Town Hall Chiller Replacement

CIP Project No. 2020-01

Update

September 9, 2021

Agenda

- Project Background
- Project Considerations
- Staff Recommendation
- Project Schedule & Risks
- Project Funding
- Questions & Discussion

Project Background

Project Description

Replace existing chiller installed in 2002

Justification

- Existing chiller has an avg life span of 20 years
- Parts to maintain equipment are hard to find
- Cost for parts are increasing each year
- Two of the seventeen fan coil units replaced in 2019 and 2020, respectively
- Chilled water piping is corroding

Existing 80 ton chiller with two 40 ton compressors

Project Background

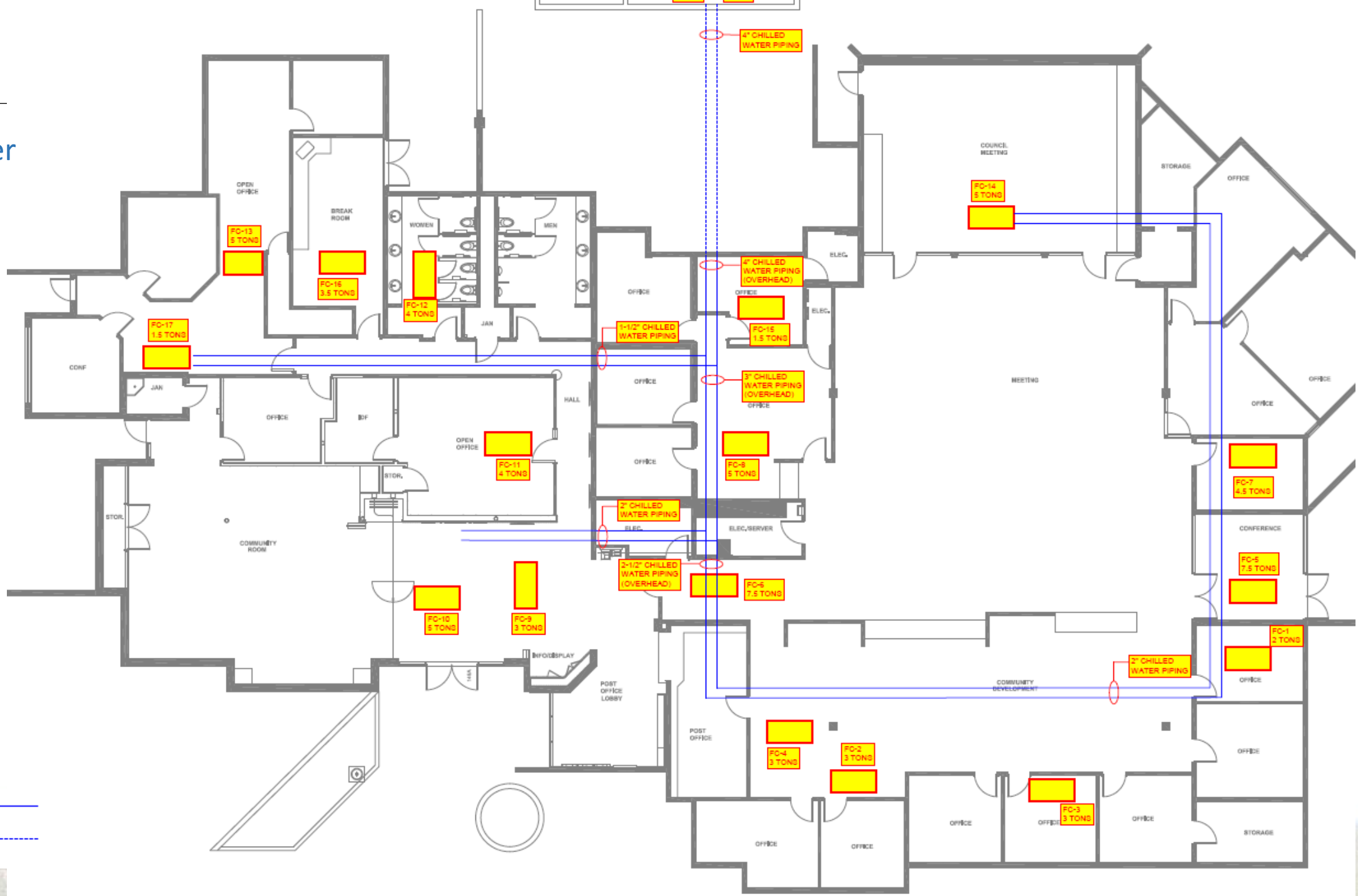
HVAC System Study, Aug 2021

- Assess existing chiller system
- Provide recommendations for HVAC replacement

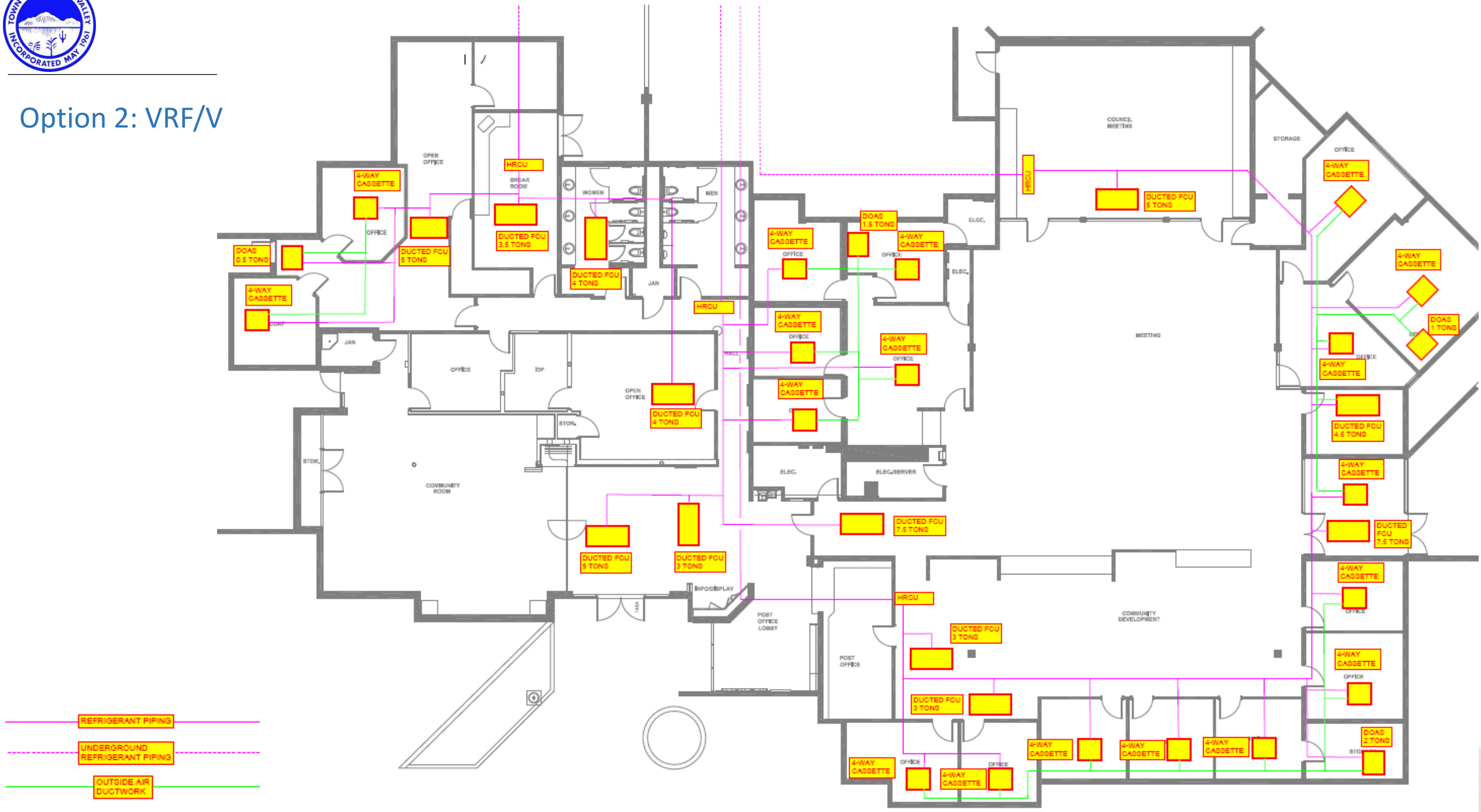
Replacement Options

- Option 1: Replace like for like
  - Air-cooled chiller
  - Air handlers (fan coil units)
  - Chilled water piping
- Option 2: Variable refrigerant flow/volume (VRF/V)
  - Centralized condensers
  - Air handlers (fan coil units & cassettes)

Option 1: Chiller



Option 2: VRF/V



Project Considerations

Factors	Option 1 Chiller Replace like for like	Option 2 Variable refrigerant flow/volume (VRF/V)
• Initial Cost	• $970,000*	• 1,140,000*
• Service Life	• 25 years	• 15 years
• Maintenance	• Monthly, Quarterly (filters), Annually	• Monthly (filters), Quarterly, Annually
• Servicing	• Primarily in-house	• Primarily outsource
• Reliability	• Staff familiarity	• Unknown
• Air Quality	• Install in air handlers (FCUs)	• Unable to install in air handlers (Cassettes)
• Warranties	• 1 year parts/labor	• 1 year parts/labor

