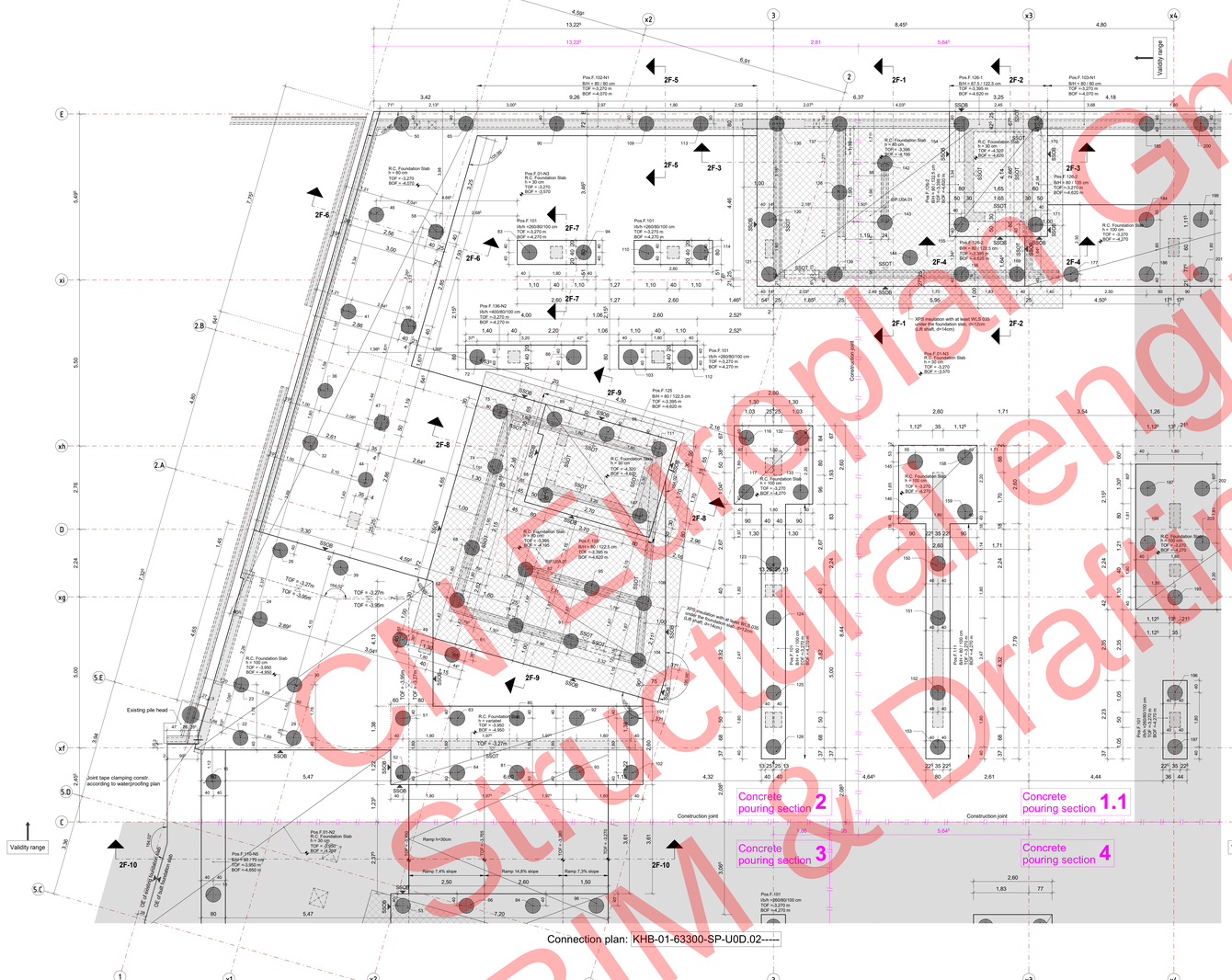
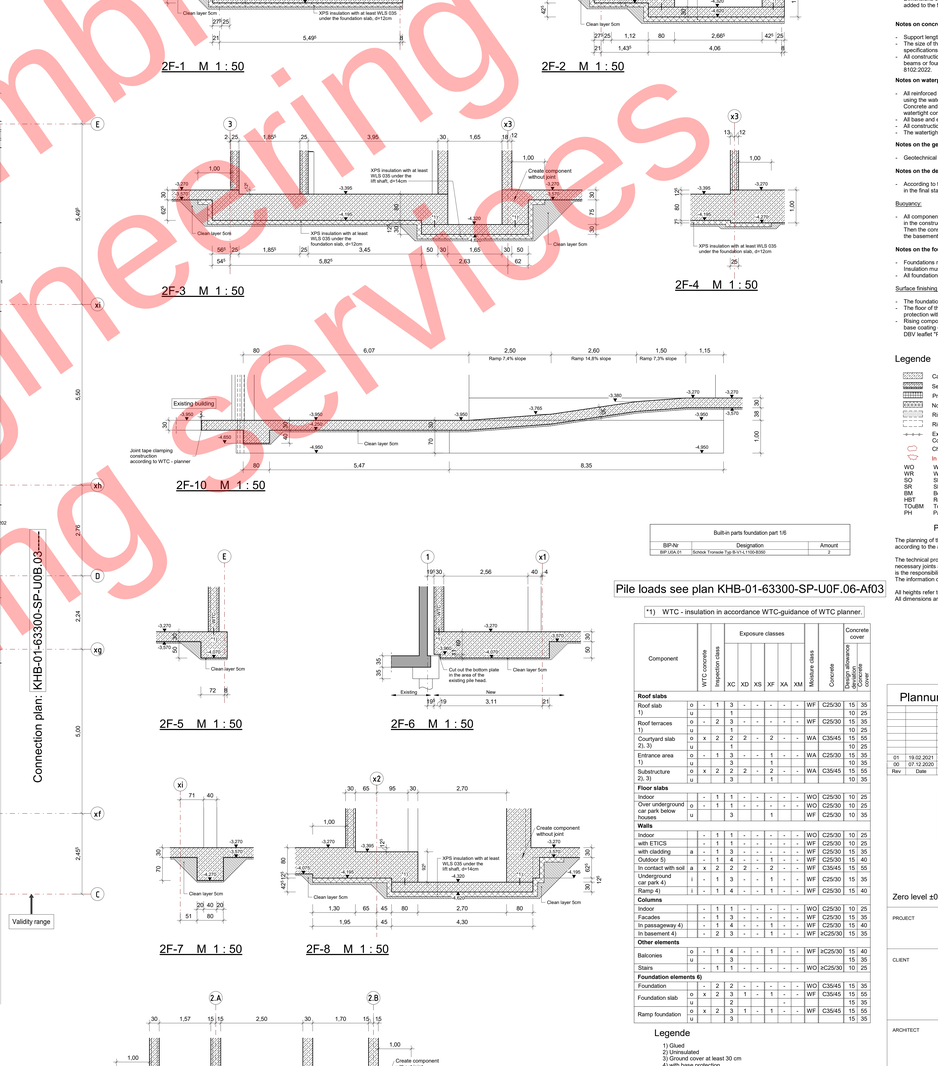




