

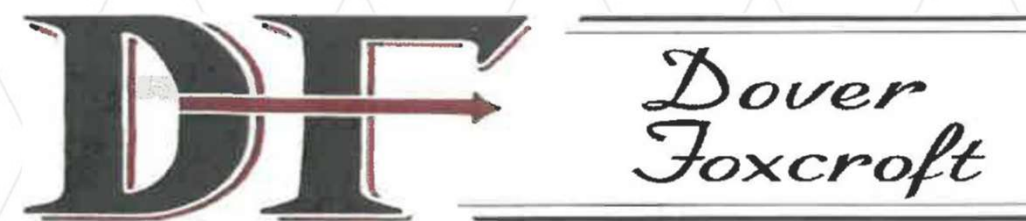


# Mayo Mill Dam and Appurtenant Facilities Feasibility & Alternatives Study

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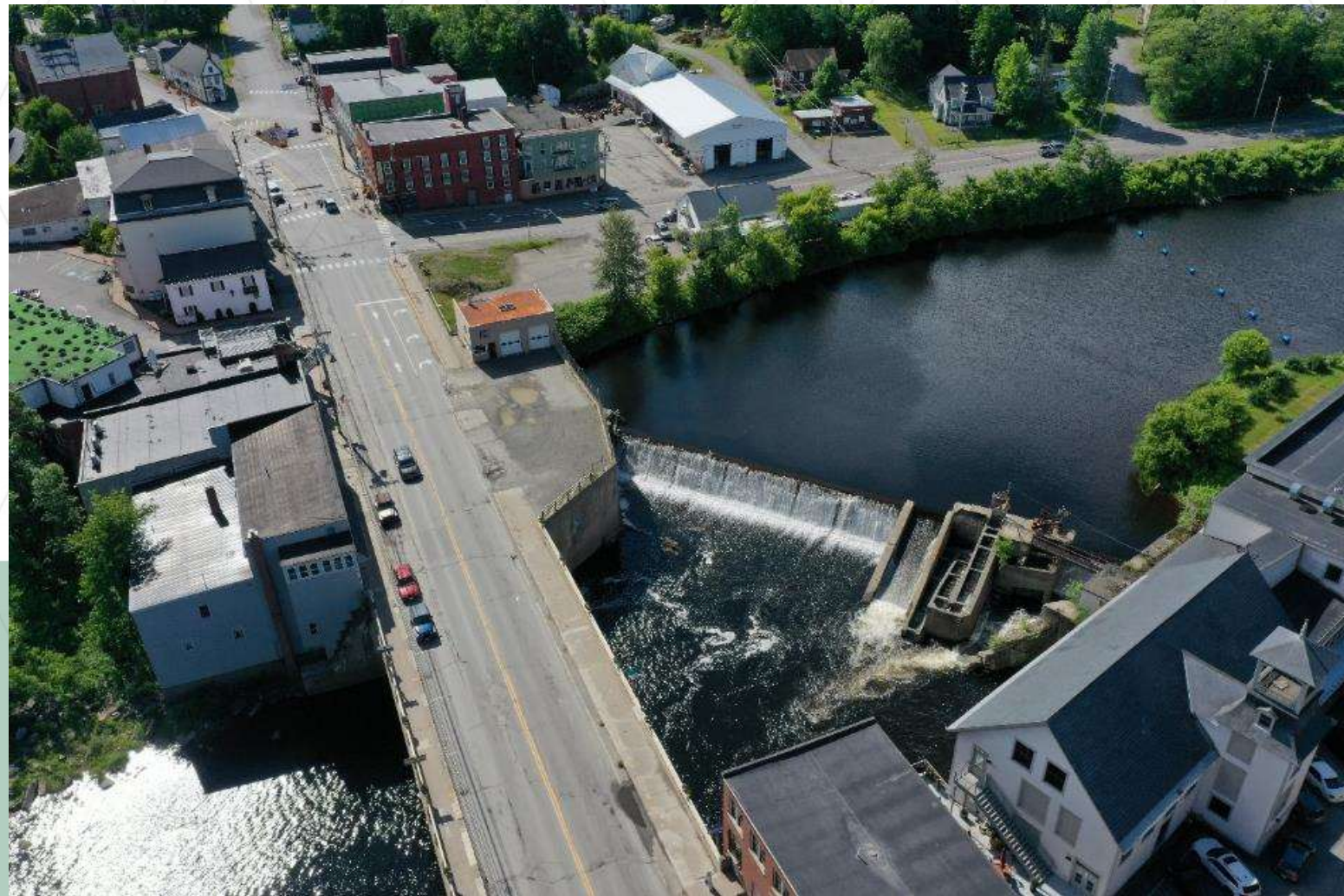
for the Town of Dover-Foxcroft





# Presentation Overview:

- Action Alternatives Recap
  - Questions or Clarifications?
- Alternatives Comparison
  - Key Considerations
- Discussion



Funding for the report is provided by NOAA Fisheries through the Infrastructure and Investment Jobs Act.



# Alternatives

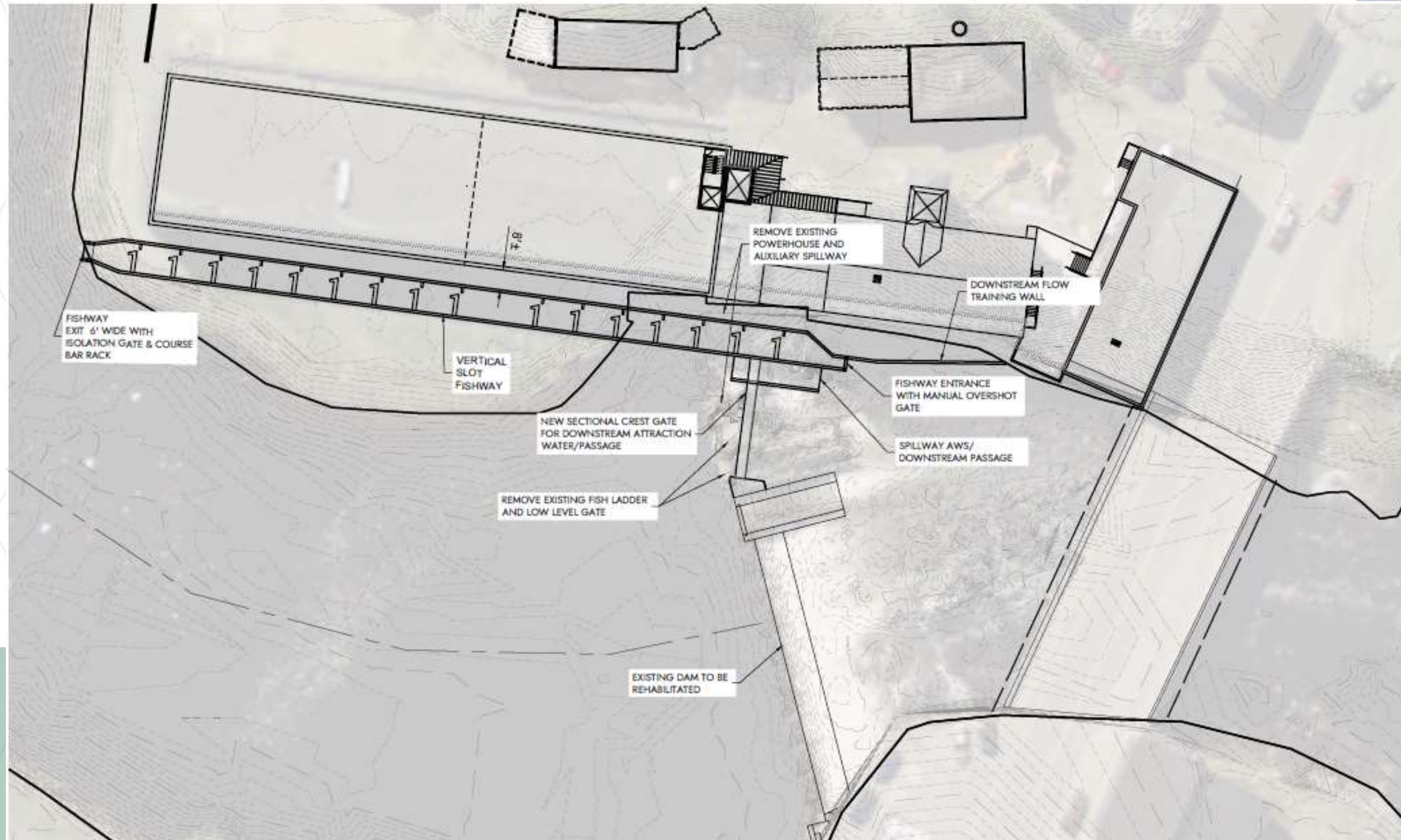
#	Alternative
0	No Action
M1	Retain Spillway and Impoundment, New Vertical Slot Fishway on River Left, FERC Exemption Surrendered
L1	Retain Spillway, Lower Impoundment 5 Feet, New Vertical Slot Fishway on River Left, FERC Exemption Surrendered
N6	Replace Dam with 3% Bank to Bank Nature-Like Fishway, Retain Upstream Impoundment, FERC Exemption Surrendered
N7	Replace Dam with 2% Bank to Bank Nature-Like Fishway, Lower Upstream Impoundment 5 Feet, FERC Exemption Surrendered
R1/R2	Dam Removal, FERC Exemption Surrendered

