



# Lyons Creek East

## *Monitored Natural Recovery Administrative Controls Protocol*

*A unique multi-agency and community partnership for the long term environmental protection of upper Lyons Creek East*



*January 2011*

## ***Lyons Creek East Monitored Natural Recovery Protocol***

*In 1987, Canada and the United States signed the revised Great Lakes Water Quality Agreement, in which Annex 2 described and required Remedial Action Plans to address environmental degradation in Areas of Concern around the Great Lakes Basin. The Great Lakes Water Quality Agreement identified 43 Areas of Concern and recommended that Remedial Action Plans be developed at the local level with community participation. The Niagara River is a binational Area of Concern where two Remedial Action Plans are under development separately – one in Ontario and the other in New York State.*

*Since 1999, the Ontario Ministry of the Environment, Ontario Ministry of Natural Resources, Environment Canada and the Niagara Peninsula Conservation Authority have worked together with the local community to develop and complete implementation of the Niagara River Remedial Action Plan, and achieve Area of Concern delisting. In order to achieve delisting the contaminated sediment issues in the Area of Concern needed to be resolved.*

*Lyons Creek East is one of the locations that was identified for further assessment in the Niagara Remedial Action Plan because contaminant(s) in sediment exceeded guidelines. Studies and input from the community open houses concluded that there is a low level of risk to human and ecological health associated with the contaminated sediment. Since cleaner sediment continues to be deposited on the site it was determined that removal was not warranted. As the sediments of interest are situated within a Provincially Significant Wetland it was also determined that removal would actually do more environmental harm than good.*

*Monitored Natural Recovery was selected as the best approach to manage the contaminated sediment. This approach allows the ongoing burial of contaminated sediment to continue while a monitoring program is developed to periodically assess the natural recovery of the creek, and administrative controls are established to prevent re-suspension of the contaminated sediment.*

*In support of Monitored Natural Recovery, the parties to this Protocol have agreed to act in a cooperative manner to harmonize their approval, permitting and planning process, as outlined in this Protocol, to ensure the sediments located in Lyons Creek East are not disturbed.*

***...this Protocol represents an inter-agency commitment to collaborate on the long-term protection, monitoring and awareness efforts regarding the contaminated sediment.***



*Lyons Creek East upstream from Hwy #140*

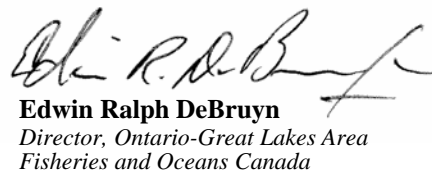
## Signing Authorities

By signing this Protocol the parties confirm their commitment to protect the Lyons Creek East ecosystem.

