



## R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project

Doors Open  
May 27<sup>th</sup>/28<sup>th</sup>, 2017





## R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



- 1 of 4 water treatment plants in the City of Toronto
- Produces 34% of the City's water
- Toronto's largest water treatment facility

- Constructed in the 1930s
- Declared a national historic civil engineering site in 1992
- Operated 24/7
- Includes below-ground settling basins





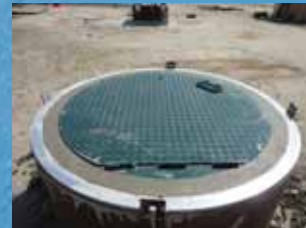
# R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



Removed Concrete Riser



Rebar for Concrete and  
New Hatch



New Hatch in New  
Concrete Riser



Old Concrete Riser on Top of  
Settling Basin

Removal, Stock Piling  
and Re-Installation of  
Top Soil on Settling  
Basins

## New Settling Basin Hatches



Removed Cone Valve



Refurbished Cone Valve



Removal Works on Top of Settling Basins



Stockpile Area in Front of  
Pump Building



Soil Movement from  
Settling Basins to  
Stockpile Area



Stockpiling of Soil in Front  
of Pump Building



Removed Top and Sub Soil  
from Settling Basins





# R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



Old Access Ladders  
(6 m high)



New Access Stair

## New Access Stairs Into the Settling Basins

## New Water Membrane on Settling Basins Roof



Filter Gate Inside the Filter

## Refurbishment of Filter Gates West Filters



Installed Refurbished Filter Gate



Demounted Gate Frame Lifted Out of the Filter Basin



Removed Filter Gate Door



Existing Settling Basins Roof with Waterproofing (not visible), Insulation and (Black) Water Drainage Layer





# R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



Removal of Existing Cast Iron Wash Down Piping



Prefabrication of Stainless Steel Piping Off-Site.



Newly Installed Stainless Steel Clean In Place Piping in one of the Settling Basins



Installed Clean In Place Piping in one of the Basins with Hydraulic Lines and Butterfly Valve

## New Clean In Place system inside the Settling Basins



Hydraulic Piping to Control Clean In Place Valves Remotely

## New ring road on top of the Settling Basins



Demolishing of Road to Create a New Structurally Sound Road with Wider Curves for Delivery Trucks



Damaged Existing Roof Slab, Exposing Rebar Underneath the Old Elevated Concrete Ring Road



New Control Panel for the Automation of the Clean In Place System



Part of the Rebar for the New Ring Road Including Conduits for Wiring from Filter Building to Field Devices



Pouring of Part of the New Concrete Ring Road



Concrete Repair of Exposed Rebar



The New Concrete Ring Road on the West Side.





# R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



Existing Road to be Demolished and Re-Constructed, Including Better Drainage of Road and Basin Roof



Repaired Concrete Spalling Spots on the Concrete Ceiling



Old Concrete Stairway to be Re-Constructed to Current Standards

## New Access road

Concrete repair inside Settling Basins



New stairs

New irrigation system



Cracks Inside the Settling Basin Concrete Ceiling. Crack Repair by Means of Injection with Caulking Material.



New Sprinkler System to be Installed Around the Plant





# R.C. Harris Water Treatment Plant Settling Basin Rehabilitation Project



**Inlet Gate of Settling Basin,  
Viewed from the Center Flume  
Side**



**Inlet Gate of Settling Basin,  
Viewed from the Basin Side**



**Temporary Closing of the gate  
Opening to Isolate the Basin  
for Rehabilitation Works**

## Basin Gate Refurbishment



**Leakage Test in the Factory  
Before Shipment to Site**



**Refurbishment of  
Pedestals**



**Newly Installed Basin  
Outlet Gate**



**New Hand Wheels to be  
Incorporated with the Refurbished  
Pedestals**



**Off-Site Refurbished  
Pedestals, Ready for  
Installation**

## Schedule

	2014	2015	2016	2017	2018
Planning	█				
Design	█	█			
Tendering		█			
Start Construction			█	▲	
East Basins			█	█	█
West Basins				█	█
Site Works			█	█	█

Project is on schedule to meet the original deadline

