

Total specification of Steel structure

Specification Noted: The project was designed based on China's current construction-related norms and protocols. Owners are requested to bring this design to the architectural design department of the local government for audits, Only after been vetted and approved, before the construction.

A. design consignment

- Based on China's current norms and protocols.
 - <Unified standard for reliability design of building structures>(GB 50068-2018)
 - <Code for seismic design of buildings>(GB50011-2010)
 - <Load code for design of building structures>(GB5009-2012)
 - <Standard for design of steel structures >(GB50017-2017)
 - <Code for design of composite structures >(JGJ 138-2016)
 - <Code for design of concrete structures>(GB50010-2010)
 - <Code for design of building foundations>(GB50007-2011)
 - <Technical code for design of cold-formed thin-wall steel structures>(GB50018-2002)
 - <Low-alloy high-tensile structural steel>(GB/T1591-2008)
 - <Carbon structural steel >(GB/T700-2006)
 - <Steel Structure Construction Quality Acceptance of norms>(GB50205-2001)
 - <Technical specification for high strength bolt connections of steel structures>(JGJ82-2011)
 - <Specification for welding of steel structure buildings>(JGJ81-2011)

B. The designed elevation of this project is: ± 0.000, the relative positions determined at the site.

Except the elevation whose unit is meter, the rest size unit in the drawings of the project is millimeter.

C. Summary of Structure design:

- The calculation software STS of series PKPM which is developed by the Chinese Academy of Sciences is used for the steel structure calculation of the project.
- The type of structure of the project is moment frame structure;
- Steel columns and steel beams of the project are calculated by rigid connection, steel columns and foundation are calculated by rigid connection, the connection between secondary beams, purlins, and steel beams are designed by articulated connection.
- The safety rating of this project is Grade 2, and the reasonable life span of this project is 25 years.
- The seismic fortification intensity of the project is II, basic design earthquake acceleration of 0.2g, the construction site category is II. seismic fortification category is C.
- The basis of a separate design
 - roof dead load: 0.3KN/M2 basic wind pressure: 1.0KN/M2 Floor thickness is 130mm.
 - roof live load: 0.30KN/M2 basic snow pressure: 0.00KN/M2 Wall thickness is 150mm
 - Floor decoration layer dead load: 1.5KN/M2 Floor live load: 2KN/M2 Thickness of plastering layer on the wall is 15mm.
 - Toilet area decoration layer dead load: 6KN/M2 Toilet area live load: 2.5KN/M2 Thickness of gypsum board ceiling is 12mm.

D. Material

- Main components' material of Steel frame beam, column, bracing is Q355B, Its material chemical composition and mechanical properties should be in line with national standards <Low-alloy high-tensile structural steel>(GB/T1591-2008)
- The materials of sub-components such as the purlins, wall beams (unless otherwise indicated) should adopt Q355 steel. Purlin use cold-formed steel, with quality standard <Technical code for design of cold-formed thin-wall steel structures>(GB50018-2002).
- The reinforcement materials of Concrete structure (including foundation and floor structure) should adopt ? grade I (HPB235), ? grade II (HRB335), ? grade III (HRB400).
- The strength grade Concrete structure (including foundation, floor structure, Pouring concrete into steel pipe columns) is C30. the strength grade of cushion concrete is C15. The protective layer of reinforcement in the foundation concrete structure is 50mm. The protective thickness of reinforced concrete floor slab is 15mm.
- welding rod:
 - a. Q235B steel weld by hand, adapt E43XX style welding rod, the function <carbon steel covered electrode>(GB/T5117-95). Adapt automatic or semi-automatic, use <Welded wires>(GB1300-77) with H08 or H08A Wire with the manganese-based or high-manganese-based flux.
 - b. Q355B steel weld by hand, adapt E50XX style welding rod, Adapt automatic or semi-automatic, use <Welded wires>(GB1300-77) with H08MnA wire with the manganese-based or high-manganese-based flux.

- Grade 4.6 and 4.8 ordinary bolts (C-grade bolts), and grade 5.6 and 8.8 ordinary bolts (A-grade or B-grade bolts) shall be used for steel structure connections such as purlins, wall beams, etc. and their quality shall comply with the current national standards <Mechanical Properties of Fasteners - Bolts, Screws and Studs>(GB/T 3098.1) and <Fastener Tolerance - Bolts, Screws, Studs and Nuts>(GB/T 3103.1); The specifications and dimensions of C-grade bolts and A-grade and B-grade bolts should comply with the current national standards GB/T 5780 and GB/T 5782 for hexagon head bolts.
- The quality of cylindrical head welding (bolted) connectors should comply with the current national standard <Cylindrical Head Welding Nails for Arc Stud Welding>(GB/T 10433);
- The 10.9 grade high-strength bolt adopt the big orthohexagonal bolt, its function will consistent with national standard <Alloy structure steel-Technical requirements>(GB3077-82) with 20MnTiB steel or 40B steel or with consistent with national standard <High-strength steel with large hexagon head bolts, large hexagon head nuts, washers and technological conditions>(GB1231-91) with 35VB steel, the pre-pull of high-strength bolt is: M16:P=100KN M20:P=155KN M24:P=225KN.
- The material of the anchor bolt is Q235B steel that complies with the current national standard GB/T700 (GB1591-2018) for carbon structural steel.

E. Manufacture of Structure:

- Steel structure should be in strict accordance with <GB50205-01>, All components is crucial to enlarge: 1 sample to check, After size correct, then progressive Blanking, will be pre-assembly inspection before delivery, Girders production arch camber should be appropriate to reduce the actual beam deflection.
- Steel processing should be carried out before the correction, to make it straight.
- welding requirements:
 - Component commissure plate and column, the connections of end-plate and beam department weld and column flange; The Butt Weld of ventral shield should be adopted through the complete fusion weld and quality should be consistent with the 2 grade weld quality requirements, Others as per 3 grade welded quality demand.
 - When welding, Should choose a reasonable welding sequence, to reduce the steel produced in the welding stress and welding distortion, or Preheat hammering and overall tempering and other methods to achieve the same purpose.
 - When welding of frame beam, pilla, The flange and the ventral shield that the location of seams staggered more than 250mm.
 - Where the drawing do not indicate the leg of a fillet weld, The footst of its size Hf welding thin pieces of equal thickness, the weld length equal to the length of component overlap, and are full welding.


F. Installation of structure:

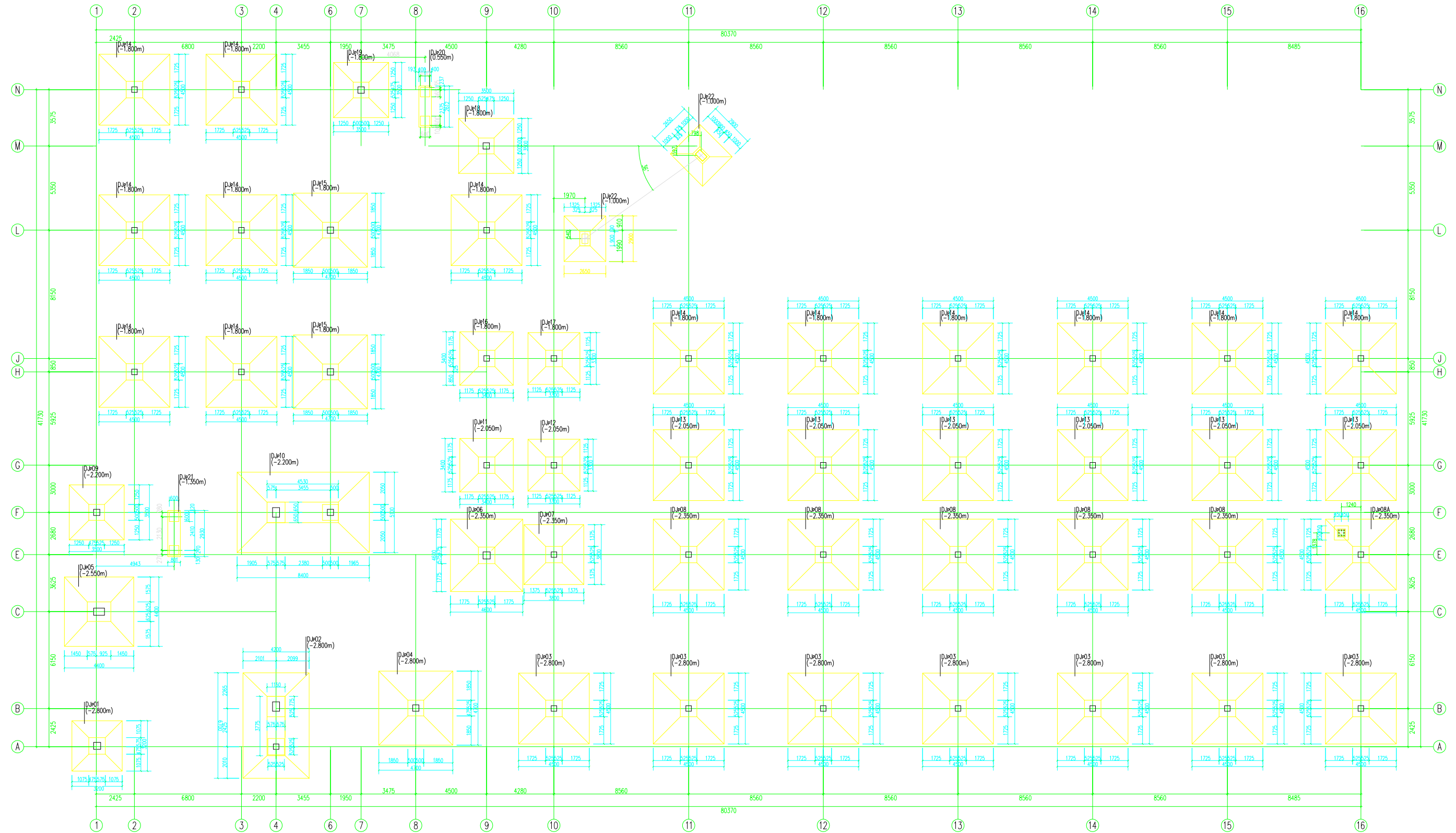
- Before with pre-installation component to conduct a comprehensive inspection, such as the qty of component, length, perpendicularity, Joint installed between the bolt hole size with the design requirements.
- When lifting, should take appropriate measures to prevent excessive bending deformation.
- After lifting the structure in place, Should be fastened/timely support and other components connected to guarantee the stability of components.
- All of the structure lifting, must be in the lower part of the structure in place, correction and fastened support component, then would be required.
- Construction requirements of High-strength bolt:
 - High-strength bolt hole should be adapted drilled hole.
 - before installation, match with the bolts and nuts, and nut with a small amount of mineral oil.
 - In the high-strength bolts connecting the framework of the contact elements to deal with the use of sandblasting, anti-slip coefficient $\mu \geq 0.45$, may not paint or defaced.
- Steel pipe column, poured with C25 fine aggregate concrete in the column, poured every two layers, with the pouring surface 300-500mm away from the floor position of the two layers; Compact the vibration and strengthen the vibration in the node area.

G. Descaling and paint of steel structure:

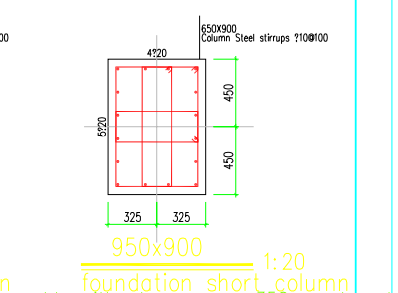
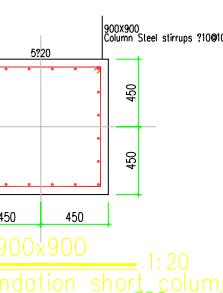
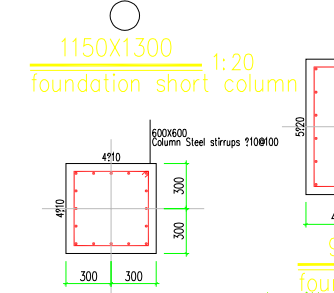
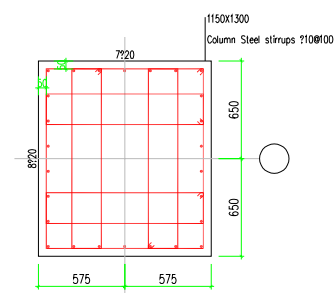
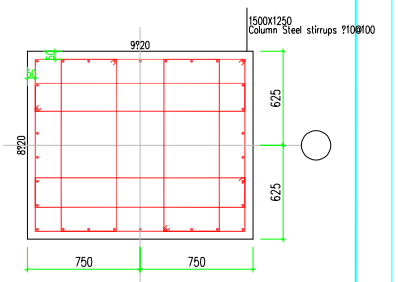
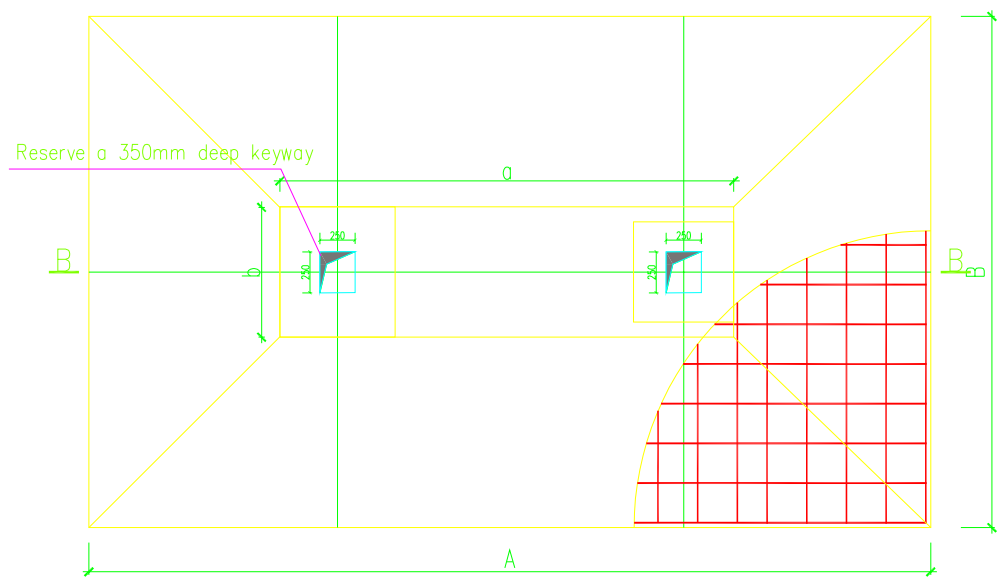
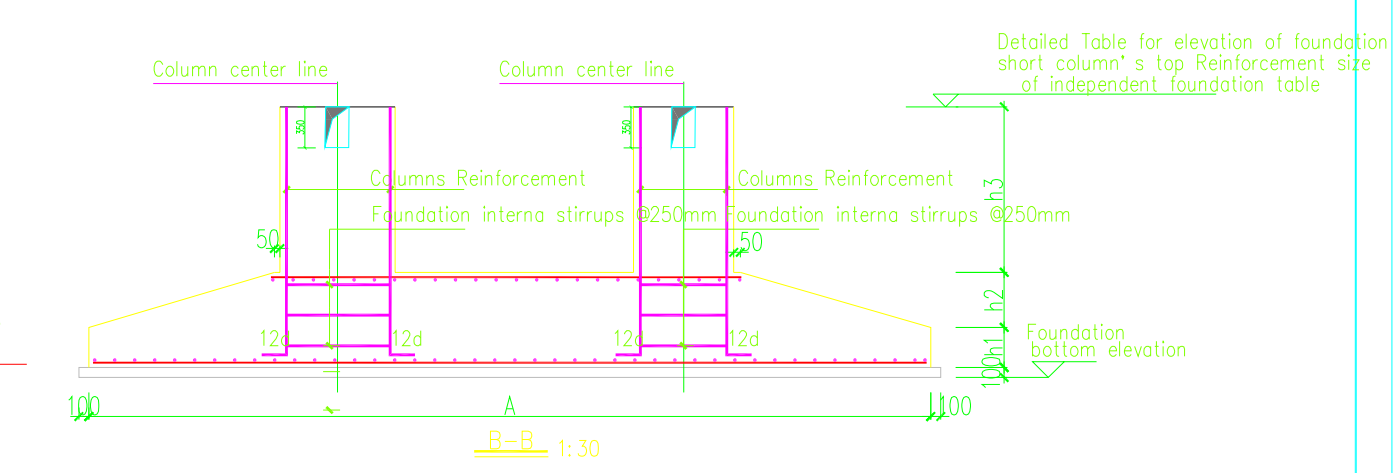
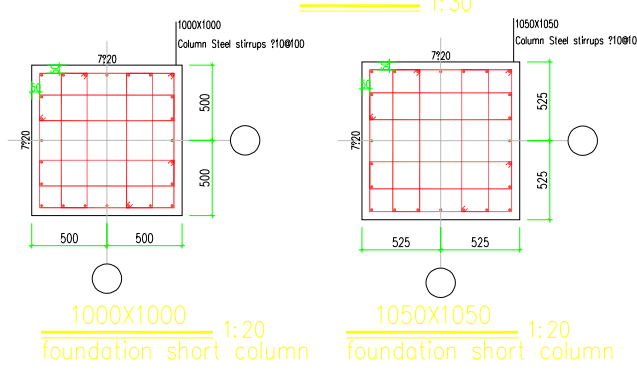
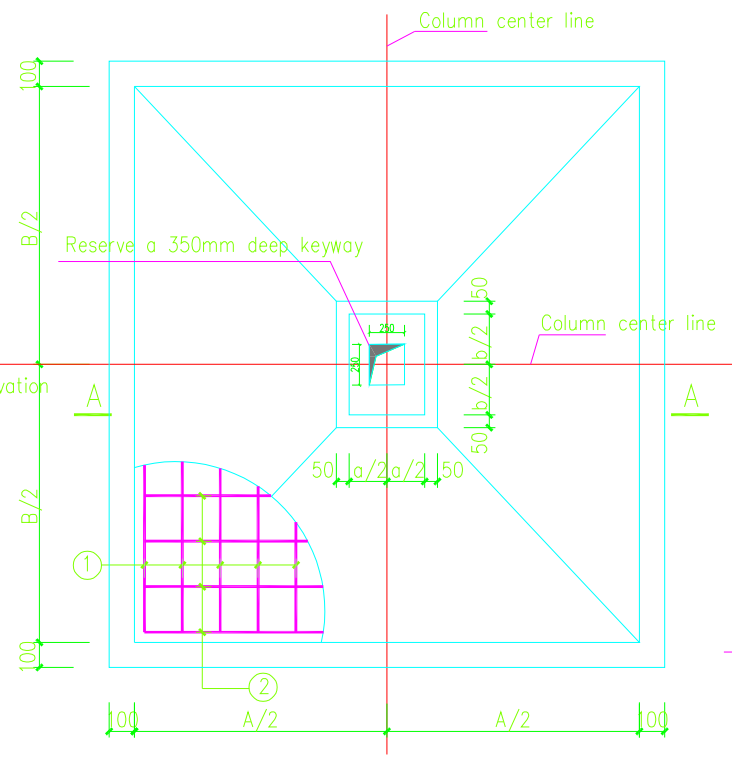
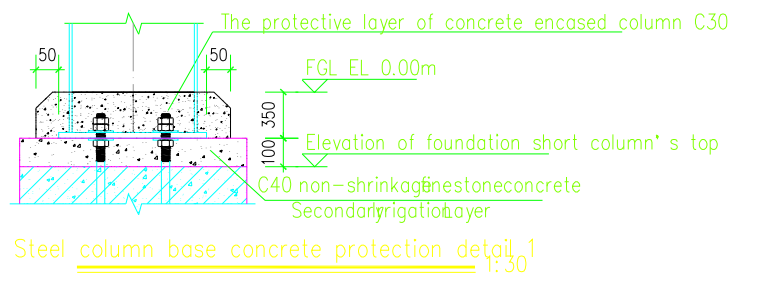
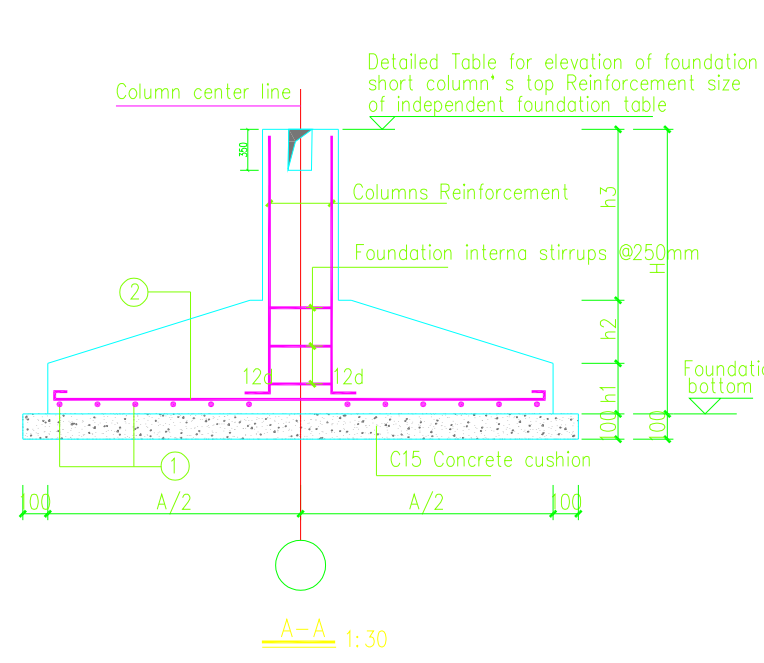
- Before coating of the components, must deal with surface shot blasting and derusting, the derusting grade is Sa2.5.
- The first painting with Antirust primer paint, surface is alkyd ready mixed paint.
- Steel structure in the use of process, should be conducted every three years paint maintenance, and timely maintenance of local paint.
- This note as a general steel plant, If the production of corrosive gases or high temperature and humidity should be dealt with separately.

