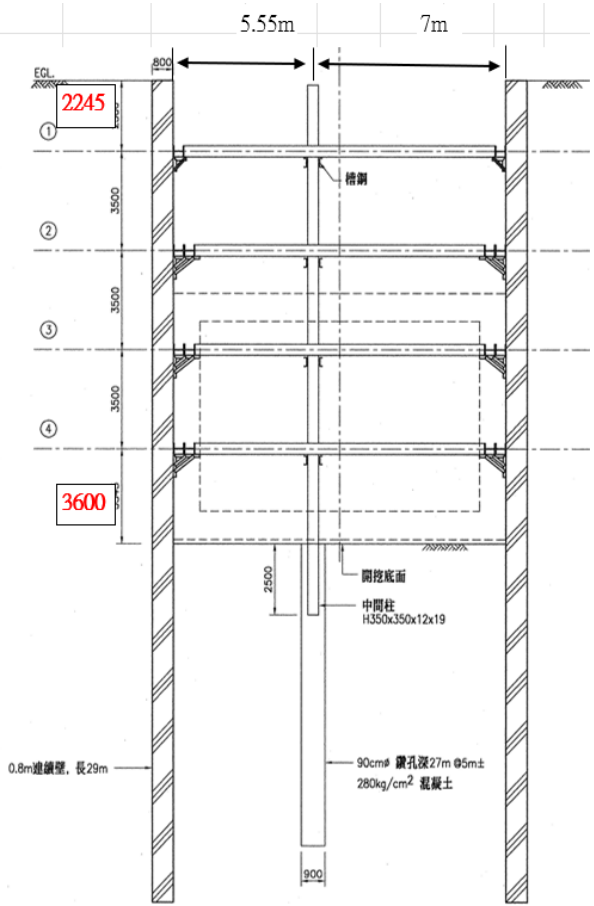
GTS NX

Rido與GTS NX軸力計算比對

台灣邁達斯

開挖斷面



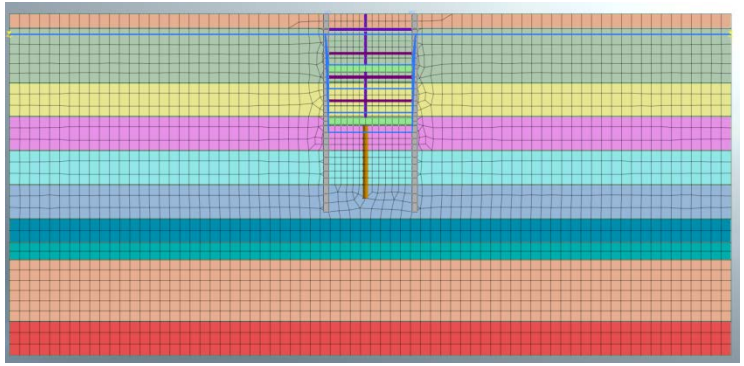
Rido參數定義

Type1:常時

Type2:地震力

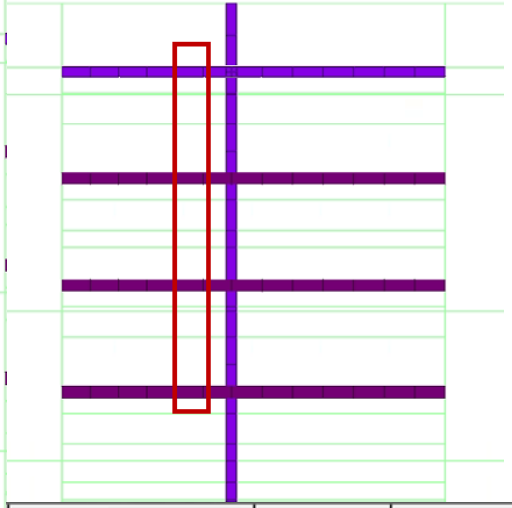
Type3:1階破壞

GTS NX 2D有限元素模型



GTS NX 2D軸力提取

階段	開挖深度 (m)	水位深度 (m)	支撐/樓板深度 (m)	說
0				參數輸入
1	2.95	3.95		第一階開挖
2			2.25	架設第一階支撐H350*350*12*19
3	6.45	7.45		第二階開挖
4			5.75	架設第二階支撐2H400*400*13*21
5	9.95	10.95		第三階開挖
6			9.25	架設第三階支撐2H400*400*13*21
7	13.45	14.45		第四階開挖
8			12.75	架設第四階支撐2H400*400*13*21
9	16.35	17.35		最終開挖(打設15cm PC)
10			15.70	構築100cm底版(板中央高程)
11				拆第四階支撐
12				拆第三階支撐及構築側牆
13			8.00	構築100cm頂版(板中央高程)
14				拆第二階支撐
15				拆第一階支撐
16				回填



