

## TOWNSHIP OF PUSLINCH

### ADDENDUM TO THE FEASIBILITY STUDY FOR WATER AND SEWAGE SERVICING IN THE TOWNSHIP OF PUSLINCH

August 26, 2019

2017-01 / T000866A

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**Appendix B – Probable Costs Estimates – Detailed Calculations**

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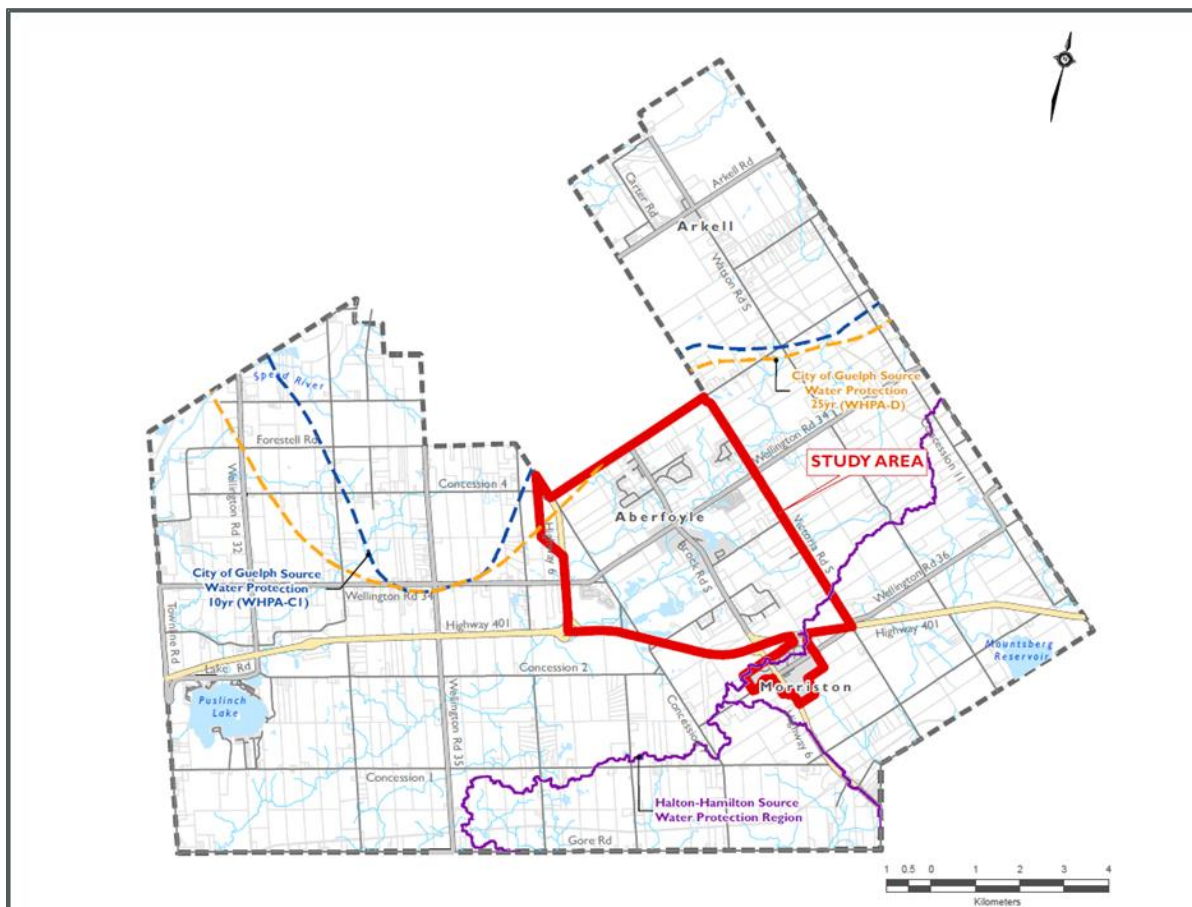
**Appendix D – Public Information Centre Information**

**Appendix E – Response to PIC Comments**

# 1. Introduction

## 1.1 Background

In 2018, the Township completed a Feasibility Study for Water and Sewage Servicing in the Township of Puslinch. The Original Study Area for the Feasibility Study included all properties, including both Residential and Employment lands, in an area bounded on the west by Highway 6 North (Hanlon Parkway), to the north by the City of Guelph, to the east by Victoria Road South, and to the south by Highway 401, but also including the community of Morriston, as shown in Figure 1. During the course of the Feasibility Study, significant objections were raised, in particular from the residential property Owners within the Original Study Area.



**Figure 1: Original Study Area Map**

In response to the concerns raised by the residential property owners within the Original Study Area, the Township decided to proceed with undertaking an additional Study, with a reduced Study Area and scope. The Township is now undertaking an Addendum to the Feasibility Study to assess the viability of implementing municipal water and sewage services for commercial and industrial properties bounded on the west by Concession 7 and Sideroad 25 N, to the south by Highway 401 and irregular boundaries (see Figure 2 Scoped Study Area Map).

Currently, water and sewage services in the Township consist of individual on-site wells and septic systems, as well as a few small and private communal water and sewage systems servicing individual developments.

The Township is surrounded by growing urban centres on all four sides with increasing demands for resources and land. The natural setting surrounding the Township and its accessibility to major markets and urban centres make this area an attractive place for development. Realizing this potential and the limitations on opportunities for growth resulting from lack of servicing, the need to assess the viability of implementing municipal water and sewage services to support the development of employment lands within the Township was identified.

## 1.2 Purpose of this Report

This Addendum to the original Feasibility Study Report (*Feasibility Study for Municipal Water and Sewage Servicing in the Township of Puslinch*, dated May 8, 2018) describes the key activities that have been undertaken as part of this assignment and the preliminary results of the additional study, including:

- A description of the scoped project Scoped Study Area; including current land use designations, employment projections, plans for future growth and development; and overview of existing key users;
- Development of preliminary estimates of future water demands and sewage flows for the Scoped Study Area based on analysis of existing available information and general design criteria, as recommended by the Ministry of the Environment, Conservation and Parks (MECP) for drinking water and sewage systems;
- Development of high-level water and sewage servicing options, including major infrastructure requirements and estimates of probable cost associated with each option;
- Results of high-level assessment of water and sewage servicing options, including key advantages and disadvantages for each servicing option considered in the study;
- A review of potential cost recovery tools available to fund the capital works associated with the servicing options and a preliminary assessment of the upfront and annual costs of each option.

## 2. Addendum Project Scoped Study Area

### 2.1 Overview

The Township of Puslinch is located in south-central Ontario in Wellington County, generally southeast of the City of Guelph. The Township, along with six other lower tier municipalities, make up the County of Wellington.



A potential servicing area has been delineated to comprise Water and Wastewater Services for the Industrial and Commercial users along Brock road in Aberfoyle and between Aberfoyle and Highway 401, as shown below in Figure 2.

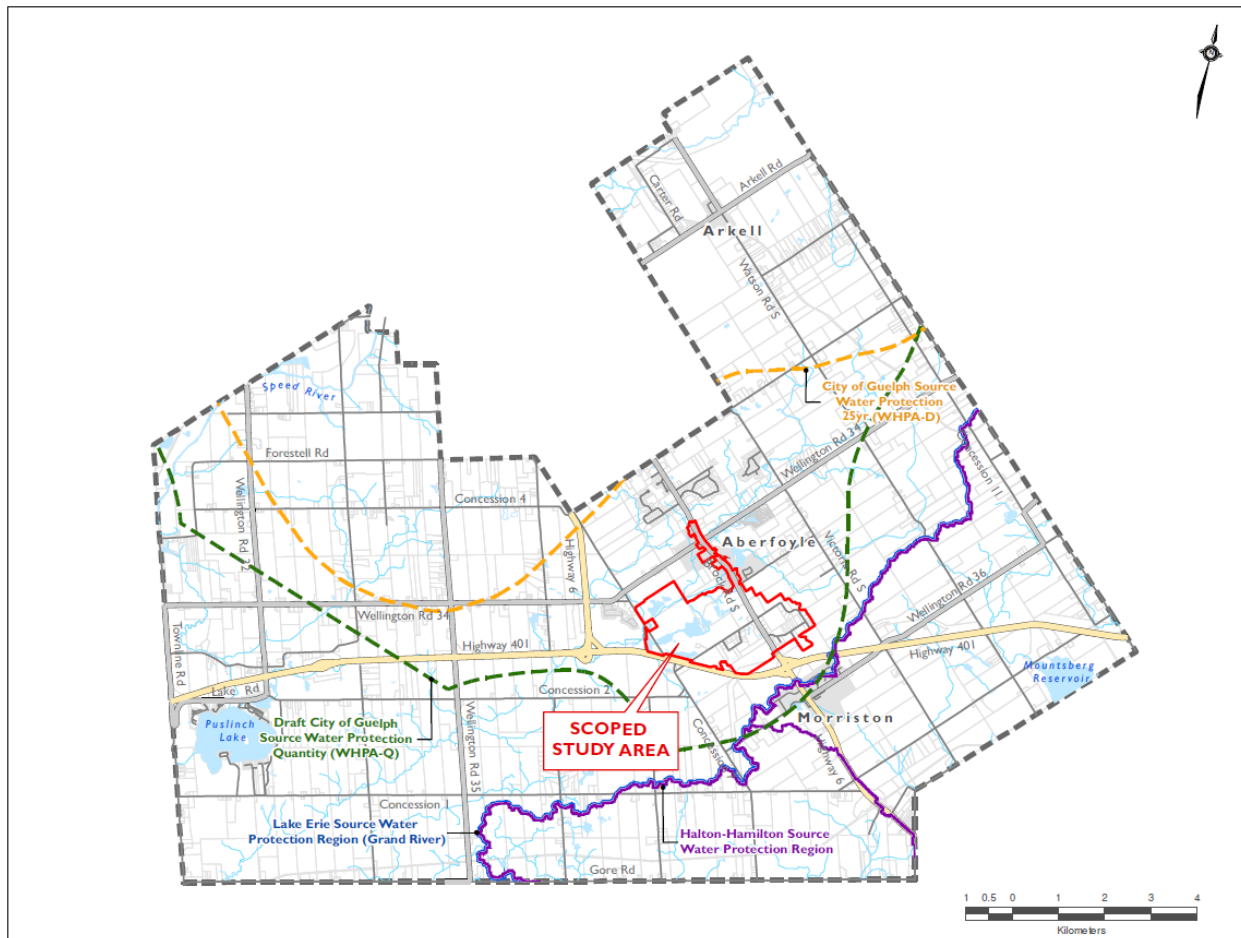


Figure 2: Scoped Study Area Map

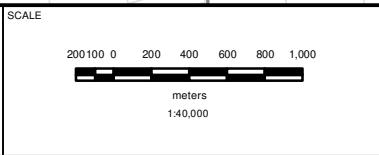
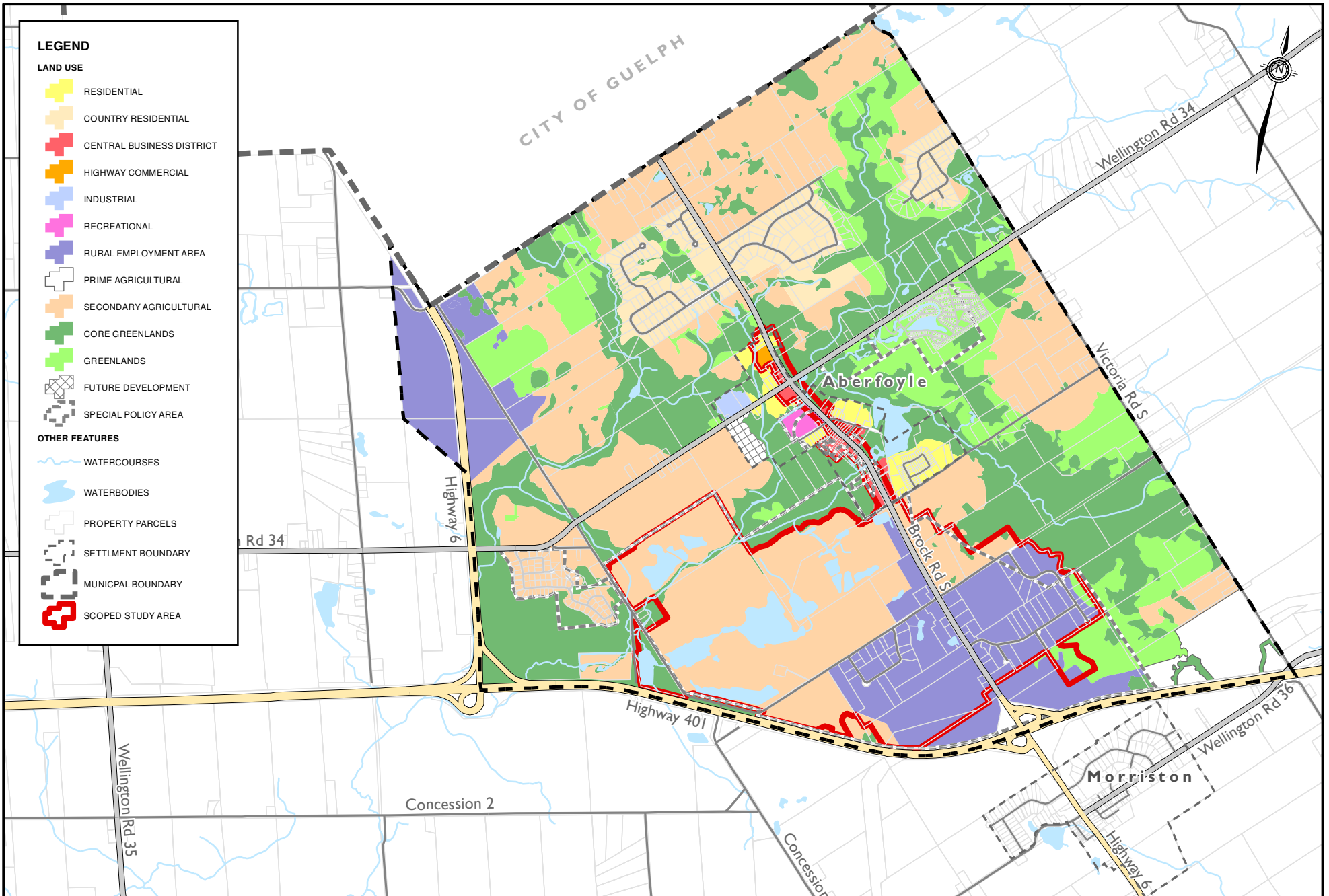
## 2.2 Commercial and Industrial Land Uses

The County of Wellington provides Planning Services for all growth and development related issues for the Township of Puslinch. The County has developed the County Official Plan (OP), which is used to guide all land use, growth strategies and servicing decisions for the Township. Existing land use designations within the Scoped Study Area are graphically presented in Figure 3.

The Scoped Study Area contains the highest concentrations of employment lands in the Township. In general, the land uses are varied due to historic development patterns and influences of the nearby City of Guelph and major transportation corridors of Highway 401, Highway 6 north and south and Brock Road (the busiest County road in Wellington).

Aberfoyle's designated central business district is along Brock Road and is one focus of the potential servicing area. There is also a highway commercial parcel north of Wellington Road 34.

A major focus of the Scoped Study Area includes the rural employment area and Puslinch economic development area (PA7-1) designations north of Highway 401 and east and west of Brock Road South. With consideration to expand Go Transit access, this is the predominant location for business and industry in the Township.



PROJECT NAME:  
**FEASIBILITY STUDY FOR WATER AND SEWAGE  
SERVICING IN THE TOWNSHIP OF PUSLINCH**

SHEET TITLE:  
**LAND USES**

PROJECT No:  
T000866A

DRAFTER:  
S. ELLIOTT

APPROVER:  
S. RODRIGUEZ

DATE:  
5/24/2019

CLIENT FILE No:  
---

DRAWING No:  
**2**

SHEET No:  
1 of 1

### 2.3 Source Water Protection Areas

The City of Guelph Wellhead Protection Areas extend into the Scoped Study Area (see Figure 2). The City of Guelph Wellhead Protection Areas (WHPA), corresponding to the 25-year time of travel, extend into the northwest portions of the Scoped Study Area. The WHPA's do not impact the employment lands under consideration as part of this Study.

Under the Guelph/Guelph-Eramosa Tier 3 Wellhead Protection Study, a draft Protection Area for Water Quantity (WHPA-Q) has been identified. The WHPA-Q covers the majority of the Scoped Study Area. Although policies are not in place yet, it is anticipated that there will be requirements on any new or renewed PTTW in the area, including any new municipal wells for the Township or City in the WHPA-Q.

In the event that the Township proceeds to develop a municipal Water system for the Scoped Study Area and develops new supply wells, new Well Head Protection Areas for Quality (A through D) will need to be created.

### 2.4 Population and Planning Projections

Projected growth within the Scoped Study Area has been set out in the County's Official Plan (OP).

According to the County OP, the majority of growth within the County will be directed to urban centers that offer municipal water and sewer servicing and, to a limited extent, to those urban centres and hamlets that offer partial, private communal, or individual on-site services. While there is anticipated residential growth in Aberfoyle and the surrounding areas, for the purpose of this addendum, the Scoped Study Area will only account for the projected water and sewage demands resulting from existing and planned development of employment lands.

For the purposes of this Study, it has been assumed that all Employment Growth identified within the County Official Plan will occur within the Aberfoyle service area. This assumption is considered to be reasonable since fully serviced employments lands would typically be more attractive to development, and that potential development of Employment Lands outside of the serviced area would likely be discouraged by the Township. Employment projections for the Scoped Study Area are shown in Table 1 below.

**Table 1: Projected Employment Growth – Township of Puslinch**

	Projected Growth / Planning Period <sup>1</sup>		
	2016	2036	2041
<b>Total Employment</b>	4,020	5,160	5,630

1. Projected Employment Growth as per Wellington County Official Plan May 6, 1999 (Last Revision June 1, 2018). Includes 'no fixed place of work' employment.

## 2.5 Employment Projections

Based on the information provided by the County of Wellington, the 2016 employment population within the Scoped Study Area was estimated to be 2,224 persons, representing approximately 55% of the total employment population within the Township. For the purposes of this Feasibility Study, and based on discussions with staff from the County of Wellington, the following assumptions have been made:

- The 2016 industrial employment within the Scoped Study Area of 2,224 persons were employed by the major water users known to exist in the Scoped Study Area. As such, water demands from the 2016 employment population, have been captured in the water demands provided by the large users.
- As identified above, the projected employment growth of approximately 1,610 jobs by 2041 has been assumed to occur wholly within the Scoped Study Area. For the purposes of this Study, it is assumed that the Township will direct all development of Employment lands to the Aberfoyle service area. This projected employment growth within the scoped study area will include primary, work at home, industrial, commercial, institutional and no-fixed-place-of-work job types.

The assumptions noted above are considered conservative but adequate for the level of detail required in the Feasibility Study. Actual employment numbers within the existing users will need to be verified, should the project proceed beyond the Feasibility Study stage.

## 3. Existing Water and Sewage Services

Municipal servicing is currently not available in the Township. Water and sewage services in the Scoped Study Area currently consist of individual on-site wells, septic systems and a few on-site small and private communal water and sewage systems. The Township has an active role in monitoring the operation and efficiency of these private systems; however, all aspects of operation, monitoring, maintenance and repairs associated with private systems, are ultimately, the responsibility of the systems' owner.

Permits to Take Water (PTTW) issued by the Ontario Ministry of Environment, Conservation and Parks (MECP) require that each permit holder measure and record volumes and rates of water taken each day. Such records shall be submitted every year to the Ministry's Water Taking Reporting System (WTRS).

### 3.1 Industrial and Commercial Uses

As part of the original Study in 2018, all major industrial and commercial users within the Scoped Study Area were contacted directly and requested to provide the most up-to-date water and sewage usage data, including the latest water volumes reported to the Ministry's WTRS. The following section of this report presents a summary of water usage/consumption for each of the major large users within the Scoped Study Area, as per available operating records and

data provided to CIMA+ for 2015 and/or 2016. Large users are not required to monitor or measure sewage flows, and thus this information was not readily available. Sewage information that was provided to CIMA+, when measured and recorded by the user, has been included in the corresponding section for each major user.

The major industrial and commercial large water users within the Scoped Study Area, along with their permitted water takings, are listed below in Table 2. A brief overview of each of the large users and their reported water demands/consumptions are summarized in the following sections.

**Table 2: Major Industrial and Commercial Users**

ID	User Name	Usage Type	PTTW #	Max. Taking as per PTTW (L/s)	
				L/s	m <sup>3</sup> /d
1	Royal Canin Canada Company	Food processing	3782-AB6MMX	2.8	240
2	Con-Cast Pipe Inc.	Concrete pipe manufacturer	8724-9GFPQE	5.2	450
3	Maple Leaf Foods – Morguard Brock McLean Limited	Distribution centre	7431-96LRQ6	7.6	654
4	Nestle Canada Inc.	Water Bottling	1381-95ATPY	41.7	3,600
5	Dufferin Aggregates – CRH Canada Group Inc.	Aggregate extraction	7510-A34KZH	94.7	8,183
6	Capital Paving Inc.	Aggregate producers	4373-8TXQK3	212.6	18,371
7	CBM Aggregates – St. Mary's Cement	Aggregate extraction	5550-9V7HXS	272.8	23,568
			7028-7LTNV9	272.8	23,568
<b>Total Industrial and Commercial Max. Permitted Taking =</b>				910	78,634

### 3.1.1 Royal Canin Canada Company

Royal Canin is a pet food manufacturer located within the rural employment designated area, north of Highway 401 and east of Brock Road South. This facility uses water and generates both process and sanitary sewage. Their reported water usage is summarized in Table 3 below.



**Table 3: Royal Canin Canada – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>Well PW-1</b>	93.8	1.1	2.8	39%
1. Two-year average usage based on reported 2015 and 2016 data.				

Royal Canin uses separate sewage treatment systems for its process and domestic sewage. The amended ECA #1042-A3QQR, allows a discharge of 30 m<sup>3</sup>/d of treated process and domestic flows for subsurface disposal. The process sewage treatment system consists of a 40 m<sup>3</sup> equalization tank and a dissolved air flotation unit. A membrane bioreactor (rated treatment capacity of 75 m<sup>3</sup>/d) is approved to be incorporated into the existing process sewage treatment system, as well as a UV disinfection unit and osmosis unit for reuse of water for operations. The domestic sewage treatment system consists of a pump station, a sequencing batch reactor (SBR) (rated treatment capacity of 30 m<sup>3</sup>/d), and a sand filter (the filter is approved to be replaced with a drum filter). Both treated process and domestic sewage discharges to a shallow buried trench system that is laid out in two beds.

The average process and domestic sewage discharged for subsurface disposal by this facility are summarized in Table 4 below.

**Table 4: Royal Canin Canada – Sewage Generation**

Sewage Source	Reported Average Sewage Generation <sup>1</sup>		System Rated Capacity	Actual Generation / Rated Capacity
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	%
<b>Process and domestic sewage to buried trench</b>	42	0.54	30	140%
1. One-year average sewage generation based on 2016 data.				

### 3.1.2 Con-Cast Pipe Inc.

Con-Cast Pipe Inc. is a precast concrete products manufacturer. The manufacturing facility is located within the rural employment designated area, north of Highway 401 and west of Brock Road South. Their footprint comprises a dry cast facility of approximately 120,000 square foot and a wet cast facility of approximately 30,000 square foot. Their report water usage is summarized in Table 5 below.

**Table 5: Con-Cast Pipe Inc. – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>Well WSW 1</b>	245.3	2.8	5.2	55%
<b>Well WSW 2</b>				
1. Two-year average usage based on reported 2015 and 2016 data.				

Con-Cast Pipe Inc. is allowed under Amended ECA #3621-6HRKGC to treat and dispose of process sewage at an average flow of 5.66 m<sup>3</sup>/d from its pre-cast concrete manufacturing facility. The treated process sewage is discharged to one of two on-site infiltration ponds. Based on information provided by Con-Cast Pipe Inc., process sewage flows are not monitored.

### 3.1.3 Maple Leaf Foods – Morguard Brock McLean Limited

Maple Leaf Foods has a distribution centre within the Township that distributes the company’s prepared meats throughout central and eastern Ontario. Schenker Canada operates the distribution centre on behalf of Maple Leaf Foods. Based on information received from Schenker Canada, the water is used for the cooling tower/condenser and the sprinkler; however, their water use is restricted based on the capacity of their septic bed. Their reported water usage is summarized in Table 6 below.

**Table 6: Maple Leaf Foods – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>TW1</b>	21.6	0.2	7.6	3%
<b>TW2</b>				
1. Two-year average usage based on reported 2015 and 2016 data.				

In terms of sewage generation, Maple Leaf Foods is allowed under Amended ECA #7567-94EK2F to treat and dispose of 17 m<sup>3</sup>/d of treated domestic sewage. The sewage treatment system consists of two septic tanks (total capacity of 25 m<sup>3</sup>), a tertiary treatment septic tank (rated treatment capacity of 17 m<sup>3</sup>/d), and a polisher tank. The treated sewage is discharged to a raised stone and sand bed for subsurface disposal. The average domestic sewage generated by this facility are summarized in Table 7 below. Process sewage is not produced on-site as part of their operations.



**Table 7: Maple Leaf Foods – Sewage Generation**

Sewage Source	Reported Average Sewage Generation <sup>1</sup>		System Rated Capacity	Actual Generation / Rated Capacity
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	%
<b>Domestic sewage to septic system</b>	14.3	0.17	17	90%
1. Two-year average sewage generation based on 2015 and 2016 data.				

### 3.1.4 Nestle Canada Inc.

Nestle Canada Inc. operates a water bottling facility, located within the rural employment designated area, south of Aberfoyle. Their reported water usage is summarized in Table 8.

**Table 8: Nestle Canada Inc. – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking <sup>2</sup>	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>TW3-80</b>	2,117.7	24.5	41.7	59%
<b>TW2-11<sup>3</sup></b>	-	-	-	-
1. Two-year average usage based on reported 2015 and 2016 data. 2. As per PTTW, the total taking of 3,600 m <sup>3</sup> /d must not be exceeded for the combination of the water sources. 3. Well TW2-11 is to be used for miscellaneous purposes only (such as supplying water for firefighting purposes). As per information provided, no water was taken from Well TW2-11 in 2015 or 2016. Nestle Canada Inc. has recommended that the well be decommissioned.				

Nestle Canada Inc. operates under two separate approvals for its process and domestic sewage. Amended ECA #2766-8Z6QH V allows Nestle Waters to treat and dispose process sewage and stormwater at an approximate peak flow of 1,444 m<sup>3</sup>/week. The process sewage treatment system consists of a wet well/pump station, two aerated ponds, and six storage ponds. The treated process sewage discharges to Aberfoyle Creek, which is a tributary of Mill Creek and part of the Grand River watershed. Certificate of Approval (C of A) #3152-55LQ59 permits the treatment and disposal of 15.9m<sup>3</sup>/d of domestic sewage. The approved domestic sewage treatment system consists of pumping chambers, three septic tanks (total capacity of 41 m<sup>3</sup>), four tertiary treatment septic tanks (total rated treatment capacity of 20 m<sup>3</sup>/d), and a dosing chamber. The treated domestic sewage is approved to discharge to a leaching bed and a shallow buried trench.

Based on information provided by Nestle Canada Inc., process and domestic sewage flows are not monitored.

### 3.1.5 Dufferin Aggregates – CRH Canada Group Inc.

Dufferin Aggregate (a division of CRH Canada Group Inc.) is an aggregate extraction business and operates three extraction pits within the Township of Puslinch. Out of the three pits, only one (Aberfoyle Pit No.1) is within the rural employment designated area, at 125 Brock Road. Their washing operation consists of a closed-loop washing system where the wash water from

the wash plant is re-circulated through a settling pond system. Make-up water is periodically taken from the source pond to top-up the amount of water entering the wash plant to compensate from any loss water due to evaporation, infiltration or water adhering to aggregate products.

PTTW #5153-A49MT9 was also registered for this site as per MECP online records. In communication with CRH Canada Group Inc., it was clarified that this PTTW was for a concrete plant that was on the same site; however, the plant is no longer onsite, and water has not been taken from this source since 2010. Their reported water usage for the active wells is summarized in Table 9 below.

**Table 9: Dufferin Aggregates – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking <sup>2</sup> L/s	Actual Taken / PTTW %
	m <sup>3</sup> /d	L/s		
<b>Pond 5</b>	8.64	0.10	94.7	0.1%
<b>Make Up Pond 6</b>	126.1	1.46	94.7	2%
<b>Total</b>	134.8	1.56	94.7	2%

1. Average usage based on reported 2016 data.  
2. As per PTTW, the total taking amount may increase from 8,182 m<sup>3</sup>/d (94.7 L/s) to 12,274 m<sup>3</sup>/d (142 L/s) for any four months between April and November, and no water shall be taken in January and December. Water must also not be taken from one of the ponds for more than 10 consecutive days in February and March. At all times, water is not permitted to be taken from both ponds simultaneously.

### 3.1.6 Capital Paving

Capital Paving is a civil construction company specializing in transportation. The head office location in Puslinch has an asphalt and concrete plant, and an aggregate pit on-site. They have four sources for water taking to supply their plant operations, aggregate washing, and office use. According to communication with Capital Paving, there are plans to build a full wash plant on site in the near future, which will increase the water demands for aggregate washing. Their reported water usage is summarized in Table 10 below.

**Table 10: Capital Paving – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking <sup>2</sup> L/s	Actual Taken / PTTW %
	m <sup>3</sup> /d	L/s		
<b>Pond B: Aggregate washing</b>	166.1	1.92	196	1%
<b>Well A: Office Use</b>	2.4	0.03	1.3	2%
<b>Well B: Asphalt Plant</b>	51.7	0.60	6.0	10%
<b>Well C: Concrete Plant</b>	60.6	0.70	0.70	10%
<b>Total</b>	280.9	3.3	213	2%

1. Average usage based on reported 2015 and 2016 data.

### 3.1.7 CBM Aggregates – St. Mary’s Cement

CBM Aggregates (a division of St. Mary’s Cement) is an aggregate extraction business and operates multiple extraction pits within the Township. The pits that have a wash plant on-site are the Aberfoyle and McNally pits, which operate under separate PTTWs to authorize aggregate washing in a closed loop system. Their reported water usage is summarized in Table 11 below.

**Table 11: CBM Aggregates – Water Usage**

Water Source	Reported Average Water Taking <sup>1</sup>		Max. PTTW Taking <sup>2</sup>	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>Aberfoyle Main (North) Pit Pond</b>	14,411	166.8	272.8	61%
<b>McNally Supply Pond</b>	13,726	158.9	272.8	58%
<b>Total</b>	28,137	325.7	545.6	60%

1. Average usage based on reported 2015 and 2016 data.

## 3.2 Summary of Large Users Demands and Flows

### 3.2.1 Existing Water Demands

A summary of the water demands/usage that have been established for the large users, based on available 2015-2016 operating/recorded data, is presented in Table 12.

As shown below in Table 12, the majority of large industrial and commercial users, have current water demands in their systems below 60% of their permitted maximum water taking. A more representative assessment would involve a comparison between the maximum demands experienced by each system against the maximum permitted taking; however, in the absence of maximum day demand data, the average recorded flows have been compared relative to the maximum allowable water takings to provide a general indication of the current water demands for each user.

**Table 12: Summary of Existing Water Demands / Usage – Large Industrial and Commercial Users**

Large User Name	Average Water Taking <sup>1</sup>		Max. PTTW Taking	Actual Taken / PTTW
	m <sup>3</sup> /d	L/s	L/s	%
<b>Royal Canin Canada Company</b>	93.8	1.1	2.8	39%
<b>Con-Cast Pipe Inc.</b>	245.3	2.8	5.2	55%
<b>Maple Leaf Foods – Morguard Brock McLean Limited</b>	21.6	0.2	7.6	3%
<b>Nestle Canada Inc.</b>	2,117.7	24.5	41.7	59%
<b>Dufferin Aggregates – CRH Canada Group Inc.</b>	134.8	1.56	94.7	2%
<b>Capital Paving Inc.</b>	280.9	3.3	213	2%

Large User Name	Average Water Taking <sup>1</sup>		Max. PTTW Taking L/s	Actual Taken / PTTW %
	m <sup>3</sup> /d	L/s		
<b>CBM Aggregates – St. Mary’s Cement</b>	28,137	325.7	545.6	60%
<b>Total Large Industrial / Commercial Users =</b>	<b>31,030</b>	<b>359.1</b>	<b>910.1</b>	<b>39%</b>

A review of Table 12 indicates that Con-Cast Pipe Inc., Nestle Canada and CBM Aggregates – St. Mary’s Cement, are the users with the largest volumes of water usage, relative to their existing permitted water taking capacity. Although Con-Cast Pipe Inc. uses a high percentage of their permitted maximum taking capacity, the water demands for this system are very small compared to the amount of water used on an average daily basis by Nestle Canada Inc. and CBM Aggregates – St. Mary’s Cement.

It should be noted that the average water taking by the large users is primarily for process water and is not necessarily indicative of the anticipated water demands for domestic purposes. Only domestic demands will be considered for further review under this Study.

### 3.2.2 Existing Sewage Flows

Based on information received directly from the majority of the large users, tracking of sewage generation is not required and thus, this information is generally not available. Sewage flow data was received from two users within the Scoped Study Area but considering the different nature of the activities that occur onsite, the data are considered specific to each user and is not deemed to be representative of the current sewage generation for the majority of the users in the Scoped Study Area. As such, these data have been omitted from further review.

For the purpose of the feasibility study, sewage flow generation has been calculated with consideration to the nature of the business and design guidelines provided by the MECP. Calculated sewage flows for the Scoped Study Area are presented in Section 4 of this report.

## 4. Water Demand and Sewage Flow Analysis

Establishing water distribution, sewage collection, and supply and treatment capacity design flows are integral to capital planning and are key drivers for establishing future needs and timelines for project implementation. This section describes the proposed preliminary design parameters, in terms of water demands and sewage flows, for municipal water and sewage servicing in the Scoped Study Area and the rationale for its development.

### 4.1 Water System

There are two major components to development of a new Municipal Water System; namely, the Water Supply System and the Water Distribution System.

### 4.1.1 Water Supply Design Basis

Water treatment systems are generally designed on the basis of projected flows for a 20-year period. A larger design period may be selected for larger systems, in cases where construction cost is an overriding factor or to satisfy the ultimate requirements of the official plan.

The drinking water system, including water supply sources, water treatment plant and treated water storage are typically designed to satisfy the projected maximum day water demand of the service area. As such, establishing the design average and maximum day demands for the system is a critical step in the planning of water systems.

In order to establish the water demands for the Scoped Study Area, a 25-year planning period which corresponds to the year 2041, has been assumed. Projected water demands have been calculated assuming the projected employment growth in the Puslinch service area, as established in the County’s Official Plan. In terms of industrial and commercial water demands, maximum day demands for the service area have been projected based on current water usages for each of the large users and a design maximum day factor representative of the mix of industrial and commercial users in the Scoped Study Area.

The basis for calculating the design average and maximum day water demands for the Scoped Study Area are tabulated in Table 13.

**Table 13: Water Design Basis**

Criteria	Value	Units	Comments
<b>Unit per Capita Consumption Rate</b>	360	L/cap/d	Assumed (mid-point from MECP range of 270-450 L/cap/day).
<b>Industrial/Commercial Max. Day Factor</b>	3.0	-	Based on MECP suggested range between 2 and 4 for industrial uses.

### 4.1.2 Water Distribution Design Basis

The Water Distribution system should be designed to meet the MECP Design Guidelines. In particular, the system shall:

- Be capable of maintaining system pressures between 350 to 480 kPa (50 to 70 psi) under normal operating conditions.
- The maximum system pressure in the distribution system should not exceed 700 kPa (100 psi).
- System pressures shall not drop below 140 kPa (20 psi) under Maximum Day plus Fire Flow conditions.
- Provision of Fire Protection through the municipal water distribution system is a municipal decision. If the Township decides to provide fire protection via the municipal water system, the minimum fire flows should be established with consideration given to the latest Fire Underwriter’s Survey document “Water Supply

for Public Fire Protection” and/or the MECP’s fire flows guidelines, whichever is judged more appropriate.

### 4.1.3 Preliminary Projected Water Demands

Preliminary projected water demands for the Scoped Study Area, based on the information available to-date, including employment, industrial and commercial uses are summarized in Tables 14 and 15 respectively. Existing water demands for each user are also included in the tables, where available, for comparative purposes.

**Table 14: Preliminary Projected Employment Water Demands<sup>1</sup>**

Area	Employment <sup>1</sup>		2016 Existing Avg Day Demands	2041 Future Avg Day Demands <sup>2</sup>	2041 Future Max. Day Demands <sup>3</sup>
	2016	2041	L/s	L/s	L/s
<b>Scoped Study Area</b>	1,796	3,406	7.5	14.2	28.4
1. Preliminary projected employment water demands shown in Table 14 reflect total employment count for the Scoped Study Area with the exception of industrial employment count records for 2016. Water demands for 2016 industrial employment have been captured and accounted for in the water demands received from the large users. For example; total 2016 employment as per OP is 4,020, out of which 2,224 corresponds to industrial employment. Since demands for industrial employment has been assumed under demands gathered from existing users, total 2016 employment numbers for Scoped Study Area is 1,796 (4,020 – 2,224). Total forecasted 2041 employment as per OP is 5,630, under the same assumption of industrial employment demands already captured, total 2041 employment numbers for Scoped Study Area is 3,408 (5,630 – 2,224). 2. Future average day demands assume a unit consumption rate of 360 L/employment/day. 3. Future max. day demands assume a max. day factor of 2.0.					

**Table 15: Preliminary Projected Industrial and Commercial Water Demands**

Industrial / Commercial User	PTTW Capacity		2041 Future Avg. Day Demands <sup>1</sup>	2041 Future Max. Day Demands <sup>2</sup>
	m <sup>3</sup> /d	L/s	L/s	L/s
<b>Royal Canin Canada Company</b>	240	2.8	1.1	2.8
<b>Con-Cast Pipe Inc.</b>	450	5.2	2.8	5.2
<b>Maple Leaf Foods – Morguard Brock McLean Limited</b>	654	7.6	0.2	0.7
<b>Nestle Canada Inc.</b>	3,600	41.7	24.5	41.7
<b>Dufferin Aggregates – CRH Canada Group Inc.</b>	8,183	94.7	1.6	4.7
<b>Capital Paving Inc.</b>	18,371	212.6	3.3	9.8
<b>CBM Aggregates – St. Mary’s Cement</b>	47,136	545.6	325.7	545.6
<b>Total Existing Large Users =</b>	<b>78,634</b>	<b>910.1</b>	<b>359.1</b>	<b>610.4</b>
<b>Total Large Users (excluding Nestle Canada Inc. &amp; St. Mary’s Cement) =</b>	<b>27,898</b>	<b>323</b>	<b>9.0</b>	<b>23.2</b>
1. Future average day demands for large users assume the current water usages reported for 2015 and 2016. 2. Future maximum day demands assume a maximum day factor of 3.0. However, if the calculated maximum day demands for a user would exceed their existing PTTW taking capacity, the current PTTW rate would prevail and is shown in the table.				

#### 4.1.4 Considerations

Considering the financial stability of the Township for the provision of municipal services and the implementation feasibility of a municipal water system for the Scoped Study Area, the following was considered:

- Based on the nature and the character of their businesses, it would not be viable to provide municipal water services to Nestle Canada Inc. for bottling purposes, or to St. Mary’s Cement for process and cooling water. It is assumed that these two large users will continue to use the sources that are currently permitted.
- Provision of municipal water services should account for all projected employment and most ICI uses within the Scoped Study Area. Municipal water servicing should also account for provision of municipal potable water to Nestle Canada Inc. and St. Mary’s Cement for domestic purposes for the staff at these facilities.
- All other existing large users, considered in this study, would connect to the municipal system. Existing average day water demands recorded for the period 2015-2016 from large users will be maintained to the 2041 planning period. Maximum day demands will increase based on the assumed max. day factor of 3.0, or to the current Permit to Take Water (PTTW) rate, whichever rate is lower.

Subject to the above noted considerations, the preliminary projected water demands for the Scoped Study Area are summarized in Table 16. Detailed calculations are provided in Appendix A for further reference.

**Table 16: Preliminary Proposed System Water Demands**

Service Type	Design Average Day Demand		Design Maximum Day Demand	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
<b>Industrial / Commercial / Recreational (excluding large users) <sup>1</sup></b>	1,226	14.2	2,452	28.4
<b>Industrial / Commercial / Recreational (large users excluding Nestle and St. Mary’s) <sup>2</sup></b>	116	1.3	300	3.5
<b>Allowance for Domestic Use at Nestle Canada Inc. and St. Mary’s Cement <sup>3</sup></b>	51	0.6	152	1.8
<b>Total Proposed System Demands =</b>	<b>1,393</b>	<b>16.1</b>	<b>2,904</b>	<b>33.6</b>
<ol style="list-style-type: none"> <li>1. The average day demand was found by combining the future employment population of various Industrial/ Commercial/ Recreational users while excluding the large users found in Table 15. A consideration was also made for the recommended design rate of 360 L/cap/d by the MECP.</li> <li>2. Given that the average water takings reported for the large users in Table 12 is mostly for process water, an assumption has been made that only 15% allowance of their existing average daily taking by the PTTW rate, will contribute to domestic use.</li> <li>3. An allowance for domestic uses at Nestle Canada Inc. and St. Mary’s Cement has been included in the calculations. The allowance is approximately 1% of their existing PTTW rate.</li> </ol>				



Key considerations for sizing the different water system components include:

- Water supply may be from either a surface water or groundwater source. Given the lack of a significant surface water source within the Scoped Study Area and given the evidence of significant groundwater resources in the area, it is anticipated that a groundwater supply system would be proposed for any water servicing solution within the Township.
- The supply source for the new system should be able to meet the projected maximum design day demands. Multiple groundwater supply wells may be required to satisfy the projected maximum day demands.
- Treatment processes should be able to meet the projected maximum design day demands, with Peak Hour Demands, with Emergency and/or Fire demands provided from storage.
- Provision of Fire Protection through the Municipal water distribution system is a Municipal decision. Should the Township decide to provide fire protection via the municipal water system, the minimum fire flows should be established with consideration given to the latest Fire Underwriter's Survey document "Water Supply for Public Fire Protection" and/or the MECP's fire flows guidelines, whichever is judged more appropriate.
- The distribution system should be designed to maintain system pressures between 40 psi and 100 psi for a full range of demand scenarios. If the Township decides to provide Fire protection through the municipal system, the system should be sized to convey Maximum Day Demands plus Fire Flows while maintaining a minimum pressure of 20 psi throughout the system. The system should also be designed to minimize dead-end mains and excessive residence times which may lead to water quality issues. Watermain sizing would have a direct impact on the cost of the system, operation and maintenance requirements in addition to water quality considerations.

## 4.2 Sewage Design Basis

Sewage treatment facilities are typically designed for average day flows, while sewage conveyance systems are designed and rated to deliver peak sewage flows to the treatment facilities. Similar to the rationale used to develop the water design basis, a 25-year planning period which corresponds to the year 2041, has been assumed to calculate sewage generation in the Scoped Study Area.

The basis for calculating the design average and peak sewage flows for the Scoped Study Area are summarized in Table 17.



Table 17: Sewage Design Basis

Criteria	Value	Units	Comments
<b>Unit per Capita Sewage Generation Rate</b>	360	L/cap/day	Consistent with unit water consumption rate.
<b>Peak Infiltration / Inflow Rate for Industrial / Commercial Areas</b>	10,110	L/ha/day	Assumed based on the low end of MECP Guidelines as new system should have low I&I contribution.
<b>Population densities for Industrial / Commercial</b>	83	person/ha	Assuming 30 m <sup>3</sup> /ha/d (low end of MOECC Guideline) and 360 L/cap/d, this would equate to approx. 83 ppha.
<b>Peak Factor</b>	varies	-	Calculated for each drainage area based on Harmon Formula

### 4.2.1 Preliminary Projected Sewage Flows

Preliminary projected sewage flows for the Scoped Study Area for all industrial and commercial users are summarized in Table 18.

Table 18: Projected Industrial and Commercial Sewage Flows

Industrial / Commercial Areas	Drainage Area			2041 Future Avg. Day Flows <sup>1</sup> (for treatment)	2041 Future Peak Day Flows <sup>2,3</sup> (for sewer capacity)
	Total	Contributing	Equivalent ICI Population		
	Ha	Ha	People	L/s	L/s
Within Aberfoyle	2,435 <sup>4</sup>	67.8	5,630	23.5	82.9

1. Includes all employment categories, including industrial
2. Future average day flows for large users assume a unit generation rate of 360 L/cap/day.
3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula.
4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations

Sewage design flows for the Scoped Study Area are summarized in Table 19. The design flows noted in Table 19 do not account for process sewage generated by the large industries. Detailed calculations are provided in Appendix A for further reference.

Table 19: Proposed Sewage Design Flows

Servicing Category	Design Average Day Flow (for Treatment)		Design Peak Day Flow (for Sewer Capacity)	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
<b>Industrial / Commercial / Recreational</b>	2,027	23.5	6,479.4	82.9

### 4.3 Summary of Preliminary Projected Water Demands and Sewage Flows

The preliminary projected water demands and sewage flows for municipal servicing in the Scoped Study Area are summarized in Table 20.

**Table 20: Summary of Preliminary Projected Water Demands and Sewage Flows**

	Proposed Average Day Demands		Proposed Max. Day Demands	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Preliminary System Water Demands	1,393	16.1	2,905	33.6
Preliminary System Sewage Flows	2,027	23.5	6,479	82.9

The preliminary water and wastewater demands are based on the projected employment population and exclude allowances for process water currently consumed by the large users. It is assumed that the large users will continue to source their individual process water demands from their current sources.

The preliminary projected sewage flow rates are significantly higher than the projected water demands for the scoped study area, as a result of the allowances for extraneous flows as recommended in the MECP guidelines. A review of the contributing area for the extraneous flow allowance should be completed during any further study for implementation of a communal sewage collection and treatment system.

The results of the analysis of water demands and sewage flows for the Scoped Study Area are preliminary in nature and a summary of the information obtained to-date, as part of the Addendum to the Feasibility Study.

## 5. High-level Water Servicing Options – Development and Assessment

As part of the Feasibility Study, potential servicing options for water servicing were developed based on the general criteria established in Section 4. The Servicing Options were developed assuming that municipal water services were provided to all industrial and commercial properties within the Potential Servicing Area. Each option was then assessed on a high-level, in terms of key advantages, disadvantages and estimated probable costs.

This section provides a description of the high-level water servicing options considered in this study. Two alternative options have been reviewed to determine the potential cost implications of each. The options selected consist of Option 1 – Intra-Municipal Water Servicing, and Option 2 – Inter-Municipal Water Servicing. Major infrastructure / process requirements, general schematics and preliminary capital, operating and life cycle costs for each option are also presented.

### 5.1 General Description

#### 5.1.1 Option 1 – Intra-Municipal Water Servicing

The Intra-Municipal Water Servicing alternative consists on providing the required water supply and treatment capacity through a new water supply system owned and operated by the

Township. For the purposes of this Feasibility Study, it has been assumed that the new water supply system will be developed within the future well supply field areas identified in the City of Guelph Water and Wastewater Master Plan. However, should the Township decide to proceed with further consideration for a municipal drinking water system, alternative supply locations should be considered.

As part of Option 1, it is assumed that all existing individual on-site wells supplying industrial and commercial businesses within the Scoped Study Area, are expected to be decommissioned. Further consideration can be given to maintaining existing small private communal water systems during the Class EA stage; however, for the purpose of establishing high-level servicing options, it has been assumed that existing systems would no longer be in service. All small users and large users within the Scoped Study Area, with the exception of Nestle Canada Inc. and St. Mary's Cement, will be supplied by the new Municipal Water System. Nestle Canada Inc. and St. Mary's Cement will be provided with municipal water services for domestic uses only.

A hydrogeological investigation, including well drilling, well and aquifer testing, water quality characterization and groundwater modelling would be necessary to confirm the location and the production capacity of the new groundwater supply well(s) and any potential effects on existing natural heritage features within the area.

A new treatment facility would be required to provide the necessary treatment. A complete water quality characterization would be needed to confirm treatment requirements; however, for the purpose of option development and estimation of probable cost, it has been assumed that the water is of good quality, necessitating only treatment for disinfection.

A new storage facility will be provided as part of Option 1 in order to meet the required water storage requirements for equalization, emergency and fire flows. The storage facility may take the form of an in-ground reservoir, an elevated tank, or a combination of the two. For the purposes of this Study, we have assumed that the necessary storage will be provided by a new elevated tank in the Aberfoyle urban center, as this approach provides more operational flexibility, and would permit the Township to size their treatment system and pumping capacity based on Maximum Day Demands instead of Peak Hour Demands or Fire Flow conditions.

A description of the main infrastructure and process requirements for Option 1 – Intra-Municipal Water Servicing is provided in Table 21. A general schematic of the major components of Option 1 is shown in Figure 4.

Land acquisition would be anticipated for construction of the new treatment facility and the new elevated tank. All other linear infrastructure associated with Option 1 is expected to be constructed within existing road right-of-ways, with the exception of the Highway 401 crossing.

**Table 21: Water Servicing Option 1 – Infrastructure / Process Requirements**

Area	Option Requirements
<b>Supply</b>	<ul style="list-style-type: none"> <li>• A new groundwater supply source will be developed to provide a maximum day demand of 33.6 L/s (2.90 MLD).</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• A new water treatment facility will be built to provide the required treatment requirements. It is assumed that the water is of good water quality and treatment will consist of only disinfection through chlorination.</li> <li>• The new treatment system would be designed to provide a minimum treatment capacity of 2.90 MLD.</li> </ul>
<b>Pumping</b>	<ul style="list-style-type: none"> <li>• The new supply well(s) will be equipped with well pumps with enough capacity to overcome system pressure and pump to the new elevated tower.</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>• A new elevated water tank will be built to provide for required storage requirements. The new tank will have a minimum capacity of 2,500 m<sup>3</sup>.</li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>• Approximately 4.9 km of 300 mm diameter watermain connecting the new supply wells/treatment facility to the new elevated water tank.</li> <li>• Approximately 5.8 km of local distribution system consisting of 300 mm diameter watermains.</li> </ul>



Approximate Location for New Supply Well(s) and Treatment Facility



Feedermain System

Approximate Location for New Elevated Water Tank





**LEGEND**

 NEW ELEVATED WATER TANK

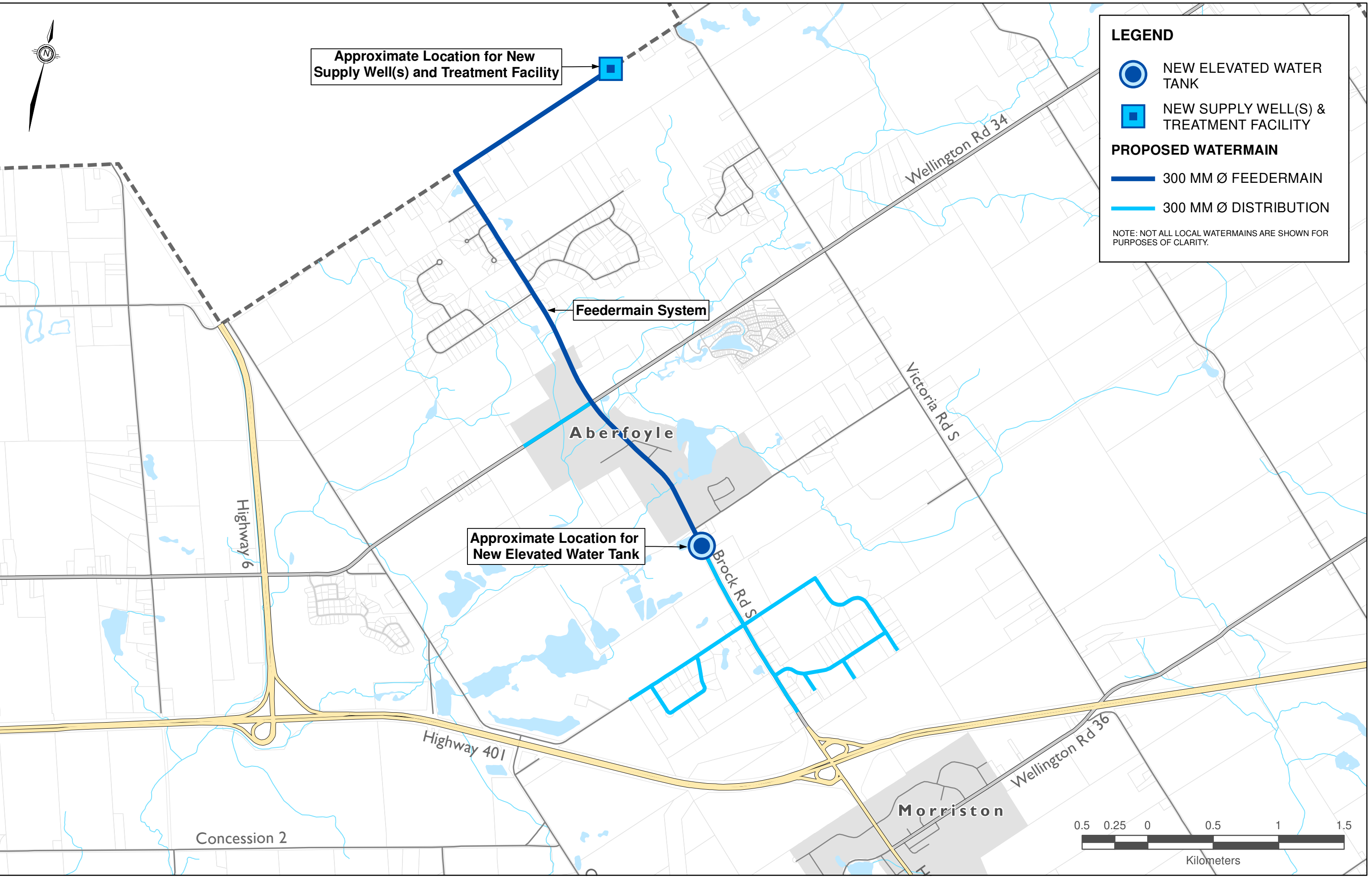
 NEW SUPPLY WELL(S) & TREATMENT FACILITY

**PROPOSED WATERMAIN**

 300 MM Ø FEEDERMAIN

 300 MM Ø DISTRIBUTION

NOTE: NOT ALL LOCAL WATERMANS ARE SHOWN FOR PURPOSES OF CLARITY.



Concession 2

Highway 401

Highway 6

Wellington Rd 34

Victoria Rd S

Brock Rd S

Wellington Rd 36

Aberfoyle

Morriston



Kilometers

### 5.1.2 Option 2 – Inter-Municipal Water Servicing

The Inter-Municipal Water Servicing alternative consists of securing the required water supply and treatment capacity through the existing water supply system in the City of Guelph. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to negotiations for establishing an Inter-Municipal Servicing arrangement. Through further consultation with the City, the City indicated that they do not have excess water supply capacity to support external servicing requests. The Township acknowledged that the City may not have available capacity to allocate to the Township of Puslinch, and further recognized that if capacity was available, allocation of that capacity would not be without cost. Correspondence associated with preliminary consultation with the City of Guelph is included in Appendix B for further reference.

The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option. All water supply, treatment and distribution systems in the City of Guelph would remain under the City's ownership.

Similar to Option 1, all existing individual on-site wells supplying industrial and commercial businesses within the Scoped Study Area, are expected to be decommissioned. All small users and large users within the Scoped Study Area, with the exception of Nestle Canada Inc. and St. Mary's Cement, will be supplied by the new Intra-Municipal Water System. Nestle Canada Inc. and St. Mary's Cement will be provided municipal water services for domestic uses only.

A new elevated water tank in the Aberfoyle urban center will be provided as part of Option 2 in order to meet the required water storage requirements for equalization, emergency and fire flows. A new metering facility will be required at the boundary between the City of Guelph System and the Township system. The metering facility may be combined with a pressure control station/re-chlorination system (either boosting or reduction) and may be required to control system pressures from the City of Guelph distribution system to meet the Township system requirements.

A description of the main infrastructure and process requirements for Option 2 – Inter-Municipal Water Servicing is provided in Table 22. A general schematic of the major components of Option 2 is shown in Figure 5.

Land acquisition would be anticipated for construction of the new pressure control station and the new elevated water tank. All other linear infrastructure associated with Option 2 is expected to occur with the existing road right-of-ways.

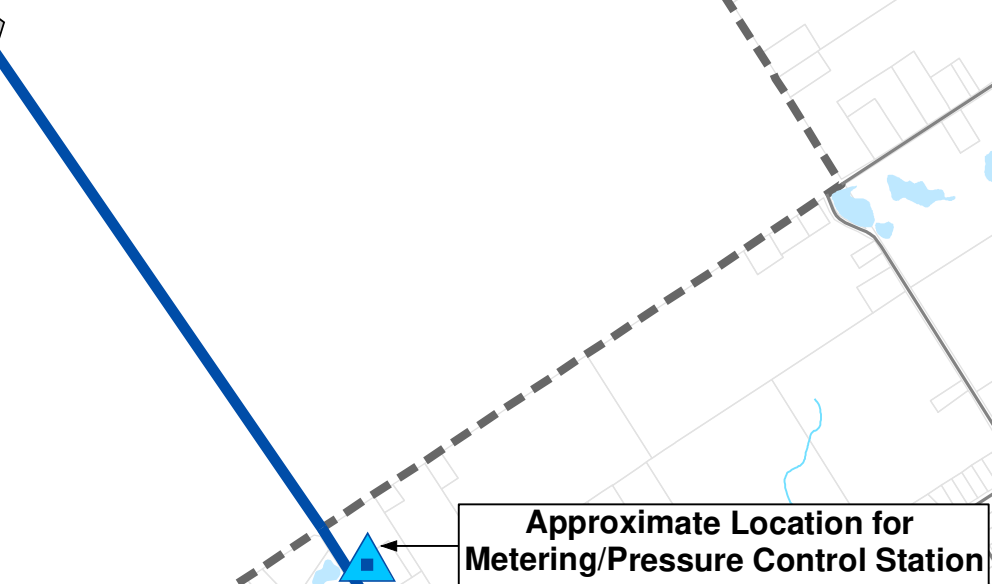


**Table 22: Water Servicing Option 2 – Infrastructure / Process Requirements**

Area	Option Requirements
<b>Supply</b>	<ul style="list-style-type: none"> <li>A direct connection to the City of Guelph distribution system, Pressure Zone 3. City of Guelph Water System should be able to provide a maximum day demand of 33.6 L/s (2,904 m<sup>3</sup>/d).</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>Not required within the Township.</li> </ul>
<b>Facilities</b>	<ul style="list-style-type: none"> <li>A new metering facility with a potential pressure control station will be required to accommodate maximum day flows of 33.6 L/s (2,904 m<sup>3</sup>/d) to the new elevated tower in the Township. A new pressure control station may be required to control system pressures in the Township.</li> </ul>
<b>Storage</b>	<ul style="list-style-type: none"> <li>A new elevated water tank will be built to provide for required storage requirements. The new tank will have a capacity of 2,500 m<sup>3</sup></li> </ul>
<b>Distribution</b>	<ul style="list-style-type: none"> <li>Approximately 2.3 km of 300 mm diameter watermain extension in Guelph to the Puslinch border, and a metering facility at the municipal boundary.</li> <li>Approximately 3.2 km of 300 mm diameter watermain from the metering facility to the new to the new elevated water tank.</li> <li>Approximately 5.7 km of local distribution system consisting of 300 mm diameter watermains.</li> </ul>



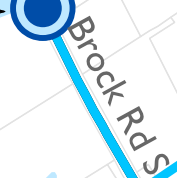
Approximate Connection Point to Guelph Distribution System (Pressure Zone 3)



Approximate Location for Metering/Pressure Control Station

Feedermain System

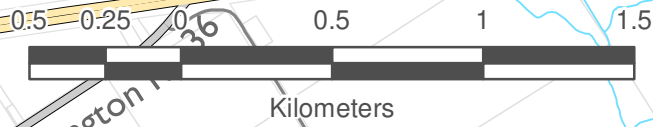
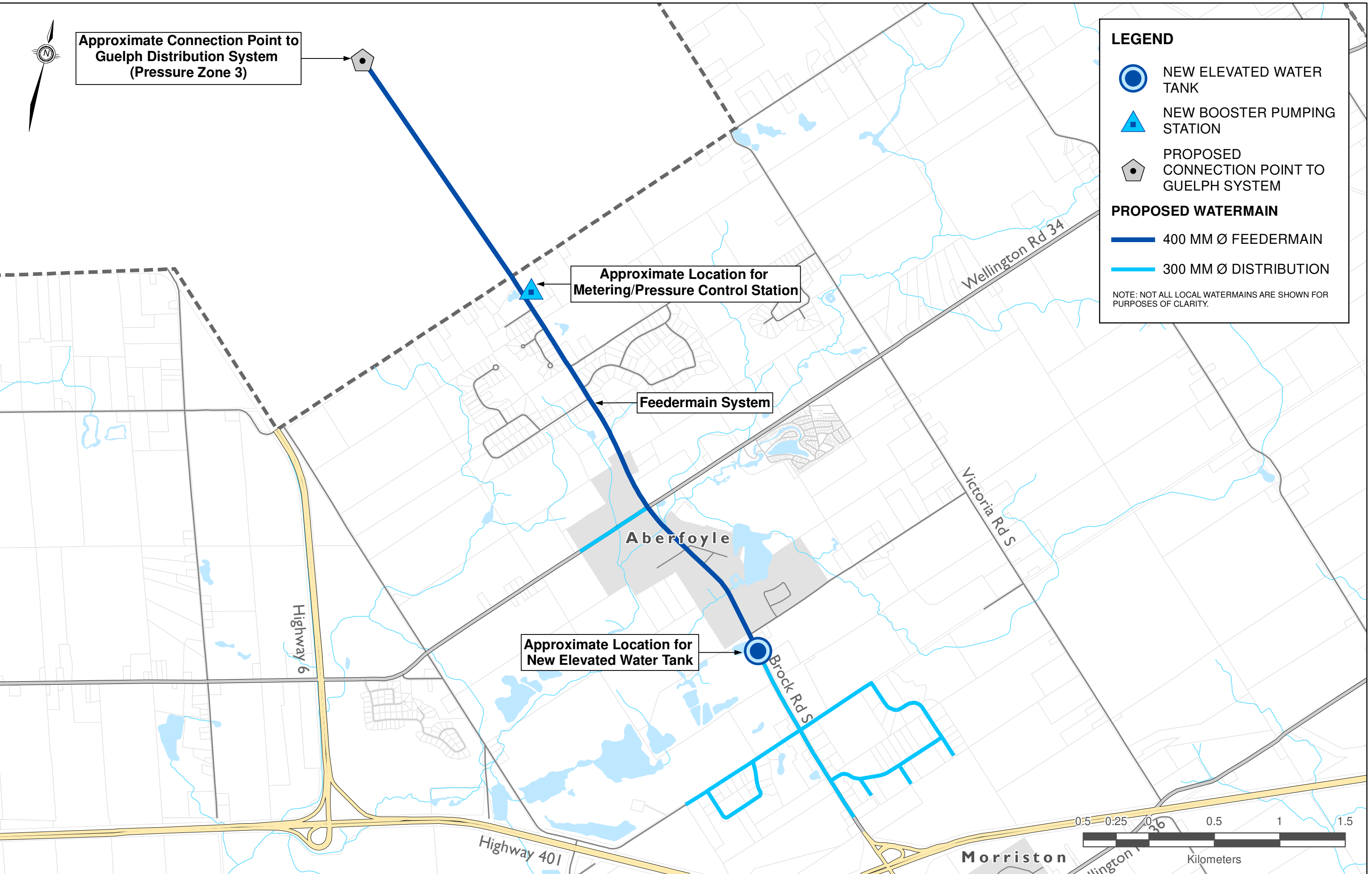
Approximate Location for New Elevated Water Tank



**LEGEND**

- NEW ELEVATED WATER TANK
- NEW BOOSTER PUMPING STATION
- PROPOSED CONNECTION POINT TO GUELPH SYSTEM
- PROPOSED WATERMAIN**
  - 400 MM Ø FEEDERMAIN
  - 300 MM Ø DISTRIBUTION

NOTE: NOT ALL LOCAL WATERMANS ARE SHOWN FOR PURPOSES OF CLARITY.



Morrison



## 5.2 Estimates of Probable Cost – Water Servicing Options

Estimates of probable capital, operating and maintenance costs and life cycle costs have been developed. Capital costs include development of new supply, treatment and storage facilities, major process and treatment equipment such as pumps, piping and valves, instrumentation, treatment equipment, standby power supply and watermain installation. Operating and maintenance costs accounted for include power, chemical usage, regulatory requirements and other replacement and labour costs. Life cycle costs have been calculated based on a 20-year life expectancy.

The following general assumptions were made when developing the costs for the servicing options:

- Cost estimates are based on 2019 construction costs. Inflation and escalation to account for actual expected prices at the time of construction cannot be accounted for at this time.
- Estimates of probable capital costs have been developed on a conceptual level and based on prices and data in CIMA's possession, as well as previous experience from projects of similar nature and scope. The accuracy of conceptual estimates developed at this point, are assumed to be around +/- 30%.
- There is capital expenditure associated with the replacement of major pumping and treatment equipment every 30 years for water facilities.
- All taxes (including the 13% HST) have been excluded.
- The cost to decommission existing private groundwater wells and small communal water systems within the Scoped Study Area has not been accounted for in Water Servicing Options 1 and 2. Should this project proceed to the next phases (i.e., completion of a Class Environmental Assessment Study), an inventory of existing groundwater wells within the Scoped Study Area should be completed and the cost for decommissioning existing wells and private communal water systems should be added to CIMA's preliminary estimates.
- Capital costs associated with any required upgrades needed in the City of Guelph Water System to accommodate the inter-municipal connection and servicing, or any Capital Contributions to secure Supply capacity from Guelph are unknown at this point and have not been accounted for in the estimate for Option 2. The required capital costs would need to be identified through further negotiations between the Township and the City, as well as the mechanisms to pay for these upgrades. Similarly, a portion of the operation and maintenance (O&M) costs for Option 2 should be covered under a Bulk Water Rate that the Township would pay to the City, also to be established through further negotiations between the two parties.

Completion of Class Environmental Assessment (Class EA) studies as well as additional amendments to existing master plans, servicing studies, secondary plans, approved draft plans,

etc., have not been accounted for and should be included in the Capital Upgrade Costs, through consultation and negotiations between the Township and the City.

Life cycle costs have been estimated based on:

- A 20-year amortization period
- An inflation rate of 2% and an interest rate of 6% to give a market/discount rate of 4%

Estimates for probable capital, operating and life cycle costs for the water servicing options are summarized Table 23. Detailed costs calculations are included in Appendix C.

**Table 23: Water Servicing Options – Probable Cost Estimates**

Servicing Alternative	Capital Cost (\$ millions)	Annual Operating & Maintenance Cost	NPV 20-Year Life Cycle Cost <sup>1</sup> (\$ millions)
<b>Option 1 – Intra-Municipal Water Servicing</b>	\$22.9	\$504,000	\$28.8
<b>Option 2 – Inter-Municipal Water Servicing</b>	\$19.9	\$95,400	\$20.3
1. Net Present Value (NPV) represents the value of the project in today's dollars. Calculated NPV for Option 2 gets reduced over time as a result of the lower O&M costs which represent cash outflows. Higher cash outflows, as in Option 1, results in a higher NPV.			

### 5.3 High-level Assessment

This section presents the results of the high-level assessment completed for the water servicing options considered in the Feasibility Study. Key advantages and disadvantages are summarized in Table 24.

**Table 24: Water Servicing Options – High-Level Assessment Results**

Servicing Option	Advantages	Disadvantages
<p><b>Option 1 – Intra-Municipal Servicing</b></p>	<ul style="list-style-type: none"> <li>Option provides the Township with complete control of the operation and maintenance of the water supply system.</li> <li>Complete independent system from supply, to treatment and distribution. Township can provide desired level of robustness and flexibility to the system.</li> <li>Provision of municipal water servicing (coupled with wastewater servicing) in the area will provide an invitation for developers to invest in the Township and promote growth in accordance with the County Official Plan – population and employment.</li> </ul>	<ul style="list-style-type: none"> <li>Option results in highest capital, O&amp;M and life cycle costs.</li> <li>Option requires the largest amount of new infrastructure.</li> <li>Establishment of new quality WHPAs around the new municipal wells and associated Source Protection Plans for quality significant drinking water threats (i.e. fuel, chemicals, septic systems, etc.). This could lead to some restrictions on existing industries including risk management plans or amended provincial approvals and even an expanded septic inspection program.</li> </ul>
<p><b>Option 2 – Inter-Municipal Servicing</b></p>	<ul style="list-style-type: none"> <li>Option results in lower capital, O&amp;M and life cycle costs when compared to Option 1.</li> <li>Option provides the Township with some control of the operation and maintenance of the water supply system – through a servicing agreement between the Township and the City.</li> <li>Option is able to optimize the use of some of the existing infrastructure (in City of Guelph) and reduces the need for new infrastructure.</li> <li>Water supply is dependant on City of Guelph supply but provision of an elevated tower in the Township would provide adequate level of robustness and flexibility to the system.</li> <li>City of Guelph has a proven track record of providing adequate level of water servicing to its residents, which create trust to potential future serviced areas in the Township.</li> <li>Option supports affordable and sustainable development between two municipalities.</li> <li>It may provide an opportunity for the two municipalities (City of Guelph and Township) to partner for funding opportunities and share existing resources.</li> </ul>	<ul style="list-style-type: none"> <li>It most likely requires an amendment the City of Guelph Official Plan to allow the extension of the City’s urban services for areas outside of the City’s urban boundaries. This process may be long.</li> <li>Amendments to existing Secondary Plans and approve Draft Plans may be required.</li> <li>City of Guelph Water Servicing Master Plan would need to integrate servicing to the area in Township.</li> <li>Upgrades to existing water servicing infrastructure in Guelph Pressure Zone 3 may be required, directly or indirectly, to accommodate the inter-municipal transfer.</li> <li>An inter-municipal agreement will be required to establish an inter-municipal services scheme.</li> <li>The cost of any Capital Contribution and/or Capital Upgrades to secure supply from the City of Guelph is unknown at this time and may represent a significant impact to the overall project cost.</li> </ul>

Servicing Option	Advantages	Disadvantages
	<ul style="list-style-type: none"> <li>• This coordinated approach to service delivery can result in efficiencies in infrastructure costs, water conservation, and allow for additional funds to be allocated to improved treatment and program delivery.</li> <li>• Provision of municipal water servicing (coupled with wastewater servicing) will provide an invitation for developers to invest in the areas and promote growth in accordance with the County Official Plan – population and employment.</li> </ul>	
<p><b>Common to Both Options</b></p>	<ul style="list-style-type: none"> <li>• Depending on individual user rates, there could be possible reductions in cumulative water takings by removing private PTTW as they attach to the municipal system.</li> <li>• Theoretically it would be easier to manage and monitor the single municipal system for water quality and quantity compared to many private takers, ultimately contributing to efficiency.</li> <li>• The burden to obtain the private updated PTTWs and comply with any changes in condition would be removed from the individual users and responsibility will be placed on the Township.</li> <li>• Competitive increase in the Township for economic development.</li> <li>• Municipal water and sewage servicing encourages developers to invest and promote growth in the Township</li> </ul>	<ul style="list-style-type: none"> <li>• The Township will hold responsibility for the increased PTTW conditions related to the water quantity requirements in compliance to the WHPA-Q.</li> <li>• Increased cost for the Township for enforcement of the new source protection requirements under the Clean Water Act.</li> </ul>

## 6. High-level Sewage Servicing Options – Development and Assessment

### 6.1 General Description

Similar to the Water servicing options, potential servicing options for sewage servicing were developed based on the general criteria established in Section 4. The Servicing Options were developed assuming that municipal sewage services were provided to all industrial and commercial properties within the Scoped Study Area. Each option was then assessed on a high-level, in terms of key advantages, disadvantages and estimated probable costs.

This section provides a description of the high-level sewage servicing options considered in this study. Two alternative options have been reviewed to determine the potential cost implications of each. The options selected consist of Option 1 – Intra-Municipal Sewage Servicing, and Option 2 – Inter-Municipal Sewage Servicing. Major infrastructure / process requirements, general schematics and preliminary capital, operating and life cycle costs for each option are also presented.

### 6.1.1 Option 1 – Intra-Municipal Sewage Servicing

The Intra-Municipal Sewage Servicing alternative considers the development of a stand-alone system for wastewater collection, treatment and disposal. The system would be owned and operated by the Township.

On a preliminary basis, the system would consist of a conventional gravity collection system with a pumping station and forcemain system as required to accommodate ground elevation variations. A new treatment facility would be required, with discharge to a surface water course.

If the Township decides to proceed with further consideration of municipal sewage servicing, the Township will need to consider a full range of Alternative servicing schemes, including the “Do Nothing” Alternative and maintenance of the status quo. However, if the provision of municipal servicing is selected as the Preferred Alternative, then a full range of design alternatives will be considered including surface and sub-surface disposal. Other surface receivers should also be explored in the next stages, including but not limited to the Speed River. For the purpose of this Study, discharge to Mill Creek was selected given its proximity to the service area; however, discharge to this or any other surface receiver will be subject to the findings of an Assimilative Capacity Study.

A communal sewage system would allow a stand-alone collection and treatment for the Scoped Study Area, that would be owned, operated and maintained by the Township. This option includes a conventional gravity sanitary collection system installed at standard depths of three (3) metres to five (5) below existing ground surface. However, in order to service the urban area of Aberfoyle, a pumping station and forcemain would be required to convey the wastewater to the site of the treatment facility.

As shown in Figure 6, a pumping station would be required for the collection and conveyance of Aberfoyle’s industrial and commercial sector and the surrounding area. The existing industrial/commercial lands north of Highway 401, and the areas east of Highway 6 could be serviced by gravity sewer to a waste water treatment facility generally located near Concession Road 7 and Mill Creek area.

A description of the main infrastructure is summarized for Option 1 – Intra-Municipal Sewage Servicing in Table 25 below. A general schematic of the major components of Option 1 is shown in Figure 6.

**Table 25: Sewage Servicing Option 1 – Infrastructure / Process Requirements**

Area	Option Requirements
<b>Collection</b>	<ul style="list-style-type: none"> <li>• A new conventional gravity collection system would be required in the Aberfoyle urban center and surrounding areas in order to collect wastewater from the individual properties. The sewer system would range in size from 200 mm diameter up to 375 mm diameter.</li> </ul>
<b>Pumping</b>	<ul style="list-style-type: none"> <li>• One central pumping station would be required to convey the wastewater in Aberfoyle's industrial and commercial sector to the Treatment facility. The pumping station would be designed to convey the Peak Projected flow of 82.9 L/s. Local pumping station(s) may be required due to local topographic constraints.</li> <li>• Provision of stand-by power and overflow storage would need to be considered during detailed design.</li> </ul>
<b>Treatment</b>	<ul style="list-style-type: none"> <li>• A wastewater treatment facility would need to be constructed to provide the required treatment capacity. It is anticipated that construction of the facility would be staged to accommodate current populations plus anticipated growth over the design period, with provisions for expansion beyond the current planning horizon. A new treatment plant would need to be designed for a capacity of 6,479 m<sup>3</sup>/day.</li> </ul>
<b>Effluent Discharge</b>	<ul style="list-style-type: none"> <li>• For the purpose of this study, it has been assumed that treated effluent may be discharged to Mill Creek. An Assimilative Capacity Study will be required to determine if Mill Creek can be used for this disposal of treated effluent, and to establish design parameters and effluent criteria and loading limits from this facility.</li> </ul>





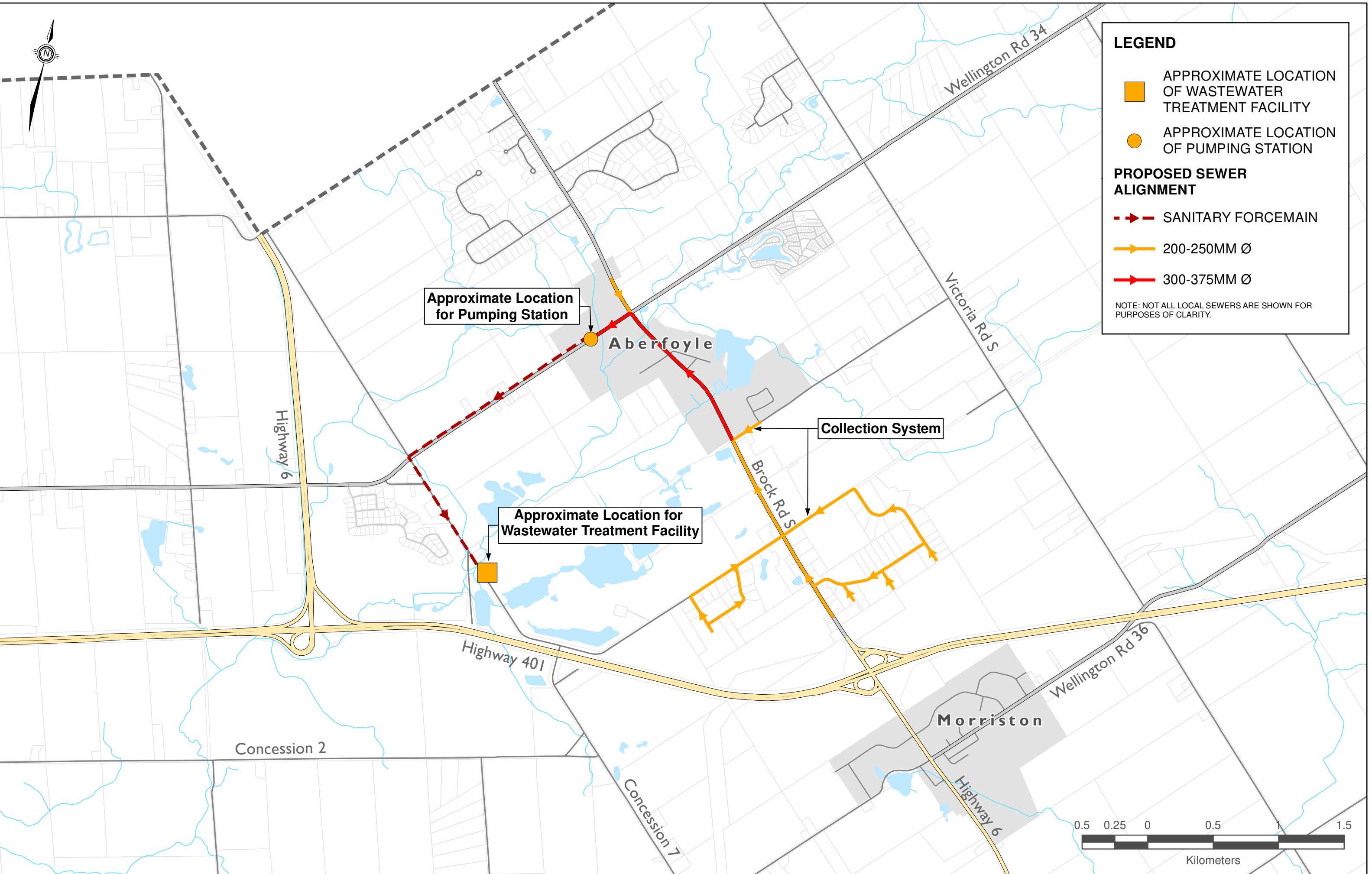
**LEGEND**

- APPROXIMATE LOCATION OF WASTEWATER TREATMENT FACILITY
- APPROXIMATE LOCATION OF PUMPING STATION

**PROPOSED SEWER ALIGNMENT**

- SANITARY FORCEMAIN
- 200-250MM Ø
- 300-375MM Ø

NOTE: NOT ALL LOCAL SEWERS ARE SHOWN FOR PURPOSES OF CLARITY.



