PIERCE COUNTY BUILDING COMMITTEE MEETING AGENDA Tuesday, April 16, 2019 – 9:45 a.m. Courthouse - County Board Room; 414 W. Main St. – Ellsworth, WI

#	Action	Presenter
	Call to order	
1.	1a) Establish quorum	Chair
	1b) Committee will receive public comment not related to agenda items	
2.	Establish and adopt agenda.	Members
3.	Approve minutes of the March 12, 2019 meeting	Members
4.	Discuss space needs	Forss
5.	Discuss remodeling project ideas	Forss
	Discuss / Take action on combining 2 Building Outlay line items of Bathrooms	
6.	(Fairgrounds) and Seyforth Building (Ceilings and Siding) into one line item	Forss
	labeled Fairgrounds Improvements	
7.	Discuss / Take action on the PCOB & Blue Building Exterior Work Projects	Forss
8.	Discuss / Take action on the dirt work for the bleacher project	Kelly
9.	Discuss / Take action on boiler control update in the LEC	Forss
10.	Discuss / Take action on Courthouse Foundation Drying	Forss
11.	Fairgrounds Keeper Report	Kelly
12.	Maintenance Supervisors' Report	Forss
13.	Future Agenda Items	Members
14.	Next Meeting Date (2 nd Tuesday: May 14th)	Members
15.	Adjourn	Members
A qu	orum of county board supervisors may be present.	4/10/19 cik

UNAPPROVED MINUTES OF THE BUILDING COMMITTEE MEETING HELD March 12, 2019 – 4:00 p.m.

STATE OF WISCONSIN COUNTY OF PIERCE County Board Room; Courthouse 414 W. Main St., ELLSWORTH, WI

Absent/Excused:

2019 - 02

1) Meeting Convened

The Pierce County Building Committee met in the County Board Room of the Pierce County Courthouse, Ellsworth, WI. Chairman Dan Reis called the meeting to order at 4:00 p.m.

1a) Those Present

A quorum was not initially established acknowledging 4 members present; 0 absent/excused.

Members present:

Mike KahlowDistrict #6Scott BjorkDistrict #7Dale AucklandDistrict #12Dan ReisDistrict #13Jerry KosinDistrict #15

Also present: Jerry Forss-Maintenance Supervisor, Matt Kelly-Fair Groundskeeper, Jason Matthys-AC, & Jamie Feuerhelm-County Clerk.

1b) Public Comment

M. Kelly indicated that the horse group interested in putting a building on the fairgrounds stated they were not confident the County would commit to allowing that to happen. Committee indicated that they were willing to look at a plan by the group. Kelly directed to put on next agenda. Another issue mentioned by Mr. Kelly was that he was told that Friends of the Fair would pay for the cost to move the dirt in preparation for the new bleachers. Committee directed Kelly to get it on the agenda.

2) Agenda Adopted

Motion by S. Bjork/D. Auckland to adopt agenda as presented; motion carried unanimously.

3) Minutes Approved

Motion by J. Kosin/S. Bjork to approve minutes of the Feb. 19th, 2019; motion carried with 4 in favor & 1 abstaining (M. Kahlow).

4) Discuss space needs

J. Forss stated new office space in Human Services Dept. is complete & the Court Security office is nearly done. He then presented several drawings & plans of areas in the Courthouse. He reviewed numerous ideas about how to utilize &/or convert certain areas to make them function for the County's needs. Committee encouraged him to develop ideas further. No action taken.

5) Discuss/Take action on bids for the PCOB & Blue Building exterior work projects

J. Forss stated that there were no bids received for the Blue Building project. He added that the bids for the PCOB tuck pointing project came in excessively over the amount currently budgeted for the project. He indicated that he discussed the project in further detail with a vendor & came up with ideas to narrow the focus of the project which would help lower the cost. He stated that he would review the projects'

Building Committee > 03/12/19

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specifications & draft a revised plan. No action taken.

6) Discuss/Take action on Poultry/Small Animal barn renovations

M. Kelly explained that he would be installing concrete in the building. He stated that he received a request to add a lean-to to the west side of the building, as well as a few other renovations, from the Livestock Committee who stated they would fund the cost of the project if approved. Motion by S. Bjork/D. Auckland to approve request & authorize project to proceed contingent on funding from Livestock Committee; motion carried unanimously.

7) Discuss/Take action on thermostat upgrades in Seyforth Building

J. Forss presented request to add two thermostats to the Seyforth Building which would allow for off-site monitoring of the buildings temperature at a cost of \$964. He added that in severe weather Mr. Kelly has to physically come to the building to determine if things are working properly. He felt this would reduce much of that. Supervisor S. Bjork felt that the cost was a bit high for the work being done. Motion by J. Kosin/M. Kahlow to approve quote form Trane to install two thermostats to the Seyforth Building; motion carried with 4 in favor & 1 opposed (S. Bjork).

8) Discuss/Take action on boiler control update in the LEC

J. Forss explained that the issue is that the boiler controls in the new Law Enforcement Center are not communicating properly with the Trane system, causing significant inefficiencies in the system. Estimate from Trane to remedy the issue was \$4700. Supervisor S. Bjork stated that the engineers &/or designers of the system knew what was being installed in the building & should have known this may be an issue & should have addressed it prior to installation or come up with a different design that would work. The rest of the Committee concurred. Committee directed J. Forss & AC J. Matthys to contact Market & Johnson to determine if this is something they could help the County address, & bring issue back at the next meeting. No action taken.

