CLAYBAUGH PRESERVATION ARCHITECTURE
361 W. Government St. Taylors Falls, Minnesota 55084

August 13, 2013

Existing Condition Report for Reuse Study
1922 Annandale School
Annandale, Minnesota
Based on March 20 and April 25, 2013 Site Visits

Project Team on Site:

- **Robert J. Claybaugh AIA:** Preservation Architect
- **John Lauber MA:** Architectural Historian and Photographer

Existing Conditions

- **Heating, Cooling and Ventilating Systems:**
  - Heating for the entire complex is provided by two steam boilers in an addition behind the 1922 building boiler room. We were told that these boilers date from 1954.
  - The perimeter wall radiation in the 1922 building is steam and consumes about 70% of the heat produced.
  - The remainder of the complex uses hot water converted from steam for radiation.
  - The original boiler flue is not used by the current boilers.
  - The original air circulation system in the 1922 building is still in use.
  - A large fan is located in a plenum on the second floor that draws air in that passes through steam heat coils and is circulated to all of the rooms in the building. Return air ducts bring air back to the fan plenum. The fan motor has been recently replaced.
  - The system is functioning as designed but is not suitable for air conditioning or for zoned HVAC controls.
  - The basement floor corridor ceiling is lower to conceal the ducts that feed to the classrooms on either side.
  - There are large original roof ventilators that exhaust air from the building.
  - There is no air conditioning in the 1922 building except for a few window units.

- **Fire Protection System:**
  - The 1922 building is fully sprinklered.
  - The main water line for the sprinkler system is located in the original boiler room and feeds the entire building complex.

- **Electrical and Alarm Systems:**
  - The electrical service for the entire building complex is located in the middle school addition.
  - The fire alarm control panel is also located here.

- **Exterior:**
  - **Masonry:**
    - The building is faced with a high quality wire cut brick in two colors accented with limestone trim.
    - The mortar joints are in very good condition throughout the building. The masonry was completely repointed at some point with a fairly hard mortar with coarse sand aggregate. The joints were cut back 3/8" and repointed with a concave tooled joint.
    - The following areas of mortar and masonry deterioration were noted:
      - The wing walls of the two front entry steps have settled and most of the joints are in bad condition. The some joints on the wing walls have been recently repointed, however all of the mortar joints on the wing walls will need to be repointed. These may also require some foundation repair to prevent any further settlement.
      - There is some cracking at the top of the brick pilasters on the north façade of the gymnasium.
      - The mortar joints on the upper portion of the brick chimney are weathered and will need to be repointed.
      - The north facades have accumulated more soiling due to the lack of sun exposure.
      - The caulk joint between the steel window lintels and the brick above is opening up and will need to be recaulked. There is some surface rust the bottom of the steel lintels.
    - There have been very few modifications to the original exterior of the building except for the following:
      - The brick chimney has been reduced height.
      - The attachment of the middle school at the south façade has eliminated windows on the basement floor level.
      - Two window openings on the east façade at the second floor appear to have had fire exit doors a one time. The space below the window sills have infilled with brick. This is not an original feature of the building but was added a later date.

  - **Roofing, Flashing and Drainage:**
    - **Main and Gymnasium Roofs:**
      - Flat roof sloped to two interior roof drains.
      - Tar and gravel roofing over wood sheathing and joists that we were told dates from the late 1950s. The roof surface is bubbled and cracked in many areas but is still performing. There is evidence of previous roof leaks adjacent to the north roof drain.
      - The roofing turns up the parapet wall with a beveled cant strip and terminates about 8" above the roof.
      - The parapet is capped with 10" x 5" stone coping.
      - The back of the parapet is covered with heavy gauge galvanized sheet metal let into the coping stone bed joint and extending to just

above the roofing cant.
    - The sheet metal is generally in very good condition except where it has come loose at the high parapets in the center of the west façade.
    - The sheet metal covers a soft brick so the sheet metal was mostly likely part of the original construction.
- Main roof penetrations include:
    - Original large roof ventilators on wood curbs.
    - Newer turbine ventilators that extend straight through the roof.
    - Goose neck vents probably to ventilate the restrooms.
    - Plumbing vents.
    - Wood roof hatch on a wood curb.
- Gymnasium roof penetrations are only the two interior roof drains toward the west end and the brick chimney.

- **Boiler Room Roof:**
    - The boiler room has a reinforced concrete roof structure with a roof membrane and a concrete overlay slab above. The roof is flat without roof drains.
    - The roof membrane is turned up the brick walls above and terminated with bar flashing.
    - The topping slab is cracked and there is water seeping out under the slab at the east end.
    - The underside of the concrete roof structure shows evidence of water damage.
    - The corners of the exposed concrete walls are deteriorated from water damage.
- **New Boiler Room Roof:**
    - Flat built up tar and gravel roof with metal gravel stops and no roof drains. The roof appears to be functioning well.

