

- Community
- People
- Processes
- Finance

Temporary Water Pumping Station:

Installation and Live Transition to Facilitate Station Upgrades

Garner Rd Pumping Station, Hamilton
November 5, 2024

City of Hamilton

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How The City Uses PMI Fundamentals

FORMS

X OBTAIN APPROVALS

A – City Manager
B – General Manager
C – Sr. Director
D – Director
E – Manager
F – Sr. Project Manager
G – W&WW Mgmt Team

▲ CONSULT SPONSOR

2 Planning

3 Monitoring & Controlling

4 Closing

Execution

NOTE: Details of this phase are provided in the Consultant Manual

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Planning, cont'd

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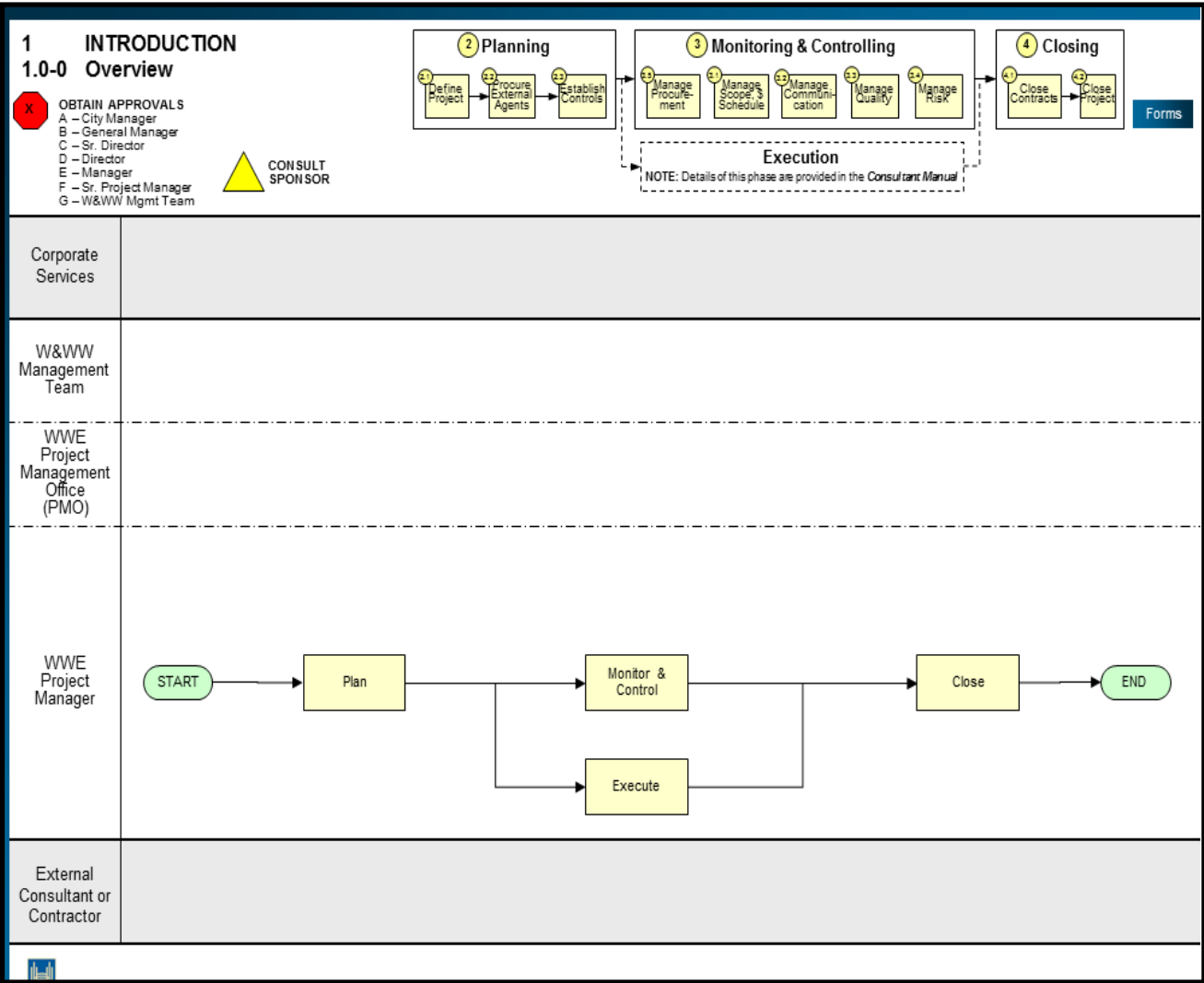
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Project Management Office (PMO) Internal Project Management Process Guideline

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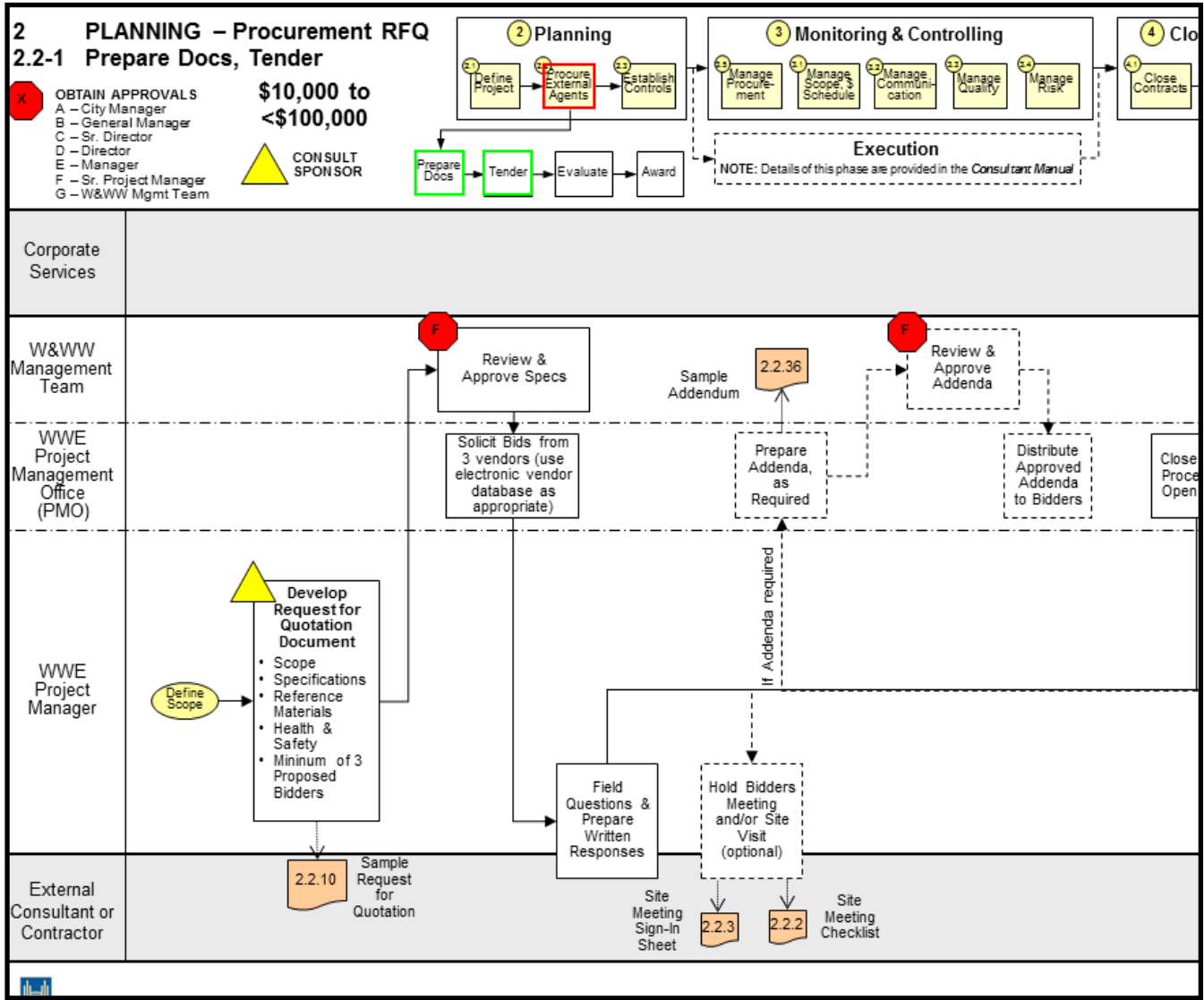
How The City Uses PMI Fundamentals

