PORTFOLIO WORKING AS:

SENIOR FACADE ENGINEER / FACADE CONSULTANT

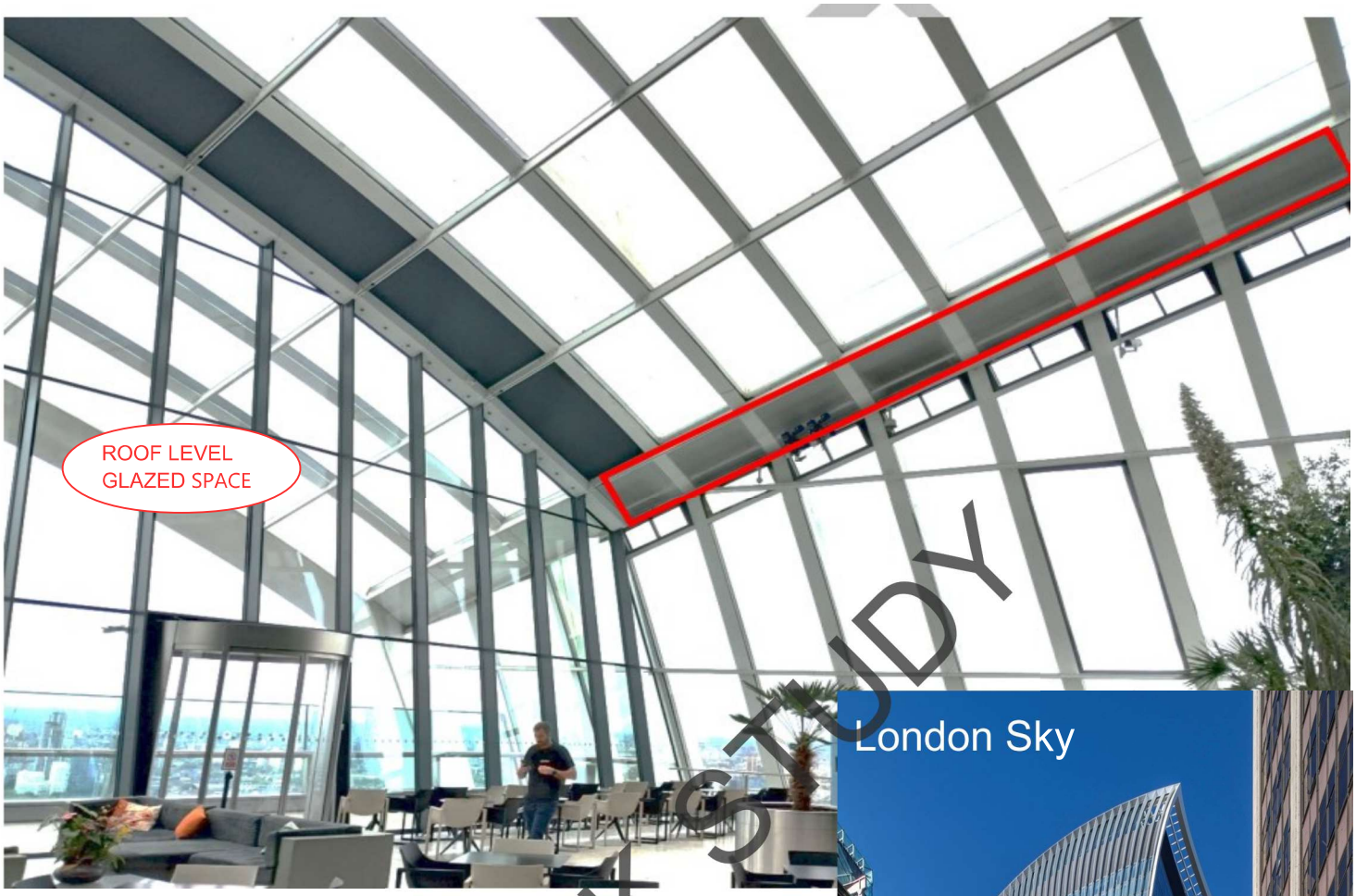
2023 & 2024

LONDON

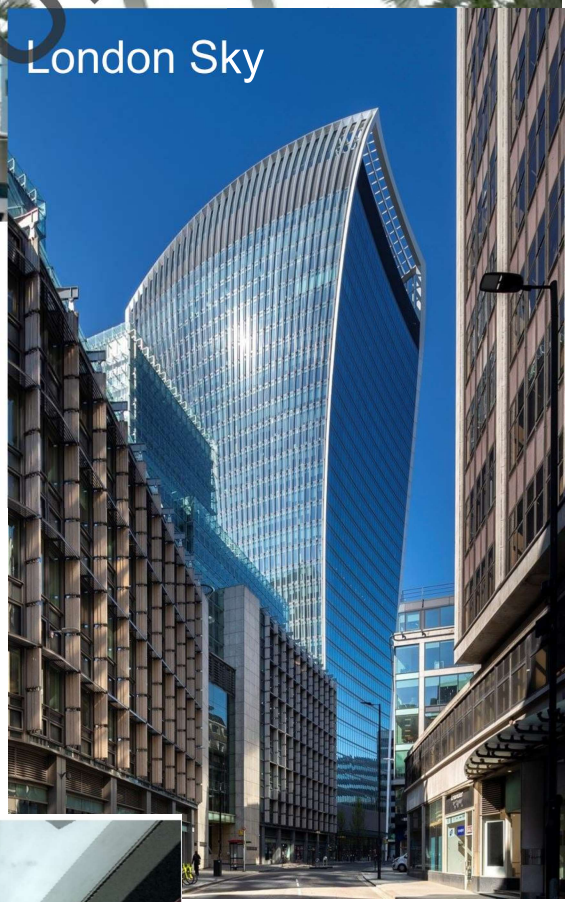
LONDON'S SKY GARDEN

20 FENCHURCH STREET

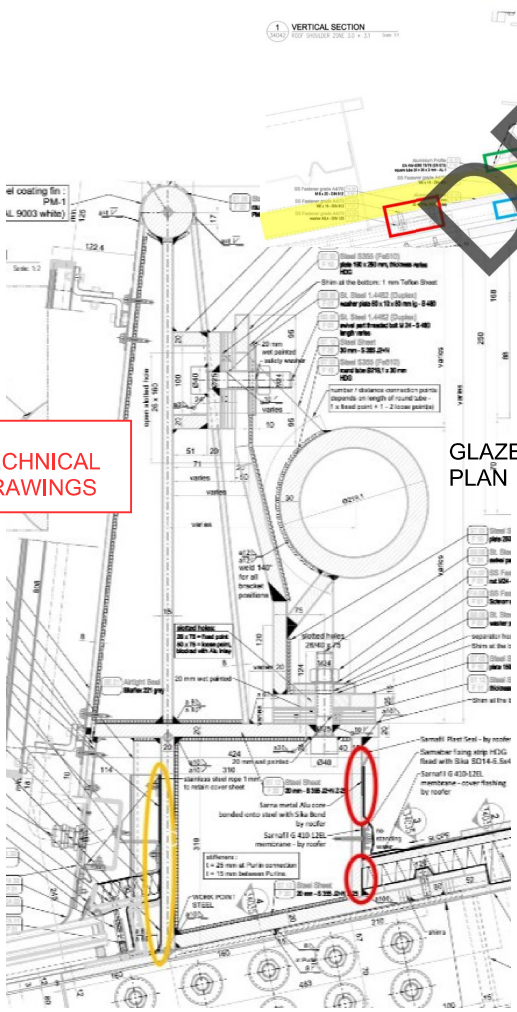
WATER INGRESS INVESTIGATION. DESK STUDY & SITE INSPECTION



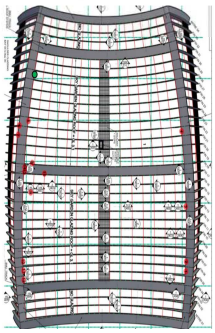
DESK STUDY



TECHNICAL DRAWINGS



GLAZED ROOF PLAN

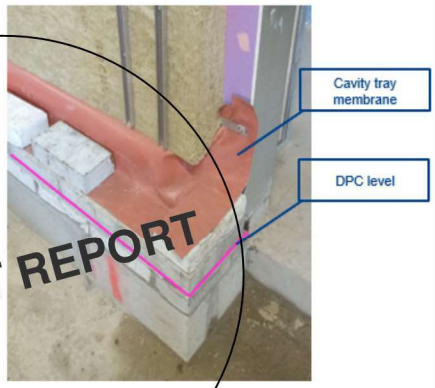


MANCHESTER. Residential

INSPECTION

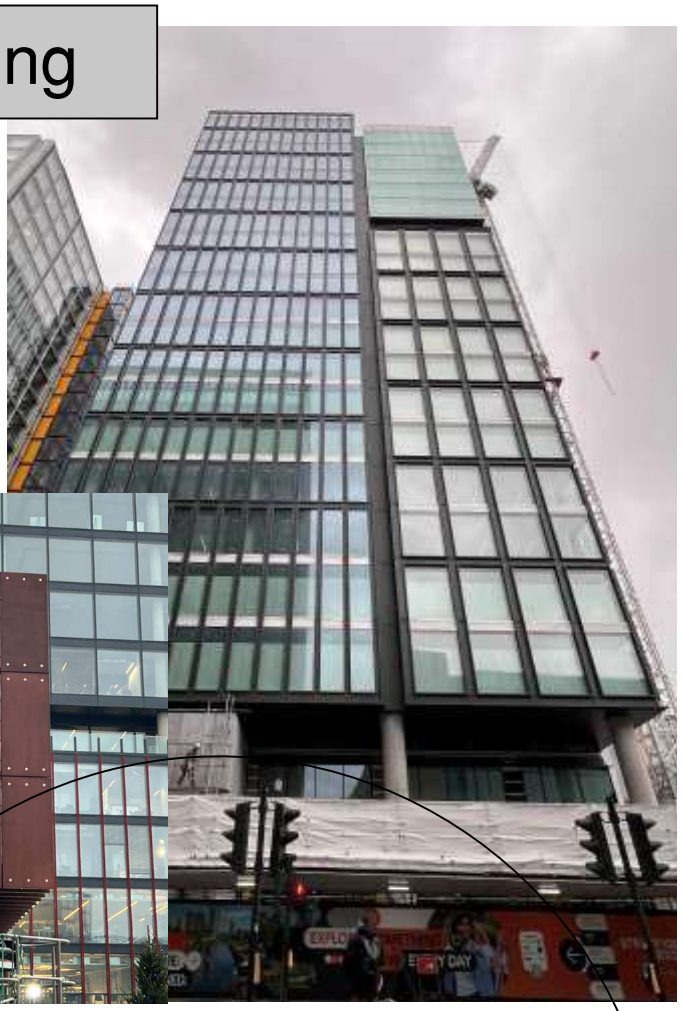
2.3 Specific Items.

The following items were observed as requiring action.

Item	1. Cavity tray membrane in lieu of stainless steel