H. If there is anything else not in this specification, please be strict In accordance with current national norms and protocols relating to the construction.

 <p>Hangzhou Xixi Building Co., LTD 希希建筑</p>	Design	Project Name	Hideaway hotel	No.
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
	Proofreader	Total specification of Steel structure		Catagory
	Engineer			Proposal
	Review			Major
	Verification			Steel structure
			Page No	Proposal-01
			Date	2025,2



Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Profreader	Total specification of Steel structure		Category Proposal
Engineer			MajorSteel structure
Review			Page No/Proposal-02
Verification			Date 2025,2



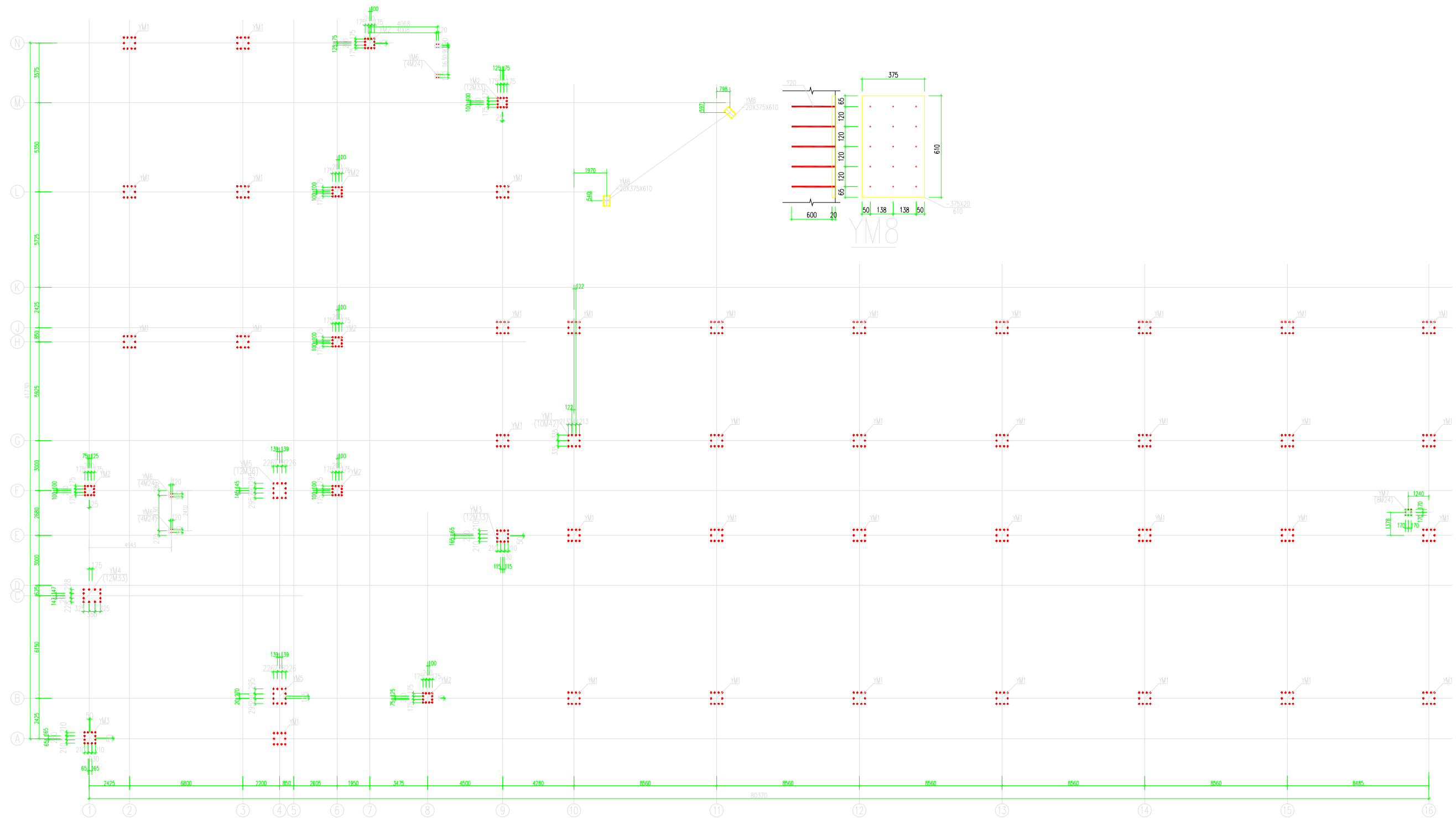
Foundation Note:

- The grade of foundation design in this project is class C, reinforced: ? grade I (HPB235), ? grade II (HRB335), ? grade III (HRB400). The strength grade of foundation concrete is C30, the strength grade of cushion concrete is C15. The protective layer of reinforcement is 50mm. The protective thickness of ground beam is 30mm.
- The foundation of this project use column under the independent foundation, the holding layer is Stiff Clay soil, foundation bearing capacity value fak = 130KPa. Project ±0.000 set at site.
- When excavation of the foundation trench, Set aside an appropriate thickness soil about 200mm above the design elevation of the end of foundation. When to be the foundation construction, then dug to the design elevation of the end of foundation. Not yet reached the bearing soil, it should digging to the basis of the end of the design elevation must continue to be dug under to the holding power of soil, layered stone mixture to fill the basement elevation and compacted layer by layer.
- It should note the drainage and the protect of the base soil after the foundation trench excavation
- The explain didn't mention shall be according to the relevant norms and regulations.
- Reinforced strength standard value of the guaranteed rate should be less than 95%.


Foundation number	foundation bottom elevation (m)	Top elevation of foundation short column (m)	Bottom elevation of steel column (m)	Section size of foundation short column Width. Height (mm)	Section size of foundation short column Width. Height (mm)	Dimensions of reinforced concrete foundation				Bottom reinforcement of foundation			
						A/a-side (mm)	B/b-side (mm)	h1/h2/h3 (mm)	H (mm)	A side	B side	A side	B side
DJp01	-2.800	-1.450	-1.350	450x450	1050x1050	3200/1050	3200/1050	300/300/750	350	?12@100	?12@100		
DJp02	-2.800	-1.450	-1.350	350x350/450x600	1050x1050/1150x1300	3070/3775	4200/1150	400/350/600	350	?12@100	?14@100	?12@200	?12@100
DJp03	-2.800	-1.450	-1.350	350x350	1050x1050	4500/1050	4500/1050	300/550/500	350	?12@100	?12@100		
DJp04	-2.800	-1.450	-1.350	400x400	1000x1000	4700/1000	4700/1000	300/600/450	350	?14@100	?14@100		
DJp05	-2.550	-1.200	-1.100	700x450	1500x1250	4400/1500	4400/1250	300/500/500	350	?12@100	?12@100		
DJp06	-2.350	-1.000	-0.900	450x450	1050x1050	4600/1050	4600/1050	300/550/500	350	?14@100	?14@100		
DJp07	-2.350	-1.000	-0.900	350x350	1050x1050	3800/1050	3800/1050	300/400/650	350	?12@100	?12@100		
DJp08	-2.350	-1.000	-0.900	350x350	1050x1050	4500/1050	4500/1050	300/550/500	350	?12@100	?12@100		
DJp08A	-2.350	-1.0/-0.85/-0.9/-0.75	-0.9/-0.75	350x350/?219x6	1050x1050/900x900	4500/1050	4500/1050	300/550/500	350	?12@100	?12@100		
DJp09	-2.200	-0.850	-0.750	400x400	1000x1000	3500/1000	3500/1000	300/350/700	350	?12@100	?12@100		
DJp10	-2.200	-0.850	-0.750	450x600/400x400	1050x1300/1000x1000	3400/4530	5100/1300	400/550/400	350	?14@100	?14@100	?12@100	?12@200
DJp11	-2.050	-0.700	-0.600	350x350	1050x1050	3400/1050	3400/1050	300/350/700	350	?12@100	?12@100		
DJp12	-2.050	-0.700	-0.600	350x350	1050x1050	3300/1050	3300/1050	300/300/750	350	?12@100	?12@100		
DJp13	-2.050	-0.700	-0.600	350x350	1050x1050	4500/1050	4500/1050	300/550/500	350	?12@100	?12@100		
DJp14	-1.800	-0.450	-0.350	350x350	1050x1050	4500/1050	4500/1050	300/550/500	350	?12@100	?12@100		
DJp15	-1.800	-0.450	-0.350	400x400	1000x1000	4700/1000	4700/1000	300/600/450	350	?14@100	?14@100		
DJp16	-1.800	-0.450	-0.350	350x350	1050x1050	3400/1050	3400/1050	300/350/700	350	?12@100	?12@100		
DJp17	-1.800	-0.450	-0.350	350x350	1050x1050	3300/1050	3300/1050	300/300/750	350	?12@100	?12@100		
DJp18	-1.800	-0.450	-0.350	400x400	1000x1000	3500/1000	3500/1000	300/350/700	350	?12@100	?12@100		
DJp19	-1.800	-0.450	-0.350	400x400	1000x1000	3500/1000	3500/1000	300/350/700	350	?12@100	?12@100		
DJp20	0.550	1.050	1.150	600x600/600x600	2612	800	250/0/250	500	?10@200	?10@200			
DJp21	-1.350	-0.850	-0.750	600x600/600x600	2930	800	250/0/250	500	?10@200	?10@200			
DJp22	-1.000	1.000	1.000	650x900	2650	2900	300/300/1400	2000	?12@100	?12@100			

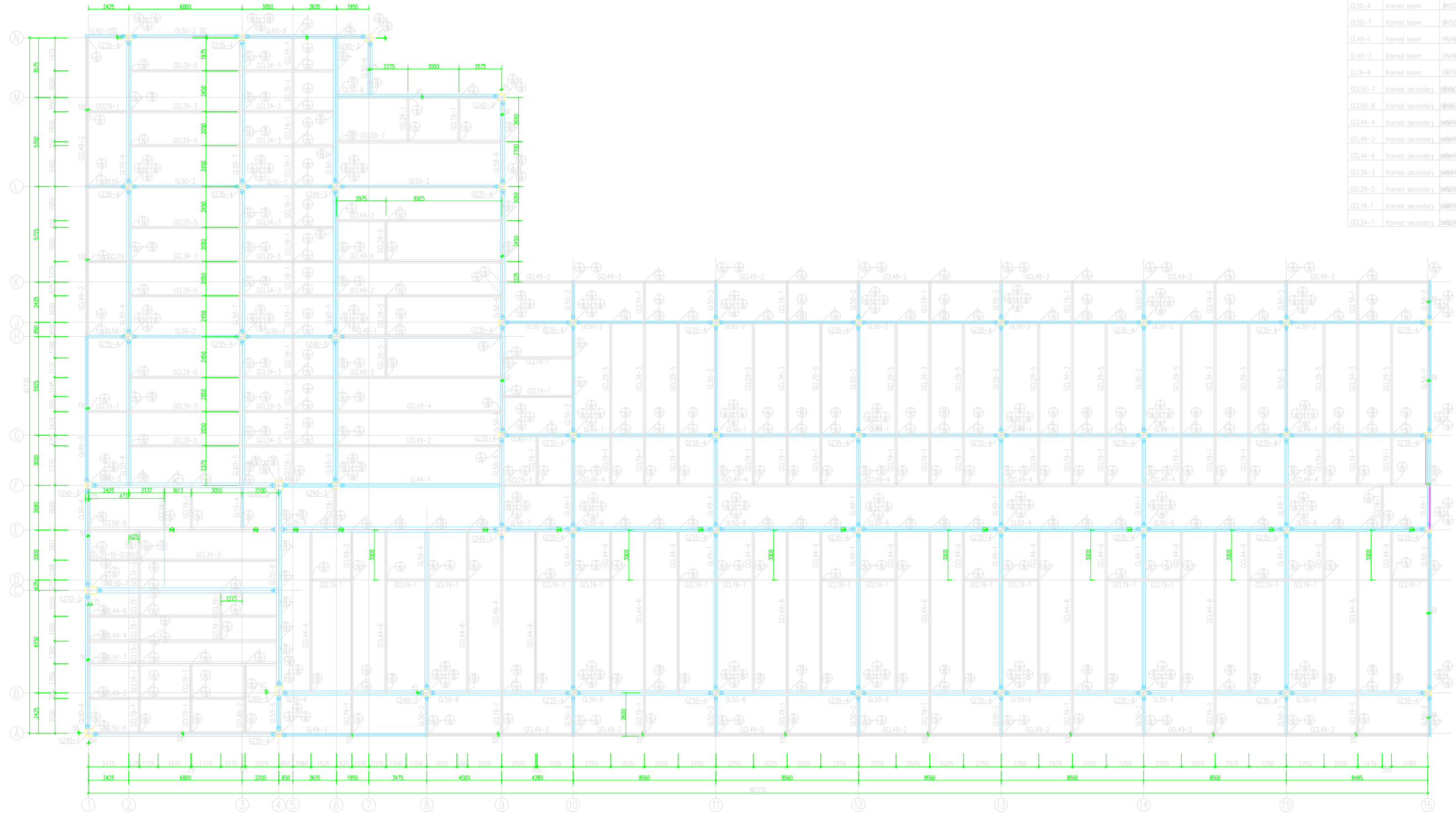


Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Construction Detail of foundation Structure		Category Proposal
Engineer			Major Steel structure
Review			Page No/Proposal-03
Verification			Date 2025,2




Anchor_bolt_layout_plan:1:100

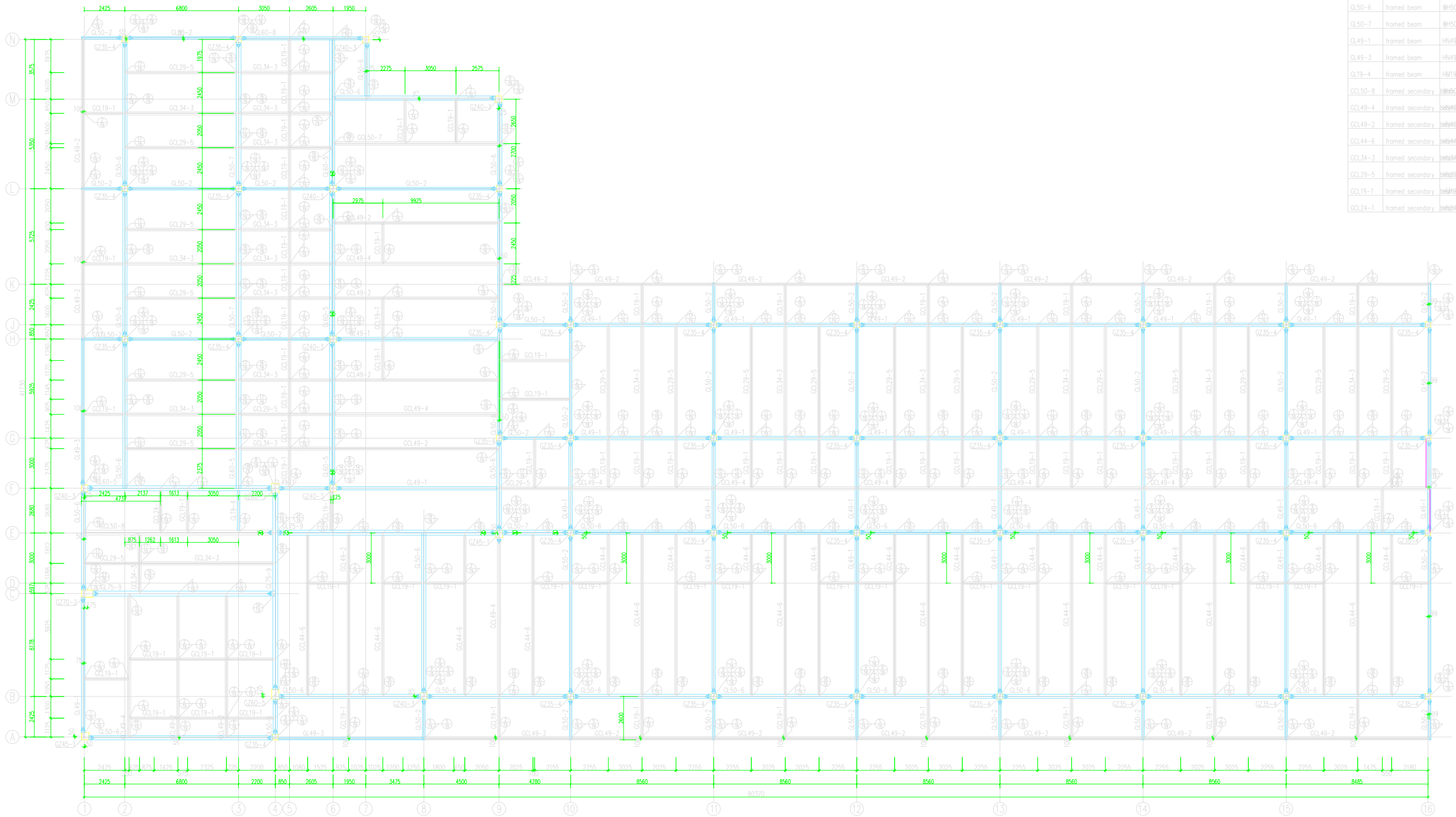
 CUSTOMIZED BUILDINGS Hangzhou Xixi Building Co., LTD 希希建筑	Design	Project Name	Hideaway hotel	No.
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
	Proofreader	Anchor bolt layout plan		Category
	Engineer		Major	Steel structure
	Review		Page No	Proposal-04
	Verification		Date	2025,2