### 6.1.2 Option 2 – Inter-Municipal Sewage Servicing

The Inter-Municipal Sewage Servicing alternative consists of collection and conveyance of wastewater through a sanitary sewer network, a pumping station and forcemain, with an outlet to the Guelph collection system for ultimate treatment and disposal.

Option 2 will rely on the Guelph system for treatment, and therefore will require an inter-municipal servicing agreement. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to discussions necessary to establish an inter-municipal servicing agreement; however, no terms and/or conditions have been identified. Through further consultation with the City, the City indicated that they do not have excess sewage treatment capacity to support external servicing requests. The Township acknowledged that the City may not have available treatment capacity to allocate to the Township of Puslinch, and further recognized that if capacity was available, allocation of that capacity would not be without cost. Correspondence associated with preliminary consultation with the City of Guelph is included in Appendix B for further reference.

The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option.

The preliminary sewer alignment and location of the pumping station is similar to Option 1, in order to convey the wastewater flows to the Guelph system. In addition, a flow monitoring facility would be required at the discharge location to measure flows for billing purposes.

As with Option 1, this system includes sanitary sewer installed at standard depths of three (3) to five (5) metres below existing surface. Figure 7 provides an approximate location for a pumping station to service the industrial/commercial area surrounding Aberfoyle. The pumping station will have an associated forcemain system which will discharge to the gravity system prior to being pumped into Guelph.

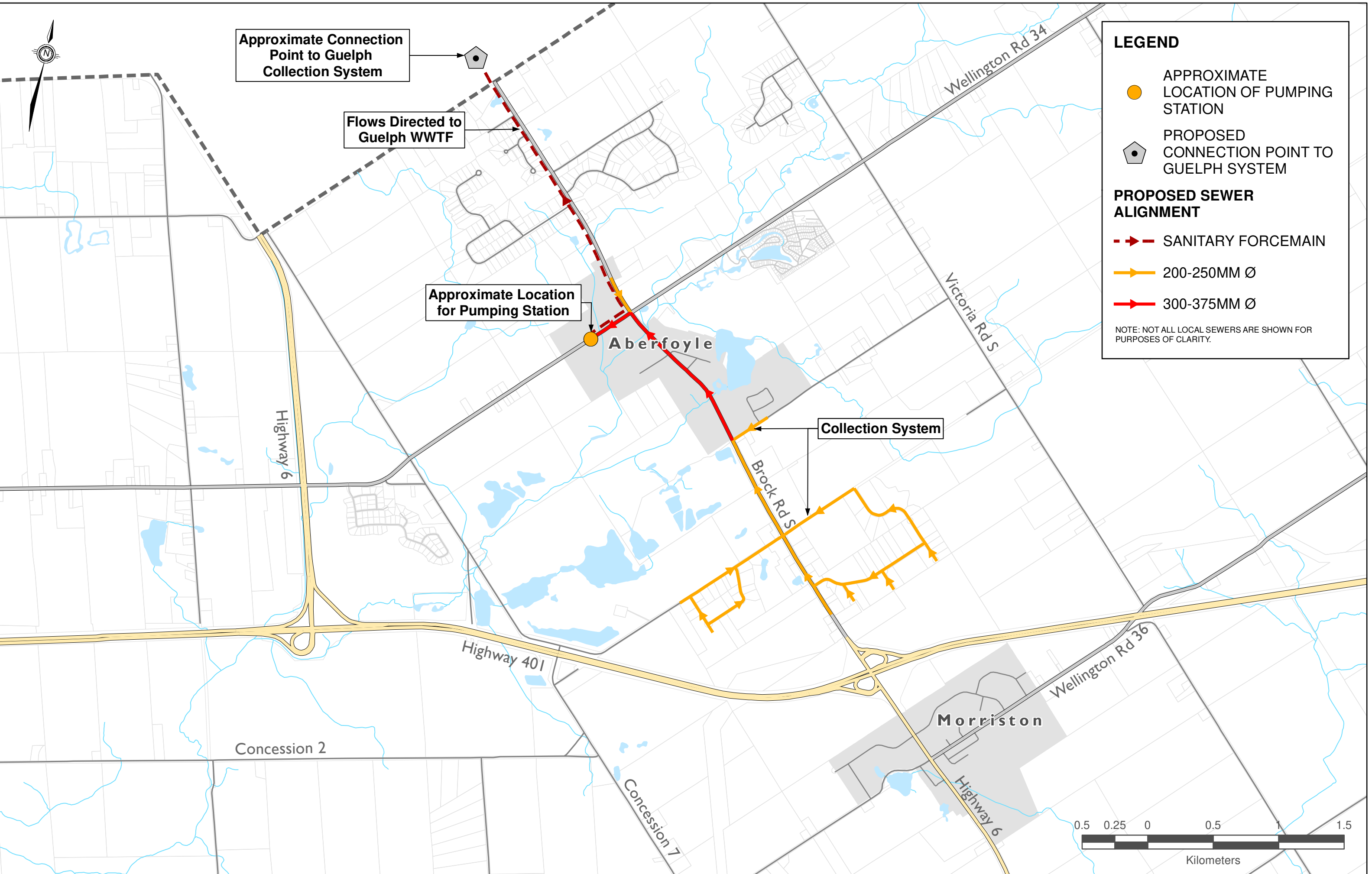
A description of the main infrastructure is summarized for Option 2 – Inter-Municipal Sewage Servicing in Table 26 below. A general schematic of the major components of Option 2 is shown in Figure 7.





**Table 26: Sewage Servicing Option 2 – Infrastructure / Process Requirements**

Area	Option Requirements
<b>Collection</b>	<ul style="list-style-type: none"> <li>A new gravity sewer system would be required in the Aberfoyle urban center and surrounding areas in order to collect the wastewater. The sewer system would range in size from 200 mm diameter up to 375 mm diameter.</li> </ul>
<b>Pumping</b>	<ul style="list-style-type: none"> <li>One pumping station would be required to convey the wastewater in Aberfoyle’s industrial and commercial sector. The pumping station would be designed to convey the Peak Design Flow (82.9 L/s) to the Guelph System. Local pumping station(s) may be required due to topographic constraints.</li> </ul>




As part of Option 2, all existing individual on-site septic tanks, and communal wastewater systems within the Scoped Study Area are expected to be decommissioned, and costs for decommissioning will be responsibility of the business property owners or through another mechanism, to be determined by the Township.



**LEGEND**

-  APPROXIMATE LOCATION OF PUMPING STATION
-  PROPOSED CONNECTION POINT TO GUELPH SYSTEM

**PROPOSED SEWER ALIGNMENT**

-  SANITARY FORCEMAIN
-  200-250MM Ø
-  300-375MM Ø

NOTE: NOT ALL LOCAL SEWERS ARE SHOWN FOR PURPOSES OF CLARITY.



## 6.2 Estimates of Probable Cost – Sewage Servicing Options

Estimates of probable capital, operating and maintenance costs and life cycle costs have been developed. Capital costs include an allowance for property acquisition and the pumping station; and for Option 1, a treatment facility. Major process and treatment equipment such as pumps, piping and valves, instrumentation, treatment equipment, standby power supply are assumed to be included. Operating and maintenance costs accounted for include power, chemical usage, regulatory requirements and other replacement and labour costs. Life cycle costs have been calculated based on a 20-year life expectancy.

The following general assumptions were made when developing the costs for the servicing options:

- Cost estimates are based on 2019 construction costs. Inflation and escalation to account for actual expected prices at the time of construction cannot be accounted for at this time.
- Estimates of probable capital costs have been developed on a conceptual level and based on prices and data in CIMA's possession, as well as previous experience from projects of similar nature and scope. The accuracy of conceptual estimates developed at this point, are assumed to be +/- 30%.
- There is capital expenditure associated with the replacement of major pumping and treatment equipment every 30 years for wastewater facilities.
- The cost to decommission existing private septic systems within the Scoped Study Area has not been accounted for in Sewage Servicing Options 1 and 2.
- Capital costs associated with any required upgrades needed in the City of Guelph collection and treatment system to accommodate the inter-municipal Option, are unknown at this point and have not been accounted for. The required capital costs would need to be identified through further negotiations between the Township and the City, as well as the mechanisms to pay for these upgrades. Similarly, a portion of the City of Guelph's operation and maintenance (O&M) costs would need to be reviewed and negotiated for Option 2.
- Completion of a Class Environmental Assessment (Class EA) study as well as additional amendments to existing master plans, servicing studies, secondary plans, approved draft plans, etc., have not been accounted for and should be included in the Capital Upgrade Costs, through consultation and negotiation between the Township and the City.

Life cycle costs have been estimated based on:

- A 20-year amortization period
- An inflation rate of 2% and an interest rate of 6% to give a market/discount rate of 4%

Estimates for probable capital, operating and life cycle costs for the sewage servicing options are summarized Table 27.

**Table 27: Sewage Servicing Options – Probable Cost Estimates**

Servicing Alternative	Capital Cost (\$ millions)	Annual Operating & Maintenance Cost	NPV1. - 20-Year Life Cycle Cost (\$ millions)
<b>Option 1 – Intra-Municipal Sewage Servicing</b>	\$ 29.0	\$ 714,000	\$ 38.9
<b>Option 2 – Inter-Municipal Sewage Servicing</b>	\$ 11.7	\$ 164,000	\$ 13.9

1. Net Present Value (NPV) represents the value of the project in today's dollars. Higher cash outflows, as in Option 1, results in a higher NPV.

### 6.3 High-level Assessment

This section presents the results of the high-level assessment completed for the sewage servicing options considered in the Feasibility. Key advantages and disadvantages are summarized in Table 28.

**Table 28: Sewage Servicing Options – High-Level Assessment Results**

Servicing Option	Advantages	Disadvantages
<b>Option 1 – Intra-Municipal Servicing</b>	<ul style="list-style-type: none"> <li>Provides the Township with complete control of the operation and maintenance of the wastewater collection and treatment system.</li> <li>Complete independent system from collection, treatment and discharge/disposal. Township can provide desired level of robustness and flexibility to the system.</li> <li>Provision of municipal sewage servicing (coupled with water servicing) in the area will provide an invitation for developers to invest in the Township and promote growth in accordance with the County Official Plan – population and employment.</li> </ul>	<ul style="list-style-type: none"> <li>Results in highest capital, O&amp;M and life cycle costs.</li> <li>Option requires the largest amount of new infrastructure.</li> <li>Assimilative capacity of Mill Creek may limit capacity of treatment plant.</li> <li>An alternative effluent discharge location or method of disposal may be required.</li> </ul>
<b>Option 2 – Inter-Municipal Servicing</b>	<ul style="list-style-type: none"> <li>Option results in lowest capital, O&amp;M and life cycle costs.</li> <li>Option provides the Township with control of the collection system and operation and maintenance, which is a lower complexity operations requirement.</li> <li>Operations costs for wastewater treatment will be fixed by Agreement</li> </ul>	<ul style="list-style-type: none"> <li>It will most likely require an amendment the City of Guelph Official Plan to allow the extension of the City's services for areas outside of the City's urban boundaries.</li> <li>City of Guelph Wastewater Servicing Master Plan would</li> </ul>

Servicing Option	Advantages	Disadvantages
	<p>with the City of Guelph and funded through rates established in the Agreement.</p> <ul style="list-style-type: none"> <li>• May be able to optimize the existing infrastructure (in City of Guelph) and reduce the need for new infrastructure.</li> <li>• It may provide an opportunity for the two municipalities (City of Guelph and Township) to partner for funding opportunities and share existing resources.</li> <li>• The coordinated approach to service delivery can result in efficiencies in infrastructure costs, water conservation, and allow for additional funds to be allocated to improved treatment and program delivery.</li> <li>• Provision of municipal sewage servicing (coupled with water servicing) will provide an invitation for developers to invest in the areas and promote growth in accordance with the County Official Plan – population and employment.</li> </ul>	<p>need to integrate servicing to the area in Township.</p> <ul style="list-style-type: none"> <li>• Upgrades to existing wastewater infrastructure in Guelph may be required, directly or indirectly, to accommodate the inter-municipal servicing.</li> <li>• An inter-municipal agreement will be required to establish an inter-municipal services scheme.</li> <li>• The cost of any Capital Contribution and/or Capital Upgrades to secure treatment and disposal from the City of Guelph is unknown at this time and may represent a significant impact to the overall project cost.</li> </ul>

## 7. Overview of Cost Recovery and Funding Opportunities

As part of this Study, potential servicing options for provision of municipal water and sewage services in the Scoped Study Area have been explored, as described in Sections 5 and 6 of this report. However, affordability and issues such as how proposed servicing would be financed, and the potential cost burden on existing businesses and potential future development will need to be established.

A review of different approaches or tools, available to municipalities in Ontario to fund water and sewer servicing has been undertaken to identify ‘order of magnitude’ cost implications. This section provides a summary of the cost recovery tools that are available to fund the capital works considered under this Feasibility Study.

The estimates of probable costs identified in Sections 5.2 and 6.2 of this report are Preliminary and subject to refinement, should the Project proceed through to a Class EA Study and implementation. A detailed Financial Plan/Cost Recovery plan would be required as part of the Municipal Class EA Study.

## 7.1 Capital Connection Charges

Costs related to construction may be recovered through Capital Connection Charges, which can be levied under the Municipal Act, for existing businesses benefiting from municipal servicing. Capital Connection Charges are one-time fees imposed on new customers connecting to the municipal system(s) as a condition of service, in addition to any actual cost incurred to physically connect to the system(s). Benefiting owners may be allowed to spread payments over a period of time, typically between 10 to 30 years, depending on the magnitude of the Project and the municipality's debt financing capacity.

Capital Connection Charges may be levied in different ways. Costs may be allocated based on property frontage, property area, or by the number of benefiting units. In addition, different rates may be applied based on land use (i.e. industrial/commercial). These types of charges can be levied against all lands – developed and undeveloped. If Connection Charges are only imposed on developed lands, area-specific Development Charges should be enacted to recover monies from future benefitting lands.

Development Charges would be used to recover of the growth-related portion of the costs. A background study would need to be undertaken in accordance with the Municipal Act, in addition to completion of a public meeting process and passage of the appropriate by-law. Upon Council's direction, a separate background study and by-law will need to be prepared.

The Township does not currently use Capital Connection Charges to fund municipal servicing infrastructure, as existing services in the Scoped Study Area are provided through private and/or communal systems developed as part of the subdivision approval process. However, Capital Connection Charges is a tool commonly used by municipalities in Ontario to recover capital construction costs associated with the establishment or extension of municipal infrastructure to existing developed properties.

## 7.2 Development Charges

Development charges are fees levied against new development to help cover the initial capital cost of infrastructure required to service growth. Under the Development Charges Act, Municipalities in Ontario are able to recover certain costs associated with non-residential growth.

Municipalities undertake a range of studies to identify servicing needs to accommodate growing populations within the municipalities' boundaries, and use this information to develop their Background Study, Development Charge Bylaw and Development Charge rates.

The Township's current Development Charge By-law (054/14) does not recover any costs associated with provision of municipal water and Wastewater servicing within the Township or within the Scoped Study Area subject to this Feasibility Study. Should the Township proceed with the provision of water and sewage servicing, the Township will need to update their



Development Charge Background Study and consider adopting area-specific development charges for new development within the Scoped Study Area.

### 7.3 Water and Sewage User Rates

Water and sewer user rates fund the actual operating and routine maintenance costs for the water and wastewater systems, as well as provide funding for future maintenance and ultimate replacement of the infrastructure. Uniform utility rates per Class of users are levied against all users of the system.

In order to define the Water and Sewage Rates, the Township will need to undertake a Rate Study to identify annual operating and maintenance costs as well as the required contributions to the Township's Water and Wastewater reserves.

### 7.4 Federal and Provincial Grants

Grant funding from senior levels of government are available to assist municipalities in funding capital projects. The Government of Canada will invest more than \$180 billion over 12 years in public transit projects, green infrastructure, social infrastructure, trade and transportation routes, and Canada's rural and northern communities. The Ontario Government is committed to making the largest infrastructure investment in the Province's history – about \$190 billion over 13 years which started in 2014-2015.

Grant funding programs available to local governments for infrastructure projects have their own unique requirements, cost-sharing arrangements, eligibility requirements, and application procedures and deadlines.

Funding Opportunities on a Federal Level include:

- Municipalities for Climate Innovation Program (MCIP): eligible for projects addressing Climate Change Mitigation or Adaption. Applications for the 5-year (2017-2022) funding program will be accepted on a continuous basis.

Funding Opportunities on a Federal / Provincial Bi-Lateral Level include:

- Clean Water and Wastewater Fund (CWWF): Funding is available up to 75% of eligible costs per eligible project (50% federal; 25% provincial). The program targets projects that will contribute to the rehabilitation of both water treatment and distribution infrastructure and existing wastewater and storm water treatment systems; collection and conveyance infrastructure; and initiatives that improve asset management, system optimization, and planning for future upgrades to water and wastewater systems. Phase 1 Round is now closed (Projects to be completed by March 2019). Phase 2 Round is scheduled to be announced in spring 2019.

Funding Opportunities on a Provincial Level include:

- Ontario Community Infrastructure Fund (OCIF) which provides steady, long-term funding for small, rural and northern communities to develop and renew their infrastructure. The total fund is increasing to \$300 million per year by 2018-19. This funding includes a Formula-based and a Top-up Application Component. By 2019, the formula-based component will increase to a total allocation of \$200 million annually. Communities will not need to apply for the funding but will need to provide planning and reporting documents to the government to receive the grants. Eligible communities with critical infrastructure projects may submit proposals to the new top-up component to bring their total OCIF funding up to \$2 million over 2 years.

A clear and up-to-date understanding of grant funding available to local governments for infrastructure projects and the unique requirements and application process for each program is needed in order to take full advantage of the needed infrastructure dollars available from federal and provincial funds.

## 7.5 Preliminary Cost Recovery Estimates

To provide a rough order of magnitude for cost recovery estimates, it has been assumed that capital costs will be evenly distributed amongst the total number of benefiting units within the Scoped Study Area, including commercial, industrial and institutional, on an equivalent basis. A total of 128 commercial / industrial lots, or equivalent benefiting units, have been accounted for within the project Scoped Study Area. This preliminary assumption does not distinguish between the usage of the system amongst different users, nor does this assessment consider differences in property size or frontage. A financing annual rate of 4.0% has also been used in the preliminary calculations.

Two cost recovery scenarios have been assumed to provide a preliminary cost estimate, which include:

### 7.5.1 Scenario A – No Funding

This scenario assumes that all capital costs associated with the servicing options will be recovered entirely by all 128 benefiting units within the Scoped Study Area. A servicing cost per unit is calculated by dividing the capital cost of the option by the total number of units (128). Options are available for benefiting property owners to pay this amount upfront, or to finance the servicing costs over a period of time in an effort to reduce the annual costs. For preliminary calculation purposes, annual payments have been spread over 10, 15 and a 20-year time period.

Preliminary cost recovery estimates under Scenario A – No Funding, for the water and sewage servicing options, outlined in Sections 5.1 and 6.1, are summarized in Tables 29 and 30. Detailed calculations for cost recovery estimates are included in Appendix D.



Table 29: Cost Recovery Estimates for Water Servicing: Scenario A – No Funding

	Option 1 – Intra-Municipal Water Servicing	Option 2 – Inter-Municipal Water Servicing
<b>Capital Cost (\$ Millions)</b>	\$ 22.9 M	\$ 19.9 M
<b>Total Benefiting Units</b>	128	128
<b>Servicing Cost Per Unit (128 connections)</b>	\$ 179,184	\$ 156,068
<b>Annual Interest Rate</b>	4.0%	4.0%
<b>Estimated Annual Cost Per Unit:</b>		
<b>10-Year Period</b>	\$ 21,770	\$ 18,961
<b>15-Year Period</b>	\$ 15,905	\$ 13,853
<b>20-Year Period</b>	\$ 13,030	\$ 11,349

Table 30: Cost Recovery Estimates for Sewage Servicing: Scenario A – No Funding

	Option 1 – Intra-Municipal Sewage Servicing	Option 2 – Inter-Municipal Sewage Servicing
<b>Capital Cost (\$ Millions)</b>	\$ 29.0 M	\$ 11.7 M
<b>Total Benefiting Units</b>	128	128
<b>Servicing Cost Per Unit (128 connections)</b>	\$ 226,848	\$ 91,274
<b>Annual Interest Rate</b>	4.0%	4.0%
<b>Estimated Annual Cost Per Unit:</b>		
<b>10-Year Period</b>	\$ 27,561	\$ 11,089
<b>15-Year Period</b>	\$ 20,136	\$ 8,102
<b>20-Year Period</b>	\$ 16,496	\$ 6,637

### 7.5.2 Scenario B – Funding

This scenario assumes that 2/3 of the capital costs associated with the servicing options will be funded through government funds, while the remaining 1/3 of the capital costs will be recovered through all 128 benefiting units within the Scoped Study Area. A servicing cost per unit is calculated by dividing the remaining 1/3 capital cost of the option by the total number of units (128). Annual payments have been spread over 10, 15 and a 20-year time period.

Preliminary cost recovery estimates under Scenario B – 2/3 Funding, for the water and sewage servicing options, outlined in Sections 5.1 and 6.1, are summarized in Tables 31 and 32. Detailed calculations for cost recovery estimates are included in Appendix D.

Table 31: Cost Recovery Estimates for Water Servicing: Scenario B – 2/3 Funding

	Option 1 – Intra-Municipal Water Servicing	Option 2 – Inter-Municipal Water Servicing
<b>Capital Cost (\$ Millions)</b>	\$ 22.9 M	\$ 19.9 M
<b>Subsidized Cost (\$ Millions)</b>	\$ 7,645,167	\$ 19,976,700
<b>Total Benefiting Units</b>	128	128
<b>Servicing Cost Per Unit (128 connections)</b>	\$ 59,728	\$ 52,023
<b>Annual Interest Rate</b>	4.0%	4.0%
<b>Estimated Annual Cost Per Unit:</b>		
<b>10-Year Period</b>	\$ 7,257	\$ 6,320
<b>15-Year Period</b>	\$ 5,302	\$ 4,618
<b>20-Year Period</b>	\$ 4,343	\$ 3,783

Table 32: Cost Recovery Estimates for Sewage Servicing: Scenario B – 2/3 Funding

	Option 1 – Intra-Municipal Sewage Servicing	Option 2 – Inter-Municipal Sewage Servicing
<b>Capital Cost (\$ Millions)</b>	\$ 29.0 M	\$ 11.7 M
<b>Subsidized Cost (\$ Millions)</b>	\$ 9,678,860	\$ 3,894,360
<b>Total Benefiting Units</b>	128	128
<b>Servicing Cost Per Unit (128 connections)</b>	\$ 75,616	\$ 30,425
<b>Annual Interest Rate</b>	4.0%	4.0%
<b>Estimated Annual Cost Per Unit:</b>		
<b>10-Year Period</b>	\$ 9,187	\$ 3,696
<b>15-Year Period</b>	\$ 6,712	\$ 2,701
<b>20-Year Period</b>	\$ 5,499	\$ 2,212

### 7.5.3 System Connection Costs

In addition to the above noted costs, industrial and commercial businesses would be required to construct private water services and sanitary building drains to connect to the municipal services on the road right-of-way.

Extension of water and wastewater services on private property is controlled under the Building Code Act. Each property connecting to the municipal system would need to obtain a plumbing permit prior to undertaking the work. This cost of extending provides water and sanitary services will vary based upon a number of factors, including:

- Proximity of the connection from the building to the connection to the street
- Restoration requirements (i.e. turf areas, driveways, walkway, landscaping, etc.)

- Competitive pricing including the reputation, experience and quality of work of the contractor
- Any other improvements, such as the removal of existing groundwater wells, septic systems, which may be made at the same time the work is being done.
- Neighbours collectively retaining the same contractor to undertake the works at the same time.

For a typical industrial/commercial property, completion of the private water service and sanitary service will typically cost in the order of \$10,000 - \$15,000 per property; however, the actual costs will be subject to the building locations to be serviced on their respective properties.

As noted earlier in this report, the Feasibility Study has assumed that all existing private groundwater wells within the Scoped Study Area will be decommissioned and disconnected from the individual plumbing system to prevent cross connections with the municipal system. Well decommissioning is regulated under the Ontario Water Resources Act and must be completed in accordance with O. Reg. 903.

Consistent with the Act, private property owners that are required to decommission their well should use a licensed well contractor. The County of Wellington through its Rural Water Quality Program provides financial assistance to qualified landowners that apply best management practices that improve and protect ground and surface water quality; which include well decommissioning. The program is administered by the Grand River Conservation Authority. A formal application would need to be completed and is to be evaluated by a committee on the basis of the potential to improve and protect water quality. Grant rates for well decommissioning cover 100 per cent of the cost, up to a maximum of \$2,500. More information is available at <https://www.grandriver.ca/en/our-watershed/Wellington.aspx>.

### 7.5.4 Typical Usage Charges

Estimated preliminary user charges have been developed for a typical user consuming 10 m<sup>3</sup> of drinking water and generating 10 m<sup>3</sup> of wastewater daily (or 300 m<sup>3</sup> monthly), on a monthly cost basis, as seen in Table 33. However, the preliminary user charge identified below does not include life cycle costs, nor does the estimated user costs for the Inter-Municipal Servicing Options include bulk water supply and wastewater treatment charges that may be imposed by the City of Guelph. Final user charges would be established following completion of a Rate Study to be undertaken following completion of construction.

**Table 33 Estimated Preliminary User Charges**

	Water Servicing		Wastewater Servicing	
	Option 1	Option 2 <sup>1</sup>	Option 1	Option 2 <sup>1</sup>
<b>Monthly Cost</b>	\$297	\$56	\$289	\$66
1. User Rates identified for Option 2 – Inter-Municipal Servicing do not include Bulk Water Rates or Wastewater Rates which would be imposed by the City of Guelph. The Bulk Water Rate and Wastewater disposal rate to be negotiated between the Township and the City as part of the Servicing Agreement(s).				

## 8. Public Communication and Consultation

Public communication and consultation initiatives will be implemented in the Feasibility Study with the objective of gathering preliminary input from the users within the Scoped Study Area on the general intent of the study as well as the preliminary results of the key activities completed as part of the study.

### 8.1 Public Information Centre

A Public Information Centre (PIC) was held on June 24, 2019 at the Puslinch Community Centre, in Puslinch, from 6:30 p.m. to approximately 8:30 p.m. Information packages were available for all attendees, along with a questionnaire. Following the PIC, a copy of the questionnaire was distributed to all businesses and industrial property Owners within the Study area. A summary of the responses from the questionnaire is included in Appendix E.

At the PIC, a formal presentation was provided, which covered the following topics:

- Need for the Feasibility Study
- Limits of the Scoped Study Area
- Purpose of PIC
- Preliminary growth projections
- High-level water and sewage servicing options considered in the study
- Results of a preliminary assessment of high-level water and sewage servicing options
- Next steps in the study.

## 9. Summary and Recommendations

Population and employment growth within the Scoped Study Area have been established consistently with the projections set out in the County's Official Plan. The majority of growth will be directed to urban centres that offer municipal water and sewer servicing and, to a limited extent, to the surrounding areas that offers partial, private communal or individual on-site services. Growth will also be directed, to a lesser extent, to secondary agricultural areas, provided that the planning policies for these areas are met.

An analysis of the water demands was undertaken with a reasonable amount of background data for existing water demands within the Scoped Study Area. Reasonable water demand rates for existing users were then developed and used to estimate preliminary water use projections based on the population projections outlined within the County's Official Plan. MECP Design Guidelines for Drinking Water Systems, 2008, were also used to validate and supplement any missing information.

For sewage flows, there was no background data available. As such, theoretical numbers based on MECP Design Guidelines for Sewage Works, 2008, were assumed. Potential Industrial/Commercial/Institutional growth areas were identified and a theoretical population density (typical for many GTA and southwestern Ontario areas) was applied to such areas. Sewage flow projections also include an allowance for infiltration into the collection system. For the purpose of this study, we assumed full development of the potential Employment land areas within the 20-year horizon.

Two potential high-level water and sewage servicing options for the Scoped Study Area were identified to include Option 1 – Intra-Municipal Water or Sewage Servicing, and Option 2 – Inter-Municipal Water or Sewage Servicing. Option 2 for water and sewage servicing, consists of reliance on the Guelph water and sewage system for treatment and disposal (in the case of sewage servicing), and therefore will require the appropriate inter-municipal servicing agreements. Preliminary discussions with staff from the City of Guelph have indicated that the City would be open to discussions necessary to establish an inter-municipal servicing agreement; however, no terms and/or conditions have been identified at this stage. The Township Council would need to submit a formal request to the City of Guelph to initiate formal consideration of this Option. There are more servicing design options that should be considered (i.e. alternative locations and routing for facilities); however, the basic options and assessments outlined in this report remain valid.

On a preliminary basis and from an economic impact perspective, it appears that the Inter-Municipal servicing options for both water and sewage servicing would be preferred. However, recent correspondence from the City of Guelph indicates that there is limited available capacity in the Guelph systems to provide servicing to the Township, and that significant Capital Upgrades would be required. The initial assessment would have to be re-visited once formal discussions and negotiations proceed with the City of Guelph, and once the impacts of any Capital Contributions, Capital Upgrades, and user rates are identified.

Preliminary cost recovery estimates have been calculated based on high-level estimates of probable capital costs for the servicing options and two different cost recovery scenarios explored as part of this Feasibility Study, which include no funding and a funding mechanism through government funds.

On a preliminary basis, it appears that implementation of any of the servicing options without any government funds would create a financial burden on the benefitting property owners. In addition, industrial and commercial businesses would be required to cover system connection costs as well, which are unknown at this point. In the end, the selected cost recovery option should be based on consultation between property owners and the municipality and is influenced by the length of time required to fully fund the infrastructure works.

Various funding opportunities from both federal and provincial levels of government are available and should be explored in the future to provide a more accurate estimate of the costs.

# A

## Appendix A

### Water Demand and Sewage Flow Analysis – Design Calculations



<b>Project Title:</b>	<b>Puslinch Water and Sewage Feasibility Study</b>		
<b>Client:</b>	Township of Puslinch		
<b>Project No.:</b>	T000866A		
<b>Task:</b>	Option Development - Water		
<b>Prepared By:</b>	Alexandra Laleva	<b>Date:</b>	18-Apr-19
<b>Reviewed By:</b>	Stuart Winchester	<b>Date:</b>	2-May-19
<b>Revision No.:</b>		<b>Revision Date:</b>	

ESTIMATE WATER DEMANDS FOR WHOLE STUDY AREA			
Design Criteria			
Description	Value	Units	Comments
MECP Residential Unit Rate	270-450	L/cap/day	MECP suggested range
Calculated for Ex. Communal Systems	353.0	L/cap/day	Calculated for Meadows of Aberfoyle
	294.4	L/cap/day	Calculated for Mini Lakes
Recommended Design Rate	360.0	L/cap/day	Assumed (mid-point from MECP range of 270-450 L/cap/day)
Residential Max. Day Factor	2.00	-	Based on future residential and employment population of 5,632 as per adjacent numbers and MECP Guidelines
Safety factor for ICI future conditions	1.00	-	Assumed
Industrial/Commercial Max. Day Factor	3.00	-	Assumed based on MECP range between 2 and 4 for industrial uses.

Employment Forecast <sup>1</sup>				
Employment Breakdown	2016	2041	Comments	
Primary	116	114	55% of the Total employment in 2016	
Work at Home	477	560		
Industrial	2224	3360		
Commercial / Population Related	653	866		
Institutional	138	182		
NFPOW	412	548		
<b>Total =</b>	<b>4020</b>	<b>5630</b>		Total employment projections consistent with County's OP numbers.

Notes:  
1. As per breakdown provided by County of Wellington. Source: Watson & Associates Economists Ltd. Wellington County 2014 Growth Analysis Final Report.

Employment Water Demands - Existing and Future (Assumes all employment except for industrial employment numbers)							
Employment Population within Study Area	Year		Existing (2016) Employment Water Demands		Future (2041) Employment Water Demands		
	2016	2041	Ave.		Ave.		
			m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	Max.
Employment <sup>1</sup>	1796	3406	646.6	7.48	1226.2	14.19	2452.3
<b>Total for Study Area =</b>	<b>1,796</b>	<b>3,406</b>	<b>646.6</b>	<b>7.5</b>	<b>1226.2</b>	<b>14.2</b>	<b>2,452</b>
<b>Total Employment Population Increase =</b>	<b>1,610</b>						<b>28.4</b>

Notes:  
1. It has been assumed that the existing 2224 employment numbers in 2016 have been captured within the water demands received from ex. large users.

Employment Water Demands - Existing and Future (Assumes all employment including industrial employment numbers)							
Employment Population within Study Area	Year		Existing (2016) Employment Water Demands		Future (2041) Employment Water Demands		
	2016	2041	Ave.		Ave.		
			m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	Max.
Employment <sup>1</sup>	4020	5630	1447.2	16.75	2026.8	23.46	4053.6
<b>Total for Study Area =</b>	<b>4,020</b>	<b>5,630</b>	<b>1447.2</b>	<b>16.8</b>	<b>2026.8</b>	<b>23.5</b>	<b>4,054</b>
<b>Total Employment Population Increase =</b>	<b>1,610</b>						<b>46.9</b>

Notes:  
1. Assumes all employment categories including industrial

Industrial and Commercial Water Demands - Existing and Future											
Large Industrial/Commercial Users	PTTW Capacity		Existing (2016) ICI Water Demands <sup>1</sup>				Future (2041) ICI Water Demands <sup>2</sup>				Ex. Ave. Usage / PTTW
	L/d	m <sup>3</sup> /d	Ave.		Ave.		Max.				
			L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s		
Royal Canin Canada Company	240,000	240	2.8	93.8	1.1	93.8	1.1	240.0	2.8	39%	
Con-Cast Pipe Inc.	450,000	450	5.2	245.3	2.8	245.3	2.8	450.0	5.2	55%	
Morguard Brock McLean Limited - Maple Leaf Foods	653,760	654	7.6	21.6	0.2	21.6	0.2	64.8	0.7	3%	
Nestle Canada Inc.	3,600,000	3,600	41.7	2,117.7	24.5	2,117.7	24.5	3,600.0	41.7	59%	
CRH Canada Group Inc. - Dufferin Aggregates	8,182,800	8,183	94.7	134.6	1.6	134.6	1.6	403.8	4.7	2%	
Capital Paving Inc.	18,371,400	18,371	212.6	280.9	3.3	280.9	3.3	842.6	9.8	2%	
St. Marys Cement Inc. (Canada)	47,136,000	47,136	545.6	28,136.5	325.7	28,136.5	325.7	47,136.0	545.6	60%	
<b>Total for Study Area =</b>	<b>78,633,960</b>	<b>78,634</b>	<b>910.1</b>	<b>31,030</b>	<b>359.1</b>	<b>31,030.3</b>	<b>359.1</b>	<b>52,737.1</b>	<b>610.4</b>	<b>39%</b>	
<b>Total Excluding Nestle &amp; St. Marys</b>	<b>27,897,960</b>	<b>27,898</b>	<b>323</b>		<b>776.1</b>		<b>9.0</b>	<b>2,001.1</b>	<b>23.2</b>		

Notes:  
1. Calculated as the 2-year average between data provided from ex. large users for period between 2015 and 2016.  
2. It has been assumed that future water demands from large users will remain consistent with actual demands.

WATER DEMANDS SUMMARY - 2041								
Service Area	Scenario I (Only Domestic Use for Residential)				Scenario II (Only Domestic Use for Residential + Total Employment)			
	Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Industrial / Commercial / Recreational	0.0	0.0	0.0	0.0	2,026.8	23.5	4,053.6	46.9
<b>Total =</b>	<b>0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>2,027</b>	<b>23.5</b>	<b>4,053.6</b>	<b>46.9</b>

150 mm pipe 300 mm pipe

Service Area	Scenario III (Domestic, and Industrial Uses based on current demands)				Scenario IV (Domestic and Industrial Uses based on PTTW capacity)				Scenario V (Domestic and Industrial Uses - Excluding Nestle and St. Marys Cement)			
	Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands		Ave. Day Demands		Max. Day Demands	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Industrial / Commercial / Recreational	32,256.4	373.3	55,189.4	638.8	48,937.0	566.4	81,086.3	938.5	2,002.3	23.2	4,453.4	51.5
<b>Total =</b>	<b>32,256</b>	<b>373.3</b>	<b>55,189</b>	<b>638.8</b>	<b>48,937</b>	<b>566.4</b>	<b>81,086</b>	<b>938.5</b>	<b>2,002</b>	<b>23.2</b>	<b>4,453</b>	<b>51.5</b>

600 mm pipe min. 900 mm pipe

RECOMMENDED SCENARIO:				
Provide servicing to entire service area for domestic and ICI purposes. Nestle and St. Mary's Cement to be excluded; however, a 0.1% allocation of total PTTW flows have been assumed for domestic purposes in both Nestle and St. Marys.				
Industry Name	PTTW Capacity		0.1% Allocation for Domestic	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Nestle Canada Inc.	3,600	41.7	3.60	0.04
St. Marys Cement Inc. (Canada)	47,136	545.6	47.14	0.55

RECOMMENDED SCENARIO:				
Provide servicing to entire service area for domestic and ICI purposes. The use of process water for the large industrial users to be excluded; however, a 15% allocation of total PTTW flows have been assumed for domestic purposes for large Industrial/ Commercial/ Recreational users (excluding Nestle and St. Marys).				
Industry Name	PTTW Capacity		15% Allocation for Domestic	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Industrial / Commercial / Recreational (large users excluding Nestle and St. Marys)	776	9.0	116.42	1.35

Service Type	Scenario V (Domestic and Industrial Uses - Excluding Nestle and St. Marys Cement)					
	Ave. Day Demands		Max. Day Demands		Peak Hour Demands	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
Industrial / Commercial / Recreational (outside large users)	1,226.2	14.2	2,452.3	28.4	3,678.5	42.6
Industrial / Commercial / Recreational (large users excluding Nestle and St. Marys)	116.4	1.3	300.2	3.5	349.2	4.0
Allowance for Domestic Use at Nestle and St. Marys	50.7	0.6	152.2	1.8	152.2	1.8
<b>Total =</b>	<b>1,393</b>	<b>16.1</b>	<b>2,905</b>	<b>33.6</b>	<b>4,180</b>	<b>48.4</b>

<b>Project Title:</b>	<b>Puslinch Water and Sewage Feasibility Study</b>		
<b>Client:</b>	Township of Puslinch		
<b>Project No.:</b>	T000866A		
<b>Task:</b>	Option Development - Water Option 1A - Intra-Municipal Servicing		
<b>Prepared By:</b>	Alexandra Laleva	<b>Date:</b>	18-Apr-19
<b>Reviewed by:</b>	Stuart Winchester	<b>Date:</b>	2-May-19
<b>Revision No. :</b>		<b>Revision Date:</b>	

**Option 1A - Intra-Municipal Servicing**

Key Components:

Water supply - Assumes one new groundwater well

One common treatment facility providing treatment for well water. Assume good water quality requiring treatment for disinfection only.

Storage facility - assumes one elevated water tower. To be located south of Aberfoyle and close to ex. industrial/employment area.

Distribution system - Assumes connection to Guelph distribution system around southern boundary for pressure Zone 3.

**1. System Design Demands**

Design Demands	Units		Comments
	m3/d	L/s	
Average Day Demands	1,393.3	16.1	
Max. Day Demands	2,904.7	33.6	
Peak Hour Demands	4,179.9	48.4	
Calculated Max. Day Factor	2.1		
Peak Hour Factor	3.0		

**2. Well Supply**

Criteria	Value	Units	Comments
Required Supply Demand (System Max. Day Demands)	33.6	L/s	
No. wells (assumed)	1.0		Assumes two wells, based on capacity
Well Capacity (each)	33.6	L/s	
No. of well pumps	1.0		
Capacity of well pump (each)	33.6	L/s	

**2. Treatment Facility - Provision of disinfection only assumed**

Criteria	Value	Units	Comments
Required Treatment Demand (System Max. Day Demands)	33.6	L/s	
No. chlorine contact chambers (assumed)	1.0		Assumes only one contact chamber providing full treatment capacity
Treatment capacity of contact chamber	33.6	L/s	

**3. Storage Facility - Storage through an Elevated Water Tower**

**3.a Storage Calculations based on Risk Analysis for Emergency Storage (no fire protection)**

Criteria	Value	Units	Comments
Emergency Storage Volume			Emergency storage volume equivalent to 2 x full day's demand
System Ave. Day Demands	16	L/s	
	1,393	m3/d	
Calculated Emergency Volume	2,787	m3	

**3.b Storage Calculations based on MECP Guidelines (fire protection provided)**

Criteria	Value	Units	Comments
Minimum Required Storage Volume			Fire Storage + Equalization Storage (25% of Max. Day) + Emergency Storage (25% of Fire + Equalization Storage)
System Max. Day Demands	2,905	m3/d	
Fire Storage	1,145	m3	Fire storage based on ultimate equivalent population of 5632 people. Based on fire flow of 159 L/s for 3 hours as per MOE guidelines Table 8-1 (value interpolated)
Equalization Storage	726	m3	
Emergency Storage	467.7	m3	
Minimum Required Storage Volume as per MOECC	2,339	m3	Separate chlorine contact chambers will provide the required disinfection requirements
	2.3	ML	



#### 4. Distribution System

##### 4.a Distribution main from treatment facility to Elevated Tower

Criteria	Value	Units	Comments
System Max . Day Demands	34	L/s	
Assumed Watermain Diameter	300	mm	
	12	inches	
Calculated Velocity	0.48	m/s	Velocity should be lower than 1.5 m/s

##### From Elevated Tower to Business Areas

Criteria	Value	Units	Comments
System Peak Hour Demands	48	L/s	
System Max . Day Demands	34	L/s	
System Max . Day + Fire Demands	193	L/s	Assumes fire flow of 159 L/s for 3 hours as per MOE guidelines Table 8-1 (value interpolated) . Greatest value between max. day + fire & Peak hour
Assumed Watermain Diameter	300	mm	
	12	inches	
Calculated Velocity	2.73	m/s	Velocity should be lower than 1.5 m/s

##### From Guelph/treatment facility to New Elevated Tower in Aberfoyle

Criteria	Value	Units	Comments
Set watermain diameter of	mm	400	Note that future watermains in south Guelph expected to be 400 mm diameter
	m	0.40	
Length of distribution watermain		300	Approx. distance from current upper boundary of Guelph Zone 3 @ Clair Road West to proposed location of new ET in Aberfoyle.
	m	5,400	
Pipeline Area	m <sup>2</sup>	0.126	0.071
Pipeline Volume	m <sup>3</sup>	678.6	381.7
System Ultimate Average Daily Flow	L/s	16.1	16.1
System Ultimate Max. Daily Flow	L/s	33.6	33.6
System Ultimate Peak Hour Flow	L/s	48.4	48.4
System Max. day + Fire Flow	L/s	192.6	192.6
Velocity under Average Flows	m/s	0.1	0.2
Velocity under Max. Flows	m/s	0.3	0.5
Velocity under Peak Hour Flows	m/s	0.4	0.7
Velocity under Max. day + Fire flows	m/s	1.53	2.73
Retention Time under Ultimate Average Flows	hrs	11.7	6.6
Retention Time under Max. Flows	hrs	5.6	3.2

Chose 300 mm mainly to be consistent with fire flows

##### From New Elevated Tower in Aberfoyle to Industrial and Commercial areas

Criteria	Value	Units	Comments
Set watermain diameter of	mm	500	Approx. length for major industrial/employment area south of Aberfoyle
	m	0.50	
Length of distribution watermain		400	
	m	6,300	
Pipeline Area	m <sup>2</sup>	0.196	0.126
Pipeline Volume	m <sup>3</sup>	1237.0	791.7
System Ultimate Average Daily Flow	L/s	16.1	16.1
System Ultimate Max. Daily Flow	L/s	33.6	33.6
System Ultimate Peak Hour Flow	L/s	48.4	48.4
System Max. day + Fire Flow	L/s	192.6	192.6
Velocity under Average Flows	m/s	0.08	0.13
Velocity under Max. Flows	m/s	0.17	0.27
Velocity under Peak Hour Flows	m/s	0.25	0.38
Velocity under Max. day + Fire flows	m/s	1.0	1.5
Retention Time under Ultimate Average Flows	hrs	21.3	13.6
Retention Time under Max. Flows	hrs	10.2	6.5

Chose 300 mm to satisfy max. day + fire flow conditions in major industrial/employment area

<b>Project Title:</b>	<b>Puslinch Water and Sewage Feasibility Study</b>		
<b>Client:</b>	Township of Puslinch		
<b>Project No.:</b>	T000866A		
<b>Task:</b>	Option Development - Wastewater		
<b>Prepared By:</b>	A. Laleva	<b>Date:</b>	29-Apr-19
<b>Reviewed by:</b>	S. Winchester	<b>Date:</b>	10-May-19
<b>Revision No. :</b>		<b>Revision Date:</b>	

ESTIMATE WATER DEMANDS FOR WHOLE STUDY AREA			
Design Criteria			
Description	Value	Units	Comments
Water Unit Consumption Rate	360.0	L/cap/day	Assumed
Wastewater Flow Rate	360.0	L/cap/day	Assumed to be consistent with water consumption - Very conservative
Peak Infiltration / Inflow Rate for Industrial / Commercial Areas	10,110	L/ha/day	Low end of MECP Guidelines, new system should have low I&I contribution
Population densities for Industrial / Commercial	83	person/ha	Assuming 30 m <sup>3</sup> /ha/d (low end of MOECC Guideline) and 360 L/cap/d, this would equate to approx. 83 ppha.
Peak Factor	varies	-	Calculated for each area based on Harmon Formula

Industrial and Commercial Wastewater Flows - Existing (2016)								
Large Industrial/Commercial/Recreational Users	Drainage Area		Equivalent ICI Population	Calculated Peak Factor	Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	Total	Contributing			m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
	Ha	Ha	people					
Within Aberfoyle	2,435	48.4	4,020	3.33	1,447.2	16.75	4,821.2	83.82
<b>Total for Study Area =</b>	<b>2,435</b>	<b>48.4</b>	<b>4,020</b>	<b>3.3</b>	<b>1,447</b>	<b>16.7</b>	<b>4,821</b>	<b>83.8</b>
Notes:								
1. Includes all employment categories including industrial. 2. Future average day flows for large users assume a unit generation rate of 360 L/cap/day. 3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula. 4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations								

Industrial and Commercial Wastewater Flows - Future (2041)								
Large Industrial/Commercial/Recreational Users	Drainage Area		Equivalent ICI Population	Calculated Peak Factor	Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	Total	Contributing			m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	L/s
	Ha	Ha	people					
Within Aberfoyle	2,435	67.8	5,630	3.20	2,026.8	23.46	6,479.4	82.93
<b>Total for Study Area =</b>	<b>2,435</b>	<b>2,435</b>	<b>5,630</b>	<b>3.2</b>	<b>2,027</b>	<b>23.5</b>	<b>6,479</b>	<b>82.9</b>
Notes:								
1. Includes all employment categories including industrial. 2. Future average day flows for large users assume a unit generation rate of 360 L/cap/day. 3. Future peak day flows assume an I&I rate of 10,110 L/ha/d and peak factor calculated based on Harmon Formula. 4. Includes existing gravel extraction areas that are excluded from current infiltration allowance calculations								

ICI FLOWS SUMMARY - 2041				
Service Area	Average Flow (for Treatment)		Peak Flows (for Sewer Capacity)	
	m <sup>3</sup> /d	L/s	m <sup>3</sup> /d	m <sup>3</sup> /d
Industrial / Commercial / Recreational	2,027	23.5	6,479.4	82.9

# B

## Appendix B

### Probable Costs Estimates – Detailed Calculations



<b>Project Title:</b>	Puslinch Water and Sewage Feasibility Study		
<b>Client:</b>	Township of Puslinch		
<b>Project No.:</b>	T000866A		
<b>Task:</b>	Water Servicing Option Development - Option 1 Probable Cost		
<b>Prepared By:</b>	Alexandra Laleva	<b>Date:</b>	18-Apr-19
<b>Reviewed by:</b>	S. Winchester	<b>Date:</b>	2-May-19
<b>Revision No.:</b>	1	<b>Revision Date:</b>	

**CAPITAL AND OPERATION & MAINTENANCE COST**

**Option 1A - Intra-Municipal System**

System Description	Quantity	Unit	Material		Labour		Total Material & Labour	Sub Total Cost	Comments
			Unit Cost	Total Material Cost	% of Material	Total Labour Cost			
<b>Supply and Treatment</b>									
Preliminary Studies and Approvals - hydrogeological study and testing	1	LS	\$ 500,000	\$ 500,000	50%	\$ 250,000	\$ 750,000		
Construction of new production wells (assumed 2), equipped with well pumps	1	LS	\$ 150,000	\$ 150,000	50%	\$ 75,000	\$ 225,000		
New treatment facility (assumes 15m x 10m footprint)	150	m2	\$ 2,000	\$ 300,000	50%	\$ 150,000	\$ 450,000		
Piping, valves and fittings	1	LS	\$ 50,000	\$ 50,000	50%	\$ 25,000	\$ 75,000		
Instrumentation	1	LS	\$ 35,000	\$ 35,000	30%	\$ 10,500	\$ 45,500		
Sodium Hypochlorite System - disinfection	1	each	\$ 50,000	\$ 50,000	30%	\$ 15,000	\$ 65,000		
Electrical (standby diesel generator, service entrance, control panels, motor starters, controls and automation)	1	LS	\$ 450,000	\$ 450,000	50%	\$ 225,000	\$ 675,000		
Mechanical (HVAC system, lighting)	1	LS	\$ 75,000	\$ 75,000	50%	\$ 37,500	\$ 112,500		
Site Works (includes site grading, excavation, trenching, backfilling)	1	LS	\$ 250,000	\$ 250,000	50%	\$ 125,000	\$ 375,000		
Contact Chambers for disinfection	1	LS	\$ 250,000	\$ 250,000	50%	\$ 125,000	\$ 375,000		
Other site works (watermains, driveway, fences, gates, sodding, etc.)	1	LS	\$ 100,000	\$ 100,000	50%	\$ 50,000	\$ 150,000		
Power upgrades to 3 phase	1	LS	\$ 75,000	\$ 75,000	50%	\$ 37,500	\$ 112,500		
Property acquisition - treatment facility	1.0	acres	\$ 300,000	\$ 300,000		\$ -	\$ 300,000		Assumed \$300,000/acre as per info provide by real state agent in Puslinch.
Property acquisition - storage facility	1.00	acres	\$ 300,000	\$ 300,000		\$ -	\$ 300,000		Assumed \$300,000/acre as per info provide by real state agent in Puslinch.
<b>Sub-total Capital Cost for New Well Pump =</b>								<b>\$ 4,010,500</b>	
<b>Storage and Distribution System</b>									
New Elevated water tower (2,500 m3)	1	LS	\$ 3,500,000	\$ 3,500,000	incl		\$ 3,500,000		Provided by M. Elliott
300 mm diameter watermain	11,700	m	\$ 710	\$ 8,307,000	incl		\$ 8,307,000		Measured from GIS
<b>Sub-total Capital Cost for Connecting Watermain =</b>								<b>\$ 11,807,000</b>	
<b>SUB-TOTAL CAPITAL COST IN CURRENT YEAR (2018) =</b>								<b>\$ 15,817,500</b>	
<b>Contingency (20%) =</b>								<b>\$ 3,163,500</b>	
<b>Engineering and Construction (15%) =</b>								<b>\$ 2,372,700</b>	
<b>Contractor Overhead (10%) =</b>								<b>\$ 1,581,800</b>	
<b>TOTAL CAPITAL COST IN CURRENT YEAR (2018) =</b>								<b>\$ 22,935,500</b>	

**OPERATION AND MAINTENANCE COST**

Area	Item	QTY	Unit	Unit Cost (\$)	Annual Cost	Subtotal	Comments
<b>Pumping Cost</b>	Well Pumps Annual Electrical Cost	\$ 1	LS	\$ 15,000	\$ 10,000		
	<b>Sub-Total Well Pumps =</b>						<b>\$ 10,000</b>
<b>Chemical Systems</b>	NaOCl at new well pump facility for primary disinfection	\$ 1	LS	\$ 5,000	\$ 5,000		
	<b>Sub-Total Chemical Systems =</b>						<b>\$ 5,000</b>
<b>Miscellaneous O&amp;M</b>	Equipment maintenance, contracts and agreements	1	LS	\$ 30,000	\$ 30,000		
	Pumps parts and replacement, materials, for new facility	1	LS	\$ 15,000	\$ 15,000		
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 45,000</b>
<b>Labour</b>	Labour	1	LS	\$ 350,000	\$ 350,000		Assumed that Town will retain an Operating Agency to operate the system on their behalf. High-level cost provided by OCWA in email on February 20, 2018.
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 350,000</b>
<b>Regulatory Requirements</b>	Lab and reporting	1	LS	\$ 10,000	\$ 10,000		
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 10,000</b>
<b>TOTAL O&amp;M COST IN CURRENT YEAR (2018) =</b>						<b>\$ 420,000</b>	
<b>Contingency (20%) =</b>						<b>\$ 84,000</b>	
<b>TOTAL O&amp;M COST IN CURRENT YEAR (2018) =</b>						<b>\$ 504,000</b>	

**Project Title:** Puslinch Water and Sewage Feasibility Study

**Client:** Township of Puslinch  
**Project No.:** T000866A  
**Task:** Water Servicing Option Development - Option 1 Probable Cost  
**Prepared By:** Alexandra Laleva  
**Reviewed by:** S. Winchester  
**Revision No.:** 2

**Date:** 18-Apr-19  
**Date:** 2-May-19  
**Revision Date:**

**LIFE CYCLE COST**

**Option 1A - Intra-Municipal System**

**Economic Factors**

Interest rate (%) 6%  
 Inflation rate (%) 2.0%  
 Project Start Year (Year n) 2020  
 Planning Period (yrs) 20

Cost in Year n = Cost in Current Year x (1+inflation Rate)^(Year n - Current Year)

Present Value = Cost / ((1+Interest Rate)^(Year n - Current Year))

20-Year NPV					
Year	Capital Cost	NPV Capital Cost	Operating Cost	NPV Operating Cost	Capital and Operating NPV
2018	\$22,935,500		\$504,000		
2019	\$0		\$0		
2020	\$23,862,094	\$21,237,179	\$524,362	\$466,680	\$21,703,859
2021	\$0	\$0	\$534,849	\$449,069	\$449,069
2022	\$0	\$0	\$545,546	\$432,123	\$432,123
2023	\$0	\$0	\$556,457	\$415,817	\$415,817
2024	\$0	\$0	\$567,586	\$400,126	\$400,126
2025	\$0	\$0	\$578,938	\$385,027	\$385,027
2026	\$0	\$0	\$590,516	\$370,497	\$370,497
2027	\$0	\$0	\$602,327	\$356,516	\$356,516
2028	\$0	\$0	\$614,373	\$343,063	\$343,063
2029	\$0	\$0	\$626,661	\$330,117	\$330,117
2030	\$862,404	\$428,589	\$639,194	\$317,660	\$746,248
2031	\$0	\$0	\$651,978	\$305,673	\$305,673
2032	\$0	\$0	\$665,017	\$294,138	\$294,138
2033	\$0	\$0	\$678,318	\$283,038	\$283,038
2034	\$0	\$0	\$691,884	\$272,358	\$272,358
2035	\$0	\$0	\$705,722	\$262,080	\$262,080
2036	\$0	\$0	\$719,836	\$252,190	\$252,190
2037	\$0	\$0	\$734,233	\$242,674	\$242,674
2038	\$0	\$0	\$748,917	\$233,516	\$233,516
2039	\$0	\$0	\$763,896	\$224,704	\$224,704
2040	\$1,051,266	\$291,732	\$779,174	\$216,225	\$507,956
	Sub-Total NPV value =	\$21,957,499		\$6,853,289	
	<b>Total NPV value (20 years) =</b>		<b>\$28,810,800</b>		<b>\$28,810,800</b>

**Capital Cost Breakdown Every 10 Years :**

Well Pump House	Cost every 10 years	Comments
Building envelope, disinfection system, media regeneration, equipment =	\$100,000	Assumed
Well rehabilitation (2 wells) =	\$80,000	Assumed
Elevated Tank (inspection, coating, etc.) =	\$500,000	
<b>Total Capital Cost New Well Pump House / 10 years</b>	<b>\$680,000</b>	

Total Additional Capital Cost / 10 years = **\$680,000**

Project Title: Puslinch Water and Sewage Feasibility Study  
 Client: Township of Puslinch  
 Project No.: T000866A  
 Task: Water Servicing Option Development - Option 2 Probable Cost  
 Prepared By: Alexandra Laleva  
 Reviewed by: S. Winchester  
 Revision No.: 1

Date: 18-Apr-19  
 Date: 2-May-19  
 Revision Date:

CAPITAL AND OPERATION & MAINTENANCE COST									
Option 1B - Inter-Municipal System									
System Description	Quantity	Unit	Material		Labour		Total Material & Labour	Sub Total Cost	Comments
			Unit Cost	Total Material Cost	% of Material	Total Labour Cost			
<b>Supply</b>									
Connection to ex. Guelph distribution system, including metering facility	1	LS	\$ 250,000	\$ 250,000	50%	\$ 125,000	\$ 375,000		
Pressure Control Station	1	LS	\$ 1,000,000	\$ 1,000,000	50%	\$ 500,000	\$ 1,500,000		Assumed by S. Rodriguez
Property acquisition - Pressure Control station	0.5	acres	\$ 300,000	\$ 150,000		\$ -	\$ 150,000		Assumed \$300,000/acre as per info provide by real state agent in Puslinch.
Property acquisition - storage facility	1.0	acres	\$ 300,000	\$ 300,000		\$ -	\$ 300,000		Assumed \$300,000/acre as per info provide by real state agent in Puslinch.
<b>Sub-total Capital Cost for New Well Pump =</b>								<b>\$ 2,325,000</b>	
<b>Storage and Distribution</b>									
New Elevated water tower (2,500 m3)	1	LS	\$ 3,500,000	\$ 3,500,000	incl		\$ 3,500,000		Provided by M. Elliott
300 mm diameter watermain	11,200	m	\$ 710	\$ 7,952,000	incl		\$ 7,952,000		Assumes installation in shoulder of road
<b>Sub-total Capital Cost for Connecting Watermain =</b>								<b>\$ 11,452,000</b>	
<b>SUB-TOTAL CAPITAL COST IN CURRENT YEAR (2018) =</b>								<b>\$ 13,777,000</b>	
<b>Contingency (20%) =</b>								<b>\$ 2,755,400</b>	
<b>Engineering and Construction (15%) =</b>								<b>\$ 2,066,600</b>	
<b>Contractor Overhead (10%) =</b>								<b>\$ 1,377,700</b>	
<b>TOTAL CAPITAL COST IN CURRENT YEAR (2018) =</b>								<b>\$ 19,976,700</b>	

OPERATION AND MAINTENANCE COST							
Area	Item	QTY	Unit	Unit Cost (\$)	Annual Cost	Subtotal	Comments
Pumping Cost	Well Pumps Annual Electrical Cost	\$ 1	LS	\$ 15,000	\$ 10,000		
	<b>Sub-Total Well Pumps =</b>						<b>\$ 10,000</b>
Chemical Systems	NaOCl at new well pump facility for primary disinfection	\$ 1	LS	\$ 2,000	\$ 2,000		In case they want to do re-chlorination at the storage facility
	<b>Sub-Total Chemical Systems =</b>						<b>\$ 2,000</b>
Miscellaneous O&M	Equipment maintenance, contracts and agreements	1	LS	\$ 10,000	\$ 10,000		
	Pumps parts and replacement, materials, for new facility	1	LS	\$ 5,000	\$ 5,000		
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 15,000</b>
Labour	Labour	1	LS		\$ 50,000		Assumed
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 50,000</b>
Regulatory Requirements	Lab and reporting	1	LS	\$ 2,500	\$ 2,500		
	<b>Sub-Total Regulatory Requirements =</b>						<b>\$ 2,500</b>
<b>TOTAL O&amp;M COST IN CURRENT YEAR (2018) =</b>						<b>\$ 79,500</b>	
<b>Contingency (20%) =</b>						<b>\$ 15,900</b>	
<b>TOTAL O&amp;M COST IN CURRENT YEAR (2018) =</b>						<b>\$ 95,400</b>	

**Project Title:** Puslinch Water and Sewage Feasibility Study

**Client:** Township of Puslinch  
**Project No.:** T000866A  
**Task:** Water Servicing Option Development - Option 2 Probable Cost  
**Prepared By:** Alexandra Laleva  
**Reviewed by:** S. Winchester  
**Revision No.:** 2

**Date:** 18-Apr-19  
**Date:** 8-May-19  
**Revision Date:** 13-May-19

**LIFE CYCLE COST**

**Option 1B - Inter-Municipal System**

**Economic Factors**

Interest rate (%) 6%  
 Inflation rate (%) 2.0%  
 Project Start Year (Year n) 2020  
 Planning Period (yrs) 20

Cost in Year n = Cost in Current Year x (1+inflation Rate)^(Year n - Current Year)

Present Value = Cost / ((1+Interest Rate)^(Year n - Current Year))

20-Year NPV					
Year	Capital Cost	NPV Capital Cost	Operating Cost	NPV Operating Cost	Capital and Operating NPV
2018	\$19,976,700		\$95,400		
2019	\$0		\$0		
2020	\$20,783,759	\$18,497,471	\$99,254	\$88,336	\$18,585,807
2021	\$0	\$0	\$101,239	\$85,002	\$85,002
2022	\$0	\$0	\$103,264	\$81,795	\$81,795
2023	\$0	\$0	\$105,329	\$78,708	\$78,708
2024	\$0	\$0	\$107,436	\$75,738	\$75,738
2025	\$0	\$0	\$109,585	\$72,880	\$72,880
2026	\$0	\$0	\$111,776	\$70,130	\$70,130
2027	\$0	\$0	\$114,012	\$67,483	\$67,483
2028	\$0	\$0	\$116,292	\$64,937	\$64,937
2029	\$0	\$0	\$118,618	\$62,486	\$62,486
2030	\$697,533	\$346,653	\$120,990	\$60,128	\$406,781
2031	\$0	\$0	\$123,410	\$57,859	\$57,859
2032	\$0	\$0	\$125,878	\$55,676	\$55,676
2033	\$0	\$0	\$128,396	\$53,575	\$53,575
2034	\$0	\$0	\$130,964	\$51,553	\$51,553
2035	\$0	\$0	\$133,583	\$49,608	\$49,608
2036	\$0	\$0	\$136,255	\$47,736	\$47,736
2037	\$0	\$0	\$138,980	\$45,935	\$45,935
2038	\$0	\$0	\$141,759	\$44,201	\$44,201
2039	\$0	\$0	\$144,595	\$42,533	\$42,533
2040	\$850,289	\$235,959	\$147,486	\$40,928	\$276,888
	Sub-Total NPV value =	\$19,080,083		\$1,297,230	
	<b>Total NPV value (20 years) =</b>		<b>\$20,377,400</b>		<b>\$20,377,400</b>

**Capital Cost Breakdown Every 10 Years :**

Well Pump House	Cost every 10 years	Comments
PS building envelope, equipment =	\$50,000	Assumed
Elevated Tank (inspection, coating, etc.) =	\$500,000	
<b>Total Capital Cost New Well Pump House / 10 years</b>	<b>\$550,000</b>	

Total Additional Capital Cost / 10 years =





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## Statement of Probable Costs (+/- 35%)

### Wastewater Servicing Option 1

CIMA Project No: T000866A  
 Date: 10/05/2019

#### 1.0 Construction

1.10	Gravity Sanitary Sewer	\$	5,290,000.00
1.20	Pumping Station	\$	1,266,000.00
1.30	Forcemains	\$	1,365,000.00
1.40	Wastewater Treatment	\$	13,120,000.00
Sub-total		\$	21,041,000.00
Contingency Allowance (@20%)			\$4,208,200.00
Sub-Total - Construction		\$	25,249,200.00
Engineering (@ 15%)			\$3,787,380.00
<b>Sub-Total - Project</b>		<b>\$</b>	<b>29,036,580.00</b>

#### 2.0 Operating and Maintenance

2.10	Gravity Sanitary Sewer	\$	50,000.00
2.20	Pumping Station	\$	75,000.00
2.30	Forcemains	\$	39,000.00
2.40	Wastewater Treatment	\$	550,000.00
<b>Annual Operating and Maintenance Costs</b>		<b>\$</b>	<b>714,000.00</b>

#### 3.0 20 Year Life Cycle Costs

3.10	Net Present Value - Construction	\$	29,036,580.00
3.20	Net Present Value - Operating and Maintenance	\$	9,829,495.20
<b>Net Present Value - Option 1</b>		<b>\$</b>	<b>38,866,075.20</b>

Date: Friday, May 10, 2019  
 Date: Monday, May 13, 2019

Prepared By: A. Laleva  
 Checked By: S. Winchster, P.Eng.

**Puslinch Water and Wastewater Feasibility Study**  
**PRELIMINARY COST ESTIMATE for WASTEWATER SERVICING**  
PROBABLE COST BREAKDOWN

**SECTION 1 - Gravity Sewer System**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
1.00	Gravity Sanitary Sewer	8,510			\$5,287,500.00
a)	200mm dia. to 250mm dia.	6,940	Lm	\$500.00	\$3,470,000.00
b)	300mm dia. To 375mm dia.	1,570	Lm	\$750.00	\$1,177,500.00
1.01	200mm dia. Service Connections	128	ea.	\$5,000.00	\$640,000.00
<b>TOTAL SECTION 1</b> (Transfer to Summary Sheet)					<b>\$5,290,000.00</b>

**SECTION 2 - Pump Station**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
2.00	Pumping Station (Aberfoyle) Peak flow for 2041 = 83.0 L/s	1	LS	-	\$1,266,000.00
a)	Site acquisition	1	LS	\$200,000.00	\$200,000.00
b)	Inlet chamber	1	LS	\$15,000.00	\$15,000.00
c)	Wet/dry-well	1	LS	\$525,000.00	\$525,000.00
d)	Pumps	3	LS	\$4,500.00	\$13,500.00
e)	Structure	1	LS	\$250,000.00	\$250,000.00
f)	Piping	30	Lm	\$750.00	\$22,500.00
g)	Electrical/Mechanical/SCADA	1	LS	\$150,000.00	\$150,000.00
h)	Civil site works	1	LS	\$90,000.00	\$90,000.00
i)	Operation and Maintenance Cost	1	LS	\$25,000.00	\$25,000.00
<b>TOTAL SECTION 2</b> (Transfer to Summary Sheet)					<b>\$1,266,000.00</b>

**SECTION 3 - Sanitary Forcemain**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
3.00	Sanitary Forcemain				
a)	250mm Ø including all appurtenances	2730	m	\$500.00	\$1,365,000.00
<b>TOTAL SECTION 3</b> (Transfer to Summary Sheet)					<b>\$1,365,000.00</b>

**SECTION 4 - Wastewater Treatment**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
4.00	6500m3/day WWTP	6,500	m3	\$1,930.00	\$12,545,000.00
a)	Site Acquisition	1	LS	\$500,000.00	\$500,000.00
b)	Division 1 - General Requirements	1	LS		\$620,000.00
c)	Division 2 - Site Works	1	LS		\$1,130,000.00
d)	Division 3 - Concrete	1	LS		\$3,340,000.00
e)	Division 4 - Masonry	1	LS		\$510,000.00
f)	Division 5 - Metals	1	LS		\$640,000.00
g)	Division 6 - Wood and Plastics	1	LS		\$60,000.00
h)	Division 7 - Thermal and Moisture Protection	1	LS		\$260,000.00
i)	Division 8 - Doors and Windows	1	LS		\$180,000.00
j)	Division 9 - Finishes	1	LS		\$130,000.00
k)	Division 10 - Specialties	1	LS		\$20,000.00
l)	Division 11 - Equipment	1	LS		\$3,570,000.00
m)	Division 12 - Special Construction	1	LS		\$30,000.00
n)	Division 13 - Control and Instrumentation	1	LS		\$390,000.00
o)	Division 14 - Conveying and Hoisting Equipment	1	LS		\$20,000.00
p)	Division 15 - Mechanical	1	LS		\$580,000.00
q)	Division 16 - Electrical	1	LS		\$1,140,000.00
r)	Operation and Maintenance Cost	1	Yr	\$550,000.00	\$550,000.00
<b>TOTAL SECTION 4</b> (Transfer to Summary Sheet)					<b>\$13,120,000.00</b>



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## Statement of Probable Costs (+/- 35%)

### Wastewater Servicing Option 2

CIMA Project No: T000866A  
 Date: 10/05/2019

#### 1.0 Construction

1.10	Gravity Sanitary Sewer	\$	5,290,000.00
1.20	Pumping Stations	\$	1,566,000.00
1.30	Forcemains	\$	1,610,000.00
Sub-total		\$	8,466,000.00
Contingency Allowance (@20%)			\$1,693,200.00
Sub-Total - Construction		\$	10,159,200.00
Engineering (@ 15%)			\$1,523,880.00
<b>Sub-Total - Construction</b>		<b>\$</b>	<b>11,683,080.00</b>

#### 2.0 Operating and Maintenance

2.10	Gravity Sanitary Sewer	\$	50,000.00
2.20	Pumping Stations	\$	75,000.00
2.30	Forcemains	\$	39,000.00
<b>Annual Operating and Maintenance Costs</b>		<b>\$</b>	<b>164,000.00</b>

#### 3.0 20 Year Life Cycle Costs

3.10	Net Present Value - Construction	\$	11,683,080.00
3.20	Net Present Value - Operating and Maintenance	\$	2,257,755.20
<b>Net Present Value - Option 2</b>		<b>\$</b>	<b>13,940,835.20</b>

Date: Friday, May 10, 2019  
 Date: Monday, May 13, 2019

Prepared By: A. Laleva  
 Checked By: S. Winchster, P.Eng.