Image	 Figure 17: Block B. Level 3. Installation of the cavity tray above the DPC level.
Location	Block B. Level 3 (cavity tray benchmark installation)
Observation	The cavity tray installed as a stainless-steel tray on ground floor (refer to site visit report 12) has been replaced with the membrane used for the DPC.
Actions	Please provide documentation to confirm that the cavity tray was approved by the fire consultant and building control.

SITE VISIT REPORT

STRATFORD. Office Building



Item	General progress

Photo 13: Level 2 – View of the rooflight panel being installed (EWS-14) with special attention to the fixation procedure. Future inspections are required.

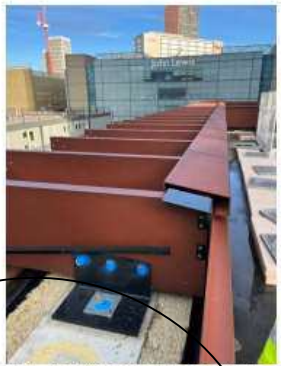


Photo 14: Level 1 – View of the parapet and demountable fins (EWS-08). Insulation is still with no temporary protection against water.

SITE VISIT REPORT

INSPECTION

Item	General progress

Photo 7: Level 21 (terrace) – View of the membrane to be unrolled and sealed to the roofing membrane.

Photo 8: Level 19 (terrace) – View of the interface between CCF (EWS-04-b) and roofing yet to be finalised.

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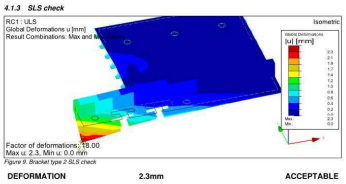


DEFORMATION **2.3mm** **ACCEPTABLE**

4.1.4 T-bolt and cast-in channel verification

See full design reports in Annex 1. Hilti cast-in channel and T-bolt calculation reports.

