



**AGENDA**  
CHARTER TOWNSHIP OF MERIDIAN  
TOWNSHIP BOARD – STUDY SESSION  
March 27, 2018 6:00 pm

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1. CALL MEETING TO ORDER
2. PLEDGE OF ALLEGIANCE/INTRODUCTIONS
3. ROLL CALL
4. CITIZENS ADDRESS AGENDA ITEMS AND NON-AGENDA ITEMS
5. APPROVAL OF AGENDA
6. BOARD DISCUSSION ITEMS
  - A. Facilities Report
  - B. Project Update
7. COMMENTS FROM THE PUBLIC
8. OTHER MATTERS AND BOARD MEMBER COMMENTS
9. ADJOURNMENT

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All comments limited to 3 minutes, unless prior approval for additional time for good cause is obtained from the Supervisor.  
Appointment of Supervisor Pro Tem and/ or Temporary Clerk if necessary.

Individuals with disabilities requiring auxiliary aids or services should contact the Meridian Township Board by contacting:  
Township Manager Frank L. Walsh, 5151 Marsh Road, Okemos, MI 48864 or 517.853.4258 - Ten Day Notice is Required.  
Meeting Location: 5151 Marsh Road, Okemos, MI 48864 Township Hall



6. A.

**To: Township Board Members**  
**From: Derek N. Perry, Assistant Township Manager  
Director of Public Works & Engineering**  
**Date: March 22, 2018**  
**Re: Facilities Report- Municipal Building HVAC Replacement**

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In 2016, the Township completed a facility study identifying our current and future maintenance and repair needs for all Township owned buildings. One of the most critical items identified in that study was the need to replace the existing heating and cooling equipment in the Municipal Building.

To better identify and refine the scope of a replacement project for the Municipal Building a second report was developed to detail the cost to replace the existing system. The report also identified a phasing plan so that Township operations could still function with minimal disruption to our programs and services if the equipment was to be replaced.

On Tuesday night we will review the Municipal Building HVAC plan and also examine historical and potential replacement costs for modernizing the facility.

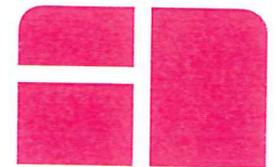
Attachment: Municipal Building HVAC Phasing Plan, October 17, 2017.



# Charter Township of Meridian

## Municipal Building HVAC Phasing Plan

October 17, 2017





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## Summary

This Facilities Assessment provides an analysis of key buildings and provides a chart defining the condition of each room in the building. This discussion also includes consideration of the sustainability of facilities where applicable.

Numerous improvements to the existing facilities are recommended in the following assessment. The charts depict square footage, use, condition, renovation date(s), seating count, furnishings, amenities, technology, lighting, and mechanical equipment data for each room along with recommended improvements and order of magnitude cost estimates for budgeting purposes.

This study is a critical step in identifying departmental space issues, establishing capital planning priorities, and addressing requirements established by the Charter Township of Meridian.

This is a living document that should be revisited as systems or components are upgraded to ensure it is in line with existing conditions and community practices.

## Tasks

The following tasks were undertaken in the development of the Facilities Assessment:

- Assessments were made on the physical condition and functional capabilities of existing facilities. This entailed the collection of survey data to review existing conditions.
- Cost projections were provided to assist the Township in developing project priorities and establishing a capital improvement plan.
- Space allocation data was provided to inform long term decision making concerning the reprogramming or rehabilitation and/or construction of new space, and the renovation and appropriate utilization of existing space.
- Provide the process, tools and methodology for the ongoing prioritization of major capital and renovation investment projects.

## General Planning Assumptions

The following planning assumptions act as guiding principles in the formulation of the results of this study.

1. Basic floor plans and data used in this study were used as the baseline. The comparative space data was augmented with several known upcoming planned capital projects.
2. A quality assessment was conducted as these facilities were surveyed to identify those that are physically or functionally deficient. The results of this survey will be used to provide basic data for the Township to target improvement funding.
3. The planning period for this study and subsequent capital improvement plan (CIP) is five (5) fiscal years.