# Alternatives

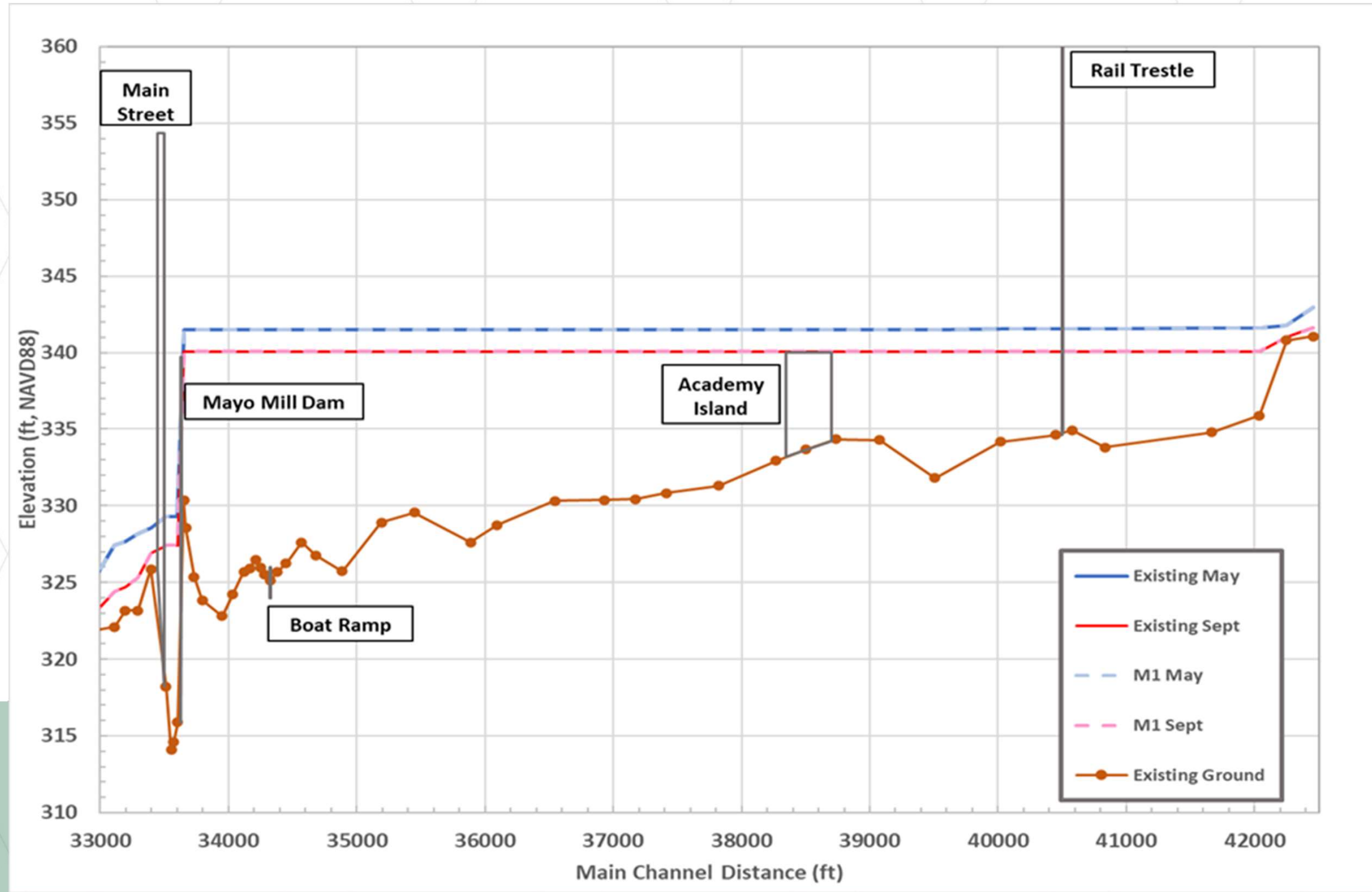
#	Alternative
<del>0</del>	<del>No Action</del>
M1	Retain Spillway and Impoundment, New Vertical Slot Fishway on River Left, FERC Exemption Surrendered
L1	Retain Spillway, Lower Impoundment 5 Feet, New Vertical Slot Fishway on River Left, FERC Exemption Surrendered
N6	Replace Dam with 3% Bank to Bank Nature-Like Fishway, Retain Upstream Impoundment, FERC Exemption Surrendered
N7	Replace Dam with 2% Bank to Bank Nature-Like Fishway, Lower Upstream Impoundment 5 Feet, FERC Exemption Surrendered
R1/R2	Dam Removal, FERC Exemption Surrendered



