

NDS StormChamber: The Total Package for Impervious Water Management in High Density Suburban Apartment Complex

Project Name: Madison Plaza

Location: Kent, WA

Segment: Commercial – Small (<1-10 Acres)

Products: StormChambers

Property Type: Apartment Complex

Partners: GIS International Group, Team Nelson Inc., Core and Main, AP Consulting Engineering



Challenge: Space constraints required unique water storage footprint under apartment's parking area

Madison Plaza is a large, mixed-use apartment complex in downtown Kent, a growing industrial suburb near Seattle. Located in a high-density zone with severe space constraints, the builders and engineering team needed a watertight detention system with an impervious liner on the sides and bottom to restrict infiltration. But with very little capacity available for a subsurface system, the covered parking area became the only location to place the 29,450 cu. ft. of water storage needed.

Solution: NDS StormChamber's flexible design allowed for complex layout that minimized space

Due to significant site constraints in the parking area – including the need to avoid support beams and utility lines – a complex layout of chambers had to be used for the project. The NDS Specifications team was flexible throughout the process as many revisions were needed due to site conditions, which required the system to be spread out. NDS was able to recommend a StormChamber system with fewer parts, which in turn helped lower material costs and use less space for what was a tightly complex footprint designed carefully around building footers. The system also necessitated ease of inspection and maintenance due to its location. The NDS StormChamber's SedimenTrap design was a key differentiator, as all sediment gathers directly under the inspection portals. Only a stick and flashlight are needed to check the levels and a vacuum truck can quickly remove the buildup.

Impact: Underground water storage provided lower cost, smaller footprint and easier maintenance

NDS was able to provide a system that saved the owner money and provided an easier inspection and maintenance protocol. Initially the system was designed with a competing chamber system, but the NDS team was able to show the owner, contractor and engineer the long-term benefits of changing the specification to the NDS StormChamber system. NDS provided initial onsite guidance to the owner and contractor for the installation as well as ongoing virtual assistance throughout the project due to Covid-19 shutdowns. The entire project took just over a month to complete.

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