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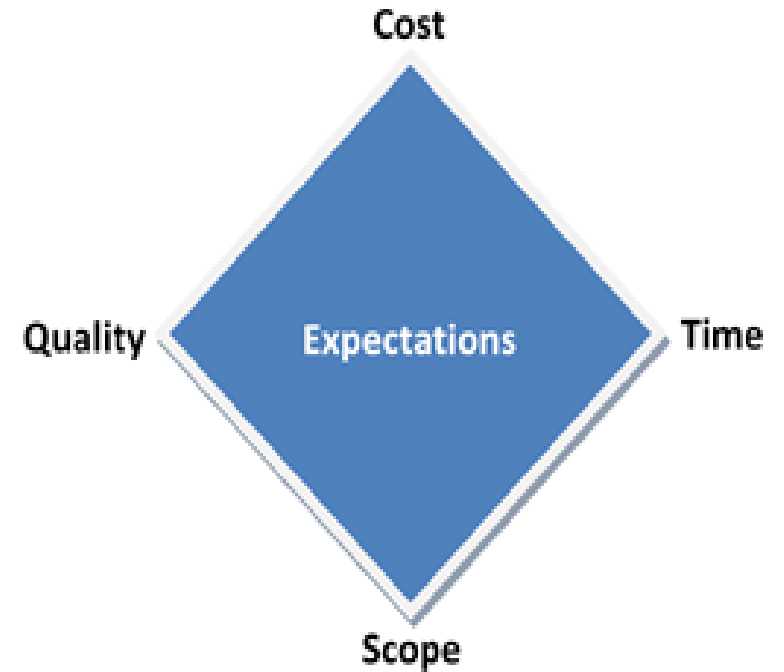
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Our Approach Helps Us ...

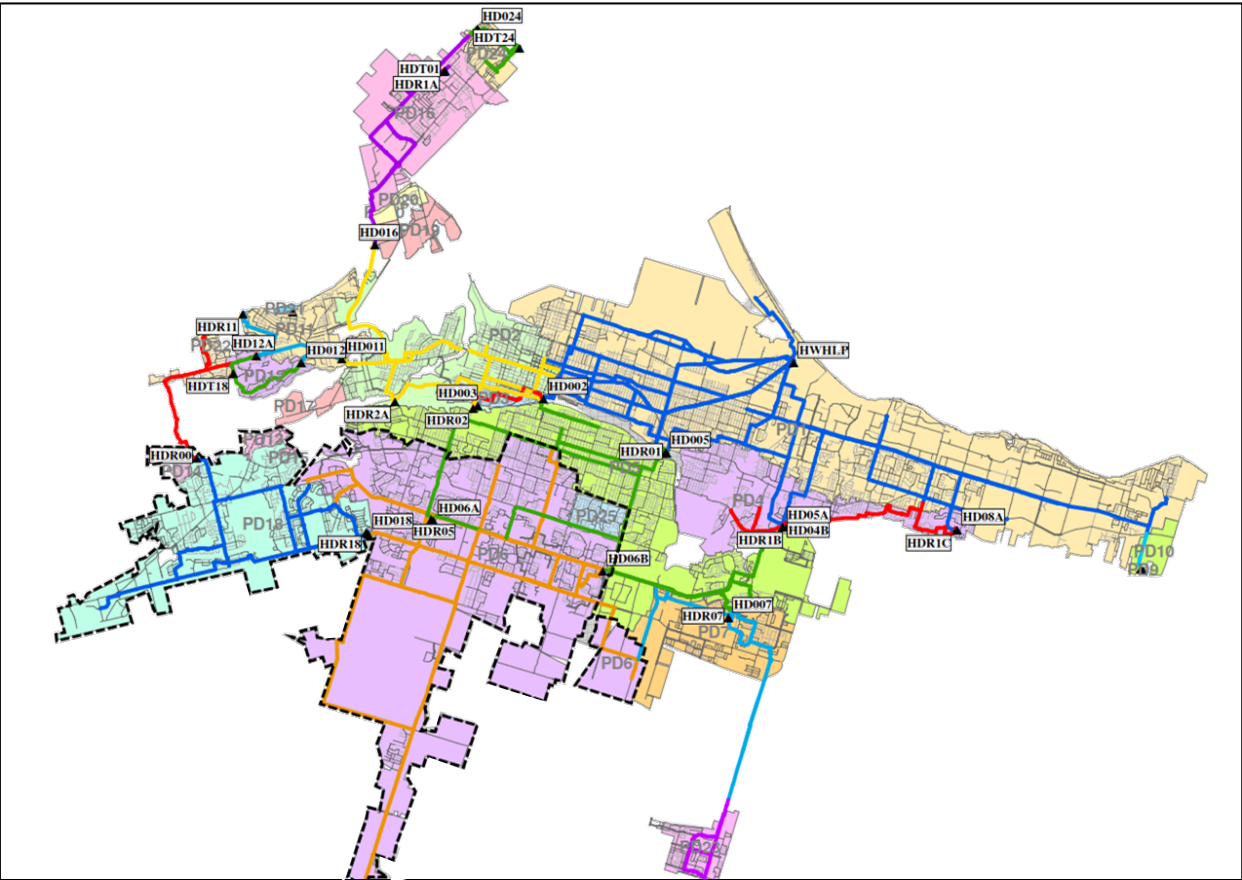
- › Maintain the Project Management Diamond
- › Ensure Accountability
- › Communication/Documentation
- › Operations/Distribution buy -in
- › Promotes our Culture initiative
- › Confident stakeholders
- › Promotes "Open for Business"
- › Continual Improvement
- › Seamless closeout



Project Initiation

Identifying the Need:

- › Condition assessment Reports
- › Growth Requirements
- › CMMS Reports
- › Work Orders
- › Compliance Records
- › Health and Safety Records
- › Staff Interviews



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Project Planning

Delivery Approach:

- › Stakeholder Identification
- › Scope Confirmation
- › Procurement Method
- › Budget/Funding Opportunities
- › Communication Plan
- › Coordination with Operations and Concurrent Projects

