



Town of Bow Fire Station/Community Building Electrical Assessment
October 7, 2013



YEATON ASSOCIATES, INC.

RECOMMENDATIONS

1. **Electrical Service:** The existing service is adequate for current use of the building. Currently, there are no recommendations with regard to the electrical service, unless significant loads are added to the building such as central air conditioning or a commercial kitchen is added to the building.
2. **Egress Lighting:** Bring egress and exit lighting up to NFPA 101 (Life Safety Code) standards, including egress and exit lighting from basement.
3. **Fire Alarm:** We recommend a fire alarm system for any fire station with sleeping quarters.
4. **Electrical Service Grounding:**
 - a. Provide grounding electrode conductor to the metallic water service pipe and provide continuity around booster pump and any other item that may be removed for service.
 - b. Bond both ends of the galvanized steel (ferrous) conduit encasing grounding electrode conductors.
5. **Branch Panels (load centers):**
 - a. Provide additional sub-panels or consolidate circuits to eliminate tandem breakers on load centers that are not listed and labeled for tandem breaker use.
 - b. Provide filler plates as required.
 - c. Provide proper working clearances in front of panels by removing storage or portable furnishings. Relocate panels or modify building structure where clearances are compromised by building structure.
 - d. Add ground bars, relocate grounding conductors to ground bars and remove bonding jumpers to isolate equipment grounding system from the system neutrals.
6. **Branch Circuits:**
 - a. Replace GFIC outlets that are not working.
 - b. Replace the outlet for the vending machine to GFIC.
 - c. Replace all outlets in Vehicle Bays to GFIC (current code requirement).
 - d. Monitor any circuit shorts to identify any manufacturing defects in insulation.
 - e. Provide missing box and device covers.
 - f. Provide additional circuits and receptacles for high use spaces (Radio Room and Chief's Office).
 - g. Provide AFCI Protection in Crew Quarters as required by current code.

7. Lighting and Lighting Controls:

- a. Upgrade lighting and lighting controls to meet current energy codes and reduce maintenance costs.
- b. Provide new exterior lighting to meet Dark Sky requirements and to meet the Town of Bow business district requirements.

8. Telecom:

- a. Provide proper support for telecom cables and raceways.
- b. Provide dedicated spaces for telecom systems.