# M1 – Retain Spillway & Impoundment

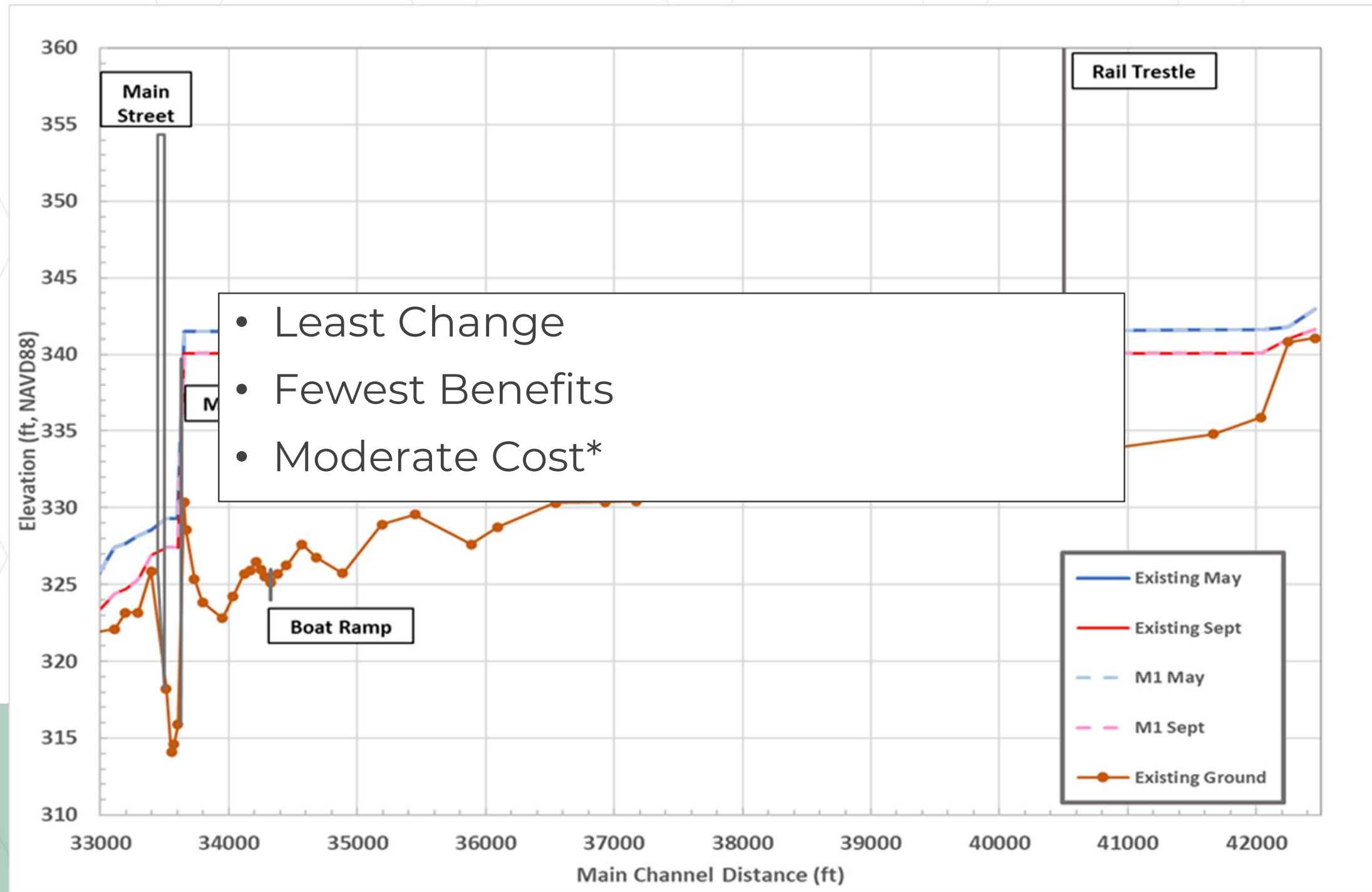


# M1 – Retain Spillway & Impoundment

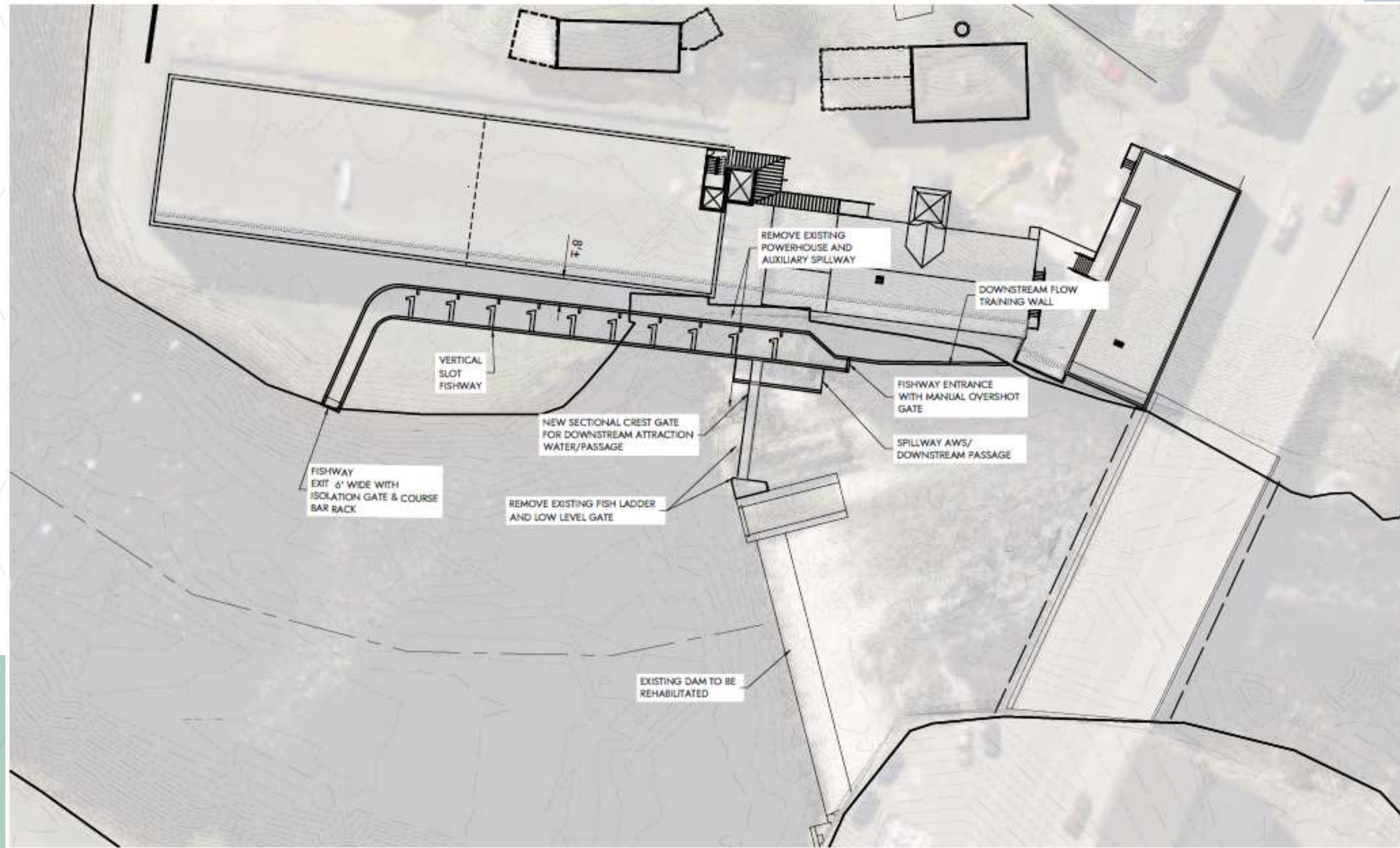




# M1 – Retain Spillway & Impoundment

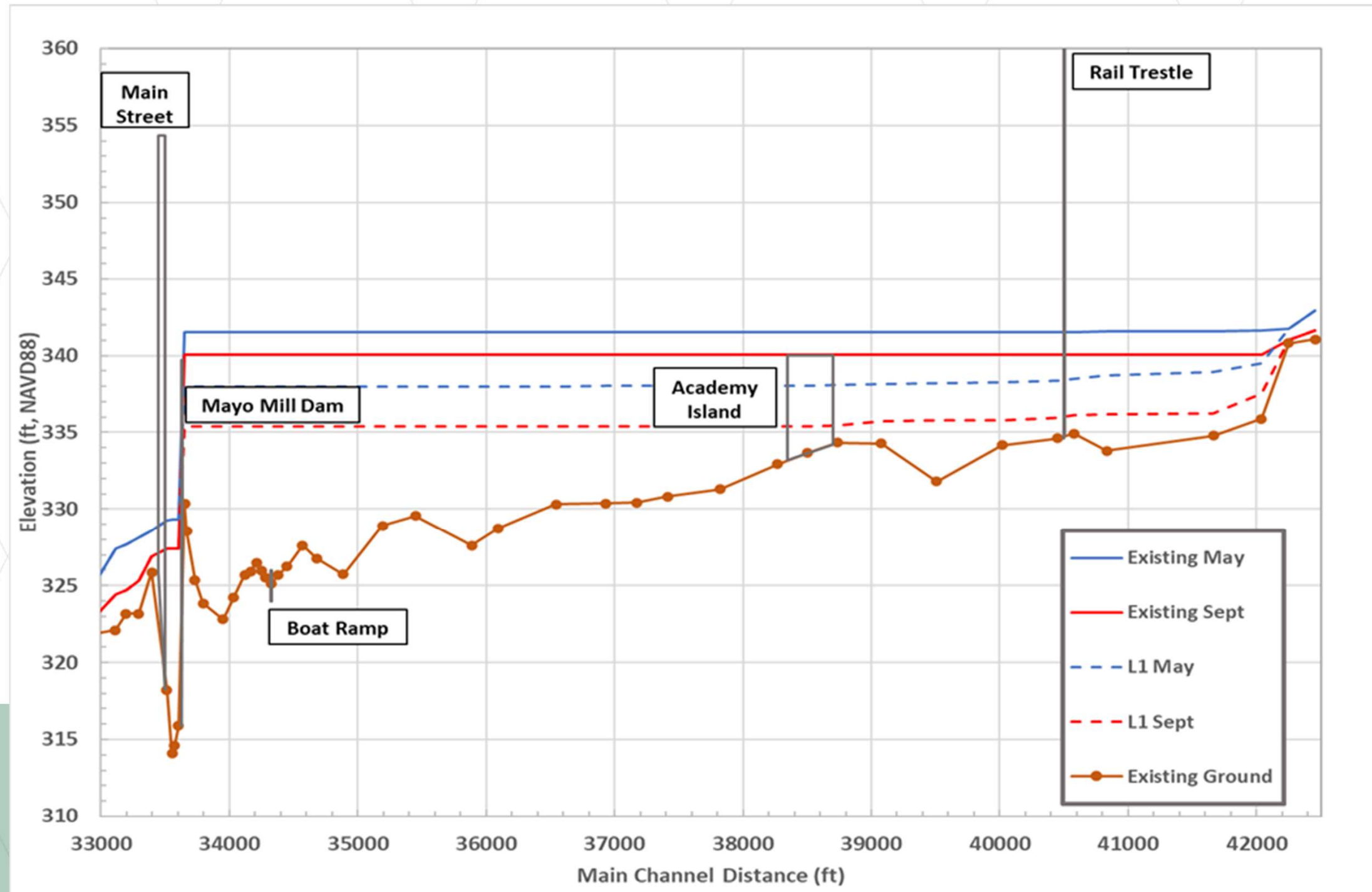


# L1 - Retain Spillway, Lower Impoundment 5 feet

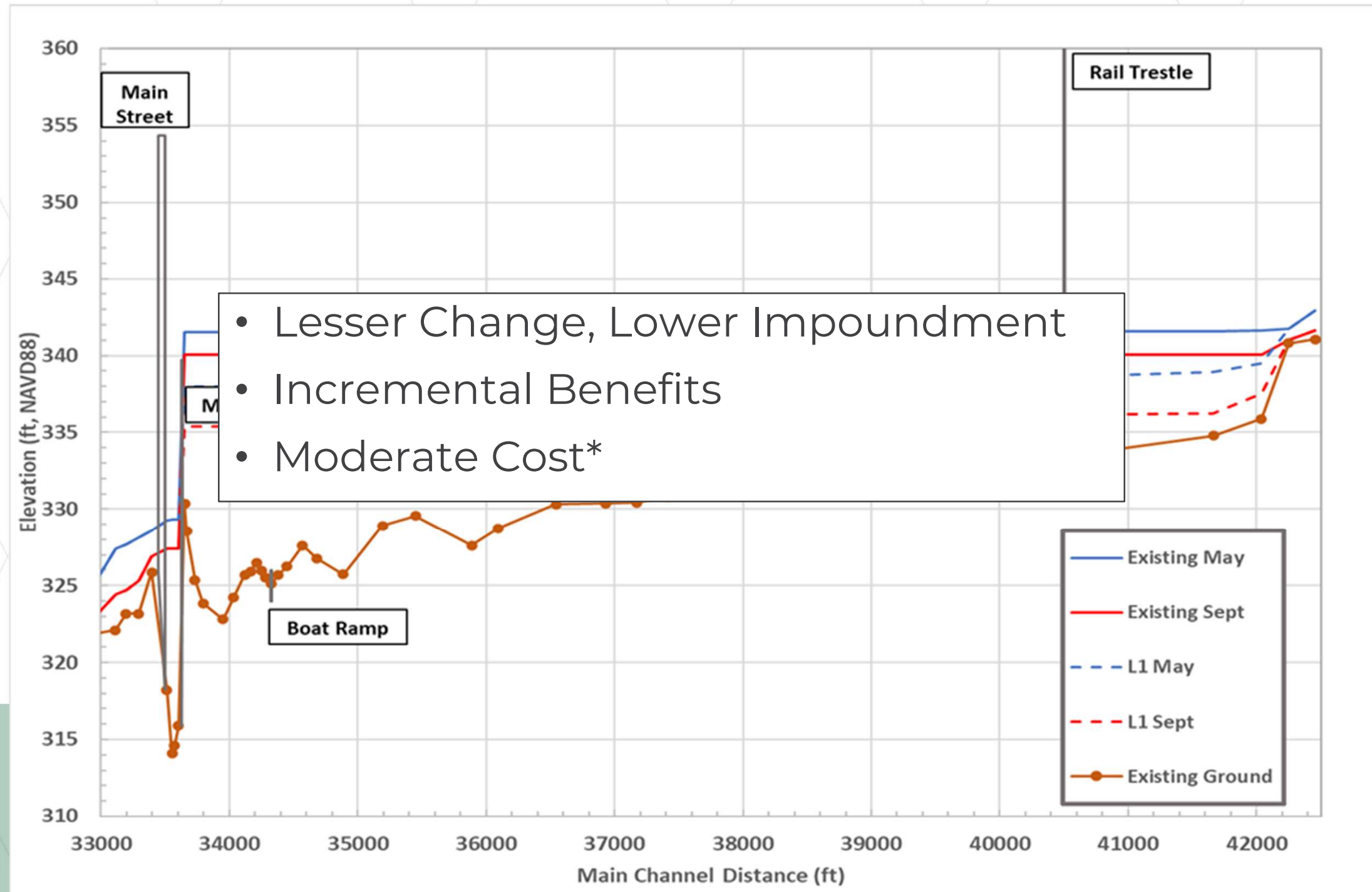




# L1 - Retain Spillway, Lower Impoundment 5 feet

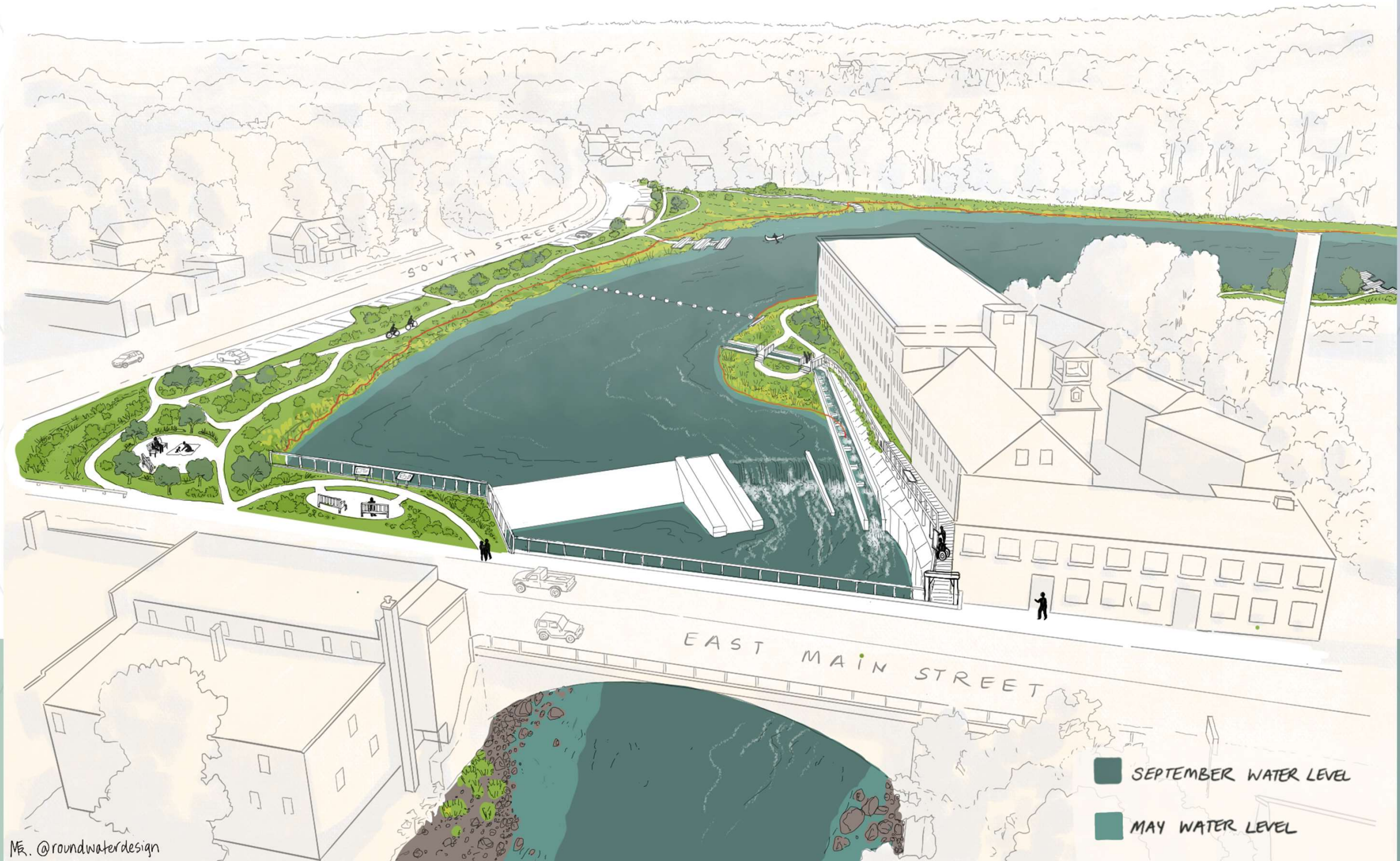


# L1 - Retain Spillway, Lower Impoundment 5 feet



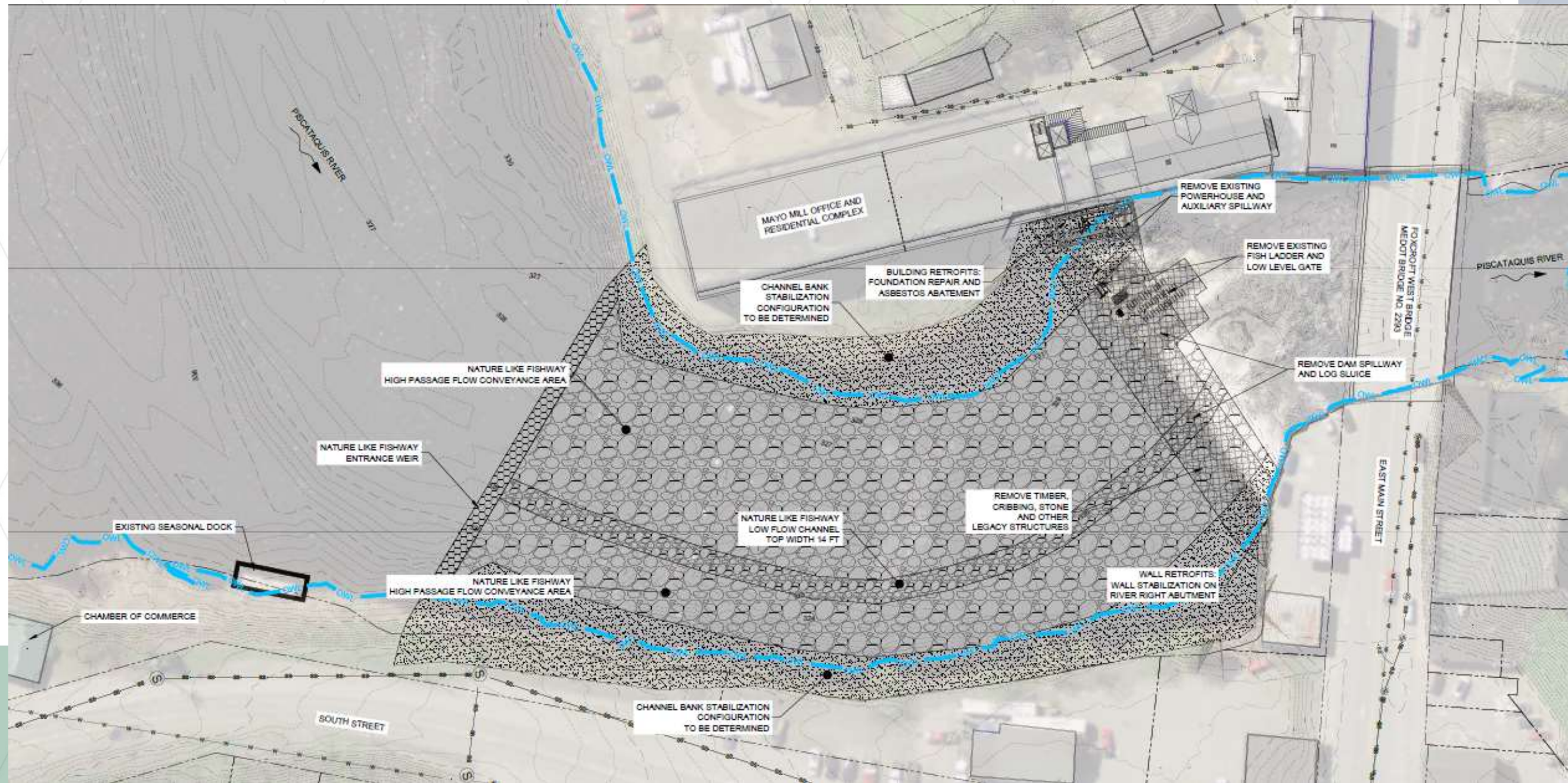


# M1 & L1 - Retain Spillway



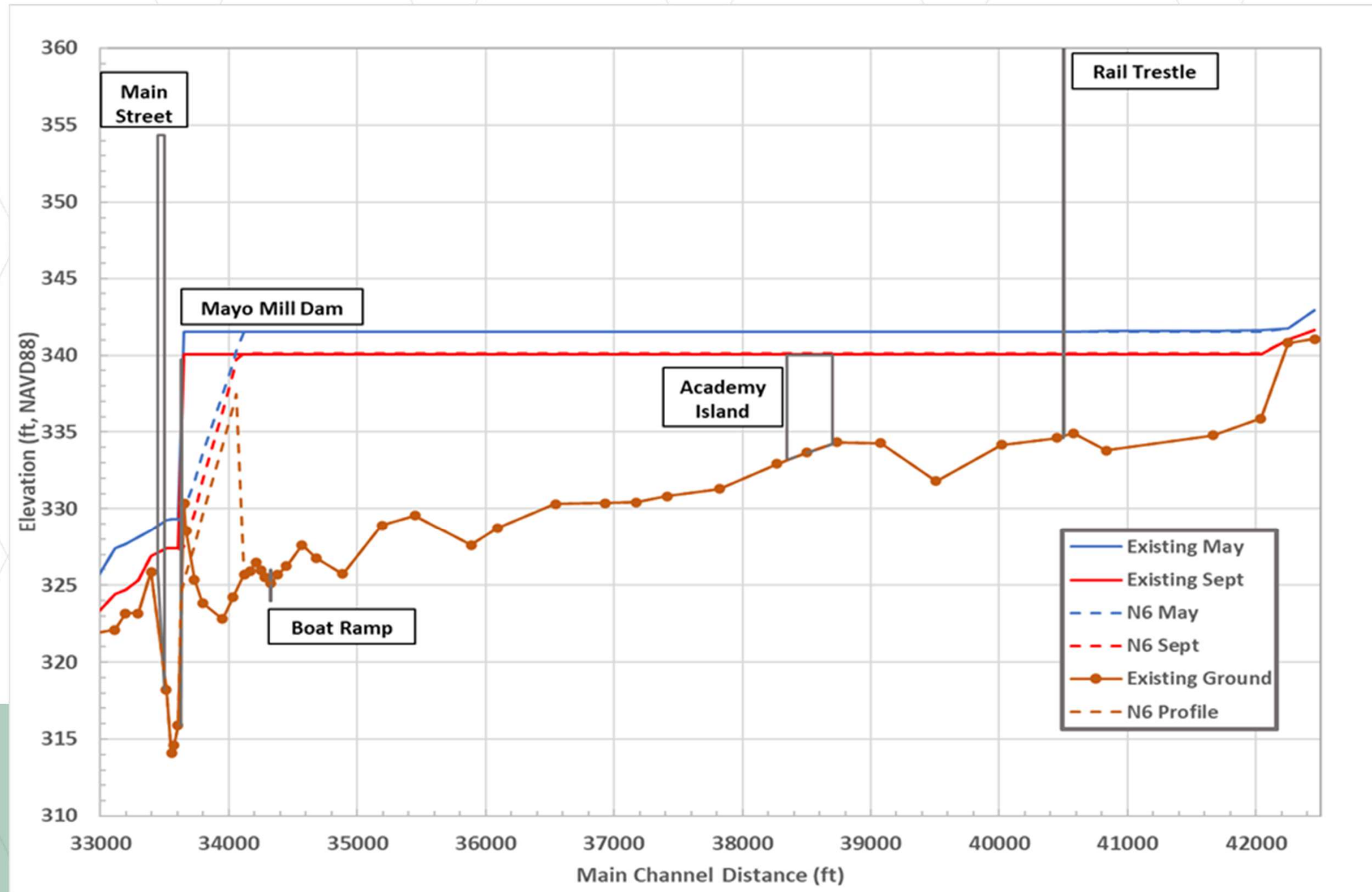


# N6 – 3% Bank to Bank NLF, Maintain Impoundment

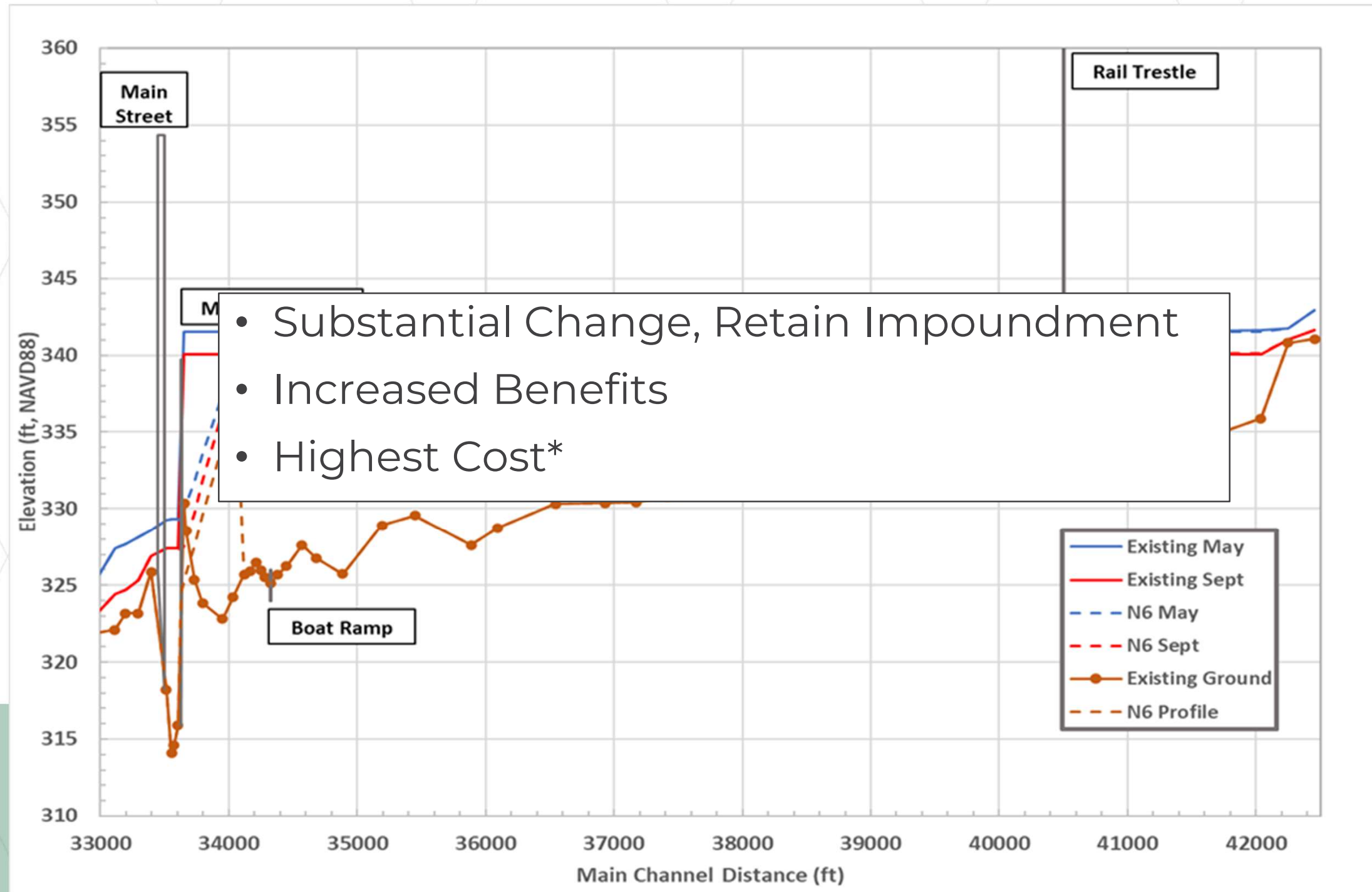




# N6 - 3% Bank to Bank NLF, Maintain Impoundment

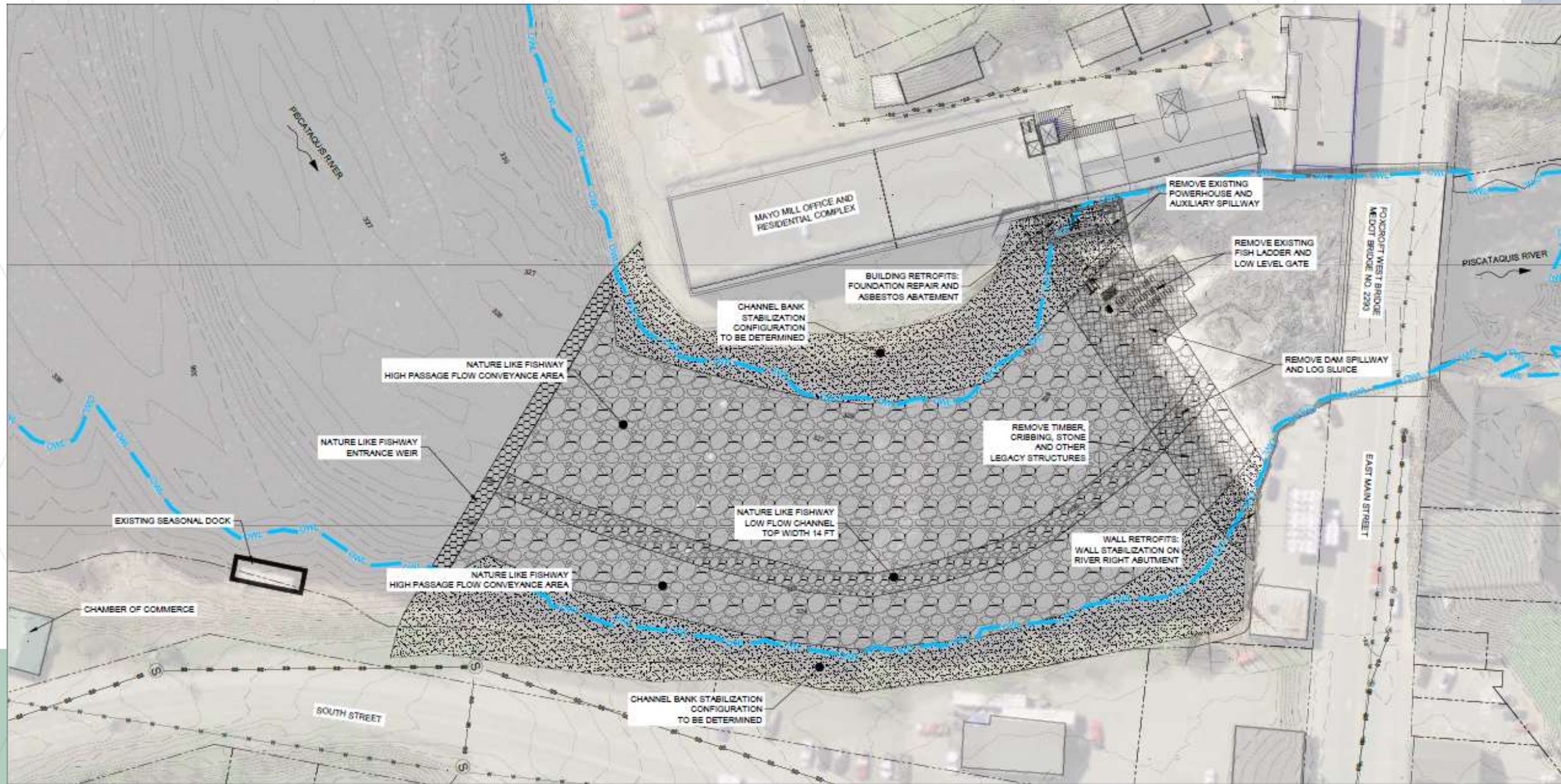


# N6 - 3% Bank to Bank NLF, Maintain Impoundment



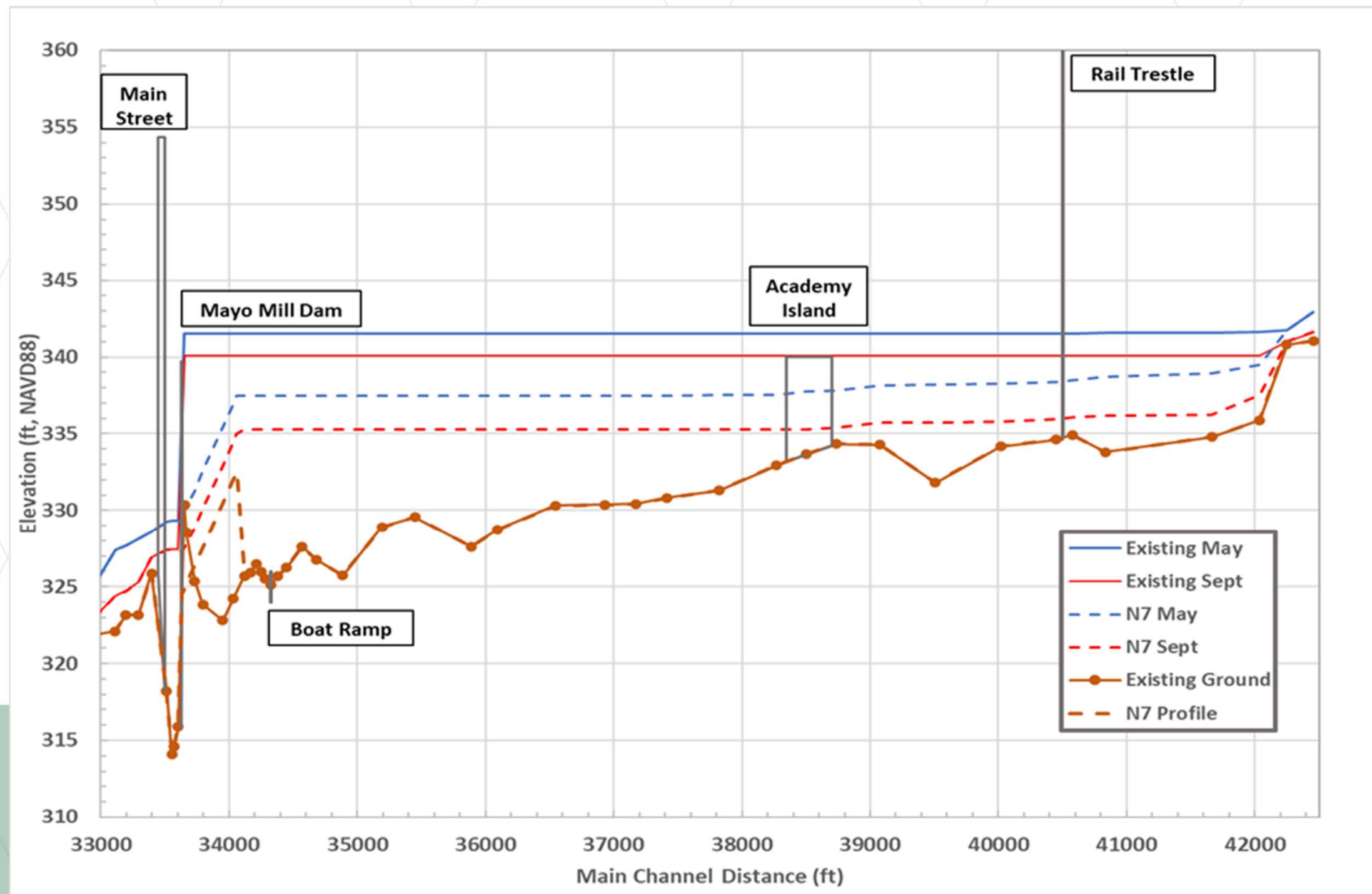


# N7 – 2% Bank to Bank NLF, Lower Impoundment 5 feet



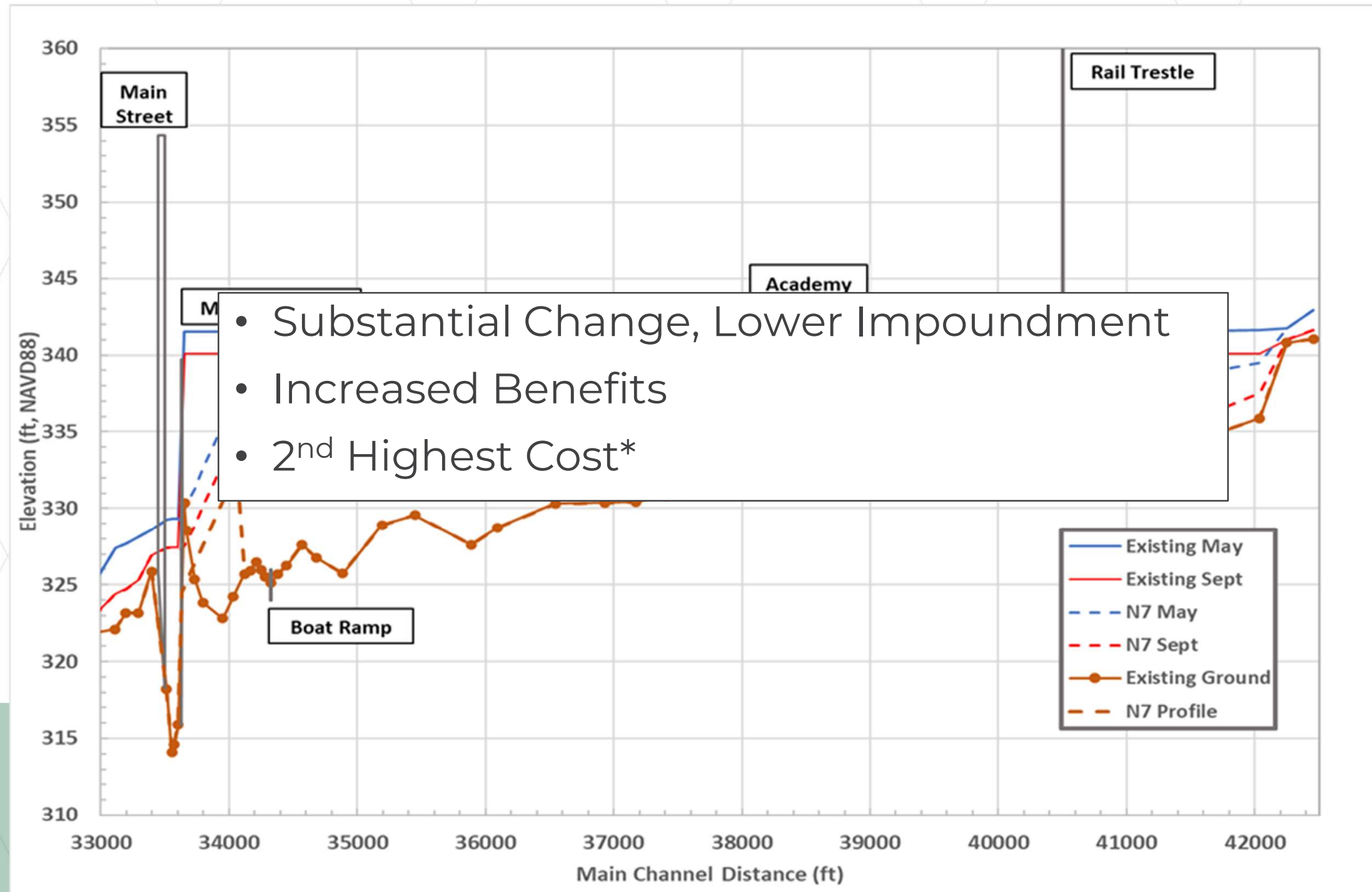


