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Town of North Reading  
Massachusetts

TOWN CLERKS OFFICE  
NORTH READING, MASS.

Community Planning

## MINUTES

**Tuesday, October 4, 2022**

Mr. Christopher B. Hayden, Chairperson called the Tuesday, October 4, 2022 meeting of the Community Planning Commission to order at 7:00p.m. in Room 14 of the North Reading Town Hall, 235 North Street, North Reading, MA.

### MEMBERS

#### PRESENT:

Christopher B. Hayden, Chairperson  
David Rudloff, Vice Chairperson  
Warren Pearce  
Jeremiah Johnston

### STAFF

#### PRESENT:

Danielle McKnight, AICP  
Town Planner/Community Planning Administrator  
Debra Savarese, Administrative Assistant

Mr. Hayden informed all present that the meeting is being recorded.

**Municipal Wastewater presentation / discussion**

Mr. Parisi, Director of the DPW presented a PowerPoint. (See attached)

Adria Fichter, Project Engineer for Kleinfelder Engineering Company stated that Megan Patton and recorded a presentation for this meeting. This presentation was recently shown at Select Board and workshop meetings.

Frank Mahady, Principal of FXM Associates stated that they looked at potential growth with sewer, in detail, from a market standpoint comparing North Reading's historical growth and projected future growth with and without sewer and from that derived an estimate of potential net new revenues not subject to the proposition 2½ limitation. They have produced two technical reports and are prepared to answer any questions that the CPC may have.

Adria Fichter started a presentation recorded by Megan Patton. (See attached)

Mr. Pearce asked if the projected daily 503,000 gallon water use was based on commercial and residential properties.

Mr. Parisi stated that residential was included, but the focus was on Main Street, North Street to Lowell Road and Concord Street to Park Street. The Phase II was focused on the Martin's Pond area where the greatest need would be for that.

Mr. Pearce asked if there was any discussion on limits for housing in the Martin's Pond area, because if sewer is put in the housing could expand rapidly. If not, this is something that they might want to consider because it could use up a lot of capacity if a one bedroom went to a four bedroom.

Mr. Parisi stated that he is not aware of any existing limitations for single family properties other than zoning and building codes. They do have time to consider the limitations, but as the presentation showed, they do have a number of gallons per day still available for new growth based on the current water use of the properties in the project area.

Mr. Rudloff asked if there are any State grants available that the town may or could be receiving.

Mr. Parisi stated that what they are looking at and what is typically available for these types of projects is called SRF funding that would offer a lower interest rate than with the market.

Mr. Rudloff asked is there any indication where that set up might be with right now with rates going skyrocketing up.

Mr. Parisi stated that they've submitted an application and they're projection is showing a five-year, 5% rate.

Mr. Michael Gilleberto, Town Administrator stated that they have four buckets of potential funding other than what was displayed in the presentation which is the betterment and tax application. The first is the SRF program with the application pending and the good news is where that used to be almost exclusively a loan program, but they've added a grant component to it and that really got their interest along with the interest rates. So their consultant, Wright Pierce is working on that, but they did not take credit for any of that in the presentation. The Select Board thought that they needed to show a really conservative approach for the cost and anything they can generate that reduces that cost would obviously play favorably for the community. The second grant is the State Mass Works funding program which he thinks the CPC is familiar with. The key to this is having a private partner that's looking to develop a parcel of land along the Route. The third is an application that they have pending through Congressman Moulton's office for some funding that would cover the final design portion which is pretty far along in the process, but has not been contracted for, at this point, and that's what could be 1.5 million dollars to reduce the design costs. The fourth is a catch-all. Whatever else comes up that they find as they go through this process.

Mr. Rudloff stated that he is concerned that 80% of the parcels along this proposed route are residential, is that correct? He is also concerned that a number of single family homes are going to opt out unless there is a zoning change to multi-family.

Mr. Parisi stated that there are a number of condo units and each unit is included in the count. There is also a 503,000 gallon water limit. There is a possibility, but there's a lot of discussion that goes along with that.

Mr. Gilleberto stated that there has been a lot of conversation about the idea of the residential impact that's out there and he thinks they've all been up front with the community that this has intended to be an economic development project primarily and they recognize that there will be a residential component of that, whether it be mixed used or whether it be incidental to the Route. There was a lot of concerns expressed about them gobbling up too much capacity with residential and then what would that do. But, when you apply the current zoning, we don't gobble up the capacity they have. He thinks it ends up being roughly 60% of capacity available for growth in the future which is really good. They're expecting to take part of that growth out for Martin's Pond because they know that's an area they want to expand to. But, that's a choice that would need to be made down the road, knowing the capacity is there. The same is true for the zoning too. They didn't want to take any liberties with what might happen with the zoning and just try to provide the community data that's based on the current zoning. Not that

they want to, but they could easily consider minimizing the amount of the residential connection that's there, by the way they structure this and create capacity for additional growth authorized by rezoning if that's what they want to do.

Mr. Hayden asked if the flow estimate for today's Main Street environment was every business and every home that's out there.

Mr. Parisi stated that it does eliminate the irrigation use.

#### **MBTA Communities Housing - discussion**

Mrs. McKnight stated that she provided some of the information that she gained recently from a webinar that DHCD ran and there was a lot of information and a lot of updates given. The final regulations were released, but they are a little bit different from the draft regulations, but for the town's purpose nothing actually changes for North Reading because we don't qualify in the small town category. So, the next milestone is the end of January and we need to report to the State whether or not we believe the town complies and where we don't comply. We need to give the State an action plan, and it doesn't need to be set in stone. The State understands that it involves going to Town Meeting to change zoning, but we at least need to let them know what the intent is, and after looking through all of the updates and asking some questions and discussing with planners in other communities she thinks that the easiest approach might be to change the Site Plan Review process, so that it's no longer a Special Permit process. She thinks if they were to do that than they would be compliant with this program and that's because they already have a zoning district that from what she can see she believes complies and that would be the whole multi-family overlay that we did for the Berry Center that included the Edgewood development and Martin's Landing. Not every parcel in that would count because public land doesn't count, so we own three of the five parcels in that district, but the other two that have Martin's Landing and Edgewood on them already have an overlay on them that allow multi-family by-right. The way that we've been told to think about this is that we have to show that we could have a capacity in our zoning district for 750 units, and it has to be at least 50 acres and what she's been told is that we're supposed to envision the zoning district as vacant land. It doesn't matter if it has Martin's Landing on it and Edgewood on it. Imagine what if it were razed and the owners of those properties came in with a brand new proposal and they wanted to do by-right multi-family housing. We could still do a Site Plan Review, but we would not be allowed to ask for a Special Permit process for that and if went with that approach then she believes that the town would be compliant.

Mr. Pearce asked if they would just be rezoning those two parcels and would we leave the Lowell Street parcel out of it.

Mrs. McKnight stated that they wouldn't need to rezone anything. The only reason why the current zoning on those properties doesn't count is because it requires a Special Permit for the Site Plan Review.

Mr. Hayden stated that if they reword the overlay district and remove that as a requirement and just go back to a straight Site Plan Review.

Mr. Pearce stated that he thinks the town will comply just by removing that stipulation.

Mr. Hayden asked what the CPC has to do to remove the stipulation on those two properties.

Mrs. McKnight stated that would be a zoning change, so they would let the State know that the town's plan would be to go to Town Meeting in June with a zoning proposal that would change the requirements for Site Plan Review, either town wide or just that district alone. She wouldn't mind if the CPC changed it town wide because having a Special Permit as part of the Site Plan Review process is a little bit complicated in a way that she thinks is not necessary.

Mr. Rudloff asked if this is more about removing the barrier, so that we can get that, or are there any numbers attached to this. Because starting out it was mentioned with that open slate blank property what's the most we could put on that property. What do they have now with the Edgewater or Edgewood.

Mrs. McKnight stated that there is the capacity for 950 units in that district.

Mr. Rudloff asked what the benefits are of getting rid of the Special Permit.

Mrs. McKnight stated that in her opinion Site Plan Review is supposed to be a process where it is by-right if all the requirements can be met and the board is not asked to make any discretionary decisions about use. There's no Special Use Permit involved, but for a real Special Permit there is actual discretion and we can say no for certain reasons. With Site Plan Review we're not really supposed to be able to say no to the use, so she doesn't really see any added value to having it behave like a Special Permit process. She thinks that it's more onerous on the developers, but it doesn't necessarily give the board more power. She doesn't mind submitting the application, but she wants to be sure that anyone that should be included is included. They should probably schedule a meeting with the Select Board to see if they agree with the decision made by this board.

Mrs. Liane Gonzalez asked what the purpose was for the Special Permit to be added to the Site Plan Review.

Mr. Pearce stated that it gave the applicant one more hurdle to climb, but to look at the whole big picture they created a lot of the problems that they have in this town, by what they require.

**Zoning Board of Appeals**

Mrs. McKnight stated that not all of the ZBA's applications are as complete as they normally are. Kathy Morgan of the ZBA wanted to get them to the CPC, so that you would be able to comment on them before the next ZBA meeting. However, not all materials had been received.

**33 Lakeside Boulevard** – On the petition of Maxim Milovanov for a variance from the rear setback to extend the existing deck and add stairs.

- There does not appear to be a way to construct this addition without going over the lot line.
- Allowing construction this close to the lot line/lake would set a poor precedent.

**58 Southwick Road** – On the petition of Jim Tryder for a home occupation special permit for a construction business.

- The CPC does not object to the request, provided the business adheres to the criteria of §200-42.

**197 Main Street** – On the petition of Katrina J. Eddy for a Special Use Permit to run a landscaping business.

- CPC recently approved a minor modification to allow for outdoor storage on this site. The decision is attached to the ZBA memo. The approval was issued with a note that the special use permit for landscaping must still be requested from the ZBA as a separate review/approval process.

**Minutes**

Mr. Rudloff moved, seconded by Mr. Pearce and voted 4-0: (Mr. Carroll absent)

that the Community Planning Commission vote to accept the minutes dated September 20, 2022 as written.

Mr. Hayden asked for a roll call vote: Mr. Rudloff, Mr. Pearce, Mr. Johnston and Mr. Hayden in favor, none opposed.

**Planning Administrator Updates**

- CPC meeting on October 18<sup>th</sup> - Discussion with TEC for the Corridor study for Rte. 28.
- Public hearing – 146-150 Park Street will be posted as hybrid.

Adjournment at 8:00PM

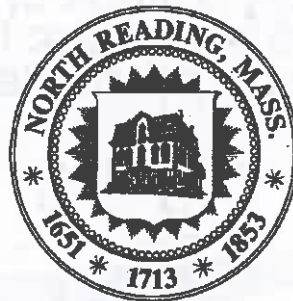
Respectfully submitted,  
Ryan Carroll, Clerk

A handwritten signature in black ink, appearing to be 'Ryan Carroll', written in a cursive style.

