

# PARKVIEW HUB social housing retrofit to enerPHit standard using prefabricated timber

**E2 ReBuild**



sustainable**BY**design

Alan Clarke engineer



**gumpp & maier**

solutions made of timber

# Who are Gumpp & Maier?

... and what are they doing in the UK?



# gumpp & maier

solutions made of timber

gumpp&maier GmbH

g&m projects

modul 3

arstekton

weissraumwelt



...here we are in Germany

# gumpp & maier

solutions made of timber

## People and prefabrication facilities



*Production line of Gumpp & Maier GmbH*

## Why?

It started with research

I met Chiel Boonstra in Oulu (FI)

He introduced me to the  
Sampson Close project

“ We had no idea of the  
UK market and UK  
building standards. Health  
& Safety was a word  
which we knew from the  
medical field“



## Orbit – Sampson Close Development, Coventry (2010)

Our scope  
of work:

Building  
envelope  
with  
windows  
and  
insulation  
and  
nothing  
else



## Orbit – Concept development (2011 - 2012)

- Energy Standards for Social Housing
- Wrap around solutions for refurbishment



... completely designed, not build

## E2Rebuild – Demo Project Parkview Hub (from 2011)

... who is  
willing to  
design and  
build



Luck



**Martin Montgomery**

Managing Director  
Gumpp & Maier Ltd

## Our principles

- Passivhaus is the common and agreed building standard for the future. We have understood and build to this standard for 20 years
- The value for the customer is the building itself, not the process around. To get more value for money we have to optimize the workflow and focus on the quality of the building itself
- We believe in partnership – we work in long lasting relationships with our partner contractors – from design to build
- Building is local – within 6-8 years Gumpp & Maier Ltd will cover the whole value chain including prefabrication in the UK – we are a UK company
- We keep our promises

Usually I prefer to present finished building, therefore I hand over to Mark Elton  
... and I have to admit they do a fantastic job

# PARKVIEW HUB the retrofit



- SEECO group of UK RSL's coordinated by Ken Walker and Chiel Boonstra
- Chiel introduced Passivhaus concept
- Gallions Housing Association selected Parkview Hub

## Continued Involvement

- Introduced Gump & Maier to UK market
- Negotiated Parkview Hub into

**E2 ReBuild**

- Responsible for energy concept and PHPP modelling





Chiel Boonstra, Trecodome: track record of Passivhaus renovation and prefabrication

- Thamesmead suffers from many social problems incl low employment and fuel poverty
- Arrival of Crossrail in 2015 offers regeneration opportunity
- Masterplan commissioned by Bexley BC/Gallions HA
- Spatial reorganisation and retrofit key to proposals
- Two 'hubs' identified as focus for regeneration