### Her Majesty the Queen in Right of Canada (Canada) as represented by:

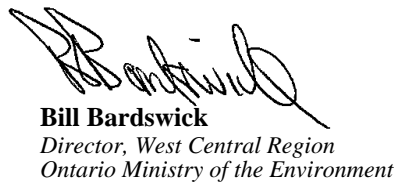


**Michael Goffin**  
Acting Regional Director General  
Department of the Environment



**Edwin Ralph DeBruyn**  
Director, Ontario-Great Lakes Area  
Fisheries and Oceans Canada

### Her Majesty the Queen in Right of Ontario (Ontario) as represented by:



**Bill Bardswick**  
Director, West Central Region  
Ontario Ministry of the Environment



**Ian Hagman**  
Guelph District Manager  
Ontario Ministry of Natural Resources

### The Niagara Peninsula Conservation Authority, as represented by:

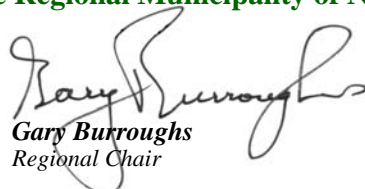


**Douglas Ransom**  
Chairman, Board of Directors



**Tony D'Amario**  
Chief Administrative Officer, Secretary Treasurer

### The Regional Municipality of Niagara, as represented by:



**Gary Burroughs**  
Regional Chair



**Mike Trojan**  
Chief Administrative Officer

### The City of Welland, as represented by:



**Barry Sharpe**  
Mayor



**Craig A. Stirtzinger**  
City Manager

### The St. Lawrence Seaway Management Corporation, as represented by:



**Pierre Pesant**  
Standards & Services Engineer

## *The Purpose of the Protocol*

The Lyons Creek East Administrative Controls Protocol is an administrative tool that establishes principles and procedures to ensure contaminated sediment in the Lyons Creek East Contaminated Sediment Area (see map on page 4) is not disturbed, exposed or re-suspended.

The Protocol guides key agencies in the implementation of Monitored Natural Recovery through the Lyons Creek Sediment Strategy, which states:

- Polychlorinated biphenyls (PCBs) contaminated sediment is located in the upper portions of the Lyons Creek East (between the Welland Canal By-pass and Highway 140) and should be left in place, undisturbed, in order to allow natural recovery to take place; and
- Administrative controls and a community outreach program should be put in place to ensure human activities do not disturb the top layer of sediment and expose the deeper, more contaminated material.

Based on detailed assessments of the area, historically contaminated sediment in the upper portion of Lyons Creek East is stable and covered with a cleaner layer of sediment. Therefore the sediment does not pose a significant human health or ecological risk. However, certain development, site alteration, emergency and recreational activities that involve dredging, filling/covering, piling, directional drilling, or scouring has the potential to disturb, expose or re-suspend the deeper more contaminated sediment.

The intent of this Protocol is to integrate the efforts of all agencies that have the mandate and authority to regulate activities in the Contaminated Sediment Area and the Drainage Area to ensure that PCB contaminated sediment is not disturbed, exposed or re-suspended. The Protocol represents an inter-agency commitment to collaborate on the long-term protection, monitoring and awareness efforts regarding the contaminated sediment in upper Lyons Creek East.

The parties to this Protocol have agreed to work together in a cooperative, coordinated and integrated fashion and are committed to prevent the disturbance, exposure and re-suspension of contaminated sediment.

### *Participating Agencies*

- Niagara Peninsula Conservation Authority
- Environment Canada
- Fisheries and Oceans Canada
- Ministry of the Environment
- Ministry of Natural Resources
- City of Welland
- Niagara Region
- St. Lawrence Seaway Management Corporation

## *The Objectives of the Protocol*

The objectives of the Protocol are:

- ✓ To create a common administrative approach to ensure contaminated sediment is not disturbed, exposed or re-suspended;
- ✓ To harmonize agency mandates and to strengthen and coordinate a common review process for regulating activities that have potential to disturb contaminated sediment;
- ✓ To establish principles that will guide decisions; and
- ✓ To clearly articulate the roles and responsibilities of each party to this Protocol.

