

DECAST



**MANUFACTURED
100% INDOORS WITH
CONTROLLED CONDITIONS**



**FAST & EASY
INSTALLATION**



**ASSURED
QUALITY**




**REDUCED
RISK**

ENGINEERED PRECAST



**ENGINEERED PRECAST
DOWNLOAD**



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 100% 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.



DECASTLTD.COM

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 **DECASTLTD.COM**

ESSA
TOWNSHIP

HWY 90

COUNTY ROAD 56

 **DECAST Ltd.**

BOX CULVERT

Box culverts are a reliable precast product typically used for moving large volumes of stormwater.

Smaller drainage products like catch basins will collect the storm water and distribute it to the box culvert. In some circumstances box culverts act as bridges for roads, creek, and animal crossings. Culverts can be designed to withstand many types of loading, and ranging from pedestrian traffic to AREMA (train) loading. For some special cases, culverts can even be used for temporary stormwater storage or as an underground utility trench.

DECAST

DECAST
BOTTLE 14843
3600X1900X2400
23215KG A1
19-08-15
INSP TS

DECAST
BOTTLE 14843
3600X1900X2400
22,600KG A2 CSA A23.4
19-08-12
INSP RM

DECAST





APPLICATIONS

- Conveyance of storm water
- Designed for gravity flow
- Small Bridges
- Animal crossings
- Pedestrian crossings or tunnels
- Stream crossings where the natural stream bed does not have to be maintained

BOX MAINTENANCE HOLES

Box Maintenance holes are a very common product used throughout the industry. Their main purpose is for accessing, servicing, and inspecting large storm and sanitary pipes. They also act as a junction point where you can have multiple inlets and outlet pipes joined together.

In cases where you may need a sharp change in horizontal or vertical flow of a large pipe, a box maintenance hole is an easy and cost-effective solution. They can accommodate a 90-degree bend or a vertical drop within a small area of excavation. Box maintenance holes also work great for stormwater management since you can use them to control the flows and distribution via internal weirs and orifice devices.

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APPLICATIONS

- Used when pipe diameters to be inserted are too large for a round maintenance hole
- Can be used as pumping stations, control structures and wet wells



UTILITY CHAMBERS

Utility chambers act as an underground maintenance room. Most commonly they have piping for watermain or sanitary force mains and thus typically house mechanical devices such as valves, meters, electrical wiring, etc.

They also grant access points for cleaning and maintenance. Utility chambers can be designed to be watertight to help protect the materials and items contained within. They work well when used for large wet wells or pumping stations that need to be sealed and have working pumps or mechanical devices inside.



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APPLICATIONS

Precast housing for:

- Pumps
- Meters
- Valves
- Other utilities





ENGINEERED PRECAST SOLUTIONS

DECAST strives to provide the most efficient and cost-effective precast options to suit your project needs

Our engineering team is here to work with you and assist as needed throughout the entire project process, from the design phase to installation. With DECAST, you are guaranteed to receive the highest quality product, longer asset life and industry-leading solutions.



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HWY 90

Highway 90, a major roadway stretching from Barrie to Angus, has a high volume of animal and snow mobile traffic. An underground tunnel from the North to South side of the roadway was proposed, designed and installed to suit these needs.

LOCATION:

Essa Township (Simcoe County), ON

PRODUCT TYPE:

Box Culverts

PRODUCT SCOPE:

The undertaking of this project required it to be done in two stages, so that the roadway could remain in operation and allow traffic to continue to flow between Barrie and Angus during construction.

Stage one was the North side of Highway 90, which included the installation of the first 14 pieces. Once complete, the roadway was shifted over and Stage 2 began, which saw another 14 pieces of box culvert installed to complete the job.

In total, 28 pieces of 4500mm x 5000mm box culvert were installed to complete the 70m long passageway.





UPPER UNIONVILLE SUBDIVISION

As new subdivisions continue to be built across Ontario, structures are needed to complete the underground infrastructure. While these pieces of infrastructure are not visible to the public eye, they are a crucial component for the storm and sanitary lines servicing the subdivisions and communities.

LOCATION:

Markham, ON

PRODUCT TYPE:

Box Maintenance Holes

PRODUCT SCOPE:

This particular subdivision was once a golf course. With the large landscape and terrain of the area, the developer needed to be able to accommodate vast amounts of stormwater that would flow through the development.

One of the largest box maintenance holes DECAST has ever produced, measuring 5m x 6.5m, was supplied for this project. This structure was critical to tie together a network of box culverts for adequate storm water management.





