North	4	Good	No	
Wildwood South	12	Steel	South	4	Good	No	
Wildwood South	13	Steel	North	4	Good	No	
Wildwood South	14	Steel	South	4	Good	No	
Wildwood South	15	Steel	North	4	Good	No	
Wildwood South	16	HDPE	East	6	Good	No	
Wildwood South	17	HDPE	West	6	Good	No	
Wildwood South	18	Steel	South	4	Good	No	
Wildwood South	19	Steel	North	4	Good	No	
Wildwood South	20	Steel	South	4	Good	No	
Wildwood South	21	Steel	North	4	Good	No	
Wildwood South	22	Steel	South	5	Good	No	
Wildwood South	23	Steel	North	4	Good	No	
Wildwood South	24	Steel	South	4	Good	No	
Wildwood South	25	HDPE	North	4	Good	No	
Wildwood South	26	Steel	South	4	Good	No	
Wildwood South	27	Steel	North	5	Good	No	
Wildwood South	28	Steel	South	6	Good	No	
Wildwood South	29	Steel	North	5	Good	No	
Wildwood South	30	Steel	South	5	Good	No	
Wildwood South	31	Steel	North	3	Good	No	
Wildwood South	32	Steel	South	6	Good	No	
Wildwood South	33	Steel	North	5	Good	No	
Wildwood South	34	Steel	South	5	Good	No	
Wildwood South	35	HDPE	West	6	Good	No	
Wildwood South	36	HDPE	West	6	Good	No	
Wildwood South	37	Steel	North	5	Good	No	
Wildwood South	38	Steel	South	4	Good	No	
Wildwood South	39	Steel	North	4	Good	No	
Wildwood South	40	Steel	South	6	Good	No	
Wildwood South	41	Steel	North	4	Good	No	
Wildwood South	42	HDPE	West	7	None	No	
Wildwood South	43	Steel	North	5	None	No	
Wildwood South	44	Steel	South	3	None	No	
Wildwood South	45	Steel	North	3	None	No	
Wildwood South	46	HDPE	East	7	None	No	
Wildwood South	47	HDPE	SE	7	None	No	
Wildwood South	48	HDPE	North	5	None	No	
Wildwood South	49	HDPE	South	4	None	No	
Wildwood South	50	HDPE	North	4	None	No	
Wildwood South	51	HDPE	South	4	None	No	
Wildwood South	52	HDPE	South	5	None	No	
Wildwood South	C.O.	Steel		1	None	No	Heavy Marine Growth

Location	Diffuser No.	2021 Inspection					Comments
		Riser Material	Opening Direction	Ht above ML (ft)	Flow	Maint Perform?	
Wildwood North	1	Steel	North	4	Good	No	
Wildwood North	2	Steel	South	5	Good	No	
Wildwood North	3	Steel	North	6	Good	No	south ear bent upward
Wildwood North	4	HDPE	North	6	Good	No	
Wildwood North	5	Steel	North	6	Good	No	
Wildwood North	6	Steel	South	6	Good	No	
Wildwood North	7	Steel	North	6	Good	No	
Wildwood North	8	Steel	South	6	Good	No	
Wildwood North	9	Steel	North	6	Good	No	
Wildwood North	10	Steel	South	6	Good	No	
Wildwood North	11	Steel	North	5	Good	No	
Wildwood North	12	HDPE	North	5	Good	No	
Wildwood North	13	Steel	North	5	Good	No	
Wildwood North	14	Steel	South	5	Good	No	
Wildwood North	15	Steel	North	5	Good	No	
Wildwood North	16	Steel	South	7	Good	No	
Wildwood North	17	Steel	North	6	Good	No	
Wildwood North	18	Steel	South	5.5	Good	No	
Wildwood North	19	Steel	North	6	Good	No	
Wildwood North	20	Steel	South	6	Good	No	
Wildwood North	21	Steel	North	6	Good	No	
Wildwood North	22	Steel	South	5.5	Good	No	
Wildwood North	23	FRP	North	6	Good	No	
Wildwood North	24	HDPE	South	5	Good	No	
Wildwood North	25	HDPE	North	5	Good	No	
Wildwood North	26	Steel	South	5.5	Good	No	
Wildwood North	27	Steel	North	5.5	Good	No	
Wildwood North	28	Steel	South	5.5	Good	No	
Wildwood North	29	Steel	North	5.5	Good	No	
Wildwood North	30	Steel	South	5.5	Good	No	
Wildwood North	31	Steel	North	5	Good	No	
Wildwood North	32	Steel	South	5.5	Good	No	
Wildwood North	33	HDPE	South	5	Good	Yes	Repaired 5-foot section during the 2021 Inspection.
Wildwood North	34	Steel	South	5	Poor	No	
Wildwood North	35	Steel	North	5	None	No	
Wildwood North	36	Steel	South	4.5	None	No	
Wildwood North	37	Steel	North	4.5	None	No	
Wildwood North	38	Steel	South	5	None	No	
Wildwood North	39	Steel	North	4.5	None	No	
Wildwood North	40	Steel	South	4.5	None	No	
Wildwood North	41	Steel	North	4.5	None	No	
Wildwood North	42	Steel	South	4	None	No	
Wildwood North	43	Steel	North	4	None	No	
Wildwood North	44	Steel	South	3	None	No	
Wildwood North	45	Steel	North	4	None	No	
Wildwood North	46	Steel	South	4	None	No	
Wildwood North	47	Steel	North	4	None	No	
Wildwood North	48	Steel	South	4	None	No	
Wildwood North	49	Steel	North	3.5	None	No	
Wildwood North	50	Steel	South	3	None	No	south ear bent upward
Wildwood North	51	HDPE	North	4	None	No	
Wildwood North	52					No	Missing, Blind flange previously installed.
Wildwood North	C.O.	Steel		5	None	No	
Wildwood Main Trunk	C.O.	Steel		5			Everyother bolt is connected. Coating intact. 3 bolts were hand tightened. Lite flow noted but area couldn't be isolated.