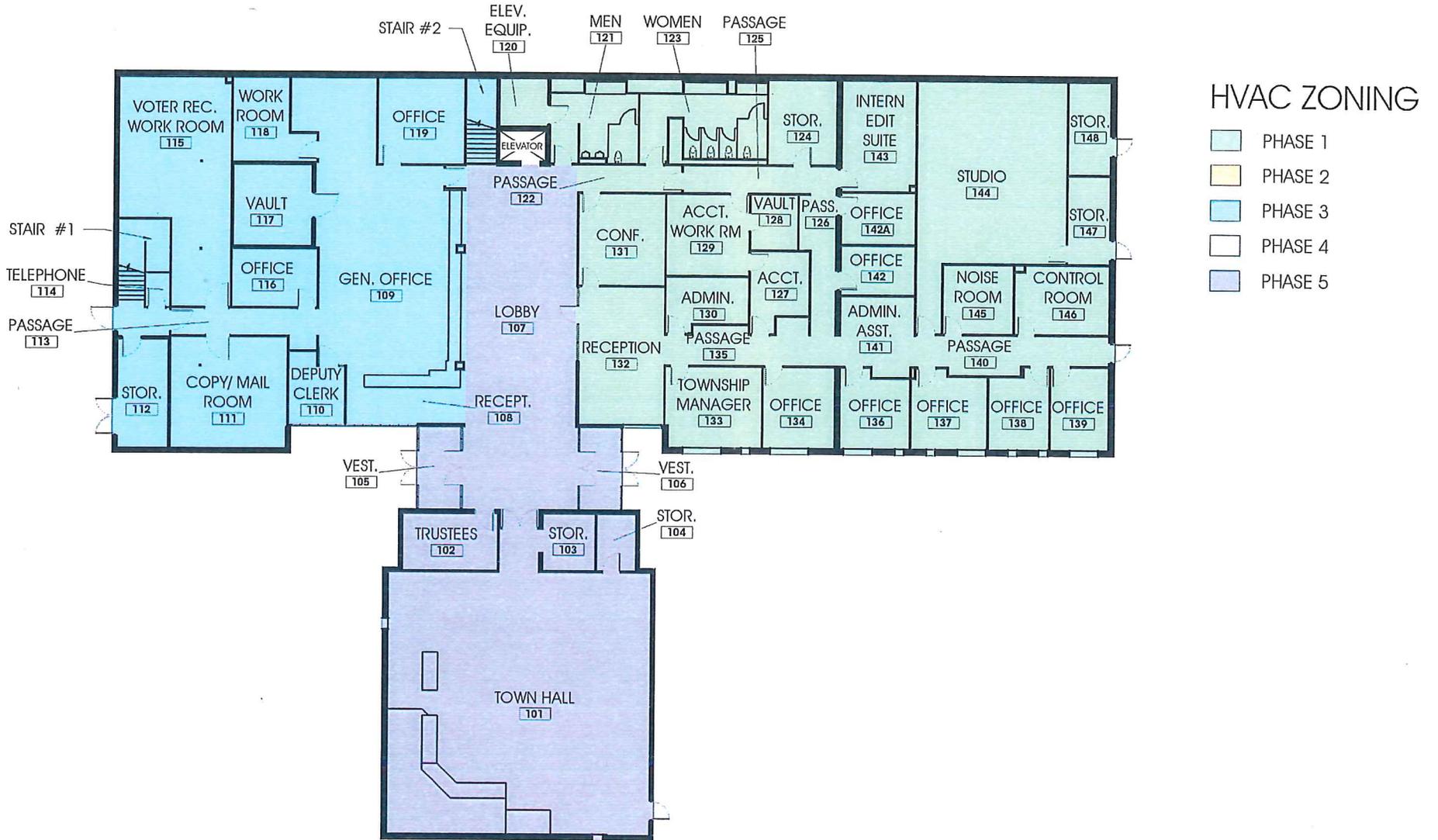
# MUNICIPAL BUILDING



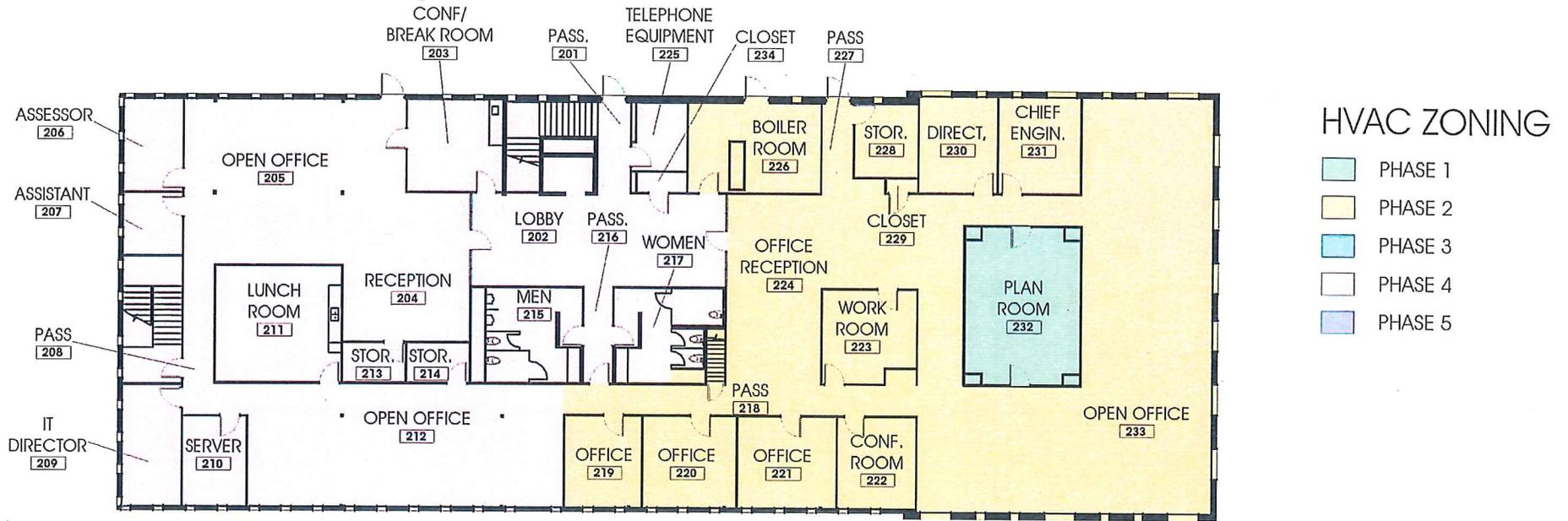


## Overview

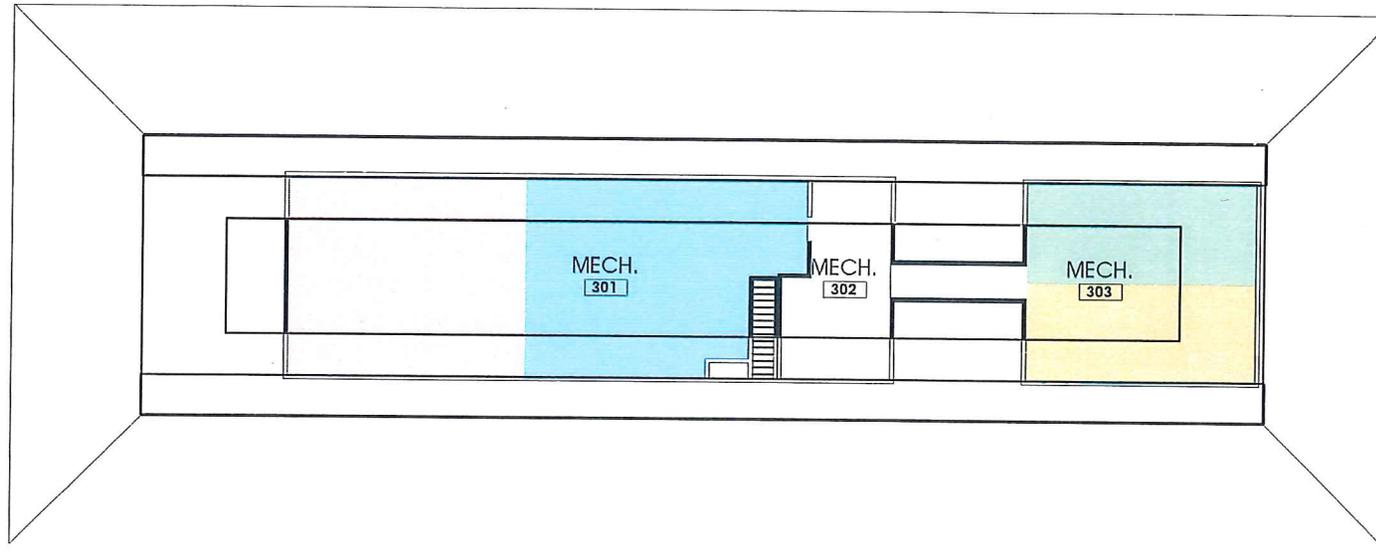
- Township Municipal Building was built in 1971
- South Addition was built in 1992
- **54** people work in the building
- 100% of the building is in use



First Floor Phasing Plan



Second Floor Phasing Plan



## HVAC ZONING

-  PHASE 1
-  PHASE 2
-  PHASE 3
-  PHASE 4
-  PHASE 5

Mechanical Level Phasing Plan

### Overall HVAC System Phasing Summary

**Phase 1** - Replace Meeting Room RTU

**Phase 1A** - Boiler Room Renovation

**Phase 2** - Replace AHU-3 in Mezzanine, occupy Plan Room 232 on 2nd floor, renovate 1st floor - South Side

**Phase 3** - Replace AHU-4 in Mezzanine, occupy Transportation on 2nd floor, renovate south side of 2nd floor.

**Phase 4** - Remove AC unit-2 in entirety and install new AHU-2. Renovate 1st floor, north side and general offices and the 2nd floor north stairwell.