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TACC 22621
5000X6500X1850 MB
57.712KG MHW 829 A
2022-06-17



DECAST
TACC 22621
5000X6500X1850 MB
57.712KG MHW 829 A
2022-06-17



MAJOR MACKENZIE DOUBLE BOX CULVERT

There was an existing steel culvert beneath Major Mackenzie Dr that needed to be replaced.

In conjunction with this culvert being replaced, the City of Vaughan decided to put in a pedestrian and cycling underpass to support the City's initiative on active transportation and improve its trail system.

LOCATION:

Vaughan, ON

PRODUCT TYPE:

Box Culverts

PRODUCT SCOPE:

Dual box culverts of slightly different sizes were supplied and installed for this project. 29 pieces of 6000mm x 3500mm box culvert spanning 52m were used for the creek water flow, while 22 pieces of 6000mm x 3000mm box culvert spanning 44m were used for the pedestrian tunnel.





400 ARCHES

Highway 400 is Ontario's main corridor to connect people from the North and South. As Ontario continues to grow, and adds more people to its already large population, our roads are becoming more congested. The widening of the 400 through York Region is vital for reducing this congestion and to keep Ontario moving.

LOCATION:

King (York Region), ON

PRODUCT TYPE:

Custom Arches

PRODUCT SCOPE:

There was an existing arch culvert under the highway that was originally cast-in-place. DECAST was tasked with finding a solution to seamlessly extend this arch by means of precast components.

Our in-house engineering staff came up with a custom precast arch design that replicated the existing profile so it could be butted up to it.

Custom formwork was needed to fabricate the 10 arch pieces that were ultimately manufactured and installed on both sides of the highway near King Rd as part of the project.





BOX MAINTENANCE HOLES

INSIDE DIMENSIONS (mm)	MAX. STRAIGHT PIPE SIZE - LONG WALL (mm)	MAX. STRAIGHT PIPE SIZE - SHORT WALL (mm)	MAX. RIGHT ANGLE PIPE SIZE - LONG WALL (mm)	MAX. RIGHT ANGLE PIPE SIZE - SHORT WALL (mm)	MAX. STRAIGHT OPSS BOX CULVERT - LONG WALL (mm)	MAX. STRAIGHT OPSS BOX CULVERT - SHORT WALL (mm)
1200 x 1200	825 DIA.	825 DIA.	375 DIA.	375 DIA.	N/A	N/A
900 x 1800	1350 DIA.	525 DIA.	750 DIA.	200 DIA.	N/A	N/A
1500 x 1800	1350 DIA.	1050 DIA.	750 DIA.	525 DIA.	N/A	N/A
1800 x 2400	1800 DIA.	1350 DIA.	1050 DIA.	750 DIA.	1800 x 1200	N/A
2400 x 2400	1800 DIA.	1800 DIA.	1050 DIA.	1050 DIA.	1800 x 1200	1800 x 1200
1800 x 3000	2250 DIA.	1350 DIA.	1050 DIA.	750 DIA.	2400 x 1800	N/A
2400 x 3000	2250 DIA.	1800 DIA.	1050 DIA.	1050 DIA.	2400 x 1800	1800 x 1200
3000 x 3000	2250 DIA.	2250 DIA.	1050 DIA.	1050 DIA.	2400 x 1800	2400 x 1800
2400 x 3800	3000 DIA.	1800 DIA.	1950 DIA.	1050 DIA.	3000 x 2400	1800 x 1200
3000 x 3800	3000 DIA.	2250 DIA.	1950 DIA.	1500 DIA.	3000 x 2400	2400 x 1800
3000 x 4400	3000 DIA.	3000 DIA.	2250 DIA.	1500 DIA.	3000 x 2400	2400 x 1800
3000 x 5000	3000 DIA.	3000 DIA.	2250 DIA.	1500 DIA.	3000 x 2400	2400 x 1800

INSIDE DIMENSIONS (mm)	WALL THICKNESS (mm)	SLAB THICKNESS (mm)
1200 x 1200	225	225
900 x 1800	225	225
1500 x 1800	225	225
1800 x 2400	225 / 250	225 / 300
2400 x 2400	225 / 250	300
1800 x 3000	225 / 250	300
2400 x 3000	225 / 250	300
3000 x 3000	225 / 250	300
2400 x 3800	250	300
3000 x 3800	250	300
3000 x 4400	250	300
3000 x 5000	250	300

DIMENSIONS

- 900mm x 1800mm to 3000mm x 5000mm
- Walls are 225mm minimum
- Base and top are 225mm minimum

ADDITIONAL INFORMATION

- Joints are sealed with butyl mastic sealant
- For other sizes and/or depths greater than 7m, contact sales@decastltd.com