- **Windows:**
    - All of the original wood double hung windows were replaced with single glazed aluminum windows that are in good condition but are very energy inefficient.
    - There are hopper vents on some of the windows.
    - The aluminum window sill extends over the stone window sill.

- **Doors:**
    - The west entry doors are a pair of 38” wide hollow metal doors in hollow metal frames with panic hardware in good condition.
    - The gymnasium exit doors are hollow metal in good condition.
    - The doors at the top of the boiler exit stair are hollow metal in hollow metal frames and are in good condition.

- **Site:**

- The site is fairly level all around the 1922 addition. The basement floor level is about 40" below the surrounding grade.
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- **Interior:**
  - **General:**
    - The school has a long active life and all of the interior finishes show the signs of wear and replacement of deteriorated materials over the life of the building.
    - Many of the original plaster ceilings have been replaced or covered by acoustic tile and suspended lay-in tiles. Our assumption would be that all of the later ceiling material would be removed and replaced with gypsum board or plaster and that existing plaster ceilings would be repaired.
    - Our assumption would be that all of the floor coverings would be removed and that the original wood flooring would be restored.
    - The plaster walls are generally in fairly good condition and can be restored. There are some minor movement cracks in the corridor walls that will need repair.
    - Most all of the varnished original doors and frames and much of the wood cabinetwork remain and could be restored.

  - **Stairways:**
    - The two original egress/exit stairs are in place and generally in good condition.
    - The stairs were enclosed at a later date pairs of 48" x 72" hollow metal doors in hollow metal frames on each floor. The doors are equipped with panic hardware. The doors swing out in the direction of egress but the landings are not long enough to meet current codes for door swing clearance.
    - The stairs are wood with carpet on the treads and risers.
    - The 6" risers, 11" treads and 55" width meet current code requirements.
    - The wood railings are in good condition. The height of the guard railing does not meet current code requirements and the handrail does not meet ADA requirements.

  - **Doors:**
    - Most doors are original wood doors in wood frames with glass transoms above. These doors are not smoke or fired rated.
    - Door hardware has been replaced restrooms, offices and classrooms with new stainless steel lever handled locksets that should meet ADA requirements.

  - **Basement:**
    - **Modifications:**
      - The original floor layout is generally intact.
      - The original gymnasium stage has been closed off and sub-divided into office.
      - The original boys and girls shower rooms have been converted to

classroom and lounge uses.

- Some of the partitions between classrooms have been removed to make larger classrooms.
- One original classroom was converted to restrooms serving the middle school addition.

- **Gymnasium:**
  - Floor: Wood gym floor that appears to be in fairly good condition but mostly covered with tumbling mats so hard to tell.
  - Ceiling: 2x4 wood fiberboard, painted. Appears to be in good condition. Some water damage at north side from roof leaks.
  - Walls:
    - Lower walls are plaster on concrete foundation wall. The south wall has water damage that is probably coming through the wall. The assumption is that there is no water proofing and that the concrete has deteriorated over time.
    - The upper walls are single glazed aluminum framed windows.
- **Corridor:**
  - Floor: The floors are carpet over earlier composition floor tiles. We assume that the floor is a concrete slab on grade but there could have been a wood floor on wood sleepers over the concrete slab. The corridor floor slopes up the meet the middle school addition floor level.
  - Ceiling: Plaster in good condition. This ceiling is a lower ceiling on wood joists to conceal the supply air ductwork.
  - Walls: Painted plaster over wood lath on wood partitions and over clay tile on the structural bearing walls.
  - Fire Separation: Fire doors at the juncture of the 1922 building with the middle school addition provide fire separation between the buildings.
- **Classrooms:**
  - Floor: Generally the same as the corridor except the teachers' lounge that has composition floor tile and some ceramic tile in an area that was originally a shower room.
  - Ceiling: 12'x12" wood fiber acoustic tile. It appears that the original plaster and wood lath ceilings were removed to install the acoustic tile.
  - Walls: Same as the corridor.
- **Restrooms:**
  - General: The restrooms were constructed in an original classroom space at the floor level of the middle school addition. These restrooms serve the middle school and have fire rated doors to separate the 1922 building from the addition. These restrooms predate ADA and are not accessible.
  - Floor: Tile?
  - Ceiling: Plaster.

- Walls: Tile with plaster above.

- **First Floor**
  - **Modifications:**
    - The original floor layout is generally intact.
    - Some of the partitions between classrooms have been removed to make larger classrooms.
    - The original school office area has been enlarged to take over the original library space.
    - The original wardrobe areas and each end of the corridor have converted to office use.
  - **Corridor:**
    - Materials and conditions are similar to the basement floor.
  - **Classrooms:**
    - Materials and conditions are similar to the basement floor.
  - **Restrooms:**
    - The restrooms are in their original location and configuration.
    - The floor tile may be original but the 4x4 wall tiles are later.
    - The original plaster ceiling is in place above the suspended 2x4 lay-in ceiling.
    - The restrooms are not accessible.
  - **Offices:**
    - The office area is completely finished in plywood paneled walls, carpet flooring and suspended 2x4 lay-in ceiling.
    - All of these are easily removed.
    - The office area was provided with window air conditioning units.
  - **Fan Room:**
    - The fan room is very original.
    - This is the best room to see the original wood flooring.
    - The ceiling has panels over the original plaster. Check the hazardous material report to see if they contain asbestos.

