

FINAL DRAFT

10 YEAR HEALTH LIFE SAFETY SURVEY



Beecher Junior High School

1001 East Church Road

Beecher, IL 60401

Beecher CUSD 200u

Will County

2020

(196EX26.200)

Ten Year Safety Survey Report

Beecher Junior High School

Beecher CUSD 200u

DESCRIPTION OF EXISTING CONDITIONS

I. GENERAL

LOCATION:	Beecher Junior High School 101 East Church Road Beecher, IL 60401
ENROLLMENT:	Grades Served: 6-8 Total enrollment: 237 Status of enrollment: Static
CONSTRUCTION:	Type IIC Non Combustible and Fully Sprinklered.
APPLICABLE SURVEY CODES:	BOCA 1996
MEANS OF EGRESS:	Adequate in arrangement, size, and protection except where otherwise mentioned in this report
LOCAL FIRE ALARM SYSTEM:	See Private Protection (Section VI).
NEAREST FIRE STATION:	Approximately 2 miles away Beecher Fire Protection District 711 Penfield St. Beecher, IL 60401
CITY WATER:	Water utility company is: Village of Beecher. Fire hydrant(s) located at: East of the building in the grass and west of the building on Cardinal Creek Boulevard. Domestic service size: 4" with BPV and meter. Location: Boiler Room. Fire / sprinkler service size: 6" with BPV. Location: Boiler Room

II. CONSTRUCTION DETAILS

YEAR BUILT:	2006 Original Building
HEIGHT:	Two (2) Stories.
GROUND FLOOR AREA:	49,820 sf. (E: 32,675 sf, A-3: 17,145 sf)
EXTERIOR WALL CONSTRUCTION:	Cavity wall construction with face brick exterior and CMU interior.
FLOOR CONSTRUCTION:	All lower floors are concrete slab on grade. Upper floors are concrete on Metal Deck. Floor finishes include sealed concrete, VCT, LVT, and Carpet.
ROOF CONSTRUCTION:	Built up roof system on metal deck on steel construction except for the library area where there is a single ply roof system.
INTERIOR WALL CONSTRUCTION:	CMU and metal studs with gypsum board.
INTERIOR FINISH:	Painted gypsum board and CMU.
TRANSOMS AND CEILING-LEVEL GLASS:	Fixed glazing

III. EGRESS FACILITIES

GRADE EXITS:	Adequate and well arranged. Panic hardware installed and well maintained where required.
CORRIDORS:	Adequate in width, height, and distance of travel.
STAIRWAYS:	Stairways are in adequate width.
RAMPS:	None
WINDOWS:	Not used as a secondary means of escape.
FIRE ESCAPE:	None
EXIT SIGNS:	Illuminated exit light type: AC / DC. Located: per Life Safety Reference Drawings

EMERGENCY LIGHTING: Fixture type: Battery packs plus regular fixtures with batteries. Power source: Batteries. Located: per Life Safety Reference Drawings.

IV. SPECIAL OCCUPANCIES

MULTI-PURPOSE ROOM: Separated from remainder of building by 1-hour fire wall

GYMNASIUM: Separated from remainder of building by 1-hour fire wall

BOILER ROOM: Separated from remainder of building by smoke partitions

MECHANICAL EQUIPMENT & STORAGE ROOMS: Separated from remainder of building by smoke partitions

V. UTILITIES

HEATING PLANT:

Type	Hot water.
Boiler	Two such.
Inspection Certificates Posted?	Current boiler inspection certificate posted.
Manufacturer	Thermal Solutions.
Model	EVA3000BN1-UCBN
Input / Output	Serial No. 64883081 and 64883082 3,000 mbh input / 2,580 mbh output.
Flue Type	Stainless steel through roof. Heat Fab Saf-T-Vent.
Combustion Air	Galvanized iron round from roof. Individual ducts.
Pressure Relief Valves	Yes.
Gas Pressure Safeties	Has UL / FM / CSD-1 gas train. Has internal low and high gas pressure safeties with manual reset.
Low Water Cut-Offs	McDonnell Miller Model 750-MJ-120 on sides of boilers.
Emergency Gas Shutdown	At door to hallway and at door to exterior.
Backflow Preventer on Make-Up Water	Yes. At north wall.
Feedwater	N/A
Chemical Treatment	Manual at pot feeder.
Comments	•Each boiler has its own boiler pump. •Current boiler inspection certificate posted

HEAT DISTRIBUTION:

Pipe Material and Insulation

Combination of black steel and copper. Fiberglass insulation.

