

**New Bedford Regional Airport
Runway Safety Improvements Project – Phase 4
Reconstruct, Mark, and Groove Runway 5-23
MassDEP File No. SE049-0635**

ENVIRONMENTAL MONITOR INSPECTION FORM

Environmental Monitor: **Amanda Atwell and Michael Howard**

Date/ Time of Inspections: **7/3/14 (all day), 7/5/14 (morning) and 7/10/14 (all day).**

Weather Conditions: **7/3/14 70s sunny, overcast; On 7/4/14 EWB received 6.3 inches of rain as a result of the tropical storm, on 7/5/14 the total was 6.36 inches. 7/5/14 80s, sunny & windy, 7/10/14 80s, sunny and muggy- (weatherunderground.com).**

Observed Construction Activities Underway (attach additional pages if necessary):

On 6/30/14 Epsilon met with the tree clearing contractor (Wagner Wood) to attend the turtle training and review environmental permits and project plans and specs. Turtle training for the tree clearing contractor was conducted by Oxbow Associates on June 30. On 7/3/14 the contractor completed paving along Area 2, the area centered around Taxiway "B". The contractor is continuing grading, site prep and stormwater installation work within the Runway 5 and 23 ends. All erosion controls were installed and functioning as intended. Tree clearing work started on Monday with turtle sweeps and the placement of the timber mats. The contractor started clearing trees on Tuesday and placed logs in front of hay bales along the ILS to protect that feature. Approximately 5 acres were cleared by Thursday afternoon. The balance of Thursday was spent preparing the site for the forecasted tropical storm. Site preparation included completing the infiltration ditch at 5 end and conducting a complete inspection and repair as necessary of erosion controls. The Paskamansett River bridge was further armed with timber mats. On 7/5/14 Mike Howard and the contractor conducted a site inspection and identified any immediate erosion control issues after the storm. The site held up remarkably well as evidenced by Sunday's photo attachment email sent by Epsilon.

On 7/10/14 the contractor was continuing with its grading, site prep, stormwater installation work, and electrical trenching the Runway 5 and 23 ends. Erosion controls had been fixed by the contractor where problems were identified. The major areas where sediment had mobilized were located adjacent to the catch basins that are currently off-line. Turtle sweeping and tree clearing are ongoing. The contractor has added additional timber mats as the water levels in the BVW have increased significantly following the heavy rains. The contractor has cleared approximately 9 acres so far. The stockpile remained in good condition and outside the 100 foot buffer zone.

The contractor will be commencing the 81 hour (3.5 day) Runway intersection repaving where the Airport must be closed to all fixed wing traffic. Helicopters will still be able to access the Airport.

Status of Existing BMPs and Other Inspection Items

Control Measure	Cleaning or Repair Needed	Comments/Recommendations from the EM
Erosion Control Devices	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> n/a	Erosion controls were generally in good condition throughout the work zone. Two discrete area of silt fence/ turtle barrier was damaged along the 23 end. The silt fence and infiltration trench was fixed. The silt fence near wetland A and the Taxiway "A" extension failed. However, no sediment was found downgradient of the silt fence and the fence was repaired by the time of inspection. Along the 5 end (south) there were a few areas where water overtopped the silt fence, minimal to no sediment was transferred into the wetland, sediment was hand removed in discrete areas. Straw wattles were restaked where necessary and silt fence was repaired in