(7.220) Layout plan of steel columns, beams, and nodes on the second floor:1:100


Sectional Table				
Component number	Component Name	Sectional	material	notes
GZ70-2	framed column	Box 450X700x16x16	Q355B	
GZ60-5	framed column	Box 450X600x16x16	Q355B	
GZ45-1	framed column	Box 450X450x16x16	Q355B	
GZ40-3	framed column	Box 400X400x12x12	Q355B	
GZ35-4	framed column	Box 350X350x12x12	Q355B	
GL75-9	framed beam	HN750X300X13X24	Q355B	
GL60-8	framed beam	HN600X200X12X12	Q355B	
GL60-5	framed beam	HN600X290X12X16	Q355B	
GL50-2	framed beam	HN500X152X9X16	Q355B	
GL50-6	framed beam	HN500X250X10X16	Q355B	
GL50-7	framed beam	HN500X290X10X16	Q355B	
GL49-1	framed beam	HN496X199X9X14	Q355B	
GL49-3	framed beam	HN492X150X7X12	Q355B	
GL19-4	framed beam	HN194X150X6X9	Q355B	
GCL50-7	framed secondary	HN500X250X10X16	Q355B	
GCL50-8	framed secondary	HN500X290X10X16	Q355B	
GCL49-4	framed secondary	HN496X199X9X14	Q355B	
GCL49-2	framed secondary	HN492X150X7X12	Q355B	
GCL44-6	framed secondary	HN446X150X7X12	Q355B	
GCL34-3	framed secondary	HN346X174X6X9	Q355B	
GCL29-5	framed secondary	HN298X149X5.5X8	Q355B	
GCL19-1	framed secondary	HN194X150X6X9	Q355B	
GCL24-1	framed secondary	HN248X124X5X8	Q355B	

 <p>Hangzhou Xixi Building Co., LTD 希希建筑</p>	Design	Project Name	Hideaway hotel	No.	
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL		
	Proofreader	(7.220)Layout plan of			Category Proposal
	Engineer	steel columns, beams, and			Major Steel structure
	Review	nodes on the second floor			Page No. Proposal-7
	Verification				Date 2025,2

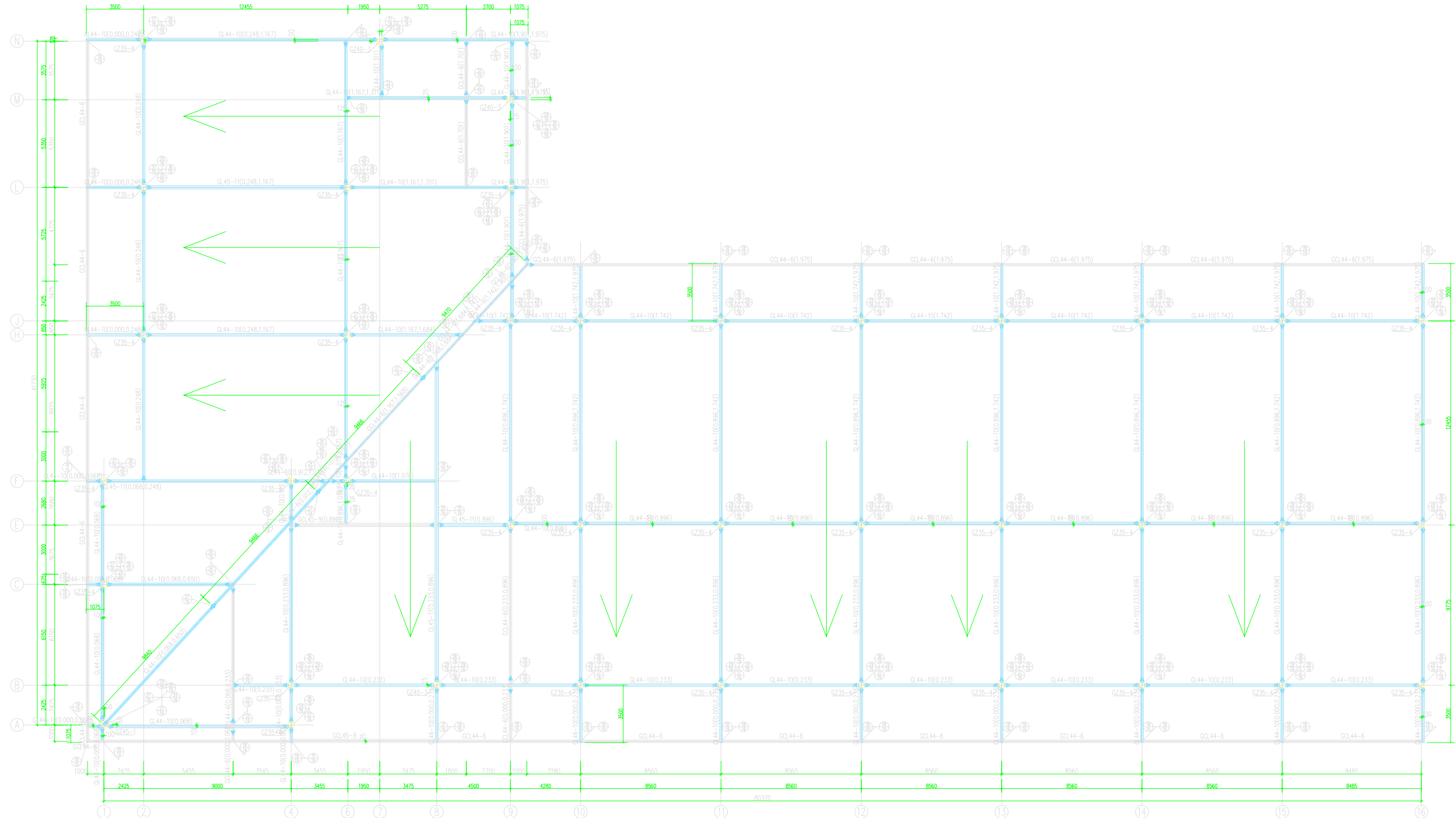


(10.920) Layout plan of steel columns, beams, and nodes on the third floor:1:100


Sectional Table				
Component number	Component Name	Sectional	material	notes
G270-2	framed column	Box 450X700x16x16	Q355B	
G260-5	framed column	Box 450X600x16x16	Q355B	
G245-1	framed column	Box 450X450x16x16	Q355B	
G240-3	framed column	Box 400X400x12x12	Q355B	
G235-4	framed column	Box 350X350x12x12	Q355B	
GL75-9	framed beam	HN750X300X13X24	Q355B	
GL60-8	framed beam	HN600X200X12X12	Q355B	
GL60-5	framed beam	HN600X290X12X16	Q355B	
GL50-2	framed beam	HN500X152X9X16	Q355B	
GL50-6	framed beam	HN500X250X10X16	Q355B	
GL50-7	framed beam	HN500X290X10X16	Q355B	
GL49-1	framed beam	HN496X199X9X14	Q355B	
GL49-3	framed beam	HN492X150X7X12	Q355B	
GL49-4	framed beam	HM194X150X6X9	Q355B	
GL50-8	framed secondary	HN600X290X10X16	Q355B	
GL49-4	framed secondary	HN496X199X9X14	Q355B	
GL49-2	framed secondary	HN492X150X7X12	Q355B	
GL44-6	framed secondary	HM194X150X7X12	Q355B	
GL34-3	framed secondary	HM194X150X7X12	Q355B	
GL29-5	framed secondary	HM194X150X7X12	Q355B	
GL19-1	framed secondary	HM194X150X6X9	Q355B	
GL24-1	framed secondary	HM194X150X6X9	Q355B	

 Hangzhou Xixi Building Co., LTD 希希建筑	Design	Project Name	Hideaway hotel	No.	
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL		
	Proofreader	(10.920)	Layout plan of	Category	Proposal
	Engineer	steel columns, beams, and	Major	Steel structure	
	Review	nodes on the third floor	Page No	Proposal-08	
	Verification		Date	2025,2	

Sectional Table				
Component number	Component Name	Sectional	material	notes
GZ45-1	framed column	Box 450x450x16x16	Q355B	
GZ40-3	framed column	Box 400x400x12x12	Q355B	
GZ35-4	framed column	Box 350x350x12x12	Q355B	
QL45-11	framed beam	HN450x200x10x12	Q355B	
QL44-10	framed beam	HN446x150x7x12	Q355B	
QL45-9	framed secondary	HN450x200x10x12	Q355B	
QL44-6	framed secondary	HN446x150x7x12	Q355B	

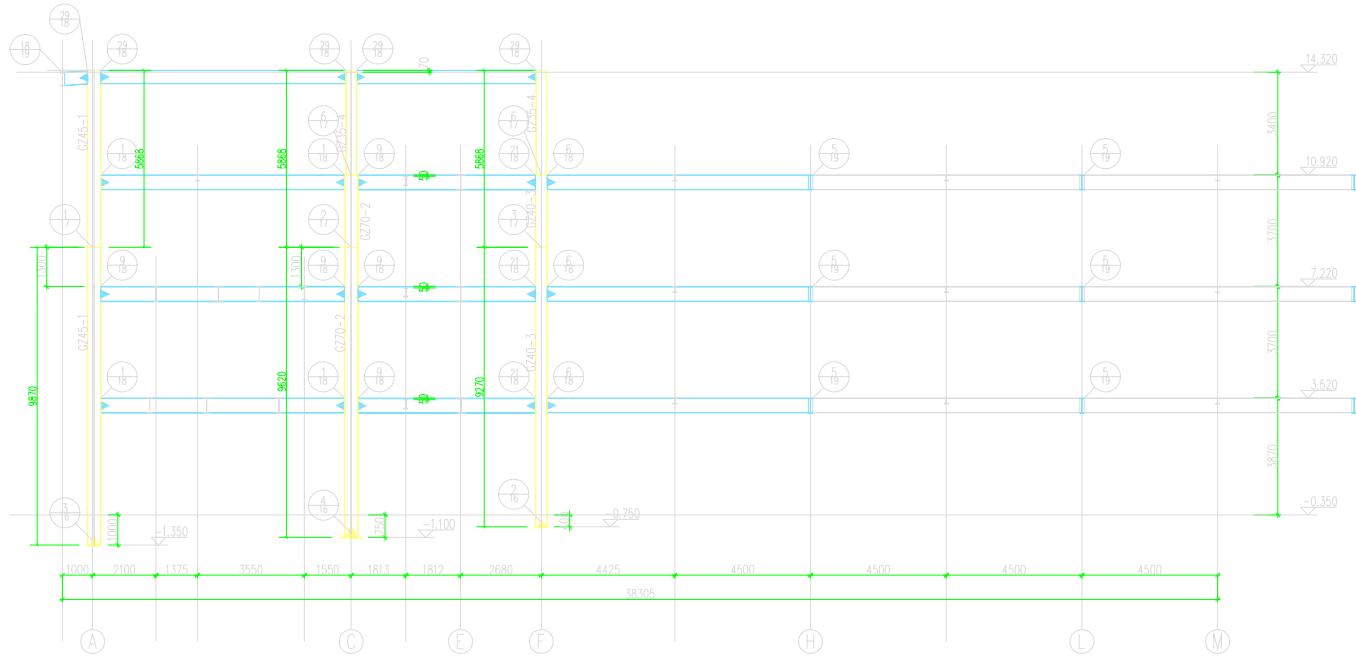


(14.320) Layout plan of steel columns, beams, and nodes on the roof floor 1:100

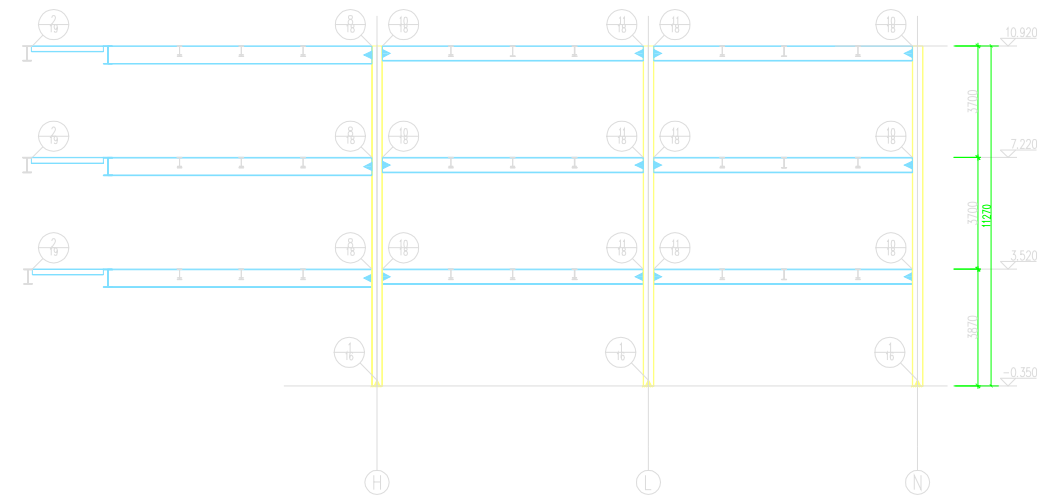


CUSTOMIZED BUILDINGS
Hangzhou Xixi Building Co., LTD
希希建筑

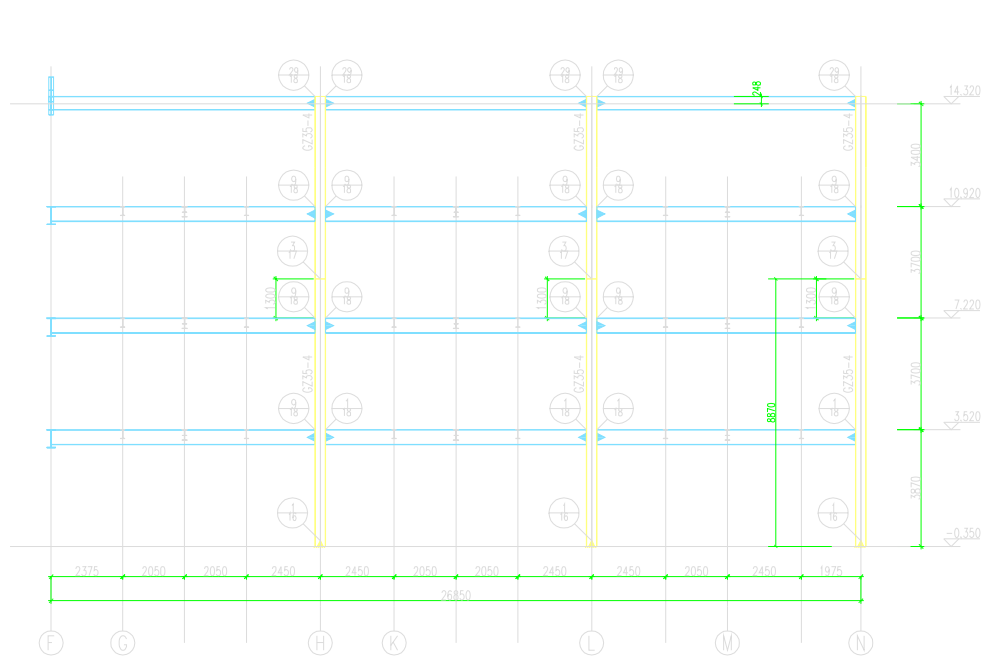
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	(14.320)	Layout plan of	Category Proposal
Engineer	steel columns, beams	and nodes on the roof floor	Major Steel structure
Review			Page No/Proposal-09
Verification			2025.2



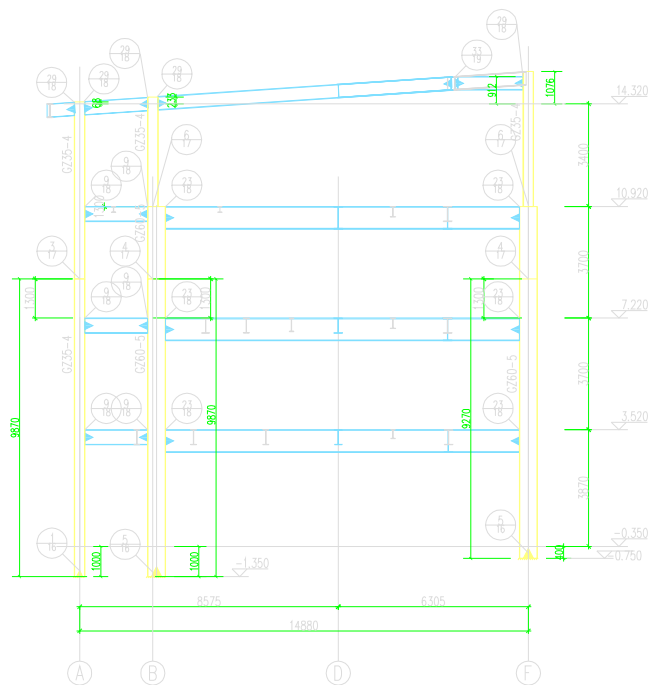
Elevation Layout of Axis 1 Frame Node 1:100



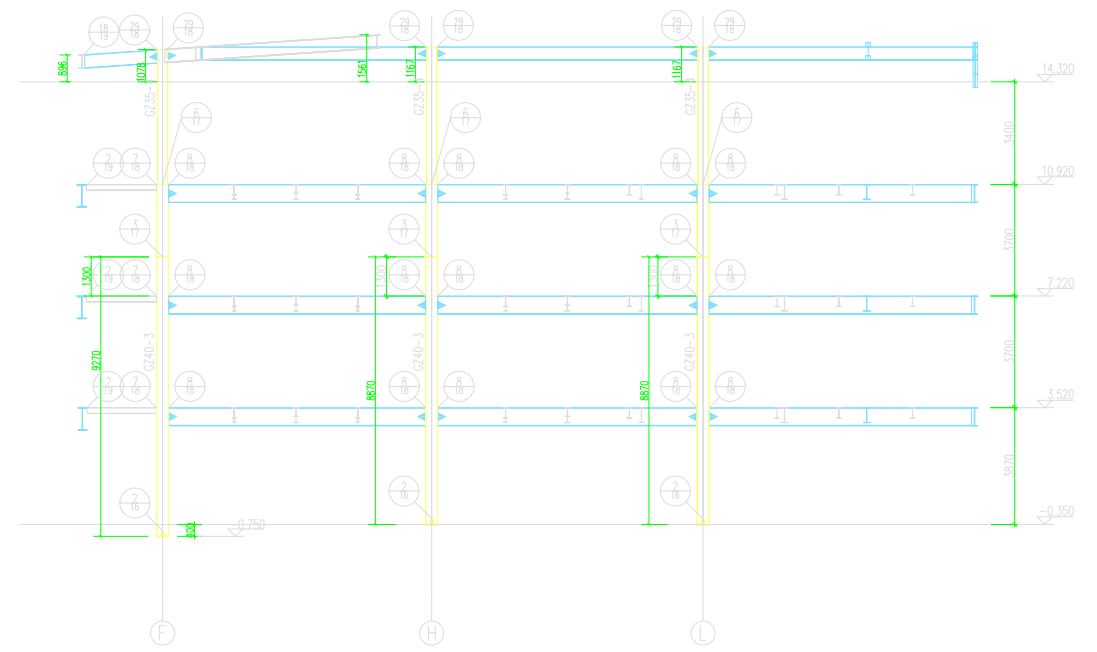
Elevation Layout of Axis 3 Frame Node 1:100