**Phase 5** - Remove AC unit-1 in entirety and install new AHU-1. Renovate 2nd floor north side offices.

### Overall HVAC System Summary:

Built in 1972, two, Trane, multi-zone, constant volume Air Handling Units were installed during the construction to condition the building. Each one of the air handlers serves 8 different zones of the original portion of the building. Heating in the Air Handlers is achieved through the use of an internally mounted Hot Water Coil. The Heating Coils provide a total of 600 MBH of heating throughout the original building. The air handler systems include supply air fans, zone modulation dampers, and supply and return ductwork. Zone control is accomplished with each space being monitored by a return air sensor located up within the return air ductwork.

The existing cooling system consists of two, exterior ground mounted R-22 air cooled condensing units. There is an R-22 refrigerant coil installed within each one of the two air handling units. Roughly 100'-0" of refrigerant piping is routed from each of the two ground mounted condensing units into the building and up through the building to the cooling coils located up within the second story mechanical mezzanine.

The existing Meeting Room is served by a roof mounted, 6 ton packaged DX/gas fired RTU. Supply and return air is distributed to the space through the use of steel ductwork. Zone control is accomplished with a space temperature sensor.

The existing heating system consists of a single, L.E.S. natural gas-fired, hot water boiler with a Power Flame Burner. 1,350 MBH of Heating Hot water is circulated throughout the building to multiple heating coils. The hot water distribution temperature is controlled by a "master" three-

way modulating control valve. Hot water is distributed throughout the facility using a zone pumping system. These pumps are constant flow inline type. Control valves are installed throughout the heating system at various mechanical units. The valves open and close to allow water to either flow through the coils or bypass the coil to maintain space conditioning requirements.

Two new, McQuay, constant volume air handling units were installed during the 1992 construction to condition the new addition to the building. Heating in the Air Handlers is achieved through the use of an internally mounted Hot Water Coil. The Heating Coils provide a total of 183 MBH of heating throughout the new addition of the building. The hot water supply and return piping was tied into the existing heating water supply and return loop. The new air handlers were provided with both hot water and DX refrigerant cooling coils. Zone control is accomplished with each space being monitored by a return air sensor located up within the return air ductwork.

The added cooling system consists of two, exterior ground mounted R-22 air cooled condensing units. There is an R-22 refrigerant coil installed within each one of the two air handling units. Roughly 100'-0" of refrigerant piping is routed from each of the two ground mounted condensing units into the building and up through the building to the cooling coils located up within the second story mechanical mezzanine.

There is an existing DDC temperature control system in place throughout the building. The existing system is a METASYS Controls system.



# Municipal Building

## MEP Systems

The existing domestic hot water heating system consists of a single, Bradford White atmospheric, natural gas-fired, water heater. In conversations with on-site personnel, it was noted that the this heater was not sufficient for the building demand and thus Point of Use water heaters were installed beneath the countertops in the Restrooms and Break Areas to provide hot water to these areas.

### Electrical

The Municipal building is serviced by the local utility co. with a pad mounted transformer. The main electrical service is an 800a, 120/208 V, 3 phase, 4 wire, main distribution panel. This distribution panel is manufactured by Westinghouse and although original to the building appears to be in good condition. The distribution associated with this is made up of fusible switches which in return feed branch panelboards, elevator and HVAC equipment throughout the facility.

The panelboards throughout the facility are comprised of flush in wall and surface mount in mechanical rooms. These panelboards service miscellaneous mechanical and plumbing systems, lighting and general receptacles associated with the facility. It should be noted that there are a number of tandem circuit breakers in various panelboards throughout which indicates that over the years the increased demand of electrical circuits were needed and added as such.

General illumination is accomplished utilizing a mixture of lamps including less energy efficient

T-12 fluorescent, T-8 fluorescent, compact fluorescent and incandescent luminaries throughout the facility. Interior lighting control is accomplished by wall switches. Few of the room are controlled by occupancy sensors. Exterior building mount lighting is high intensity discharge and is controlled by time clock.

Emergency and exit egress lighting are battery back-up

The fire alarm system is a Simplex model number 4002 zoned fire alarm system with initiating and notification appliances located throughout.

Optional stand by emergency generator is a Kohler 250kw diesel powered genset. This generator is tested weekly with yearly load bank tests.

### Site Observation Summary

On May 19th, 2016, a site walk through was conducted to evaluate the current HVAC, plumbing, and electrical systems and to determine means for reducing the energy consumption used by the mechanical system. The following is a list of items observed at the time of the walk through.

1. The American Society of Heating, Refrigeration and Air Conditioning (ASHRAE) HVAC application guidelines state that the median service life span of a Modular Air Handling Unit is 25 years. The published median life cycle information is not a prediction for guaranteed failure of equipment at a predetermined time,

however should be referenced with caution for the future planning of capital expenses. The two Air Handling Units located within the original portion of the building appear to be the originally installed mechanical units from 1972, and thus would make the units roughly 44 years old. The two additional Air Handling Units that were installed during the 1992 construction appear to be the original units to the addition, and thus would make these units roughly 24 years old.

2. The American Society of Heating, Refrigeration and Air Conditioning (ASHRAE) HVAC application guidelines state that the median service life span of a packaged, DX rooftop mounted unit is between 16 and 20 years. The published median life cycle information is not a prediction for guaranteed failure of equipment at a predetermined time, however should be referenced with caution for the future planning of capital expenses. The existing rooftop mounted unit does not appear to be the originally installed mechanical unit from the 1972 building project; roof work was not performed at the time of the visit. Further investigation will be needed to determine the actual age of the unit. From a visual inspection performed from the ground, the unit appears to be roughly 15 years old.

3. The HVAC system pumping is a constant volume system, this does not allow for the pump speed to be modulated when the building heating/cooling requirements are met.

4. The refrigerant in use, in the four existing DX cooling coil units, is 'HCFC', R-22. As of January 1, 2010, the production of R-22 refrigerant for

use in new equipment was suspended per the Montreal Protocol – Title VI of the Clean Air Act. The use of R-22 refrigerant in any new equipment is scheduled to cease on January 1, 2020. In the remaining four years, only recycled or reclaimed R-22 refrigerant will be available for the servicing of existing equipment and systems. With the refrigerant out of production and supplies diminishing, the cost of the refrigerant will be impacted and will drive prices upward on a demand basis.

5. The existing exposed, exterior, ground mounted refrigerant piping that is routed from the air cooled condensing units is extremely brittle and deteriorating. There are multiple sections of piping that is missing insulation entirely. The lack of sufficient insulation on the piping significantly decreases the efficiency of the unit.

