



# Hydrologic/Hydraulic Investigation for Consue Springs, Nantucket, MA

## Massachusetts Coastal Zone Management (CZM) Wetlands Restoration Program

Consue Springs is a pond and wetland complex that is connected to the Nantucket Harbor by a culvert underneath an abandoned railroad bed. The culvert structure serves to convey stormwater runoff out of Consue Springs and allow limited passage of tidal flows.

The Horsley Witten Group, Inc. (HW) conducted a hydrologic/hydraulic characteristic of the tidal culvert for the Massachusetts Coastal Zone Management (CZM) Wetlands Restoration Program. The first phase was to evaluate the tidal restriction and provide recommendations for increasing tidal flow to the pond and wetland complex. Field work included deployment of water level pressure transducers to measure the headwater/tailwater hydrodynamics, delineation of wetlands near the culvert, surveying of features in the vicinity of the culvert, and modeling of the existing tidal hydrodynamics. This data was used to support hydrodynamic modeling that evaluated a series of alternative replacement culvert sizes and arrive at the most effective solution that would optimize tidal flushing.



Client Contact:  
Tim Smith  
Restoration Ecologist  
Cape Cod National Seashore  
508-487-3262 x 0509

HW Contact:  
Neal Price

[www.horsleywitten.com](http://www.horsleywitten.com)

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### Sandwich, MA

90 Route 6A  
Sandwich, MA 02563  
tel: 508-833-6600

### Newburyport, MA

30 Green Street  
Newburyport, MA 01950  
tel: 978-499-0601

### Providence, RI

370 Ives Street  
Providence, RI 02906  
tel: 401-272-1717