

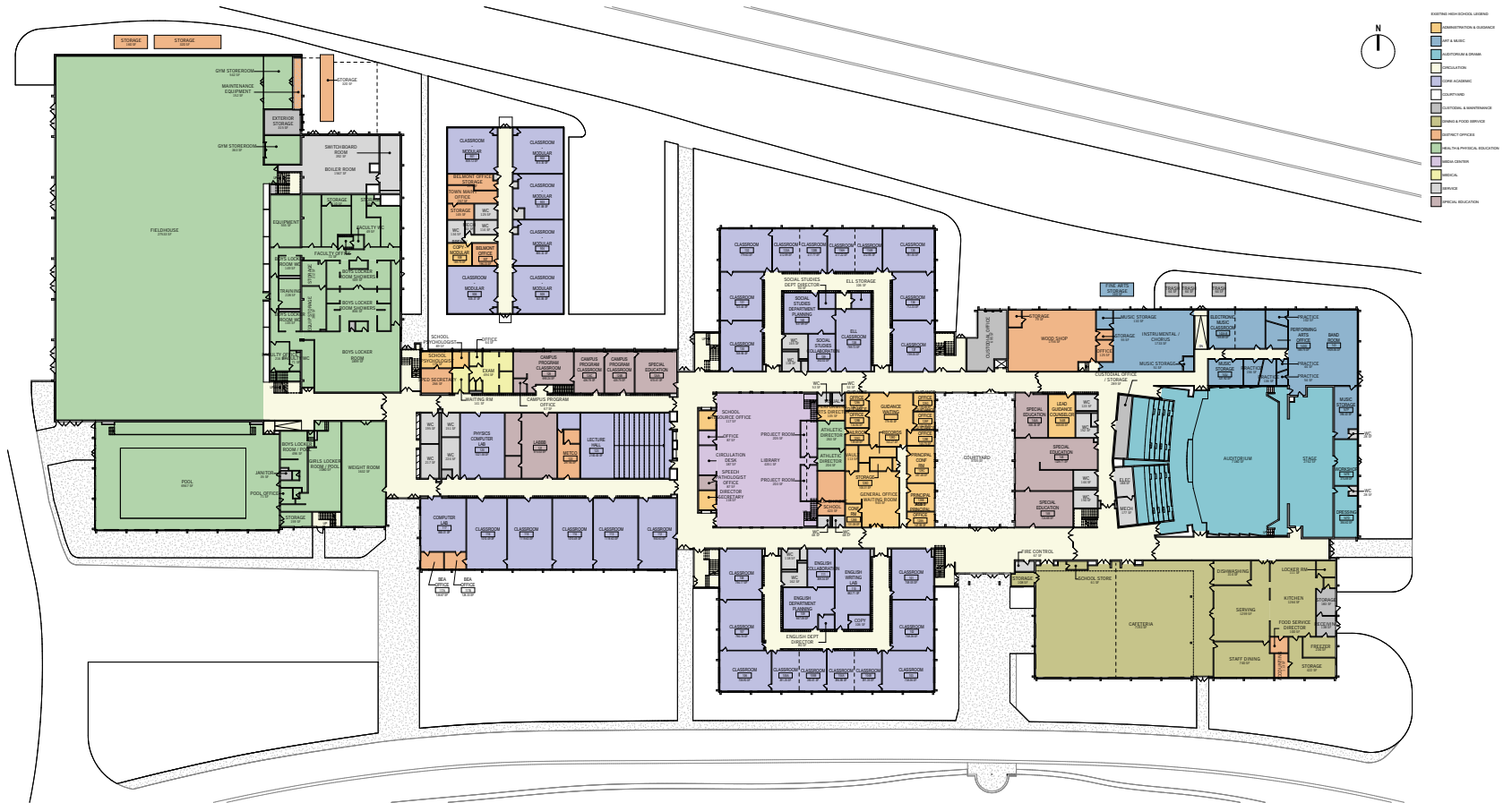


EXISTING CONDITIONS SUMMARY

Belmont High School

ARCHITECTURE

Existing Conditions Summary



Existing Conditions Summary



STRUCTURE

Existing Conditions Summary

Vertical additions may not be feasible, due to limited capacity of foundations, columns, and roof structure.