6. The existing layout of the two original air handling units in the mezzanine does not allow for the visual observation or accessibility to maintain the zone dampers or actuators. Could not verify that the actuators and zone dampers were in working condition and operating properly.

7. In the Meeting Room, there is a lot of noise that is generated by the supply air that is exiting through the linear, ceiling mounted supply air diffusers. These diffusers are mounted up within sealed bulkheads and are located directly above the stage. In conversations with on-site personnel, it was noted that it is difficult for the Board Members to hear the audience during public meetings due to the noise produced from

the mechanical conditioning of the space.

8. The existing domestic hot water service does not utilize a thermostatic mixing valve or hot water recirculation to maintain a hot water loop throughout the building. Per the 2012 Michigan Plumbing Code, tempered hot water shall be supplied through an approved water temperature limiting device. A Recirculation system shall be provided if the hot water piping is routed more than 50 feet from the source.

9. There is no backflow preventer installed on the incoming domestic cold water line. Per the 2012 Michigan Plumbing Code, a backflow preventer must be installed on an incoming potable water line to prevent contaminants being introduced into the potable water supply through cross-connection.

### Recommendations

1. Look into the replacement of the four constant volume, multi zone air handling units, including fan, coils, and dampers, with new high efficiency, variable volume air handlers with VSD drives and VAV boxes. A portion of the existing ductwork is likely able to be reused. The duct replacement will be evaluated during the design process. If existing duct is re-used, it will be cleaned.

2. Look into the replacement of the four ground mounted, DX air cooled condensing units with a new chilled water system with new outdoor, air cooled chiller, pumps, piping, valves, and accessories.

3. Look into the replacement of the four ground mounted, DX air cooled condensing units with new high efficiency, air cooled condensing units and A-coils that utilize R-410A refrigerant. This would include new refrigerant piping and accessories.

4. Replace existing constant volume pumping system with a variable flow secondary water loop. This would include new pumps, variable speed drives, and pressure sensors to allow the speed of the pumps to modulate based on demand.

5. Look into the replacement of the existing rooftop packaged AC unit and all associated controls and wiring that serves the Meeting Room. Portions of the existing ductwork might be able to remain but would need to be modified as required by both the installed location of the new packaged AC units and revised diffuser locations. Patch and repair existing roof openings made obsolete with new work.

6. Replace existing exhaust fans located throughout the building for improved ventilation within the building.

7. A new direct digital temperature control system should be installed to replace the existing and to provide a uniform and seamless system and to simplify the operation with current technology.

8. Look into the replacement of the existing hot water heaters with a new hot water heater,



# Municipal Building

## MEP Systems

thermostatic mixing valve, hot water recirculation pump, and distribution piping.

9. Provide and install backflow preventer on the incoming domestic water line.

10. Main distribution panel should be serviced by the original manufacture with a recommendation of a thermal scan to determine any potential issues.

11. Review panelboards throughout the facility and for programming load needs. Upgrade panels which are currently overloaded.

12. General illumination should be replaced with new energy efficient lighting systems and controls to adhere to State and National Energy Guidelines.

13. Installation of a new fire alarm system which meets State and National Codes.

14. Optional stand by generator was noted to be in good working condition.

## Phased Construction Cost

Phase	Cost	Phase Total Cost
Roof Access and Reconfiguration	\$250,000	
<b>Roof Total</b>		<b>\$250,000</b>
Phase 1 Arch	\$34,350	
Phase 1 Mech	\$74,138	
<b>Phase 1 Total</b>		<b>\$108,488</b>
Phase 1A Mech	\$472,782	
<b>Phase 1A Total</b>		<b>\$472,782</b>
Phase 2 Arch	\$28,300	
Phase 2 Mech	\$352,467	
<b>Phase 2 Total</b>		<b>\$380,767</b>
Phase 3 Arch	\$14,500	
Phase 3 Mech	\$344,004	
<b>Phase 3 Total</b>		<b>\$358,504</b>
Phase 4 Arch	\$33,500	
Phase 4 Mech	\$297,031	
<b>Phase 4 Total</b>		<b>\$330,531</b>
Phase 5 Arch	\$10,900	
Phase 5 Mech	\$329,088	
<b>Phase 5 Total</b>		<b>\$339,988</b>
<b>Project Total</b>		<b>\$2,241,060</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

# HVAC SUMMARY AND PHASING PLAN



# Municipal Building

## Overall Mechanical Replacement Plan

Existing Equipment - Location	Location	Service Area	Visual Condition A - Good B - Fair C - Poor	Date Installed	Median Service Life	Age	Service Life Remaining	Comments	Recommendation	Tier	Remarks / Cost Tier 1 = \$1-\$1,000 Tier 2 = \$1,001-\$10,000 Tier 3 = \$10,001-\$20,000 Tier 4 = \$20,001
(2) Trane multi-zone AHUs, Hot-water heating coils	Mechanical mezzanine	Original building	C	1972	25 years	44 years	0	Beyond service life - needs replacement	Replace all AHUs with (4) high-efficiency, variable volume AHUs with VSD drives and VAV boxes	4	\$187,000 for (4) AHUs
									New VAV boxes with reheat coils, interconnecting piping, actuators & controls \$8,025 per box	4	\$240,750 for (30)
(2) Ground mounted R-22 air cooled condensing units	East exterior	Original building	C	1972	16-20 years	44 years	0	Refrigerant does not meet current code, only recycled or reclaimed available = costly	Replace with new chilled water system with new outdoor, air-cooled chiller and air-cooled condensing units and A-coils with R-410A refrigerant	4	\$68,175 + \$42,400 = \$110,575
(2) McQuay AHUs	Mechanical mezzanine	South addition	C	1992	25 years	24 years	1	Beyond service life - needs replacement	efficiency, variable volume AHUs with VSD drives and VAV boxes		see above
(2) Ground mounted R-22 air cooled condensing units	East exterior	South addition	C	1992	16-20 years	24 years	0	Refrigerant does not meet current code, only recycled or reclaimed available = costly	Replace with new chilled water system with new outdoor, air-cooled chiller and air-cooled condensing units and A-coils with R-410A refrigerant		see above
L.E.S. boiler	Mechanical mezzanine	Original building	B	1972				Constant volume pumping system does not allow for modulation	Replace with variable flow secondary water loop which will modulate based on	3	\$16,500
6-ton packaged DX/gas fired RTU	Town hall roof	Town Hall	A	1972	25 years	44 years	0	Noisy system	New RTU with modified ductwork to reduce noise	2	\$8,100
Exhaust fans	multiple locations	Multiple locations	C	1972+					Replace and install interconnecting duct for improved ventilation	2	\$5,525
DCC temperature control system	throughout building		B	1972				Outdated technology, inefficient	Replace with new DCC system utilizing current technology	4	\$120,000
Bradford White water heater	Boiler Room	Entire Building	B					Insufficient for building demand, several point-of-use water heaters have been installed for supplemental hot water in restrooms and break areas	Install new 60,000 BTU gas-fired storage water heater with recirculating pump, install backflow preventer on incoming water line, install two variable speed pumps, water pressure differential switches, variable speed drives, and controls and wiring	3	\$10,525 + \$1,800 = \$12,325

