

1. Record Nr.	UNINA9910790699003321
Autore	Korff Mandy
Titolo	Response of piled buildings to the construction of deep excavations // Mandy Korff, Jesus College
Pubbl/distr/stampa	Amsterdam : , : IOS Press, , [2013] ©2013
ISBN	1-61499-274-6
Descrizione fisica	1 online resource (344 p.)
Collana	Deltares Select Series ; ; v.13
Disciplina	624.1/9
Soggetti	Piling (Civil engineering)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	<p>""Title Page""; ""Contents""; ""Chapter 1. Introduction""; ""Underground construction in densely populated areas""; ""Failure costs in underground construction""; ""Deep excavations in soft soil conditions""; ""Scope and objective of this research""; ""Research questions""; ""Project cooperation""; ""Outline thesis""; ""Chapter 2. Literature Review""; ""Introduction""; ""Deep excavations""; ""Empirical methods, all construction activities combined""; ""Empirical methods, effect of excavation and installation""; ""Semi-empirical methods, shape of settlement trough due to excavation""</p> <p>""Predicting displacements due to installation of diaphragm walls"""" Building behaviour""; ""Causes of damage in buildings""; ""Classification of damage""; ""Criteria for damage to buildings""; ""Limiting tensile strain method""; ""Interaction soil - building for shallow foundations""; ""Introduction""; ""The effect of building stiffness""; ""The effect of building weight""; ""The effect of the interface between building and soil""; ""The response of pile foundations near deep excavations""; ""Pile behavior""; ""Response of piles to tunneling""; ""Response of piles to deep excavations""</p> <p>""Summary of literature""""Green field displacements""; ""Building deformations and damage""; ""Soil-structure interaction""; ""Chapter 3. Previous Case Histories""; ""Introduction""; ""Chater Station, Hong Kong (Davies and Henkel, 1982)""; ""Situation""; ""Effects of the construction""; ""Final deformations and damage""; ""Conclusion from</p>

Charter station case history""; ""KPE Singapore (Lee et al., 2007)""; ""Introduction""; ""Damage prediction and results""; ""Conclusion from Lee et al. (2007) case history""; ""Excavation next to Xavier Warde School, Chicago (Finno et al., 2002)""
 ""Situation and construction works""""Deformations and building damage""; ""Conclusion from Xavier Warde School case history""; ""Willemspoortunnel - White House Rotterdam""; ""Introduction and soil conditions""; ""Details of the White House building""; ""Construction characteristics for Willemspoortunnel""; ""Response of the 'White House'""; ""Conclusions""; ""Conclusions from previous case histories""; ""Chapter 4. Field Data North South Line""; ""Introduction""; ""Soils characteristics""; ""Geology and geohydrology""; ""Soil profile""; ""Soil parameters""; ""Subsidence in Amsterdam""
 ""Building characteristics""""Buildings in Amsterdam""; ""Typical timber foundations""; ""Foundation quality assessment method Amsterdam""; ""Pile capacity and load-settlement behavior""; ""Rokin Station""; ""History""; ""Station overview""; ""Cross sections""; ""Diaphragm wall and excavation supports""; ""Buildings around Rokin Station""; ""Construction activities and timelines""; ""Vijzelgracht Station""; ""Station overview""; ""Cross section 12197""; ""Cross section 12270""; ""Diaphragm wall and excavation supports""; ""Buildings around Vijzelgracht Station""
 ""Construction activities and timelines""

Sommario/riassunto

Deep excavations in densely populated urban areas around the world pose specific challenges due to the increasingly complex conditions in which they are undertaken. The construction of underground car parks, cellar storage areas and major infrastructure in deep excavations helps to preserve the quality of space above ground. Despite the considerable effort that goes into their design and construction, such projects often encounter problems, such as damage to existing structures, delays and cost overruns. This book presents the results of an extensive research project conducted at the University