

KATERRA 20M SPAN OFFICE

A DESIGN PROTOTYPE FOR COLUMN FREE OFFICE BUILDING

CONCEPT PRESENTATION

12TH JULY, 2019



KATERRA

The background features a complex pattern of overlapping lines and shapes. On the left, there are several vertical lines of varying lengths. To the right, a series of parallel lines slants downwards from left to right. In the center, there are several large, light-gray shapes that resemble stylized, nested chevrons or arrows pointing to the right. The word "PROPOSAL" is centered horizontally and rendered in a bold, orange, sans-serif font.

PROPOSAL

20M CLEAR SPAN

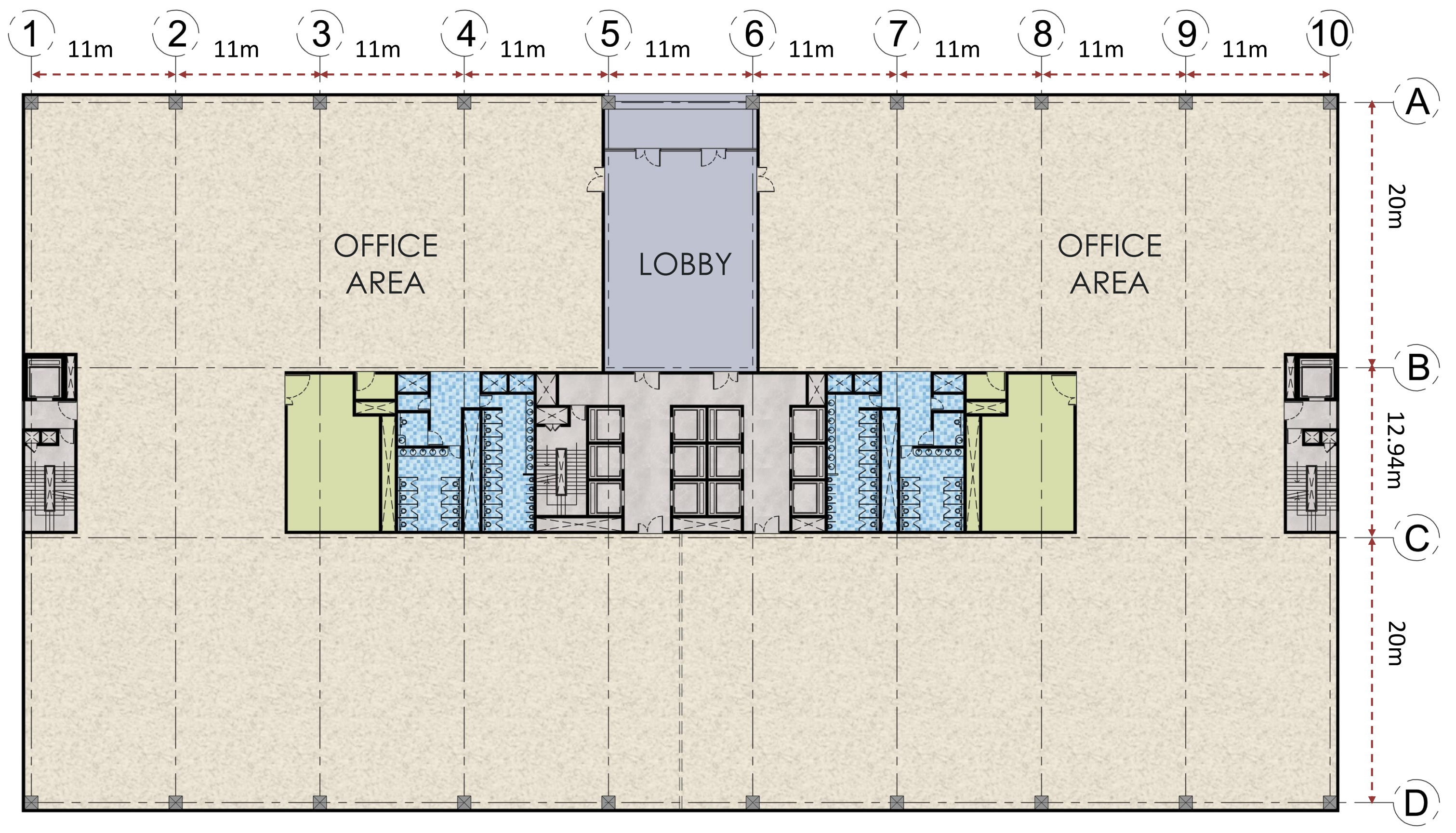