Pumping

Two base-mounted pumps with Danfoss VFD's.

Heating Effect

Air handling units, VAV / reheats, horizontal classroom unit ventilators.

Spot Heating

Fin tube. Cabinet unit heaters.

VENTILATION:

Mechanical

There are five air handling units serving large areas plus the corridors. Classrooms have horizontal unit ventilators. The 2005 drawings show the entire building served by VAV / reheat. It appears only those areas currently provided with air conditioning are VAV / reheat with the other areas being served by the horizontal unit ventilators.

Natural

Windows are operable.

Heat Recovery

None noted.

Toilet Exhaust

Mechanical.

Teacher's Lounge Exhaust

None noted.

Kiln Exhaust

N/A

Special Exhaust Systems

N/A

Vehicle Exhaust

N/A

Dust Collection

N/A

Dishwasher Exhaust

There is no dishwasher.

Range Hood Exhaust

Has a grease-type range hood with Ansul system. It covers a range and an oven of some type.

Heat Hood Exhaust

No.

AIR CONDITIONING:

Type

Only part of the building is conditioned. Library, computer lab, corridors on north side, library support areas, admin area.

Chiller(s)

There are two McQuay air cooled condensing units:

- Model ACZ025AC527-ER11 (Serial No. STNU061100125)
- Model ACZ040BCS27-ER11 (Serial No. STNU061100110)

There is a Carrier split system condensing unit as well.

Location

Roof.

Cooling Effect	The two McQuay units serve AH-1 and AH-2. (The building is reportedly designed to add cooling. Hot water heating piping is labeled HW/CHW which suggest a two-pipe system was envisioned after design was completed.)
Spot Cooling	Carrier split system in Server room A111 augments the big cooling system.

WATER HEATER:

Location	Boiler Room.
Manufacturer / Model	100 gallon Lochinvar Model TNR200-100 with Lochinvar 200 gallon storage tank model RJA-200 manifolded together.
Input / Output	199.9 mbh input.
Thermostatic Mixing Valve	High-low in stainless steel cabinet.
Recirculation	Yes.
Comments	<ul style="list-style-type: none"> •The heater / storage tank assembly is oversized in this era of students not taking showers. •Staff reports the TMV is set for approximately 105° F. This means the kitchen water is 105°F maximum which poses problems for sterilization of cookware. This is a problem.
Location	Roof.
Manufacturer / Model	Solar heating panel with heat exchanger and pump in Boiler Room.
Input / Output	Unknown.
Thermostatic Mixing Valve	Piped into the 200 gallon storage tank.
Recirculation	Yes, to the panel and to the tank.
Comments	Has "non-toxic" antifreeze.
Dishwasher Booster Heater	None. There is no dishwasher. There is no way, short of chemicals, to sterilize cookware and dishware.

INCINERATOR: None

GAS SERVICE:

Utility	Nicor.
Service Entrance Location	Boiler Room.
Pipe Material	Black Steel.
Comments	Gas turrets in Science and Biology Rooms have emergency gas shutdown systems.

ELECTRICAL SYSTEM:

Utility Commonwealth Edison.
Primary Location Underground. Presumably from north.
Utility Transformer Location Outside of the Boiler Room.
Electrical Service Entrance Electrical Room (just north of Boiler Room).
Service Voltage 277 / 480 volt, 3 phase, 4 wire.
Service Amperage 1600 amp.
Distribution Panel •480 volt MDP in electrical Room. Has a single main switch with ground fault protection. 208 volt DP-1 in Electrical Room. 800 amp, 225 KVA transformer. All GE.
•Another 480 volt board, transformer and 208 volt board are located in Room C-223.

Wiring Conduit and wire.
Classroom Lighting Type T8 fluorescent.
Lighting Controls Manual / auto.
Office / Corridor Lighting T8 fluorescent plus CFL cans. The cans have proven to be inefficient, troublesome, plagues with bad ballasts and difficult to access. The cans need to be replaced.

