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April 30, 2012

Architect Design Group, pc
1 Sunset Plaza
Kalispell, MT 59901

Attn: Frank John Di Stefano

Re: MSU Cooley Lab Renovation
Fire Sprinkler System – Site Inspection
Specification Section 13000
Bozeman, Montana
Our Job #10112

Dear Frank,

We were on site last Friday, April 27th, to inspect the installation of the fire sprinkler system work to date. We performed a cursory walk through of the building and reviewed the piping and sprinkler system installation that was installed and could be viewed at the time. Following is a list of items that we found during the inspection that need to be corrected or completed:

General:

1. The hanger located where wire restraint is installed at the end of the branch lines is required to resist upward movement and shall have a surge clip (Tolco Fig. 25) installed per the approved shop drawings. These restraint clips have not been installed.
2. There are several locations (approximately 6) throughout the building where sprinkler heads would be considered obstructed (continuous obstructions) per NFPA #13. It would be best to walk through the building with the sprinkler contractor to point out these areas and to determine the best solution for correcting the problem. Also, it cannot be determined at this time if all systems have been installed and whether or not all obstructions are identified.
3. There are several locations where pendent sprinklers have been installed under ductwork instead of the upright sprinklers indicated on the plans. These pendent heads shall have head guards installed to protect them from damage.
4. On almost all floors, the piping in and around the elevator lobby has not been completed. This includes the piping to the sidewall sprinkler at the bottom of the elevator shaft.
5. Provide 45 degree elbow and wall plates on drain piping through exterior wall.

Basement Level:

1. Work on the basement level is not completed at this time and there are still many areas where piping needs to be installed.
2. Areas where piping has been installed, it appears that the main and branch lines have been lowered about 2" from what was indicated on the shop drawings. This results in the upright sprinklers 14" down from the concrete deck instead of being within the required 12" of the ceiling. Several upright sprinklers may need to be raised to within 12" of the concrete ceiling deck.

First Floor:

"FIRE SPRINKLERS SAVE LIVES"

1. Sprinkler heads are not installed in Corridor 106. It appears that these were missed on the shop drawings.
2. Branch line restrain is missing in two locations in Lab 109.
3. A hanger is missing in Lab 111.

Second Floor:

1. The seismic restraint is missing or incorrect on the end of the branch line in Office 212 and Office 220.
2. ½" brass extension nipples have been installed on the pendent sprinklers on the south side of the building. These ½" extensions are not allowed in a seismic area. These need to be removed and the drop lengths adjusted as necessary.
3. The sprinkler piping is attached to the ductwork in Office 215. This is not an approved method of hanging and shall be corrected with a hanger to structure.

Third Floor:

1. The seismic restraint is missing on the end of the branch line in Office 315.
2. There is mechanical piping supported from the sprinkler piping in Office 315. This is not allowed by NFPA #13. The mechanical piping needs to be independently supported from the structure.

Fourth Floor:

1. The seismic restraint is missing on the end of the branch line in the NW corner of Lab 406.
2. The four way seismic brace is not installed where the riser intersects the main in the corridor.

Fifth Floor:

1. Work on the fifth floor has not been completed at this time and there are still many areas where piping needs to be installed.
2. There are no retaining straps installed on the c-clamp hangers installed as required by NFPA #13 for seismic areas.
3. The hangers installed for the branch line piping uses all thread rod which is bent. This is not allowed by NFPA #13. The bent all thread rods need to be replaced and machine thread rod (bent at the unthreaded section) installed per the shop drawing details.
4. Contractor shall verify with the designer that the final crossmain routing is adequate based on the hydraulic calculations. It appears that the crossmains will require offsets to route around other piping.
5. Install sprinkler heads under ductwork over 4' wide as necessary.

The above comments should not be considered a complete list of deficiencies or items to be corrected. This is only a list of items that were noted during this site inspection. The items listed above may be items that still have not been completed by the contractor at the time of the inspection. If you have any questions, feel free to contact the undersigned.

Very truly yours,



Jason Anderson, PE
Sprinkler Technology Design, Inc.