

建築物扶壁及壁式基礎案例探討

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摘 要

本文藉由臺北市緊鄰主要道路及重要結構物之建築案例，說明於深開挖工程中，為增加施工之安全並減少鄰損，採用扶壁、地中壁及地盤改良做為抑制擋土連續壁變形之輔助方案，而地中壁也做為日後建築結構物之承載壁樁使用。設計時除利用RIDO及Plaxis程式分析擋土壁之變形外，更以ETABS軟體評估土壤與結構之互制行為。

本案例目前已開挖至大底，根據監測結果，壁體變形量與分析結果相當一致，顯示設計階段之假設及參數選擇相當合理，而地中壁及扶壁亦發揮其抑制變形效果，後續結構物持續興建以及監測成果十分值得期待。

關鍵字：地中壁、扶壁、壁樁。

Study of a Construction Case with Buttresses and Cross Wall Foundation

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Abstract

A construction case located in Taipei which is adjacent to main road and important structures is introduced in this paper. In order to increase construction safety and reduce the risk in the deep excavation projects, cross walls, buttresses and ground treatment are used aside from retaining diaphragm wall. The cross walls are also served as the foundation for the building while completing excavation. Two commercial software including RIDO and Plaxis are used to analyze the deformation behavior of retaining wall as well as adjacent ground. Besides, ETABES is used to simulate the interaction of structure and cross walls.

The excavation has reached the designed depth so far. Based on the monitoring results, the deformation of retaining wall is quite consistent with analyzing results which shows the assumptions and parameters used in the analysis are reasonable. Also, cross walls, buttresses and ground treatment are helpful to control the deformation. Due to the good agreement, the follow-up construction of building and persistent monitoring are expected.

Key Words : cross walls , buttresses , barrettes.

一、前 言

1.1 工程概述

臺北市都會區寸土寸金，建築物的設計與

建必須在有限的空間中爭取最大利用率，也因此於法規容許下，盡可能往地下進行開挖，同時往上構築超高層建築，無論是開挖的範圍、深度或結構量體均較以往為大。此外，因基地空間受限，通常均需緊鄰其他建物構築，設計