

I-STORM

I-STORM SWM SYSTEM

DECAST



OPTIMIZE
LAND USE



LARGE STORAGE
CAPABILITIES



FAST & EASY
INSTALLATION



ENGINEERED FOR
HEAVY LOADS





DECAST is a leading Canadian infrastructure manufacturer. We specialize in high-pressure water pipelines, bridges, storm and sanitary systems, precast structures, and utility tunnels.

Our two manufacturing facilities in Stouffville and Utopia Ontario span 668,000 sq. ft., providing controlled indoor conditions. With over 650 skilled engineers, operators, machinists, and welders, we ensure top-quality products.

DECAST is a key contributor to local economic development, supporting a comprehensive local supply chain and creating over 3,500 indirect jobs. Since 1957, we've continually expanded our facilities, operations, and workforce.



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TOWNSHIP

HWY 90

COUNTY ROAD 56

 **DECAST Ltd.**



I-STORM

I-STORM SWM SYSTEM

I-STORM is a modular precast stormwater management system designed for maximization of underground storage and aboveground land use.

The robust design of its units and unique method of mechanical connection between tank components allows it to support various aboveground applications, including but not limited to: public parks, sports fields, roads, and parking lots.

Visit our website to access the I-STORM calculator tool and get started on your design with a preliminary facility layout.

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FEATURES

A Modular Precast Stormwater Management System designed for maximization of underground storage and aboveground land use

- Easily accessible for inspections and maintenance
- Extended service life – 100+ years under chloride exposure
- Robust underground storage alternative to plastic and other concrete systems
- Allows up to 4m of cover above the facility
- Designed to support public parks, sports fields, roads, parking lots, and other above-ground applications
- Cast-in-place floor sections between precast units allow for the formation of low-flow channels, sumps, and infiltration openings



VAUGHAN NW RESIDENCES

As land values continue to increase across the province, many developers and municipalities are trying to find ways to gain more useable land space in their communities. The I-STORM system allows these opportunities to happen.

Traditionally, subdivisions are planned with a separate park and stormwater management (open pond) block; moving the functions of the open pond underground allows the space above the facility to be used as parkland for the community, as is the case with this facility.

LOCATION:

Vaughan, ON

PRODUCT TYPE:

I-STORM SWM

PRODUCT SCOPE:

The unique footprint of this property made using the I-STORM system an easy choice, due to its modularity. The 3m inside height option was used. The total amount of units installed was a combination of Mid uUnits (48), End Units (38), Top Slabs (67), and Panels (40), giving a total available storage of 1,140m³.





90 EASTDALE AVENUE

I-STORM was selected as the underground stormwater management facility of choice for this high-rise project due to its many advantages, including the robustness of its design, which allowed for over 3m of cover above the tank, with a parking lot as its final aboveground application.

The modularity of the system allowed designers to meet the required volume of storage in a very limited and congested footprint.

LOCATION:

Toronto, ON

PRODUCT TYPE:

I-STORM SWM

PRODUCT SCOPE:

The 1.5m inside height I-STORM system was used for this project which had a total of 298m³ available storage. 16 Mid Units, 12 End Units, 22 Top Slabs and 19 Panels were shipped and installed.



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AST
STORM ENDC
KC
127.4
10-28
P RY

DECAST
1.5 ISTORM
END AH
5828 KC
CSA A23.4
22-10-06
INSP GM

DECAST
1.5 ISTORM END AH
5828 KC
22-10-04
CSA A23.4
IWSP RY

MACKENZIE COMMONS

The I-STORM design for this project transfers the benefits of an open pond underground while removing the safety risk of an open body of water.

This unique quality control facility features a poured-in-place weir wall to create a forebay inside the tank, as well as custom inlet and outlet maintenance platforms.

LOCATION:

Richmond Hill, ON

PRODUCT TYPE:

I-STORM SWM

PRODUCT SCOPE:

A 3m inside height was proposed to fit into this unique location.

The total number of units installed consisted of Mid Units (29), End Units (26), Top Slabs (42), and Panels (21), giving a total available storage of 1,140m³.





571 WELHAM RD

The owner of this property wanted to have adequate stormwater solutions, as well as a tank for temporary storage of used fire water in case of an incident inside the manufacturing facility.

The I-STORM product was a perfect choice for this project as the modular factor could fit these tanks within the property limits and provide a long-term solution.