# **Town of North Reading**

## **Wastewater System Planning/Design**

**Select Board Presentation**  
**Wednesday, September 28, 2022**

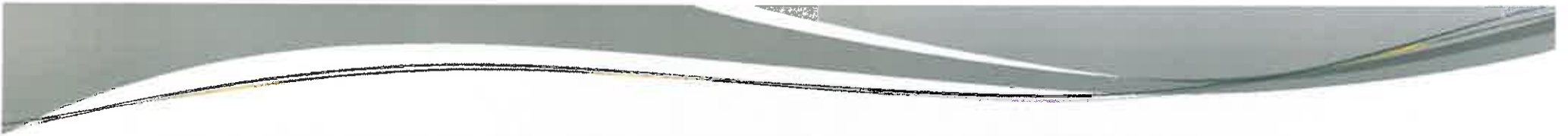






## Briefly...

- October, 2021 Town Meeting approved an appropriation of \$2,893,000 to advance the design/permitting and developing a full funding plan for a wastewater collection system to service Main Street, North Street west through Lowell Road, and Park Street west through Concord Street. This work represents **phase I** of a wastewater project in North Reading.
- **Phase II** would encompass Martin's Pond, specifically the area bounded by Main Street, both sides of Burroughs Road, the Wilmington town line, and the Andover town line. While flow required to service this area is accounted for in the planning assumptions, neither construction plans nor growth projections were part of this past year's work.
- The Town contracted with Wright Pierce to provide Preliminary Design for the Proposed Municipal Wastewater System and for Final Design of a portion of the System located within the MassDOT Project Area of Route 125 & Route 114 Intersection where MassDot is designing now for drainage improvements and roadway resurfacing.

- 
- The Town is designing a system for wastewater flow of 503,000 gallons per day (gpd) to accommodate both the phase I and phase II needs in these areas as well as future new growth needs.
  - The Town is also contracted with Kleinfelder to perform a Municipal Wastewater Financial Assessment Study on the options for financing the estimated project cost of the Municipal Wastewater System, including growth projections. A detailed presentation of this information will follow.



## A word about the route...

- Discussions with Andover and North Andover have been ongoing. The intended route to convey wastewater via a force main to the Greater Lawrence Sanitary District (GLSD) wastewater treatment plant located in North Andover is to follow Route 28 to Route 125 to Route 114.
- Andover and North Andover encouraged the Town to look at other options for a route from slightly south of the Route 125 intersection with Route 114 to GLSD.
- Discussions continue with the two communities regarding the best route to connect to GLSD from this area, including potential use of existing gravity sewer line routes that could be upgraded.

# Wastewater Conveyance System to GLSD





## In-Town Wastewater Collection System







## Summary of Wastewater Flows

- Total Wastewater Design/Permitted Flow Capacity being sought is 503,000 gallons per day (gpd)
  - Reduced by existing Phase I Wastewater Flow Allocation of 186,000 gpd
  - Reduced by Phase II (Martin's Pond) Wastewater Flow Reserve of 32,000 gpd
  - Reduce by Ground Water Infiltration allowance of 29,300 gpd
  - Reduce by 10% Safety Factor for above Allocations & Reserves of 21,800 gpd
- **This results in projected available wastewater flow for future New Growth of 233,900 gpd.** The number could vary, particularly if some users in Phase I or II elect not to connect to the system.

# 2021 Final Design and Construction Cost Estimate



Item	Area	Final Design Engineering/ Permitting	Construction of Wastewater Infrastructure	Construction Administration & Inspection <sup>2</sup>	TOTAL
1	<b><u>In-Town Wastewater Collection System</u></b> includes local gravity collection system along Main Street; North Street and Lowell Road; and Park Street and Concord Street	\$1,300,000	\$25,700,000	\$3,855,000	\$30,855,000
2	<b><u>Wastewater Conveyance System to GLSD<sup>1</sup></u></b> includes local pump stations and force mains and primary pump station and force main in North Reading continuing along Routes 28, 125 and 114 to the GLSD connection	<u>\$1,687,000</u>	<u>\$57,800,000</u>	<u>\$8,670,000</u>	<u>\$68,157,000</u>
	Sub-Total	\$2,987,000	\$83,500,000	\$12,525,000	\$99,012,000
3	<b><u>Other Project Costs</u></b>				
	Land Acquisition (assume 5 lots @ \$1M each)	\$5,000,000			\$5,000,000
	Legal/Administration/Financing Plan	\$1,000,000			\$1,000,000
	GLSD Connection Fee		\$2,000,000		\$2,000,000
	4:1 Infiltration/Inflow Reduction		\$6,000,000		\$6,000,000
	Sub-Total	<u>\$6,000,000</u>	<u>\$8,000,000</u>	\$0	<u>\$14,000,000</u>
	<b>TOTAL</b>	<b>\$8,987,000</b>	<b>\$91,500,000</b>	<b>\$12,525,000</b>	<b>\$113,012,000</b>
	Town Meeting Funding Request	Oct-22	Oct-22	Oct-22	
Notes					
1	includes MassDOT Project - Routes 114/125				
2	assumed to be 15% of construction cost				

## Probable Cost Estimate Adjustments for Design & Inflation

<b>Cost Table for PowerPoint</b>			
	<b>2021 Probable Costs (Mil.)</b>	<b>2022 Probable Costs (Mil.)</b>	<b>Change in Probable Costs (Mil.)</b>
Gravity System	\$34.47	\$24.72	(\$9.75)
Force Main System	\$34.93	\$38.67	\$3.74
Pump Stations	\$14.08	\$24.61	\$10.53
Inflation to Midpoint of Construction (15%)	\$0.00	\$10.25	\$10.25
<b>Total Probably Construction Cost</b>	<b>\$83.48</b>	<b>\$98.25</b>	<b>\$14.77</b>
Technical Services	\$15.53	\$15.35	(\$0.18)
Administrative	\$6.00	\$7.50	\$1.50
Connection Fee & I/I Removal Fees	\$8.00	\$8.00	\$0.00
<b>Total Opinion of Probable Project Cost</b>	<b>\$113.01</b>	<b>\$129.10</b>	<b>\$16.09</b>





## Do we have the Bonding Capacity to Borrow the Funds needed to construct the Sewer Project?

- The general debt limit of the Town of North Reading consists of a normal debt limit and a double debt limit. The normal debt limit is 5 percent of the valuation of taxable property as last equalized by the State Department of Revenue. The Town can authorize debt up to this amount without State approval. It can authorize debt up to twice this amount (the double debt limit) with the approval of the State Municipal Finance Oversight Board composed of the State Treasurer, the State Auditor, the Attorney General and Director of Accounts.
- There are many categories of general obligation debt which are exempt from and do not count against the General Debt Limit. Among others, these exempt categories include certain school bonds, self-supporting sewer bonds, water bonds, bonds for electric, gas, and community antenna television systems, and telecommunications systems bonds, solid waste disposal facility bonds.
- The Town's current debt limit is \$180,383,440 and, with state approval, the debt limit can be raised to \$360,766,880. The outstanding debt and debt authorized but not yet issued subject to the debt limit is 15,077,369.75, leaving additional borrowing capacity of \$165,306,070 under the normal debt limit and \$345,689,510 under the double debt limit.
- The bottom line is that the Town has ample capacity under the statutory debt limits to authorize future capital projects that are subject to the debt limits. However, this capacity should not be confused with the Town's ability to support the payment of additional debt service within the Town's Proposition 2 ½ levy limit or the need for additional revenues (betterment assessment revenues or debt exclusion revenues).



# Municipal Wastewater System Financial Assessment Study

**An Assessment on Financing Options for the  
Municipal Wastewater System.**





## **PART I - Municipal Wastewater System Cost & Financing Analysis**

- GIS Mapping of the Proposed Municipal Wastewater Service Area.
- Perform a 3 Year Avg. Water Use Analysis to assign Sewer Units.
- Confirm the adequacy of 503,000 gal/day annual sewer discharge.
- Provide a Summary of Betterment Assessment Methods.
- Develop a Wastewater System Project Financing Model, including the use of Sewer Betterments, Debt Exclusion, Grants and other Special Revenues.
- Assist with draft Sewer Betterment Assessment By-Law for Town Meeting Adoption.
- Presentation of Part I cost/financing information to the Select Board June 2022.



## **PART II - Property Valuation & New Growth Analysis**

- Perform a Potential Build-Out Analysis
- Conduct Public Outreach and solicit survey data from property owners/businesses
- Develop a matrix of potential property development
- Recommend Zoning Regulation changes, if any that may be needed, to optimize desired development
- Evaluate Potential Real Estate Market Value Increases and New Growth Tax Dollars
- Calculate a Return on Investment over a 30 Year Debt Service Payment Period.
- Provide Public Outreach Meeting Assistance during outreach meetings with property owners, businesses and with the General Public.
- Presentation of Part II information to the Select Board in summer of 2022



# Town of North Reading Municipal Wastewater System Financial Assessment Study

**Select Board Presentation**  
September 28, 2022



# Agenda

1 Objectives / Background  
Benefits of Sewer  
Project Area & Definitions

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2 Betterment Assessment Methodology  
Example Betterment Calculation  
Betterment Determination Process

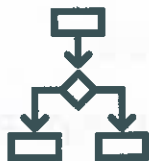
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3 Debt Planning  
Property Valuation  
New Growth Analysis & ROI

## Betterments and Debt Planning Variables

### Town Decision Points

- Project Cost Allocations
- Betterment Methodology
- Loan Period and Interest Rate
- Residential Opt-Out Option
- Allowable Residential / Commercial Growth
- Tax Rate Adjustments
- Other Revenue Sources



### Universal Base Model Assumptions

- Approx. \$68,900,000 Assessed as Betterments
- Water Use Method
- 200,000 gpd Sewer Capacity Reserved for Betterment Area
- 30-Year Loan Period
- 5% Interest Rate
- Constant Tax Rate of \$15 / \$1,000

