

GILFORD BUTLER SCHOOL

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Gilford Butler School
54 Spruce Head Road
South Thomaston, Maine 04858
September 2018

PART 1
DESCRIPTION

1.0 Brief Summary

Gilford Butler School was constructed in the early 1950's. The school contains 5 classrooms approximately 24 ft. by 36 ft., the first floor is approximately 6,488 sq. ft. A basement level under the first floor contains a Storage Area, Cafeteria and the Boiler Room. The overall area of the basement is 6,545 sq. ft. The building has a Life Safety sprinkler system and an alarm system. The building is structurally sound but has many issues that need to be addressed.

Issues

- No compliant Americans with Disabilities Act (ADA) access route.
- Asbestos containing material in the building primarily in the flooring, vinyl asbestos tile.
- The suspended ceiling tiles in the cafeteria area show signs of excessive deflection which is likely due to a large moisture content because of poor ventilation.
- Roof needs replacement. 18 years into a 20 year roof.
- Unknown condition of septic system.
- Minimal electrical outlets. Larger service should be considered.
- Windows are in poor condition, need to be replaced.
- 5 year average cost of heating oil for Gilford Butler is \$10,852.03
- The main stair to the basement is not code compliant.
- "Doghouse" exit stair from the basement is not code compliant.
- Most white trim on the building is vinyl siding and is in poor condition.
- Basement has water leaks through exterior wall.
- Five Year average annual operational costs \$51,666.34
- Steam Heating system/controls are in poor condition.

1.1 Facility

Gilford Butler School was constructed in the early 1950's. The location is Map 14 Lot 13 containing approximately 2.5 acres. The school contains 5 classrooms approximately 24 ft. by 36 ft. or about 1224 square feet each on the first floor, along with toilets and offices and a "T" shaped roughly 10 ft. wide corridor. The gross area of the first floor is approximately 6,488 sq. ft. The girls and boys toilet rooms each have a 3 ft. by 4 ft. skylight. Each classroom has a row of operable windows approximately 27 ft. long. The windows are in poor condition. The original glass blocks that were located above the operable windows were removed circa 1980. There are 3 sets of double exit doors from this level.

A basement level under the entire first floor contains a storage area which at one time housed the fire trucks of the South Thomaston Fire Department. There are 3-330 gallon fuel oil tanks for the steam boiler heating system adjacent to the boiler room. The Storage area and the Boiler Room are several steps lower than the remaining basement area. The remaining space has a warming kitchen and an open cafeteria area. With 3 special purpose educational rooms off the cafeteria area. The cafeteria has an occupant load greater than 50 people and therefore is classified as a Place of Assembly requiring compliance with Assembly Occupancies. The cafeteria has 7 high windows with sills approximately 5 ft. above the floor. The special purpose educational rooms have no windows. The overall area of the basement is 6,545 sq. ft. There is a "bulkhead" exit stair and a door with exterior steps down to grade along with the unenclosed main entrance stair. There are no toilet rooms in the basement level.

Overall the building is a non-fire separated Mixed Use Building, formerly Educational, Assembly and Storage. This means that there are no complete fire rated separations between the occupancies which means that some of the Life Safety Code requirements of the more restrictive occupancies will apply to all the occupancies.

The Town valuation of building and land is \$731,700.00.

1.2 Construction Type

Gilford Butler School is a substantial building with exterior walls of concrete block and brick with no insulation, most interior walls are concrete block however there are areas of wood frame construction including the stairs to the basement. The first floor structural components consist of a mixture of round steel columns with 2-rows of unprotected steel wide flange beams under the corridor walls running the 109 ft. length of the building. The main corridor has a structural concrete slab spanning between the 2 rows of steel beams. The classrooms have steel bar joists spanning from the exterior walls to the steel beams which are located under the main corridor walls. The bar joists also support a concrete slab

which was cast-in-place over temporary forming. The roof framing appears to be wood framing with a slope from the Rt. 73 side to the rear of the building. The main roofing is an EPDM membrane which appears to be adhered to a tapered rigid foam insulation above the wooden roof deck. From the interior there appears to be fiberglass batt insulation between the wood framing members with a vapor retarder. The total amount of insulation is undetermined.

The Construction Type is classified by the National Fire Protection Association (NFPA) as Type III (200). The building contains a "Life Safety" sprinkler system with an electric fire pump and a water storage tank located in the boiler room. This Construction Type classification is used when referencing Code requirement regarding Life Safety.

