2 Pile Pilecap Design Example Filesing

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2 Pile Pilecap Design Example

Worked Example: Design of Pile Cap. Consider the design of a pile cap supporting two pile and a single column on the pile cap. Data. Pile Diameter 600mm; Design Load 3000 kN; Cover to the reinforcement 50mm; Grade of concrete 30; Characteristic strength of steel as 500 N/mm 2; Size of the column on the pile cap 500x500mm; Calculate the dimensions of the pile cap

Pile Cap Design - Structural Guide

ASDIP FOUNDATION calculates the pile cap dimensions based on standard pile group layouts. Enter the number of piles considering the calculated pile loads. In this example, we could use either 9 or 10 piles. For illustration purposes, let's use 10 piles with spacing of 3'-0" and edge distance of 1'-3", so the pile cap dimensions are 11.50 ft x 7 ...

Pile Cap Design Example Using ASDIP FOUNDATION

Structural ...

Design Example of Pile Cap for Concentric Loading. A pile cap have to support a 18”X18” column which is subjected to live load=170 kips and dead load=160 kips under service loading. The column is reinforced with longitudinal bars of 12 No. 7 bars. Consider fy=60 Ksi and f’C =3 Ksi. The diameter of pile is 12”.

Design Example of Pile Cap for Concentric Loading - Civil ...

The column or wall on pile cap should be centered at the geometric center of the pile cap in order to transferred load evenly to each pile. Example of pile layout pattern are shown below: Pile spacing, edge distance, and pile cap thickness: In general, piles should be spacing at 3 times of pile diameter in order to transfer load effectively to ...

Design of pile cap - CE-REF.COM

Mod-09 Lec-45 Design of pile - Duration: 41:21. nptelhrd 46,883 views. 41:21. Design of pile cap Part 1/2 || Limit State Method ... Diaphragm Design Example - Duration: 2:01:17. Jianghanwan ...

Pile Cap Design Accordance with Eurocode 2

Design the pile cap shown in the following figure with 12 in. diameter piles and a service load capacity of 50 tons each. The pile cap has normal-weight concrete with a compressive strength of 4000 psi and Grade 60 reinforcement. And the piles are embedded 4 in. into the pile cap. The axial loads on the column are due to dead and live loads and

Pile Supported Foundation (Pile Cap) Analysis and Design

Here is a Pile cap design example is solved according to Indian code with step wise procedure. Problem. Design pilecap foundation with the given data: Load Fy = 800 KN, fc = 25 MPa, fy = 415 ... Contribution from pile 1 = from pile 2 = from pile 3 = from pile 4 = 317.12 KN. So total punching shear Vmax= 1268.464 KN. 4x(250+532/2+532/2)=3128 mm.

Pile Cap Design Example as Per Indian Code

Chapter 5 Single Pile Design 5.1 End bearing piles 5.2 Friction piles 5.3 Cohesion piles 5.4 Steel piles 5.5 Concrete piles 5.5.1

Pre-cast concrete piles 5.6 Timber piles (wood piles) 5.6.1 Simplified method of predicting the bearing capacity of timber piles Chapter 6 Design of Pile Group 6.1 Bearing capacity of pile groups

Pile Foundation Design[1] - ITD

LRFD Steel Girder SuperStructure Design Example Pile Foundation Design Example Design Step P Table of Contents Design Step P.1 - Define Subsurface Conditions and Any Geometric Constraints Design Step P.2 - Determine Applicable Loads and Load Combinations Design Step P.3 - Factor Loads for Each Combination Design Step P.4 - Verify Need for a Pile Foundation

LRFD Steel Girder SuperStructure Design Example - LRFD ...

This design example is for end bearing piles that are driven through cohesive soil and tipped out in rock. A resistance factor of 0.70 was used for end bearing in rock based on successful past practice with WEAP analysis and the general direction of Iowa LRFD pile testing and research. This design example presents the procedures to calculate pile

LRFD Pile Design Examples

Worked Example. A 500x 500 concrete column carries an axial design action of 4250 kN. Design a 4 pile pile-cap to support the column. The piles are 500mm in diameter cylindrical concrete. Design the pile cap completely using C30/37 concrete with 500mpa high tensile steel assuming the column to be placed in the centroid of the pile group.

Designing a Pile Cap to Eurocode - STRUCTURES CENTRE

Limit State Method I suggest you to listen to the Video lecture and make notes of your own, that makes you confident.. If you still want to download it, it's not free.. Please Click the below link ...

Design of pile cap Part 1/2 || Limit State Method

Eurocode 2 gives guidance for each of these. Design Example A 500mm x 500mm column is carrying an ultimate limit state load

of 2140 kN. We are to design the pile cap using the following data; Grade of concrete f ck = 30 N/mm 2 F yk = 500 N/mm 2 Concrete cover = 75mm Spacing of pile = 1800mm Diameter of piles = 600mm

Structural Design of Pile Caps Using Strut and Tie Model ...

Total length of pile cap = 1800 + 600 + 2(150) = 2700 mm Width of pile cap = 600 + 150 + 150 = 900 mm Thickness of pile cap = 2φ + 100 = 2(600) + 100 = 1300 mm The layout of the pile cap is therefore given as shown in Figure 3. Fig 3: Pile cap type 1. Let us quickly carry out the structural design of pile cap Type 1 according to BS 8110-1:1997 ...

Structural Aspects of Pile Foundation Design: A Practical ...

Worked examples presented at the Workshop “Eurocode 7: Geotechnical Design” Dublin, 13-14 June, 2013 Support to the implementation, harmonization and further development of the Eurocodes

Eurocode 7: Geotechnical Design Worked examples

The larger pile cap plan dimensions result in straight bars and it is one of the easiest pile configurations to work with calculation-wise. Low pile service loads are used in the example. Example 2: 5 Pile Cap – This example is also a symmetrical cap (i.e., square in plan) but it has only 1 row of piles on each side of the column.

STRUCTURE magazine | New Design Guide for Pile Caps

for 2-Pile Group, length of the pile cap should be (α+1) x Øpile + 300 and; for the 5-Pile Group, pile to pile spacing would be: s=√(2α) x Øpile; 2. Recommended Thickness of Pile Cap. One of the important things to consider in a pile cap design is to determine enough thickness.

Pile Cap Design Assumptions & Recommendations | | The ...

Aside from flexural checks, one of the most important points to consider in the design of the pile cap is the Punching Shear Checks. As we all know, Punching Shear is a concentrated load

causing shear stress on the section around the load and this load should be resisted by the structural member from where the concentrated load or the reaction is rested.

Punching Shear Checks in Pile Caps | | The Structural World

Using the beam theory makes our life easier because we can use the usual conditions and design practice for pile cap design as we are using for a simple concrete beam. But what can we do, if the circumstances require a higher pile cap and thus the span-to-depth ratio is less than 2 which is the limit of the beam theory.