

NEW ENGLAND ENVIRONMENTAL, INC.

ENVIRONMENTAL CONSULTING SERVICES



R. Joyce

Report Date:
October 24, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	10/23/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	10/30/09		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 2- Week 1 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 10-22 to 10-23-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the first week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction started on October 22 . Work included installation of approximately the first 200 feet of the turbidity curtain, delivery and staging of construction materials, and the excavation of the construction access ramp. No earth work was permitted until the turbidity curtain was installed and inspected. The access ramp was completed Thursday afternoon. October 23 - activities included installing the first woody debris structures and construction of the aquatic bench. Approximately the first 70 feet was installed on Friday.
Turbidity Curtain:	The first 200 feet of the curtain was installed on Thursday. The 5 foot wide curtain was anchored to the bank, completely enclosing the active work area. The curtain is inspected daily before the start of construction.
Construction Entrance:	The construction entrance has been installed. The entrance will be monitoring for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	Siltation fence has been installed. A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp. A row of staked bales were installed at the bottom of the access ramp due to the forecasted rain.
Action taken on previous recommendations:	Previous recommendations included installing the construction entrance and adding additional siltation fencing. These recommendations have been implemented by the contractor.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.
Site Photographs:	



Davenport crews installing the turbidity curtain.



View of the start of construction on the root wads structures and bench.



View from access ramp of construction of the root wad structures and bench.



R. Joyce

Report Date:
 October 31, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	10/30/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	11/06/09		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 5- Week 2 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 10-26 to 10-30-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the second week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction was limited this week due to rain and rising water levels. The work zone along the river was inundated most of the week. A storm event inspection was conducted on October 28 . The site was observed stable and in good condition. October 26-29 : No work was conducted at the site. October 30 : activities included installing the woody debris structures and construction of the aquatic bench. Approximately the first 130 feet was installed on Friday.
Turbidity Curtain:	The curtain is inspected daily before the start of construction.
Construction Entrance:	The construction entrance is in good condition. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.
Site Photographs:	



View of the root wads and log during construction of the aquatic bench.

View looking down river at the aquatic bench

View of the construction entrance to site.

Copies submitted to:	Ken Sprankle - Gill Conservation Commission, Charles Momnie - First Light, Russel West - Davenport Construction, Karen Hirschberg - DEP, Western Region	Signed: <i>Ryan T. Joyce</i> - CESSWI #359
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R. Joyce

Report Date:
 November 8, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region	
Inspection Date:	11/06/09	Address:	436 Dwight Street	
Inspection Time:	Though out day	Town:	Springfield	State: MA
NEE Project #:	08-3247	Zip:	01103	
MA DEP Permit #:	162-0068	Next Inspection Date:	11/13/09	
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC	
Report # - Storm Event #:	Report - 6- Week 3 of Construction	Photos Included:	YES	

Sediment and Erosion Control Monitoring Details:

Overview:	From 11-2 to 11-6-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the third week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction proceeded all week without any weather interruptions. Work activities for the week included construction of the aquatic bench, placement of large woody debris, and installation of 900 additional feet of turbidity curtain. November 2: Approximately 200 feet of the aquatic bench was constructed. November 3: Another 200 feet was installed. November 4: 150 was constructed. November 5: 90 feet was installed. November 6: 100 feet was constructed. Approximately 940 feet of the aquatic bench has been installed thus far.
Turbidity Curtain:	The curtain is inspected daily before the start of construction. Periodic adjustments were made to the curtain during the week.
Construction Entrance:	The construction entrance is in good condition. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp at the end of the work day.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.
Site Photographs:	



View of the bench construction and large woody debris .



View the operator "dressing out" or stabilizing the bench. This is performed each night before the crews leave the site.



View of the bench and river looking south.