LOCATION:

Barrie, ON

PRODUCT TYPE:

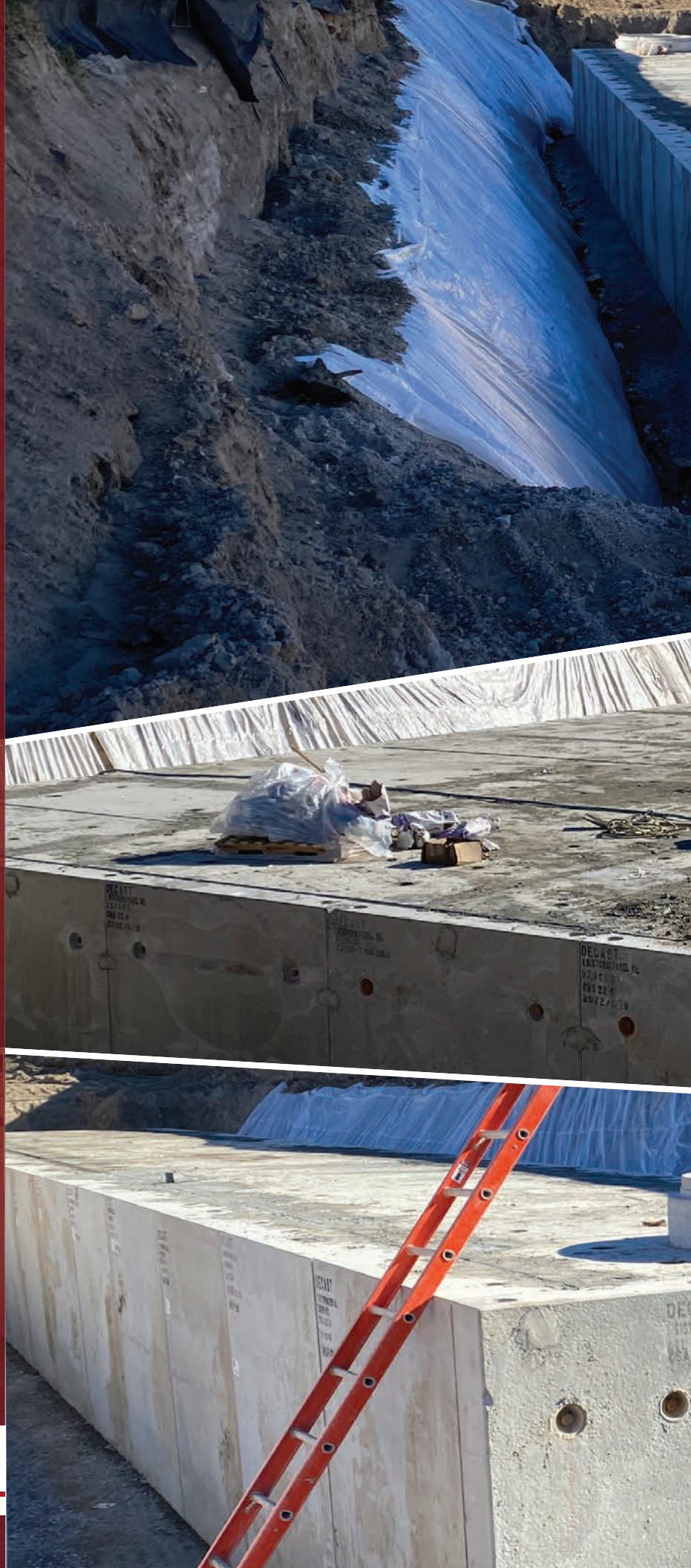
I-STORM SWM

PRODUCT SCOPE:

Three I-STORM systems were used at this property: instead two tanks were used for stormwater and the third was used for fire suppression.

Tank 1 had a 1.5m inside height, and 580m³ available storage. Tank 2 also had a 1.5m inside height and 200m³ available storage.

Finally, Tank 3 was 3m inside height, and 1,028m³ available storage.





667 TAUNTON ROAD EAST

This small residential development needed an efficient precast stormwater runoff solution. The areas available for stormwater management were very limited, so one of the facilities needed to be placed directly underneath the main road leading into the development.

The I-STORM design is ideal for this situation, and the volume required fit well within the parameters of a 1.5m tall tank. This was the first I-STORM installation in Ontario.