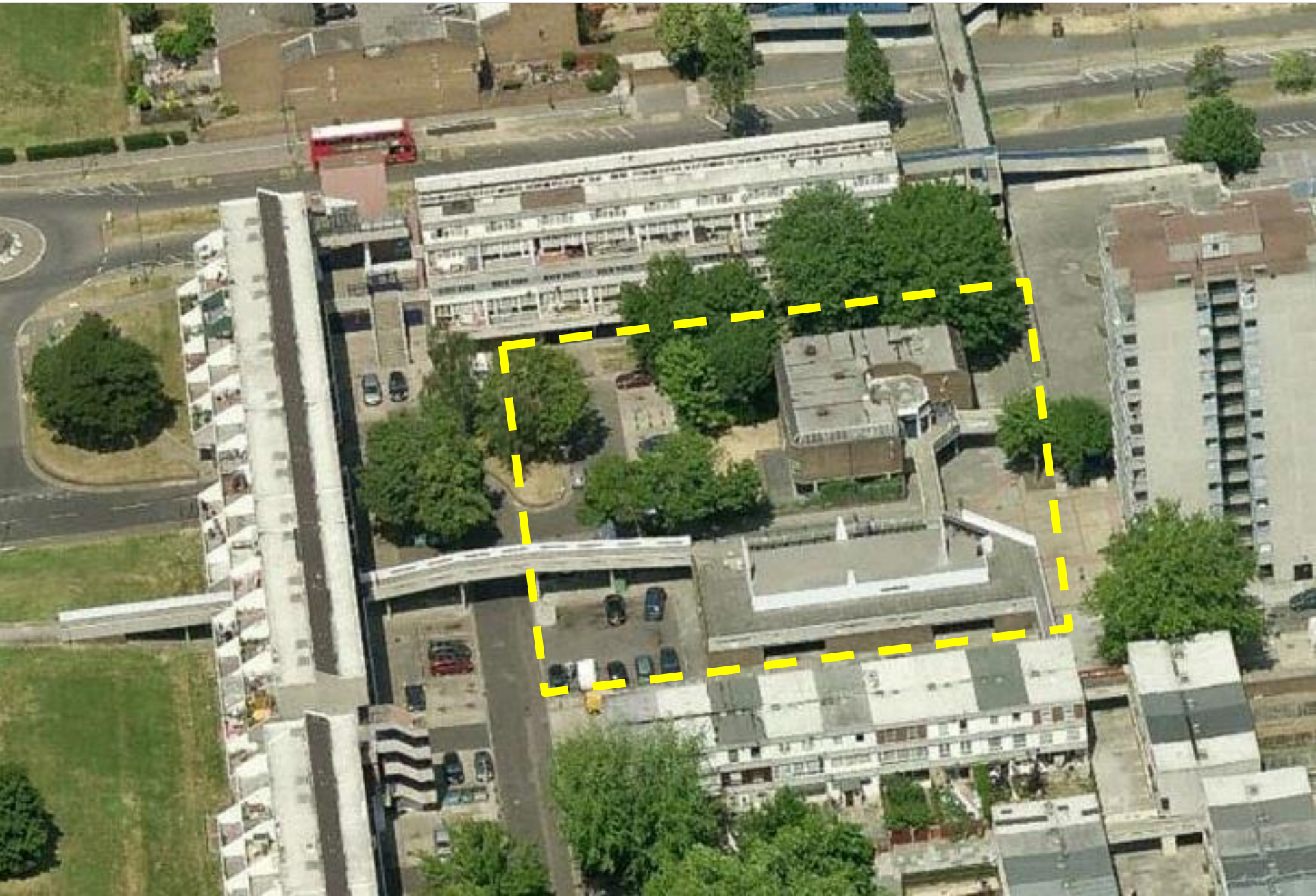


# NORTH FACADE

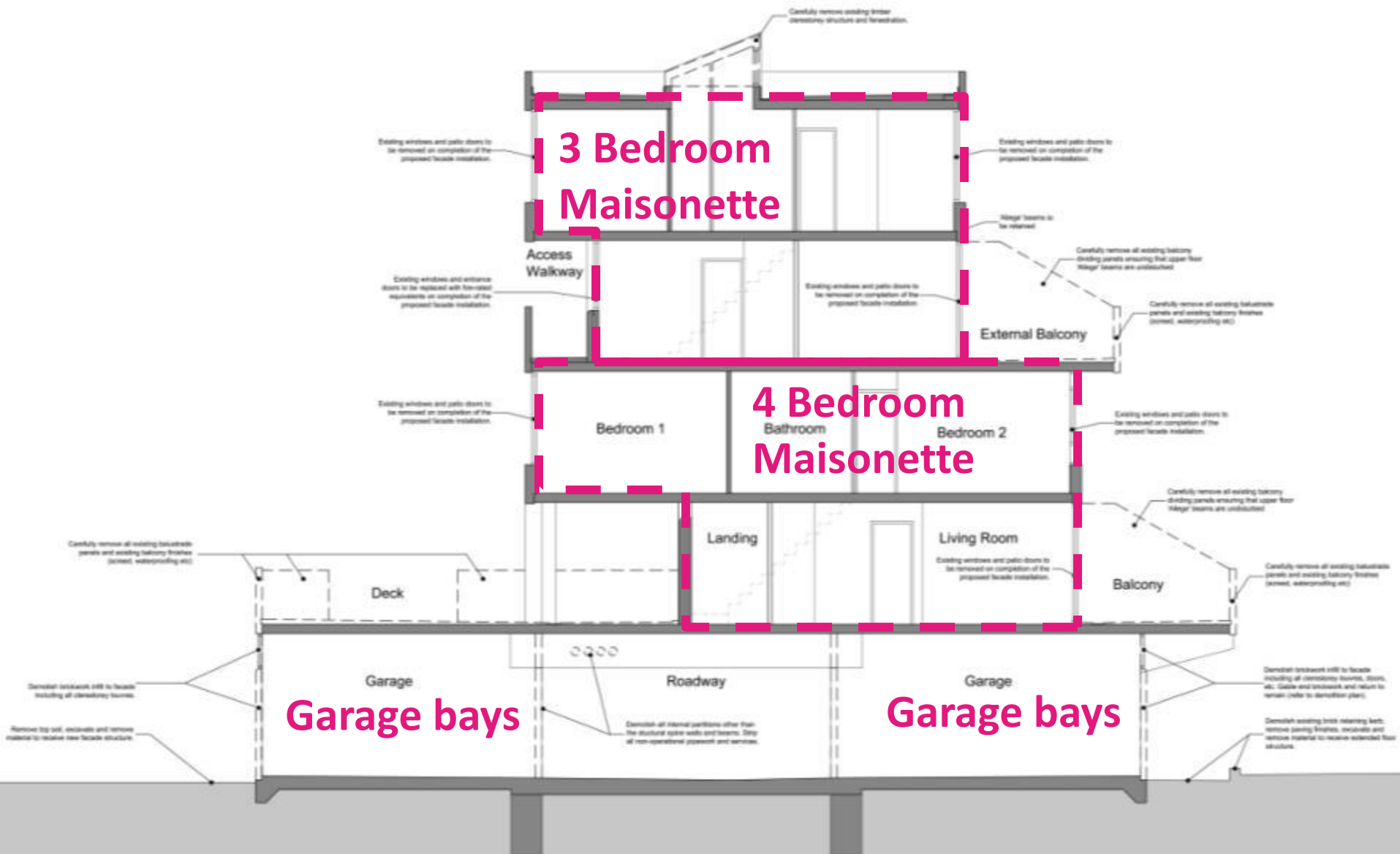
sustainableBYdesign

ukpassivhaus  
conference 2013







ukpassivhaus  
conference 2013 

# EXISTING PERFORMANCE

- Ext walls  $U = 1.3 \text{ W/m}^2\text{K}$
- Windows  $U_w = 2.0 \text{ W/m}^2\text{K}$
- Roof  $U = 2.3 \text{ W/m}^2\text{K}$

## Space Heat Demand

- greater than  $220 \text{ kWh/m}^2\text{.yr}$



# PROJECT OBJECTIVES

- Meet requirements of the E2Rebuild project
- EnerPHit retrofit to residential with tenants in-situ
- Convert garages to community and retail uses
- Act as a catalyst for local and wider regeneration
- Inspire!



- Investigate, promote and demonstrate advanced energy efficiency retrofits
- 75% space heating reduction
- Offsite prefabricated retrofit methods
- Minimise disruption to residents



Gruntenstrasse, Augsburg

- offsite pre-fabricated timber cassette facades delivered with factory-installed windows, taped 15mm OSB linings and cladding
- filled with cellulose and wood fibre over studs usually, BUT gypsum board at Parkview Hub
- craned into position with residents in place
- bolted to existing fabric
- tolerance zone filled with cellulose/mineral wool



- Reduce 'window' elements
- Vertical emphasis
- Add pitched roof (renewables requirement)
- Reinforce 'Hub' approach with unique feature frontage and quality finishes at public level
- Improved street realm