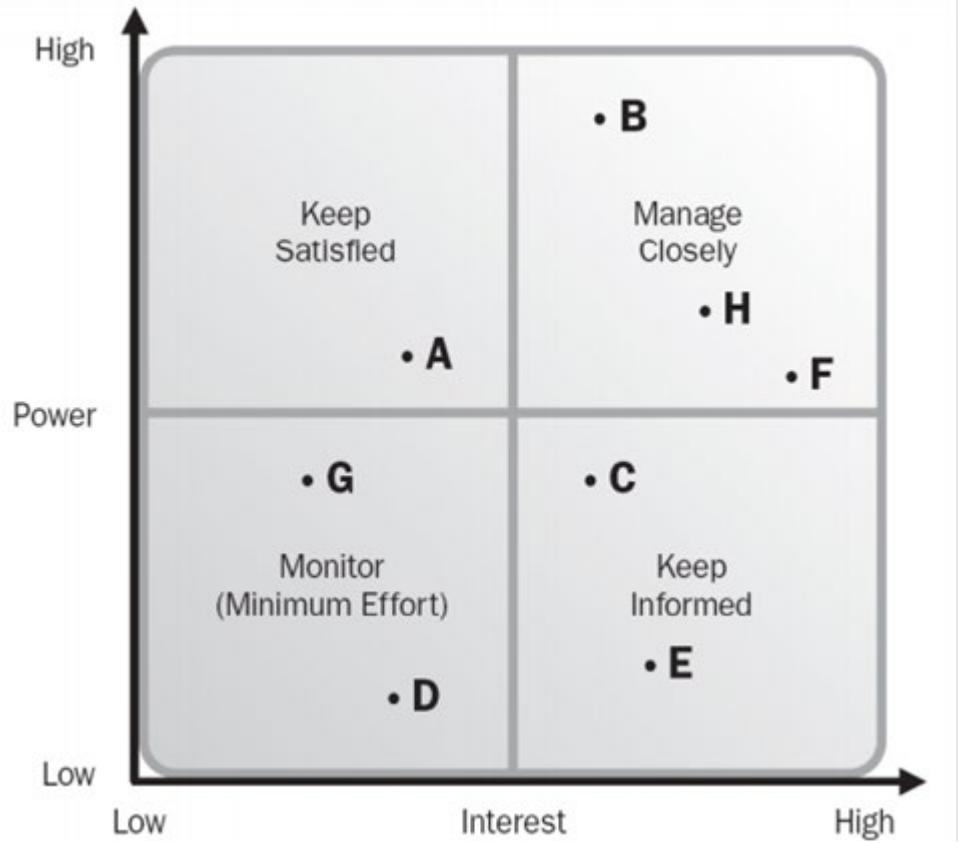


Execution, Monitoring, and Control

Tools and Techniques:

- > Stakeholder Engagement
- > Scope Management
- > Change Management
- > Time Management
- > Risk Management
- > Quality Management

- A) Funding Organizations
- B) Regulatory Agencies
- C) Neighbours
- D) Office of Energy Initiatives
- E) PMO
- F) Distribution
- G) Asset Management
- H) Plant Operations

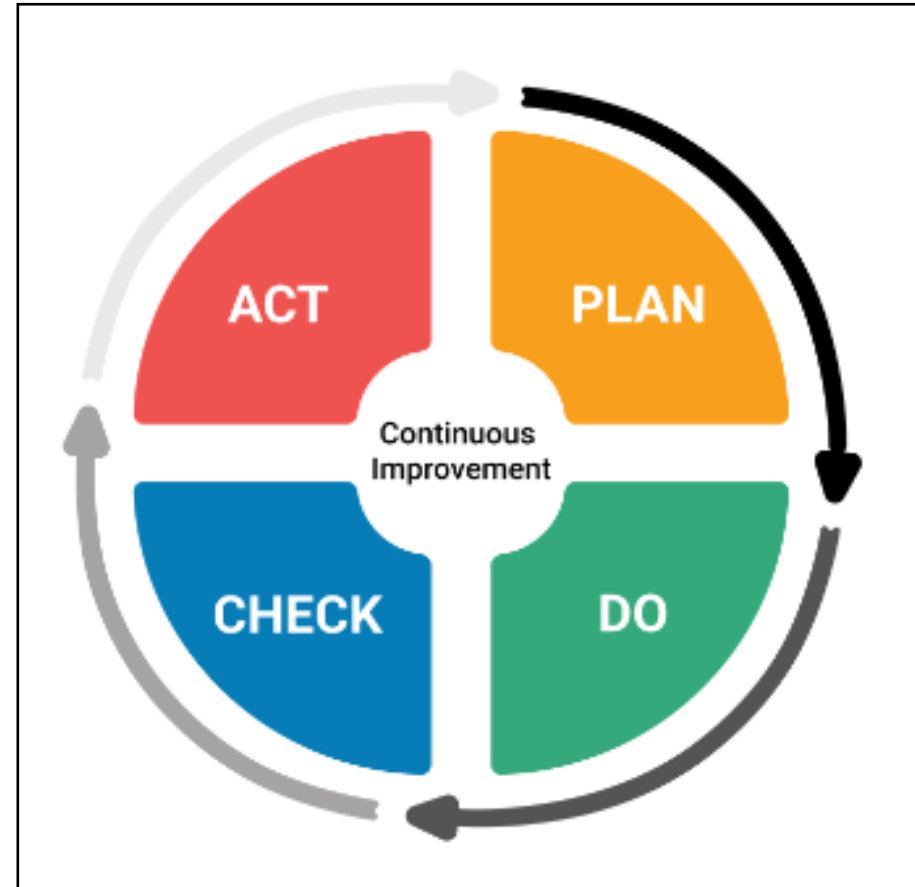


Stakeholder Management Matrix

Project Closing

Closing Activities:

- › Deficiencies and Contract Compliance
- › Substantial Performance
- › Transfer of Asset
- › Documentation Archiving
- › Vendor Performance
- › Lessons Learned



