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Project Director/Construction Director:

- **Balfour Beatty:** Blackfriars station/bridge Thameslink (2009-11)
- **Skanska:** BAA £5bn Complex Build and Commodities Programme; £260m Heathrow T3 baggage system (2007- 2008)
- **Taylor Woodrow:** Rail Division Director 2001 (Farringdon station); P21 NHS healthcare projects

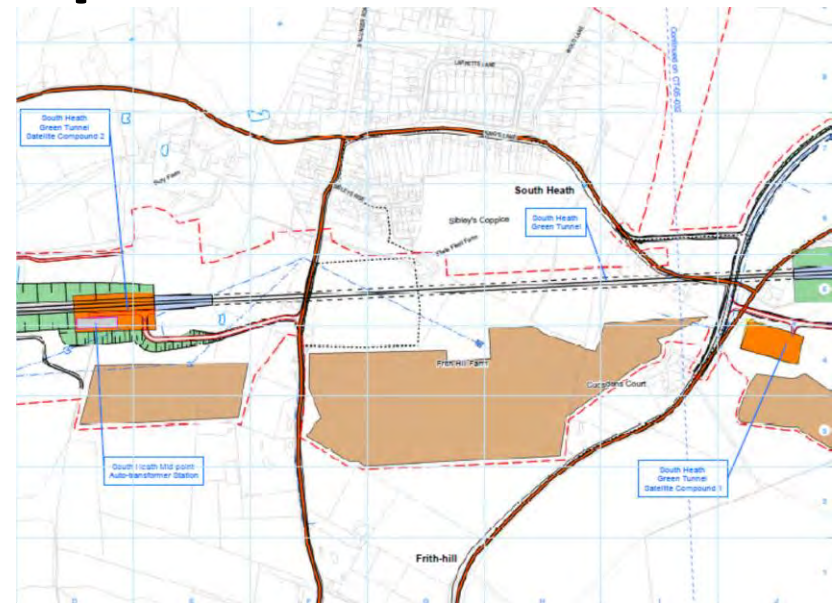
Other transport projects

- Thameslink
- Jubilee Line extension;
- Heathrow Express Rail Link
- Docklands Light Railway



Evidence

- **Construction impacts**
- **Excavation costs**
- **Extra spoil at the south portal**
- **Spoil at Hunts Green**



...so what will it be like for the community?

Constructing HS2 – a dose of reality



Excavation costs -1

Excavate



Stockpile



Pick up



Transport



Use



- **2012 Appendix A :**
 - £27.92/m³ excavation
 - £11.02/m³ embankments
- **Amount excavated (Mantles Wood to Leather Lane*)**
 - 4.2Mt or 2.0Mm³ :
 - 2.8Mt Chiltern Tunnel north cutting
 - 1.4Mt South Heath cutting to Leather Lane
- **Cost of saved cuttings**
 - **HS2 Ltd figure:** £33.3m which equates to **£16.3/m³**
 - **REPA estimate:** £53.8m (and this is net of north end spoil increases)

**source: CCB from HS2 Ltd July 2014, excluding green tunnels which are considered separately*

Excavation costs – 2

Spon's for excavation (2011):

Cutting depth	Cost for Clay (x1.7) £/m ³	Cost for chalk (x2) £/m ³
1-2 metres maximum depth	7.14	8.4
2-5 metres maximum depth	11.85	13.94
5-10 metres maximum depth	23.87	28.08
10-15 metres maximum depth	34.51	40.06

- Average Depth: Chilterns tunnel north cutting = 11.9m
- Average depth: South Heath cutting (to Leather Lane) = 8.0m