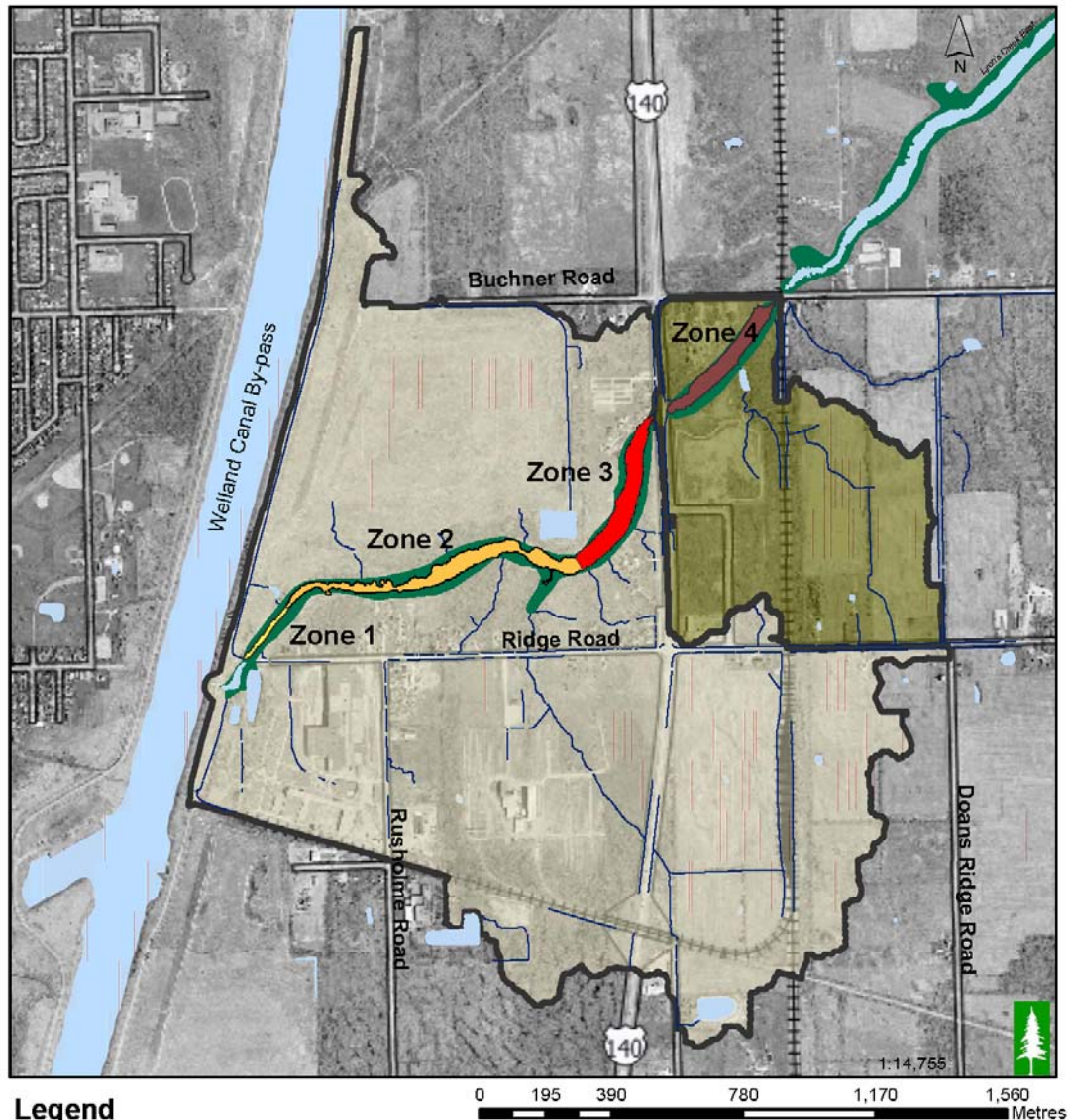


## The Geographic Scope of the Protocol

The geographic scope of this Protocol includes all lands that drain into the upper portion of Lyons Creek East between the Welland Canal and the Buchner Road / CN Railway intersection. Within this area there are two areas of concern:

**Contaminated Sediment Area** – Includes all land in the Creek bed where the contaminated sediment exists (Zones 1, 2, 3, and 4).

**Drainage Area** – Includes all land that drains into the Contaminated Sediment Area.



### Legend

- |     |                               |  |                                 |
|-----|-------------------------------|--|---------------------------------|
| —+— | Railway                       |  | Contaminated Sediment Area      |
|     | Streams & Ditches             |  | Zones 1, 2, 3, 4                |
|     | Watercourse                   |  | Drainage Area for Zones 1, 2, 3 |
|     | Lyons Creek East PSW Boundary |  | Drainage Area for Zone 4        |

## *The Principles of the Protocol*

The following principles will guide the decisions of the parties to this Protocol for all activities in the Contaminated Sediment Area and the Drainage Area:

### *Prevent Disturbance*

There must be no disturbance, exposure or re-suspension of contaminated sediments.

### *Apply Decision-Making Process*

All activities must be assessed based upon the application of the Decision-Making Process and the following design criteria in decreasing order of priority: Relocation, Redesign and Remediation.