2F-1 M 1 : 50

2F-2 M 1 : 50

2F-3 M 1 : 50

2F-4 M 1 : 50

2F-10 M 1 : 50

2F-5 M 1 : 50

2F-6 M 1 : 50

2F-7 M 1 : 50

2F-8 M 1 : 50

2F-9 M 1 : 50

General structural notes:

- This plan is only valid in combination with the structural calculation and the execution plans of the architect!
- Any differences to the architect's or building services engineer's execution drawings must be submitted by the contractor to the site management for clarification before the start of construction.
  If necessary, the engineer must be informed.
- Type and quality of the concrete surfaces according to the architect's execution planning.
- Electrical conduit planning according to the architect's or MEP planning.
- Underground piping and lightning protection according to the planning of the MEP.
- Door and parapet heights are related to SSL.
- Batten parts, e.g. for facade anchoring, terraces etc. and other requirements for wooden structures are not shown in detail in the technical project planning and their plans.
- The structural verification of formwork and scaffolding is carried out by the contractor. Increased stress on the slab formwork and scaffolding from intercepting structures must be taken into account. The formwork in these areas may only be stripped after sufficient load-bearing capacity of the overall construction.
- Necessary core drillings must be agreed with the structural engineer before work begins.
- Dimensions of rising reinforced concrete walls and columns that are not shown must be added to the formwork plan of the storey above.

