

# SEWER ENGINEER'S REPORT

## 363 Ontario Street Apartments

### 363 Ontario Street

CITY OF ALBANY  
COUNTY OF ALBANY  
STATE OF NEW YORK

**Applicant: Jankow Companies**

Prepared by:

**Hershberg & Hershberg**  
**Consulting Engineers and Land Surveyors**

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## **INTRODUCTION:**

Hershberg & Hershberg, Consulting Engineers and Land Surveyors, were retained by Jankow Companies (hereinafter the "Applicant") with an address of PO Box 1366, Guilderland, NY 12084 as site engineer for the construction of a mixed-use development plan to be known as 363 Ontario Street Apartments. This report is for the consideration of the City of Albany Planning Board and the Board of Zoning Appeals. .

## **DESCRIPTION OF EXISTING SITE:**

### **PARCEL AREA**

The existing parcel is Tax Map Parcel #64.76-4-47 listed as No. 363 Ontario Street with a site area of 76,345 SF or 1.75 Acres.



Fig. No. 1 - Aerial Photo of Site

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## **SEWER ENGINEER'S REPORT**

## **DESCRIPTION OF INTENDED SITE DEVELOPMENT AND USE**

Under the current application the Applicant is proposing to demolish the existing Playdium building and parking lot and replace it with a mixed use development of the property. This includes three apartment buildings with a total of 110 units of apartments and retail space along Ontario Street. The retail space will include a café with capability of purchasing other items. It has not yet been designed but the sewage computation assumes 20 seats. A laundromat is also contemplated for which we have based the water use computation on 8 washing machines. In addition an exercise area may be opened to the public so the use is evaluated as a "health Club" for 25 patrons. Basement level parking is provided for 96 cars and paved parking for 49 cars. Also included are landscaping, lighting, stormwater management and utility connections.

## **SEWER GENERATION**

To establish the water use by the previous user, water records were examined for the period from 1/1/2012 to 12/31/2016. These figures are included in Appendix 1. They show an average daily use of 5,595 GPD based upon a 365 day year. Sewer service is currently provided to the property by the Albany Water Board. This project is estimated to generate up to 22,780 GPD of sanitary waste. See Fig. No. 2 below. The residential sewage generation is based (based upon 110 GPD per Bed in Apartment Units<sup>1</sup>) and the café space is based upon an ordinary restaurant at 35 GPD/Seat. The laundromat is based upon 580 per washing machine. The exercise room is based upon 25 non-residence patrons at 20 GPD per patron. Peak sewage flow generation is estimated at 450% of average flow or 71 GPM. This is equivalent to 0.158

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<sup>1</sup> New York State Design Standards for Intermediate Sized Wastewater Treatment Works, NYSDEC.  
March 5, 2014

CFS. The historic use of the building was 5,595 GPD (See Appendix 1). Peak existing sewage flow generation is estimated at 450% of average flow or 17 GPM. This is equivalent to 0.038 CFS. The net increase is 54 GPM or 0.120 CFS.

Sewage Generation  
363 Ontario Street Apartments

	<u>Unit</u>	<u>Value</u>	<u>Water Use Per Unit per day(GPD)</u> <u>See Note 1</u>	<u>Water Use (GPD)</u>
Residential	Beds	154	110	16940
Café	Seats	20	35	700
Laundromat	Washing Machine	8	580	4640
Health Club	Non Resident Patron	25	20	<u>500</u>
	TOTAL			<b>22780</b>

1) Source: New York State Design Standards for Intermediate Sized Wastewater Treatment Works, NYSDEC, March 5, 2014

2) Sewage Generation is equivalent to potable water use although total water use will also include irrigation

Fig. No. 2 – Sewage Generation`

The existing building is connected to an existing 12” VP combined sewer on the west side of Ontario Street. This terminates in a manhole at the intersection of Ontario Street and Warren Street. The 12” VCP based upon an average grade of 0.8% along Ontario Street will have a capacity of 2.79 CFS. See computation in Appendix 2. The increase in peak sanitary flow utilizes approximately 4% of this pipe capacity. This is connected to a 4’9” circular brick combined sewer in Warren Street which has a capacity of 138.97 CFS. The increase in peak sanitary flow utilizes 0.09% of this pipe capacity.

## SEWER SYSTEM

The sanitary sewage from this site is tributary to a Beaver Creek Combined Sewer as shown on the portion Sewer Atlas Sheet 48 reproduced below.

