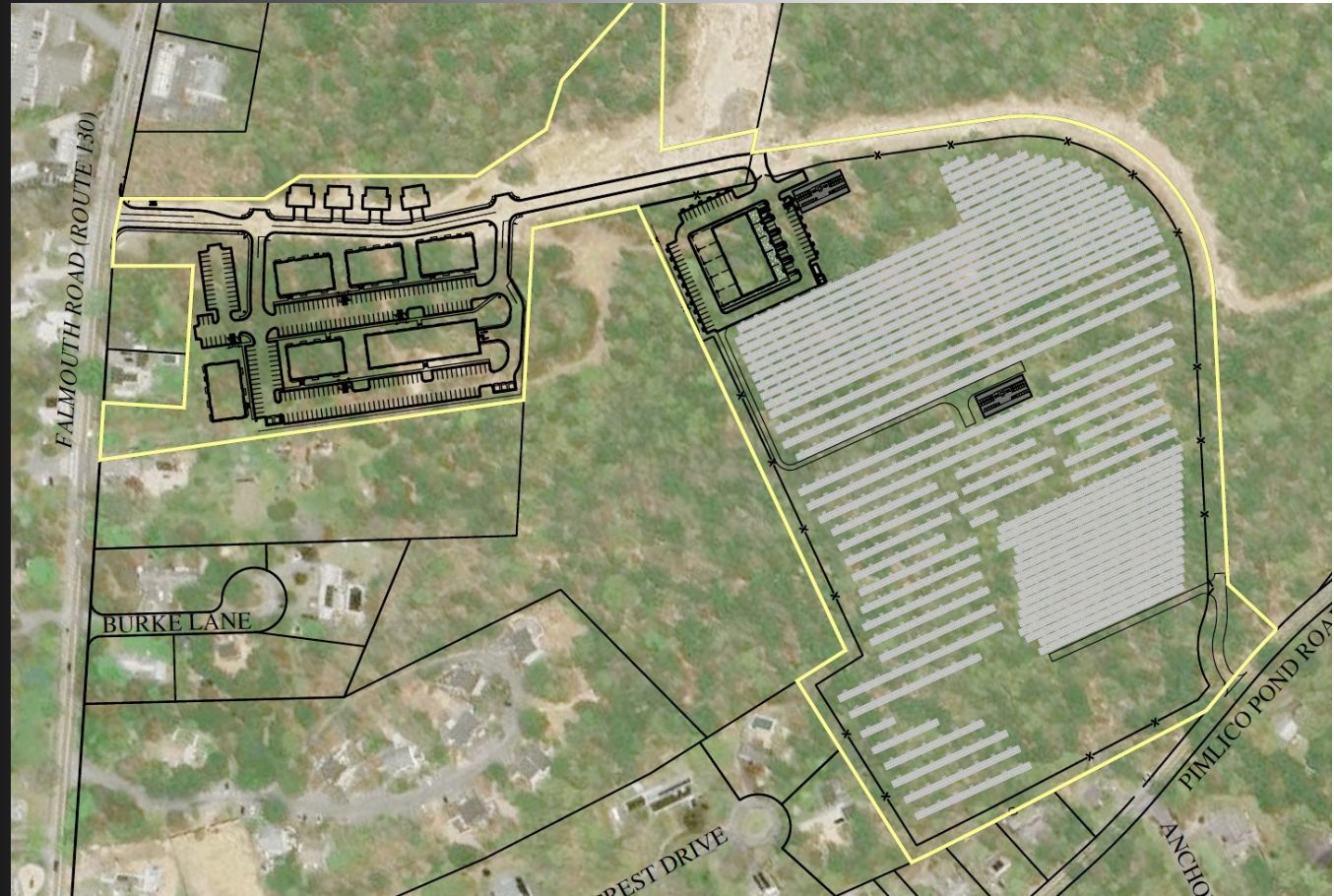



Scott Horsley  
Water Resources Consultant  
Retained by Hill Law

Village Green 40B

Presentation to  
Sandwich Zoning Board of Appeals  
August 13, 2024

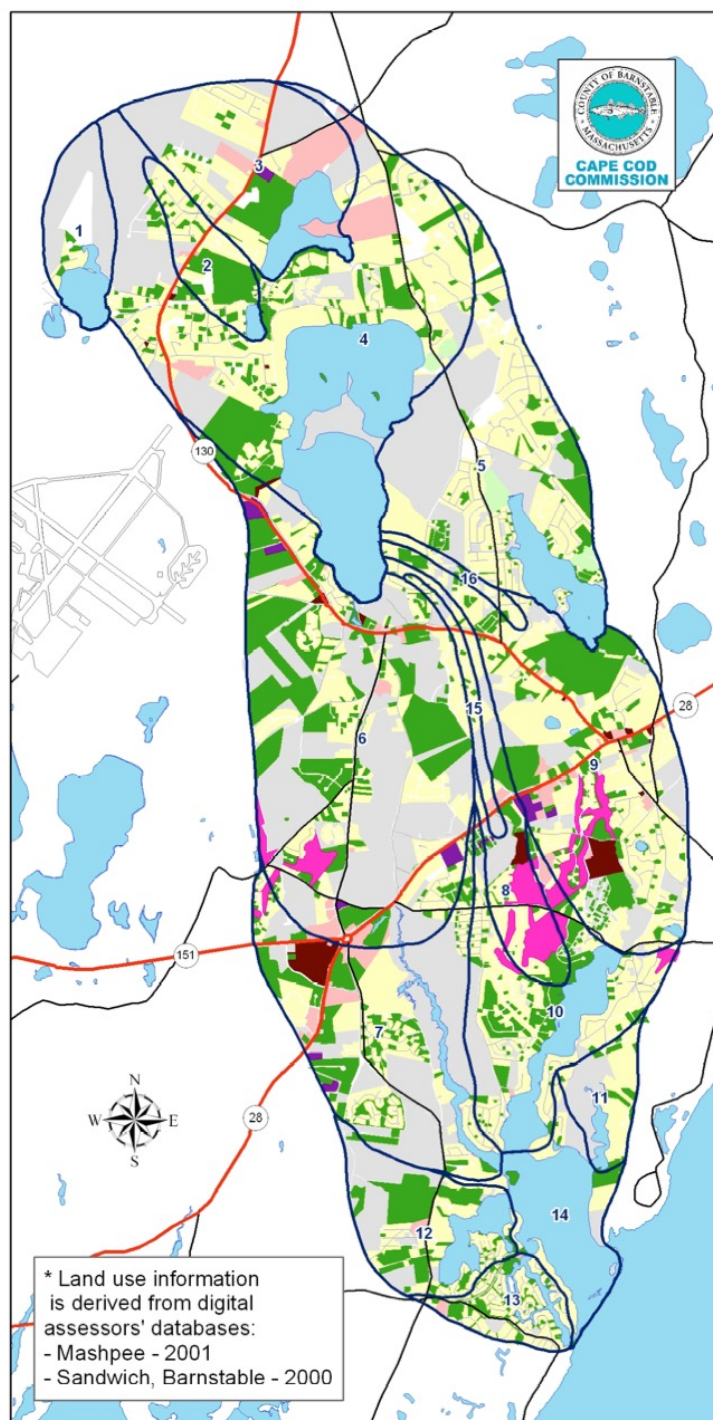




# Scott Horsley • Qualifications

---

- 30+ years experience a water resources consultant to USEPA, The Nature Conservancy, MADEP, states, municipalities, non-profit organizations and industry
- Expert witness as hydrologist for U.S. Department of Justice (USDOJ) and USEPA in federal court, state courts and administrative hearings
- Consultant to Cape Cod Commission for the development of the 208 Plan
- MADEP Stormwater Advisory Committee, Sustainable Water Management Initiative Committee, Title 5 Advisory Committee
- Teaches graduate level courses in water resources management at Tufts University and Harvard University