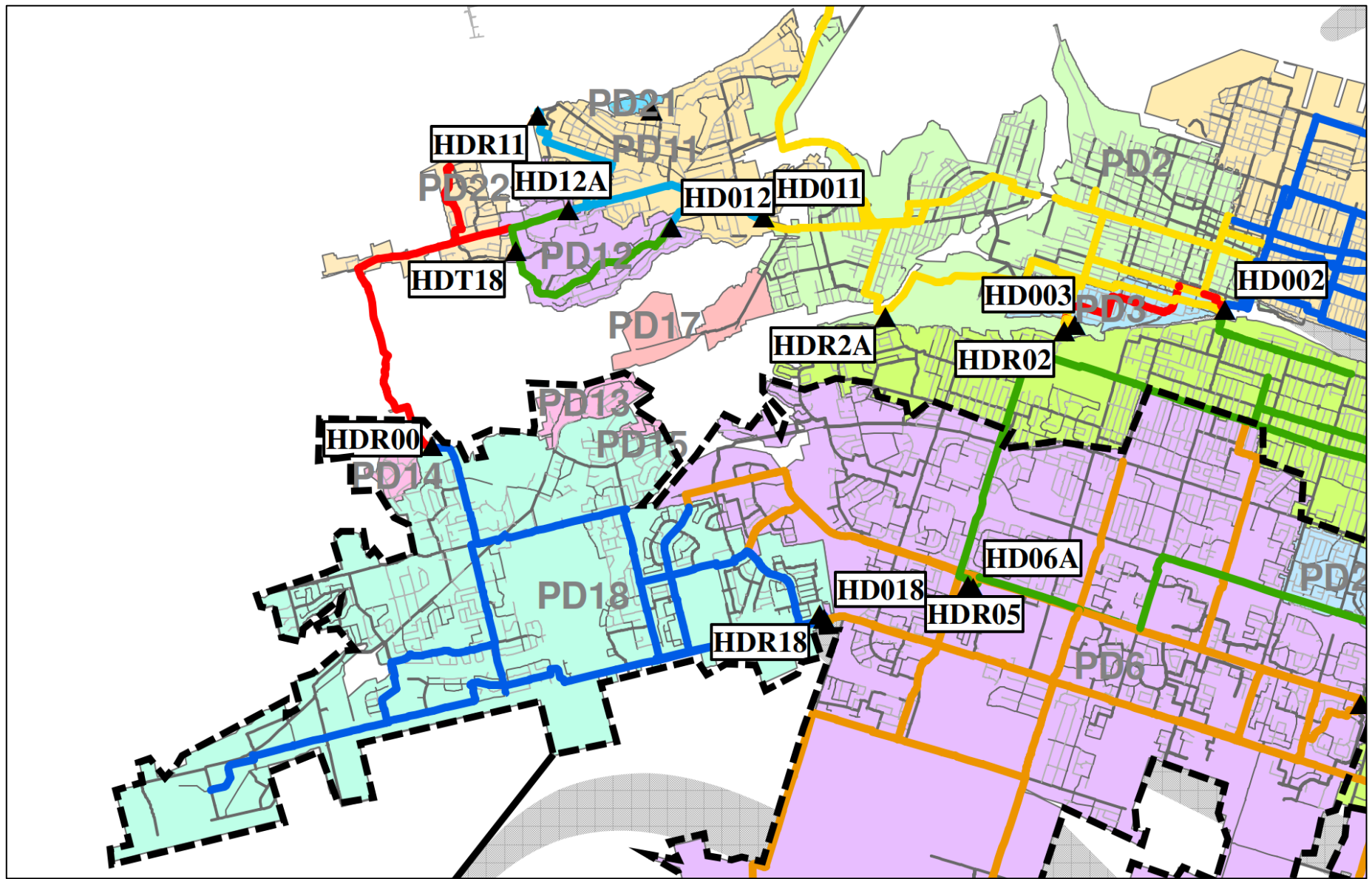
Existing Pumping Station

- › Garner Road Station HD018
- › Constructed 1979-1983
- › Draws Pressure from Pressure District 6
- › Feeds Pressure District 18 (Ancaster)
- › District 18 also feeds PZs 13, 14, 15, and 22
- › 4 pumps
 - 2x booster pumps
 - 2x reservoir pumps
- › Station can operate as booster or from reservoir feed
- › No other stations for District18



Pressure Districts

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Future Requirements & Project Scoping

- › Current station cannot meet the future max day + fire flow
- › Requires 46.6 MLD by 2041
- › Additional pumping station and/or water tower in Pressure District 18 are being considered
- › City elected to upgrade HLP01 and HLP04