VIEWS



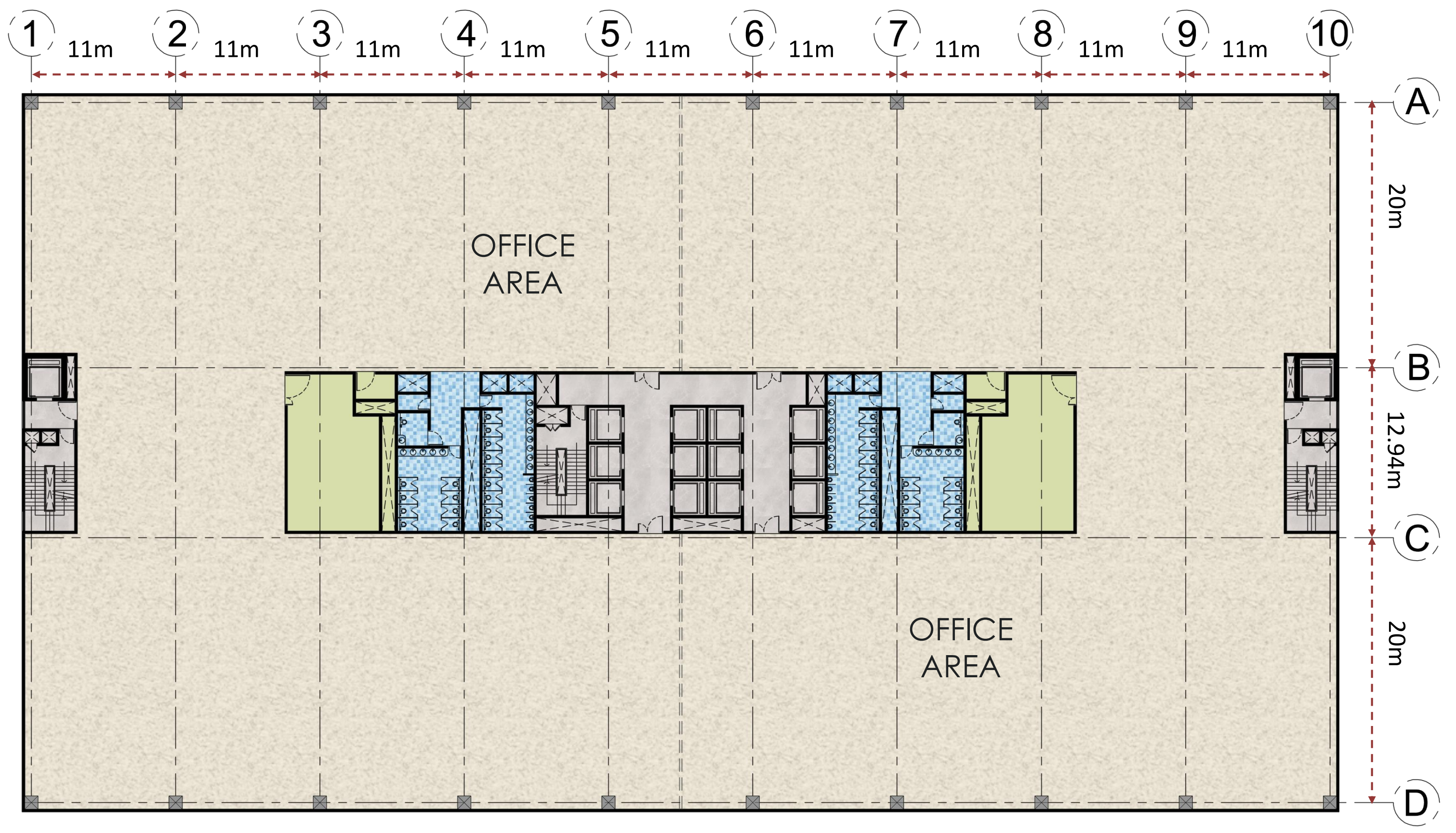
VIEWS



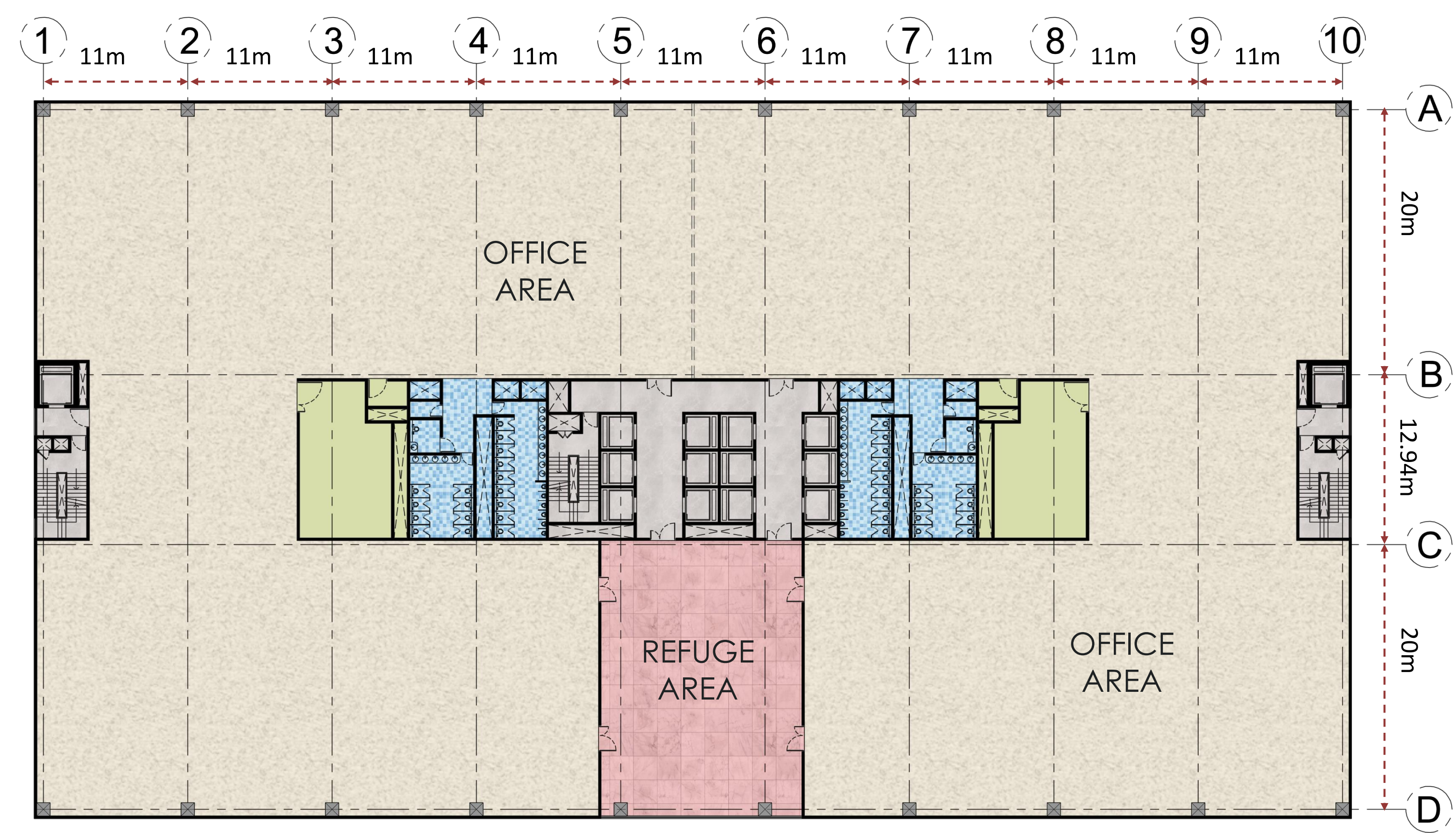
GROUND FLOOR PLAN



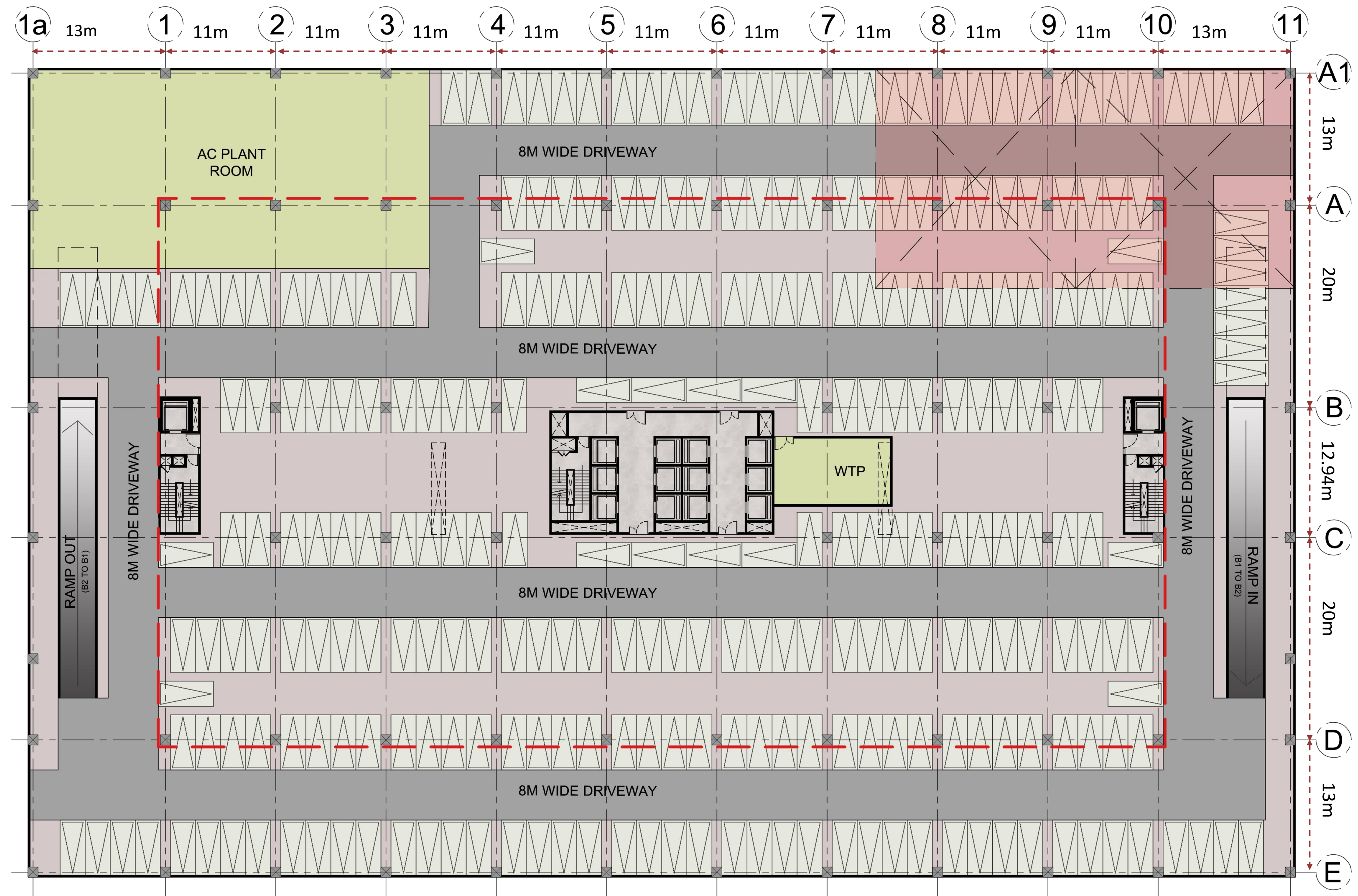
TYPICAL FLOOR PLAN



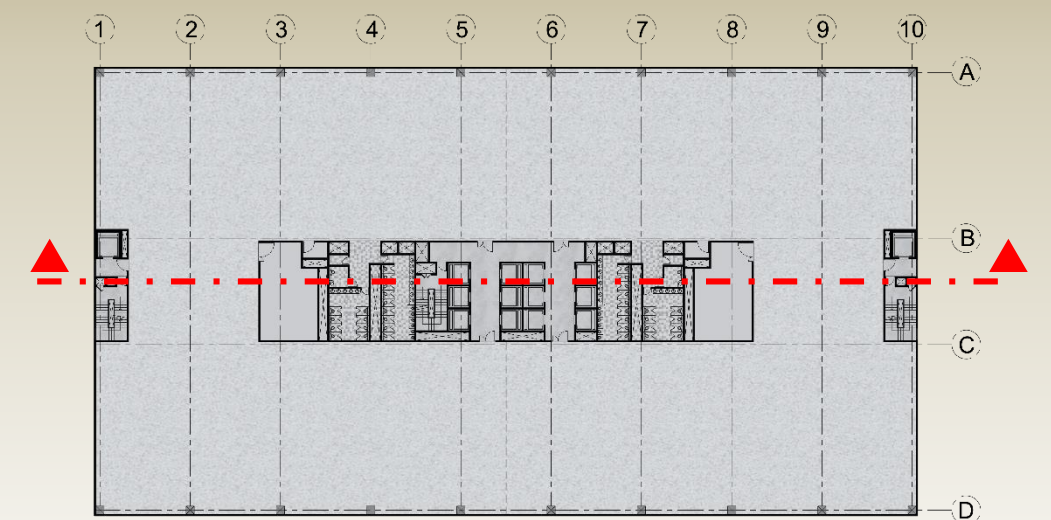
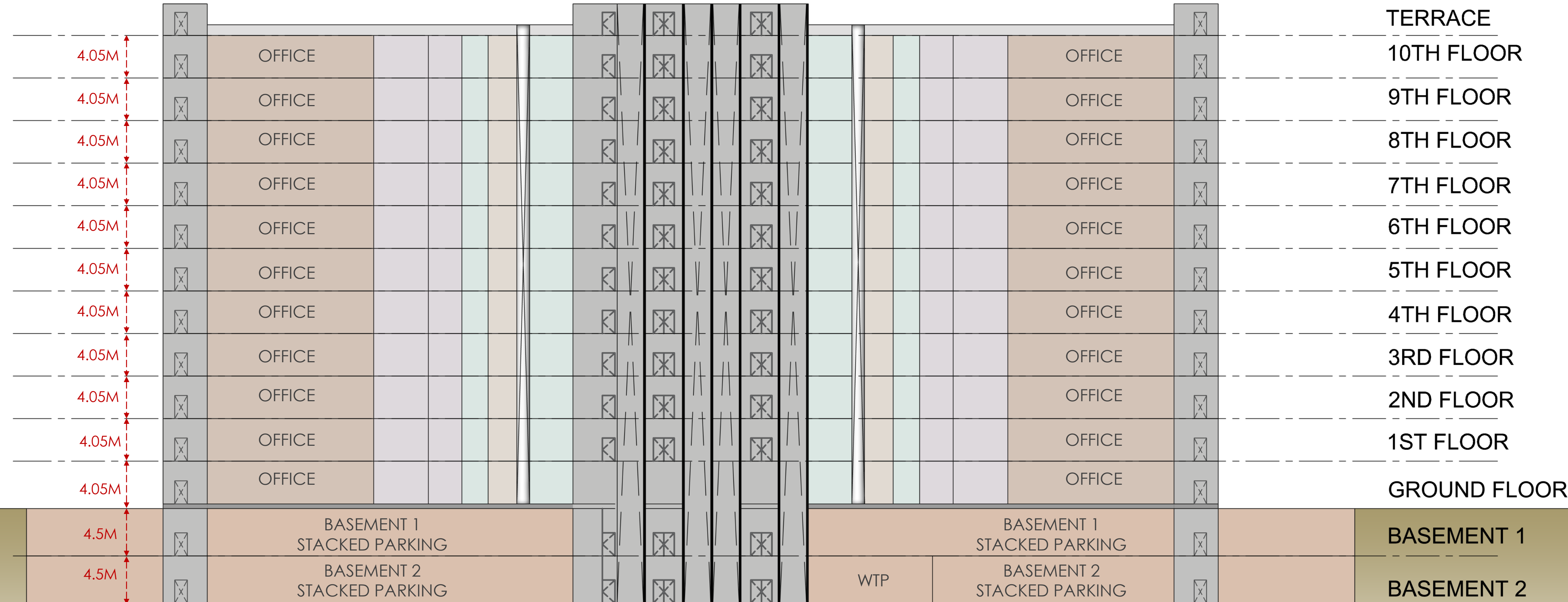
6TH & 9TH REFUGE FLOOR PLAN