EXISTING CONDITION OBSERVATIONS

- The existing structure is performing well - Minor cracks in the interior/exterior masonry walls were observed.
- No signs of foundation settlement and no undue vibration from footfall were observed
- Majority of walls do not appear to be structural in nature

FEASIBILITY OF RENOVATION / EXPANSION

- Compliance with International Existing Building Code
- Proposed renovations will trigger an analysis of the existing building and will require the addition of shear walls or braced frames - probably requiring additional piles within the building.
- Grade beams and piles will be required for phased and partial demolition to support the new exterior walls.
- Renovations will require trenching of existing slabs - not easy to trench under supported structural slabs
- Proposed additions should be horizontal, separated from the existing structure by expansion joints.



ELECTRICAL

Existing Conditions Summary

Lighting fixtures are inefficient, controls are antiquated, and space/storage is not adequate for current needs.

EXISTING CONDITION OBSERVATIONS

- **Original Fixtures:** Fixtures are original to the building in most of the spaces - utilizing fluorescent lamps (inefficient).
- **Controls:** Currently have local line voltage switches, but should have low voltage switches employing dimming, vacancy sensors and day lighting controls.
- **Transformer:** The transformer size and location will need to be addressed with any projected upgrades/additions.
- **Generator:** The generator size offers limited opportunity to add equipment. The existing distribution does not meet today's code required separation of systems.
- **Electrical Closets:** For new/renovated designs, all electrical equipment would be in dedicated electric closets. No equipment in storage closets or other non-dedicated areas.
- **Main Electric Room:** There are current space limitations.
- **Science Room Lighting/Controls:** Original fluorescent lighting and controls (local line voltage switching) are typical for most of the classrooms throughout the building.



MECHANICAL

Existing Conditions Summary

Current mechanical systems are reaching end of life, difficult to repair, and are not positioned to be energy efficient.

EXISTING CONDITION OBSERVATIONS

- **Steam Boilers:** 47+ year old steam boilers in building.
- **Duel Fuel:** The current burners can burn gas or fuel oil.
- **Boilers:** All boilers have been partially or completely re-tubed several times.
- **Steam System:** Requires maintenance of steam traps, condensate pumps, receiver tanks, control valves.
- **Roof Top Units:** Casings are in good condition, but corrosion around the unit base. There are two vintages of units (same manufacturer), but with differences in technology. Five units have web interfaces. All have steam heating coils.
- **Unit Ventilators:** Provides heating with hot water and outdoor air ventilation through exterior louvers. The casings are in good/fair condition (dented). Pneumatically controlled dampers and valves require a high level of maintenance.
- **Pneumatic Temperature Controls:** Has original copper tubing, some covered in fireproofing - repairing of leaks is difficult. Little to no monitoring capability.



PLUMBING

Existing Conditions Summary

Current plumbing fixtures / systems are antiquated, do not meet current codes, and are not energy efficient.

EXISTING CONDITION OBSERVATIONS

- **Plumbing Fixtures:** Most fixtures are older models and are not compliant with current codes / does not meet ADA req.
- **Cold Water System:** More than adequate to meet existing / future demands.
- **Hot Water System:** Combination of steam-fired and electric water heaters. A more centralized approach should produce a more energy efficient solution.
- **Sanitary System:** Piping system is visibly in fair condition, but piping serving science labs is not acid-resistant per code. Lab water should be on its own protected system.
- **Storm System:** Existing roof drains and visible piping systems appear in good condition.
- **Natural Gas System:** Existing gas service is more than adequate to meet current needs of school and visible piping systems appear to be in good condition.
- **Kitchen:** Three-compartment sink / associated grease trap not used. No exterior grease trap on site.

