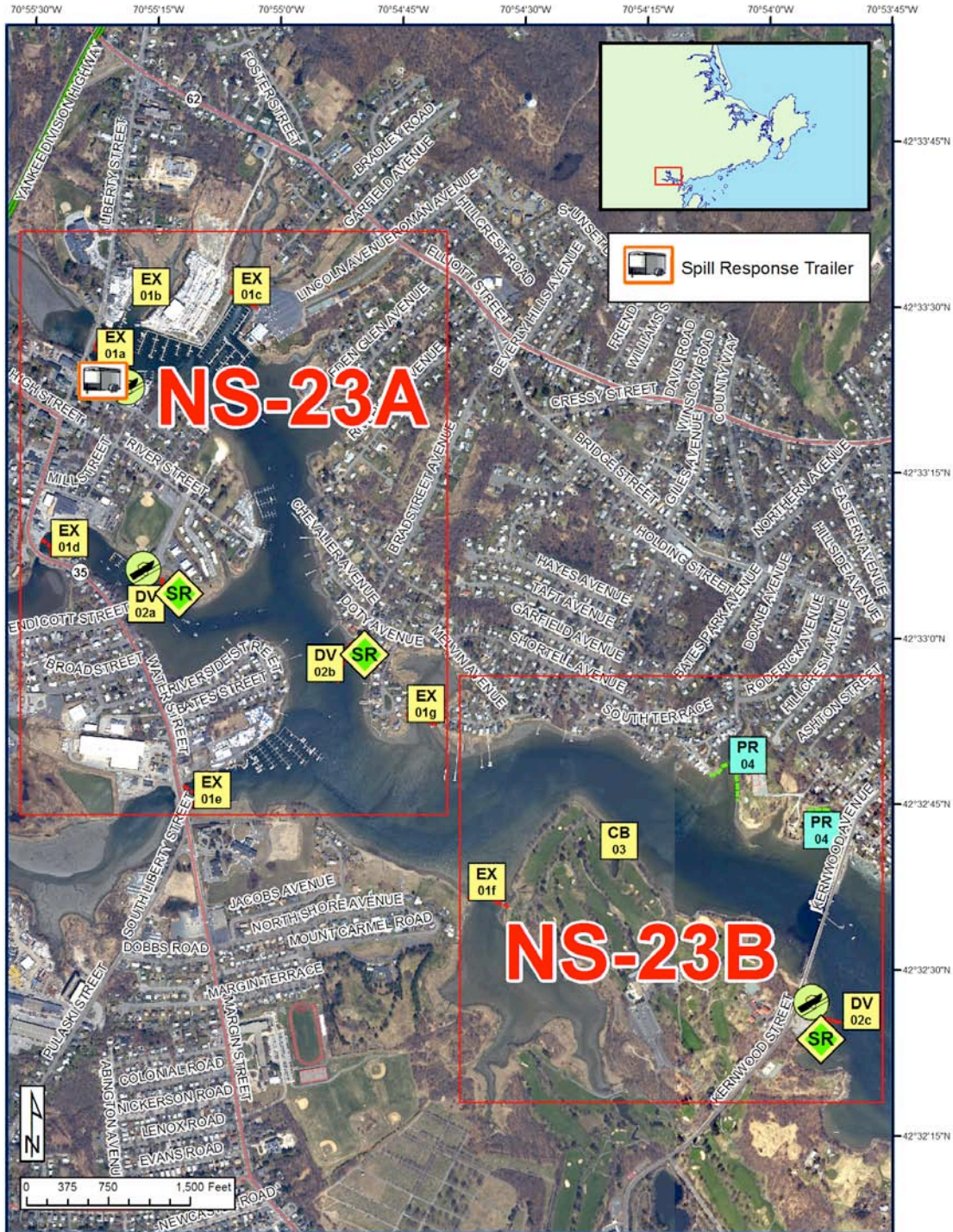




North Shore Geographic Response Plan

Danvers River NS-23



Map Legend			
Beach Berm	Deflection Booming	Mosquito Ditch	Protected-water Boom (Flood Tide)
Culvert Block	Exclusion Booming	U.S. Coast Guard Station	Protected-water Boom (Ebb Tide)
Diversion Booming	Shoreside Recovery	Boat Ramp	Snare or Sorbent Boom
Passive Recovery	Free-oil Recovery	Beach Berm Material	