### *Mitigate Impacts of Public Infrastructure and Utility Projects*

Public infrastructure and utility projects that cannot be relocated or redesigned and may potentially disturb sediment must have a remediation plan that indicates how contaminated sediment will be removed, handled and disposed of in a safe and environmentally protective manner.

### *Monitor and Mitigate Impacts of Emergency and Disaster Situations*

When emergency and disaster situations occur in the Contaminated Sediment Area, the impacts must be monitored and appropriate actions taken to mitigate further re-suspension of contaminated sediment.

### *Proponent is Responsible for Worker Safety and Costs*

The proponent of any activity is responsible for worker safety and all costs associated with the administrative controls process, including engineering reports and the removal, handling and disposal of contaminated sediment.

### *Continue the Monitored Natural Recovery Process*

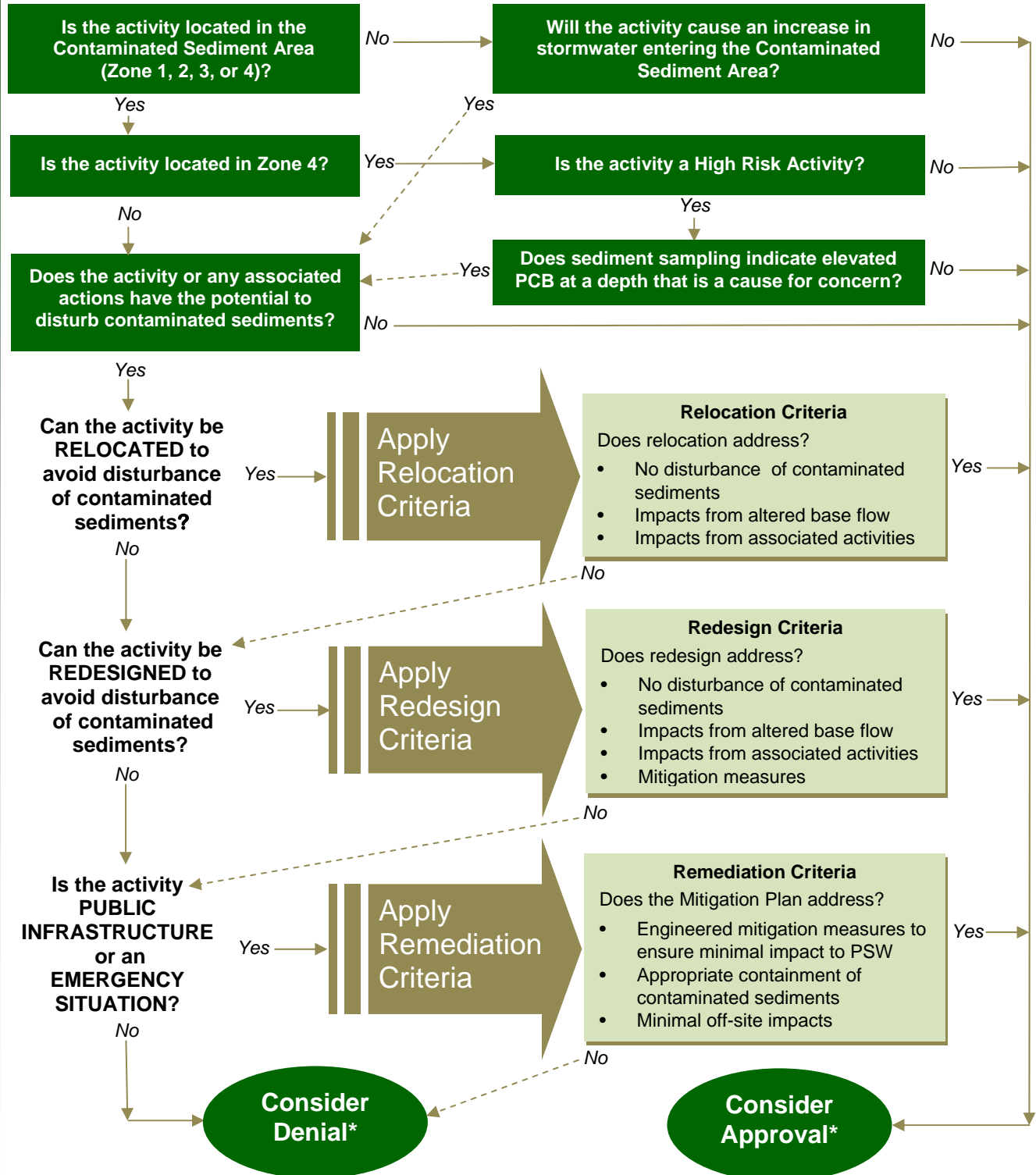
The Lyons Creek East contaminated sediment has been undergoing a natural recovery process since it was deposited over 40 years ago. Monitored Natural Recovery is the preferred management option and ensures the continuation of this natural recovery process.

