



# NEW TORONTO COURTHOUSE



The New Toronto Courthouse designed by Renzo Piano Building Workshop in conjunction with Ellis Don will bring together under one location six Toronto courthouses located at various locations in the city. This will reduce costs to the existing system, while providing a state of the art facility that will allow for conducting more efficient operations and accommodations. When completed, it will contain 63 courtrooms and 10 conference rooms, in-custody transports, and prisoner holding facilities spread out over 17 floors.

The Courthouse's Gladue courtroom designed to deal with Indigenous accused persons features a healing circle, and is equip for smudging ceremonies, designed to have a retractable screen that can hid the dais so the presiding justice can join the circle. The facility will also include the first Indigenous Learning Centre located within an Ontario courthouse. it features interactive exhibits on injustice, truth and reconciliation and indigenous legal traditions.

Some of these features will include video conferencing which allows

**8** DISCIPLINES  
MECHANICAL  
ELECTRICAL  
PLUMBING  
LIGHTING DESIGN  
COMMUNICATIONS & AV  
SECURITY & RISK  
COMMISSIONING  
ENERGY SERVICES

witnesses to appear from remote locations and in-custody individuals to appear from detention centres, closed-circuit television (CCTV) to enable children and other vulnerable witnesses to appear privately before the court while keeping their location protected, and audio/visual systems that allow to display video evidence of various formats. The building itself is designed to be barrier free, to allow visitors with accessibility needs to navigate with ease. The building while being technologically advanced is also designed to reduce its impact on the environment. With a targeted LEED Silver certification, the building design integrates unique HVAC systems and controls to focus on being energy efficient, reducing greenhouse gas production and delivers an overall healthier indoor atmosphere.

The HIDI Group provided the mechanical design for the new courthouse. Our scope included HVAC (ventilation, heating and cooling piping, fuel oil and gas) and plumbing design. Collaborated with the controls manufacturer to define controls sequence and systems.

## Challenges

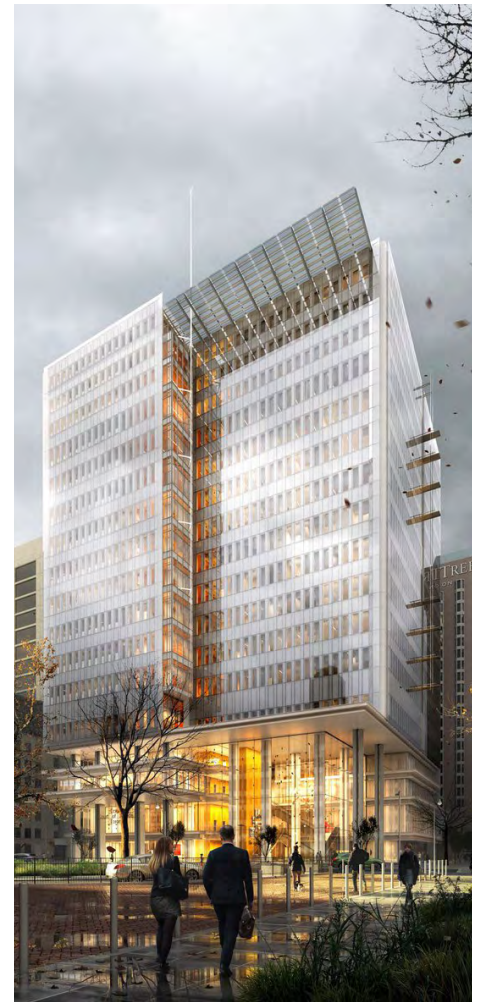
Two of the major challenges our team faced was designing a system that fit both the sustainability requirements as well the high safety and security demands, the other challenge was maintaining the strict noise restrictions required for a courthouse building.

## Solutions

The use of security bars in ductwork, emergency exhausts in screening areas and isolating the domestic water and HVAC in holding areas were employed to meet the required security and safety requirements. To address noise, the use of silencers, isolation springs and pads plus strategizing the layout of ducts and risers allowed the team to avoid noise sensitive areas.

## Sustainability Initiatives

Some of the initiatives our team implemented included the use of Air cooled chillers, thermal (ice) storage chilled water system (no cooling towers or ancillary equipment), High efficiency condensing boilers and low hot water temperature, a storm water re-use and filtration system and CO2 Sensors to monitor and control the demand on ventilation.



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**LOCATION** Toronto, Canada  
**CLIENT** Infrastructure Ontario & Ministry of Attorney General  
**OWNER** Infrastructure Ontario & Ministry of Attorney General  
**ARCHITECT** Renzo Piano Building Workshop, NORR Architects, +VG Architects  
**SIZE** 780,000 ft<sup>2</sup>  
**PROCUREMENT TYPE** Design Build Finance Maintain  
**CONSTRUCTION VALUE** 956.5 million CAD  
**LEED** Silver (Targeted)  
**AWARDS** 2019 CCPPP National Awards for Innovation and Excellence - Silver  
**COMPLETION DATE** 2022  
**MARKET SECTOR** Institutional