BASEMENT 2 PLAN



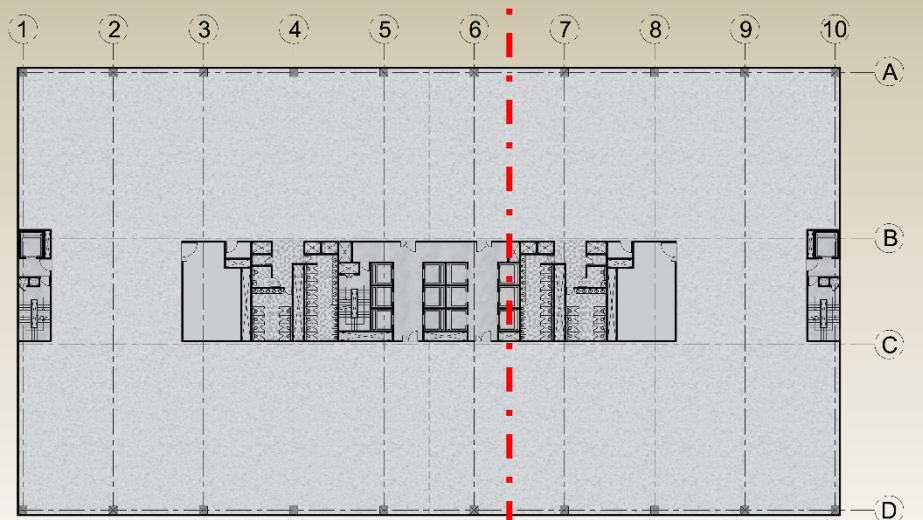
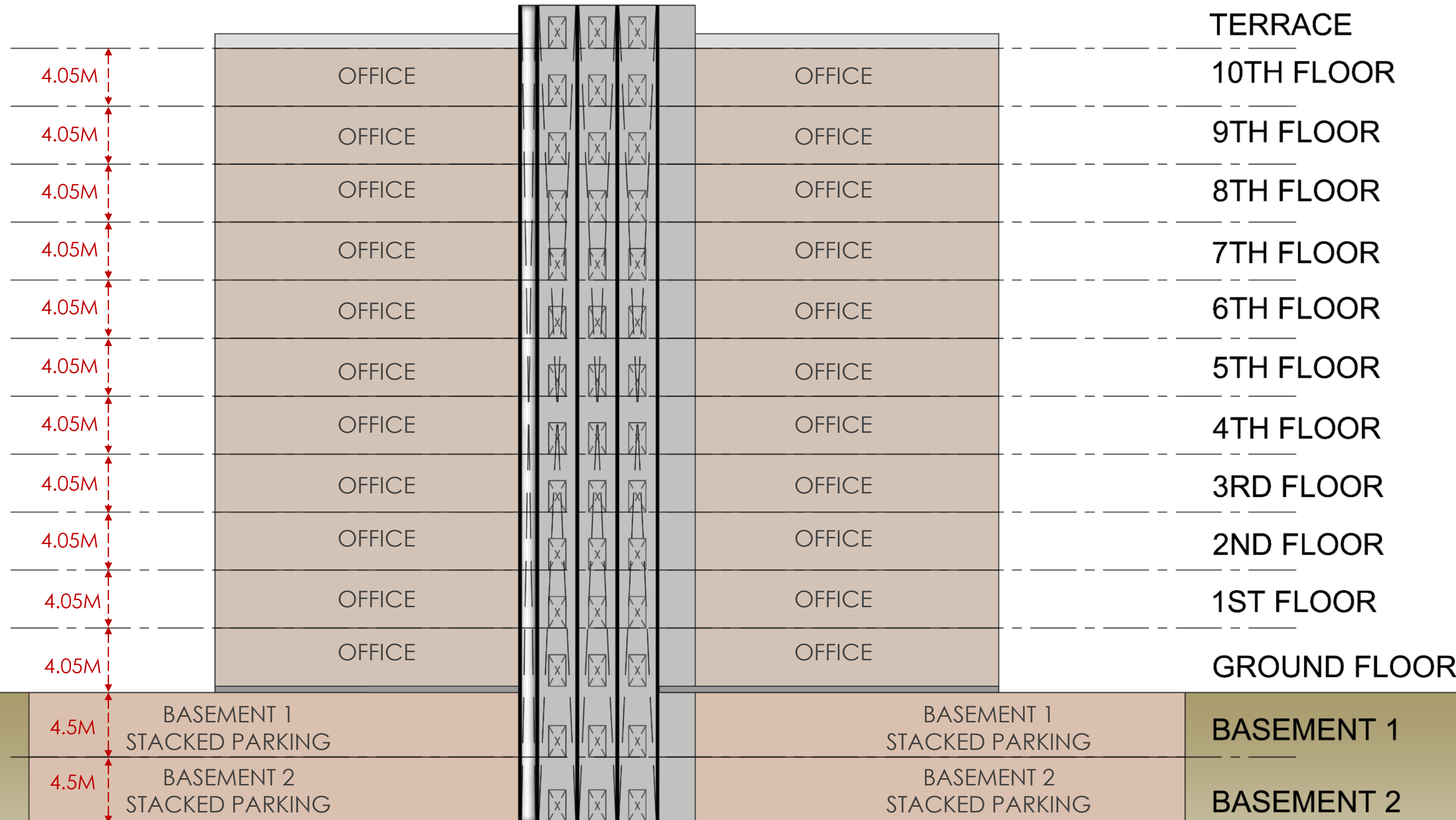
SCHEMATIC SECTION