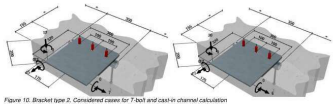
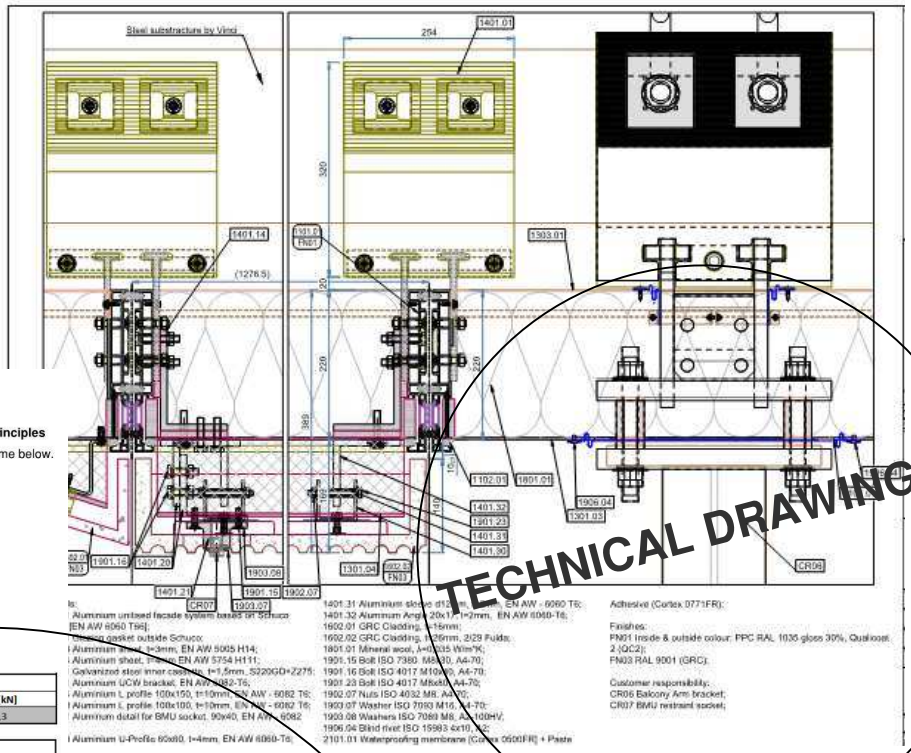


Figure 10. Bracket type 2. Considered cases for T-bolt and cast-in channel calculation



3 Design Data

This document should be viewed as an annex to TS12 and TS12.1. The design principles outlined in TS12 and TS12.1 are followed. See bracket design load application scheme below.

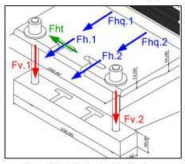


Figure 2. Excerpt from TS12.1. Bracket design load application

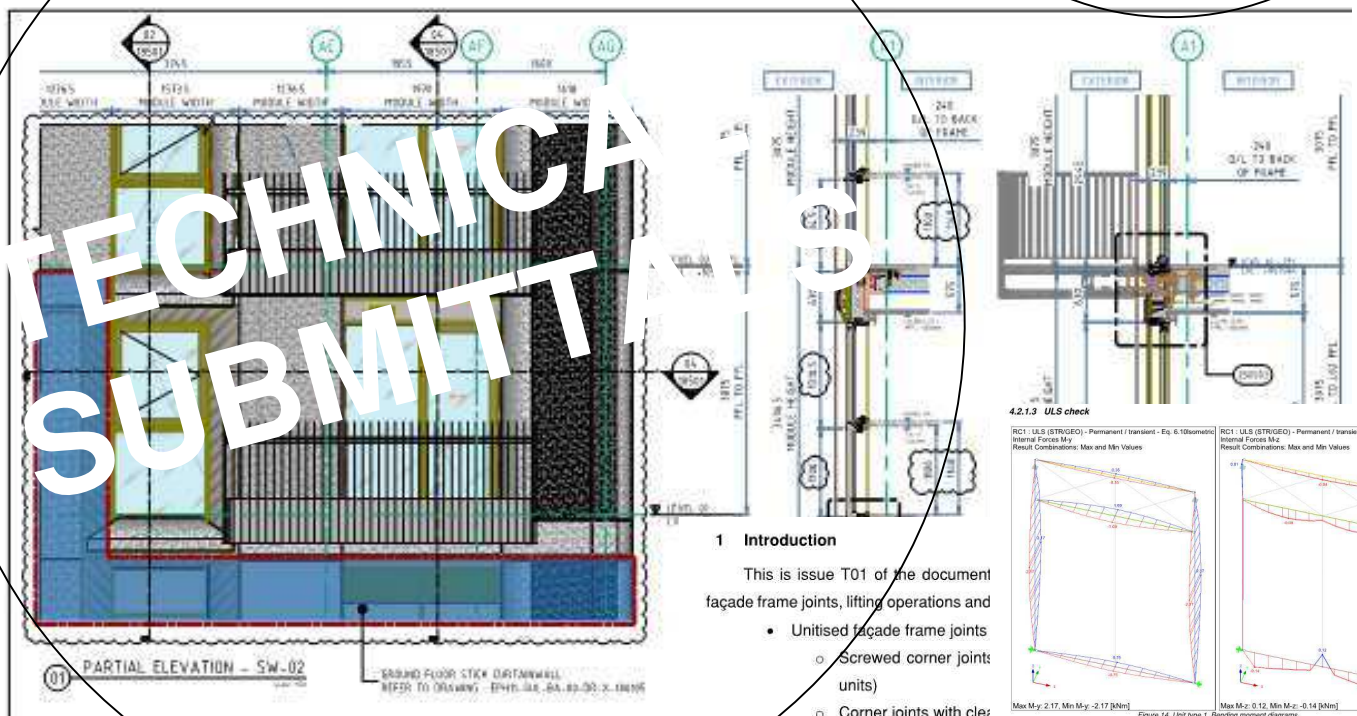
See a summary of flat unit bracket design loads below (see 5.1.2 of TS012).

