

LID TTT Workshop (Friday November 17, 2017)

# Tool Walkthrough – Universal Exports Case Study

Presenters:

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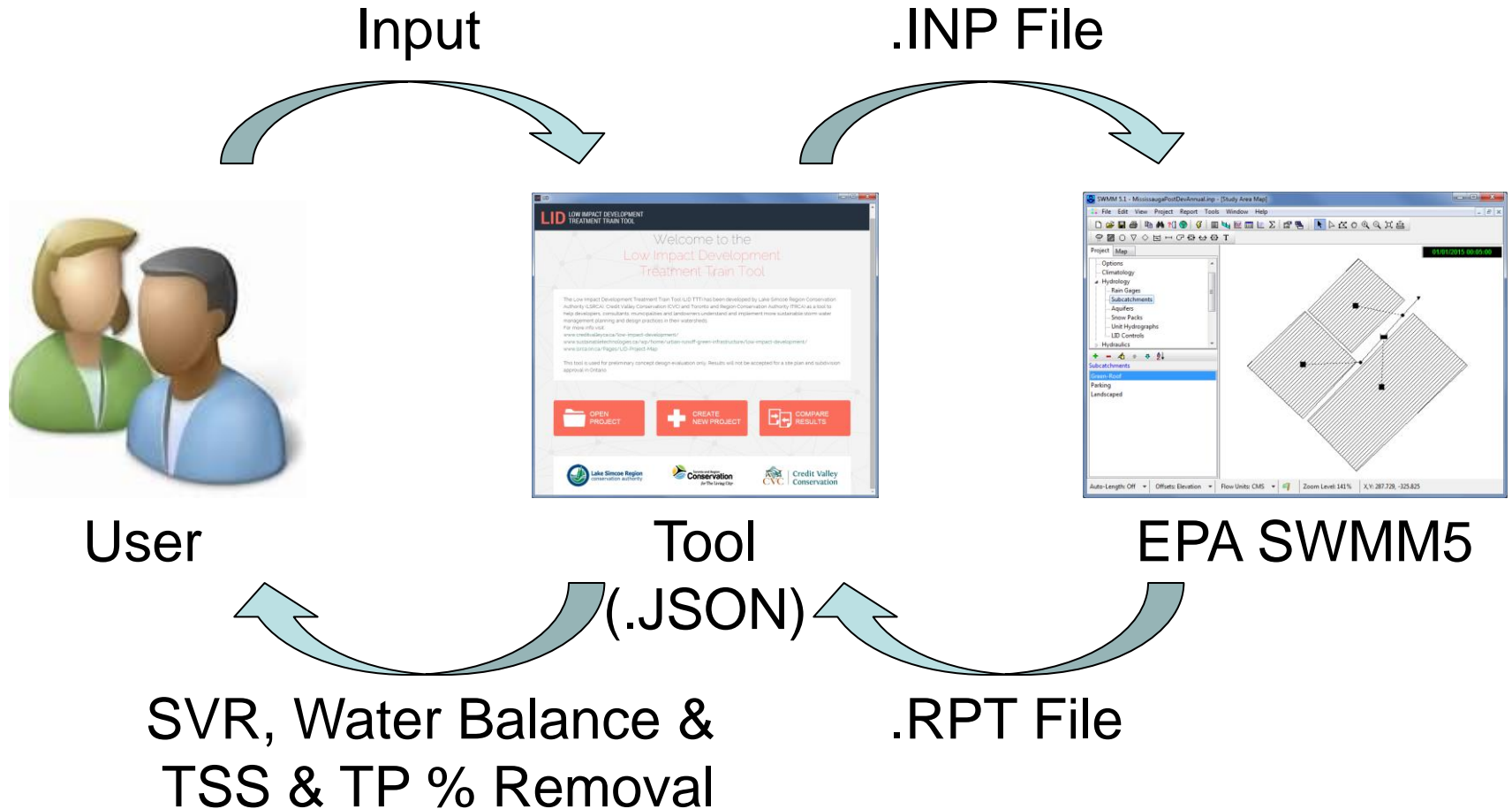


## Purpose of Tool

- Routing for Flows and Volumes
- Estimate Water Balance
- BMPs, End-of-Pipe, and Treatment Train
- User friendly GUI, Open-Source
- Generate Outputs for Local Targets
- Tailored to Ontario Climate & Geology