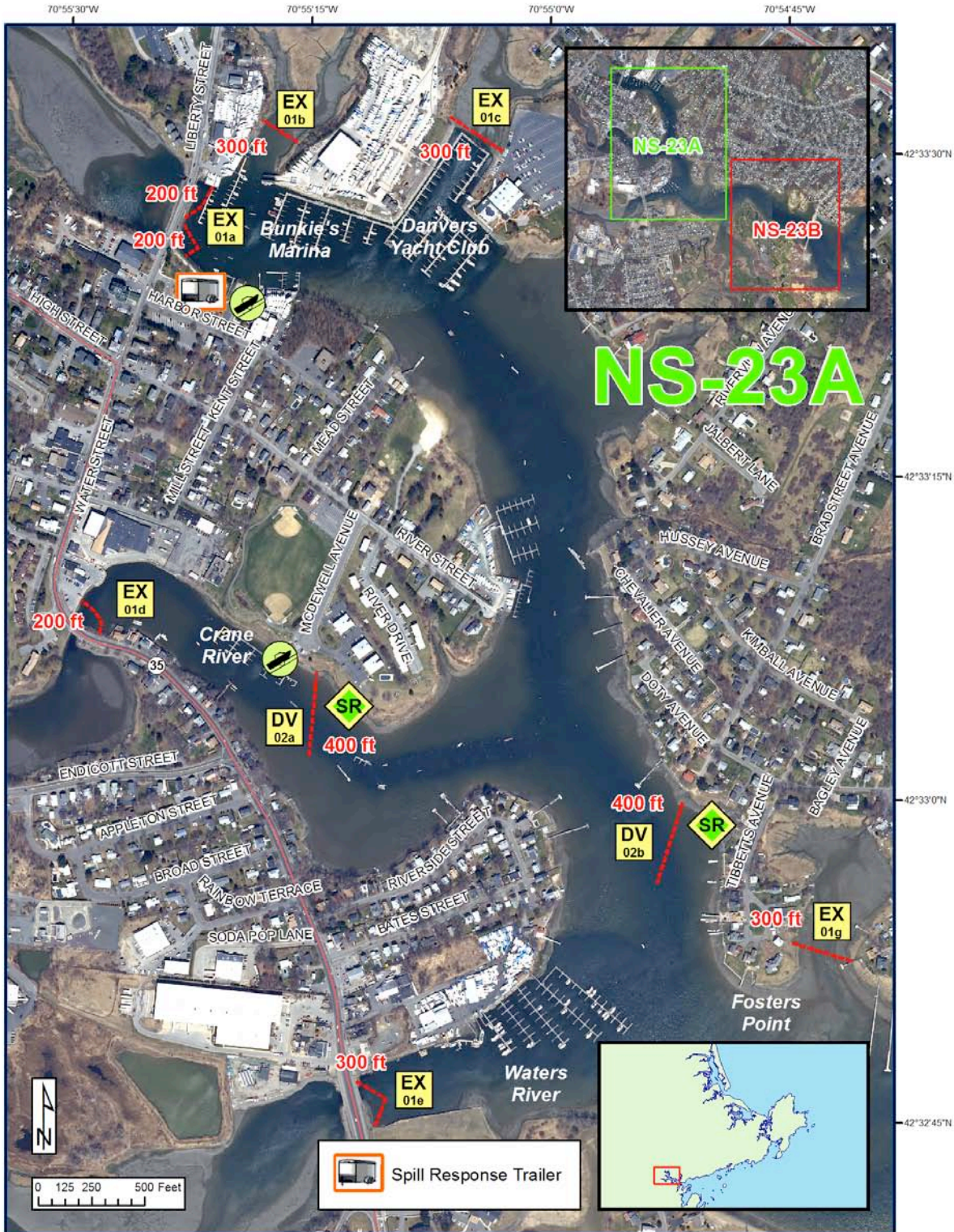
A total of 4 State Response Trailers are required to implement all of the tactics in this GRP. Responders should always consider on-scene conditions before deploying GRP tactics. Tactics may not be safe or effective under certain conditions. Responder safety should always be the first priority.





