

Consequences of Inadequate Planning

Nonexistent Suspended Maintenance System

The problems associated with a building that lacks a compliant suspended maintenance anchorage system are self evident. Building owners are left with a building that is not compliant and not free of “recognized hazards”. In the event of a mishap and the inevitable litigation, the most frequently asked and crucial questions are:

- *What was done to prevent the accident?*
- *What could have been done to prevent the accident?*

In complying with the previous noted standards, the property owner is protected against these potential liabilities.

Occasionally the building maintenance anchorage system was not specified in new construction documents. Therefore, no anchorage systems was ever installed. In some circumstances, the lead design firm might have to pay for the installation of the anchorage systems because these Standards should have been considered in the designing and planning stage.

Inadequate Suspended Maintenance System

An inadequate suspend maintenance system is more dangerous than not having a system at all. Non-compliant systems can give workers a false sense of security, resulting in workers not taking the proper pre-cautions had they known the shortfalls of the system they are using.



In an effort to save money, many contractors design and install anchorage system themselves or will contract with firms that are not experienced in such designs. These examples are typically easy to spot due to the insufficient number of anchors or anchorage systems that do not meet the proper load requirements.

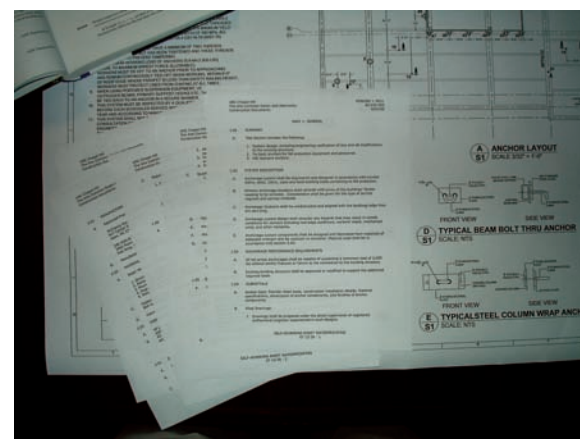
The current regulations mandate that the fall protection systems are designed by a licensed engineer experienced in such designs. The vendor (and/or designer) who supplies the suspended maintenance system is liable for the system.

A contractor that installs the system must provide a letter of system compliance and provide engineering documentation that the system and anchorage components meet proper loading and layout requirements.



Inadequate Bid Documents - Drawings & Specifications

General contractors quite often ask for a bid for building suspended maintenance systems without detailed design drawings and specs. This lends itself to over/under design by inexperienced vendors, who are interested in selling the product only. In these cases, the owners of the building will fall victim to an inadequate system that will leave them potentially liable with OSHA’s General Duty Clause.



The Correct Approach

Step #1 Develop a Concept

During the building design development phase ask an experienced suspended maintenance designer and/or supplier to provide a preliminary anchorage system concept and budget based on the current building design, shape, and geometry.

The building owners and designers should also consider how the system will be used. For example: will the system be used for just window washing or all exterior maintenance?



Step #2 Select a Design Team

With a system concept and use in mind, the lead building designer should contract the design to an experienced suspended maintenance firm, just as they would with the mechanical or electrical systems. Typical design fees range from \$300 to \$5,000 depending on the complexity of the project.

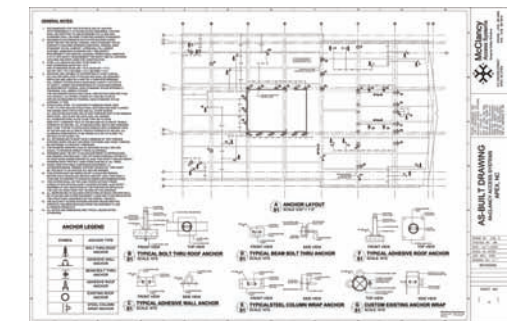
Always be careful of the *free* design scheme. Many anchor companies will offer the free design but will then over design a system in the hopes the contractor will use their product. Saving thousands of dollars on a design fee can end up costing the owner much more in contractor confusion, change orders, or inaccurate bidding based on insufficient drawing information.

By paying for designs, the design firm can own these drawings and have the right to shop them to other contractors. The chosen contractor that installs the suspended maintenance system will ultimately be responsible for the overall Standards compliance of the system.

Step #3 Preparing the Bid Documents

The design firm should include the following:

- **Anchor System Layout** - The designer should provide design drawings that clearly indicate the location and type of anchorage system proposed.
- **Anchorage System Details & Material Specifications** - The bid should clearly explain the system and the components capabilities, so that if other anchor manufacturers bid the project, the owner and contractor can compare “apples to apples”. If the designer specifies their own anchor, be certain that equivalent anchors of other manufacturers are allowed.
- **Value Engineering Options**- Each bidder should have the opportunity to provide any value engineering options. This always benefits the building owner.
- **Compliance Issues**- Each bidder should have the opportunity to question any compliance issues with the proposed design since they will be fully responsible for the entire anchor system.
- **Loading Requirements**- Many anchor companies are quick to say that their anchors meet the loading requirements. They will provide a drawing imprinted with a Professional Engineers stamp on the drawing. Be aware that they are verifying just the anchor’s strength capacity, not the connection or supporting building structure. On new construction projects, this should be verified by the EOR for the project.



These simple steps will ensure that the building owner will receive a compliant and efficient suspended building maintenance system, both in practical use and monetarily.