9) Fair Groundskeeper report

M. Kelly submitted written report which was accepted by Committee.

10) Maintenance Supervisor report

J. Forss submitted written report & gave brief oral summary of activities which was accepted by Committee.

11) Future Agenda Items

- Space needs update
- Bids for projects
- Fairgrounds projects
- Boiler controls at LEC

12) Next Meeting Date

Next regular meeting set for Mar. 12th, 2019 at 4 p.m.; County Board Room.

13) Adjournment

Meeting adjourned at 4:40 p.m. by motion of S. Bjork/D. Auckland; motion carried unanimously.

Respectfully submitted by: Jamie R. Feuerhelm, Pierce County Clerk

04-16-2019 BCM Packet Material

#4 – The new Court Security Office located in the old Clerks Office is almost completed. Work on the Secured Paper Storage should be one of the next projects on the list.

#5 – The remodeling ideas that I brought to you the last meeting are being looked over on the Administration end of things. I will bring any new information to next month's meeting.

#6 – There is 2 line items in the Building Outlay that contain completed projects, Bathrooms (Fairgrounds)-2009; \$51,082.00 and Seyforth Building (drop ceilings, acoustics, siding); \$39,160.00. My thinking is that seeing as these dollars are already labeled for Fairground projects that it would make sense to combined the 2 line items into 1 and label it as Fairgrounds Improvements with the dollar amount equaling \$90,242.00 making those dollars available for other projects in the Fairgrounds as they arise. I have discussed this with our AC and Finance and they both saw no problem with it. The next step for this change if the Building Committee is in favor of this would be to take it to F&P for their blessing.

I will be asking for a motion to carry this forward to F&P.

#7 – I reworked both scopes of work for these projects hoping to get better bid results. The PCOB scope of work changes I made took some of the project parts out and lessening others. The Blue Building Scope was a similar change. I will go over them at the meeting. I have submitted both of these projects to Jason Fey in the Corporation Council office and have his approval to move forward.

I will be looking for a motion to go ahead with this project.

#8 –This is something that was brought up in Public Comment at the last meeting and I was asked to get it on this agenda. There are some people willing to help with this project. Matt will bring the information to the meeting.

I will be looking for a motion to proceed with this project.

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#9 – So talking with the TRANE Technicians that have been working on the LEC controls the biggest problem with the 2 systems not communicating actually has more to do with the boiler manufacture not wanting to talk to the Trane Techs because Trane is not an authorized dealer and the Trane Techs are not factory trained. So to me that leaves 2 options, pay for someone that is trained to come work with Trane every time the need arises or change out the controller to a Trane one. The cost of the change out was proposed at \$4,700.00. In my eyes the replacement controller will be the most cost effective going forward.

I will be looking for a motion to proceed with this project with using the Trane option.

#10 – I had this company contact me and told me that they were in the business of drying out foundations of old buildings and asked if they could meet with me and do a free walk around analysis of the Courthouse. We did the walk around and some need for their services was found. It is all in the report. So this process seems to sound a tad scammy. The device used to do the drying is some type of antenna that captures stray radio waves from the air and sends them back out in a frequency that displaces hydrogen molecules. There are no moving parts and one installed there is no maintenance to the device. I have not checked on any of their references or into the technology side of this. I thought I would bring this to you first to see if there was any interest in it. The company said that they would be more than happy to come to a building meeting to answer any questions.

#6 – Building Outlay

Building Outlay Analysis

Remodel restrooms-2007	4,500
Bathrooms (Fairgrounds)-2009	(51,082)
Electrical-2009	19,805 (())
Blue Building Repairs-2012	1,914 (70,072
Brick Repair PCOB-Tuck Point-2012	74,942)
Seyforth Building (drop ceilings, acoustics, siding)	39,160
Refurnish marble courthouse floor-2012	50,000
Annex Maintenance/Remodeling-2013	217,587
Paneling/Boards for Elevator Stairway-2013	10,000
Sidewalks-PCOB/Courthouse-East of Elevator-2014	1,101
Tower Sites Landscaping, Drainage-2014	11,235
Water to Sheriff's Side of Blue Building-2014	830
PCOB Restroom Partitions/Hand Dryers-2014	5,500
Annex Jail Remodel & Maintenance-2014+1-4-16F&P	360,806
Boiler Pipe Chase PCOB-2015	6,363
Campus Parking-2015	10,387
Campus Building Carpet Replacement-2016	4,423
Blue Building Repairs-2016	47,778
Generator Maintenance-2016	4,000
6 Handicap Bathroom Door Openers-2017	8,586
Campus Concrete-2017	13,186
HVAC & Water Heater Work-2017	6,354
Paint Campus Walls-2018	1,237
Campus Improvements-2018	9,362
Projects approved in 2019 Budget with funding within plus \$13,536:	13,536
Carpet-2019	
Parking Lots-Sealcoating & Striping-2019	
Concrete-Courthouse Front Steps, Curbing PCOB-2019	
Bathroom-2019	
Campus Improvements-Landscaping -2019	

Balance as of 3-31-19 973,674

#7 – PCOB & Blue Building

Projects

SCOPE OF WORK; SPECIFICATIONS FOR THE BLUE BUILDING

1. Vendor shall remove four existing windows, change the opening sizes and install four new 4' x 4' Jeld Wen Premium Atlantic Single Hung Vinyl Windows, White in color, J-Channel frame, Low E glass and no grille in the windows. Substitute window brands of equal or great quality will be excepted. Bidders to verify all dimensions and existing conditions.