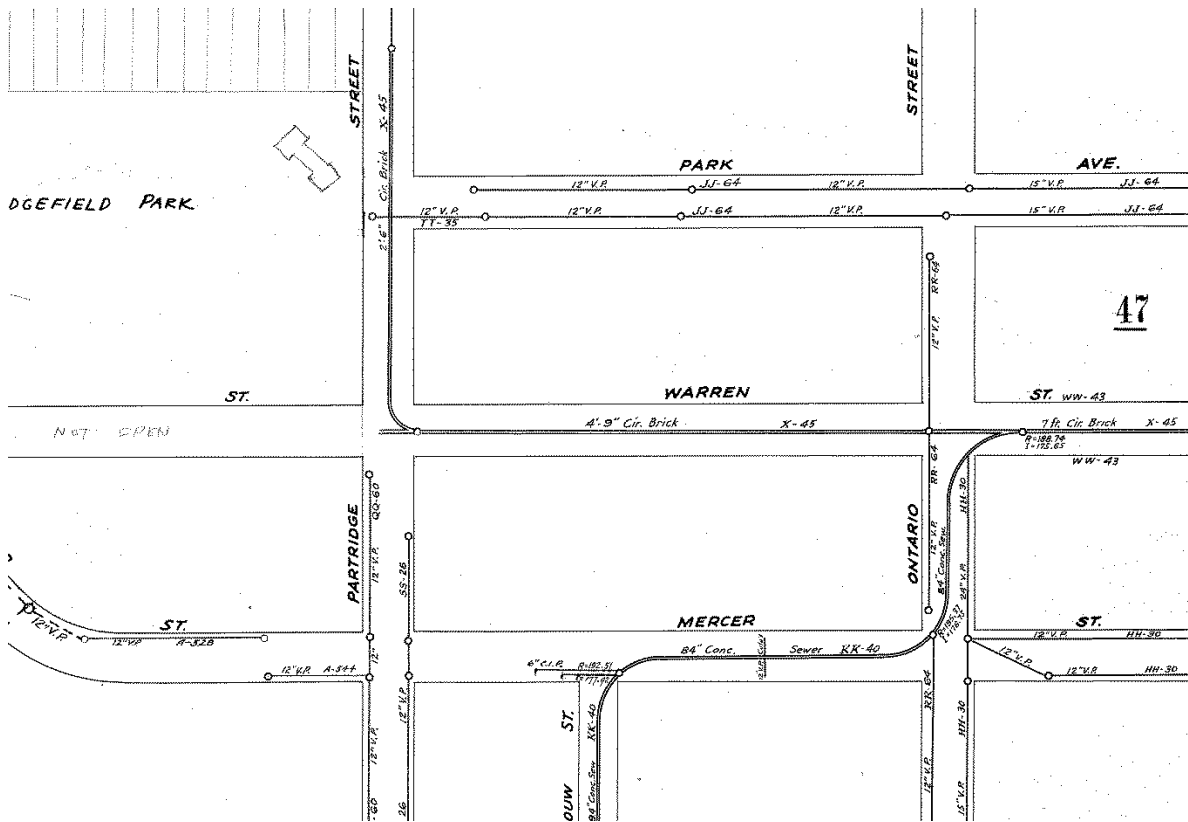


Fig. No. 3 – Sewer Atlas Sheet 48

The sewer system is well equipped to accommodate dry-weather flows. In order to determine the net impact of adding sanitary flow while reducing storm sewer from the one year storm has been analyzed. Compared to the site in its totally unpaved condition the discharge from the developed site is reduced by 0.18 CFS which is 150% of the increase in sanitary flow. For the 2 year storm the decrease in storm flow is 0.24 CFS or 200% of the increase in sanitary flow.

**CONCLUSION:**

It is the Engineer's opinion that this project can be served by existing public sewer system with positive impact on this system capacity during storm conditions and with no negative impact during dry weather flow conditions.



Prepared by:

A handwritten signature in black ink, appearing to read "D. Hershberg", written over a horizontal line.

HERSHBERG & HERSHBERG  
Daniel R. Hershberg, P.E. & L.S.

**APPENDIX 1**  
**HISTORIC WATER USE**

Computation of Average Water Use at 363 Ontario Street  
 Data Provided by City of Albany Department of Water & Water Supply on 9/27/2017

<u>Period Ending</u>	<u>Water Used (CF)</u>
1/3/2011	94,100
5/2/2011	93,700
9/1/2011	86,000
1/3/2012	90,600
5/1/2012	90,800
9/1/2012	81,600
1/2/2013	84,300
5/1/2013	85,800
9/17/2013	92,400
1/7/2014	112,900
5/2/2014	75,000
9/3/2014	77,000
1/2/2015	80,200
5/4/2015	85,300
9/1/2015	77,600
1/4/2016	82,500
5/2/2016	89,000
9/3/2016	85,300
1/3/2017	87,500
5/1/2017	84,600
9/1/2017	<u>81,900</u>
2434	1,818,100
Total Days	
Daily Use (CF)	746.96
Daily Use (Gallons)	5,595



## **APPENDIX 2**

### **PIPE CAPACITY CALCULATIONS**

### Existing Sewer Analysis for 363 Ontario Street

THE FOLLOWING IS THE CALCULATION FOR THE PIPE FLOWING FULL AS STATED IN THE CHEZY-MANNING FORMULA, WHERE:

Q MAX = DISCHARGE FOR PIPE FLOWING FULL IN C.F.S.

n = COEFFICIENT OF ROUGHNESS

A = CROSS SECTIONAL AREA OF FLOW IN SQUARE FEET

R = HYDRAULIC RADIUS IN FT.

S = SLOPE IN FT./FT.

V<sub>m</sub> = VELOCITY OF PIPE FLOWING FULL IN FT./SEC.

D = PIPE DIAMETER IN INCHES

LOCATION	Q MAX	n	A	R	S	V <sub>m</sub>	D
Combined Sewer 12" VCP Ontario Street	2.79	0.015	0.785	0.250	0.0080	3.5	12
Trunk Sewer 4'-9" Circ. Brick Warren Street	138.97	0.015	17.712	1.188	0.0050	7.8	57