North Shore Geographic Response Plan

Danvers River NS-23



Map Legend			
BB Beach Berm	DF Deflection Booming	MD Mosquito Ditch	Protected-water Boom (Flood Tide)
CB Culvert Block	EX Exclusion Booming	U.S. Coast Guard Station	Protected-water Boom (Ebb Tide)
DV Diversion Booming	Shoreside Recovery	Boat Ramp	Snare or Sorbent Boom
PR Passive Recovery	Free-oil Recovery	Boat Ramp	Beach Berm Material





North Shore Geographic Response Plan

Danvers River NS-23



Map Legend			
BB Beach Berm	DF Deflection Booming	MD Mosquito Ditch	Protected-water Boom (Flood Tide)
CB Culvert Block	EX Exclusion Booming	U.S. Coast Guard Station	Protected-water Boom (Ebb Tide)
DV Diversion Booming	SR Shoreside Recovery	Boat Ramp	Beach Berm Material
PR Passive Recovery	FO Free-oil Recovery	Snare or Sorbent Boom	









North Shore Geographic Response Plan
Danvers River NS-23

ID	Location and Description	Response Strategy	Implementation
<p>NS-23-01</p> <p>EX</p>	<p>Danvers River In the vicinity of: Lat 42°33'N Lon 70°55'W</p> <p>(a) Liberty St (2 places) (b) Bunkie's Marina (c) Danvers River Yacht Club (d) Crane River (e) Waters River (f) Kernwood Marsh (g) Fosters Point</p>	<p>Exclusion Exclude oil from entering the side rivers, creeks and marshes of the Danvers River to minimize the area of impact.</p>	<p>Deploy anchors and boom with skiffs. See diagram for locations.</p> <p>For (a) & (d) place 200 ft of 18" boom and for (e) place 300 ft of 18" boom in a chevron or semi-circle shape in front of each of the four box culverts. Use two anchors on each array to hold boom away from shoreline. The boom attachment must be able to rise/fall with the tide to maintain a seal and/or use passive recovery at attachment points to minimize leakage.</p> <p>For (b), (c), & (g) place 300 ft of 18" boom and for (f) place 400 ft of 18" boom in a slight chevron shape across the entrance to the marsh entrances. Anchor boom in mid-channel to hold shape.</p> <p>Tend throughout the tide.</p>
<p>NS-23-02</p> <p>DV</p>	<p>Danvers River (a) Crane River Lat. 42°33'06"N Lon. 70°55'15"W</p> <p>(b) Bradstreet Ave Lat. 42°32'58"N Lon. 70°54'53"W</p> <p>(c) Kernwood Ave Lat. 42°32'25"N Lon. 70°53'52"W</p>	<p>Divert and Collect - Shoreside Place and anchor sections of protected water boom at the proper angle to the current to divert the oil to the identified shoreside collection locations.</p>	<p>Deploy anchors and boom with skiffs.</p> <p>For (a), (b) and (c) place 400 ft of 18" boom angled as shown in the diagram to divert incoming oil to the collection sites. Set anchors every 200 ft.</p> <p>Tend throughout the tide.</p>
<p>NS-23-03</p> <p>CB</p>	<p>Danvers River Kernwood Country Club Pond Lat. 42°32'42"N Lon. 70°54'15"W</p>	<p>Culvert/Outfall Blocking Install and monitor culvert block to keep oil from entering coastal pond.</p>	<p>At low tide place an inflatable culvert plug in the culvert. If the inflatable plug is not available, place plywood or similar sheeting material across the entrance of the culvert. Use plastic sheeting to ensure the seal. Stack adequate sandbags against the plywood sheeting to counter the out flow pressure from the intertidal area.</p> <p>Monitor the block to ensure blocking integrity.</p>
<p>NS-23-04</p> <p>PR</p>	<p>Danvers River</p>	<p>Passive Recovery Place passive recovery tactics to recover oil and prevent it from entering sensitive areas.</p> <p>Deploy at locations that are likely to be impacted and where boom can be adequately secured.</p>	<p>Place snare or sorbent boom along marsh front to minimize damage and facilitate recovery.</p> <p>Replace as necessary to maximize the recovery.</p>