# N7 - 2% Bank to Bank NLF, Lower Impoundment 5 feet



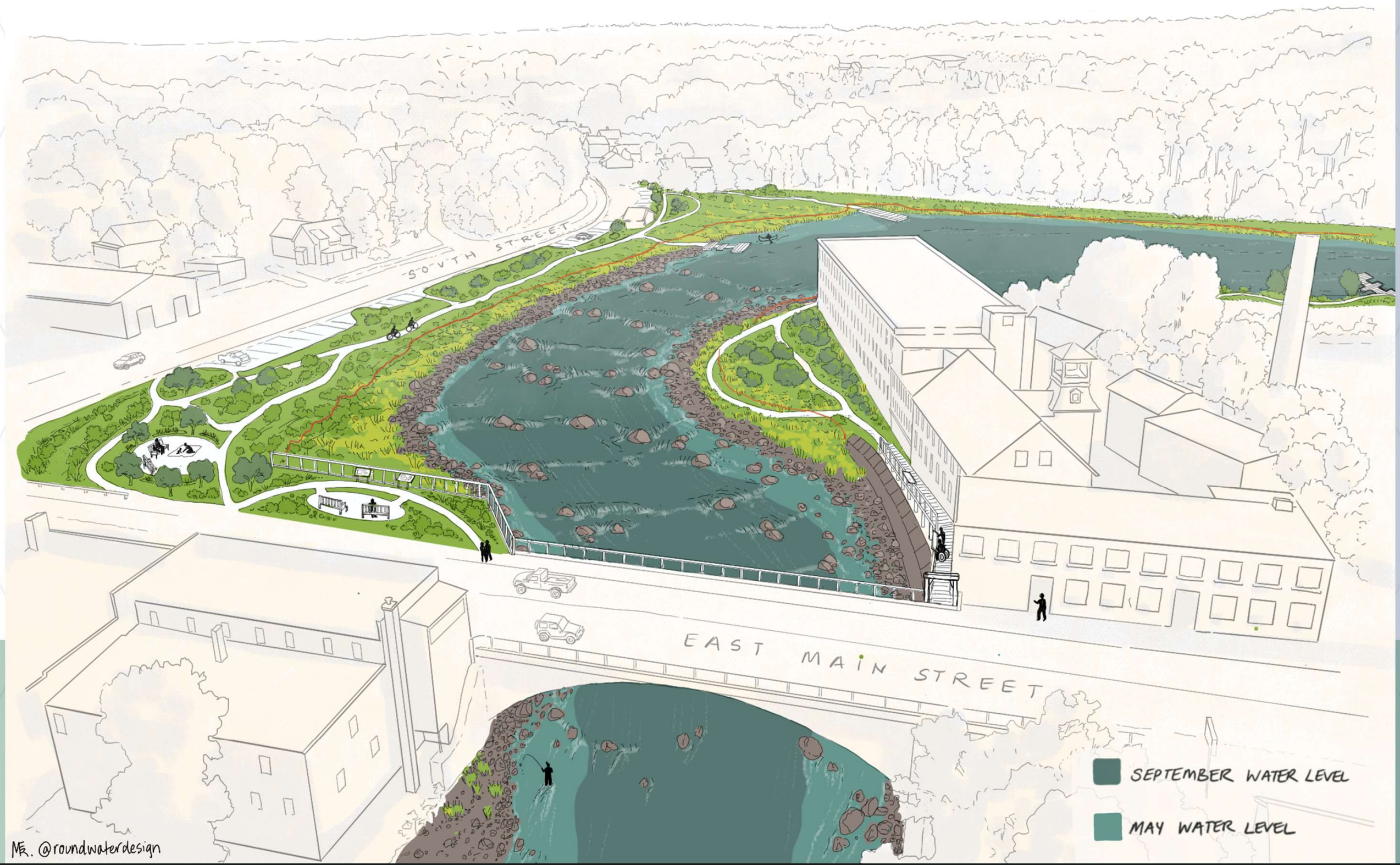


# N7 - 2% Bank to Bank NLF, Lower Impoundment 5 feet



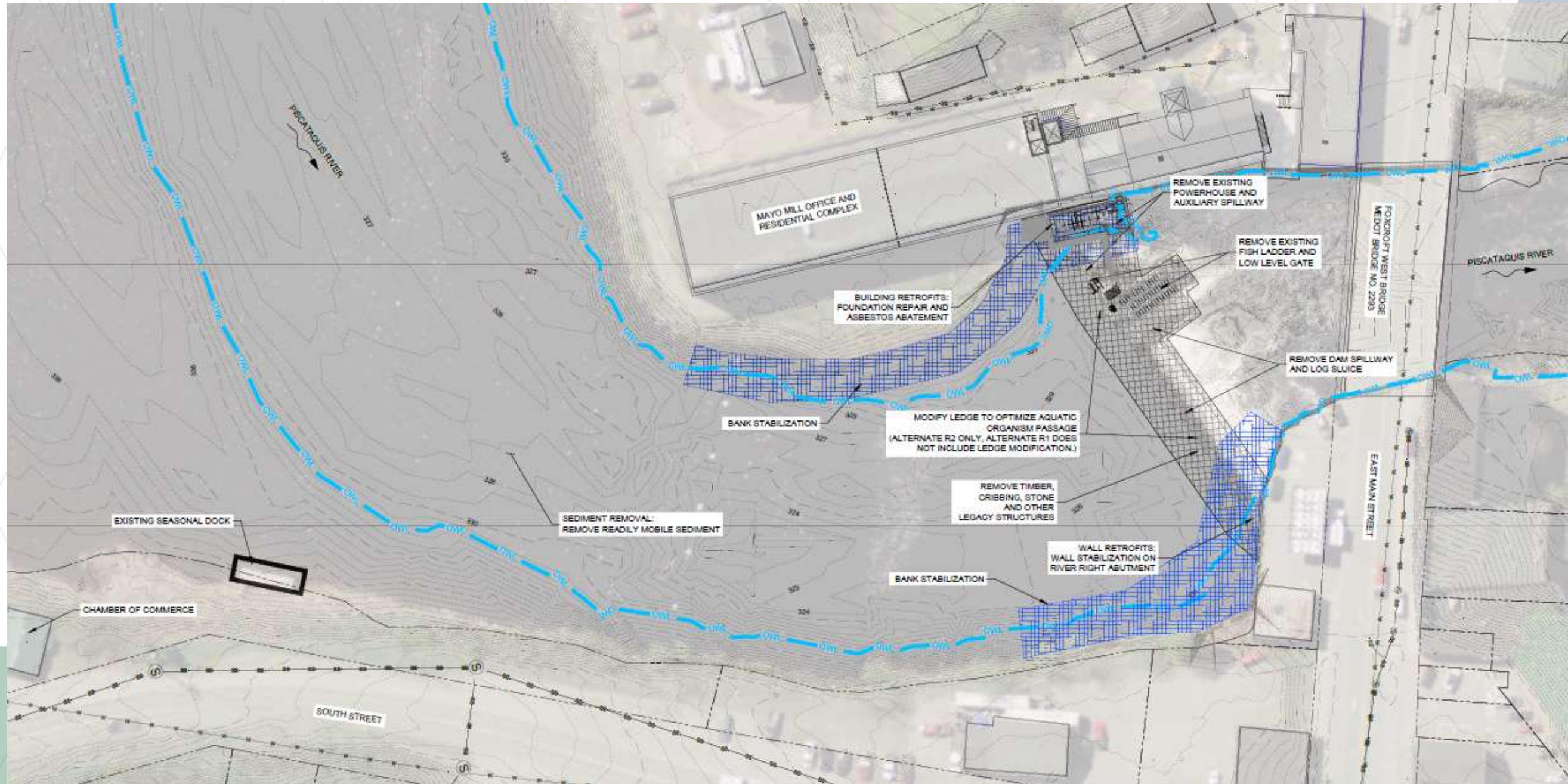


# N6 & N7 – Bank to Bank NLF

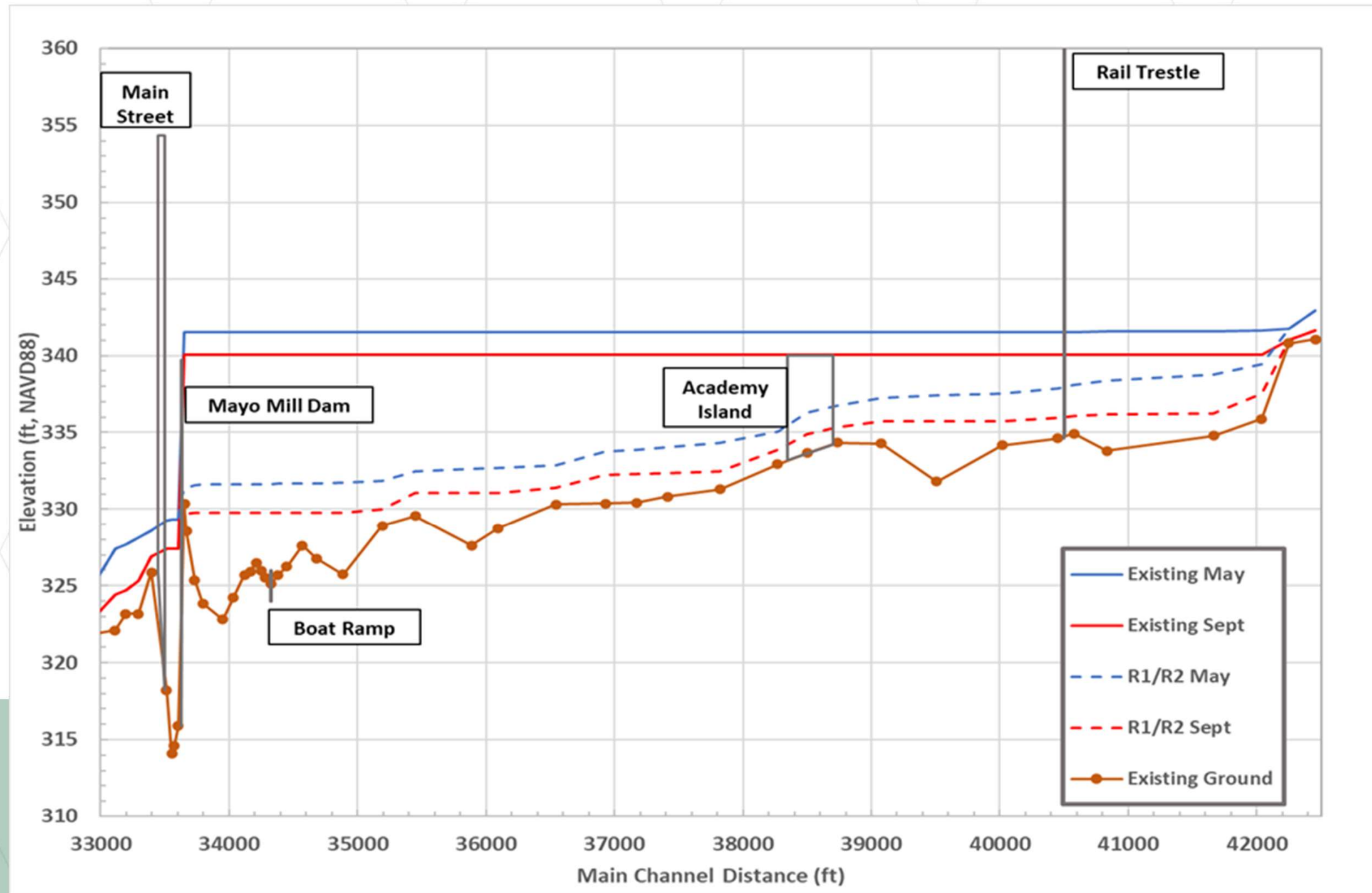




# R1/R2 - Dam Removal

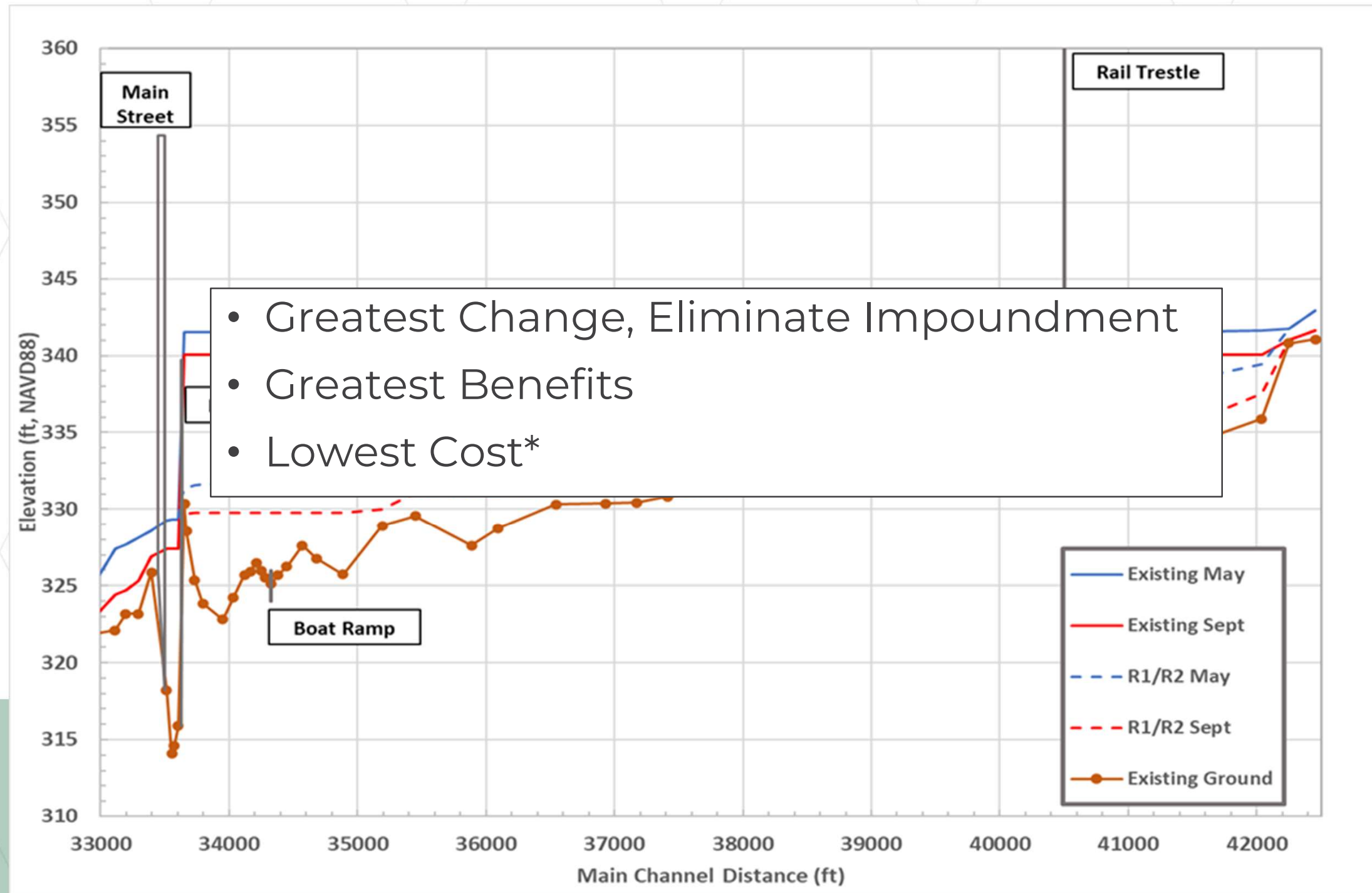


# R1/R2 - Dam Removal





# R1/R2 - Dam Removal





# R1/R2 - Dam Removal






# Overview - Questions or Comments?





# Comparison – Fish Passage

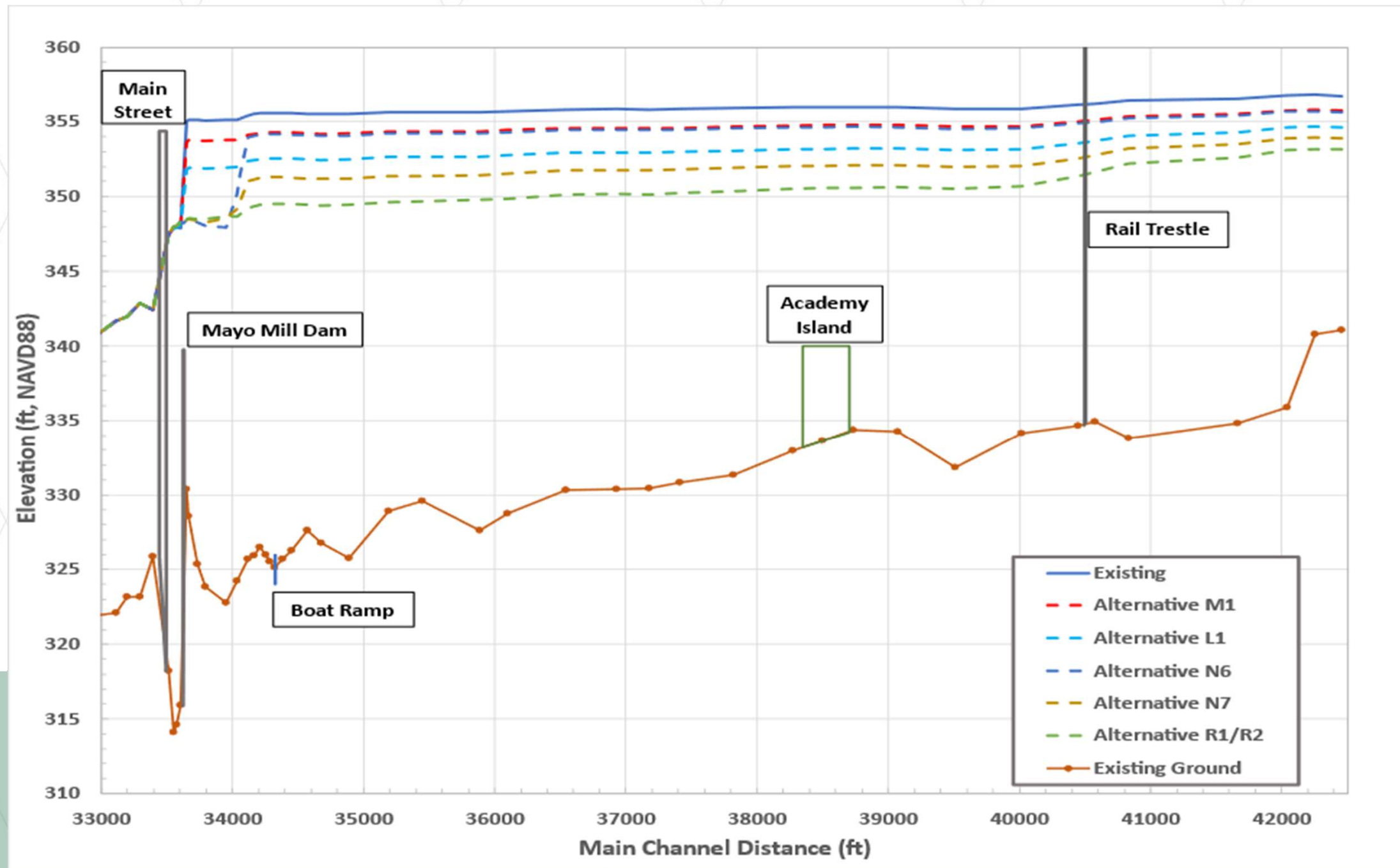


Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate

- Attraction
- Full Range of Species
- Impoundment Considerations
- Operational Requirements
- Compliance Considerations



# Comparison - Flood Resiliency Benefits





# Comparison – Flood Resiliency Benefits





# Comparison – Flood Resiliency Benefits

Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate
Flooding Resiliency	Best	Favorable	Moderate	Limited	Limited



