

## PROJECT PROFILE

## GROUND ANCHORS WITH CONCRETE REACTION BLOCKS

### Government > Fort Carson Military Housing in Colorado Springs, Colorado

In Colorado Springs, Colorado a complete design build stabilization system was built to provide adequate stability to the slopes of the Fort Carson military housing development. Walltek Design Build, Walltek Southeast and Rembco worked together as a team to design a system of rock anchors and concrete bearing blocks known as "Patterned Ground Anchors".

Based on the recommendations by the Walltek group of geotechnical engineers, the stability of the slope needed to be raised to an acceptable 1.3 safety measure since a portion of land would be used for military housing. This was accomplished through the use of anchors and drains. The anchors increase the stability of the slope by providing a resisting force that is not currently in place. This force is provided through the combination of 1) anchorage tension acting in direct opposition of the slide direction and 2) increased friction on the slide plane due to increasing the normal force on the slide plane, thus increasing frictional resistance.

The stabilization of the hillside needed to be completed before Walltek Southeast poured the post tension slabs for the houses. The system of rock anchors that were used added stability to the existing slopes along the western edge of the Area M housing development. In addition, a system of drains was installed into the existing cut slopes to reduce the groundwater levels as part of the design and implementation of the stabilization system.

The entire project needed to be completed within two months and the dream team of Walltek Design Build, Walltek Southeast, and Rembco worked hand-in-hand to complete the project in less than two months and within budget.



Anchor drilling in process.



Patterned ground anchors.

**STABILIZATION SYSTEM** Ground anchors with concrete reaction blocks.

**LINEAR FEET** 31,000

**Customer** Balfour Beatty

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