R. Joyce

Report Date:
 November 14, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	11/13/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	11/202009		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 7- Week 4 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 11-9 to 11-13-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the third week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction proceeded all week without any weather interruptions. Work activities for the week included construction of the aquatic bench, placement of large woody debris (LWD) in "scalloped" or severely eroded areas, and installation of the 8 foot turbidity curtain. This curtain was installed as a precaution because of a rapid decent in grade within the river. November 9: Approximately 60 feet of the aquatic bench was constructed. November 10: Another 60 feet was installed. November 11: 200 was constructed. November 12: The river prohibited work on the bench. The crews focused on placing LWD in the scalloped eroded areas. November 13: 110 feet was constructed. Approximately 1370 feet of the aquatic bench has been installed thus far.
Turbidity Curtain:	The 8' curtain was installed from station 16+00 through station 10+00 (end of the aquatic bench). The curtain is inspected daily before the start of construction. Periodic adjustments were made to the curtain during the week.
Construction Entrance:	The construction entrance is in good condition. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp at the end of the work day.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.

Site Photographs:



View of the installation of the 8' turbidity curtain.



View of LWD placement within the scalloped eroded areas.



View of LWD within the scalloped eroded areas.



R. Joyce

Report Date:
 November 20, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	11/20/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	11/27/09		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 8- Week 5 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 11-16 to 11-20-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the fifth week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction was limited to three days this week because of rain and elevated river conditions. The river was observed containing a large amount of floating debris as result of the weekend storm. Work activities for the week included placement of large woody debris (LWD) in the "scalloped" or severely eroded areas and construction and completion of the aquatic bench. The bench was completed on Friday. As shown on the plans, it was tied into the existing rock outcropping at approximately station 9+50. November 16: No work was conducted. November 17: No work was conducted. November 18: 60 feet of the bench was constructed. November 19: 120 feet was installed. November 20: .86" of rain was recorded and a storm event inspection was conducted. The remaining 180 feet was constructed and the bench was finished. Construction of the approximately 18 Large Woody Debris (LWD) structures will begin on Monday.
Turbidity Curtain:	The curtain is inspected daily before the start of construction. Periodic adjustments were made to the curtain during the week.
Construction Entrance:	The construction entrance is in good condition. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp at the end of the work day.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.
Site Photographs:	



View of the construction of the "scalloped" eroded areas.



View of the construction of the last 100 feet of the aquatic bench.



View of end of the aquatic bench.



R. Joyce

Report Date:
 November 29, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	11/25/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	12/04/09		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 9- Week 6 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 11-23 to 11-25-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the sixth week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction was limited to three days this week due to the Holiday. Work activities for the week included construction of approximately 9 Large Woody Debris (LWD) structures on the aquatic bench and placement of large woody debris in the "scalped" or severely eroded areas. November 23: LWD structure construction November 24: LWD structure construction November 25: LWD structure construction November 26: No work conducted. November 27: No work conducted. Work for the upcoming week includes construction of the LWD structures and placement of an open weave biodegradable erosion control fabric on the aquatic bench. An erosion control plan showing the placement of this fabric was submitted on November 23. Once the fabric is installed, sections of the turbidity curtain will be removed.
Turbidity Curtain:	The curtain is inspected daily before the start of construction. Periodic adjustments were made to the curtain during the week.
Construction Entrance:	The construction entrance is in good condition. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	The two temporary soil stock piles are contained and in stable condition. One pile is in active use during construction. The second pile contains the material excavated from the construction access ramp. This pile is completely contained and covered. This material will not be used until the end of the project when the ramp location is restored to existing conditions.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp at the end of the work day.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.

Site Photographs:



View looking north at the first LWD structure.

View of the construction of an LWD structure.

View looking south of the LWD structures and the bench.