LOCATION:

Whitby, ON

PRODUCT TYPE:

I-STORM SWM

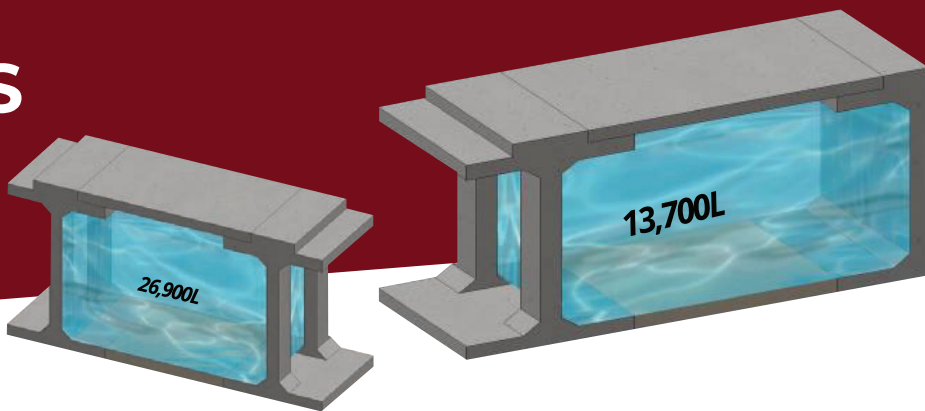
PRODUCT SCOPE:

This facility was a single chamber wide with a one access opening. A total of 16 End Units, 8 Top Slabs, and 6 Panels were used for a final volume of 107m³.