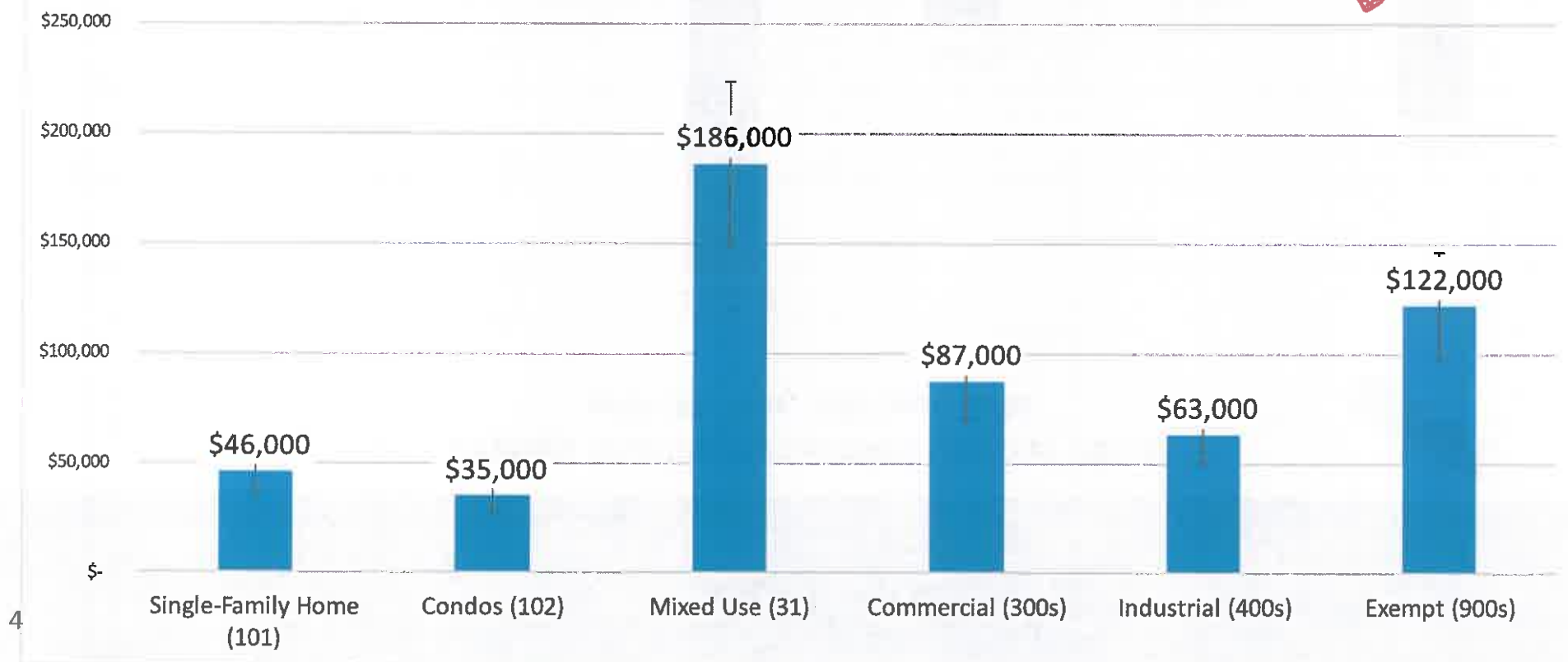


## Betterment Estimates: Immediate Payoff

*\*Based on an estimated Total Project Cost of \$131,993,000. The final cost allocations will be determined by the Select Board after final construction costs are known. Values have been rounded.*

**Estimated Betterment Cost Per Parcel  
(Immediate Payoff - Based on Water Use)**

**DRAFT**



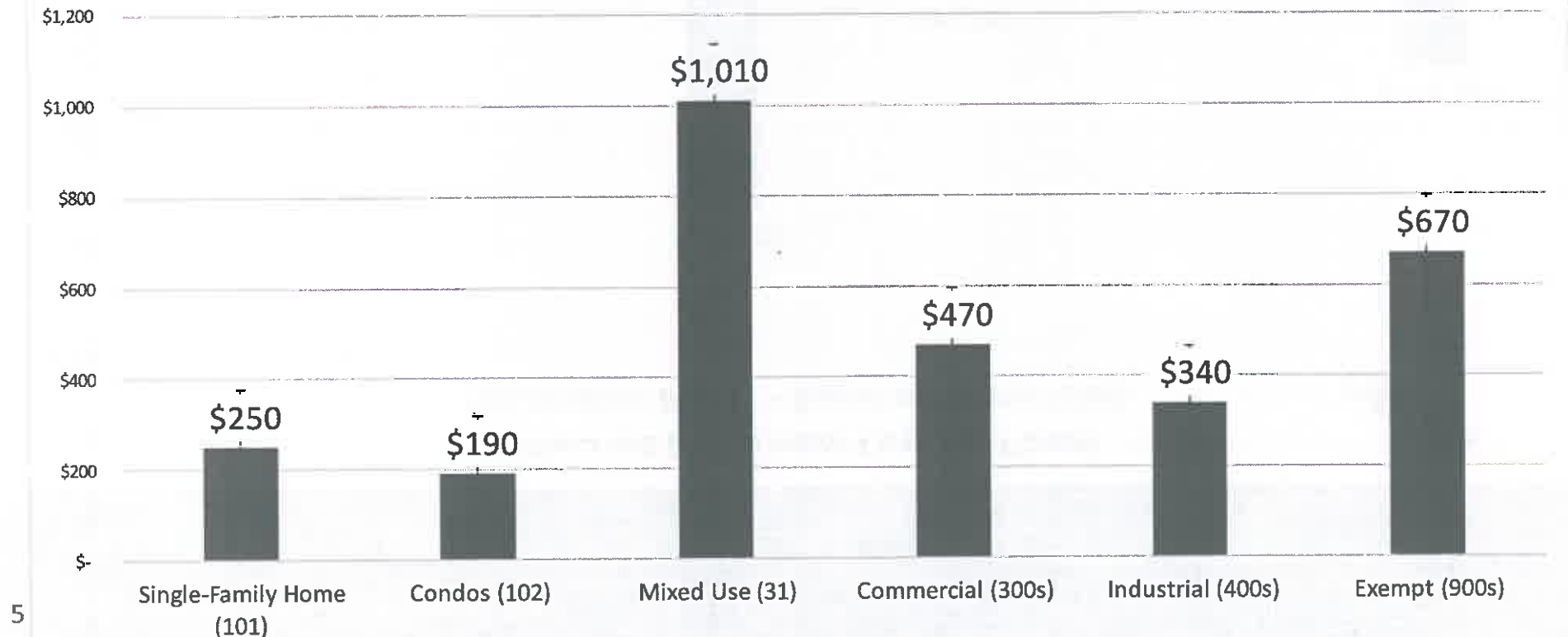


## Betterment Estimates: 30-Year Loan, 5% Interest Rate

*\*Based on an estimated Project Cost of \$131,993,000. The final cost allocations will be determined by the Select Board after final construction costs are known. Values have been rounded.*

**Average Monthly Betterment Cost Per Parcel  
with 30-Year, 5% Loan Rate**

**DRAFT**



## Potential Impact on Residential Taxes

No Alternative Funding Scenario  
(No grants, land sale, revenue from projected growth)

FY 22 Tax Rate: \$15 / \$1,000 Evaluation

**Over 30-Years**

Average +\$0.96 / \$1,000 Evaluation  
or approximately

**+\$660 Increase in Annual Tax for Average Single-Family Home**

# Agenda

1

Objectives / Background  
Benefits of Sewer  
Project Area & Definitions

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2

Betterment Assessment Methodology  
Example Betterment Calculation  
Betterment Determination Process

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3

Debt Planning  
Property Valuation  
New Growth Analysis & ROI

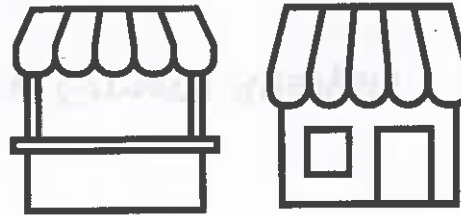
## Background

- The primary goal of this project is to determine how the Town will pay for the Proposed Municipal Wastewater Project, as well as the financing mechanisms to be used over the long term.
  - **Part I. Municipal Wastewater System Cost and Financing Analysis**
    - GIS Mapping
    - Water Usage Analysis
    - Wastewater Capacity
    - Betterment Assessment
  - **Part II. Property Valuation and New Growth Analysis**
    - Build-Out Analysis
    - Zoning Recommendations
    - Evaluate Potential New Growth Revenue

## Why Do We Need Public Sewer?

- **Promote Economic Growth**

- Increased services
- Increased job opportunities
- Increased property values



- **Limited Multi-Family Housing on Main St.**

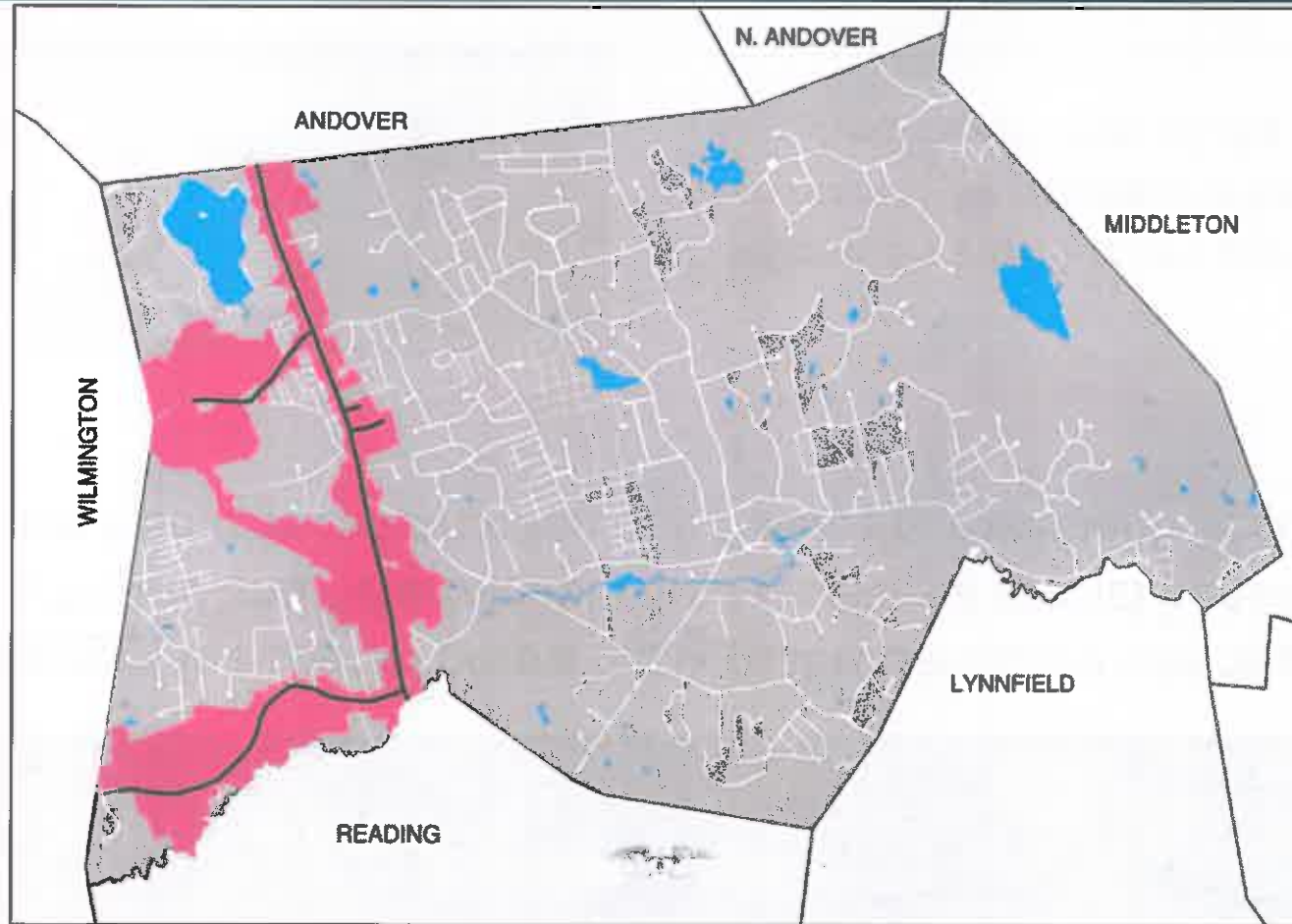
- Guided growth in population density to support business