Case 1. Total bracket design loads		
F.v [kN]	F.h [kN]	F.ht [kN]
11.50	17.39	1.13

Case 2. Total bracket design loads		
F.v [kN]	F.h [kN]	F.ht [kN]
14.23	16.49	1.06

TECHNICAL DRAWINGS

TECHNICAL SUBMITTALS



1 Introduction

This is issue T01 of the document façade frame joints, lifting operations and

- Unitised façade frame joints
  - Screwed corner joints units)
  - Corner joints with clea
  - Mullion/Transom joint
- Spigot and façade unit lifting
  - Evacuation of façade
  - Spigot checks
- BMU socket checks.

4.2.1.3 ULS check

Figure 14. Unit type 1. Bending moment diagrams

A simple and conservative check is done: the maximum bending moments are checked, using the section modulus of the weakest façade unit section (top semi-profile).

Table 17. Unit type 1. ULS checks

Max bending moment M_y:		2.17	kNm
Section modulus W_y:		40.05	cm³

Figure 1. Façade unit components checked in report

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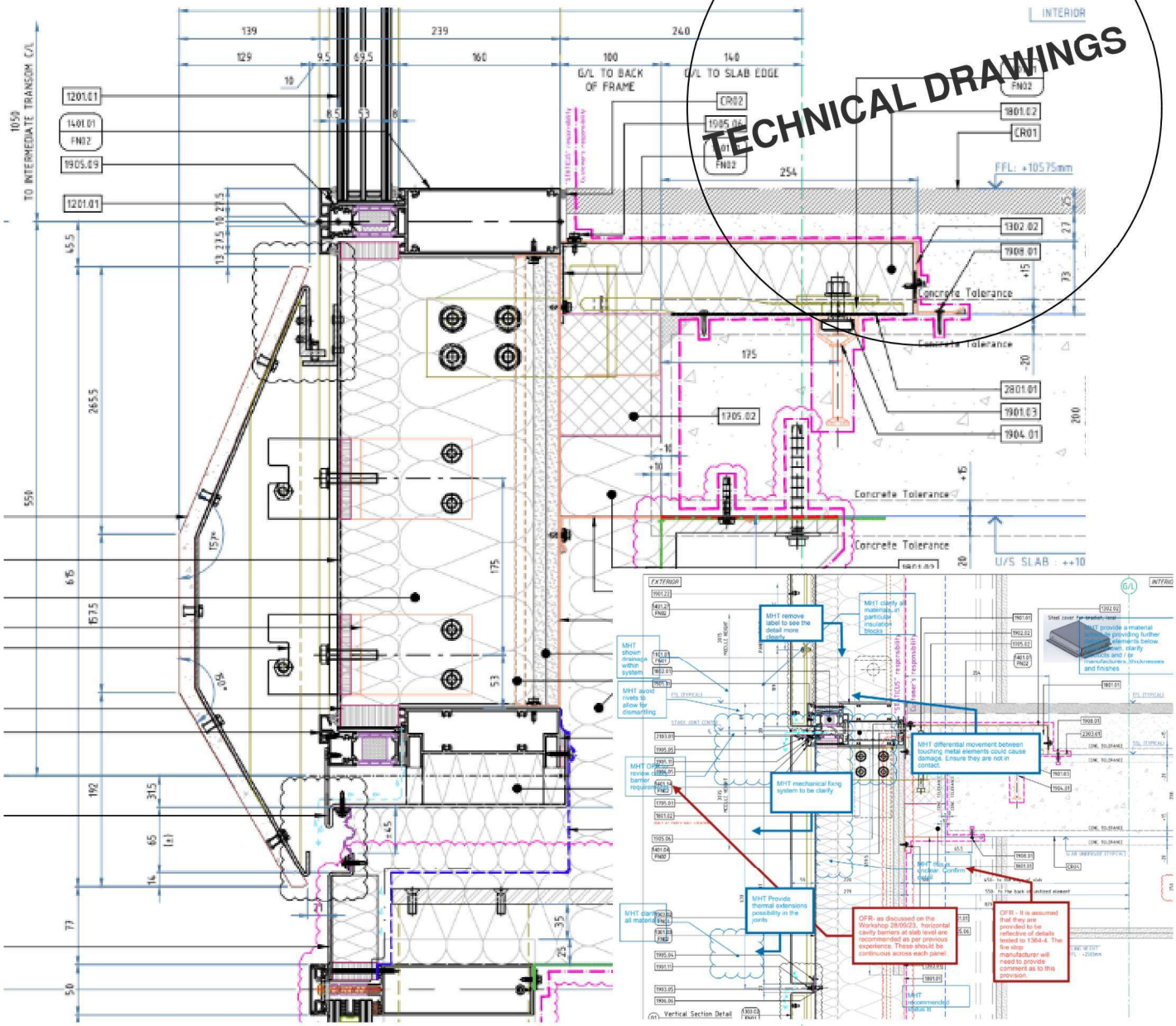
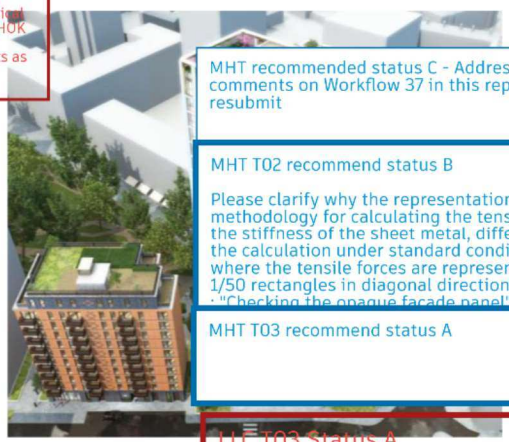


TS013.1 – Unitized Facade Frame Structural Calculations (Corner Conditions)

TS109 - GRC Replacement Strategy

HOK 02/01/24 - No comments as technical document outside HOK scope. Defer to specialist comments as necessary



MHT recommended status C - Address comments on Workflow 37 in this report and resubmit

MHT T02 recommend status B

Please clarify why the representation, as the methodology for calculating the tensile forces, the stiffness of the sheet metal, differs from the calculation under standard conditions, where the tensile forces are represented as two 1/50 rectangles in diagonal directions (point 4.6 - "Checking the opaque facade panel")

MHT T03 recommend status A

LLC T03 Status A

MHT recommend status B

After today's meeting. 13/02/24. A decision needs to be established. In case option 2 is adopted, as MHT's specifications describes, details will need to be further developed and technical information will need to be provided.

MHT specifications:

440.E PANEL AND COMPONENT REPLACEMENT METHODS

440.E.1 Design and install of the façade system shall allow for the future replacement of any individual panel or component without the need for substantial removal of adjacent panels. Submit details and procedures for replacing individual damaged items.

Revision	Prepared by	Issue Date	Description	Date Response Required
T01	D. Pundurs	2023.10.26	Initial issue	2023.11.02
T02	D. Pundurs	2023.12.18	Updated following architectural changes of GRC	2023.12.25
T03	D. Pundurs	2024.01.25	Added calculations of top and bottom level units	2024.02.01

sue Date	Description
24.02.06	Initial issue