



Request for Proposal (RFP)

City Hall Project: Front Steps, Basement Room Closure, Electrical Service Panels, HVAC Units, Construction Plans, Backup Generator, Building Management System, HVAC Zoning Equipment, and Large Picture Window Replacement

Issued: July 25, 2024

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1. Introduction

The City of Owosso is seeking proposals from qualified general contractors for comprehensive updates and repairs to the City Hall building. The scope of work includes front steps repair,

closing off basement rooms, replacement of electrical service panels and HVAC units, providing construction plans, replacing the backup generator, installing a building management system, and updating HVAC zoning equipment.

2. Project Overview

The Owosso City Hall building, located at 301 W Main St, requires significant updates to ensure safety, functionality, and efficiency. The project includes:

- Repairs and updates to the front steps
- Closure and filling of basement rooms
- Replacement and redesign of electrical service panels
- Replacement of HVAC units
- Provision of construction plans
- Replacement of the backup generator
- Installation of a building management system
- Updates to the air balancing and HVAC zoning equipment
- Replace large picture window on staircase between 1st and 2nd floor.

3. Scope of Work

A. Front Steps

- Remove and replace stair treads at North Entrance.
- Rake mortar joints and install sealant at all joints.
- Miscellaneous tuck-pointing and stone patching at limestone cheek walls.
- Hot water power wash existing treads, cheek walls, and limestone entrance.
- Replace concrete sidewalks from main steps at building to curb with three (3) steps, approximately thirty feet in length with rebar reinforcement. Install six-inch thick non-reinforced concrete with a curb along the sides on the top section and around the island surrounding the flag pole area. Existing concrete removal and subgrade prep included. Place 4 inches of compacted class II sand beneath all proposed concrete. Coordinate work activities within the Main Street (M-21) right-of-way with the Michigan Department of Transportation (MDOT).
- Install concrete blocks in basement doorway to seal the opening to the basement room under the front steps. Cut holes in the top of the basement and fill the entire annular space with flowable concrete (approx. 37 cubic yards) to the ceiling.
- Excavate around the existing flag pole base, re-level, and pour a new concrete foundation.
- Restore landscaping and grass.

B. Close off Basement Room (west side of building facing river)

- Close off and fill the basement room that supports generator and HVAC units (2).
- Masonry block infill of the existing door entranceway to the storage area.

- Core holes through the existing roof slab at several locations.
- Place lightweight flowable concrete through roof holes to entirely fill the storage space below.
 - NOTE: This will need to be installed in three lifts, 24-hours apart, to reduce lateral pressure on block infill at the doorway and existing walls.
- Relocate any active infrastructure serving the building.

C. Replace and Redesign Electrical Service Panels in Basement

- Update, consolidate, and replace all service panels in the former boiler room to bring the building's service to current electrical code.

D. Replace HVAC Units

- Replace 10 ton RTU and 5 ton RTU atop the existing basement room supporting old RTUs and Generator.
 - NOTE: West side basement room project will need to be completed first.
- Insulate supply air ducting from replacement RTUs.
- Replace 5 ton RTU on the first floor roof above the City Engineer's office. Insulate supply air ducting.
- Replace 10 ton RTU on the roof of the top floor. Insulate supply air ducting.

E. Construction Plans

- Provide mechanical and architectural drafting services for City Hall. The building is approximately 15,000 square feet and consists of three levels. The architectural drafting services will consist of drafting the existing building plans into an AutoCAD background. This will be required to provide mechanical drawings.

F. Replace Backup Generator

- Remove the existing generator.
- Replace with a 125kva/100kw natural gas generator.
 - NOTE: West side basement room project will need to be completed first.
- Replace transfer switch in the same basement room as electrical service panels where the current switch is located.

G. Building Management System

- Install a building management system for the new HVAC system.

H. Update City Hall Air Balancing and HVAC Zoning Equipment

- Use air balancing report to remove and replace diverters and zoning equipment in the City Hall duct system.
- Replace or remove nonfunctioning air duct components. Replace where needed.
- Check existing diffusers and replace if necessary.
 - NOTE: Air balancing report included in RFP for reference.

G. Replace Picture Window in Staircase

- Procurement and installation of one window assembly consisting of several windows affixed together to be set as one unit. Appearance of a picture type window (as viewed from outside)
 - The window assembly will consist of mahogany-stained oak wood interior with aluminum-clad exterior, brown or dark bronze exterior painted finish.
 - Total window assemble will consist of a total of six (6) full-frame window units attached together as one unit (as viewed from exterior). Set into place.
 - Exterior sill and transition pieces for the opening will have an aluminum-wrapped exterior with brown or dark bronze-painted finish matching existing exterior window trim.
 - All windows shall have a glass rating of low-e4 panels with an energy star certification or equivalent.
 - Upper row of window assemble will be of stationary operation picture windows with internal blinds between the glass.
 - Lower window assembly will be lockable, double-hung sash type windows that can be raised from the bottom or lowered for the top. Tilt-in for maintenance. Internal blinds between glass with removable screens.

4. Additional Services

Any additional services after acceptance of proposal will be administered as a Contract Amendment that must be approved by City Council, and after ordered by Purchase Order, prior to the start of any additional work.

5. Proposal Requirements

Proposals should include the following information

- Company profile and experience.
- Detailed project approach and methodology.
- Itemized cost estimate.
- Proposed schedule.
- References from similar projects.
- Proof of insurance and bonding.
- Any additional information relevant to the project.

6. Evaluation Criteria

Proposals will be evaluated based on the following criteria:

- Experience and qualifications.
- Quality of proposal and project approach.
- Cost competitiveness.

- Proposed schedule.
- References and past performance.
- Completeness of proposal submission

7. Submission Instructions

Contractor must submit four (4) copies of written proposals to the City of Owosso Clerk's Office no later than 3:00 p.m., Tuesday, September 10, 2024 to be considered. Please include within your proposal, a brief letter of understanding and scope of services that will be performed under this agreement. Please include information regarding firm background and experience relative to this project's scope of work. Please include any specialized knowledge and qualifications that are specific to this project. Contractor's proposal should include:

- Contractor's team members and role.
- Contractor's familiarity with projects of this type with examples (three maximum) of similar projects.
- Contractor to affirm that given current workload and current capacity, how it may accomplish the project within the required time period.
- Level of Effort Estimate with classification and hour distribution of each team member, in tabular form.
- Critical Path Bar Schedule of all phases of this project. Schedule should anticipate Contractor receiving its Notice-to-Proceed on or around October 8, 2024. Schedule should include logical task process from project initiation through project closeout, with important milestones and critical dates.
- Cost Proposal identifying all costs for services offered as outlined in this proposal, plus any other anticipated costs (list as optional) that Contractor believes should be added to complete services to the City.
 - **NOTE: Must break down cost proposal by component as laid out in Section 3: Scope of Work**

8. Schedule

- RFP Issued: July 25, 2024
- Pre-Proposal Meeting: August 8, 2024 (3:00 PM @ Owosso City Hall, 301 W Main Street
- Deadline for Questions: August 20, 2024
- Proposal Submission Deadline: September 10, 2024 at 3:00 P.M.
- Evaluation and Selection: September 20, 2024
- Project Start Date: October 8, 2024

9. Terms and Conditions

- The City reserves the right to reject any or all proposals.