Elevation Layout of Axis 2 Frame Node 1:100



Elevation Layout of Axis 4 Frame Node 1:100

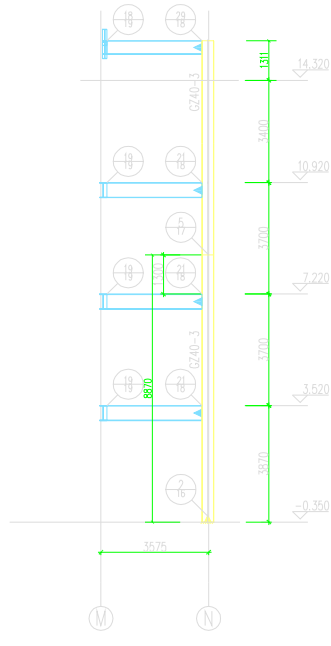


Elevation Layout of Axis 6 Frame Node 1:100

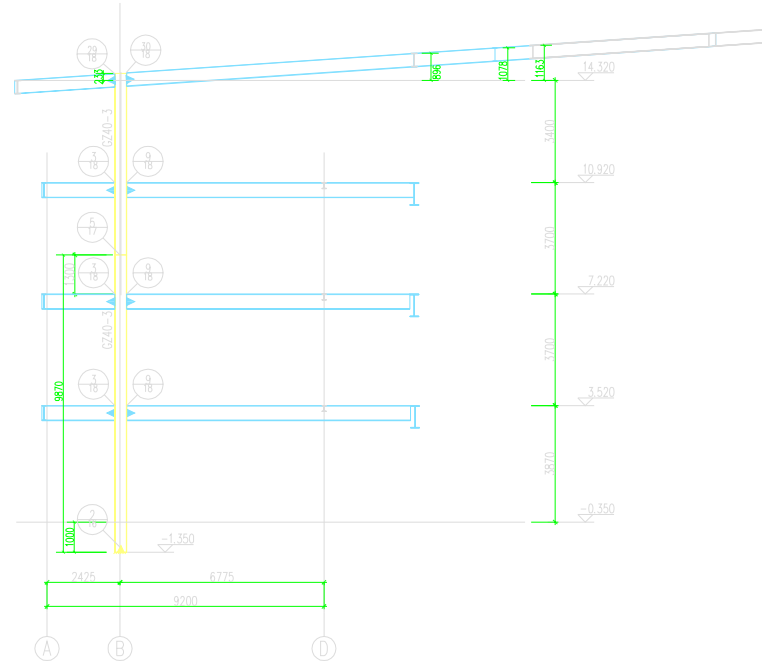
Sectional Table			
Component number	Component Name	Sectional	material notes
GZ70-2	framed column	Box 450X700x16x16	Q355B
GZ60-5	framed column	Box 450X600x16x16	Q355B
GZ45-1	framed column	Box 450X450x16x16	Q355B
GZ40-3	framed column	Box 400X400x12x12	Q355B
GZ35-4	framed column	Box 350X350x12x12	Q355B



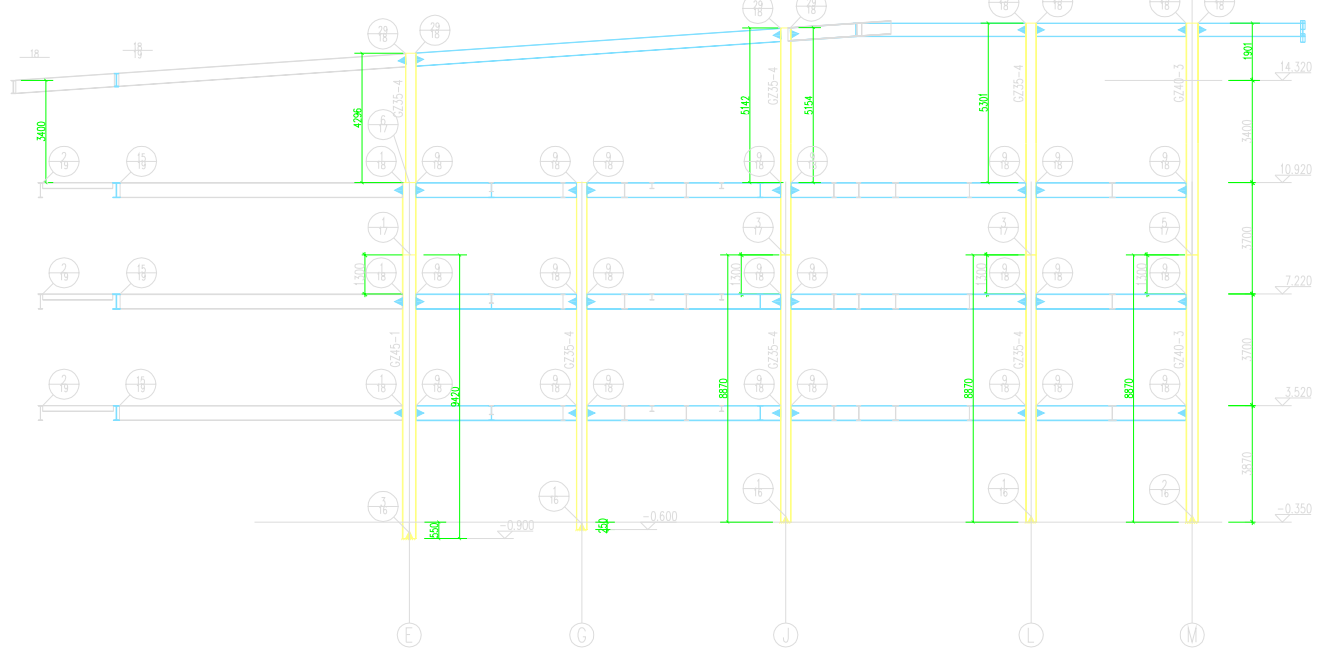
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Elevation Layout of Axis 1~6 Frame Node		Category
Engineer			Major Steel structure
Review			Page No
Verification			Proposal-10
			Date
			2025,2



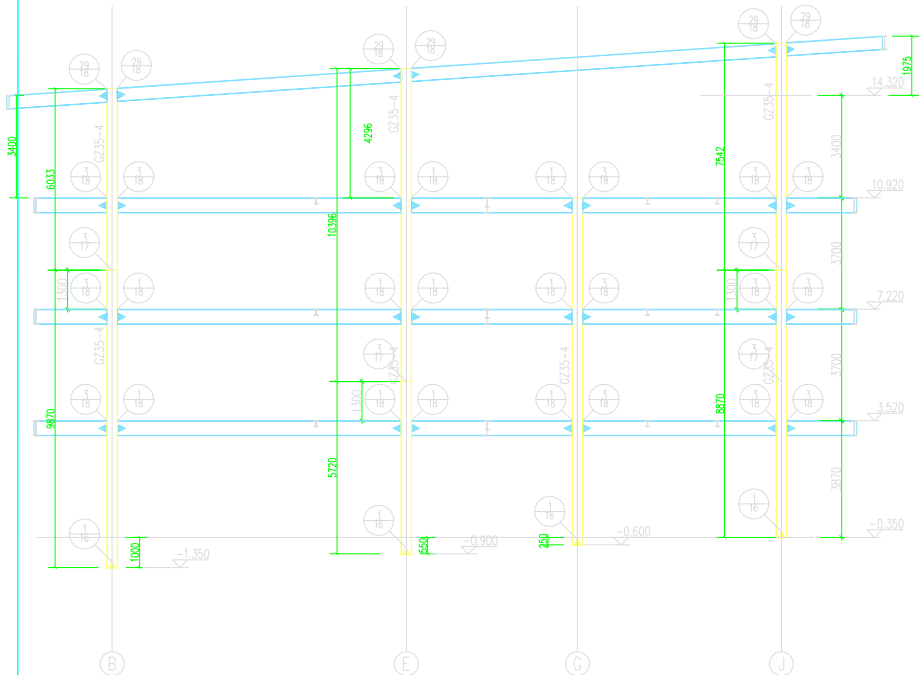
Elevation Layout of Axis 7 Frame Node 1:100



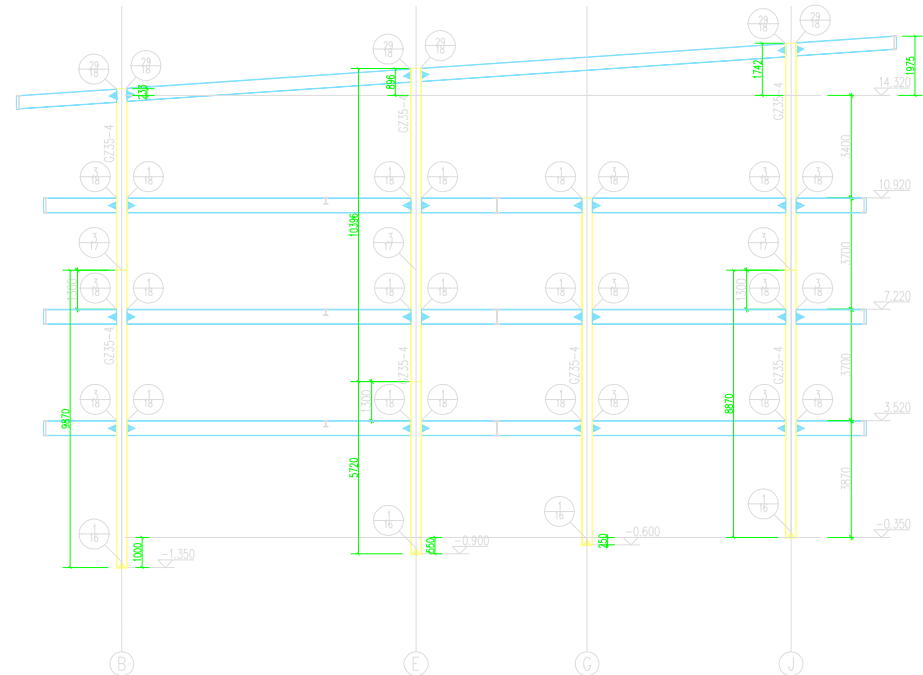
Elevation Layout of Axis 8 Frame Node 1:100



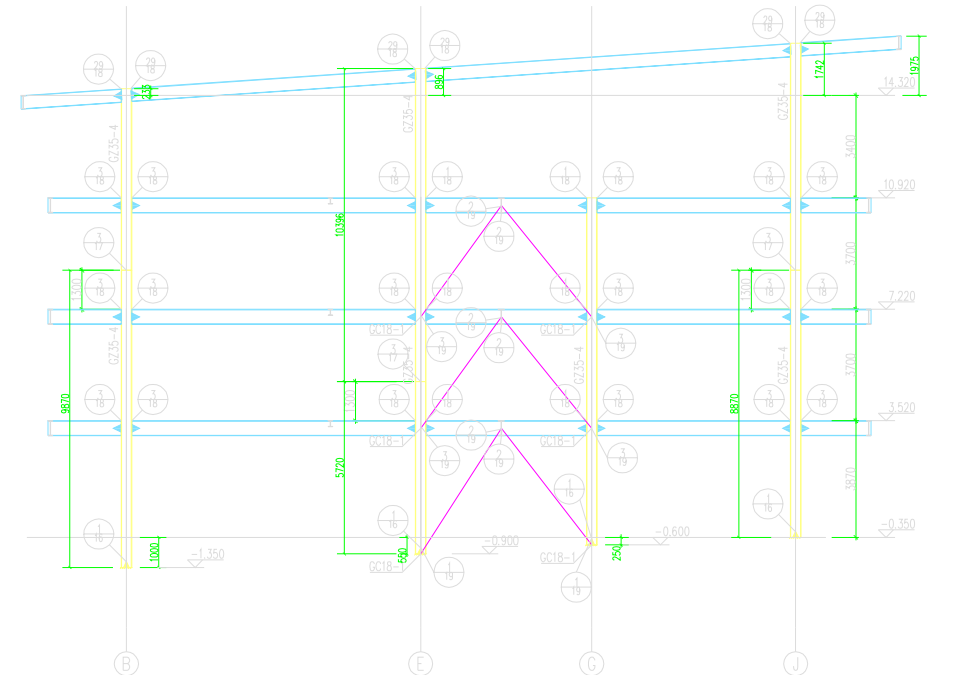
Elevation Layout of Axis 9 Frame Node 1:100



Elevation Layout of Axis 10 Frame Node 1:100



Elevation Layout of Axis 11 Frame Node 1:100
 Elevation Layout of Axis 12 Frame Node 1:100
 Elevation Layout of Axis 13 Frame Node 1:100
 Elevation Layout of Axis 14 Frame Node 1:100
 Elevation Layout of Axis 15 Frame Node 1:100



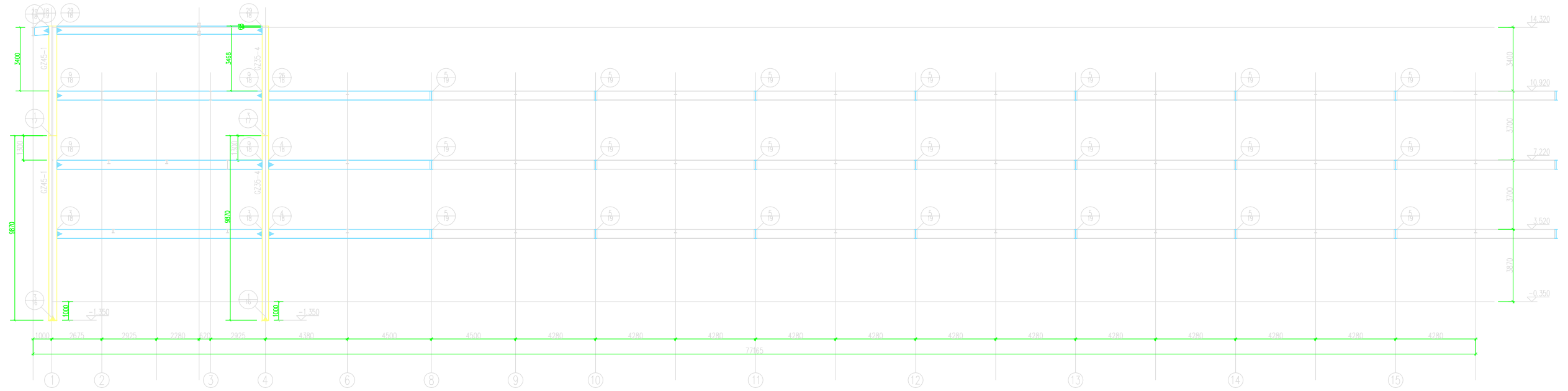
Elevation Layout of Axis 16 Frame Node 1:100

Component number	Component Name	Sectional	material	notes
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GZ60-5	framed column	Box 450x600x16x16	Q355B	
GZ45-1	framed column	Box 450x450x16x16	Q355B	
GZ40-3	framed column	Box 400x400x12x12	Q355B	
GZ35-4	framed column	Box 350x350x12x12	Q355B	

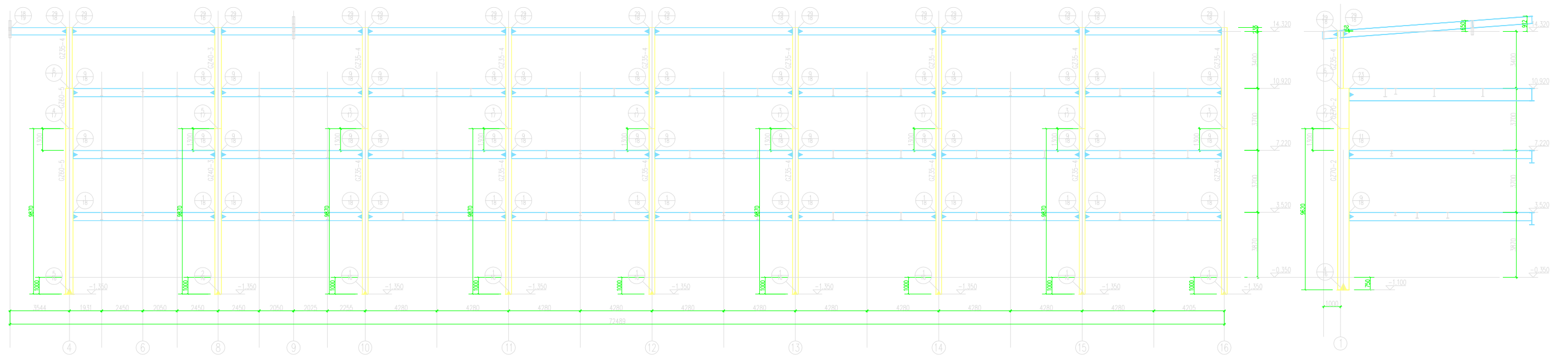


Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader			Category
Engineer			Proposal
Review			Major Steel structure
Verification			Page No
			Proposal-11
			Date
			2025,2

Elevation Layout of Axis 7~16 Frame Node



Elevation Layout of Axis A Frame Node 1:100



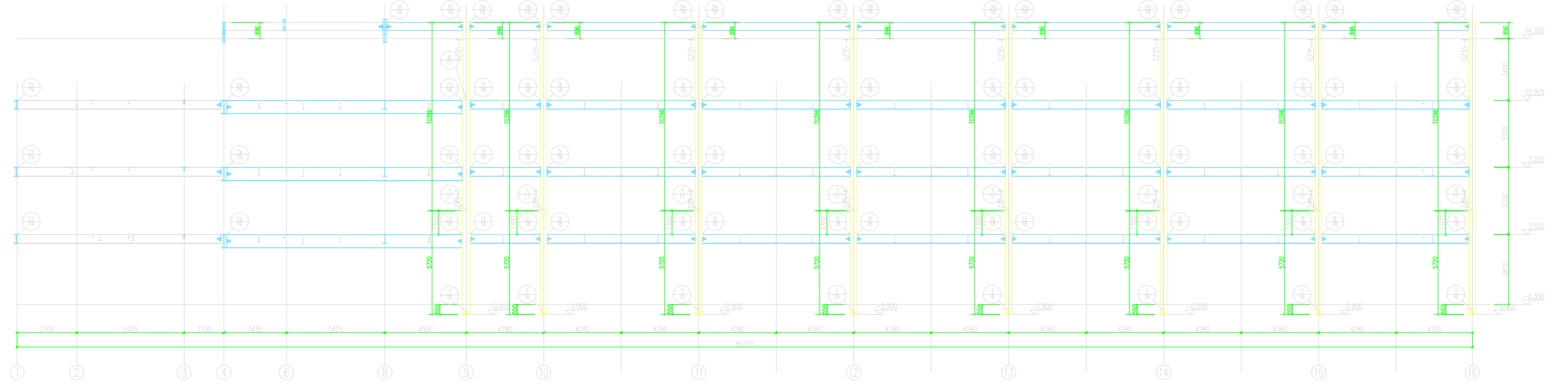
Elevation Layout of Axis B Frame Node 1:100