- **Promote Public Health & Environmental Protection**

- Improve surface and groundwater quality



## Project Area for Betterments



## What is a Betterment?

- A **Betterment** is a special property tax that is permitted where property within a limited and determinable area receives a special benefit or advantage from the construction of a public improvement. *M.G.L. Ch. 80 §1.*



**All parcels abutting the proposed sewer main may be assessed a betterment to help cover costs of the project.**



## Why Do We Need a Betterment?

**Sewer Special Assessments**: Cities and towns may assess all or a portion of the costs of sewer system plant and facilities (*M.G.L. Ch. 83 §15*) to help pay for municipal project costs. These costs may include:

- **General Benefit Facilities**, such as pumping stations, trunk sewers and force mains, and
- **Special Benefit Facilities**, such as mains serving adjacent properties.





## How does a Betterment Work?

- A betterment is a **municipal lien** on a property. The property owner may elect to pay all or a portion of the lien when assessed, stretching the remainder over the bonding period, or portion thereof.

*This lien must be paid at time of sale if the property is sold.*



## Who Decides on a Betterment?

A Town meeting and vote must occur to create a betterment. The vote may occur once cost estimate is available or when construction bids are received, and prices are identified.

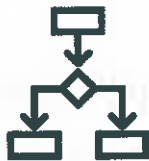
### **The Betterment Vote must decide on the following issues:**

1. Authorization to Borrow Money for the Project
2. Amount of Construction Costs to Collect through Betterments
3. Method to Assess Betterments
4. Interest Surcharge to Be Added by the Town (Allowed up to 2% over borrowing interest rate)

## Betterments and Debt Planning Variables

### Town Decision Points

- Project Cost Allocations
- Betterment Methodology
- Loan Period and Interest Rate
- Residential Opt-Out Option
- Allowable Residential / Commercial Growth
- Tax Rate Adjustments
- Other Revenue Sources

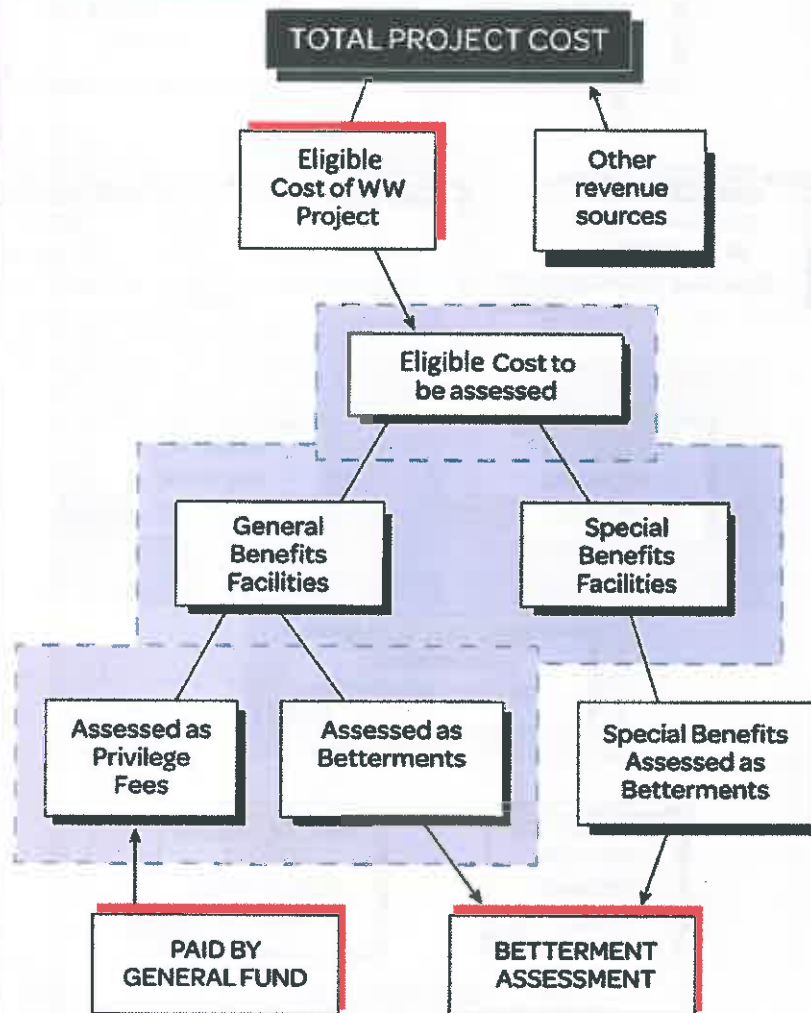


### Universal Base Model Assumptions

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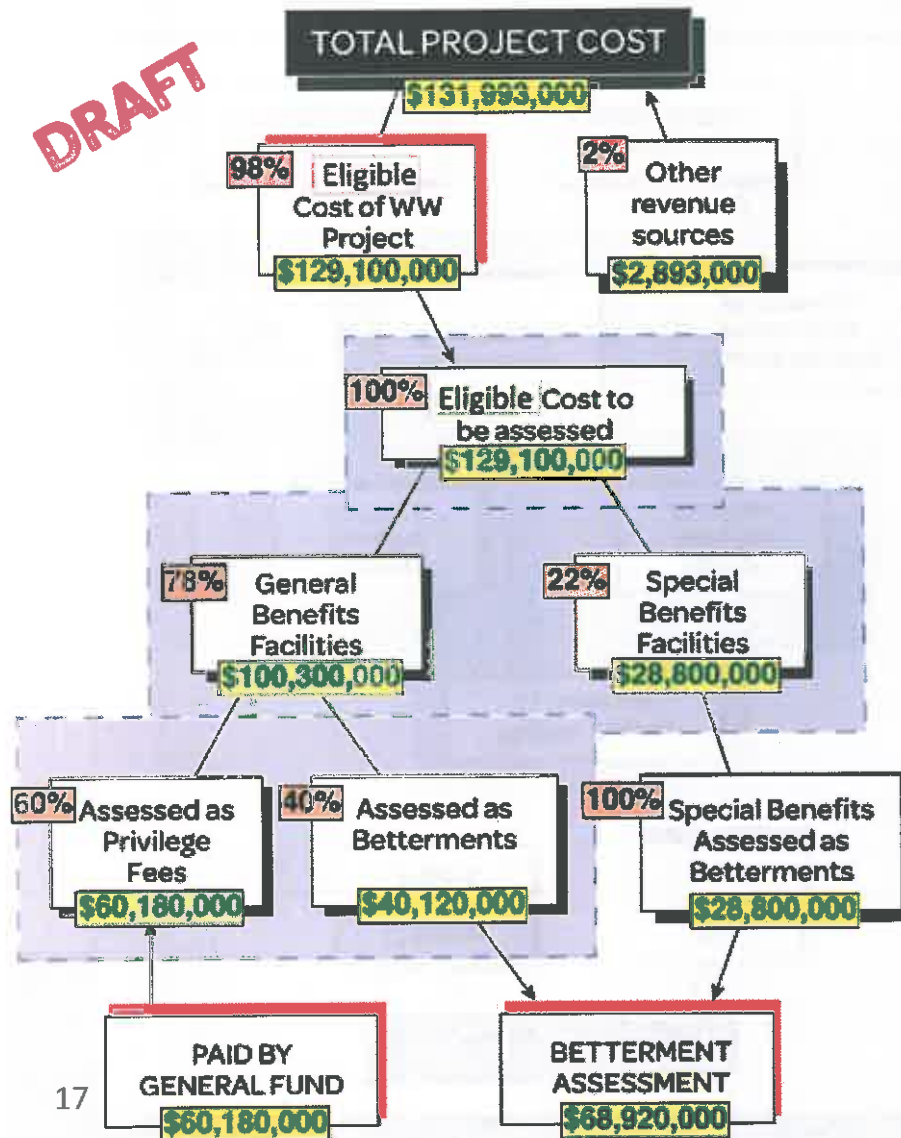


## Betterment Cost Determination



- The cost used to determine betterment assessments is based on a portion of the total eligible cost of the project.
- The Select Board will vote to determine the division of costs.
- Final betterments are determined upon project completion, once project costs are finalized.