- The City is not responsible for any costs incurred in the preparation of proposals.
- All proposals become the property of the City upon submission.
- The successful bidder will be required to enter into a contract with the City

10. Insurance and Hold Harmless

To the fullest extent permitted by law the Contractor agrees to defend, pay on behalf of, indemnify, and hold harmless the City of Owosso, its elected and appointed officials, employees, agents and volunteers, and others working on behalf of the City of Owosso against any and all claims, demands, suits, or loss, including all costs connected therewith, and for any damages which may be asserted, claimed, or recovered against or from the City of Owosso, by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof, for all actions of the Contractor.

Contractor shall not commence work until a contract is approved by City Council and they have obtained the insurance required under this paragraph and shall keep such insurance in force during the entire life of this contract. All coverage shall be with insurance companies licensed and admitted to do business in the State of Michigan and acceptable to the City of Owosso. The requirements below should not be interpreted to limit the liability of Contractor. All deductibles and SIRs are the responsibility of Contractor. Contractor shall procure and maintain the following insurance coverage:

- Worker's Compensation Insurance including Employers' Liability Coverage, in accordance with all applicable statutes of the State of Michigan.
- Commercial General Liability Insurance on an "Occurrence Basis" with limits of liability not less than \$1,000,000 per occurrence and aggregate. Coverage shall include the following extensions: (A) Contractual Liability; (B) Products and Completed Operations; (C) Independent Contractors Coverage; (D) Broad Form General Liability Extensions or equivalent, if not already included. (E) Explosion, collapse, and underground (XCU) coverage, if applicable. Limits may be obtained by the use of primary and excess/umbrella liability policies.
- Automobile Liability including Michigan No-Fault Coverages, with limits of liability not less than \$1,000,000 per occurrence, combined single limit for Bodily Injury, and Property Damage. Coverage shall include all owned vehicles, all non-owned vehicles, and all hired vehicles.
- Owners' and Contractor Protective Liability: The Contractor shall procure and maintain during the life of this contract, a separate Owners' and Contractor's Protective Liability Policy with limits of liability not less than \$1,000,000 per occurrence and aggregate for Personal Injury, Bodily Injury, and Property Damage. The City of Owosso shall be the "Named Insured" on said coverage.
- Additional Insured: Commercial General Liability and Automobile Liability as described above shall include an endorsement stating the City of Owosso shall be listed as additional insured. It is understood and agreed by naming the City of Owosso as additional insured, coverage afforded is considered to be primary and any other insurance the City of Owosso may have in effect shall be considered secondary and/or excess.

- Cancellation Notice: All policies, as described above, shall include an endorsement stating that is it understood and agreed Thirty (30) days, Ten (10) days for non-payment of premium, Advance Written Notice of Cancellation, shall be sent to: **(The City of Owosso, Terri Sinn, Insurance Coordinator, 301 W. Main Street, Owosso, MI 48867).**
- Proof of Insurance Coverage: Contractor shall provide the City of Owosso at the time that the contracts are returned by him/her for execution, a Certificate of Insurance as well as the required endorsements. In lieu of required endorsements, if applicable, a copy of the policy sections where coverage is provided for additional insured and cancellation notice would be acceptable.

If any of the above coverages expire during the term of this contract, the Contractor shall deliver renewal certificates and endorsements to the City of Owosso at least ten (10) days prior to the expiration date.

11. Bonds

A performance bond in the amount of 100% of the proposal shall be on file with the city before work commences.

11. Contact Information

For questions or additional information, contact:

Nathan Henne
City Manager
989-725-0568
nathan.henne@ci.owosso.mi.us

APPENDIX A

Proposal Submission Form

City of Owosso - City Hall Project Submission Form for Bidders

Project Title: City Hall Project

Issued By: City of Owosso

Issued Date: July 25, 2024

Submission Deadline: September 10, 2024 at 3:00 PM

Bidder Information

Company Name:	
Contact Person:	
Address:	
Phone Number:	
Email Address:	

Project Components Cost Breakdown

A. Front Steps	\$
B. Close Off Basement Room	\$
C. Replace and Redesign Electrical Service Panels	\$
D. Replace HVAC Units	\$
E. Construction Plans	\$
F. Replace Backup Generator	\$
G. Building Management System	\$
H. Update City Hall Air Balancing and HVAC Zoning Equipment	\$
I. Replace Picture Window in Staircase	\$
Total Project Cost	\$

Additional Information Required

1. Company Profile and Experience
2. Detailed Project Approach and Methodology
3. Proposed Schedule

***Note:** Critical Path Bar Schedule of all phases of this project. Schedule should anticipate Contractor receiving its Notice-to-Proceed on or around October 8, 2024. Schedule should include logical task process from project initiation through project closeout, with important milestones and critical dates.*

4. References from Similar Projects
5. Proof of Insurance and Bonding
6. Any Additional Information Relevant to the Project

Submission Instructions

- Please submit four (4) copies of your proposal to the City of Owosso Clerk’s Office no later than 3:00 PM on Tuesday, September 10, 2024.
- Contact Information for Submission:
 - Nathan Henne
City Manager
Phone: 989-725-0568
Email: nathan.henne@ci.owosso.mi.us

Signature:

Authorized Representative	
Signature:	
Date:	

APPENDIX B

Scoring Rubric

(city staff use only – provided for disclosure)

City of Owosso - City Hall Project Submission Scoring Rubric

Scoring Criteria and Weights

Criteria	Weight (%)
Total Project Cost	40%
Company Experience	20%
Project Approach and Methodology	20%
Proposed Schedule	10%
References from Similar Projects	10%

Detailed Scoring Breakdown

Total Project Cost (40%)

Score Range: 0-40

Description: Evaluation of the total cost proposed for the project. The lower the cost, the higher the score.

Company Experience (20%)

Score Range: 0-20

Description: Evaluation of the company's experience and track record with similar projects. Includes assessment of past performance, completion of projects on time and within budget, and relevant qualifications.

Project Approach and Methodology (20%)

Score Range: 0-20

Description: Assessment of the proposed approach and methodology for completing the project. This includes the logical sequence of tasks, understanding of the project scope, and innovative solutions.

Proposed Schedule (10%)

Score Range: 0-10

Description: Evaluation of the proposed schedule including the critical path bar schedule. Consideration of the feasibility and realistic nature of the timeline provided, including important milestones and critical dates.

References from Similar Projects (10%)

Score Range: 0-10

Description: Quality and relevance of references provided from similar projects. Includes feedback from past clients and the overall satisfaction with the company's performance.

Scoring Guidelines

0-40 Points (Total Project Cost): Proposals with the lowest cost will receive the highest points. Costs should be clearly itemized and justified.

0-20 Points (Company Experience): Points will be awarded based on the number and

similarity of completed projects, client testimonials, and any awards or recognitions received.