Kohler 250 KW Generator	Upper plaza	Entire Building	A					Diesel powered, tested weekly w/ yealy load bank tests; currently in good working condition	No change		
Main distribution panel		Entire Building	A					800a service appears adequate	Service by manufacutrer with thermal scan		
Panelboards		Entire Building	A						Review programming load needs. Upgrade as required.		
General Illumination		Entire Building	B					Less efficient T-12 & T-8 fluorescent along with	replace with energy efficient lighting systems and controls		
Fire Alarm System		Entire Building	B					Existing does not meet current State & national codes	Install new fire alarm system to meet required Codes		
									Total Recommended Mechanical Improvements	4	\$724,850

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

## Phase 1 MEP Phasing

MEP Upgrades - Phase 1						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
101 Town Hall, 102 Trustees, 103 Storage, & 104 Storage	2349	Meeting Room	2005	Forced Air @ Ceiling, Radiant @ ext. walls	Replace existing RTU with new 6 ton DX, variable speed, variable capacity RTU.	61782
20% Contingency						\$ 12,356
<b>TOTAL SQUARE FEET</b>	<b>2349</b>				<b>TOTAL COST</b>	<b>\$ 74,138</b>

Summary of MEP Upgrades		
Recommended Work/Cost	Unit Cost	Cost
Remove existing roof top unit.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (2 Laborers @ 16 hrs): \$1860.00	\$ 2,470
Crane rental for unit removal and installation of new (12 ton truck crane).	Labor (1 operator @ 16 hrs): \$758.88 Crane rental for 2 days (Daily): \$1158.17	\$ 3,834
Disconnect and remove ductwork, including removal of ceiling tiles and soffets. 30 yard Dumpster rental (6 weeks)	Labor (2 Laborers @ 32 hrs): \$1860.00 Equipment rental (per week): \$800	\$ 4,800
Install new 6 Ton, Variable Speed, Variable Capacity packaged DX unit	Labor (1 foreman @ 8 hrs): \$610.00 Labor (2 Laborers @ 32 hrs): \$37200.00 Equipment: \$16300.00	\$ 20,630
Provide and install new ductwork and return air duct (as required)	Labor (1 foreman @ 16 hrs): \$1220.00 Labor (2 Laborers @ 40 hrs): \$2320.00 Materials: \$ 5168.82	\$ 8,708
Install 2" thick insulation on supply and return ductwork	Labor (2 Laborers @ 48 hrs): \$2784.00	\$ 6,284
Test and Balance	Labor (per unit): \$840.00	\$ 840
Roofing (provide and install roofing and flashing materials)	Labor (2 Laborers @ 32 hrs): \$1856.00	\$ 6,356
Electrical ( Disconnect and reconnect electrical service to new unit)	Labor & Materials: \$6000.00	\$ 6,000
	<b>TOTAL COST</b>	<b>\$61,782</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.



# Municipal Building

## Phase 1A MEP Phasing

MEP Upgrades - Phase 1A						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
227 Boiler Room	971	Mechanical	-	Fan forced,	Provide and install new high	\$ 393,985
20% Contingency						\$ 78,797
<b>TOTAL SQUARE FEET</b>	<b>971</b>				<b>TOTAL COST</b>	<b>\$ 472,782</b>

Summary of MEP Upgrades			
Recommended Work/Cost	Unit Cost	Cost	
Remove existing boiler, pumps, piping, ect.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (2 Laborers @ 48 hrs): \$2784.00	\$	3,394
30 yard Dumpster rental (8 weeks)	Equipment rental (per week): \$800	\$	6,400
Install two new 100Mbh, high efficiency, condensing boilers.	Labor: \$6000.00 (x2)	\$	33,000
Provide and install two new base mtd. Circulating pumps (heating)	Labor: \$4550.00 (x2) Equipment: \$13085.00 (x2)	\$	35,270
Provide an install new hydronic water piping and insulation (100 L.F.).	Labor: \$6580.00	\$	12,718
Provide and install new 60 ton, air cooled scroll chiller and concrete pad.	Labor: \$10826.00 Material: \$61348.00	\$	72,174
Provide and install two new base mtd. Circulating pumps (cooling)	Labor: \$4550.00 (x2)	\$	35,270
Provide and install new backflow preventor on incoming domestic water line.	Labor: \$120.00 Material: \$1880.00	\$	2,000
Provide and install new 60,000 Mbh gas fired domestic water heater and thermostatic mixing valve.	Labor: \$1979.00	\$	8,896
Provide and install new hot water recirculation pump.	Labor: \$195.00 Equipment: \$1630.00	\$	1,825
Provide an install new domestic water piping and insulation (100 L.F.).	Labor: \$6580.00	\$	12,718
Provide and install new DDC temperature control system.	Labor & Materials: \$60000.00	\$	60,000
Electrical ( Disconnect existing units and provide new distribution system)	Labor & Materials: \$110320.00	\$	110,320
	<b>TOTAL COST</b>		<b>\$393,985</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

MEP Upgrades - Phase 2						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
Replace AHU-3 and renovate 1st floor, South side.	5434	Mechanical	-	forced air	Provide and install new Central Station Air Handling Units, including new heating and cooling coils, and inter-connecting piping and variable speed drives and ductwork.	\$ 293,722
20% Contingency						\$ 50,744
<b>TOTAL SQUARE FEET</b>	<b>5434</b>				<b>TOTAL COST</b>	<b>\$ 352,467</b>

Summary of MEP Upgrades		
Recommended Work/Cost	Unit Cost	Cost
Remove existing air handler, ductwork, piping, controls, ect.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (4 Laborers @ 160 hrs): \$9280.00	\$ 9,890
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
30 yard Dumpster rental (12 weeks)	Equipment rental (per week): \$800	\$ 9,600
Install two new AHU-3, interconnecting ductwork, VAV boxes, and controls.	Labor & Materials: \$135850.00	\$ 135,850
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
Provide an install new plumbing fixtures, domestic water piping, and insulation.	Labor & Materials: \$32604.00	\$ 32,604
Provide and install new DDC temperature control system.	Labor & Materials: \$15000.00	\$ 15,000
Electrical ( Disconnect existing units and provide new distribution system)	Labor & Materials: \$86944.00	\$ 86,944
	<b>COST</b>	<b>\$293,722</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.