Control Measure	Cleaning or Repair Needed	Comments/Recommendations from the EM
		discrete areas. Silt fence was ripped or overtopped at two of the three stormwater outfalls. Silt fence was repaired and straw wattles were restaked at both outfalls. These outfalls are still offline. Sediment was hand cleared out of the BVW adjacent area at the northern outfall. Water flowed into this outfall via overland flow as the infiltration trench was overtopped and water moved around the check dams into this low-lying area. Sediment was hand cleared from the riprap as soon as conditions allowed. There was two small rips in the silt fence at the time of inspection at the southern outfall; these areas were brought to the WS attention. Water within this area is sediment laden and discussed below. Along the ILS road, sediment is located at the base and on top of the compost tubes due to tree branches scraping the soil surface and creating some very local movement. No sediment was observed on the downgradient portion of the compost tubes and no sediment migrated into the adjacent wetlands. These sediment controls will be replaced prior to electrical trenching and earthwork. Generally, the silt fence was properly tailed in and the hay bales and filter tubes were appropriately staked. Areas where previous failures were observed are continuing to be monitored and no additional issues have been observed. The contractor has an emergency supply of silt fence and compost tubes present on the site.
Box Turtle Barriers, Gates and Protection Measures	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> n/a	Turtle barriers were in good condition at time of inspections. The moveable gate installed at the West Ditch arch culvert was functioning properly at the time of inspections. One turtle gates was noted to be at a lower elevation following prolonged submergence. The WS indicated that the level will be fixed so that a turtle could utilize the gate. Turtle training for the tree clearing contractor was conducted by Oxbow Associates on June 30.
Stabilized Construction Entrances, Haul Roads, Dust Control	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	The stone tracking pad was in good shape with no significant silt or sediment on the roadway. An individual from ET&L was stationed at both entrances for site access control and sediment control. The gravel access road was stabilized with pavement millings to minimize erosion in the buffer zone and adjacent wetlands and dust generated by the heavy construction equipment – this approach worked very well as the access road held up extremely well following the tropical rain event. Epsilon observed watering of exposed surfaces throughout the work zone and sweeping the construction entrance by ET&L to minimize dust.
Stockpiling Materials	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	The Runway 5 RSA was restaked to mark the 100 foot buffer zone near the material stockpile and the tree clearing work zone. Soil from the large stockpile located in the RSA has been utilized onsite.
Dewatering	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	Some locally low areas were dewatering early in the week. Dewatering was not observed by Epsilon, but no adverse impact was noted.

Control Measure	Cleaning or Repair Needed	Comments/Recommendations from the EM
Construction Equipment Storage and Refueling	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	Equipment storage is located within the designated lay down area. Supplies and equipment staging for the tree clearing work is located in the Runway 5 RSA. The area where the electrical subcontractor stored their equipment during the storm was observed to be clean. No oils or fuels leaked from this equipment.
Site Clean-up and Stabilization	<input checked="" type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> n/a	There is sediment laden water in the southern stormwater outfall sump. The WS was to investigate the cause of this water but it may be a result of dewatering or water overtopping the construction area and flowing overland into this area (similar to the other outfall failure). This area will be monitored, cleaned and stabilized as soon as possible. There were no other specific areas in need of clean up or additional stabilization measures.
Timber Swamp Matting in Wetlands for Tree Clearing in Dartmouth	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	Multiple layers of timber mats were placed in specific areas where necessary. The contractor has created bridges to allow water to flow under the timber mats in a few discrete areas. These mats are in good conditions and some are slightly floating. To prevent soil damage or mobilization, in the few discrete areas where the mats are “mobile” meaning they move up and down slightly under the weight of the machinery, the contractor is driving extremely slow and keeping an eye on the water to make sure that water movement is not appreciable. The contractor has also placed moderate sized tree branches and trunks perpendicularly from the timber mats to make sure that water does not move far and sediment is not re-deposited.
Work Area 1A – Tree Clearing in Dartmouth	<input type="checkbox"/> yes <input checked="" type="checkbox"/> no <input type="checkbox"/> n/a	Tree clearing has been progressing smoothly. There is one feller buncher and three grappler machines to remove trees. Two pieces of equipment are moving trees to the processing area and fixing the timber mats as needed. The feller buncher on its own series of mats was clearing trees while one grappler was moving trees to the timber mat access road. One snag per acre has been identified and shored off at approximately 10-12ft. One trailer of logs is removed from the site daily. Tree processing is ongoing.
Work Area V – Wetland Replication Area	<input type="checkbox"/> yes <input type="checkbox"/> no <input checked="" type="checkbox"/> n/a	This work has not yet started nor have the wetlands been filled for the MALSR light station work.
Overall Adherence to Environmental Permits		The project site was in very good condition during the inspection period and no obvious contradictions or violations with the various permits and approvals were noted.