R. Joyce

Report Date:
 December 6, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	12/04/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	12/11/09		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 10- Week 7 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 11-30 to 12-4-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the sixth week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	Construction proceeded all week without interruption. Work activities for the week included completion of the Large Woody Debris (LWD) structures on the aquatic bench, placement of large woody debris in the "scalloped" or severely eroded areas, installation of erosion control fabric and the start of the restoration treatment to the access road. November 30: LWD structure construction December 1: LWD structure construction December 2: LWD structures were completed December 3: Installation of erosion control fabric on the aquatic bench. December 4: Start of the restoration treatment to the access road. Work for upcoming week: The project is entering its final week of activities for this season. The restoration to the access road will be completed and the turbidity curtain will be removed.
Turbidity Curtain:	The curtain is inspected daily before the start of construction. Periodic adjustments were made to the curtain during the week.
Construction Entrance:	The construction entrance is in good condition. The entrance was treated this week for sediment packing. The entrance will be monitored for sediment accumulation and removed as necessary.
Temporary Stockpile locations	A vast majority of the material in both temporary stockpiles have been utilized on the project. Only a minimal amount of material is remains in the stockpile areas.
Erosion Control Barrier:	A complete inspection of the barrier is conducted daily to ensure proper functionality. The barrier is in good condition. Staked, straw bales were placed at the top of the construction access ramp at the end of the work day.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	Daily inspections of the construction entrance, the soil stockpiles, the turbidity curtain and the erosion control barriers.
Site Photographs:	



View looking north at the last LWD structure.



View of the erosion control fabric installation



View of the start of the restoration treatment to the access road.

NEW ENGLAND ENVIRONMENTAL, INC.

ENVIRONMENTAL CONSULTING SERVICES



Report - 14- Week 8 of Construction

Report Date:
December 17, 2009

Sediment & Erosion Control Monitoring

Project Name:	Phase III Bank Restoration - Connecticut River	Submitted To:	DEP, Western Region		
Inspection Date:	12/08/09	Address:	436 Dwight Street		
Inspection Time:	Though out day	Town:	Springfield	State:	MA
NEE Project #:	08-3247	Zip:	01103		
MA DEP Permit #:	162-0068	Next Inspection Date:	Final Report		
Observers:	Ryan Joyce	Client:	First Light Power Resources LLC		
Report # - Storm Event #:	Report - 14- Week 8 of Construction	Photos Included:	YES		

Sediment and Erosion Control Monitoring Details:

Overview:	From 12-7 to 12-9-09, NEE conducted compliance monitoring associated with the Phase III Bank Restoration at Lower Spilt River Farm along the Connecticut River in Gill, MA. This was the sixth week of construction on the project. Monitoring conducted in accordance with special condition # 20 of the Order of Conditions and condition # 14 of the Water Quality Certification.
Site Description:	This was the last week of work activities conducted at the site for this season. Activities included completion of the restoration treatment to the access road, further installation of erosion control fabric, removal of the turbidity curtain and removal and clean up of the soil stockpile materials. December 7: Clean up & removal of the soil stockpiles, general site clean up and stabilization. December 8: More general site clean up, complete removal of the turbidity curtain. The existing farming road and adjacent areas were seeded with winter rye for stabilization. December 9: Finish restoration treatment to the access road. Heavy snow limited work on this day.
Turbidity Curtain:	The curtain was inspected daily before the start of construction. The curtain was completely removed on Tuesday.
Construction Entrance:	The construction entrance is in stable condition. This entrance will remain in place to be used for access in the spring.
Temporary Stockpile locations	The soil stockpiles were completely removed and cleaned up. Most of the siltation fence still remains due to frozen conditions.
Erosion Control Barrier:	A complete inspection of the barrier was conducted daily to ensure proper functionality. Most of the barrier was in good condition.
Action taken on previous recommendations:	Continue to monitor the erosion control barriers, construction entrance and stock pile areas. Address areas as necessary.
Recommendations:	The site was left in stable condition. The last remaining item would be to pull the siltation fence. Snow and frozen ground prohibited this removal.
Site Photographs:	



View of the restoration treatment to the access road



View of the turbidity curtain removal.



Removal of one of soil stockpiles.