North Shore Geographic Response Plan
Danvers River NS-23

ID	Response Resources	Staging Area Site Access	Resources Protected	Special Considerations
NS-23-01 	Deployment Equipment (All locations) 2200 ft 18" boom 8 anchor systems 16 anchor stakes Vessels 2 skiffs Personnel/Shift 8 total (1 vessel operator + 1 responder per vessel, 4 shoreside responders) Tending Vessels 1 skiff Personnel/Shift 4 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders)	Staging Area: Danvers Fire Department, 12 Ash St; From Rt 128 (exit 24) to Endicott St to Sylvan St. Site Access: From Endicott St; (a), (d) & (e) to Water St. From Water St (b) to Liberty St; (c) to Liberty St to Elliot St to Lincoln Ave. (g) to Liberty St to Bridge St to Bradstreet Ave to Shortell Ave, to Tibbets Drive (f) From Water St to N Shore Ave. Chart 13275-1	Fish – Anadromous Fish, Finfish Birds – Seabirds Habitat – Marsh, Rocky Shore, Beach, Tidal Flats Human Use – Beach, Boat Ramp, Marina	Tide range 7 – 10 ft. Vessel master should have local knowledge. Large number of recreational vessels. Developed shoreline with riprap, pier pilings, docks and floats. Two draw bridges on Danvers River. Moored vessels may need to be moved. Entire site surveyed: 05/27/09. Tested: not yet.
NS-23-02 	Deployment Equipment 1200 ft 18" boom 6 anchor systems 3 anchor stakes Vessels 2 skiffs Personnel/Shift 8 total (1 vessel operator + 1 responder per vessel, 4 shoreside responders) Tending Vessels 1 skiff Personnel/Shift 4 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders)	Site Access: From Elliott to Water St, (a) to River St to McDewell Ave. (b) to Liberty St to Bridge St to Bradstreet Ave. (c) to Margin St to Liberty Hill Ave to Kernwood Ave.	Same as NS-23-01.	Same as NS-23-01.
NS-23-03 	Deployment Transport 1 Truck Equipment 1 culvert plug or boards (to be pre-built by town) Personnel/Shift 2 shoreside responders	Site Access: From Elliot St to Water St to Margin St to Liberty Hill Ave to Kernwood St.	Habitat – Coastal pond	Culvert block should be tested and stored at appropriate location. Tested: not yet.
NS-23-04 	Deployment Equipment 1200 ft of snare or sorbent boom 12 anchor stakes Personnel/Shift 4 shoreside responders	Site Access: Same as NS-23-01.	Same as NS-23-01.	Use snare boom for persistent oils and sorbent boom for non-persistent oils.





Site Photographs and Contact Information



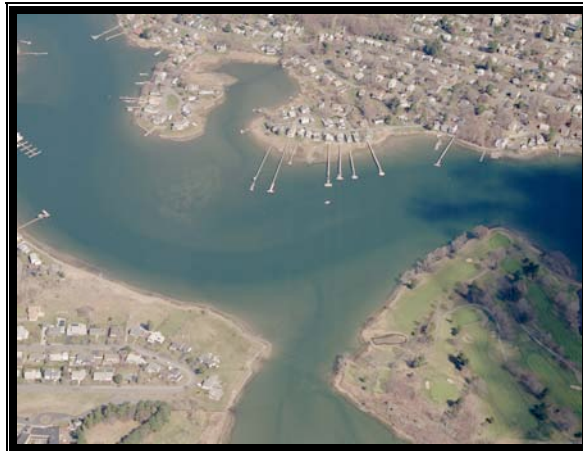
Danvers Harbormaster boat ramp at high tide on 27 June 2009. View looks south.



Head of Danvers River. MassDEP, 14 April 2009



Liberty St culverts at high tide on 27 May 2009. View looks west.



Entrance to Kernwood Marsh. MassDEP, 14 April 2009.



Entrance to Kernwood Marsh at high tide on 27 May 2009. View looks south.

Contact Information:
 Danvers Fire Department: 978-774-2424
 Danvers Harbormaster: 978-762-0210
 Danvers DPW: 978-762-0230
 Salem Sound Coastwatch: 978-741-7900
 U.S.C.G. Station Gloucester: 978-283-0705
 Mass Division of Marine Fisheries: 617-626-1520
 Environmental Police: 800-632-8075
 Beverly Harbormaster: 978-921-6059
 Salem Harbormaster: 978-741-0098