BOX CULVERT

OPSS DESIGN			
SPAN X RISE (mm)	WALL THICKNESS (mm)	SLAB THICKNESS (mm)	APPROX. MASS (kg/m)
1800 x 900	200	200	3,380
1800 x 1200	200	200	3,690
2400 x 1200	200	200	4,560
2400 x 1500	200	200	4,870
2400 x 1800	200	200	5,170
3000 x 1500	250	250	6,860
3000 x 1800	250	250	7,250
3000 x 2100	250	250	7,630
3000 x 2400	250	250	8,020

OPSS DESIGN			
SPAN X RISE (mm)	WALL THICKNESS (mm)	SLAB THICKNESS (mm)	APPROX. MASS (kg/m)
3600 x 1800	300	300	9,450
3600 x 2400	300	300	10,350
3600 x 3000	300	300	11,250
4200 x 1800	300	350	11,715
4200 x 2400	300	350	12,615
4200 x 3000	300	350	13,515
4200 x 3600	300	350	14,415
4800 x 2400	300	350	13,665
4800 x 3000	300	350	14,565
4800 x 3600	300	350	15,465
4800 x 4200	350	350	17,590
5400 x 2400	300	400	16,400
5400 x 3000	300	400	17,300
5400 x 3600	300	400	18,200
5400 x 4200	350	400	20,350
6000 x 2400	300	400	17,600
6000 x 3000	300	400	18,500
6000 x 3600	300	400	19,400
6000 x 4200	350	400	21,550

ADDITIONAL INFORMATION

Contact us at sales@decastltd.com for:

- Sizes not shown here
- 3-sided box culverts
- Special loading conditions (increased depth of cover, railway loading, other etc.)
- Post tensioned box culverts

FEATURES AVAILABLE ON REQUEST

- Bends
- Reducers & Increasers
- Radius Sections
- Beveled Ends
- Scribed Holes
- Flush Ends
- Maintenance Hole Tees
- Plugs and Caps
- Dowels and Inserts

visit decastltd.com for more information

UTILITY CHAMBERS

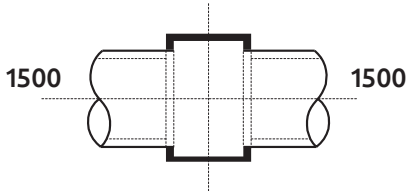
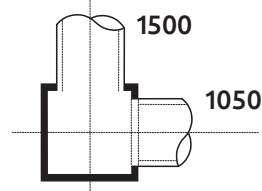
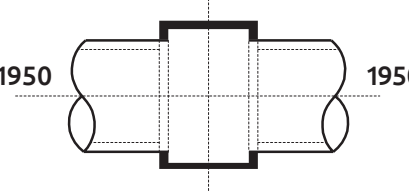
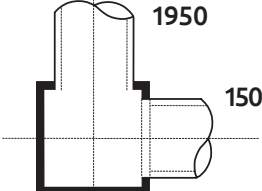
2400 x 1800 (mm)	HEIGHT (m)	APPROX. MASS
Flat Cap	0.354	3,175 kg
Riser Section	0.610-2.438	4,765 kg/m
Transition Slab	0.305	3,175 kg
Base Slab	0.203	2,870 kg
3000 x 2400 (mm)	HEIGHT (m)	APPROX. MASS (kg)
Flat Cap	0.381	6,555 kg
Riser Section	0.610-2.438	7,635 kg/m
Transition Slab	0.305	6,000 kg
Base Slab	0.203	6,010 kg
Chamber Chimney (mm)	HEIGHT (m)	APPROX. MASS
750 x 1200	0.305-1.219	1,680 kg/m

STANDARD(S) REFERENCE

- CSA A23.4
- CSA 257.4
- OPSD 1101
- OPSD 1108
- City of Toronto (T-1108 Series)
- Region of Peel (1-1-5)
- Region of Peel (1-1-6)

2000 SERIES

WIDTH x LENGTH (mm)	PIPE DIAMETER (mm)	MASS PER MONO SECTION (kg)
2000 x 3400	75 and 100	14,400
2000 x 3700	150	15,320
2000 x 4100	200	16,540
2000 x 4600	250	18,070

	MAXIMUM PIPE SIZE	
2400 X 1800		
3000 X 2400		

ADDITIONAL INFORMATION

- Self-lubricating gaskets included
- Contact us at engineering@decastltd.com to go through your project specific details

DIMENSIONS

- Dimensions shown in charts are internal dimensions
- Height is measured from top of base to bottom of joint
- Contact us at engineering@decastltd.com for dimensions not listed in the charts

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