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<p>CITY OF NORTH WILDWOOD,</p> <p>Appellant,</p> <p>vs.</p> <p>NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION,</p> <p>Respondent.</p>	<p>SUPERIOR COURT OF NEW JERSEY APPELLATE DIVISION</p> <p>DOCKET NO. A-001677-23</p> <p>CIVIL ACTION</p> <p><u>CERTIFICATION OF DR. STEWART FARRELL IN SUPPORT OF NORTH WILDWOOD'S MOTION FOR TEMPORARY EMERGENT RELIEF PURSUANT TO R. 2:9-8</u></p>
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Stewart Farrell, being of full age, certifies as follows:

1. I am a retired professor from Stockton University, where for 36 years I served as the founder and Director of Stockton's Coastal Research Center. My degrees include a PhD. in Geology (Coastal Processes & Sedimentation) from the University of Massachusetts in 1972. My particular expertise is in the study of coastal dynamics, geomorphology and shoreline processes.

2. This certification is being made at the request of counsel for the City of North Wildwood in support of an emergent application filed by the City response to a January 31, 2024, decision of the New Jersey Department of Environmental protection (NJDEP) denying the City's request for emergency authorization to construct a protective bulkhead between 12th Avenue and 15th Avenue immediately landward of the City's beachfront (hereinafter the "EA Denial").

3. The Coastal Research Center, under contract to the City of North Wildwood, has studied the behavior and condition of the City's beaches and their interaction with the Atlantic Ocean for more than 35 years. Since retiring from academia, I have served as a consultant to the City on the same matters. I am, therefore, familiar with the issues and matters addressed in this Certification.

4. North Wildwood's beaches, once known for their extraordinary width, have experienced drastic and ongoing erosion for a period of more than 20 years, and are now dangerously narrow. Although these conditions were largely the result of changes in the natural dynamics of the shoreline adjacent to Hereford Inlet (the waterbody at the City's immediate North End between North Wildwood and Stone Harbor), they are also due in large part to the failure of the federal government and the state of New Jersey to implement a congressionally authorized shore protection project.

5. The City's application for an emergency authorization, submitted to NJDEP on January 19, 2024, was made in response to the need to address recurrent storm damage that has continued to deplete already depleted sand volumes from the City's dunes and beaches. It was particularly motivated in response to events which occurred in December, 2023, at which time water driven by a combination of a high tide and a storm of moderate intensity breached what is left of the beach's dune system in the vicinity of 15th Avenue and flowed directly into the areas

landward of the dune, portions of which are comprised of areas that NJDEP considers to be freshwater wetlands.

6. I have reviewed the EA Denial and, for the reasons explained below, find its findings and conclusions to be incorrect and inaccurate.

7. NJDEP's regulations governing the issuance of emergency authorizations (NJAC 7:7- Subchapter 21) generally provide that an applicant must demonstrate that a threat to life, severe loss of property or environmental degradation exists or is imminent. The Rules further provide that an EA can be issued only if the emergency can be prevented or ameliorated through undertaking a regulated activity (in this case the construction of a protective bulkhead) and is likely to occur, persist or worsen before a permit can be issued. In my opinion, the City's EA application met these criteria.

8. The EA Denial concluded as follows with respect to these standards:

DLRP [the Division of Land Resource Protection] determined, after careful review of the materials referenced above, that no such imminent threat exists, despite the initial impression that may be given by the photographs and video footage submitted by NWW. To be clear, DLRP does not disagree that there is erosion that must be addressed in NWW; it disagrees that this erosion represents the imminent threat required for DLRP to issue an EA.

9. This opinion on the part of NJDEP, in my view, completely disregards the minimal sand volumes that remain on the City's beaches and dunes. The ability of beaches and sand dunes to protect areas landward of the beach from wave action and storm surge is a function of beach width and elevation and dune width, crest height and volume. The current condition of the beach and dune system is so depleted by ongoing, naturally occurring erosion as to give rise to serious concern that even a moderate coastal storm (the occurrence of which is a statistical certainty in

New Jersey) could well result in a breach of the remaining dunes that would be worse than the breach that occurred in December.

10. The EA denial was predicated in part on NJDEP's belief that the replenishing of the city's beaches and dunes through a process known as "backpassing" remains a feasible and preferable alternative. Backpassing refers to the process of moving sand from one beach to another, either by truck or by hydraulic pumping. In the case of North Wildwood, the City has spent in excess of \$20 million over a period of more than 10 years to remove sand from beaches in the adjacent communities of Wildwood and Wildwood Crest (where there has been a surplus of sand) and to truck it to North Wildwood. That effort has been an abject failure, as demonstrated by the current conditions of North Wildwood's beach.

11. Normally speaking, erosion of the type and magnitude that is occurring in North Wildwood would be addressed by the hydraulic pumping of sand on to the beach, either from an offshore borrow area or from an adjacent inlet where surplus sand has accumulated. In the case of North Wildwood however, the intricacies of the federal and state shore protection program are such that the city has not been afforded the possibility of hydraulic pumping. In fact, of the 127 miles of ocean front beach in New Jersey, the *only* beach that has not benefited from shore protection in this manner is the four miles of beach in North Wildwood.

12. The EA Denial's conclusion that backpassing remains a feasible alternative completely disregards the fact that the beaches are now so narrow that trucks cannot pass seaward of two large piers that extend into the ocean between North Wildwood and in Wildwood and Wildwood Crest. NJDEP's failure to recognize these constraints is, to me, inexplicable.

13. In sum, based on my more than 50 years of experience in the field, and based in particular on my knowledge of the behavior of North Wildwood beaches over more than 30 years,

it is my opinion that NJDEP's failure to understand and recognize the immediate and imminent threat to North Wildwood's infrastructure is in utter disregard of the immediate threat posed by the condition of the beaches coupled with the effects of global warming, sea level rise, land subsidence (a significant issue in New Jersey) and the corresponding increase in the frequency and severity of storms. The immediate threat extends to property and infrastructure immediately landward of the beach, including a multi-use recreational path, millions of dollars' worth of newly constructed stormwater drainage facilities, and a public road and adjacent private property.

14. I understand NJDEP's preference for non-structural shore protection measures structural measures as opposed to bulkheads or seawalls whenever possible, but there are circumstances in which there is no responsible and feasible alternative. those circumstances are present here, as indicated by the following:

- Insignificant net beach sand volume gains after three years of moving in excess of 150,000 cubic yards of sand annually from Wildwood City's storm water outfalls onto North Wildwood's beaches. The resulting gains in sand volume following the completion of those sand hauling projects were shown to disappear entirely by beach surveys conducted in December of that year.
- Wildwood City may no longer be a reliable source of sand, as the city recently upgraded their oceanfront stormwater discharge system eliminating 12 separate outfall pipes which were buried regularly.
- Over a decade of delay in implementing the US Army Corps of Engineers' Hereford Inlet to Cold Springs Inlet shore protection project, which will directly benefit North Wildwood. That project has been delayed until at least 2025.

- The US Department of the Interior's decision to prohibit the use of federal dollars for the dredging of sand from Hereford Inlet's ebb-tidal shoals. This decision, made under authority of the Federal Coastal Barrier Resources Act, reverses the long-standing policy of allowing hydraulic dredging from Hereford Inlet to provide sand to North Wildwood, as was done in 2009 and 2013.

I CERTIFY that the foregoing statements made by me are true. I am aware that if any of the foregoing statements made by me are willfully false, I am subject to punishment.



Dated: February 8, 2024

Dr. Stewart C. Farrell