Elevation Layout of Axis C Frame Node 1:100

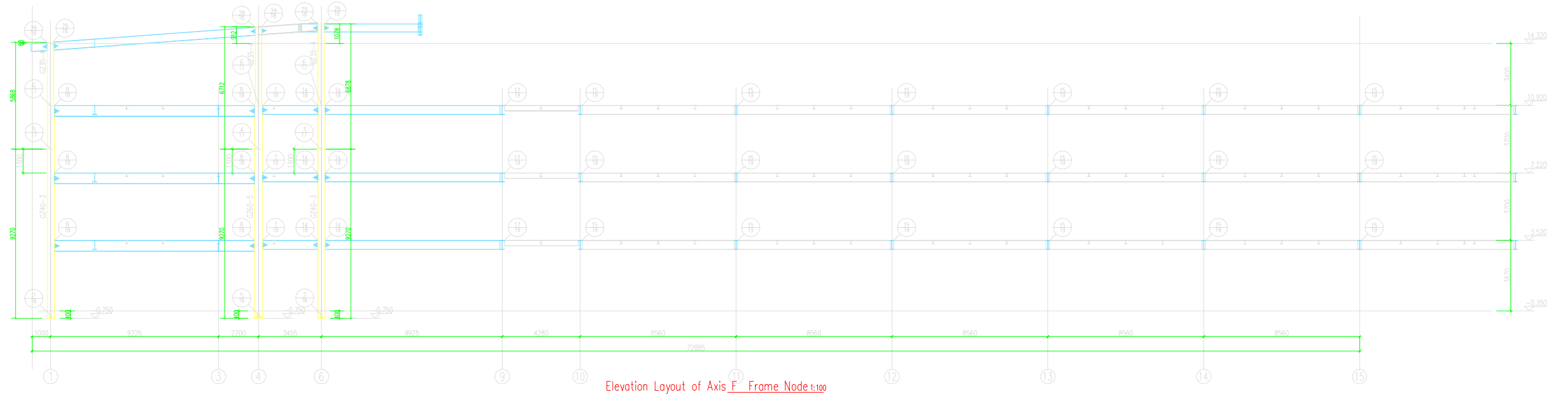
Component number	Component Name	Sectional	material	notes
GZ70-2	framed column	Box 450x700x16x16	Q355B	
GZ80-5	framed column	Box 450x600x16x16	Q355B	
GZ45-1	framed column	Box 450x450x16x16	Q355B	
GZ40-3	framed column	Box 400x400x12x12	Q355B	
GZ35-4	framed column	Box 350x350x12x12	Q355B	



Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Elevation Layout of Axis A~C Frame Node		Category
Engineer			Proposal
Review			Major Steel structure
Verification			Page No
			Proposal-12
			Date
			2025,2



Elevation Layout of Axis E Frame Node 1:100

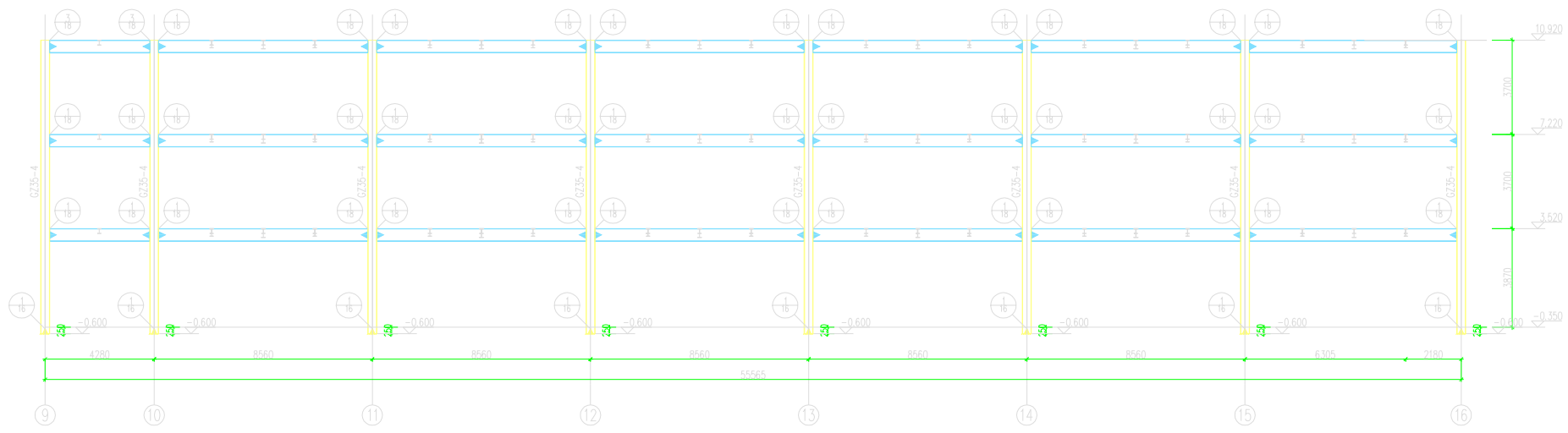


Elevation Layout of Axis F Frame Node 1:100

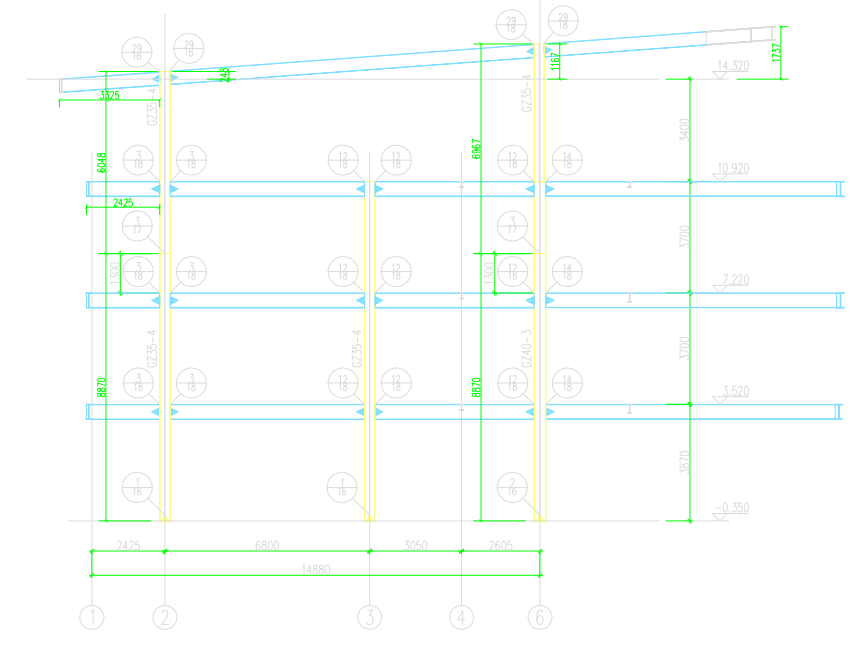
Component number	Component Name	Sectional	material	notes
GZ70-2	framed column	Box 450X700x16x16	Q355B	
GZ80-5	framed column	Box 450X600x16x16	Q355B	
GZ45-1	framed column	Box 450X450x16x16	Q355B	
GZ40-3	framed column	Box 400X400x12x12	Q355B	
GZ35-4	framed column	Box 350X350x12x12	Q355B	



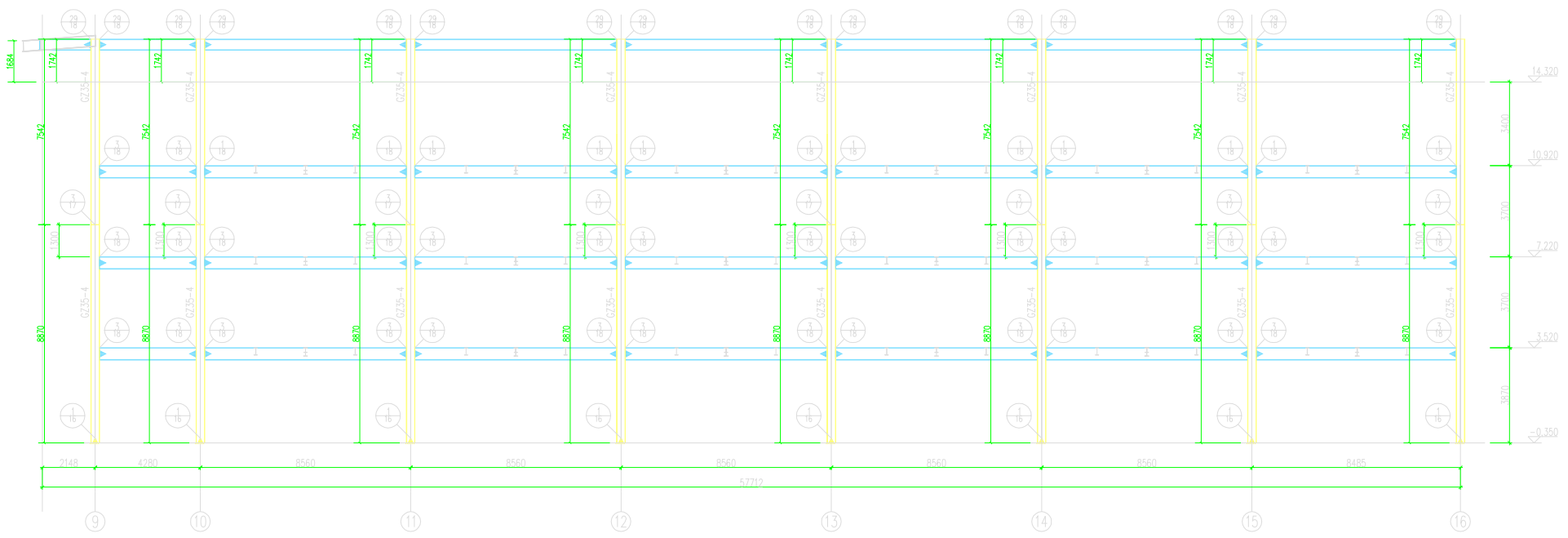
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Elevation Layout of Axis E~F Frame Node		Category Proposal
Engineer			Major Steel structure
Review			Page No Proposal-13
Verification			Date 2025,2



Elevation Layout of Axis G Frame Node 1:100



Elevation Layout of Axis H Frame Node 1:100

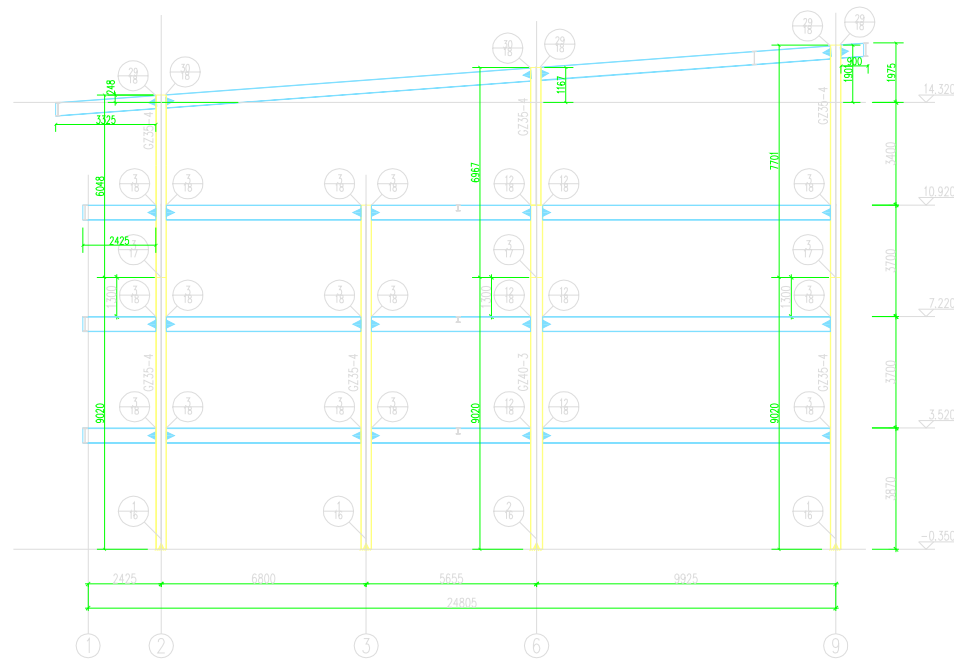


Elevation Layout of Axis J Frame Node 1:100

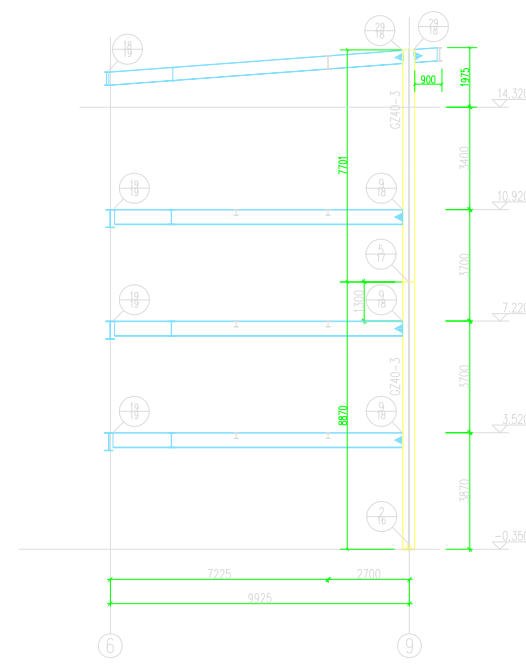
Component number	Component Name	Sectional	material	notes
GZ70-2	framed column	Box 450x700x16x16	Q355B	
GZ60-5	framed column	Box 450x600x16x16	Q355B	
GZ45-1	framed column	Box 450x450x16x16	Q355B	
GZ40-3	framed column	Box 400x400x12x12	Q355B	
GZ35-4	framed column	Box 350x350x12x12	Q355B	



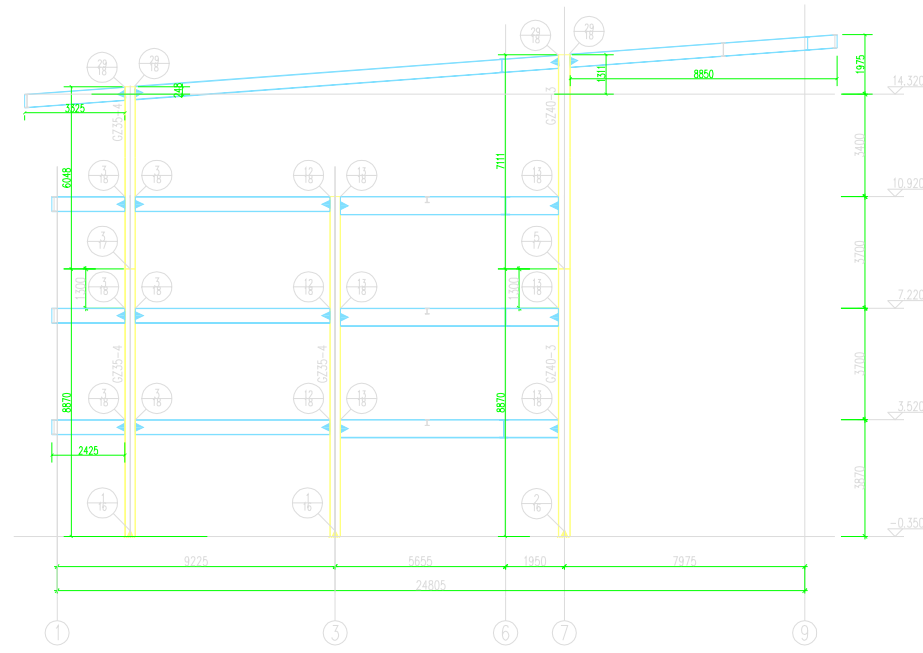
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Elevation Layout of		Category
Engineer	Axis G~J Frame Node		Major Steel structure
Review			Page No
Verification			Proposal-14
	Date	2025,2	



