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MEMORANDUM

Date: June 2, 2016

To: Jon Jarosch, PE

From: Cristina Mlejnek

Subject: Hazelwood Medical Center – Sanitary Sewer Review
City of Maplewood
Project No.: *N15.111921*

BDH + Young is proposing an approximately 140,000 square foot office building on the northwest corner of Hazelwood and Beam. The following shows our analysis of the impacts of the proposed development on the existing sanitary sewer system.

Existing Sanitary Sewer System

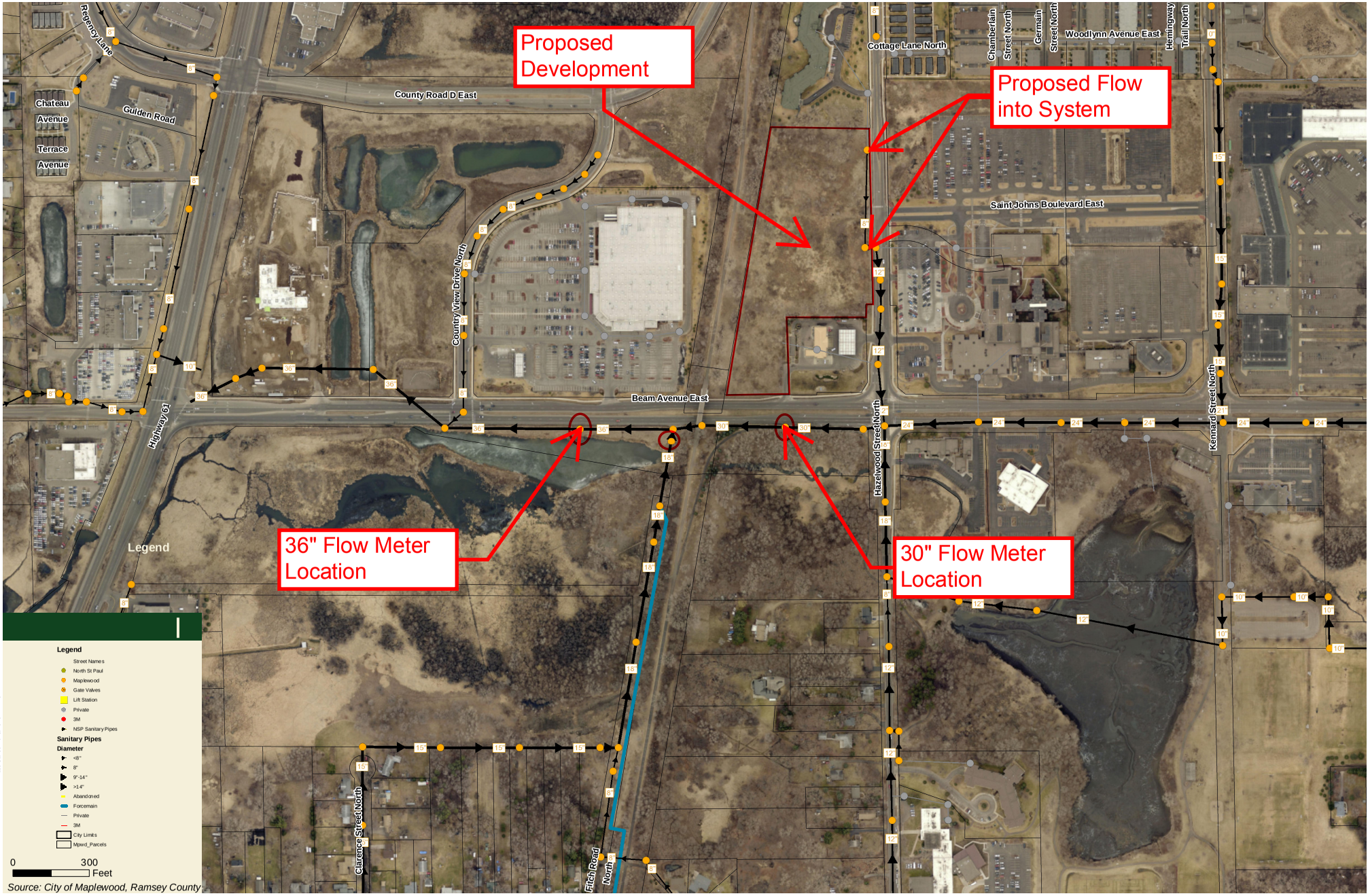
Flow meters were installed in two sanitary sewer manholes downstream of the proposed development. The 30" line was to be combined with an 18" line as a check to the 36" line. The 18" line was inaccessible. Flow data was collected for more than six consecutive days. (See attached). The average flow depth in the 30" pipe was 6.9", and in the 36" pipe was 4.1". The range of these depths were unexpected considering the sewer district served. The flow depth in the 36" pipe was rechecked on June 1st at 5:42pm and shown to be approximately 0.45' (5.4"). This data shows sufficient capacity to handle the current load a number of times over.

