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Structural Design Option
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Spring Run Assisted Living
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Structural Technical Report 1

Structural Concepts / Structural Existing Conditions Report

Executive Summary

This technical report is a detailed breakdown of the building systems of Spring Run Assisted Living, which is the newest building in Willow Valley Retirement Community. It will begin to analyze the building but is only a preliminary analysis.

Like most of the other buildings the newly formed retirement community, Willow Valley, this Y shaped building utilizes load bearing masonry walls and precast concrete plank. Steel columns and lintels were used on a limited basis along with cast in place concrete for the footings and slab-on-grade. The masonry walls act as not only the main gravity load resistance but also it is the sole lateral resistance system. This 118,4000 square foot building is intended for the elderly who are nearly self-sufficient but may need help with a few everyday things. The architect wanted the feeling of an elite community so when you pull up to the building you enter under a Porte Cochere. Next, as you walk into the building is the "Grand Hotel" entrance. The corridor leading off of the grand entry is meant to give the feeling of a "Main Street". This is acquired through the presence of such things as a gift shop, dining area, café, administration, library, mail room, lounge areas and rest rooms.

This report is designed to give the basic overall structural design of the building along with the loadings which went into design. You will find a detailed description of what materials were used, the use for these materials and the extent of their use. Placed throughout this report are some of the AutoCAD drafts of sections and floor plans to help provide a better understanding of their assembly. A spot check of a typical floor framing as well as a preliminary lateral analysis of a random shear wall will be found after seismic and wind analyses. Hand calculations used during the analyses and spot checks can be found at the end of the report.