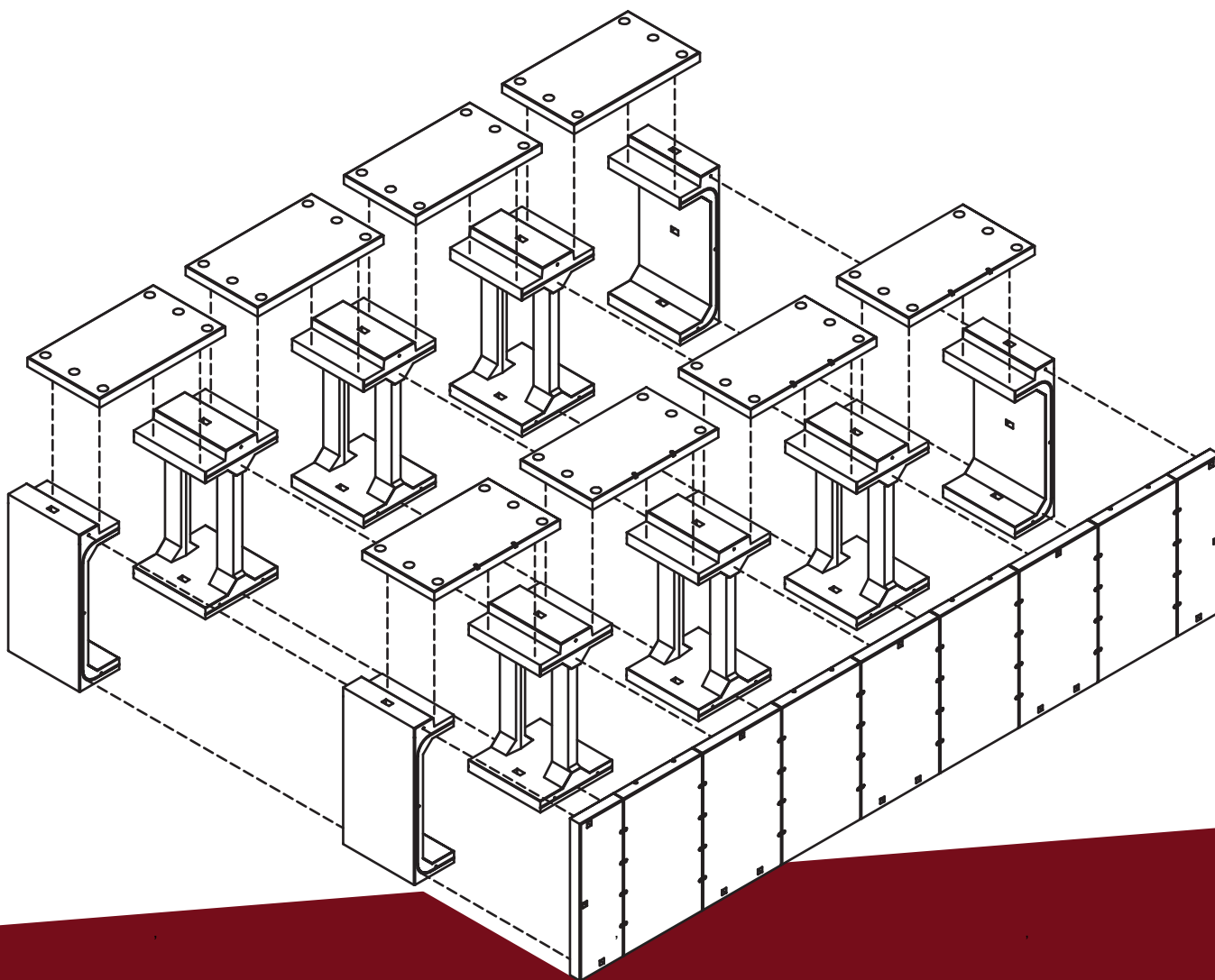


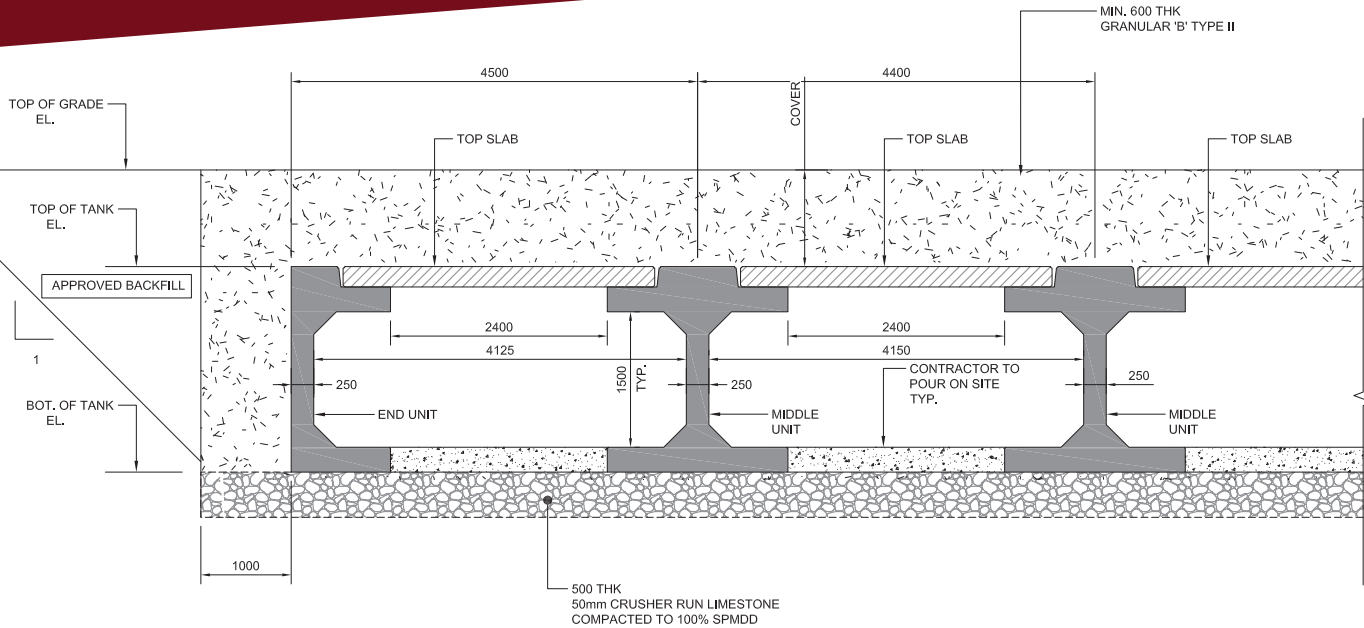


DIMENSIONS & VOLUMES

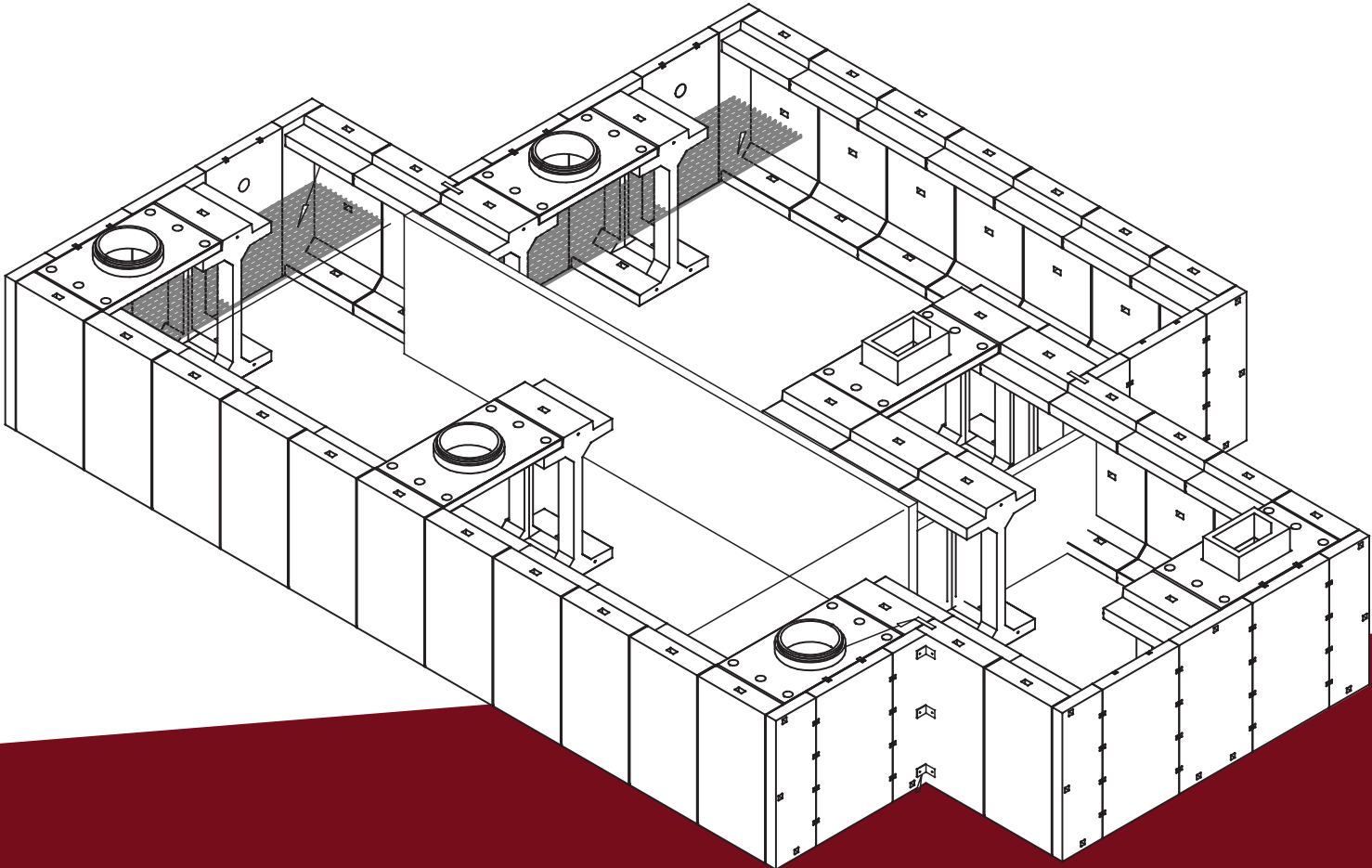


INSIDE HEIGHT (m)	OUTSIDE HEIGHT (m)	VOLUME			
		CHAMBER CONFIGURATION	L/CHAMBER	L/m	L/m ²
1.5	2.275	Mid Unit to Mid Unit	14,000	7,000	1,590
		End Unit to Mid Unit	13,700	6,850	1,520
3.0	3.775	Mid Unit to Mid Unit	26,900	13,450	3,050
		End Unit to Mid Unit	26,300	13,150	2,920





TYPICAL SECTION - SHOWING BEDDING
SCALE 1:50



ADDITIONAL INFORMATION

Visit our website or contact our team to get access to third party reports from various consultants and agencies on the following topics:

- A study of socio-economic factors comparing open ponds and dual-use underground stormwater management facilities and demonstrating the community engagement advantages of active recreational spaces above such facilities
- Design and engineering considerations for underground stormwater management facilities, including groundwater interaction, outlet design, Conservation Authority input, lifecycle costs as they compare to traditional aboveground ponds, etc.
- Discussions on the ecological benefits of underground stormwater management facilities, such as limiting debris in the stormwater system, significant reduction of thermal impacts on downstream habitats, etc.
- A University of Toronto - backed analysis of the I-STORM concrete mix design, shown through modeling to achieve a 100+ year lifecycle under conservative chloride exposure scenarios





SERVICES

- DECAST Engineering team involved throughout the design process, providing various facility configurations and layout options
- Final shop drawings double stamped by two Professional Engineers
- Contractors provided with installation procedures prior to product installation, as well as on-site installation support
- DECAST Field Services team available to install ancillary items, such as ladders and safety platforms inside the facility
- Regular installation inspections and Engineer's Certificate of Conformance provided upon completion of tank installation

DECAST GUARANTEE

While the transfer of ownership of a SWM facility (whereby the local municipality assumes full responsibility of operations and maintenance from the developer) typically occurs within several years of the facility's construction, DECAST will stand by the I-STORM product throughout its life cycle. Inspectors should contact DECAST field services if they require any assistance during inspections or maintenance at (888) 835-7940.

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**I-STORM BROCHURE
DOWNLOAD**



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