1.3 Building Accessibility

A ramp was added to provide access to the exterior concrete stoop at the main entrance, however there is still a full step to negotiate at the pair of entrance doors. The 2 exits at the ends of the long corridor have 2 steps at one end and 4 steps at the other. The basement originally had 2 overhead doors for use by the Fire Department however the exterior grade has been elevated above the lower basement floor apparently due to drainage issues. Access to the basement is by stairs, either interior or exterior. There is no compliant Americans with Disabilities Act (ADA) access route into the building. The existing toilets are not ADA compliant.

1.4 Asbestos Containing Materials

A 1988 evaluation survey was conducted by Balsam Environmental Consultants, Inc. of Salem New Hampshire which identified asbestos containing materials in most exposed floor tiles, and possibly under areas that have been carpeted. Minor asbestos was found in the Boiler Room door.

A 2009 re-inspection of the building was conducted to observe current conditions of asbestos containing materials and note any changes since 1988. The re-inspection was performed by Icon Environmental Consultants, Augusta, ME. Several areas appear to have had some asbestos containing materials removed since 1988. There is still a significant amount of asbestos containing material in the building primarily in the flooring, vinyl asbestos tile. (VAT) Some of this tile is located under carpeting.

1.5 Sprinkler System

A "Life Safety" sprinkler system was added to Gilford Butler in more recent times. Code changes over the years left Gilford Butler School out of compliance

with changing requirements for classroom egress and the location of an assembly (cafeteria) space. The State Fire Marshal's Office instituted a program to use the Life Safety Sprinkler and other non NFPA 13 compliant systems for code compliance in Maine. The Life Safety system is designed to allow safer egress from the building in case of a fire, not to protect the building. A fire department connection is located on the Rt. 73 side of the building to the left of the main entrance. A Life Safety sprinkler system is generally not accepted by building codes to qualify for provisions for buildings with an NFPA 13 compliant sprinkler system. The sprinkler system has been inspected and tested quarterly by Eastern Fire Protection. The annual cost is approximately \$1,500.00. The sprinkler alarm is monitored by Seacoast Security.

1.6 Ventilation

The roof inspection reports indicate two gravity vents on the roof, located over what appears to be a concealed chase for ventilation. There are no visible openings in the chases below the ceiling. Since the ceiling is a "new" suspended ceiling it is possible that the ventilation was eliminated when the ceiling was dropped. The basement in particular does not appear to have adequate fresh air available. The suspended ceiling tiles in the cafeteria area show signs of excessive deflection which is likely due to a large moisture content because of poor ventilation and lack of fresh air. Each toilet room has a roof mounted turbine for exhaust. Combustion air for the boiler is provided by a duct to the boiler room from the building exterior. Several rooms in the basement that have been occupied have no windows or ventilation. There is a de-humidifier in the basement which suggests a moisture issue has been experienced.

1.7 Roofing

The main roof area was reroofed in 2000 for a cost of approximately \$52,000.00 it is nearing it's 20 year life expectancy. An estimate of reroofing would likely be at least double the 2000 cost. The lower roof over the main entrance also needs replacement. This roof is a coal tar and gravel roof and may also contain asbestos. Annual servicing and repairs to the roof have been done by G&E Roofing, Augusta, ME. Current service agreements are approximately \$800.00 per year.

1.8 Well Water

Gilford Butler water is from a drilled well located in the front of the building under a water manhole cover. The water enters the building in the boiler room where the pressure tank is located. A water treatment system is installed and has been serviced by New England Utility Management Enterprises, LLC of Richmond, ME. The annual cost was approximately \$1180.00 plus extra costs identified in the Contract Operator Service Agreement.

Historically the internal school piping has had elevated levels of lead at a drinking fountain and other locations. The studies indicate that the source of the lead has been from lead in the soldered pipe joints and from brass plumbing components. The drinking fountain has been removed and any water to be consumed is limited to the cold water. A program was instituted by RSU 13 to flush the pipes on a regular basis to reduce the amount of time the water remains in the cold water pipes. A water treatment system was installed to maintain the PH balance in the water by adding chemicals to the water. Semi annual water test reports have been provided by RSU 13. *Update: The drinking fountain has been reinstalled.*

1.9 Septic System

Little information has been provided on the existing septic system. A general location of the septic tank has been described as well as the disposal field location. There was no data on the septic system in the files provided by RSU 13. The capacity and condition of the septic system should be investigated to understand any future use issues.