0-20 Points (Project Approach and Methodology): Clear, detailed, and logical approaches will receive higher scores. Innovative and efficient methodologies will be favored.

0-10 Points (Proposed Schedule): Realistic, well-structured schedules that align with the project's critical path and deadlines will score higher.

0-10 Points (References from Similar Projects): Strong, positive references from similar projects will score higher. Recent projects are preferred.

Total Score Calculation:

The total score for each submission will be calculated by summing the weighted scores for each criterion. The proposal with the highest total score will be considered the most favorable.

Project scoring will be conducted by a review team of city staff selected by the City Manager.

This scoring rubric ensures that the evaluation process is transparent, fair, and emphasizes the key components necessary for the successful completion of the City Hall project.

APPENDIX C

Air Balancing Report (TAB Report)

Ener-Tech Testing

Independent TAB Services
NEBB Certification # 3486

4221 East Baldwin Road - Holly, MI 48442
(810) 579-5000 FAX: (810) 579-2664

Owosso City Hall Pre-demo Readings

Owosso, Michigan



Date: 2/13/2024
Test and Balance Report

Ener-Tech Testing

Summary of Balancing Reports
NEBB Certification Number: 3486

Project:	Owosso City Hall		
Location:	301 West Main st. Owosso, MI 48867		
Engineer:			
Contractor:	William E. Walter	Date:	02/13/24
Tests were evaluated by:	Lee Marshall	Job No:	1523-24
Tests were performed by:	Mickey Denver		

Index #	System Description	
1	RTU	Second Floor Supply
2	RTU	First Floor East Supply
3	RTU	First Floor West Supply
4	RTU	Basement Supply
5	Furn	Second Floor IT Room Supply
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		
25		
26		
27		
28		

Ener-Tech Testing

NEBB Certification #3486

Air Apparatus Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: Second Floor Supply

Location: Roof

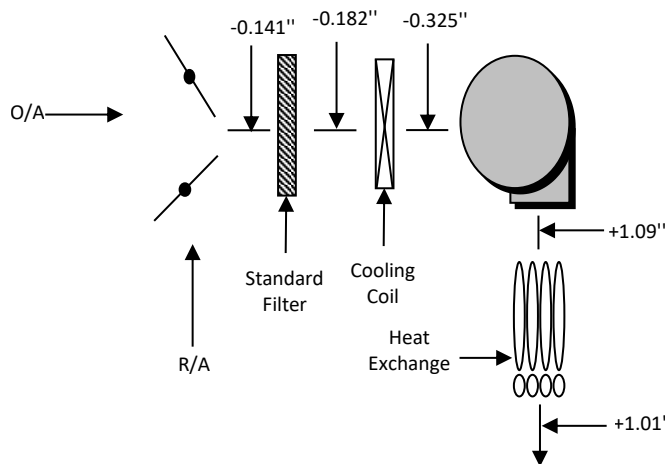
Fan / Unit Data		
Make	Trane	
Model	YCD120B4HAEB	
Type / Size	~	~
Class/Arrangement	~	~
Serial Number	P42103977D	
Discharge	~	
Fan Drive Information		
Sheave Diameter	BK85	
Shaft Size(Bushing)	1"	
No. Belts/Size	1	BX62

Motor Data		
Manufacturer	Marathon	
H.P. / Amps	2.00	3.1
Ph./Hertz/Volts	3	60 460
Frame / RPM	56HZ-80	1725
Ser. Factor/P. F.	1.15	~
Efficiency:	~	
Motor Drive Information		
Sheave Diameter	AK45 Fixed	
Shaft Size (Bushing)	7/8"	
CL to CL Distance	21-1/2"	
Motor Adjustment	+ 0	- 0

Test Data	Design	Actual	
Total CFM	~	1676	
Return Air CFM	~	1500	
Minimum OA CFM	~	176	
Total S.P.	~	1.415"	
External S.P.	~	1.150"	
Fan RPM	~	885	
Brake Horsepower	~	1.93	
Electrical Test Data			
Motor Amps T1 T2 T3	2.70	2.80	2.80
Motor Volts T1 T2 T3	500	497	497
V.F.D. Setting	~		
Motor Frequency	~		
Thermal Overloads	Thermally Protected		

Test Data	Design	Actual
Fan Discharge S.P.	~	+1.090"
Fan Suction S.P.	~	+0.325"
Total S.P.	~	+1.415"
Component Pressure Drops		
Filter:	~	0.041"
Coil:	~	0.143"
HTX:	~	0.080"
Test Conditions		
Return Air Damper	~	~
Outside Air Damper	~	~
Relief Air Damper	~	~

Remarks/Schematics:



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Ener-Tech Testing

NEBB Certification #3486

Duct Traverse Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: Second Floor Supply

Location: Roof

Traverse Description:	Minimum Outdoor Air Data											
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	42	12	~			~		56			176	
Square Ft.:	3.150						D.S.P. @ Reading					
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1	32	60	76									
2												
3												
4												
5												

Traverse Description:												
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	~	~	~			~		~			~	
Square Ft.:	~						D.S.P. @ Reading			~		
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												

Remarks/Schematics:

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Ener-Tech Testing

NEBB Certification #3486

Air Apparatus Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: First Floor East

Location: Roof

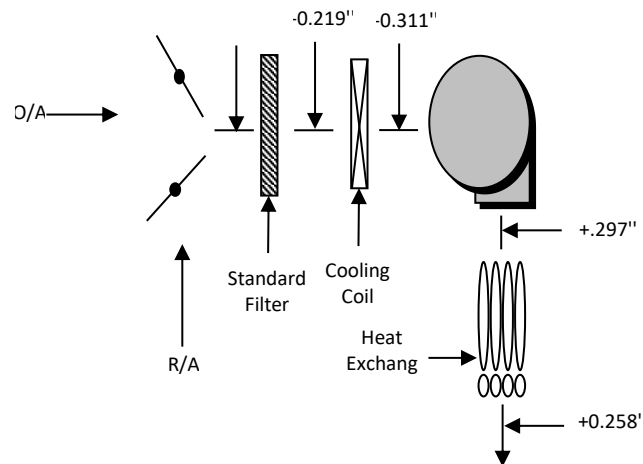
Fan / Unit Data	
Make	Trane
Model	YCH060C4H0BF
Type / Size	~ ~
Class/Arrangement	~ ~
Serial Number	P41103258D
Discharge	~
Fan Drive Information	
Sheave Diameter	Direct Drive
Shaft Size(Bushing)	
No. Belts/Size	

Motor Data		
Manufacturer	~	
H.P. / Amps	0.60	2.5
Ph./Hertz/Volts	1	60 460
Frame / RPM	~	~
Ser. Factor/P. F.	~	~
Efficiency:	~	
Motor Drive Information		
Sheave Diameter	Direct Drive	
Shaft Size (Bushing)		
CL to CL Distance		
Motor Adjustment		