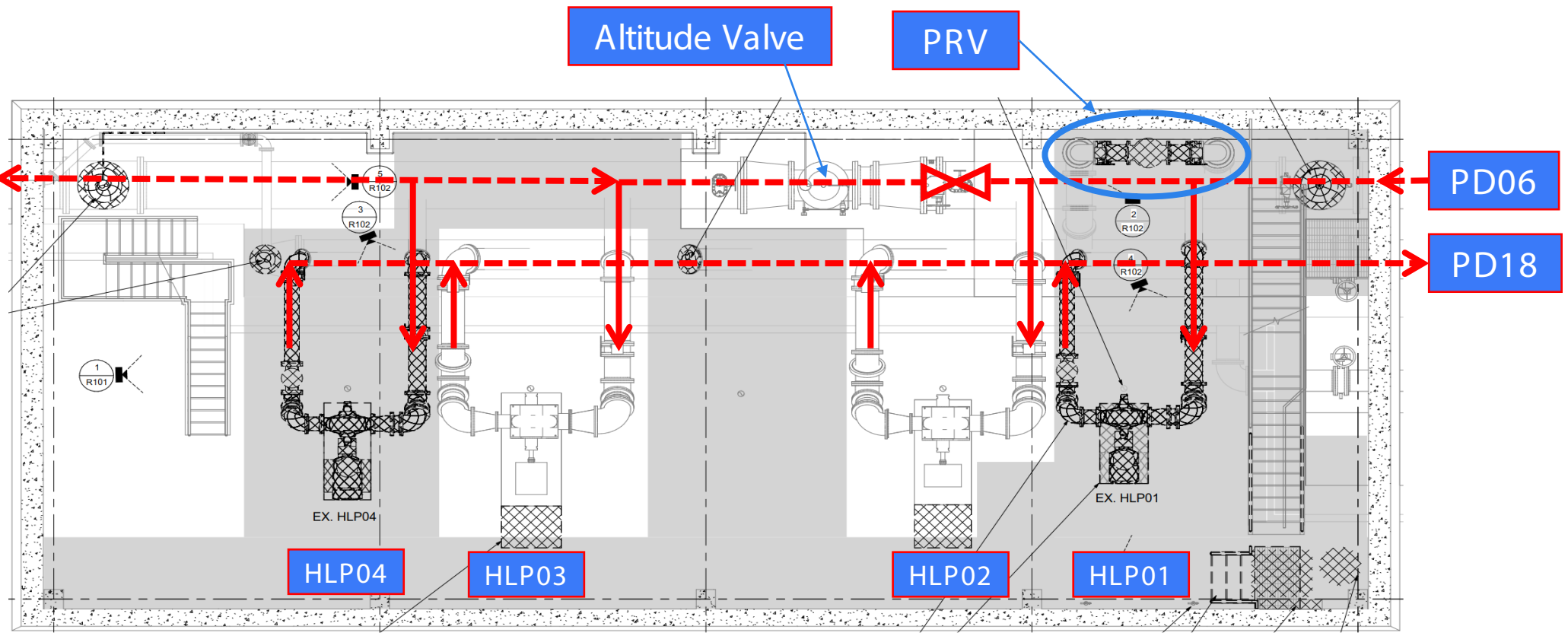
Existing Pump Station

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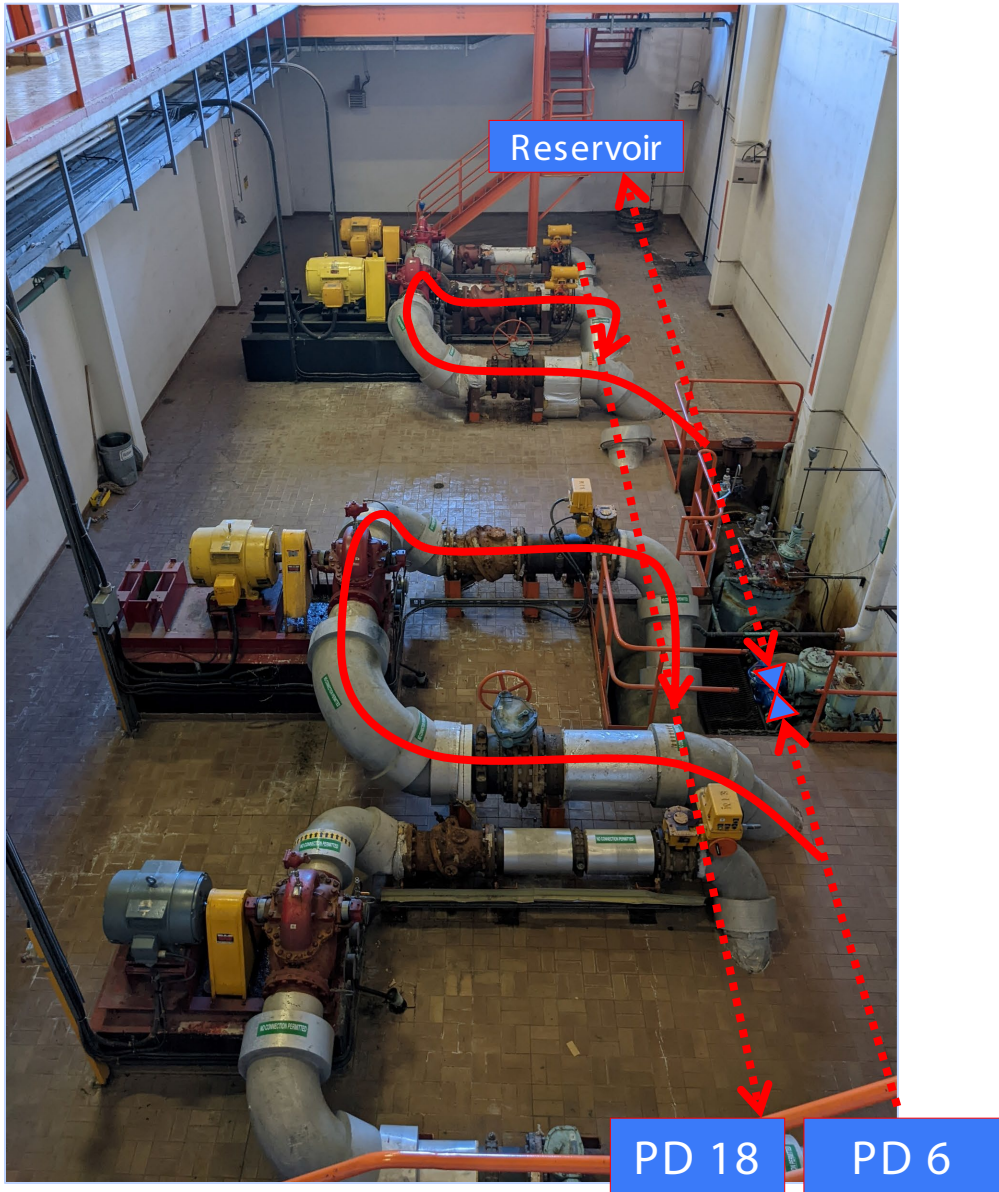
Existing Pump Station

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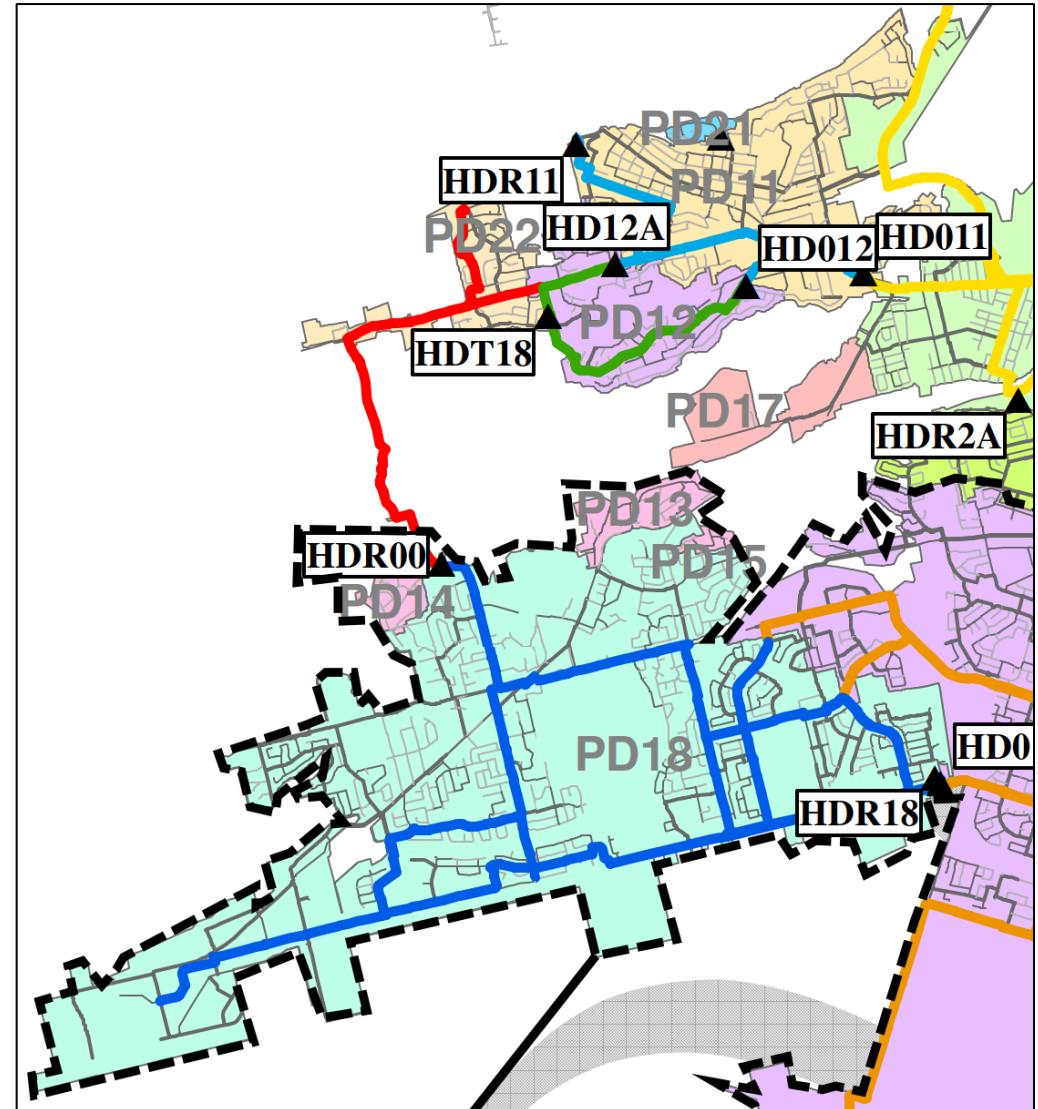
Existing Pump Station

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Station Upgrade Design Considerations