Elevation Layout of Axis L Frame Node 1:100



Elevation Layout of Axis M Frame Node 1:100

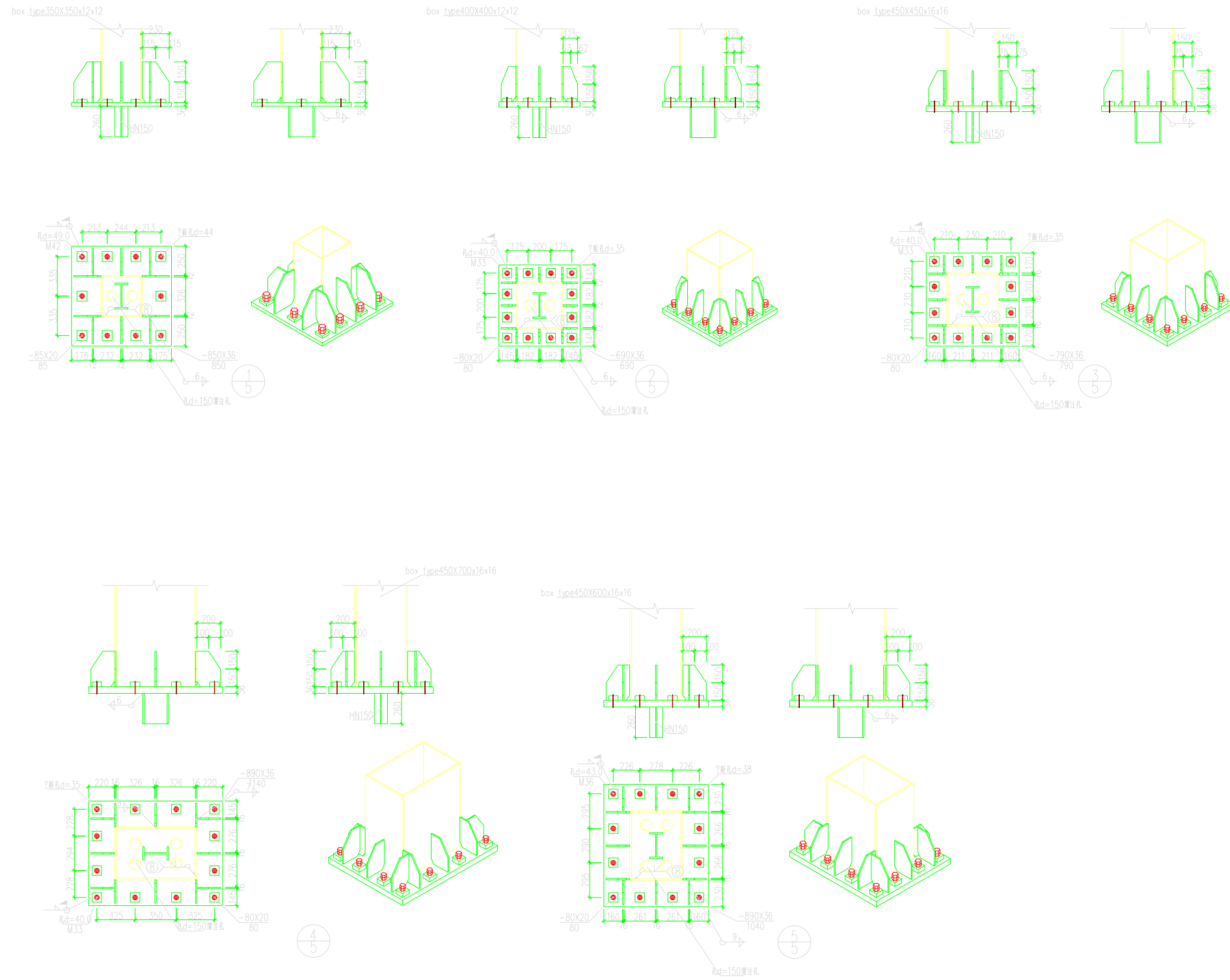



Elevation Layout of Axis N Frame Node 1:100

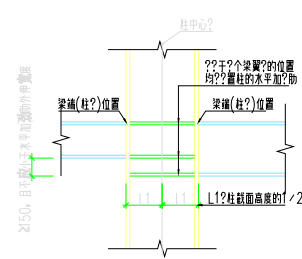
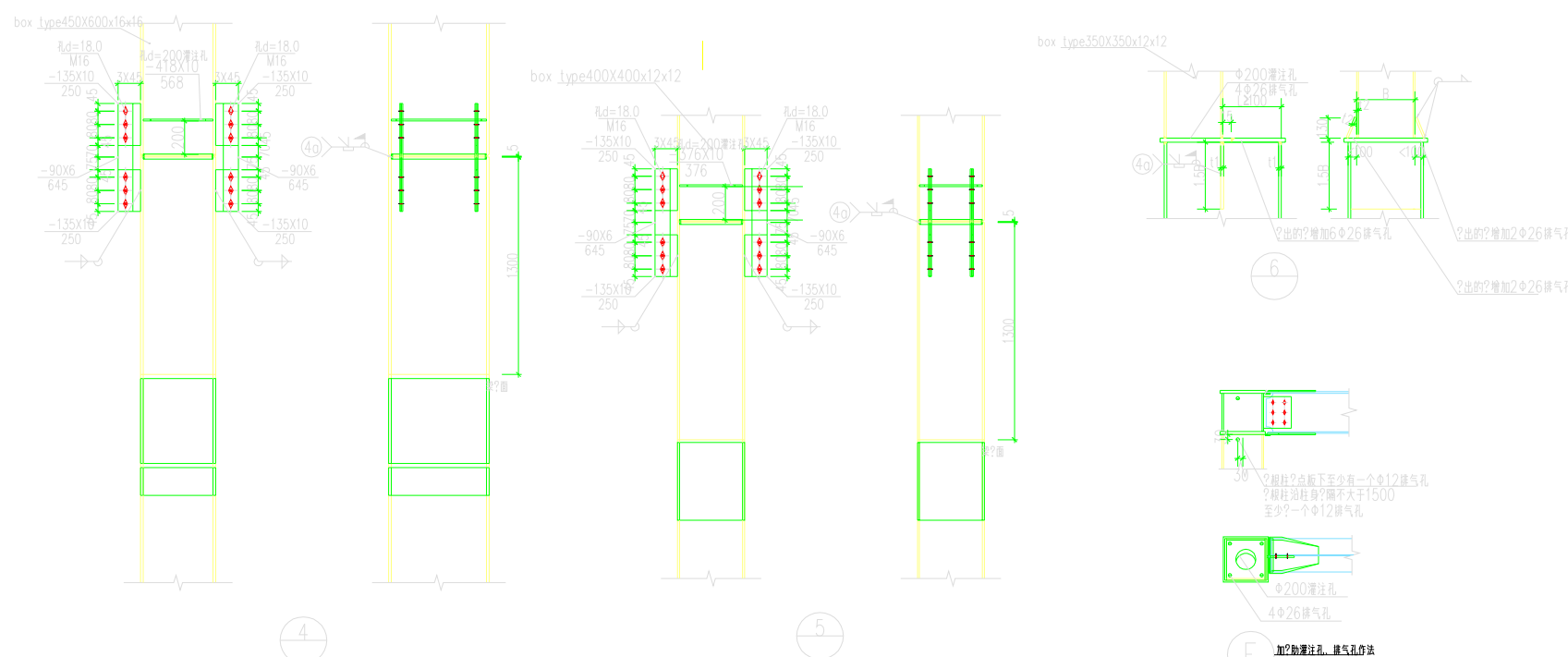
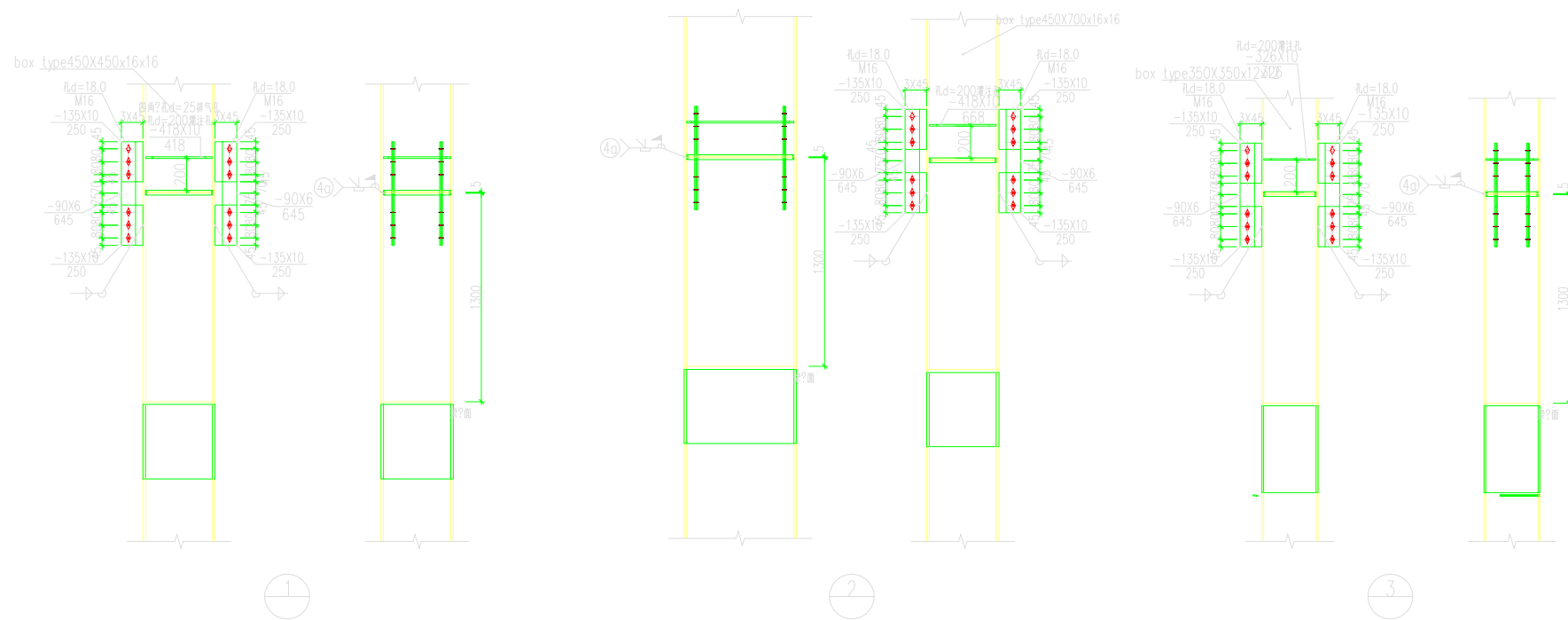
Component number	Component Name	Sectional	material	notes
GZ70-2	framed column	Box 450X700x16x16	Q355B	
GZ60-5	framed column	Box 450X600x16x16	Q355B	
GZ45-1	framed column	Box 450X450x16x16	Q355B	
GZ40-3	framed column	Box 400X400x12x12	Q355B	
GZ35-4	framed column	Box 350X350x12x12	Q355B	



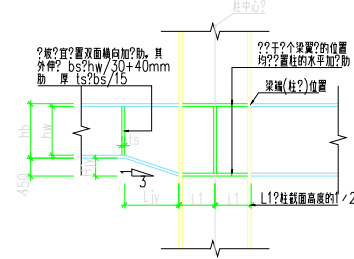
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Elevation Layout of Axis L~N Frame Node		Category Proposal
Engineer			Major Steel structure
Review			Page No Proposal-15
Verification			Date 2025,2



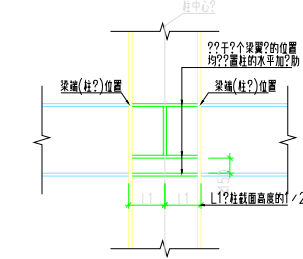
 CUSTOMIZED BUILDINGS Hangzhou Xixi Building Co., LTD 希希建筑	Design	Project Name	Hideaway hotel	No.
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
	Proofreader	Column Foot Node		Category
	Engineer	Design Figure		Major Steel structure
	Review			Page No/Proposal-16
	Verification			Date 2025,2



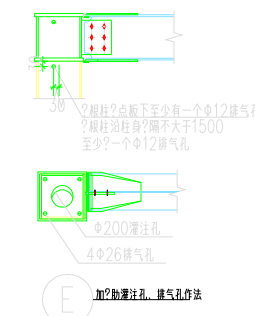
A 不常高梁与柱的连接? (一)
(当柱??的梁高??150且不小于
梁平加?物??的作法)



B 不常高梁与柱的连接? (二)
(当柱??的梁高??450??的作法)



C 不常高梁与柱的连接? (二)
(在柱的??个互相垂直的方向的梁高??150
且不小于梁平加?物??的作法)



D 扁钢柱加?物作法

钢柱、钢梁及连接节点设计说明:

Design Description of Steel Columns, Steel Beams, and Connection Nodes:

1. 柱水平贯通连接板厚度, 取周边连接缘较厚的板厚加上不小于2mm, 一般取12、16、20、25、30mm。 (The thickness of the horizontal connecting plate of the column is taken by adding the thicker plate thickness of the surrounding flange to not less than 2mm. Generally, the thickness is taken as 12, 16, 20, 25, and 30 according to the step difference. (Take 30mm for HN750 connections))

2. 钢管柱, 柱中浇灌C25细石混凝土, 每两层一浇, 浇筑面距两层楼面位置300~500mm; 节点区域加强振捣, 底捣结实。 (Pipe column, poured with C25 fine aggregate concrete in the column, poured every two layers, with the pouring surface 300-500mm away from the floor position of the two layers; Strengthen vibration in the node area and compact it.)

3. 钢管柱水平加劲板上预留的Φ200灌注孔, 600/700mm高的柱, 灌注孔200*350, 和4Φ26排气孔, 由于灌注孔较小, 应加强浇筑的质量管理。 (The reserved Φ200 grouting holes on the horizontal stiffening plate of the steel pipe column (for columns with a height of 600/700mm, grouting holes of 200 * 350) and 4 Φ26 exhaust holes, due to their small size, should strengthen the quality management of pouring and compaction.)

4. 沿钢管柱身每隔不大于1500mm至少设一个排气孔, 每层节点隔板下20~30mm的位置至少设一个排气孔。 (At least one exhaust hole should be set every 1500mm along the steel pipe column body, and at least one exhaust hole should be set at a position 20-30mm below each node partition.)

5. 截面高度为600\700mm钢管柱, 在600\700mm的宽面上沿柱高度方向每间隔不大于800mm, 在钢管壁上钻孔, 塞焊一个20拉结钢筋。 (A steel pipe column with a cross-sectional height of 600-700mm shall be drilled and welded with a 20 tie steel bar at intervals of no more than 800mm along the column height direction on the 600-700mm wide surface.)

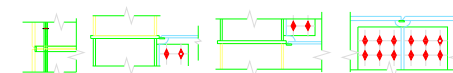
6. 箱型柱与柱底板之间, 箱型柱与贯通隔板之间, 在隔板的上下500mm的柱壁板之间, 采用全熔透焊缝。 (Full penetration welds are used between the box column and the column bottom plate, between the box column and the through partition, and between the column wall panels 500mm above and below the partition.)

7. 当梁与梁节点连接板的对侧无节点连接时, 它的对称位置设置一6mm加劲板, 板的宽度统一至翼缘边。 (When there is no node connection on the opposite side of the beam to beam node connection plate, a 6mm stiffening plate is set at its symmetrical position, and the width of the plate is uniform to the flange edge.)

8. 参照梁柱节点连接、梁与梁节点连接详图时, 当柱截面、梁高、梁宽、梁偏移距离等不匹配时, 按平面布置图中的规格要求和平移要求, 仅仅采纳节点详图中有关板厚度、螺栓规格、数量、间距、变截面、加腋要求、焊接要求。 (When referring to the detailed drawings of beam column node connections and beam to beam node connections, if the column section, beam height, beam width, beam offset distance, etc. do not match, only the plate thickness, bolt specifications, quantity, spacing, variable cross-section, haunching requirements, and welding requirements in the node details shall be adopted according to the specifications and translation requirements in the layout plan.)

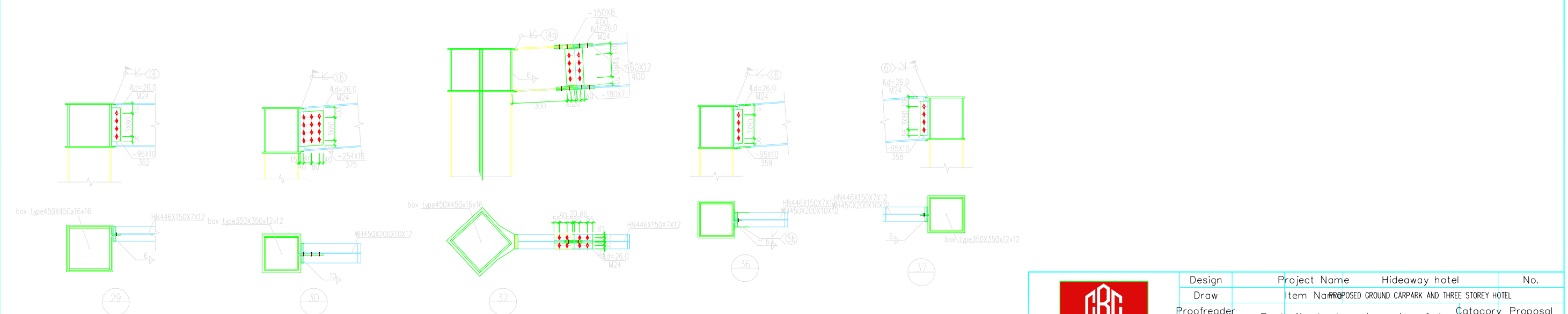
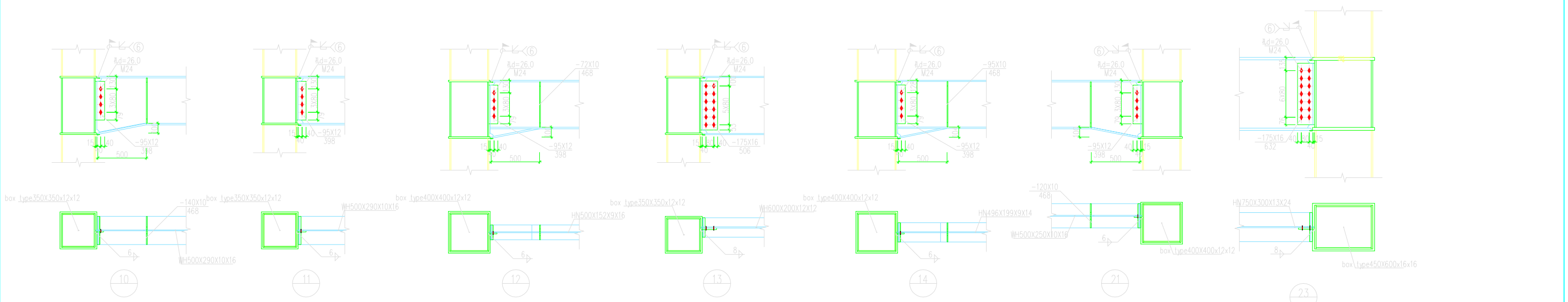
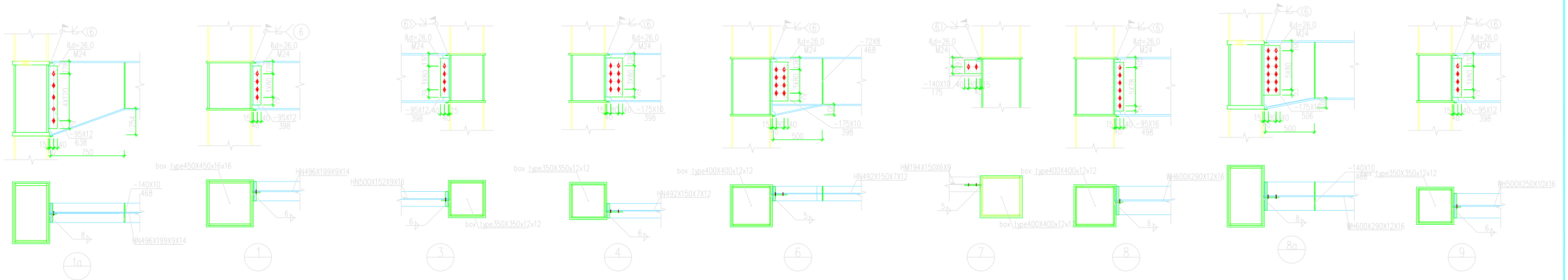
9. 所有这些部位全部要就现场焊接。 (All these parts must be welded on site.)


10. 所有这些部位不需要焊接。 (All these parts do not require welding.)

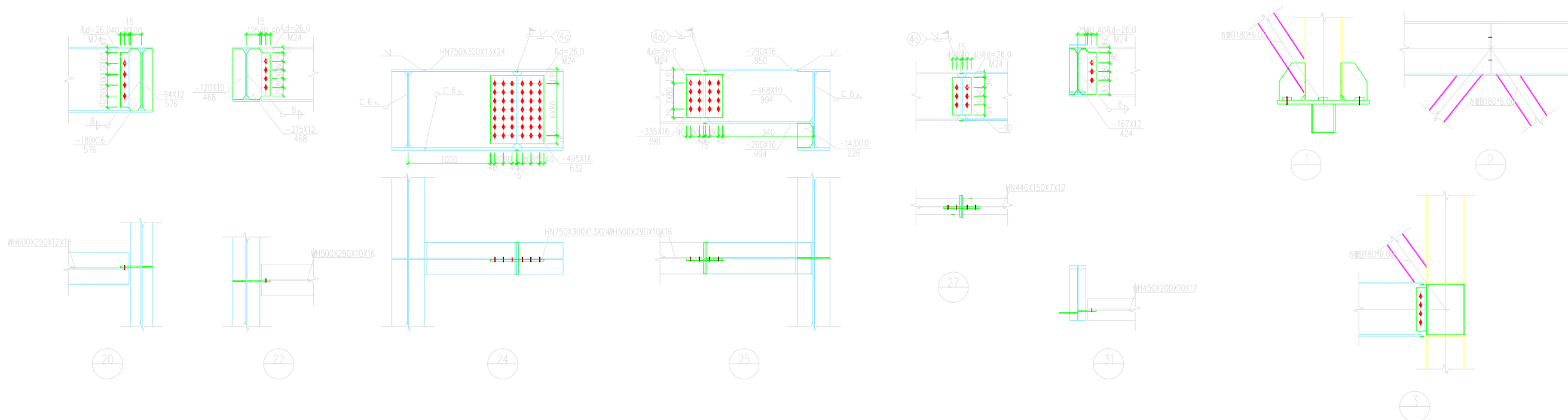
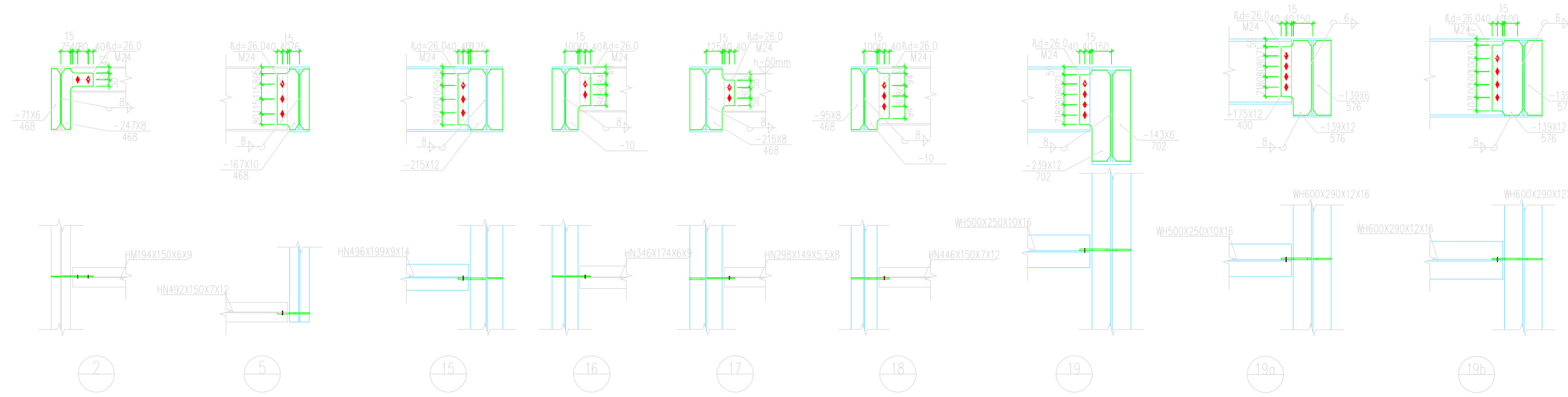