Output Data

Analysis Set: Normal case

Result Type: Beam Element Forces

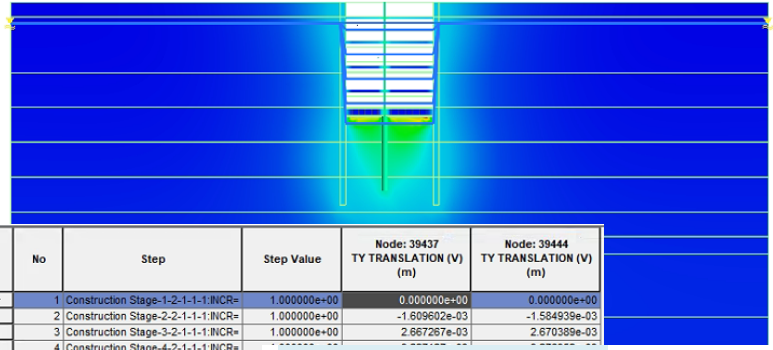
Results: AXIAL FORCE

Step	Step Value	Elem: 23472 Node 1 AXIAL FORCE (tonf)	Elem: 23485 Node 1 AXIAL FORCE (tonf)	Elem: 23498 Node 1 AXIAL FORCE (tonf)	Elem: 23511 Node 1 AXIAL FORCE (tonf)
Construction Stage-2-2-1-1-1:INCR=	1.000000e+00	-	-	-	-
Construction Stage-3-2-1-1-1:INCR=	1.000000e+00	-	-	-	-
Construction Stage-4-2-1-1-1:INCR=	1.000000e+00	-6.000000e+01	-	-	-
Construction Stage-5-2-1-1-1:INCR=	1.000000e+00	-1.281033e+02	-	-	-
Construction Stage-6-2-1-1-1:INCR=	1.000000e+00	-1.265144e+01	-2.400000e+02	-	-
Construction Stage-7-2-1-1-1:INCR=	1.000000e+00	6.262829e+00	-3.444988e+02	-	-
Construction Stage-8-2-1-1-1:INCR=	1.000000e+00	-1.844404e+01	-1.912827e+02	-2.400000e+02	-
Construction Stage-9-2-1-1-1:INCR=	1.000000e+00	-7.700651e+00	-1.887479e+02	-3.783721e+02	-
Construction Stage-10-2-1-1-1:INCR	1.000000e+00	-1.492051e+01	-1.965199e+02	-2.388555e+02	-2.400000e+02
Construction Stage-11-2-1-1-1:INCR	1.000000e+00	-1.241336e+01	-1.868575e+02	-2.439913e+02	-3.932733e+02
Construction Stage-12-2-1-1-1:INCR	1.000000e+00	-1.276174e+01	-1.870590e+02	-2.443385e+02	-3.941017e+02
Construction Stage-13-2-1-1-1:INCR	1.000000e+00	-1.522648e+01	-1.883779e+02	-2.487077e+02	-4.065103e+02
Construction Stage-14-2-1-1-1:INCR	1.000000e+00	-6.951965e+00	-1.884238e+02	-3.877664e+02	-
Construction Stage-15-2-1-1-1:INCR	1.000000e+00	3.388957e+01	-4.423637e+02	-	-
Construction Stage-16-2-1-1-1:INCR	1.000000e+00	2.783489e+01	-4.589395e+02	-	-
Construction Stage-17-2-1-1-1:INCR	1.000000e+00	-7.351554e+01	-	-	-
Construction Stage-18-2-1-1-1:INCR	1.000000e+00	-	-	-	-