**Puslinch Water and Wastewater Feasibility Study**  
**PRELIMINARY COST ESTIMATE for WASTEWATER SERVICING**  
PROBABLE COST BREAKDOWN

**SECTION 1 - Gravity Sewer System**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
1.00	Gravity Sanitary Sewer	8,510			\$5,287,500.00
a)	200mm dia. To 250mm dia.	6,940	Lm	\$500.00	\$3,470,000.00
b)	300mm dia. To 375mm dia.	1,570	Lm	\$750.00	\$1,177,500.00
1.03	200mm dia. Service Connections	128	ea.	\$5,000.00	\$640,000.00

**TOTAL SECTION 1**

(Transfer to Summary Sheet)

**\$5,290,000.00**

**SECTION 2 - Pump Station**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
2.00	Pumping Station (Aberfoyle) Peak flow for 2041 = 83.0 L/s	1	LS	-	\$1,566,000.00
a)	Site acquisition	1	LS	\$200,000.00	\$200,000.00
b)	Inlet chamber	1	LS	\$15,000.00	\$15,000.00
c)	Wet/dry-well	1	LS	\$525,000.00	\$525,000.00
d)	Pumps	3	LS	\$4,500.00	\$13,500.00
e)	Structure	1	LS	\$250,000.00	\$250,000.00
f)	Piping	30	Lm	\$750.00	\$22,500.00
g)	Electrical/Mechanical/SCADA	1	LS	\$150,000.00	\$150,000.00
h)	Civil site works	1	LS	\$90,000.00	\$90,000.00
i)	Emergency Storage	1	LS	\$300,000.00	\$300,000.00
j)	Operation and Maintenance Cost	1	LS	\$30,000.00	\$30,000.00

**TOTAL SECTION 2**

(Transfer to Summary Sheet)

**\$1,566,000.00**

**SECTION 3 - Sanitary Forcemain**

Item No.	Description	Est. Quantity	Unit	Unit Price	Total Price
3.00	Sanitary Forcemain				
	250mm Ø including all appurtenances	3220	m	\$500.00	\$1,610,000.00

**TOTAL SECTION 3**

(Transfer to Summary Sheet)

**\$1,610,000.00**

**WATER SERVICING INFRASTRUCTURE AVERAGE UNIT PRICES (2019 - Southwestern Region)**

**A) Watermain Installation with Minimum Restoration (Top Soil and Seed only) (FOR INSTALLATION IN DITCHES)**

Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	Subtotal Unit Cost	Appurtenance Allowance	Subtotal Unit Cost	Dewatering Allowance	Subtotal Unit Cost	Conting @20%	Eng. @15%	TOTAL (excl. HST)	
				Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost										
(mm)	(m)	(m)	(m)	(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	40.00	59.00	176.78	10	186.78	37.40	33.60	260.00	
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	40.00	59.00	197.38	10	207.38	41.50	31.11	280.00	
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	40.00	64.00	235.70	10	245.70	49.10	36.86	340.00	
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	40.00	67.00	276.80	10	286.80	57.40	43.02	390.00	
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	40.00	80.00	332.65	15	347.65	69.50	52.15	470.00	
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	40.00	85.00	515.90	15	530.90	106.20	79.64	720.00	
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	40.00	103.00	595.60	15	610.60	118.10	88.59	800.00	
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	40.00	123.00	681.20	15	706.20	139.20	104.43	940.00	
500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	40.00	134.00	770.40	20	790.40	158.10	118.56	1,070.00		
600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	40.00	174.00	1,125.70	20	1,145.70	229.10	171.86	1,550.00		
CPP	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	40.00	1,123.20	150.00	1,273.20	20	1,293.20	258.60	193.98	1,750.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	40.00	180.00	1,507.60	20	1,527.60	305.50	229.14	2,070.00	

**B) Watermain Installation with Granular Road Restoration**

Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	Subtotal Unit Cost	Appurtenance Allowance	Subtotal Unit Cost	Dewatering Allowance	Subtotal Unit Cost	Conting @20%	Eng. @15%	TOTAL (excl. HST)	
				Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost										
(mm)	(m)	(m)	(m)	(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	72.00	59.00	208.78	10	218.78	43.80	39.40	310.00	
	150	0.20	2.4	0.80	3.10	18.60	0.52	23.40	38.25	3.83	2.85	14.30	72.00	59.00	229.38	10	239.38	47.90	35.91	330.00	
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	72.00	64.00	267.70	10	277.70	55.50	41.66	380.00	
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	72.00	67.00	308.80	10	318.80	63.80	47.82	440.00	
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	72.00	80.00	364.65	15	379.65	75.90	56.95	520.00	
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	72.00	105.00	567.90	15	582.90	116.60	87.44	790.00	
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	72.00	123.00	627.60	15	642.60	128.50	96.39	870.00	
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	72.00	153.00	743.20	15	758.20	151.60	113.73	1,030.00	
500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	72.00	164.00	832.40	20	852.40	170.50	127.86	1,160.00		
600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	72.00	194.00	1,177.70	20	1,197.70	239.50	179.66	1,620.00		
CPP	750	0.90	2.4	1.50	7.0	42.00	2.02	91.20	850.00	85.00	3.00	15.00	72.00	1,155.20	150.00	1,305.20	20	1,325.20	265.00	198.78	1,790.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	72.00	180.00	1,539.60	20	1,559.60	311.90	233.94	2,110.00	

**C) Watermain Installation with with Road Restoration (Assumes 1 Lane restored, along with Curb & Gutter, and Sidewalk one side)**

Nom. Pipe Size	Outer Diameter	Depth to Invert	Minimum Trench Width	Excavation		Bedding		Pipe		Backfill		Restoration Allowance	Subtotal Unit Cost	Appurtenance Allowance	Subtotal Unit Cost	Dewatering Allowance	Subtotal Unit Cost	Conting @20%	Eng. @15%	TOTAL (excl. HST)
				Vol.	Cost	Vol.	Cost	Cost	Installation	Vol.	Cost									
(mm)	(m)	(m)	(m)	(m <sup>3</sup> )	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/m)	(m <sup>3</sup> )	(\$/m)	(\$/m)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)	(\$/)
PVC	100	0.14	2.4	0.74	2.8	16.80	0.44	19.70	24.80	2.48	2.80	14.00	214.12	59.00	350.90	10	360.90	72.20	65.00	500.00
	150	0.20	2.4	0.80	3.1	18.60	0.52	23.40	38.25	3.83	2.85	14.30	214.12	59.00	371.50	10	381.50	76.30	57.22	520.00
	200	0.26	2.4	0.86	3.4	20.40	0.61	27.50	63.00	6.30	2.90	14.50	214.12	64.00	409.82	10	419.82	84.00	62.97	570.00
	250	0.33	2.4	0.93	3.7	22.20	0.73	32.70	91.00	9.10	2.95	14.80	214.12	67.00	450.92	10	460.92	92.20	69.14	630.00
	300	0.38	2.4	0.98	4.0	24.00	0.81	36.70	124.50	12.45	3.00	15.00	214.12	80.00	506.77	15	521.77	104.40	78.27	710.00
	350	0.45	2.4	1.05	4.4	26.40	0.94	42.60	279.00	27.90	3.00	15.00	214.12	105.00	710.02	15	725.02	145.00	108.75	980.00
	400	0.50	2.4	1.10	4.5	27.00	1.04	47.10	312.00	31.20	3.05	15.30	214.12	123.00	769.72	15	784.72	156.90	117.71	1,060.00
	450	0.55	2.4	1.15	4.6	27.60	1.15	51.80	385.00	38.50	3.05	15.30	214.12	153.00	885.32	15	900.32	180.10	135.05	1,220.00
500	0.60	2.4	1.20	4.9	29.40	1.26	56.70	450.00	45.00	3.05	15.30	214.12	164.00	974.52	20	994.52	198.90	149.18	1,350.00	
600	0.73	2.4	1.33	5.8	34.80	1.57	70.70	719.00	71.90	3.05	15.30	214.12	194.00	1,319.82	20	1,339.82	268.00	200.97	1,810.00	
CPP	750	0.90	2.4	1.50	7	42.00	2.02	91.20	850.00	85.00	3.00	15.00	214.12	150.00	1,447.32	20	1,467.32	293.50	220.10	1,990.00
	900	1.10	3.0	1.70	8.7	52.20	2.63	118.60	1,000.00	100.00	3.35	16.80	214.12	180.00	1,681.72	20	1,701.72	340.30	255.26	2,300.00

**Notes**

- 1) Cost of excavation: \$6/m3
- 2) Cost of bedding/pipe surrounding: \$45/m3 includes supply and place
- 3) PVC Pipe (up to 600 mm) Cost provided by IPEX on 30 Oct 17
- 4) Pipe Installation Allowance based on 10% of pipe cost
- 5) Backfill trench \$5/m3 based on replacement of native material and compaction
- 6) Includes costs for mainline valves and hydrant sets. No hydrants connected to 750mm and larger mains. Service connections and special appurtenances excluded
- 7) Restoration for route along existing road allowance (Cost varies with type of restoration). Minimum 4.0m width of restoration (2.0m trench plus 1.0 m each side)
- 8) Includes allowance for dewatering
- 9) PVC DR18 (100mm to 600mm)

Prepared By: D. Prashad Date: 30-Nov-17  
 Checked By: S. Winchester

## WASTEWATER SERVICING INFRASTRUCTURE - Average Unit Prices (Southwestern Ontario Region) for 2019

Nom. Pipe Size	Depth to Invert	Shoring System Cost	Outer pipe Diameter	Excavation		Granular Bed. Surr.		Backfill		Pipe		MH Allowance	Subtotal	Dewatering Allowance	TOTAL (excluding restoration)	Road Restoration	TOTAL (including restoration)
				Vol.	Cost	Vol.	Cost	Vol.	Cost	Cost	Installation Allowance						
(mm)	(m)	(\$/m)	(m)	(m3)	(\$/m)	(m3)	(\$/m)	(m3)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)	(\$/m)
200	5	10.00	0.213	6.2	37.20	0.6	27.00	5.6	28.00	55.65	5.57	94.00	<b>257.42</b>	20.00	<b>280</b>	214	<b>494</b>
250	5	10.00	0.267	6.2	37.2	0.7	31.5	5.5	27.5	85.30	8.53	94.00	<b>294.03</b>	20.00	<b>320</b>	214	<b>534</b>
300	5	10.00	0.318	6.2	37.20	0.8	36.00	5.4	27.00	120.25	12.03	94.00	<b>336.48</b>	20.00	<b>360</b>	214	<b>574</b>
375	5	10.00	0.389	6.2	37.20	0.9	40.50	5.3	26.50	162.45	16.25	94.00	<b>386.90</b>	20.00	<b>410</b>	214	<b>624</b>
450	5	10.00	0.622	7.3	43.80	1.2	54.00	6.1	30.50	101.30	30.39	94.00	<b>363.99</b>	20.00	<b>390</b>	214	<b>604</b>
525	5	10.00	0.711	7.8	46.80	1.4	63.00	6.4	32.00	129.00	38.70	135.00	<b>454.50</b>	20.00	<b>480</b>	214	<b>694</b>
600	5	10.00	0.800	8.2	49.20	1.5	67.50	6.7	33.50	170.90	51.27	135.00	<b>517.37</b>	20.00	<b>540</b>	214	<b>754</b>
675	5	15.00	0.889	8.7	52.20	1.6	72.00	7.1	35.50	259.60	77.88	135.00	<b>647.18</b>	20.00	<b>670</b>	271	<b>941</b>
750	5	15.00	0.978	9.2	55.20	1.8	81.00	7.4	37.00	343.50	103.05	135.00	<b>769.75</b>	20.00	<b>790</b>	271	<b>1,061</b>
825	5	15.00	1.067	9.6	57.60	1.9	85.50	7.7	38.50	443.40	133.02	172.00	<b>945.02</b>	20.00	<b>970</b>	271	<b>1,241</b>
900	5	15.00	1.156	10.4	62.40	2.1	94.50	8.3	41.50	478.40	143.52	172.00	<b>1,007.32</b>	20.00	<b>1,030</b>	271	<b>1,301</b>
975	5	20.00	1.245	10.8	64.80	2.2	99.00	8.6	43.00	549.70	164.91	172.00	<b>1,113.41</b>	20.00	<b>1,140</b>	271	<b>1,411</b>
1050	5	20.00	1.334	11.3	67.80	2.4	108.00	8.9	44.50	632.00	189.60	303.00	<b>1,364.90</b>	20.00	<b>1,390</b>	271	<b>1,661</b>
1200	5	20.00	1.511	12.2	73.20	2.7	121.50	9.5	47.50	791.50	237.45	303.00	<b>1,594.15</b>	20.00	<b>1,620</b>	271	<b>1,891</b>
200	7	10.00	0.213	8.6	51.60	0.6	27.00	8.0	40.00	55.65	5.57	150.00	<b>339.82</b>	20.00	<b>360</b>	214	<b>574</b>
250	7	10.00	0.267	8.6	51.60	0.7	31.5	7.9	39.50	85.30	8.53	150.00	<b>376.43</b>	20.00	<b>400.00</b>	214	614
300	7	15.00	0.318	8.6	51.60	0.8	36.00	7.8	39.00	120.25	12.03	150.00	<b>423.88</b>	20.00	<b>450</b>	214	<b>664</b>
375	7	15.00	0.389	8.6	51.60	0.9	40.50	7.7	38.50	162.45	16.25	150.00	<b>474.30</b>	20.00	<b>500</b>	214	<b>714</b>
450	7	15.00	0.622	10.2	61.20	1.2	54.00	9.0	45.00	101.30	30.39	150.00	<b>456.89</b>	20.00	<b>480</b>	214	<b>694</b>
525	7	15.00	0.711	10.8	64.80	1.4	63.00	9.4	47.00	129.00	38.70	189.00	<b>546.50</b>	20.00	<b>570</b>	214	<b>784</b>
600	7	20.00	0.800	11.4	68.40	1.5	67.50	9.9	49.50	170.90	51.27	189.00	<b>616.57</b>	20.00	<b>640</b>	214	<b>854</b>
675	7	20.00	0.889	12.1	72.60	1.6	72.00	10.5	52.50	259.60	77.88	189.00	<b>743.58</b>	20.00	<b>770</b>	271	<b>1,041</b>
750	7	20.00	0.978	12.7	76.20	1.8	81.00	10.9	54.50	343.50	103.05	189.00	<b>867.25</b>	20.00	<b>890</b>	271	<b>1,161</b>
825	7	20.00	1.067	13.3	79.80	1.9	85.50	11.4	57.00	443.40	133.02	226.00	<b>1,044.72</b>	20.00	<b>1,070</b>	271	<b>1,341</b>
900	7	30.00	1.156	14.3	85.80	2.1	94.50	12.2	61.00	478.40	143.52	226.00	<b>1,119.22</b>	20.00	<b>1,140</b>	271	<b>1,411</b>
975	7	30.00	1.245	14.9	89.40	2.2	99.00	12.7	63.50	549.70	164.91	226.00	<b>1,222.51</b>	20.00	<b>1,250</b>	271	<b>1,521</b>
1050	7	40.00	1.334	15.6	93.60	2.4	108.00	13.2	66.00	632.00	189.60	356.00	<b>1,485.20</b>	20.00	<b>1,510</b>	271	<b>1,781</b>
1200	7	40.00	1.511	16.9	101.40	2.7	121.50	14.2	71.00	791.50	237.45	356.00	<b>1,718.85</b>	20.00	<b>1,740</b>	271	<b>2,011</b>

**Notes**

- |   |   |
|---|---|
| <p>1) Cost of excavation \$6/m<sup>3</sup></p> <p>2) For 200mm to 375 mm sewer pipe, supply cost taken from Royal Pipe Products (PVC) 2018 Price Installation Cost 10% of pipe supply cost</p> <p>3) For sewer pipe 450mm dia and larger, supply cost taken from M-Con Products 2017 Price list for Installation Cost 30% of pipe cost for concrete pipe</p> <p>4) Backfill trench \$5/m<sup>3</sup> based on replacement of native material and compaction</p> | <p>5) Cost of granular bedding \$45/m<sup>3</sup></p> <p>6) Manhole Spacing 100 m</p> <p>7) Service Laterals excluded from this estimate.</p> <p>8) Restoration cost for sewers 600mm dia and smaller includes 300mm subbase, 150mm base, 60mm binder, and 40mm binder</p> <p>9) Restoration cost for sewers larger than 600mm dia includes 450mm subbase, 150mm base, 100mm binder, and 40mm surface</p> <p>10) Engineering and HST not included</p> |
|---|---|

Prepared By: S. Mayirou  
 Checked By: S. Winchester

Date: 9/1/2018  
 Date: 15/01/18

MH	Dia	Depth	List Price <sup>1</sup>	Additional Items <sup>2</sup>	Sub-Total _ Supply Cost	Installation @ 100%	Total Cost per Installed	Cost per m
		1200	\$3,834.00	\$862.80	\$4,696.80	\$4,696.80	\$9,400.00	\$94.00
		1500	\$5,630.00	\$1,112.80	\$6,742.80	\$6,742.80	\$13,500.00	\$135.00
		1800	\$7,128.00	\$1,462.80	\$8,590.80	\$8,590.80	\$17,200.00	\$172.00
		2400	\$13,265.00	\$1,862.80	\$15,127.80	\$15,127.80	\$30,300.00	\$303.00
		1200	\$6,593.00	\$862.80	\$7,455.80	\$7,455.80	\$15,000.00	\$150.00
		1500	\$8,293.00	\$1,112.80	\$9,405.80	\$9,405.80	\$18,900.00	\$189.00
		1800	\$9,791.00	\$1,462.80	\$11,253.80	\$11,253.80	\$22,600.00	\$226.00
		2400	\$15,927.00	\$1,862.80	\$17,789.80	\$17,789.80	\$35,600.00	\$356.00

Note:

1 Based on 2017 List Price from M-Con Products. Safety Landing included for MH depths > 5.0 m

2 Allowance for castings, grade rings, benching, flexible connectors

Flexible Connectors

300	\$312.30
375	\$375.30
450	\$474.80
525	\$560.50
600	\$664.40
675	Not listed
750	Not listed
825	Not listed
900	Not listed
975	Not listed
1050	Not listed
1200	Not listed



**Excavation Quantities for Sewers laid at Different Depths**

**For Depth to Invert = 5.0 m**

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
200	0.260	5	1.010	1	1.0	1.510	3	4.5	1.510	3.510	1	2.5	8.1
250	0.318	5	1.068	1	1.1	1.568	3	4.7	1.568	3.568	1	2.6	8.3
300	0.445	5	1.195	1	1.2	1.695	3	5.1	1.695	3.695	1	2.7	9.0
375	0.520	5	1.270	1	1.3	1.770	3	5.3	1.770	3.770	1	2.8	9.4
450	0.580	5	1.330	1	1.3	1.830	3	5.5	1.830	3.830	1	2.8	9.7
525	0.665	5	1.415	1	1.4	1.915	3	5.7	1.915	3.915	1	2.9	10.1
600	0.755	5	1.505	1	1.5	2.005	3	6.0	2.005	4.005	1	3.0	10.5
675	0.880	5	1.630	1	1.6	2.130	3	6.4	2.130	4.130	1	3.1	11.2
750	0.970	5	1.720	1	1.7	2.220	3	6.7	2.220	4.220	1	3.2	11.6
825	1.055	5	1.805	1	1.8	2.305	3	6.9	2.305	4.305	1	3.3	12.0

**For Depth to Invert = 7.0 m**

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
250	0.318	7	1.068	1	1.1	1.568	5	7.8	1.568	3.568	1	2.6	11.5
300	0.445	7	1.195	1	1.2	1.695	5	8.5	1.695	3.695	1	2.7	12.4
375	0.520	7	1.270	1	1.3	1.770	5	8.9	1.770	3.770	1	2.8	12.9
450	0.580	7	1.330	1	1.3	1.830	5	9.2	1.830	3.830	1	2.8	13.3
525	0.665	7	1.415	1	1.4	1.915	5	9.6	1.915	3.915	1	2.9	13.9
600	0.755	7	1.505	1	1.5	2.005	5	10.0	2.005	4.005	1	3.0	14.5
675	0.880	7	1.630	1	1.6	2.130	5	10.7	2.130	4.130	1	3.1	15.4
750	0.970	7	1.720	1	1.7	2.220	5	11.1	2.220	4.220	1	3.2	16.0
825	1.055	7	1.805	1	1.8	2.305	5	11.5	2.305	4.305	1	3.3	16.6

**For Depth to Invert = 9.0 m**

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Bottom Trench			Middle Trench			Top Trench				Total Area
			Width	Depth	Area	Width	Depth	Area	Bottom Width	Top Width	Depth	Area	
mm	m	m	m	m	m2	m	m	m2	m	m	m	m2	m2
250	0.318	9	1.068	1	1.1	1.568	6	9.4	1.568	5.568	2	7.1	17.6
300	0.445	9	1.195	1	1.2	1.695	6	10.2	1.695	5.695	2	7.4	18.8
375	0.520	9	1.270	1	1.3	1.770	6	10.6	1.770	5.770	2	7.5	19.4
450	0.580	9	1.330	1	1.3	1.830	6	11.0	1.830	5.830	2	7.7	20.0
525	0.665	9	1.415	1	1.4	1.915	6	11.5	1.915	5.915	2	7.8	20.7
600	0.755	9	1.505	1	1.5	2.005	6	12.0	2.005	6.005	2	8.0	21.5
675	0.880	9	1.630	1	1.6	2.130	6	12.8	2.130	6.130	2	8.3	22.7
750	0.970	9	1.720	1	1.7	2.220	6	13.3	2.220	6.220	2	8.4	23.5
825	1.055	9	1.805	1	1.8	2.305	6	13.8	2.305	6.305	2	8.6	24.2

**RESTORATION UNIT COST FOR SEWERS**

Nom. Pipe Size	Outer Pipe Dia.	Depth To Invert	Surface Area of Trench	Topsoil+ Seed Cost @ \$7.5/m <sup>2</sup>	Topsoil+ Sod Cost @ \$10.00/m <sup>2</sup>	Granular Restoration & Sub-base		Asphalt including Granular Base	
						Local Street @ \$18.0/m <sup>2</sup>	Collector Street @ \$23.4/m <sup>2</sup>	Local Street @ \$41.0/m <sup>2</sup>	Collector Street @ \$55.3/m <sup>2</sup>
mm	m	m	m <sup>2</sup> /m	\$/m	\$/m	\$/m	\$/m	\$/m	\$/m
300	0.445	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
375	0.533	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
450	0.622	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
525	0.711	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
600	0.800	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
675	0.889	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
750	0.978	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
825	1.067	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
900	1.156	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
975	1.245	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
105	1.334	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0
1200	1.511	5	4.0	30.2	40.0	72.0	93.6	214.1	271.0

**UNIT COST FOR DIFFERENT LAYERS**

Item	Local Street		Collector Street		Remarks
		\$/m <sup>2</sup>		\$/m <sup>2</sup>	
Subbase	300 mm "B"	10.8	450 mm "B"	16.2	"B" @ \$15/tonne (2.4 t/m <sup>3</sup> )
Base	150 mm "A"	7.2	150 mm "A"	7.2	"A" @ \$20/tonne (2.4 t/m <sup>3</sup> )
<b>Subtotal</b>		<b>18.0</b>		<b>23.4</b>	
Binder	60 HL4	13.2	100 HL4	22.1	"HL4" @ \$90/tonne (2.45 t/m <sup>3</sup> )
Surface	40 HL3	9.8	40 HL3	9.8	"HL3" @ \$100/tonne (2.45 t/m <sup>3</sup> )
<b>Total</b>		<b>41.0</b>		<b>55.3</b>	
Curb (one side)		50.0		50.0	

# C

## Appendix C

### Preliminary Cost Recovery Estimates – Detailed Calculations



<b>Project Title:</b>	<b>Water and Sewage Feasibility Study</b>		
<b>Client:</b>	Township of Puslinch		
<b>Project No.:</b>	T000866A		
<b>Task:</b>	Cost Recovery Calculations		
<b>Prepared By:</b>	A. Laleva	<b>Date:</b> 16-May-19	
<b>Reviewed by:</b>	S. Winchester	<b>Date:</b> 20-May-19	
<b>Revision No. :</b>		<b>Revision Date:</b>	

	<b>PRELIMINARY COST RECOVERY OPTIONS</b>							
	<b>WATER SERVICING</b>				<b>WASTEWATER SERVICING</b>			
	<b>OPTION 1</b>		<b>OPTION 2</b>		<b>OPTION 1</b>		<b>OPTION 2</b>	
<b>ASSUME NO FUNDING</b>								
CAPITAL COST	\$22,935,500		\$19,976,700		\$29,036,580		\$11,683,080	
Servicing Cost Per Unit (128 connections)	\$179,184		\$156,068		\$226,848		\$91,274	
	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
Estimated Cost - 10 Year Payback (4.0%)	\$1,814	\$21,770	\$1,580	\$18,961	\$2,297	\$27,561	\$924	\$11,089
Estimated Cost - 15 Year Payback (4.0%)	\$1,325	\$15,905	\$1,154	\$13,853	\$1,678	\$20,136	\$675	\$8,102
Estimated Cost - 20 Year Payback (4.0%)	\$1,086	\$13,030	\$946	\$11,349	\$1,375	\$16,496	\$553	\$6,637
<b>ASSUME 2/3 FUNDING</b>								
CAPITAL COST	\$22,935,500		\$19,976,700		\$29,036,580		\$11,683,080	
SUBSIDIZED COST	\$7,645,167		\$6,658,900		\$9,678,860		\$3,894,360	
Servicing Cost Per Unit (128 connections)	\$59,728		\$52,023		\$75,616		\$30,425	
	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost	Monthly Cost	Annual Cost
Estimated Cost - 10 Year Payback (4.0%)	\$605	\$7,257	\$527	\$6,320	\$766	\$9,187	\$308	\$3,696
Estimated Cost - 15 Year Payback (4.0%)	\$442	\$5,302	\$385	\$4,618	\$559	\$6,712	\$225	\$2,701
Estimated Cost - 20 Year Payback (4.0%)	\$362	\$4,343	\$315	\$3,783	\$458	\$5,499	\$184	\$2,212

Note: Payback amounts exclude Administration Fees (if any) charged by the Township to administer the loans

## Calculate Discount Factors

### For 10 Year Cost Recovery

where	A =	$((i*(1+i)^n) / ((1+i)^n - 1))$	Capital Recovery Factor (Eq'n 3.18, Engineering Economic Analysis)
	i =	interest rate per period	
	$i_a =$	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	120	Number of Monthly Payments
	A =	0.010125	
	D =	98.77017	Discount Factor (=1/A)

### For 15 Year Cost Recovery

where	A =	$((i*(1+i)^n) / ((1+i)^n - 1))$	
	i =	interest rate per period	
	$i_a =$	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	180	Number of Monthly Payments
	A =	0.007397	
	D =	135.1921	Discount Factor (=1/A)

### For 20 Year Cost Recovery

where	A =	$((i*(1+i)^n) / ((1+i)^n - 1))$	
	i =	interest rate per period	
	$i_a =$	4.0 %	Assumed Annual Interest Rate
	=	0.333333 %	
	=	0.003333	
	n =	240	Number of Monthly Payments
	A =	0.00606	
	D =	165.0219	Discount Factor (=1/A)

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$1,814.15

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	10	\$1,814.15

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$179,184.00	\$597.28	\$1,216.87	\$177,967.13	\$597.28
2	\$177,967.13	\$593.22	\$1,220.93	\$176,746.20	\$1,190.50
3	\$176,746.20	\$589.15	\$1,225.00	\$175,521.21	\$1,779.66
4	\$175,521.21	\$585.07	\$1,229.08	\$174,292.12	\$2,364.73
5	\$174,292.12	\$580.97	\$1,233.18	\$173,058.95	\$2,945.70
6	\$173,058.95	\$576.86	\$1,237.29	\$171,821.66	\$3,522.57
7	\$171,821.66	\$572.74	\$1,241.41	\$170,580.25	\$4,095.30
8	\$170,580.25	\$568.60	\$1,245.55	\$169,334.70	\$4,663.91
9	\$169,334.70	\$564.45	\$1,249.70	\$168,085.00	\$5,228.35
10	\$168,085.00	\$560.28	\$1,253.87	\$166,831.13	\$5,788.64
11	\$166,831.13	\$556.10	\$1,258.05	\$165,573.08	\$6,344.74
12	\$165,573.08	\$551.91	\$1,262.24	\$164,310.84	\$6,896.65
13	\$164,310.84	\$547.70	\$1,266.45	\$163,044.39	\$7,444.35
14	\$163,044.39	\$543.48	\$1,270.67	\$161,773.72	\$7,987.84
15	\$161,773.72	\$539.25	\$1,274.91	\$160,498.82	\$8,527.08
16	\$160,498.82	\$535.00	\$1,279.15	\$159,219.66	\$9,062.08
17	\$159,219.66	\$530.73	\$1,283.42	\$157,936.24	\$9,592.81
18	\$157,936.24	\$526.45	\$1,287.70	\$156,648.55	\$10,119.26
19	\$156,648.55	\$522.16	\$1,291.99	\$155,356.56	\$10,641.43
20	\$155,356.56	\$517.86	\$1,296.30	\$154,060.26	\$11,159.28
21	\$154,060.26	\$513.53	\$1,300.62	\$152,759.65	\$11,672.81
22	\$152,759.65	\$509.20	\$1,304.95	\$151,454.69	\$12,182.01
23	\$151,454.69	\$504.85	\$1,309.30	\$150,145.39	\$12,686.86
24	\$150,145.39	\$500.48	\$1,313.67	\$148,831.73	\$13,187.35
25	\$148,831.73	\$496.11	\$1,318.05	\$147,513.68	\$13,683.45
26	\$147,513.68	\$491.71	\$1,322.44	\$146,191.24	\$14,175.17
27	\$146,191.24	\$487.30	\$1,326.85	\$144,864.40	\$14,662.47
28	\$144,864.40	\$482.88	\$1,331.27	\$143,533.13	\$15,145.35
29	\$143,533.13	\$478.44	\$1,335.71	\$142,197.42	\$15,623.79
30	\$142,197.42	\$473.99	\$1,340.16	\$140,857.26	\$16,097.79
31	\$140,857.26	\$469.52	\$1,344.63	\$139,512.63	\$16,567.31
32	\$139,512.63	\$465.04	\$1,349.11	\$138,163.52	\$17,032.35
33	\$138,163.52	\$460.55	\$1,353.61	\$136,809.92	\$17,492.90
34	\$136,809.92	\$456.03	\$1,358.12	\$135,451.80	\$17,948.93
35	\$135,451.80	\$451.51	\$1,362.64	\$134,089.16	\$18,400.44
36	\$134,089.16	\$446.96	\$1,367.19	\$132,721.97	\$18,847.40
37	\$132,721.97	\$442.41	\$1,371.74	\$131,350.22	\$19,289.81
38	\$131,350.22	\$437.83	\$1,376.32	\$129,973.91	\$19,727.64
39	\$129,973.91	\$433.25	\$1,380.90	\$128,593.00	\$20,160.89
40	\$128,593.00	\$428.64	\$1,385.51	\$127,207.50	\$20,589.53
41	\$127,207.50	\$424.02	\$1,390.13	\$125,817.37	\$21,013.56
42	\$125,817.37	\$419.39	\$1,394.76	\$124,422.61	\$21,432.95
43	\$124,422.61	\$414.74	\$1,399.41	\$123,023.20	\$21,847.69
44	\$123,023.20	\$410.08	\$1,404.07	\$121,619.13	\$22,257.77
45	\$121,619.13	\$405.40	\$1,408.75	\$120,210.37	\$22,663.16
46	\$120,210.37	\$400.70	\$1,413.45	\$118,796.92	\$23,063.86
47	\$118,796.92	\$395.99	\$1,418.16	\$117,378.76	\$23,459.85
48	\$117,378.76	\$391.26	\$1,422.89	\$115,955.87	\$23,851.12
49	\$115,955.87	\$386.52	\$1,427.63	\$114,528.24	\$24,237.64
50	\$114,528.24	\$381.76	\$1,432.39	\$113,095.85	\$24,619.40
51	\$113,095.85	\$376.99	\$1,437.16	\$111,658.69	\$24,996.38
52	\$111,658.69	\$372.20	\$1,441.96	\$110,216.73	\$25,368.58
53	\$110,216.73	\$367.39	\$1,446.76	\$108,769.97	\$25,735.97
54	\$108,769.97	\$362.57	\$1,451.58	\$107,318.39	\$26,098.53
55	\$107,318.39	\$357.73	\$1,456.42	\$105,861.96	\$26,456.26
56	\$105,861.96	\$352.87	\$1,461.28	\$104,400.69	\$26,809.14
57	\$104,400.69	\$348.00	\$1,466.15	\$102,934.54	\$27,157.14
58	\$102,934.54	\$343.12	\$1,471.04	\$101,463.50	\$27,500.25
59	\$101,463.50	\$338.21	\$1,475.94	\$99,987.56	\$27,838.46
60	\$99,987.56	\$333.29	\$1,480.86	\$98,506.70	\$28,171.76
61	\$98,506.70	\$328.36	\$1,485.80	\$97,020.91	\$28,500.11

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$1,814.15

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	10	\$1,814.15

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	\$97,020.91	\$323.40	\$1,490.75	\$95,530.16	\$28,823.52
63	\$95,530.16	\$318.43	\$1,495.72	\$94,034.44	\$29,141.95
64	\$94,034.44	\$313.45	\$1,500.70	\$92,533.74	\$29,455.40
65	\$92,533.74	\$308.45	\$1,505.71	\$91,028.04	\$29,763.84
66	\$91,028.04	\$303.43	\$1,510.72	\$89,517.31	\$30,067.27
67	\$89,517.31	\$298.39	\$1,515.76	\$88,001.55	\$30,365.66
68	\$88,001.55	\$293.34	\$1,520.81	\$86,480.74	\$30,659.00
69	\$86,480.74	\$288.27	\$1,525.88	\$84,954.86	\$30,947.27
70	\$84,954.86	\$283.18	\$1,530.97	\$83,423.89	\$31,230.45
71	\$83,423.89	\$278.08	\$1,536.07	\$81,887.82	\$31,508.53
72	\$81,887.82	\$272.96	\$1,541.19	\$80,346.63	\$31,781.49
73	\$80,346.63	\$267.82	\$1,546.33	\$78,800.30	\$32,049.31
74	\$78,800.30	\$262.67	\$1,551.48	\$77,248.82	\$32,311.98
75	\$77,248.82	\$257.50	\$1,556.65	\$75,692.16	\$32,569.48
76	\$75,692.16	\$252.31	\$1,561.84	\$74,130.32	\$32,821.78
77	\$74,130.32	\$247.10	\$1,567.05	\$72,563.27	\$33,068.88
78	\$72,563.27	\$241.88	\$1,572.27	\$70,990.99	\$33,310.76
79	\$70,990.99	\$236.64	\$1,577.51	\$69,413.48	\$33,547.40
80	\$69,413.48	\$231.38	\$1,582.77	\$67,830.71	\$33,778.78
81	\$67,830.71	\$226.10	\$1,588.05	\$66,242.66	\$34,004.88
82	\$66,242.66	\$220.81	\$1,593.34	\$64,649.32	\$34,225.69
83	\$64,649.32	\$215.50	\$1,598.65	\$63,050.66	\$34,441.19
84	\$63,050.66	\$210.17	\$1,603.98	\$61,446.68	\$34,651.36
85	\$61,446.68	\$204.82	\$1,609.33	\$59,837.35	\$34,856.18
86	\$59,837.35	\$199.46	\$1,614.69	\$58,222.66	\$35,055.64
87	\$58,222.66	\$194.08	\$1,620.08	\$56,602.58	\$35,249.71
88	\$56,602.58	\$188.68	\$1,625.48	\$54,977.11	\$35,438.39
89	\$54,977.11	\$183.26	\$1,630.89	\$53,346.21	\$35,621.64
90	\$53,346.21	\$177.82	\$1,636.33	\$51,709.88	\$35,799.46
91	\$51,709.88	\$172.37	\$1,641.78	\$50,068.10	\$35,971.83
92	\$50,068.10	\$166.89	\$1,647.26	\$48,420.84	\$36,138.72
93	\$48,420.84	\$161.40	\$1,652.75	\$46,768.09	\$36,300.13
94	\$46,768.09	\$155.89	\$1,658.26	\$45,109.84	\$36,456.02
95	\$45,109.84	\$150.37	\$1,663.78	\$43,446.05	\$36,606.39
96	\$43,446.05	\$144.82	\$1,669.33	\$41,776.72	\$36,751.21
97	\$41,776.72	\$139.26	\$1,674.90	\$40,101.83	\$36,890.46
98	\$40,101.83	\$133.67	\$1,680.48	\$38,421.35	\$37,024.13
99	\$38,421.35	\$128.07	\$1,686.08	\$36,735.27	\$37,152.21
100	\$36,735.27	\$122.45	\$1,691.70	\$35,043.57	\$37,274.66
101	\$35,043.57	\$116.81	\$1,697.34	\$33,346.23	\$37,391.47
102	\$33,346.23	\$111.15	\$1,703.00	\$31,643.23	\$37,502.62
103	\$31,643.23	\$105.48	\$1,708.67	\$29,934.56	\$37,608.10
104	\$29,934.56	\$99.78	\$1,714.37	\$28,220.19	\$37,707.88
105	\$28,220.19	\$94.07	\$1,720.08	\$26,500.11	\$37,801.95
106	\$26,500.11	\$88.33	\$1,725.82	\$24,774.29	\$37,890.28
107	\$24,774.29	\$82.58	\$1,731.57	\$23,042.72	\$37,972.86
108	\$23,042.72	\$76.81	\$1,737.34	\$21,305.38	\$38,049.67
109	\$21,305.38	\$71.02	\$1,743.13	\$19,562.24	\$38,120.69
110	\$19,562.24	\$65.21	\$1,748.94	\$17,813.30	\$38,185.90
111	\$17,813.30	\$59.38	\$1,754.77	\$16,058.53	\$38,245.28
112	\$16,058.53	\$53.53	\$1,760.62	\$14,297.91	\$38,298.80
113	\$14,297.91	\$47.66	\$1,766.49	\$12,531.41	\$38,346.46
114	\$12,531.41	\$41.77	\$1,772.38	\$10,759.04	\$38,388.24
115	\$10,759.04	\$35.86	\$1,778.29	\$8,980.75	\$38,424.10
116	\$8,980.75	\$29.94	\$1,784.22	\$7,196.53	\$38,454.04
117	\$7,196.53	\$23.99	\$1,790.16	\$5,406.37	\$38,478.02
118	\$5,406.37	\$18.02	\$1,796.13	\$3,610.24	\$38,496.04
119	\$3,610.24	\$12.03	\$1,802.12	\$1,808.12	\$38,508.08
120	\$1,808.12	\$6.03	\$1,808.12	\$0.00	\$38,514.11



**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

Estimated Capital Cost: \$22,935,500  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$179,183.59

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	15	\$1,325.40

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$179,184.00	\$597.28	\$728.12	\$178,455.88	\$597.28
2	\$178,455.88	\$594.85	\$730.55	\$177,725.33	\$1,192.13
3	\$177,725.33	\$592.42	\$732.98	\$176,992.34	\$1,784.55
4	\$176,992.34	\$589.97	\$735.43	\$176,256.92	\$2,374.53
5	\$176,256.92	\$587.52	\$737.88	\$175,519.04	\$2,962.05
6	\$175,519.04	\$585.06	\$740.34	\$174,778.70	\$3,547.11
7	\$174,778.70	\$582.60	\$742.81	\$174,035.89	\$4,129.71
8	\$174,035.89	\$580.12	\$745.28	\$173,290.61	\$4,709.83
9	\$173,290.61	\$577.64	\$747.77	\$172,542.84	\$5,287.46
10	\$172,542.84	\$575.14	\$750.26	\$171,792.58	\$5,862.61
11	\$171,792.58	\$572.64	\$752.76	\$171,039.82	\$6,435.25
12	\$171,039.82	\$570.13	\$755.27	\$170,284.55	\$7,005.38
13	\$170,284.55	\$567.62	\$757.79	\$169,526.76	\$7,572.99
14	\$169,526.76	\$565.09	\$760.31	\$168,766.45	\$8,138.08
15	\$168,766.45	\$562.55	\$762.85	\$168,003.60	\$8,700.64
16	\$168,003.60	\$560.01	\$765.39	\$167,238.21	\$9,260.65
17	\$167,238.21	\$557.46	\$767.94	\$166,470.27	\$9,818.11
18	\$166,470.27	\$554.90	\$770.50	\$165,699.77	\$10,373.01
19	\$165,699.77	\$552.33	\$773.07	\$164,926.70	\$10,925.35
20	\$164,926.70	\$549.76	\$775.65	\$164,151.05	\$11,475.10
21	\$164,151.05	\$547.17	\$778.23	\$163,372.82	\$12,022.27
22	\$163,372.82	\$544.58	\$780.83	\$162,591.99	\$12,566.85
23	\$162,591.99	\$541.97	\$783.43	\$161,808.56	\$13,108.82
24	\$161,808.56	\$539.36	\$786.04	\$161,022.52	\$13,648.18
25	\$161,022.52	\$536.74	\$788.66	\$160,233.86	\$14,184.92
26	\$160,233.86	\$534.11	\$791.29	\$159,442.57	\$14,719.04
27	\$159,442.57	\$531.48	\$793.93	\$158,648.65	\$15,250.51
28	\$158,648.65	\$528.83	\$796.57	\$157,852.07	\$15,779.34
29	\$157,852.07	\$526.17	\$799.23	\$157,052.84	\$16,305.51
30	\$157,052.84	\$523.51	\$801.89	\$156,250.95	\$16,829.02
31	\$156,250.95	\$520.84	\$804.57	\$155,446.39	\$17,349.86
32	\$155,446.39	\$518.15	\$807.25	\$154,639.14	\$17,868.02
33	\$154,639.14	\$515.46	\$809.94	\$153,829.20	\$18,383.48
34	\$153,829.20	\$512.76	\$812.64	\$153,016.56	\$18,896.24
35	\$153,016.56	\$510.06	\$815.35	\$152,201.21	\$19,406.30
36	\$152,201.21	\$507.34	\$818.07	\$151,383.15	\$19,913.64
37	\$151,383.15	\$504.61	\$820.79	\$150,562.36	\$20,418.25
38	\$150,562.36	\$501.87	\$823.53	\$149,738.83	\$20,920.12
39	\$149,738.83	\$499.13	\$826.27	\$148,912.56	\$21,419.25
40	\$148,912.56	\$496.38	\$829.03	\$148,083.53	\$21,915.63
41	\$148,083.53	\$493.61	\$831.79	\$147,251.74	\$22,409.24
42	\$147,251.74	\$490.84	\$834.56	\$146,417.17	\$22,900.08
43	\$146,417.17	\$488.06	\$837.35	\$145,579.83	\$23,388.13
44	\$145,579.83	\$485.27	\$840.14	\$144,739.69	\$23,873.40
45	\$144,739.69	\$482.47	\$842.94	\$143,896.76	\$24,355.87
46	\$143,896.76	\$479.66	\$845.75	\$143,051.01	\$24,835.52
47	\$143,051.01	\$476.84	\$848.57	\$142,202.44	\$25,312.36
48	\$142,202.44	\$474.01	\$851.39	\$141,351.05	\$25,786.37
49	\$141,351.05	\$471.17	\$854.23	\$140,496.82	\$26,257.54
50	\$140,496.82	\$468.32	\$857.08	\$139,639.74	\$26,725.86
51	\$139,639.74	\$465.47	\$859.94	\$138,779.80	\$27,191.32
52	\$138,779.80	\$462.60	\$862.80	\$137,917.00	\$27,653.92
53	\$137,917.00	\$459.72	\$865.68	\$137,051.32	\$28,113.65
54	\$137,051.32	\$456.84	\$868.56	\$136,182.75	\$28,570.48
55	\$136,182.75	\$453.94	\$871.46	\$135,311.29	\$29,024.43
56	\$135,311.29	\$451.04	\$874.36	\$134,436.93	\$29,475.47
57	\$134,436.93	\$448.12	\$877.28	\$133,559.65	\$29,923.59
58	\$133,559.65	\$445.20	\$880.20	\$132,679.45	\$30,368.79
59	\$132,679.45	\$442.26	\$883.14	\$131,796.31	\$30,811.05
60	\$131,796.31	\$439.32	\$886.08	\$130,910.23	\$31,250.37
61	\$130,910.23	\$436.37	\$889.03	\$130,021.19	\$31,686.74

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment		
\$179,184.00	4.00%	15	\$1,325.40		
Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$130,021.19	\$433.40	\$892.00	\$129,129.19	\$32,120.14
63	\$129,129.19	\$430.43	\$894.97	\$128,234.22	\$32,550.57
64	\$128,234.22	\$427.45	\$897.96	\$127,336.27	\$32,978.02
65	\$127,336.27	\$424.45	\$900.95	\$126,435.32	\$33,402.48
66	\$126,435.32	\$421.45	\$903.95	\$125,531.37	\$33,823.93
67	\$125,531.37	\$418.44	\$906.96	\$124,624.40	\$34,242.37
68	\$124,624.40	\$415.41	\$909.99	\$123,714.42	\$34,657.78
69	\$123,714.42	\$412.38	\$913.02	\$122,801.40	\$35,070.16
70	\$122,801.40	\$409.34	\$916.06	\$121,885.33	\$35,479.50
71	\$121,885.33	\$406.28	\$919.12	\$120,966.21	\$35,885.78
72	\$120,966.21	\$403.22	\$922.18	\$120,044.03	\$36,289.00
73	\$120,044.03	\$400.15	\$925.26	\$119,118.78	\$36,689.15
74	\$119,118.78	\$397.06	\$928.34	\$118,190.44	\$37,086.21
75	\$118,190.44	\$393.97	\$931.43	\$117,259.00	\$37,480.18
76	\$117,259.00	\$390.86	\$934.54	\$116,324.46	\$37,871.05
77	\$116,324.46	\$387.75	\$937.65	\$115,386.81	\$38,258.79
78	\$115,386.81	\$384.62	\$940.78	\$114,446.03	\$38,643.42
79	\$114,446.03	\$381.49	\$943.92	\$113,502.11	\$39,024.90
80	\$113,502.11	\$378.34	\$947.06	\$112,555.05	\$39,403.24
81	\$112,555.05	\$375.18	\$950.22	\$111,604.83	\$39,778.43
82	\$111,604.83	\$372.02	\$953.39	\$110,651.45	\$40,150.44
83	\$110,651.45	\$368.84	\$956.56	\$109,694.88	\$40,519.28
84	\$109,694.88	\$365.65	\$959.75	\$108,735.13	\$40,884.93
85	\$108,735.13	\$362.45	\$962.95	\$107,772.18	\$41,247.38
86	\$107,772.18	\$359.24	\$966.16	\$106,806.01	\$41,606.62
87	\$106,806.01	\$356.02	\$969.38	\$105,836.63	\$41,962.64
88	\$105,836.63	\$352.79	\$972.61	\$104,864.02	\$42,315.43
89	\$104,864.02	\$349.55	\$975.86	\$103,888.16	\$42,664.98
90	\$103,888.16	\$346.29	\$979.11	\$102,909.05	\$43,011.27
91	\$102,909.05	\$343.03	\$982.37	\$101,926.68	\$43,354.30
92	\$101,926.68	\$339.76	\$985.65	\$100,941.04	\$43,694.06
93	\$100,941.04	\$336.47	\$988.93	\$99,952.10	\$44,030.53
94	\$99,952.10	\$333.17	\$992.23	\$98,959.87	\$44,363.70
95	\$98,959.87	\$329.87	\$995.54	\$97,964.34	\$44,693.57
96	\$97,964.34	\$326.55	\$998.85	\$96,965.48	\$45,020.11
97	\$96,965.48	\$323.22	\$1,002.18	\$95,963.30	\$45,343.33
98	\$95,963.30	\$319.88	\$1,005.52	\$94,957.77	\$45,663.21
99	\$94,957.77	\$316.53	\$1,008.88	\$93,948.90	\$45,979.74
100	\$93,948.90	\$313.16	\$1,012.24	\$92,936.66	\$46,292.90
101	\$92,936.66	\$309.79	\$1,015.61	\$91,921.04	\$46,602.69
102	\$91,921.04	\$306.40	\$1,019.00	\$90,902.05	\$46,909.09
103	\$90,902.05	\$303.01	\$1,022.40	\$89,879.65	\$47,212.10
104	\$89,879.65	\$299.60	\$1,025.80	\$88,853.85	\$47,511.70
105	\$88,853.85	\$296.18	\$1,029.22	\$87,824.62	\$47,807.88
106	\$87,824.62	\$292.75	\$1,032.65	\$86,791.97	\$48,100.63
107	\$86,791.97	\$289.31	\$1,036.10	\$85,755.87	\$48,389.93
108	\$85,755.87	\$285.85	\$1,039.55	\$84,716.32	\$48,675.79
109	\$84,716.32	\$282.39	\$1,043.01	\$83,673.31	\$48,958.17
110	\$83,673.31	\$278.91	\$1,046.49	\$82,626.82	\$49,237.08
111	\$82,626.82	\$275.42	\$1,049.98	\$81,576.84	\$49,512.51
112	\$81,576.84	\$271.92	\$1,053.48	\$80,523.36	\$49,784.43
113	\$80,523.36	\$268.41	\$1,056.99	\$79,466.37	\$50,052.84
114	\$79,466.37	\$264.89	\$1,060.51	\$78,405.85	\$50,317.73
115	\$78,405.85	\$261.35	\$1,064.05	\$77,341.80	\$50,579.08
116	\$77,341.80	\$257.81	\$1,067.60	\$76,274.21	\$50,836.89
117	\$76,274.21	\$254.25	\$1,071.16	\$75,203.05	\$51,091.14
118	\$75,203.05	\$250.68	\$1,074.73	\$74,128.33	\$51,341.81
119	\$74,128.33	\$247.09	\$1,078.31	\$73,050.02	\$51,588.91
120	\$73,050.02	\$243.50	\$1,081.90	\$71,968.12	\$51,832.41
121	\$71,968.12	\$239.89	\$1,085.51	\$70,882.61	\$52,072.30
122	\$70,882.61	\$236.28	\$1,089.13	\$69,793.48	\$52,308.58

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,325.40

Loan Amount	Interest Rate	Term in Years	Monthly Payment		
\$179,184.00	4.00%	15	\$1,325.40		
Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	\$69,793.48	\$232.64	\$1,092.76	\$68,700.72	\$52,541.22
124	\$68,700.72	\$229.00	\$1,096.40	\$67,604.32	\$52,770.22
125	\$67,604.32	\$225.35	\$1,100.05	\$66,504.27	\$52,995.57
126	\$66,504.27	\$221.68	\$1,103.72	\$65,400.55	\$53,217.25
127	\$65,400.55	\$218.00	\$1,107.40	\$64,293.15	\$53,435.25
128	\$64,293.15	\$214.31	\$1,111.09	\$63,182.06	\$53,649.56
129	\$63,182.06	\$210.61	\$1,114.80	\$62,067.26	\$53,860.17
130	\$62,067.26	\$206.89	\$1,118.51	\$60,948.75	\$54,067.06
131	\$60,948.75	\$203.16	\$1,122.24	\$59,826.51	\$54,270.22
132	\$59,826.51	\$199.42	\$1,125.98	\$58,700.53	\$54,469.65
133	\$58,700.53	\$195.67	\$1,129.73	\$57,570.79	\$54,665.31
134	\$57,570.79	\$191.90	\$1,133.50	\$56,437.29	\$54,857.22
135	\$56,437.29	\$188.12	\$1,137.28	\$55,300.02	\$55,045.34
136	\$55,300.02	\$184.33	\$1,141.07	\$54,158.95	\$55,229.67
137	\$54,158.95	\$180.53	\$1,144.87	\$53,014.07	\$55,410.20
138	\$53,014.07	\$176.71	\$1,148.69	\$51,865.38	\$55,586.92
139	\$51,865.38	\$172.88	\$1,152.52	\$50,712.87	\$55,759.80
140	\$50,712.87	\$169.04	\$1,156.36	\$49,556.51	\$55,928.85
141	\$49,556.51	\$165.19	\$1,160.21	\$48,396.29	\$56,094.03
142	\$48,396.29	\$161.32	\$1,164.08	\$47,232.21	\$56,255.35
143	\$47,232.21	\$157.44	\$1,167.96	\$46,064.25	\$56,412.80
144	\$46,064.25	\$153.55	\$1,171.85	\$44,892.40	\$56,566.34
145	\$44,892.40	\$149.64	\$1,175.76	\$43,716.63	\$56,715.98
146	\$43,716.63	\$145.72	\$1,179.68	\$42,536.95	\$56,861.71
147	\$42,536.95	\$141.79	\$1,183.61	\$41,353.34	\$57,003.50
148	\$41,353.34	\$137.84	\$1,187.56	\$40,165.78	\$57,141.34
149	\$40,165.78	\$133.89	\$1,191.52	\$38,974.27	\$57,275.23
150	\$38,974.27	\$129.91	\$1,195.49	\$37,778.78	\$57,405.14
151	\$37,778.78	\$125.93	\$1,199.47	\$36,579.31	\$57,531.07
152	\$36,579.31	\$121.93	\$1,203.47	\$35,375.83	\$57,653.00
153	\$35,375.83	\$117.92	\$1,207.48	\$34,168.35	\$57,770.92
154	\$34,168.35	\$113.89	\$1,211.51	\$32,956.84	\$57,884.82
155	\$32,956.84	\$109.86	\$1,215.55	\$31,741.30	\$57,994.67
156	\$31,741.30	\$105.80	\$1,219.60	\$30,521.70	\$58,100.48
157	\$30,521.70	\$101.74	\$1,223.66	\$29,298.04	\$58,202.21
158	\$29,298.04	\$97.66	\$1,227.74	\$28,070.29	\$58,299.87
159	\$28,070.29	\$93.57	\$1,231.83	\$26,838.46	\$58,393.44
160	\$26,838.46	\$89.46	\$1,235.94	\$25,602.52	\$58,482.90
161	\$25,602.52	\$85.34	\$1,240.06	\$24,362.46	\$58,568.25
162	\$24,362.46	\$81.21	\$1,244.19	\$23,118.26	\$58,649.45
163	\$23,118.26	\$77.06	\$1,248.34	\$21,869.92	\$58,726.51
164	\$21,869.92	\$72.90	\$1,252.50	\$20,617.42	\$58,799.41
165	\$20,617.42	\$68.72	\$1,256.68	\$19,360.74	\$58,868.14
166	\$19,360.74	\$64.54	\$1,260.87	\$18,099.87	\$58,932.67
167	\$18,099.87	\$60.33	\$1,265.07	\$16,834.80	\$58,993.01
168	\$16,834.80	\$56.12	\$1,269.29	\$15,565.52	\$59,049.12
169	\$15,565.52	\$51.89	\$1,273.52	\$14,292.00	\$59,101.01
170	\$14,292.00	\$47.64	\$1,277.76	\$13,014.24	\$59,148.65
171	\$13,014.24	\$43.38	\$1,282.02	\$11,732.22	\$59,192.03
172	\$11,732.22	\$39.11	\$1,286.30	\$10,445.92	\$59,231.14
173	\$10,445.92	\$34.82	\$1,290.58	\$9,155.34	\$59,265.96
174	\$9,155.34	\$30.52	\$1,294.88	\$7,860.45	\$59,296.47
175	\$7,860.45	\$26.20	\$1,299.20	\$6,561.25	\$59,322.68
176	\$6,561.25	\$21.87	\$1,303.53	\$5,257.72	\$59,344.55
177	\$5,257.72	\$17.53	\$1,307.88	\$3,949.85	\$59,362.07
178	\$3,949.85	\$13.17	\$1,312.24	\$2,637.61	\$59,375.24
179	\$2,637.61	\$8.79	\$1,316.61	\$1,321.00	\$59,384.03
180	\$1,321.00	\$4.40	\$1,321.00	\$0.00	\$59,388.43

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

Estimated Capital Cost: \$22,935,500  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$179,183.59

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	20	\$1,085.82

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$179,184.00	\$597.28	\$488.54	\$178,695.46	\$597.28
2	\$178,695.46	\$595.65	\$490.17	\$178,205.29	\$1,192.93
3	\$178,205.29	\$594.02	\$491.80	\$177,713.49	\$1,786.95
4	\$177,713.49	\$592.38	\$493.44	\$177,220.05	\$2,379.33
5	\$177,220.05	\$590.73	\$495.09	\$176,724.96	\$2,970.06
6	\$176,724.96	\$589.08	\$496.74	\$176,228.23	\$3,559.14
7	\$176,228.23	\$587.43	\$498.39	\$175,729.83	\$4,146.57
8	\$175,729.83	\$585.77	\$500.05	\$175,229.78	\$4,732.34
9	\$175,229.78	\$584.10	\$501.72	\$174,728.06	\$5,316.44
10	\$174,728.06	\$582.43	\$503.39	\$174,224.67	\$5,898.86
11	\$174,224.67	\$580.75	\$505.07	\$173,719.59	\$6,479.61
12	\$173,719.59	\$579.07	\$506.75	\$173,212.84	\$7,058.68
13	\$173,212.84	\$577.38	\$508.44	\$172,704.40	\$7,636.05
14	\$172,704.40	\$575.68	\$510.14	\$172,194.26	\$8,211.74
15	\$172,194.26	\$573.98	\$511.84	\$171,682.42	\$8,785.72
16	\$171,682.42	\$572.27	\$513.55	\$171,168.87	\$9,357.99
17	\$171,168.87	\$570.56	\$515.26	\$170,653.62	\$9,928.55
18	\$170,653.62	\$568.85	\$516.97	\$170,136.64	\$10,497.40
19	\$170,136.64	\$567.12	\$518.70	\$169,617.95	\$11,064.52
20	\$169,617.95	\$565.39	\$520.43	\$169,097.52	\$11,629.91
21	\$169,097.52	\$563.66	\$522.16	\$168,575.36	\$12,193.57
22	\$168,575.36	\$561.92	\$523.90	\$168,051.46	\$12,755.49
23	\$168,051.46	\$560.17	\$525.65	\$167,525.81	\$13,315.66
24	\$167,525.81	\$558.42	\$527.40	\$166,998.41	\$13,874.08
25	\$166,998.41	\$556.66	\$529.16	\$166,469.25	\$14,430.74
26	\$166,469.25	\$554.90	\$530.92	\$165,938.33	\$14,985.64
27	\$165,938.33	\$553.13	\$532.69	\$165,405.63	\$15,538.77
28	\$165,405.63	\$551.35	\$534.47	\$164,871.17	\$16,090.12
29	\$164,871.17	\$549.57	\$536.25	\$164,334.92	\$16,639.69
30	\$164,334.92	\$547.78	\$538.04	\$163,796.88	\$17,187.47
31	\$163,796.88	\$545.99	\$539.83	\$163,257.05	\$17,733.46
32	\$163,257.05	\$544.19	\$541.63	\$162,715.42	\$18,277.65
33	\$162,715.42	\$542.38	\$543.44	\$162,171.99	\$18,820.04
34	\$162,171.99	\$540.57	\$545.25	\$161,626.74	\$19,360.61
35	\$161,626.74	\$538.76	\$547.06	\$161,079.67	\$19,899.37
36	\$161,079.67	\$536.93	\$548.89	\$160,530.79	\$20,436.30
37	\$160,530.79	\$535.10	\$550.72	\$159,980.07	\$20,971.40
38	\$159,980.07	\$533.27	\$552.55	\$159,427.52	\$21,504.67
39	\$159,427.52	\$531.43	\$554.39	\$158,873.12	\$22,036.09
40	\$158,873.12	\$529.58	\$556.24	\$158,316.88	\$22,565.67
41	\$158,316.88	\$527.72	\$558.10	\$157,758.78	\$23,093.39
42	\$157,758.78	\$525.86	\$559.96	\$157,198.83	\$23,619.26
43	\$157,198.83	\$524.00	\$561.82	\$156,637.00	\$24,143.25
44	\$156,637.00	\$522.12	\$563.70	\$156,073.31	\$24,665.38
45	\$156,073.31	\$520.24	\$565.58	\$155,507.73	\$25,185.62
46	\$155,507.73	\$518.36	\$567.46	\$154,940.27	\$25,703.98
47	\$154,940.27	\$516.47	\$569.35	\$154,370.92	\$26,220.45
48	\$154,370.92	\$514.57	\$571.25	\$153,799.67	\$26,735.02
49	\$153,799.67	\$512.67	\$573.15	\$153,226.51	\$27,247.68
50	\$153,226.51	\$510.76	\$575.06	\$152,651.45	\$27,758.44
51	\$152,651.45	\$508.84	\$576.98	\$152,074.47	\$28,267.28
52	\$152,074.47	\$506.91	\$578.90	\$151,495.56	\$28,774.19
53	\$151,495.56	\$504.99	\$580.83	\$150,914.73	\$29,279.18
54	\$150,914.73	\$503.05	\$582.77	\$150,331.96	\$29,782.23
55	\$150,331.96	\$501.11	\$584.71	\$149,747.24	\$30,283.33
56	\$149,747.24	\$499.16	\$586.66	\$149,160.58	\$30,782.49
57	\$149,160.58	\$497.20	\$588.62	\$148,571.96	\$31,279.69
58	\$148,571.96	\$495.24	\$590.58	\$147,981.38	\$31,774.93
59	\$147,981.38	\$493.27	\$592.55	\$147,388.83	\$32,268.20
60	\$147,388.83	\$491.30	\$594.52	\$146,794.31	\$32,759.50
61	\$146,794.31	\$489.31	\$596.51	\$146,197.81	\$33,248.81



**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	20	\$1,085.82

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	\$146,197.81	\$487.33	\$598.49	\$145,599.31	\$33,736.14
63	\$145,599.31	\$485.33	\$600.49	\$144,998.82	\$34,221.47
64	\$144,998.82	\$483.33	\$602.49	\$144,396.33	\$34,704.80
65	\$144,396.33	\$481.32	\$604.50	\$143,791.83	\$35,186.12
66	\$143,791.83	\$479.31	\$606.51	\$143,185.32	\$35,665.43
67	\$143,185.32	\$477.28	\$608.54	\$142,576.78	\$36,142.71
68	\$142,576.78	\$475.26	\$610.56	\$141,966.22	\$36,617.97
69	\$141,966.22	\$473.22	\$612.60	\$141,353.62	\$37,091.19
70	\$141,353.62	\$471.18	\$614.64	\$140,738.98	\$37,562.37
71	\$140,738.98	\$469.13	\$616.69	\$140,122.29	\$38,031.50
72	\$140,122.29	\$467.07	\$618.75	\$139,503.55	\$38,498.57
73	\$139,503.55	\$465.01	\$620.81	\$138,882.74	\$38,963.58
74	\$138,882.74	\$462.94	\$622.88	\$138,259.86	\$39,426.52
75	\$138,259.86	\$460.87	\$624.95	\$137,634.91	\$39,887.39
76	\$137,634.91	\$458.78	\$627.04	\$137,007.87	\$40,346.17
77	\$137,007.87	\$456.69	\$629.13	\$136,378.74	\$40,802.87
78	\$136,378.74	\$454.60	\$631.22	\$135,747.52	\$41,257.46
79	\$135,747.52	\$452.49	\$633.33	\$135,114.19	\$41,709.95
80	\$135,114.19	\$450.38	\$635.44	\$134,478.75	\$42,160.34
81	\$134,478.75	\$448.26	\$637.56	\$133,841.19	\$42,608.60
82	\$133,841.19	\$446.14	\$639.68	\$133,201.51	\$43,054.74
83	\$133,201.51	\$444.01	\$641.81	\$132,559.70	\$43,498.74
84	\$132,559.70	\$441.87	\$643.95	\$131,915.74	\$43,940.61
85	\$131,915.74	\$439.72	\$646.10	\$131,269.64	\$44,380.32
86	\$131,269.64	\$437.57	\$648.25	\$130,621.39	\$44,817.89
87	\$130,621.39	\$435.40	\$650.42	\$129,970.97	\$45,253.29
88	\$129,970.97	\$433.24	\$652.58	\$129,318.39	\$45,686.53
89	\$129,318.39	\$431.06	\$654.76	\$128,663.63	\$46,117.59
90	\$128,663.63	\$428.88	\$656.94	\$128,006.69	\$46,546.47
91	\$128,006.69	\$426.69	\$659.13	\$127,347.56	\$46,973.16
92	\$127,347.56	\$424.49	\$661.33	\$126,686.23	\$47,397.65
93	\$126,686.23	\$422.29	\$663.53	\$126,022.70	\$47,819.94
94	\$126,022.70	\$420.08	\$665.74	\$125,356.95	\$48,240.02
95	\$125,356.95	\$417.86	\$667.96	\$124,688.99	\$48,657.87
96	\$124,688.99	\$415.63	\$670.19	\$124,018.80	\$49,073.50
97	\$124,018.80	\$413.40	\$672.42	\$123,346.38	\$49,486.90
98	\$123,346.38	\$411.15	\$674.67	\$122,671.71	\$49,898.05
99	\$122,671.71	\$408.91	\$676.91	\$121,994.80	\$50,306.96
100	\$121,994.80	\$406.65	\$679.17	\$121,315.63	\$50,713.61
101	\$121,315.63	\$404.39	\$681.43	\$120,634.19	\$51,117.99
102	\$120,634.19	\$402.11	\$683.71	\$119,950.49	\$51,520.11
103	\$119,950.49	\$399.83	\$685.98	\$119,264.50	\$51,919.94
104	\$119,264.50	\$397.55	\$688.27	\$118,576.23	\$52,317.49
105	\$118,576.23	\$395.25	\$690.57	\$117,885.67	\$52,712.74
106	\$117,885.67	\$392.95	\$692.87	\$117,192.80	\$53,105.70
107	\$117,192.80	\$390.64	\$695.18	\$116,497.62	\$53,496.34
108	\$116,497.62	\$388.33	\$697.49	\$115,800.13	\$53,884.66
109	\$115,800.13	\$386.00	\$699.82	\$115,100.31	\$54,270.67
110	\$115,100.31	\$383.67	\$702.15	\$114,398.16	\$54,654.33
111	\$114,398.16	\$381.33	\$704.49	\$113,693.66	\$55,035.66
112	\$113,693.66	\$378.98	\$706.84	\$112,986.82	\$55,414.64
113	\$112,986.82	\$376.62	\$709.20	\$112,277.63	\$55,791.26
114	\$112,277.63	\$374.26	\$711.56	\$111,566.06	\$56,165.52
115	\$111,566.06	\$371.89	\$713.93	\$110,852.13	\$56,537.41
116	\$110,852.13	\$369.51	\$716.31	\$110,135.82	\$56,906.91
117	\$110,135.82	\$367.12	\$718.70	\$109,417.12	\$57,274.03
118	\$109,417.12	\$364.72	\$721.10	\$108,696.02	\$57,638.76
119	\$108,696.02	\$362.32	\$723.50	\$107,972.52	\$58,001.08
120	\$107,972.52	\$359.91	\$725.91	\$107,246.61	\$58,360.99
121	\$107,246.61	\$357.49	\$728.33	\$106,518.28	\$58,718.47
122	\$106,518.28	\$355.06	\$730.76	\$105,787.52	\$59,073.54

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	20	\$1,085.82

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
123	\$105,787.52	\$352.63	\$733.19	\$105,054.33	\$59,426.16
124	\$105,054.33	\$350.18	\$735.64	\$104,318.69	\$59,776.34
125	\$104,318.69	\$347.73	\$738.09	\$103,580.60	\$60,124.07
126	\$103,580.60	\$345.27	\$740.55	\$102,840.05	\$60,469.34
127	\$102,840.05	\$342.80	\$743.02	\$102,097.03	\$60,812.14
128	\$102,097.03	\$340.32	\$745.50	\$101,351.53	\$61,152.46
129	\$101,351.53	\$337.84	\$747.98	\$100,603.55	\$61,490.30
130	\$100,603.55	\$335.35	\$750.47	\$99,853.07	\$61,825.65
131	\$99,853.07	\$332.84	\$752.98	\$99,100.10	\$62,158.49
132	\$99,100.10	\$330.33	\$755.49	\$98,344.61	\$62,488.82
133	\$98,344.61	\$327.82	\$758.00	\$97,586.61	\$62,816.64
134	\$97,586.61	\$325.29	\$760.53	\$96,826.08	\$63,141.93
135	\$96,826.08	\$322.75	\$763.07	\$96,063.01	\$63,464.68
136	\$96,063.01	\$320.21	\$765.61	\$95,297.40	\$63,784.89
137	\$95,297.40	\$317.66	\$768.16	\$94,529.24	\$64,102.55
138	\$94,529.24	\$315.10	\$770.72	\$93,758.52	\$64,417.65
139	\$93,758.52	\$312.53	\$773.29	\$92,985.22	\$64,730.18
140	\$92,985.22	\$309.95	\$775.87	\$92,209.36	\$65,040.13
141	\$92,209.36	\$307.36	\$778.46	\$91,430.90	\$65,347.49
142	\$91,430.90	\$304.77	\$781.05	\$90,649.85	\$65,652.26
143	\$90,649.85	\$302.17	\$783.65	\$89,866.20	\$65,954.43
144	\$89,866.20	\$299.55	\$786.27	\$89,079.93	\$66,253.98
145	\$89,079.93	\$296.93	\$788.89	\$88,291.04	\$66,550.91
146	\$88,291.04	\$294.30	\$791.52	\$87,499.53	\$66,845.22
147	\$87,499.53	\$291.67	\$794.15	\$86,705.37	\$67,136.88
148	\$86,705.37	\$289.02	\$796.80	\$85,908.57	\$67,425.90
149	\$85,908.57	\$286.36	\$799.46	\$85,109.11	\$67,712.26
150	\$85,109.11	\$283.70	\$802.12	\$84,306.99	\$67,995.96
151	\$84,306.99	\$281.02	\$804.80	\$83,502.19	\$68,276.98
152	\$83,502.19	\$278.34	\$807.48	\$82,694.71	\$68,555.32
153	\$82,694.71	\$275.65	\$810.17	\$81,884.54	\$68,830.97
154	\$81,884.54	\$272.95	\$812.87	\$81,071.67	\$69,103.92
155	\$81,071.67	\$270.24	\$815.58	\$80,256.09	\$69,374.16
156	\$80,256.09	\$267.52	\$818.30	\$79,437.79	\$69,641.68
157	\$79,437.79	\$264.79	\$821.03	\$78,616.76	\$69,906.47
158	\$78,616.76	\$262.06	\$823.76	\$77,793.00	\$70,168.53
159	\$77,793.00	\$259.31	\$826.51	\$76,966.49	\$70,427.84
160	\$76,966.49	\$256.55	\$829.26	\$76,137.23	\$70,684.39
161	\$76,137.23	\$253.79	\$832.03	\$75,305.20	\$70,938.18
162	\$75,305.20	\$251.02	\$834.80	\$74,470.39	\$71,189.20
163	\$74,470.39	\$248.23	\$837.59	\$73,632.81	\$71,437.44
164	\$73,632.81	\$245.44	\$840.38	\$72,792.43	\$71,682.88
165	\$72,792.43	\$242.64	\$843.18	\$71,949.25	\$71,925.52
166	\$71,949.25	\$239.83	\$845.99	\$71,103.27	\$72,165.35
167	\$71,103.27	\$237.01	\$848.81	\$70,254.46	\$72,402.36
168	\$70,254.46	\$234.18	\$851.64	\$69,402.82	\$72,636.54
169	\$69,402.82	\$231.34	\$854.48	\$68,548.34	\$72,867.89
170	\$68,548.34	\$228.49	\$857.33	\$67,691.02	\$73,096.38
171	\$67,691.02	\$225.64	\$860.18	\$66,830.83	\$73,322.02
172	\$66,830.83	\$222.77	\$863.05	\$65,967.78	\$73,544.79
173	\$65,967.78	\$219.89	\$865.93	\$65,101.85	\$73,764.68
174	\$65,101.85	\$217.01	\$868.81	\$64,233.04	\$73,981.69
175	\$64,233.04	\$214.11	\$871.71	\$63,361.33	\$74,195.80
176	\$63,361.33	\$211.20	\$874.62	\$62,486.72	\$74,407.00
177	\$62,486.72	\$208.29	\$877.53	\$61,609.19	\$74,615.29
178	\$61,609.19	\$205.36	\$880.46	\$60,728.73	\$74,820.65
179	\$60,728.73	\$202.43	\$883.39	\$59,845.34	\$75,023.08
180	\$59,845.34	\$199.48	\$886.34	\$58,959.00	\$75,222.57
181	\$58,959.00	\$196.53	\$889.29	\$58,069.71	\$75,419.10
182	\$58,069.71	\$193.57	\$892.25	\$57,177.46	\$75,612.66
183	\$57,177.46	\$190.59	\$895.23	\$56,282.23	\$75,803.25

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W1**

**Estimated Capital Cost:** \$22,935,500  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$179,183.59

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,085.82

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$179,184.00	4.00%	20	\$1,085.82

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
184	\$56,282.23	\$187.61	\$898.21	\$55,384.02	\$75,990.86
185	\$55,384.02	\$184.61	\$901.21	\$54,482.81	\$76,175.47
186	\$54,482.81	\$181.61	\$904.21	\$53,578.60	\$76,357.08
187	\$53,578.60	\$178.60	\$907.22	\$52,671.38	\$76,535.68
188	\$52,671.38	\$175.57	\$910.25	\$51,761.13	\$76,711.25
189	\$51,761.13	\$172.54	\$913.28	\$50,847.85	\$76,883.79
190	\$50,847.85	\$169.49	\$916.33	\$49,931.52	\$77,053.28
191	\$49,931.52	\$166.44	\$919.38	\$49,012.14	\$77,219.72
192	\$49,012.14	\$163.37	\$922.45	\$48,089.69	\$77,383.09
193	\$48,089.69	\$160.30	\$925.52	\$47,164.17	\$77,543.39
194	\$47,164.17	\$157.21	\$928.61	\$46,235.57	\$77,700.61
195	\$46,235.57	\$154.12	\$931.70	\$45,303.86	\$77,854.72
196	\$45,303.86	\$151.01	\$934.81	\$44,369.06	\$78,005.74
197	\$44,369.06	\$147.90	\$937.92	\$43,431.13	\$78,153.63
198	\$43,431.13	\$144.77	\$941.05	\$42,490.09	\$78,298.40
199	\$42,490.09	\$141.63	\$944.19	\$41,545.90	\$78,440.04
200	\$41,545.90	\$138.49	\$947.33	\$40,598.57	\$78,578.52
201	\$40,598.57	\$135.33	\$950.49	\$39,648.07	\$78,713.85
202	\$39,648.07	\$132.16	\$953.66	\$38,694.41	\$78,846.01
203	\$38,694.41	\$128.98	\$956.84	\$37,737.58	\$78,974.99
204	\$37,737.58	\$125.79	\$960.03	\$36,777.55	\$79,100.79
205	\$36,777.55	\$122.59	\$963.23	\$35,814.32	\$79,223.38
206	\$35,814.32	\$119.38	\$966.44	\$34,847.88	\$79,342.76
207	\$34,847.88	\$116.16	\$969.66	\$33,878.22	\$79,458.92
208	\$33,878.22	\$112.93	\$972.89	\$32,905.33	\$79,571.85
209	\$32,905.33	\$109.68	\$976.14	\$31,929.19	\$79,681.53
210	\$31,929.19	\$106.43	\$979.39	\$30,949.80	\$79,787.96
211	\$30,949.80	\$103.17	\$982.65	\$29,967.15	\$79,891.13
212	\$29,967.15	\$99.89	\$985.93	\$28,981.22	\$79,991.02
213	\$28,981.22	\$96.60	\$989.22	\$27,992.01	\$80,087.62
214	\$27,992.01	\$93.31	\$992.51	\$26,999.49	\$80,180.93
215	\$26,999.49	\$90.00	\$995.82	\$26,003.67	\$80,270.93
216	\$26,003.67	\$86.68	\$999.14	\$25,004.53	\$80,357.61
217	\$25,004.53	\$83.35	\$1,002.47	\$24,002.06	\$80,440.95
218	\$24,002.06	\$80.01	\$1,005.81	\$22,996.25	\$80,520.96
219	\$22,996.25	\$76.65	\$1,009.17	\$21,987.08	\$80,597.62
220	\$21,987.08	\$73.29	\$1,012.53	\$20,974.55	\$80,670.91
221	\$20,974.55	\$69.92	\$1,015.90	\$19,958.65	\$80,740.82
222	\$19,958.65	\$66.53	\$1,019.29	\$18,939.36	\$80,807.35
223	\$18,939.36	\$63.13	\$1,022.69	\$17,916.67	\$80,870.48
224	\$17,916.67	\$59.72	\$1,026.10	\$16,890.57	\$80,930.20
225	\$16,890.57	\$56.30	\$1,029.52	\$15,861.05	\$80,986.50
226	\$15,861.05	\$52.87	\$1,032.95	\$14,828.10	\$81,039.38
227	\$14,828.10	\$49.43	\$1,036.39	\$13,791.71	\$81,088.80
228	\$13,791.71	\$45.97	\$1,039.85	\$12,751.86	\$81,134.77
229	\$12,751.86	\$42.51	\$1,043.31	\$11,708.55	\$81,177.28
230	\$11,708.55	\$39.03	\$1,046.79	\$10,661.76	\$81,216.31
231	\$10,661.76	\$35.54	\$1,050.28	\$9,611.48	\$81,251.85
232	\$9,611.48	\$32.04	\$1,053.78	\$8,557.69	\$81,283.89
233	\$8,557.69	\$28.53	\$1,057.29	\$7,500.40	\$81,312.41
234	\$7,500.40	\$25.00	\$1,060.82	\$6,439.58	\$81,337.41
235	\$6,439.58	\$21.47	\$1,064.35	\$5,375.23	\$81,358.88
236	\$5,375.23	\$17.92	\$1,067.90	\$4,307.33	\$81,376.80
237	\$4,307.33	\$14.36	\$1,071.46	\$3,235.86	\$81,391.15
238	\$3,235.86	\$10.79	\$1,075.03	\$2,160.83	\$81,401.94
239	\$2,160.83	\$7.20	\$1,078.62	\$1,082.21	\$81,409.14
240	\$1,082.21	\$3.61	\$1,082.21	\$0.00	\$81,412.75



**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$1,580.11

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	10	\$1,580.11

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$156,068.00	\$520.23	\$1,059.89	\$155,008.11	\$520.23
2	\$155,008.11	\$516.69	\$1,063.42	\$153,944.70	\$1,036.92
3	\$153,944.70	\$513.15	\$1,066.96	\$152,877.73	\$1,550.07
4	\$152,877.73	\$509.59	\$1,070.52	\$151,807.21	\$2,059.66
5	\$151,807.21	\$506.02	\$1,074.09	\$150,733.12	\$2,565.69
6	\$150,733.12	\$502.44	\$1,077.67	\$149,655.45	\$3,068.13
7	\$149,655.45	\$498.85	\$1,081.26	\$148,574.19	\$3,566.98
8	\$148,574.19	\$495.25	\$1,084.87	\$147,489.33	\$4,062.23
9	\$147,489.33	\$491.63	\$1,088.48	\$146,400.85	\$4,553.86
10	\$146,400.85	\$488.00	\$1,092.11	\$145,308.74	\$5,041.86
11	\$145,308.74	\$484.36	\$1,095.75	\$144,212.99	\$5,526.22
12	\$144,212.99	\$480.71	\$1,099.40	\$143,113.58	\$6,006.93
13	\$143,113.58	\$477.05	\$1,103.07	\$142,010.52	\$6,483.98
14	\$142,010.52	\$473.37	\$1,106.74	\$140,903.77	\$6,957.35
15	\$140,903.77	\$469.68	\$1,110.43	\$139,793.34	\$7,427.03
16	\$139,793.34	\$465.98	\$1,114.13	\$138,679.20	\$7,893.01
17	\$138,679.20	\$462.26	\$1,117.85	\$137,561.35	\$8,355.27
18	\$137,561.35	\$458.54	\$1,121.57	\$136,439.78	\$8,813.81
19	\$136,439.78	\$454.80	\$1,125.31	\$135,314.47	\$9,268.61
20	\$135,314.47	\$451.05	\$1,129.06	\$134,185.40	\$9,719.65
21	\$134,185.40	\$447.28	\$1,132.83	\$133,052.57	\$10,166.94
22	\$133,052.57	\$443.51	\$1,136.60	\$131,915.97	\$10,610.45
23	\$131,915.97	\$439.72	\$1,140.39	\$130,775.58	\$11,050.17
24	\$130,775.58	\$435.92	\$1,144.19	\$129,631.38	\$11,486.09
25	\$129,631.38	\$432.10	\$1,148.01	\$128,483.38	\$11,918.19
26	\$128,483.38	\$428.28	\$1,151.83	\$127,331.54	\$12,346.47
27	\$127,331.54	\$424.44	\$1,155.67	\$126,175.87	\$12,770.91
28	\$126,175.87	\$420.59	\$1,159.53	\$125,016.34	\$13,191.49
29	\$125,016.34	\$416.72	\$1,163.39	\$123,852.95	\$13,608.21
30	\$123,852.95	\$412.84	\$1,167.27	\$122,685.68	\$14,021.06
31	\$122,685.68	\$408.95	\$1,171.16	\$121,514.52	\$14,430.01
32	\$121,514.52	\$405.05	\$1,175.06	\$120,339.45	\$14,835.06
33	\$120,339.45	\$401.13	\$1,178.98	\$119,160.47	\$15,236.19
34	\$119,160.47	\$397.20	\$1,182.91	\$117,977.56	\$15,633.39
35	\$117,977.56	\$393.26	\$1,186.85	\$116,790.71	\$16,026.65
36	\$116,790.71	\$389.30	\$1,190.81	\$115,599.90	\$16,415.95
37	\$115,599.90	\$385.33	\$1,194.78	\$114,405.12	\$16,801.29
38	\$114,405.12	\$381.35	\$1,198.76	\$113,206.36	\$17,182.64
39	\$113,206.36	\$377.35	\$1,202.76	\$112,003.60	\$17,559.99
40	\$112,003.60	\$373.35	\$1,206.77	\$110,796.83	\$17,933.34
41	\$110,796.83	\$369.32	\$1,210.79	\$109,586.04	\$18,302.66
42	\$109,586.04	\$365.29	\$1,214.83	\$108,371.22	\$18,667.95
43	\$108,371.22	\$361.24	\$1,218.88	\$107,152.34	\$19,029.18
44	\$107,152.34	\$357.17	\$1,222.94	\$105,929.40	\$19,386.36
45	\$105,929.40	\$353.10	\$1,227.01	\$104,702.39	\$19,739.46
46	\$104,702.39	\$349.01	\$1,231.10	\$103,471.28	\$20,088.46
47	\$103,471.28	\$344.90	\$1,235.21	\$102,236.07	\$20,433.37
48	\$102,236.07	\$340.79	\$1,239.33	\$100,996.75	\$20,774.15
49	\$100,996.75	\$336.66	\$1,243.46	\$99,753.29	\$21,110.81
50	\$99,753.29	\$332.51	\$1,247.60	\$98,505.69	\$21,443.32
51	\$98,505.69	\$328.35	\$1,251.76	\$97,253.93	\$21,771.67
52	\$97,253.93	\$324.18	\$1,255.93	\$95,998.00	\$22,095.85
53	\$95,998.00	\$319.99	\$1,260.12	\$94,737.88	\$22,415.85
54	\$94,737.88	\$315.79	\$1,264.32	\$93,473.56	\$22,731.64
55	\$93,473.56	\$311.58	\$1,268.53	\$92,205.02	\$23,043.22
56	\$92,205.02	\$307.35	\$1,272.76	\$90,932.26	\$23,350.57
57	\$90,932.26	\$303.11	\$1,277.01	\$89,655.26	\$23,653.68
58	\$89,655.26	\$298.85	\$1,281.26	\$88,373.99	\$23,952.53
59	\$88,373.99	\$294.58	\$1,285.53	\$87,088.46	\$24,247.11
60	\$87,088.46	\$290.29	\$1,289.82	\$85,798.64	\$24,537.40