2. Vender shall remove one existing window, change the opening size (if needed) and install one new 4' x 3' Jeld Wen Premium Atlantic Single Hung Vinyl Window, White in color, J-Channel frame, Low E glass and no grille in the windows. Substitute window brands of equal or great quality will be excepted. Bidders to verify all dimensions and existing conditions.

3. Vender shall create an opening in the sidewall and install one new 4' x 3' Jeld Wen Premium Atlantic Single Hung Vinyl Window, White in color, J-Channel frame, Low E glass and no grille in the windows. Substitute window brands of equal or great quality will be excepted. Bidders to verify all dimensions and existing conditions.

4. Vender shall remove six fire-rated metal passage doors and frames replacing them with six new 3 hour fire-rated 18 gauge metal doors and frames with a size of approximately 40" x 6'8". Locks and closers for each door will be supplied by the County; however, Vendor must install locks and closers. Bidders to verify all dimensions and existing conditions.

5. Vender shall attach horizontally a $2^{*}x4^{*}$ (1.5" x3.75") wood construction lumber furring to the exterior walls that run the length of the each of the side walls with 24" spacing between each of the furring rows as the rows get fastened up the side of the walls.

6. Vender shall install Owens Corning FOAMULAR 150 1-1/2" thick R-7.5 Ridged Foam Board Insulation Sheathing between the furring rows. Similar products of equal or great specifications may be excepted as a substitute.

7. Vendor shall install a 26 gauge commercial wall steel over the wood furring using all of the correct accessories to finish the work such as the flashing, J-channels and screws. Wall steel is to overlap the poured concrete walls by 20". Wall steel is to overlap the brick wall and to be 2"above the pavement.

8. Vender shall patch the existing wall steel, concrete, brick and caulking before covering it with the wall steel.

9. Vender shall patch or repair, caulk all of the rest of the concrete and brick that is not covered by the wall steel. Concrete and brick not covered by the wall steel is to be primed and painted to match the new wall steel.

10. Vender will supply color samples of the wall steel and trim to the County to pick the colors.

11. Vender shall paint the exterior surfaces of the doors and windows to match the trim color.

12. Vender shall supply 1 full gallon of paint to match each color of steel used for attic stock.

13. Vender shall use $\frac{3}{4}$ " sanded one side plywood to trim out the interior of the changed window openings.

14. Vender shall complete the entire project no later than October 31, 2019.

15. Vender shall (a) act as the prime (general) contractor for the project: (b) provide any engineering needed to accomplish this project; (c) supply Pierce County with a full set of any owner information and warranty statements any products installed; (d) provide any lift or machinery needed to complete the project; (e) supply any needed dumpster or waste receptacle for proper disposal of new or old debris; and, (f) stage any supplies or equipment in an area that will not affect the flow of any day to day activity of the County.

Our County Fair is the week of August 5th, 2019. Working August 5th through the 11th may be hindered due to heavy people and vehicle traffic in the work zones.

16. Vender shall be responsible to obtain and pay for the proper permit/s from the Village of Ellsworth for the completion of this project.

17. Vender's bid shall be inclusive of labor and materials. Vendor shall provide start and end dates for completing all project tasks. Vendor shall have the necessary education; licensing, training and experience to complete any and all project tasks. Work can be done during normal business hours.

SCOPE OF WORK; SPECIFICATIONS FOR PCOB

There are 4 parts to this project with part 1 having 5 options. Each part and option shall be itemized.

1. Part 1 - Vendor shall repair, remove or replace all of the bricks in the window sills using one of the 4 following options and applying a sealer to all of the sills:

Option A; There are approximately 74 windows of 4 different sizes with a total of approximately 948 bricks. The County has a pallet of 1000 new bricks. Remove and replace all of the sill bricks and mortar with the County supplied bricks.

Option B; The same as Option A but, the Vendor would include the bricks in the cost.

Option C; Replace only the broken bricks and do any needed tuck pointing of the sill.

Option D; Remove all of the sill bricks in each window and replace with one solid piece of limestone on the smaller windows and up to two pieces on the larger windows along with replacing any needed mortar, joint sealant, flashing and/or drip edge.

Option E; An alternative option thought of by bidding Vendor.

2. Part 2 - Vender shall figure a 15% tuck point of the mortar joints repairing only the joints needed. Old mortar shall be ground to a minimum depth of a 1/2" or 2.5 times the joint width and then replaced with new mortar matching the color of the existing mortar. Replace all missing weep hole vents with similar to the existing vents.