Rido與GTS NX軸力計算比對

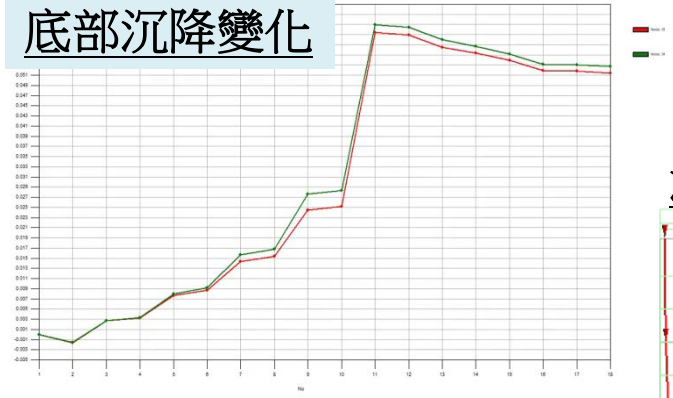
		axial load(output) (t)				time(sec)
	未加載地表載重	1st strut	2nd strut	3rd strut	4th strut	
normal	normal rido	121	450	406	373	
	GTS NX(Normal)(extract+non interface)	130	460	485	531	12
	GTS NX(Normal)(extract+interface)	139	477	400	413	11
	GTS NX(Normal)(area type +interface)	128	459	388	407	7
short-term	(normal rido)+E(地震力)	121	454	409	449	
	GTS NX(E)(extract+non interface)	147	498	509	554	13
	GTS NX(E)(extract+interface)	155	517	436	438	13
	GTS NX(E)(area type+interface)	144	496	418	430	8
	(normal rido)+F(1-Failure)	121	467	428	466	
	GTS NX(1-Failure)(extract+non interface)	126	467	424	476	12
	GTS NX(1-Failure)(extract+interface)	139	492	431	492	11
	GTS NX(1-Failure)(area type+interface)	128	476	420	477	6

GTS NX 2D可視化後處理

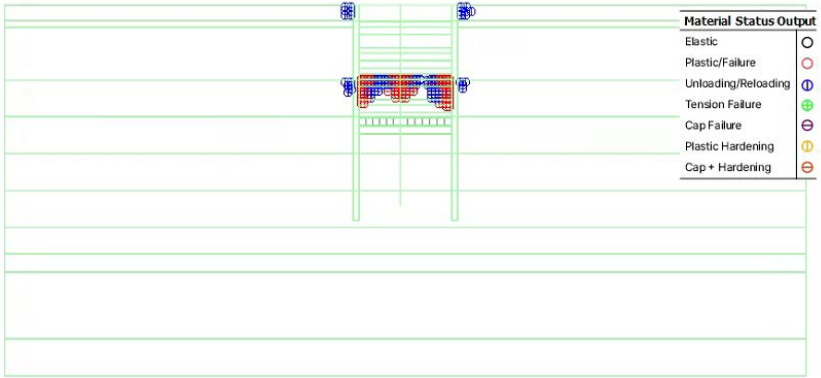


	No	Step	Step Value	Node: 39437 TY TRANSLATION (V) (m)	Node: 39444 TY TRANSLATION (V) (m)
▶	1	Construction Stage-1-2-1-1-1:INCR=	1.000000e+00	0.000000e+00	0.000000e+00
	2	Construction Stage-2-2-1-1-1:INCR=	1.000000e+00	-1.609602e-03	-1.584939e-03
	3	Construction Stage-3-2-1-1-1:INCR=	1.000000e+00	2.667267e-03	2.670389e-03
	4	Construction Stage-4-2-1-1-1:INCR=			
	5	Construction Stage-5-2-1-1-1:INCR=			
	6	Construction Stage-6-2-1-1-1:INCR=			
	7	Construction Stage-7-2-1-1-1:INCR=			
	8	Construction Stage-8-2-1-1-1:INCR=			
	9	Construction Stage-9-2-1-1-1:INCR=			
	10	Construction Stage-10-2-1-1-1:INCR			
	11	Construction Stage-11-2-1-1-1:INCR			
	12	Construction Stage-12-2-1-1-1:INCR			
	13	Construction Stage-13-2-1-1-1:INCR			
	14	Construction Stage-14-2-1-1-1:INCR			
	15	Construction Stage-15-2-1-1-1:INCR			
	16	Construction Stage-16-2-1-1-1:INCR			
	17	Construction Stage-17-2-1-1-1:INCR			
	18	Construction Stage-18-2-1-1-1:INCR			

底部沉降變化



土壤塑性狀態



滲流-開挖耦合計算