KEY PLAN



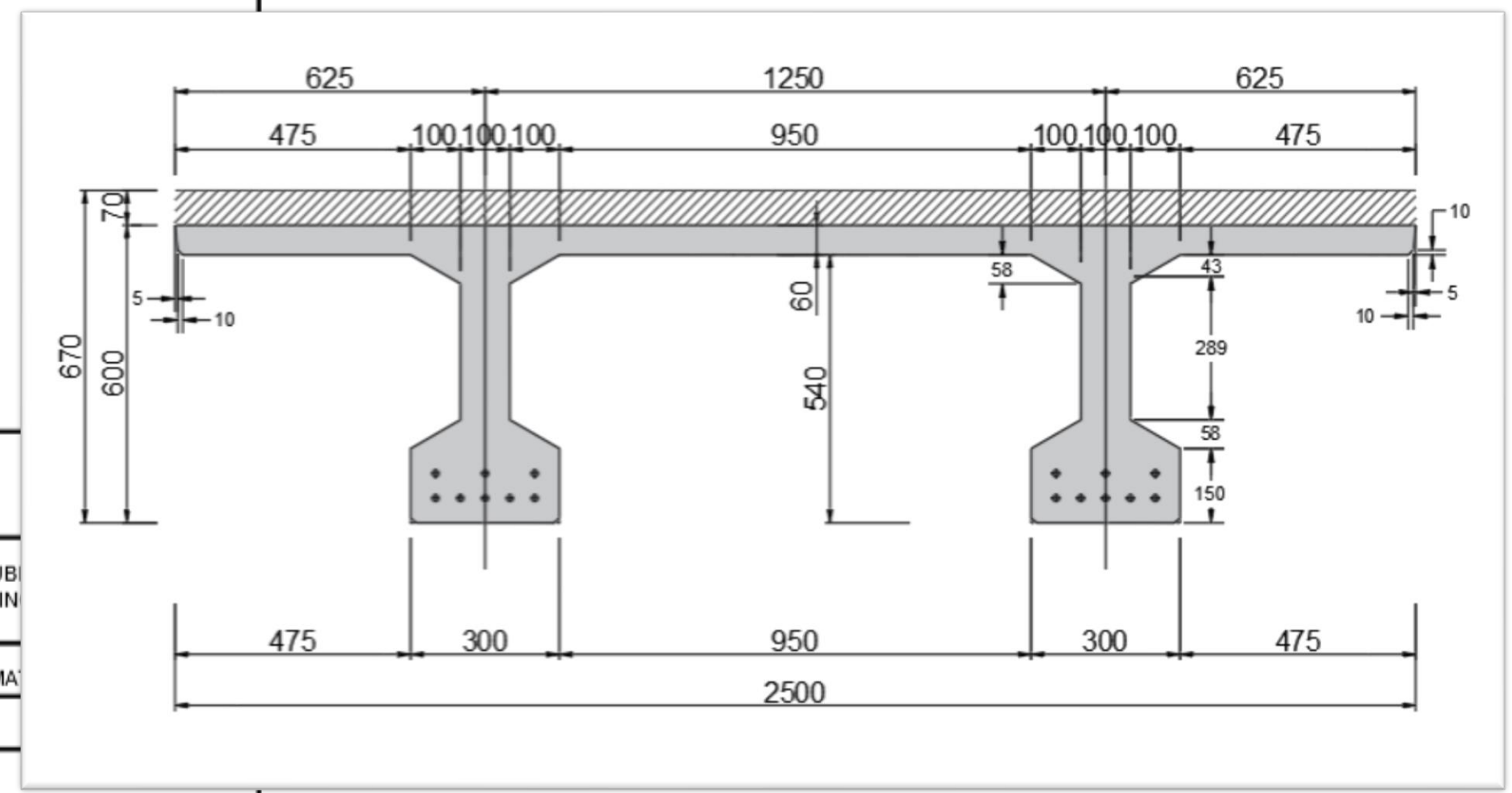
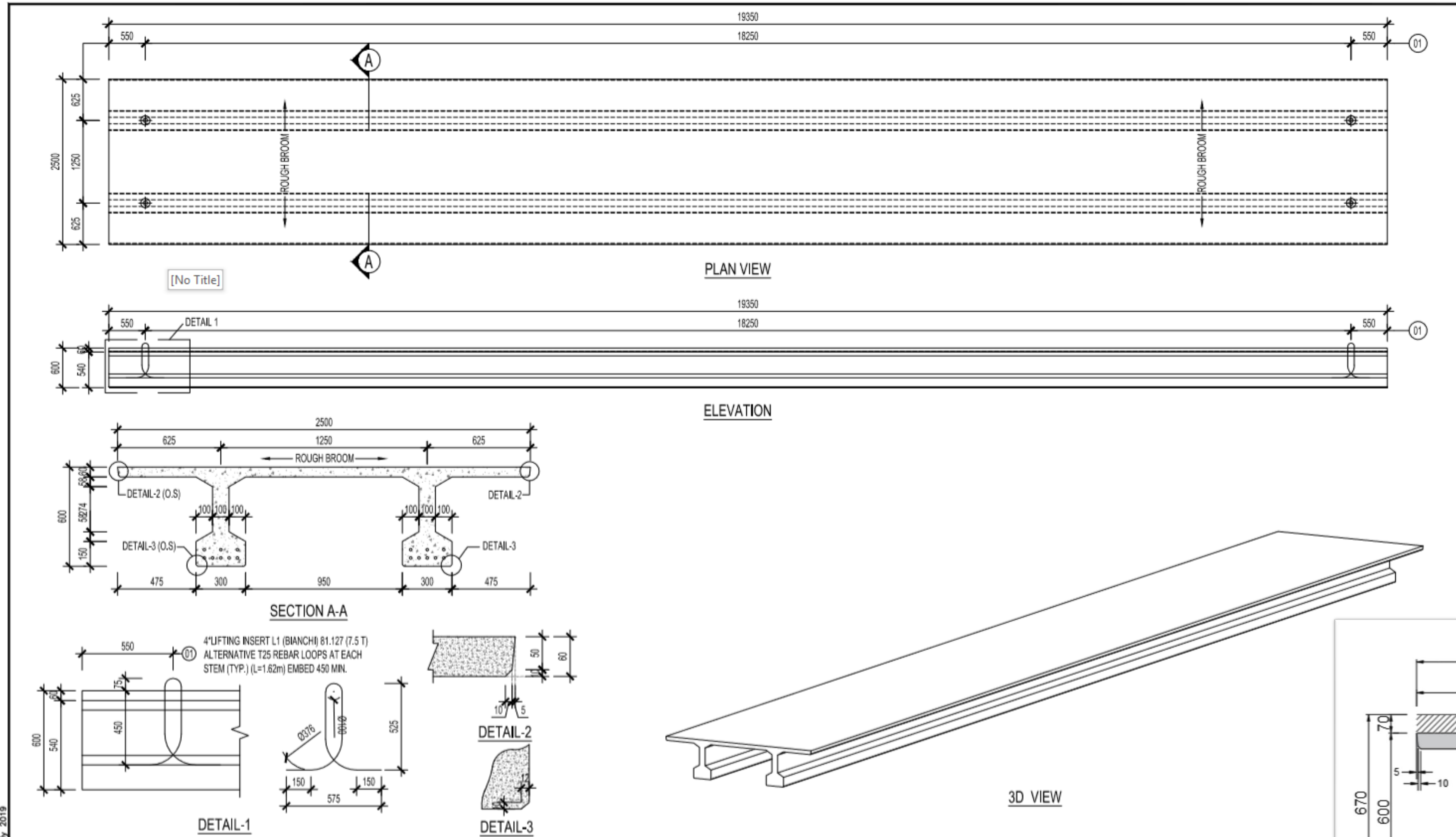
SCHEMATIC SECTION