3. Part 3 - Vender shall remove 100% of the existing joint sealant and replace with new sealant of similar type.

4. Part 4 - Vender shall figure a 50 brick replacement allowance in addition to any window sill brick.

5. Vender shall be solely responsible to furnish all labor, materials, equipment and supplies to complete the awarded parts of this project.

6. Vender shall be solely responsible to properly remove any waste or garbage generated by these projects.

7. Vender shall complete all awarded parts of this project by the October 31st, 2019 completion date.

8. Vender shall: (a) act as the prime (general) contractor for the project: (b) provide any engineering needed to accomplish this project; (c) supply Pierce County with a full set of any owner information and warranty statements any products installed; (d) provide any lift or machinery needed to complete the project; (e) supply any needed dumpster or waist receptacle for proper disposal of new or old debris; and, (f) stage any supplies or equipment in an area that will not affect the flow of any day to day activity of the County. Our County Fair is the week of August 5th, 2019. Working August 5th through the 11th may be hindered due to heavy people and vehicle traffic in the work zones.

9. Vender shall be responsible to obtain and pay for the proper permit/s from the Village of Ellsworth for the completion of this project.

<u>#9 – LEC Boiler Controls</u>

TRANE 925 West River St. – Suite 10 Chippewa Falls, WI 54729

Phone: 715-720-9903 Fax: 715-720-9905

Proposal

Prepared For: Pierce County Jail Attn: Jerry Forss Date: 2-6-19

Job Name: Boiler Control

Proposal Valid Until: 2-6-19

Delivery Terms: FA-PPD

Payment Terms: N30

Trane is pleased to provide the following proposal for your review and approval.

BOILER CONTROL

- Remove existing LARS M4-LHS boiler controller
- Install New Trane Controller to control (2) Boilers
- Tie new Trane controller into existing Trane BAS system
- Temperature controls wiring and installation
- Programming
- 1 year parts and labor warranty on new controller

Pricing	\$ 4,700.00 USD
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SUBMITTED BY: Bob Budik	Proposal Date: 2-6-19	
	License Number: 244996	
CSM		
CUSTOMER ACCEPTANCE	Trane ACCEPTANCE	
-	Trane U.S. Inc.	
Authorized Representative		
-	Authorized Representative	
Printed Name		
Title		
	Title	
Purchase Order		
Acceptance Date	Signature Date	
	S	

This proposal is subject to your acceptance of the attached Trane terms and conditions.

Sincerely,

Bob Budik

#10 – Courthouse Foundation

Drying



RENODRY USA - RISING DAMP REPORT

Pierce County Courthouse



3/15 2019 Rising Damp Report

INTRODUCTION:

ON MARCH 14, 2019, TECHNICIANS FROM RENODRY USA CONDUCTED A VISUAL INSPECTION AND MASONRY CONDUCTIVITY TEST IN THE BASEMENT AND LOWER LEVEL AREAS OF PIERCE COUNTY COURTHOUSE IN ELLSWORTH, WISCONSIN.

THE PIERCE COUNTY OFFICIAL ACCOMPANYING THE RENODRY INSPECTORS WAS JERRY FORSS – PIERCE COUNTY MAINTENANCE SUPERVISOR.

RENODRY BUILDING INSPECTORS DISCOVERED A RAPIDLY ADVANCING CASE OF RISING DAMP IN THE COUNTY COURTHOUSE. RISING DAMP IS WATER'S NATURAL TENDENCY TO RISE IN MASONRY. IT DESTROYS THE MASONRY FOUNDATION OF A BUILDING.

BUILT IN 1905, THE VERY FOUNDATION OF THIS 114 YEAR OLD COURTHOUSE BUILDING, WHICH IS ON THE NATIONAL REGISTER OF HISTORIC PLACES, IS BEING INCREASINGLY UNDERMINED. THIS REPORT WILL DEMONSTRATE THE PRELIMINARY EVIDENCE AS DISCOVERED DURING THE INSPECTION.

WHAT IS RISING DAMP AND WHY IS IT A PROBLEM?

THE FOLLOWING DIAGRAM OF A WALL CROSS-SECTION ILLUSTRATES SEVERAL EROSION INDICATORS IN THE PRESENCE OF RISING DAMP (THE DAMPNESS AND SALTS THAT MOVE UPWARDS INSIDE THE WALL, FROM THE FOUNDATION, AFFECTING THE CORE OF THE MASONRY).



RISING DAMP IS A COMBINED PROBLEM OF DAMPNESS AND SALTS AFFECTING THE MASONRY AT DEPTH.

How Salts Destroy Masonry

The reason salts pose such a serious problem to masonry is because **they can dissolve and recrystallize**.

Changes in temperature and/or humidity cause **salt crystals to expand multiple times** within the capillary pores, which generate enough crystallization pressure – up to 2 tons per cm2 - to **crack** the fine pores, irreversibly destroying the masonry. Powdering, flaking, crumbling, delamination or cracking of masonry surfaces are typical signs of a salt attack.



SALT DAMAGE: SALT NEST PUSHING THROUGH WALL IN COURTHOUSE

It is tempting to think that if a building has lasted for 80 years, decay will not much worsen after another 20 or 30 years. This is incorrect. According to current building research, the rate of decay is exponential₁.

There is a long initial period with almost no decay (80 years in this example) during which time salts slowly accumulate within the masonry pore structure until they reach a saturation point.