- **Second Floor:**
  - **Modifications:**
    - The original floor layout is generally intact with one major modification.
    - The original study hall created a jog in the corridor. The corridor has been straightened to eliminate the jog and the adjacent areas converted to classrooms. The wood and glass ceiling panels that were below the skylights are still in place.
    - Some of the partitions between classrooms have been removed to make larger classrooms.
    - The original wardrobe areas and each end of the corridor have converted to office use.
  - **Corridor:**

        - Materials and conditions are similar to the basement floor.
    - **Classrooms:**
        - Materials and conditions are similar to the basement floor.
        - There is missing plaster in the ceiling of the original study hall from previous roof leaks.
        - The skylights have been roofed over but the wood and glass ceiling panels are still in place.
    - **Restrooms:**
        - The restrooms are in their original location and configuration.
        - The floor tile may be original but the 4x4 wall tiles are later.
        - The original plaster ceiling is in place above the suspended 2x4 lay-in ceiling.
        - The restrooms are not accessible.

- **Accessibility:**
    - The building was constructed long before accessibility codes were enacted.
    - The building does not have an accessible entry that accesses any of the floors and there is no elevator to provide access between floors. This is the major accessibility issue in the building.
    - The corridor and door widths generally meet accessibility requirements.
    - The exit stairs generally meet current accessibility and life safety code requirements.
    - The existing restrooms do not have accessible doors and the restroom layout does not meet accessibility requirements.

- **Energy Efficiency:**
    - **Roof:** There is existing blown insulation in the ceiling joist area about 6" thick. That would provide about R19 U value. The material has been tested and does not contain asbestos. The roofing is applied directly to the wood sheathing without insulation.
    - **Walls:** The walls are plaster directly on the exterior masonry walls. There are no cavities or insulation in the exterior walls.
    - **Windows:** The aluminum windows are single glazed without thermal breaks in the frames.
    - **Doors:** Un-insulated hollow metal doors with single glazing.

- **Hazardous Materials:**
    - Hazardous materials surveying was performed in the 1922 building by Applied Environmental Sciences, Inc. in September and October 2012.
    - The complete report is available to review.
    - The estimated cost for removal of asbestos containing materials is $166,000.
    - The inspection did not include portions of the occupied 1st floor or the roof.
    - Asbestos was found in a variety of floor and ceiling tiles, adhesive and caulking materials and was assumed to be in pipe insulation, roofing and other materials.
    - The insulation above the second floor ceiling does not contain asbestos.
    - Lead based paint was found in some of the samples tested.

- **Uniform Building Code Analysis:**
  - **Building Size:**
    - Basement: 12,285 sf
    - Gymnasium: 4,260 sf
    - Boiler Roof: 1,260 sf
    - First Floor: 12,285 sf
    - Second Floor: 12,285 sf
    - Total Floor Area: 42,375 sf
    - Height: 3 Stories

  - **Construction Type and Allowable Area and Height:**
    - **Construction Type IIIA:** Masonry bearing walls with wood framed floors and roof. Fully sprinklered building provides equivalent of 1 hour fire rated floors and roof for the IIIB classification.
    - **Business Group B Occupancy:**
      - Uses include educational above 12th grade, offices, laboratories, etc.
      - Allowable floor area per floor: 28,500sf
      - Allowable height: 5 stories
    - **Educational Group E Occupancy:**
      - Educational uses through 12th grade.
      - Allowable floor area per floor: 23,500 sf
      - Allowable height: 3 stories
    - **Residential Group R2 Occupancy:**
      - Apartment buildings
      - Allowable floor area per floor: 24,000 sf
      - Allowable height: 4 stories

  - **Corridors:**
    - Width: Actual width 12'-0" Min. 44" except E occupancy min. 72"
    - Dead End: Actual 28'-0". Maximum 20 ft except if dead end less than 2.5 width. 2.5 x 11.5'= 28'-0"

  - **Floor Load Capacity:**
    - **Basement:** Slab on grade. 100psf meets current requirements for corridors, offices, dining and other assembly occupancies.
    - **1st & 2nd Floors:**
      - Corridors: 100psf meets current corridor load requirement.
      - Classrooms: 40psf meets current code requirements for residential and classroom occupancies.
    - **Assumptions:** The live load capacities are based on review of the original drawings and observation of the wood floor joist sizes and spacing in a classroom.

Prepared by,

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