KEY PLAN



20.0m SPAN DOUBLE TEE MOULD DRAWING

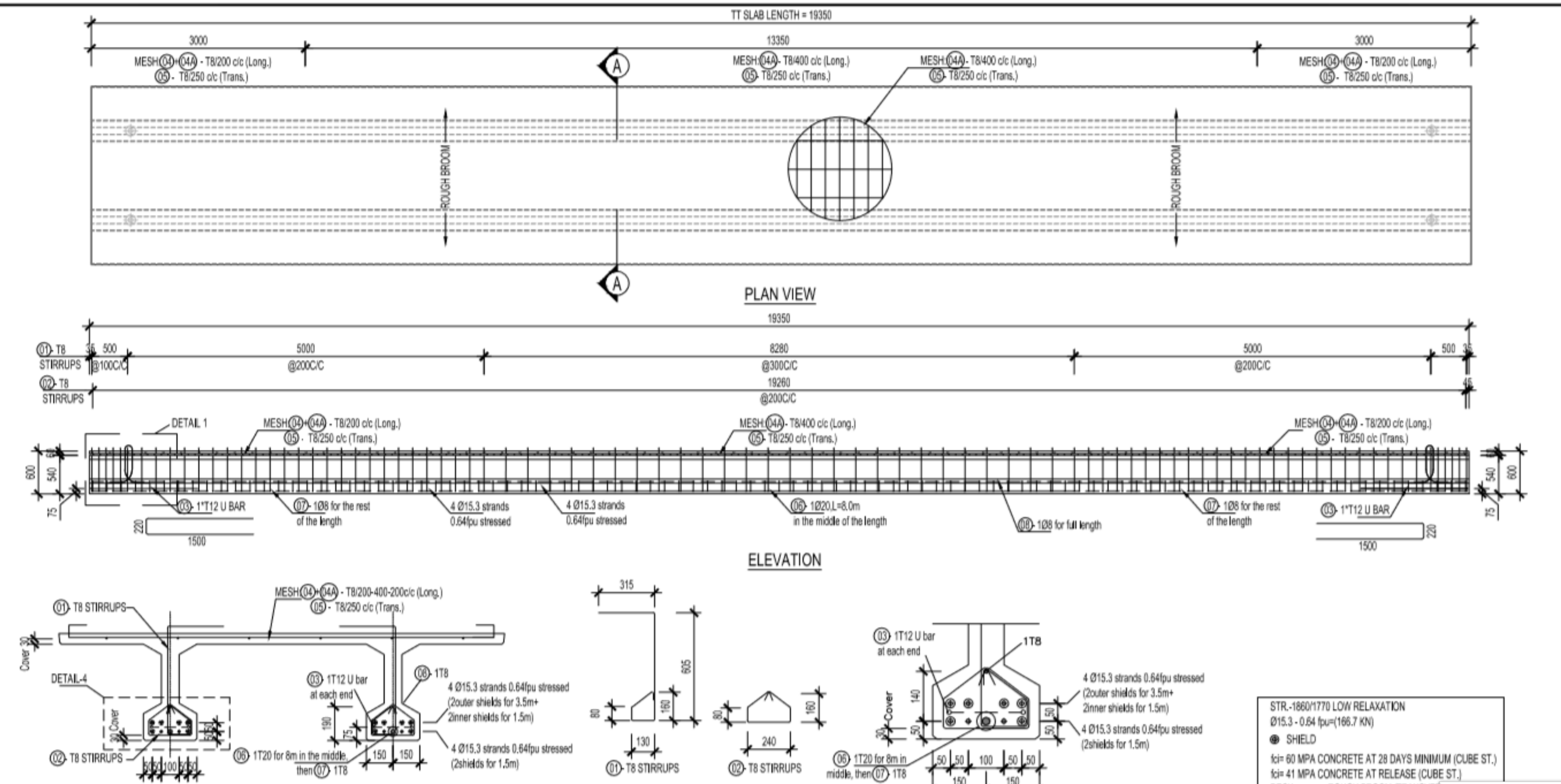


SPECIFICATIONS: (ALL DIMENSIONS ARE IN mm.)		INSTALLATION PARTS / MATL. CATALOGUE		NOTES:		PROJECT:	
VOLUME:	6.59 CUBIC METER	ITEM	MATERIAL CODE / DESCRIPTION	QTY.			
WEIGHT:	17.46 TONS						
CONCRETE STRENGTH:	f _{ck} = 60 MPa (Cube) @ 28 DAYS						
DEMOLDING STRENGTH:	f _{ck} = 41 MPa (Cube) @ RELEASE						
MINIMUM COVER:	30 mm. TO MAIN BARS MOULD: DOUBLE TEE						
GRADE OF REINFORCEMENT:	HIGH YIELD STRENGTH DEFORMED BARS or TMT OF Fe500 D						
LEGEND & ABBRR:		M.E.P PARTS / MATERIAL. CATALOGUE		STRUCTURAL CONSULTANTS:		DRAWING TITLE:	
▲ - DENOTES MOULD FACE	N.F - NEAR FACE	ITEM	MATERIAL CODE / DESCRIPTION	QTY.	LENGTH	R1	FOR INFORMATION
S.F - SIDE FACE	F.F - FAR FACE					REV	DESCRIPTION
B.F - BOTH FACE	☑ - RECESS						DATE
☒ - BLOCK OUT	C15 - CHAMFER 15X15						
				 Katterra India Pvt. Ltd No. 43, Velankani Tech Park, 3rd Floor, Block -1, Hosur Road, Electronic City, Ghosha - 1		PRECAST DOUB MOULD DRAWIN	
				PURPOSE OF ISSUE FOR INFORMA		FLOOR LEVEL	
				ELEMENT NOS.		DWG. NO. NO. OF QTY. REV.	