**DRAFT**



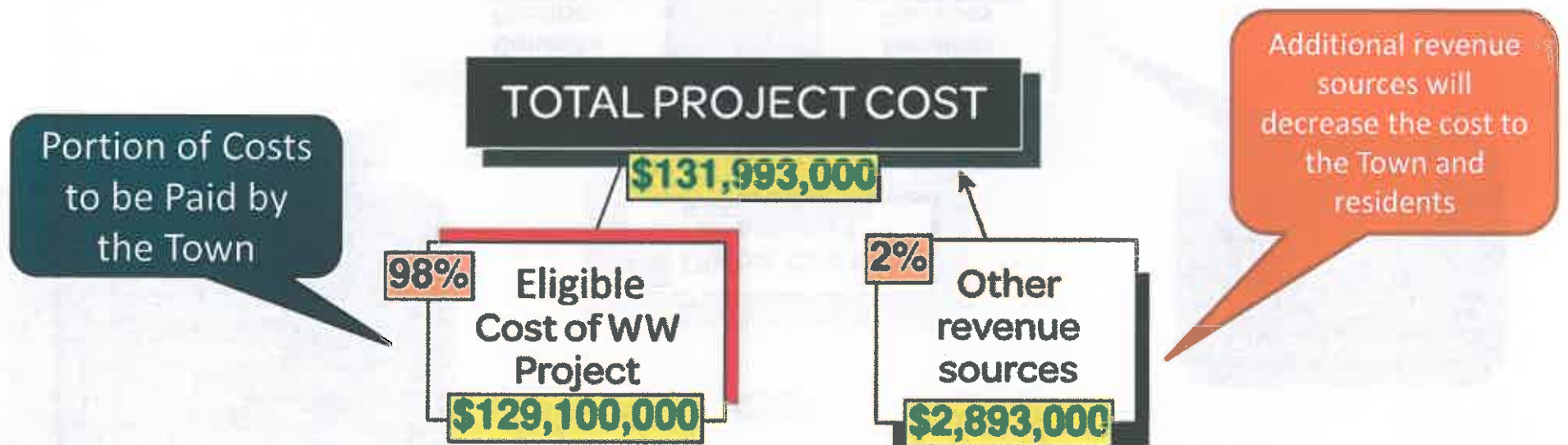
## Base Model Cost Allocations

### Base Model Assumptions for Demonstrative Purposes Only

*\*Based on an estimated Total Project Cost of \$131,993,000. The final cost allocations will be determined by the Select Board after final construction costs are known. Values have been rounded.*

# Base Model Cost Allocations

## Base Model Assumptions for Demonstrative Purposes Only



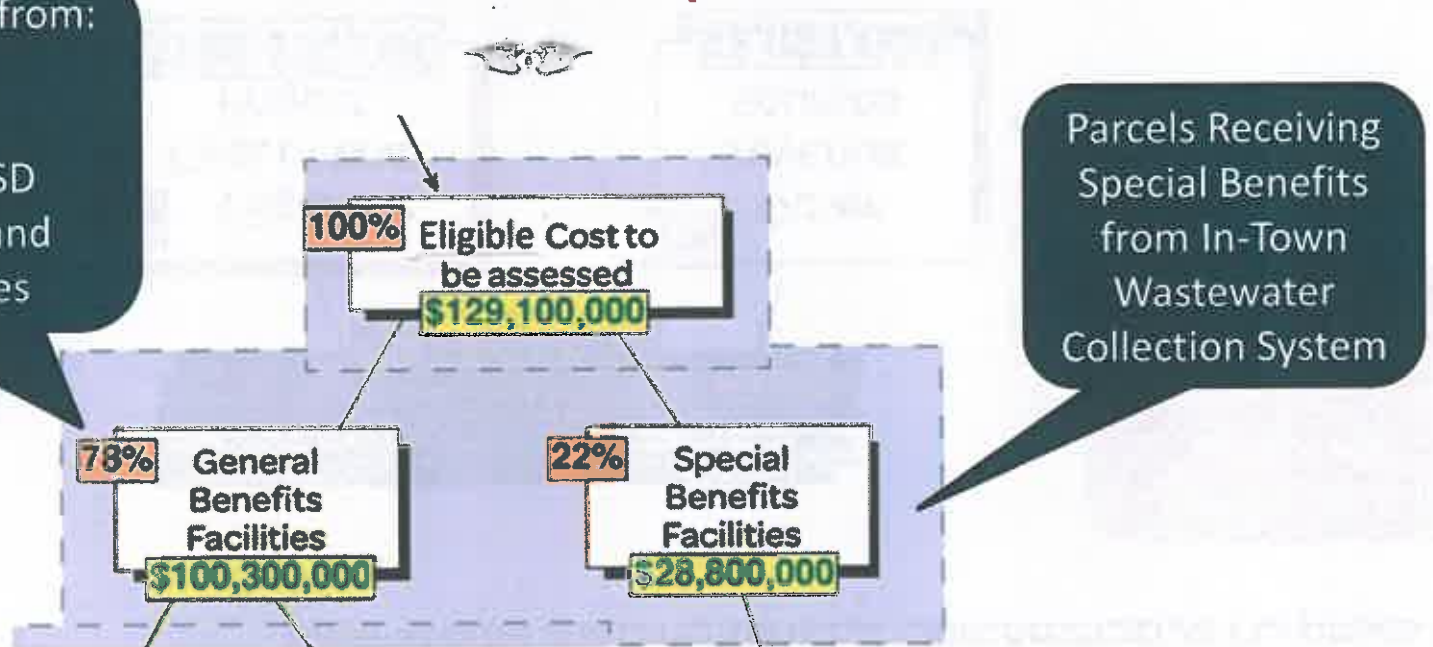


# Base Model Cost Allocations

## Base Model Assumptions for Demonstrative Purposes Only

\*All residents benefit from:

1. Wastewater Conveyance & Connection to GLSD
2. Land Acquisition and Administrative Fees



Recent revision to the Sewer Bylaw allows for cost split to be determined by board vote.

# Base Model Cost Allocations

## Base Model Assumptions for Demonstrative Purposes Only

Proportion of general benefit facilities costs assigned to parcels along proposed collection system

**78%**  
**General Benefits Facilities**  
**\$100,300,000**

**22%**  
**Special Benefits Facilities**  
**\$28,800,000**

Costs assessed to pay towards debt services

Costs assigned to future sewer users upon connection

**60%**  
**Assessed as Privilege Fees**  
**\$60,180,000**

**40%**  
**Assessed as Betterments**  
**\$40,120,000**

**100%**  
**Special Benefits Assessed as Betterments**  
**\$28,800,000**



## Base Model Cost Allocations

Base Model Assumptions for  
Demonstrative Purposes Only

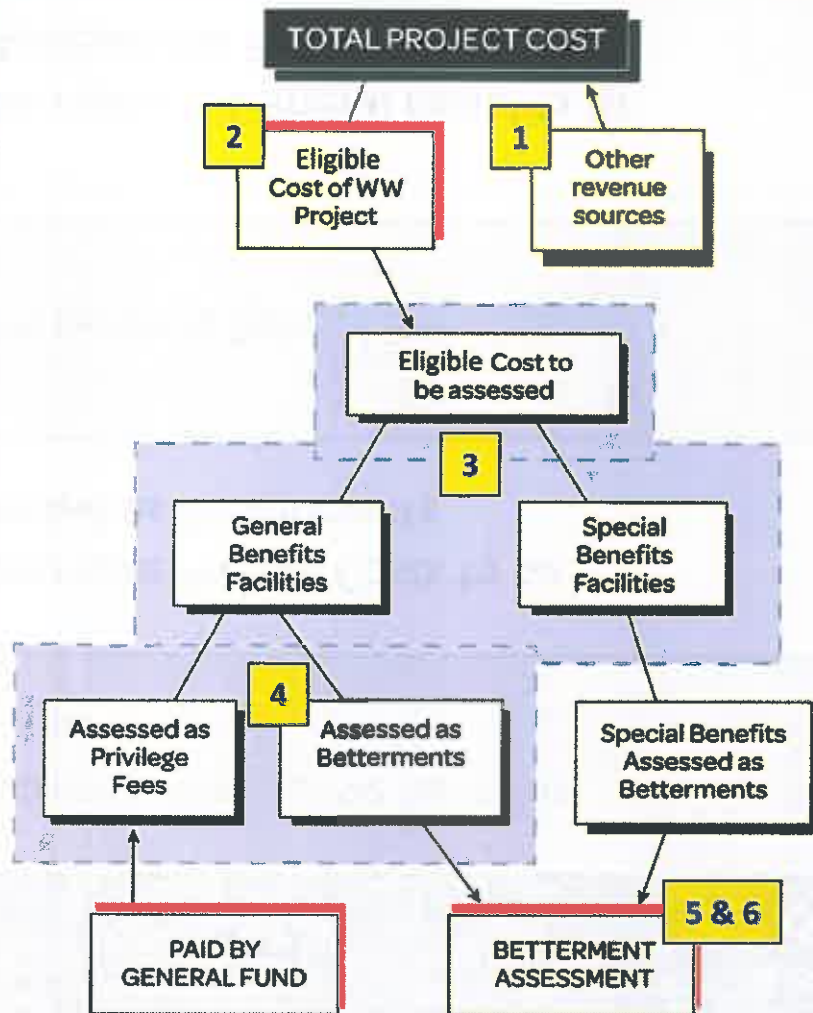














Collectable	Use Type	Betterment Share
Yes	Residential	\$48.8 Million
Yes	Mixed Use	\$2.4 Million
Yes	Commercial	\$14.5 Million
Yes	Industrial	\$2.9 Million
No	Exempt*	\$0.4 Million

## Betterment Determination Process

### Decision Points:

1. Establish Alternative Revenue Sources
2. Determine Eligible Project Costs
3. Determine Cost Distribution Between General and Special Benefits
4. Assign % of General Benefits Facilities Costs Assessed as Betterments
5. Select Betterment Methodology
6. Calculate Betterments Costs Once Project Costs are Finalized



	Impact to General Fund Obligation	Impact on Res. Betterments	Impact on Com. & Ind. Betterments
1. Increase Alternative Revenue Sources			
2. Decrease Project Costs to be Assessed as Betterments			
3. Decrease % Special Benefits			
4. Decrease % General Benefits to be Assessed as Betterments			

# Agenda

1

Objectives / Background  
Benefits of Sewer  
Project Area & Definitions

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2

**Betterment Assessment Methodology**  
**Example Betterment Calculation**  
**Betterment Determination Process**

---

3

Debt Planning  
Property Valuation  
New Growth Analysis & ROI

## Betterment Assessment Methodology

- **Unit Uniform Method**: A method for assigning betterments based on dividing costs between existing and potential residential equivalent sewer units based on existing zoning *M.G.L. Ch. 83 §15*



Flow from a single-family residential home = 1 equivalent sewer unit

## Determining Equivalent Sewer Units

**Equivalent Sewer Units is based on estimated wastewater contributions**

Three **methods** were considered to determine wastewater contribution:

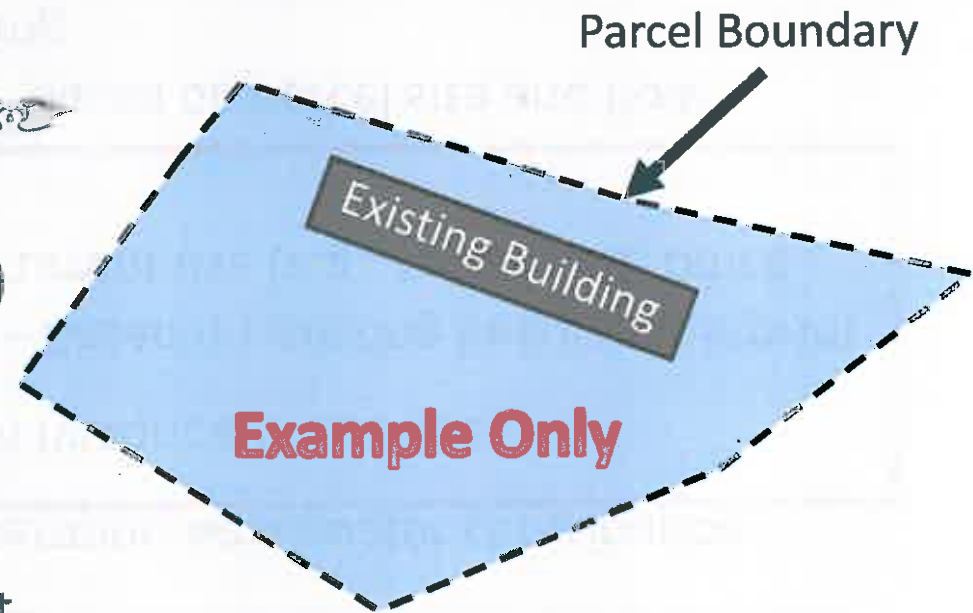
1. **Water Use Method** – Based on historical water use
2. **Title V Current Build Method** – Based on existing building footprint (commercial / industrial) and current use (e.g., restaurant, office space)
3. **Title V Full Buildout Method** – Based on parcel size and flow projections under current zoning

$$\text{Cost (\$) Per Sewer Unit} = \frac{\text{Total Betterment Assessment Cost}}{\text{Total Number of Sewer Units}}$$



## Example: Betterment Calculations

- **Address:** Example
- **Number of Water Accounts:** 1
- **Number of Units on Account:** 10
- **Average Water Use:** 415 gpd (Total)
- **Use Code:** 343 (Office Space)
- **Zoning:** Highway Business (HB)
- **Lot Size:** 43,560 sq. ft.
- **Existing Building Area:** 15,000 sq. ft.



## Example: Water Use Method

$$\text{No. of Sewer Units} = \frac{\text{Water Use}}{\text{Equivalent Sewer Unit Flow}}$$

### Example Parcel

$$415 \text{ gpd} / 130 \text{ gpd} = 3 \text{ Sewer Units}$$

#### Notes:

1. Parcels without historical water use were estimated based on use type.
2. Covid-19 impacts to water use have not been determined; however, consideration should be given to the likelihood that the pandemic increased residential use and decreased commercial / industrial use.
3. Estimated Residential Flow = 1 Equivalent Sewer Unit = 130 gpd (average water use for single-family homes).
4. Sewer Units rounded up to nearest 0.25



## Example: Title V Current Build Method

$$\text{No. of Sewer Units} = \frac{\text{Existing Building Area} \times \text{Title V Flow}}{\text{Equivalent Sewer Units}}$$

### Example Parcel

$$\frac{15,000 / 1,000 \text{ sq. ft.} \times 75 \text{ gpd}}{330 \text{ gpd}} = 3.5 \text{ sewer units}$$

#### Notes:

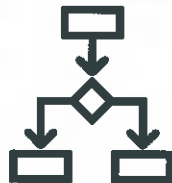
1. Flows based on use code and Title V Projections (see table)
2. Estimated Residential Flow = 1 Equivalent Sewer Unit = 330 gpd (from *Title V*)
3. Sewer Units rounded up to nearest 0.25
4. Current Build for apartment complexes only is based on No. of bedrooms x 110 gpd / 330 equivalent sewer units

Current Use	Projected Sewer Flows	Units
Residential	110	gpd per bedroom
Store	50	gpd per 1000 S.F.
Office	75	gpd per 1000 S.F.
Supermarket	97	gpd per 1000 S.F.
Restaurant	1,000	gpd Minimum
Use Not Listed	200%	Existing Water Use

# Betterment Determination Variables

## Town Decision Points

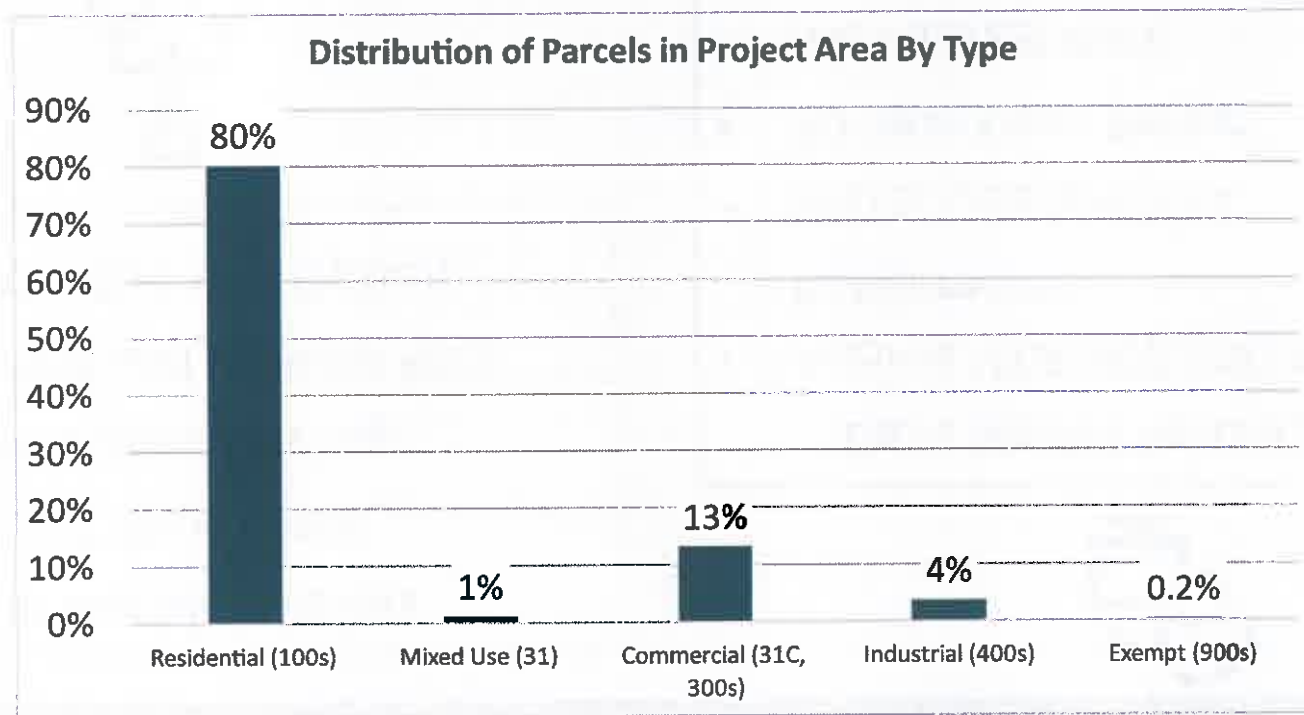
- Project Cost Allocations
- Betterment Methodology
- Loan Period and Interest Rate
- Residential Opt-Out Option



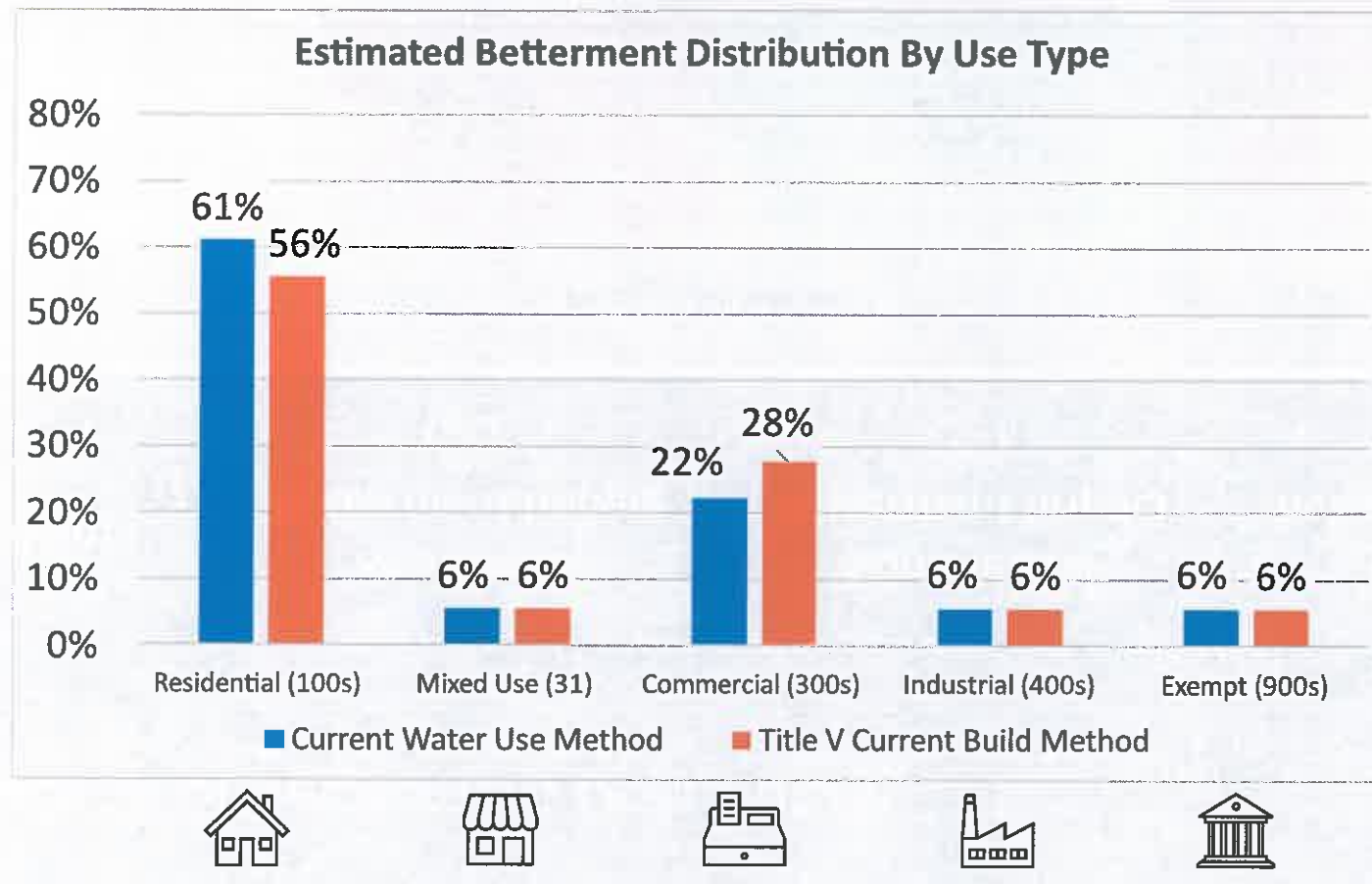
## Base Model Assumptions

- Approx. \$68,900,000 Assessed as Betterments
- Water Use Method
- 30-Year Loan Period
- 5% Interest Rate
- No-Residential Opt-Out