Proposed Additional Flow

(See attached). Based on the Met Council's method to determine wastewater generation, we arrived at a conservative estimate of 2,325 gallons per day. Because it's an office building, we estimated that the flows would occur over an eight-hour period. This equates to an average flow rate of 0.01 cfs. Peaking at a flow factor of 4 still provides for additional flow on the same order of magnitude as 0.01 cfs.

Summary

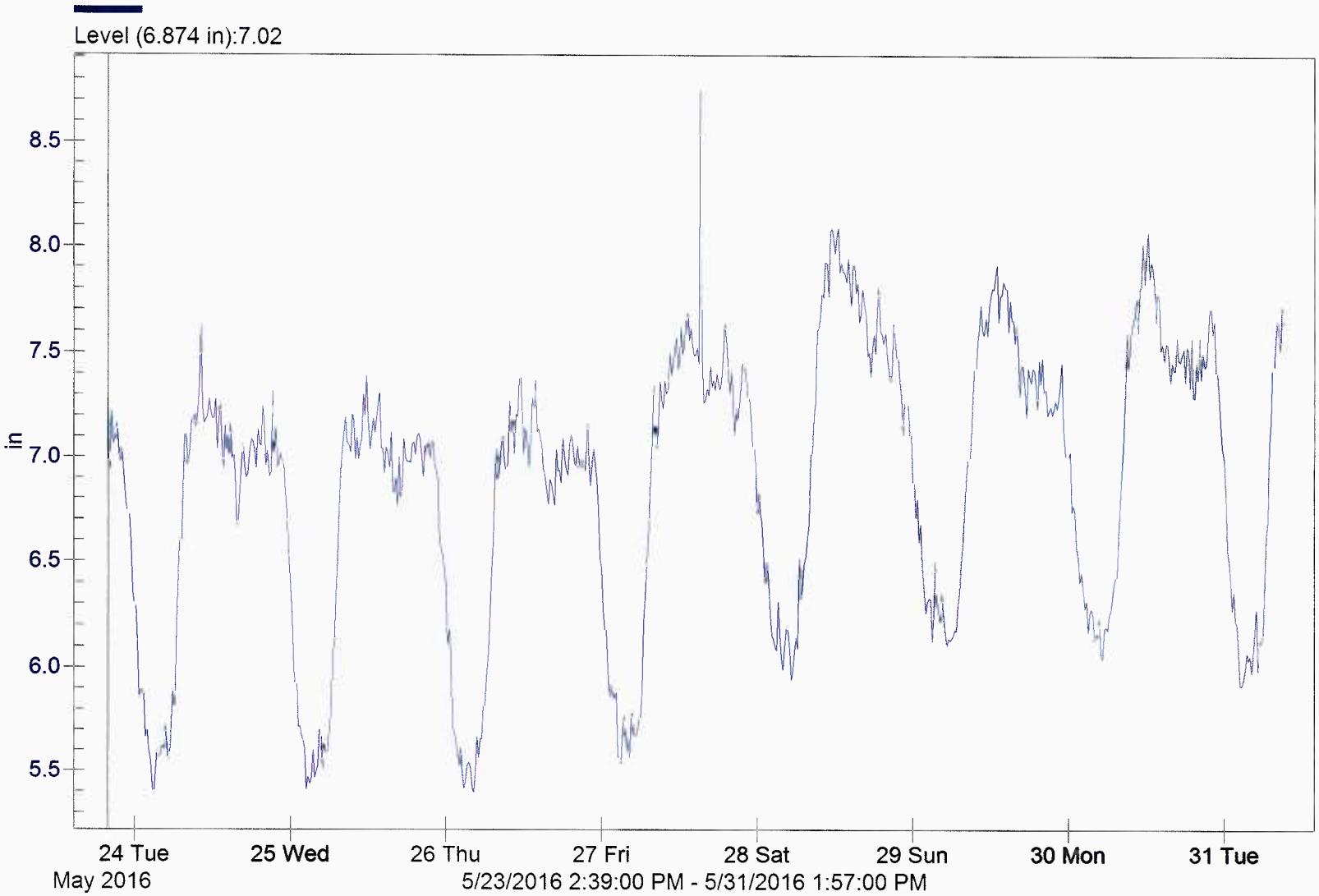
Considering the available capacity in this location of the system and the proposed additional flow, it appears that the existing system will adequately support the proposed development.