Notes on concrete structure

- Support lengths of hidden beam ≥25cm, unless otherwise specified.
- The size of the concreting sections and the design of the construction joints are to be specifications of the waterproofing planner or at the contractor's discretion.
- All construction joints that may be required, e.g. between beams and ceilings, beams and beams or foundations and bases are to be executed at least rough in accordance with BS 8102:2022.

Notes on waterproof structures

- All reinforced concrete structures in contact with the ground must be constructed using the watertight construction method.
  Concrete and reinforced concrete work in accordance with BS EN 1992, watertight construction in accordance with BS 8102:2022.
- All base and external wall openings must be watertight.
- All construction joints must be secured against pressing water in accordance with the waterproof designer.
- The watertightness of the double cavity walls must be ensured in accordance with the waterproof designer.

Notes on the geotechnical report

- Geotechnical report from .....

Notes on the design water level

- According to the foundation report, the design water level is 3.50 m above mean sea level in the final state and 2.50 m above mean sea level in the construction state.

Buoyancy:

- All components are buoyancy-proof (even without a tension-proof pile connection) in the construction stage, when the ceiling above the basement has been completed. Then the construction dewatering can be completely switched off. Until completion of the basement floor the water level must be limited to + 25 cm above the top floor level.

Notes on the foundation

- Foundations must be constructed with at least 5 cm lean concrete C8/10 and PE foil. Insulation must be arranged in accordance with the energy-saving certificate.
- All foundations must be frost-free and laid on natural ground.

Surface finishing of the foundation slab:

- The foundation slab of the cellar must be wing-smoothed and surface-finished.
- The floor of the underground garage is wing-smoothed and given an OS 8 surface protection with accompanying crack treatment or similar.
- Rising components such as columns and walls are given a minimum 50 cm high base coating consisting of a surface protection system OS 8 or similar. The DBV leaflet "Parking garages and underground garages" must be observed in the latest edition.

Legende

	Cast-in-place reinforced concrete		Lean concrete
	Semi-prefabricated (representation only schematic)		Masonry
	Precast concrete		Slab opening
	Non-load-bearing concrete		Wall opening
	Rising reinforced concrete components		Struct. slab-offset bottom
	Rising masonry walls		Struct. slab-offset top
	Expanded metal formwork element with welded-in metal water stop. Construction joint slab-slab		
	Changes to previous revision		
	In clarification / comments		

WO	Wall opening	SJ	Slab joint
WR	Wall Recess	WJ	Wall joint
SO	Slab opening	ISO	e.g.
SR	Slab Recess	n.b.	Non-load bearing
BM	Beam	HBM	hidden beam
HBT	Rebend connection e.g. Halfen HBT	DBM	deep beam
TQuBM	Top of Upstand Beam	bl	bearing length
PH	Parapet height	OE	outer edge

Punching Rods in accordance with rebar planning

The planning of the prefabricated stairs, balconies and parapets is carried out by the manufacturer according to the architect's plans.

The technical processing of WTC components, including the planning and detailing of all necessary joints and their system-compatible sealing in accordance with the requirements, is the responsibility of the manufacturer.
The information on concrete grades and exposure classes must be checked with the waterproofing planner.

All heights refer to zero level, unless otherwise stated.
All dimensions are rough construction dimensions unless otherwise stated.