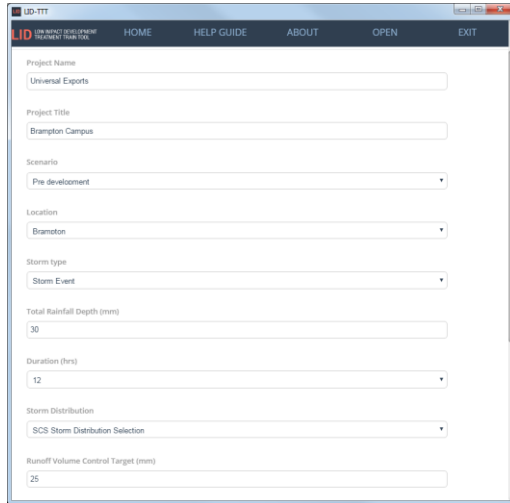


# Tool Architecture





# Interface



Project Name  
Universal Exports

Project Title  
Brampton Campus

Scenario  
Pre development

Location  
Brampton

Storm type  
Storm Event

Total Rainfall Depth (mm)  
30

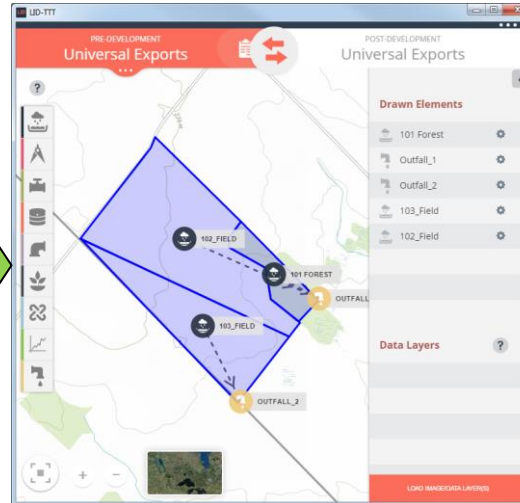
Duration (hrs)  
12

Storm Distribution  
SCS Storm Distribution Selection

Runoff Volume Control Target (mm)  
25

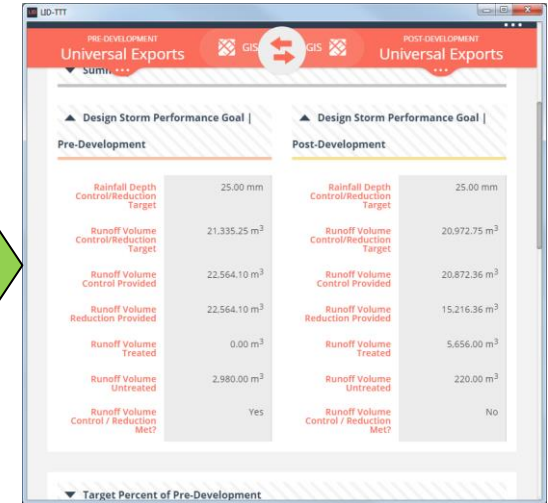
## Config. Menu

- Set rainfall
- Set targets



## Draw Space

- Draw system
- Dimensions



PRE-DEVELOPMENT Universal Exports POST-DEVELOPMENT Universal Exports

Summ...

Design Storm Performance Goal   Pre-Development		Design Storm Performance Goal   Post-Development	
Rainfall Depth Control/Reduction Target	25.00 mm	Rainfall Depth Control/Reduction Target	25.00 mm
Runoff Volume Control/Reduction Target	21,335.25 m <sup>3</sup>	Runoff Volume Control/Reduction Target	20,972.75 m <sup>3</sup>
Runoff Volume Control Provided	22,564.10 m <sup>3</sup>	Runoff Volume Control Provided	20,872.36 m <sup>3</sup>
Runoff Volume Reduction Provided	22,564.10 m <sup>3</sup>	Runoff Volume Reduction Provided	15,216.36 m <sup>3</sup>
Runoff Volume Treated	0.00 m <sup>3</sup>	Runoff Volume Treated	5,656.00 m <sup>3</sup>
Runoff Volume Untreated	2,980.00 m <sup>3</sup>	Runoff Volume Untreated	220.00 m <sup>3</sup>
Runoff Volume Control / Reduction Met?	Yes	Runoff Volume Control / Reduction Met?	No

