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STORMWATER MANAGEMENT AND SITE SERVICING REPORT

Project Name:

MILL STREET REDEVELOPMENT
GANANOQUE, ON

Project Number:

6241

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**CLARENCE STREET DEVELOPMENTS INC.
MILL STREET REDEVELOPMENT**

GANANOQUE, ONTARIO

**STORMWATER MANAGEMENT
AND SITE SERVICING REPORT**

DESCRIPTION OF PROJECT

The property is a former industrial site which is being redeveloped for residential use. Some of the existing buildings will be retained for renovation and new free standing buildings are proposed.

LOCATION

The property is located on the east side of Main Street, north of Water Street and along the Gananoque River in Gananoque, Ontario. Mill Street currently is in the middle of the development and will be closed and made into parking lane.

EXISTING CONDITIONS

There are currently buildings on the site. Some of the buildings have been abandoned, and others are currently being used for other uses. Site remediation has not been done. Two existing buildings will be retained and renovated, called Stone Building and Brick Building. The Textron building will be modified and become 4 storey residential. The Wire Shed building will be renovated and become residential.

The site is broken into 3 distinct areas. The area along the west side of the Textron building is currently a lane way and it drains to the south, to the existing parking lot. The area between Textron Building and Stone Building slopes gently towards Water Street and also to the east towards the Gananoque River. The third area is the lower area along the river which currently sheet drains to the river.

PROPOSED SITE CONDITIONS

The proposed developed site will consist of the following:

- The existing Wire Shed, 60 Mill Street, (Building 1) will be renovated to provide a 5 Unit residential with garages at the rear of the property.
- 15 Clarence Street (Building 2) is a proposed 5/6 storey residential building with underground parking and a large walk out terrace overlooking the public park area.
- The Stone Building at 185 Mill Street, (Building 3) will be renovated to provide three storey residential units with access to the park area along the Gananoque River.
- The Brick Building at 185 Mill Street, (Building 4) will be renovated to become residential three storey.
- 15 Clarence Street, Textron building will be renovated to become a four storey residential building.
- Building 6 at 15 Clarence Street will become a townhome development with parking.
- Vehicle access to the buildings will be as follows:

Stone/Brick Building

- Entrance via Clarence/Mill Streets or via Water Street to aboveground parking.

Textron Building

- Laneway will provide access to above ground parking.

Wire Shed Building

- Above ground parking spaces on Mill Street.

New Townhomes

- Above ground parking spaces provided.

Proposed 5/6 Storey Residential

- Entrance/exit ramp to underground parking from Mill Street.

- The remainder of the site will be landscaped with a combination of interlocking paving stone, grass and plantings.

STORMWATER MANAGEMENT

The existing site is a mixture of buildings, gravel and asphalt roads and parking areas and some grassed areas. The proposed development will include a greater percentage of permeable surface area therefore there will be a net reduction in the post development flows and no stormwater

detention is required. The runoff coefficient for the existing site is 0.707 and the proposed development has a runoff coefficient of 0.649. The site runoff will therefore be reduced compared to the existing runoff.

The storm drainage design is two systems with the ultimate discharge for the site being the Gananoque River. The first is the north portion which outlets between Stone Building and Proposed 5/6 Storey Residential to the river and the second is south, out letting between Stone and Brick Buildings. Runoff is to be collected in storm sewers which outlets to stormceptor manholes on the lower park area, which drains into the Gananoque River. The storm sewer system has been designed to exceed the 5 year storm requirements. The current site sheet drains over gravel parking areas into the river as well onto the property to the south, so the proposed design will be a significant improvement and control the storm water.

QUALITY

The MOE Stormwater Management Planning and Design Manual, March 2003, provides requirements for stormwater quality control. The quality control shall be an enhanced level with a long term removal rate of at least 80% total suspended solids. This will be achieved by installing a stormceptor manhole on each side of the flume (MH's 2 and 4) to remove sediments and oils in the runoff before it enters the flume.

Routine cleanout of the stormceptor manholes will be required in order to ensure their continued proper operation.

Overland flow along the east portion of the site, will be along the grassed areas, helping to naturally remove sediment.

SEDIMENT AND EROSION CONTROL PLAN

To control sediment and erosion during construction the Contractor shall cover all catch basins and manholes with geotextile.

Silt fence shall be installed along the west and south boundaries of the property.

All disturbed grass areas shall be re-vegetated with 75 mm of topsoil and sod as soon as possible after construction.

Sediment and erosion control barriers shall be monitored daily and maintained as necessary. The Contractor shall remove the sediment and erosion control measures upon completion of construction and after re-vegetation has occurred. Care shall be taken at the removal stage to ensure that any silt that has accumulated is properly handled and disposed of.

The Developer shall be responsible for monitoring and maintaining the stormwater facilities.

The Sediment and Erosion Control Plan shall be considered a 'living document' that may need to be changed or adjusted during the life of the project to be effective.

SANITARY SEWERS

A sanitary sewer system is proposed to run from the middle of the development, south to Water Street then west to connect to an existing sanitary manhole at the intersection of Main Street and Water Street. New manholes will be installed in the development, at the south property limit, near the intersection of Mill Street and Water, and near the intersection of Main and Water. Connection to the existing manhole at Main/Water must be installed. This section of the sanitary system will include flows from Buildings 2, 3, 4 and 5. The sanitary connections for Buildings 1 and 6 will be made at Clarence Street in the existing sanitary sewer. There is capacity in the Clarence Street sewer for the additional flow from this development.

The flow for the new sanitary system has been determined based on the proposed uses of the developed property.

Wire Shed (Building 1)

Residential (5) 2 BR @ 1,100 l/day = 5,500

5/6 Storey Residential (Building 2)

Residential (36) 2 BR @ 1,100 l/day = 39,600

Stone Building (Building 3)

Residential (8) 2 BR @ 1,100 l/day = 8,800

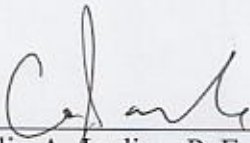
Brick Building (Building 4)

Residential (14) 2 BR @ 1,100 l/day = 15,400

CONCLUSION

Municipal service connections are the preferred option for the proposed residential development based on the following:

- Municipal services are located in the area of the development and can be connected easily.
- Communal sanitary services connected to a possible pumping station could be an option, but due to cost and maintenance, this is least desirable.
- Connection to Town of Gananoque watermains is the preferred option for the development. This would provide fire protection as well as residential water use.
- The redevelopment of the area would benefit the Town of Gananoque in many ways, bringing people and tourists to the area.
- Site Remediation is necessary as described in the Phase II Environmental Site Assessments completed by Exp Services Inc.



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