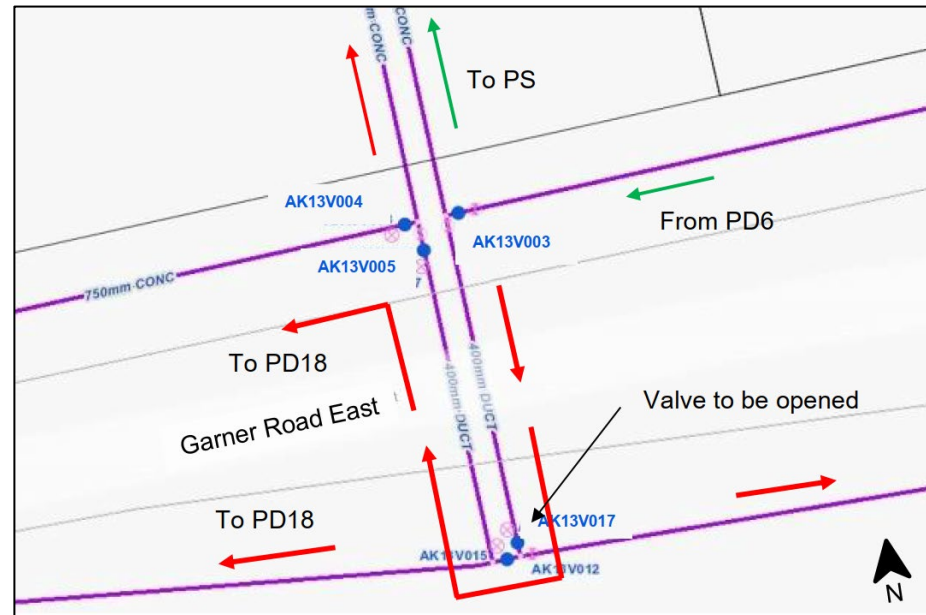
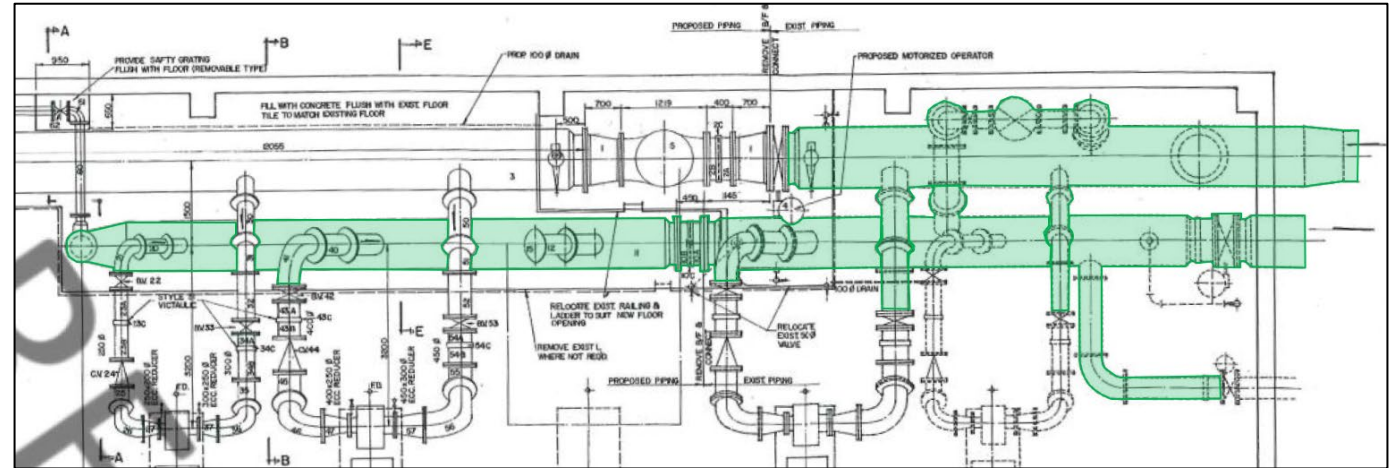
- > Improve redundancy, reliability, and functionality
- > Implement a strategy that allows for future station upgrades
 - Including other pumps not included with this project
- > Do not interrupt service to Pressure District 18 and related Districts



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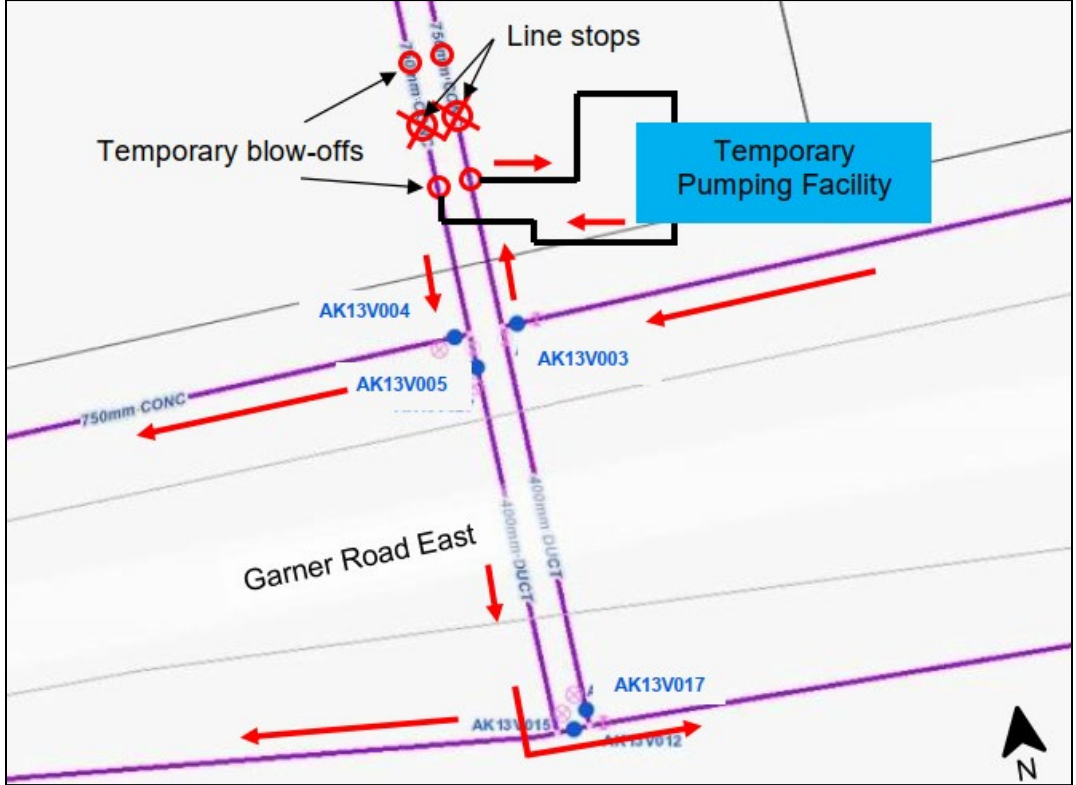
Alternatives Considered

- Bypass through Station using District 6 pressure
- Bypass station outside pump station
 - District 6 supply/pressure restrictions
- Install line stop & install Temporary Water Pumping Station (TWPS)