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$1,580.11

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	10	\$1,580.11

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
61	\$85,798.64	\$286.00	\$1,294.12	\$84,504.53	\$24,823.40
62	\$84,504.53	\$281.68	\$1,298.43	\$83,206.10	\$25,105.08
63	\$83,206.10	\$277.35	\$1,302.76	\$81,903.34	\$25,382.43
64	\$81,903.34	\$273.01	\$1,307.10	\$80,596.24	\$25,655.44
65	\$80,596.24	\$268.65	\$1,311.46	\$79,284.78	\$25,924.10
66	\$79,284.78	\$264.28	\$1,315.83	\$77,968.95	\$26,188.38
67	\$77,968.95	\$259.90	\$1,320.22	\$76,648.73	\$26,448.28
68	\$76,648.73	\$255.50	\$1,324.62	\$75,324.11	\$26,703.77
69	\$75,324.11	\$251.08	\$1,329.03	\$73,995.08	\$26,954.85
70	\$73,995.08	\$246.65	\$1,333.46	\$72,661.62	\$27,201.50
71	\$72,661.62	\$242.21	\$1,337.91	\$71,323.71	\$27,443.71
72	\$71,323.71	\$237.75	\$1,342.37	\$69,981.35	\$27,681.45
73	\$69,981.35	\$233.27	\$1,346.84	\$68,634.50	\$27,914.73
74	\$68,634.50	\$228.78	\$1,351.33	\$67,283.17	\$28,143.51
75	\$67,283.17	\$224.28	\$1,355.84	\$65,927.34	\$28,367.78
76	\$65,927.34	\$219.76	\$1,360.35	\$64,566.98	\$28,587.54
77	\$64,566.98	\$215.22	\$1,364.89	\$63,202.09	\$28,802.77
78	\$63,202.09	\$210.67	\$1,369.44	\$61,832.65	\$29,013.44
79	\$61,832.65	\$206.11	\$1,374.00	\$60,458.65	\$29,219.55
80	\$60,458.65	\$201.53	\$1,378.58	\$59,080.07	\$29,421.08
81	\$59,080.07	\$196.93	\$1,383.18	\$57,696.89	\$29,618.01
82	\$57,696.89	\$192.32	\$1,387.79	\$56,309.10	\$29,810.33
83	\$56,309.10	\$187.70	\$1,392.42	\$54,916.68	\$29,998.03
84	\$54,916.68	\$183.06	\$1,397.06	\$53,519.63	\$30,181.09
85	\$53,519.63	\$178.40	\$1,401.71	\$52,117.91	\$30,359.48
86	\$52,117.91	\$173.73	\$1,406.39	\$50,711.53	\$30,533.21
87	\$50,711.53	\$169.04	\$1,411.07	\$49,300.45	\$30,702.25
88	\$49,300.45	\$164.33	\$1,415.78	\$47,884.67	\$30,866.58
89	\$47,884.67	\$159.62	\$1,420.50	\$46,464.18	\$31,026.20
90	\$46,464.18	\$154.88	\$1,425.23	\$45,038.94	\$31,181.08
91	\$45,038.94	\$150.13	\$1,429.98	\$43,608.96	\$31,331.21
92	\$43,608.96	\$145.36	\$1,434.75	\$42,174.21	\$31,476.57
93	\$42,174.21	\$140.58	\$1,439.53	\$40,734.68	\$31,617.15
94	\$40,734.68	\$135.78	\$1,444.33	\$39,290.35	\$31,752.94
95	\$39,290.35	\$130.97	\$1,449.14	\$37,841.21	\$31,883.90
96	\$37,841.21	\$126.14	\$1,453.98	\$36,387.23	\$32,010.04
97	\$36,387.23	\$121.29	\$1,458.82	\$34,928.41	\$32,131.33
98	\$34,928.41	\$116.43	\$1,463.68	\$33,464.72	\$32,247.76
99	\$33,464.72	\$111.55	\$1,468.56	\$31,996.16	\$32,359.31
100	\$31,996.16	\$106.65	\$1,473.46	\$30,522.70	\$32,465.96
101	\$30,522.70	\$101.74	\$1,478.37	\$29,044.33	\$32,567.71
102	\$29,044.33	\$96.81	\$1,483.30	\$27,561.03	\$32,664.52
103	\$27,561.03	\$91.87	\$1,488.24	\$26,072.79	\$32,756.39
104	\$26,072.79	\$86.91	\$1,493.20	\$24,579.59	\$32,843.30
105	\$24,579.59	\$81.93	\$1,498.18	\$23,081.41	\$32,925.23
106	\$23,081.41	\$76.94	\$1,503.17	\$21,578.23	\$33,002.17
107	\$21,578.23	\$71.93	\$1,508.19	\$20,070.05	\$33,074.10
108	\$20,070.05	\$66.90	\$1,513.21	\$18,556.83	\$33,141.00
109	\$18,556.83	\$61.86	\$1,518.26	\$17,038.58	\$33,202.85
110	\$17,038.58	\$56.80	\$1,523.32	\$15,515.26	\$33,259.65
111	\$15,515.26	\$51.72	\$1,528.40	\$13,986.86	\$33,311.37
112	\$13,986.86	\$46.62	\$1,533.49	\$12,453.38	\$33,357.99
113	\$12,453.38	\$41.51	\$1,538.60	\$10,914.77	\$33,399.50
114	\$10,914.77	\$36.38	\$1,543.73	\$9,371.04	\$33,435.88
115	\$9,371.04	\$31.24	\$1,548.88	\$7,822.17	\$33,467.12
116	\$7,822.17	\$26.07	\$1,554.04	\$6,268.13	\$33,493.19
117	\$6,268.13	\$20.89	\$1,559.22	\$4,708.91	\$33,514.09
118	\$4,708.91	\$15.70	\$1,564.42	\$3,144.49	\$33,529.78
119	\$3,144.49	\$10.48	\$1,569.63	\$1,574.86	\$33,540.27
120	\$1,574.86	\$5.25	\$1,574.86	\$0.00	\$33,545.51

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	15	\$1,154.42

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$156,068.00	\$520.23	\$634.19	\$155,433.81	\$520.23
2	\$155,433.81	\$518.11	\$636.30	\$154,797.51	\$1,038.34
3	\$154,797.51	\$515.99	\$638.42	\$154,159.08	\$1,554.33
4	\$154,159.08	\$513.86	\$640.55	\$153,518.53	\$2,068.19
5	\$153,518.53	\$511.73	\$642.69	\$152,875.84	\$2,579.92
6	\$152,875.84	\$509.59	\$644.83	\$152,231.01	\$3,089.51
7	\$152,231.01	\$507.44	\$646.98	\$151,584.03	\$3,596.95
8	\$151,584.03	\$505.28	\$649.14	\$150,934.90	\$4,102.23
9	\$150,934.90	\$503.12	\$651.30	\$150,283.60	\$4,605.34
10	\$150,283.60	\$500.95	\$653.47	\$149,630.13	\$5,106.29
11	\$149,630.13	\$498.77	\$655.65	\$148,974.48	\$5,605.05
12	\$148,974.48	\$496.58	\$657.83	\$148,316.64	\$6,101.64
13	\$148,316.64	\$494.39	\$660.03	\$147,656.62	\$6,596.03
14	\$147,656.62	\$492.19	\$662.23	\$146,994.39	\$7,088.21
15	\$146,994.39	\$489.98	\$664.43	\$146,329.95	\$7,578.20
16	\$146,329.95	\$487.77	\$666.65	\$145,663.30	\$8,065.96
17	\$145,663.30	\$485.54	\$668.87	\$144,994.43	\$8,551.51
18	\$144,994.43	\$483.31	\$671.10	\$144,323.33	\$9,034.82
19	\$144,323.33	\$481.08	\$673.34	\$143,649.99	\$9,515.90
20	\$143,649.99	\$478.83	\$675.58	\$142,974.41	\$9,994.73
21	\$142,974.41	\$476.58	\$677.83	\$142,296.57	\$10,471.31
22	\$142,296.57	\$474.32	\$680.09	\$141,616.48	\$10,945.64
23	\$141,616.48	\$472.05	\$682.36	\$140,934.12	\$11,417.69
24	\$140,934.12	\$469.78	\$684.64	\$140,249.48	\$11,887.47
25	\$140,249.48	\$467.50	\$686.92	\$139,562.56	\$12,354.97
26	\$139,562.56	\$465.21	\$689.21	\$138,873.36	\$12,820.18
27	\$138,873.36	\$462.91	\$691.50	\$138,181.85	\$13,283.09
28	\$138,181.85	\$460.61	\$693.81	\$137,488.04	\$13,743.69
29	\$137,488.04	\$458.29	\$696.12	\$136,791.92	\$14,201.99
30	\$136,791.92	\$455.97	\$698.44	\$136,093.48	\$14,657.96
31	\$136,093.48	\$453.64	\$700.77	\$135,392.71	\$15,111.61
32	\$135,392.71	\$451.31	\$703.11	\$134,689.60	\$15,562.92
33	\$134,689.60	\$448.97	\$705.45	\$133,984.15	\$16,011.88
34	\$133,984.15	\$446.61	\$707.80	\$133,276.35	\$16,458.49
35	\$133,276.35	\$444.25	\$710.16	\$132,566.18	\$16,902.75
36	\$132,566.18	\$441.89	\$712.53	\$131,853.65	\$17,344.64
37	\$131,853.65	\$439.51	\$714.90	\$131,138.75	\$17,784.15
38	\$131,138.75	\$437.13	\$717.29	\$130,421.46	\$18,221.28
39	\$130,421.46	\$434.74	\$719.68	\$129,701.79	\$18,656.02
40	\$129,701.79	\$432.34	\$722.08	\$128,979.71	\$19,088.35
41	\$128,979.71	\$429.93	\$724.48	\$128,255.23	\$19,518.29
42	\$128,255.23	\$427.52	\$726.90	\$127,528.33	\$19,945.80
43	\$127,528.33	\$425.09	\$729.32	\$126,799.00	\$20,370.90
44	\$126,799.00	\$422.66	\$731.75	\$126,067.25	\$20,793.56
45	\$126,067.25	\$420.22	\$734.19	\$125,333.06	\$21,213.79
46	\$125,333.06	\$417.78	\$736.64	\$124,596.42	\$21,631.56
47	\$124,596.42	\$415.32	\$739.09	\$123,857.33	\$22,046.88
48	\$123,857.33	\$412.86	\$741.56	\$123,115.77	\$22,459.74
49	\$123,115.77	\$410.39	\$744.03	\$122,371.74	\$22,870.13
50	\$122,371.74	\$407.91	\$746.51	\$121,625.23	\$23,278.03
51	\$121,625.23	\$405.42	\$749.00	\$120,876.23	\$23,683.45
52	\$120,876.23	\$402.92	\$751.50	\$120,124.73	\$24,086.37
53	\$120,124.73	\$400.42	\$754.00	\$119,370.73	\$24,486.79
54	\$119,370.73	\$397.90	\$756.51	\$118,614.22	\$24,884.69
55	\$118,614.22	\$395.38	\$759.04	\$117,855.18	\$25,280.07
56	\$117,855.18	\$392.85	\$761.57	\$117,093.62	\$25,672.92
57	\$117,093.62	\$390.31	\$764.10	\$116,329.51	\$26,063.23
58	\$116,329.51	\$387.77	\$766.65	\$115,562.86	\$26,451.00
59	\$115,562.86	\$385.21	\$769.21	\$114,793.66	\$26,836.21
60	\$114,793.66	\$382.65	\$771.77	\$114,021.89	\$27,218.85
61	\$114,021.89	\$380.07	\$774.34	\$113,247.54	\$27,598.93

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

**Estimated Capital Cost:** \$19,976,700  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$156,067.97

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	15	\$1,154.42

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$113,247.54	\$377.49	\$776.92	\$112,470.62	\$27,976.42
63	\$112,470.62	\$374.90	\$779.51	\$111,691.10	\$28,351.32
64	\$111,691.10	\$372.30	\$782.11	\$110,908.99	\$28,723.62
65	\$110,908.99	\$369.70	\$784.72	\$110,124.27	\$29,093.32
66	\$110,124.27	\$367.08	\$787.34	\$109,336.94	\$29,460.40
67	\$109,336.94	\$364.46	\$789.96	\$108,546.98	\$29,824.86
68	\$108,546.98	\$361.82	\$792.59	\$107,754.38	\$30,186.68
69	\$107,754.38	\$359.18	\$795.23	\$106,959.15	\$30,545.86
70	\$106,959.15	\$356.53	\$797.89	\$106,161.26	\$30,902.39
71	\$106,161.26	\$353.87	\$800.55	\$105,360.72	\$31,256.26
72	\$105,360.72	\$351.20	\$803.21	\$104,557.50	\$31,607.47
73	\$104,557.50	\$348.53	\$805.89	\$103,751.61	\$31,955.99
74	\$103,751.61	\$345.84	\$808.58	\$102,943.04	\$32,301.83
75	\$102,943.04	\$343.14	\$811.27	\$102,131.76	\$32,644.97
76	\$102,131.76	\$340.44	\$813.98	\$101,317.79	\$32,985.41
77	\$101,317.79	\$337.73	\$816.69	\$100,501.10	\$33,323.14
78	\$100,501.10	\$335.00	\$819.41	\$99,681.68	\$33,658.14
79	\$99,681.68	\$332.27	\$822.14	\$98,859.54	\$33,990.42
80	\$98,859.54	\$329.53	\$824.88	\$98,034.65	\$34,319.95
81	\$98,034.65	\$326.78	\$827.63	\$97,207.02	\$34,646.73
82	\$97,207.02	\$324.02	\$830.39	\$96,376.63	\$34,970.75
83	\$96,376.63	\$321.26	\$833.16	\$95,543.47	\$35,292.01
84	\$95,543.47	\$318.48	\$835.94	\$94,707.53	\$35,610.49
85	\$94,707.53	\$315.69	\$838.72	\$93,868.81	\$35,926.18
86	\$93,868.81	\$312.90	\$841.52	\$93,027.29	\$36,239.07
87	\$93,027.29	\$310.09	\$844.33	\$92,182.96	\$36,549.17
88	\$92,182.96	\$307.28	\$847.14	\$91,335.82	\$36,856.44
89	\$91,335.82	\$304.45	\$849.96	\$90,485.86	\$37,160.89
90	\$90,485.86	\$301.62	\$852.80	\$89,633.06	\$37,462.51
91	\$89,633.06	\$298.78	\$855.64	\$88,777.42	\$37,761.29
92	\$88,777.42	\$295.92	\$858.49	\$87,918.93	\$38,057.22
93	\$87,918.93	\$293.06	\$861.35	\$87,057.58	\$38,350.28
94	\$87,057.58	\$290.19	\$864.22	\$86,193.35	\$38,640.47
95	\$86,193.35	\$287.31	\$867.10	\$85,326.25	\$38,927.78
96	\$85,326.25	\$284.42	\$870.00	\$84,456.25	\$39,212.20
97	\$84,456.25	\$281.52	\$872.90	\$83,583.36	\$39,493.72
98	\$83,583.36	\$278.61	\$875.80	\$82,707.55	\$39,772.33
99	\$82,707.55	\$275.69	\$878.72	\$81,828.83	\$40,048.03
100	\$81,828.83	\$272.76	\$881.65	\$80,947.17	\$40,320.79
101	\$80,947.17	\$269.82	\$884.59	\$80,062.58	\$40,590.61
102	\$80,062.58	\$266.88	\$887.54	\$79,175.04	\$40,857.49
103	\$79,175.04	\$263.92	\$890.50	\$78,284.54	\$41,121.41
104	\$78,284.54	\$260.95	\$893.47	\$77,391.07	\$41,382.35
105	\$77,391.07	\$257.97	\$896.45	\$76,494.63	\$41,640.32
106	\$76,494.63	\$254.98	\$899.43	\$75,595.19	\$41,895.31
107	\$75,595.19	\$251.98	\$902.43	\$74,692.76	\$42,147.29
108	\$74,692.76	\$248.98	\$905.44	\$73,787.32	\$42,396.27
109	\$73,787.32	\$245.96	\$908.46	\$72,878.86	\$42,642.22
110	\$72,878.86	\$242.93	\$911.49	\$71,967.38	\$42,885.15
111	\$71,967.38	\$239.89	\$914.52	\$71,052.85	\$43,125.04
112	\$71,052.85	\$236.84	\$917.57	\$70,135.28	\$43,361.89
113	\$70,135.28	\$233.78	\$920.63	\$69,214.65	\$43,595.67
114	\$69,214.65	\$230.72	\$923.70	\$68,290.95	\$43,826.39
115	\$68,290.95	\$227.64	\$926.78	\$67,364.17	\$44,054.02
116	\$67,364.17	\$224.55	\$929.87	\$66,434.30	\$44,278.57
117	\$66,434.30	\$221.45	\$932.97	\$65,501.33	\$44,500.02
118	\$65,501.33	\$218.34	\$936.08	\$64,565.25	\$44,718.36
119	\$64,565.25	\$215.22	\$939.20	\$63,626.05	\$44,933.57
120	\$63,626.05	\$212.09	\$942.33	\$62,683.72	\$45,145.66
121	\$62,683.72	\$208.95	\$945.47	\$61,738.25	\$45,354.61
122	\$61,738.25	\$205.79	\$948.62	\$60,789.63	\$45,560.40



**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,154.42

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	15	\$1,154.42

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	\$60,789.63	\$202.63	\$951.78	\$59,837.85	\$45,763.03
124	\$59,837.85	\$199.46	\$954.96	\$58,882.89	\$45,962.49
125	\$58,882.89	\$196.28	\$958.14	\$57,924.75	\$46,158.77
126	\$57,924.75	\$193.08	\$961.33	\$56,963.42	\$46,351.85
127	\$56,963.42	\$189.88	\$964.54	\$55,998.88	\$46,541.73
128	\$55,998.88	\$186.66	\$967.75	\$55,031.12	\$46,728.39
129	\$55,031.12	\$183.44	\$970.98	\$54,060.15	\$46,911.83
130	\$54,060.15	\$180.20	\$974.22	\$53,085.93	\$47,092.03
131	\$53,085.93	\$176.95	\$977.46	\$52,108.47	\$47,268.98
132	\$52,108.47	\$173.69	\$980.72	\$51,127.75	\$47,442.68
133	\$51,127.75	\$170.43	\$983.99	\$50,143.75	\$47,613.10
134	\$50,143.75	\$167.15	\$987.27	\$49,156.48	\$47,780.25
135	\$49,156.48	\$163.85	\$990.56	\$48,165.92	\$47,944.10
136	\$48,165.92	\$160.55	\$993.86	\$47,172.06	\$48,104.66
137	\$47,172.06	\$157.24	\$997.18	\$46,174.88	\$48,261.90
138	\$46,174.88	\$153.92	\$1,000.50	\$45,174.38	\$48,415.81
139	\$45,174.38	\$150.58	\$1,003.83	\$44,170.55	\$48,566.39
140	\$44,170.55	\$147.24	\$1,007.18	\$43,163.37	\$48,713.63
141	\$43,163.37	\$143.88	\$1,010.54	\$42,152.83	\$48,857.51
142	\$42,152.83	\$140.51	\$1,013.91	\$41,138.92	\$48,998.02
143	\$41,138.92	\$137.13	\$1,017.29	\$40,121.64	\$49,135.15
144	\$40,121.64	\$133.74	\$1,020.68	\$39,100.96	\$49,268.89
145	\$39,100.96	\$130.34	\$1,024.08	\$38,076.88	\$49,399.22
146	\$38,076.88	\$126.92	\$1,027.49	\$37,049.39	\$49,526.15
147	\$37,049.39	\$123.50	\$1,030.92	\$36,018.47	\$49,649.64
148	\$36,018.47	\$120.06	\$1,034.35	\$34,984.11	\$49,769.70
149	\$34,984.11	\$116.61	\$1,037.80	\$33,946.31	\$49,886.32
150	\$33,946.31	\$113.15	\$1,041.26	\$32,905.05	\$49,999.47
151	\$32,905.05	\$109.68	\$1,044.73	\$31,860.32	\$50,109.16
152	\$31,860.32	\$106.20	\$1,048.22	\$30,812.10	\$50,215.36
153	\$30,812.10	\$102.71	\$1,051.71	\$29,760.39	\$50,318.06
154	\$29,760.39	\$99.20	\$1,055.21	\$28,705.18	\$50,417.27
155	\$28,705.18	\$95.68	\$1,058.73	\$27,646.45	\$50,512.95
156	\$27,646.45	\$92.15	\$1,062.26	\$26,584.18	\$50,605.10
157	\$26,584.18	\$88.61	\$1,065.80	\$25,518.38	\$50,693.72
158	\$25,518.38	\$85.06	\$1,069.35	\$24,449.03	\$50,778.78
159	\$24,449.03	\$81.50	\$1,072.92	\$23,376.11	\$50,860.28
160	\$23,376.11	\$77.92	\$1,076.50	\$22,299.61	\$50,938.20
161	\$22,299.61	\$74.33	\$1,080.08	\$21,219.53	\$51,012.53
162	\$21,219.53	\$70.73	\$1,083.68	\$20,135.84	\$51,083.26
163	\$20,135.84	\$67.12	\$1,087.30	\$19,048.55	\$51,150.38
164	\$19,048.55	\$63.50	\$1,090.92	\$17,957.63	\$51,213.88
165	\$17,957.63	\$59.86	\$1,094.56	\$16,863.07	\$51,273.73
166	\$16,863.07	\$56.21	\$1,098.21	\$15,764.86	\$51,329.94
167	\$15,764.86	\$52.55	\$1,101.87	\$14,663.00	\$51,382.49
168	\$14,663.00	\$48.88	\$1,105.54	\$13,557.46	\$51,431.37
169	\$13,557.46	\$45.19	\$1,109.22	\$12,448.23	\$51,476.56
170	\$12,448.23	\$41.49	\$1,112.92	\$11,335.31	\$51,518.06
171	\$11,335.31	\$37.78	\$1,116.63	\$10,218.68	\$51,555.84
172	\$10,218.68	\$34.06	\$1,120.35	\$9,098.32	\$51,589.90
173	\$9,098.32	\$30.33	\$1,124.09	\$7,974.24	\$51,620.23
174	\$7,974.24	\$26.58	\$1,127.84	\$6,846.40	\$51,646.81
175	\$6,846.40	\$22.82	\$1,131.59	\$5,714.81	\$51,669.63
176	\$5,714.81	\$19.05	\$1,135.37	\$4,579.44	\$51,688.68
177	\$4,579.44	\$15.26	\$1,139.15	\$3,440.29	\$51,703.95
178	\$3,440.29	\$11.47	\$1,142.95	\$2,297.34	\$51,715.41
179	\$2,297.34	\$7.66	\$1,146.76	\$1,150.58	\$51,723.07
180	\$1,150.58	\$3.84	\$1,150.58	\$0.00	\$51,726.91

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	20	\$945.74

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$156,068.00	\$520.23	\$425.51	\$155,642.49	\$520.23
2	\$155,642.49	\$518.81	\$426.93	\$155,215.55	\$1,039.03
3	\$155,215.55	\$517.39	\$428.36	\$154,787.20	\$1,556.42
4	\$154,787.20	\$515.96	\$429.78	\$154,357.41	\$2,072.38
5	\$154,357.41	\$514.52	\$431.22	\$153,926.20	\$2,586.90
6	\$153,926.20	\$513.09	\$432.65	\$153,493.54	\$3,099.99
7	\$153,493.54	\$511.65	\$434.10	\$153,059.44	\$3,611.63
8	\$153,059.44	\$510.20	\$435.54	\$152,623.90	\$4,121.83
9	\$152,623.90	\$508.75	\$437.00	\$152,186.91	\$4,630.58
10	\$152,186.91	\$507.29	\$438.45	\$151,748.45	\$5,137.87
11	\$151,748.45	\$505.83	\$439.91	\$151,308.54	\$5,643.70
12	\$151,308.54	\$504.36	\$441.38	\$150,867.16	\$6,148.06
13	\$150,867.16	\$502.89	\$442.85	\$150,424.31	\$6,650.95
14	\$150,424.31	\$501.41	\$444.33	\$149,979.98	\$7,152.36
15	\$149,979.98	\$499.93	\$445.81	\$149,534.18	\$7,652.30
16	\$149,534.18	\$498.45	\$447.29	\$149,086.88	\$8,150.74
17	\$149,086.88	\$496.96	\$448.79	\$148,638.10	\$8,647.70
18	\$148,638.10	\$495.46	\$450.28	\$148,187.82	\$9,143.16
19	\$148,187.82	\$493.96	\$451.78	\$147,736.03	\$9,637.12
20	\$147,736.03	\$492.45	\$453.29	\$147,282.75	\$10,129.57
21	\$147,282.75	\$490.94	\$454.80	\$146,827.95	\$10,620.52
22	\$146,827.95	\$489.43	\$456.31	\$146,371.63	\$11,109.94
23	\$146,371.63	\$487.91	\$457.84	\$145,913.80	\$11,597.85
24	\$145,913.80	\$486.38	\$459.36	\$145,454.43	\$12,084.23
25	\$145,454.43	\$484.85	\$460.89	\$144,993.54	\$12,569.08
26	\$144,993.54	\$483.31	\$462.43	\$144,531.11	\$13,052.39
27	\$144,531.11	\$481.77	\$463.97	\$144,067.14	\$13,534.16
28	\$144,067.14	\$480.22	\$465.52	\$143,601.62	\$14,014.38
29	\$143,601.62	\$478.67	\$467.07	\$143,134.55	\$14,493.05
30	\$143,134.55	\$477.12	\$468.63	\$142,665.93	\$14,970.17
31	\$142,665.93	\$475.55	\$470.19	\$142,195.74	\$15,445.72
32	\$142,195.74	\$473.99	\$471.76	\$141,723.98	\$15,919.71
33	\$141,723.98	\$472.41	\$473.33	\$141,250.66	\$16,392.12
34	\$141,250.66	\$470.84	\$474.91	\$140,775.75	\$16,862.96
35	\$140,775.75	\$469.25	\$476.49	\$140,299.26	\$17,332.21
36	\$140,299.26	\$467.66	\$478.08	\$139,821.18	\$17,799.87
37	\$139,821.18	\$466.07	\$479.67	\$139,341.51	\$18,265.94
38	\$139,341.51	\$464.47	\$481.27	\$138,860.24	\$18,730.42
39	\$138,860.24	\$462.87	\$482.87	\$138,377.37	\$19,193.28
40	\$138,377.37	\$461.26	\$484.48	\$137,892.89	\$19,654.54
41	\$137,892.89	\$459.64	\$486.10	\$137,406.79	\$20,114.18
42	\$137,406.79	\$458.02	\$487.72	\$136,919.07	\$20,572.21
43	\$136,919.07	\$456.40	\$489.34	\$136,429.72	\$21,028.60
44	\$136,429.72	\$454.77	\$490.98	\$135,938.75	\$21,483.37
45	\$135,938.75	\$453.13	\$492.61	\$135,446.14	\$21,936.50
46	\$135,446.14	\$451.49	\$494.25	\$134,951.88	\$22,387.99
47	\$134,951.88	\$449.84	\$495.90	\$134,455.98	\$22,837.82
48	\$134,455.98	\$448.19	\$497.55	\$133,958.43	\$23,286.01
49	\$133,958.43	\$446.53	\$499.21	\$133,459.21	\$23,732.54
50	\$133,459.21	\$444.86	\$500.88	\$132,958.33	\$24,177.40
51	\$132,958.33	\$443.19	\$502.55	\$132,455.79	\$24,620.60
52	\$132,455.79	\$441.52	\$504.22	\$131,951.57	\$25,062.12
53	\$131,951.57	\$439.84	\$505.90	\$131,445.66	\$25,501.96
54	\$131,445.66	\$438.15	\$507.59	\$130,938.07	\$25,940.11
55	\$130,938.07	\$436.46	\$509.28	\$130,428.79	\$26,376.57
56	\$130,428.79	\$434.76	\$510.98	\$129,917.81	\$26,811.33
57	\$129,917.81	\$433.06	\$512.68	\$129,405.13	\$27,244.39
58	\$129,405.13	\$431.35	\$514.39	\$128,890.74	\$27,675.74
59	\$128,890.74	\$429.64	\$516.11	\$128,374.64	\$28,105.38
60	\$128,374.64	\$427.92	\$517.83	\$127,856.81	\$28,533.29
61	\$127,856.81	\$426.19	\$519.55	\$127,337.26	\$28,959.48

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

**Estimated Capital Cost:** \$19,976,700  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$156,067.97

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	20	\$945.74

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$127,337.26	\$424.46	\$521.28	\$126,815.97	\$29,383.94
63	\$126,815.97	\$422.72	\$523.02	\$126,292.95	\$29,806.66
64	\$126,292.95	\$420.98	\$524.76	\$125,768.19	\$30,227.64
65	\$125,768.19	\$419.23	\$526.51	\$125,241.67	\$30,646.86
66	\$125,241.67	\$417.47	\$528.27	\$124,713.40	\$31,064.33
67	\$124,713.40	\$415.71	\$530.03	\$124,183.37	\$31,480.05
68	\$124,183.37	\$413.94	\$531.80	\$123,651.58	\$31,893.99
69	\$123,651.58	\$412.17	\$533.57	\$123,118.01	\$32,306.16
70	\$123,118.01	\$410.39	\$535.35	\$122,582.66	\$32,716.56
71	\$122,582.66	\$408.61	\$537.13	\$122,045.53	\$33,125.17
72	\$122,045.53	\$406.82	\$538.92	\$121,506.60	\$33,531.98
73	\$121,506.60	\$405.02	\$540.72	\$120,965.88	\$33,937.01
74	\$120,965.88	\$403.22	\$542.52	\$120,423.36	\$34,340.23
75	\$120,423.36	\$401.41	\$544.33	\$119,879.03	\$34,741.64
76	\$119,879.03	\$399.60	\$546.14	\$119,332.89	\$35,141.23
77	\$119,332.89	\$397.78	\$547.97	\$118,784.92	\$35,539.01
78	\$118,784.92	\$395.95	\$549.79	\$118,235.13	\$35,934.96
79	\$118,235.13	\$394.12	\$551.62	\$117,683.51	\$36,329.08
80	\$117,683.51	\$392.28	\$553.46	\$117,130.04	\$36,721.35
81	\$117,130.04	\$390.43	\$555.31	\$116,574.74	\$37,111.79
82	\$116,574.74	\$388.58	\$557.16	\$116,017.58	\$37,500.37
83	\$116,017.58	\$386.73	\$559.02	\$115,458.56	\$37,887.10
84	\$115,458.56	\$384.86	\$560.88	\$114,897.68	\$38,271.96
85	\$114,897.68	\$382.99	\$562.75	\$114,334.93	\$38,654.95
86	\$114,334.93	\$381.12	\$564.62	\$113,770.31	\$39,036.07
87	\$113,770.31	\$379.23	\$566.51	\$113,203.80	\$39,415.30
88	\$113,203.80	\$377.35	\$568.40	\$112,635.41	\$39,792.65
89	\$112,635.41	\$375.45	\$570.29	\$112,065.12	\$40,168.10
90	\$112,065.12	\$373.55	\$572.19	\$111,492.92	\$40,541.65
91	\$111,492.92	\$371.64	\$574.10	\$110,918.83	\$40,913.29
92	\$110,918.83	\$369.73	\$576.01	\$110,342.81	\$41,283.02
93	\$110,342.81	\$367.81	\$577.93	\$109,764.88	\$41,650.83
94	\$109,764.88	\$365.88	\$579.86	\$109,185.02	\$42,016.71
95	\$109,185.02	\$363.95	\$581.79	\$108,603.23	\$42,380.66
96	\$108,603.23	\$362.01	\$583.73	\$108,019.50	\$42,742.67
97	\$108,019.50	\$360.07	\$585.68	\$107,433.83	\$43,102.74
98	\$107,433.83	\$358.11	\$587.63	\$106,846.20	\$43,460.85
99	\$106,846.20	\$356.15	\$589.59	\$106,256.61	\$43,817.01
100	\$106,256.61	\$354.19	\$591.55	\$105,665.06	\$44,171.19
101	\$105,665.06	\$352.22	\$593.52	\$105,071.53	\$44,523.41
102	\$105,071.53	\$350.24	\$595.50	\$104,476.03	\$44,873.65
103	\$104,476.03	\$348.25	\$597.49	\$103,878.54	\$45,221.90
104	\$103,878.54	\$346.26	\$599.48	\$103,279.06	\$45,568.17
105	\$103,279.06	\$344.26	\$601.48	\$102,677.58	\$45,912.43
106	\$102,677.58	\$342.26	\$603.48	\$102,074.10	\$46,254.69
107	\$102,074.10	\$340.25	\$605.49	\$101,468.61	\$46,594.93
108	\$101,468.61	\$338.23	\$607.51	\$100,861.09	\$46,933.16
109	\$100,861.09	\$336.20	\$609.54	\$100,251.56	\$47,269.37
110	\$100,251.56	\$334.17	\$611.57	\$99,639.99	\$47,603.54
111	\$99,639.99	\$332.13	\$613.61	\$99,026.38	\$47,935.67
112	\$99,026.38	\$330.09	\$615.65	\$98,410.73	\$48,265.76
113	\$98,410.73	\$328.04	\$617.71	\$97,793.02	\$48,593.80
114	\$97,793.02	\$325.98	\$619.76	\$97,173.25	\$48,919.77
115	\$97,173.25	\$323.91	\$621.83	\$96,551.42	\$49,243.68
116	\$96,551.42	\$321.84	\$623.90	\$95,927.52	\$49,565.52
117	\$95,927.52	\$319.76	\$625.98	\$95,301.54	\$49,885.28
118	\$95,301.54	\$317.67	\$628.07	\$94,673.47	\$50,202.95
119	\$94,673.47	\$315.58	\$630.16	\$94,043.31	\$50,518.53
120	\$94,043.31	\$313.48	\$632.26	\$93,411.04	\$50,832.01
121	\$93,411.04	\$311.37	\$634.37	\$92,776.67	\$51,143.38
122	\$92,776.67	\$309.26	\$636.49	\$92,140.18	\$51,452.63



**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

Estimated Capital Cost: \$19,976,700  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$156,067.97

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	20	\$945.74

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	\$92,140.18	\$307.13	\$638.61	\$91,501.58	\$51,759.77
124	\$91,501.58	\$305.01	\$640.74	\$90,860.84	\$52,064.77
125	\$90,860.84	\$302.87	\$642.87	\$90,217.97	\$52,367.64
126	\$90,217.97	\$300.73	\$645.01	\$89,572.95	\$52,668.37
127	\$89,572.95	\$298.58	\$647.16	\$88,925.79	\$52,966.94
128	\$88,925.79	\$296.42	\$649.32	\$88,276.47	\$53,263.36
129	\$88,276.47	\$294.25	\$651.49	\$87,624.98	\$53,557.62
130	\$87,624.98	\$292.08	\$653.66	\$86,971.32	\$53,849.70
131	\$86,971.32	\$289.90	\$655.84	\$86,315.49	\$54,139.61
132	\$86,315.49	\$287.72	\$658.02	\$85,657.46	\$54,427.32
133	\$85,657.46	\$285.52	\$660.22	\$84,997.25	\$54,712.85
134	\$84,997.25	\$283.32	\$662.42	\$84,334.83	\$54,996.17
135	\$84,334.83	\$281.12	\$664.63	\$83,670.20	\$55,277.29
136	\$83,670.20	\$278.90	\$666.84	\$83,003.36	\$55,556.19
137	\$83,003.36	\$276.68	\$669.06	\$82,334.30	\$55,832.87
138	\$82,334.30	\$274.45	\$671.29	\$81,663.01	\$56,107.32
139	\$81,663.01	\$272.21	\$673.53	\$80,989.47	\$56,379.53
140	\$80,989.47	\$269.96	\$675.78	\$80,313.70	\$56,649.49
141	\$80,313.70	\$267.71	\$678.03	\$79,635.67	\$56,917.20
142	\$79,635.67	\$265.45	\$680.29	\$78,955.38	\$57,182.66
143	\$78,955.38	\$263.18	\$682.56	\$78,272.82	\$57,445.84
144	\$78,272.82	\$260.91	\$684.83	\$77,587.99	\$57,706.75
145	\$77,587.99	\$258.63	\$687.11	\$76,900.88	\$57,965.38
146	\$76,900.88	\$256.34	\$689.41	\$76,211.47	\$58,221.71
147	\$76,211.47	\$254.04	\$691.70	\$75,519.77	\$58,475.75
148	\$75,519.77	\$251.73	\$694.01	\$74,825.76	\$58,727.48
149	\$74,825.76	\$249.42	\$696.32	\$74,129.44	\$58,976.90
150	\$74,129.44	\$247.10	\$698.64	\$73,430.79	\$59,224.00
151	\$73,430.79	\$244.77	\$700.97	\$72,729.82	\$59,468.77
152	\$72,729.82	\$242.43	\$703.31	\$72,026.51	\$59,711.20
153	\$72,026.51	\$240.09	\$705.65	\$71,320.86	\$59,951.29
154	\$71,320.86	\$237.74	\$708.01	\$70,612.85	\$60,189.03
155	\$70,612.85	\$235.38	\$710.37	\$69,902.49	\$60,424.40
156	\$69,902.49	\$233.01	\$712.73	\$69,189.76	\$60,657.41
157	\$69,189.76	\$230.63	\$715.11	\$68,474.65	\$60,888.04
158	\$68,474.65	\$228.25	\$717.49	\$67,757.15	\$61,116.29
159	\$67,757.15	\$225.86	\$719.88	\$67,037.27	\$61,342.15
160	\$67,037.27	\$223.46	\$722.28	\$66,314.99	\$61,565.61
161	\$66,314.99	\$221.05	\$724.69	\$65,590.30	\$61,786.66
162	\$65,590.30	\$218.63	\$727.11	\$64,863.19	\$62,005.29
163	\$64,863.19	\$216.21	\$729.53	\$64,133.66	\$62,221.50
164	\$64,133.66	\$213.78	\$731.96	\$63,401.70	\$62,435.28
165	\$63,401.70	\$211.34	\$734.40	\$62,667.29	\$62,646.62
166	\$62,667.29	\$208.89	\$736.85	\$61,930.44	\$62,855.51
167	\$61,930.44	\$206.43	\$739.31	\$61,191.14	\$63,061.95
168	\$61,191.14	\$203.97	\$741.77	\$60,449.36	\$63,265.92
169	\$60,449.36	\$201.50	\$744.24	\$59,705.12	\$63,467.41
170	\$59,705.12	\$199.02	\$746.72	\$58,958.40	\$63,666.43
171	\$58,958.40	\$196.53	\$749.21	\$58,209.18	\$63,862.96
172	\$58,209.18	\$194.03	\$751.71	\$57,457.47	\$64,056.99
173	\$57,457.47	\$191.52	\$754.22	\$56,703.26	\$64,248.52
174	\$56,703.26	\$189.01	\$756.73	\$55,946.53	\$64,437.53
175	\$55,946.53	\$186.49	\$759.25	\$55,187.27	\$64,624.01
176	\$55,187.27	\$183.96	\$761.78	\$54,425.49	\$64,807.97
177	\$54,425.49	\$181.42	\$764.32	\$53,661.17	\$64,989.39
178	\$53,661.17	\$178.87	\$766.87	\$52,894.30	\$65,168.26
179	\$52,894.30	\$176.31	\$769.43	\$52,124.87	\$65,344.58
180	\$52,124.87	\$173.75	\$771.99	\$51,352.88	\$65,518.32
181	\$51,352.88	\$171.18	\$774.57	\$50,578.31	\$65,689.50
182	\$50,578.31	\$168.59	\$777.15	\$49,801.16	\$65,858.10
183	\$49,801.16	\$166.00	\$779.74	\$49,021.43	\$66,024.10

**TOWNSHIP OF PUSLINCH**  
**Water Servicing - Option W2**

**Estimated Capital Cost:** \$19,976,700  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$156,067.97

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$945.74

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$156,068.00	4.00%	20	\$945.74

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
184	\$49,021.43	\$163.40	\$782.34	\$48,239.09	\$66,187.50
185	\$48,239.09	\$160.80	\$784.94	\$47,454.15	\$66,348.30
186	\$47,454.15	\$158.18	\$787.56	\$46,666.58	\$66,506.48
187	\$46,666.58	\$155.56	\$790.19	\$45,876.40	\$66,662.04
188	\$45,876.40	\$152.92	\$792.82	\$45,083.58	\$66,814.96
189	\$45,083.58	\$150.28	\$795.46	\$44,288.12	\$66,965.24
190	\$44,288.12	\$147.63	\$798.11	\$43,490.00	\$67,112.86
191	\$43,490.00	\$144.97	\$800.77	\$42,689.23	\$67,257.83
192	\$42,689.23	\$142.30	\$803.44	\$41,885.78	\$67,400.13
193	\$41,885.78	\$139.62	\$806.12	\$41,079.66	\$67,539.75
194	\$41,079.66	\$136.93	\$808.81	\$40,270.85	\$67,676.68
195	\$40,270.85	\$134.24	\$811.51	\$39,459.35	\$67,810.92
196	\$39,459.35	\$131.53	\$814.21	\$38,645.14	\$67,942.45
197	\$38,645.14	\$128.82	\$816.92	\$37,828.21	\$68,071.26
198	\$37,828.21	\$126.09	\$819.65	\$37,008.56	\$68,197.36
199	\$37,008.56	\$123.36	\$822.38	\$36,186.19	\$68,320.72
200	\$36,186.19	\$120.62	\$825.12	\$35,361.06	\$68,441.34
201	\$35,361.06	\$117.87	\$827.87	\$34,533.19	\$68,559.21
202	\$34,533.19	\$115.11	\$830.63	\$33,702.56	\$68,674.32
203	\$33,702.56	\$112.34	\$833.40	\$32,869.16	\$68,786.66
204	\$32,869.16	\$109.56	\$836.18	\$32,032.99	\$68,896.23
205	\$32,032.99	\$106.78	\$838.96	\$31,194.02	\$69,003.00
206	\$31,194.02	\$103.98	\$841.76	\$30,352.26	\$69,106.98
207	\$30,352.26	\$101.17	\$844.57	\$29,507.69	\$69,208.16
208	\$29,507.69	\$98.36	\$847.38	\$28,660.31	\$69,306.52
209	\$28,660.31	\$95.53	\$850.21	\$27,810.10	\$69,402.05
210	\$27,810.10	\$92.70	\$853.04	\$26,957.06	\$69,494.75
211	\$26,957.06	\$89.86	\$855.88	\$26,101.18	\$69,584.61
212	\$26,101.18	\$87.00	\$858.74	\$25,242.44	\$69,671.61
213	\$25,242.44	\$84.14	\$861.60	\$24,380.84	\$69,755.75
214	\$24,380.84	\$81.27	\$864.47	\$23,516.37	\$69,837.02
215	\$23,516.37	\$78.39	\$867.35	\$22,649.01	\$69,915.41
216	\$22,649.01	\$75.50	\$870.24	\$21,778.77	\$69,990.91
217	\$21,778.77	\$72.60	\$873.15	\$20,905.62	\$70,063.50
218	\$20,905.62	\$69.69	\$876.06	\$20,029.57	\$70,133.19
219	\$20,029.57	\$66.77	\$878.98	\$19,150.59	\$70,199.95
220	\$19,150.59	\$63.84	\$881.91	\$18,268.69	\$70,263.79
221	\$18,268.69	\$60.90	\$884.85	\$17,383.84	\$70,324.69
222	\$17,383.84	\$57.95	\$887.80	\$16,496.05	\$70,382.63
223	\$16,496.05	\$54.99	\$890.75	\$15,605.29	\$70,437.62
224	\$15,605.29	\$52.02	\$893.72	\$14,711.57	\$70,489.64
225	\$14,711.57	\$49.04	\$896.70	\$13,814.86	\$70,538.67
226	\$13,814.86	\$46.05	\$899.69	\$12,915.17	\$70,584.72
227	\$12,915.17	\$43.05	\$902.69	\$12,012.48	\$70,627.77
228	\$12,012.48	\$40.04	\$905.70	\$11,106.78	\$70,667.82
229	\$11,106.78	\$37.02	\$908.72	\$10,198.06	\$70,704.84
230	\$10,198.06	\$33.99	\$911.75	\$9,286.31	\$70,738.83
231	\$9,286.31	\$30.95	\$914.79	\$8,371.53	\$70,769.79
232	\$8,371.53	\$27.91	\$917.84	\$7,453.69	\$70,797.69
233	\$7,453.69	\$24.85	\$920.90	\$6,532.80	\$70,822.54
234	\$6,532.80	\$21.78	\$923.97	\$5,608.83	\$70,844.31
235	\$5,608.83	\$18.70	\$927.05	\$4,681.79	\$70,863.01
236	\$4,681.79	\$15.61	\$930.14	\$3,751.65	\$70,878.62
237	\$3,751.65	\$12.51	\$933.24	\$2,818.41	\$70,891.12
238	\$2,818.41	\$9.39	\$936.35	\$1,882.07	\$70,900.52
239	\$1,882.07	\$6.27	\$939.47	\$942.60	\$70,906.79
240	\$942.60	\$3.14	\$942.60	\$0.00	\$70,909.93

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

Estimated Capital Cost: \$29,036,580  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$226,848.28

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$2,296.73

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	10	\$2,296.73

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$226,848.00	\$756.16	\$1,540.57	\$225,307.43	\$756.16
2	\$225,307.43	\$751.02	\$1,545.70	\$223,761.73	\$1,507.18
3	\$223,761.73	\$745.87	\$1,550.85	\$222,210.88	\$2,253.06
4	\$222,210.88	\$740.70	\$1,556.02	\$220,654.86	\$2,993.76
5	\$220,654.86	\$735.52	\$1,561.21	\$219,093.65	\$3,729.28
6	\$219,093.65	\$730.31	\$1,566.41	\$217,527.23	\$4,459.59
7	\$217,527.23	\$725.09	\$1,571.63	\$215,955.60	\$5,184.68
8	\$215,955.60	\$719.85	\$1,576.87	\$214,378.73	\$5,904.53
9	\$214,378.73	\$714.60	\$1,582.13	\$212,796.60	\$6,619.13
10	\$212,796.60	\$709.32	\$1,587.40	\$211,209.19	\$7,328.45
11	\$211,209.19	\$704.03	\$1,592.70	\$209,616.50	\$8,032.48
12	\$209,616.50	\$698.72	\$1,598.00	\$208,018.49	\$8,731.20
13	\$208,018.49	\$693.39	\$1,603.33	\$206,415.16	\$9,424.60
14	\$206,415.16	\$688.05	\$1,608.68	\$204,806.49	\$10,112.65
15	\$204,806.49	\$682.69	\$1,614.04	\$203,192.45	\$10,795.34
16	\$203,192.45	\$677.31	\$1,619.42	\$201,573.03	\$11,472.64
17	\$201,573.03	\$671.91	\$1,624.82	\$199,948.22	\$12,144.55
18	\$199,948.22	\$666.49	\$1,630.23	\$198,317.98	\$12,811.05
19	\$198,317.98	\$661.06	\$1,635.67	\$196,682.32	\$13,472.11
20	\$196,682.32	\$655.61	\$1,641.12	\$195,041.20	\$14,127.72
21	\$195,041.20	\$650.14	\$1,646.59	\$193,394.61	\$14,777.85
22	\$193,394.61	\$644.65	\$1,652.08	\$191,742.54	\$15,422.50
23	\$191,742.54	\$639.14	\$1,657.58	\$190,084.95	\$16,061.64
24	\$190,084.95	\$633.62	\$1,663.11	\$188,421.84	\$16,695.26
25	\$188,421.84	\$628.07	\$1,668.65	\$186,753.19	\$17,323.33
26	\$186,753.19	\$622.51	\$1,674.22	\$185,078.97	\$17,945.84
27	\$185,078.97	\$616.93	\$1,679.80	\$183,399.18	\$18,562.77
28	\$183,399.18	\$611.33	\$1,685.40	\$181,713.78	\$19,174.10
29	\$181,713.78	\$605.71	\$1,691.01	\$180,022.77	\$19,779.82
30	\$180,022.77	\$600.08	\$1,696.65	\$178,326.12	\$20,379.89
31	\$178,326.12	\$594.42	\$1,702.31	\$176,623.82	\$20,974.31
32	\$176,623.82	\$588.75	\$1,707.98	\$174,915.84	\$21,563.06
33	\$174,915.84	\$583.05	\$1,713.67	\$173,202.16	\$22,146.11
34	\$173,202.16	\$577.34	\$1,719.39	\$171,482.78	\$22,723.45
35	\$171,482.78	\$571.61	\$1,725.12	\$169,757.66	\$23,295.06
36	\$169,757.66	\$565.86	\$1,730.87	\$168,026.79	\$23,860.92
37	\$168,026.79	\$560.09	\$1,736.64	\$166,290.16	\$24,421.01
38	\$166,290.16	\$554.30	\$1,742.43	\$164,547.73	\$24,975.31
39	\$164,547.73	\$548.49	\$1,748.23	\$162,799.50	\$25,523.80
40	\$162,799.50	\$542.66	\$1,754.06	\$161,045.44	\$26,066.47
41	\$161,045.44	\$536.82	\$1,759.91	\$159,285.53	\$26,603.29
42	\$159,285.53	\$530.95	\$1,765.77	\$157,519.76	\$27,134.24
43	\$157,519.76	\$525.07	\$1,771.66	\$155,748.10	\$27,659.30
44	\$155,748.10	\$519.16	\$1,777.57	\$153,970.53	\$28,178.46
45	\$153,970.53	\$513.24	\$1,783.49	\$152,187.04	\$28,691.70
46	\$152,187.04	\$507.29	\$1,789.44	\$150,397.61	\$29,198.99
47	\$150,397.61	\$501.33	\$1,795.40	\$148,602.21	\$29,700.31
48	\$148,602.21	\$495.34	\$1,801.39	\$146,800.82	\$30,195.65
49	\$146,800.82	\$489.34	\$1,807.39	\$144,993.43	\$30,684.99
50	\$144,993.43	\$483.31	\$1,813.41	\$143,180.02	\$31,168.30
51	\$143,180.02	\$477.27	\$1,819.46	\$141,360.56	\$31,645.57
52	\$141,360.56	\$471.20	\$1,825.52	\$139,535.03	\$32,116.77
53	\$139,535.03	\$465.12	\$1,831.61	\$137,703.42	\$32,581.89
54	\$137,703.42	\$459.01	\$1,837.71	\$135,865.71	\$33,040.90
55	\$135,865.71	\$452.89	\$1,843.84	\$134,021.87	\$33,493.78
56	\$134,021.87	\$446.74	\$1,849.99	\$132,171.88	\$33,940.52
57	\$132,171.88	\$440.57	\$1,856.15	\$130,315.73	\$34,381.10
58	\$130,315.73	\$434.39	\$1,862.34	\$128,453.39	\$34,815.48
59	\$128,453.39	\$428.18	\$1,868.55	\$126,584.84	\$35,243.66
60	\$126,584.84	\$421.95	\$1,874.78	\$124,710.07	\$35,665.61
61	\$124,710.07	\$415.70	\$1,881.03	\$122,829.04	\$36,081.31

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

**Estimated Capital Cost:** \$29,036,580  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$226,848.28

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$2,296.73

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	10	\$2,296.73

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$122,829.04	\$409.43	\$1,887.30	\$120,941.75	\$36,490.74
63	\$120,941.75	\$403.14	\$1,893.59	\$119,048.16	\$36,893.88
64	\$119,048.16	\$396.83	\$1,899.90	\$117,148.26	\$37,290.71
65	\$117,148.26	\$390.49	\$1,906.23	\$115,242.03	\$37,681.20
66	\$115,242.03	\$384.14	\$1,912.59	\$113,329.44	\$38,065.34
67	\$113,329.44	\$377.76	\$1,918.96	\$111,410.48	\$38,443.11
68	\$111,410.48	\$371.37	\$1,925.36	\$109,485.13	\$38,814.47
69	\$109,485.13	\$364.95	\$1,931.78	\$107,553.35	\$39,179.42
70	\$107,553.35	\$358.51	\$1,938.21	\$105,615.14	\$39,537.94
71	\$105,615.14	\$352.05	\$1,944.68	\$103,670.46	\$39,889.99
72	\$103,670.46	\$345.57	\$1,951.16	\$101,719.30	\$40,235.55
73	\$101,719.30	\$339.06	\$1,957.66	\$99,761.64	\$40,574.62
74	\$99,761.64	\$332.54	\$1,964.19	\$97,797.46	\$40,907.16
75	\$97,797.46	\$325.99	\$1,970.73	\$95,826.72	\$41,233.15
76	\$95,826.72	\$319.42	\$1,977.30	\$93,849.42	\$41,552.57
77	\$93,849.42	\$312.83	\$1,983.89	\$91,865.52	\$41,865.40
78	\$91,865.52	\$306.22	\$1,990.51	\$89,875.02	\$42,171.62
79	\$89,875.02	\$299.58	\$1,997.14	\$87,877.87	\$42,471.20
80	\$87,877.87	\$292.93	\$2,003.80	\$85,874.07	\$42,764.13
81	\$85,874.07	\$286.25	\$2,010.48	\$83,863.60	\$43,050.38
82	\$83,863.60	\$279.55	\$2,017.18	\$81,846.42	\$43,329.92
83	\$81,846.42	\$272.82	\$2,023.90	\$79,822.51	\$43,602.74
84	\$79,822.51	\$266.08	\$2,030.65	\$77,791.86	\$43,868.82
85	\$77,791.86	\$259.31	\$2,037.42	\$75,754.44	\$44,128.13
86	\$75,754.44	\$252.51	\$2,044.21	\$73,710.23	\$44,380.64
87	\$73,710.23	\$245.70	\$2,051.02	\$71,659.20	\$44,626.34
88	\$71,659.20	\$238.86	\$2,057.86	\$69,601.34	\$44,865.21
89	\$69,601.34	\$232.00	\$2,064.72	\$67,536.62	\$45,097.21
90	\$67,536.62	\$225.12	\$2,071.60	\$65,465.02	\$45,322.33
91	\$65,465.02	\$218.22	\$2,078.51	\$63,386.51	\$45,540.55
92	\$63,386.51	\$211.29	\$2,085.44	\$61,301.07	\$45,751.84
93	\$61,301.07	\$204.34	\$2,092.39	\$59,208.68	\$45,956.17
94	\$59,208.68	\$197.36	\$2,099.36	\$57,109.32	\$46,153.54
95	\$57,109.32	\$190.36	\$2,106.36	\$55,002.96	\$46,343.90
96	\$55,002.96	\$183.34	\$2,113.38	\$52,889.58	\$46,527.24
97	\$52,889.58	\$176.30	\$2,120.43	\$50,769.15	\$46,703.54
98	\$50,769.15	\$169.23	\$2,127.50	\$48,641.65	\$46,872.77
99	\$48,641.65	\$162.14	\$2,134.59	\$46,507.07	\$47,034.91
100	\$46,507.07	\$155.02	\$2,141.70	\$44,365.36	\$47,189.94
101	\$44,365.36	\$147.88	\$2,148.84	\$42,216.52	\$47,337.82
102	\$42,216.52	\$140.72	\$2,156.00	\$40,060.52	\$47,478.54
103	\$40,060.52	\$133.54	\$2,163.19	\$37,897.33	\$47,612.08
104	\$37,897.33	\$126.32	\$2,170.40	\$35,726.93	\$47,738.40
105	\$35,726.93	\$119.09	\$2,177.64	\$33,549.29	\$47,857.49
106	\$33,549.29	\$111.83	\$2,184.89	\$31,364.40	\$47,969.32
107	\$31,364.40	\$104.55	\$2,192.18	\$29,172.22	\$48,073.87
108	\$29,172.22	\$97.24	\$2,199.48	\$26,972.73	\$48,171.11
109	\$26,972.73	\$89.91	\$2,206.82	\$24,765.92	\$48,261.02
110	\$24,765.92	\$82.55	\$2,214.17	\$22,551.74	\$48,343.57
111	\$22,551.74	\$75.17	\$2,221.55	\$20,330.19	\$48,418.75
112	\$20,330.19	\$67.77	\$2,228.96	\$18,101.23	\$48,486.51
113	\$18,101.23	\$60.34	\$2,236.39	\$15,864.84	\$48,546.85
114	\$15,864.84	\$52.88	\$2,243.84	\$13,621.00	\$48,599.73
115	\$13,621.00	\$45.40	\$2,251.32	\$11,369.68	\$48,645.14
116	\$11,369.68	\$37.90	\$2,258.83	\$9,110.85	\$48,683.04
117	\$9,110.85	\$30.37	\$2,266.36	\$6,844.50	\$48,713.40
118	\$6,844.50	\$22.81	\$2,273.91	\$4,570.59	\$48,736.22
119	\$4,570.59	\$15.24	\$2,281.49	\$2,289.10	\$48,751.45
120	\$2,289.10	\$7.63	\$2,289.10	\$0.00	\$48,759.09



**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

**Estimated Capital Cost:** \$29,036,580  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$226,848.28

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	15	\$1,677.97

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$226,848.00	\$756.16	\$921.81	\$225,926.19	\$756.16
2	\$225,926.19	\$753.09	\$924.88	\$225,001.31	\$1,509.25
3	\$225,001.31	\$750.00	\$927.96	\$224,073.35	\$2,259.25
4	\$224,073.35	\$746.91	\$931.06	\$223,142.29	\$3,006.16
5	\$223,142.29	\$743.81	\$934.16	\$222,208.13	\$3,749.97
6	\$222,208.13	\$740.69	\$937.27	\$221,270.86	\$4,490.66
7	\$221,270.86	\$737.57	\$940.40	\$220,330.46	\$5,228.23
8	\$220,330.46	\$734.43	\$943.53	\$219,386.93	\$5,962.67
9	\$219,386.93	\$731.29	\$946.68	\$218,440.25	\$6,693.96
10	\$218,440.25	\$728.13	\$949.83	\$217,490.42	\$7,422.09
11	\$217,490.42	\$724.97	\$953.00	\$216,537.42	\$8,147.06
12	\$216,537.42	\$721.79	\$956.18	\$215,581.24	\$8,868.85
13	\$215,581.24	\$718.60	\$959.36	\$214,621.88	\$9,587.46
14	\$214,621.88	\$715.41	\$962.56	\$213,659.32	\$10,302.86
15	\$213,659.32	\$712.20	\$965.77	\$212,693.55	\$11,015.06
16	\$212,693.55	\$708.98	\$968.99	\$211,724.56	\$11,724.04
17	\$211,724.56	\$705.75	\$972.22	\$210,752.34	\$12,429.79
18	\$210,752.34	\$702.51	\$975.46	\$209,776.88	\$13,132.30
19	\$209,776.88	\$699.26	\$978.71	\$208,798.17	\$13,831.55
20	\$208,798.17	\$695.99	\$981.97	\$207,816.20	\$14,527.55
21	\$207,816.20	\$692.72	\$985.25	\$206,830.95	\$15,220.27
22	\$206,830.95	\$689.44	\$988.53	\$205,842.42	\$15,909.70
23	\$205,842.42	\$686.14	\$991.83	\$204,850.60	\$16,595.84
24	\$204,850.60	\$682.84	\$995.13	\$203,855.46	\$17,278.68
25	\$203,855.46	\$679.52	\$998.45	\$202,857.02	\$17,958.20
26	\$202,857.02	\$676.19	\$1,001.78	\$201,855.24	\$18,634.39
27	\$201,855.24	\$672.85	\$1,005.12	\$200,850.12	\$19,307.24
28	\$200,850.12	\$669.50	\$1,008.47	\$199,841.66	\$19,976.74
29	\$199,841.66	\$666.14	\$1,011.83	\$198,829.83	\$20,642.88
30	\$198,829.83	\$662.77	\$1,015.20	\$197,814.63	\$21,305.64
31	\$197,814.63	\$659.38	\$1,018.59	\$196,796.04	\$21,965.03
32	\$196,796.04	\$655.99	\$1,021.98	\$195,774.06	\$22,621.01
33	\$195,774.06	\$652.58	\$1,025.39	\$194,748.67	\$23,273.59
34	\$194,748.67	\$649.16	\$1,028.81	\$193,719.87	\$23,922.75
35	\$193,719.87	\$645.73	\$1,032.23	\$192,687.63	\$24,568.49
36	\$192,687.63	\$642.29	\$1,035.68	\$191,651.96	\$25,210.78
37	\$191,651.96	\$638.84	\$1,039.13	\$190,612.83	\$25,849.62
38	\$190,612.83	\$635.38	\$1,042.59	\$189,570.24	\$26,485.00
39	\$189,570.24	\$631.90	\$1,046.07	\$188,524.17	\$27,116.90
40	\$188,524.17	\$628.41	\$1,049.55	\$187,474.62	\$27,745.31
41	\$187,474.62	\$624.92	\$1,053.05	\$186,421.57	\$28,370.23
42	\$186,421.57	\$621.41	\$1,056.56	\$185,365.01	\$28,991.63
43	\$185,365.01	\$617.88	\$1,060.08	\$184,304.92	\$29,609.51
44	\$184,304.92	\$614.35	\$1,063.62	\$183,241.30	\$30,223.86
45	\$183,241.30	\$610.80	\$1,067.16	\$182,174.14	\$30,834.67
46	\$182,174.14	\$607.25	\$1,070.72	\$181,103.42	\$31,441.92
47	\$181,103.42	\$603.68	\$1,074.29	\$180,029.13	\$32,045.59
48	\$180,029.13	\$600.10	\$1,077.87	\$178,951.26	\$32,645.69
49	\$178,951.26	\$596.50	\$1,081.46	\$177,869.80	\$33,242.20
50	\$177,869.80	\$592.90	\$1,085.07	\$176,784.73	\$33,835.09
51	\$176,784.73	\$589.28	\$1,088.68	\$175,696.05	\$34,424.38
52	\$175,696.05	\$585.65	\$1,092.31	\$174,603.73	\$35,010.03
53	\$174,603.73	\$582.01	\$1,095.95	\$173,507.78	\$35,592.04
54	\$173,507.78	\$578.36	\$1,099.61	\$172,408.17	\$36,170.40
55	\$172,408.17	\$574.69	\$1,103.27	\$171,304.90	\$36,745.10
56	\$171,304.90	\$571.02	\$1,106.95	\$170,197.95	\$37,316.11
57	\$170,197.95	\$567.33	\$1,110.64	\$169,087.30	\$37,883.44
58	\$169,087.30	\$563.62	\$1,114.34	\$167,972.96	\$38,447.06
59	\$167,972.96	\$559.91	\$1,118.06	\$166,854.90	\$39,006.97
60	\$166,854.90	\$556.18	\$1,121.78	\$165,733.12	\$39,563.16
61	\$165,733.12	\$552.44	\$1,125.52	\$164,607.60	\$40,115.60

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

**Estimated Capital Cost:** \$29,036,580  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$226,848.28

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	15	\$1,677.97

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$164,607.60	\$548.69	\$1,129.28	\$163,478.32	\$40,664.29
63	\$163,478.32	\$544.93	\$1,133.04	\$162,345.28	\$41,209.22
64	\$162,345.28	\$541.15	\$1,136.82	\$161,208.47	\$41,750.37
65	\$161,208.47	\$537.36	\$1,140.61	\$160,067.86	\$42,287.73
66	\$160,067.86	\$533.56	\$1,144.41	\$158,923.45	\$42,821.29
67	\$158,923.45	\$529.74	\$1,148.22	\$157,775.23	\$43,351.04
68	\$157,775.23	\$525.92	\$1,152.05	\$156,623.18	\$43,876.95
69	\$156,623.18	\$522.08	\$1,155.89	\$155,467.29	\$44,399.03
70	\$155,467.29	\$518.22	\$1,159.74	\$154,307.55	\$44,917.26
71	\$154,307.55	\$514.36	\$1,163.61	\$153,143.94	\$45,431.61
72	\$153,143.94	\$510.48	\$1,167.49	\$151,976.45	\$45,942.09
73	\$151,976.45	\$506.59	\$1,171.38	\$150,805.07	\$46,448.68
74	\$150,805.07	\$502.68	\$1,175.28	\$149,629.79	\$46,951.37
75	\$149,629.79	\$498.77	\$1,179.20	\$148,450.59	\$47,450.13
76	\$148,450.59	\$494.84	\$1,183.13	\$147,267.45	\$47,944.97
77	\$147,267.45	\$490.89	\$1,187.08	\$146,080.38	\$48,435.86
78	\$146,080.38	\$486.93	\$1,191.03	\$144,889.35	\$48,922.79
79	\$144,889.35	\$482.96	\$1,195.00	\$143,694.34	\$49,405.76
80	\$143,694.34	\$478.98	\$1,198.99	\$142,495.36	\$49,884.74
81	\$142,495.36	\$474.98	\$1,202.98	\$141,292.37	\$50,359.72
82	\$141,292.37	\$470.97	\$1,206.99	\$140,085.38	\$50,830.70
83	\$140,085.38	\$466.95	\$1,211.02	\$138,874.37	\$51,297.65
84	\$138,874.37	\$462.91	\$1,215.05	\$137,659.31	\$51,760.56
85	\$137,659.31	\$458.86	\$1,219.10	\$136,440.21	\$52,219.43
86	\$136,440.21	\$454.80	\$1,223.17	\$135,217.04	\$52,674.23
87	\$135,217.04	\$450.72	\$1,227.24	\$133,989.80	\$53,124.95
88	\$133,989.80	\$446.63	\$1,231.33	\$132,758.47	\$53,571.58
89	\$132,758.47	\$442.53	\$1,235.44	\$131,523.03	\$54,014.11
90	\$131,523.03	\$438.41	\$1,239.56	\$130,283.47	\$54,452.52
91	\$130,283.47	\$434.28	\$1,243.69	\$129,039.78	\$54,886.80
92	\$129,039.78	\$430.13	\$1,247.83	\$127,791.95	\$55,316.93
93	\$127,791.95	\$425.97	\$1,251.99	\$126,539.95	\$55,742.91
94	\$126,539.95	\$421.80	\$1,256.17	\$125,283.78	\$56,164.71
95	\$125,283.78	\$417.61	\$1,260.35	\$124,023.43	\$56,582.32
96	\$124,023.43	\$413.41	\$1,264.56	\$122,758.87	\$56,995.73
97	\$122,758.87	\$409.20	\$1,268.77	\$121,490.10	\$57,404.93
98	\$121,490.10	\$404.97	\$1,273.00	\$120,217.10	\$57,809.89
99	\$120,217.10	\$400.72	\$1,277.24	\$118,939.86	\$58,210.62
100	\$118,939.86	\$396.47	\$1,281.50	\$117,658.36	\$58,607.08
101	\$117,658.36	\$392.19	\$1,285.77	\$116,372.58	\$58,999.28
102	\$116,372.58	\$387.91	\$1,290.06	\$115,082.53	\$59,387.19
103	\$115,082.53	\$383.61	\$1,294.36	\$113,788.17	\$59,770.80
104	\$113,788.17	\$379.29	\$1,298.67	\$112,489.49	\$60,150.09
105	\$112,489.49	\$374.96	\$1,303.00	\$111,186.49	\$60,525.05
106	\$111,186.49	\$370.62	\$1,307.35	\$109,879.15	\$60,895.68
107	\$109,879.15	\$366.26	\$1,311.70	\$108,567.44	\$61,261.94
108	\$108,567.44	\$361.89	\$1,316.08	\$107,251.37	\$61,623.83
109	\$107,251.37	\$357.50	\$1,320.46	\$105,930.90	\$61,981.34
110	\$105,930.90	\$353.10	\$1,324.86	\$104,606.04	\$62,334.44
111	\$104,606.04	\$348.69	\$1,329.28	\$103,276.76	\$62,683.13
112	\$103,276.76	\$344.26	\$1,333.71	\$101,943.05	\$63,027.38
113	\$101,943.05	\$339.81	\$1,338.16	\$100,604.89	\$63,367.19
114	\$100,604.89	\$335.35	\$1,342.62	\$99,262.27	\$63,702.54
115	\$99,262.27	\$330.87	\$1,347.09	\$97,915.18	\$64,033.42
116	\$97,915.18	\$326.38	\$1,351.58	\$96,563.60	\$64,359.80
117	\$96,563.60	\$321.88	\$1,356.09	\$95,207.51	\$64,681.68
118	\$95,207.51	\$317.36	\$1,360.61	\$93,846.90	\$64,999.04
119	\$93,846.90	\$312.82	\$1,365.14	\$92,481.75	\$65,311.86
120	\$92,481.75	\$308.27	\$1,369.69	\$91,112.06	\$65,620.13
121	\$91,112.06	\$303.71	\$1,374.26	\$89,737.80	\$65,923.84
122	\$89,737.80	\$299.13	\$1,378.84	\$88,358.96	\$66,222.96

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

**Estimated Capital Cost:** \$29,036,580  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$226,848.28

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$1,677.97

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	15	\$1,677.97

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	\$88,358.96	\$294.53	\$1,383.44	\$86,975.52	\$66,517.49
124	\$86,975.52	\$289.92	\$1,388.05	\$85,587.47	\$66,807.41
125	\$85,587.47	\$285.29	\$1,392.68	\$84,194.80	\$67,092.70
126	\$84,194.80	\$280.65	\$1,397.32	\$82,797.48	\$67,373.35
127	\$82,797.48	\$275.99	\$1,401.98	\$81,395.50	\$67,649.35
128	\$81,395.50	\$271.32	\$1,406.65	\$79,988.85	\$67,920.66
129	\$79,988.85	\$266.63	\$1,411.34	\$78,577.52	\$68,187.29
130	\$78,577.52	\$261.93	\$1,416.04	\$77,161.47	\$68,449.22
131	\$77,161.47	\$257.20	\$1,420.76	\$75,740.71	\$68,706.42
132	\$75,740.71	\$252.47	\$1,425.50	\$74,315.21	\$68,958.89
133	\$74,315.21	\$247.72	\$1,430.25	\$72,884.96	\$69,206.61
134	\$72,884.96	\$242.95	\$1,435.02	\$71,449.95	\$69,449.56
135	\$71,449.95	\$238.17	\$1,439.80	\$70,010.15	\$69,687.73
136	\$70,010.15	\$233.37	\$1,444.60	\$68,565.55	\$69,921.09
137	\$68,565.55	\$228.55	\$1,449.42	\$67,116.13	\$70,149.65
138	\$67,116.13	\$223.72	\$1,454.25	\$65,661.88	\$70,373.37
139	\$65,661.88	\$218.87	\$1,459.09	\$64,202.79	\$70,592.24
140	\$64,202.79	\$214.01	\$1,463.96	\$62,738.83	\$70,806.25
141	\$62,738.83	\$209.13	\$1,468.84	\$61,269.99	\$71,015.38
142	\$61,269.99	\$204.23	\$1,473.73	\$59,796.26	\$71,219.61
143	\$59,796.26	\$199.32	\$1,478.65	\$58,317.61	\$71,418.93
144	\$58,317.61	\$194.39	\$1,483.58	\$56,834.04	\$71,613.32
145	\$56,834.04	\$189.45	\$1,488.52	\$55,345.52	\$71,802.77
146	\$55,345.52	\$184.49	\$1,493.48	\$53,852.03	\$71,987.26
147	\$53,852.03	\$179.51	\$1,498.46	\$52,353.57	\$72,166.76
148	\$52,353.57	\$174.51	\$1,503.46	\$50,850.12	\$72,341.27
149	\$50,850.12	\$169.50	\$1,508.47	\$49,341.65	\$72,510.77
150	\$49,341.65	\$164.47	\$1,513.50	\$47,828.16	\$72,675.25
151	\$47,828.16	\$159.43	\$1,518.54	\$46,309.62	\$72,834.67
152	\$46,309.62	\$154.37	\$1,523.60	\$44,786.01	\$72,989.04
153	\$44,786.01	\$149.29	\$1,528.68	\$43,257.33	\$73,138.33
154	\$43,257.33	\$144.19	\$1,533.78	\$41,723.56	\$73,282.52
155	\$41,723.56	\$139.08	\$1,538.89	\$40,184.67	\$73,421.60
156	\$40,184.67	\$133.95	\$1,544.02	\$38,640.65	\$73,555.54
157	\$38,640.65	\$128.80	\$1,549.17	\$37,091.49	\$73,684.35
158	\$37,091.49	\$123.64	\$1,554.33	\$35,537.16	\$73,807.98
159	\$35,537.16	\$118.46	\$1,559.51	\$33,977.65	\$73,926.44
160	\$33,977.65	\$113.26	\$1,564.71	\$32,412.94	\$74,039.70
161	\$32,412.94	\$108.04	\$1,569.92	\$30,843.01	\$74,147.74
162	\$30,843.01	\$102.81	\$1,575.16	\$29,267.86	\$74,250.55
163	\$29,267.86	\$97.56	\$1,580.41	\$27,687.45	\$74,348.11
164	\$27,687.45	\$92.29	\$1,585.68	\$26,101.77	\$74,440.41
165	\$26,101.77	\$87.01	\$1,590.96	\$24,510.81	\$74,527.41
166	\$24,510.81	\$81.70	\$1,596.26	\$22,914.55	\$74,609.11
167	\$22,914.55	\$76.38	\$1,601.59	\$21,312.96	\$74,685.50
168	\$21,312.96	\$71.04	\$1,606.92	\$19,706.04	\$74,756.54
169	\$19,706.04	\$65.69	\$1,612.28	\$18,093.76	\$74,822.23
170	\$18,093.76	\$60.31	\$1,617.65	\$16,476.10	\$74,882.54
171	\$16,476.10	\$54.92	\$1,623.05	\$14,853.06	\$74,937.46
172	\$14,853.06	\$49.51	\$1,628.46	\$13,224.60	\$74,986.97
173	\$13,224.60	\$44.08	\$1,633.89	\$11,590.71	\$75,031.05
174	\$11,590.71	\$38.64	\$1,639.33	\$9,951.38	\$75,069.69
175	\$9,951.38	\$33.17	\$1,644.80	\$8,306.59	\$75,102.86
176	\$8,306.59	\$27.69	\$1,650.28	\$6,656.31	\$75,130.55
177	\$6,656.31	\$22.19	\$1,655.78	\$5,000.53	\$75,152.73
178	\$5,000.53	\$16.67	\$1,661.30	\$3,339.23	\$75,169.40
179	\$3,339.23	\$11.13	\$1,666.84	\$1,672.39	\$75,180.53
180	\$1,672.39	\$5.57	\$1,672.39	\$0.00	\$75,186.11



**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

Estimated Capital Cost: \$29,036,580  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$226,848.28

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	20	\$1,374.65

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$226,848.00	\$756.16	\$618.49	\$226,229.51	\$756.16
2	\$226,229.51	\$754.10	\$620.56	\$225,608.95	\$1,510.26
3	\$225,608.95	\$752.03	\$622.62	\$224,986.33	\$2,262.29
4	\$224,986.33	\$749.95	\$624.70	\$224,361.63	\$3,012.24
5	\$224,361.63	\$747.87	\$626.78	\$223,734.84	\$3,760.11
6	\$223,734.84	\$745.78	\$628.87	\$223,105.97	\$4,505.90
7	\$223,105.97	\$743.69	\$630.97	\$222,475.00	\$5,249.58
8	\$222,475.00	\$741.58	\$633.07	\$221,841.93	\$5,991.17
9	\$221,841.93	\$739.47	\$635.18	\$221,206.75	\$6,730.64
10	\$221,206.75	\$737.36	\$637.30	\$220,569.45	\$7,468.00
11	\$220,569.45	\$735.23	\$639.42	\$219,930.03	\$8,203.23
12	\$219,930.03	\$733.10	\$641.55	\$219,288.48	\$8,936.33
13	\$219,288.48	\$730.96	\$643.69	\$218,644.78	\$9,667.29
14	\$218,644.78	\$728.82	\$645.84	\$217,998.95	\$10,396.11
15	\$217,998.95	\$726.66	\$647.99	\$217,350.95	\$11,122.77
16	\$217,350.95	\$724.50	\$650.15	\$216,700.80	\$11,847.27
17	\$216,700.80	\$722.34	\$652.32	\$216,048.49	\$12,569.61
18	\$216,048.49	\$720.16	\$654.49	\$215,393.99	\$13,289.77
19	\$215,393.99	\$717.98	\$656.67	\$214,737.32	\$14,007.75
20	\$214,737.32	\$715.79	\$658.86	\$214,078.46	\$14,723.54
21	\$214,078.46	\$713.59	\$661.06	\$213,417.40	\$15,437.14
22	\$213,417.40	\$711.39	\$663.26	\$212,754.13	\$16,148.53
23	\$212,754.13	\$709.18	\$665.47	\$212,088.66	\$16,857.71
24	\$212,088.66	\$706.96	\$667.69	\$211,420.97	\$17,564.67
25	\$211,420.97	\$704.74	\$669.92	\$210,751.05	\$18,269.41
26	\$210,751.05	\$702.50	\$672.15	\$210,078.90	\$18,971.91
27	\$210,078.90	\$700.26	\$674.39	\$209,404.51	\$19,672.17
28	\$209,404.51	\$698.02	\$676.64	\$208,727.87	\$20,370.19
29	\$208,727.87	\$695.76	\$678.89	\$208,048.97	\$21,065.95
30	\$208,048.97	\$693.50	\$681.16	\$207,367.82	\$21,759.44
31	\$207,367.82	\$691.23	\$683.43	\$206,684.39	\$22,450.67
32	\$206,684.39	\$688.95	\$685.71	\$205,998.68	\$23,139.62
33	\$205,998.68	\$686.66	\$687.99	\$205,310.69	\$23,826.28
34	\$205,310.69	\$684.37	\$690.29	\$204,620.40	\$24,510.65
35	\$204,620.40	\$682.07	\$692.59	\$203,927.82	\$25,192.72
36	\$203,927.82	\$679.76	\$694.89	\$203,232.92	\$25,872.48
37	\$203,232.92	\$677.44	\$697.21	\$202,535.71	\$26,549.92
38	\$202,535.71	\$675.12	\$699.54	\$201,836.18	\$27,225.04
39	\$201,836.18	\$672.79	\$701.87	\$201,134.31	\$27,897.83
40	\$201,134.31	\$670.45	\$704.21	\$200,430.10	\$28,568.27
41	\$200,430.10	\$668.10	\$706.55	\$199,723.55	\$29,236.37
42	\$199,723.55	\$665.75	\$708.91	\$199,014.64	\$29,902.12
43	\$199,014.64	\$663.38	\$711.27	\$198,303.37	\$30,565.50
44	\$198,303.37	\$661.01	\$713.64	\$197,589.72	\$31,226.51
45	\$197,589.72	\$658.63	\$716.02	\$196,873.70	\$31,885.14
46	\$196,873.70	\$656.25	\$718.41	\$196,155.29	\$32,541.39
47	\$196,155.29	\$653.85	\$720.80	\$195,434.49	\$33,195.24
48	\$195,434.49	\$651.45	\$723.21	\$194,711.29	\$33,846.69
49	\$194,711.29	\$649.04	\$725.62	\$193,985.67	\$34,495.73
50	\$193,985.67	\$646.62	\$728.04	\$193,257.63	\$35,142.35
51	\$193,257.63	\$644.19	\$730.46	\$192,527.17	\$35,786.54
52	\$192,527.17	\$641.76	\$732.90	\$191,794.27	\$36,428.30
53	\$191,794.27	\$639.31	\$735.34	\$191,058.93	\$37,067.61
54	\$191,058.93	\$636.86	\$737.79	\$190,321.14	\$37,704.47
55	\$190,321.14	\$634.40	\$740.25	\$189,580.89	\$38,338.88
56	\$189,580.89	\$631.94	\$742.72	\$188,838.17	\$38,970.81
57	\$188,838.17	\$629.46	\$745.19	\$188,092.98	\$39,600.27
58	\$188,092.98	\$626.98	\$747.68	\$187,345.30	\$40,227.25
59	\$187,345.30	\$624.48	\$750.17	\$186,595.13	\$40,851.73
60	\$186,595.13	\$621.98	\$752.67	\$185,842.46	\$41,473.72
61	\$185,842.46	\$619.47	\$755.18	\$185,087.28	\$42,093.19