# Municipal Building

## Phase 3 MEP Phasing

MEP Upgrades - Phase 3						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
Replace AHU-4 and renovate 2nd floor, south side.	5076	Mechanical	-	forced air	Provide and install new Central Station Air Handling Units, including new heating and cooling coils, and inter-connecting piping and variable speed drives and ductwork.	\$ -
20% Contingency						286,670
<b>TOTAL SQUARE FEET</b>	<b>5076</b>				<b>TOTAL COST</b>	<b>\$ 57,334</b>
						<b>\$ 344,004</b>

Summary of MEP Upgrades			
Recommended Work/Cost	Unit Cost	Cost	
Remove existing air handler, ductwork, piping, controls, ect.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (4 Laborers @ 80 hrs): \$9280.00	\$	9,890
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$	1,917
30 yard Dumpster rental (8 weeks)	Equipment rental (per week): \$800	\$	6,400
Install new AHU-4, interconnecting ductwork, VAV boxes, and controls.	Labor & Materials: \$135320.00	\$	135,320
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$	1,917
Provide an install new plumbing fixtures, domestic water piping, and insulation.	Labor & Materials: \$35010.00	\$	35,010
Provide and install new DDC temperature control system.	Labor & Materials: \$15000.00	\$	15,000
Electrical ( Disconnect existing units and provide new distribution system)	Labor & Materials: \$81216.00	\$	81,216
		<b>COST</b>	<b>\$286,670</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

MEP Upgrades - Phase 4						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
Remove AHU-2 and provide and install new AHU-2. Renovate 1st Floor, North side.	3277	Mechanical	-	forced air	Provide and install new Central Station Air Handling Units, including new heating and cooling coils, and inter-connecting piping and variable speed drives and ductwork.	\$247,526
20% Contingency						\$49,505
<b>TOTAL SQUARE FEET</b>	<b>3277</b>				<b>TOTAL COST</b>	<b>\$297,031</b>

Summary of MEP Upgrades		
Recommended Work/Cost	Unit Cost	Cost
Remove existing air handler, ductwork, piping, controls, ect.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (4 Laborers @ 80 hrs): \$9280.00	\$ 9,890
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
30 yard Dumpster rental (12 weeks)	Equipment rental (per week): \$800	\$ 9,600
Install new AHU-2, interconnecting ductwork, VAV boxes, and controls.	Labor & Materials: \$135320.00	\$ 135,320
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
Provide an install new plumbing fixtures, domestic water piping, and insulation.	Labor & Materials: \$21450.00	\$ 21,450
Provide and install new DDC temperature control system.	Labor & Materials: \$15000.00	\$ 15,000
Electrical ( Disconnect existing units and provide new distribution system)	Labor & Materials: \$524432.00	\$ 52,432
	<b>COST</b>	<b>\$247,526</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.



# Municipal Building

## Phase 5 MEP Phasing

MEP Upgrades - Phase 5						
Room	Square Footage	Type of Space	Last Renovation	Mechanical	Recommended Work/Cost	Cost
Remove AHU-1 and provide and install new AHU-1, renovate 2nd floor, north side.	4718	Mechanical	-	forced air	Provide and install new Central Station Air Handling Units, including new heating and cooling coils, and inter-connecting piping and variable speed drives and ductwork.	\$ 274,240
20% Contingency						\$ 54,848
<b>TOTAL SQUARE FEET</b>	<b>4718</b>				<b>TOTAL COST</b>	<b>\$ 329,088</b>

Summary of MEP Upgrades		
Recommended Work/Cost	Unit Cost	Cost
Remove existing air handler, ductwork, piping, controls, ect.	Labor (1 foreman @ 8 hrs): \$610.00 Labor (4 Laborers @ 80 hrs): \$9280.00	\$ 9,890
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
30 yard Dumpster rental (8 weeks)	Equipment rental (per week): \$800	\$ 6,400
Install two new AHU-1, interconnecting ductwork, VAV boxes, and controls.	Labor & Materials: \$135320.00	\$ 135,320
Crane rental for unit removal (12 ton truck crane).	Labor (1 operator @ 8 hrs): \$758.88 Crane rental (Daily): \$1158.17	\$ 1,917
Provide an install new plumbing fixtures, domestic water piping, and insulation.	Labor & Materials: \$28308.00	\$ 28,308
Provide and install new DDC temperature control system.	Labor & Materials: \$15000.00	\$ 15,000
Electrical ( Disconnect existing units and provide new distribution system)	Labor & Materials: \$75488.00	\$ 75,488
	<b>COST</b>	<b>\$274,240</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

# INTERIOR SUMMARY AND PHASING PLAN



# Municipal Building

## Phase 1 Interior Upgrades

Room	Square Footage	Type of Space	Visual Condition	Last Renovation	Seating Count	Type of Furnishings	Room Amenities	Technology	Lighting	Mechanical	Recommended Work/Cost	Cost
120 Elev. Equipment	63	Equipment	B						Surface Mt. 1x4 Fluorescent	Forced Air	Repaint: \$300	\$ 300
121 Mens	182	Restroom	A	1992		Toilet Partitions			Surface Mt. Decorative 1x4 Fluorescent	Forced Air	Repaint, replace toilet partitions & regrout tile at urinal: \$2,500	\$ 2,500
122 Passage	80	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$400.	\$ 900
123 Womens	242	Restroom	A	2014 Repainted		Toilet Partitions	Makeup Vanity & lighting		Surface Mt. Decorative 1x4 Fluorescent	Forced Air & Wall Cabinet		\$ -
124 Storage	166	Janitor/Storage	B	1992		Files, Shelving	Mop Sink		Surface Mt. 1x4 Fluorescent	Forced Air	Repaint walls: \$500	\$ 500
125 Passage	117	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$400.	\$ 900
126 Passage	120	Circulation	A	1992		Cabinets, sink	Microwave, Coffee maker, Instant hot water		Rec. 2x4 T8 Fluorescent	Forced Air	Adjust cabinet hardware & replace backsplash: \$800 Update cabinetry in future: \$8,000	\$ 800
127 Accountant	121	Office	A	1992	2	Desk, Chairs		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$400.	\$ 900
128 Vault	73	Storage	A	1992		Shelving, files			Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$400 Repair wall coverings & paint over: \$400.	\$ 800
129 Accl. Work Room	190	Office	A	1992	2	Tables, files, desk		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$900 Repair wall coverings & paint over: \$500.	\$ 1,400
130 Admin. Assistant	117	Office	A	1992	1	Desk, Chairs	Copier/Printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$400.	\$ 900
131 Conference	228	Conference Room	A	1992	14	Tables, chairs	White/Cork Bord, projection screen	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$1,100 Repair wall coverings & paint over: \$600.	\$ 1,700
132 Reception	342	Office/ Reception	A	1992	3	Systems furniture, chairs	Copiers/Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$1,300	\$ 2,100
133 Township Manager	220	Office	A	1992	1	Table, chairs, desk, files	soft seating	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	\$800 Repair wall coverings & paint over: \$450.	\$ 1,400
134 Office	164	Office	A	1992	1	Desk, Chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$650 Repair wall coverings & paint over: \$450.	\$ 1,100