Test Data	Design	Actual
Total CFM	~	1464
Return Air CFM	~	1315
Minimum OA CFM	~	149
Total S.P.	~	0.608"
External S.P.	~	0.477"
Fan RPM	~	1630
Brake Horsepower	~	0.39
Electrical Test Data		
Motor Amps T1 T2 T3	~	1.50 ~
Motor Volts T1 T2 T3	~	499 ~
V.F.D. Setting	~	
Motor Frequency	~	
Thermal Overloads	Thermally Protected	

Test Data	Design	Actual
Fan Discharge S.P.	~	+0.297"
Fan Suction S.P.	~	+0.311"
Total S.P.	~	+0.608"
Component Pressure Drops		
Filter:	~	None
Coil:	~	0.092"
HTX:	~	0.039"
Test Conditions		
Return Air Damper	~	~
Outside Air Damper	~	~
Relief Air Damper	~	~

Remarks/Schematics:



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Ener-Tech Testing

NEBB Certification #3486

Duct Traverse Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: First Floor East

Location: Roof

Traverse Description:	Minimum Outdoor Air Data											
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	40	12	~			~		50			149	
Square Ft.:	3.000						D.S.P. @ Reading					
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1	61	38	50									
2												
3												
4												
5												

Traverse Description:												
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	~	~	~			~		~			~	
Square Ft.:	~						D.S.P. @ Reading			~		
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												

Remarks/Schematics:

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Ener-Tech Testing

NEBB Certification #3486

Air Apparatus Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: First Floor West

Location: Ground

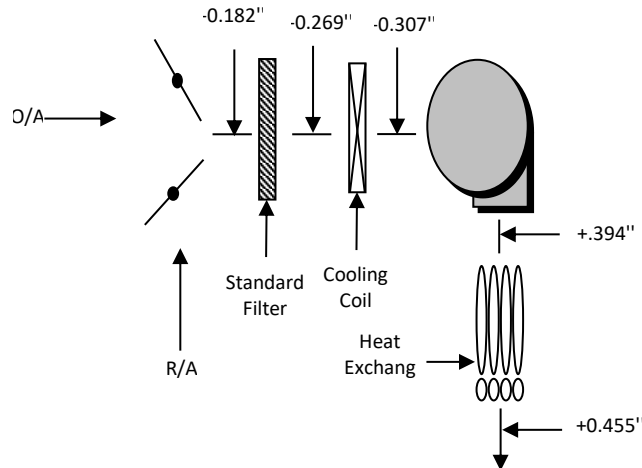
Fan / Unit Data	
Make	Trane
Model	YCH060C4H0BF
Type / Size	~ ~
Class/Arrangement	~ ~
Serial Number	P41103200D
Discharge	~
Fan Drive Information	
Sheave Diameter	Direct Drive
Shaft Size(Bushing)	
No. Belts/Size	

Motor Data		
Manufacturer	~	
H.P. / Amps	0.60	2.5
Ph./Hertz/Volts	1	60 460
Frame / RPM	~	~
Ser. Factor/P. F.	~	~
Efficiency:	~	
Motor Drive Information		
Sheave Diameter	Direct Drive	
Shaft Size (Bushing)		
CL to CL Distance		
Motor Adjustment		

Test Data	Design	Actual
Total CFM	~	1402
Return Air CFM	~	1262
Minimum OA CFM	~	140
Total S.P.	~	0.701"
External S.P.	~	0.637"
Fan RPM	~	1624
Brake Horsepower	~	0.18
Electrical Test Data		
Motor Amps T1 T2 T3	~	0.70 ~
Motor Volts T1 T2 T3	~	497 ~
V.F.D. Setting	~	
Motor Frequency	~	
Thermal Overloads	Thermally Protected	

Test Data	Design	Actual
Fan Discharge S.P.	~	+0.394"
Fan Suction S.P.	~	+0.307"
Total S.P.	~	+0.701"
Component Pressure Drops		
Filter:	~	0.087"
Coil:	~	0.038"
HTX:	~	0.061"
Test Conditions		
Return Air Damper	~	~
Outside Air Damper	~	~
Relief Air Damper	~	~

Remarks/Schematics:



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Ener-Tech Testing

NEBB Certification #3486

Duct Traverse Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: First Floor West

Location: Roof

Traverse Description:	Minimum Outdoor Air Data											
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	40	12	~			~		47			140	
Square Ft.:	3.000						D.S.P. @ Reading					
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1	25	36	79									
2												
3												
4												
5												

Traverse Description:												
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM	
Duct Size:	~	~	~			~		~			~	
Square Ft.:	~						D.S.P. @ Reading			~		
Reading Description:			Alt. in Ft @ Reading			~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12
1												
2												
3												
4												
5												

Remarks/Schematics:

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Ener-Tech Testing

NEBB Certification #3486

Air Apparatus Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: Basement

Location: Ground

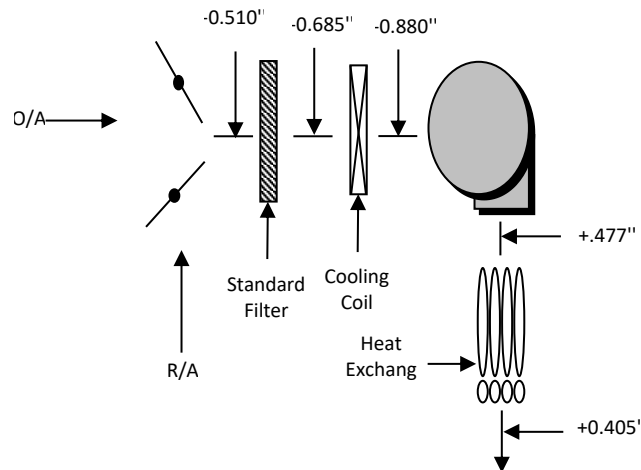
Fan / Unit Data	
Make	Trane
Model	YCH120B4H0EB
Type / Size	~ ~
Class/Arrangement	~ ~
Serial Number	P43102206D
Discharge	~
Fan Drive Information	
Sheave Diameter	BK72
Shaft Size(Bushing)	1"
No. Belts/Size	1 BX62

Motor Data	
Manufacturer	GE Motors
H.P. / Amps	3.00 4.6
Ph./Hertz/Volts	3 60 460
Frame / RPM	56HZ 1725
Ser. Factor/P. F.	~ ~
Efficiency:	~
Motor Drive Information	
Sheave Diameter	8450L at Min
Shaft Size (Bushing)	7/8"
CL to CL Distance	22"
Motor Adjustment	+ 0 - 0

Test Data	Design	Actual
Total CFM	~	3683
Return Air CFM	~	3589
Minimum OA CFM	~	94
Total S.P.	~	1.357"
External S.P.	~	0.915"
Fan RPM	~	808
Brake Horsepower	~	3.33
Electrical Test Data		
Motor Amps T1 T2 T3	4.70 4.60	4.80
Motor Volts T1 T2 T3	497 501	499
V.F.D. Setting	~	
Motor Frequency	~	
Thermal Overloads	Thermally Protected	

