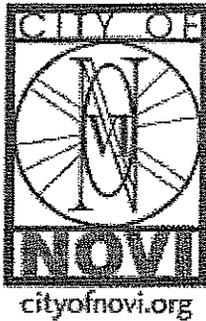


MEMORANDUM



TO: MARK SPENCER, AICP; PLANNER
BRIAN COBURN, PE; SENIOR CIVIL ENGINEER

FROM: BEN CROY, PE; CIVIL ENGINEER *BC*

SUBJECT: REVIEW OF IMPACT ON PUBLIC UTILITIES
BECK AND GRAND RIVER STUDY AREA

DATE: JULY 9, 2009

The Engineering Division has reviewed the Grand River and Beck study area as requested by the Planning Division. The request consists of approximately 94 acres located north and south of Grand River Avenue, and east of Beck Road, in Section 16. This analysis is based on the potential uses of the property as shown on the attached figure provided by the Planning Division.

The study area involves numerous parcels currently zoned OST, B-3, I-1 and RA, and the entire area is master planned for Office. The study is exploring the potential for various office, retail or residential uses in the area. The proposed study area was analyzed by comparing the utility demand under the existing zoning with the demand of the proposed uses.

Given the number of parcels involved and the multiple zoning designations being discussed throughout this study area, the potential scenarios for future use of the area will result in varying impacts. The following table helps describe the impacts of rezoning from one use to another:

CHANGE IN UTILITY DEMAND				
Existing Zoning or Master Planned Zoning	Potential Land Use			
	Office	Mid-Rise Multiple Family Residential (RM-2)	Retail	Restaurant
Office ⁽¹⁾ ⁽²⁾	0%	539%	-36%	293%
B-3 ⁽³⁾	-39%	293%	-61%	141%
RA	250%	2138%	125%	1275%

(1) Assumed on-site detention is required. Permitting use of the existing MDOT detention basin would decrease the impact in the areas currently zoned Office.

(2) Assumed existing I-1 zoning area would be developed as 100% Office.

(3) Assumed existing B-3 zoning area would be developed as 70% Retail/30% Restaurant.

The table shows varying results for the change in land use scenarios, and highlights the significant increase in utility demand that would be realized in areas where mid-rise multiple family residential and restaurant uses are permitted.

For reference purposes, one possible development scenario was assumed. It was assumed that the study area would be developed as 90% Office and 10% Retail/Restaurant, and was compared to the current master plan designation, Office, for the entire area.

Water System

The parcels in the study area could be served by an existing 24-inch water main along the Grand River frontage and a 16-inch water main along the southern Beck Road frontage.

The City's water model indicates that this type of development scenario (90% office and 10% retail/restaurant) would have a negligible impact to the water system. This is due in part to the size, location and looping of the water mains in this area of the City.

Sanitary Sewer

The parcels in the study area could be served by an existing 8-inch sewer along the Grand River and northern Beck Road frontage, and a 15-inch sewer along the southern Beck Road frontage.

Based on the information provided we can estimate that this type of development scenario (90% office and 10% retail/restaurant) would have a minimal impact on the sanitary sewer system, using an additional ~0.03% of the City's peak discharge capacity. However, any additional flow may require further study to determine if any system upgrades are required to the local sanitary network to accommodate the increased sanitary sewer flow directed through the Lanny's sanitary sewer district, where capacity issues are currently a concern.

Summary

Rezoning the study area to permit high-density residential and restaurant uses would have the greatest impact to the utility demand for this study area when compared to the existing Office designation. Retail uses would have a slightly lower utility demand when compared to Office. A rezoning to the assumed 90% office and 10% retail/restaurant uses would not have a large impact on the water or sanitary sewer systems. However, depending on the amount of area designated for intense uses such as restaurant or mid-rise multiple family residential, a zoning change for this study area could have a noticeable impact on the sanitary sewer system, increasing the peak sanitary discharge from the City. Any significant increase in the peak discharge is notable because the City is currently seeking opportunities to resolve the limit on its contractual sanitary sewer capacity at its outlet to Wayne County.