## Phase 1 Interior Upgrades

135 Passage	185	Circulation	A	1992		Files	Copier			Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$550.	\$ 1,300	
136 Office	157	Office	A	New in 1992	3	Table, chairs, desk, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$650 Repair wall coverings & paint over: \$400.	\$ 1,050	
137 Office	175	Office	A	New in 1992	3	Desk, Chairs, files, Loveseat		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$550.	\$ 1,300	
138 Office	142	Office	A	New in 1992	1	Desk, Chairs, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$550 Repair wall coverings & paint over: \$350.	\$ 900	
139 Office	145	Office	A	New in 1992	2	Desk, Chairs, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$550 Repair wall coverings & paint over: \$350.	\$ 900	
140 Passage	189	Circulation	A	New in 1992		Files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$550.	\$ 1,300	
141 Admin. Assistant	157	Office	A	New in 1992	3	Desk, Chairs, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$650 Repair wall coverings & paint over: \$400.	\$ 1,050	
142 Office	101	Office	A	New in 1992	1	Desk, Chairs, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$300.	\$ 800	
142A Office	106	Office	A	New in 1992	1	Desk, Chairs, files		Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$300.	\$ 800	
143 Interns	242	Work Room	A	New in 1992	8	Systems furniture, chairs	Refrigerator, TV monitor, editing equipment	Ethernet		Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$650 Repair wall coverings & paint over: \$400.	\$ 1,050	
144 Studio	868	Television Studio	A	2011		Props	Cameras, Tech	Ethernet		Flood, stage lights	Separate HVAC system	Seal overhead piping \$500; Add Acoustic insulation & HVAC duct/equipment insulation \$2000; Repaint:	\$ 4,500	
145 Noise Room	137	Equipment Room	A	2011	3	Tables, chairs	Television production equipment	Ethernet		Rec. 2x4 T8 Fluorescent	Separate HVAC system	Repaint: \$500, replace carpet: \$550 Clean Ceiling \$200, replace ceiling tile \$100, Add dust control system \$TBD	\$ 1,350	
146 Control Room	185	Control Room	A	2012	5	Tables, chairs	Television production equipment	Ethernet		Rec. 2x4 T8 Fluorescent	Separate HVAC system	Repaint: \$500, replace carpet: \$750	\$ 1,250	
147 Storage	104	Storage	A	New in 1992		Shelving				Rec. 2x4 T8 Fluorescent	Forced Air	Repaint: \$300	\$ 300	
148 Storage	116	Storage	A	New in 1992						Rec. 2x4 T8 Fluorescent	Forced Air	Repaint: \$300	\$ 300	
<b>TOTAL SQUARE FEET</b>	<b>5434</b>				<b>TOTAL SEATING COUNT</b>	<b>54</b>							<b>TOTAL COST</b>	<b>\$ 34,350</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.



# Municipal Building

## Phase 2 Interior Upgrades

Room	Square Footage	Type of Space	Visual Condition	Last Renovation	Seating Count	Type of Furnishing	Room Amenities	Technology	Lighting	Mechanical	Recommended Work/Cost	Cost
218 Passage	116	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$300.	\$ 800
219 Office	169	Office	A	1992	2	Desks, chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$700 Repair wall coverings & paint over: \$400.	\$ 1,100
220 Office	205	Office	A	1992	2	Desks, chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$900 Repair wall coverings & paint over: \$500.	\$ 1,400
221 Office	215	Office	A	1992	2	Desks, chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$900 Repair wall coverings & paint over: \$500.	\$ 1,400
222 Conference	171	Meeting	A	1992	15	Table, chairs		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$550.	\$ 1,300
223 Work Room	200	Office	A	1992		Files	Copier	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$800 Repair wall coverings & paint over: \$500.	\$ 1,300
224 Office Reception	813	Office	A	1992	4	Desks	Copiers/Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$2,800 Repair wall coverings & paint over: \$1,500.	\$ 4,300
227 Passage	79	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$250.	\$ 750
228 Storage	110	Storage	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$450 Repair wall coverings & paint over: \$300.	\$ 750
229 Closet	10	Storage	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$50 Repair wall coverings & paint over: \$50.	\$ 100
230 Director	179	Office	A	1992	2	Desk, Chair, File		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$500.	\$ 1,250
231 Chief Engineer	189	Office	A	1992	2	Desk, Chair, File		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$750 Repair wall coverings & paint over: \$550.	\$ 1,300
232 Plan Room	416	Storage	A	1992		Flat files, high capacity storage units	Scanner, Plotter, Copier/Printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$1,850 Repair wall coverings & paint over: \$700.	\$ 2,550
233 Open Office	2120	Office	B	1992	14	Systems furniture, files, chairs	Copiers/Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$7,000 Repair wall coverings & paint over: \$3,000.	\$ 10,000
<b>TOTAL SQUARE FEET</b>	<b>4992</b>			<b>TOTAL SEATING COUNT</b>	<b>43</b>						<b>TOTAL COST</b>	<b>\$ 28,300</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

## Phase 3 Interior Upgrades

Room	Square Footage	Type of Space	Visual Condition	Last Renovation	Seating Count	Type of Furnishings	Room Amenities	Technology	Lighting	Mechanical	Recommended Work/Cost	Cost
108 Reception	123	Reception	A	2003 Carpet Tile		Counter		Ethernet	Surface mt. 2x2 fluor. fixtures, & low-voltage	Wall Cabinet	Minor carpet tile replacement needed	\$ 500
109 General Office	1086	Office	A-B	2003 Carpet Tile	6	Desks, chairs, Files, Systems furniture	Copiers/Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Minor carpet tile replacement needed	\$ 500
110 Deputy Clerk	106	Office	A	2003 Carpet Tile	1	Desk, Chairs		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Minor carpet tile replacement needed	\$ 500
111 Copy/ Mail Room	370	Work Room	B			Cabinets, sink, storage, tables	mail meter, copier/printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace cabinets, countertops, repaint: \$4,000	\$ 4,000
112 Storage	153	Storage	B			Shelving			Rec. 2x4 T8 Fluorescent	Forced Air	Repaint: \$200	\$ 200
113 Passage	124	Circulation	B	2003 Carpet Tile					Rec. 2x4 T8 Fluorescent	Forced Air	Repair wall coverings & paint over: \$400	\$ 400
114 Telephone	23	Equipment	B						Rec. 2x4 T8 Fluorescent	Forced Air	Repaint: \$200	\$ 200
115 Voter Registration Work Room	602	Work Room	A	2003 Carpet	3	Storage shelving, tables, computer	Vault door	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace carpet	\$ 1,800
116 Office	142	Office	A	2003 Carpet	2	Desk, Chairs		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air		\$ -
117 Vault	180	Storage	A			High-density storage shelving,			Rec. 2x4 T8 Fluorescent	Forced Air		\$ -
118 Work Room	157	Break Room	B			sink, storage, tables & chairs	Refrigerator, microwave, copier	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace cabinets, countertops: \$3,000 Repair wall coverings & paint over: \$400	\$ 3,400
119 Office	211	Office	A	2003 Carpet Tile	2	Desks, chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Repair wall coverings & paint over: \$500	\$ 500
Stair #1		Circulation	B	2003 Carpet					Surface mt. 2x2 fluorescent fixture	Forced Air	Repaint walls and railing: \$2,500	\$ 2,500
Stair #2		Stair	B	2003 Carpet					Rec. 2x4 T8 Fluorescent	Forced Air		\$ -
<b>TOTAL SQUARE FEET</b>	<b>3277</b>				<b>TOTAL SEATING COUNT</b>	<b>14</b>					<b>TOTAL COST</b>	<b>\$ 14,500</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.