After this the **salt decay becomes accelerated**, the volume of decay over the next 10 years will be **twice as destructive** as it is has been.



Rate of salt attack decay

Over time, once **capillary action** has drawn enough salts into the building fabric and the concentration of salts in masonry becomes higher than in the soil below, it triggers a secondary force of attraction known as **diffusion** (to spread or disperse). For example, high salinity areas from the upper part of the wall start attracting water from lower salinity areas underneath, making the masonry increasingly wetter and saltier and the capillary rise increases with the building's age. In older buildings with thick walls, 13-16 feet high capillary rise is not uncommon₂.

Pierce County Courthouse is now 114 years old and its foundation is now in the preliminary stages of decay.

 Department for Environmental and Heritage, South Australia: Salt attack and rising damp: a guide to salt damp in historic and older buildings – Technical Guide, 2008

(2) Bernard Feilden: Conservation of Historic Buildings, 3rd Edition, 2003, p. 101

RENODRY PERFORMS 2 TYPES OF TESTS:

THE FIRST TEST CONDUCTED BY THE RENODRY ENGINEER INVOLVES THE USE OF A GANN HYDROMETER B50 THAT MEASURES WALL CONDUCTIVITY (THE DEGREE TO WHICH A SPECIFIED MATERIAL CONDUCTS ELECTRICITY). A PROBE IS SET ON THE SURFACE OF THE STONE, MASONRY OR MORTAR AND GIVES A READING INDICATING THE PRESENCE OR ABSENCE OF MOISTURE. THE HIGHER THE READING, THE MORE MOISTURE IS LIKELY IN THE WALL. THIS TEST GIVES THE ENGINEER A STRONG INDICATION THAT THERE IS MOISTURE PRESENT IN THE WALLS.



GANN HYDROMETER B50 UNI 2

READINGS ON THE GANN INSTRUMENT RANGE FROM 0, AN INDICATION OF NO MOISTURE, TO 200 THE EQUIVALENT OF TOTAL SATURATION. FOR PURPOSES OF REVEALING MASONRY WALL MOISTURE, READINGS LESS THAN 70 INDICATE NORMAL TO SLIGHTLY ABOVE NORMAL LEVELS OF MOISTURE PRESENT; READINGS ABOVE 70 DEMONSTRATE EXCESSIVE LEVELS OF MOISTURE; **READINGS IN EXCESS OF 100 INDICATE EXTREME MOISTURE LEVELS IN THE MASONRY.** AS A COMPARISON, THE HUMAN BODY, ON AVERAGE WILL READ AROUND 160.

(SEE PHOTO BELOW - COURTHOUSE)

WATER SATURATED MASONRY: MOISTURE LEVEL IN LOWER FOUNDATION WALL REACHING 141.3 – ALMOST HUMAN BODY LEVELS OF MOISTURE



GANN HYDROMETER B50 UNI 2

THE MASONRY WALLS OF PIERCE COUNTY COURTHOUSE HAVE MOISTURE TRAPPED IN THE INNER WALLS. RENODRY'S PRELIMINARY TESTS WITH THE GANN HYDROMETER INDICATED MANY OF THE EXTERIOR AND INTERIOR WALLS THAT COULD BE ACCESSED, HAD READINGS WELL OVER 100 SHOWING THE WALLS ARE BEING ERODED BY RISING DAMP.

THE SECOND SERIES OF TESTS TO BE PERFORMED AND THE MOST IMPORTANT, WILL BE MASONRY CORE SAMPLES EXTRACTED FROM LOCATIONS ON THE INTERIOR WALLS AT VARYING HEIGHTS STARTING FROM THE LOWEST POINT AND MOVING UP THE WALL TO DETERMINE HOW HIGH THE RISING DAMP HAS REACHED AS WELL AS HOW WET THE MASONRY IS.

A SLOW TURNING DRILL WILL BE USED TO PENETRATE APPROXIMATELY 4 INCHES INTO THE MASONRY WALLS TO WITHDRAW A CORE SAMPLE FROM WITHIN THE WALL.

USING THE INTERNATIONAL STANDARD FOR DETERMINING MASONRY WALL MOISTURE – THE GRAVIMETRIC METHOD--RENODRY WILL UTILIZE A SARTORIUS MA35 MOISTURE ANALYZER TO WEIGH EACH MASONRY SAMPLE, DRY IT AT 105 DEGREES C, AND THEN RE-WEIGH THE SAMPLE, THUS DETERMINING THE EXACT WEIGHT % MOISTURE OF THE MASONRY WALLS.



SARTORIUS MA35 MOISTURE ANALYZER



EXAMPLE OF MASONRY CORE SAMPLE BEING WEIGHED, DRIED OUT AND RE-WEIGHED FOR MOISTURE ANALYSIS.

SARTORIUS MA35 MOISTURE ANALYZER

THE MEASUREMENT RECORD OF MASONRY MOISTURE AND CLIMATE REPORT WILL DEMONSTRATE THE MOISTURE FINDINGS. THE MASONRY MOISTURE MEASUREMENTS WILL VERY LIKELY CONFIRM A SERIOUS AND ADVANCED CASE OF RISING DAMP IN THE COUNTY COURTHOUSE AS INDICATED BY THE GANN HYDROMETER TESTS THAT WERE PERFORMED UPON INITIAL INSPECTION.