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

Estimated Capital Cost: \$29,036,580  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$226,848.28

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	20	\$1,374.65

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
62	\$185,087.28	\$616.96	\$757.70	\$184,329.59	\$42,710.15
63	\$184,329.59	\$614.43	\$760.22	\$183,569.36	\$43,324.58
64	\$183,569.36	\$611.90	\$762.76	\$182,806.61	\$43,936.48
65	\$182,806.61	\$609.36	\$765.30	\$182,041.31	\$44,545.84
66	\$182,041.31	\$606.80	\$767.85	\$181,273.46	\$45,152.64
67	\$181,273.46	\$604.24	\$770.41	\$180,503.05	\$45,756.89
68	\$180,503.05	\$601.68	\$772.98	\$179,730.07	\$46,358.56
69	\$179,730.07	\$599.10	\$775.55	\$178,954.52	\$46,957.66
70	\$178,954.52	\$596.52	\$778.14	\$178,176.38	\$47,554.18
71	\$178,176.38	\$593.92	\$780.73	\$177,395.65	\$48,148.10
72	\$177,395.65	\$591.32	\$783.34	\$176,612.31	\$48,739.42
73	\$176,612.31	\$588.71	\$785.95	\$175,826.36	\$49,328.13
74	\$175,826.36	\$586.09	\$788.57	\$175,037.80	\$49,914.21
75	\$175,037.80	\$583.46	\$791.19	\$174,246.60	\$50,497.67
76	\$174,246.60	\$580.82	\$793.83	\$173,452.77	\$51,078.49
77	\$173,452.77	\$578.18	\$796.48	\$172,656.29	\$51,656.67
78	\$172,656.29	\$575.52	\$799.13	\$171,857.16	\$52,232.19
79	\$171,857.16	\$572.86	\$801.80	\$171,055.36	\$52,805.05
80	\$171,055.36	\$570.18	\$804.47	\$170,250.89	\$53,375.23
81	\$170,250.89	\$567.50	\$807.15	\$169,443.74	\$53,942.74
82	\$169,443.74	\$564.81	\$809.84	\$168,633.90	\$54,507.55
83	\$168,633.90	\$562.11	\$812.54	\$167,821.36	\$55,069.66
84	\$167,821.36	\$559.40	\$815.25	\$167,006.11	\$55,629.07
85	\$167,006.11	\$556.69	\$817.97	\$166,188.14	\$56,185.75
86	\$166,188.14	\$553.96	\$820.69	\$165,367.45	\$56,739.71
87	\$165,367.45	\$551.22	\$823.43	\$164,544.02	\$57,290.94
88	\$164,544.02	\$548.48	\$826.17	\$163,717.84	\$57,839.42
89	\$163,717.84	\$545.73	\$828.93	\$162,888.92	\$58,385.14
90	\$162,888.92	\$542.96	\$831.69	\$162,057.22	\$58,928.11
91	\$162,057.22	\$540.19	\$834.46	\$161,222.76	\$59,468.30
92	\$161,222.76	\$537.41	\$837.25	\$160,385.52	\$60,005.71
93	\$160,385.52	\$534.62	\$840.04	\$159,545.48	\$60,540.33
94	\$159,545.48	\$531.82	\$842.84	\$158,702.64	\$61,072.14
95	\$158,702.64	\$529.01	\$845.65	\$157,857.00	\$61,601.15
96	\$157,857.00	\$526.19	\$848.46	\$157,008.53	\$62,127.34
97	\$157,008.53	\$523.36	\$851.29	\$156,157.24	\$62,650.70
98	\$156,157.24	\$520.52	\$854.13	\$155,303.11	\$63,171.23
99	\$155,303.11	\$517.68	\$856.98	\$154,446.13	\$63,688.91
100	\$154,446.13	\$514.82	\$859.83	\$153,586.30	\$64,203.73
101	\$153,586.30	\$511.95	\$862.70	\$152,723.60	\$64,715.68
102	\$152,723.60	\$509.08	\$865.58	\$151,858.02	\$65,224.76
103	\$151,858.02	\$506.19	\$868.46	\$150,989.56	\$65,730.95
104	\$150,989.56	\$503.30	\$871.36	\$150,118.21	\$66,234.25
105	\$150,118.21	\$500.39	\$874.26	\$149,243.95	\$66,734.65
106	\$149,243.95	\$497.48	\$877.17	\$148,366.77	\$67,232.13
107	\$148,366.77	\$494.56	\$880.10	\$147,486.68	\$67,726.68
108	\$147,486.68	\$491.62	\$883.03	\$146,603.64	\$68,218.30
109	\$146,603.64	\$488.68	\$885.98	\$145,717.67	\$68,706.98
110	\$145,717.67	\$485.73	\$888.93	\$144,828.74	\$69,192.71
111	\$144,828.74	\$482.76	\$891.89	\$143,936.85	\$69,675.47
112	\$143,936.85	\$479.79	\$894.86	\$143,041.98	\$70,155.26
113	\$143,041.98	\$476.81	\$897.85	\$142,144.14	\$70,632.07
114	\$142,144.14	\$473.81	\$900.84	\$141,243.29	\$71,105.88
115	\$141,243.29	\$470.81	\$903.84	\$140,339.45	\$71,576.69
116	\$140,339.45	\$467.80	\$906.86	\$139,432.60	\$72,044.49
117	\$139,432.60	\$464.78	\$909.88	\$138,522.72	\$72,509.26
118	\$138,522.72	\$461.74	\$912.91	\$137,609.80	\$72,971.01
119	\$137,609.80	\$458.70	\$915.95	\$136,693.85	\$73,429.71
120	\$136,693.85	\$455.65	\$919.01	\$135,774.84	\$73,885.35
121	\$135,774.84	\$452.58	\$922.07	\$134,852.77	\$74,337.94
122	\$134,852.77	\$449.51	\$925.15	\$133,927.62	\$74,787.44

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

**Estimated Capital Cost:** \$29,036,580  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$226,848.28

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	20	\$1,374.65

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
123	\$133,927.62	\$446.43	\$928.23	\$132,999.40	\$75,233.87
124	\$132,999.40	\$443.33	\$931.32	\$132,068.07	\$75,677.20
125	\$132,068.07	\$440.23	\$934.43	\$131,133.65	\$76,117.43
126	\$131,133.65	\$437.11	\$937.54	\$130,196.10	\$76,554.54
127	\$130,196.10	\$433.99	\$940.67	\$129,255.44	\$76,988.53
128	\$129,255.44	\$430.85	\$943.80	\$128,311.63	\$77,419.38
129	\$128,311.63	\$427.71	\$946.95	\$127,364.68	\$77,847.08
130	\$127,364.68	\$424.55	\$950.11	\$126,414.58	\$78,271.63
131	\$126,414.58	\$421.38	\$953.27	\$125,461.31	\$78,693.01
132	\$125,461.31	\$418.20	\$956.45	\$124,504.86	\$79,111.22
133	\$124,504.86	\$415.02	\$959.64	\$123,545.22	\$79,526.24
134	\$123,545.22	\$411.82	\$962.84	\$122,582.38	\$79,938.05
135	\$122,582.38	\$408.61	\$966.05	\$121,616.34	\$80,346.66
136	\$121,616.34	\$405.39	\$969.27	\$120,647.07	\$80,752.05
137	\$120,647.07	\$402.16	\$972.50	\$119,674.57	\$81,154.21
138	\$119,674.57	\$398.92	\$975.74	\$118,698.83	\$81,553.12
139	\$118,698.83	\$395.66	\$978.99	\$117,719.84	\$81,948.78
140	\$117,719.84	\$392.40	\$982.25	\$116,737.59	\$82,341.18
141	\$116,737.59	\$389.13	\$985.53	\$115,752.06	\$82,730.31
142	\$115,752.06	\$385.84	\$988.81	\$114,763.24	\$83,116.15
143	\$114,763.24	\$382.54	\$992.11	\$113,771.13	\$83,498.69
144	\$113,771.13	\$379.24	\$995.42	\$112,775.72	\$83,877.93
145	\$112,775.72	\$375.92	\$998.74	\$111,776.98	\$84,253.85
146	\$111,776.98	\$372.59	\$1,002.06	\$110,774.92	\$84,626.44
147	\$110,774.92	\$369.25	\$1,005.40	\$109,769.51	\$84,995.69
148	\$109,769.51	\$365.90	\$1,008.76	\$108,760.76	\$85,361.59
149	\$108,760.76	\$362.54	\$1,012.12	\$107,748.64	\$85,724.12
150	\$107,748.64	\$359.16	\$1,015.49	\$106,733.15	\$86,083.28
151	\$106,733.15	\$355.78	\$1,018.88	\$105,714.27	\$86,439.06
152	\$105,714.27	\$352.38	\$1,022.27	\$104,692.00	\$86,791.44
153	\$104,692.00	\$348.97	\$1,025.68	\$103,666.31	\$87,140.42
154	\$103,666.31	\$345.55	\$1,029.10	\$102,637.21	\$87,485.97
155	\$102,637.21	\$342.12	\$1,032.53	\$101,604.68	\$87,828.09
156	\$101,604.68	\$338.68	\$1,035.97	\$100,568.71	\$88,166.78
157	\$100,568.71	\$335.23	\$1,039.43	\$99,529.29	\$88,502.01
158	\$99,529.29	\$331.76	\$1,042.89	\$98,486.40	\$88,833.77
159	\$98,486.40	\$328.29	\$1,046.37	\$97,440.03	\$89,162.06
160	\$97,440.03	\$324.80	\$1,049.85	\$96,390.18	\$89,486.86
161	\$96,390.18	\$321.30	\$1,053.35	\$95,336.82	\$89,808.16
162	\$95,336.82	\$317.79	\$1,056.86	\$94,279.96	\$90,125.95
163	\$94,279.96	\$314.27	\$1,060.39	\$93,219.57	\$90,440.21
164	\$93,219.57	\$310.73	\$1,063.92	\$92,155.65	\$90,750.95
165	\$92,155.65	\$307.19	\$1,067.47	\$91,088.18	\$91,058.13
166	\$91,088.18	\$303.63	\$1,071.03	\$90,017.15	\$91,361.76
167	\$90,017.15	\$300.06	\$1,074.60	\$88,942.56	\$91,661.82
168	\$88,942.56	\$296.48	\$1,078.18	\$87,864.38	\$91,958.29
169	\$87,864.38	\$292.88	\$1,081.77	\$86,782.60	\$92,251.17
170	\$86,782.60	\$289.28	\$1,085.38	\$85,697.22	\$92,540.45
171	\$85,697.22	\$285.66	\$1,089.00	\$84,608.23	\$92,826.11
172	\$84,608.23	\$282.03	\$1,092.63	\$83,515.60	\$93,108.13
173	\$83,515.60	\$278.39	\$1,096.27	\$82,419.33	\$93,386.52
174	\$82,419.33	\$274.73	\$1,099.92	\$81,319.41	\$93,661.25
175	\$81,319.41	\$271.06	\$1,103.59	\$80,215.82	\$93,932.31
176	\$80,215.82	\$267.39	\$1,107.27	\$79,108.55	\$94,199.70
177	\$79,108.55	\$263.70	\$1,110.96	\$77,997.59	\$94,463.40
178	\$77,997.59	\$259.99	\$1,114.66	\$76,882.93	\$94,723.39
179	\$76,882.93	\$256.28	\$1,118.38	\$75,764.55	\$94,979.66
180	\$75,764.55	\$252.55	\$1,122.11	\$74,642.45	\$95,232.21
181	\$74,642.45	\$248.81	\$1,125.85	\$73,516.60	\$95,481.02
182	\$73,516.60	\$245.06	\$1,129.60	\$72,387.00	\$95,726.08
183	\$72,387.00	\$241.29	\$1,133.36	\$71,253.64	\$95,967.37

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW1**

Estimated Capital Cost: \$29,036,580  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$226,848.28

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$1,374.65

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$226,848.00	4.00%	20	\$1,374.65

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
184	\$71,253.64	\$237.51	\$1,137.14	\$70,116.49	\$96,204.88
185	\$70,116.49	\$233.72	\$1,140.93	\$68,975.56	\$96,438.60
186	\$68,975.56	\$229.92	\$1,144.74	\$67,830.83	\$96,668.52
187	\$67,830.83	\$226.10	\$1,148.55	\$66,682.27	\$96,894.62
188	\$66,682.27	\$222.27	\$1,152.38	\$65,529.89	\$97,116.90
189	\$65,529.89	\$218.43	\$1,156.22	\$64,373.67	\$97,335.33
190	\$64,373.67	\$214.58	\$1,160.08	\$63,213.60	\$97,549.91
191	\$63,213.60	\$210.71	\$1,163.94	\$62,049.66	\$97,760.62
192	\$62,049.66	\$206.83	\$1,167.82	\$60,881.83	\$97,967.45
193	\$60,881.83	\$202.94	\$1,171.71	\$59,710.12	\$98,170.39
194	\$59,710.12	\$199.03	\$1,175.62	\$58,534.50	\$98,369.42
195	\$58,534.50	\$195.11	\$1,179.54	\$57,354.96	\$98,564.54
196	\$57,354.96	\$191.18	\$1,183.47	\$56,171.49	\$98,755.72
197	\$56,171.49	\$187.24	\$1,187.42	\$54,984.07	\$98,942.96
198	\$54,984.07	\$183.28	\$1,191.37	\$53,792.70	\$99,126.24
199	\$53,792.70	\$179.31	\$1,195.35	\$52,597.35	\$99,305.55
200	\$52,597.35	\$175.32	\$1,199.33	\$51,398.02	\$99,480.87
201	\$51,398.02	\$171.33	\$1,203.33	\$50,194.70	\$99,652.20
202	\$50,194.70	\$167.32	\$1,207.34	\$48,987.36	\$99,819.52
203	\$48,987.36	\$163.29	\$1,211.36	\$47,775.99	\$99,982.81
204	\$47,775.99	\$159.25	\$1,215.40	\$46,560.59	\$100,142.06
205	\$46,560.59	\$155.20	\$1,219.45	\$45,341.14	\$100,297.26
206	\$45,341.14	\$151.14	\$1,223.52	\$44,117.62	\$100,448.40
207	\$44,117.62	\$147.06	\$1,227.60	\$42,890.03	\$100,595.46
208	\$42,890.03	\$142.97	\$1,231.69	\$41,658.34	\$100,738.43
209	\$41,658.34	\$138.86	\$1,235.79	\$40,422.55	\$100,877.29
210	\$40,422.55	\$134.74	\$1,239.91	\$39,182.64	\$101,012.03
211	\$39,182.64	\$130.61	\$1,244.05	\$37,938.59	\$101,142.64
212	\$37,938.59	\$126.46	\$1,248.19	\$36,690.40	\$101,269.10
213	\$36,690.40	\$122.30	\$1,252.35	\$35,438.04	\$101,391.40
214	\$35,438.04	\$118.13	\$1,256.53	\$34,181.52	\$101,509.53
215	\$34,181.52	\$113.94	\$1,260.72	\$32,920.80	\$101,623.47
216	\$32,920.80	\$109.74	\$1,264.92	\$31,655.88	\$101,733.20
217	\$31,655.88	\$105.52	\$1,269.13	\$30,386.75	\$101,838.72
218	\$30,386.75	\$101.29	\$1,273.37	\$29,113.38	\$101,940.01
219	\$29,113.38	\$97.04	\$1,277.61	\$27,835.77	\$102,037.06
220	\$27,835.77	\$92.79	\$1,281.87	\$26,553.91	\$102,129.84
221	\$26,553.91	\$88.51	\$1,286.14	\$25,267.76	\$102,218.35
222	\$25,267.76	\$84.23	\$1,290.43	\$23,977.34	\$102,302.58
223	\$23,977.34	\$79.92	\$1,294.73	\$22,682.61	\$102,382.51
224	\$22,682.61	\$75.61	\$1,299.05	\$21,383.56	\$102,458.11
225	\$21,383.56	\$71.28	\$1,303.38	\$20,080.18	\$102,529.39
226	\$20,080.18	\$66.93	\$1,307.72	\$18,772.46	\$102,596.33
227	\$18,772.46	\$62.57	\$1,312.08	\$17,460.38	\$102,658.90
228	\$17,460.38	\$58.20	\$1,316.45	\$16,143.93	\$102,717.10
229	\$16,143.93	\$53.81	\$1,320.84	\$14,823.09	\$102,770.92
230	\$14,823.09	\$49.41	\$1,325.24	\$13,497.85	\$102,820.33
231	\$13,497.85	\$44.99	\$1,329.66	\$12,168.19	\$102,865.32
232	\$12,168.19	\$40.56	\$1,334.09	\$10,834.09	\$102,905.88
233	\$10,834.09	\$36.11	\$1,338.54	\$9,495.55	\$102,941.99
234	\$9,495.55	\$31.65	\$1,343.00	\$8,152.55	\$102,973.64
235	\$8,152.55	\$27.18	\$1,347.48	\$6,805.07	\$103,000.82
236	\$6,805.07	\$22.68	\$1,351.97	\$5,453.10	\$103,023.50
237	\$5,453.10	\$18.18	\$1,356.48	\$4,096.62	\$103,041.68
238	\$4,096.62	\$13.66	\$1,361.00	\$2,735.62	\$103,055.34
239	\$2,735.62	\$9.12	\$1,365.54	\$1,370.09	\$103,064.45
240	\$1,370.09	\$4.57	\$1,370.09	\$0.00	\$103,069.02



**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

Estimated Capital Cost: \$11,683,080  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$91,274.06

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$924.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	10	\$924.10

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$91,274.00	\$304.25	\$619.86	\$90,654.14	\$304.25
2	\$90,654.14	\$302.18	\$621.92	\$90,032.22	\$606.43
3	\$90,032.22	\$300.11	\$624.00	\$89,408.22	\$906.53
4	\$89,408.22	\$298.03	\$626.08	\$88,782.14	\$1,204.56
5	\$88,782.14	\$295.94	\$628.16	\$88,153.98	\$1,500.50
6	\$88,153.98	\$293.85	\$630.26	\$87,523.72	\$1,794.35
7	\$87,523.72	\$291.75	\$632.36	\$86,891.36	\$2,086.09
8	\$86,891.36	\$289.64	\$634.47	\$86,256.89	\$2,375.73
9	\$86,256.89	\$287.52	\$636.58	\$85,620.31	\$2,663.26
10	\$85,620.31	\$285.40	\$638.70	\$84,981.61	\$2,948.66
11	\$84,981.61	\$283.27	\$640.83	\$84,340.78	\$3,231.93
12	\$84,340.78	\$281.14	\$642.97	\$83,697.81	\$3,513.06
13	\$83,697.81	\$278.99	\$645.11	\$83,052.69	\$3,792.06
14	\$83,052.69	\$276.84	\$647.26	\$82,405.43	\$4,068.90
15	\$82,405.43	\$274.68	\$649.42	\$81,756.01	\$4,343.58
16	\$81,756.01	\$272.52	\$651.58	\$81,104.43	\$4,616.10
17	\$81,104.43	\$270.35	\$653.76	\$80,450.67	\$4,886.45
18	\$80,450.67	\$268.17	\$655.94	\$79,794.73	\$5,154.62
19	\$79,794.73	\$265.98	\$658.12	\$79,136.61	\$5,420.60
20	\$79,136.61	\$263.79	\$660.32	\$78,476.30	\$5,684.39
21	\$78,476.30	\$261.59	\$662.52	\$77,813.78	\$5,945.98
22	\$77,813.78	\$259.38	\$664.73	\$77,149.05	\$6,205.36
23	\$77,149.05	\$257.16	\$666.94	\$76,482.11	\$6,462.52
24	\$76,482.11	\$254.94	\$669.16	\$75,812.95	\$6,717.46
25	\$75,812.95	\$252.71	\$671.40	\$75,141.55	\$6,970.17
26	\$75,141.55	\$250.47	\$673.63	\$74,467.92	\$7,220.64
27	\$74,467.92	\$248.23	\$675.88	\$73,792.04	\$7,468.87
28	\$73,792.04	\$245.97	\$678.13	\$73,113.91	\$7,714.84
29	\$73,113.91	\$243.71	\$680.39	\$72,433.52	\$7,958.56
30	\$72,433.52	\$241.45	\$682.66	\$71,750.86	\$8,200.00
31	\$71,750.86	\$239.17	\$684.94	\$71,065.92	\$8,439.17
32	\$71,065.92	\$236.89	\$687.22	\$70,378.70	\$8,676.06
33	\$70,378.70	\$234.60	\$689.51	\$69,689.19	\$8,910.65
34	\$69,689.19	\$232.30	\$691.81	\$68,997.39	\$9,142.95
35	\$68,997.39	\$229.99	\$694.11	\$68,303.27	\$9,372.94
36	\$68,303.27	\$227.68	\$696.43	\$67,606.85	\$9,600.62
37	\$67,606.85	\$225.36	\$698.75	\$66,908.10	\$9,825.98
38	\$66,908.10	\$223.03	\$701.08	\$66,207.02	\$10,049.00
39	\$66,207.02	\$220.69	\$703.41	\$65,503.60	\$10,269.69
40	\$65,503.60	\$218.35	\$705.76	\$64,797.84	\$10,488.04
41	\$64,797.84	\$215.99	\$708.11	\$64,089.73	\$10,704.03
42	\$64,089.73	\$213.63	\$710.47	\$63,379.26	\$10,917.66
43	\$63,379.26	\$211.26	\$712.84	\$62,666.42	\$11,128.93
44	\$62,666.42	\$208.89	\$715.22	\$61,951.20	\$11,337.82
45	\$61,951.20	\$206.50	\$717.60	\$61,233.60	\$11,544.32
46	\$61,233.60	\$204.11	\$719.99	\$60,513.61	\$11,748.43
47	\$60,513.61	\$201.71	\$722.39	\$59,791.22	\$11,950.14
48	\$59,791.22	\$199.30	\$724.80	\$59,066.41	\$12,149.45
49	\$59,066.41	\$196.89	\$727.22	\$58,339.20	\$12,346.34
50	\$58,339.20	\$194.46	\$729.64	\$57,609.56	\$12,540.80
51	\$57,609.56	\$192.03	\$732.07	\$56,877.48	\$12,732.83
52	\$56,877.48	\$189.59	\$734.51	\$56,142.97	\$12,922.42
53	\$56,142.97	\$187.14	\$736.96	\$55,406.01	\$13,109.57
54	\$55,406.01	\$184.69	\$739.42	\$54,666.59	\$13,294.25
55	\$54,666.59	\$182.22	\$741.88	\$53,924.71	\$13,476.48
56	\$53,924.71	\$179.75	\$744.36	\$53,180.35	\$13,656.23
57	\$53,180.35	\$177.27	\$746.84	\$52,433.52	\$13,833.49
58	\$52,433.52	\$174.78	\$749.33	\$51,684.19	\$14,008.27
59	\$51,684.19	\$172.28	\$751.82	\$50,932.36	\$14,180.55
60	\$50,932.36	\$169.77	\$754.33	\$50,178.03	\$14,350.33
61	\$50,178.03	\$167.26	\$756.84	\$49,421.19	\$14,517.59

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

**Estimated Capital Cost:** \$11,683,080  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$91,274.06

Capital Cost Recovery Factor - A = 0.010124514  
 Monthly Cost -P = \$924.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	10	\$924.10

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	\$49,421.19	\$164.74	\$759.37	\$48,661.82	\$14,682.32
63	\$48,661.82	\$162.21	\$761.90	\$47,899.92	\$14,844.53
64	\$47,899.92	\$159.67	\$764.44	\$47,135.48	\$15,004.20
65	\$47,135.48	\$157.12	\$766.99	\$46,368.50	\$15,161.31
66	\$46,368.50	\$154.56	\$769.54	\$45,598.95	\$15,315.88
67	\$45,598.95	\$152.00	\$772.11	\$44,826.85	\$15,467.87
68	\$44,826.85	\$149.42	\$774.68	\$44,052.16	\$15,617.30
69	\$44,052.16	\$146.84	\$777.26	\$43,274.90	\$15,764.14
70	\$43,274.90	\$144.25	\$779.86	\$42,495.04	\$15,908.39
71	\$42,495.04	\$141.65	\$782.45	\$41,712.59	\$16,050.04
72	\$41,712.59	\$139.04	\$785.06	\$40,927.53	\$16,189.08
73	\$40,927.53	\$136.43	\$787.68	\$40,139.85	\$16,325.50
74	\$40,139.85	\$133.80	\$790.31	\$39,349.54	\$16,459.30
75	\$39,349.54	\$131.17	\$792.94	\$38,556.60	\$16,590.47
76	\$38,556.60	\$128.52	\$795.58	\$37,761.02	\$16,718.99
77	\$37,761.02	\$125.87	\$798.23	\$36,962.78	\$16,844.86
78	\$36,962.78	\$123.21	\$800.90	\$36,161.89	\$16,968.07
79	\$36,161.89	\$120.54	\$803.57	\$35,358.32	\$17,088.61
80	\$35,358.32	\$117.86	\$806.24	\$34,552.08	\$17,206.47
81	\$34,552.08	\$115.17	\$808.93	\$33,743.15	\$17,321.64
82	\$33,743.15	\$112.48	\$811.63	\$32,931.52	\$17,434.12
83	\$32,931.52	\$109.77	\$814.33	\$32,117.19	\$17,543.89
84	\$32,117.19	\$107.06	\$817.05	\$31,300.14	\$17,650.95
85	\$31,300.14	\$104.33	\$819.77	\$30,480.37	\$17,755.28
86	\$30,480.37	\$101.60	\$822.50	\$29,657.87	\$17,856.88
87	\$29,657.87	\$98.86	\$825.25	\$28,832.62	\$17,955.74
88	\$28,832.62	\$96.11	\$828.00	\$28,004.62	\$18,051.85
89	\$28,004.62	\$93.35	\$830.76	\$27,173.87	\$18,145.20
90	\$27,173.87	\$90.58	\$833.53	\$26,340.34	\$18,235.78
91	\$26,340.34	\$87.80	\$836.30	\$25,504.04	\$18,323.58
92	\$25,504.04	\$85.01	\$839.09	\$24,664.95	\$18,408.60
93	\$24,664.95	\$82.22	\$841.89	\$23,823.06	\$18,490.81
94	\$23,823.06	\$79.41	\$844.69	\$22,978.36	\$18,570.22
95	\$22,978.36	\$76.59	\$847.51	\$22,130.85	\$18,646.82
96	\$22,130.85	\$73.77	\$850.34	\$21,280.52	\$18,720.59
97	\$21,280.52	\$70.94	\$853.17	\$20,427.35	\$18,791.52
98	\$20,427.35	\$68.09	\$856.01	\$19,571.34	\$18,859.61
99	\$19,571.34	\$65.24	\$858.87	\$18,712.47	\$18,924.85
100	\$18,712.47	\$62.37	\$861.73	\$17,850.74	\$18,987.23
101	\$17,850.74	\$59.50	\$864.60	\$16,986.14	\$19,046.73
102	\$16,986.14	\$56.62	\$867.48	\$16,118.65	\$19,103.35
103	\$16,118.65	\$53.73	\$870.38	\$15,248.28	\$19,157.08
104	\$15,248.28	\$50.83	\$873.28	\$14,375.00	\$19,207.90
105	\$14,375.00	\$47.92	\$876.19	\$13,498.81	\$19,255.82
106	\$13,498.81	\$45.00	\$879.11	\$12,619.70	\$19,300.82
107	\$12,619.70	\$42.07	\$882.04	\$11,737.66	\$19,342.88
108	\$11,737.66	\$39.13	\$884.98	\$10,852.68	\$19,382.01
109	\$10,852.68	\$36.18	\$887.93	\$9,964.75	\$19,418.18
110	\$9,964.75	\$33.22	\$890.89	\$9,073.86	\$19,451.40
111	\$9,073.86	\$30.25	\$893.86	\$8,180.01	\$19,481.65
112	\$8,180.01	\$27.27	\$896.84	\$7,283.17	\$19,508.91
113	\$7,283.17	\$24.28	\$899.83	\$6,383.34	\$19,533.19
114	\$6,383.34	\$21.28	\$902.83	\$5,480.51	\$19,554.47
115	\$5,480.51	\$18.27	\$905.84	\$4,574.68	\$19,572.74
116	\$4,574.68	\$15.25	\$908.86	\$3,665.82	\$19,587.99
117	\$3,665.82	\$12.22	\$911.89	\$2,753.93	\$19,600.20
118	\$2,753.93	\$9.18	\$914.93	\$1,839.01	\$19,609.38
119	\$1,839.01	\$6.13	\$917.97	\$921.03	\$19,615.51
120	\$921.03	\$3.07	\$921.03	\$0.00	\$19,618.58

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

Estimated Capital Cost: \$11,683,080  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$91,274.06

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	15	\$675.14

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
1	\$91,274.00	\$304.25	\$370.90	\$90,903.10	\$304.25
2	\$90,903.10	\$303.01	\$372.13	\$90,530.97	\$607.26
3	\$90,530.97	\$301.77	\$373.37	\$90,157.60	\$909.03
4	\$90,157.60	\$300.53	\$374.62	\$89,782.98	\$1,209.55
5	\$89,782.98	\$299.28	\$375.87	\$89,407.12	\$1,508.83
6	\$89,407.12	\$298.02	\$377.12	\$89,030.00	\$1,806.85
7	\$89,030.00	\$296.77	\$378.38	\$88,651.62	\$2,103.62
8	\$88,651.62	\$295.51	\$379.64	\$88,271.98	\$2,399.12
9	\$88,271.98	\$294.24	\$380.90	\$87,891.08	\$2,693.36
10	\$87,891.08	\$292.97	\$382.17	\$87,508.91	\$2,986.33
11	\$87,508.91	\$291.70	\$383.45	\$87,125.46	\$3,278.03
12	\$87,125.46	\$290.42	\$384.72	\$86,740.74	\$3,568.45
13	\$86,740.74	\$289.14	\$386.01	\$86,354.73	\$3,857.59
14	\$86,354.73	\$287.85	\$387.29	\$85,967.44	\$4,145.43
15	\$85,967.44	\$286.56	\$388.58	\$85,578.85	\$4,431.99
16	\$85,578.85	\$285.26	\$389.88	\$85,188.97	\$4,717.26
17	\$85,188.97	\$283.96	\$391.18	\$84,797.79	\$5,001.22
18	\$84,797.79	\$282.66	\$392.48	\$84,405.31	\$5,283.88
19	\$84,405.31	\$281.35	\$393.79	\$84,011.52	\$5,565.23
20	\$84,011.52	\$280.04	\$395.10	\$83,616.41	\$5,845.27
21	\$83,616.41	\$278.72	\$396.42	\$83,219.99	\$6,123.99
22	\$83,219.99	\$277.40	\$397.74	\$82,822.25	\$6,401.39
23	\$82,822.25	\$276.07	\$399.07	\$82,423.18	\$6,677.46
24	\$82,423.18	\$274.74	\$400.40	\$82,022.78	\$6,952.21
25	\$82,022.78	\$273.41	\$401.73	\$81,621.05	\$7,225.62
26	\$81,621.05	\$272.07	\$403.07	\$81,217.97	\$7,497.69
27	\$81,217.97	\$270.73	\$404.42	\$80,813.56	\$7,768.41
28	\$80,813.56	\$269.38	\$405.76	\$80,407.79	\$8,037.79
29	\$80,407.79	\$268.03	\$407.12	\$80,000.68	\$8,305.82
30	\$80,000.68	\$266.67	\$408.47	\$79,592.20	\$8,572.49
31	\$79,592.20	\$265.31	\$409.84	\$79,182.37	\$8,837.79
32	\$79,182.37	\$263.94	\$411.20	\$78,771.17	\$9,101.73
33	\$78,771.17	\$262.57	\$412.57	\$78,358.59	\$9,364.31
34	\$78,358.59	\$261.20	\$413.95	\$77,944.65	\$9,625.50
35	\$77,944.65	\$259.82	\$415.33	\$77,529.32	\$9,885.32
36	\$77,529.32	\$258.43	\$416.71	\$77,112.61	\$10,143.75
37	\$77,112.61	\$257.04	\$418.10	\$76,694.51	\$10,400.79
38	\$76,694.51	\$255.65	\$419.49	\$76,275.01	\$10,656.44
39	\$76,275.01	\$254.25	\$420.89	\$75,854.12	\$10,910.69
40	\$75,854.12	\$252.85	\$422.30	\$75,431.82	\$11,163.53
41	\$75,431.82	\$251.44	\$423.70	\$75,008.12	\$11,414.97
42	\$75,008.12	\$250.03	\$425.12	\$74,583.01	\$11,665.00
43	\$74,583.01	\$248.61	\$426.53	\$74,156.47	\$11,913.61
44	\$74,156.47	\$247.19	\$427.95	\$73,728.52	\$12,160.80
45	\$73,728.52	\$245.76	\$429.38	\$73,299.14	\$12,406.56
46	\$73,299.14	\$244.33	\$430.81	\$72,868.32	\$12,650.89
47	\$72,868.32	\$242.89	\$432.25	\$72,436.08	\$12,893.79
48	\$72,436.08	\$241.45	\$433.69	\$72,002.39	\$13,135.24
49	\$72,002.39	\$240.01	\$435.13	\$71,567.25	\$13,375.25
50	\$71,567.25	\$238.56	\$436.59	\$71,130.67	\$13,613.80
51	\$71,130.67	\$237.10	\$438.04	\$70,692.63	\$13,850.91
52	\$70,692.63	\$235.64	\$439.50	\$70,253.13	\$14,086.55
53	\$70,253.13	\$234.18	\$440.97	\$69,812.16	\$14,320.73
54	\$69,812.16	\$232.71	\$442.44	\$69,369.72	\$14,553.43
55	\$69,369.72	\$231.23	\$443.91	\$68,925.81	\$14,784.67
56	\$68,925.81	\$229.75	\$445.39	\$68,480.42	\$15,014.42
57	\$68,480.42	\$228.27	\$446.87	\$68,033.55	\$15,242.69
58	\$68,033.55	\$226.78	\$448.36	\$67,585.19	\$15,469.47
59	\$67,585.19	\$225.28	\$449.86	\$67,135.33	\$15,694.75
60	\$67,135.33	\$223.78	\$451.36	\$66,683.97	\$15,918.53
61	\$66,683.97	\$222.28	\$452.86	\$66,231.11	\$16,140.81



**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

**Estimated Capital Cost:** \$11,683,080  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$91,274.06

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	15	\$675.14

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
62	\$66,231.11	\$220.77	\$454.37	\$65,776.73	\$16,361.58
63	\$65,776.73	\$219.26	\$455.89	\$65,320.85	\$16,580.84
64	\$65,320.85	\$217.74	\$457.41	\$64,863.44	\$16,798.58
65	\$64,863.44	\$216.21	\$458.93	\$64,404.51	\$17,014.79
66	\$64,404.51	\$214.68	\$460.46	\$63,944.05	\$17,229.47
67	\$63,944.05	\$213.15	\$462.00	\$63,482.05	\$17,442.62
68	\$63,482.05	\$211.61	\$463.54	\$63,018.52	\$17,654.22
69	\$63,018.52	\$210.06	\$465.08	\$62,553.43	\$17,864.28
70	\$62,553.43	\$208.51	\$466.63	\$62,086.80	\$18,072.80
71	\$62,086.80	\$206.96	\$468.19	\$61,618.62	\$18,279.75
72	\$61,618.62	\$205.40	\$469.75	\$61,148.87	\$18,485.15
73	\$61,148.87	\$203.83	\$471.31	\$60,677.56	\$18,688.98
74	\$60,677.56	\$202.26	\$472.88	\$60,204.67	\$18,891.24
75	\$60,204.67	\$200.68	\$474.46	\$59,730.21	\$19,091.92
76	\$59,730.21	\$199.10	\$476.04	\$59,254.17	\$19,291.02
77	\$59,254.17	\$197.51	\$477.63	\$58,776.54	\$19,488.53
78	\$58,776.54	\$195.92	\$479.22	\$58,297.32	\$19,684.45
79	\$58,297.32	\$194.32	\$480.82	\$57,816.50	\$19,878.78
80	\$57,816.50	\$192.72	\$482.42	\$57,334.08	\$20,071.50
81	\$57,334.08	\$191.11	\$484.03	\$56,850.05	\$20,262.61
82	\$56,850.05	\$189.50	\$485.64	\$56,364.41	\$20,452.11
83	\$56,364.41	\$187.88	\$487.26	\$55,877.15	\$20,640.00
84	\$55,877.15	\$186.26	\$488.89	\$55,388.26	\$20,826.25
85	\$55,388.26	\$184.63	\$490.52	\$54,897.75	\$21,010.88
86	\$54,897.75	\$182.99	\$492.15	\$54,405.60	\$21,193.87
87	\$54,405.60	\$181.35	\$493.79	\$53,911.80	\$21,375.22
88	\$53,911.80	\$179.71	\$495.44	\$53,416.37	\$21,554.93
89	\$53,416.37	\$178.05	\$497.09	\$52,919.28	\$21,732.98
90	\$52,919.28	\$176.40	\$498.75	\$52,420.53	\$21,909.38
91	\$52,420.53	\$174.74	\$500.41	\$51,920.13	\$22,084.12
92	\$51,920.13	\$173.07	\$502.08	\$51,418.05	\$22,257.18
93	\$51,418.05	\$171.39	\$503.75	\$50,914.30	\$22,428.58
94	\$50,914.30	\$169.71	\$505.43	\$50,408.87	\$22,598.29
95	\$50,408.87	\$168.03	\$507.11	\$49,901.76	\$22,766.32
96	\$49,901.76	\$166.34	\$508.80	\$49,392.96	\$22,932.66
97	\$49,392.96	\$164.64	\$510.50	\$48,882.46	\$23,097.30
98	\$48,882.46	\$162.94	\$512.20	\$48,370.26	\$23,260.25
99	\$48,370.26	\$161.23	\$513.91	\$47,856.35	\$23,421.48
100	\$47,856.35	\$159.52	\$515.62	\$47,340.73	\$23,581.00
101	\$47,340.73	\$157.80	\$517.34	\$46,823.39	\$23,738.80
102	\$46,823.39	\$156.08	\$519.06	\$46,304.32	\$23,894.88
103	\$46,304.32	\$154.35	\$520.80	\$45,783.53	\$24,049.23
104	\$45,783.53	\$152.61	\$522.53	\$45,260.99	\$24,201.84
105	\$45,260.99	\$150.87	\$524.27	\$44,736.72	\$24,352.71
106	\$44,736.72	\$149.12	\$526.02	\$44,210.70	\$24,501.83
107	\$44,210.70	\$147.37	\$527.77	\$43,682.93	\$24,649.20
108	\$43,682.93	\$145.61	\$529.53	\$43,153.39	\$24,794.81
109	\$43,153.39	\$143.84	\$531.30	\$42,622.10	\$24,938.66
110	\$42,622.10	\$142.07	\$533.07	\$42,089.03	\$25,080.73
111	\$42,089.03	\$140.30	\$534.85	\$41,554.18	\$25,221.03
112	\$41,554.18	\$138.51	\$536.63	\$41,017.55	\$25,359.54
113	\$41,017.55	\$136.73	\$538.42	\$40,479.13	\$25,496.27
114	\$40,479.13	\$134.93	\$540.21	\$39,938.92	\$25,631.20
115	\$39,938.92	\$133.13	\$542.01	\$39,396.91	\$25,764.33
116	\$39,396.91	\$131.32	\$543.82	\$38,853.09	\$25,895.65
117	\$38,853.09	\$129.51	\$545.63	\$38,307.46	\$26,025.16
118	\$38,307.46	\$127.69	\$547.45	\$37,760.01	\$26,152.85
119	\$37,760.01	\$125.87	\$549.28	\$37,210.73	\$26,278.72
120	\$37,210.73	\$124.04	\$551.11	\$36,659.62	\$26,402.75
121	\$36,659.62	\$122.20	\$552.94	\$36,106.68	\$26,524.95
122	\$36,106.68	\$120.36	\$554.79	\$35,551.89	\$26,645.31

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

Estimated Capital Cost: \$11,683,080  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$91,274.06

Capital Cost Recovery Factor - A = 0.007396879  
 Monthly Cost -P = \$675.14

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	15	\$675.14

Month	StartingBalance	Interest	Principal	EndingBalance	Total Interest
123	\$35,551.89	\$118.51	\$556.64	\$34,995.26	\$26,763.81
124	\$34,995.26	\$116.65	\$558.49	\$34,436.76	\$26,880.47
125	\$34,436.76	\$114.79	\$560.35	\$33,876.41	\$26,995.25
126	\$33,876.41	\$112.92	\$562.22	\$33,314.19	\$27,108.18
127	\$33,314.19	\$111.05	\$564.10	\$32,750.09	\$27,219.22
128	\$32,750.09	\$109.17	\$565.98	\$32,184.12	\$27,328.39
129	\$32,184.12	\$107.28	\$567.86	\$31,616.26	\$27,435.67
130	\$31,616.26	\$105.39	\$569.76	\$31,046.50	\$27,541.06
131	\$31,046.50	\$103.49	\$571.65	\$30,474.85	\$27,644.55
132	\$30,474.85	\$101.58	\$573.56	\$29,901.29	\$27,746.13
133	\$29,901.29	\$99.67	\$575.47	\$29,325.81	\$27,845.80
134	\$29,325.81	\$97.75	\$577.39	\$28,748.42	\$27,943.55
135	\$28,748.42	\$95.83	\$579.31	\$28,169.11	\$28,039.38
136	\$28,169.11	\$93.90	\$581.25	\$27,587.86	\$28,133.28
137	\$27,587.86	\$91.96	\$583.18	\$27,004.68	\$28,225.24
138	\$27,004.68	\$90.02	\$585.13	\$26,419.55	\$28,315.25
139	\$26,419.55	\$88.07	\$587.08	\$25,832.48	\$28,403.32
140	\$25,832.48	\$86.11	\$589.03	\$25,243.44	\$28,489.43
141	\$25,243.44	\$84.14	\$591.00	\$24,652.44	\$28,573.57
142	\$24,652.44	\$82.17	\$592.97	\$24,059.47	\$28,655.75
143	\$24,059.47	\$80.20	\$594.94	\$23,464.53	\$28,735.94
144	\$23,464.53	\$78.22	\$596.93	\$22,867.60	\$28,814.16
145	\$22,867.60	\$76.23	\$598.92	\$22,268.69	\$28,890.39
146	\$22,268.69	\$74.23	\$600.91	\$21,667.77	\$28,964.61
147	\$21,667.77	\$72.23	\$602.92	\$21,064.85	\$29,036.84
148	\$21,064.85	\$70.22	\$604.93	\$20,459.93	\$29,107.06
149	\$20,459.93	\$68.20	\$606.94	\$19,852.98	\$29,175.26
150	\$19,852.98	\$66.18	\$608.97	\$19,244.02	\$29,241.43
151	\$19,244.02	\$64.15	\$611.00	\$18,633.02	\$29,305.58
152	\$18,633.02	\$62.11	\$613.03	\$18,019.99	\$29,367.69
153	\$18,019.99	\$60.07	\$615.08	\$17,404.91	\$29,427.76
154	\$17,404.91	\$58.02	\$617.13	\$16,787.79	\$29,485.77
155	\$16,787.79	\$55.96	\$619.18	\$16,168.60	\$29,541.73
156	\$16,168.60	\$53.90	\$621.25	\$15,547.36	\$29,595.63
157	\$15,547.36	\$51.82	\$623.32	\$14,924.04	\$29,647.45
158	\$14,924.04	\$49.75	\$625.40	\$14,298.64	\$29,697.20
159	\$14,298.64	\$47.66	\$627.48	\$13,671.16	\$29,744.86
160	\$13,671.16	\$45.57	\$629.57	\$13,041.59	\$29,790.43
161	\$13,041.59	\$43.47	\$631.67	\$12,409.92	\$29,833.90
162	\$12,409.92	\$41.37	\$633.78	\$11,776.14	\$29,875.27
163	\$11,776.14	\$39.25	\$635.89	\$11,140.25	\$29,914.52
164	\$11,140.25	\$37.13	\$638.01	\$10,502.25	\$29,951.66
165	\$10,502.25	\$35.01	\$640.14	\$9,862.11	\$29,986.66
166	\$9,862.11	\$32.87	\$642.27	\$9,219.84	\$30,019.54
167	\$9,219.84	\$30.73	\$644.41	\$8,575.43	\$30,050.27
168	\$8,575.43	\$28.58	\$646.56	\$7,928.87	\$30,078.86
169	\$7,928.87	\$26.43	\$648.71	\$7,280.16	\$30,105.29
170	\$7,280.16	\$24.27	\$650.88	\$6,629.28	\$30,129.55
171	\$6,629.28	\$22.10	\$653.05	\$5,976.24	\$30,151.65
172	\$5,976.24	\$19.92	\$655.22	\$5,321.02	\$30,171.57
173	\$5,321.02	\$17.74	\$657.41	\$4,663.61	\$30,189.31
174	\$4,663.61	\$15.55	\$659.60	\$4,004.01	\$30,204.85
175	\$4,004.01	\$13.35	\$661.80	\$3,342.22	\$30,218.20
176	\$3,342.22	\$11.14	\$664.00	\$2,678.22	\$30,229.34
177	\$2,678.22	\$8.93	\$666.22	\$2,012.00	\$30,238.27
178	\$2,012.00	\$6.71	\$668.44	\$1,343.56	\$30,244.97
179	\$1,343.56	\$4.48	\$670.66	\$672.90	\$30,249.45
180	\$672.90	\$2.24	\$672.90	\$0.00	\$30,251.70

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

**Estimated Capital Cost:** \$11,683,080  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$91,274.06

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	20	\$553.10

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$91,274.00	\$304.25	\$248.86	\$91,025.14	\$304.25
2	\$91,025.14	\$303.42	\$249.69	\$90,775.46	\$607.66
3	\$90,775.46	\$302.58	\$250.52	\$90,524.94	\$910.25
4	\$90,524.94	\$301.75	\$251.35	\$90,273.59	\$1,212.00
5	\$90,273.59	\$300.91	\$252.19	\$90,021.40	\$1,512.91
6	\$90,021.40	\$300.07	\$253.03	\$89,768.37	\$1,812.98
7	\$89,768.37	\$299.23	\$253.87	\$89,514.49	\$2,112.21
8	\$89,514.49	\$298.38	\$254.72	\$89,259.77	\$2,410.59
9	\$89,259.77	\$297.53	\$255.57	\$89,004.20	\$2,708.12
10	\$89,004.20	\$296.68	\$256.42	\$88,747.78	\$3,004.80
11	\$88,747.78	\$295.83	\$257.28	\$88,490.50	\$3,300.63
12	\$88,490.50	\$294.97	\$258.13	\$88,232.37	\$3,595.60
13	\$88,232.37	\$294.11	\$258.99	\$87,973.37	\$3,889.71
14	\$87,973.37	\$293.24	\$259.86	\$87,713.52	\$4,182.95
15	\$87,713.52	\$292.38	\$260.72	\$87,452.79	\$4,475.33
16	\$87,452.79	\$291.51	\$261.59	\$87,191.20	\$4,766.84
17	\$87,191.20	\$290.64	\$262.47	\$86,928.73	\$5,057.48
18	\$86,928.73	\$289.76	\$263.34	\$86,665.39	\$5,347.24
19	\$86,665.39	\$288.88	\$264.22	\$86,401.18	\$5,636.12
20	\$86,401.18	\$288.00	\$265.10	\$86,136.08	\$5,924.13
21	\$86,136.08	\$287.12	\$265.98	\$85,870.10	\$6,211.25
22	\$85,870.10	\$286.23	\$266.87	\$85,603.23	\$6,497.48
23	\$85,603.23	\$285.34	\$267.76	\$85,335.47	\$6,782.83
24	\$85,335.47	\$284.45	\$268.65	\$85,066.82	\$7,067.28
25	\$85,066.82	\$283.56	\$269.55	\$84,797.27	\$7,350.83
26	\$84,797.27	\$282.66	\$270.44	\$84,526.83	\$7,633.49
27	\$84,526.83	\$281.76	\$271.35	\$84,255.48	\$7,915.25
28	\$84,255.48	\$280.85	\$272.25	\$83,983.23	\$8,196.10
29	\$83,983.23	\$279.94	\$273.16	\$83,710.07	\$8,476.04
30	\$83,710.07	\$279.03	\$274.07	\$83,436.00	\$8,755.08
31	\$83,436.00	\$278.12	\$274.98	\$83,161.02	\$9,033.20
32	\$83,161.02	\$277.20	\$275.90	\$82,885.12	\$9,310.40
33	\$82,885.12	\$276.28	\$276.82	\$82,608.30	\$9,586.68
34	\$82,608.30	\$275.36	\$277.74	\$82,330.56	\$9,862.04
35	\$82,330.56	\$274.44	\$278.67	\$82,051.89	\$10,136.48
36	\$82,051.89	\$273.51	\$279.60	\$81,772.30	\$10,409.99
37	\$81,772.30	\$272.57	\$280.53	\$81,491.77	\$10,682.56
38	\$81,491.77	\$271.64	\$281.46	\$81,210.30	\$10,954.20
39	\$81,210.30	\$270.70	\$282.40	\$80,927.90	\$11,224.90
40	\$80,927.90	\$269.76	\$283.34	\$80,644.56	\$11,494.66
41	\$80,644.56	\$268.82	\$284.29	\$80,360.27	\$11,763.47
42	\$80,360.27	\$267.87	\$285.23	\$80,075.04	\$12,031.34
43	\$80,075.04	\$266.92	\$286.19	\$79,788.85	\$12,298.26
44	\$79,788.85	\$265.96	\$287.14	\$79,501.71	\$12,564.22
45	\$79,501.71	\$265.01	\$288.10	\$79,213.62	\$12,829.23
46	\$79,213.62	\$264.05	\$289.06	\$78,924.56	\$13,093.27
47	\$78,924.56	\$263.08	\$290.02	\$78,634.54	\$13,356.36
48	\$78,634.54	\$262.12	\$290.99	\$78,343.55	\$13,618.47
49	\$78,343.55	\$261.15	\$291.96	\$78,051.59	\$13,879.62
50	\$78,051.59	\$260.17	\$292.93	\$77,758.66	\$14,139.79
51	\$77,758.66	\$259.20	\$293.91	\$77,464.76	\$14,398.98
52	\$77,464.76	\$258.22	\$294.89	\$77,169.87	\$14,657.20
53	\$77,169.87	\$257.23	\$295.87	\$76,874.00	\$14,914.43
54	\$76,874.00	\$256.25	\$296.86	\$76,577.14	\$15,170.68
55	\$76,577.14	\$255.26	\$297.85	\$76,279.30	\$15,425.94
56	\$76,279.30	\$254.26	\$298.84	\$75,980.46	\$15,680.20
57	\$75,980.46	\$253.27	\$299.83	\$75,680.63	\$15,933.47
58	\$75,680.63	\$252.27	\$300.83	\$75,379.79	\$16,185.74
59	\$75,379.79	\$251.27	\$301.84	\$75,077.96	\$16,437.00
60	\$75,077.96	\$250.26	\$302.84	\$74,775.11	\$16,687.26
61	\$74,775.11	\$249.25	\$303.85	\$74,471.26	\$16,936.51

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

**Estimated Capital Cost:** \$11,683,080  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$91,274.06

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	20	\$553.10

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
62	\$74,471.26	\$248.24	\$304.86	\$74,166.40	\$17,184.75
63	\$74,166.40	\$247.22	\$305.88	\$73,860.52	\$17,431.97
64	\$73,860.52	\$246.20	\$306.90	\$73,553.61	\$17,678.17
65	\$73,553.61	\$245.18	\$307.92	\$73,245.69	\$17,923.35
66	\$73,245.69	\$244.15	\$308.95	\$72,936.74	\$18,167.50
67	\$72,936.74	\$243.12	\$309.98	\$72,626.76	\$18,410.63
68	\$72,626.76	\$242.09	\$311.01	\$72,315.75	\$18,652.72
69	\$72,315.75	\$241.05	\$312.05	\$72,003.70	\$18,893.77
70	\$72,003.70	\$240.01	\$313.09	\$71,690.61	\$19,133.78
71	\$71,690.61	\$238.97	\$314.13	\$71,376.47	\$19,372.75
72	\$71,376.47	\$237.92	\$315.18	\$71,061.29	\$19,610.67
73	\$71,061.29	\$236.87	\$316.23	\$70,745.06	\$19,847.54
74	\$70,745.06	\$235.82	\$317.29	\$70,427.78	\$20,083.36
75	\$70,427.78	\$234.76	\$318.34	\$70,109.43	\$20,318.12
76	\$70,109.43	\$233.70	\$319.40	\$69,790.03	\$20,551.82
77	\$69,790.03	\$232.63	\$320.47	\$69,469.56	\$20,784.45
78	\$69,469.56	\$231.57	\$321.54	\$69,148.02	\$21,016.02
79	\$69,148.02	\$230.49	\$322.61	\$68,825.41	\$21,246.51
80	\$68,825.41	\$229.42	\$323.68	\$68,501.73	\$21,475.93
81	\$68,501.73	\$228.34	\$324.76	\$68,176.96	\$21,704.27
82	\$68,176.96	\$227.26	\$325.85	\$67,851.12	\$21,931.52
83	\$67,851.12	\$226.17	\$326.93	\$67,524.19	\$22,157.69
84	\$67,524.19	\$225.08	\$328.02	\$67,196.16	\$22,382.77
85	\$67,196.16	\$223.99	\$329.12	\$66,867.05	\$22,606.76
86	\$66,867.05	\$222.89	\$330.21	\$66,536.84	\$22,829.65
87	\$66,536.84	\$221.79	\$331.31	\$66,205.52	\$23,051.44
88	\$66,205.52	\$220.69	\$332.42	\$65,873.11	\$23,272.13
89	\$65,873.11	\$219.58	\$333.53	\$65,539.58	\$23,491.70
90	\$65,539.58	\$218.47	\$334.64	\$65,204.94	\$23,710.17
91	\$65,204.94	\$217.35	\$335.75	\$64,869.19	\$23,927.52
92	\$64,869.19	\$216.23	\$336.87	\$64,532.32	\$24,143.75
93	\$64,532.32	\$215.11	\$337.99	\$64,194.32	\$24,358.86
94	\$64,194.32	\$213.98	\$339.12	\$63,855.20	\$24,572.84
95	\$63,855.20	\$212.85	\$340.25	\$63,514.95	\$24,785.69
96	\$63,514.95	\$211.72	\$341.39	\$63,173.57	\$24,997.40
97	\$63,173.57	\$210.58	\$342.52	\$62,831.04	\$25,207.98
98	\$62,831.04	\$209.44	\$343.67	\$62,487.38	\$25,417.42
99	\$62,487.38	\$208.29	\$344.81	\$62,142.56	\$25,625.71
100	\$62,142.56	\$207.14	\$345.96	\$61,796.60	\$25,832.85
101	\$61,796.60	\$205.99	\$347.11	\$61,449.49	\$26,038.84
102	\$61,449.49	\$204.83	\$348.27	\$61,101.22	\$26,243.67
103	\$61,101.22	\$203.67	\$349.43	\$60,751.79	\$26,447.34
104	\$60,751.79	\$202.51	\$350.60	\$60,401.19	\$26,649.85
105	\$60,401.19	\$201.34	\$351.77	\$60,049.43	\$26,851.19
106	\$60,049.43	\$200.16	\$352.94	\$59,696.49	\$27,051.35
107	\$59,696.49	\$198.99	\$354.11	\$59,342.37	\$27,250.34
108	\$59,342.37	\$197.81	\$355.29	\$58,987.08	\$27,448.15
109	\$58,987.08	\$196.62	\$356.48	\$58,630.60	\$27,644.77
110	\$58,630.60	\$195.44	\$357.67	\$58,272.93	\$27,840.21
111	\$58,272.93	\$194.24	\$358.86	\$57,914.07	\$28,034.45
112	\$57,914.07	\$193.05	\$360.06	\$57,554.02	\$28,227.50
113	\$57,554.02	\$191.85	\$361.26	\$57,192.76	\$28,419.34
114	\$57,192.76	\$190.64	\$362.46	\$56,830.30	\$28,609.99
115	\$56,830.30	\$189.43	\$363.67	\$56,466.63	\$28,799.42
116	\$56,466.63	\$188.22	\$364.88	\$56,101.75	\$28,987.64
117	\$56,101.75	\$187.01	\$366.10	\$55,735.66	\$29,174.65
118	\$55,735.66	\$185.79	\$367.32	\$55,368.34	\$29,360.43
119	\$55,368.34	\$184.56	\$368.54	\$54,999.80	\$29,544.99
120	\$54,999.80	\$183.33	\$369.77	\$54,630.03	\$29,728.33
121	\$54,630.03	\$182.10	\$371.00	\$54,259.03	\$29,910.43
122	\$54,259.03	\$180.86	\$372.24	\$53,886.79	\$30,091.29



**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

Estimated Capital Cost: \$11,683,080  
 Number of Benefitting Properties: 128  
 Cost per Connection: \$91,274.06

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$91,274.00	4.00%	20	\$553.10

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
123	\$53,886.79	\$179.62	\$373.48	\$53,513.31	\$30,270.91
124	\$53,513.31	\$178.38	\$374.72	\$53,138.58	\$30,449.29
125	\$53,138.58	\$177.13	\$375.97	\$52,762.61	\$30,626.42
126	\$52,762.61	\$175.88	\$377.23	\$52,385.38	\$30,802.30
127	\$52,385.38	\$174.62	\$378.48	\$52,006.90	\$30,976.91
128	\$52,006.90	\$173.36	\$379.75	\$51,627.15	\$31,150.27
129	\$51,627.15	\$172.09	\$381.01	\$51,246.14	\$31,322.36
130	\$51,246.14	\$170.82	\$382.28	\$50,863.86	\$31,493.18
131	\$50,863.86	\$169.55	\$383.56	\$50,480.30	\$31,662.73
132	\$50,480.30	\$168.27	\$384.83	\$50,095.47	\$31,830.99
133	\$50,095.47	\$166.98	\$386.12	\$49,709.35	\$31,997.98
134	\$49,709.35	\$165.70	\$387.40	\$49,321.94	\$32,163.68
135	\$49,321.94	\$164.41	\$388.70	\$48,933.25	\$32,328.08
136	\$48,933.25	\$163.11	\$389.99	\$48,543.26	\$32,491.19
137	\$48,543.26	\$161.81	\$391.29	\$48,151.96	\$32,653.01
138	\$48,151.96	\$160.51	\$392.60	\$47,759.37	\$32,813.51
139	\$47,759.37	\$159.20	\$393.90	\$47,365.46	\$32,972.71
140	\$47,365.46	\$157.88	\$395.22	\$46,970.25	\$33,130.59
141	\$46,970.25	\$156.57	\$396.53	\$46,573.71	\$33,287.16
142	\$46,573.71	\$155.25	\$397.86	\$46,175.85	\$33,442.41
143	\$46,175.85	\$153.92	\$399.18	\$45,776.67	\$33,596.33
144	\$45,776.67	\$152.59	\$400.51	\$45,376.16	\$33,748.92
145	\$45,376.16	\$151.25	\$401.85	\$44,974.31	\$33,900.17
146	\$44,974.31	\$149.91	\$403.19	\$44,571.12	\$34,050.08
147	\$44,571.12	\$148.57	\$404.53	\$44,166.59	\$34,198.65
148	\$44,166.59	\$147.22	\$405.88	\$43,760.71	\$34,345.88
149	\$43,760.71	\$145.87	\$407.23	\$43,353.48	\$34,491.75
150	\$43,353.48	\$144.51	\$408.59	\$42,944.88	\$34,636.26
151	\$42,944.88	\$143.15	\$409.95	\$42,534.93	\$34,779.41
152	\$42,534.93	\$141.78	\$411.32	\$42,123.61	\$34,921.19
153	\$42,123.61	\$140.41	\$412.69	\$41,710.92	\$35,061.60
154	\$41,710.92	\$139.04	\$414.07	\$41,296.86	\$35,200.64
155	\$41,296.86	\$137.66	\$415.45	\$40,881.41	\$35,338.29
156	\$40,881.41	\$136.27	\$416.83	\$40,464.58	\$35,474.57
157	\$40,464.58	\$134.88	\$418.22	\$40,046.36	\$35,609.45
158	\$40,046.36	\$133.49	\$419.61	\$39,626.74	\$35,742.94
159	\$39,626.74	\$132.09	\$421.01	\$39,205.73	\$35,875.03
160	\$39,205.73	\$130.69	\$422.42	\$38,783.31	\$36,005.71
161	\$38,783.31	\$129.28	\$423.82	\$38,359.49	\$36,134.99
162	\$38,359.49	\$127.86	\$425.24	\$37,934.25	\$36,262.85
163	\$37,934.25	\$126.45	\$426.65	\$37,507.60	\$36,389.30
164	\$37,507.60	\$125.03	\$428.08	\$37,079.52	\$36,514.33
165	\$37,079.52	\$123.60	\$429.50	\$36,650.01	\$36,637.92
166	\$36,650.01	\$122.17	\$430.94	\$36,219.08	\$36,760.09
167	\$36,219.08	\$120.73	\$432.37	\$35,786.71	\$36,880.82
168	\$35,786.71	\$119.29	\$433.81	\$35,352.89	\$37,000.11
169	\$35,352.89	\$117.84	\$435.26	\$34,917.63	\$37,117.95
170	\$34,917.63	\$116.39	\$436.71	\$34,480.92	\$37,234.35
171	\$34,480.92	\$114.94	\$438.17	\$34,042.76	\$37,349.28
172	\$34,042.76	\$113.48	\$439.63	\$33,603.13	\$37,462.76
173	\$33,603.13	\$112.01	\$441.09	\$33,162.04	\$37,574.77
174	\$33,162.04	\$110.54	\$442.56	\$32,719.48	\$37,685.31
175	\$32,719.48	\$109.06	\$444.04	\$32,275.44	\$37,794.37
176	\$32,275.44	\$107.58	\$445.52	\$31,829.92	\$37,901.96
177	\$31,829.92	\$106.10	\$447.00	\$31,382.92	\$38,008.06
178	\$31,382.92	\$104.61	\$448.49	\$30,934.43	\$38,112.67
179	\$30,934.43	\$103.11	\$449.99	\$30,484.44	\$38,215.78
180	\$30,484.44	\$101.61	\$451.49	\$30,032.95	\$38,317.40
181	\$30,032.95	\$100.11	\$452.99	\$29,579.96	\$38,417.51
182	\$29,579.96	\$98.60	\$454.50	\$29,125.45	\$38,516.11
183	\$29,125.45	\$97.08	\$456.02	\$28,669.44	\$38,613.19

**TOWNSHIP OF PUSLINCH**  
**Wastewater Servicing - Option WW2**

**Estimated Capital Cost:** \$11,683,080  
**Number of Benefitting Properties:** 128  
**Cost per Connection:** \$91,274.06

Capital Cost Recovery Factor - A = 0.006059803  
 Monthly Cost -P = \$553.10

Loan Amount	Interest Rate	Term in Years	Monthly Payment		
\$91,274.00	4.00%	20	\$553.10		
Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
184	\$28,669.44	\$95.56	\$457.54	\$28,211.90	\$38,708.76
185	\$28,211.90	\$94.04	\$459.06	\$27,752.84	\$38,802.80
186	\$27,752.84	\$92.51	\$460.59	\$27,292.24	\$38,895.31
187	\$27,292.24	\$90.97	\$462.13	\$26,830.12	\$38,986.28
188	\$26,830.12	\$89.43	\$463.67	\$26,366.45	\$39,075.71
189	\$26,366.45	\$87.89	\$465.21	\$25,901.23	\$39,163.60
190	\$25,901.23	\$86.34	\$466.77	\$25,434.47	\$39,249.94
191	\$25,434.47	\$84.78	\$468.32	\$24,966.15	\$39,334.72
192	\$24,966.15	\$83.22	\$469.88	\$24,496.26	\$39,417.94
193	\$24,496.26	\$81.65	\$471.45	\$24,024.82	\$39,499.60
194	\$24,024.82	\$80.08	\$473.02	\$23,551.80	\$39,579.68
195	\$23,551.80	\$78.51	\$474.60	\$23,077.20	\$39,658.18
196	\$23,077.20	\$76.92	\$476.18	\$22,601.02	\$39,735.11
197	\$22,601.02	\$75.34	\$477.77	\$22,123.26	\$39,810.45
198	\$22,123.26	\$73.74	\$479.36	\$21,643.90	\$39,884.19
199	\$21,643.90	\$72.15	\$480.96	\$21,162.94	\$39,956.34
200	\$21,162.94	\$70.54	\$482.56	\$20,680.38	\$40,026.88
201	\$20,680.38	\$68.93	\$484.17	\$20,196.21	\$40,095.81
202	\$20,196.21	\$67.32	\$485.78	\$19,710.43	\$40,163.13
203	\$19,710.43	\$65.70	\$487.40	\$19,223.03	\$40,228.84
204	\$19,223.03	\$64.08	\$489.03	\$18,734.01	\$40,292.91
205	\$18,734.01	\$62.45	\$490.66	\$18,243.35	\$40,355.36
206	\$18,243.35	\$60.81	\$492.29	\$17,751.06	\$40,416.17
207	\$17,751.06	\$59.17	\$493.93	\$17,257.13	\$40,475.34
208	\$17,257.13	\$57.52	\$495.58	\$16,761.55	\$40,532.86
209	\$16,761.55	\$55.87	\$497.23	\$16,264.32	\$40,588.74
210	\$16,264.32	\$54.21	\$498.89	\$15,765.43	\$40,642.95
211	\$15,765.43	\$52.55	\$500.55	\$15,264.88	\$40,695.50
212	\$15,264.88	\$50.88	\$502.22	\$14,762.66	\$40,746.38
213	\$14,762.66	\$49.21	\$503.89	\$14,258.76	\$40,795.59
214	\$14,258.76	\$47.53	\$505.57	\$13,753.19	\$40,843.12
215	\$13,753.19	\$45.84	\$507.26	\$13,245.93	\$40,888.97
216	\$13,245.93	\$44.15	\$508.95	\$12,736.98	\$40,933.12
217	\$12,736.98	\$42.46	\$510.65	\$12,226.34	\$40,975.58
218	\$12,226.34	\$40.75	\$512.35	\$11,713.99	\$41,016.33
219	\$11,713.99	\$39.05	\$514.06	\$11,199.93	\$41,055.38
220	\$11,199.93	\$37.33	\$515.77	\$10,684.16	\$41,092.71
221	\$10,684.16	\$35.61	\$517.49	\$10,166.68	\$41,128.32
222	\$10,166.68	\$33.89	\$519.21	\$9,647.46	\$41,162.21
223	\$9,647.46	\$32.16	\$520.94	\$9,126.52	\$41,194.37
224	\$9,126.52	\$30.42	\$522.68	\$8,603.84	\$41,224.79
225	\$8,603.84	\$28.68	\$524.42	\$8,079.41	\$41,253.47
226	\$8,079.41	\$26.93	\$526.17	\$7,553.24	\$41,280.40
227	\$7,553.24	\$25.18	\$527.93	\$7,025.32	\$41,305.58
228	\$7,025.32	\$23.42	\$529.68	\$6,495.63	\$41,329.00
229	\$6,495.63	\$21.65	\$531.45	\$5,964.18	\$41,350.65
230	\$5,964.18	\$19.88	\$533.22	\$5,430.96	\$41,370.53
231	\$5,430.96	\$18.10	\$535.00	\$4,895.96	\$41,388.64
232	\$4,895.96	\$16.32	\$536.78	\$4,359.18	\$41,404.96
233	\$4,359.18	\$14.53	\$538.57	\$3,820.61	\$41,419.49
234	\$3,820.61	\$12.74	\$540.37	\$3,280.24	\$41,432.22
235	\$3,280.24	\$10.93	\$542.17	\$2,738.07	\$41,443.16
236	\$2,738.07	\$9.13	\$543.98	\$2,194.10	\$41,452.28
237	\$2,194.10	\$7.31	\$545.79	\$1,648.31	\$41,459.60
238	\$1,648.31	\$5.49	\$547.61	\$1,100.70	\$41,465.09
239	\$1,100.70	\$3.67	\$549.43	\$551.26	\$41,468.76
240	\$551.26	\$1.84	\$551.26	\$0.00	\$41,470.60

D (Discount Factor) = 98.77017486

P = A/D \$604.72

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	10	\$604.72

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$59,728.00	\$199.09	\$405.62	\$59,322.38	\$199.09
2	\$59,322.38	\$197.74	\$406.98	\$58,915.40	\$396.83
3	\$58,915.40	\$196.38	\$408.33	\$58,507.07	\$593.22
4	\$58,507.07	\$195.02	\$409.69	\$58,097.37	\$788.24
5	\$58,097.37	\$193.66	\$411.06	\$57,686.32	\$981.90
6	\$57,686.32	\$192.29	\$412.43	\$57,273.89	\$1,174.19
7	\$57,273.89	\$190.91	\$413.80	\$56,860.08	\$1,365.10
8	\$56,860.08	\$189.53	\$415.18	\$56,444.90	\$1,554.64
9	\$56,444.90	\$188.15	\$416.57	\$56,028.33	\$1,742.78
10	\$56,028.33	\$186.76	\$417.96	\$55,610.38	\$1,929.55
11	\$55,610.38	\$185.37	\$419.35	\$55,191.03	\$2,114.91
12	\$55,191.03	\$183.97	\$420.75	\$54,770.28	\$2,298.88
13	\$54,770.28	\$182.57	\$422.15	\$54,348.13	\$2,481.45
14	\$54,348.13	\$181.16	\$423.56	\$53,924.57	\$2,662.61
15	\$53,924.57	\$179.75	\$424.97	\$53,499.61	\$2,842.36
16	\$53,499.61	\$178.33	\$426.38	\$53,073.22	\$3,020.69
17	\$53,073.22	\$176.91	\$427.81	\$52,645.41	\$3,197.60
18	\$52,645.41	\$175.48	\$429.23	\$52,216.18	\$3,373.09
19	\$52,216.18	\$174.05	\$430.66	\$51,785.52	\$3,547.14
20	\$51,785.52	\$172.62	\$432.10	\$51,353.42	\$3,719.76
21	\$51,353.42	\$171.18	\$433.54	\$50,919.88	\$3,890.94
22	\$50,919.88	\$169.73	\$434.98	\$50,484.90	\$4,060.67
23	\$50,484.90	\$168.28	\$436.43	\$50,048.46	\$4,228.95
24	\$50,048.46	\$166.83	\$437.89	\$49,610.58	\$4,395.78
25	\$49,610.58	\$165.37	\$439.35	\$49,171.23	\$4,561.15
26	\$49,171.23	\$163.90	\$440.81	\$48,730.41	\$4,725.06
27	\$48,730.41	\$162.43	\$442.28	\$48,288.13	\$4,887.49
28	\$48,288.13	\$160.96	\$443.76	\$47,844.38	\$5,048.45
29	\$47,844.38	\$159.48	\$445.24	\$47,399.14	\$5,207.93
30	\$47,399.14	\$158.00	\$446.72	\$46,952.42	\$5,365.93
31	\$46,952.42	\$156.51	\$448.21	\$46,504.21	\$5,522.44
32	\$46,504.21	\$155.01	\$449.70	\$46,054.51	\$5,677.45
33	\$46,054.51	\$153.52	\$451.20	\$45,603.31	\$5,830.97
34	\$45,603.31	\$152.01	\$452.71	\$45,150.60	\$5,982.98
35	\$45,150.60	\$150.50	\$454.21	\$44,696.39	\$6,133.48
36	\$44,696.39	\$148.99	\$455.73	\$44,240.66	\$6,282.47
37	\$44,240.66	\$147.47	\$457.25	\$43,783.41	\$6,429.94
38	\$43,783.41	\$145.94	\$458.77	\$43,324.64	\$6,575.88
39	\$43,324.64	\$144.42	\$460.30	\$42,864.33	\$6,720.30
40	\$42,864.33	\$142.88	\$461.84	\$42,402.50	\$6,863.18
41	\$42,402.50	\$141.34	\$463.38	\$41,939.12	\$7,004.52
42	\$41,939.12	\$139.80	\$464.92	\$41,474.20	\$7,144.32
43	\$41,474.20	\$138.25	\$466.47	\$41,007.73	\$7,282.56
44	\$41,007.73	\$136.69	\$468.02	\$40,539.71	\$7,419.26
45	\$40,539.71	\$135.13	\$469.58	\$40,070.12	\$7,554.39
46	\$40,070.12	\$133.57	\$471.15	\$39,598.97	\$7,687.95
47	\$39,598.97	\$132.00	\$472.72	\$39,126.25	\$7,819.95
48	\$39,126.25	\$130.42	\$474.30	\$38,651.96	\$7,950.37
49	\$38,651.96	\$128.84	\$475.88	\$38,176.08	\$8,079.21
50	\$38,176.08	\$127.25	\$477.46	\$37,698.62	\$8,206.47
51	\$37,698.62	\$125.66	\$479.05	\$37,219.56	\$8,332.13
52	\$37,219.56	\$124.07	\$480.65	\$36,738.91	\$8,456.19
53	\$36,738.91	\$122.46	\$482.25	\$36,256.66	\$8,578.66
54	\$36,256.66	\$120.86	\$483.86	\$35,772.80	\$8,699.51
55	\$35,772.80	\$119.24	\$485.47	\$35,287.32	\$8,818.75
56	\$35,287.32	\$117.62	\$487.09	\$34,800.23	\$8,936.38
57	\$34,800.23	\$116.00	\$488.72	\$34,311.51	\$9,052.38
58	\$34,311.51	\$114.37	\$490.35	\$33,821.17	\$9,166.75
59	\$33,821.17	\$112.74	\$491.98	\$33,329.19	\$9,279.49
60	\$33,329.19	\$111.10	\$493.62	\$32,835.57	\$9,390.59
61	\$32,835.57	\$109.45	\$495.27	\$32,340.30	\$9,500.04
62	\$32,340.30	\$107.80	\$496.92	\$31,843.39	\$9,607.84
63	\$31,843.39	\$106.14	\$498.57	\$31,344.81	\$9,713.98
64	\$31,344.81	\$104.48	\$500.23	\$30,844.58	\$9,818.47
65	\$30,844.58	\$102.82	\$501.90	\$30,342.68	\$9,921.28
66	\$30,342.68	\$101.14	\$503.57	\$29,839.10	\$10,022.42
67	\$29,839.10	\$99.46	\$505.25	\$29,333.85	\$10,121.89
68	\$29,333.85	\$97.78	\$506.94	\$28,826.91	\$10,219.67
69	\$28,826.91	\$96.09	\$508.63	\$28,318.29	\$10,315.76



<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	98.77017486
\$59,728.00	4.00%	10	\$604.72	P = A/D	\$604.72