Map Document: C:\Users\jacobgu\Documents\ArcGIS\Packages\MaplewoodSanitary_7D19E2DF-9657-4CF7-92E6-0E14DA8AED71\v103\MaplewoodSanitary.mxd
Date Saved: 4/28/2016 2:24:15 PM

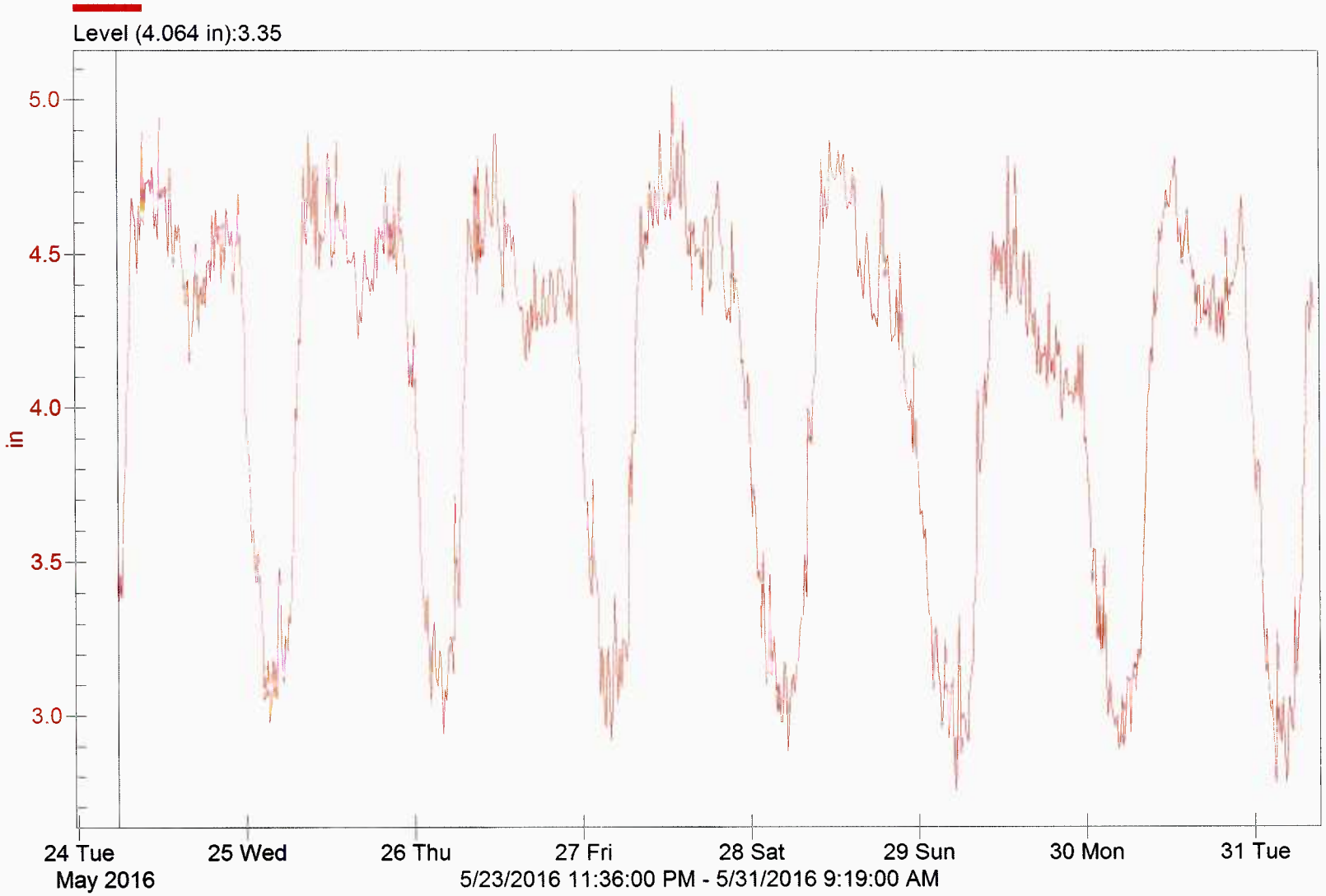
Maplewood 30 inch

Flowlink 5



Maplewood 36 inch

Flowlink 5



Hazelwood Medical Center
Maplewood, MN
June 2, 2016

Proposed area: 140,000 SF

Met Council Parameters

General Office	2,640 SF ≈ 1 REU
Meeting Room	1,650 SF ≈ 1 REU

for no floor plans: $\frac{140,000}{1,650}$ = 8.48 REUs

conservative factor:	274
typical actual usage:	200 - 220
metro average:	< 180

8.48 x 274 = 2,325 gallons/day

2,325 gallons ≈ 0.01 cfs (Average)