### *Monitoring of Contaminated Sediment*

It will take decades of monitoring to determine whether Monitored Natural Recovery is working. The protocol and the Decision-Making Process must remain flexible to adapt to new information and circumstances.

## Decision-Making Process

All partner agencies will apply the following Decision-Making process to plan or review projects and activities located in the Contaminated Sediment Area and the Drainage Area.



\* Pending consideration of all other legislation

## *Roles and Responsibilities for Harmonizing Efforts*

Through this Protocol the parties confirm their commitment to work in a cooperative, coordinated and integrated fashion in order to harmonize the Decision-Making process. To this end, the parties agree to:

- Recognize the Niagara Peninsula Conservation Authority as the agency that is responsible for coordinating the Decision-Making Process and confirming the involvement of all agencies;
- Review applications in accordance with their own jurisdiction and provide comments to the Niagara Peninsula Conservation Authority in a timely fashion;
- Practice a “No Wrong Point of Contact” approach and provide proponents with a development guidance document to assist them through the process;
- Notify all appropriate parties to this Protocol when applications are received and when infractions of legislation, regulations and instruments related to this Protocol are identified; and,
- Promote open communication and facilitate discussion between parties to review applications, exchange new information or to discuss the implementation of the Protocol and a community outreach program.

The Protocol should not affect the normal business or result in an unacceptable burden to any party. The intent of the Protocol is to harmonize the Decision-Making Process and to identify opportunities to discuss and coordinate decisions. Any party that is participating in an Environmental Assessment or permit review process is responsible to notify all other parties.

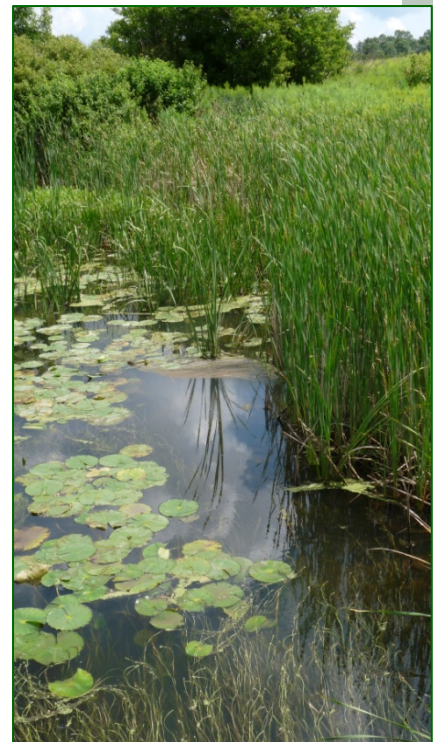
The parties to this Protocol agree to the roles and responsibilities as outlined in Table 1 (page 8).

## *Protocol Administration*

While the Protocol provides a formal recognition of agency roles and responsibilities, it must also remain adaptive and flexible to deal with new issues, emergency situations, include new parties, and address the results of long-term monitoring programs.