1.10 Building Plumbing

The water distribution system appears to be primarily soldered copper tubing. The drainage piping is primarily cast iron with some areas having PVC where repairs or modifications have been made. There are no toilet facilities in the basement. Installation of toilets in the basement would require a grinder sewer pump because the basement is lower than the septic tank and disposal field.

The basement storage area contains a liquid only lift station for the kitchen. The connections to and from the lift station are not known. Floor drains likely drain to a catch basin located at the edge of a drainage swale at the rear of the building.

Hot water is available to the toilet rooms and the kitchen but the size of the water heater will not support showers or larger hot water demands without a larger water heater and likely increased pipe sizing.

1.11 Heating System

The heating system consists of a steam boiler which is approximately 10 years old, with steam radiation units and thermostatically controlled valves at each terminal unit. Near the main entrance there appears to be a broken valve. The existing steam piping and controls do not appear to be in good condition. The basement storage area contains 3- 330 gallon fuel oil tanks which appear to be relatively new.

1.12 Electricity

The building has an overhead electrical service from a pole near the former Tyler residence. The size of the entrance panel appears to be 200 amps. The interior of the building has minimal electrical outlets. Most lighting is fluorescent fixtures installed in a suspended 2x4 grid. The service entrance size may need to be upgraded to a dual 200 amp service.

Electrical consumption over the last 2 years averaged 35,037 KWH per year. The average cost over the last 5 years is \$5,822.67 per year. The average cost per KWH is 16.6 cents.

1.13 Telephone

Land line telephone service is provide adjacent to the electrical entrance. A central phone is located in the office with phones in each classroom. The average annual cost for telephone is \$1,326.26.

1.14 Internet / Cable

The building is served by cable television and internet.

1.15 Intercom

A voice intercom and announcement system is connected from the office to each classroom.

1.16 Fire Alarm

Smoke detectors are located throughout the building with alarms and strobes.

1.17 Heating Oil

The 5 year average cost of heating oil for Gilford Butler is \$10,852.03. The highest was in 2014 at \$15,321.00 and the low was \$7,037 in 2017. In gallons of heating oil over the last 3 years, the average is 3,674 gallons per year. The internal oil capacity is 990 gallons.

1.18 Property and Liability Insurance

The 5 year average for insurance is approximately \$2,000.00 per year.

PART 2 CODE CONSIDERATIONS AND ISSUES

2.1 Life Safety Code

Mubec (Maine Uniform Building & Energy Code) does not apply to Towns with less than a population of 4000 people unless the town votes to adopt the code. At this time the Town has not adopted the Code. The applicable code is the Life Safety Code. The Maine State Fire Marshal's Office enforces the Life Safety Code, NFPA (National Fire Protection Association) 101, the current version is 2009. The State is considering adoption of the 2018 version of the Code within 12 to 18 months. The State Fire Marshal's Office also reviews plans for ADA and Maine Human Rights Act compliance.

As a school building (Education Occupancy) on the first floor, Assembly Occupancy (cafeteria) & Storage (storage and boiler room) along with Educational in the basement, much of the existing conditions in Gilford Butler have been deemed to have been "Grandfathered" since the building was "approved" by the governing authorities at the time of construction. Clearly over the life of the building improvements have been made to increase life safety by installing a Life Safety Sprinkler System and a detection and alarm system. A walk-through of the building performed on September 10, 2018 for a preliminary assessment of Life Safety issues suggests that there are several areas at stairs with 3 or more risers which have non compliant handrails and/or guard rails. The main stair to the basement is an unprotected (unenclosed) vertical opening and does not have a conforming landing at the top of the stairs before reaching the door. The stairway should be enclosed at the basement level and a landing should be added at the top of the stairs. This vertical opening is a Life Safety violation.

The "doghouse" (bulkhead) or exit stairs from the cafeteria to the playground area has inadequate headroom and also does not have a proper sized landing at the exit discharge door. This is a major code violation and without remediation will limit the use of the basement.

2.2 Change of Use

As a school with students up to the 12th grade the occupancy classification is Education. (Education Occupancy) A use other than that constitutes a Change of Use by NFPA 101. The result is that rather than having to comply with the chapter covering Existing Educational Occupancies, the change of use would require compliance with the chapter for new construction, whatever the use may be such as Business or Mercantile depending on the use of the building. The use of the building brings into play different chapters of the Code depending on the classification of the use. There are different standards applied to a building

depending on the use of the building. Each different use may cause a change of code requirements and limitations.