Built-in parts foundation part 1/6		
BIP-Nr	Designation	Amount
BIP.U0A.01	Screw Tronsole Fig.B-U-L (150-6/30)	2

Pile loads see plan KHB-01-63300-SP-U0F.06-Af03

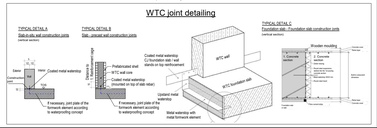
*1) WTC - insulation in accordance WTC-guidance of WTC planner.

Component	WTC concrete	Inspection class	Exposure classes							Concrete cover			
			XC	XD	XS	XF	XA	XM	Moisture class	Concrete	Design allowance Concrete cover	Concrete cover	
Roof slabs													
Roof slab 1)	o	-	1	3	-	-	-	-	WF	C25/30	15	35	
	u			1							10	25	
Roof terraces 1)	o	-	2	3	-	-	-	-	WF	C25/30	15	35	
	u			1							10	25	
Courtyard slab 2), 3)	o	x	2	2	2	-	2	-	WA	C35/45	15	55	
	u			1							10	25	
Entrance area 1)	o	-	1	3	-	-	1	-	WA	C25/30	15	35	
	u			3			1				10	35	
Substructure 2), 3)	o	x	2	2	2	-	2	-	WA	C35/45	15	55	
	u			3			1				10	35	
Floor slabs													
Indoor		-	1	1	-	-	-	-	WO	C25/30	10	25	
Over underground car park below houses	o	-	1	1	-	-	-	-	WO	C25/30	10	25	
	u			3			1		WF	C25/30	10	35	
Walls													
Indoor		-	1	1	-	-	-	-	WO	C25/30	10	25	
with ETICS		-	1	1	-	-	-	-	WF	C25/30	10	25	
with cladding	a	-	1	3	-	-	-	-	WF	C25/30	15	35	
Outdoor 5)		-	1	4	-	-	-	-	WF	C25/30	15	40	
In contact with soil	a	x	2	2	2	-	2	-	WF	C35/45	15	55	
Underground car park 4)	i	-	1	3	-	-	1	-	WF	C25/30	15	35	
Ramp 4)	i	-	1	4	-	-	1	-	WF	C25/30	15	40	
Columns													
Indoor		-	1	1	-	-	-	-	WO	C25/30	10	25	
Facades		-	1	3	-	-	-	-	WF	C25/30	15	35	
In passageway 4)		-	1	4	-	-	1	-	WF	C25/30	15	40	
In basement 4)		-	2	3	-	-	1	-	WF	≥C25/30	15	35	
Other elements													
Balconies	o	-	1	4	-	-	1	-	WF	≥C25/30	15	40	
	u			3							15	35	
Stairs		-	1	1	-	-	-	-	WO	≥C25/30	10	25	
Foundation elements 6)													
Foundation		-	2	2	-	-	-	-	WO	C35/45	15	35	
Foundation slab	o	x	2	3	1	-	1	-	WF	C35/45	15	55	
	u			2							15	35	
Ramp foundation	o	x	2	3	1	-	1	-	WF	C35/45	15	55	
	u			3							15	35	

Legende

1) Glued
2) Insulated
3) Ground cover at least 30 cm
4) with base protection
5) without de-icing salt
6) Clean layer

WTC joint detailing



Rev	Date	Description	Produced
01	19.02.2021	Equated with certified copy of the architect dated 20/01/2021	NHD
00	07.12.2020	First issue	NHD

Zero level ±0,00 = 5,095 over ASL

Plannummer	Project	Component	Account	Category	Floor	Service phase	Revision

PROJECT

CLIENT

ARCHITECT

STRUCTURAL DESIGN
(Plan phases)

PLAN TYPE: Formwork Plan

DRAWING TITLE: Foundation - House 2 and 3a

PROJECT	PROJECT MANAGEMENT	DESIGNED	NHD	PAPER SIZE	SCALE	DATE
19023	TS	CHECKED	TS	841x1189	1:50	15.11.2020

Plan basis: Architects plan KHB-01-62100-GR-U1A-Ap06-

CM Engineering GmbH
Structural engineering
BIM & Drafting services