

## Project Summary



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# Kilkenny Drive

In 1997, the Red River "Flood of the Century" impacted the City of Winnipeg's residential areas along the riverbank. Protected by temporary sand bags. Following the flood, the Kilkenny Drive North Community qualified for funding to implement permanent flood proofing measures. With residents experiencing flooding up to 6 ft (1.8 m), Winnipeg was faced with finding a solution to provide permanent flood proofing. A community ring dike that retained water and was structurally sound and aesthetically pleasing was the solution. The design goal also included a desire to avoid future risk, stress and disruption to residents as well as minimize environmental impacts to preserve existing trees and vegetation in the riverbank setting.



### PROJECT NAME & LOCATION

Kilkenny Drive, Winnipeg, Manitoba, Canada

### PRODUCT

AB Stones

### PROJECT OWNER

City of Winnipeg

### LOCAL ENGINEER

KGS Group

### GENERAL CONTRACTOR & WALL BUILDER

JC Paving LTD

### ALLAN BLOCK MANUFACTURER

CCI Industries - Winnipeg, Canada

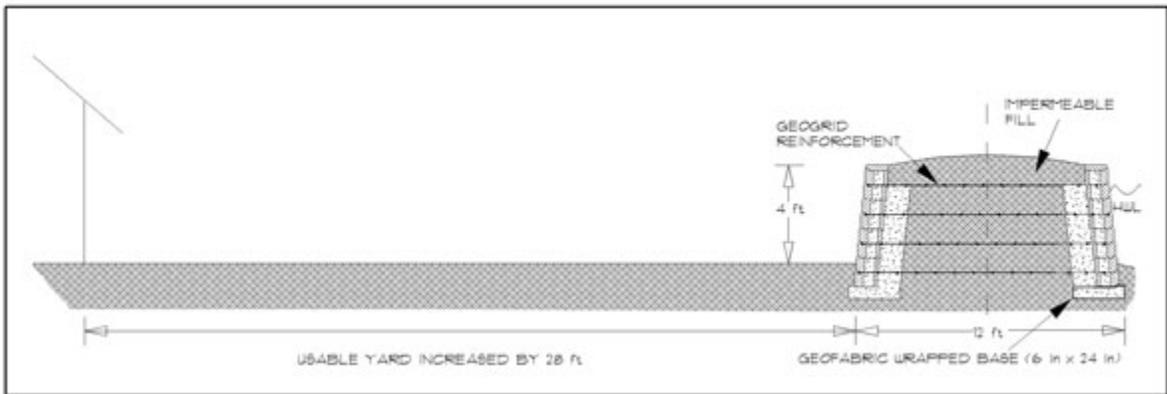
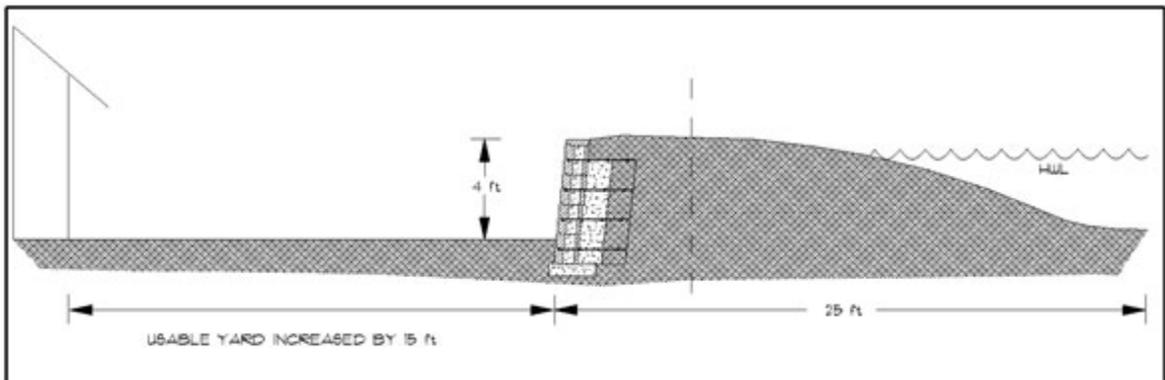
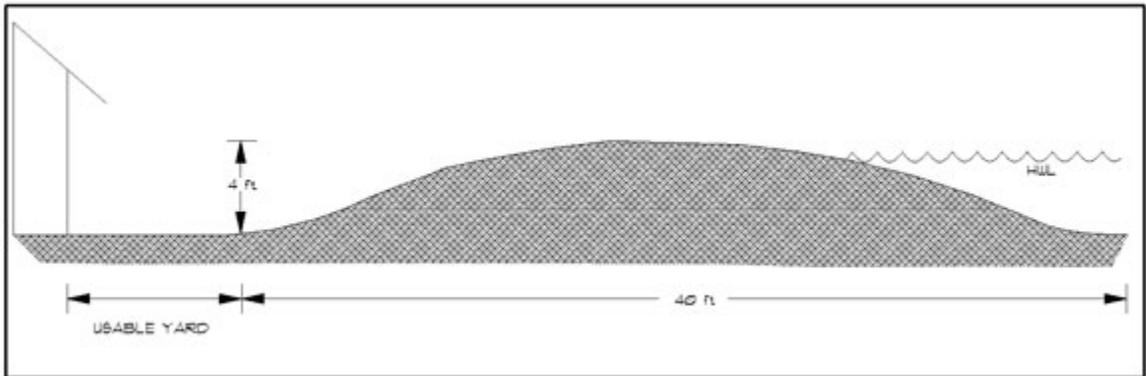
## PLAN

J. Bert Smith, P Eng., of KGS Group in Winnipeg, Manitoba, developed numerous layouts to address the varied priorities of the individual residents. "A composite of curvilinear dike structures were developed with a central clay core utilizing vertical segmental retaining wall units to minimize the footprint; terraced SRW's for stability and to incorporate access ramps plus landscaping, and earth dike slopes for economy where space was available" says Smith. "Dike limits had to be entirely within the property limits of the four residents with location varied to preserve trees and maximize yard use and aesthetics," added Smith. It was determined that Allan Block would be the best block for the job.

## DESIGN



Allan Block offered a permanent flood protection dike up to 8 ft (2.4 m) in height with a central clay core and seepage cutoff trench. The walls were installed with horizontal geogrid to provide the necessary stability under flood events. A vertical outer wall with a safety fence was specified to maximize yard areas for children and a lower crest was used for aesthetic yard view, complete with high ground tie-in. The terraced Allan Block wall provided stability plus met the City's bylaw safety requirements on maximum vertical drop of two feet without a safety fence.



## BUILD

The outer dike shells incorporated free-draining granular zones plus weeping tiles for stability and geogrid. Yard drainage is provided through three culverts with gate valves, watertight caps and plugs. Since its installation two years ago, the residents have not experienced a high flood event, but they have peace of mind knowing their homes will be safe in the future. – 2003 NCMA Design Awards, Concrete Masonry Magazine