Test Data	Design	Actual
Fan Discharge S.P.	~	+0.477"
Fan Suction S.P.	~	+0.880"
Total S.P.	~	+1.357"
Component Pressure Drops		
Filter:	~	0.175"
Coil:	~	0.195"
HTX:	~	0.072"
Test Conditions		
Return Air Damper	~	~
Outside Air Damper	~	~
Relief Air Damper	~	~

Remarks/Schematics:



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Ener-Tech Testing

NEBB Certification #3486

Duct Traverse Test Report

Project: Owosso City Hall

Unit Number: RTU

Area Served: Basement

Location: Ground

Traverse Description:	Minimum Outdoor Air Data														
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM				
Duct Size:	34	12	~			~		37			94				
Square Ft.:	2.550								D.S.P. @ Reading						
Reading Description:							Alt. in Ft @ Reading		~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12			
1	28	40	42												
2															
3															
4															
5															

Traverse Description:															
	Width	Height	Design CFM			Design FPM		Achieved FPM			Achieved CFM				
Duct Size:	~	~	~			~		~			~				
Square Ft.:	~								D.S.P. @ Reading			~			
Reading Description:							Alt. in Ft @ Reading		~		Temp. @ Reading (Deg. F)			~	
Position	1	2	3	4	5	6	7	8	9	10	11	12			
1															
2															
3															
4															
5															

Remarks/Schematics:

Index:	4
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Date:	2/13/2024

Ener-Tech Testing

NEBB Certification #3486

Air Apparatus Test Report

Project: Owosso City Hall

Unit Number: Furnace

Area Served: Second Floor IT Room

Location: Above Ceiling

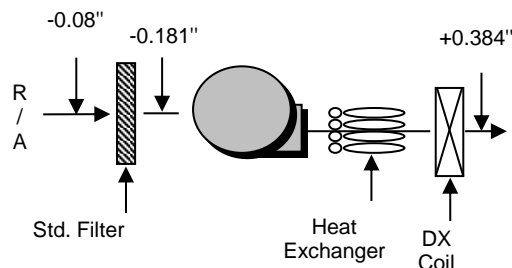
Fan / Unit Data	
Make	Bryant
Model	376CAV048096AGJA
Type / Size	~ ~
Class/Arrangement	~ ~
Serial Number	3099A20312
Discharge	~
Fan Drive Information	
Sheave Diameter	Direct Drive
Shaft Size(Bushing)	
No. Belts/Size	

Motor Data		
Manufacturer	~	
H.P. / Amps	0.50	10.2
Ph./Hertz/Volts	1	60 115
Frame / RPM	~	~
Ser. Factor/P. F.	~	~
Efficiency:	~	
Motor Drive Information		
Sheave Diameter	Direct Drive	
Shaft Size (Bushing)		
CL to CL Distance		
Motor Adjustment		

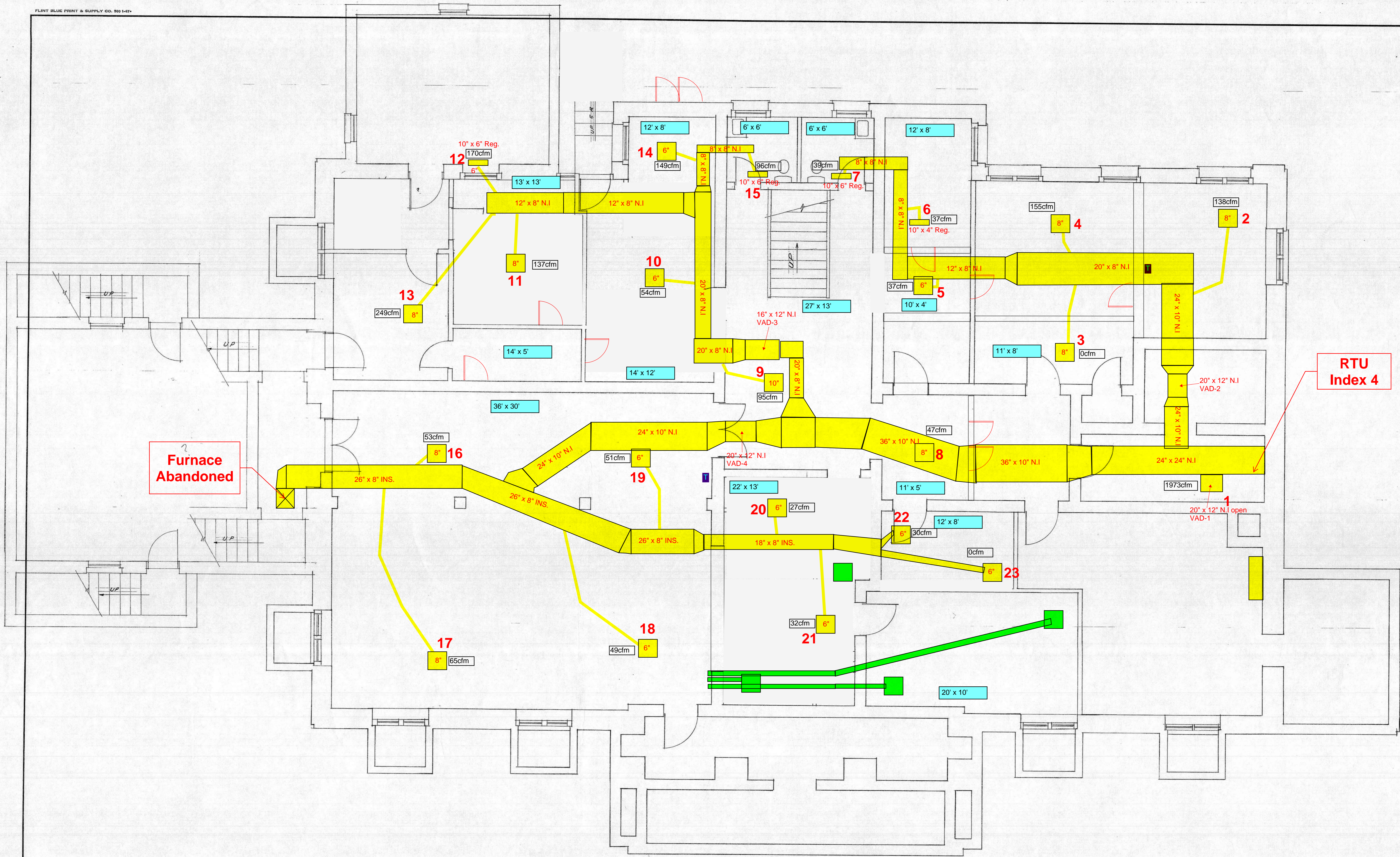
Test Data	Design	Actual
Total CFM	~	1163
Return Air CFM	~	1163
Minimum OA CFM	~	~
Total S.P.	~	0.565"
External S.P.	~	0.464"
Fan RPM	~	~
Brake Horsepower	~	0.19
Electrical Test Data		
Motor Amps T1 T2 T3	~	3.60 ~
Motor Volts T1 T2 T3	~	126 ~
V.F.D. Setting	~	
Motor Frequency	~	
Thermal Overloads	Thermally Protected	