Controls Centralized control relay panel noted in Electric Room B-107. Lighting in certain public areas can be controlled from multiple locations.

Gym Lighting LED. Reportedly these are retrofits.
Controls Not known.
Athletic Lighting N/A. The adjacent ball fields are owned by the Village.
Exterior Lighting HID pole lights have been converted to LED.
Comments Lighting controller observed in Electrical Room.

PLUMBING:

Meter Location Boiler Room.
Domestic Water Piping Copper.
Comments Hard water reported form the Village.
Plumbing Fixtures •Wall-hung water closets with battery-operated flush valves.
•Wall-hung urinals with battery-operated flush valves.
•Gang toilets have self-contained lav groups.
Janitor closets have separate cold water lines with backflow preventers to allow mixing with chemicals.
Gravity to Village of Beecher.
Comments
Sanitary Sewer PVC.
Drain Waste and Vent System Village of Beecher.
Storm Sewer Internal drains on part of the building with gutters and downspouts elsewhere.
Roof Drainage

Overflow

Overflow scuppers on flat roof areas. "Duck mouths" noted in some areas.

Site Drainage

Catch basins. Site reportedly drains poorly and retains water in clay-bearing soil.

VI. PRIVATE PROTECTION

FIRE ALARM SYSTEM:

System Type

Addressable.

Appears to Comply with ADA?

Efforts clearly were made to comply with ADA.

Manufacturer

Edwards EST-2

Control Panel Location

Electrical Room.

Batteries and Charger

Yes.

Annunciator Location

Located per Safety Reference Drawings.

Pullstations

Located per Safety Reference Drawings.

Alarm Devices

Located per Safety Reference Drawings.

Magnetic Hold-Opens

Located per Safety Reference Drawings. Certain doors were observed propped open. These should be fitted with magnetic hold-opens.

Sprinkler Interface

Yes.

Monitored?

S & K Security Corporation.

AUTOMATIC SPRINKLERS:

Sprinkled?

Yes.

Sprinkler Service Equipment Location

Boiler Room.

Fire Department Connection Location

On exterior south wall of the Boiler Room, is not a Siamese connection. It is assumed this is acceptable to the local fire department.

System Type

Wet System.

Comments

•Concealed heads in most areas with exposed piping and upright heads in the rest.
•Service by A & A Sprinkler company.

AUTOMATIC HEAT DETECTION:

Smoke Detectors

Located per Safety Reference Drawings.

Heat Detectors

Located per Safety Reference Drawings.

Duct-Mounted Smoke Detectors

Located per Safety Reference Drawings.

Sprinkler System Tie-In

Yes.

STANDPIPE HOSE LINES:

Stage

N/A

Other

N/A

FIRE EXTINGUISHERS:

Portable fire extinguishers are located per Safety Reference Drawings.

VII. SECURITY SYSTEM

Camera-Controlled Access
Security Cameras
Security System

At Vestibule A134.
Large number of security cameras.
Motion detectors in much of the building.

VIII. ENERGY CONSERVATION

Control Type

DDC. Invensys system reportedly installed and maintained by Precision Control Systems. District access to this system is limited which prevents simple changes being made. Note Invensys is part of Schneider.

Compressor Location

N/A

Air Dryer Location

N/A

Comments

The HVAC system would be far more efficient if the equipment included Demand Controlled Ventilation (DCV).

IX. ASBESTOS ABATEMENT

There are no ACM products in the building, according to an affidavit on file at the district office.

X. LEAD PAINT

Given the date of construction it is unlikely any lead base products were used in the building. Tests should be made to determine if lead-based paints exist. Paint condition should be monitored and any friable lead-based paint should be removed. Any demolition or remodeling that will disturb materials containing lead based paint should be conducted with required IDPH air testing and clearance, with required OSHA procedures for worker monitoring, and with required EPA disposal procedures.