10. 所有这些部位不需要焊接。



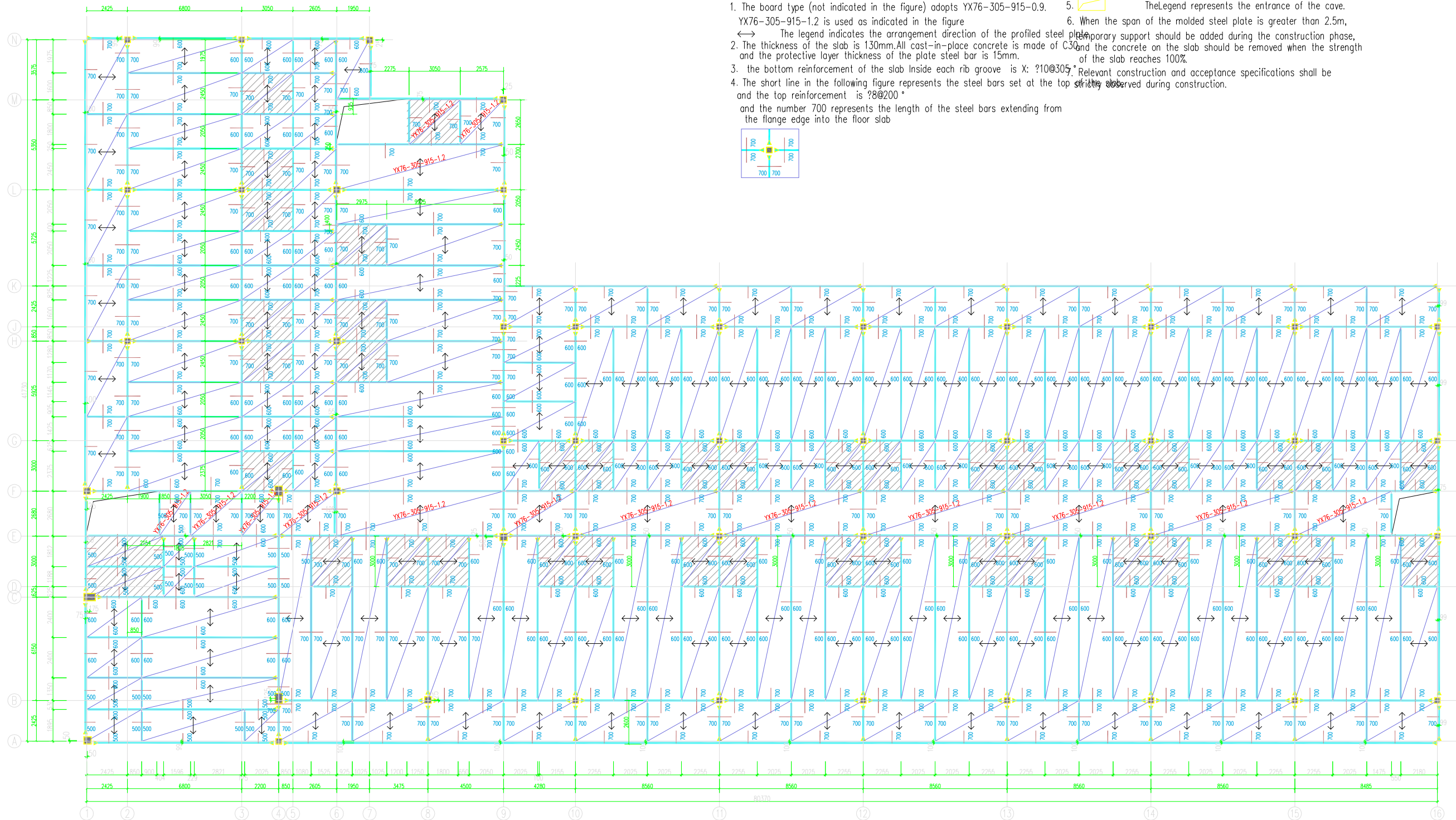


 <p>Hangzhou Xixi Building Co., LTD 希希建筑</p>	Design	Project Name	Hideaway hotel	No.
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
	Proofreader	Detailed drawing 1 of beam		Category
	Engineer	column connection nodes		Proposal for Steel structure
	Review			Page No/Proposal-18
	Verification			Date 2025,2

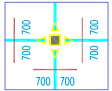


Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Profreader			Category
Engineer			Major Steel structure
Review			Page No
Verification			Proposal-19
			Date
			2025,2

Detailed drawing 2 of beam-column connection nodes

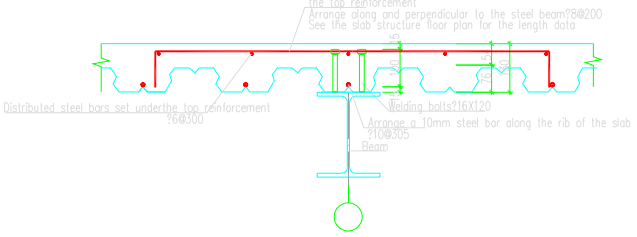
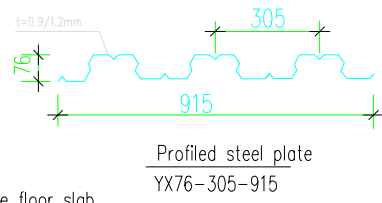
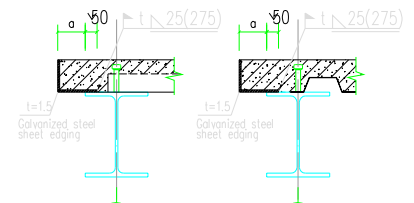


- Note:
- The board type (not indicated in the figure) adopts YX76-305-915-0.9. The legend represents the entrance of the cave.
 - The thickness of the slab is 130mm. All cast-in-place concrete is made of C30 and the concrete on the slab should be removed when the strength of the slab reaches 100%. The legend indicates the arrangement direction of the profiled steel plate.
 - The bottom reinforcement of the slab inside each rib groove is X: $\Phi 10@305$.
 - The short line in the following figure represents the steel bars set at the top of the slab and the top reinforcement is $\Phi 8@200$.
 - When the span of the molded steel plate is greater than 2.5m, temporary support should be added during the construction phase, and the concrete on the slab should be removed when the strength of the slab reaches 100%.
 - Relevant construction and acceptance specifications shall be strictly observed during construction.

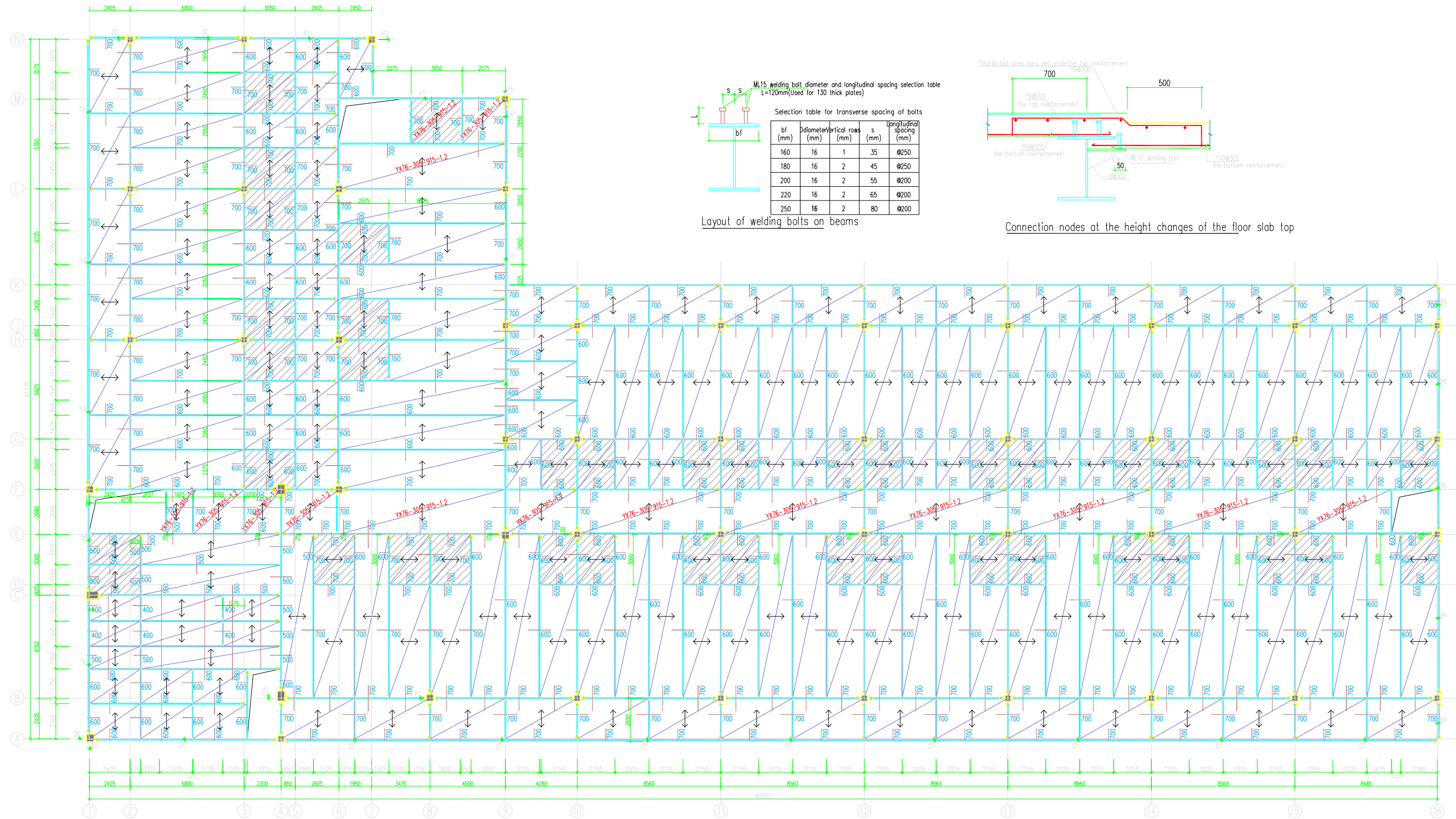


Construction drawing of the first floor slab structure 1:100

- The top elevation of the completed floor slab not indicated in the diagram is H=3.650.
- The elevation of the slab top shown in the area is H-0.050m.



Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Construction drawing of		Category Proposal
Engineer	the first floor slab structure		Major Steel structure
Review			Page No Proposal-20
Verification			Date 2025,2

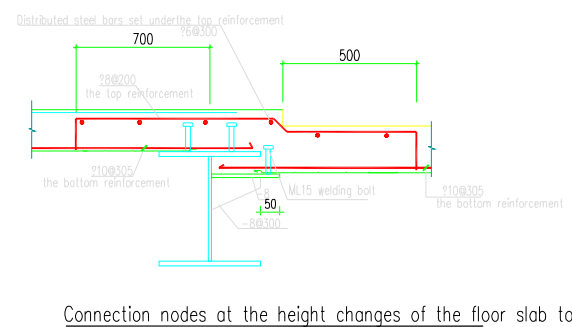


ML15 welding bolt diameter and longitudinal spacing selection table
L=120mm(Used for 130 thick plates)

Selection table for transverse spacing of bolts

bf (mm)	Diameter (mm)	Vertical rows (mm)	s (mm)	Longitudinal spacing (mm)
160	16	1	35	Ø250
180	16	2	45	Ø250
200	16	2	55	Ø200
220	16	2	65	Ø200
250	16	2	80	Ø200

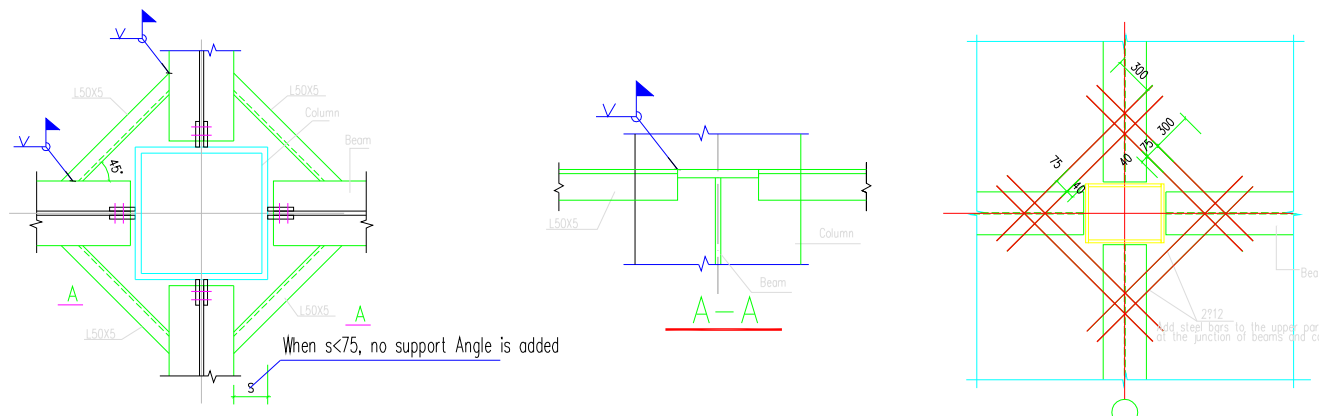
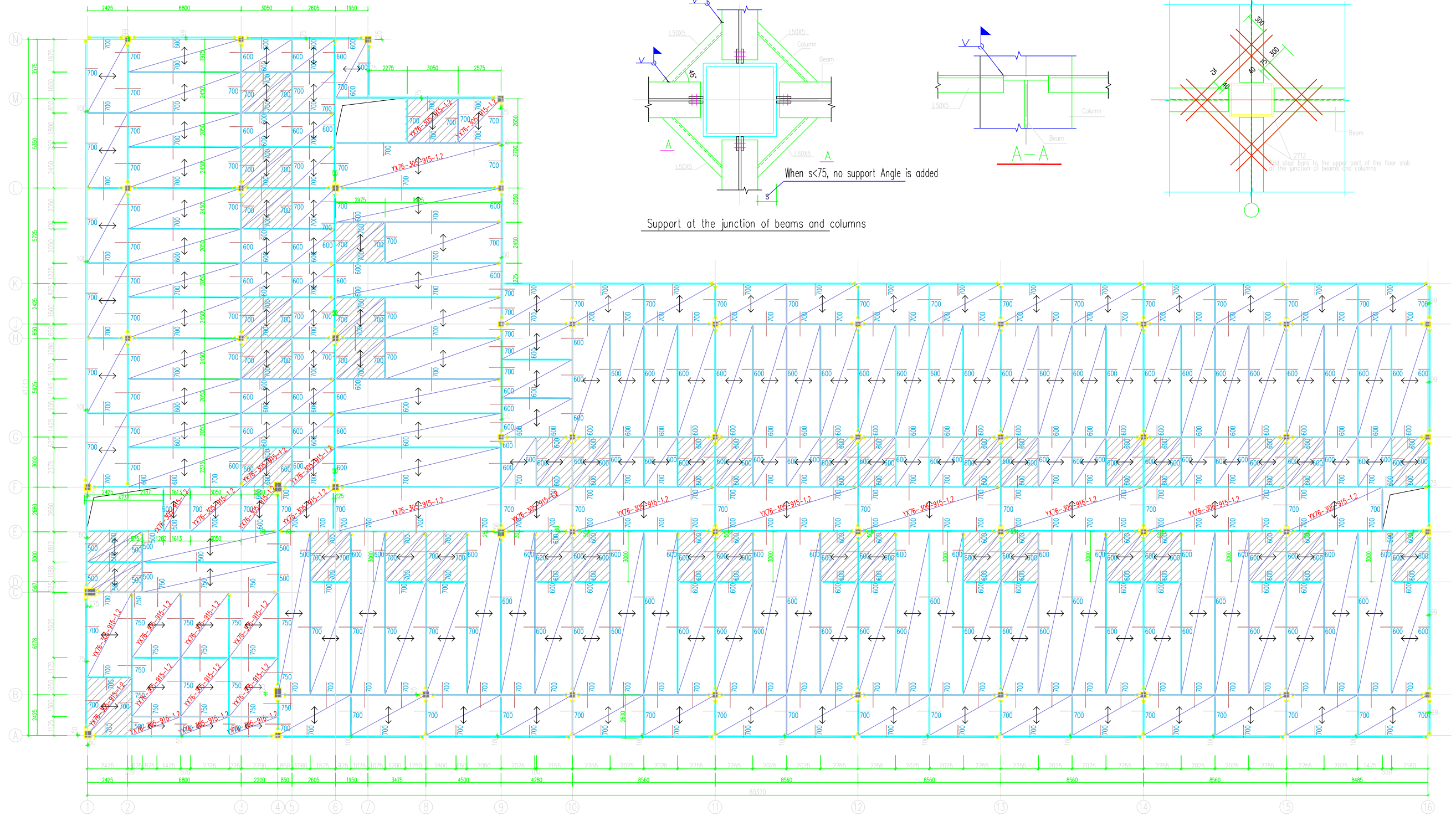
Layout of welding bolts on beams



Construction drawing of The second floor slab structure 1:100

- 1. The top elevation of the completed floor slab not indicated in the diagram is H=7.350
- The elevation of the slab top shown in the area is H=0.050m.


Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Construction drawing of Major Steel structure		Category
Engineer			Proposal
Review	The second floor slab structure		Page No
Verification			Proposal-21
			Date
			2025,2



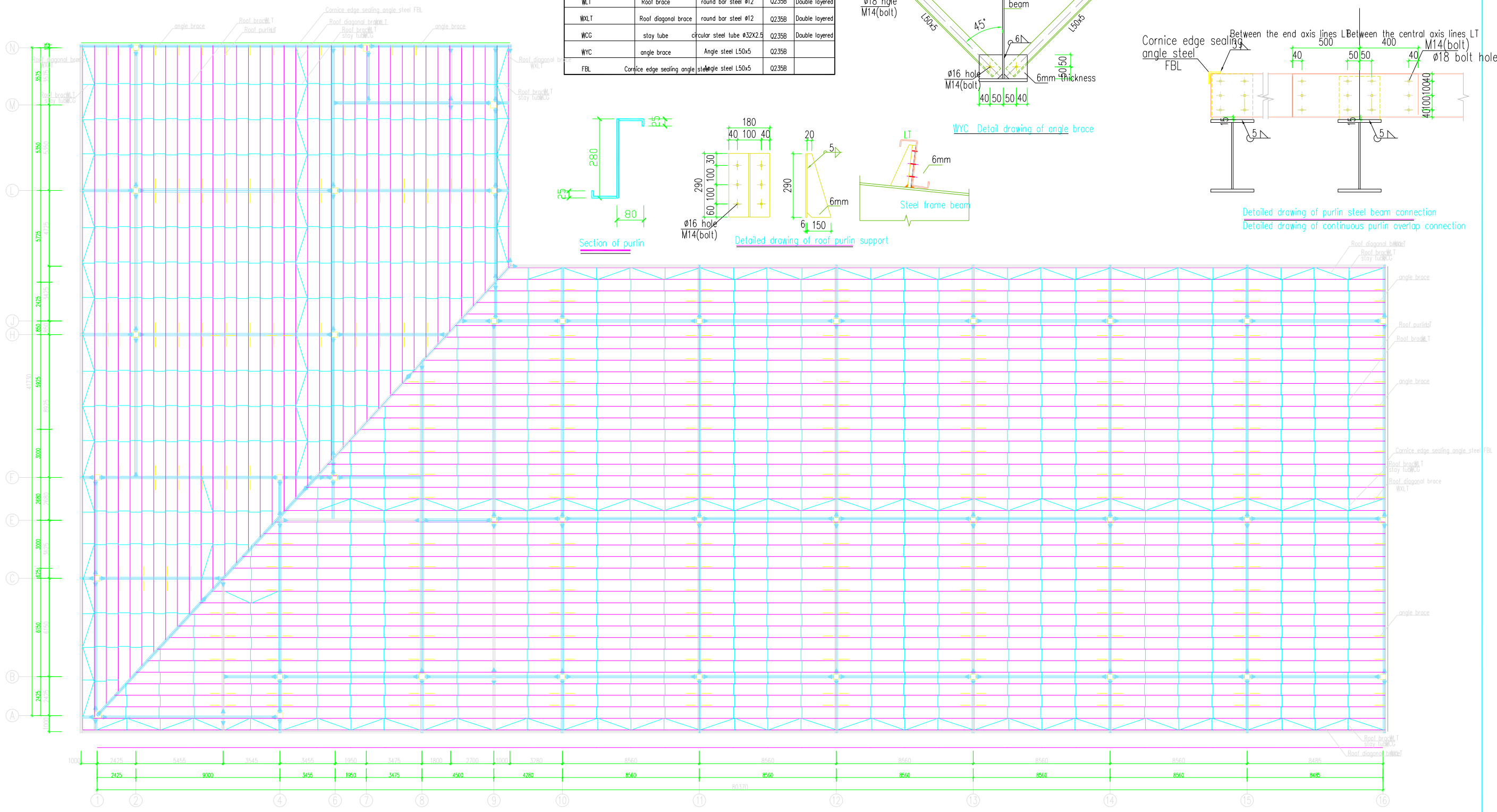
Support at the junction of beams and columns

Construction drawing of The third floor slab structure 1:100

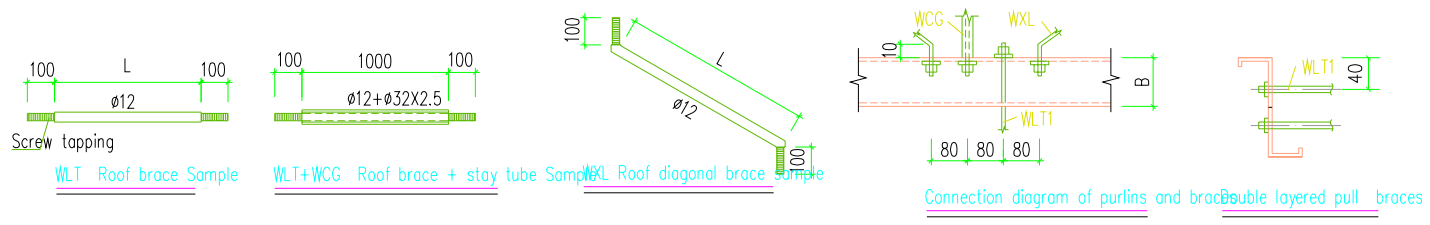
- 1. The top elevation of the completed floor slab not indicated in the diagram is $H=11.050$
- The elevation of the slab top shown in the area is $H=10.050m$.

 Hangzhou Xixi Building Co., LTD 希希建筑	Design	Project Name	Hideaway hotel	No.
	Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
	Proofreader	Construction drawing of		Category
	Engineer	The third floor slab structure		Major
	Review	Date	2025,2	Proposal-22
Verification				

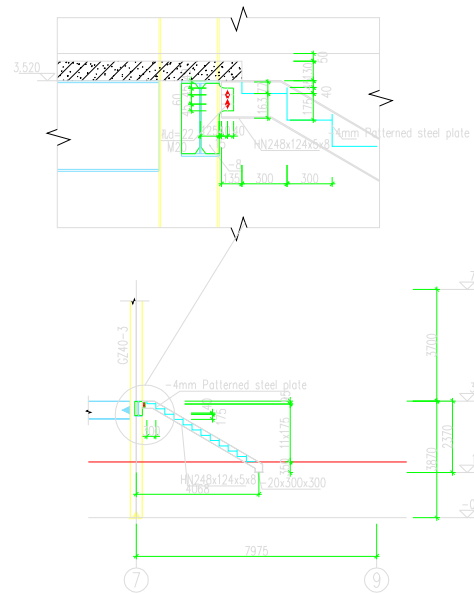
Sectional Table				
Component number	Component Name	Sectional	material	notes
LT	Roof purlins	Z280X80X25X3	Q355a	
WLT	Roof brace	round bar steel $\phi 12$	Q235B	Double layered
WXL	Roof diagonal brace	round bar steel $\phi 12$	Q235B	Double layered
WCG	stay tube	circular steel tube $\phi 32 \times 2.5$	Q235B	Double layered
WYC	angle brace	Angle steel L50x5	Q235B	
FBL	Cornice edge sealing angle steel	angle steel L50x5	Q235B	



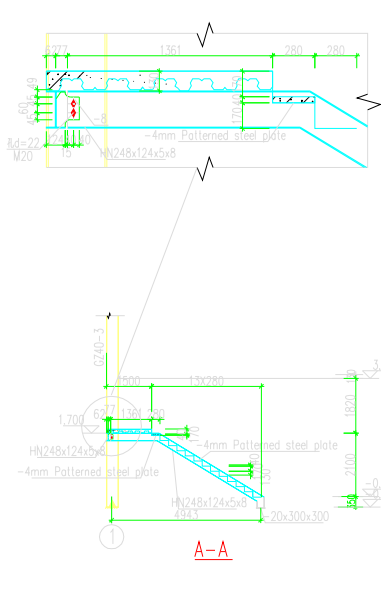
(14.320) Layout plan of roof purlins, braces, and angel braces 1:500



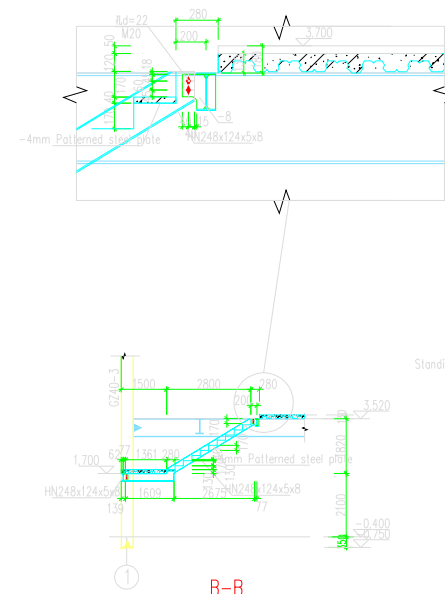
Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Layout plan of roof purlins, braces, and angel braces		Category Proposal
Engineer			Major Steel structure
Review			Page No Proposal-23
Verification			Date 2025.2



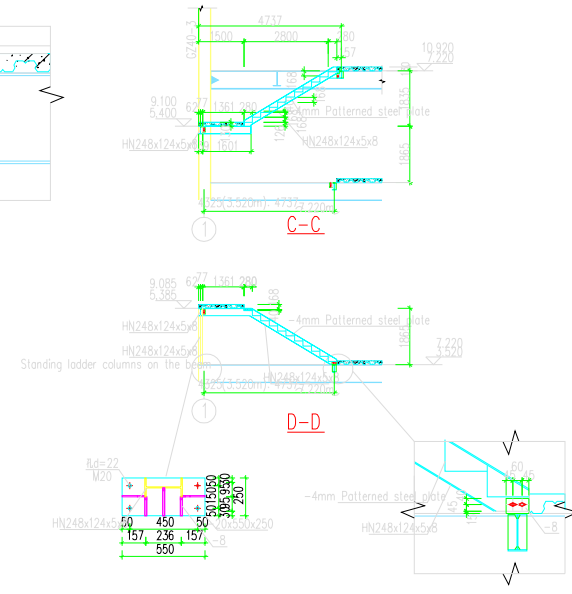
11B Stair construction drawing 1:100



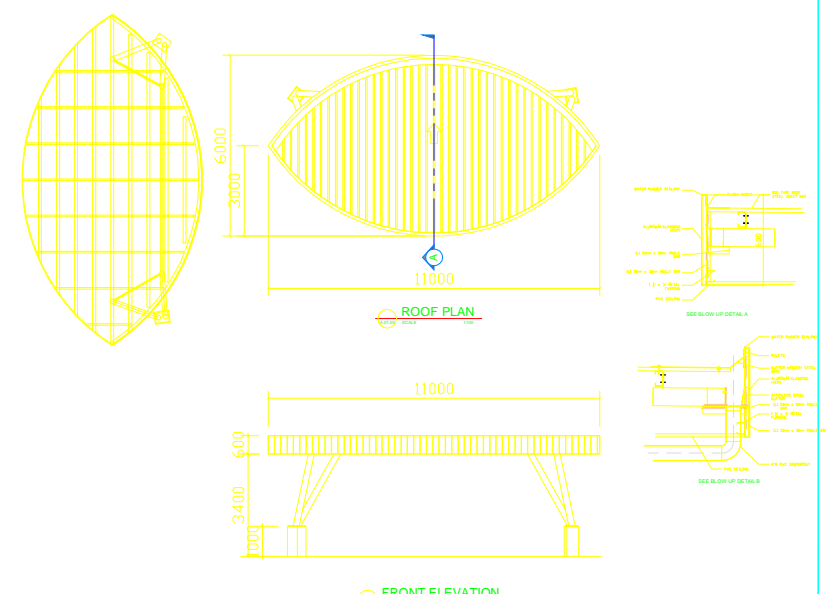
13A Stair construction drawing 1:100



14A Stair construction drawing 1:100

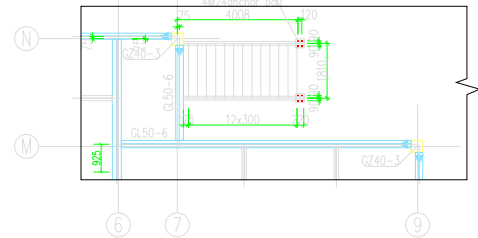


15A Stair construction drawing 1:100

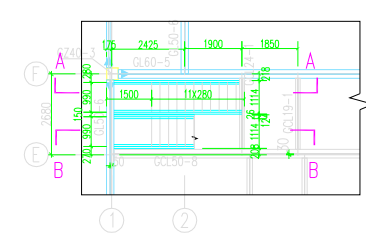


ROOF PLAN

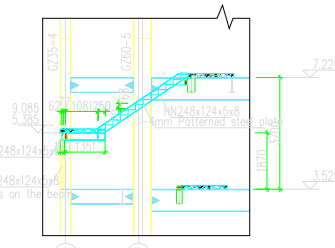
FRONT ELEVATION



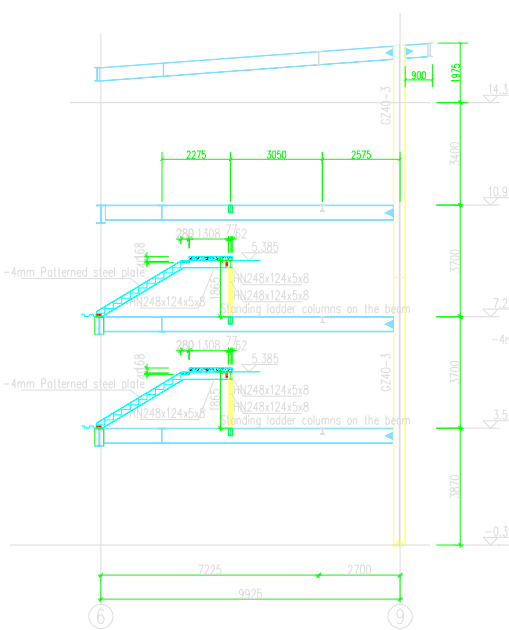
18A Stair construction drawing 1:100



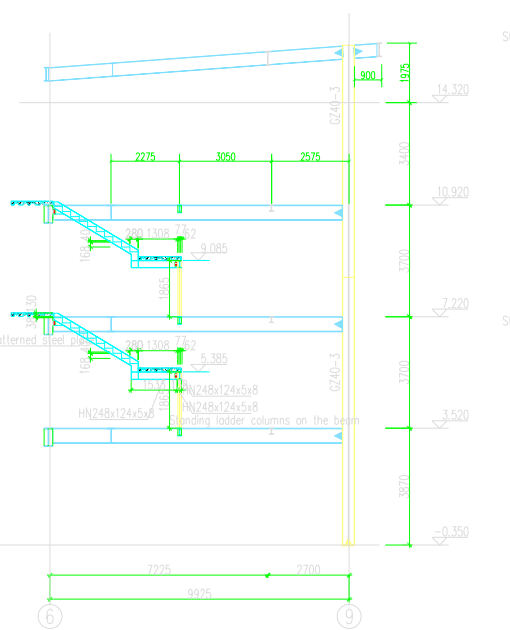
13A Stair construction drawing 1:100



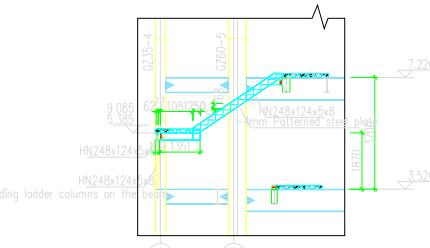
14A Stair construction drawing 1:100



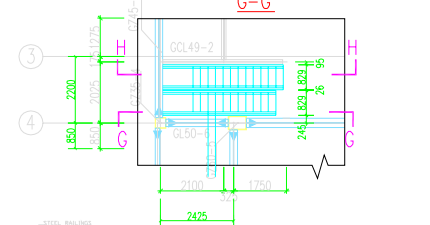
11B Stair construction drawing 1:100



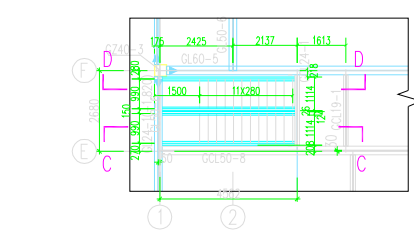
13A Stair construction drawing 1:100



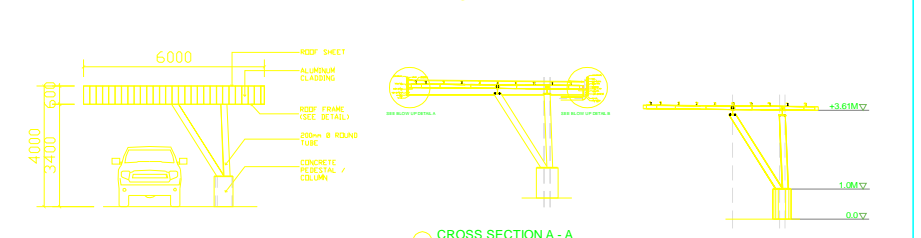
14A Stair construction drawing 1:100



15A Stair construction drawing 1:100

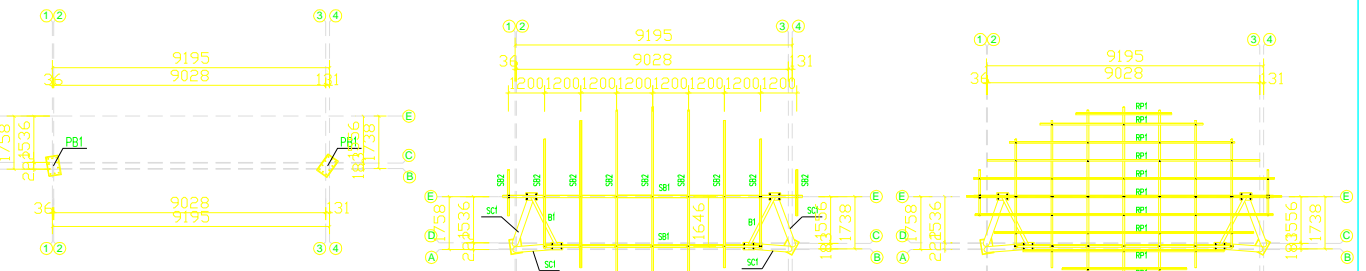


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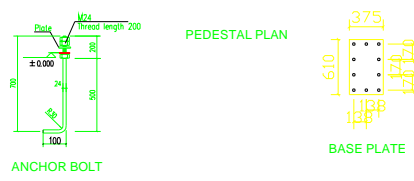
LEFTSIDE ELEVATION

CROSS SECTION A-A



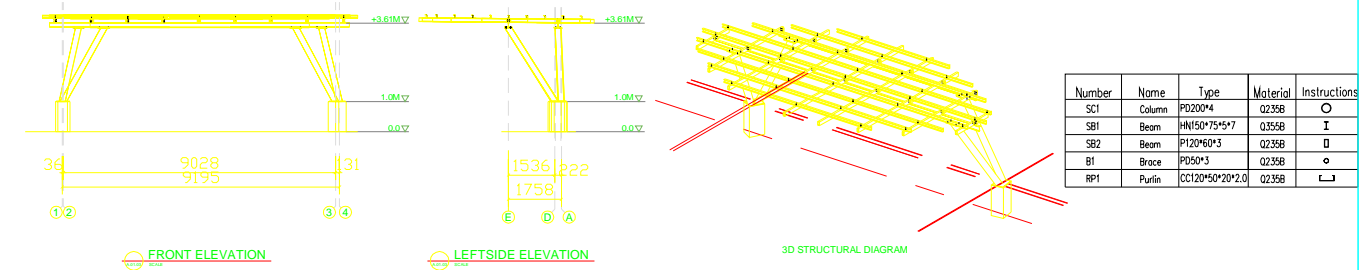
STEEL FRAME DETAIL

ROOF FRAMING PLAN



ANCHOR BOLT

BASE PLATE




FRONT ELEVATION

LEFTSIDE ELEVATION

3D STRUCTURAL DIAGRAM

Number	Name	Type	Material	Instructions
SC1	Column	PC200*4	Q235B	○
SB1	Beam	HN150*75*5*7	Q235B	□
SB2	Beam	P120*60*3	Q235B	□
BF1	Brace	PD50*3	Q235B	○
RP1	Purlin	CC120*50*20*2.0	Q235B	□



CUSTOMIZED BUILDINGS
Hangzhou Xixi Building Co., LTD
希希建筑

Design	Project Name	Hideaway hotel	No.
Draw	Item Name	PROPOSED GROUND CARPARK AND THREE STOREY HOTEL	
Proofreader	Detailed Construction		Category
Engineer	Drawing of		Major
Review	Staircase Structure		Steel structure
Verification	Date	2025,2	Page No/Proposal-24