## Distribution of Parcels Under Current Zoning



## Comparison of Betterment Distribution



## Comparison of Betterment Distribution

### Decision Point

### Residential Betterment Impact



### Commercial Betterment Impact



### Industrial Betterment Impact



### Method Choice

Water Use

61%

22%

6%

Title V Current Build

56%

28%

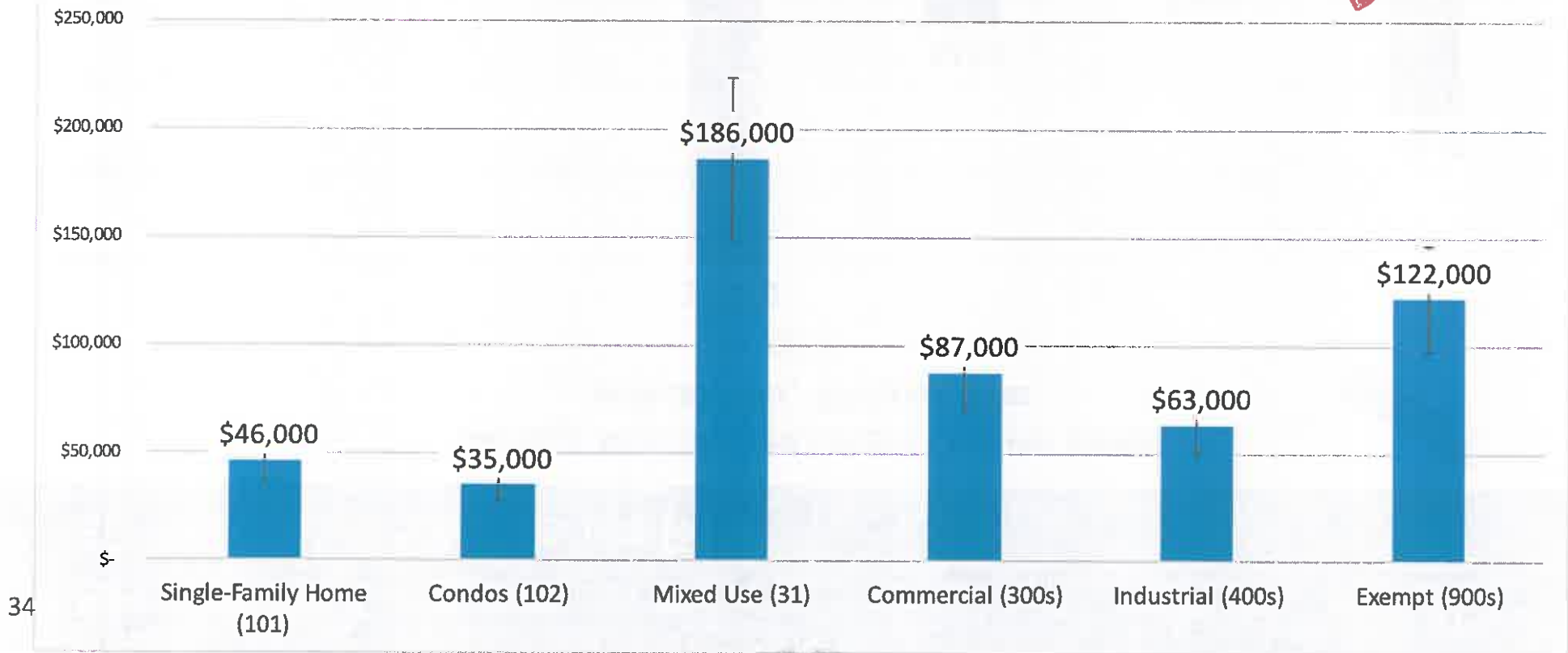
6%

## Betterment Estimates: Immediate Payoff

*\*Based on an estimated Total Project Cost of \$131,993,000. The final cost allocations will be determined by the Select Board after final construction costs are known. Values have been rounded.*

**Estimated Betterment Cost Per Parcel  
(Immediate Payoff - Based on Water Use)**

**DRAFT**

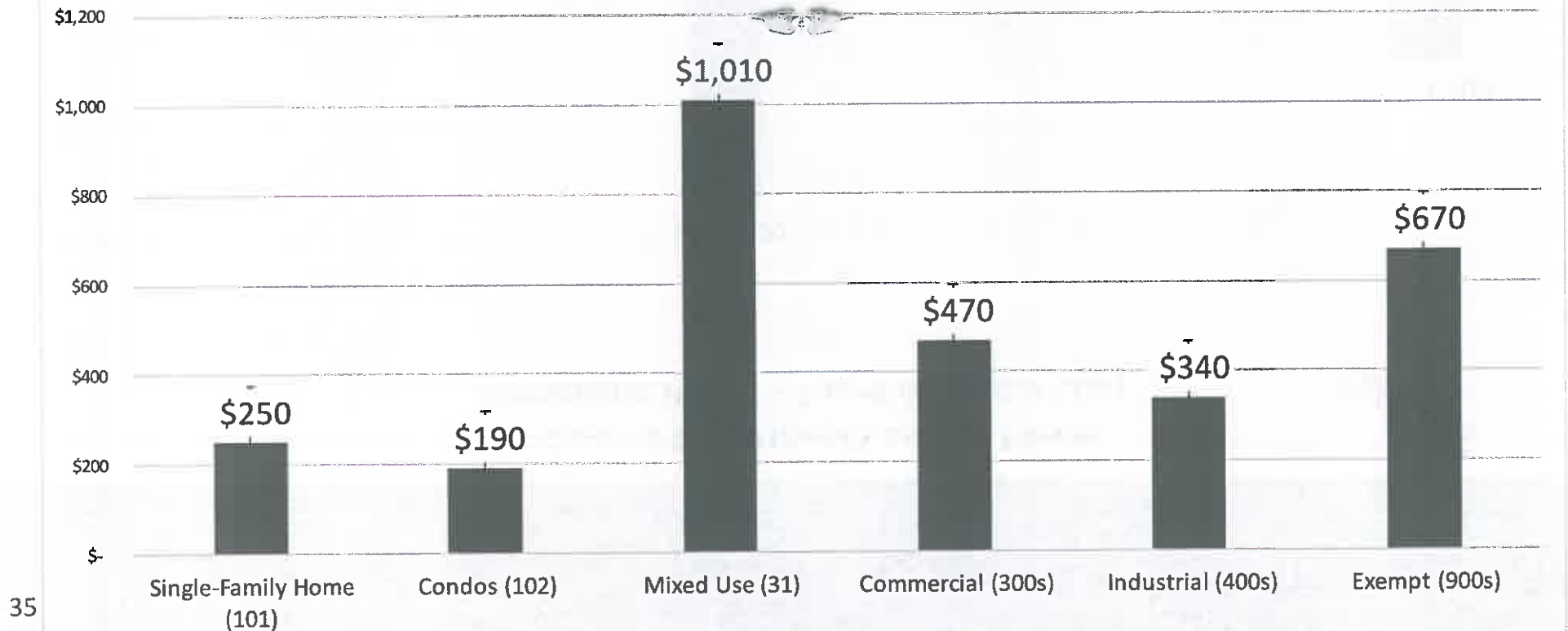


## Betterment Estimates: 30-Year Loan, 5% Interest Rate

*\*Based on an estimated Project Cost of \$131,993,000. The final cost allocations will be determined by the Select Board after final construction costs are known. Values have been rounded.*

**Average Monthly Betterment Cost Per Parcel  
with 30-Year, 5% Loan Rate**

**DRAFT**





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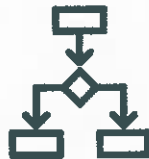
Debt Planning  
Property Valuation  
New Growth Analysis & ROI



## Betterments and Debt Planning Variables

### Town Decision Points

- Project Cost Allocations
- Betterment Methodology
- Loan Period and Interest Rate
- Residential Opt-Out Option
- Allowable Residential / Commercial Growth
- Tax Rate Adjustments
- Other Revenue Sources



### Universal Base Model Assumptions

- Approx. \$68,900,000 Assessed as Betterments
- Water Use Method
- 200,000 gpd Sewer Capacity Reserved for Betterment Area
- 30-Year Loan Period
- 5% Interest Rate
- Constant Tax Rate of \$15 / \$1,000

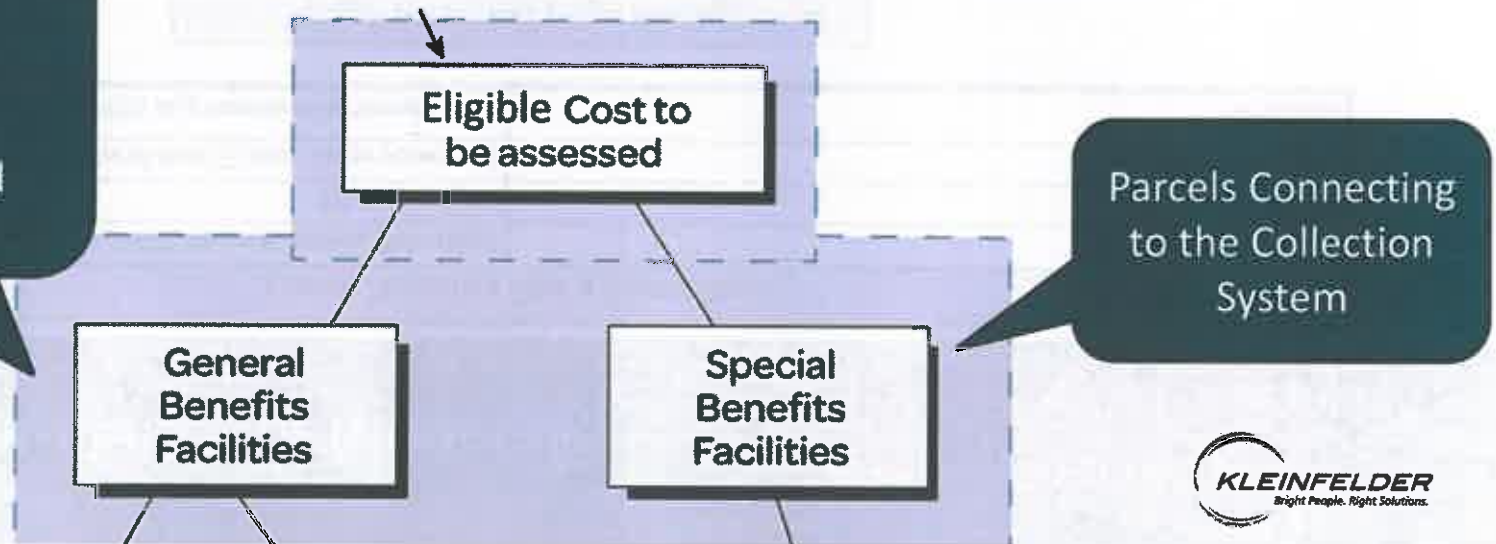


## Residential Opt-Out Option

A portion of the sewer project costs may be transferred to the General Fund. Through special legislation, the Town can create a **Residential Opt-Out** for properties in the proposed Sewer District. *This would shift more of the project costs onto the General Fund.*