Other General Comments:

On 7/3/14 Epsilon reviewed the Runway 5 end, Runway 23 end, ILS road and stormwater headwalls with the WS and Sarah Porter, New Bedford Conservation Commission. The site is in good condition and erosion controls were holding up nicely. Erosion control stockpiles, including extra compost filter tubes, are on site for repairs. The contractor has essentially completed constructing the new stormwater headwalls and is in process of installing other stormwater infrastructure. The contractor was busy preparing the site for the forecasted tropical storm.

On 7/10/14 – reviewed the Runway 5 end, Runway 23 end, ILS road and stormwater headwalls with the WS, the IO and Sarah Porter, New Bedford Conservation Commission. The site held up nicely after the storm. The site was generally in good condition and erosion controls were holding up nicely.

Open action items from the June 12 meeting with MassDEP: (1) ASG to follow up with MassDEP on the use of pavement millings BMP; (2) formal proposal to stabilize interface between Turtle Area 3 and Site 6 with mulch (we may opt for a “wait-and-see” approach as the area is beginning to vegetate and the sand is not currently migrating; it too held up very well after the tropical rain event); and (3) a follow up response to MassDEP’s June 4, 2014 email regarding potential long term stabilization measures for runoff near West Ditch.

Are additional erosion control measures needed?

no yes If yes, describe: **As noted above.**

Are sediment/pollution discharges from the site present?

no yes If yes, describe: **Minimal sediment discharges were noted as a result of the tropical storm. These areas have been restablized and hand cleared as necessary and noted above.**

Describe any corrective action required at this time: **None at this time.**

Attach additional sheets with notes, comments, illustrations and issues as needed. Use site plan to identify locations of work areas or issues noted above: **Photos are attached. See action items identified above.**

AA/MH



View of timber mats installed on paved ILS road to protect underlying culverts at Paskamansett River crossing. This area has held up nicely over the past two weeks.



View of logs arming existing hay bale sediment controls with felled trees along a portion of the ILS road (from the culvert to the wildlife fence)



View of contractor completing the infiltration trench by Runway 5.



View of paving operation.



View of culvert arming/additional protection.



View of newly installed headwall by 5 end, noted in 7/5 photos. This area has been hand cleared of sediment from prior tropical storm event and erosion controls repaired. The double row of straw bales is where the minor breach occurred.



View of minor sediment deposit area downgradient from the headwall. This area is adjacent to the wetland and has been hand cleared.



View of tree clearing staging area.



View of the RW 5 end corner previously underwater in the 7/5 photos. Straw bales and silt fence were re-staked where necessary.



View of area where water overtopped the silt fence from tropical storm. This area was hand cleared of sediment as necessary.



View of minor sediment movement across the access road. Sediment did not reach the silt fence.



View of low spot in work zone. No sediment was found behind the silt fence and the controls were functioning as intended.



View of area where rollers and equipment from the electrical subcontractor were stored during the storm. No evidence of fuels or oils were noted on the soil surface.



View of another area where water overtopped the silt fence. This area was hand cleared as necessary.



View of sediment movement down the exposed slope. Sediment was contained by silt fence. This area will need to be reshaped prior to seeding.



View of south headwall. Sediment laden water could be caused by overland flow or movement from the catch basin. This area will need to be fixed and stabilized.



Two small rips in the silt fence were observed and the WS was notified immediately.



View of area between Runway and Taxiway that may have been sediment source. There is an open trench where the taxiway was cut to remove existing stormwater infrastructure immediately upgradient from the headwall.



View of catch basin. This area will need to be addressed. The EM spoke with the WS regarding this catch basin.



View of compost tubes along ILS road. These controls, although degraded, did not have sediment downgradient the tubes or within the wetland. This controls will be replaced or repaired prior to earth work trenching for utility installation.



View of example MALSR erosion controls. These erosion controls will be fixed prior to the start of work in these areas. The contractor will likely leave these as is until after the 81 hour shut down.



View of improved timber mat road.



View of tree removal advancing down ILS road.



View of improved timber mat road in tree clearing area.



View of loading trees.



View of temporary drainage ditch at RW 23 end. There was a breach in this area that was repaired. No sediment was observed downgradient the silt fence or reached the wetland.



View of erosion control/ turtle barrier breach. This area was fixed and no sediment reached the downgradient wetland.



View of street sweeping along Shawmut Avenue, multiple houses north of the construction entrance.