The authority having jurisdiction (State Fire Marshal) would determine if the Assembly and Storage would have to comply with the chapter for New Assembly Occupancies. Both new and existing Storage Occupancies follow the same Chapter.

2.2 ADA (Americans with Disabilities Act)

Under the ADA if the building remains under municipal ownership it is not eligible for the "elevator exemption". Private ownership buildings with 2 occupied levels are exempt from the requirement to provide an elevator. The requirement for the installation of an elevator in a building constructed prior to the ADA adoption timeframe is tied to the amount of dollars spent on improvements or additions to the building. Generally this amount would be \$600,000.00 or more. This is commonly referred to as the 20% rule which states that up to 20% of the cost of improvements to a building must be applied toward ADA accessibility. 20% of \$600,000 would be close to the cost of an elevator. Improvements under \$500,000 would not require the installation of an elevator. From a practical standpoint an accessible route to the basement should be a high priority for future use of the basement, whether or not it is required by ADA.

PART 3 BUILDING CONDITION OBSERVATIONS

3.1 Exterior

The brick exterior facing of the building is in fair condition. To the right of the main entrance where the building offsets 2 ft. there is some displaced and loose brick. At the West side of the first floor South exit there are loose bricks. It is unknown when or if the brick has ever been re-pointed. An annual amount should be budgeted for re-pointing of the brick.

Most white trim on the building is vinyl siding which is in poor condition and should be replaced. Other wood trim and concrete sills are painted white but there are areas of severe paint "alligating" which will require existing paint removal and new paint application. Lead paint existence is unknown but should be tested. Windows are white vinyl replacement units which are nearly 40 years old and are in poor condition. The windows should be replaced in the near future. Roofing has been addressed earlier but the main roof is approaching its 20 year life expectancy. (installed in 2000) The cantilevered roof at the main entrance is described in the latest roof inspection as a Built up Roof with coal tar and a gravel surface. A report from G&E Roofing suggested this was in need of replacement in

2015. No indication has been found that this recommended replacement has been performed. An annual amount should be budgeted for roof replacement.

Leaks through the exterior walls from rainwater on the playground side of the building into the basement have been reported. There is a visible gap between the exterior wall and the playground asphalt paving. There is inadequate pitch or slope away from the building resulting in ponding of water against the exterior wall.

Raising the concrete entrance slab up to the height of the doors with a new 6 inch or 7 inch added slab and a revised ramp could provide wheelchair access to the first floor. This should be considered as a minimum for accessibility to the first floor.

Major areas of exterior wall have little to no insulation where the brick is exposed on the exterior and there is concrete block on the interior. Consideration for building re-use should include investigating methods of adding insulation to those walls.

3.2 Interior

The main stairway to the basement is not Code compliant, it should be updated with compliant hand rails and guard rails and a proper fire enclosure with a landing should be added. The "dog house" exit stairs need to be modified for code compliance by adding hand rails, a landing at the exit door and providing adequate head room. These violations may limit the use of the building.

The kitchen has a 6-burner electric cook top with a hood but the hood is not connected to any duct work and does not have an extinguishing system. The cook top and hood should be removed to avoid the expenditure of roughly \$15,000 for a compliant hood.

Although the boiler is relatively new the steam distribution and controls appear to be in poor condition. The toilets are not ADA compliant and the hot water and electrical distribution are both minimal and may require upgrades in size and capacity.

PART 4

HISTORICAL RSU 13 FACILITY COSTS for GILFORD BUTLER

RSU 13 has provided detailed historical costs for Gilford Butler from 2013 to 2017 as well as the budgeted amount for 2018.

4.1 Breakdown

The historical annual facilities average costs 2013 thru 2017 are as follows;

1. Building Maintenance Services (Snow plowing & trash removal)	\$4,934.92
2. Repair & Maintenance Services Contract (lawn mowing, roofing, fire extinguishers, water testing, plumbing, septic system, electrical & heating)	\$18,827.88
3. Insurance. (property & liability)	\$2,090.60
4. Communications (internet and telephone)	\$1,326.26
5. General Supplies (hardware & supplies)	\$1,963.32
6. Energy Electricity	\$5,822.67
7. Energy Oil	\$10,852.03
8. Dues & Fees (license)	\$48.00
9. <u>Custodial (janitorial supplies)</u>	<u>\$2,791.66</u>
5 YEAR AVERAGE ANNUAL COSTS	\$48,657.34

Not included in the above average annual costs is a one time expenditure in 2014 for Capital Renewal and Renovation for \$15,045.00. If this is averaged over the 5 year period the average annual cost increases by \$3,009.00.