Test Data	Design	Actual
Fan Discharge S.P.	~	+0.384"
Fan Suction S.P.	~	+0.181"
Total S.P.	~	+0.565"
Component Pressure Drops		
Filter:	~	.101"
Coil:	~	~
HTX:	~	~
Test Conditions		
Return Air Damper	~	100%
Outside Air Damper	~	~
Relief Air Damper	~	~

Remarks/Schematics:



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Page:	1
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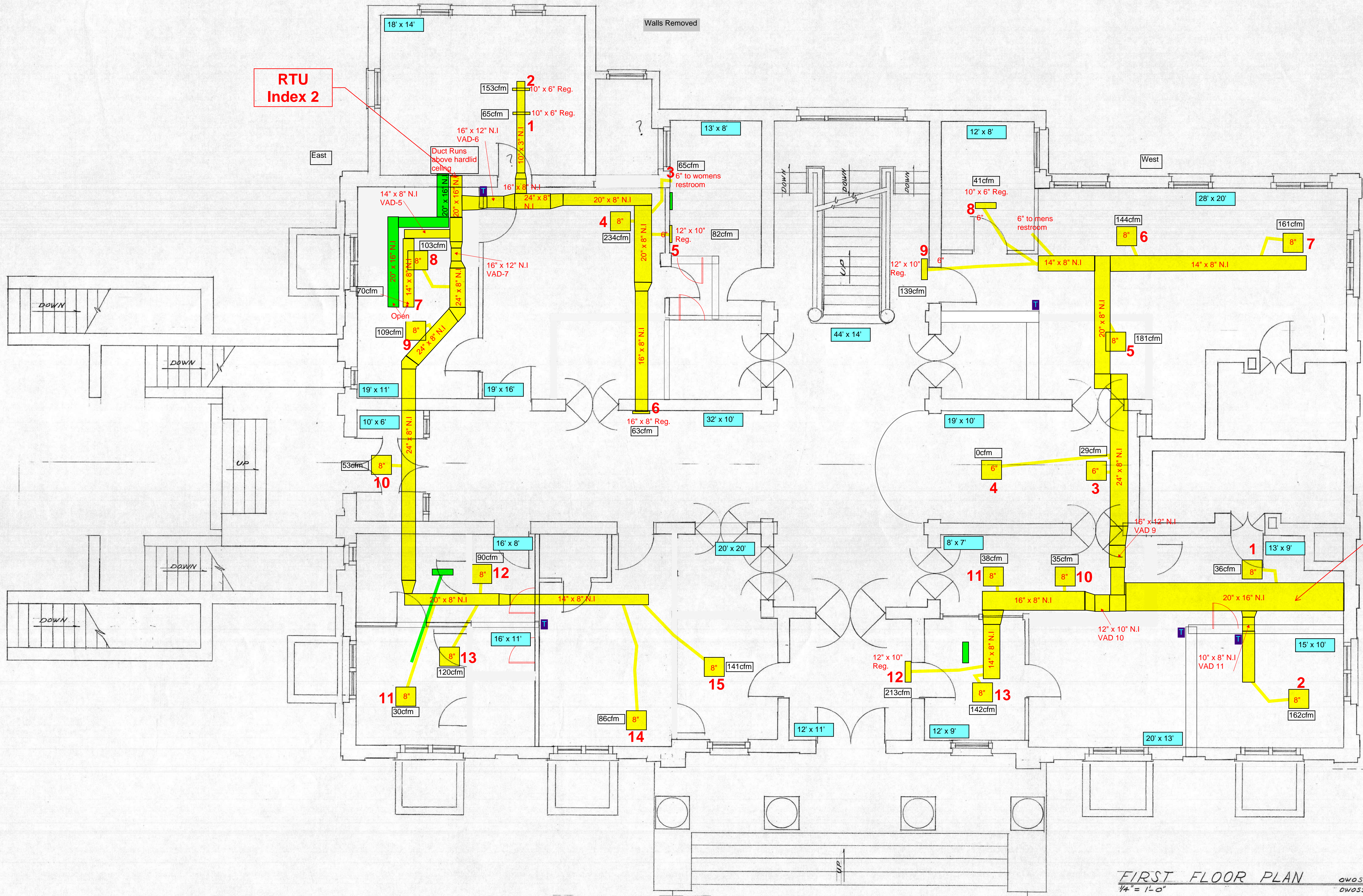


Furnace Abandoned

RTU Index 4

Room Size

BASEMENT FLOOR PLAN
1/8" = 1'-0"



