



# Skinner Module 7 Filter Valve Gearbox Replacement

Engineering & Operations Committee

Item 7-1

April 8, 2019

# Current Action

- Amend the current Capital Investment Plan (CIP) to include the Skinner Module 7 Filter Valve Gearbox project
- Authorize replacement of 16 filter valve gearboxes at the Skinner Plant

# Distribution System



# Skinner Water Treatment Plant



**Plant 1  
Modules 1, 2, 3**

**Plant 3  
Module 7**

**Plant 2  
Modules 4, 5, 6  
(Decommissioning)**

# Background

- Module 7 was placed in service in 2007
- Module 7 has 16 filters providing a combined capacity of 110 MGD
- Each filter is taken in and out of service using a series of valves, including the filter inlet valve

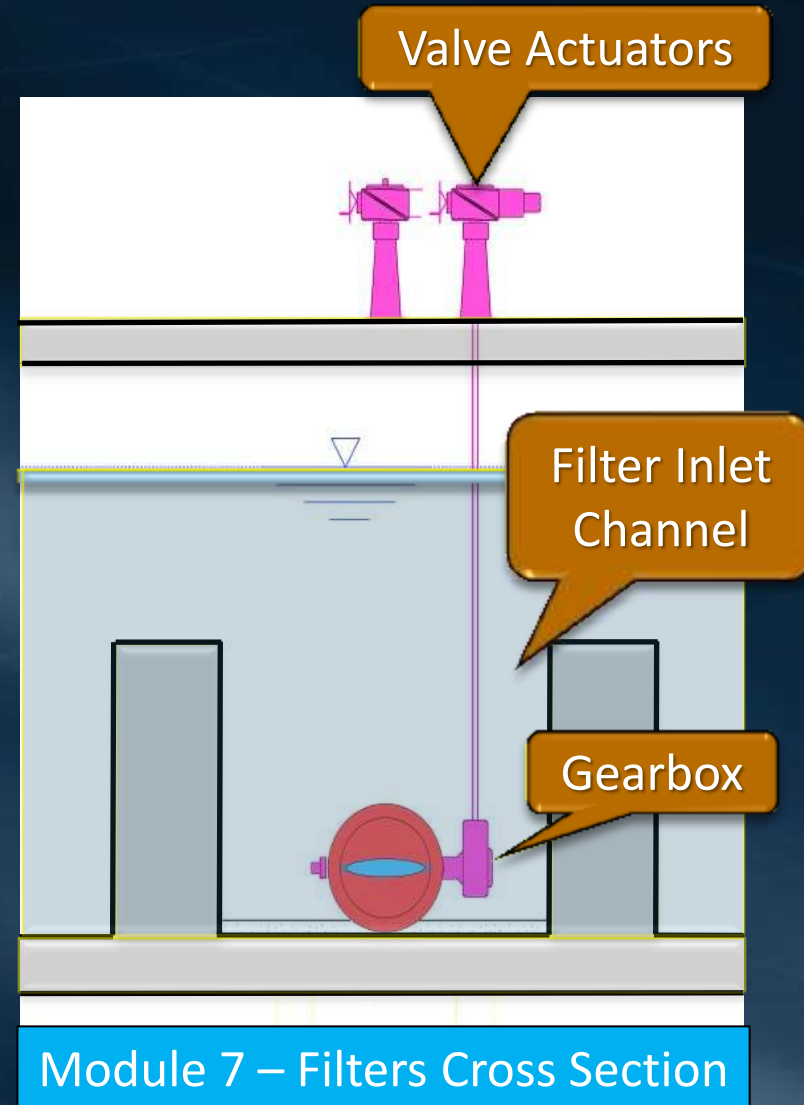
36" Butterfly Valve

90 Degree Gearbox

Module 7 – Filter Inlet Valve

# Background

- Inlet valve gearboxes are located underwater at the bottom of the filter inlet channel
- Roller bearings and gears are corroding after more than a decade of being submerged
- Housings leak and replacement parts are no longer available



# Planned Work

- Procure gearboxes with proven performance for underwater service

Galled Internal Gear



Damaged Gearbox Gear

Leaking Housing



Inlet Valve Gearbox

- Remove and replace 16 filter inlet valve gearboxes

# Scope of Work

- Prepare and advertise procurement specification package
- Award procurement contract for the new gearboxes under GM authority
- Sequentially remove and install 16 filter inlet valve gearboxes
- Return filters to service
- All work performed by Metropolitan staff