# Municipal Building

## Phase 4 Interior Upgrades

Room	Square Footage	Type of Space	Visual Condition	Last Renovation	Seating Count	Type of Furnishing	Room Amenities	Technology	Lighting	Mechanical	Recommended Work / Cost	Cost
201 Passage	71	Circulation	B	2003 Carpet					Surface ml. 2x2 fluorescent fixtures	Forced Air	Repair wall coverings & paint over: \$350.	\$ 700
202 Lobby	620	Lobby	A	2003 Carpet	10	Chairs, Table		Ethernet	Surface ml. 2x2 fluorescent fixtures	Forced Air	Repair wall coverings & paint over: \$1,400.	\$ 3,500
203 Break/ Conference Rm	209	Meeting/Break	B	1992	8	Cabinets, sink, Tables chairs	Refrigerator, Microwave, Copier	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$800 Repair wall coverings & paint over: \$500.	\$ 1,300
204 Reception	405	Reception	A	1992	1	Desk, chairs, files	Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$1,400 Repair wall coverings & paint over: \$1,000.	\$ 2,400
205 Open Office	831	Office	A	1992	7	Systems furniture, chairs	Copier/Printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Repair wall coverings & paint over: \$1,500.	\$ 4,300
206 Assessor	128	Office	A	1992	3	Desk, chairs, files		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$500 Repair wall coverings & paint over: \$400.	\$ 900
207 Assistant	86	Office	A	1992	1	Desk, Chair, File	Copier/Printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$400 Repair wall coverings & paint over: \$300.	\$ 700
208 Passage	138	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$550 Repair wall coverings & paint over: \$350.	\$ 900
209 IT Director	169	Office	A	1992	2	Desk, tables, shelving, chairs	Copier/Printer	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Repair wall coverings & paint over: \$450.	\$ 1,250
210 Server	137	IT	A	1992		IT Equipment, servers	Equipment racks	Ethernet	Rec. 2x4 T8 Fluorescent	Separate HVAC system	Repair wall coverings & paint over: \$500.	\$ 1,050
211 Lunch Room	353	Break Room	B	1992	16	Cabinets, sink, Tables chairs	machine, microwave, refrigerator	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	\$6,000, Replace flooring & base: \$1,600, repair wall coverings and paint over: \$700	\$ 8,300
212 Open Office	938	Office	A	1992	5	Systems furniture, chairs, Files	Copiers/Printers	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air	Repair wall coverings & paint over: \$1,700.	\$ 4,900
213 Storage	59	Storage	A	1992		Shelving			Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$300 Repair wall coverings & paint over: \$200.	\$ 500
214 Storage	59	Storage	A	1992		Shelving			Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$300 Repair wall coverings & paint over: \$200.	\$ 500
215 Mens	215	Restroom	A/B	1992		Toilet Partitions			Surface mounted 1x4 fluorescent	Forced Air	\$600.	\$ 600
216 Passage	66	Circulation	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$350 Repair wall coverings & paint over: \$200.	\$ 550
217 Womens	211	Restroom	A	2005 Cosmetic		Toilet Partitions			Surface mounted 1x4 fluorescent	Forced Air	Repair wall coverings & paint over: \$600.	\$ 600
225 Telephone Equipment	84	Equipment	B	1992		Shelves		Ethernet	Surface ml. 1x4 Fluorescent	Forced Air		
226 Boiler Room	262	Mechanical	B	1992					Surface ml. 1x4 Fluorescent, CFL fixtures	Forced Air	Repair ceiling: \$300	\$ 300
234 Closet	23	Storage	A	1992					Rec. 2x4 T8 Fluorescent	Forced Air	Replace Carpet & vinyl base: \$150 Repair wall coverings & paint over: \$100.	\$ 250
<b>TOTAL SQUARE FEET</b>	<b>5064</b>				<b>TOTAL SEATING COUNT</b>	<b>53</b>					<b>TOTAL COST</b>	<b>\$ 33,500</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.

## Phase 5 Interior Upgrades

Affected Areas	Room	Square Footage	Type of Space	Visual Condition	Last Renovation	Seating Count	Type of Furnishing	Room Amenities	Technology	Lighting	Mechanical	Recommended Work/Cost	Cost
101 Town Hall	2048	Meeting Room	A	2005	100	executive board desks	Monitors, Cameras,	Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air @ Ceiling, Radiant @ ext. walls	Replace laminate surfaces: \$2,500 - 3,500	\$ 3,500	
102 Trustees	153	Office	B	2005	2	Desks, chairs		Ethernet	Rec. 2x4 T8 Fluorescent	Forced Air @ Ceiling, Radiant @ ext. walls	Repaint: \$500	\$ 500	
103 Storage	86	Storage	B	2005		Shelving	Election Equipment		Rec. 2x4 T8 Fluorescent	FA Ceiling	Replace stained ceiling tiles: \$100	\$ 100	
104 Storage	62	Storage	B	2005		Shelving			Rec. 2x4 T8 Fluorescent	FA Ceiling	Replace ceiling tiles & grid: \$300	\$ 300	
105 Vestibule	103	Entry	A				Vending		Rec. 2x4 T8 Fluorescent	Wall Cabinet	Replace Floor Tile, Add walk-off type carpet: \$1,500	\$ 1,500	
106 Vestibule	103	Entry	A				Municipal Information boards		Rec. 2x4 T8 Fluorescent	Wall Cabinet	Replace Floor Tile, Add walk-off type carpet: \$1,500	\$ 1,500	
107 Lobby	1188	Entry	A	2003 Carpet tile	4	Tables, chairs	Security Gate, Display Cases		Surface mt. 2x2 fluor. fixtures, & low-voltage	Forced Air	Replace Floor tile: \$3,500	\$ 3,500	
<b>TOTAL SQUARE FEET</b>	<b>3743</b>				<b>TOTAL SEATING COUNT -</b>	<b>106</b>						<b>TOTAL COST</b>	<b>\$ 10,900</b>

Note: Does not reflect interior wall reconfiguration which may occur based on departmental relocations.