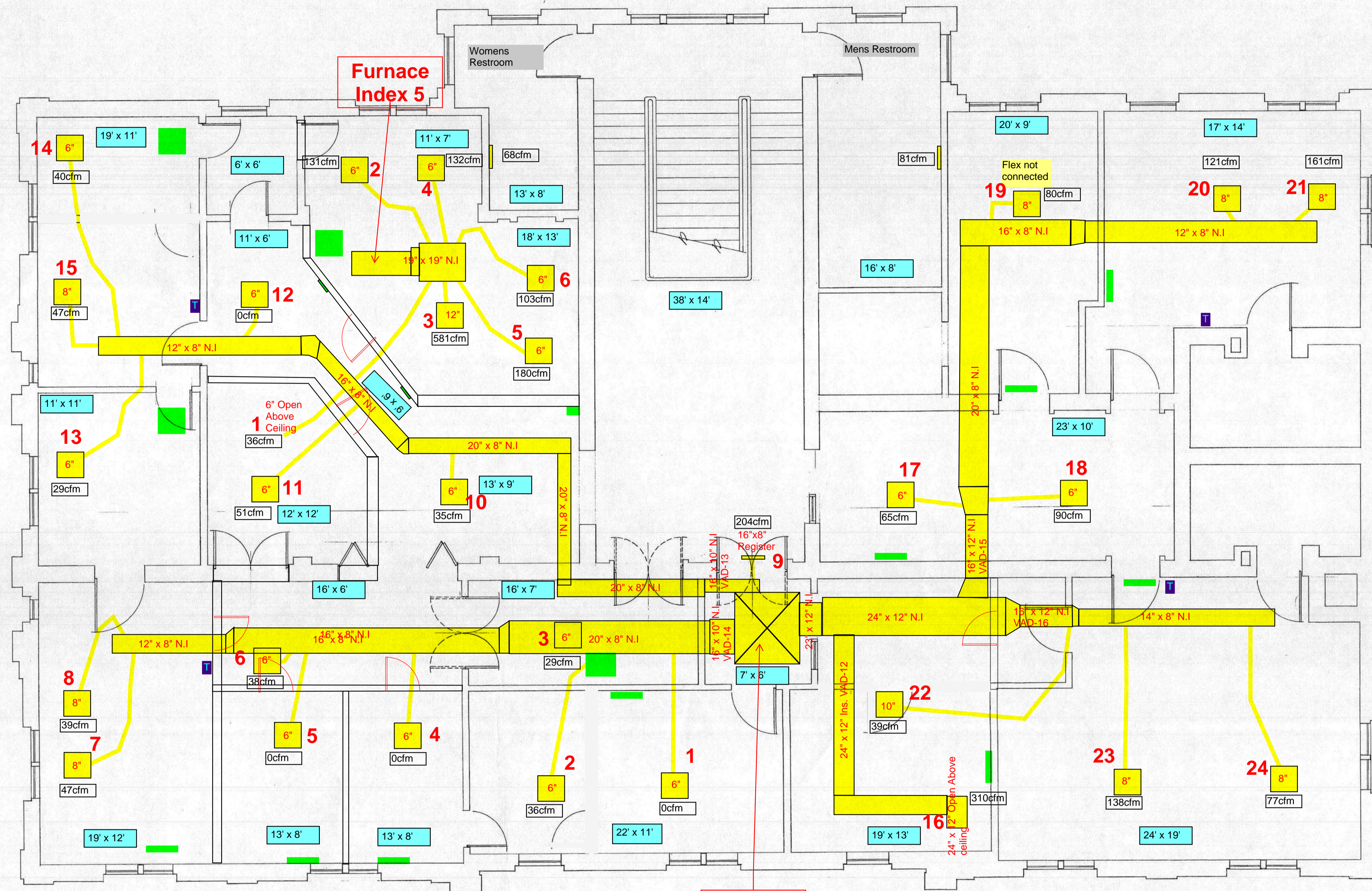
RTU Index 2

RTU Index 3

FIRST FLOOR PLAN
1/4" = 1'-0"
OWOSSO CITY HALL
OWOSSO, MICHIGAN

Room Size

DRAWN BY RAR	COMM. NO.	gibbs, tomblinson & harburn ARCHITECTS 705 KELSO ST. FLINT, MICHIGAN 48906 PHONE 767-5600	SHEET NO. 2
CHECK BY DT	DATE 9-18-07		OF 3



Furnace
Index 5

RTU
Index 1

SECOND FLOOR PLAN - ONOSSO CITY HALL
1/4" = 1'-0"

Room Size

APPENDIX D

Basement Room Structural Report - 2020 (Below Generator)

NOTE: For reference only

MEMORANDUM



To: Glenn M. Chinavare – Director of Public Services
City of Owosso, Michigan

Subject: Basement Storage Room – Structural Evaluation

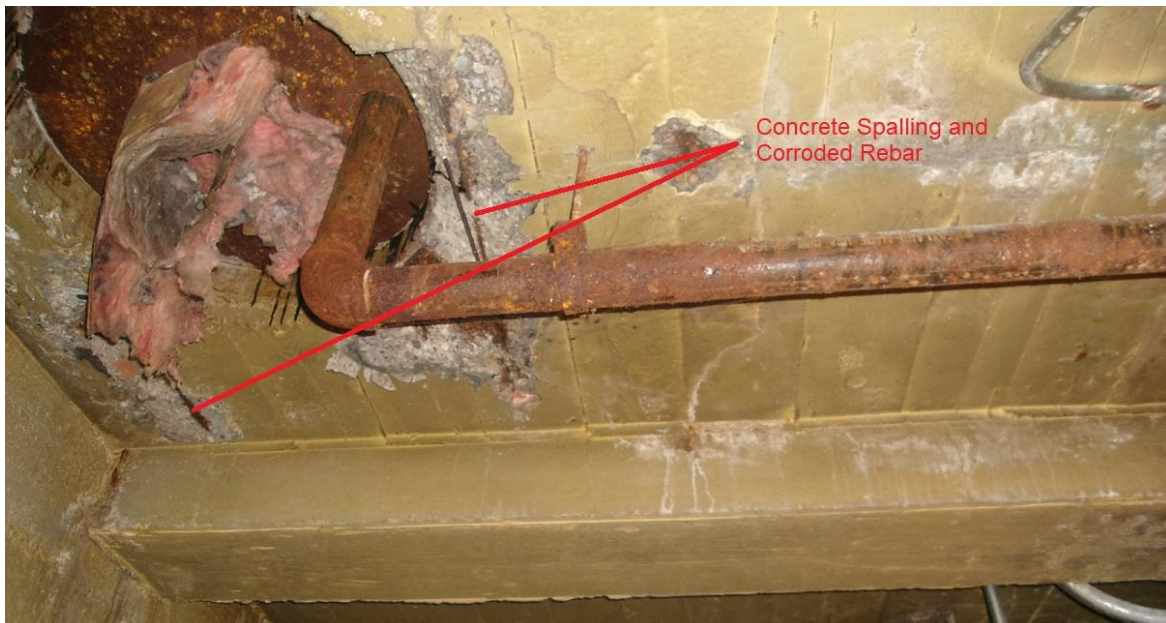
From: Aaron J Davenport, PE

Date: April 3, 2020

Introduction

Jon P. Nassaux, PE and Aaron J. Davenport, PE of Jones & Henry Engineers, Ltd visited the Owosso City Hall on March 16, 2020, to review the structural condition of the basement storage room. In the past the storage room served as a coal storage room and was constructed with cast-in-place concrete walls and cast-in-place concrete ceiling/roof. The roof is supported by four integral concrete beams. The roof supports two exterior HVAC units and a standby generator. The review included a visual inspection of the physical condition of concrete walls, roof slab and roof beams.

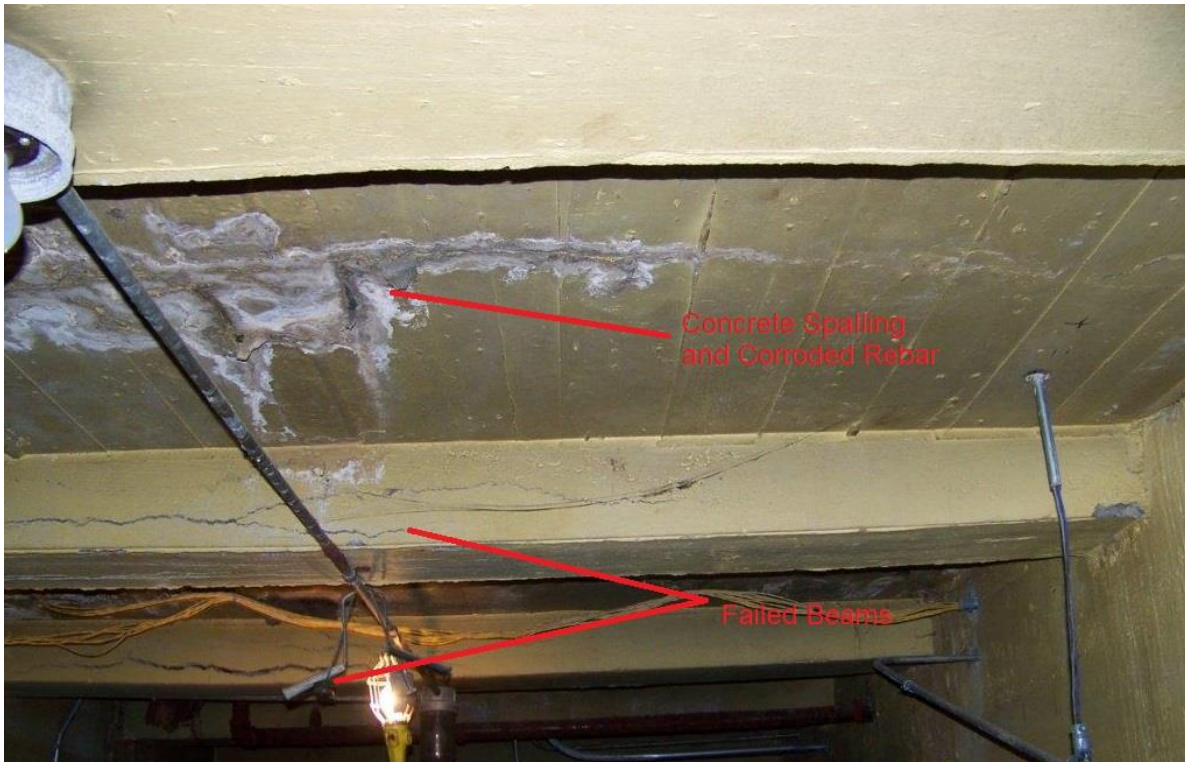
Prior to the inspection, maintenance personnel informed us that the room has been leaking water for some time. During the inspection, it was discovered that the roof slab was cracked and spalling concrete in several locations, exposing reinforcing bars.