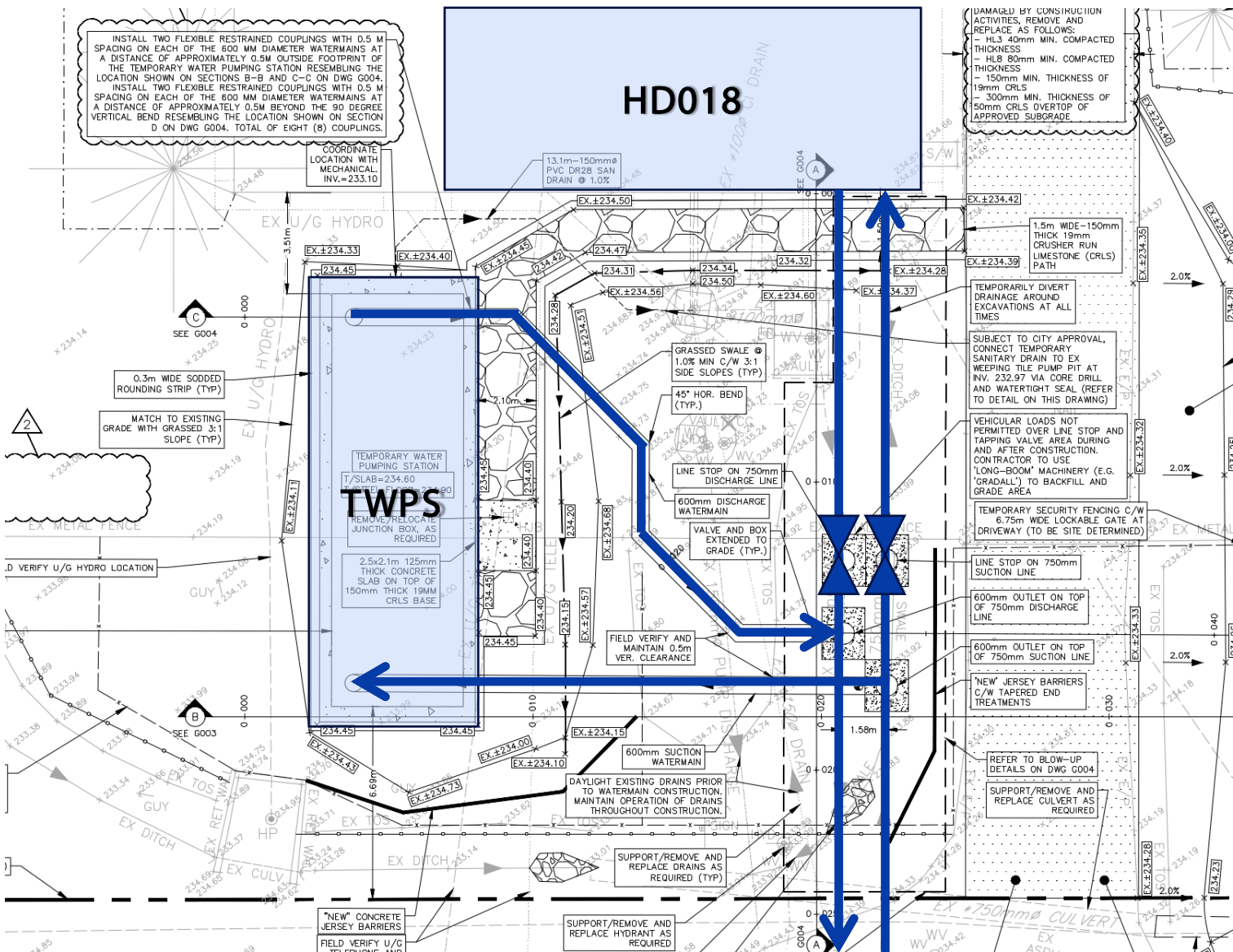
TWPS Details

- › Pre-built station, manufactured by EFI Solutions
- › Capable of operating as a stand-alone booster station to provide pressure from District 6 to District 18
- › Intended for temporary use
- › Standalone specification with fewer requirements than permanent installation
- › Remain as backup/standby after the work is completed



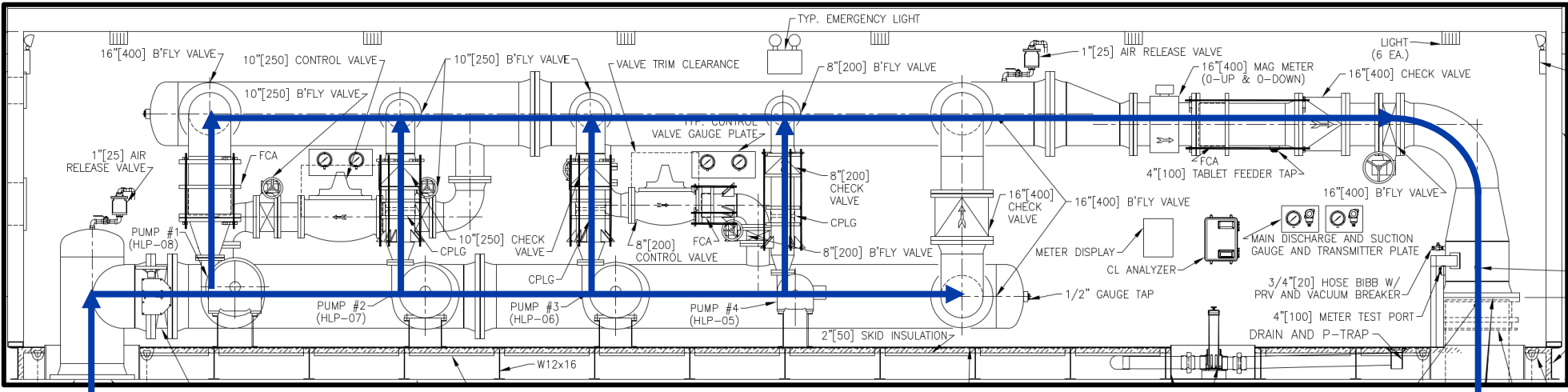
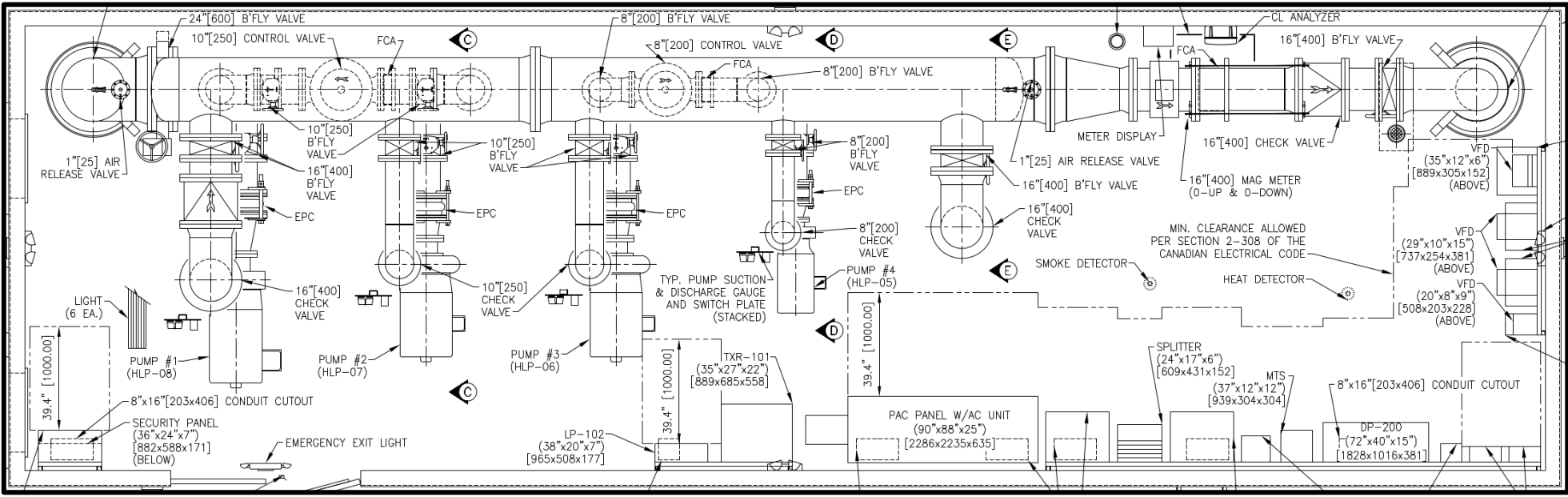
Line Stop Layout

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TWPS Layout

- Community
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- Finance



Garner Road Pumping Station HD018 Upgrades

- › Replace HLP01 (Booster) and HLP04 (Reservoir)
- › Reconfigure suction header to allow straight runs
- › Upgrade chemical dosing system
- › Associated electrical upgrades