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$28,318.29	\$94.39	\$510.32	\$27,807.96	\$10,410.15
71	\$27,807.96	\$92.69	\$512.02	\$27,295.94	\$10,502.84
72	\$27,295.94	\$90.99	\$513.73	\$26,782.21	\$10,593.83
73	\$26,782.21	\$89.27	\$515.44	\$26,266.77	\$10,683.10
74	\$26,266.77	\$87.56	\$517.16	\$25,749.61	\$10,770.66
75	\$25,749.61	\$85.83	\$518.88	\$25,230.72	\$10,856.49
76	\$25,230.72	\$84.10	\$520.61	\$24,710.11	\$10,940.59
77	\$24,710.11	\$82.37	\$522.35	\$24,187.76	\$11,022.96
78	\$24,187.76	\$80.63	\$524.09	\$23,663.66	\$11,103.59
79	\$23,663.66	\$78.88	\$525.84	\$23,137.83	\$11,182.47
80	\$23,137.83	\$77.13	\$527.59	\$22,610.24	\$11,259.59
81	\$22,610.24	\$75.37	\$529.35	\$22,080.89	\$11,334.96
82	\$22,080.89	\$73.60	\$531.11	\$21,549.77	\$11,408.56
83	\$21,549.77	\$71.83	\$532.88	\$21,016.89	\$11,480.40
84	\$21,016.89	\$70.06	\$534.66	\$20,482.23	\$11,550.45
85	\$20,482.23	\$68.27	\$536.44	\$19,945.78	\$11,618.73
86	\$19,945.78	\$66.49	\$538.23	\$19,407.55	\$11,685.21
87	\$19,407.55	\$64.69	\$540.03	\$18,867.53	\$11,749.90
88	\$18,867.53	\$62.89	\$541.83	\$18,325.70	\$11,812.80
89	\$18,325.70	\$61.09	\$543.63	\$17,782.07	\$11,873.88
90	\$17,782.07	\$59.27	\$545.44	\$17,236.63	\$11,933.15
91	\$17,236.63	\$57.46	\$547.26	\$16,689.37	\$11,990.61
92	\$16,689.37	\$55.63	\$549.09	\$16,140.28	\$12,046.24
93	\$16,140.28	\$53.80	\$550.92	\$15,589.36	\$12,100.04
94	\$15,589.36	\$51.96	\$552.75	\$15,036.61	\$12,152.01
95	\$15,036.61	\$50.12	\$554.59	\$14,482.02	\$12,202.13
96	\$14,482.02	\$48.27	\$556.44	\$13,925.57	\$12,250.40
97	\$13,925.57	\$46.42	\$558.30	\$13,367.28	\$12,296.82
98	\$13,367.28	\$44.56	\$560.16	\$12,807.12	\$12,341.38
99	\$12,807.12	\$42.69	\$562.03	\$12,245.09	\$12,384.07
100	\$12,245.09	\$40.82	\$563.90	\$11,681.19	\$12,424.89
101	\$11,681.19	\$38.94	\$565.78	\$11,115.41	\$12,463.82
102	\$11,115.41	\$37.05	\$567.67	\$10,547.74	\$12,500.87
103	\$10,547.74	\$35.16	\$569.56	\$9,978.19	\$12,536.03
104	\$9,978.19	\$33.26	\$571.46	\$9,406.73	\$12,569.29
105	\$9,406.73	\$31.36	\$573.36	\$8,833.37	\$12,600.65
106	\$8,833.37	\$29.44	\$575.27	\$8,258.10	\$12,630.09
107	\$8,258.10	\$27.53	\$577.19	\$7,680.91	\$12,657.62
108	\$7,680.91	\$25.60	\$579.11	\$7,101.79	\$12,683.22
109	\$7,101.79	\$23.67	\$581.04	\$6,520.75	\$12,706.90
110	\$6,520.75	\$21.74	\$582.98	\$5,937.77	\$12,728.63
111	\$5,937.77	\$19.79	\$584.92	\$5,352.84	\$12,748.43
112	\$5,352.84	\$17.84	\$586.87	\$4,765.97	\$12,766.27
113	\$4,765.97	\$15.89	\$588.83	\$4,177.14	\$12,782.15
114	\$4,177.14	\$13.92	\$590.79	\$3,586.35	\$12,796.08
115	\$3,586.35	\$11.95	\$592.76	\$2,993.58	\$12,808.03
116	\$2,993.58	\$9.98	\$594.74	\$2,398.84	\$12,818.01
117	\$2,398.84	\$8.00	\$596.72	\$1,802.12	\$12,826.01
118	\$1,802.12	\$6.01	\$598.71	\$1,203.41	\$12,832.01
119	\$1,203.41	\$4.01	\$600.71	\$602.71	\$12,836.03
120	\$602.71	\$2.01	\$602.71	\$0.00	\$12,838.04

D (Discount Factor) = 135.1921487

P = A/D \$441.80

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	15	\$441.80

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$59,728.00	\$199.09	\$242.71	\$59,485.29	\$199.09
2	\$59,485.29	\$198.28	\$243.52	\$59,241.78	\$397.38
3	\$59,241.78	\$197.47	\$244.33	\$58,997.45	\$594.85
4	\$58,997.45	\$196.66	\$245.14	\$58,752.31	\$791.51
5	\$58,752.31	\$195.84	\$245.96	\$58,506.35	\$987.35
6	\$58,506.35	\$195.02	\$246.78	\$58,259.57	\$1,182.37
7	\$58,259.57	\$194.20	\$247.60	\$58,011.96	\$1,376.57
8	\$58,011.96	\$193.37	\$248.43	\$57,763.54	\$1,569.94
9	\$57,763.54	\$192.55	\$249.26	\$57,514.28	\$1,762.49
10	\$57,514.28	\$191.71	\$250.09	\$57,264.19	\$1,954.20
11	\$57,264.19	\$190.88	\$250.92	\$57,013.27	\$2,145.08
12	\$57,013.27	\$190.04	\$251.76	\$56,761.52	\$2,335.13
13	\$56,761.52	\$189.21	\$252.60	\$56,508.92	\$2,524.33
14	\$56,508.92	\$188.36	\$253.44	\$56,255.48	\$2,712.69
15	\$56,255.48	\$187.52	\$254.28	\$56,001.20	\$2,900.21
16	\$56,001.20	\$186.67	\$255.13	\$55,746.07	\$3,086.88
17	\$55,746.07	\$185.82	\$255.98	\$55,490.09	\$3,272.70
18	\$55,490.09	\$184.97	\$256.83	\$55,233.26	\$3,457.67
19	\$55,233.26	\$184.11	\$257.69	\$54,975.57	\$3,641.78
20	\$54,975.57	\$183.25	\$258.55	\$54,717.02	\$3,825.03
21	\$54,717.02	\$182.39	\$259.41	\$54,457.61	\$4,007.42
22	\$54,457.61	\$181.53	\$260.28	\$54,197.33	\$4,188.95
23	\$54,197.33	\$180.66	\$261.14	\$53,936.19	\$4,369.61
24	\$53,936.19	\$179.79	\$262.01	\$53,674.17	\$4,549.39
25	\$53,674.17	\$178.91	\$262.89	\$53,411.29	\$4,728.31
26	\$53,411.29	\$178.04	\$263.76	\$53,147.52	\$4,906.35
27	\$53,147.52	\$177.16	\$264.64	\$52,882.88	\$5,083.50
28	\$52,882.88	\$176.28	\$265.52	\$52,617.36	\$5,259.78
29	\$52,617.36	\$175.39	\$266.41	\$52,350.95	\$5,435.17
30	\$52,350.95	\$174.50	\$267.30	\$52,083.65	\$5,609.67
31	\$52,083.65	\$173.61	\$268.19	\$51,815.46	\$5,783.29
32	\$51,815.46	\$172.72	\$269.08	\$51,546.38	\$5,956.01
33	\$51,546.38	\$171.82	\$269.98	\$51,276.40	\$6,127.83
34	\$51,276.40	\$170.92	\$270.88	\$51,005.52	\$6,298.75
35	\$51,005.52	\$170.02	\$271.78	\$50,733.74	\$6,468.77
36	\$50,733.74	\$169.11	\$272.69	\$50,461.05	\$6,637.88
37	\$50,461.05	\$168.20	\$273.60	\$50,187.45	\$6,806.08
38	\$50,187.45	\$167.29	\$274.51	\$49,912.94	\$6,973.37
39	\$49,912.94	\$166.38	\$275.42	\$49,637.52	\$7,139.75
40	\$49,637.52	\$165.46	\$276.34	\$49,361.18	\$7,305.21
41	\$49,361.18	\$164.54	\$277.26	\$49,083.91	\$7,469.75
42	\$49,083.91	\$163.61	\$278.19	\$48,805.72	\$7,633.36
43	\$48,805.72	\$162.69	\$279.12	\$48,526.61	\$7,796.04
44	\$48,526.61	\$161.76	\$280.05	\$48,246.56	\$7,957.80
45	\$48,246.56	\$160.82	\$280.98	\$47,965.59	\$8,118.62
46	\$47,965.59	\$159.89	\$281.92	\$47,683.67	\$8,278.51
47	\$47,683.67	\$158.95	\$282.86	\$47,400.81	\$8,437.45
48	\$47,400.81	\$158.00	\$283.80	\$47,117.02	\$8,595.46
49	\$47,117.02	\$157.06	\$284.74	\$46,832.27	\$8,752.51
50	\$46,832.27	\$156.11	\$285.69	\$46,546.58	\$8,908.62
51	\$46,546.58	\$155.16	\$286.65	\$46,259.93	\$9,063.77
52	\$46,259.93	\$154.20	\$287.60	\$45,972.33	\$9,217.97
53	\$45,972.33	\$153.24	\$288.56	\$45,683.77	\$9,371.22
54	\$45,683.77	\$152.28	\$289.52	\$45,394.25	\$9,523.49
55	\$45,394.25	\$151.31	\$290.49	\$45,103.76	\$9,674.81
56	\$45,103.76	\$150.35	\$291.45	\$44,812.31	\$9,825.16
57	\$44,812.31	\$149.37	\$292.43	\$44,519.88	\$9,974.53
58	\$44,519.88	\$148.40	\$293.40	\$44,226.48	\$10,122.93
59	\$44,226.48	\$147.42	\$294.38	\$43,932.10	\$10,270.35
60	\$43,932.10	\$146.44	\$295.36	\$43,636.74	\$10,416.79
61	\$43,636.74	\$145.46	\$296.34	\$43,340.40	\$10,562.25
62	\$43,340.40	\$144.47	\$297.33	\$43,043.06	\$10,706.71
63	\$43,043.06	\$143.48	\$298.32	\$42,744.74	\$10,850.19
64	\$42,744.74	\$142.48	\$299.32	\$42,445.42	\$10,992.67
65	\$42,445.42	\$141.48	\$300.32	\$42,145.11	\$11,134.16
66	\$42,145.11	\$140.48	\$301.32	\$41,843.79	\$11,274.64
67	\$41,843.79	\$139.48	\$302.32	\$41,541.47	\$11,414.12
68	\$41,541.47	\$138.47	\$303.33	\$41,238.14	\$11,552.59
69	\$41,238.14	\$137.46	\$304.34	\$40,933.80	\$11,690.05

D (Discount Factor) = 135.1921487

P = A/D \$441.80

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	15	\$441.80

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$40,933.80	\$136.45	\$305.35	\$40,628.44	\$11,826.50
71	\$40,628.44	\$135.43	\$306.37	\$40,322.07	\$11,961.93
72	\$40,322.07	\$134.41	\$307.39	\$40,014.68	\$12,096.33
73	\$40,014.68	\$133.38	\$308.42	\$39,706.26	\$12,229.72
74	\$39,706.26	\$132.35	\$309.45	\$39,396.81	\$12,362.07
75	\$39,396.81	\$131.32	\$310.48	\$39,086.33	\$12,493.39
76	\$39,086.33	\$130.29	\$311.51	\$38,774.82	\$12,623.68
77	\$38,774.82	\$129.25	\$312.55	\$38,462.27	\$12,752.93
78	\$38,462.27	\$128.21	\$313.59	\$38,148.68	\$12,881.14
79	\$38,148.68	\$127.16	\$314.64	\$37,834.04	\$13,008.30
80	\$37,834.04	\$126.11	\$315.69	\$37,518.35	\$13,134.41
81	\$37,518.35	\$125.06	\$316.74	\$37,201.61	\$13,259.48
82	\$37,201.61	\$124.01	\$317.80	\$36,883.82	\$13,383.48
83	\$36,883.82	\$122.95	\$318.85	\$36,564.96	\$13,506.43
84	\$36,564.96	\$121.88	\$319.92	\$36,245.04	\$13,628.31
85	\$36,245.04	\$120.82	\$320.98	\$35,924.06	\$13,749.13
86	\$35,924.06	\$119.75	\$322.05	\$35,602.00	\$13,868.87
87	\$35,602.00	\$118.67	\$323.13	\$35,278.88	\$13,987.55
88	\$35,278.88	\$117.60	\$324.20	\$34,954.67	\$14,105.14
89	\$34,954.67	\$116.52	\$325.29	\$34,629.39	\$14,221.66
90	\$34,629.39	\$115.43	\$326.37	\$34,303.02	\$14,337.09
91	\$34,303.02	\$114.34	\$327.46	\$33,975.56	\$14,451.43
92	\$33,975.56	\$113.25	\$328.55	\$33,647.01	\$14,564.69
93	\$33,647.01	\$112.16	\$329.64	\$33,317.37	\$14,676.84
94	\$33,317.37	\$111.06	\$330.74	\$32,986.62	\$14,787.90
95	\$32,986.62	\$109.96	\$331.85	\$32,654.78	\$14,897.86
96	\$32,654.78	\$108.85	\$332.95	\$32,321.83	\$15,006.70
97	\$32,321.83	\$107.74	\$334.06	\$31,987.77	\$15,114.44
98	\$31,987.77	\$106.63	\$335.17	\$31,652.59	\$15,221.07
99	\$31,652.59	\$105.51	\$336.29	\$31,316.30	\$15,326.58
100	\$31,316.30	\$104.39	\$337.41	\$30,978.89	\$15,430.97
101	\$30,978.89	\$103.26	\$338.54	\$30,640.35	\$15,534.23
102	\$30,640.35	\$102.13	\$339.67	\$30,300.68	\$15,636.36
103	\$30,300.68	\$101.00	\$340.80	\$29,959.88	\$15,737.37
104	\$29,959.88	\$99.87	\$341.93	\$29,617.95	\$15,837.23
105	\$29,617.95	\$98.73	\$343.07	\$29,274.87	\$15,935.96
106	\$29,274.87	\$97.58	\$344.22	\$28,930.66	\$16,033.54
107	\$28,930.66	\$96.44	\$345.37	\$28,585.29	\$16,129.98
108	\$28,585.29	\$95.28	\$346.52	\$28,238.77	\$16,225.26
109	\$28,238.77	\$94.13	\$347.67	\$27,891.10	\$16,319.39
110	\$27,891.10	\$92.97	\$348.83	\$27,542.27	\$16,412.36
111	\$27,542.27	\$91.81	\$349.99	\$27,192.28	\$16,504.17
112	\$27,192.28	\$90.64	\$351.16	\$26,841.12	\$16,594.81
113	\$26,841.12	\$89.47	\$352.33	\$26,488.79	\$16,684.28
114	\$26,488.79	\$88.30	\$353.50	\$26,135.28	\$16,772.58
115	\$26,135.28	\$87.12	\$354.68	\$25,780.60	\$16,859.69
116	\$25,780.60	\$85.94	\$355.87	\$25,424.74	\$16,945.63
117	\$25,424.74	\$84.75	\$357.05	\$25,067.68	\$17,030.38
118	\$25,067.68	\$83.56	\$358.24	\$24,709.44	\$17,113.94
119	\$24,709.44	\$82.36	\$359.44	\$24,350.01	\$17,196.30
120	\$24,350.01	\$81.17	\$360.63	\$23,989.37	\$17,277.47
121	\$23,989.37	\$79.96	\$361.84	\$23,627.54	\$17,357.43
122	\$23,627.54	\$78.76	\$363.04	\$23,264.49	\$17,436.19
123	\$23,264.49	\$77.55	\$364.25	\$22,900.24	\$17,513.74
124	\$22,900.24	\$76.33	\$365.47	\$22,534.77	\$17,590.07
125	\$22,534.77	\$75.12	\$366.68	\$22,168.09	\$17,665.19
126	\$22,168.09	\$73.89	\$367.91	\$21,800.18	\$17,739.08
127	\$21,800.18	\$72.67	\$369.13	\$21,431.05	\$17,811.75
128	\$21,431.05	\$71.44	\$370.36	\$21,060.69	\$17,883.19
129	\$21,060.69	\$70.20	\$371.60	\$20,689.09	\$17,953.39
130	\$20,689.09	\$68.96	\$372.84	\$20,316.25	\$18,022.35
131	\$20,316.25	\$67.72	\$374.08	\$19,942.17	\$18,090.07
132	\$19,942.17	\$66.47	\$375.33	\$19,566.84	\$18,156.55
133	\$19,566.84	\$65.22	\$376.58	\$19,190.26	\$18,221.77
134	\$19,190.26	\$63.97	\$377.83	\$18,812.43	\$18,285.74
135	\$18,812.43	\$62.71	\$379.09	\$18,433.34	\$18,348.45
136	\$18,433.34	\$61.44	\$380.36	\$18,052.98	\$18,409.89
137	\$18,052.98	\$60.18	\$381.62	\$17,671.36	\$18,470.07
138	\$17,671.36	\$58.90	\$382.90	\$17,288.46	\$18,528.97
139	\$17,288.46	\$57.63	\$384.17	\$16,904.29	\$18,586.60
140	\$16,904.29	\$56.35	\$385.45	\$16,518.84	\$18,642.95
141	\$16,518.84	\$55.06	\$386.74	\$16,132.10	\$18,698.01
142	\$16,132.10	\$53.77	\$388.03	\$15,744.07	\$18,751.78
143	\$15,744.07	\$52.48	\$389.32	\$15,354.75	\$18,804.27

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	135.1921487
\$59,728.00	4.00%	15	\$441.80	P = A/D	\$441.80

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$15,354.75	\$51.18	\$390.62	\$14,964.13	\$18,855.45
145	\$14,964.13	\$49.88	\$391.92	\$14,572.21	\$18,905.33
146	\$14,572.21	\$48.57	\$393.23	\$14,178.98	\$18,953.90
147	\$14,178.98	\$47.26	\$394.54	\$13,784.45	\$19,001.17
148	\$13,784.45	\$45.95	\$395.85	\$13,388.59	\$19,047.11
149	\$13,388.59	\$44.63	\$397.17	\$12,991.42	\$19,091.74
150	\$12,991.42	\$43.30	\$398.50	\$12,592.93	\$19,135.05
151	\$12,592.93	\$41.98	\$399.82	\$12,193.10	\$19,177.02
152	\$12,193.10	\$40.64	\$401.16	\$11,791.94	\$19,217.67
153	\$11,791.94	\$39.31	\$402.49	\$11,389.45	\$19,256.97
154	\$11,389.45	\$37.96	\$403.84	\$10,985.61	\$19,294.94
155	\$10,985.61	\$36.62	\$405.18	\$10,580.43	\$19,331.56
156	\$10,580.43	\$35.27	\$406.53	\$10,173.90	\$19,366.83
157	\$10,173.90	\$33.91	\$407.89	\$9,766.01	\$19,400.74
158	\$9,766.01	\$32.55	\$409.25	\$9,356.76	\$19,433.29
159	\$9,356.76	\$31.19	\$410.61	\$8,946.15	\$19,464.48
160	\$8,946.15	\$29.82	\$411.98	\$8,534.17	\$19,494.30
161	\$8,534.17	\$28.45	\$413.35	\$8,120.82	\$19,522.75
162	\$8,120.82	\$27.07	\$414.73	\$7,706.09	\$19,549.82
163	\$7,706.09	\$25.69	\$416.11	\$7,289.97	\$19,575.50
164	\$7,289.97	\$24.30	\$417.50	\$6,872.47	\$19,599.80
165	\$6,872.47	\$22.91	\$418.89	\$6,453.58	\$19,622.71
166	\$6,453.58	\$21.51	\$420.29	\$6,033.29	\$19,644.22
167	\$6,033.29	\$20.11	\$421.69	\$5,611.60	\$19,664.34
168	\$5,611.60	\$18.71	\$423.10	\$5,188.51	\$19,683.04
169	\$5,188.51	\$17.30	\$424.51	\$4,764.00	\$19,700.34
170	\$4,764.00	\$15.88	\$425.92	\$4,338.08	\$19,716.22
171	\$4,338.08	\$14.46	\$427.34	\$3,910.74	\$19,730.68
172	\$3,910.74	\$13.04	\$428.77	\$3,481.97	\$19,743.71
173	\$3,481.97	\$11.61	\$430.19	\$3,051.78	\$19,755.32
174	\$3,051.78	\$10.17	\$431.63	\$2,620.15	\$19,765.49
175	\$2,620.15	\$8.73	\$433.07	\$2,187.08	\$19,774.23
176	\$2,187.08	\$7.29	\$434.51	\$1,752.57	\$19,781.52
177	\$1,752.57	\$5.84	\$435.96	\$1,316.62	\$19,787.36
178	\$1,316.62	\$4.39	\$437.41	\$879.20	\$19,791.75
179	\$879.20	\$2.93	\$438.87	\$440.33	\$19,794.68
180	\$440.33	\$1.47	\$440.33	\$0.00	\$19,796.14

D (Discount Factor) = 165.0218582

P = A/D \$361.94

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	20	\$361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$59,728.00	\$199.09	\$162.85	\$59,565.15	\$199.09
2	\$59,565.15	\$198.55	\$163.39	\$59,401.76	\$397.64
3	\$59,401.76	\$198.01	\$163.93	\$59,237.83	\$595.65
4	\$59,237.83	\$197.46	\$164.48	\$59,073.35	\$793.11
5	\$59,073.35	\$196.91	\$165.03	\$58,908.32	\$990.02
6	\$58,908.32	\$196.36	\$165.58	\$58,742.74	\$1,186.38
7	\$58,742.74	\$195.81	\$166.13	\$58,576.61	\$1,382.19
8	\$58,576.61	\$195.26	\$166.68	\$58,409.93	\$1,577.45
9	\$58,409.93	\$194.70	\$167.24	\$58,242.69	\$1,772.15
10	\$58,242.69	\$194.14	\$167.80	\$58,074.89	\$1,966.29
11	\$58,074.89	\$193.58	\$168.36	\$57,906.53	\$2,159.87
12	\$57,906.53	\$193.02	\$168.92	\$57,737.61	\$2,352.89
13	\$57,737.61	\$192.46	\$169.48	\$57,568.13	\$2,545.35
14	\$57,568.13	\$191.89	\$170.05	\$57,398.09	\$2,737.25
15	\$57,398.09	\$191.33	\$170.61	\$57,227.47	\$2,928.57
16	\$57,227.47	\$190.76	\$171.18	\$57,056.29	\$3,119.33
17	\$57,056.29	\$190.19	\$171.75	\$56,884.54	\$3,309.52
18	\$56,884.54	\$189.62	\$172.32	\$56,712.21	\$3,499.13
19	\$56,712.21	\$189.04	\$172.90	\$56,539.32	\$3,688.17
20	\$56,539.32	\$188.46	\$173.48	\$56,365.84	\$3,876.64
21	\$56,365.84	\$187.89	\$174.05	\$56,191.79	\$4,064.52
22	\$56,191.79	\$187.31	\$174.63	\$56,017.15	\$4,251.83
23	\$56,017.15	\$186.72	\$175.22	\$55,841.94	\$4,438.55
24	\$55,841.94	\$186.14	\$175.80	\$55,666.14	\$4,624.69
25	\$55,666.14	\$185.55	\$176.39	\$55,489.75	\$4,810.25
26	\$55,489.75	\$184.97	\$176.97	\$55,312.78	\$4,995.21
27	\$55,312.78	\$184.38	\$177.56	\$55,135.21	\$5,179.59
28	\$55,135.21	\$183.78	\$178.16	\$54,957.06	\$5,363.37
29	\$54,957.06	\$183.19	\$178.75	\$54,778.31	\$5,546.56
30	\$54,778.31	\$182.59	\$179.35	\$54,598.96	\$5,729.16
31	\$54,598.96	\$182.00	\$179.94	\$54,419.02	\$5,911.15
32	\$54,419.02	\$181.40	\$180.54	\$54,238.47	\$6,092.55
33	\$54,238.47	\$180.79	\$181.15	\$54,057.33	\$6,273.35
34	\$54,057.33	\$180.19	\$181.75	\$53,875.58	\$6,453.54
35	\$53,875.58	\$179.59	\$182.35	\$53,693.22	\$6,633.12
36	\$53,693.22	\$178.98	\$182.96	\$53,510.26	\$6,812.10
37	\$53,510.26	\$178.37	\$183.57	\$53,326.69	\$6,990.47
38	\$53,326.69	\$177.76	\$184.18	\$53,142.51	\$7,168.22
39	\$53,142.51	\$177.14	\$184.80	\$52,957.71	\$7,345.36
40	\$52,957.71	\$176.53	\$185.41	\$52,772.29	\$7,521.89
41	\$52,772.29	\$175.91	\$186.03	\$52,586.26	\$7,697.80
42	\$52,586.26	\$175.29	\$186.65	\$52,399.61	\$7,873.09
43	\$52,399.61	\$174.67	\$187.27	\$52,212.33	\$8,047.75
44	\$52,212.33	\$174.04	\$187.90	\$52,024.44	\$8,221.79
45	\$52,024.44	\$173.41	\$188.53	\$51,835.91	\$8,395.21
46	\$51,835.91	\$172.79	\$189.15	\$51,646.76	\$8,567.99
47	\$51,646.76	\$172.16	\$189.78	\$51,456.97	\$8,740.15
48	\$51,456.97	\$171.52	\$190.42	\$51,266.56	\$8,911.67
49	\$51,266.56	\$170.89	\$191.05	\$51,075.50	\$9,082.56
50	\$51,075.50	\$170.25	\$191.69	\$50,883.82	\$9,252.81
51	\$50,883.82	\$169.61	\$192.33	\$50,691.49	\$9,422.43
52	\$50,691.49	\$168.97	\$192.97	\$50,498.52	\$9,591.40
53	\$50,498.52	\$168.33	\$193.61	\$50,304.91	\$9,759.73
54	\$50,304.91	\$167.68	\$194.26	\$50,110.65	\$9,927.41
55	\$50,110.65	\$167.04	\$194.90	\$49,915.75	\$10,094.44
56	\$49,915.75	\$166.39	\$195.55	\$49,720.19	\$10,260.83
57	\$49,720.19	\$165.73	\$196.21	\$49,523.99	\$10,426.56
58	\$49,523.99	\$165.08	\$196.86	\$49,327.13	\$10,591.64
59	\$49,327.13	\$164.42	\$197.52	\$49,129.61	\$10,756.07
60	\$49,129.61	\$163.77	\$198.17	\$48,931.44	\$10,919.83
61	\$48,931.44	\$163.10	\$198.84	\$48,732.60	\$11,082.94
62	\$48,732.60	\$162.44	\$199.50	\$48,533.10	\$11,245.38
63	\$48,533.10	\$161.78	\$200.16	\$48,332.94	\$11,407.16
64	\$48,332.94	\$161.11	\$200.83	\$48,132.11	\$11,568.27
65	\$48,132.11	\$160.44	\$201.50	\$47,930.61	\$11,728.71
66	\$47,930.61	\$159.77	\$202.17	\$47,728.44	\$11,888.48
67	\$47,728.44	\$159.09	\$202.85	\$47,525.59	\$12,047.57
68	\$47,525.59	\$158.42	\$203.52	\$47,322.07	\$12,205.99
69	\$47,322.07	\$157.74	\$204.20	\$47,117.87	\$12,363.73



D (Discount Factor) = 165.0218582

P = A/D \$361.94

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	20	\$361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$47,117.87	\$157.06	\$204.88	\$46,912.99	\$12,520.79
71	\$46,912.99	\$156.38	\$205.56	\$46,707.43	\$12,677.17
72	\$46,707.43	\$155.69	\$206.25	\$46,501.18	\$12,832.86
73	\$46,501.18	\$155.00	\$206.94	\$46,294.25	\$12,987.86
74	\$46,294.25	\$154.31	\$207.63	\$46,086.62	\$13,142.17
75	\$46,086.62	\$153.62	\$208.32	\$45,878.30	\$13,295.80
76	\$45,878.30	\$152.93	\$209.01	\$45,669.29	\$13,448.72
77	\$45,669.29	\$152.23	\$209.71	\$45,459.58	\$13,600.96
78	\$45,459.58	\$151.53	\$210.41	\$45,249.17	\$13,752.49
79	\$45,249.17	\$150.83	\$211.11	\$45,038.06	\$13,903.32
80	\$45,038.06	\$150.13	\$211.81	\$44,826.25	\$14,053.45
81	\$44,826.25	\$149.42	\$212.52	\$44,613.73	\$14,202.87
82	\$44,613.73	\$148.71	\$213.23	\$44,400.50	\$14,351.58
83	\$44,400.50	\$148.00	\$213.94	\$44,186.57	\$14,499.58
84	\$44,186.57	\$147.29	\$214.65	\$43,971.91	\$14,646.87
85	\$43,971.91	\$146.57	\$215.37	\$43,756.55	\$14,793.44
86	\$43,756.55	\$145.86	\$216.08	\$43,540.46	\$14,939.30
87	\$43,540.46	\$145.13	\$216.81	\$43,323.66	\$15,084.43
88	\$43,323.66	\$144.41	\$217.53	\$43,106.13	\$15,228.84
89	\$43,106.13	\$143.69	\$218.25	\$42,887.88	\$15,372.53
90	\$42,887.88	\$142.96	\$218.98	\$42,668.90	\$15,515.49
91	\$42,668.90	\$142.23	\$219.71	\$42,449.19	\$15,657.72
92	\$42,449.19	\$141.50	\$220.44	\$42,228.74	\$15,799.22
93	\$42,228.74	\$140.76	\$221.18	\$42,007.57	\$15,939.98
94	\$42,007.57	\$140.03	\$221.91	\$41,785.65	\$16,080.01
95	\$41,785.65	\$139.29	\$222.65	\$41,563.00	\$16,219.29
96	\$41,563.00	\$138.54	\$223.40	\$41,339.60	\$16,357.83
97	\$41,339.60	\$137.80	\$224.14	\$41,115.46	\$16,495.63
98	\$41,115.46	\$137.05	\$224.89	\$40,890.57	\$16,632.68
99	\$40,890.57	\$136.30	\$225.64	\$40,664.93	\$16,768.99
100	\$40,664.93	\$135.55	\$226.39	\$40,438.54	\$16,904.54
101	\$40,438.54	\$134.80	\$227.14	\$40,211.40	\$17,039.33
102	\$40,211.40	\$134.04	\$227.90	\$39,983.50	\$17,173.37
103	\$39,983.50	\$133.28	\$228.66	\$39,754.83	\$17,306.65
104	\$39,754.83	\$132.52	\$229.42	\$39,525.41	\$17,439.16
105	\$39,525.41	\$131.75	\$230.19	\$39,295.22	\$17,570.91
106	\$39,295.22	\$130.98	\$230.96	\$39,064.27	\$17,701.90
107	\$39,064.27	\$130.21	\$231.73	\$38,832.54	\$17,832.11
108	\$38,832.54	\$129.44	\$232.50	\$38,600.04	\$17,961.55
109	\$38,600.04	\$128.67	\$233.27	\$38,366.77	\$18,090.22
110	\$38,366.77	\$127.89	\$234.05	\$38,132.72	\$18,218.11
111	\$38,132.72	\$127.11	\$234.83	\$37,897.89	\$18,345.22
112	\$37,897.89	\$126.33	\$235.61	\$37,662.27	\$18,471.55
113	\$37,662.27	\$125.54	\$236.40	\$37,425.88	\$18,597.09
114	\$37,425.88	\$124.75	\$237.19	\$37,188.69	\$18,721.84
115	\$37,188.69	\$123.96	\$237.98	\$36,950.71	\$18,845.80
116	\$36,950.71	\$123.17	\$238.77	\$36,711.94	\$18,968.97
117	\$36,711.94	\$122.37	\$239.57	\$36,472.37	\$19,091.34
118	\$36,472.37	\$121.57	\$240.37	\$36,232.01	\$19,212.92
119	\$36,232.01	\$120.77	\$241.17	\$35,990.84	\$19,333.69
120	\$35,990.84	\$119.97	\$241.97	\$35,748.87	\$19,453.66
121	\$35,748.87	\$119.16	\$242.78	\$35,506.09	\$19,572.82
122	\$35,506.09	\$118.35	\$243.59	\$35,262.51	\$19,691.18
123	\$35,262.51	\$117.54	\$244.40	\$35,018.11	\$19,808.72
124	\$35,018.11	\$116.73	\$245.21	\$34,772.90	\$19,925.45
125	\$34,772.90	\$115.91	\$246.03	\$34,526.87	\$20,041.36
126	\$34,526.87	\$115.09	\$246.85	\$34,280.02	\$20,156.45
127	\$34,280.02	\$114.27	\$247.67	\$34,032.34	\$20,270.71
128	\$34,032.34	\$113.44	\$248.50	\$33,783.84	\$20,384.15
129	\$33,783.84	\$112.61	\$249.33	\$33,534.52	\$20,496.77
130	\$33,534.52	\$111.78	\$250.16	\$33,284.36	\$20,608.55
131	\$33,284.36	\$110.95	\$250.99	\$33,033.37	\$20,719.50
132	\$33,033.37	\$110.11	\$251.83	\$32,781.54	\$20,829.61
133	\$32,781.54	\$109.27	\$252.67	\$32,528.87	\$20,938.88
134	\$32,528.87	\$108.43	\$253.51	\$32,275.36	\$21,047.31
135	\$32,275.36	\$107.58	\$254.36	\$32,021.00	\$21,154.89
136	\$32,021.00	\$106.74	\$255.20	\$31,765.80	\$21,261.63
137	\$31,765.80	\$105.89	\$256.05	\$31,509.75	\$21,367.52
138	\$31,509.75	\$105.03	\$256.91	\$31,252.84	\$21,472.55
139	\$31,252.84	\$104.18	\$257.76	\$30,995.07	\$21,576.73
140	\$30,995.07	\$103.32	\$258.62	\$30,736.45	\$21,680.04
141	\$30,736.45	\$102.45	\$259.49	\$30,476.97	\$21,782.50
142	\$30,476.97	\$101.59	\$260.35	\$30,216.62	\$21,884.09
143	\$30,216.62	\$100.72	\$261.22	\$29,955.40	\$21,984.81



D (Discount Factor) = 165.0218582

P = A/D \$361.94

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$59,728.00	4.00%	20	\$361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$29,955.40	\$99.85	\$262.09	\$29,693.31	\$22,084.66
145	\$29,693.31	\$98.98	\$262.96	\$29,430.35	\$22,183.64
146	\$29,430.35	\$98.10	\$263.84	\$29,166.51	\$22,281.74
147	\$29,166.51	\$97.22	\$264.72	\$28,901.79	\$22,378.96
148	\$28,901.79	\$96.34	\$265.60	\$28,636.19	\$22,475.30
149	\$28,636.19	\$95.45	\$266.49	\$28,369.70	\$22,570.75
150	\$28,369.70	\$94.57	\$267.37	\$28,102.33	\$22,665.32
151	\$28,102.33	\$93.67	\$268.27	\$27,834.06	\$22,758.99
152	\$27,834.06	\$92.78	\$269.16	\$27,564.90	\$22,851.77
153	\$27,564.90	\$91.88	\$270.06	\$27,294.85	\$22,943.66
154	\$27,294.85	\$90.98	\$270.96	\$27,023.89	\$23,034.64
155	\$27,023.89	\$90.08	\$271.86	\$26,752.03	\$23,124.72
156	\$26,752.03	\$89.17	\$272.77	\$26,479.26	\$23,213.89
157	\$26,479.26	\$88.26	\$273.68	\$26,205.59	\$23,302.16
158	\$26,205.59	\$87.35	\$274.59	\$25,931.00	\$23,389.51
159	\$25,931.00	\$86.44	\$275.50	\$25,655.50	\$23,475.95
160	\$25,655.50	\$85.52	\$276.42	\$25,379.08	\$23,561.46
161	\$25,379.08	\$84.60	\$277.34	\$25,101.73	\$23,646.06
162	\$25,101.73	\$83.67	\$278.27	\$24,823.46	\$23,729.73
163	\$24,823.46	\$82.74	\$279.20	\$24,544.27	\$23,812.48
164	\$24,544.27	\$81.81	\$280.13	\$24,264.14	\$23,894.29
165	\$24,264.14	\$80.88	\$281.06	\$23,983.08	\$23,975.17
166	\$23,983.08	\$79.94	\$282.00	\$23,701.09	\$24,055.12
167	\$23,701.09	\$79.00	\$282.94	\$23,418.15	\$24,134.12
168	\$23,418.15	\$78.06	\$283.88	\$23,134.27	\$24,212.18
169	\$23,134.27	\$77.11	\$284.83	\$22,849.45	\$24,289.30
170	\$22,849.45	\$76.16	\$285.78	\$22,563.67	\$24,365.46
171	\$22,563.67	\$75.21	\$286.73	\$22,276.94	\$24,440.67
172	\$22,276.94	\$74.26	\$287.68	\$21,989.26	\$24,514.93
173	\$21,989.26	\$73.30	\$288.64	\$21,700.62	\$24,588.23
174	\$21,700.62	\$72.34	\$289.60	\$21,411.01	\$24,660.56
175	\$21,411.01	\$71.37	\$290.57	\$21,120.44	\$24,731.93
176	\$21,120.44	\$70.40	\$291.54	\$20,828.91	\$24,802.33
177	\$20,828.91	\$69.43	\$292.51	\$20,536.40	\$24,871.76
178	\$20,536.40	\$68.45	\$293.49	\$20,242.91	\$24,940.22
179	\$20,242.91	\$67.48	\$294.46	\$19,948.45	\$25,007.69
180	\$19,948.45	\$66.49	\$295.45	\$19,653.00	\$25,074.19
181	\$19,653.00	\$65.51	\$296.43	\$19,356.57	\$25,139.70
182	\$19,356.57	\$64.52	\$297.42	\$19,059.15	\$25,204.22
183	\$19,059.15	\$63.53	\$298.41	\$18,760.74	\$25,267.75
184	\$18,760.74	\$62.54	\$299.40	\$18,461.34	\$25,330.29
185	\$18,461.34	\$61.54	\$300.40	\$18,160.94	\$25,391.82
186	\$18,160.94	\$60.54	\$301.40	\$17,859.53	\$25,452.36
187	\$17,859.53	\$59.53	\$302.41	\$17,557.13	\$25,511.89
188	\$17,557.13	\$58.52	\$303.42	\$17,253.71	\$25,570.42
189	\$17,253.71	\$57.51	\$304.43	\$16,949.28	\$25,627.93
190	\$16,949.28	\$56.50	\$305.44	\$16,643.84	\$25,684.43
191	\$16,643.84	\$55.48	\$306.46	\$16,337.38	\$25,739.91
192	\$16,337.38	\$54.46	\$307.48	\$16,029.90	\$25,794.36
193	\$16,029.90	\$53.43	\$308.51	\$15,721.39	\$25,847.80
194	\$15,721.39	\$52.40	\$309.54	\$15,411.86	\$25,900.20
195	\$15,411.86	\$51.37	\$310.57	\$15,101.29	\$25,951.57
196	\$15,101.29	\$50.34	\$311.60	\$14,789.69	\$26,001.91
197	\$14,789.69	\$49.30	\$312.64	\$14,477.04	\$26,051.21
198	\$14,477.04	\$48.26	\$313.68	\$14,163.36	\$26,099.47
199	\$14,163.36	\$47.21	\$314.73	\$13,848.63	\$26,146.68
200	\$13,848.63	\$46.16	\$315.78	\$13,532.86	\$26,192.84
201	\$13,532.86	\$45.11	\$316.83	\$13,216.02	\$26,237.95
202	\$13,216.02	\$44.05	\$317.89	\$12,898.14	\$26,282.00
203	\$12,898.14	\$42.99	\$318.95	\$12,579.19	\$26,325.00
204	\$12,579.19	\$41.93	\$320.01	\$12,259.18	\$26,366.93
205	\$12,259.18	\$40.86	\$321.08	\$11,938.11	\$26,407.79
206	\$11,938.11	\$39.79	\$322.15	\$11,615.96	\$26,447.59
207	\$11,615.96	\$38.72	\$323.22	\$11,292.74	\$26,486.31
208	\$11,292.74	\$37.64	\$324.30	\$10,968.44	\$26,523.95
209	\$10,968.44	\$36.56	\$325.38	\$10,643.06	\$26,560.51
210	\$10,643.06	\$35.48	\$326.46	\$10,316.60	\$26,595.99
211	\$10,316.60	\$34.39	\$327.55	\$9,989.05	\$26,630.38
212	\$9,989.05	\$33.30	\$328.64	\$9,660.41	\$26,663.67
213	\$9,660.41	\$32.20	\$329.74	\$9,330.67	\$26,695.87
214	\$9,330.67	\$31.10	\$330.84	\$8,999.83	\$26,726.98
215	\$8,999.83	\$30.00	\$331.94	\$8,667.89	\$26,756.98
216	\$8,667.89	\$28.89	\$333.05	\$8,334.84	\$26,785.87
217	\$8,334.84	\$27.78	\$334.16	\$8,000.69	\$26,813.65

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	165.0218582
\$59,728.00	4.00%	20	\$361.94	P = A/D	\$361.94

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	\$8,000.69	\$26.67	\$335.27	\$7,665.42	\$26,840.32
219	\$7,665.42	\$25.55	\$336.39	\$7,329.03	\$26,865.87
220	\$7,329.03	\$24.43	\$337.51	\$6,991.52	\$26,890.30
221	\$6,991.52	\$23.31	\$338.63	\$6,652.88	\$26,913.61
222	\$6,652.88	\$22.18	\$339.76	\$6,313.12	\$26,935.78
223	\$6,313.12	\$21.04	\$340.90	\$5,972.22	\$26,956.83
224	\$5,972.22	\$19.91	\$342.03	\$5,630.19	\$26,976.73
225	\$5,630.19	\$18.77	\$343.17	\$5,287.02	\$26,995.50
226	\$5,287.02	\$17.62	\$344.32	\$4,942.70	\$27,013.13
227	\$4,942.70	\$16.48	\$345.46	\$4,597.24	\$27,029.60
228	\$4,597.24	\$15.32	\$346.62	\$4,250.62	\$27,044.92
229	\$4,250.62	\$14.17	\$347.77	\$3,902.85	\$27,059.09
230	\$3,902.85	\$13.01	\$348.93	\$3,553.92	\$27,072.10
231	\$3,553.92	\$11.85	\$350.09	\$3,203.83	\$27,083.95
232	\$3,203.83	\$10.68	\$351.26	\$2,852.56	\$27,094.63
233	\$2,852.56	\$9.51	\$352.43	\$2,500.13	\$27,104.14
234	\$2,500.13	\$8.33	\$353.61	\$2,146.53	\$27,112.47
235	\$2,146.53	\$7.16	\$354.78	\$1,791.74	\$27,119.63
236	\$1,791.74	\$5.97	\$355.97	\$1,435.78	\$27,125.60
237	\$1,435.78	\$4.79	\$357.15	\$1,078.62	\$27,130.38
238	\$1,078.62	\$3.60	\$358.34	\$720.28	\$27,133.98
239	\$720.28	\$2.40	\$359.54	\$360.74	\$27,136.38
240	\$360.74	\$1.20	\$360.74	\$0.00	\$27,137.58

D (Discount Factor) = 98.77017486

P = A/D \$526.71

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$52,023.00	4.00%	10	\$526.71

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$52,023.00	\$173.41	\$353.30	\$51,669.70	\$173.41
2	\$51,669.70	\$172.23	\$354.48	\$51,315.23	\$345.64
3	\$51,315.23	\$171.05	\$355.66	\$50,959.57	\$516.69
4	\$50,959.57	\$169.87	\$356.84	\$50,602.73	\$686.56
5	\$50,602.73	\$168.68	\$358.03	\$50,244.70	\$855.23
6	\$50,244.70	\$167.48	\$359.23	\$49,885.47	\$1,022.72
7	\$49,885.47	\$166.28	\$360.42	\$49,525.05	\$1,189.00
8	\$49,525.05	\$165.08	\$361.62	\$49,163.42	\$1,354.08
9	\$49,163.42	\$163.88	\$362.83	\$48,800.59	\$1,517.96
10	\$48,800.59	\$162.67	\$364.04	\$48,436.56	\$1,680.63
11	\$48,436.56	\$161.46	\$365.25	\$48,071.30	\$1,842.09
12	\$48,071.30	\$160.24	\$366.47	\$47,704.83	\$2,002.32
13	\$47,704.83	\$159.02	\$367.69	\$47,337.14	\$2,161.34
14	\$47,337.14	\$157.79	\$368.92	\$46,968.22	\$2,319.13
15	\$46,968.22	\$156.56	\$370.15	\$46,598.08	\$2,475.69
16	\$46,598.08	\$155.33	\$371.38	\$46,226.70	\$2,631.02
17	\$46,226.70	\$154.09	\$372.62	\$45,854.08	\$2,785.11
18	\$45,854.08	\$152.85	\$373.86	\$45,480.22	\$2,937.95
19	\$45,480.22	\$151.60	\$375.11	\$45,105.11	\$3,089.56
20	\$45,105.11	\$150.35	\$376.36	\$44,728.75	\$3,239.91
21	\$44,728.75	\$149.10	\$377.61	\$44,351.14	\$3,389.00
22	\$44,351.14	\$147.84	\$378.87	\$43,972.27	\$3,536.84
23	\$43,972.27	\$146.57	\$380.13	\$43,592.14	\$3,683.41
24	\$43,592.14	\$145.31	\$381.40	\$43,210.74	\$3,828.72
25	\$43,210.74	\$144.04	\$382.67	\$42,828.07	\$3,972.76
26	\$42,828.07	\$142.76	\$383.95	\$42,444.12	\$4,115.52
27	\$42,444.12	\$141.48	\$385.23	\$42,058.89	\$4,257.00
28	\$42,058.89	\$140.20	\$386.51	\$41,672.38	\$4,397.19
29	\$41,672.38	\$138.91	\$387.80	\$41,284.58	\$4,536.10
30	\$41,284.58	\$137.62	\$389.09	\$40,895.49	\$4,673.72
31	\$40,895.49	\$136.32	\$390.39	\$40,505.10	\$4,810.03
32	\$40,505.10	\$135.02	\$391.69	\$40,113.41	\$4,945.05
33	\$40,113.41	\$133.71	\$393.00	\$39,720.41	\$5,078.76
34	\$39,720.41	\$132.40	\$394.31	\$39,326.11	\$5,211.16
35	\$39,326.11	\$131.09	\$395.62	\$38,930.49	\$5,342.25
36	\$38,930.49	\$129.77	\$396.94	\$38,533.55	\$5,472.02
37	\$38,533.55	\$128.45	\$398.26	\$38,135.28	\$5,600.46
38	\$38,135.28	\$127.12	\$399.59	\$37,735.69	\$5,727.58
39	\$37,735.69	\$125.79	\$400.92	\$37,334.77	\$5,853.37
40	\$37,334.77	\$124.45	\$402.26	\$36,932.51	\$5,977.82
41	\$36,932.51	\$123.11	\$403.60	\$36,528.91	\$6,100.93
42	\$36,528.91	\$121.76	\$404.94	\$36,123.97	\$6,222.69
43	\$36,123.97	\$120.41	\$406.29	\$35,717.68	\$6,343.10
44	\$35,717.68	\$119.06	\$407.65	\$35,310.03	\$6,462.16
45	\$35,310.03	\$117.70	\$409.01	\$34,901.02	\$6,579.86
46	\$34,901.02	\$116.34	\$410.37	\$34,490.65	\$6,696.20
47	\$34,490.65	\$114.97	\$411.74	\$34,078.91	\$6,811.17
48	\$34,078.91	\$113.60	\$413.11	\$33,665.80	\$6,924.76
49	\$33,665.80	\$112.22	\$414.49	\$33,251.31	\$7,036.98
50	\$33,251.31	\$110.84	\$415.87	\$32,835.44	\$7,147.82
51	\$32,835.44	\$109.45	\$417.26	\$32,418.18	\$7,257.27
52	\$32,418.18	\$108.06	\$418.65	\$31,999.54	\$7,365.33
53	\$31,999.54	\$106.67	\$420.04	\$31,579.49	\$7,472.00
54	\$31,579.49	\$105.26	\$421.44	\$31,158.05	\$7,577.26
55	\$31,158.05	\$103.86	\$422.85	\$30,735.20	\$7,681.12
56	\$30,735.20	\$102.45	\$424.26	\$30,310.95	\$7,783.57
57	\$30,310.95	\$101.04	\$425.67	\$29,885.28	\$7,884.61
58	\$29,885.28	\$99.62	\$427.09	\$29,458.19	\$7,984.23
59	\$29,458.19	\$98.19	\$428.51	\$29,029.67	\$8,082.42
60	\$29,029.67	\$96.77	\$429.94	\$28,599.73	\$8,179.19
61	\$28,599.73	\$95.33	\$431.38	\$28,168.36	\$8,274.52
62	\$28,168.36	\$93.89	\$432.81	\$27,735.54	\$8,368.41
63	\$27,735.54	\$92.45	\$434.26	\$27,301.29	\$8,460.87
64	\$27,301.29	\$91.00	\$435.70	\$26,865.58	\$8,551.87
65	\$26,865.58	\$89.55	\$437.16	\$26,428.43	\$8,641.42
66	\$26,428.43	\$88.09	\$438.61	\$25,989.82	\$8,729.52
67	\$25,989.82	\$86.63	\$440.07	\$25,549.74	\$8,816.15
68	\$25,549.74	\$85.17	\$441.54	\$25,108.20	\$8,901.31
69	\$25,108.20	\$83.69	\$443.01	\$24,665.19	\$8,985.01

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	98.77017486
\$52,023.00	4.00%	10	\$526.71	P = A/D	\$526.71

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
70	\$24,665.19	\$82.22	\$444.49	\$24,220.70	\$9,067.23
71	\$24,220.70	\$80.74	\$445.97	\$23,774.72	\$9,147.96
72	\$23,774.72	\$79.25	\$447.46	\$23,327.26	\$9,227.21
73	\$23,327.26	\$77.76	\$448.95	\$22,878.31	\$9,304.97
74	\$22,878.31	\$76.26	\$450.45	\$22,427.87	\$9,381.23
75	\$22,427.87	\$74.76	\$451.95	\$21,975.92	\$9,455.99
76	\$21,975.92	\$73.25	\$453.45	\$21,522.47	\$9,529.24
77	\$21,522.47	\$71.74	\$454.97	\$21,067.50	\$9,600.98
78	\$21,067.50	\$70.22	\$456.48	\$20,611.02	\$9,671.21
79	\$20,611.02	\$68.70	\$458.00	\$20,153.01	\$9,739.91
80	\$20,153.01	\$67.18	\$459.53	\$19,693.48	\$9,807.09
81	\$19,693.48	\$65.64	\$461.06	\$19,232.42	\$9,872.73
82	\$19,232.42	\$64.11	\$462.60	\$18,769.82	\$9,936.84
83	\$18,769.82	\$62.57	\$464.14	\$18,305.68	\$9,999.41
84	\$18,305.68	\$61.02	\$465.69	\$17,839.99	\$10,060.43
85	\$17,839.99	\$59.47	\$467.24	\$17,372.75	\$10,119.89
86	\$17,372.75	\$57.91	\$468.80	\$16,903.95	\$10,177.80
87	\$16,903.95	\$56.35	\$470.36	\$16,433.59	\$10,234.15
88	\$16,433.59	\$54.78	\$471.93	\$15,961.66	\$10,288.93
89	\$15,961.66	\$53.21	\$473.50	\$15,488.16	\$10,342.13
90	\$15,488.16	\$51.63	\$475.08	\$15,013.08	\$10,393.76
91	\$15,013.08	\$50.04	\$476.66	\$14,536.41	\$10,443.80
92	\$14,536.41	\$48.45	\$478.25	\$14,058.16	\$10,492.26
93	\$14,058.16	\$46.86	\$479.85	\$13,578.31	\$10,539.12
94	\$13,578.31	\$45.26	\$481.45	\$13,096.87	\$10,584.38
95	\$13,096.87	\$43.66	\$483.05	\$12,613.82	\$10,628.04
96	\$12,613.82	\$42.05	\$484.66	\$12,129.15	\$10,670.08
97	\$12,129.15	\$40.43	\$486.28	\$11,642.88	\$10,710.51
98	\$11,642.88	\$38.81	\$487.90	\$11,154.98	\$10,749.32
99	\$11,154.98	\$37.18	\$489.52	\$10,665.45	\$10,786.51
100	\$10,665.45	\$35.55	\$491.16	\$10,174.30	\$10,822.06
101	\$10,174.30	\$33.91	\$492.79	\$9,681.51	\$10,855.97
102	\$9,681.51	\$32.27	\$494.44	\$9,187.07	\$10,888.24
103	\$9,187.07	\$30.62	\$496.08	\$8,690.99	\$10,918.87
104	\$8,690.99	\$28.97	\$497.74	\$8,193.25	\$10,947.84
105	\$8,193.25	\$27.31	\$499.40	\$7,693.85	\$10,975.15
106	\$7,693.85	\$25.65	\$501.06	\$7,192.79	\$11,000.79
107	\$7,192.79	\$23.98	\$502.73	\$6,690.06	\$11,024.77
108	\$6,690.06	\$22.30	\$504.41	\$6,185.65	\$11,047.07
109	\$6,185.65	\$20.62	\$506.09	\$5,679.56	\$11,067.69
110	\$5,679.56	\$18.93	\$507.78	\$5,171.79	\$11,086.62
111	\$5,171.79	\$17.24	\$509.47	\$4,662.32	\$11,103.86
112	\$4,662.32	\$15.54	\$511.17	\$4,151.15	\$11,119.40
113	\$4,151.15	\$13.84	\$512.87	\$3,638.28	\$11,133.24
114	\$3,638.28	\$12.13	\$514.58	\$3,123.70	\$11,145.37
115	\$3,123.70	\$10.41	\$516.30	\$2,607.41	\$11,155.78
116	\$2,607.41	\$8.69	\$518.02	\$2,089.39	\$11,164.47
117	\$2,089.39	\$6.96	\$519.74	\$1,569.65	\$11,171.43
118	\$1,569.65	\$5.23	\$521.48	\$1,048.17	\$11,176.67
119	\$1,048.17	\$3.49	\$523.21	\$524.96	\$11,180.16
120	\$524.96	\$1.75	\$524.96	\$0.00	\$11,181.91

D (Discount Factor) = 135.1921487

P = A/D \$384.81

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$52,023.00	4.00%	15	\$384.81

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
1	\$52,023.00	\$173.41	\$211.40	\$51,811.60	\$173.41
2	\$51,811.60	\$172.71	\$212.10	\$51,599.50	\$346.12
3	\$51,599.50	\$172.00	\$212.81	\$51,386.69	\$518.11
4	\$51,386.69	\$171.29	\$213.52	\$51,173.17	\$689.40
5	\$51,173.17	\$170.58	\$214.23	\$50,958.94	\$859.98
6	\$50,958.94	\$169.86	\$214.94	\$50,744.00	\$1,029.84
7	\$50,744.00	\$169.15	\$215.66	\$50,528.33	\$1,198.99
8	\$50,528.33	\$168.43	\$216.38	\$50,311.95	\$1,367.42
9	\$50,311.95	\$167.71	\$217.10	\$50,094.85	\$1,535.12
10	\$50,094.85	\$166.98	\$217.83	\$49,877.03	\$1,702.11
11	\$49,877.03	\$166.26	\$218.55	\$49,658.48	\$1,868.36
12	\$49,658.48	\$165.53	\$219.28	\$49,439.20	\$2,033.89
13	\$49,439.20	\$164.80	\$220.01	\$49,219.19	\$2,198.69
14	\$49,219.19	\$164.06	\$220.74	\$48,998.44	\$2,362.75
15	\$48,998.44	\$163.33	\$221.48	\$48,776.96	\$2,526.08
16	\$48,776.96	\$162.59	\$222.22	\$48,554.75	\$2,688.67
17	\$48,554.75	\$161.85	\$222.96	\$48,331.79	\$2,850.52
18	\$48,331.79	\$161.11	\$223.70	\$48,108.08	\$3,011.63
19	\$48,108.08	\$160.36	\$224.45	\$47,883.64	\$3,171.99
20	\$47,883.64	\$159.61	\$225.20	\$47,658.44	\$3,331.60
21	\$47,658.44	\$158.86	\$225.95	\$47,432.50	\$3,490.46
22	\$47,432.50	\$158.11	\$226.70	\$47,205.80	\$3,648.57
23	\$47,205.80	\$157.35	\$227.46	\$46,978.34	\$3,805.92
24	\$46,978.34	\$156.59	\$228.21	\$46,750.13	\$3,962.52
25	\$46,750.13	\$155.83	\$228.97	\$46,521.15	\$4,118.35
26	\$46,521.15	\$155.07	\$229.74	\$46,291.42	\$4,273.42
27	\$46,291.42	\$154.30	\$230.50	\$46,060.91	\$4,427.72
28	\$46,060.91	\$153.54	\$231.27	\$45,829.64	\$4,581.26
29	\$45,829.64	\$152.77	\$232.04	\$45,597.60	\$4,734.03
30	\$45,597.60	\$151.99	\$232.82	\$45,364.78	\$4,886.02
31	\$45,364.78	\$151.22	\$233.59	\$45,131.19	\$5,037.23
32	\$45,131.19	\$150.44	\$234.37	\$44,896.82	\$5,187.67
33	\$44,896.82	\$149.66	\$235.15	\$44,661.67	\$5,337.33
34	\$44,661.67	\$148.87	\$235.94	\$44,425.73	\$5,486.20
35	\$44,425.73	\$148.09	\$236.72	\$44,189.01	\$5,634.29
36	\$44,189.01	\$147.30	\$237.51	\$43,951.50	\$5,781.58
37	\$43,951.50	\$146.50	\$238.30	\$43,713.20	\$5,928.09
38	\$43,713.20	\$145.71	\$239.10	\$43,474.10	\$6,073.80
39	\$43,474.10	\$144.91	\$239.89	\$43,234.21	\$6,218.71
40	\$43,234.21	\$144.11	\$240.69	\$42,993.51	\$6,362.83
41	\$42,993.51	\$143.31	\$241.50	\$42,752.02	\$6,506.14
42	\$42,752.02	\$142.51	\$242.30	\$42,509.71	\$6,648.64
43	\$42,509.71	\$141.70	\$243.11	\$42,266.61	\$6,790.34
44	\$42,266.61	\$140.89	\$243.92	\$42,022.69	\$6,931.23
45	\$42,022.69	\$140.08	\$244.73	\$41,777.95	\$7,071.31
46	\$41,777.95	\$139.26	\$245.55	\$41,532.41	\$7,210.57
47	\$41,532.41	\$138.44	\$246.37	\$41,286.04	\$7,349.01
48	\$41,286.04	\$137.62	\$247.19	\$41,038.85	\$7,486.63
49	\$41,038.85	\$136.80	\$248.01	\$40,790.84	\$7,623.43
50	\$40,790.84	\$135.97	\$248.84	\$40,542.00	\$7,759.39
51	\$40,542.00	\$135.14	\$249.67	\$40,292.33	\$7,894.53
52	\$40,292.33	\$134.31	\$250.50	\$40,041.83	\$8,028.84
53	\$40,041.83	\$133.47	\$251.34	\$39,790.50	\$8,162.32
54	\$39,790.50	\$132.63	\$252.17	\$39,538.33	\$8,294.95
55	\$39,538.33	\$131.79	\$253.01	\$39,285.31	\$8,426.74
56	\$39,285.31	\$130.95	\$253.86	\$39,031.46	\$8,557.70
57	\$39,031.46	\$130.10	\$254.70	\$38,776.75	\$8,687.80
58	\$38,776.75	\$129.26	\$255.55	\$38,521.20	\$8,817.06
59	\$38,521.20	\$128.40	\$256.40	\$38,264.80	\$8,945.46
60	\$38,264.80	\$127.55	\$257.26	\$38,007.54	\$9,073.01
61	\$38,007.54	\$126.69	\$258.12	\$37,749.42	\$9,199.70
62	\$37,749.42	\$125.83	\$258.98	\$37,490.45	\$9,325.53
63	\$37,490.45	\$124.97	\$259.84	\$37,230.61	\$9,450.50
64	\$37,230.61	\$124.10	\$260.71	\$36,969.90	\$9,574.60
65	\$36,969.90	\$123.23	\$261.57	\$36,708.33	\$9,697.84
66	\$36,708.33	\$122.36	\$262.45	\$36,445.88	\$9,820.20
67	\$36,445.88	\$121.49	\$263.32	\$36,182.56	\$9,941.68
68	\$36,182.56	\$120.61	\$264.20	\$35,918.36	\$10,062.29
69	\$35,918.36	\$119.73	\$265.08	\$35,653.28	\$10,182.02



D (Discount Factor) = 135.1921487

P = A/D \$384.81

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$52,023.00	4.00%	15	\$384.81

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
70	\$35,653.28	\$118.84	\$265.96	\$35,387.31	\$10,300.86
71	\$35,387.31	\$117.96	\$266.85	\$35,120.46	\$10,418.82
72	\$35,120.46	\$117.07	\$267.74	\$34,852.72	\$10,535.89
73	\$34,852.72	\$116.18	\$268.63	\$34,584.09	\$10,652.07
74	\$34,584.09	\$115.28	\$269.53	\$34,314.57	\$10,767.35
75	\$34,314.57	\$114.38	\$270.43	\$34,044.14	\$10,881.73
76	\$34,044.14	\$113.48	\$271.33	\$33,772.81	\$10,995.21
77	\$33,772.81	\$112.58	\$272.23	\$33,500.58	\$11,107.78
78	\$33,500.58	\$111.67	\$273.14	\$33,227.44	\$11,219.45
79	\$33,227.44	\$110.76	\$274.05	\$32,953.39	\$11,330.21
80	\$32,953.39	\$109.84	\$274.96	\$32,678.43	\$11,440.06
81	\$32,678.43	\$108.93	\$275.88	\$32,402.55	\$11,548.98
82	\$32,402.55	\$108.01	\$276.80	\$32,125.75	\$11,656.99
83	\$32,125.75	\$107.09	\$277.72	\$31,848.03	\$11,764.08
84	\$31,848.03	\$106.16	\$278.65	\$31,569.38	\$11,870.24
85	\$31,569.38	\$105.23	\$279.58	\$31,289.80	\$11,975.47
86	\$31,289.80	\$104.30	\$280.51	\$31,009.29	\$12,079.77
87	\$31,009.29	\$103.36	\$281.44	\$30,727.85	\$12,183.13
88	\$30,727.85	\$102.43	\$282.38	\$30,445.47	\$12,285.56
89	\$30,445.47	\$101.48	\$283.32	\$30,162.15	\$12,387.04
90	\$30,162.15	\$100.54	\$284.27	\$29,877.88	\$12,487.58
91	\$29,877.88	\$99.59	\$285.21	\$29,592.66	\$12,587.18
92	\$29,592.66	\$98.64	\$286.17	\$29,306.50	\$12,685.82
93	\$29,306.50	\$97.69	\$287.12	\$29,019.38	\$12,783.51
94	\$29,019.38	\$96.73	\$288.08	\$28,731.30	\$12,880.24
95	\$28,731.30	\$95.77	\$289.04	\$28,442.26	\$12,976.01
96	\$28,442.26	\$94.81	\$290.00	\$28,152.26	\$13,070.82
97	\$28,152.26	\$93.84	\$290.97	\$27,861.30	\$13,164.66
98	\$27,861.30	\$92.87	\$291.94	\$27,569.36	\$13,257.53
99	\$27,569.36	\$91.90	\$292.91	\$27,276.45	\$13,349.43
100	\$27,276.45	\$90.92	\$293.89	\$26,982.56	\$13,440.35
101	\$26,982.56	\$89.94	\$294.87	\$26,687.70	\$13,530.29
102	\$26,687.70	\$88.96	\$295.85	\$26,391.85	\$13,619.25
103	\$26,391.85	\$87.97	\$296.84	\$26,095.01	\$13,707.22
104	\$26,095.01	\$86.98	\$297.82	\$25,797.19	\$13,794.21
105	\$25,797.19	\$85.99	\$298.82	\$25,498.37	\$13,880.20
106	\$25,498.37	\$84.99	\$299.81	\$25,198.56	\$13,965.19
107	\$25,198.56	\$84.00	\$300.81	\$24,897.75	\$14,049.19
108	\$24,897.75	\$82.99	\$301.82	\$24,595.93	\$14,132.18
109	\$24,595.93	\$81.99	\$302.82	\$24,293.11	\$14,214.17
110	\$24,293.11	\$80.98	\$303.83	\$23,989.28	\$14,295.14
111	\$23,989.28	\$79.96	\$304.84	\$23,684.44	\$14,375.11
112	\$23,684.44	\$78.95	\$305.86	\$23,378.58	\$14,454.06
113	\$23,378.58	\$77.93	\$306.88	\$23,071.70	\$14,531.98
114	\$23,071.70	\$76.91	\$307.90	\$22,763.79	\$14,608.89
115	\$22,763.79	\$75.88	\$308.93	\$22,454.87	\$14,684.77
116	\$22,454.87	\$74.85	\$309.96	\$22,144.91	\$14,759.62
117	\$22,144.91	\$73.82	\$310.99	\$21,833.92	\$14,833.43
118	\$21,833.92	\$72.78	\$312.03	\$21,521.89	\$14,906.21
119	\$21,521.89	\$71.74	\$313.07	\$21,208.82	\$14,977.95
120	\$21,208.82	\$70.70	\$314.11	\$20,894.71	\$15,048.65
121	\$20,894.71	\$69.65	\$315.16	\$20,579.55	\$15,118.30
122	\$20,579.55	\$68.60	\$316.21	\$20,263.34	\$15,186.90
123	\$20,263.34	\$67.54	\$317.26	\$19,946.08	\$15,254.44
124	\$19,946.08	\$66.49	\$318.32	\$19,627.76	\$15,320.93
125	\$19,627.76	\$65.43	\$319.38	\$19,308.37	\$15,386.35
126	\$19,308.37	\$64.36	\$320.45	\$18,987.93	\$15,450.72
127	\$18,987.93	\$63.29	\$321.51	\$18,666.41	\$15,514.01
128	\$18,666.41	\$62.22	\$322.59	\$18,343.83	\$15,576.23
129	\$18,343.83	\$61.15	\$323.66	\$18,020.16	\$15,637.38
130	\$18,020.16	\$60.07	\$324.74	\$17,695.42	\$15,697.44
131	\$17,695.42	\$58.98	\$325.82	\$17,369.60	\$15,756.43
132	\$17,369.60	\$57.90	\$326.91	\$17,042.69	\$15,814.33
133	\$17,042.69	\$56.81	\$328.00	\$16,714.69	\$15,871.14
134	\$16,714.69	\$55.72	\$329.09	\$16,385.60	\$15,926.85
135	\$16,385.60	\$54.62	\$330.19	\$16,055.41	\$15,981.47
136	\$16,055.41	\$53.52	\$331.29	\$15,724.12	\$16,034.99
137	\$15,724.12	\$52.41	\$332.39	\$15,391.73	\$16,087.40
138	\$15,391.73	\$51.31	\$333.50	\$15,058.22	\$16,138.71
139	\$15,058.22	\$50.19	\$334.61	\$14,723.61	\$16,188.90
140	\$14,723.61	\$49.08	\$335.73	\$14,387.88	\$16,237.98
141	\$14,387.88	\$47.96	\$336.85	\$14,051.03	\$16,285.94
142	\$14,051.03	\$46.84	\$337.97	\$13,713.06	\$16,332.78
143	\$13,713.06	\$45.71	\$339.10	\$13,373.96	\$16,378.49



<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	135.1921487
\$52,023.00	4.00%	15	\$384.81	P = A/D	\$384.81

Month	Starting Balance	Interest	Principal	Ending Balance	Total Interest
144	\$13,373.96	\$44.58	\$340.23	\$13,033.74	\$16,423.07
145	\$13,033.74	\$43.45	\$341.36	\$12,692.37	\$16,466.51
146	\$12,692.37	\$42.31	\$342.50	\$12,349.87	\$16,508.82
147	\$12,349.87	\$41.17	\$343.64	\$12,006.23	\$16,549.99
148	\$12,006.23	\$40.02	\$344.79	\$11,661.45	\$16,590.01
149	\$11,661.45	\$38.87	\$345.94	\$11,315.51	\$16,628.88
150	\$11,315.51	\$37.72	\$347.09	\$10,968.42	\$16,666.60
151	\$10,968.42	\$36.56	\$348.25	\$10,620.17	\$16,703.16
152	\$10,620.17	\$35.40	\$349.41	\$10,270.77	\$16,738.56
153	\$10,270.77	\$34.24	\$350.57	\$9,920.19	\$16,772.80
154	\$9,920.19	\$33.07	\$351.74	\$9,568.45	\$16,805.86
155	\$9,568.45	\$31.89	\$352.91	\$9,215.54	\$16,837.76
156	\$9,215.54	\$30.72	\$354.09	\$8,861.45	\$16,868.48
157	\$8,861.45	\$29.54	\$355.27	\$8,506.18	\$16,898.01
158	\$8,506.18	\$28.35	\$356.45	\$8,149.73	\$16,926.37
159	\$8,149.73	\$27.17	\$357.64	\$7,792.09	\$16,953.53
160	\$7,792.09	\$25.97	\$358.83	\$7,433.25	\$16,979.51
161	\$7,433.25	\$24.78	\$360.03	\$7,073.22	\$17,004.29
162	\$7,073.22	\$23.58	\$361.23	\$6,711.99	\$17,027.86
163	\$6,711.99	\$22.37	\$362.43	\$6,349.56	\$17,050.24
164	\$6,349.56	\$21.17	\$363.64	\$5,985.91	\$17,071.40
165	\$5,985.91	\$19.95	\$364.85	\$5,621.06	\$17,091.35
166	\$5,621.06	\$18.74	\$366.07	\$5,254.99	\$17,110.09
167	\$5,254.99	\$17.52	\$367.29	\$4,887.70	\$17,127.61
168	\$4,887.70	\$16.29	\$368.52	\$4,519.18	\$17,143.90
169	\$4,519.18	\$15.06	\$369.74	\$4,149.44	\$17,158.96
170	\$4,149.44	\$13.83	\$370.98	\$3,778.46	\$17,172.80
171	\$3,778.46	\$12.59	\$372.21	\$3,406.25	\$17,185.39
172	\$3,406.25	\$11.35	\$373.45	\$3,032.79	\$17,196.74
173	\$3,032.79	\$10.11	\$374.70	\$2,658.10	\$17,206.85
174	\$2,658.10	\$8.86	\$375.95	\$2,282.15	\$17,215.71
175	\$2,282.15	\$7.61	\$377.20	\$1,904.95	\$17,223.32
176	\$1,904.95	\$6.35	\$378.46	\$1,526.49	\$17,229.67
177	\$1,526.49	\$5.09	\$379.72	\$1,146.77	\$17,234.76
178	\$1,146.77	\$3.82	\$380.99	\$765.78	\$17,238.58
179	\$765.78	\$2.55	\$382.26	\$383.53	\$17,241.13
180	\$383.53	\$1.28	\$383.53	\$0.00	\$17,242.41

D (Discount Factor) = 165.0218582

P = A/D \$315.25

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$52,023.00	4.00%	20	\$315.25

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$52,023.00	\$173.41	\$141.84	\$51,881.16	\$173.41
2	\$51,881.16	\$172.94	\$142.31	\$51,738.85	\$346.35
3	\$51,738.85	\$172.46	\$142.79	\$51,596.06	\$518.81
4	\$51,596.06	\$171.99	\$143.26	\$51,452.80	\$690.80
5	\$51,452.80	\$171.51	\$143.74	\$51,309.06	\$862.31
6	\$51,309.06	\$171.03	\$144.22	\$51,164.84	\$1,033.34
7	\$51,164.84	\$170.55	\$144.70	\$51,020.14	\$1,203.89
8	\$51,020.14	\$170.07	\$145.18	\$50,874.96	\$1,373.95
9	\$50,874.96	\$169.58	\$145.67	\$50,729.29	\$1,543.54
10	\$50,729.29	\$169.10	\$146.15	\$50,583.14	\$1,712.63
11	\$50,583.14	\$168.61	\$146.64	\$50,436.50	\$1,881.24
12	\$50,436.50	\$168.12	\$147.13	\$50,289.38	\$2,049.37
13	\$50,289.38	\$167.63	\$147.62	\$50,141.76	\$2,217.00
14	\$50,141.76	\$167.14	\$148.11	\$49,993.65	\$2,384.14
15	\$49,993.65	\$166.65	\$148.60	\$49,845.04	\$2,550.78
16	\$49,845.04	\$166.15	\$149.10	\$49,695.95	\$2,716.93
17	\$49,695.95	\$165.65	\$149.60	\$49,546.35	\$2,882.59
18	\$49,546.35	\$165.15	\$150.09	\$49,396.26	\$3,047.74
19	\$49,396.26	\$164.65	\$150.59	\$49,245.66	\$3,212.39
20	\$49,245.66	\$164.15	\$151.10	\$49,094.56	\$3,376.55
21	\$49,094.56	\$163.65	\$151.60	\$48,942.96	\$3,540.19
22	\$48,942.96	\$163.14	\$152.11	\$48,790.86	\$3,703.34
23	\$48,790.86	\$162.64	\$152.61	\$48,638.24	\$3,865.97
24	\$48,638.24	\$162.13	\$153.12	\$48,485.12	\$4,028.10
25	\$48,485.12	\$161.62	\$153.63	\$48,331.49	\$4,189.72
26	\$48,331.49	\$161.10	\$154.14	\$48,177.35	\$4,350.82
27	\$48,177.35	\$160.59	\$154.66	\$48,022.69	\$4,511.41
28	\$48,022.69	\$160.08	\$155.17	\$47,867.51	\$4,671.49
29	\$47,867.51	\$159.56	\$155.69	\$47,711.82	\$4,831.05
30	\$47,711.82	\$159.04	\$156.21	\$47,555.61	\$4,990.09
31	\$47,555.61	\$158.52	\$156.73	\$47,398.88	\$5,148.61
32	\$47,398.88	\$158.00	\$157.25	\$47,241.63	\$5,306.60
33	\$47,241.63	\$157.47	\$157.78	\$47,083.85	\$5,464.08
34	\$47,083.85	\$156.95	\$158.30	\$46,925.55	\$5,621.02
35	\$46,925.55	\$156.42	\$158.83	\$46,766.72	\$5,777.44
36	\$46,766.72	\$155.89	\$159.36	\$46,607.36	\$5,933.33
37	\$46,607.36	\$155.36	\$159.89	\$46,447.47	\$6,088.69
38	\$46,447.47	\$154.82	\$160.42	\$46,287.04	\$6,243.51
39	\$46,287.04	\$154.29	\$160.96	\$46,126.09	\$6,397.80
40	\$46,126.09	\$153.75	\$161.50	\$45,964.59	\$6,551.56
41	\$45,964.59	\$153.22	\$162.03	\$45,802.56	\$6,704.77
42	\$45,802.56	\$152.68	\$162.57	\$45,639.98	\$6,857.45
43	\$45,639.98	\$152.13	\$163.12	\$45,476.87	\$7,009.58
44	\$45,476.87	\$151.59	\$163.66	\$45,313.21	\$7,161.17
45	\$45,313.21	\$151.04	\$164.21	\$45,149.00	\$7,312.21
46	\$45,149.00	\$150.50	\$164.75	\$44,984.25	\$7,462.71
47	\$44,984.25	\$149.95	\$165.30	\$44,818.95	\$7,612.66
48	\$44,818.95	\$149.40	\$165.85	\$44,653.09	\$7,762.05
49	\$44,653.09	\$148.84	\$166.41	\$44,486.69	\$7,910.90
50	\$44,486.69	\$148.29	\$166.96	\$44,319.73	\$8,059.19
51	\$44,319.73	\$147.73	\$167.52	\$44,152.21	\$8,206.92
52	\$44,152.21	\$147.17	\$168.08	\$43,984.14	\$8,354.09
53	\$43,984.14	\$146.61	\$168.64	\$43,815.50	\$8,500.71
54	\$43,815.50	\$146.05	\$169.20	\$43,646.30	\$8,646.76
55	\$43,646.30	\$145.49	\$169.76	\$43,476.54	\$8,792.25
56	\$43,476.54	\$144.92	\$170.33	\$43,306.22	\$8,937.17
57	\$43,306.22	\$144.35	\$170.90	\$43,135.32	\$9,081.52
58	\$43,135.32	\$143.78	\$171.46	\$42,963.86	\$9,225.31
59	\$42,963.86	\$143.21	\$172.04	\$42,791.82	\$9,368.52
60	\$42,791.82	\$142.64	\$172.61	\$42,619.21	\$9,511.16
61	\$42,619.21	\$142.06	\$173.19	\$42,446.02	\$9,653.22
62	\$42,446.02	\$141.49	\$173.76	\$42,272.26	\$9,794.71
63	\$42,272.26	\$140.91	\$174.34	\$42,097.92	\$9,935.62
64	\$42,097.92	\$140.33	\$174.92	\$41,923.00	\$10,075.94
65	\$41,923.00	\$139.74	\$175.51	\$41,747.49	\$10,215.69
66	\$41,747.49	\$139.16	\$176.09	\$41,571.40	\$10,354.84
67	\$41,571.40	\$138.57	\$176.68	\$41,394.72	\$10,493.42
68	\$41,394.72	\$137.98	\$177.27	\$41,217.46	\$10,631.40
69	\$41,217.46	\$137.39	\$177.86	\$41,039.60	\$10,768.79

D (Discount Factor) = 165.0218582

P = A/D \$315.25

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$52,023.00	4.00%	20	\$315.25