## Popponesset Bay Watershed

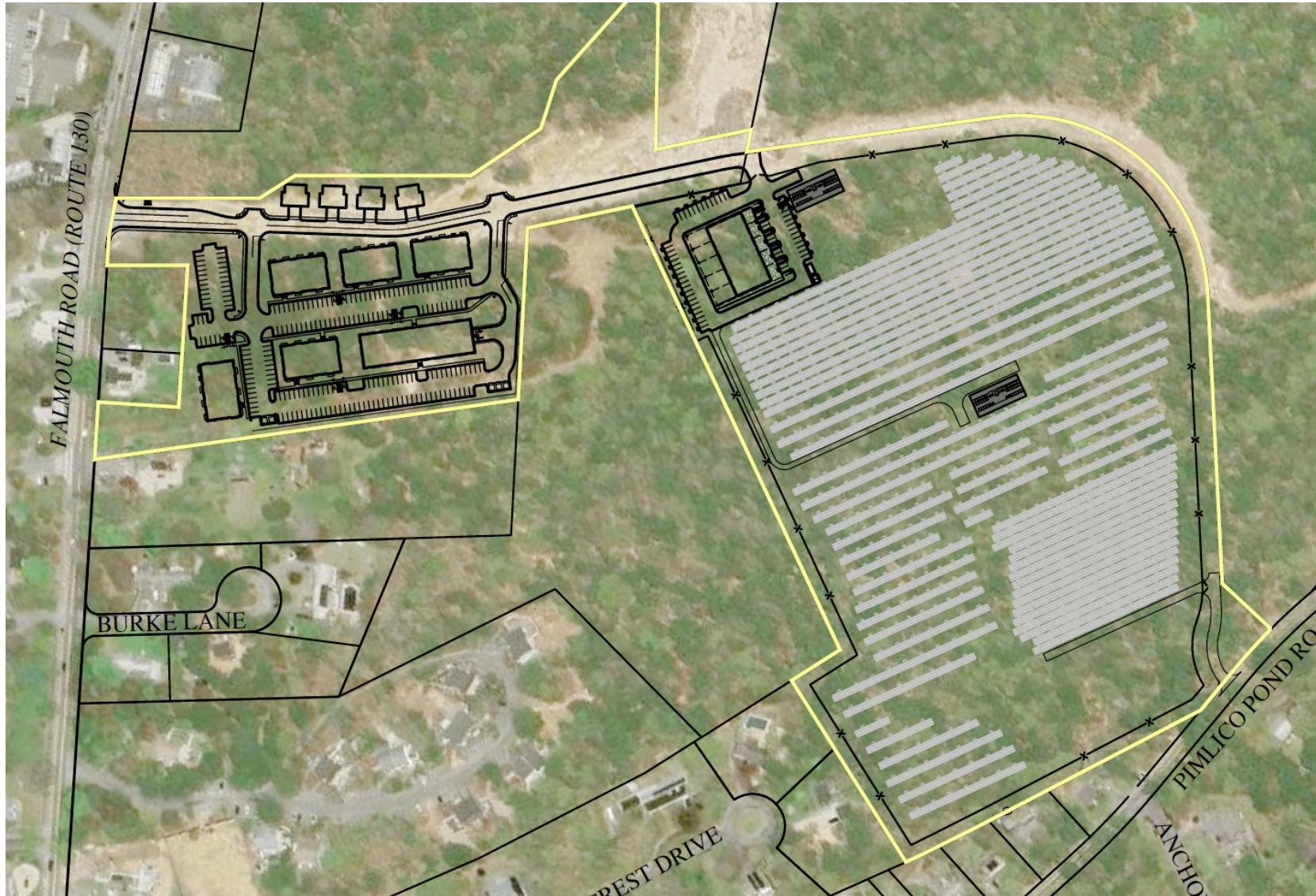
- Massachusetts Estuaries Report (MEP)
- Total Maximum Daily Load (TMDL) Report by MADEP
- Intermunicipal Agreement (Sandwich, Mashpee, Barnstable)

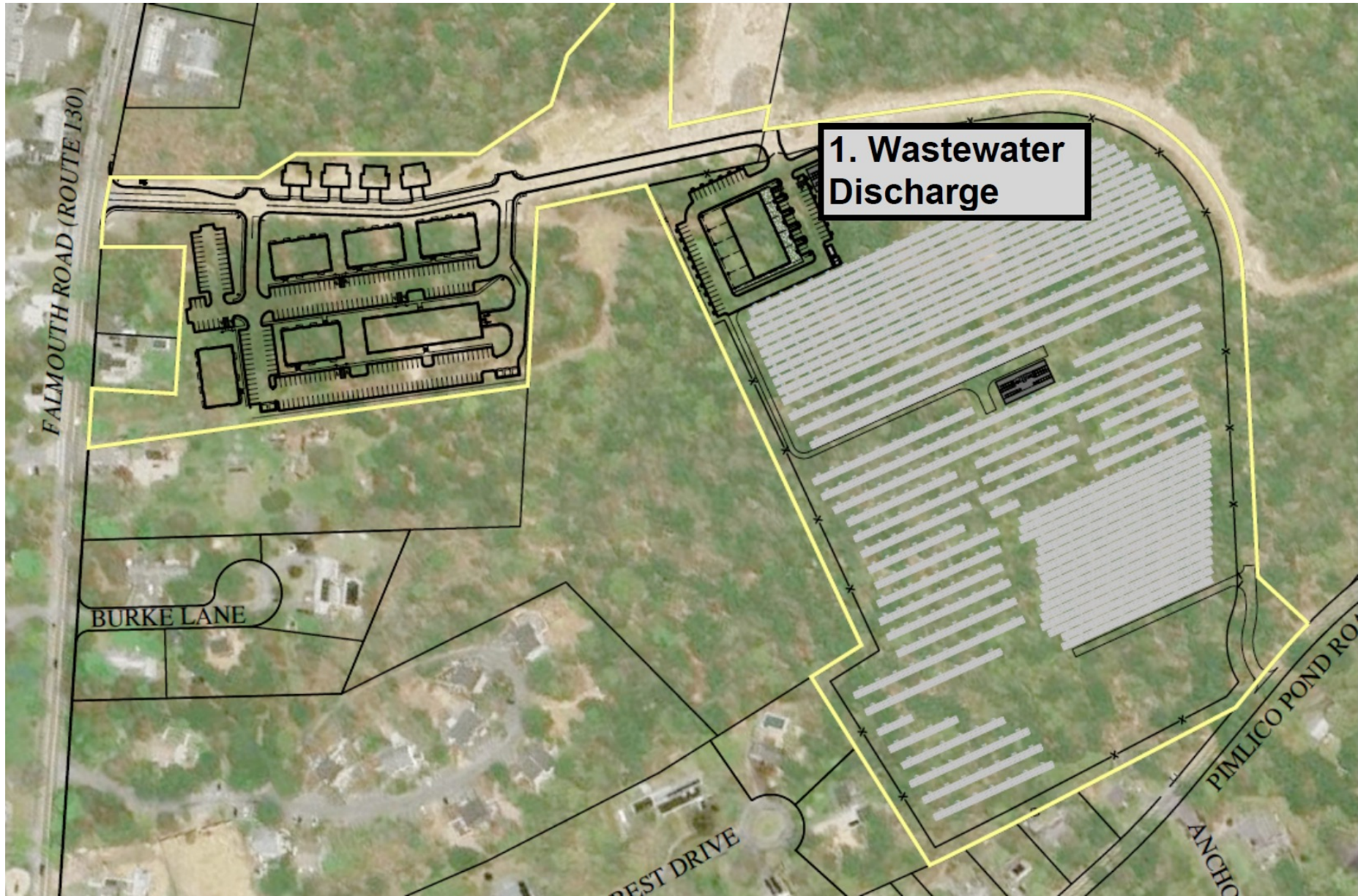
All of these official documents indicate Net Zero nitrogen load is required

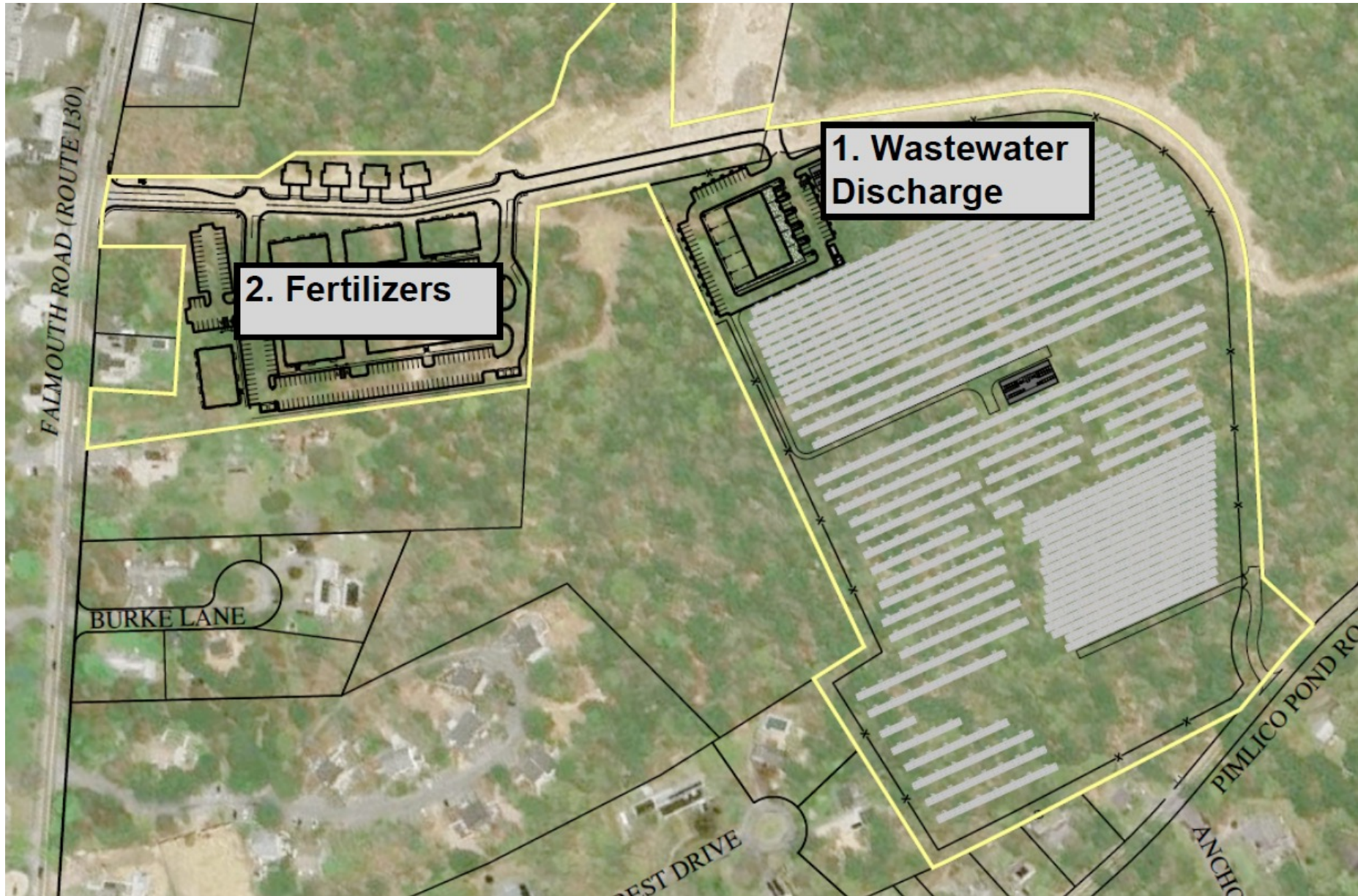
Developer/Applicant has agreed to and is committed to No Net “Waste” standard

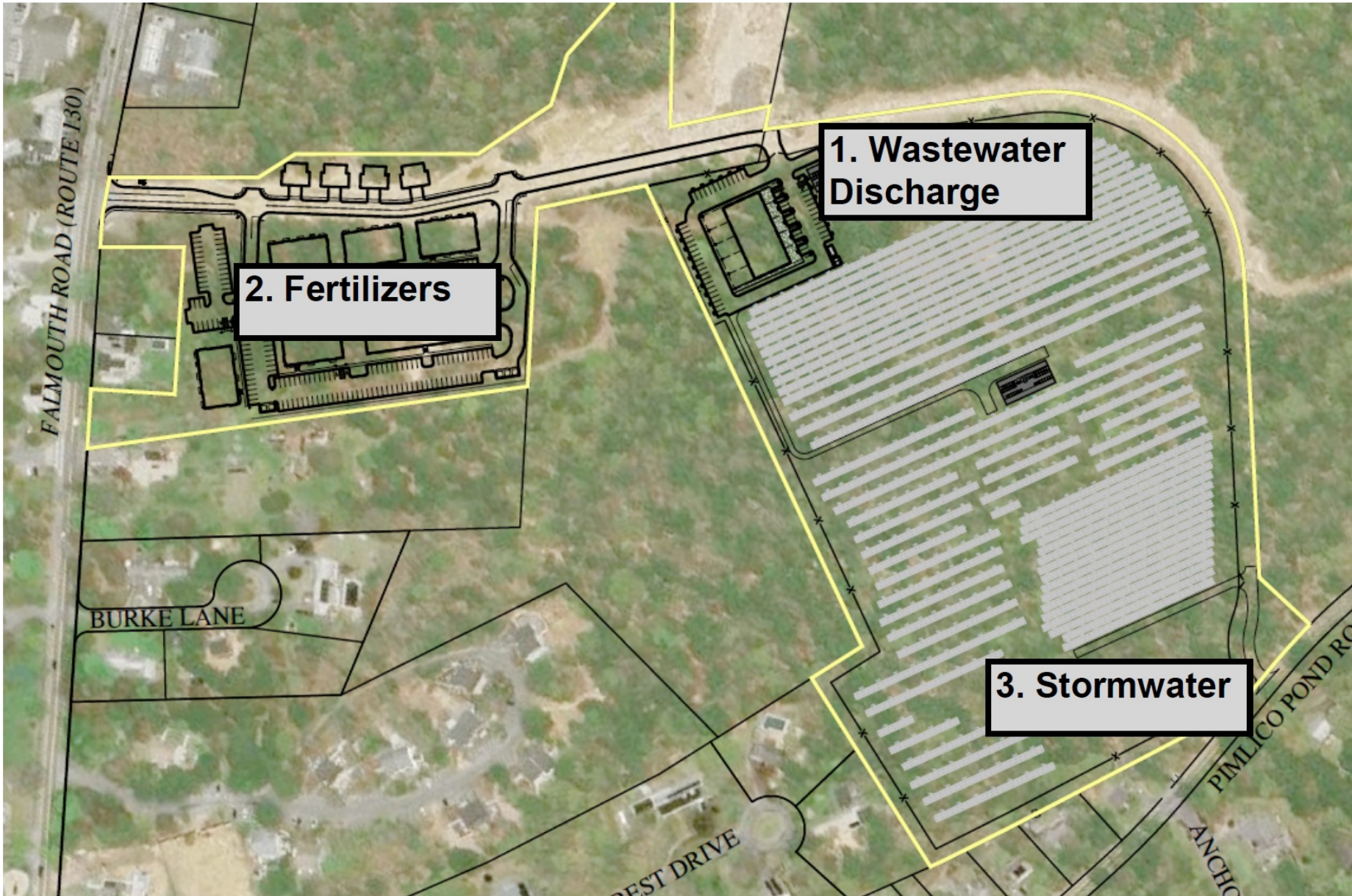
What does this mean?