INDICATORS OF RISING DAMP IN THE COURTHOUSE:

The presence of salt/calcium efflorescence, crumbling mortar, disintegration of brick, limestone and masonry along with wet spots on the wall surface areas inspected accompanied by high Gann Hydrometer readings from the County Courthouse foundation, are indications of the excessive penetration of rising damp. (See photos below)

Several wall structures in the lower level areas, were being eroded by the salts that have risen in the capillary systems of the masonry, brick and mortar. The salts can only rise so far up the wall, and are then pressed to the surface of the wall. This causes the paint to separate from the wall, mortar joints and masonry to crumble, spall and disintegrate. The salt has no ability to escape; therefore it will, by high salt expansion pressures exerted, exit through the wall surface leaving ruptured paint, decayed mortar, spalling stone, brick and disintegrated masonry on the floor.

THERE ARE SEVERAL NOTED PROBLEMS IN THE LOWER LEVELS OF THE PIERCE COUNTY COURTHOUSE.

- RISING DAMP SYMPTOMS VISIBLE ON INTERNAL MASONRY WALLS THAT COULD BE SEEN TO INSPECT. WALL DISCOLORATION, SALT EFFLORESCENCE, PEALING PAINT, WET SPOTS, AND DISINTEGRATING MASONRY/MORTAR IN THE AREAS WITH EXPOSED BRICK/LIMESTONE WALLS.
- HIGH CONDUCTIVITY READINGS ON SEVERAL OF THE INTERNAL FREE-STANDING MASONRY WALLS THAT COULD BE REACHED TO MEASURE DURING THE INSPECTION.

- HEAVY SALT/CALCIUM EFFLORESCENCE WITH AGGRESSIVE MASONRY MORTAR DECAY, CRUMBLING AND DISINTEGRATION. EVIDENCE OF SHEDDING OF BRICK AND MORTAR.
- RISING DAMP LEVELS 2 TO 3 FEET ABOVE BASEMENT FLOOR AND CONDUCTIVITY READINGS FAR HIGHER THAN NORMAL DUE TO HIGH WATER SATURATION LEVELS.
- LIMESTONE, MASONRY, BRICK AND MORTAR DECAY EXCESSIVE IN INSPECTED BASEMENT LEVEL AREAS. DECAY OCCURRING ON INTERNAL FREE-STADING WALLS WHICH, UNLESS THERE ARE LEAKING PIPES NEARBY OR UNDERGROUND WATERWAYS PUSHING INTO THE BUILDING, OR POSSIBLY A LEAKING ROOF, IT IS CAUSED BY RISING MOISTURE.
- INSPECTED AREAS SHOWING RISING DAMP INDICATE SIMILAR OR POSSIBLY WORSE CONDITIONS IN REST OF FOUNDATION.
- CRACKING AND DISINTEGRATION OF INTERNAL FREE-STANDING MASONRY WALLS AND PILLARS.
- SALT NESTS ON BRICK AREAS OF WALL SURFACES. SALT WITH RISING MOISTURE IN SEVERAL AREAS IN LOWER LEVEL AREA OF COURTHOUSE.

Conductivity Test Results with Photographic Evidence PIERCE COUNTY COURTHOUSE

CLEAR EVIDENCE THAT RISING DAMP IS CLIMBING THE MASONRY WALLS. MASONRY EROSION FROM MOISTURE/SALT BEING PUSHED TO THE SURFACE.



FREE-STANDING INTERIOR WALL WITH LARGE SALT NESTS CRUMBLING THE MORTAR AND STONE. LIMESTONE ERODING FROM ADVANCED RISING DAMP.





HYDROMETER READINGS OF 111.7 FROM MOISTURE CLIMBING INTERIOR MASONRY WALL. NOTE PILES OF DISINTEGRATED MASONRY ON FLOOR.

FREE-STANDING MASONRY WALL – SALT NESTS CAUSING PAINT TO PEEL AND PLASTER TO CRUMBLE. PLASTER IS DISINTEGRATING FROM RISING DAMP..





RISING DAMP INDICATED ON FREE-STANDING WALL BY THE EVIDIDENCE OF PEELING PAINT AND DISINTEGRATING PLASTER MOVING UP WALL.

INTERIOR WALL BEING DESTROYED BY RISING DAMP FROM SALTS AND MOISTURE PENETRATION SPALLING THE BRICK FOUNDATION WALL.





RISING DAMP SHOWING SPALLED BRICK MOISTURE LEVELS AT 121.3. INDICATES SIMILAR CONDITIONS EXIST IN OTHER COVERED WALL AREAS.



EXCESS SALTS INSIDE BRICK CAPILLARIES RE-CRYSTALLIZING CAUSING BRICKS TO CRUMBLE AND SPALL TO DUST. DESALINIZATION REQUIRED.



LIMESTONE FREE-STANDING INTERIOR WALL FROM YEARS OF SALTS CORRODING MASONRY NEARLY 3 FEET HIGH UP WALL.