*Includes 5% Owner's Allowance and 5% Construction Contingency but excludes air quality upgrades.

Staff Recommendation

Option 1 Chiller
Replace like for like

- Lower initial cost
- Longer life expectancy of 25 years vs. 15 years (VRF)
- Less impact to staff offices during construction
- Less filters and less outsourcing of maintenance
- Staff familiarity with operating and maintaining a chiller system
- Ability to implement & maintain air quality technology*

*Air quality upgrades to include ionization and ultraviolet light.

Note: Staff recommendation is based on input from LSW Engineers, McCarthy, and other municipal agencies.

Project Schedule (Tentative) & Risks

- Sept 9, 2021 Town Council Study Session: Direction on design option 1 (chiller) or option 2 (VRF)
- Sept 23, 2021 Town Council Action Item: Award Design & JOC Contracts (approx. 4 mo design)
- Oct/Nov 2021 Order long-lead time materials
- Jan 2022 Complete Design & Permitting
- Feb 2022 Start Construction
- Apr 2022 End Construction

Risks / Unknowns

- Potential impacts of Hurricane Ida on Aug 29, 2021
- Lead times up to 20 weeks (currently)
- Material pricing (future)

Project Funding

Expenditures	2022	2023	2024	2025	2026	Total
Equipment	750,000					750,000
Total	750,000					750,000

Funding Sources	2022	2023	2024	2025	2026	Total
Town of Paradise Valley	750,000					750,000
Total	750,000					750,000

FY22 Budget

- $750,000 Project
- $300,000 CIP Contingency (available)
- $330,000 Unused CIP Funding (estimated)

FY22 Expenditures (estimated)

- $970,000 Option 1 or $1,140,000 Option 2 (Construction)
- $95,000 Design
- $60,000 Air Quality Upgrade (federal reimbursement)

Questions & Discussion