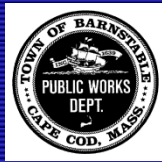


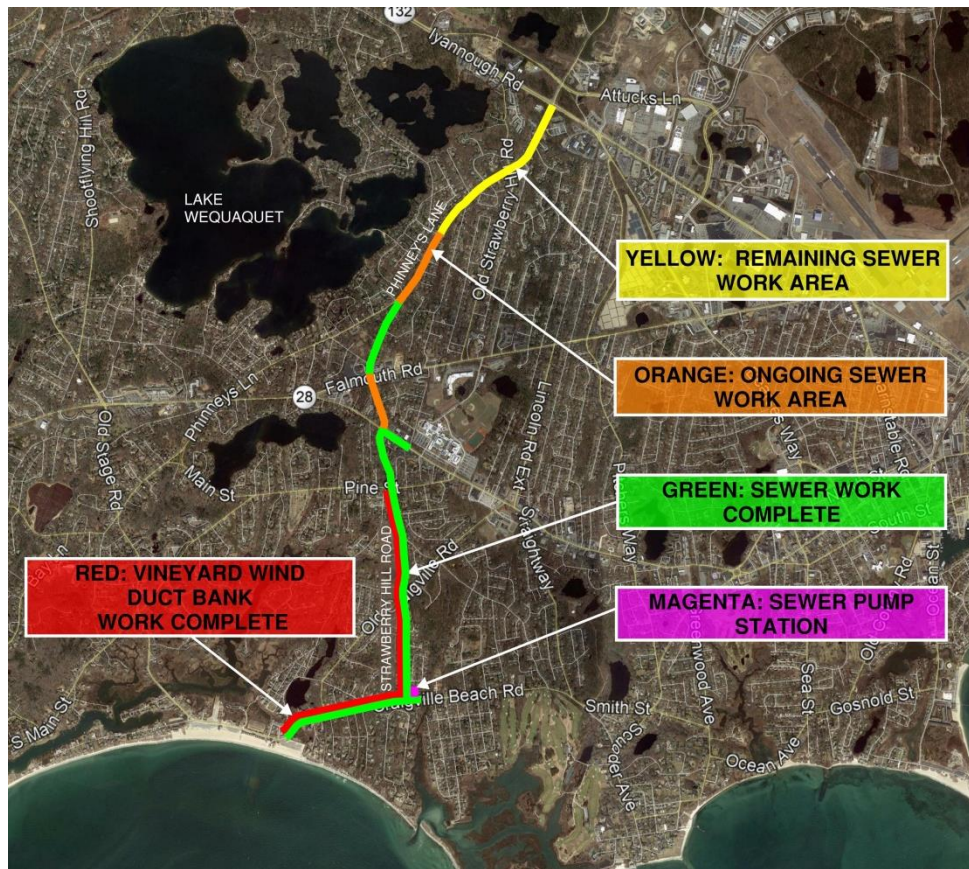
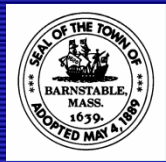
# ***Barnstable Town Council***

## ***Update on Wastewater Efforts In Barnstable***

Department of Public Works  
November 17, 2022

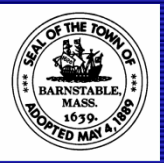


# CWMP Construction Updates Strawberry Hill Road Sewer Project

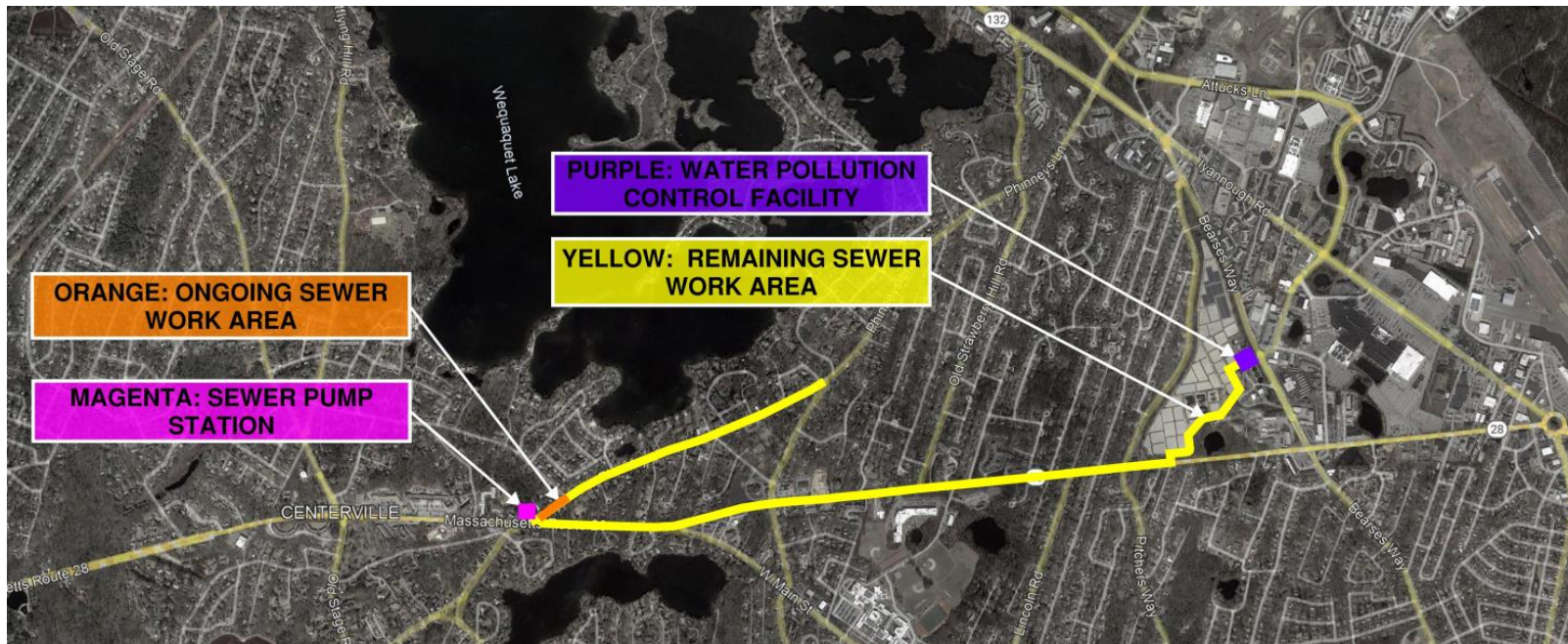


- Project on schedule for completion this Spring
- Construction completed to date:
  - Sewer work on Craigville Beach Road complete.
  - Sewer work on Strawberry Hill Road, south of West Main Street
  - $\pm 16,700$  LF ( $\pm 65\%$ ) of gravity sewer
- On-going construction
  - Sewer on Phinney's Lane between Center Lane and Huckins Neck Road.
  - Water bypass system online
  - Water service tie-overs to the new 12" water main installed on Phinney's Lane at Longview Drive proceeding north to Rte 132.
  - Pump station @ 528 Craigville Beach Road installing valve vault structure.





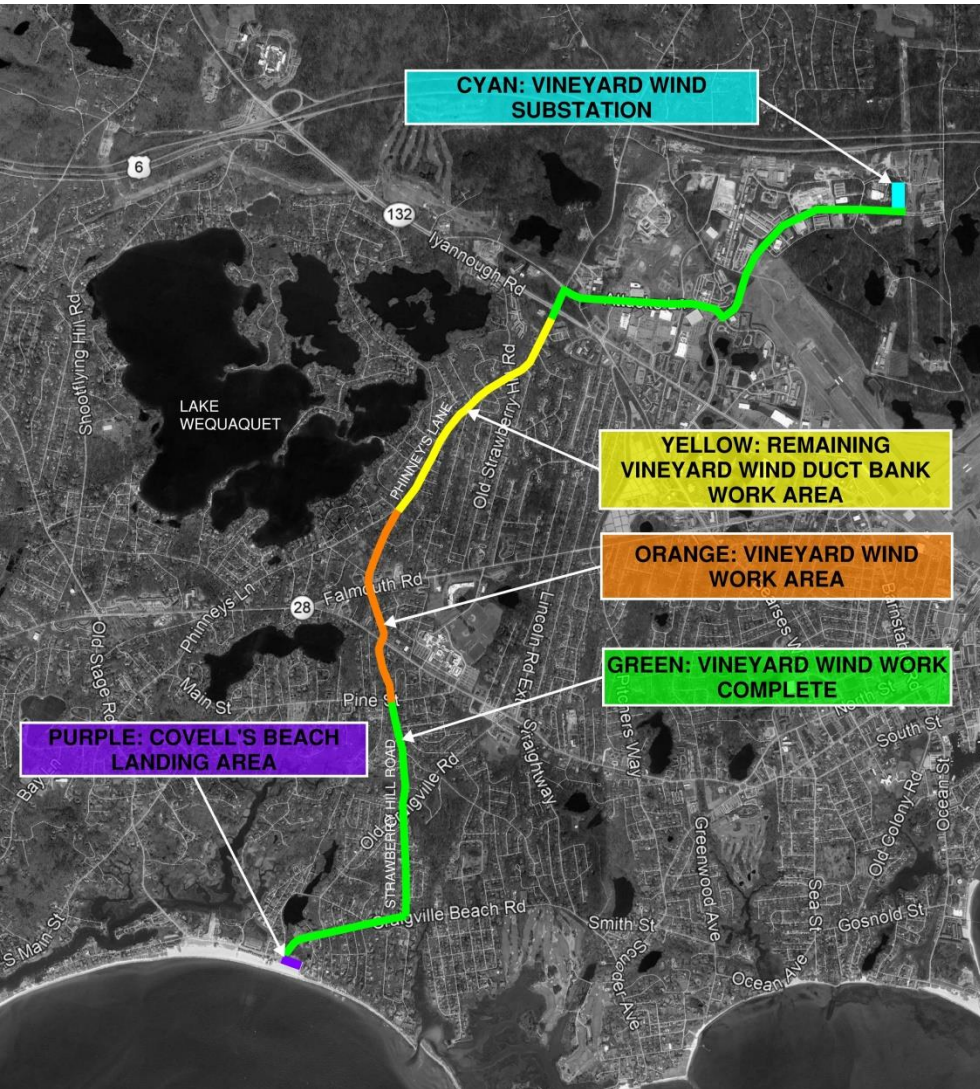
- *Phinney's Lane Pump Station construction underway*
  - *Support of Excavation work (driving of sheeting) complete.*
  - *Installing rebar and concrete for foundation base slab.*
- *Sewer Construction at Phinney's Lane underway*
  - *Working at Phinney's Lane at pump station site and proceeding north. Deep construction (+/- 20')*
  - *Work in Route 28 scheduled to start in Spring 2023*
  - *Project completion anticipated Winter 2023*



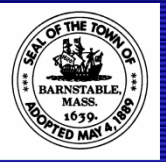
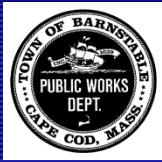




# Construction Updates Vineyard Wind Project



- Project on-schedule for completion this Spring
- On-going construction this fall:
  - Duct Bank and Water Main on Strawberry Hill Road
  - Construction at Covells Beach Parking Lot
    - Anticipated to be complete late Spring 2023
  - Testing and wire pulling along route
- Anticipated final paving schedule of disturbed roadways:
  - Fall 2022:
    - Craigville Beach Road
    - West Main Street
    - Independence Drive underway
    - Attucks Lane
  - Spring 2023:
    - Strawberry Hill Road
  - Fall 2023:
    - Phinney's Lane
    - Wequaquet Lane



# *WPCF Nitrogen Reduction Evaluation Update*



# Goals



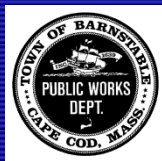
- *Lowest possible treated nitrogen levels*
  - *3 mg/l target*
  - *Temperature/climate appropriate*
- *Flexibility for future wastewater requirements/needs*
- *Cost effectiveness*
  - *Max utilization of existing infrastructure*



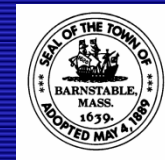
# ***Four Evaluated Alternatives***



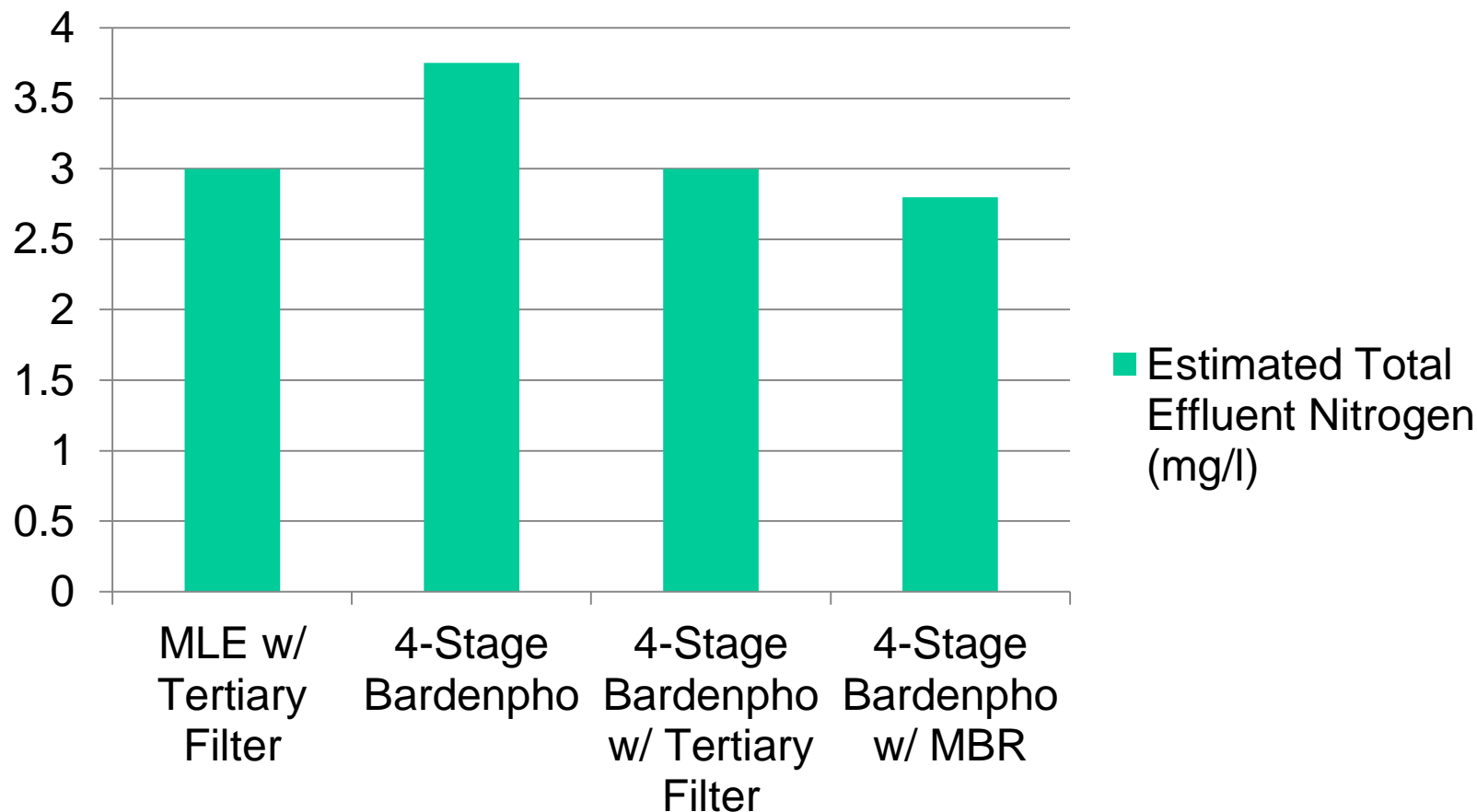
- 1. Modified Ludzack-Ettinger (MLE) with Tertiary Sand Filter*
- 2. 4-stage Bardenpho*
- 3. 4-stage Bardenpho with Tertiary Sand Filter*
- 4. 4-stage Bardenpho with Membrane Bioreactor (MBR)*



# Estimated Total Effluent Nitrogen



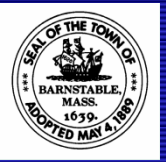
## Estimated Total Effluent Nitrogen (mg/l)



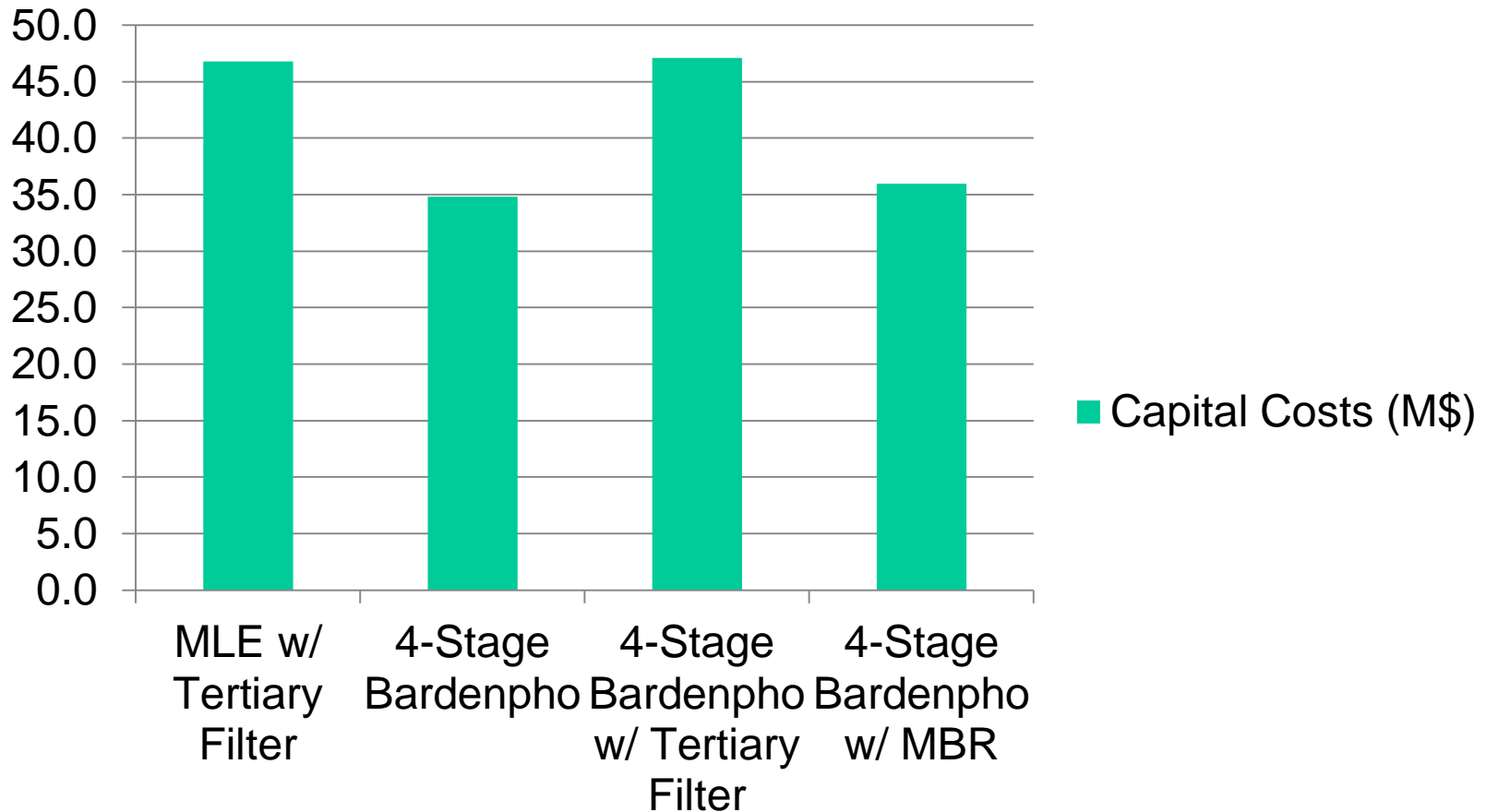




# Expected Capital Costs



## Capital Costs (M\$)





# *Selected Alternative*



- *4-stage Bardenpho with Membrane Bioreactor (MBR)*
  - *Highest quality effluent*
  - *Proven technology in our climate*
  - *Can utilize much of the existing tankage*
    - *Smallest overall construction project*
    - *Lower Capital Costs*



# *Headworks*



- *MBR requires finer headworks screening than existing*
- *The existing headworks building was constructed in 1973*
- *Building is showing advanced signs of degradation requiring emergency repairs*
  - *leaking channel walls*
  - *grit system failures*
  - *failing concrete*
  - *failing odor control system*
- *Building was scheduled for upgrade in next 5 years, accelerated due to results of N project*



# *Discussion?*