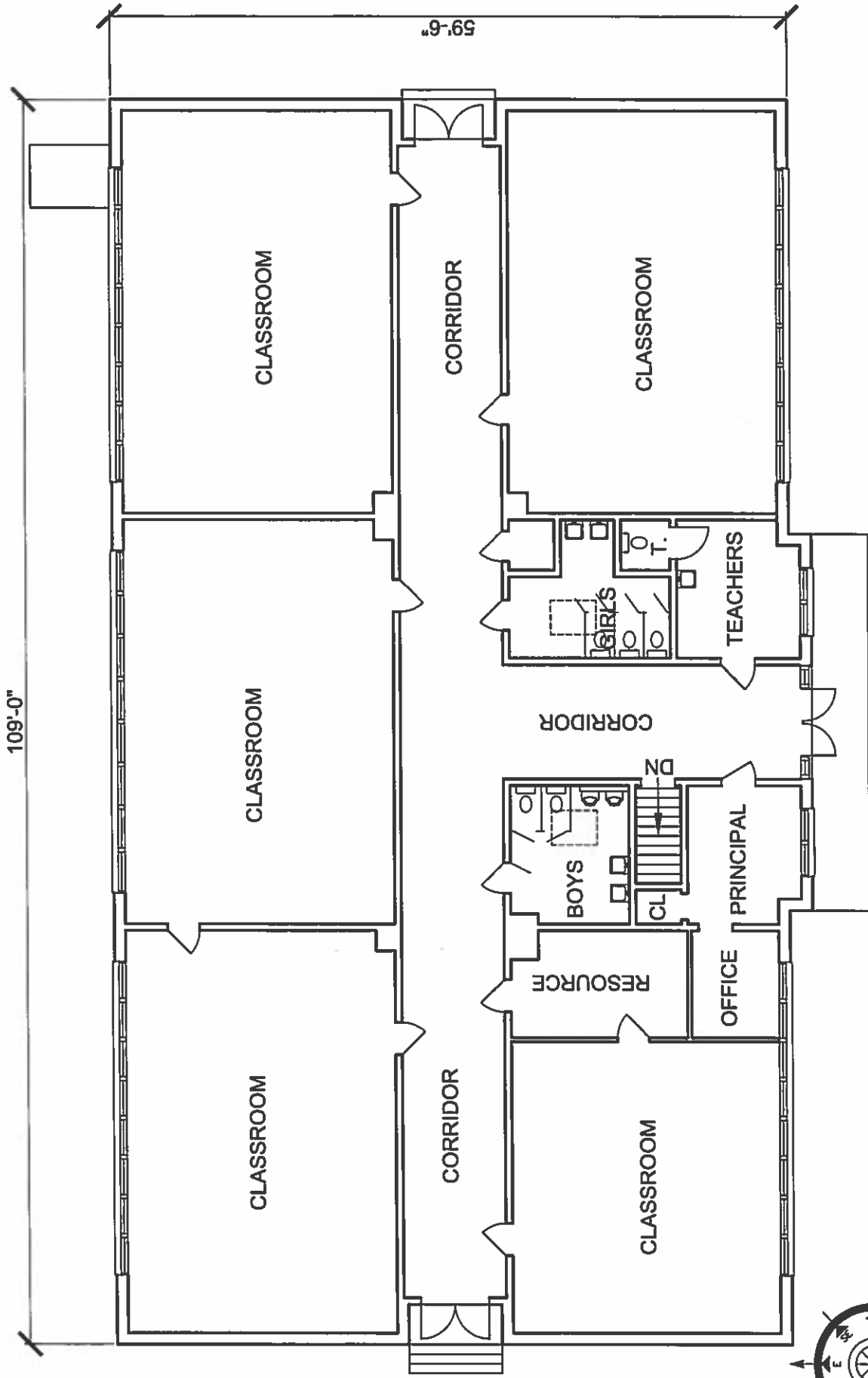
The salary of a custodian or other RSU 13 staff is not included in these costs.

4.2 Five Year total average costs \$51,666.34

**PART 5
PLANS and PHOTOGRAPHS**

- First Floor Plan.
- Basement Plan.
- Google street view photographs.
- Google Earth aerial photograph.