# Comparison - Landscape Amenities





# Comparison - Landscape Amenities





# Comparison - Landscape Amenities



**Conceptual Goals:**  
Nature-Like Fishway - Maintain Height

September Water Level  
May Water Level



# Comparison - Landscape Amenities





# Comparison - Landscape Amenities





# Comparison - Landscape Amenities

Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate
Flooding Resiliency	Best	Favorable	Moderate	Limited	Limited
Landscape Amenities	Most Opportunity	Good Opportunity	Moderate Opportunity	Moderate Opportunity	Least Opportunity



# Comparison – Cost Considerations

## Dam and Fishway Components

Alternatives	Total Estimated Initial Costs
	Construction Costs* + Project Delivery Cost**
	(\$)
<b>Alternative M1</b>	
Dam and Fishway†	\$7,693,800
<b>Alternative L1</b>	
Dam and Fishway	\$7,751,200
<b>Alternative N6</b>	
Dam and Nature-Like Fishway	\$12,462,200
<b>Alternative N7</b>	
Dam and Nature-Like Fishway††	\$10,368,400
<b>Alternative R1</b>	
Dam Removal (No Ledge Removal) ††	\$5,979,700
<b>Alternative R2</b>	
Dam Removal (With Ledge Removal) ††	\$6,308,500



# Comparison – Cost Considerations

## Dam and Fishway Components

Alternatives	Total Estimated Initial Costs	Estimated Lifespan Cost
	Construction Costs* + Project Delivery Cost**	Total Aggregated Lifespan Cost*** (4.2% Inflation over 50 years)
	(\$)	(\$)
<b>Alternative M1</b>		
Dam and Fishway†	\$7,693,800	\$1,704,300
<b>Alternative L1</b>		
Dam and Fishway	\$7,751,200	\$1,704,300
<b>Alternative N6</b>		
Dam and Nature-Like Fishway	\$12,462,200	\$0 - \$953,200
<b>Alternative N7</b>		
Dam and Nature-Like Fishway††	\$10,368,400	\$0 - \$709,500
<b>Alternative R1</b>		
Dam Removal (No Ledge Removal) ††	\$5,979,700	\$0 - \$364,800
<b>Alternative R2</b>		
Dam Removal (With Ledge Removal) ††	\$6,308,500	\$0 - \$364,800



# Comparison – Cost Considerations

## Landscape Enhancement Components

Alternatives	Total Estimated Costs	Estimated Lifespan Cost
	Construction Costs* + Project Delivery Cost**	Total Aggregated Lifespan Cost*** (4.2% Inflation over 50 years)
	(\$)	(\$)
<b>Alternative M1</b>		
Landscape Framework: Short-Term and Long-Term Goals	\$5,404,200	\$10,614,100
<b>Alternative L1</b>		
Landscape Framework: Short-Term and Long-Term Goals	\$6,548,600	\$10,193,900
<b>Alternative N6</b>		
Landscape Framework: Short-Term and Long-Term Goals	\$6,548,600	\$8,111,300
<b>Alternative N7</b>		
Landscape Framework: Short-Term and Long-Term Goals	\$6,108,400	\$9,536,300
<b>Alternative R1/R2</b>		
Landscape Framework: Short-Term and Long-Term Goals	\$13,800,300	\$15,016,900



# Comparison – Cost Considerations

Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate
Flooding Resiliency	Best	Favorable	Moderate	Limited	Limited
Landscape Amenities	Most Opportunity	Good Opportunity	Moderate Opportunity	Moderate Opportunity	Least Opportunity
Dam & Fish Passage Construction Costs	Lowest	High	Highest	Moderate	Moderate





# Comparison – Grant Funding Competitiveness

Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate
Flooding Resiliency	Best	Favorable	Moderate	Limited	Limited
Landscape Amenities	Most Opportunity	Good Opportunity	Moderate Opportunity	Moderate Opportunity	Least Opportunity
Dam & Fish Passage Construction Costs	Lowest	High	Highest	Moderate	Moderate
Grant Funding	Best	Favorable	Moderate	Low	Low





# Comparison - Operation & Maintenance

Criteria	Dam Removal (R1/R2)	2% Nature-Like Fishway (N7)	3% Nature-Like Fishway (N7)	Vertical Slot Fishway with 5' Lower Pond (L1)	Vertical Slot Fishway with Current Pond (M1)
Fish Passage	Best	Good	Favorable	Moderate	Moderate
Flooding Resiliency	Best	Favorable	Moderate	Limited	Limited
Landscape Amenities	Most Opportunity	Good Opportunity	Moderate Opportunity	Moderate Opportunity	Least Opportunity
Dam & Fish Passage Construction Costs	Lowest	High	Highest	Moderate	Moderate
Grant Funding	Best	Favorable	Moderate	Low	Low
Operation & Maintenance	Best	Favorable	Moderate	Least Favorable	Least Favorable





# Alternatives Comparison - Questions or Comments?