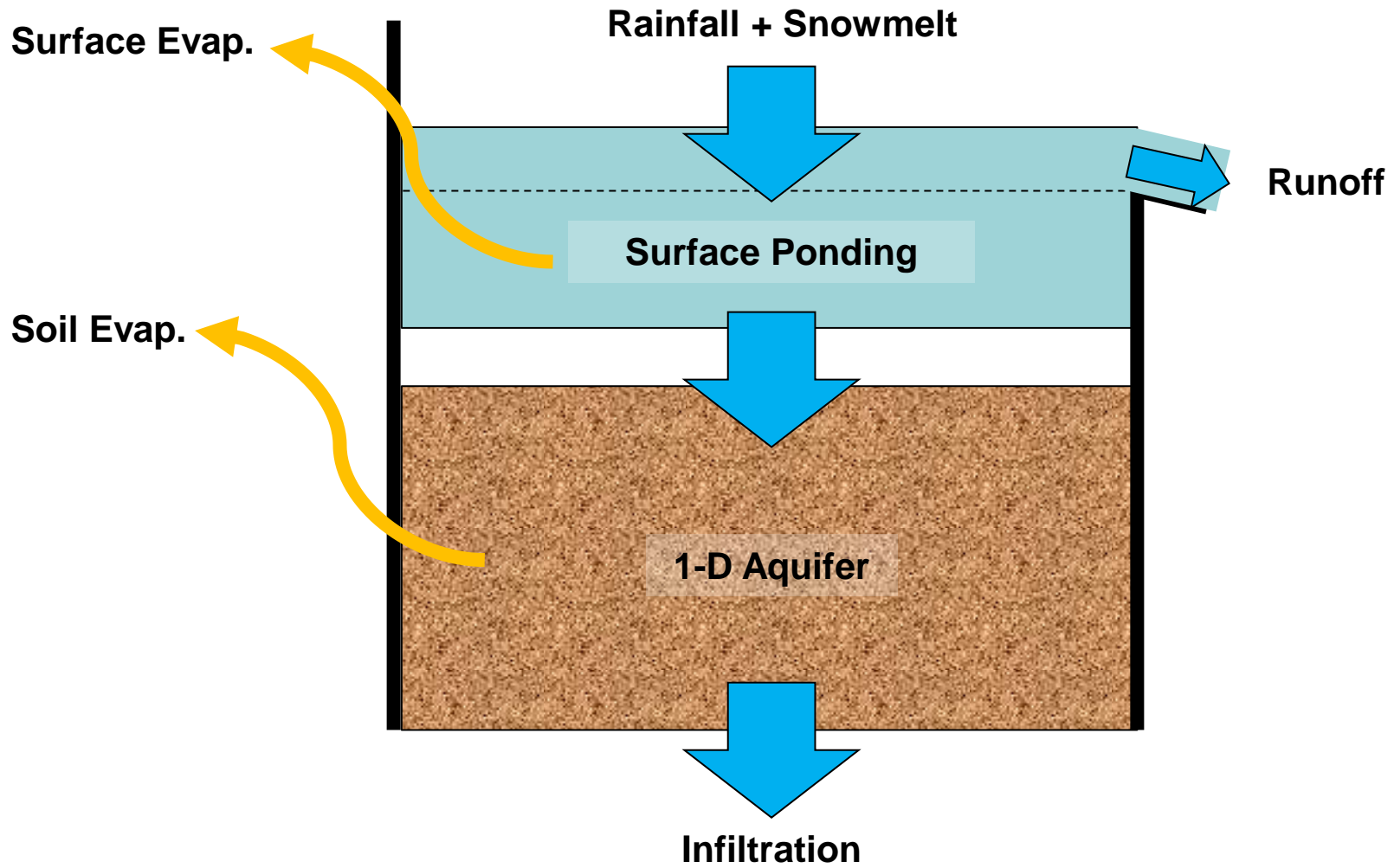
Target Percent of Pre-Development

## Reports

- Run model
- View results



# SWMM5





## Step 3: Iterative LID Design

LID	TSS Removal Efficiency %	TP Removal Efficiency %	Icon
Bioretention	75	25	
Green Roof	0	-45	
Infiltration / Exfiltration Systems	75	60	
Permeable Pavement	75	60	
Vegetated Filter Strips / Buffer Strips	30	20	
Enhanced Swale	40	25	

Storage	TSS Removal Efficiency %	TP Removal Efficiency %	Icon
Constructed Wetland	80	60	
Wet Retention Ponds	80	60	
Dry Detention Ponds	60	20	

Junction	TSS Removal Efficiency %	TP Removal Efficiency %	Icon
Specialized Phosphorus Media Filter	75	70	
Sand or Media Filter	75	40	
Oil Grit Separator	50	0	