DISTRICT SAINTE-JULIE : TOWARD A NEW ADVANCED DISTRICT IN THE VICINITY OF THE HIGHWAY 20, IN SAINTE-JULIE

Complete solution for stormwater management: development of four underground retention systems and three treatment systems.

In the context of the development of District Sainte-Julie, a multifunctional project of more than 74 000 ft^2 commercial space, the contractor, Les Entreprises Claude Chagnon was to build four underground retention systems, totalling 478.7 m^3 (16 880.4 ft^3) as well as three treatment systems meeting the requirements of municipal and provincial governments in matters of stormwater management. Supported by the expertise of Soleno, the design team of Stendel + Reich Architecture Inc. chose to trust Soleno's treatment and storage solutions, which offer many benefits.

READ MORE

THE CONTEXT

Long sought-after by the Town of Sainte-Julie for a decade, the new "Transit-Oriented Development" (TOD) neighborhood near the AMT Park & Ride lot will finally come to reality. This integrated project, valued at $145 million, is located at the entrance of the city, in the area close to the highway 20. After its completion, this new neighborhood will integrate residential rental buildings, commercial spaces, an important business office sector as well as some green spaces. Various promoters are involved in the construction of this project divided into separate lots, one of them being Choice Properties, which owns Lot 3, in the commercial zone.

Located on the boulevard Armand-Frappier, between the intersection of the chemin du Fer-à-Cheval and Murano street, District Sainte-Julie - Lot 3 - includes a Maxi food market, which is the main tenant, an SAQ branch, six restaurants and a Dollarama department store. Commissioned for the development of this new Harden center, the design team of Stendel + Reich architecture had to propose effective solutions for stormwater treatment and storage. Following a meeting with the engineers of Soleno, the high-density polyethylene (HDPE) and polypropylene (PP) products were selected and integrated into the plans and specifications.

THE SOLUTION

In October 2018, the contractor Les Entreprises Claude Chagnon, under the supervision of Mr. Philippe Déry Rouleau, Project Officer, proceeded to the installation of four underground retention systems; three with HydroStor chambers and one with StormChamber chambers. Installed on a stabilization geogrid, the 65 HydroStor HS180 chambers and the 31 StormChamber chambers, all surrounded by clean stone, will allow the storage of 478.7 m^3 (16 880.4 ft^3) of water for heavy rain events. A non-woven TX-90 separation geotextile was installed on all excavated areas and also used to cover the clean stone.

In addition, in order to treat stormwaters, in compliance with the requirements of the Environment and fight against climate change Ministry (MELCC), two CDS continuous deflection hydrodynamic separators of 1500 mm (60 in) in diameter (model CDS-5) and 2100 mm (84 in) in diameter (model CDS-7) were also installed.

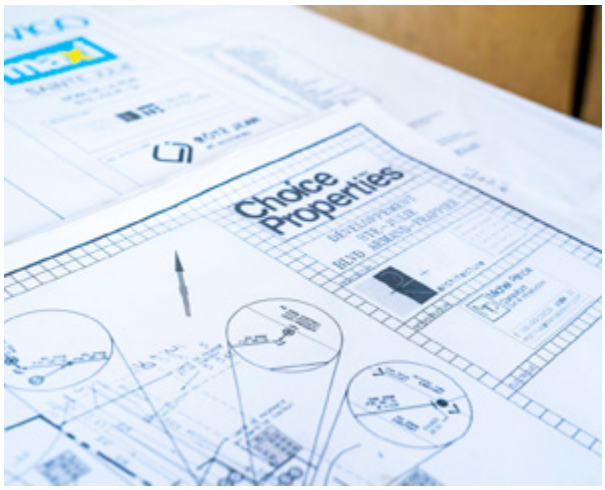
READ MORE

THE BENEFITS

Thanks to their modular design, the underground retention systems help to maximize the full development potential of a site and offer the best cost per cubic meter ratio of stored water. Manufactured in HDPE and PP, the HydroStor and StormChamber retention chambers are easy to install, thanks to their lightness, and provide considerable savings in terms of time, manpower and heavy equipment requirement. Their use can absorb heavy rains and avoid flash floods. HydroStor HS180 retention chambers, designed for large volume projects or when the available space is restricted, can store 5.1 m^3 (180.1 ft^3) of stormwater per chamber, which makes them more economical by greatly reducing the occupied area. The stabilization geogrid, installed under all chambers, distributes linear loads on a greater surface area, which reduces the risk of base stone displacement during high water flow events. Its use ensures a solid and stable foundation of the base of the system.

At the output of the underground retention basins, of CDS treatment systems have been installed to control and treat effectively more than 60% of the suspended solids, oils and floating debris contained in the runoff water, before its discharge to the outlet. The CDS continuous deflection hydrodynamic separator is the most efficient, according to evaluation criteria of the MELCC. In addition, it provides an effective way to eliminate 100% of floating debris of more than 2.4 mm in diameter, while also recovering the oils. Its uniquely designed separation grid prevents any risk of clogging and provides for easy maintenance of the system.

SOLENO
Mastering Storm Water



The realization of this project was made possible thanks to: the contractor Les Entreprises Claude Chagnon and the distributor Wolseley.

For more information and to learn more about our services and products, please visit soleno.com. Other case studies are also available.

1160, route 133 C.P. 837, succ. Iberville Saint-Jean-sur-Richelieu, QC Canada J2X 4J5
Free : 800.363.1471 web site : soleno.com