End of Report

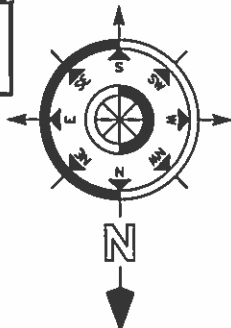


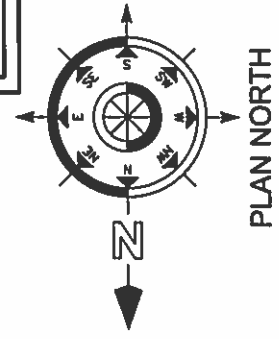
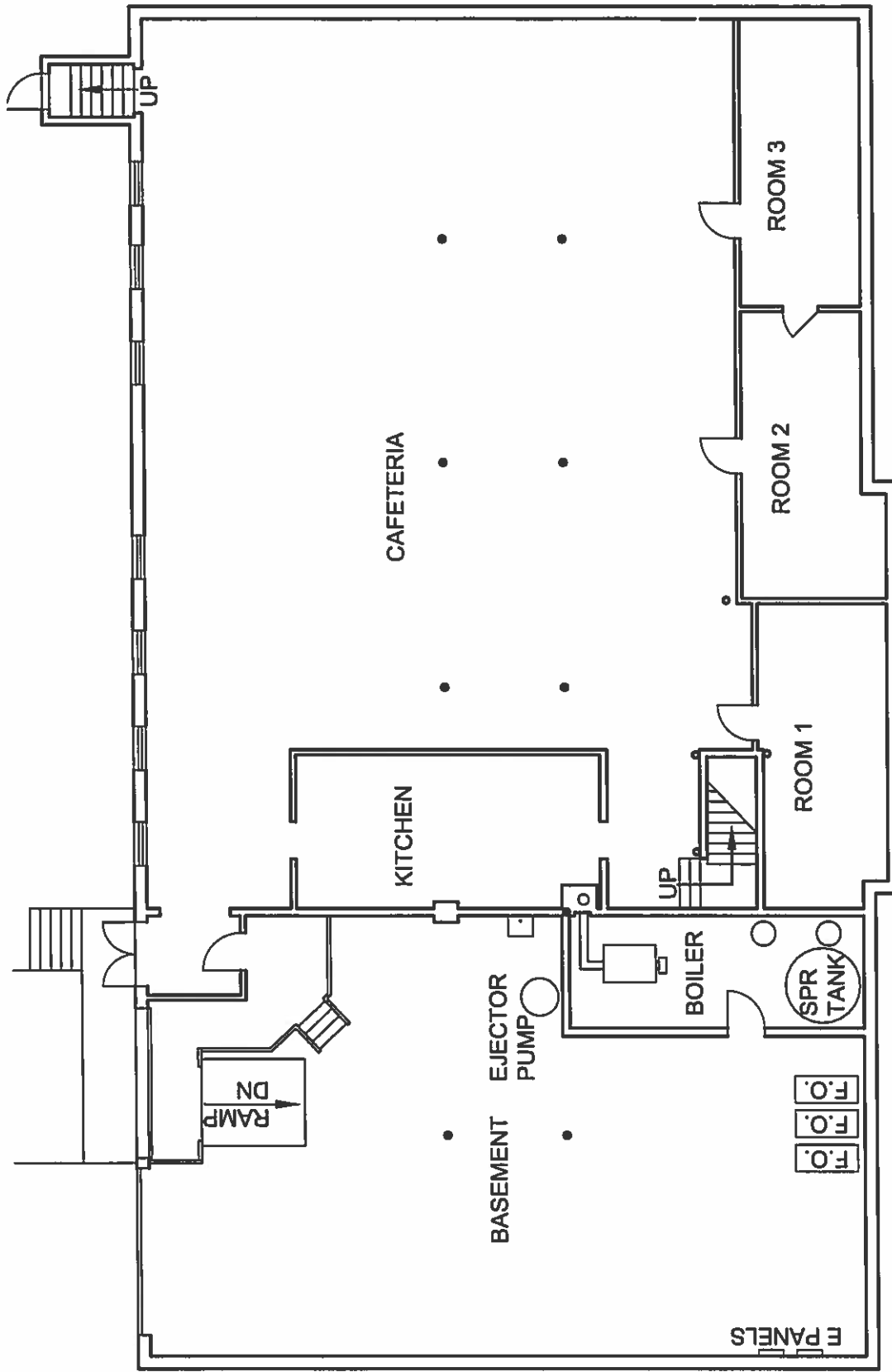
GILFORD BUTLER SCHOOL



FLOOR PLAN

FIRST FLOOR





FLOOR PLAN
BASEMENT

GILFORD BUTLER SCHOOL