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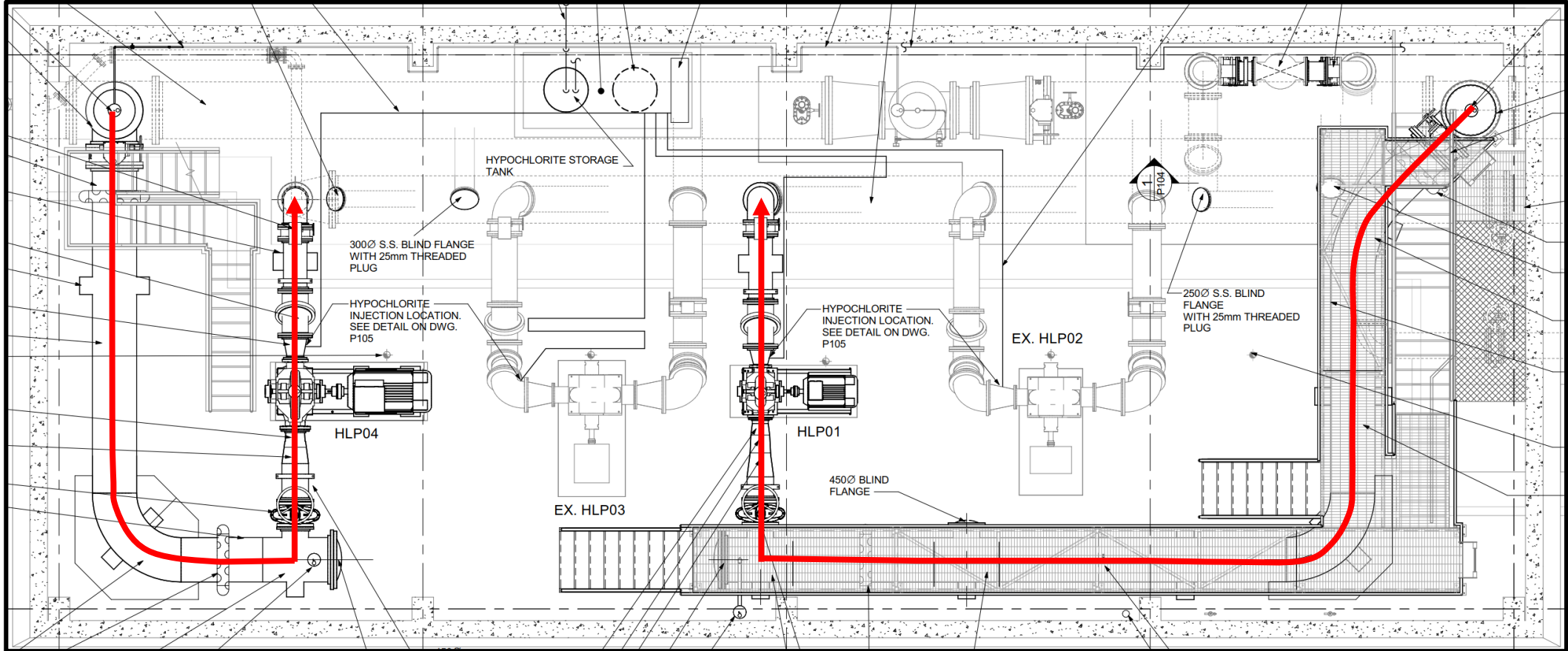


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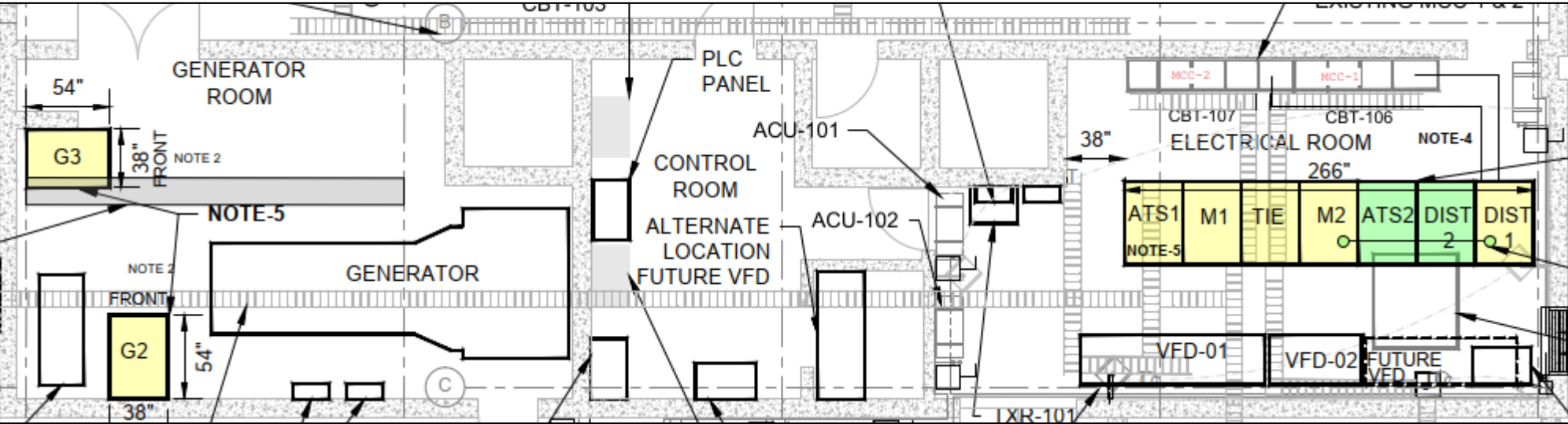
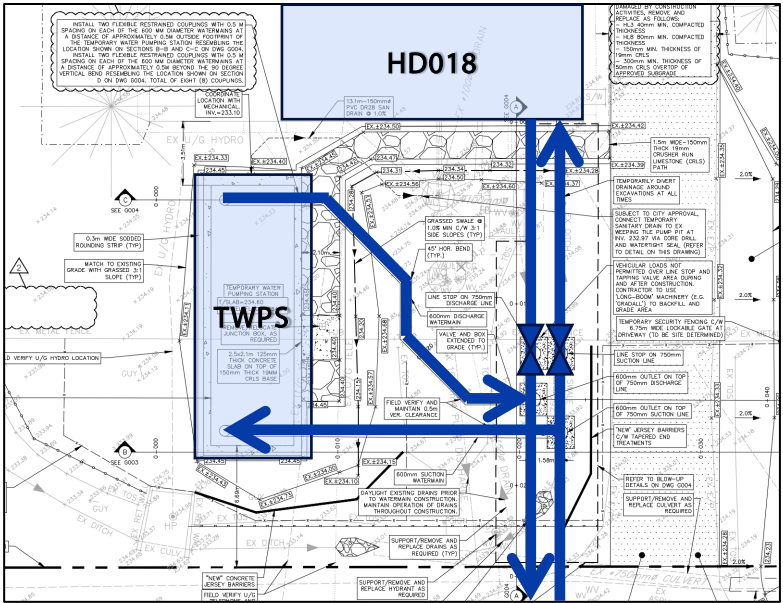
Garner Road Station Upgrades

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Project Phasing

- Complex electrical and process phasing
 - Two commissioning phases
 - Temporary power and electrical transfers
- Bring TWPS online
 - Includes testing & commissioning
- Shutdown HD018
 - Electrical transfer to temporary supply
 - Install line stops
 - Decommission reservoir
- Commission HD018
- TWPS to remain in place as standby



- ➔ Community
- ➔ People
- ➔ Processes
- ➔ Finance

Current Progress

- Community
- People
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Key Takeaways

- › Strict adherence to commissioning procedures and shutdown plans
 - Transition from HD018 and back to HD018
- › Regulatory conversations with MECP
- › Stakeholder identification and contribution
 - High involvement from water distribution and operations staff
 - Community outreach
- › Delivery delays
 - Consideration for prepurchase/preselection
- › TWPS
 - Designed to be moved to other stations if needed
 - Operations benefit
 - Schedule benefit
- › Existing conditions



Thanks To:

