

Memo

To: Bill Morrasco, Owner
From: Student, Civil Engineer
Subject: Carlyle-Windsor House
Date: 24 May 2011

Summary

The Carlyle-Windsor house was successfully restored by Vintage Restoration. However, the exterior paint is blistering and peeling. As a civil engineer, I will investigate the matter and have the issue properly fixed. This memo recommends the Carlyle-Windsor House to be repainted correctly.

Discussion

The Carlyle-Windsor house, a large wood-frame Victorian, had several coats of paint previously. The choice of exterior paint was between latex and alkyd (oil base). Alkyd paints perform better than latex on previously painted surfaces. The project supervisor selected alkyd paint as the most suitable for the Carlyle-Windsor house.

The most common cause of blistering and peeling is moisture. Latex paints perform better than alkyd on damp surfaces because moisture passes through them readily. Paint applied in direct sunlight may blister because the surface paint dries before thinner can escape; as the sun vaporizes the remaining thinner, the paint blisters because the thinner cannot escape through the outer skin of dried paint.

Three days before the house was painted, the exterior was sanded down to bare wood, then a primer coat was applied. Allowing too long an interval between the application of the primer coat and the finish coat can result in intercoat peeling. It had rained heavily two days before the house was painted. It was partly cloudy on the day the house was painted; the high temperature was 76 degrees. The forecast for the week after the house was painted called for clear skies and unusually high temperatures.

Moisture meters are used before painting to test the percentage of moisture by weight of actual water present in the wood. The percentage of water permitted in wood that is to be painted is usually 15 percent to 18 percent. 20 percent is too high. The moisture found in the walls on the day the house was painted was 19 percent.

Recommendation

I recommend that the Carlyle-Windsor house be repainted. The final coat of the exterior paint was applied when the moisture found in the walls was 19 percent. This number was too high by one percent, although the project supervisor did not want to wait too long between coats. I believe that the supervisor is responsible for the current issues because he did not follow company policy by painting outside of the 15 to 18 percent acceptable moisture level.