**Amendments to Protocol and Changes in Parties** – Amendments to the Protocol can be made and new parties can be added at any time provided there is consultation with and consent of the other parties.

**Dispute Avoidance** – The parties to this Protocol are committed to working collaboratively to avoid and resolve any dispute concerning the implementation of the Protocol.





**Table 1 – Roles and Responsibilities of Government Agencies**

| Roles and Responsibilities   | NPCA | EC | MOE | MNR | CITY | NR | SLSMC | DFO            |
|--|------|----|-----|-----|------|----|-------|----------------|
| <b>Coordinate Process</b>  |      |    |     |     |      |    |       |                |
| • Supports implementation of the Administrative Controls Protocol  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓              |
| • Enables implementation of a coordinated Decision-Making Process  | ✓    | -  | -   | -   | -    | -  | -     | -              |
| • Initiates meetings with all parties (once a year, if required)   | ✓    | -  | -   | -   | -    | -  | -     | -              |
| • Participates in meetings and discussions as required   | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓              |
| <b>Notification/Circulation</b>  |      |    |     |     |      |    |       |                |
| • Refers proponents to appropriate agencies  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Provides Development Guidance Document to assist proponents with the approval process  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | -     | ✓ <sup>1</sup> |
| • Notifies NPCA and appropriate parties when applications are received or internal activities planned                          | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Responds to requests for information in a timely manner  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| <b>Review Application</b>  |      |    |     |     |      |    |       |                |
| • Coordinates the review of the application and requests input from the appropriate agencies                                   | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Provides input to application, as requested  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Provides scientific information and technical data with respect to the impact of activities on contaminated sediment         | -    | ✓  | ✓   | -   | -    | -  | -     | -              |
| • Reports to the NPCA and other parties on the findings of its review and recommendations before making a decision on approval | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓              |
| • Coordinates a review by the parties of the partner's findings and recommendations  | ✓    | -  | -   | -   | -    | -  | -     | -              |
| • Provides notice of final decision to partners and to the proponent   | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓              |
| <b>Monitoring – Activities</b>   |      |    |     |     |      |    |       |                |
| • Monitors activities within the Contaminated Sediment Area  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | -     | -              |
| • Monitors the effectiveness of the Monitored Natural Recovery process   | ✓    | -  | ✓   | -   | -    | -  | -     | -              |
| • Monitors and reports on effectiveness of administrative controls   | -    | ✓  | -   | -   | -    | -  | -     | -              |
| • Monitors compliance of activity with conditions of approval, if applicable   | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Monitors for illegal activities related to their legislation and informs all parties of any infractions                      | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | -     | ✓ <sup>1</sup> |
| • Monitors canal pumps and notifies partners of any water flow changes in operation (maintenance and malfunction)              | -    | -  | -   | -   | -    | -  | ✓     | -              |
| <b>Monitoring – Sediment</b>   |      |    |     |     |      |    |       |                |
| • Updates maps as required   | -    | ✓  | ✓   | -   | -    | -  | -     | -              |
| • Monitors sediment and biota (benthos, fish and wildlife) to ensure that environmental conditions are improving               | -    | ✓  | ✓   | ✓   | -    | -  | -     | -              |
| • Informs all parties of new information as it becomes available   | -    | ✓  | ✓   | ✓   | -    | -  | -     | -              |
| <b>Enforcement</b>   |      |    |     |     |      |    |       |                |
| • Enforces own acts and regulations  | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| <b>Communication</b>   |      |    |     |     |      |    |       |                |
| • Ensures work safety of all employees working in the Contaminated Sediment Area   | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | ✓ <sup>1</sup> |
| • Maintains archive of reports   | ✓    | ✓  | -   | -   | -    | -  | -     | -              |
| • Implements community outreach program and products to maintain awareness of general public, proponents and agencies          | ✓    | ✓  | ✓   | ✓   | ✓    | ✓  | ✓     | -              |

*Note 1 – DFO only involved if there is a potential for a HADD of fish habitat or impacts to aquatic Species at Risk.  
Acronyms – NPCA - Niagara Peninsula Conservation Authority, EC – Environment Canada, MOE – Ministry of the Environment, MNR - Ministry of Natural Resources, CITY - City of Welland, NR – Niagara Region, SLSMC – St. Lawrence Seaway Management Corporation, DFO – Fisheries and Oceans Canada.*

## Definitions

**Activity** – refers to construction, demolition, dredging, filling, piling, and any action that may cause alteration to water flow.