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$41,039.60	\$136.80	\$178.45	\$40,861.15	\$10,905.59
71	\$40,861.15	\$136.20	\$179.05	\$40,682.10	\$11,041.79
72	\$40,682.10	\$135.61	\$179.64	\$40,502.46	\$11,177.40
73	\$40,502.46	\$135.01	\$180.24	\$40,322.22	\$11,312.41
74	\$40,322.22	\$134.41	\$180.84	\$40,141.38	\$11,446.82
75	\$40,141.38	\$133.80	\$181.44	\$39,959.93	\$11,580.62
76	\$39,959.93	\$133.20	\$182.05	\$39,777.88	\$11,713.82
77	\$39,777.88	\$132.59	\$182.66	\$39,595.23	\$11,846.41
78	\$39,595.23	\$131.98	\$183.27	\$39,411.96	\$11,978.40
79	\$39,411.96	\$131.37	\$183.88	\$39,228.09	\$12,109.77
80	\$39,228.09	\$130.76	\$184.49	\$39,043.60	\$12,240.53
81	\$39,043.60	\$130.15	\$185.10	\$38,858.49	\$12,370.68
82	\$38,858.49	\$129.53	\$185.72	\$38,672.77	\$12,500.20
83	\$38,672.77	\$128.91	\$186.34	\$38,486.43	\$12,629.11
84	\$38,486.43	\$128.29	\$186.96	\$38,299.47	\$12,757.40
85	\$38,299.47	\$127.66	\$187.58	\$38,111.89	\$12,885.07
86	\$38,111.89	\$127.04	\$188.21	\$37,923.68	\$13,012.11
87	\$37,923.68	\$126.41	\$188.84	\$37,734.84	\$13,138.52
88	\$37,734.84	\$125.78	\$189.47	\$37,545.38	\$13,264.30
89	\$37,545.38	\$125.15	\$190.10	\$37,355.28	\$13,389.45
90	\$37,355.28	\$124.52	\$190.73	\$37,164.55	\$13,513.97
91	\$37,164.55	\$123.88	\$191.37	\$36,973.18	\$13,637.85
92	\$36,973.18	\$123.24	\$192.01	\$36,781.17	\$13,761.10
93	\$36,781.17	\$122.60	\$192.65	\$36,588.53	\$13,883.70
94	\$36,588.53	\$121.96	\$193.29	\$36,395.24	\$14,005.66
95	\$36,395.24	\$121.32	\$193.93	\$36,201.31	\$14,126.98
96	\$36,201.31	\$120.67	\$194.58	\$36,006.73	\$14,247.65
97	\$36,006.73	\$120.02	\$195.23	\$35,811.50	\$14,367.67
98	\$35,811.50	\$119.37	\$195.88	\$35,615.63	\$14,487.04
99	\$35,615.63	\$118.72	\$196.53	\$35,419.10	\$14,605.76
100	\$35,419.10	\$118.06	\$197.19	\$35,221.91	\$14,723.83
101	\$35,221.91	\$117.41	\$197.84	\$35,024.07	\$14,841.23
102	\$35,024.07	\$116.75	\$198.50	\$34,825.57	\$14,957.98
103	\$34,825.57	\$116.09	\$199.16	\$34,626.40	\$15,074.06
104	\$34,626.40	\$115.42	\$199.83	\$34,426.57	\$15,189.49
105	\$34,426.57	\$114.76	\$200.49	\$34,226.08	\$15,304.24
106	\$34,226.08	\$114.09	\$201.16	\$34,024.92	\$15,418.33
107	\$34,024.92	\$113.42	\$201.83	\$33,823.09	\$15,531.74
108	\$33,823.09	\$112.74	\$202.51	\$33,620.58	\$15,644.49
109	\$33,620.58	\$112.07	\$203.18	\$33,417.40	\$15,756.56
110	\$33,417.40	\$111.39	\$203.86	\$33,213.54	\$15,867.95
111	\$33,213.54	\$110.71	\$204.54	\$33,009.00	\$15,978.66
112	\$33,009.00	\$110.03	\$205.22	\$32,803.79	\$16,088.69
113	\$32,803.79	\$109.35	\$205.90	\$32,597.88	\$16,198.04
114	\$32,597.88	\$108.66	\$206.59	\$32,391.29	\$16,306.70
115	\$32,391.29	\$107.97	\$207.28	\$32,184.01	\$16,414.67
116	\$32,184.01	\$107.28	\$207.97	\$31,976.05	\$16,521.95
117	\$31,976.05	\$106.59	\$208.66	\$31,767.38	\$16,628.53
118	\$31,767.38	\$105.89	\$209.36	\$31,558.02	\$16,734.42
119	\$31,558.02	\$105.19	\$210.06	\$31,347.97	\$16,839.62
120	\$31,347.97	\$104.49	\$210.76	\$31,137.21	\$16,944.11
121	\$31,137.21	\$103.79	\$211.46	\$30,925.75	\$17,047.90
122	\$30,925.75	\$103.09	\$212.16	\$30,713.59	\$17,150.99
123	\$30,713.59	\$102.38	\$212.87	\$30,500.72	\$17,253.37
124	\$30,500.72	\$101.67	\$213.58	\$30,287.14	\$17,355.04
125	\$30,287.14	\$100.96	\$214.29	\$30,072.85	\$17,455.99
126	\$30,072.85	\$100.24	\$215.01	\$29,857.84	\$17,556.24
127	\$29,857.84	\$99.53	\$215.72	\$29,642.12	\$17,655.76
128	\$29,642.12	\$98.81	\$216.44	\$29,425.68	\$17,754.57
129	\$29,425.68	\$98.09	\$217.16	\$29,208.51	\$17,852.65
130	\$29,208.51	\$97.36	\$217.89	\$28,990.63	\$17,950.02
131	\$28,990.63	\$96.64	\$218.61	\$28,772.01	\$18,046.65
132	\$28,772.01	\$95.91	\$219.34	\$28,552.67	\$18,142.56
133	\$28,552.67	\$95.18	\$220.07	\$28,332.60	\$18,237.73
134	\$28,332.60	\$94.44	\$220.81	\$28,111.79	\$18,332.18
135	\$28,111.79	\$93.71	\$221.54	\$27,890.25	\$18,425.88
136	\$27,890.25	\$92.97	\$222.28	\$27,667.96	\$18,518.85
137	\$27,667.96	\$92.23	\$223.02	\$27,444.94	\$18,611.08
138	\$27,444.94	\$91.48	\$223.77	\$27,221.18	\$18,702.56
139	\$27,221.18	\$90.74	\$224.51	\$26,996.66	\$18,793.30
140	\$26,996.66	\$89.99	\$225.26	\$26,771.40	\$18,883.28
141	\$26,771.40	\$89.24	\$226.01	\$26,545.39	\$18,972.52
142	\$26,545.39	\$88.48	\$226.76	\$26,318.63	\$19,061.01
143	\$26,318.63	\$87.73	\$227.52	\$26,091.11	\$19,148.74

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	165.0218582
\$52,023.00	4.00%	20	\$315.25	P = A/D	\$315.25

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$26,091.11	\$86.97	\$228.28	\$25,862.83	\$19,235.71
145	\$25,862.83	\$86.21	\$229.04	\$25,633.79	\$19,321.92
146	\$25,633.79	\$85.45	\$229.80	\$25,403.99	\$19,407.36
147	\$25,403.99	\$84.68	\$230.57	\$25,173.42	\$19,492.04
148	\$25,173.42	\$83.91	\$231.34	\$24,942.08	\$19,575.95
149	\$24,942.08	\$83.14	\$232.11	\$24,709.97	\$19,659.09
150	\$24,709.97	\$82.37	\$232.88	\$24,477.09	\$19,741.46
151	\$24,477.09	\$81.59	\$233.66	\$24,243.43	\$19,823.05
152	\$24,243.43	\$80.81	\$234.44	\$24,008.99	\$19,903.86
153	\$24,008.99	\$80.03	\$235.22	\$23,773.77	\$19,983.89
154	\$23,773.77	\$79.25	\$236.00	\$23,537.77	\$20,063.14
155	\$23,537.77	\$78.46	\$236.79	\$23,300.98	\$20,141.60
156	\$23,300.98	\$77.67	\$237.58	\$23,063.40	\$20,219.27
157	\$23,063.40	\$76.88	\$238.37	\$22,825.03	\$20,296.14
158	\$22,825.03	\$76.08	\$239.17	\$22,585.86	\$20,372.23
159	\$22,585.86	\$75.29	\$239.96	\$22,345.90	\$20,447.51
160	\$22,345.90	\$74.49	\$240.76	\$22,105.14	\$20,522.00
161	\$22,105.14	\$73.68	\$241.57	\$21,863.57	\$20,595.68
162	\$21,863.57	\$72.88	\$242.37	\$21,621.20	\$20,668.56
163	\$21,621.20	\$72.07	\$243.18	\$21,378.02	\$20,740.63
164	\$21,378.02	\$71.26	\$243.99	\$21,134.03	\$20,811.89
165	\$21,134.03	\$70.45	\$244.80	\$20,889.23	\$20,882.34
166	\$20,889.23	\$69.63	\$245.62	\$20,643.61	\$20,951.97
167	\$20,643.61	\$68.81	\$246.44	\$20,397.18	\$21,020.78
168	\$20,397.18	\$67.99	\$247.26	\$20,149.92	\$21,088.77
169	\$20,149.92	\$67.17	\$248.08	\$19,901.83	\$21,155.94
170	\$19,901.83	\$66.34	\$248.91	\$19,652.92	\$21,222.28
171	\$19,652.92	\$65.51	\$249.74	\$19,403.19	\$21,287.79
172	\$19,403.19	\$64.68	\$250.57	\$19,152.61	\$21,352.47
173	\$19,152.61	\$63.84	\$251.41	\$18,901.21	\$21,416.31
174	\$18,901.21	\$63.00	\$252.25	\$18,648.96	\$21,479.31
175	\$18,648.96	\$62.16	\$253.09	\$18,395.88	\$21,541.48
176	\$18,395.88	\$61.32	\$253.93	\$18,141.95	\$21,602.80
177	\$18,141.95	\$60.47	\$254.78	\$17,887.17	\$21,663.27
178	\$17,887.17	\$59.62	\$255.63	\$17,631.54	\$21,722.89
179	\$17,631.54	\$58.77	\$256.48	\$17,375.07	\$21,781.66
180	\$17,375.07	\$57.92	\$257.33	\$17,117.74	\$21,839.58
181	\$17,117.74	\$57.06	\$258.19	\$16,859.55	\$21,896.64
182	\$16,859.55	\$56.20	\$259.05	\$16,600.49	\$21,952.84
183	\$16,600.49	\$55.33	\$259.91	\$16,340.58	\$22,008.17
184	\$16,340.58	\$54.47	\$260.78	\$16,079.80	\$22,062.64
185	\$16,079.80	\$53.60	\$261.65	\$15,818.15	\$22,116.24
186	\$15,818.15	\$52.73	\$262.52	\$15,555.63	\$22,168.97
187	\$15,555.63	\$51.85	\$263.40	\$15,292.23	\$22,220.82
188	\$15,292.23	\$50.97	\$264.28	\$15,027.96	\$22,271.80
189	\$15,027.96	\$50.09	\$265.16	\$14,762.80	\$22,321.89
190	\$14,762.80	\$49.21	\$266.04	\$14,496.76	\$22,371.10
191	\$14,496.76	\$48.32	\$266.93	\$14,229.83	\$22,419.42
192	\$14,229.83	\$47.43	\$267.82	\$13,962.02	\$22,466.85
193	\$13,962.02	\$46.54	\$268.71	\$13,693.31	\$22,513.39
194	\$13,693.31	\$45.64	\$269.60	\$13,423.70	\$22,559.04
195	\$13,423.70	\$44.75	\$270.50	\$13,153.20	\$22,603.78
196	\$13,153.20	\$43.84	\$271.41	\$12,881.79	\$22,647.63
197	\$12,881.79	\$42.94	\$272.31	\$12,609.48	\$22,690.57
198	\$12,609.48	\$42.03	\$273.22	\$12,336.27	\$22,732.60
199	\$12,336.27	\$41.12	\$274.13	\$12,062.14	\$22,773.72
200	\$12,062.14	\$40.21	\$275.04	\$11,787.10	\$22,813.93
201	\$11,787.10	\$39.29	\$275.96	\$11,511.14	\$22,853.22
202	\$11,511.14	\$38.37	\$276.88	\$11,234.26	\$22,891.59
203	\$11,234.26	\$37.45	\$277.80	\$10,956.46	\$22,929.03
204	\$10,956.46	\$36.52	\$278.73	\$10,677.73	\$22,965.56
205	\$10,677.73	\$35.59	\$279.66	\$10,398.07	\$23,001.15
206	\$10,398.07	\$34.66	\$280.59	\$10,117.48	\$23,035.81
207	\$10,117.48	\$33.72	\$281.52	\$9,835.96	\$23,069.53
208	\$9,835.96	\$32.79	\$282.46	\$9,553.50	\$23,102.32
209	\$9,553.50	\$31.84	\$283.40	\$9,270.09	\$23,134.17
210	\$9,270.09	\$30.90	\$284.35	\$8,985.74	\$23,165.07
211	\$8,985.74	\$29.95	\$285.30	\$8,700.45	\$23,195.02
212	\$8,700.45	\$29.00	\$286.25	\$8,414.20	\$23,224.02
213	\$8,414.20	\$28.05	\$287.20	\$8,127.00	\$23,252.07
214	\$8,127.00	\$27.09	\$288.16	\$7,838.84	\$23,279.16
215	\$7,838.84	\$26.13	\$289.12	\$7,549.72	\$23,305.29
216	\$7,549.72	\$25.17	\$290.08	\$7,259.64	\$23,330.45
217	\$7,259.64	\$24.20	\$291.05	\$6,968.59	\$23,354.65

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	165.0218582
\$52,023.00	4.00%	20	\$315.25	P = A/D	\$315.25

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	\$6,968.59	\$23.23	\$292.02	\$6,676.57	\$23,377.88
219	\$6,676.57	\$22.26	\$292.99	\$6,383.57	\$23,400.13
220	\$6,383.57	\$21.28	\$293.97	\$6,089.60	\$23,421.41
221	\$6,089.60	\$20.30	\$294.95	\$5,794.65	\$23,441.71
222	\$5,794.65	\$19.32	\$295.93	\$5,498.72	\$23,461.03
223	\$5,498.72	\$18.33	\$296.92	\$5,201.80	\$23,479.36
224	\$5,201.80	\$17.34	\$297.91	\$4,903.89	\$23,496.70
225	\$4,903.89	\$16.35	\$298.90	\$4,604.98	\$23,513.04
226	\$4,604.98	\$15.35	\$299.90	\$4,305.08	\$23,528.39
227	\$4,305.08	\$14.35	\$300.90	\$4,004.19	\$23,542.74
228	\$4,004.19	\$13.35	\$301.90	\$3,702.28	\$23,556.09
229	\$3,702.28	\$12.34	\$302.91	\$3,399.38	\$23,568.43
230	\$3,399.38	\$11.33	\$303.92	\$3,095.46	\$23,579.76
231	\$3,095.46	\$10.32	\$304.93	\$2,790.53	\$23,590.08
232	\$2,790.53	\$9.30	\$305.95	\$2,484.58	\$23,599.38
233	\$2,484.58	\$8.28	\$306.97	\$2,177.61	\$23,607.66
234	\$2,177.61	\$7.26	\$307.99	\$1,869.62	\$23,614.92
235	\$1,869.62	\$6.23	\$309.02	\$1,560.61	\$23,621.15
236	\$1,560.61	\$5.20	\$310.05	\$1,250.56	\$23,626.36
237	\$1,250.56	\$4.17	\$311.08	\$939.48	\$23,630.53
238	\$939.48	\$3.13	\$312.12	\$627.36	\$23,633.66
239	\$627.36	\$2.09	\$313.16	\$314.20	\$23,635.75
240	\$314.20	\$1.05	\$314.20	\$0.00	\$23,636.80



D (Discount Factor) = 98.77017486

P = A/D \$765.58

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	10	\$765.58

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$75,616.00	\$252.05	\$513.52	\$75,102.48	\$252.05
2	\$75,102.48	\$250.34	\$515.23	\$74,587.24	\$502.39
3	\$74,587.24	\$248.62	\$516.95	\$74,070.29	\$751.02
4	\$74,070.29	\$246.90	\$518.67	\$73,551.62	\$997.92
5	\$73,551.62	\$245.17	\$520.40	\$73,031.22	\$1,243.09
6	\$73,031.22	\$243.44	\$522.14	\$72,509.08	\$1,486.53
7	\$72,509.08	\$241.70	\$523.88	\$71,985.20	\$1,728.23
8	\$71,985.20	\$239.95	\$525.62	\$71,459.58	\$1,968.18
9	\$71,459.58	\$238.20	\$527.38	\$70,932.20	\$2,206.38
10	\$70,932.20	\$236.44	\$529.13	\$70,403.06	\$2,442.82
11	\$70,403.06	\$234.68	\$530.90	\$69,872.17	\$2,677.49
12	\$69,872.17	\$232.91	\$532.67	\$69,339.50	\$2,910.40
13	\$69,339.50	\$231.13	\$534.44	\$68,805.05	\$3,141.53
14	\$68,805.05	\$229.35	\$536.23	\$68,268.83	\$3,370.88
15	\$68,268.83	\$227.56	\$538.01	\$67,730.82	\$3,598.45
16	\$67,730.82	\$225.77	\$539.81	\$67,191.01	\$3,824.21
17	\$67,191.01	\$223.97	\$541.61	\$66,649.41	\$4,048.18
18	\$66,649.41	\$222.16	\$543.41	\$66,105.99	\$4,270.35
19	\$66,105.99	\$220.35	\$545.22	\$65,560.77	\$4,490.70
20	\$65,560.77	\$218.54	\$547.04	\$65,013.73	\$4,709.24
21	\$65,013.73	\$216.71	\$548.86	\$64,464.87	\$4,925.95
22	\$64,464.87	\$214.88	\$550.69	\$63,914.18	\$5,140.83
23	\$63,914.18	\$213.05	\$552.53	\$63,361.65	\$5,353.88
24	\$63,361.65	\$211.21	\$554.37	\$62,807.28	\$5,565.09
25	\$62,807.28	\$209.36	\$556.22	\$62,251.06	\$5,774.44
26	\$62,251.06	\$207.50	\$558.07	\$61,692.99	\$5,981.95
27	\$61,692.99	\$205.64	\$559.93	\$61,133.06	\$6,187.59
28	\$61,133.06	\$203.78	\$561.80	\$60,571.26	\$6,391.37
29	\$60,571.26	\$201.90	\$563.67	\$60,007.59	\$6,593.27
30	\$60,007.59	\$200.03	\$565.55	\$59,442.04	\$6,793.30
31	\$59,442.04	\$198.14	\$567.44	\$58,874.61	\$6,991.44
32	\$58,874.61	\$196.25	\$569.33	\$58,305.28	\$7,187.69
33	\$58,305.28	\$194.35	\$571.22	\$57,734.05	\$7,382.04
34	\$57,734.05	\$192.45	\$573.13	\$57,160.93	\$7,574.48
35	\$57,160.93	\$190.54	\$575.04	\$56,585.89	\$7,765.02
36	\$56,585.89	\$188.62	\$576.96	\$56,008.93	\$7,953.64
37	\$56,008.93	\$186.70	\$578.88	\$55,430.05	\$8,140.34
38	\$55,430.05	\$184.77	\$580.81	\$54,849.24	\$8,325.10
39	\$54,849.24	\$182.83	\$582.74	\$54,266.50	\$8,507.93
40	\$54,266.50	\$180.89	\$584.69	\$53,681.81	\$8,688.82
41	\$53,681.81	\$178.94	\$586.64	\$53,095.18	\$8,867.76
42	\$53,095.18	\$176.98	\$588.59	\$52,506.59	\$9,044.75
43	\$52,506.59	\$175.02	\$590.55	\$51,916.03	\$9,219.77
44	\$51,916.03	\$173.05	\$592.52	\$51,323.51	\$9,392.82
45	\$51,323.51	\$171.08	\$594.50	\$50,729.01	\$9,563.90
46	\$50,729.01	\$169.10	\$596.48	\$50,132.54	\$9,733.00
47	\$50,132.54	\$167.11	\$598.47	\$49,534.07	\$9,900.10
48	\$49,534.07	\$165.11	\$600.46	\$48,933.61	\$10,065.22
49	\$48,933.61	\$163.11	\$602.46	\$48,331.14	\$10,228.33
50	\$48,331.14	\$161.10	\$604.47	\$47,726.67	\$10,389.43
51	\$47,726.67	\$159.09	\$606.49	\$47,120.19	\$10,548.52
52	\$47,120.19	\$157.07	\$608.51	\$46,511.68	\$10,705.59
53	\$46,511.68	\$155.04	\$610.54	\$45,901.14	\$10,860.63
54	\$45,901.14	\$153.00	\$612.57	\$45,288.57	\$11,013.63
55	\$45,288.57	\$150.96	\$614.61	\$44,673.96	\$11,164.59
56	\$44,673.96	\$148.91	\$616.66	\$44,057.29	\$11,313.51
57	\$44,057.29	\$146.86	\$618.72	\$43,438.58	\$11,460.37
58	\$43,438.58	\$144.80	\$620.78	\$42,817.80	\$11,605.16
59	\$42,817.80	\$142.73	\$622.85	\$42,194.95	\$11,747.89
60	\$42,194.95	\$140.65	\$624.93	\$41,570.02	\$11,888.54
61	\$41,570.02	\$138.57	\$627.01	\$40,943.01	\$12,027.10
62	\$40,943.01	\$136.48	\$629.10	\$40,313.92	\$12,163.58
63	\$40,313.92	\$134.38	\$631.20	\$39,682.72	\$12,297.96
64	\$39,682.72	\$132.28	\$633.30	\$39,049.42	\$12,430.24
65	\$39,049.42	\$130.16	\$635.41	\$38,414.01	\$12,560.40
66	\$38,414.01	\$128.05	\$637.53	\$37,776.48	\$12,688.45
67	\$37,776.48	\$125.92	\$639.65	\$37,136.83	\$12,814.37
68	\$37,136.83	\$123.79	\$641.79	\$36,495.04	\$12,938.16
69	\$36,495.04	\$121.65	\$643.93	\$35,851.12	\$13,059.81



<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	98.77017486
\$75,616.00	4.00%	10	\$765.58	P = A/D	\$765.58

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$35,851.12	\$119.50	\$646.07	\$35,205.05	\$13,179.31
71	\$35,205.05	\$117.35	\$648.23	\$34,556.82	\$13,296.66
72	\$34,556.82	\$115.19	\$650.39	\$33,906.43	\$13,411.85
73	\$33,906.43	\$113.02	\$652.55	\$33,253.88	\$13,524.87
74	\$33,253.88	\$110.85	\$654.73	\$32,599.15	\$13,635.72
75	\$32,599.15	\$108.66	\$656.91	\$31,942.24	\$13,744.38
76	\$31,942.24	\$106.47	\$659.10	\$31,283.14	\$13,850.86
77	\$31,283.14	\$104.28	\$661.30	\$30,621.84	\$13,955.13
78	\$30,621.84	\$102.07	\$663.50	\$29,958.34	\$14,057.21
79	\$29,958.34	\$99.86	\$665.71	\$29,292.62	\$14,157.07
80	\$29,292.62	\$97.64	\$667.93	\$28,624.69	\$14,254.71
81	\$28,624.69	\$95.42	\$670.16	\$27,954.53	\$14,350.13
82	\$27,954.53	\$93.18	\$672.39	\$27,282.14	\$14,443.31
83	\$27,282.14	\$90.94	\$674.63	\$26,607.50	\$14,534.25
84	\$26,607.50	\$88.69	\$676.88	\$25,930.62	\$14,622.94
85	\$25,930.62	\$86.44	\$679.14	\$25,251.48	\$14,709.38
86	\$25,251.48	\$84.17	\$681.40	\$24,570.08	\$14,793.55
87	\$24,570.08	\$81.90	\$683.67	\$23,886.40	\$14,875.45
88	\$23,886.40	\$79.62	\$685.95	\$23,200.45	\$14,955.07
89	\$23,200.45	\$77.33	\$688.24	\$22,512.21	\$15,032.40
90	\$22,512.21	\$75.04	\$690.53	\$21,821.67	\$15,107.44
91	\$21,821.67	\$72.74	\$692.84	\$21,128.84	\$15,180.18
92	\$21,128.84	\$70.43	\$695.15	\$20,433.69	\$15,250.61
93	\$20,433.69	\$68.11	\$697.46	\$19,736.23	\$15,318.72
94	\$19,736.23	\$65.79	\$699.79	\$19,036.44	\$15,384.51
95	\$19,036.44	\$63.45	\$702.12	\$18,334.32	\$15,447.97
96	\$18,334.32	\$61.11	\$704.46	\$17,629.86	\$15,509.08
97	\$17,629.86	\$58.77	\$706.81	\$16,923.05	\$15,567.85
98	\$16,923.05	\$56.41	\$709.17	\$16,213.88	\$15,624.26
99	\$16,213.88	\$54.05	\$711.53	\$15,502.36	\$15,678.30
100	\$15,502.36	\$51.67	\$713.90	\$14,788.45	\$15,729.98
101	\$14,788.45	\$49.29	\$716.28	\$14,072.17	\$15,779.27
102	\$14,072.17	\$46.91	\$718.67	\$13,353.51	\$15,826.18
103	\$13,353.51	\$44.51	\$721.06	\$12,632.44	\$15,870.69
104	\$12,632.44	\$42.11	\$723.47	\$11,908.98	\$15,912.80
105	\$11,908.98	\$39.70	\$725.88	\$11,183.10	\$15,952.50
106	\$11,183.10	\$37.28	\$728.30	\$10,454.80	\$15,989.77
107	\$10,454.80	\$34.85	\$730.73	\$9,724.07	\$16,024.62
108	\$9,724.07	\$32.41	\$733.16	\$8,990.91	\$16,057.04
109	\$8,990.91	\$29.97	\$735.61	\$8,255.31	\$16,087.01
110	\$8,255.31	\$27.52	\$738.06	\$7,517.25	\$16,114.52
111	\$7,517.25	\$25.06	\$740.52	\$6,776.73	\$16,139.58
112	\$6,776.73	\$22.59	\$742.99	\$6,033.74	\$16,162.17
113	\$6,033.74	\$20.11	\$745.46	\$5,288.28	\$16,182.28
114	\$5,288.28	\$17.63	\$747.95	\$4,540.33	\$16,199.91
115	\$4,540.33	\$15.13	\$750.44	\$3,789.89	\$16,215.05
116	\$3,789.89	\$12.63	\$752.94	\$3,036.95	\$16,227.68
117	\$3,036.95	\$10.12	\$755.45	\$2,281.50	\$16,237.80
118	\$2,281.50	\$7.60	\$757.97	\$1,523.53	\$16,245.41
119	\$1,523.53	\$5.08	\$760.50	\$763.03	\$16,250.48
120	\$763.03	\$2.54	\$763.03	\$0.00	\$16,253.03

D (Discount Factor) = 135.1921487

P = A/D \$559.32

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	15	\$559.32

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$75,616.00	\$252.05	\$307.27	\$75,308.73	\$252.05
2	\$75,308.73	\$251.03	\$308.29	\$75,000.44	\$503.08
3	\$75,000.44	\$250.00	\$309.32	\$74,691.12	\$753.08
4	\$74,691.12	\$248.97	\$310.35	\$74,380.76	\$1,002.05
5	\$74,380.76	\$247.94	\$311.39	\$74,069.38	\$1,249.99
6	\$74,069.38	\$246.90	\$312.42	\$73,756.95	\$1,496.89
7	\$73,756.95	\$245.86	\$313.47	\$73,443.49	\$1,742.74
8	\$73,443.49	\$244.81	\$314.51	\$73,128.98	\$1,987.56
9	\$73,128.98	\$243.76	\$315.56	\$72,813.42	\$2,231.32
10	\$72,813.42	\$242.71	\$316.61	\$72,496.81	\$2,474.03
11	\$72,496.81	\$241.66	\$317.67	\$72,179.14	\$2,715.69
12	\$72,179.14	\$240.60	\$318.73	\$71,860.41	\$2,956.28
13	\$71,860.41	\$239.53	\$319.79	\$71,540.63	\$3,195.82
14	\$71,540.63	\$238.47	\$320.85	\$71,219.77	\$3,434.29
15	\$71,219.77	\$237.40	\$321.92	\$70,897.85	\$3,671.69
16	\$70,897.85	\$236.33	\$323.00	\$70,574.85	\$3,908.01
17	\$70,574.85	\$235.25	\$324.07	\$70,250.78	\$4,143.26
18	\$70,250.78	\$234.17	\$325.15	\$69,925.63	\$4,377.43
19	\$69,925.63	\$233.09	\$326.24	\$69,599.39	\$4,610.52
20	\$69,599.39	\$232.00	\$327.32	\$69,272.07	\$4,842.52
21	\$69,272.07	\$230.91	\$328.42	\$68,943.65	\$5,073.42
22	\$68,943.65	\$229.81	\$329.51	\$68,614.14	\$5,303.23
23	\$68,614.14	\$228.71	\$330.61	\$68,283.53	\$5,531.95
24	\$68,283.53	\$227.61	\$331.71	\$67,951.82	\$5,759.56
25	\$67,951.82	\$226.51	\$332.82	\$67,619.01	\$5,986.07
26	\$67,619.01	\$225.40	\$333.93	\$67,285.08	\$6,211.46
27	\$67,285.08	\$224.28	\$335.04	\$66,950.04	\$6,435.75
28	\$66,950.04	\$223.17	\$336.16	\$66,613.89	\$6,658.91
29	\$66,613.89	\$222.05	\$337.28	\$66,276.61	\$6,880.96
30	\$66,276.61	\$220.92	\$338.40	\$65,938.21	\$7,101.88
31	\$65,938.21	\$219.79	\$339.53	\$65,598.68	\$7,321.68
32	\$65,598.68	\$218.66	\$340.66	\$65,258.02	\$7,540.34
33	\$65,258.02	\$217.53	\$341.80	\$64,916.22	\$7,757.86
34	\$64,916.22	\$216.39	\$342.94	\$64,573.29	\$7,974.25
35	\$64,573.29	\$215.24	\$344.08	\$64,229.21	\$8,189.50
36	\$64,229.21	\$214.10	\$345.23	\$63,883.99	\$8,403.59
37	\$63,883.99	\$212.95	\$346.38	\$63,537.61	\$8,616.54
38	\$63,537.61	\$211.79	\$347.53	\$63,190.08	\$8,828.33
39	\$63,190.08	\$210.63	\$348.69	\$62,841.39	\$9,038.97
40	\$62,841.39	\$209.47	\$349.85	\$62,491.54	\$9,248.44
41	\$62,491.54	\$208.31	\$351.02	\$62,140.52	\$9,456.74
42	\$62,140.52	\$207.14	\$352.19	\$61,788.34	\$9,663.88
43	\$61,788.34	\$205.96	\$353.36	\$61,434.97	\$9,869.84
44	\$61,434.97	\$204.78	\$354.54	\$61,080.43	\$10,074.62
45	\$61,080.43	\$203.60	\$355.72	\$60,724.71	\$10,278.22
46	\$60,724.71	\$202.42	\$356.91	\$60,367.81	\$10,480.64
47	\$60,367.81	\$201.23	\$358.10	\$60,009.71	\$10,681.86
48	\$60,009.71	\$200.03	\$359.29	\$59,650.42	\$10,881.90
49	\$59,650.42	\$198.83	\$360.49	\$59,289.93	\$11,080.73
50	\$59,289.93	\$197.63	\$361.69	\$58,928.24	\$11,278.36
51	\$58,928.24	\$196.43	\$362.89	\$58,565.35	\$11,474.79
52	\$58,565.35	\$195.22	\$364.10	\$58,201.24	\$11,670.01
53	\$58,201.24	\$194.00	\$365.32	\$57,835.93	\$11,864.01
54	\$57,835.93	\$192.79	\$366.54	\$57,469.39	\$12,056.80
55	\$57,469.39	\$191.56	\$367.76	\$57,101.63	\$12,248.37
56	\$57,101.63	\$190.34	\$368.98	\$56,732.65	\$12,438.70
57	\$56,732.65	\$189.11	\$370.21	\$56,362.43	\$12,627.81
58	\$56,362.43	\$187.87	\$371.45	\$55,990.99	\$12,815.69
59	\$55,990.99	\$186.64	\$372.69	\$55,618.30	\$13,002.32
60	\$55,618.30	\$185.39	\$373.93	\$55,244.37	\$13,187.72
61	\$55,244.37	\$184.15	\$375.17	\$54,869.20	\$13,371.87
62	\$54,869.20	\$182.90	\$376.43	\$54,492.77	\$13,554.76
63	\$54,492.77	\$181.64	\$377.68	\$54,115.09	\$13,736.41
64	\$54,115.09	\$180.38	\$378.94	\$53,736.16	\$13,916.79
65	\$53,736.16	\$179.12	\$380.20	\$53,355.95	\$14,095.91
66	\$53,355.95	\$177.85	\$381.47	\$52,974.48	\$14,273.76
67	\$52,974.48	\$176.58	\$382.74	\$52,591.74	\$14,450.35
68	\$52,591.74	\$175.31	\$384.02	\$52,207.73	\$14,625.65
69	\$52,207.73	\$174.03	\$385.30	\$51,822.43	\$14,799.68

D (Discount Factor) = 135.1921487

P = A/D \$559.32

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	15	\$559.32

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$51,822.43	\$172.74	\$386.58	\$51,435.85	\$14,972.42
71	\$51,435.85	\$171.45	\$387.87	\$51,047.98	\$15,143.87
72	\$51,047.98	\$170.16	\$389.16	\$50,658.82	\$15,314.03
73	\$50,658.82	\$168.86	\$390.46	\$50,268.36	\$15,482.89
74	\$50,268.36	\$167.56	\$391.76	\$49,876.60	\$15,650.46
75	\$49,876.60	\$166.26	\$393.07	\$49,483.53	\$15,816.71
76	\$49,483.53	\$164.95	\$394.38	\$49,089.15	\$15,981.66
77	\$49,089.15	\$163.63	\$395.69	\$48,693.46	\$16,145.29
78	\$48,693.46	\$162.31	\$397.01	\$48,296.45	\$16,307.60
79	\$48,296.45	\$160.99	\$398.33	\$47,898.11	\$16,468.59
80	\$47,898.11	\$159.66	\$399.66	\$47,498.45	\$16,628.25
81	\$47,498.45	\$158.33	\$400.99	\$47,097.46	\$16,786.57
82	\$47,097.46	\$156.99	\$402.33	\$46,695.13	\$16,943.57
83	\$46,695.13	\$155.65	\$403.67	\$46,291.46	\$17,099.22
84	\$46,291.46	\$154.30	\$405.02	\$45,886.44	\$17,253.52
85	\$45,886.44	\$152.95	\$406.37	\$45,480.07	\$17,406.48
86	\$45,480.07	\$151.60	\$407.72	\$45,072.35	\$17,558.08
87	\$45,072.35	\$150.24	\$409.08	\$44,663.27	\$17,708.32
88	\$44,663.27	\$148.88	\$410.44	\$44,252.82	\$17,857.19
89	\$44,252.82	\$147.51	\$411.81	\$43,841.01	\$18,004.70
90	\$43,841.01	\$146.14	\$413.19	\$43,427.82	\$18,150.84
91	\$43,427.82	\$144.76	\$414.56	\$43,013.26	\$18,295.60
92	\$43,013.26	\$143.38	\$415.94	\$42,597.32	\$18,438.98
93	\$42,597.32	\$141.99	\$417.33	\$42,179.98	\$18,580.97
94	\$42,179.98	\$140.60	\$418.72	\$41,761.26	\$18,721.57
95	\$41,761.26	\$139.20	\$420.12	\$41,341.14	\$18,860.77
96	\$41,341.14	\$137.80	\$421.52	\$40,919.62	\$18,998.58
97	\$40,919.62	\$136.40	\$422.92	\$40,496.70	\$19,134.98
98	\$40,496.70	\$134.99	\$424.33	\$40,072.37	\$19,269.96
99	\$40,072.37	\$133.57	\$425.75	\$39,646.62	\$19,403.54
100	\$39,646.62	\$132.16	\$427.17	\$39,219.45	\$19,535.69
101	\$39,219.45	\$130.73	\$428.59	\$38,790.86	\$19,666.43
102	\$38,790.86	\$129.30	\$430.02	\$38,360.84	\$19,795.73
103	\$38,360.84	\$127.87	\$431.45	\$37,929.39	\$19,923.60
104	\$37,929.39	\$126.43	\$432.89	\$37,496.50	\$20,050.03
105	\$37,496.50	\$124.99	\$434.33	\$37,062.16	\$20,175.02
106	\$37,062.16	\$123.54	\$435.78	\$36,626.38	\$20,298.56
107	\$36,626.38	\$122.09	\$437.23	\$36,189.15	\$20,420.65
108	\$36,189.15	\$120.63	\$438.69	\$35,750.46	\$20,541.28
109	\$35,750.46	\$119.17	\$440.15	\$35,310.30	\$20,660.45
110	\$35,310.30	\$117.70	\$441.62	\$34,868.68	\$20,778.15
111	\$34,868.68	\$116.23	\$443.09	\$34,425.59	\$20,894.38
112	\$34,425.59	\$114.75	\$444.57	\$33,981.02	\$21,009.13
113	\$33,981.02	\$113.27	\$446.05	\$33,534.96	\$21,122.40
114	\$33,534.96	\$111.78	\$447.54	\$33,087.42	\$21,234.18
115	\$33,087.42	\$110.29	\$449.03	\$32,638.39	\$21,344.47
116	\$32,638.39	\$108.79	\$450.53	\$32,187.87	\$21,453.27
117	\$32,187.87	\$107.29	\$452.03	\$31,735.84	\$21,560.56
118	\$31,735.84	\$105.79	\$453.54	\$31,282.30	\$21,666.35
119	\$31,282.30	\$104.27	\$455.05	\$30,827.25	\$21,770.62
120	\$30,827.25	\$102.76	\$456.56	\$30,370.69	\$21,873.38
121	\$30,370.69	\$101.24	\$458.09	\$29,912.60	\$21,974.61
122	\$29,912.60	\$99.71	\$459.61	\$29,452.99	\$22,074.32
123	\$29,452.99	\$98.18	\$461.15	\$28,991.84	\$22,172.50
124	\$28,991.84	\$96.64	\$462.68	\$28,529.16	\$22,269.14
125	\$28,529.16	\$95.10	\$464.23	\$28,064.93	\$22,364.23
126	\$28,064.93	\$93.55	\$465.77	\$27,599.16	\$22,457.78
127	\$27,599.16	\$92.00	\$467.33	\$27,131.83	\$22,549.78
128	\$27,131.83	\$90.44	\$468.88	\$26,662.95	\$22,640.22
129	\$26,662.95	\$88.88	\$470.45	\$26,192.51	\$22,729.10
130	\$26,192.51	\$87.31	\$472.01	\$25,720.49	\$22,816.41
131	\$25,720.49	\$85.73	\$473.59	\$25,246.90	\$22,902.14
132	\$25,246.90	\$84.16	\$475.17	\$24,771.74	\$22,986.30
133	\$24,771.74	\$82.57	\$476.75	\$24,294.99	\$23,068.87
134	\$24,294.99	\$80.98	\$478.34	\$23,816.65	\$23,149.85
135	\$23,816.65	\$79.39	\$479.93	\$23,336.72	\$23,229.24
136	\$23,336.72	\$77.79	\$481.53	\$22,855.18	\$23,307.03
137	\$22,855.18	\$76.18	\$483.14	\$22,372.04	\$23,383.22
138	\$22,372.04	\$74.57	\$484.75	\$21,887.29	\$23,457.79
139	\$21,887.29	\$72.96	\$486.36	\$21,400.93	\$23,530.75
140	\$21,400.93	\$71.34	\$487.99	\$20,912.94	\$23,602.08
141	\$20,912.94	\$69.71	\$489.61	\$20,423.33	\$23,671.79
142	\$20,423.33	\$68.08	\$491.24	\$19,932.09	\$23,739.87
143	\$19,932.09	\$66.44	\$492.88	\$19,439.20	\$23,806.31

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	135.1921487
\$75,616.00	4.00%	15	\$559.32	P = A/D	\$559.32

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$19,439.20	\$64.80	\$494.53	\$18,944.68	\$23,871.11
145	\$18,944.68	\$63.15	\$496.17	\$18,448.51	\$23,934.26
146	\$18,448.51	\$61.50	\$497.83	\$17,950.68	\$23,995.75
147	\$17,950.68	\$59.84	\$499.49	\$17,451.19	\$24,055.59
148	\$17,451.19	\$58.17	\$501.15	\$16,950.04	\$24,113.76
149	\$16,950.04	\$56.50	\$502.82	\$16,447.22	\$24,170.26
150	\$16,447.22	\$54.82	\$504.50	\$15,942.72	\$24,225.08
151	\$15,942.72	\$53.14	\$506.18	\$15,436.54	\$24,278.22
152	\$15,436.54	\$51.46	\$507.87	\$14,928.67	\$24,329.68
153	\$14,928.67	\$49.76	\$509.56	\$14,419.11	\$24,379.44
154	\$14,419.11	\$48.06	\$511.26	\$13,907.85	\$24,427.51
155	\$13,907.85	\$46.36	\$512.96	\$13,394.89	\$24,473.87
156	\$13,394.89	\$44.65	\$514.67	\$12,880.22	\$24,518.51
157	\$12,880.22	\$42.93	\$516.39	\$12,363.83	\$24,561.45
158	\$12,363.83	\$41.21	\$518.11	\$11,845.72	\$24,602.66
159	\$11,845.72	\$39.49	\$519.84	\$11,325.88	\$24,642.15
160	\$11,325.88	\$37.75	\$521.57	\$10,804.31	\$24,679.90
161	\$10,804.31	\$36.01	\$523.31	\$10,281.00	\$24,715.91
162	\$10,281.00	\$34.27	\$525.05	\$9,755.95	\$24,750.18
163	\$9,755.95	\$32.52	\$526.80	\$9,229.15	\$24,782.70
164	\$9,229.15	\$30.76	\$528.56	\$8,700.59	\$24,813.47
165	\$8,700.59	\$29.00	\$530.32	\$8,170.27	\$24,842.47
166	\$8,170.27	\$27.23	\$532.09	\$7,638.18	\$24,869.70
167	\$7,638.18	\$25.46	\$533.86	\$7,104.32	\$24,895.17
168	\$7,104.32	\$23.68	\$535.64	\$6,568.68	\$24,918.85
169	\$6,568.68	\$21.90	\$537.43	\$6,031.25	\$24,940.74
170	\$6,031.25	\$20.10	\$539.22	\$5,492.03	\$24,960.85
171	\$5,492.03	\$18.31	\$541.02	\$4,951.02	\$24,979.15
172	\$4,951.02	\$16.50	\$542.82	\$4,408.20	\$24,995.66
173	\$4,408.20	\$14.69	\$544.63	\$3,863.57	\$25,010.35
174	\$3,863.57	\$12.88	\$546.44	\$3,317.13	\$25,023.23
175	\$3,317.13	\$11.06	\$548.27	\$2,768.86	\$25,034.29
176	\$2,768.86	\$9.23	\$550.09	\$2,218.77	\$25,043.52
177	\$2,218.77	\$7.40	\$551.93	\$1,666.84	\$25,050.91
178	\$1,666.84	\$5.56	\$553.77	\$1,113.08	\$25,056.47
179	\$1,113.08	\$3.71	\$555.61	\$557.46	\$25,060.18
180	\$557.46	\$1.86	\$557.46	\$0.00	\$25,062.04

D (Discount Factor) = 165.0218582

P = A/D \$458.22

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	20	\$458.22

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$75,616.00	\$252.05	\$206.16	\$75,409.84	\$252.05
2	\$75,409.84	\$251.37	\$206.85	\$75,202.98	\$503.42
3	\$75,202.98	\$250.68	\$207.54	\$74,995.44	\$754.10
4	\$74,995.44	\$249.98	\$208.23	\$74,787.21	\$1,004.08
5	\$74,787.21	\$249.29	\$208.93	\$74,578.28	\$1,253.37
6	\$74,578.28	\$248.59	\$209.62	\$74,368.66	\$1,501.97
7	\$74,368.66	\$247.90	\$210.32	\$74,158.33	\$1,749.86
8	\$74,158.33	\$247.19	\$211.02	\$73,947.31	\$1,997.06
9	\$73,947.31	\$246.49	\$211.73	\$73,735.58	\$2,243.55
10	\$73,735.58	\$245.79	\$212.43	\$73,523.15	\$2,489.33
11	\$73,523.15	\$245.08	\$213.14	\$73,310.01	\$2,734.41
12	\$73,310.01	\$244.37	\$213.85	\$73,096.16	\$2,978.78
13	\$73,096.16	\$243.65	\$214.56	\$72,881.59	\$3,222.43
14	\$72,881.59	\$242.94	\$215.28	\$72,666.32	\$3,465.37
15	\$72,666.32	\$242.22	\$216.00	\$72,450.32	\$3,707.59
16	\$72,450.32	\$241.50	\$216.72	\$72,233.60	\$3,949.09
17	\$72,233.60	\$240.78	\$217.44	\$72,016.16	\$4,189.87
18	\$72,016.16	\$240.05	\$218.16	\$71,798.00	\$4,429.92
19	\$71,798.00	\$239.33	\$218.89	\$71,579.11	\$4,669.25
20	\$71,579.11	\$238.60	\$219.62	\$71,359.49	\$4,907.85
21	\$71,359.49	\$237.86	\$220.35	\$71,139.13	\$5,145.71
22	\$71,139.13	\$237.13	\$221.09	\$70,918.04	\$5,382.84
23	\$70,918.04	\$236.39	\$221.82	\$70,696.22	\$5,619.24
24	\$70,696.22	\$235.65	\$222.56	\$70,473.66	\$5,854.89
25	\$70,473.66	\$234.91	\$223.31	\$70,250.35	\$6,089.80
26	\$70,250.35	\$234.17	\$224.05	\$70,026.30	\$6,323.97
27	\$70,026.30	\$233.42	\$224.80	\$69,801.50	\$6,557.39
28	\$69,801.50	\$232.67	\$225.55	\$69,575.96	\$6,790.06
29	\$69,575.96	\$231.92	\$226.30	\$69,349.66	\$7,021.98
30	\$69,349.66	\$231.17	\$227.05	\$69,122.61	\$7,253.15
31	\$69,122.61	\$230.41	\$227.81	\$68,894.80	\$7,483.56
32	\$68,894.80	\$229.65	\$228.57	\$68,666.23	\$7,713.21
33	\$68,666.23	\$228.89	\$229.33	\$68,436.90	\$7,942.09
34	\$68,436.90	\$228.12	\$230.10	\$68,206.80	\$8,170.22
35	\$68,206.80	\$227.36	\$230.86	\$67,975.94	\$8,397.57
36	\$67,975.94	\$226.59	\$231.63	\$67,744.31	\$8,624.16
37	\$67,744.31	\$225.81	\$232.40	\$67,511.90	\$8,849.97
38	\$67,511.90	\$225.04	\$233.18	\$67,278.73	\$9,075.01
39	\$67,278.73	\$224.26	\$233.96	\$67,044.77	\$9,299.28
40	\$67,044.77	\$223.48	\$234.74	\$66,810.03	\$9,522.76
41	\$66,810.03	\$222.70	\$235.52	\$66,574.52	\$9,745.46
42	\$66,574.52	\$221.92	\$236.30	\$66,338.21	\$9,967.37
43	\$66,338.21	\$221.13	\$237.09	\$66,101.12	\$10,188.50
44	\$66,101.12	\$220.34	\$237.88	\$65,863.24	\$10,408.84
45	\$65,863.24	\$219.54	\$238.67	\$65,624.57	\$10,628.38
46	\$65,624.57	\$218.75	\$239.47	\$65,385.10	\$10,847.13
47	\$65,385.10	\$217.95	\$240.27	\$65,144.83	\$11,065.08
48	\$65,144.83	\$217.15	\$241.07	\$64,903.76	\$11,282.23
49	\$64,903.76	\$216.35	\$241.87	\$64,661.89	\$11,498.58
50	\$64,661.89	\$215.54	\$242.68	\$64,419.21	\$11,714.12
51	\$64,419.21	\$214.73	\$243.49	\$64,175.72	\$11,928.85
52	\$64,175.72	\$213.92	\$244.30	\$63,931.42	\$12,142.77
53	\$63,931.42	\$213.10	\$245.11	\$63,686.31	\$12,355.87
54	\$63,686.31	\$212.29	\$245.93	\$63,440.38	\$12,568.16
55	\$63,440.38	\$211.47	\$246.75	\$63,193.63	\$12,779.63
56	\$63,193.63	\$210.65	\$247.57	\$62,946.06	\$12,990.27
57	\$62,946.06	\$209.82	\$248.40	\$62,697.66	\$13,200.09
58	\$62,697.66	\$208.99	\$249.23	\$62,448.43	\$13,409.08
59	\$62,448.43	\$208.16	\$250.06	\$62,198.38	\$13,617.24
60	\$62,198.38	\$207.33	\$250.89	\$61,947.49	\$13,824.57
61	\$61,947.49	\$206.49	\$251.73	\$61,695.76	\$14,031.06
62	\$61,695.76	\$205.65	\$252.57	\$61,443.20	\$14,236.72
63	\$61,443.20	\$204.81	\$253.41	\$61,189.79	\$14,441.53
64	\$61,189.79	\$203.97	\$254.25	\$60,935.54	\$14,645.49
65	\$60,935.54	\$203.12	\$255.10	\$60,680.44	\$14,848.61
66	\$60,680.44	\$202.27	\$255.95	\$60,424.49	\$15,050.88
67	\$60,424.49	\$201.41	\$256.80	\$60,167.68	\$15,252.30
68	\$60,167.68	\$200.56	\$257.66	\$59,910.02	\$15,452.85
69	\$59,910.02	\$199.70	\$258.52	\$59,651.51	\$15,652.55



D (Discount Factor) = 165.0218582

P = A/D \$458.22

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	20	\$458.22

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$59,651.51	\$198.84	\$259.38	\$59,392.13	\$15,851.39
71	\$59,392.13	\$197.97	\$260.24	\$59,131.88	\$16,049.37
72	\$59,131.88	\$197.11	\$261.11	\$58,870.77	\$16,246.47
73	\$58,870.77	\$196.24	\$261.98	\$58,608.79	\$16,442.71
74	\$58,608.79	\$195.36	\$262.86	\$58,345.93	\$16,638.07
75	\$58,345.93	\$194.49	\$263.73	\$58,082.20	\$16,832.56
76	\$58,082.20	\$193.61	\$264.61	\$57,817.59	\$17,026.16
77	\$57,817.59	\$192.73	\$265.49	\$57,552.10	\$17,218.89
78	\$57,552.10	\$191.84	\$266.38	\$57,285.72	\$17,410.73
79	\$57,285.72	\$190.95	\$267.27	\$57,018.45	\$17,601.68
80	\$57,018.45	\$190.06	\$268.16	\$56,750.30	\$17,791.74
81	\$56,750.30	\$189.17	\$269.05	\$56,481.25	\$17,980.91
82	\$56,481.25	\$188.27	\$269.95	\$56,211.30	\$18,169.18
83	\$56,211.30	\$187.37	\$270.85	\$55,940.45	\$18,356.55
84	\$55,940.45	\$186.47	\$271.75	\$55,668.70	\$18,543.02
85	\$55,668.70	\$185.56	\$272.66	\$55,396.05	\$18,728.58
86	\$55,396.05	\$184.65	\$273.56	\$55,122.48	\$18,913.24
87	\$55,122.48	\$183.74	\$274.48	\$54,848.01	\$19,096.98
88	\$54,848.01	\$182.83	\$275.39	\$54,572.61	\$19,279.81
89	\$54,572.61	\$181.91	\$276.31	\$54,296.31	\$19,461.71
90	\$54,296.31	\$180.99	\$277.23	\$54,019.07	\$19,642.70
91	\$54,019.07	\$180.06	\$278.15	\$53,740.92	\$19,822.77
92	\$53,740.92	\$179.14	\$279.08	\$53,461.84	\$20,001.90
93	\$53,461.84	\$178.21	\$280.01	\$53,181.83	\$20,180.11
94	\$53,181.83	\$177.27	\$280.95	\$52,900.88	\$20,357.38
95	\$52,900.88	\$176.34	\$281.88	\$52,619.00	\$20,533.72
96	\$52,619.00	\$175.40	\$282.82	\$52,336.18	\$20,709.11
97	\$52,336.18	\$174.45	\$283.76	\$52,052.41	\$20,883.57
98	\$52,052.41	\$173.51	\$284.71	\$51,767.70	\$21,057.08
99	\$51,767.70	\$172.56	\$285.66	\$51,482.04	\$21,229.64
100	\$51,482.04	\$171.61	\$286.61	\$51,195.43	\$21,401.24
101	\$51,195.43	\$170.65	\$287.57	\$50,907.87	\$21,571.89
102	\$50,907.87	\$169.69	\$288.53	\$50,619.34	\$21,741.59
103	\$50,619.34	\$168.73	\$289.49	\$50,329.85	\$21,910.32
104	\$50,329.85	\$167.77	\$290.45	\$50,039.40	\$22,078.08
105	\$50,039.40	\$166.80	\$291.42	\$49,747.98	\$22,244.88
106	\$49,747.98	\$165.83	\$292.39	\$49,455.59	\$22,410.71
107	\$49,455.59	\$164.85	\$293.37	\$49,162.23	\$22,575.56
108	\$49,162.23	\$163.87	\$294.34	\$48,867.88	\$22,739.43
109	\$48,867.88	\$162.89	\$295.33	\$48,572.56	\$22,902.33
110	\$48,572.56	\$161.91	\$296.31	\$48,276.25	\$23,064.24
111	\$48,276.25	\$160.92	\$297.30	\$47,978.95	\$23,225.16
112	\$47,978.95	\$159.93	\$298.29	\$47,680.66	\$23,385.09
113	\$47,680.66	\$158.94	\$299.28	\$47,381.38	\$23,544.02
114	\$47,381.38	\$157.94	\$300.28	\$47,081.10	\$23,701.96
115	\$47,081.10	\$156.94	\$301.28	\$46,779.82	\$23,858.90
116	\$46,779.82	\$155.93	\$302.29	\$46,477.53	\$24,014.83
117	\$46,477.53	\$154.93	\$303.29	\$46,174.24	\$24,169.75
118	\$46,174.24	\$153.91	\$304.30	\$45,869.93	\$24,323.67
119	\$45,869.93	\$152.90	\$305.32	\$45,564.62	\$24,476.57
120	\$45,564.62	\$151.88	\$306.34	\$45,258.28	\$24,628.45
121	\$45,258.28	\$150.86	\$307.36	\$44,950.92	\$24,779.31
122	\$44,950.92	\$149.84	\$308.38	\$44,642.54	\$24,929.15
123	\$44,642.54	\$148.81	\$309.41	\$44,333.13	\$25,077.96
124	\$44,333.13	\$147.78	\$310.44	\$44,022.69	\$25,225.73
125	\$44,022.69	\$146.74	\$311.48	\$43,711.22	\$25,372.48
126	\$43,711.22	\$145.70	\$312.51	\$43,398.70	\$25,518.18
127	\$43,398.70	\$144.66	\$313.56	\$43,085.15	\$25,662.84
128	\$43,085.15	\$143.62	\$314.60	\$42,770.54	\$25,806.46
129	\$42,770.54	\$142.57	\$315.65	\$42,454.89	\$25,949.03
130	\$42,454.89	\$141.52	\$316.70	\$42,138.19	\$26,090.54
131	\$42,138.19	\$140.46	\$317.76	\$41,820.44	\$26,231.00
132	\$41,820.44	\$139.40	\$318.82	\$41,501.62	\$26,370.41
133	\$41,501.62	\$138.34	\$319.88	\$41,181.74	\$26,508.75
134	\$41,181.74	\$137.27	\$320.95	\$40,860.79	\$26,646.02
135	\$40,860.79	\$136.20	\$322.02	\$40,538.78	\$26,782.22
136	\$40,538.78	\$135.13	\$323.09	\$40,215.69	\$26,917.35
137	\$40,215.69	\$134.05	\$324.17	\$39,891.52	\$27,051.40
138	\$39,891.52	\$132.97	\$325.25	\$39,566.28	\$27,184.37
139	\$39,566.28	\$131.89	\$326.33	\$39,239.95	\$27,316.26
140	\$39,239.95	\$130.80	\$327.42	\$38,912.53	\$27,447.06
141	\$38,912.53	\$129.71	\$328.51	\$38,584.02	\$27,576.77
142	\$38,584.02	\$128.61	\$329.60	\$38,254.41	\$27,705.38
143	\$38,254.41	\$127.51	\$330.70	\$37,923.71	\$27,832.90



D (Discount Factor) = 165.0218582

P = A/D \$458.22

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$75,616.00	4.00%	20	\$458.22

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$37,923.71	\$126.41	\$331.81	\$37,591.91	\$27,959.31
145	\$37,591.91	\$125.31	\$332.91	\$37,258.99	\$28,084.62
146	\$37,258.99	\$124.20	\$334.02	\$36,924.97	\$28,208.81
147	\$36,924.97	\$123.08	\$335.13	\$36,589.84	\$28,331.90
148	\$36,589.84	\$121.97	\$336.25	\$36,253.59	\$28,453.86
149	\$36,253.59	\$120.85	\$337.37	\$35,916.21	\$28,574.71
150	\$35,916.21	\$119.72	\$338.50	\$35,577.72	\$28,694.43
151	\$35,577.72	\$118.59	\$339.63	\$35,238.09	\$28,813.02
152	\$35,238.09	\$117.46	\$340.76	\$34,897.33	\$28,930.48
153	\$34,897.33	\$116.32	\$341.89	\$34,555.44	\$29,046.81
154	\$34,555.44	\$115.18	\$343.03	\$34,212.40	\$29,161.99
155	\$34,212.40	\$114.04	\$344.18	\$33,868.23	\$29,276.03
156	\$33,868.23	\$112.89	\$345.32	\$33,522.90	\$29,388.93
157	\$33,522.90	\$111.74	\$346.48	\$33,176.43	\$29,500.67
158	\$33,176.43	\$110.59	\$347.63	\$32,828.80	\$29,611.26
159	\$32,828.80	\$109.43	\$348.79	\$32,480.01	\$29,720.69
160	\$32,480.01	\$108.27	\$349.95	\$32,130.06	\$29,828.95
161	\$32,130.06	\$107.10	\$351.12	\$31,778.94	\$29,936.05
162	\$31,778.94	\$105.93	\$352.29	\$31,426.65	\$30,041.98
163	\$31,426.65	\$104.76	\$353.46	\$31,073.19	\$30,146.74
164	\$31,073.19	\$103.58	\$354.64	\$30,718.55	\$30,250.32
165	\$30,718.55	\$102.40	\$355.82	\$30,362.73	\$30,352.71
166	\$30,362.73	\$101.21	\$357.01	\$30,005.72	\$30,453.92
167	\$30,005.72	\$100.02	\$358.20	\$29,647.52	\$30,553.94
168	\$29,647.52	\$98.83	\$359.39	\$29,288.13	\$30,652.76
169	\$29,288.13	\$97.63	\$360.59	\$28,927.53	\$30,750.39
170	\$28,927.53	\$96.43	\$361.79	\$28,565.74	\$30,846.82
171	\$28,565.74	\$95.22	\$363.00	\$28,202.74	\$30,942.04
172	\$28,202.74	\$94.01	\$364.21	\$27,838.53	\$31,036.04
173	\$27,838.53	\$92.80	\$365.42	\$27,473.11	\$31,128.84
174	\$27,473.11	\$91.58	\$366.64	\$27,106.47	\$31,220.42
175	\$27,106.47	\$90.35	\$367.86	\$26,738.61	\$31,310.77
176	\$26,738.61	\$89.13	\$369.09	\$26,369.52	\$31,399.90
177	\$26,369.52	\$87.90	\$370.32	\$25,999.20	\$31,487.80
178	\$25,999.20	\$86.66	\$371.55	\$25,627.64	\$31,574.46
179	\$25,627.64	\$85.43	\$372.79	\$25,254.85	\$31,659.89
180	\$25,254.85	\$84.18	\$374.04	\$24,880.82	\$31,744.07
181	\$24,880.82	\$82.94	\$375.28	\$24,505.53	\$31,827.01
182	\$24,505.53	\$81.69	\$376.53	\$24,129.00	\$31,908.69
183	\$24,129.00	\$80.43	\$377.79	\$23,751.21	\$31,989.12
184	\$23,751.21	\$79.17	\$379.05	\$23,372.16	\$32,068.29
185	\$23,372.16	\$77.91	\$380.31	\$22,991.85	\$32,146.20
186	\$22,991.85	\$76.64	\$381.58	\$22,610.28	\$32,222.84
187	\$22,610.28	\$75.37	\$382.85	\$22,227.42	\$32,298.21
188	\$22,227.42	\$74.09	\$384.13	\$21,843.30	\$32,372.30
189	\$21,843.30	\$72.81	\$385.41	\$21,457.89	\$32,445.11
190	\$21,457.89	\$71.53	\$386.69	\$21,071.20	\$32,516.64
191	\$21,071.20	\$70.24	\$387.98	\$20,683.22	\$32,586.87
192	\$20,683.22	\$68.94	\$389.27	\$20,293.94	\$32,655.82
193	\$20,293.94	\$67.65	\$390.57	\$19,903.37	\$32,723.46
194	\$19,903.37	\$66.34	\$391.87	\$19,511.50	\$32,789.81
195	\$19,511.50	\$65.04	\$393.18	\$19,118.32	\$32,854.85
196	\$19,118.32	\$63.73	\$394.49	\$18,723.83	\$32,918.57
197	\$18,723.83	\$62.41	\$395.81	\$18,328.02	\$32,980.99
198	\$18,328.02	\$61.09	\$397.12	\$17,930.90	\$33,042.08
199	\$17,930.90	\$59.77	\$398.45	\$17,532.45	\$33,101.85
200	\$17,532.45	\$58.44	\$399.78	\$17,132.67	\$33,160.29
201	\$17,132.67	\$57.11	\$401.11	\$16,731.57	\$33,217.40
202	\$16,731.57	\$55.77	\$402.45	\$16,329.12	\$33,273.17
203	\$16,329.12	\$54.43	\$403.79	\$15,925.33	\$33,327.60
204	\$15,925.33	\$53.08	\$405.13	\$15,520.20	\$33,380.69
205	\$15,520.20	\$51.73	\$406.48	\$15,113.71	\$33,432.42
206	\$15,113.71	\$50.38	\$407.84	\$14,705.87	\$33,482.80
207	\$14,705.87	\$49.02	\$409.20	\$14,296.68	\$33,531.82
208	\$14,296.68	\$47.66	\$410.56	\$13,886.11	\$33,579.48
209	\$13,886.11	\$46.29	\$411.93	\$13,474.18	\$33,625.76
210	\$13,474.18	\$44.91	\$413.30	\$13,060.88	\$33,670.68
211	\$13,060.88	\$43.54	\$414.68	\$12,646.20	\$33,714.21
212	\$12,646.20	\$42.15	\$416.06	\$12,230.13	\$33,756.37
213	\$12,230.13	\$40.77	\$417.45	\$11,812.68	\$33,797.13
214	\$11,812.68	\$39.38	\$418.84	\$11,393.84	\$33,836.51
215	\$11,393.84	\$37.98	\$420.24	\$10,973.60	\$33,874.49
216	\$10,973.60	\$36.58	\$421.64	\$10,551.96	\$33,911.07
217	\$10,551.96	\$35.17	\$423.04	\$10,128.92	\$33,946.24

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	165.0218582
\$75,616.00	4.00%	20	\$458.22	P = A/D	\$458.22

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	\$10,128.92	\$33.76	\$424.46	\$9,704.46	\$33,980.00
219	\$9,704.46	\$32.35	\$425.87	\$9,278.59	\$34,012.35
220	\$9,278.59	\$30.93	\$427.29	\$8,851.30	\$34,043.28
221	\$8,851.30	\$29.50	\$428.71	\$8,422.59	\$34,072.78
222	\$8,422.59	\$28.08	\$430.14	\$7,992.45	\$34,100.86
223	\$7,992.45	\$26.64	\$431.58	\$7,560.87	\$34,127.50
224	\$7,560.87	\$25.20	\$433.02	\$7,127.85	\$34,152.70
225	\$7,127.85	\$23.76	\$434.46	\$6,693.39	\$34,176.46
226	\$6,693.39	\$22.31	\$435.91	\$6,257.49	\$34,198.78
227	\$6,257.49	\$20.86	\$437.36	\$5,820.13	\$34,219.63
228	\$5,820.13	\$19.40	\$438.82	\$5,381.31	\$34,239.03
229	\$5,381.31	\$17.94	\$440.28	\$4,941.03	\$34,256.97
230	\$4,941.03	\$16.47	\$441.75	\$4,499.28	\$34,273.44
231	\$4,499.28	\$15.00	\$443.22	\$4,056.06	\$34,288.44
232	\$4,056.06	\$13.52	\$444.70	\$3,611.36	\$34,301.96
233	\$3,611.36	\$12.04	\$446.18	\$3,165.18	\$34,314.00
234	\$3,165.18	\$10.55	\$447.67	\$2,717.52	\$34,324.55
235	\$2,717.52	\$9.06	\$449.16	\$2,268.36	\$34,333.61
236	\$2,268.36	\$7.56	\$450.66	\$1,817.70	\$34,341.17
237	\$1,817.70	\$6.06	\$452.16	\$1,365.54	\$34,347.23
238	\$1,365.54	\$4.55	\$453.67	\$911.87	\$34,351.78
239	\$911.87	\$3.04	\$455.18	\$456.70	\$34,354.82
240	\$456.70	\$1.52	\$456.70	\$0.00	\$34,356.34

D (Discount Factor) = 98.77017486

P = A/D \$308.04

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	10	\$308.04

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$30,425.00	\$101.42	\$206.62	\$30,218.38	\$101.42
2	\$30,218.38	\$100.73	\$207.31	\$30,011.07	\$202.14
3	\$30,011.07	\$100.04	\$208.00	\$29,803.07	\$302.18
4	\$29,803.07	\$99.34	\$208.69	\$29,594.37	\$401.53
5	\$29,594.37	\$98.65	\$209.39	\$29,384.98	\$500.17
6	\$29,384.98	\$97.95	\$210.09	\$29,174.89	\$598.12
7	\$29,174.89	\$97.25	\$210.79	\$28,964.10	\$695.37
8	\$28,964.10	\$96.55	\$211.49	\$28,752.61	\$791.92
9	\$28,752.61	\$95.84	\$212.20	\$28,540.42	\$887.76
10	\$28,540.42	\$95.13	\$212.90	\$28,327.51	\$982.90
11	\$28,327.51	\$94.43	\$213.61	\$28,113.90	\$1,077.32
12	\$28,113.90	\$93.71	\$214.33	\$27,899.57	\$1,171.03
13	\$27,899.57	\$93.00	\$215.04	\$27,684.53	\$1,264.03
14	\$27,684.53	\$92.28	\$215.76	\$27,468.78	\$1,356.31
15	\$27,468.78	\$91.56	\$216.48	\$27,252.30	\$1,447.88
16	\$27,252.30	\$90.84	\$217.20	\$27,035.10	\$1,538.72
17	\$27,035.10	\$90.12	\$217.92	\$26,817.18	\$1,628.84
18	\$26,817.18	\$89.39	\$218.65	\$26,598.54	\$1,718.23
19	\$26,598.54	\$88.66	\$219.38	\$26,379.16	\$1,806.89
20	\$26,379.16	\$87.93	\$220.11	\$26,159.05	\$1,894.82
21	\$26,159.05	\$87.20	\$220.84	\$25,938.21	\$1,982.02
22	\$25,938.21	\$86.46	\$221.58	\$25,716.63	\$2,068.48
23	\$25,716.63	\$85.72	\$222.32	\$25,494.32	\$2,154.20
24	\$25,494.32	\$84.98	\$223.06	\$25,271.26	\$2,239.18
25	\$25,271.26	\$84.24	\$223.80	\$25,047.46	\$2,323.42
26	\$25,047.46	\$83.49	\$224.55	\$24,822.91	\$2,406.91
27	\$24,822.91	\$82.74	\$225.30	\$24,597.62	\$2,489.65
28	\$24,597.62	\$81.99	\$226.05	\$24,371.57	\$2,571.64
29	\$24,371.57	\$81.24	\$226.80	\$24,144.77	\$2,652.88
30	\$24,144.77	\$80.48	\$227.56	\$23,917.21	\$2,733.36
31	\$23,917.21	\$79.72	\$228.31	\$23,688.90	\$2,813.09
32	\$23,688.90	\$78.96	\$229.08	\$23,459.82	\$2,892.05
33	\$23,459.82	\$78.20	\$229.84	\$23,229.99	\$2,970.25
34	\$23,229.99	\$77.43	\$230.61	\$22,999.38	\$3,047.68
35	\$22,999.38	\$76.66	\$231.37	\$22,768.01	\$3,124.35
36	\$22,768.01	\$75.89	\$232.14	\$22,535.86	\$3,200.24
37	\$22,535.86	\$75.12	\$232.92	\$22,302.94	\$3,275.36
38	\$22,302.94	\$74.34	\$233.70	\$22,069.25	\$3,349.70
39	\$22,069.25	\$73.56	\$234.47	\$21,834.77	\$3,423.27
40	\$21,834.77	\$72.78	\$235.26	\$21,599.52	\$3,496.05
41	\$21,599.52	\$72.00	\$236.04	\$21,363.48	\$3,568.05
42	\$21,363.48	\$71.21	\$236.83	\$21,126.65	\$3,639.26
43	\$21,126.65	\$70.42	\$237.62	\$20,889.04	\$3,709.68
44	\$20,889.04	\$69.63	\$238.41	\$20,650.63	\$3,779.31
45	\$20,650.63	\$68.84	\$239.20	\$20,411.42	\$3,848.15
46	\$20,411.42	\$68.04	\$240.00	\$20,171.42	\$3,916.19
47	\$20,171.42	\$67.24	\$240.80	\$19,930.62	\$3,983.43
48	\$19,930.62	\$66.44	\$241.60	\$19,689.02	\$4,049.86
49	\$19,689.02	\$65.63	\$242.41	\$19,446.61	\$4,115.49
50	\$19,446.61	\$64.82	\$243.22	\$19,203.40	\$4,180.31
51	\$19,203.40	\$64.01	\$244.03	\$18,959.37	\$4,244.32
52	\$18,959.37	\$63.20	\$244.84	\$18,714.53	\$4,307.52
53	\$18,714.53	\$62.38	\$245.66	\$18,468.87	\$4,369.90
54	\$18,468.87	\$61.56	\$246.48	\$18,222.40	\$4,431.47
55	\$18,222.40	\$60.74	\$247.30	\$17,975.10	\$4,492.21
56	\$17,975.10	\$59.92	\$248.12	\$17,726.98	\$4,552.12
57	\$17,726.98	\$59.09	\$248.95	\$17,478.03	\$4,611.21
58	\$17,478.03	\$58.26	\$249.78	\$17,228.25	\$4,669.47
59	\$17,228.25	\$57.43	\$250.61	\$16,977.64	\$4,726.90
60	\$16,977.64	\$56.59	\$251.45	\$16,726.19	\$4,783.49
61	\$16,726.19	\$55.75	\$252.28	\$16,473.91	\$4,839.25
62	\$16,473.91	\$54.91	\$253.13	\$16,220.79	\$4,894.16
63	\$16,220.79	\$54.07	\$253.97	\$15,966.82	\$4,948.23
64	\$15,966.82	\$53.22	\$254.82	\$15,712.00	\$5,001.45
65	\$15,712.00	\$52.37	\$255.66	\$15,456.34	\$5,053.83
66	\$15,456.34	\$51.52	\$256.52	\$15,199.82	\$5,105.35
67	\$15,199.82	\$50.67	\$257.37	\$14,942.45	\$5,156.01
68	\$14,942.45	\$49.81	\$258.23	\$14,684.22	\$5,205.82
69	\$14,684.22	\$48.95	\$259.09	\$14,425.12	\$5,254.77

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	98.77017486
\$30,425.00	4.00%	10	\$308.04	P = A/D	\$308.04

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$14,425.12	\$48.08	\$259.95	\$14,165.17	\$5,302.85
71	\$14,165.17	\$47.22	\$260.82	\$13,904.35	\$5,350.07
72	\$13,904.35	\$46.35	\$261.69	\$13,642.66	\$5,396.42
73	\$13,642.66	\$45.48	\$262.56	\$13,380.10	\$5,441.89
74	\$13,380.10	\$44.60	\$263.44	\$13,116.66	\$5,486.49
75	\$13,116.66	\$43.72	\$264.32	\$12,852.34	\$5,530.22
76	\$12,852.34	\$42.84	\$265.20	\$12,587.14	\$5,573.06
77	\$12,587.14	\$41.96	\$266.08	\$12,321.06	\$5,615.01
78	\$12,321.06	\$41.07	\$266.97	\$12,054.10	\$5,656.09
79	\$12,054.10	\$40.18	\$267.86	\$11,786.24	\$5,696.27
80	\$11,786.24	\$39.29	\$268.75	\$11,517.49	\$5,735.55
81	\$11,517.49	\$38.39	\$269.65	\$11,247.84	\$5,773.94
82	\$11,247.84	\$37.49	\$270.55	\$10,977.29	\$5,811.44
83	\$10,977.29	\$36.59	\$271.45	\$10,705.85	\$5,848.03
84	\$10,705.85	\$35.69	\$272.35	\$10,433.49	\$5,883.71
85	\$10,433.49	\$34.78	\$273.26	\$10,160.23	\$5,918.49
86	\$10,160.23	\$33.87	\$274.17	\$9,886.06	\$5,952.36
87	\$9,886.06	\$32.95	\$275.08	\$9,610.98	\$5,985.31
88	\$9,610.98	\$32.04	\$276.00	\$9,334.98	\$6,017.35
89	\$9,334.98	\$31.12	\$276.92	\$9,058.06	\$6,048.47
90	\$9,058.06	\$30.19	\$277.84	\$8,780.21	\$6,078.66
91	\$8,780.21	\$29.27	\$278.77	\$8,501.44	\$6,107.93
92	\$8,501.44	\$28.34	\$279.70	\$8,221.74	\$6,136.27
93	\$8,221.74	\$27.41	\$280.63	\$7,941.11	\$6,163.67
94	\$7,941.11	\$26.47	\$281.57	\$7,659.54	\$6,190.14
95	\$7,659.54	\$25.53	\$282.51	\$7,377.03	\$6,215.67
96	\$7,377.03	\$24.59	\$283.45	\$7,093.58	\$6,240.26
97	\$7,093.58	\$23.65	\$284.39	\$6,809.19	\$6,263.91
98	\$6,809.19	\$22.70	\$285.34	\$6,523.85	\$6,286.61
99	\$6,523.85	\$21.75	\$286.29	\$6,237.56	\$6,308.35
100	\$6,237.56	\$20.79	\$287.25	\$5,950.31	\$6,329.14
101	\$5,950.31	\$19.83	\$288.20	\$5,662.11	\$6,348.98
102	\$5,662.11	\$18.87	\$289.16	\$5,372.94	\$6,367.85
103	\$5,372.94	\$17.91	\$290.13	\$5,082.81	\$6,385.76
104	\$5,082.81	\$16.94	\$291.10	\$4,791.72	\$6,402.71
105	\$4,791.72	\$15.97	\$292.07	\$4,499.65	\$6,418.68
106	\$4,499.65	\$15.00	\$293.04	\$4,206.61	\$6,433.68
107	\$4,206.61	\$14.02	\$294.02	\$3,912.60	\$6,447.70
108	\$3,912.60	\$13.04	\$295.00	\$3,617.60	\$6,460.74
109	\$3,617.60	\$12.06	\$295.98	\$3,321.62	\$6,472.80
110	\$3,321.62	\$11.07	\$296.97	\$3,024.65	\$6,483.87
111	\$3,024.65	\$10.08	\$297.96	\$2,726.70	\$6,493.95
112	\$2,726.70	\$9.09	\$298.95	\$2,427.75	\$6,503.04
113	\$2,427.75	\$8.09	\$299.95	\$2,127.80	\$6,511.13
114	\$2,127.80	\$7.09	\$300.95	\$1,826.86	\$6,518.23
115	\$1,826.86	\$6.09	\$301.95	\$1,524.91	\$6,524.32
116	\$1,524.91	\$5.08	\$302.96	\$1,221.95	\$6,529.40
117	\$1,221.95	\$4.07	\$303.97	\$917.99	\$6,533.47
118	\$917.99	\$3.06	\$304.98	\$613.01	\$6,536.53
119	\$613.01	\$2.04	\$305.99	\$307.01	\$6,538.58
120	\$307.01	\$1.02	\$307.01	\$0.00	\$6,539.60