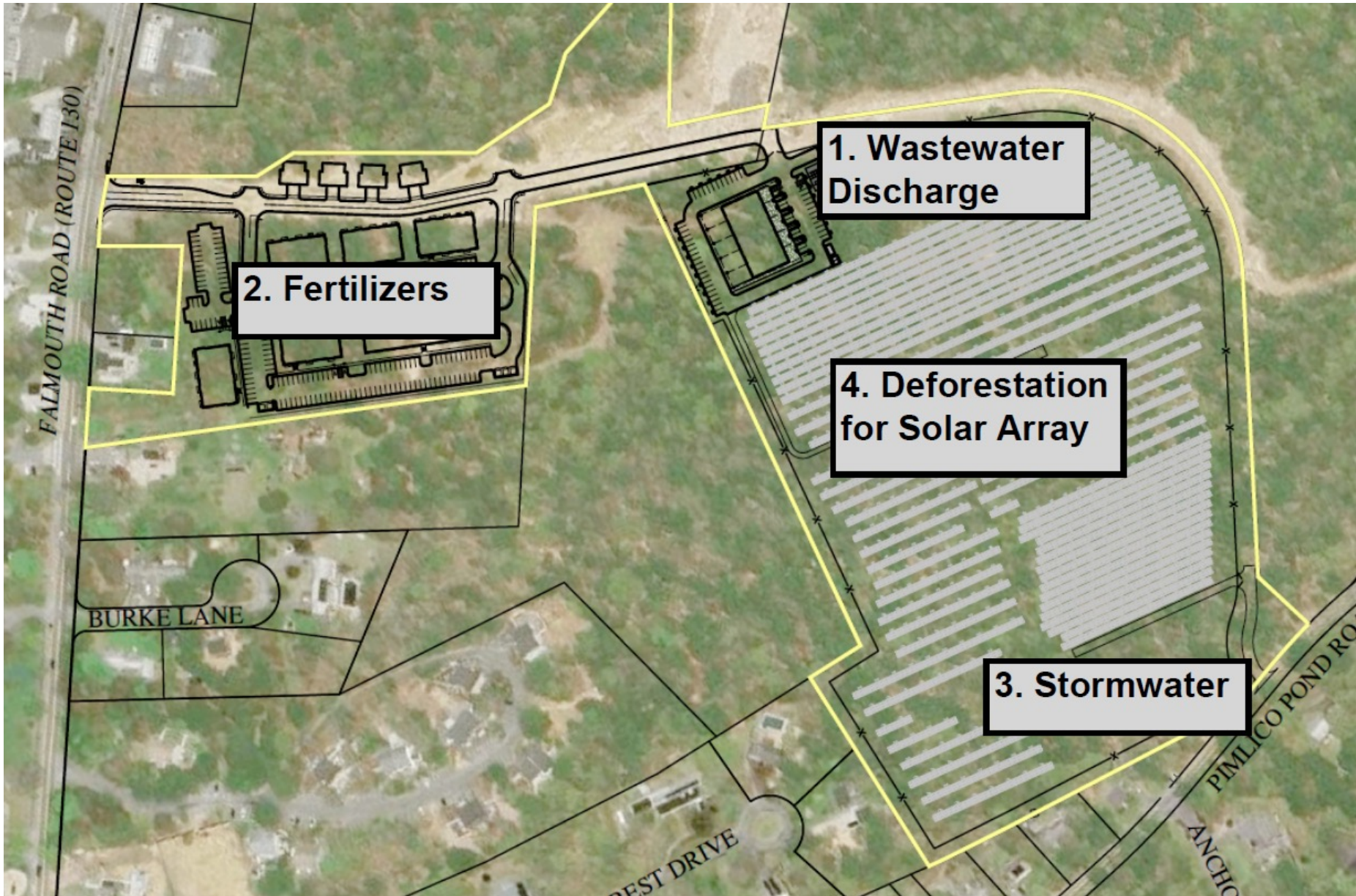
What are the nitrogen sources that need to be reduced to zero?

















Existing Condition – 90% attenuation of nitrogen in rainfall



Proposed Condition – 10% attenuation of nitrogen in rainfall

# Preliminary Nitrogen Loading Calculations

Nitrogen Sources	Kilograms/Year
Wastewater	138
Fertilizers	14
Stormwater	32
Deforestation for Solar Array	45
Pet Waste?	
TOTAL	229
<p>Note: Calculations based upon Applicant's Site Plan and Stormwater Report and Massachusetts Estuaries Project (MEP) report, <i>Linked Watershed-Embayment Model to Determine Critical Nitrogen Loading Thresholds for Popponesset Bay</i>, September 2004.</p>	