**Adjacent Areas** – those areas, adjacent to the zone, where it is likely that development or an activity may disturb or expose contaminated sediment located within the zone, through associated activities or altered flows.

**Area of Concern** – refers to geographic areas where human activities have caused or are likely to cause impairment of beneficial uses or negatively impacted the areas ability to support aquatic life.

**Contaminated Sediment Area** – includes all land in the Creek bed where the contaminated sediment exists (Zones 1, 2, 3, and 4).

**Covering** – the act of protecting, or confining sediments by covering or enveloping them.

**Development** – the construction of buildings and structures requiring placement on the Creek bed or adjacent areas.

**Directional Drilling** – the act of drilling horizontal wells for the installation of cables, pipes or similar infrastructure.

**Drainage Area** – includes all land that drains into the Contaminated Sediment Area.

**Dredging** – the physical alteration of the creek bed by the removal of mud, sand and other sediment through suction or scooping by machinery.

**Fish Habitat** – the spawning grounds and nursery, rearing, food supply and migration areas on which fish depend directly or indirectly in order to carry out their life processes.

**Filling** – the act of covering of the Creek bed or adjacent areas with deposited soil, sediment, concrete, cribs, or any other material or object.

**Piling** – the act of driving a beam or post into the Creek bed.

**Remedial Action Plans** – are developed and implemented for Great Lakes Areas of Concern according to the commitments laid out in Annex 2 of the Canada-US Great Lakes Water Quality Agreement (GLWQA) 1987 Protocol.

**Redesign** – the process of making a new design or plan for a specific project to prevent the disturbance, exposure or re-suspension of contaminated sediment.

**Relocation** – the process of selecting another location for a development or an activity to prevent the disturbance, exposure or re-suspension of contaminated sediment.

**Remediation** – the containment, treatment, isolation and/or removal of contaminated sediment.

**Remediation Plan** – a document prepared by a qualified professional that indicates how to remove, handle and dispose of contaminated sediment in a safe and environmentally protective manner.

**Re-suspension** – the remixing of sediment particles and pollutants back into the water column.

**Scouring** – the moving or scraping of the top layer of the creek bed.

**Zones** – there are four zones of contaminated sediment located in Lyons Creek East as shown on the map on page 4.

## Acronyms

|              |   |
|--------------|---|
| <b>CITY</b>  | City of Welland   |
| <b>CN</b>    | Canadian National   |
| <b>DFO</b>   | Fisheries and Oceans Canada (Federal Department)              |
| <b>EC</b>    | Environment Canada  |
| <b>HADD</b>  | Harmful Alteration, Disruption or Destruction of fish habitat |
| <b>MNR</b>   | Ontario Ministry of Natural Resources                         |
| <b>MOE</b>   | Ontario Ministry of the Environment                           |
| <b>NPCA</b>  | Niagara Peninsula Conservation Authority                      |
| <b>NR</b>    | Niagara Region  |
| <b>PCB</b>   | Polychlorinated biphenyl                                      |
| <b>PSW</b>   | Provincially Significant Wetland                              |
| <b>SAR</b>   | Species at Risk   |
| <b>SLSMC</b> | St. Lawrence Seaway Management Corporation                    |



*The Administrative Controls Protocol was developed by the following agencies:*

*Environment Canada*

*Fisheries and Oceans Canada*

*Ontario Ministry of the Environment*

*Ontario Ministry of Natural Resources*

*Niagara Peninsula Conservation Authority*

*Regional Municipality of Niagara*

*City of Welland*

*St Lawrence Seaway Management Corporation*