City of Owosso, Michigan
Basement Storage Room – Structural Evaluation

Three of the four beams were cracked. Two of the beams were severely cracked to the point that they could not be repaired by patching or epoxy injection. These beams are damaged to the extent that they no longer have any structural viability.



It was evident that, over time, water has migrated into the concrete cracks and corroded the reinforcing within. Eventually the reinforcement corrosion expanded and increased the cracks widths to a degree that repair is not practical.

The walls of the room were sounded with a hammer and determined to be sound concrete. The walls are in good enough structural condition for continued use. The extent of the damage to the roof beams is such that the beams should be shored as soon as possible to protect personnel and the equipment above.

Restoration Options

After reviewing the plans and physical condition, we propose the following two (2) methods of restoring the structural viability:



City of Owosso, Michigan
Basement Storage Room – Structural Evaluation

Option 1:

Summary: Option 1 would provide adequate structural support for the equipment sitting above the coal room. This option would require that the storage area below be infilled with a lightweight structural fill to support the existing concrete slab. This option will support the roof beams, slab and the HVAC equipment above with the least amount of effort and expense, however the storage capacity of the room will be lost.

Work Items

- Shore roof beams to support HVAC units during construction.
- Masonry Block infill of the existing door entrance way to the storage area.
- Core holes through the existing roof slab at several locations.
- Place light weight flowable concrete through roof holes to entirely fill the storage space below.
 - Note – This will need to be installed in three lifts, 24-hours apart, to reduce lateral pressure on block infill at the doorway and existing walls

Estimated construction cost \$43,000

Option 2:

Summary: Option 2 maintains the storage area's functionality and provides a structurally sound support for the existing HVAC units and generator above. This option comes at a higher cost and has a longer construction period but will allow for the continued use of the space and will extend the useful life of this portion of City Hall.

Work Items

- Shore roof beams to support HVAC units during removal.
- Shore walls to support lateral soil loads while roof is removed.
- Remove HVAC units, generator, and associated equipment, piping, wiring, and ducts.
- Remove roof slab and beams.
- Install waterstop along the top perimeter of the walls.
- Seal any wall cracks that may allow leakage of water.
- Install new reinforced, cast-in-place concrete roof and equipment pads.
- Reinstall HVAC and generator equipment.

Estimated construction cost \$57,000.



Jones & Henry Engineers, Ltd.

City of Owosso, Michigan
Basement Storage Room – Structural Evaluation

Attachments: Engineer’s Opinion of Probable Cost – Option 1 and Option 2

Cc: Jon Nassaux, PE – Jones & Henry Engineers, Ltd.



ENGINEER'S ESTIMATE OF CONSTRUCTION COST

Jones & Henry Engineers, Ltd.
4791 Campus Drive
Kalamazoo, Michigan 49008

Phone (269)-353-9650

Fax (269)-353-9651

Client: City of Owosso
Project Name: City Hall - Basement Storage Area Structural Assessment
Project Location: Owosso, Michigan

Project Number: 012-7677.001

Date: 4/3/2020

Estimator/Engineer: JPN

Checked By: AJD

Type of Work: Option 1

Stage: Conceptual Preliminary Final

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
1	General Conditions	10	%	\$3,426.00	\$3,426.00
2	Beam Shoring, Permanent	6	EA	\$200.00	\$1,200.00
3	Door Infill - Block	28	SF	\$45.00	\$1,260.00
4	Roof Slab Coring	6	EA	\$50.00	\$300.00
5	Flowable Fill (Assumes 3 Lifts - 1 per day)	80	CY	\$393.75	\$31,500.00
Sub Total					\$37,686.00
Contingencies (15%)					\$5,652.90
Total Project Cost:					\$43,338.90



ENGINEER'S ESTIMATE OF CONSTRUCTION COST

Jones & Henry Engineers, Ltd.
4791 Campus Drive
Kalamazoo, Michigan 49008

Phone (269)-353-9650

Fax (269)-353-9651

Client: City of Owosso
Project Name: City Hall - Basement Storage Area Structural Assessment
Project Location: Owosso, Michigan
Type of Work: Option 2

Project Number: 012-7677.001
Date: 4/3/2020
Estimator/Engineer: JPN
Checked By: AJD
Stage: Conceptual Preliminary Final

Item No.	Description	Estimated Quantity	Unit	Unit Price	Amount
1	General Conditions	10	%	\$4,483.90	\$4,483.90
2	Slab Shoring, Temporary	6	EA	\$200.00	\$1,200.00
3	HVAC Equipment Removal	1	LS	\$4,200.00	\$4,200.00
4	Generator Removal	1	LS	\$2,500.00	\$2,500.00
5	Fencing Removal	66	LF	\$9.00	\$594.00
6	Wall Shoring, Temporary	4	EA	\$200.00	\$800.00
7	Equipment Pad Removal	103	CF	\$30.00	\$3,090.00
8	Ceiling Slab, Remove and Dispose	153	CF	\$45.00	\$6,885.00
9	Saw Cutting, Slab	100	LF	\$6.50	\$650.00
10	Waterstop	76	LF	\$5.00	\$380.00
11	Install Dowels	76	EA	\$36.00	\$2,736.00
12	Cast-In-Place Concrete Slab	8	CY	\$650.00	\$5,200.00
13	Cast-In-Place Equipment Pads	4	CY	\$315.00	\$1,260.00
14	Install Fencing	66	LF	\$9.00	\$594.00
15	HVAC Equipment, Installation	1	LS	\$8,500.00	\$8,500.00
16	Generator, Installation	1	LS	\$5,250.00	\$5,250.00
17	Damp Proofing	1	LS	\$1,000.00	\$1,000.00
Sub Total					\$49,322.90
Contingencies (15%)					\$7,398.44
Total Project Cost:					\$56,721.34