SALTS NESTS ON LIMESTONE WALL SURFACE FROM EXCESSIVE MOISTURE AND SALTS CLIMBING UP WALLS OVER MANY YEARS.



SOLUTION

A RENODRY DEHYDRATION SYSTEM SHOULD BE INSTALLED IN PIERCE COUNTY COURTHOUSE TO PERMANENTLEY HANDLE THE RISING DAMP PROBLEM AND DRY OUT THE FOUNDATION WALLS.

(SEE RENODRY PHOTO BELOW)

THE RENODRY WILL EFFECTIVELY ELIMINATE ALL RISING DAMP FROM THE COURTHOUSE EVEN THOUGH THE STRUCTURE HAS MULTIPLE THICK WALLS TO DEHYDRATE. THE APPROXIMATE GROUND LEVEL SQUARE FOOTAGE OF THE COURTHOUSE IS 6,800.

EXAMPLE OF THE LARGEST RENODRY TAKEN AT THE OLDEST OBSERVATORY IN MINNESOTA. LOCATION: NORTHFIELD



THE RENODRY DEHYDRATION SYSTEM

Rising damp is a major concern for building owners and constitutes a high percentage of humidity and moisture issues in buildings like Pierce County Courthouse. Left unresolved it will be the cause of untold structural damage, significantly reducing the value and life span of a building. It is also a well-known fact that health risks exist for the occupants of buildings which carry wall moisture causing potential liability for building owners as well as the buildings occupants.

The RENODRY wall dehydration system is a basic passive antennae apparatus based on 1950's military communication's technology. It was further developed by Sandor Levai, a Hungarian engineer, to focus frequencies collected from the broadband of frequencies that then disrupts the electrostatic attraction between water and masonry. It is a passive (not electrically connected) system of receiving and transmitting antennas. The heart of the system is a set of spiral antennas mounted inside a resonant case.

The system powers itself by harnessing stray RF (Radio Frequency) energy from the environment (from TV and radio broadcasts, Wi-Fi or mobile signals etc.). In addition, the system utilizes the Earth's magnetic field. This or similar powering methods are widely used for wireless low energy circuits such as weather sensors located in harsh environments (e.g. for climate data collection, wildfire control and detection etc.) where other energy sources are not feasible.

Renodry USA installs this rising damp solution that eradicates rising damp from any building made out of brick, stone or other masonry materials and keeps the building dry permanently from rising damp. The system is installed with relative ease by a trained Renodry engineer, taking approximately 1 day for a building the size of the Pierce County Courthouse. No construction nor wall-cutting work is needed and is never necessary. Business can carry on as usual during installation. With the Renodry in place and working, gravity can now push the water back down into the ground establishing masonry moisture equilibrium. As this occurs, some of the water in the masonry is released through the wall in vapor form causing the walls to desalinate. There are no batteries nor electricity needed which makes the system both eco-friendly and cost-efficient. Because the Renodry has no moving parts, being a passive receiving/transmitting antennae, it requires no on-going maintenance and will keep working for decades during which time the building will continue to be free of rising damp and will remain dry. **Remediation and repair efforts should <u>not</u> take place until the building is dry.**

Once the Renodry is installed, you are entitled to two free inspections over the next 3 years. A detailed report is provided by the Renodry engineer showing precise comparative measurements from the point of installation through to the complete drying out phase.

THE DEHYDRATION OF MASONRY WALLS

As the building dries out, it will go through a 1-3 year phase of dehydration. The first year or so takes place in the area called the evaporation zone or salt band. Due to the salt content of the masonry, water will evaporate upwards and sideways. This will result in even more salts (efflorescence) and the wall surfaces may temporarily look worse (damper, saltier). However, this means the walls are drying out. Amounts of salt and water can vary greatly from one wall to the next, therefore, walls dehydrate at differing rates. This typically takes 3-36 months, depending on water saturation, salt content and wall thickness.

Because of the wide variables of salt and water content in masonry walls suffering from rising damp, a full dehydration of the building can take 2 to 3 years. Most masonry moisture and dissolved salts gradually migrate back into the ground through the wall's capillary system (desalination), but may continue to push through the wall surface, as well. The more salt that is present in a particular wall, the longer the salt will continue to crystalize and push to the surface as the water exits the wall during dehydration. Periodic cleaning of the salts from the wall surface is recommended as the walls dry out. Once no more salts are seen exiting the surface, this will indicate the wall has completed its desalination. At this point, walls can be remediated and repaired.

DEHYDRATION SIGNS

Dehydration may be accompanied by one or more of the following signs:

- Wet spots and salt marks on walls may increase (and often does) during all stages of dehydration
- Elimination of any unpleasant musty odors
- Walls look lighter in color
- Flaking and crumbling of paint and/or plaster in the salty wall areas
- Walls feel warmer to the touch due to lower heat loss
- Plaster feels drier and sandier to the touch

Once the Renodry Dehydration System is installed, it should be left in place and not tampered with. Allowed to perform its function, the building will dry out and eventually be free of all rising moisture for decades.

There is a 3 year drying-out guarantee with a 25 year warranty on the Renodry. This guarantee and warranty is unmatched in this industry. With 28 years international experience in dehydrating old buildings utilizing this Hungarian technology, you can be assured your buildings will remain dry, creating a healthier environment now as well as for future generations of staff and county residents at the Pierce County Courthouse.