\*All residents benefit from:

1. Wastewater Conveyance & Connection to GLSD
2. Land Acquisition and Administrative Fees



# Residential Opt-Out Debt Modeling

With No-Residential  
Opt-Out

North Reading Tax Information	
FY22 Town Property Valuation	\$4,287,829,300
FY 22 Tax Rate	\$15.00
Total Real Estate Taxes Assessed	\$64,317,440
FY22 Avg Residential Home Value	\$659,180

Debt Planning Base Model No Alternative Revenues Available	
Project Borrowing Cost	\$129,100,000
Interest	\$122,055,000
Project Total Cost	\$251,155,000
Betterment Principal Revenue	\$68,555,000
Betterment Interest Revenue	\$53,244,000
Betterment Revenue Total	\$121,799,000
General Fund Tax \$ Obligation	\$131,869,000
Avg. Tax \$ Annual Obligation	\$4,254,000
Avg Res. Annual Tax Increase	\$660

Assumes All  
Betterments Are  
Paid Over 30-Years  
at 5% Interest Rate  
& No Alternative  
Revenues Applied

## Residential Opt-Out Debt Modeling

Modeled Under the Assumption  
of No Alternative Revenue  
towards Debt Services

Scenario A	Avg. Annual Res. Tax Increase
0% Residential Opt-Out	\$660

Scenario B	Avg. Annual Res. Tax Increase
25% Residential Opt-Out	\$760

Scenario C	Avg. Annual Res. Tax Increase
50% Residential Opt-Out	\$880

Scenario D	Avg. Annual Res. Tax Increase
100% Residential Opt-Out	\$1,080

## Estimated Single-Family Home Costs Under Opt-Out Scenarios

### Non-Sewered Residents

Percent Residential Opt-Out	Avg. Monthly Tax Increase	Total Annual Cost
0%	\$55	\$660
25%	\$63	\$760
50%	\$73	\$880
100%	\$90	\$1,080

41 Values for Demonstrative Purposes Only. Final Project Cost Allocations to Be Determined By Select Board.





## Estimated Single-Family Home Costs Under Opt-Out Scenarios

### Sewered Residents

Percent Residential Opt-Out	Avg. Monthly Tax Increase	Monthly Betterment Cost	Total Monthly Cost	Total Annual Cost
0%	\$55	\$250 (to opt-in)	\$305	\$3,660
25%	\$63	\$250	\$313	\$3,760
50%	\$73	\$250	\$323	\$3,880
100%	\$90	\$250	\$340	\$4,080

## Why Do We Need Public Sewer?

- **Promote Economic Growth**

- Increased services
- Increased job opportunities
- Increased property values



- **Limited Multi-Family Housing on Main St.**

- Guided growth in population density to support business

- **Promote Public Health & Environmental Protection**

- Improve surface and groundwater quality



## Part II – Property Valuation and Potential New Growth

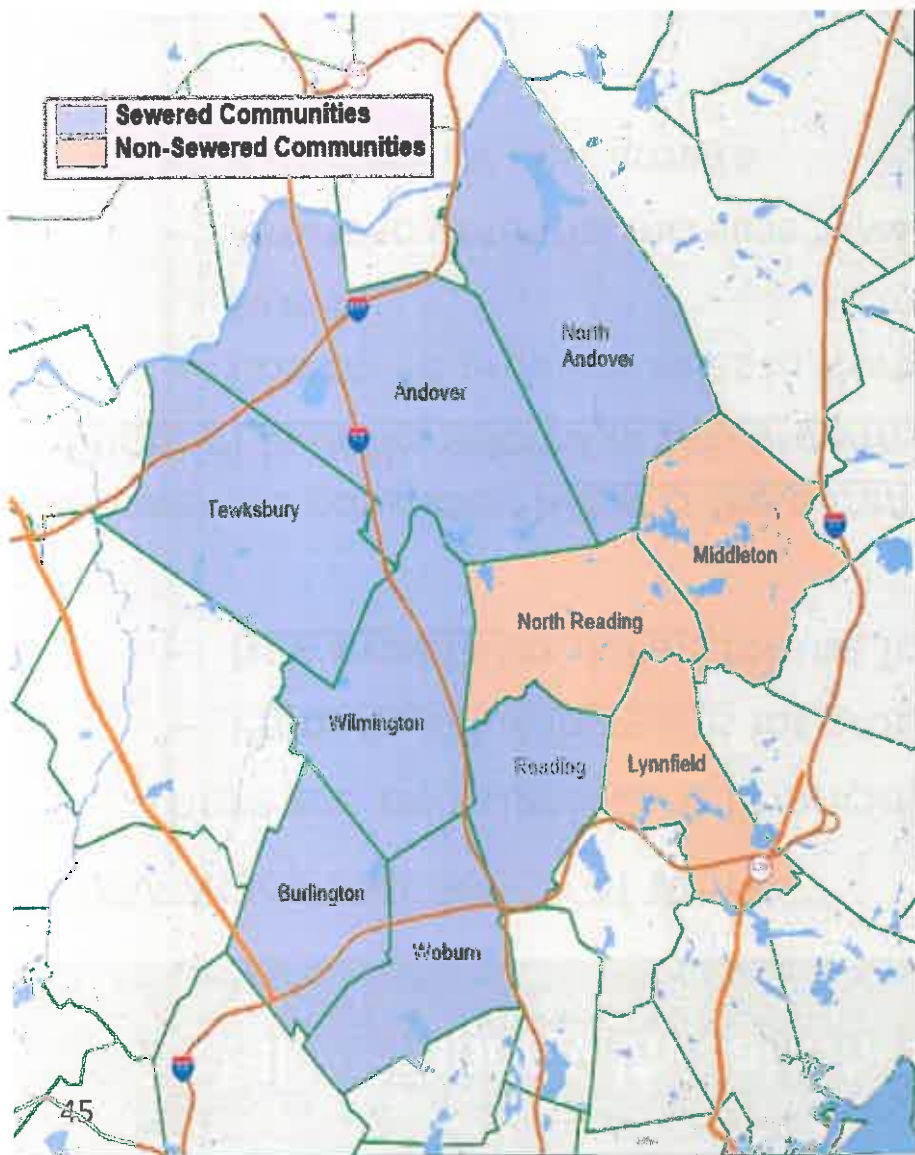
### FXM Associates Scope of Work

- There are two significant financial benefits from construction of a sewer
  - Property value increases for property owners abutting the proposed sewer
  - New growth tax dollars for the Town

*Answer the questions: **What is the potential new growth? & What are the potential financial benefits related to this growth?***

- Compared property sales in North Reading with similar nearby communities with sewer
- Assessed potential increase in value of existing properties
- Assessed net new growth





- FXM Projected Commercial / Industrial, and Multi-Family Residential Growth in the Sewer District is based on Projected Demand in Surrounding Sewered Towns
- Assumes constant tax rate of \$15 / \$1,000 valuation
- Not a feasibility study – for long term planning purposes only

**Conclusion:** There is sufficient demand within the market area to absorb the projected commercial SF potential and number of units projected

## Part II – Property Valuation and New Growth

### Summary Findings Potential Financial Impacts of Proposed Wastewater Management System Commercial & Industrial Properties

	Retail	Industrial/Flex	Office	TOTAL
Potential Increases in Value of Existing Properties (\$2022)	\$ 126,325,000	\$ 41,618,000	\$ 22,118,000	\$ 190,055,000
Potential Net New Growth (2026-2056)				
Inventory (SF)	359,000	1,954,000	305,000	2,618,000
Property Values	\$ 127,841,000	\$ 624,790,000	\$ 149,845,000	\$ 902,476,000
Tax Revenues	\$ 1,918,000	\$ 9,372,000	\$ 2,248,000	\$ 13,537,000

**Market Demand Potential Only**  
Actual Growth Impacted By Town Decision Making

Projections Define  
100% Potential Residential Growth,  
100% Potential Commercial Growth

### Summary Findings Potential Financial Impacts of Proposed Wastewater System Multifamily Residential Properties

Potential Net New Growth (2026-2056)	
Inventory (number of units)	1,302
Property Values	\$ 698,587,000
Tax Revenues	\$ 10,479,000

## Return on Investment

Goal: \$ Returned  $\geq$  \$ Invested

\$ Returned



\$ Invested





# Debt Repayment



To Avoid Increasing  
General Tax Rates:  
Increase \$ In  
Decrease \$ Out

Betterments

Residential New  
Growth Tax Levy

Alternative Revenues  
(Grants, Land Sale)

Existing Property Value  
Increase Tax Levy

Commercial New  
Growth Tax Levy

## ROI Base Model Assumptions

- \$131,993,000 Project Cost
- Approx. \$68,900,000 Assessed as Betterments
- Water Use Method
- Town Borrowing & Betterments:
  - 30-Year Loan Repayment Period (2027 – 2057)
  - 5% Interest Rate
- Projected New Growth Evenly Distributed Over 30 Years
- 0% Residential Opt-Out
- Starting Tax Rate of \$15 year / \$1,000, Plus Prop 2 ½ Increase to Prior Year Tax Levy (on commercial new growth only)
- No Alternative Revenues (grants, land sale)



## ROI Sewer Related New Growth

30 Year Average Percentage of New Growth Potential <sup>1</sup>	30 Year Total Debt Obligation <sup>2</sup>	30 Year Total Sewer Related Prop 2 1/2 New Growth Tax Revenue	30 Year ROI Calculation
25% Residential 25% Commercial	\$133,871,000	\$110,250,000	0.8
50% Residential 50% Commercial	\$133,871,000	\$220,500,000	1.6
75% Residential 75% Commercial	\$133,871,000	\$330,748,000	2.5
100% Residential 100% Commercial	\$133,871,000	\$440,997,000	3.3

50 (1) Based on market demand potential for new growth evenly distributed over 30 years.

(2) Assuming 0% residential opt-out and betterments payments evenly distributed over 30 years



## REMEMBER: *Financial Planning is a Balancing Act*

- Burden on General Fund
- Burden on Residents in Sewer District
- Burden on Commercial & Industrial Users in Sewer District
- Borrowing Rates and Impact on Bond Rating
- Desired Residential Growth
- Desired Commercial Growth