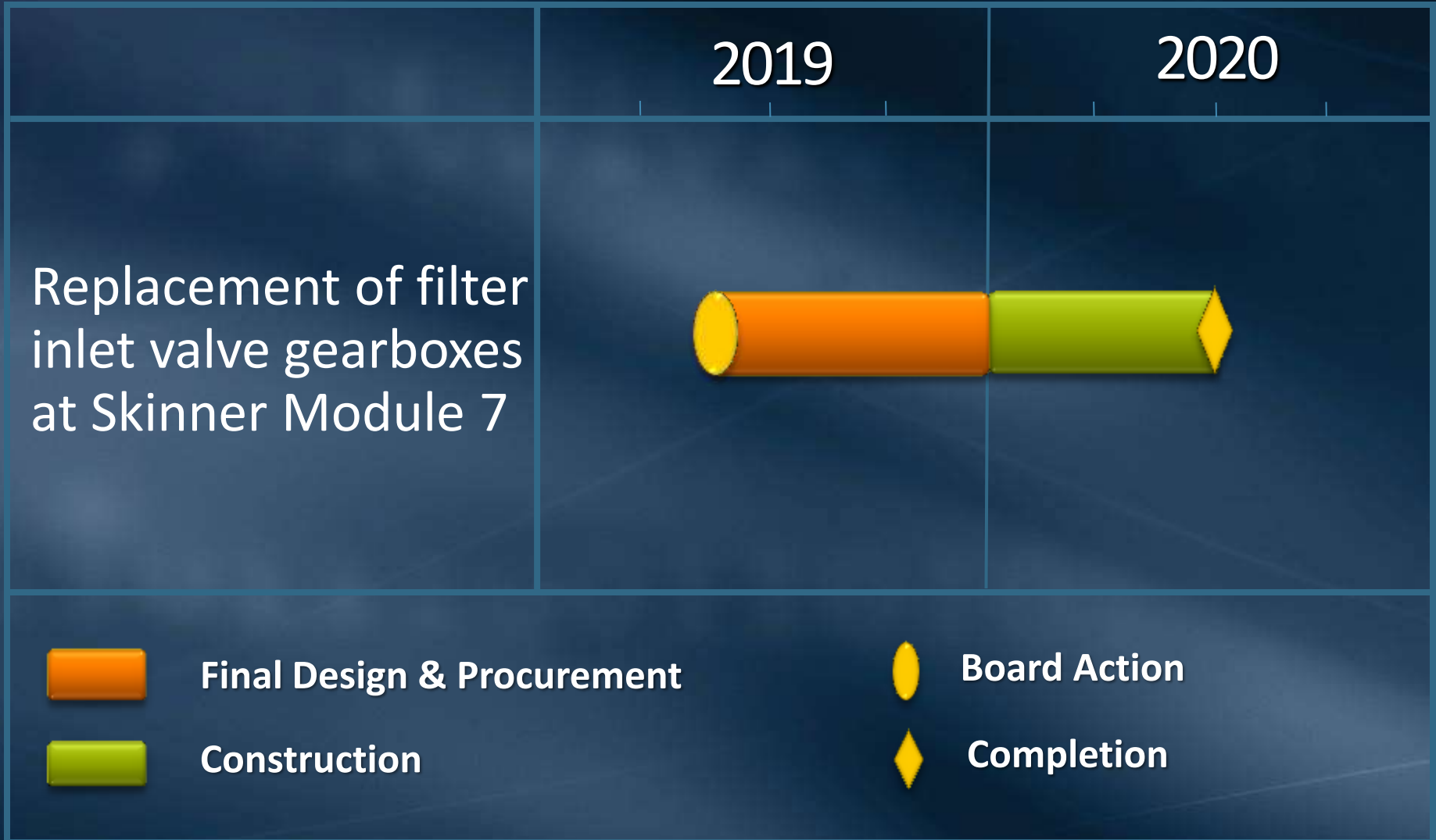


# Allocation of Funds

Procurement contract	\$ 200,000
Labor	
Final design	49,000
Contract admin. & PM	45,000
Submittals review & record dwgs	16,000
Factory inspection	30,000
Metropolitan force construction	240,000
Remaining budget	80,000
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Total	\$ 660,000

Est. Construction Cost: \$440,000

# Schedule



# Board Options

## ● Option #1

- Amend the current Capital Investment Plan (CIP) to include this new project
- Authorize replacement of 16 filter inlet valve gearboxes in Module 7 at the Skinner Plant

## ● Option #2

- Do not proceed with this project at this time

# Staff Recommendation

- Option #1