Report submitted by Michael Clancy of Renodry USA. For any questions, please contact Michael at 612-554-1863. Email: <u>michael.8clancy@gmail.com</u>



WE DRY OUT OLD BUILDINGS

WWW.RENODRY.COM

NOTES



PROJECT ESTIMATE

CLIENT: PIERCE COUNTY (WI) COURTHOUSE

ADDRESS:

428 W. Grove St. P.O. Box 119 Ellsworth, WI 54011

PHONE: 715-273-6875 (Jerry Forss)

EMAIL: jerry.forss@co.pierce.wi.us

PROPERTY TYPE:

DATE: March 15, 2019

RENODRY USA CONSULTANT:

Don Brown 952-935-5640 Michael Clancy 612-554-1863

The Pierce County Courthouse was built in 1905 and is on the National Register of Historic Places. Constructed on a solid foundation of limestone (interior) and reddish sandstone (exterior), the structure is constructed of finished limestone blocks. The roof features an octagonal dome. The building is showing signs of the incursion of water and salt, called rising damp, which will gradually destroy the foundation by erosion. The building needs drying out.

PROJECT ESTIMATE:

The courthouse is a gem of a building with a 114 year history. The footprint of the structure is 6,800 sq. feet.

Because of rising damp in the lower foundation walls, it is important for the building to be completely dehydrated and remain so. The Renodry Dehydration System will rid the building of the water and salt, keeping the structure free from rising damp for many decades. Once installed, there are no ongoing costs nor maintenance expenses.

Renodry USA technicians will install their mid-sized unit which will cover the entire lower levels of the building.

Project Estimate includes the cost of the unit and a Renodry USA 10 % discount as a historical building:

\$9,440.00

TOTAL

\$9,440.00

TERM & CONDITIONS:

- Two free follow up services are provided, one year and three years after installation, to take comparative wall moisture measurements. Complete reports are provided.
- The installed device(s) remains the property of RenoDry USA until such time as payment is received in full.

4704 W. FAIR HILLS RD. MINNETONKA, MN 55345 952.935.5640 BLUEWING0302@GMAIL.COM

WWW.RENODRY.US







We Dry Out Old Buildings - Guaranteed

Wet buildings are unhealthy. They can be smelly, musty and moldy. A wet building is more expensive to heat and cool, driving up energy costs. Maintenance expenses are higher for wet or damp buildings.



Signs of rising damp: Salt Efflorescence - Spalling Bricks - Wet Spots - Disintegrating Masonry Musty Smells - High Humidity - Bubbling Plaster and Paint - Mold - Discoloration - Mortar Decay

Is there a solution? You betcha!

Renodry's proprietary technology permanently dehydrates buildings suffering from rising moisture, better known as rising damp. Our solution is *affordable, wireless, green, maintenance-free and* PERMANANT. It requires no electricity, construction or chemicals and takes just 1 day to install in an average-sized building.

Contact Renodry USA to discuss our dehydration solution for your building. A veteran run company based in Minnetonka, MN Don Brown 952-935-5640 or Michael Clancy 612-554-1863



We Dry Out Old Buildings - Guaranteed

✓ Affordable

- ✓ Lowers Heating and Cooling Costs
- ✓ Wireless
- ✓ Green
- ✓ Maintenance-Free
- ✓ PERMANENT (when system remains installed in building)
- ✓ Naturally Eliminates Musty Smells and Odors
- ✓ Stops Rising Damp Forever
- ✓ Uses No Electricity, No Construction or Chemicals Ever
- ✓ 1 Day to Install (on average)

Civil War Era Historic Estate – Hastings, MN



Before

After Only 3 Months

Contact Don Brown 952-935-5640 or Michael Clancy 612-554-1863

#11-FAIRGROUNDS REPORT

FAIRGROUNDS REPORT FOR MARCH 6- APRIL 3

- Weekly cleaning and daily vacuuming of Seyforth bldg.
- Work on the inside of the Seyforth building kitchen and office staining and varnishing window sills and trim
- Started winter storage release April 1 Made several phone calls for picking up units
- Received new transportable bleacher in March
- Various groups used Seyforth building
- Check all outbuildings daily
- Made out my monthly report

Matt Kelly 4-3-2019

#12 Maintenance

Supervisors Report

March 6th – April 9th 2019

- Completed some cleaning and repairs for the Highway Dept.
- Completed some cleaning and repairs for the Courthouse, PCOB and the LEC.
- Had an air handler at the LEC that a bearing and a shaft went bad on. Had it repaired at a cost of \$3,664.00
- Meet with our insurance adjuster and did a look at all of the roofs that were damaged by last fall's hail storm. No further information is available yet.
- Met with Diana Alfuth, the UW Extensions Horticulturist and did a walk around of the Courthouse and Annex to come up with a new landscaping plan.
- ➢ Worked on the PCOB and BB projects.
- ➢ Worked with the Fair on things.
- Blue Building cleaning and organizing.
- Started on some spring lawn clean up.
- Have done some snow removal and salting
- Completed many work orders
- 1597 days without time lost injuries has been accomplished.
- Prepared for this meeting

Jerry Forss 04-09-19