

Earth Sheltered Structural Design

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Abstract:

This project covers the design of an earth sheltered residential structure. The building was designed for a client in central Pennsylvania. The main structure of the building utilizes a partially composite steel beam with concrete deck. The walls have been designed with concrete masonry units and the columns are HSS. The building is earth sheltered to utilize passive annual heat storage which creates a large dead load for the walls and roof structure. The architecture was a collaboration between the designer and the client.