XI. PAVING

Drive, parking lots and concrete walk ways are in good condition with a few exceptions

Add/Edit Schedule Item - Complete All Columns

District: Beecher CUSD 200u

Facility: Beecher Junior High School

IWAS System

Location/ Rm. #	Priority Code	Rule Violated	Desc. of Violation	Recommendation to Correct	Action ID	Units of Measure	Qty.	Labor Code	Work Type	Est. Cost	Completion Date	Funding Type
A114 Server	A. Urgent	IFC 703, IPMC 305.6	Fire rated door does not open fully without force and will not shut without the same. The door scrapes on the floor.	Adjust door to operate properly Undercut door and relocate kick plate as required. Repair damaged flooring.	c. Repair	LS	1	Contractor	Safety Standards	\$ 1,000.00	1/1/2021	F. Fire Prevention
B109 Corridor	A. Urgent	IFC03: 1026.17.1	Doors at south end lack hold-opens.	Provide magnetic hold-opens. Puck-type.	f. Improve	each	4	Contractor	a. Safety Standards	\$ 1,800.00	1/1/2021	F. Fire Prevention
B116 Cafeteria	A. Urgent	IFC03: 1026.5	Missing emergency lights.	Provide battery packs.	f. Improve	each	4	Contractor	a. Safety Standards	\$ 1,300.00	1/1/2021	F. Fire Prevention
C213 Corridor	A. Urgent	IFC03: 1026.5	Double doors at stairway lack magnetic hold-opens.	Provide magnetic hold-opens. Puck-type.	f. Improve	each	2	Contractor	a. Safety Standards	\$ 900.00	1/1/2021	F. Fire Prevention
C224 Mechanical	A. Urgent	IFC 703, IPMC 305.6	Flooring transition strip prevents fire rated door from automatically shutting.	Move transition strip and reinstall or replace with lower profile metal strip.	e. Rebuild	each	1	Contractor	Safety Standards	\$ 50.00	1/1/2021	F. Fire Prevention
A-106 Boys	B. Required	IAC	Missing ADA signage on wall	install signage	f. Improve	each	1	District	Safety Standards	\$ 100.00	1/1/2025	F. Fire Prevention
A-108 Girls, C208	B. Required	IPMC 605.1	Missing lens over light fixture	install lens over light fixture	f. Improve	ls	1	District	Safety Standards	\$ 100.00	1/1/2025	F. Fire Prevention
A128 Computer Lab (off Library)	B. Required	NFPA 10	Missing fire extinguisher	Provide fire extinguisher	f. Improve	each	1	District	Safety Standards	\$ 150.00	1/1/2025	O. Other Funds
B102 Gymnasium	B. Required	IPMC 305.4	Slab settlement has led to an uneven floor surface which is a tripping hazard. The settlement is most evident in both the path of emergency egress and court play. The bleachers are also pulling out uneven which could lead to issues with the bleachers in the future.	Remove flooring and patch/repair cracks and level surface. Temporarily remove bleachers to be installed once work is completed. Install floating flooring in room. Remove and replace base and transitions at doors as required to complete floor surface replacement.	e. Rebuild	ls	1	Contractor	Safety Standards	\$ 85,000.00	1/1/2025	F. Fire Prevention
Exterior	B. Required	IPMC 304.1, 1.8, IPMC 304.7	Roof gutter is broken along the exterior of the library. Water is no longer directed to the storm sewer creating a hole in the yard and allowing water to back up against the building.	Remove and replace gutter. Fill in the hole, grade, and seed yard in same area.	e. Rebuild	lf	90	Contractor	Safety Standards	\$ 8,000.00	1/1/2025	F. Fire Prevention
Throughout	B. Required	BOCA 96: Section 1205.1	Offices and corridors are frequently illuminated by recessed cans with CFL lamp / ballast combinations. The ballasts are failing and the fixtures are extremely difficult to access. Fixtures fail and leave areas of darkness.	Replace all CFL cans with recessed LED fixtures, cut plaster, patch and repaint.	f. Improve	each	89	Contractor	a. Safety Standards	\$ 132,000.00	1/1/2025	F. Fire Prevention
Throughout B	B. Required	96 BOCA 2805.1	Di-electric unions at VAV reheat coils are failing. Leaks are falling onto wet ceiling tiles.	Replace di-electric unions with new unions featuring no gaskets. Assume 48 boxes with 2 unions each.	f. Improve	each	96	Contractor	a. Safety Standards	\$ 9,600.00	1/1/2025	F. Fire Prevention
										\$ 240,000.00		