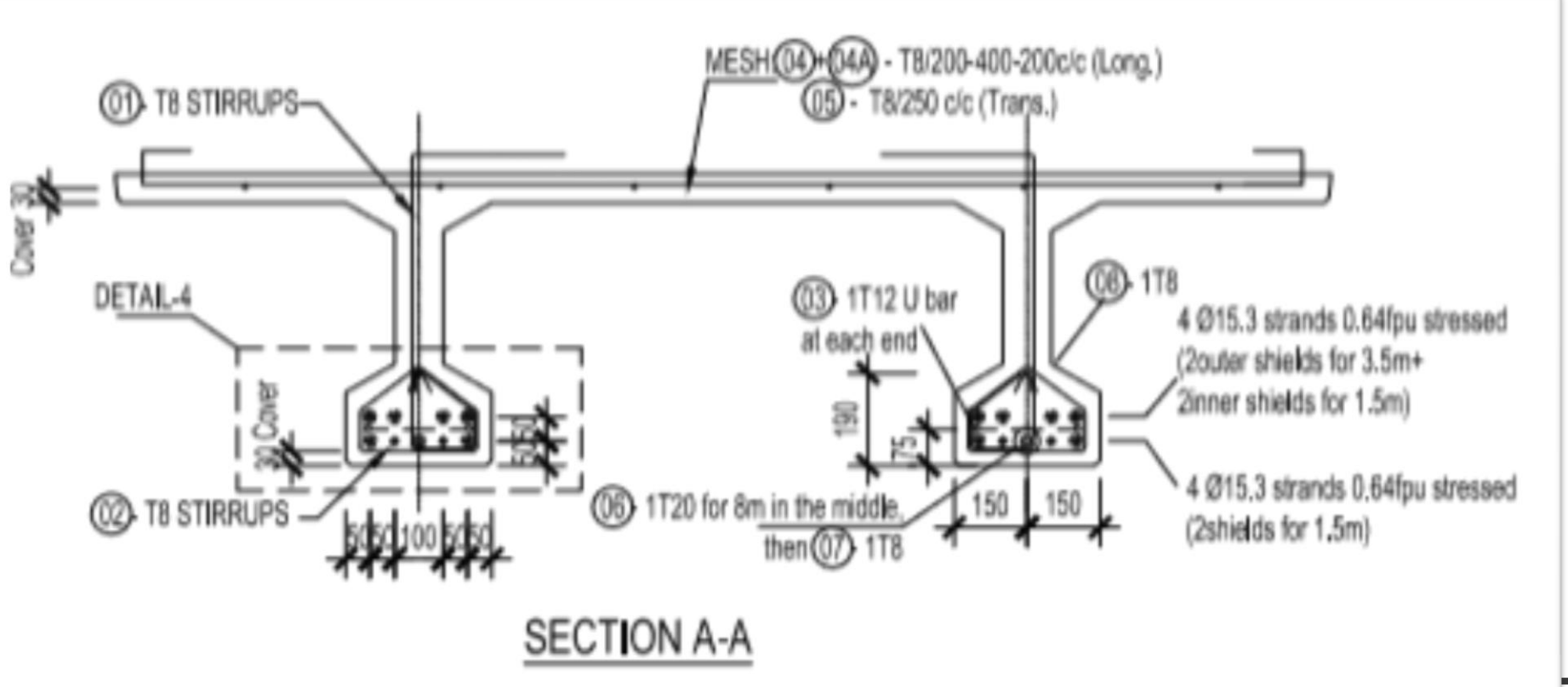
10 July 2019



20.0m SPAN DOUBLE TEE REINF. DRAWING



STR-1860/1770 LOW RELAXATION
 Ø15.3 - 0.64 (p_u=166.7 KN)
 ● SHIELD
 f_{ci}= 60 MPA CONCRETE AT 28 DAYS MINIMUM (CUBE ST.)
 f_{ci}= 41 MPA CONCRETE AT RELEASE (CUBE ST.)
 DECK: ROUGH BROOM (TRANSVER)



SPECIFICATIONS: (ALL DIMENSIONS ARE IN mm.)		INSTALLATION PARTS / MAT'L. CATALOGUE	
ITEM	MATERIAL CODE / DESCRIPTION	QTY.	
VOLUME:	8.58 CUBIC METER		
WEIGHT:	17.46 TONS		
CONCRETE STRENGTH:	f _{ck} = 60 MPa (Cube) @ 28 DAYS		
DEMOLDING STRENGTH:	f _{ck} = 41 MPa (Cube) @ RELEASE		
MINIMUM COVER:	30 mm. TO MAIN BARS	MOULD: DOUBLE TEE	
GRADE OF REINFORCEMENT:	HIGH YIELD STRENGTH DEFORMED BARS or TMT OF Fe500 D		

LEGEND & ABBR:		M.E.P PARTS / MATERIAL. CATALOGUE	
ITEM	MATERIAL CODE / DESCRIPTION	QTY.	LENGTH
▲ - DENOTES MOULD FACE	N.F - NEAR FACE		
S.F - SIDE FACE	F.F - FAR FACE		
B.F - BOTH FACE	☐ - RECESS		
☒ - BLOCK OUT	C15 - CHAMFER 15X15		
C.G - CENTER OF GRAVITY			

NOTES:		PROJECT:	
1. DO NOT SCALE FROM THE DRAWING.			
2. ALL DIMENSION ARE IN MILLIMETERS UNLESS NOTED OTHERWISE ALL DIMENSION TO BE VERIFIED ON SITE.			
3. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH OTHER RELEVANT ARCHITECTURAL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS AND ALL RELEVANT SECTIONS OF THE SPECIFICATIONS.			
4. PRODUCTION TOLERANCE:			
A. LENGTH: +5/-10MM			
B. WIDTH (OVERALL): AS PER PCI MNL 116 AND PCI MNL 135			
C. DEPTH / THICKNESS (OVERALL): AS PER PCI MNL 116 AND PCI MNL 135			
5. ERECTION TOLERANCE:			
+7/-10MM WITH RESPECT TO GRID LINE AS PER DRAWING.			

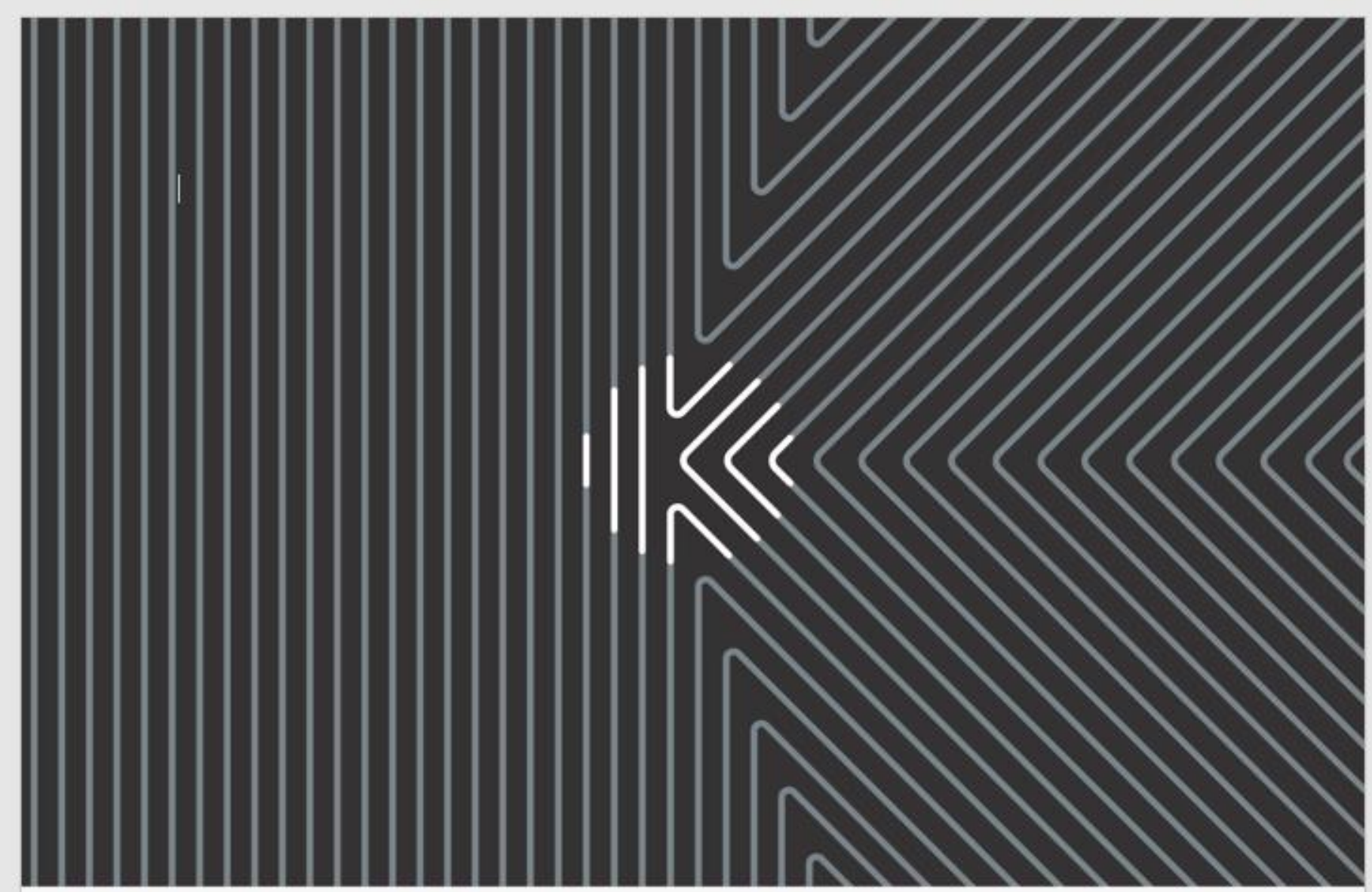
STRUCTURAL CONSULTANTS:

KATERRA

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 No. 43, Velankani Tech Park,
 3rd Floor, Block-1, Hosur Road,
 Electronic City Phase-1,
 Bangalore - 560100, Karnataka, India

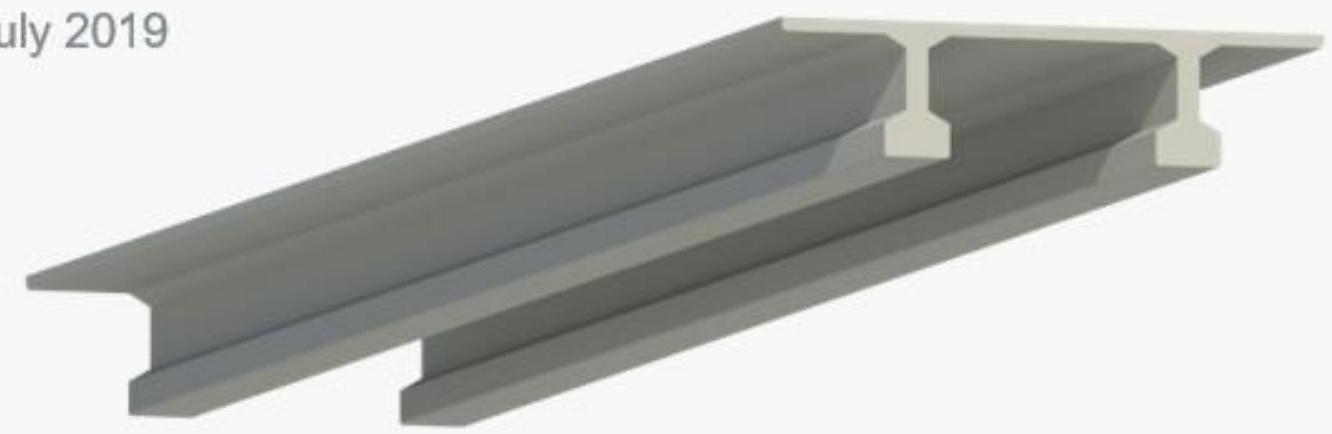
ELEMENT NOS.		PURPOSE OF ISSUE	
		FOR INFORMATION	
		FLOOR LEVEL	
		DWG. NO.	

20.0m SPAN DOUBLE TEE LOAD TEST



Method statement for Load Testing of Katerra's new proposed Double Tee slab (20.0m span)

08 July 2019



Introduction

The present methodology concerns to the load testing of a double tee slab (DT-Slab), which is designed to cover large spans up to about 20.0m. The precast element will be 19.35m long, 2.5m wide and 600mm deep. All its other dimensions are shown in the figure 1 On top of that there will be a ~~c.i.g.~~ structural topping layer 70mm deep covering full area of the slab.

This precast slab element, of the above-mentioned geometrical dimensions, is designed as such as to be able to undertake and transfer the loads developed at a typical office floor area, spanning by 20m between the beams.

In particular:

- Super Imposed dead load of 250kg/sqm
- Live load of 400kg/sqm

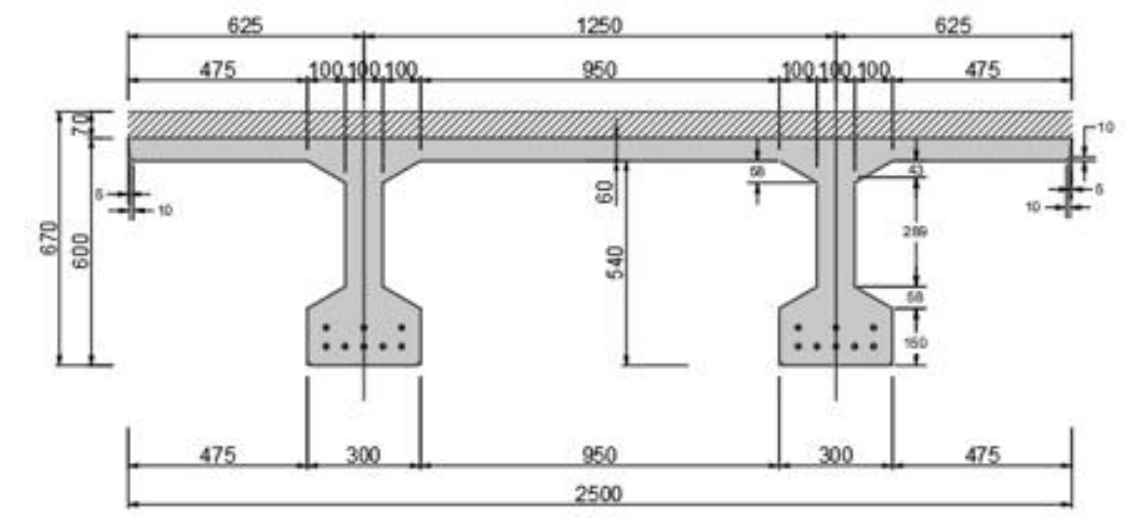


Fig 1 Typical cross-section of precast element together with structural topping

Load Testing procedure

Load testing will be executed in 4 cycles. The test will be carried out considering the "Proof load test" as per Cl 4.1 at SP51-2015-"Guidelines for load testing of Bridges".

IRC:SP-51-2015

4 EXPECTED BEHAVIOR OF BRIDGE COMPONENTS DURING AND AFTER THE LOAD TEST

4.1 Design Intents of Newly Constructed Bridges and Retrofitted Bridges

1) A newly constructed bridge is load tested in order to verify or demonstrate that its behavior conforms with the design intents, when subjected to the combination of design values of permanent loads and design live loads. This is termed as the 'Proof Load Test'. The design loads and load combinations for the serviceability design verifications are defined in IRC:6. The combined action effects of permanent actions and vehicular/pedestrian live loads are simulated as closely as possible in the test by adopting suitable loading pattern, its magnitude, and method of application of the test-load. Some times the load testing is done to meet the requirements of the construction contract, for which purpose, specifications and method is pre-defined in the contract document.

Extracted from the IS Code under discussion



THANK YOU

