

Case Study | Integrated Stormwater Management Plan (ISMP)

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As a developer committed to enhancing the environment through innovative best management practices, Wesgroup embraced the challenge of resolving some long-standing stormwater issues at its Wesview Business Park in the Calgary area.

Rocky View County and the business owners in the area faced major operational hurdles in attempting to find ways to dispose of stormwater on-site. Most methods are costly and burdensome and often created issues for adjacent owners and neighbouring jurisdictions.

Taking a different approach from what has been done in the past, such as relying purely on evaporation, Wesgroup successfully overcame that challenge by designing a unique integrated stormwater management plan (ISMP) that would handle the excess stormwater originating upstream from its 118-acre site located in Rocky View County, while protecting and enhancing a compromised wetland immediately downstream of the development. Stormwater will also be used to irrigate Wesview's landscaped areas, covering about 10-15 per cent of the development.

The ISMP is a sub-regional system where catchment ponds throughout the vicinity are interconnected so individual water levels can be controlled with the added benefit of providing redundancy in fire protection systems.

The pressurized system was designed to control the amount of water being released to the wetland on a consistent basis throughout the year. Becoming interdependent allows for greater flexibility as water levels in individual ponds can be adjusted as needed. As a result, all the local catchment ponds will handle the precipitation they receive without the risk of overflowing.

“This unique Wesview integrated stormwater management plan is a “win-win” situation for everyone involved – the environment, the community and all land owners in the area,” says Dennis Westhoff, President & Chief Engineer, Westhoff Engineering Resources.

Eliminating the need for on-site stormwater management translates into enormous value for future Wesview owners. A business typically either has to buy additional land or reduce its building size to accommodate an on-site system, plus there's the cost of building the stormwater facility along with the time and effort to maintain it.

With an on-site stormwater solution, a business that may require three acres to park its trucks would need to purchase an extra acre. At more than \$300,000 an acre, that's a substantial amount just to accommodate the land needed for the stormwater before any building takes place.

There is an immense value in providing the right balance of water to the wetland while eliminating the problematic stormwater throughout the area. With its pathway and bird-watching platforms, this valuable wildlife habitat will be further protected and improved as the ecosystem maintains its natural balance.

Wesgroup has been recognized within the development community as a developer that considers what works for the broader region rather than simply focusing on its own objectives. “At its own expense, Wesgroup has greatly benefited the area by providing the existing upstream developments with a stormwater solution while ensuring the wetland downstream remains sustainable and continues to flourish,” says Rob Deverell, Municipal Engineering Technologist, Rocky View County.

Rocky View County views this as an excellent example of a low impact development. Through this innovative use of stormwater, the ISMP is restoring an under-productive wetland to its optimal levels while turning it into a productive habitat,” says Deverell. “This is a first – instead of continuing to allow stormwater to run into ponds, we will be managing and operating it.”

The County considers this a unique and positive partnership. “To have a developer provide substantial internal efforts, including hiring engineers and biologists using its own financial resources creates tremendous benefits for everyone in the sub-region,” adds Deverell. While benefiting the community at large, the Wesview integrated stormwater management also provides a useful model for other developers facing the same stormwater challenges.

Alberta Environment has also been a key contributor to the plan. Ducks Unlimited through its association with the Alberta Environment Sustainable Resource Division also provided key support and advised on the habitat features that would best provide for the variety of ducks and wildlife the wetland will attract.

This integrated stormwater management plan will also be a pilot project for Alberta Environment under the water act. The data collected through a monitoring program over the next several years will allow the department to evaluate the success of the plan and to use this as a baseline for future developments in other areas. In this way, the Wesview plan will have a long-term benefit for the environment.

For Wesgroup, it continues to be a rewarding experience to have found an effective solution that will continue to expand into the future for the benefit of all stakeholders within the area and the ecosystem.

For more information on Wesview Industrial Park and Wesgroup Properties, please visit our website at www.wesview.ca and www.wesgroup.ca for further details.