D (Discount Factor) = 135.1921487

P = A/D \$225.05

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	15	\$225.05

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$30,425.00	\$101.42	\$123.63	\$30,301.37	\$101.42
2	\$30,301.37	\$101.00	\$124.05	\$30,177.32	\$202.42
3	\$30,177.32	\$100.59	\$124.46	\$30,052.86	\$303.01
4	\$30,052.86	\$100.18	\$124.87	\$29,927.99	\$403.19
5	\$29,927.99	\$99.76	\$125.29	\$29,802.70	\$502.95
6	\$29,802.70	\$99.34	\$125.71	\$29,676.99	\$602.29
7	\$29,676.99	\$98.92	\$126.13	\$29,550.86	\$701.21
8	\$29,550.86	\$98.50	\$126.55	\$29,424.32	\$799.72
9	\$29,424.32	\$98.08	\$126.97	\$29,297.35	\$897.80
10	\$29,297.35	\$97.66	\$127.39	\$29,169.96	\$995.46
11	\$29,169.96	\$97.23	\$127.82	\$29,042.14	\$1,092.69
12	\$29,042.14	\$96.81	\$128.24	\$28,913.90	\$1,189.50
13	\$28,913.90	\$96.38	\$128.67	\$28,785.23	\$1,285.88
14	\$28,785.23	\$95.95	\$129.10	\$28,656.13	\$1,381.83
15	\$28,656.13	\$95.52	\$129.53	\$28,526.60	\$1,477.35
16	\$28,526.60	\$95.09	\$129.96	\$28,396.63	\$1,572.44
17	\$28,396.63	\$94.66	\$130.39	\$28,266.24	\$1,667.09
18	\$28,266.24	\$94.22	\$130.83	\$28,135.41	\$1,761.31
19	\$28,135.41	\$93.78	\$131.27	\$28,004.15	\$1,855.10
20	\$28,004.15	\$93.35	\$131.70	\$27,872.44	\$1,948.44
21	\$27,872.44	\$92.91	\$132.14	\$27,740.30	\$2,041.35
22	\$27,740.30	\$92.47	\$132.58	\$27,607.72	\$2,133.82
23	\$27,607.72	\$92.03	\$133.02	\$27,474.69	\$2,225.85
24	\$27,474.69	\$91.58	\$133.47	\$27,341.23	\$2,317.43
25	\$27,341.23	\$91.14	\$133.91	\$27,207.31	\$2,408.57
26	\$27,207.31	\$90.69	\$134.36	\$27,072.95	\$2,499.26
27	\$27,072.95	\$90.24	\$134.81	\$26,938.15	\$2,589.50
28	\$26,938.15	\$89.79	\$135.26	\$26,802.89	\$2,679.29
29	\$26,802.89	\$89.34	\$135.71	\$26,667.18	\$2,768.64
30	\$26,667.18	\$88.89	\$136.16	\$26,531.03	\$2,857.53
31	\$26,531.03	\$88.44	\$136.61	\$26,394.41	\$2,945.96
32	\$26,394.41	\$87.98	\$137.07	\$26,257.34	\$3,033.94
33	\$26,257.34	\$87.52	\$137.53	\$26,119.82	\$3,121.47
34	\$26,119.82	\$87.07	\$137.98	\$25,981.83	\$3,208.54
35	\$25,981.83	\$86.61	\$138.44	\$25,843.39	\$3,295.14
36	\$25,843.39	\$86.14	\$138.91	\$25,704.48	\$3,381.29
37	\$25,704.48	\$85.68	\$139.37	\$25,565.12	\$3,466.97
38	\$25,565.12	\$85.22	\$139.83	\$25,425.28	\$3,552.18
39	\$25,425.28	\$84.75	\$140.30	\$25,284.98	\$3,636.94
40	\$25,284.98	\$84.28	\$140.77	\$25,144.22	\$3,721.22
41	\$25,144.22	\$83.81	\$141.24	\$25,002.98	\$3,805.03
42	\$25,002.98	\$83.34	\$141.71	\$24,861.27	\$3,888.38
43	\$24,861.27	\$82.87	\$142.18	\$24,719.09	\$3,971.25
44	\$24,719.09	\$82.40	\$142.65	\$24,576.44	\$4,053.64
45	\$24,576.44	\$81.92	\$143.13	\$24,433.31	\$4,135.57
46	\$24,433.31	\$81.44	\$143.61	\$24,289.71	\$4,217.01
47	\$24,289.71	\$80.97	\$144.08	\$24,145.62	\$4,297.98
48	\$24,145.62	\$80.49	\$144.56	\$24,001.06	\$4,378.46
49	\$24,001.06	\$80.00	\$145.05	\$23,856.01	\$4,458.46
50	\$23,856.01	\$79.52	\$145.53	\$23,710.48	\$4,537.98
51	\$23,710.48	\$79.03	\$146.02	\$23,564.47	\$4,617.02
52	\$23,564.47	\$78.55	\$146.50	\$23,417.97	\$4,695.57
53	\$23,417.97	\$78.06	\$146.99	\$23,270.98	\$4,773.63
54	\$23,270.98	\$77.57	\$147.48	\$23,123.49	\$4,851.20
55	\$23,123.49	\$77.08	\$147.97	\$22,975.52	\$4,928.28
56	\$22,975.52	\$76.59	\$148.46	\$22,827.06	\$5,004.86
57	\$22,827.06	\$76.09	\$148.96	\$22,678.10	\$5,080.95
58	\$22,678.10	\$75.59	\$149.46	\$22,528.64	\$5,156.54
59	\$22,528.64	\$75.10	\$149.95	\$22,378.69	\$5,231.64
60	\$22,378.69	\$74.60	\$150.45	\$22,228.23	\$5,306.24
61	\$22,228.23	\$74.09	\$150.96	\$22,077.28	\$5,380.33
62	\$22,077.28	\$73.59	\$151.46	\$21,925.82	\$5,453.92
63	\$21,925.82	\$73.09	\$151.96	\$21,773.85	\$5,527.01
64	\$21,773.85	\$72.58	\$152.47	\$21,621.38	\$5,599.59
65	\$21,621.38	\$72.07	\$152.98	\$21,468.40	\$5,671.66
66	\$21,468.40	\$71.56	\$153.49	\$21,314.92	\$5,743.22
67	\$21,314.92	\$71.05	\$154.00	\$21,160.92	\$5,814.27
68	\$21,160.92	\$70.54	\$154.51	\$21,006.40	\$5,884.81
69	\$21,006.40	\$70.02	\$155.03	\$20,851.37	\$5,954.83



D (Discount Factor) = 135.1921487

P = A/D \$225.05

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	15	\$225.05

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$20,851.37	\$69.50	\$155.55	\$20,695.83	\$6,024.33
71	\$20,695.83	\$68.99	\$156.06	\$20,539.76	\$6,093.32
72	\$20,539.76	\$68.47	\$156.58	\$20,383.18	\$6,161.78
73	\$20,383.18	\$67.94	\$157.11	\$20,226.07	\$6,229.73
74	\$20,226.07	\$67.42	\$157.63	\$20,068.44	\$6,297.15
75	\$20,068.44	\$66.89	\$158.16	\$19,910.29	\$6,364.04
76	\$19,910.29	\$66.37	\$158.68	\$19,751.61	\$6,430.41
77	\$19,751.61	\$65.84	\$159.21	\$19,592.39	\$6,496.25
78	\$19,592.39	\$65.31	\$159.74	\$19,432.65	\$6,561.56
79	\$19,432.65	\$64.78	\$160.27	\$19,272.38	\$6,626.33
80	\$19,272.38	\$64.24	\$160.81	\$19,111.57	\$6,690.57
81	\$19,111.57	\$63.71	\$161.34	\$18,950.22	\$6,754.28
82	\$18,950.22	\$63.17	\$161.88	\$18,788.34	\$6,817.45
83	\$18,788.34	\$62.63	\$162.42	\$18,625.92	\$6,880.07
84	\$18,625.92	\$62.09	\$162.96	\$18,462.96	\$6,942.16
85	\$18,462.96	\$61.54	\$163.51	\$18,299.45	\$7,003.70
86	\$18,299.45	\$61.00	\$164.05	\$18,135.40	\$7,064.70
87	\$18,135.40	\$60.45	\$164.60	\$17,970.80	\$7,125.15
88	\$17,970.80	\$59.90	\$165.15	\$17,805.65	\$7,185.06
89	\$17,805.65	\$59.35	\$165.70	\$17,639.95	\$7,244.41
90	\$17,639.95	\$58.80	\$166.25	\$17,473.70	\$7,303.21
91	\$17,473.70	\$58.25	\$166.80	\$17,306.90	\$7,361.45
92	\$17,306.90	\$57.69	\$167.36	\$17,139.54	\$7,419.14
93	\$17,139.54	\$57.13	\$167.92	\$16,971.62	\$7,476.27
94	\$16,971.62	\$56.57	\$168.48	\$16,803.14	\$7,532.85
95	\$16,803.14	\$56.01	\$169.04	\$16,634.10	\$7,588.86
96	\$16,634.10	\$55.45	\$169.60	\$16,464.50	\$7,644.30
97	\$16,464.50	\$54.88	\$170.17	\$16,294.33	\$7,699.19
98	\$16,294.33	\$54.31	\$170.74	\$16,123.60	\$7,753.50
99	\$16,123.60	\$53.75	\$171.30	\$15,952.29	\$7,807.25
100	\$15,952.29	\$53.17	\$171.88	\$15,780.41	\$7,860.42
101	\$15,780.41	\$52.60	\$172.45	\$15,607.97	\$7,913.02
102	\$15,607.97	\$52.03	\$173.02	\$15,434.94	\$7,965.05
103	\$15,434.94	\$51.45	\$173.60	\$15,261.34	\$8,016.50
104	\$15,261.34	\$50.87	\$174.18	\$15,087.16	\$8,067.37
105	\$15,087.16	\$50.29	\$174.76	\$14,912.40	\$8,117.66
106	\$14,912.40	\$49.71	\$175.34	\$14,737.06	\$8,167.37
107	\$14,737.06	\$49.12	\$175.93	\$14,561.14	\$8,216.49
108	\$14,561.14	\$48.54	\$176.51	\$14,384.62	\$8,265.03
109	\$14,384.62	\$47.95	\$177.10	\$14,207.52	\$8,312.98
110	\$14,207.52	\$47.36	\$177.69	\$14,029.83	\$8,360.34
111	\$14,029.83	\$46.77	\$178.28	\$13,851.55	\$8,407.10
112	\$13,851.55	\$46.17	\$178.88	\$13,672.67	\$8,453.27
113	\$13,672.67	\$45.58	\$179.47	\$13,493.19	\$8,498.85
114	\$13,493.19	\$44.98	\$180.07	\$13,313.12	\$8,543.83
115	\$13,313.12	\$44.38	\$180.67	\$13,132.45	\$8,588.20
116	\$13,132.45	\$43.77	\$181.28	\$12,951.17	\$8,631.98
117	\$12,951.17	\$43.17	\$181.88	\$12,769.29	\$8,675.15
118	\$12,769.29	\$42.56	\$182.49	\$12,586.81	\$8,717.71
119	\$12,586.81	\$41.96	\$183.09	\$12,403.71	\$8,759.67
120	\$12,403.71	\$41.35	\$183.70	\$12,220.01	\$8,801.01
121	\$12,220.01	\$40.73	\$184.32	\$12,035.69	\$8,841.75
122	\$12,035.69	\$40.12	\$184.93	\$11,850.76	\$8,881.87
123	\$11,850.76	\$39.50	\$185.55	\$11,665.21	\$8,921.37
124	\$11,665.21	\$38.88	\$186.17	\$11,479.05	\$8,960.25
125	\$11,479.05	\$38.26	\$186.79	\$11,292.26	\$8,998.52
126	\$11,292.26	\$37.64	\$187.41	\$11,104.85	\$9,036.16
127	\$11,104.85	\$37.02	\$188.03	\$10,916.82	\$9,073.17
128	\$10,916.82	\$36.39	\$188.66	\$10,728.16	\$9,109.56
129	\$10,728.16	\$35.76	\$189.29	\$10,538.87	\$9,145.32
130	\$10,538.87	\$35.13	\$189.92	\$10,348.95	\$9,180.45
131	\$10,348.95	\$34.50	\$190.55	\$10,158.39	\$9,214.95
132	\$10,158.39	\$33.86	\$191.19	\$9,967.20	\$9,248.81
133	\$9,967.20	\$33.22	\$191.83	\$9,775.38	\$9,282.04
134	\$9,775.38	\$32.58	\$192.47	\$9,582.91	\$9,314.62
135	\$9,582.91	\$31.94	\$193.11	\$9,389.81	\$9,346.56
136	\$9,389.81	\$31.30	\$193.75	\$9,196.06	\$9,377.86
137	\$9,196.06	\$30.65	\$194.40	\$9,001.66	\$9,408.52
138	\$9,001.66	\$30.01	\$195.04	\$8,806.61	\$9,438.52
139	\$8,806.61	\$29.36	\$195.69	\$8,610.92	\$9,467.88
140	\$8,610.92	\$28.70	\$196.35	\$8,414.57	\$9,496.58
141	\$8,414.57	\$28.05	\$197.00	\$8,217.57	\$9,524.63
142	\$8,217.57	\$27.39	\$197.66	\$8,019.91	\$9,552.02
143	\$8,019.91	\$26.73	\$198.32	\$7,821.60	\$9,578.75

<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	135.1921487
\$30,425.00	4.00%	15	\$225.05	P = A/D	\$225.05

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$7,821.60	\$26.07	\$198.98	\$7,622.62	\$9,604.83
145	\$7,622.62	\$25.41	\$199.64	\$7,422.98	\$9,630.23
146	\$7,422.98	\$24.74	\$200.31	\$7,222.67	\$9,654.98
147	\$7,222.67	\$24.08	\$200.97	\$7,021.70	\$9,679.05
148	\$7,021.70	\$23.41	\$201.64	\$6,820.05	\$9,702.46
149	\$6,820.05	\$22.73	\$202.32	\$6,617.73	\$9,725.19
150	\$6,617.73	\$22.06	\$202.99	\$6,414.74	\$9,747.25
151	\$6,414.74	\$21.38	\$203.67	\$6,211.08	\$9,768.63
152	\$6,211.08	\$20.70	\$204.35	\$6,006.73	\$9,789.34
153	\$6,006.73	\$20.02	\$205.03	\$5,801.70	\$9,809.36
154	\$5,801.70	\$19.34	\$205.71	\$5,595.99	\$9,828.70
155	\$5,595.99	\$18.65	\$206.40	\$5,389.59	\$9,847.35
156	\$5,389.59	\$17.97	\$207.08	\$5,182.51	\$9,865.32
157	\$5,182.51	\$17.28	\$207.78	\$4,974.73	\$9,882.59
158	\$4,974.73	\$16.58	\$208.47	\$4,766.27	\$9,899.17
159	\$4,766.27	\$15.89	\$209.16	\$4,557.10	\$9,915.06
160	\$4,557.10	\$15.19	\$209.86	\$4,347.24	\$9,930.25
161	\$4,347.24	\$14.49	\$210.56	\$4,136.68	\$9,944.74
162	\$4,136.68	\$13.79	\$211.26	\$3,925.42	\$9,958.53
163	\$3,925.42	\$13.08	\$211.97	\$3,713.46	\$9,971.62
164	\$3,713.46	\$12.38	\$212.67	\$3,500.79	\$9,984.00
165	\$3,500.79	\$11.67	\$213.38	\$3,287.41	\$9,995.66
166	\$3,287.41	\$10.96	\$214.09	\$3,073.31	\$10,006.62
167	\$3,073.31	\$10.24	\$214.81	\$2,858.51	\$10,016.87
168	\$2,858.51	\$9.53	\$215.52	\$2,642.99	\$10,026.40
169	\$2,642.99	\$8.81	\$216.24	\$2,426.75	\$10,035.21
170	\$2,426.75	\$8.09	\$216.96	\$2,209.79	\$10,043.29
171	\$2,209.79	\$7.37	\$217.68	\$1,992.10	\$10,050.66
172	\$1,992.10	\$6.64	\$218.41	\$1,773.69	\$10,057.30
173	\$1,773.69	\$5.91	\$219.14	\$1,554.55	\$10,063.21
174	\$1,554.55	\$5.18	\$219.87	\$1,334.69	\$10,068.39
175	\$1,334.69	\$4.45	\$220.60	\$1,114.08	\$10,072.84
176	\$1,114.08	\$3.71	\$221.34	\$892.75	\$10,076.56
177	\$892.75	\$2.98	\$222.07	\$670.67	\$10,079.53
178	\$670.67	\$2.24	\$222.81	\$447.86	\$10,081.77
179	\$447.86	\$1.49	\$223.56	\$224.30	\$10,083.26
180	\$224.30	\$0.75	\$224.30	\$0.00	\$10,084.01

D (Discount Factor) = 165.0218582

P = A/D \$184.37

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	20	\$184.37

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
1	\$30,425.00	\$101.42	\$82.95	\$30,342.05	\$101.42
2	\$30,342.05	\$101.14	\$83.23	\$30,258.82	\$202.56
3	\$30,258.82	\$100.86	\$83.51	\$30,175.31	\$303.42
4	\$30,175.31	\$100.58	\$83.79	\$30,091.53	\$404.00
5	\$30,091.53	\$100.31	\$84.06	\$30,007.46	\$504.31
6	\$30,007.46	\$100.02	\$84.34	\$29,923.12	\$604.33
7	\$29,923.12	\$99.74	\$84.63	\$29,838.49	\$704.08
8	\$29,838.49	\$99.46	\$84.91	\$29,753.58	\$803.54
9	\$29,753.58	\$99.18	\$85.19	\$29,668.39	\$902.72
10	\$29,668.39	\$98.89	\$85.47	\$29,582.92	\$1,001.61
11	\$29,582.92	\$98.61	\$85.76	\$29,497.16	\$1,100.22
12	\$29,497.16	\$98.32	\$86.05	\$29,411.11	\$1,198.55
13	\$29,411.11	\$98.04	\$86.33	\$29,324.78	\$1,296.58
14	\$29,324.78	\$97.75	\$86.62	\$29,238.16	\$1,394.33
15	\$29,238.16	\$97.46	\$86.91	\$29,151.25	\$1,491.79
16	\$29,151.25	\$97.17	\$87.20	\$29,064.05	\$1,588.96
17	\$29,064.05	\$96.88	\$87.49	\$28,976.56	\$1,685.84
18	\$28,976.56	\$96.59	\$87.78	\$28,888.78	\$1,782.43
19	\$28,888.78	\$96.30	\$88.07	\$28,800.71	\$1,878.73
20	\$28,800.71	\$96.00	\$88.37	\$28,712.34	\$1,974.73
21	\$28,712.34	\$95.71	\$88.66	\$28,623.68	\$2,070.44
22	\$28,623.68	\$95.41	\$88.96	\$28,534.72	\$2,165.85
23	\$28,534.72	\$95.12	\$89.25	\$28,445.47	\$2,260.97
24	\$28,445.47	\$94.82	\$89.55	\$28,355.92	\$2,355.78
25	\$28,355.92	\$94.52	\$89.85	\$28,266.07	\$2,450.30
26	\$28,266.07	\$94.22	\$90.15	\$28,175.92	\$2,544.52
27	\$28,175.92	\$93.92	\$90.45	\$28,085.47	\$2,638.44
28	\$28,085.47	\$93.62	\$90.75	\$27,994.72	\$2,732.06
29	\$27,994.72	\$93.32	\$91.05	\$27,903.66	\$2,825.38
30	\$27,903.66	\$93.01	\$91.36	\$27,812.31	\$2,918.39
31	\$27,812.31	\$92.71	\$91.66	\$27,720.64	\$3,011.10
32	\$27,720.64	\$92.40	\$91.97	\$27,628.68	\$3,103.50
33	\$27,628.68	\$92.10	\$92.27	\$27,536.40	\$3,195.60
34	\$27,536.40	\$91.79	\$92.58	\$27,443.82	\$3,287.38
35	\$27,443.82	\$91.48	\$92.89	\$27,350.93	\$3,378.86
36	\$27,350.93	\$91.17	\$93.20	\$27,257.73	\$3,470.03
37	\$27,257.73	\$90.86	\$93.51	\$27,164.22	\$3,560.89
38	\$27,164.22	\$90.55	\$93.82	\$27,070.40	\$3,651.44
39	\$27,070.40	\$90.23	\$94.13	\$26,976.26	\$3,741.67
40	\$26,976.26	\$89.92	\$94.45	\$26,881.81	\$3,831.60
41	\$26,881.81	\$89.61	\$94.76	\$26,787.05	\$3,921.20
42	\$26,787.05	\$89.29	\$95.08	\$26,691.97	\$4,010.49
43	\$26,691.97	\$88.97	\$95.40	\$26,596.58	\$4,099.46
44	\$26,596.58	\$88.66	\$95.71	\$26,500.86	\$4,188.12
45	\$26,500.86	\$88.34	\$96.03	\$26,404.83	\$4,276.46
46	\$26,404.83	\$88.02	\$96.35	\$26,308.47	\$4,364.47
47	\$26,308.47	\$87.69	\$96.67	\$26,211.80	\$4,452.17
48	\$26,211.80	\$87.37	\$97.00	\$26,114.80	\$4,539.54
49	\$26,114.80	\$87.05	\$97.32	\$26,017.48	\$4,626.59
50	\$26,017.48	\$86.72	\$97.64	\$25,919.84	\$4,713.31
51	\$25,919.84	\$86.40	\$97.97	\$25,821.87	\$4,799.71
52	\$25,821.87	\$86.07	\$98.30	\$25,723.57	\$4,885.79
53	\$25,723.57	\$85.75	\$98.62	\$25,624.95	\$4,971.53
54	\$25,624.95	\$85.42	\$98.95	\$25,525.99	\$5,056.95
55	\$25,525.99	\$85.09	\$99.28	\$25,426.71	\$5,142.03
56	\$25,426.71	\$84.76	\$99.61	\$25,327.10	\$5,226.79
57	\$25,327.10	\$84.42	\$99.95	\$25,227.15	\$5,311.21
58	\$25,227.15	\$84.09	\$100.28	\$25,126.87	\$5,395.30
59	\$25,126.87	\$83.76	\$100.61	\$25,026.26	\$5,479.06
60	\$25,026.26	\$83.42	\$100.95	\$24,925.31	\$5,562.48
61	\$24,925.31	\$83.08	\$101.29	\$24,824.03	\$5,645.57
62	\$24,824.03	\$82.75	\$101.62	\$24,722.40	\$5,728.31
63	\$24,722.40	\$82.41	\$101.96	\$24,620.44	\$5,810.72
64	\$24,620.44	\$82.07	\$102.30	\$24,518.14	\$5,892.79
65	\$24,518.14	\$81.73	\$102.64	\$24,415.50	\$5,974.52
66	\$24,415.50	\$81.38	\$102.98	\$24,312.51	\$6,055.90
67	\$24,312.51	\$81.04	\$103.33	\$24,209.19	\$6,136.94
68	\$24,209.19	\$80.70	\$103.67	\$24,105.51	\$6,217.64
69	\$24,105.51	\$80.35	\$104.02	\$24,001.50	\$6,297.99

D (Discount Factor) = 165.0218582

P = A/D \$184.37

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	20	\$184.37

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
70	\$24,001.50	\$80.00	\$104.36	\$23,897.13	\$6,378.00
71	\$23,897.13	\$79.66	\$104.71	\$23,792.42	\$6,457.65
72	\$23,792.42	\$79.31	\$105.06	\$23,687.36	\$6,536.96
73	\$23,687.36	\$78.96	\$105.41	\$23,581.95	\$6,615.92
74	\$23,581.95	\$78.61	\$105.76	\$23,476.18	\$6,694.53
75	\$23,476.18	\$78.25	\$106.12	\$23,370.07	\$6,772.78
76	\$23,370.07	\$77.90	\$106.47	\$23,263.60	\$6,850.68
77	\$23,263.60	\$77.55	\$106.82	\$23,156.77	\$6,928.23
78	\$23,156.77	\$77.19	\$107.18	\$23,049.59	\$7,005.42
79	\$23,049.59	\$76.83	\$107.54	\$22,942.06	\$7,082.25
80	\$22,942.06	\$76.47	\$107.90	\$22,834.16	\$7,158.72
81	\$22,834.16	\$76.11	\$108.26	\$22,725.90	\$7,234.83
82	\$22,725.90	\$75.75	\$108.62	\$22,617.29	\$7,310.59
83	\$22,617.29	\$75.39	\$108.98	\$22,508.31	\$7,385.98
84	\$22,508.31	\$75.03	\$109.34	\$22,398.97	\$7,461.01
85	\$22,398.97	\$74.66	\$109.71	\$22,289.26	\$7,535.67
86	\$22,289.26	\$74.30	\$110.07	\$22,179.19	\$7,609.97
87	\$22,179.19	\$73.93	\$110.44	\$22,068.75	\$7,683.90
88	\$22,068.75	\$73.56	\$110.81	\$21,957.94	\$7,757.46
89	\$21,957.94	\$73.19	\$111.18	\$21,846.77	\$7,830.65
90	\$21,846.77	\$72.82	\$111.55	\$21,735.22	\$7,903.48
91	\$21,735.22	\$72.45	\$111.92	\$21,623.30	\$7,975.93
92	\$21,623.30	\$72.08	\$112.29	\$21,511.01	\$8,048.00
93	\$21,511.01	\$71.70	\$112.67	\$21,398.34	\$8,119.71
94	\$21,398.34	\$71.33	\$113.04	\$21,285.30	\$8,191.04
95	\$21,285.30	\$70.95	\$113.42	\$21,171.88	\$8,261.99
96	\$21,171.88	\$70.57	\$113.80	\$21,058.09	\$8,332.56
97	\$21,058.09	\$70.19	\$114.18	\$20,943.91	\$8,402.75
98	\$20,943.91	\$69.81	\$114.56	\$20,829.35	\$8,472.57
99	\$20,829.35	\$69.43	\$114.94	\$20,714.42	\$8,542.00
100	\$20,714.42	\$69.05	\$115.32	\$20,599.09	\$8,611.05
101	\$20,599.09	\$68.66	\$115.71	\$20,483.39	\$8,679.71
102	\$20,483.39	\$68.28	\$116.09	\$20,367.30	\$8,747.99
103	\$20,367.30	\$67.89	\$116.48	\$20,250.82	\$8,815.88
104	\$20,250.82	\$67.50	\$116.87	\$20,133.95	\$8,883.38
105	\$20,133.95	\$67.11	\$117.26	\$20,016.69	\$8,950.49
106	\$20,016.69	\$66.72	\$117.65	\$19,899.05	\$9,017.22
107	\$19,899.05	\$66.33	\$118.04	\$19,781.01	\$9,083.55
108	\$19,781.01	\$65.94	\$118.43	\$19,662.58	\$9,149.48
109	\$19,662.58	\$65.54	\$118.83	\$19,543.75	\$9,215.02
110	\$19,543.75	\$65.15	\$119.22	\$19,424.52	\$9,280.17
111	\$19,424.52	\$64.75	\$119.62	\$19,304.90	\$9,344.92
112	\$19,304.90	\$64.35	\$120.02	\$19,184.88	\$9,409.27
113	\$19,184.88	\$63.95	\$120.42	\$19,064.46	\$9,473.22
114	\$19,064.46	\$63.55	\$120.82	\$18,943.64	\$9,536.77
115	\$18,943.64	\$63.15	\$121.22	\$18,822.42	\$9,599.91
116	\$18,822.42	\$62.74	\$121.63	\$18,700.79	\$9,662.65
117	\$18,700.79	\$62.34	\$122.03	\$18,578.76	\$9,724.99
118	\$18,578.76	\$61.93	\$122.44	\$18,456.32	\$9,786.92
119	\$18,456.32	\$61.52	\$122.85	\$18,333.47	\$9,848.44
120	\$18,333.47	\$61.11	\$123.26	\$18,210.21	\$9,909.55
121	\$18,210.21	\$60.70	\$123.67	\$18,086.54	\$9,970.25
122	\$18,086.54	\$60.29	\$124.08	\$17,962.46	\$10,030.54
123	\$17,962.46	\$59.87	\$124.49	\$17,837.96	\$10,090.42
124	\$17,837.96	\$59.46	\$124.91	\$17,713.06	\$10,149.87
125	\$17,713.06	\$59.04	\$125.33	\$17,587.73	\$10,208.92
126	\$17,587.73	\$58.63	\$125.74	\$17,461.99	\$10,267.54
127	\$17,461.99	\$58.21	\$126.16	\$17,335.82	\$10,325.75
128	\$17,335.82	\$57.79	\$126.58	\$17,209.24	\$10,383.54
129	\$17,209.24	\$57.36	\$127.01	\$17,082.23	\$10,440.90
130	\$17,082.23	\$56.94	\$127.43	\$16,954.80	\$10,497.84
131	\$16,954.80	\$56.52	\$127.85	\$16,826.95	\$10,554.36
132	\$16,826.95	\$56.09	\$128.28	\$16,698.67	\$10,610.45
133	\$16,698.67	\$55.66	\$128.71	\$16,569.96	\$10,666.11
134	\$16,569.96	\$55.23	\$129.14	\$16,440.83	\$10,721.34
135	\$16,440.83	\$54.80	\$129.57	\$16,311.26	\$10,776.15
136	\$16,311.26	\$54.37	\$130.00	\$16,181.26	\$10,830.52
137	\$16,181.26	\$53.94	\$130.43	\$16,050.83	\$10,884.45
138	\$16,050.83	\$53.50	\$130.87	\$15,919.96	\$10,937.96
139	\$15,919.96	\$53.07	\$131.30	\$15,788.66	\$10,991.02
140	\$15,788.66	\$52.63	\$131.74	\$15,656.92	\$11,043.65
141	\$15,656.92	\$52.19	\$132.18	\$15,524.74	\$11,095.84
142	\$15,524.74	\$51.75	\$132.62	\$15,392.12	\$11,147.59
143	\$15,392.12	\$51.31	\$133.06	\$15,259.06	\$11,198.90



D (Discount Factor) = 165.0218582

P = A/D \$184.37

Loan Amount	Interest Rate	Term in Years	Monthly Payment
\$30,425.00	4.00%	20	\$184.37

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
144	\$15,259.06	\$50.86	\$133.51	\$15,125.55	\$11,249.76
145	\$15,125.55	\$50.42	\$133.95	\$14,991.60	\$11,300.18
146	\$14,991.60	\$49.97	\$134.40	\$14,857.20	\$11,350.15
147	\$14,857.20	\$49.52	\$134.85	\$14,722.36	\$11,399.68
148	\$14,722.36	\$49.07	\$135.29	\$14,587.06	\$11,448.75
149	\$14,587.06	\$48.62	\$135.75	\$14,451.32	\$11,497.37
150	\$14,451.32	\$48.17	\$136.20	\$14,315.12	\$11,545.55
151	\$14,315.12	\$47.72	\$136.65	\$14,178.47	\$11,593.26
152	\$14,178.47	\$47.26	\$137.11	\$14,041.36	\$11,640.52
153	\$14,041.36	\$46.80	\$137.56	\$13,903.79	\$11,687.33
154	\$13,903.79	\$46.35	\$138.02	\$13,765.77	\$11,733.67
155	\$13,765.77	\$45.89	\$138.48	\$13,627.29	\$11,779.56
156	\$13,627.29	\$45.42	\$138.95	\$13,488.34	\$11,824.98
157	\$13,488.34	\$44.96	\$139.41	\$13,348.93	\$11,869.95
158	\$13,348.93	\$44.50	\$139.87	\$13,209.06	\$11,914.44
159	\$13,209.06	\$44.03	\$140.34	\$13,068.72	\$11,958.47
160	\$13,068.72	\$43.56	\$140.81	\$12,927.91	\$12,002.04
161	\$12,927.91	\$43.09	\$141.28	\$12,786.64	\$12,045.13
162	\$12,786.64	\$42.62	\$141.75	\$12,644.89	\$12,087.75
163	\$12,644.89	\$42.15	\$142.22	\$12,502.67	\$12,129.90
164	\$12,502.67	\$41.68	\$142.69	\$12,359.97	\$12,171.58
165	\$12,359.97	\$41.20	\$143.17	\$12,216.81	\$12,212.78
166	\$12,216.81	\$40.72	\$143.65	\$12,073.16	\$12,253.50
167	\$12,073.16	\$40.24	\$144.13	\$11,929.03	\$12,293.74
168	\$11,929.03	\$39.76	\$144.61	\$11,784.43	\$12,333.51
169	\$11,784.43	\$39.28	\$145.09	\$11,639.34	\$12,372.79
170	\$11,639.34	\$38.80	\$145.57	\$11,493.77	\$12,411.58
171	\$11,493.77	\$38.31	\$146.06	\$11,347.71	\$12,449.90
172	\$11,347.71	\$37.83	\$146.54	\$11,201.17	\$12,487.72
173	\$11,201.17	\$37.34	\$147.03	\$11,054.13	\$12,525.06
174	\$11,054.13	\$36.85	\$147.52	\$10,906.61	\$12,561.91
175	\$10,906.61	\$36.36	\$148.01	\$10,758.60	\$12,598.26
176	\$10,758.60	\$35.86	\$148.51	\$10,610.09	\$12,634.12
177	\$10,610.09	\$35.37	\$149.00	\$10,461.09	\$12,669.49
178	\$10,461.09	\$34.87	\$149.50	\$10,311.59	\$12,704.36
179	\$10,311.59	\$34.37	\$150.00	\$10,161.59	\$12,738.73
180	\$10,161.59	\$33.87	\$150.50	\$10,011.09	\$12,772.61
181	\$10,011.09	\$33.37	\$151.00	\$9,860.09	\$12,805.98
182	\$9,860.09	\$32.87	\$151.50	\$9,708.59	\$12,838.84
183	\$9,708.59	\$32.36	\$152.01	\$9,556.58	\$12,871.21
184	\$9,556.58	\$31.86	\$152.51	\$9,404.07	\$12,903.06
185	\$9,404.07	\$31.35	\$153.02	\$9,251.05	\$12,934.41
186	\$9,251.05	\$30.84	\$153.53	\$9,097.51	\$12,965.24
187	\$9,097.51	\$30.33	\$154.04	\$8,943.47	\$12,995.57
188	\$8,943.47	\$29.81	\$154.56	\$8,788.91	\$13,025.38
189	\$8,788.91	\$29.30	\$155.07	\$8,633.84	\$13,054.68
190	\$8,633.84	\$28.78	\$155.59	\$8,478.25	\$13,083.46
191	\$8,478.25	\$28.26	\$156.11	\$8,322.14	\$13,111.72
192	\$8,322.14	\$27.74	\$156.63	\$8,165.51	\$13,139.46
193	\$8,165.51	\$27.22	\$157.15	\$8,008.36	\$13,166.68
194	\$8,008.36	\$26.69	\$157.67	\$7,850.68	\$13,193.37
195	\$7,850.68	\$26.17	\$158.20	\$7,692.48	\$13,219.54
196	\$7,692.48	\$25.64	\$158.73	\$7,533.76	\$13,245.18
197	\$7,533.76	\$25.11	\$159.26	\$7,374.50	\$13,270.29
198	\$7,374.50	\$24.58	\$159.79	\$7,214.71	\$13,294.88
199	\$7,214.71	\$24.05	\$160.32	\$7,054.39	\$13,318.92
200	\$7,054.39	\$23.51	\$160.85	\$6,893.54	\$13,342.44
201	\$6,893.54	\$22.98	\$161.39	\$6,732.14	\$13,365.42
202	\$6,732.14	\$22.44	\$161.93	\$6,570.22	\$13,387.86
203	\$6,570.22	\$21.90	\$162.47	\$6,407.75	\$13,409.76
204	\$6,407.75	\$21.36	\$163.01	\$6,244.74	\$13,431.12
205	\$6,244.74	\$20.82	\$163.55	\$6,081.18	\$13,451.93
206	\$6,081.18	\$20.27	\$164.10	\$5,917.08	\$13,472.20
207	\$5,917.08	\$19.72	\$164.65	\$5,752.44	\$13,491.93
208	\$5,752.44	\$19.17	\$165.19	\$5,587.24	\$13,511.10
209	\$5,587.24	\$18.62	\$165.75	\$5,421.50	\$13,529.73
210	\$5,421.50	\$18.07	\$166.30	\$5,255.20	\$13,547.80
211	\$5,255.20	\$17.52	\$166.85	\$5,088.35	\$13,565.32
212	\$5,088.35	\$16.96	\$167.41	\$4,920.94	\$13,582.28
213	\$4,920.94	\$16.40	\$167.97	\$4,752.97	\$13,598.68
214	\$4,752.97	\$15.84	\$168.53	\$4,584.45	\$13,614.52
215	\$4,584.45	\$15.28	\$169.09	\$4,415.36	\$13,629.80
216	\$4,415.36	\$14.72	\$169.65	\$4,245.71	\$13,644.52
217	\$4,245.71	\$14.15	\$170.22	\$4,075.49	\$13,658.68



<b>Loan Amount</b>	<b>Interest Rate</b>	<b>Term in Years</b>	<b>Monthly Payment</b>	D (Discount Factor) =	165.0218582
\$30,425.00	4.00%	20	\$184.37	P = A/D	\$184.37

Month	StartingBalance	Interest	Principal	EndingBalance	TotalInterest
218	\$4,075.49	\$13.58	\$170.78	\$3,904.71	\$13,672.26
219	\$3,904.71	\$13.02	\$171.35	\$3,733.35	\$13,685.28
220	\$3,733.35	\$12.44	\$171.93	\$3,561.43	\$13,697.72
221	\$3,561.43	\$11.87	\$172.50	\$3,388.93	\$13,709.59
222	\$3,388.93	\$11.30	\$173.07	\$3,215.86	\$13,720.89
223	\$3,215.86	\$10.72	\$173.65	\$3,042.21	\$13,731.61
224	\$3,042.21	\$10.14	\$174.23	\$2,867.98	\$13,741.75
225	\$2,867.98	\$9.56	\$174.81	\$2,693.17	\$13,751.31
226	\$2,693.17	\$8.98	\$175.39	\$2,517.78	\$13,760.29
227	\$2,517.78	\$8.39	\$175.98	\$2,341.80	\$13,768.68
228	\$2,341.80	\$7.81	\$176.56	\$2,165.23	\$13,776.48
229	\$2,165.23	\$7.22	\$177.15	\$1,988.08	\$13,783.70
230	\$1,988.08	\$6.63	\$177.74	\$1,810.34	\$13,790.33
231	\$1,810.34	\$6.03	\$178.34	\$1,632.00	\$13,796.36
232	\$1,632.00	\$5.44	\$178.93	\$1,453.08	\$13,801.80
233	\$1,453.08	\$4.84	\$179.53	\$1,273.55	\$13,806.65
234	\$1,273.55	\$4.25	\$180.12	\$1,093.43	\$13,810.89
235	\$1,093.43	\$3.64	\$180.72	\$912.70	\$13,814.54
236	\$912.70	\$3.04	\$181.33	\$731.37	\$13,817.58
237	\$731.37	\$2.44	\$181.93	\$549.44	\$13,820.02
238	\$549.44	\$1.83	\$182.54	\$366.90	\$13,821.85
239	\$366.90	\$1.22	\$183.15	\$183.76	\$13,823.07
240	\$183.76	\$0.61	\$183.76	\$0.00	\$13,823.68

# D

## Appendix D

### Public Information Centre Information



# Feasibility Study for Municipal Water and Sewage Servicing

Public Information Centre

Location: Puslinch Community Centre  
23 Brock Road South, Puslinch  
6:30 p.m. to 8:30 p.m.

June 24 2019



TOWNSHIP OF  
**PUSLINCH**  
EST. 1850

# Public Information Centre Summary

Introduction and Meeting Purpose

Background Info and Projections

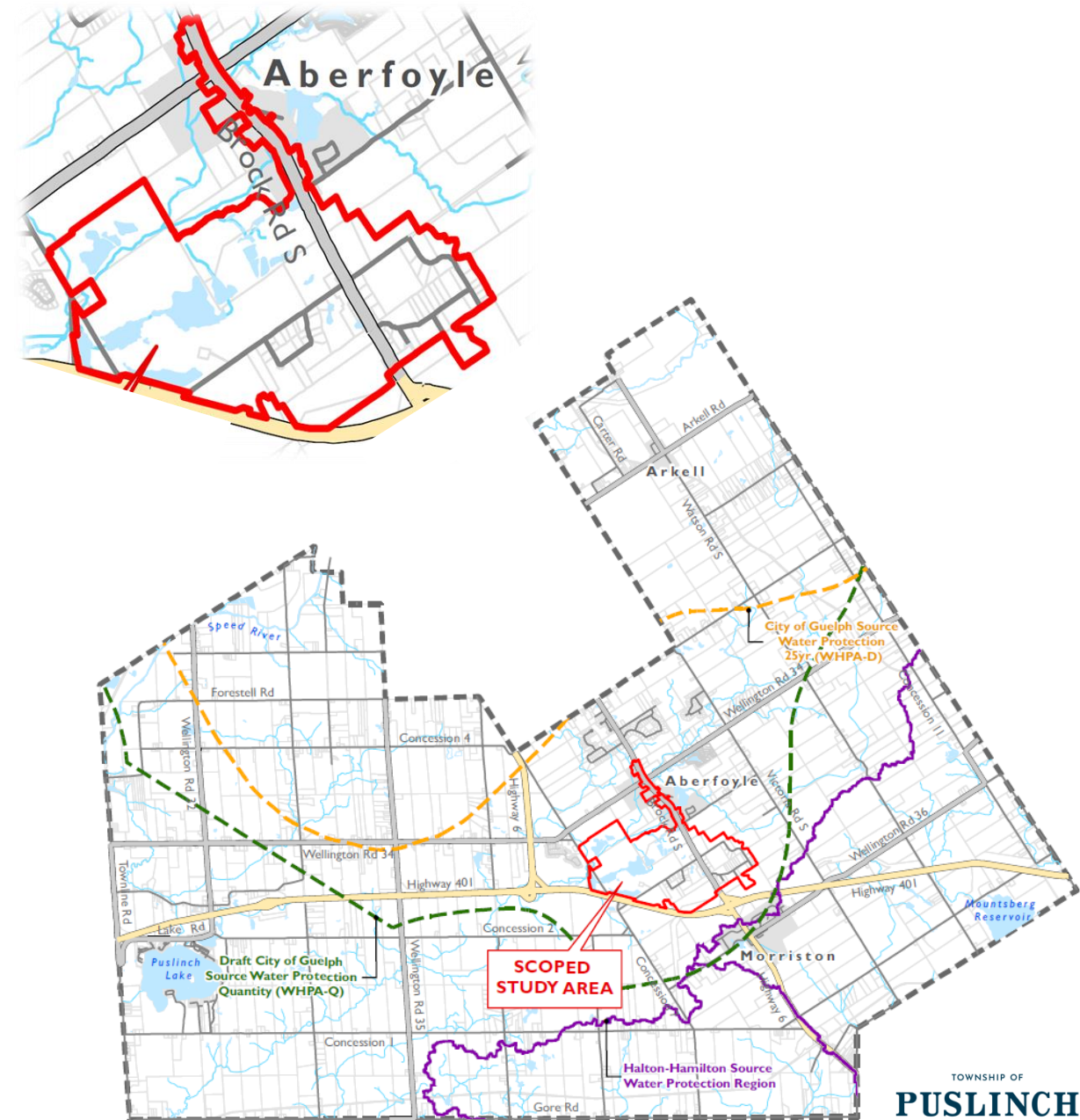
Water Servicing Options

Sewage Servicing Options

Next Steps

# Feasibility Study Details

- In 2018, the Township began undertaking a Feasibility Study to assess the viability of implementing municipal water and sewage servicing.
  - A reduced scoped study area is now being looked at
    - Taking into account industrial and commercial areas (excluding residential)





# Development Opportunities

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- The Township is an attractive place for development
  - Go Transit access, close proximity to Guelph, natural setting, major markets
- Surrounded by growing urban centres on all four sides with increasing demands for resources and land
  - Lack of municipal servicing limits opportunities for growth
  - Current servicing consist of individual on-site wells, septic systems as well as few private communal water and sewage systems

# Purpose of this Meeting

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- This meeting will provide Scoped Study Area users with the opportunity to:
  - Understand why the Township is undertaking this additional study and the new scope
  - Review the high-level water and sewage servicing options being considered
  - Review the key advantages and disadvantages identified for each servicing option
  - Review and discuss the study with Township staff and their consultants, and any questions you may have related to the study
- The Feasibility Study will provide the basis for proceeding (or not proceeding) with a Municipal Class EA Study that will be necessary before implementing any drinking water or sewage servicing solution

# Major Industrial and Commercial Users

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- The Scoped Study Area contains the highest concentrations of employment lands in the Township
- Including; food processing, concrete pipe manufacturer, water bottling and aggregate extraction
  - Royal Canin
  - Nestle
  - Capital Paving
  - Maple Leaf Foods
  - Con-Cast Pipe
  - Dufferin Aggregates

# Projected Employment Growth

Type	Projected Growth / Planning Period		
	2016	2036	2041
I&C – Total Employment <sup>1</sup>	4,020	5,160	5,630
Notes:			
1. Projected Employment Growth as per Wellington County Official Plan May 6, 1999 (Last Revision September 1, 2016). Includes ‘no fixed place of work’ employment.			

Type	Average Day Demands (m <sup>3</sup> /d)	Max. Day Demands (m <sup>3</sup> /d)
I&C Large Users <sup>1</sup>	31,000	52,704
Notes:		
1. Includes a portion of existing employment. Employment numbers for study area to be confirmed with County of Wellington. Includes current water demands for large users – significantly < than ex. permitted capacity		

# Summary

## Preliminary Projected Water Demands and Sewage Flows

Type	Average Day Demands (m <sup>3</sup> /d)	Max. Day Demands (m <sup>3</sup> /d)
Water Demands	1,393	2,905
Sewage Flows	2,027	6,479

The preliminary water and wastewater demands are based on the projected employment population and exclude allowances for process water currently consumed by the large users. It is assumed that the large users will continue to source their individual process water demands from their current sources.



# High-level servicing options developed for consideration:

## Intra-Municipal Servicing

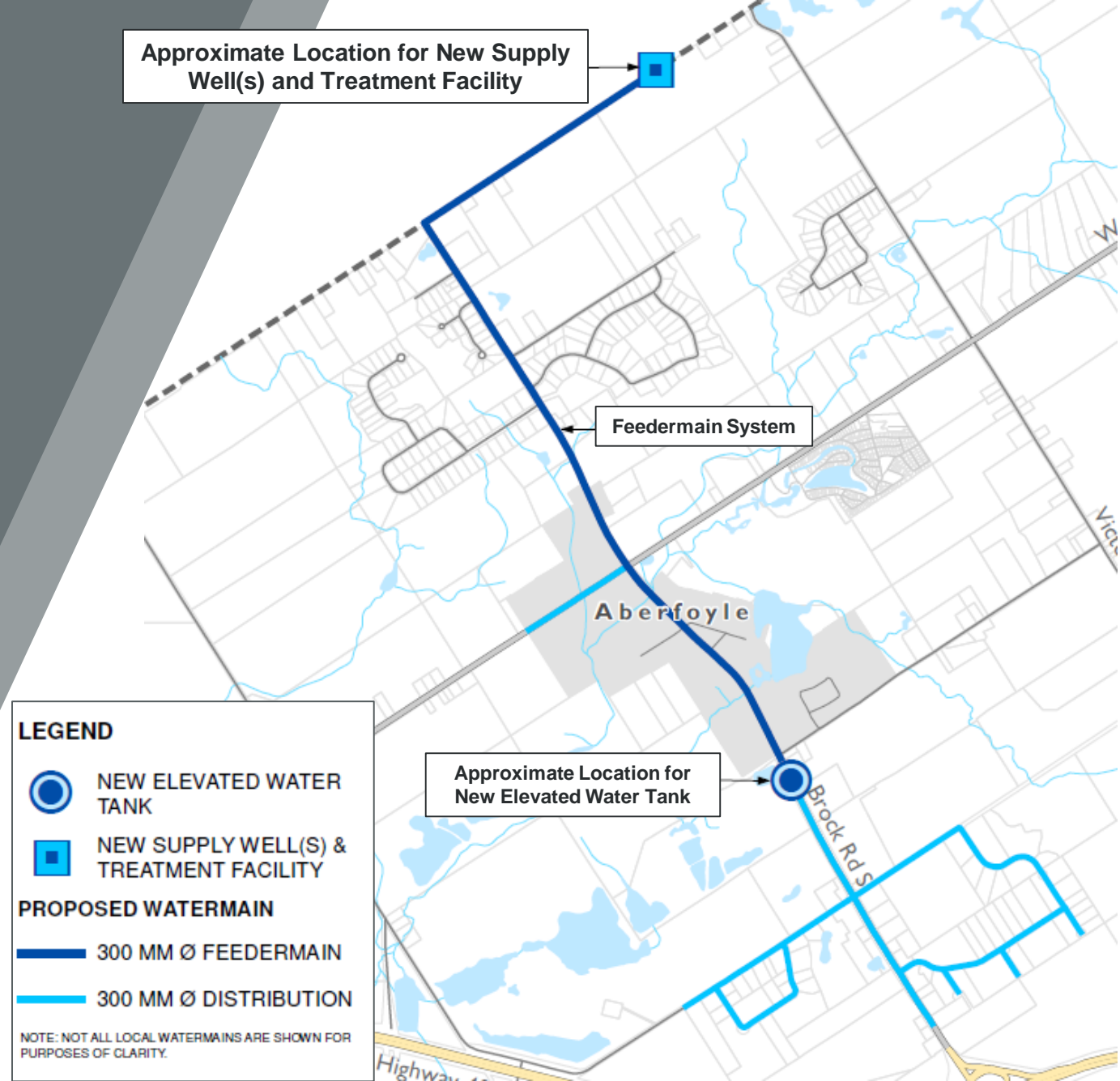
- *Provided by the Township*
- New municipal water system
  - New well(s), Treatment facility, Storage, Pumping, Distribution
- New municipal sewage system
  - New pumping station, Treatment system, Conveyance system

## Inter-Municipal Servicing

- *Provided jointly by the Township and City of Guelph*
- Connection to City of Guelph Water supply and distribution system
- Connection to City of Guelph sewage collection and treatment system

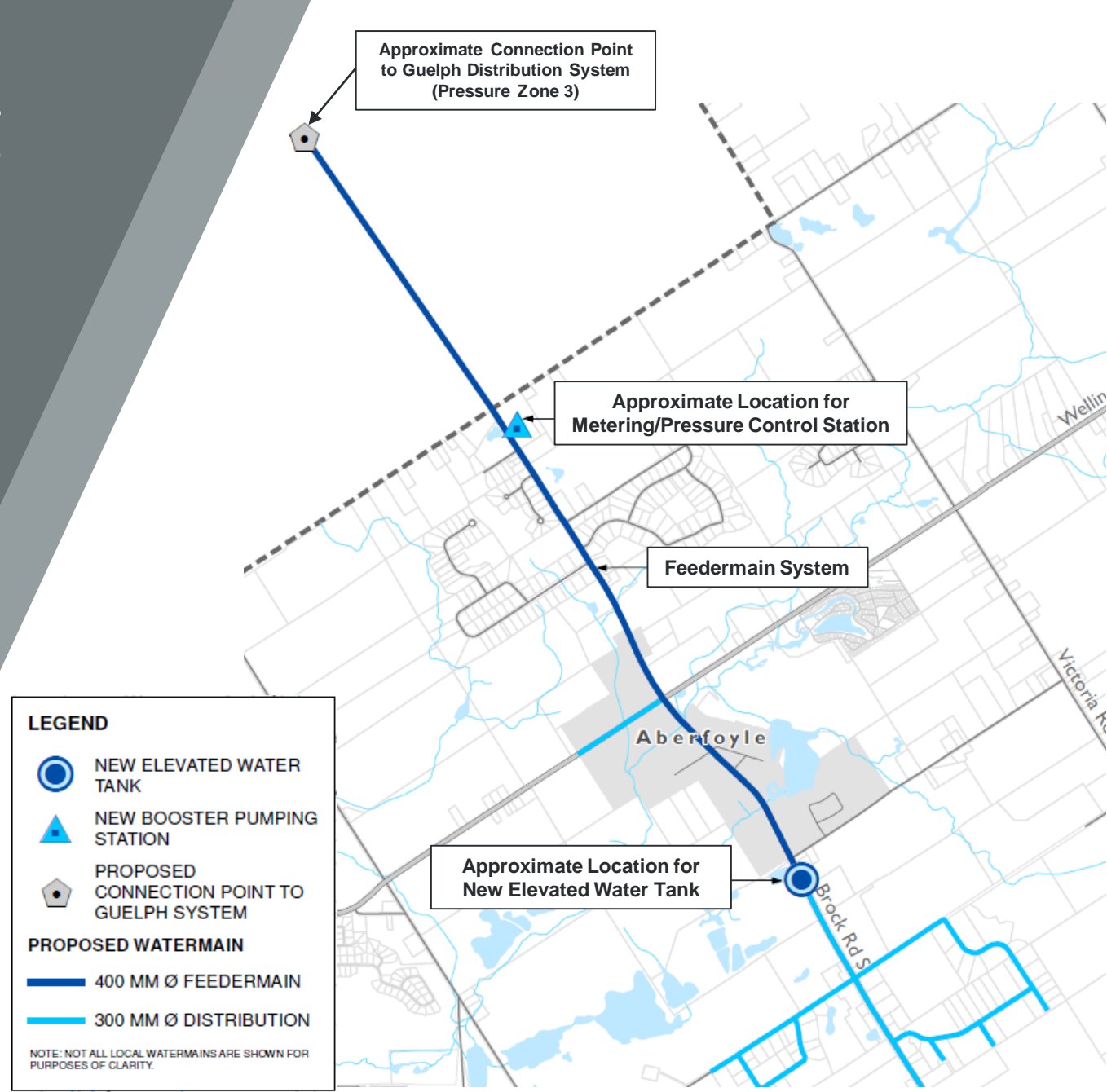
# Option 1: Water Servicing Intra-Municipal

- Major components:
  - New groundwater supply source
  - New water treatment facility
  - New distribution system
  - New storage facility
  - Note: location of well subject to further review during subsequent EA Study
- High-level estimated construction cost:
  - \$23 million



# Option 2: Water Servicing Inter-Municipal

- Major components:
  - Connect directly to CofG distribution system
  - New metering facility and potential pressure control station
  - New storage facility
  - New distribution system
- High-level estimated construction cost:
  - \$20 million
  - Note: estimate does not include any costs to upgrade Guelph infrastructure

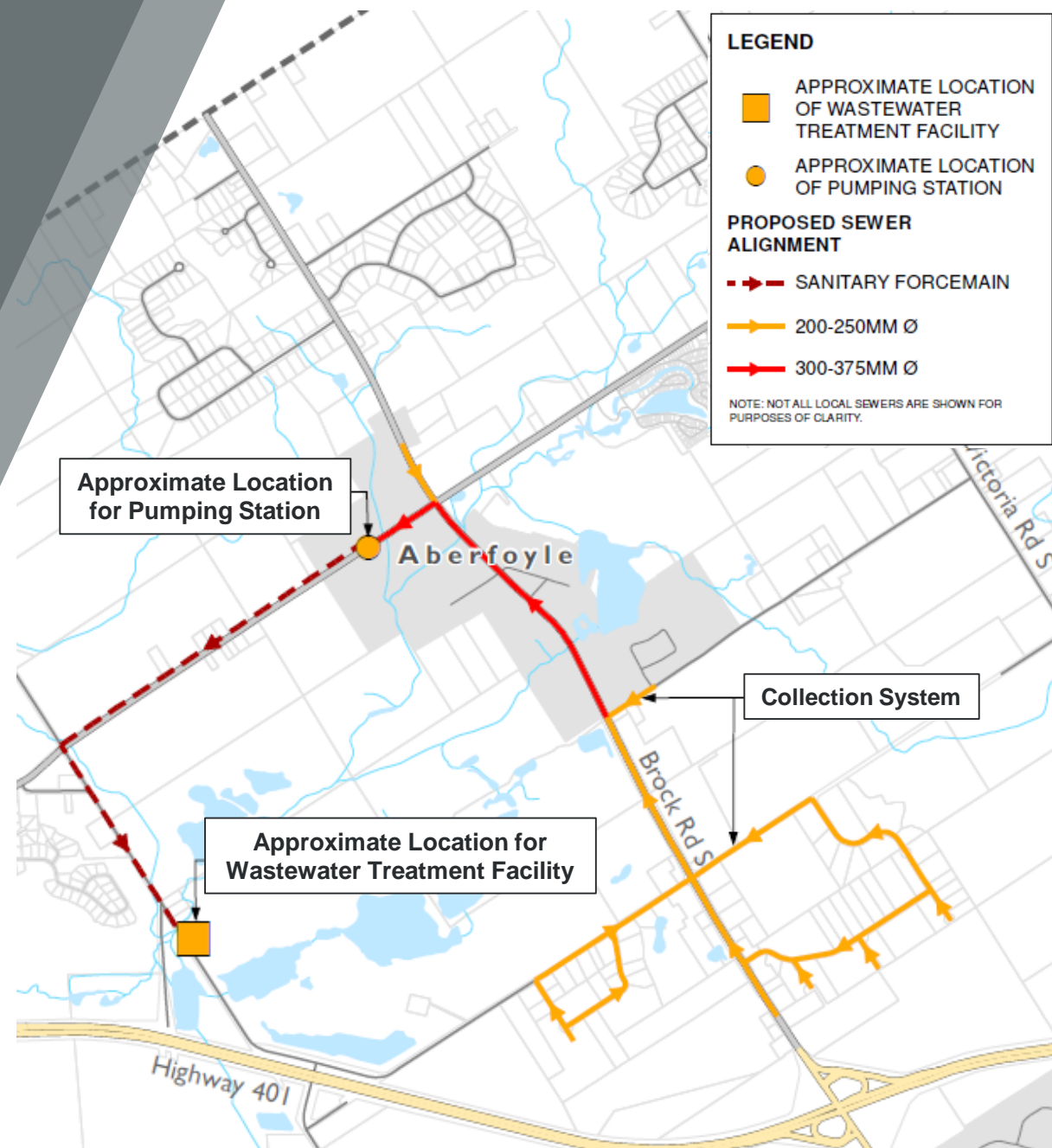


# Preliminary Assessment of High-Level Water Servicing Options

Option	Key Advantages	Key Disadvantages
1A: Intra-Municipal	<ul style="list-style-type: none"> <li>Independent system – greater local control</li> </ul>	<ul style="list-style-type: none"> <li>Higher capital, O&amp;M and Life Cycle Cost</li> <li>Requires larger amount of new infrastructure</li> </ul>
1B: Inter-Municipal	<ul style="list-style-type: none"> <li>Lower capital, O&amp;M and Life Cycle Cost</li> <li>Optimizes use of existing infrastructure</li> <li>Guelph has a proven track record of providing high quality drinking water</li> <li>Economy of scale may be realized with Joint Supply system</li> <li>May improve opportunities for funding assistance with joint Projects</li> <li>Bulk water rates may be set, thereby establishing more predictable O&amp;M costs</li> </ul>	<ul style="list-style-type: none"> <li>Upgrades to infrastructure in the City may be required – cost unknown at this time and may be significant</li> <li>Bulk water supply rates are unknown at this time</li> <li>Need for an inter-municipal servicing agreement (Guelph &amp; Puslinch)</li> </ul>
Common to both Options	<ul style="list-style-type: none"> <li>Easier to manage and monitor the single system for water quality and quantity</li> <li>Burden to obtain private updated PPTW and comply with changes in condition would be removed from individual users and placed on the township</li> <li>Bulk water rates may be set, thereby establishing more predictable O&amp;M costs</li> <li>Municipal water and sewage servicing encourages developers to invest and promote growth in the Township</li> </ul>	<ul style="list-style-type: none"> <li>Township will hold responsibility for the increased PPTW conditions in compliance to the WHPA-Q</li> <li>Increased costs for township with new source protection requirements</li> <li>Cost of extending private water service and connection to existing plumbing is in addition to the estimated costs</li> <li>Existing private and communal wells to be decommissioned</li> <li>Amendments to Official Plan and Secondary Plans may be required</li> </ul>

# Option 1: Sewage Servicing Intra-Municipal

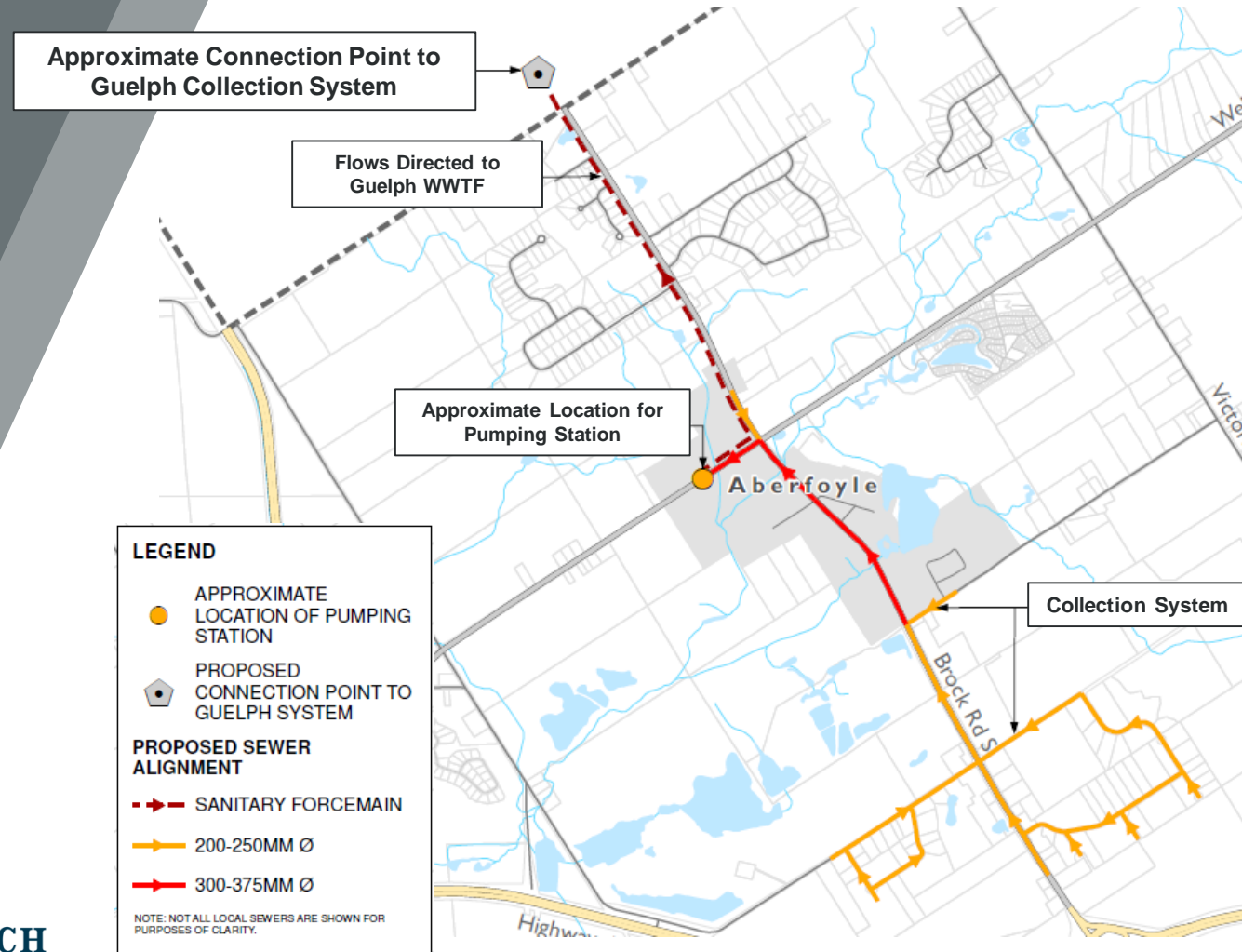
- Major components:
  - New gravity collection system
  - New pumping station
  - New wastewater treatment facility
  - Effluent discharge to Mill Creek (will be subject to an Assimilative Capacity Study)
- High-level estimated construction cost:
  - \$29 million





# Option 2: Sewage Servicing Inter-Municipal

- Major components:
  - New gravity collection system
  - New pumping station
  - Discharge into the Guelph collection system for further treatment and disposal
- High-level estimated construction cost:
  - \$12 million
  - Note: does not include costs to upgrade Guelph Infrastructure





# Preliminary Assessment of High-Level Sewage Servicing Options

Option	Key Advantages	Key Disadvantages
<b>1A: Intra-Municipal</b>	<ul style="list-style-type: none"> <li>• Independent system – greater local control</li> </ul>	<ul style="list-style-type: none"> <li>• Higher capital, O&amp;M and Life Cycle Cost</li> <li>• Requires larger amount of new infrastructure</li> <li>• Assimilative capacity of receiving stream may be a limiting factor – alternate discharge location or higher quality effluent may be needed – cost implication</li> </ul>
<b>1B: Inter-Municipal</b>	<ul style="list-style-type: none"> <li>• Lower capital, O&amp;M and Life Cycle Costs</li> <li>• Lower operational requirements for the collection system</li> <li>• Economy of scale may be realized with Joint Wastewater Treatment system</li> <li>• Provides an opportunity for Joint Funding applications</li> <li>• Known wastewater rates will assist in establishing predictable O&amp;M budgets</li> </ul>	<ul style="list-style-type: none"> <li>• Upgrades to infrastructure in the City may be required – cost unknown at this time and may be significant</li> <li>• Need for an inter-municipal Servicing Agreement (Guelph &amp; Puslinch)</li> </ul>
<b>Common to both Options</b>	<ul style="list-style-type: none"> <li>• Municipal sewage servicing encourages developers to invest and promote growth in the Township</li> <li>• Amendments to Official Plans, Secondary Plans, Approved Draft Plans may be required</li> </ul>	

# Typical Usage Charges

For a user consuming 10 m<sup>3</sup> of drinking water and generating 10 m<sup>3</sup> of wastewater daily, the ***Estimated Preliminary User Charges*** would be.

	WATER SERVICING		WASTEWATER SERVICING	
	OPTION 1	OPTION 2	OPTION 1	OPTION 2
MONTHLY COST	\$297	\$56	\$289	\$66

- The Preliminary User Charge estimated above does not include Life Cycle Costs. Final user charges would be established following completion of a Rate Study to be undertaken following completion of construction.
- User Rates identified for Option 2 – Inter-Municipal Servicing do not include Bulk Water Rates or Wastewater Rates which would be imposed by the City of Guelph. The Bulk Water Rate and Wastewater disposal rate to be negotiated between the Township and the City as part of the Servicing Agreement(s).

# Project Timeline

Target Completion Date	Task
<b>May 31, 2019</b>	Notice and Draft Addendum Report circulated to Township, Agencies and Businesses
<b>June 24, 2019</b>	Public Meeting / Workshop
<b>July 12, 2019</b>	Last Date for Comments by businesses
<b>August 2, 2019</b>	Final Addendum Feasibility Study Report provided to Township
<b>September 4, 2019</b>	Final Addendum Feasibility Study Report provided to Council for Information
<b>September 18, 2019</b>	Presentation to Council
<b>TBD</b>	Council Approval of Decision (ie., to proceed with Class EA Study or to not proceed further with study)
<b>2019 - 2021</b>	Class EA Study Completion (subject to Council approval and budget allocation)
Dates are preliminary and subject to change	

Questions?



# Project Contacts

For more information about this project, or to view the Public Information Centre displays online, please visit our website:

<http://www.puslinch.ca/en/living-here/feasibility-study-for-municipal-water-and-sewage-servicing-.asp>

Should you have any questions or concerns about this study, please contact:

Patrick Moyle, Acting CAO/Clerk

Township of Puslinch

Klandry@puslinch.ca

T 519 763-1226, 214

7404 Wellington Rd 34 Puslinch, ON N0B 2J0



Stuart Winchester, P.Eng.

Partner / Director, Municipal Infrastructure

Stuart.Winchester@cima.ca

T 519 772-2299, 6202 C 519 998-1725

900-101 Frederick Street, Kitchener, ON N2H 6R2





# E

## Appendix E

### Response to PIC Comments



August 28, 2019

**Attention: Industrial and Commercial Survey Respondents**

**RE: TOWNSHIP OF PUSLINCH  
ADDENDUM TO THE WATER AND WASTEWATER SERVICING FEASIBILITY  
STUDY**

Dear Respondent:

Thank you for submission of your comments related to the Addendum for Water and Wastewater Servicing Feasibility in the Township of Puslinch. Input from the public is a critical component of the Feasibility Study process and will greatly assist Council in making decisions related to the provision of municipal water and wastewater servicing in the Township.

### **Municipal Servicing Questionnaire – Survey Results**

In total, the Township distributed approximately 128 copies of the questionnaire, which included industrial and commercial users within the scoped study area.

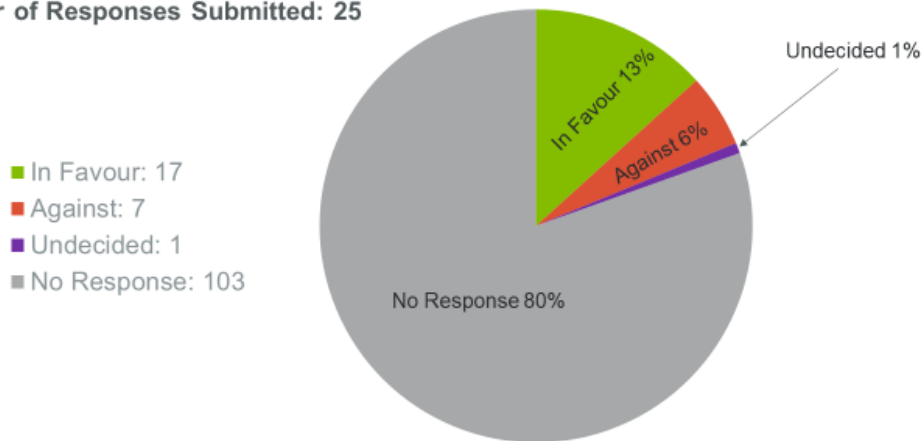
A total of 25 completed questionnaires were received from the industrial and commercial users, which represent a response rate of 20%. Pie charts, depicting graphically the responses obtained, are attached to this summary sheet for reference. The following summarizes the questionnaire results.

- Industrial Users
  - 10 Questionnaires were received from industrial users
  - 60% (6 of 10) in favour of municipal water and wastewater servicing
- Commercial Users
  - 15 Questionnaires were received from commercial users
  - 78% (11 of 15) in favour of municipal water and wastewater servicing
- Combined
  - 25 Questionnaires were received from industrial and commercial users
  - 68% (17 of 25) in favour of municipal water and wastewater servicing



## PIC Survey Response Summary - Combined Interest (Commercial + Industrial)

Number of Surveys Distributed: 128  
Number of Responses Submitted: 25



### Municipal Servicing Questionnaire – Frequently Asked Questions

The responses included a range of questions related to the Study and to request additional information. A number of respondents asked similar questions, and we have taken the opportunity to summarize these questions and to provide a single response.

**Q1** – What is the anticipated cost/charge to connect and to operate monthly on the municipal water/sewage network?

**A1** – The current Study has been undertaken to establish the feasibility of providing municipal water and wastewater services, and high-level estimates have been developed as part of the Study in order to assist in assessing the feasibility of provision of these services. If Council decides to proceed with further consideration of providing municipal water and sewage servicing, then the Township will need to proceed with an Environmental Assessment as required under the Provincial Environmental Assessment Act. This Study will complete an extensive review of potential environmental impacts, potential servicing alternatives, and alternative servicing technologies to provide these services. This assessment will include an assessment of the impact to the economic environment, in order to establish a Preferred Servicing Plan.

The Environmental Assessment process will include the development of a Cost Recovery Plan, which will consider how the costs of constructing the water and sewage works will be funded and may include consideration of funding assistance from senior levels of government. At this time, a cost recovery plan has not been developed as part of the water and sewage servicing feasibility Study.



Preliminary usage charge estimates have been provided within the Feasibility Study; however, it should be noted that these estimates are high-level estimates only. If the Township decides to proceed with further Study, the Township will need to undertake a Rate Study in order to establish the necessary funding levels in order to ensure that the long-term operation and maintenance of the water and sewage facilities is sustainable.

**Q2** – What is the projected timeline for the Project? When can we anticipate water/sewage services?

**A2** – The Addendum to the Feasibility Study report is scheduled to be provided to the Township in early August 2019 and results will be presented to Council in September 2019. Council will consider the results of the public meeting and public input to this Study and will decide whether to proceed with further study or not.

Should Council decide to proceed with further study, an Environmental Assessment (EA) will need to be completed. Initial studies may be undertaken to help inform the EA Study, including but not limited to an Assimilative Capacity Study for any potential receiving stream; a detailed Hydrogeological Study to establish potential groundwater source locations or to consider sub-surface disposal locations may be undertaken. Depending on the findings of these studies, as well as the responses from the Ministry of Environment, Conservation and Parks (MECP), these studies typically take 1 to 2 years or more.

Following completion of the initial Studies, the Township could proceed with the EA Study. The duration of an EA Study for water and wastewater servicing will be highly dependent on the level of support or opposition to the Project, and typically will take 1+ years to complete in the absence of any significant opposition.

Following Approval of the EA Study, the Township could then proceed to implement the Works, which includes proceeding with the detailed design, technical approvals, and construction. For a Project of this type, completion of the works would typically take approximately 1 year for design and approvals, and 2 years for construction and commissioning.

**Q3** – Why is the study originally being done and for a second time with the scoped-study area?

**A3** – The Feasibility Study was originally initiated to address a recommendation from the Community Based Strategic Plan and the Business Retention and Expansion Study, completed for the Township by the County in 2016. This Study identified municipal servicing as one of the key drivers for businesses in the area to justify potential expansion of their businesses.

The initial Study considered providing municipal water and wastewater services to all properties within an area bounded to the west by the Hanlon Expressway, to the south by Highway 401 (plus the community of Morriston) to the east by Victoria Avenue, and to the north by the City of Guelph. This Study area included a significant number of estate residential properties that are currently adequately serviced with private systems, and who strenuously objected to municipal servicing. However, a number of businesses within this Study area expressed support for the provision of services. As a result, Council decided to extend the Study to consider the option of providing services to the industrial and commercial properties within the Aberfoyle service area only, as there was the potential for cost savings with a more compact service area.



**Q4** – Why is money being spent on this study and why is the study requiring a long time period to complete?

**A4** – During the Public Information Centre (PIC) meeting, the Mayor indicated that the cost of the feasibility study is about 90% covered by grants and funding from other levels of government. The feasibility study is to provide information for Council to consider as the basis for proceeding, (or not proceeding) with any further studies and Public Consultation that will be necessary before implementing any municipal water or sewage servicing solution in the Township.

A feasibility study is intended to identify new opportunities, provide valuable information and justification to undertake or cancel a project, before more significant costs are incurred. At this stage, the feasibility study provides Council with the ability to consider options within a scoped Study Area while providing for the opportunity to gain feedback from the public, before committing to the expense of further investigations.

**Q5** – As an individual business that is not prepared to incur more costs, how will businesses afford this?

**A5** – As noted above, if the Township decides to proceed and to complete an EA for Water and Wastewater Servicing, the Township will need to develop a cost recovery plan for the Works. The cost recovery plan could include consideration of funding assistance, connection charges, debt financing, or other sources of funding to ensure that the project is affordable. All businesses impacted by the Study would have further opportunity to provide input to the EA Study and Cost Recovery Plan prior to the Township adopting the recommendations of the Study.

**Q6** – As a property owner, we have spent a considerable amount of money to construct a technologically advanced private disposal system and to secure a sufficient well. What would be the benefit of connecting my property to the municipal system?

**A6** – The Township recognizes that private owners have invested in their individual water supply and private disposal systems, and sometimes these investments have been significant. However, the Township does not have the ability to monitor the water quality nor the effluent quality from these private systems. Each of these individual private supply and disposal systems are subject to failure, if they are not properly maintained.

If a public system is implemented, then the Township would have the ability to monitor the quality of the drinking water supplied to all businesses in the service area and will have the ability to monitor the effluent quality of the treated wastewater to ensure that all Provincial regulations and objectives are met. In addition, the municipal system would be subject to an independent third-party inspection to ensure that the systems are operated and maintained according to the requirements of the MECP.

**Q7** – What about other viable options, particularly not discharging water to Mill Creek?

**A7** – If the Township decides to proceed with further consideration of municipal water and sewage servicing, the Township will need to complete an EA Study. This Study will need to consider a full range of Alternative servicing schemes, including the “Do Nothing” alternative which would mean that all properties remain on private systems. However, if the provision of municipal servicing is



selected as the Preferred Alternative, then a full range of servicing design alternatives would then need to be considered, including the location and methods of disposing of the final effluent.

**Q8** – What would be the additional costs if Inter-municipal option(s) was selected with the City of Guelph?

**A8** – The costs to connect to the City of Guelph system would be established through the negotiation of a Water Servicing Agreement and/or a Sewage Servicing Agreement. These Agreement(s) would document the costs to connect to the system, any capital contributions required for the use of the available capacity in the Guelph System or any costs to upgrade the Guelph System, as well as the ongoing user costs.

These negotiations have not been undertaken to date and, as such, the Township cannot confirm what these costs would be.

**Q9** – Can residential owners have a voluntary choice for municipal servicing?

**A9** – At this time, the Township was proceeding with consideration of the feasibility of providing water and sewage servicing for industrial and commercial users within the Aberfoyle service area only. If the Township decides to proceed with implementation of the Works, consideration could be given to providing individual residential Owners the opportunity to connect to the system. However, the costs for individual properties would need to be established within the overall Cost Recovery Plan, and each individual property Owner who connects would be required to pay his/her fair share of the cost of the system.

**Q10** - Will only major water user property owners' benefit?

**A10** – The Addendum to the Feasibility Study has considered the provision of water and sewage services to all industrial and commercial users within the Study area; however, consideration has only been given to the provision of sufficient water supplies for domestic consumption at the businesses. Large users in the service area would need to maintain their own supplies for process water.

Private disposal systems require ongoing maintenance and operation and may be subject to failure if maintenance is neglected. Currently, there are no procedures in place that require ongoing monitoring of private disposal systems to ensure that they are functioning as designed. Provision of a municipal sewage system will ensure that all wastewater generated within the area is treated to a high-quality effluent, and that the effluent quality is monitored as required by the MECP.





We trust the above is in order; however, should you have any questions or require any additional information, please do not hesitate to contact the undersigned.

Sincerely,

**CIMA Canada Inc.**

Stuart Winchester, P.Eng.  
Partner, Director, Municipal Infrastructure  
[Stuart.winchester@cima.ca](mailto:Stuart.winchester@cima.ca)

SW:vd

Encl.

cc: James Su, OCWA  
Patrick Moyle, Township of Puslinch

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**CIMA CANADA INC.**

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**CONTACT**

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[stuart.winchester@cima.ca](mailto:stuart.winchester@cima.ca)

T 519 772-2299, 6202

