

CASE STUDY

FRANCES HODGKINS SOIL NAILS AND MICROPILES

✉ info@abseilaccess.co.nz

🌐 www.abseilaccess.co.nz



INTRODUCTION

From July 2017 to February 2018, stabilisation works were undertaken at Frances Hodgkins Retirement Village in Dunedin after extreme weather events compromised the slope below several buildings. Loss of slope integrity posed a risk to the facility, prompting the implementation of a comprehensive anchoring and drainage solution.

PROCESS

The works involved installing more than 200 fully grouted soil nails, ranging from 4 to 7 metres in depth, in a 1.5m offset square grid. Each 100mm diameter hole housed a 25mm GRP solid tendon. Some soil nails were positioned beneath the building, requiring careful coordination to manage drill rig height restrictions and avoid service clashes. The building's pile legs were reinforced with pile end-caps anchored by 4m deep Titan 30 self-drilling anchors encased in reinforced concrete. To relieve hydrostatic pressure, 7m deep sub-horizontal drains were strategically installed around the slope. Ground conditions—comprising reclaimed quarry fill, weathered basalt, clay, and construction waste—necessitated varied drilling methods to achieve secure anchoring. Mesh facing with erosion control matting was applied, with each soil nail tensioned to secure the mesh and bearing plates.

OUTCOME

All soil nails passed stringent testing, and grout samples consistently met strength requirements. The project was completed on schedule, with quality assurance exceeding specifications. The site's safety management was praised by the Ryman Health & Safety Team, and the completed works provided a robust, long-term slope stabilisation solution for the retirement village.