.....so £16.3m³ seems unlikely for South Heath

Spoil at the South portal



South portal

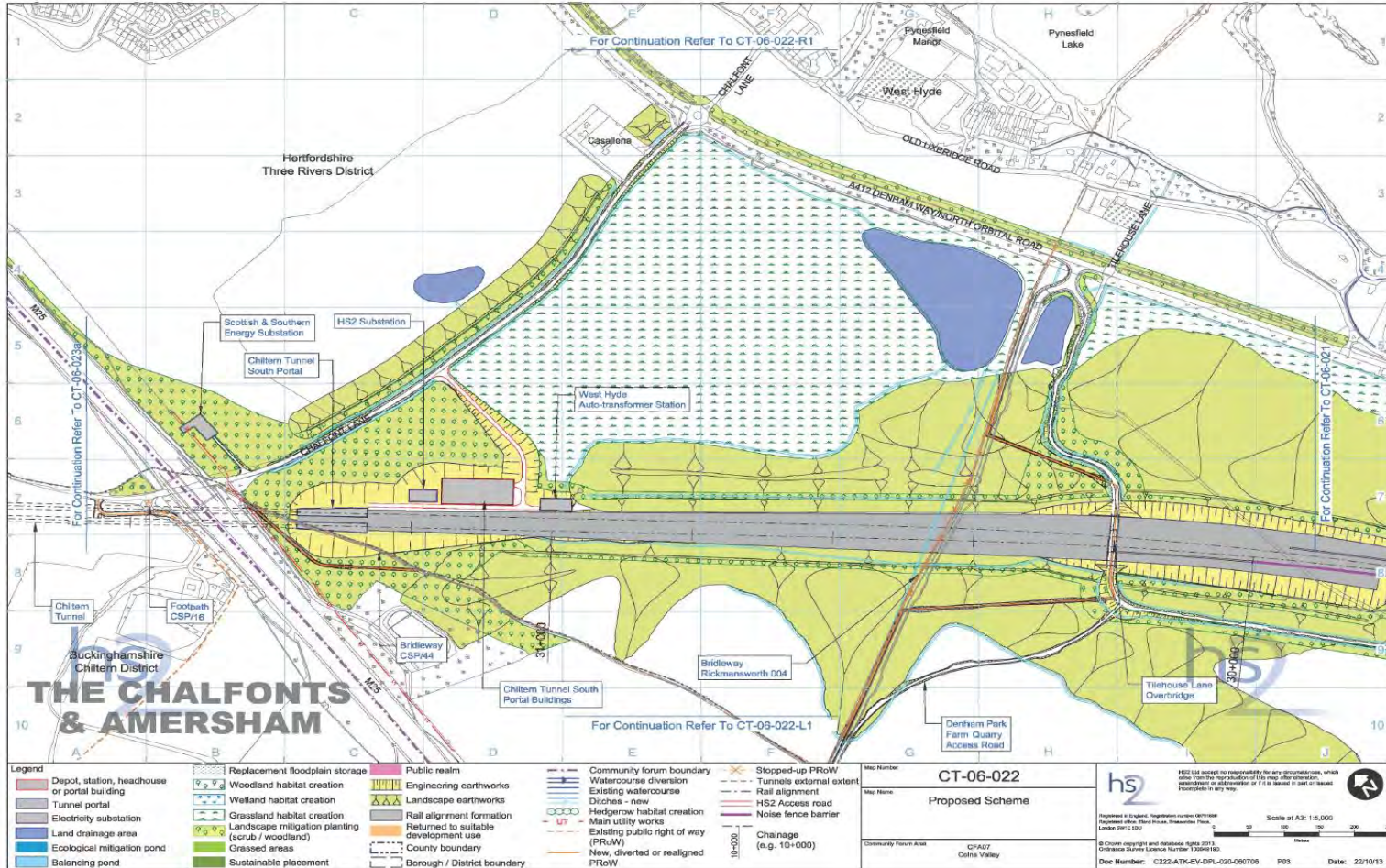
- **Spoil from 13.3km Chiltern tunnel** = **2.00Mm³**
- **Extra spoil created by REPA** = **0.61Mm³**

- All the Chiltern tunnel spoil (2.00Mm³) is used for mitigation on site

- Why not the extra spoil from REPA too?
 - Re-profile the 'mitigation' to take it.
 - The area is next to the M25
 - The site is not restricted

.... isn't there room near the South portal?

South portal site

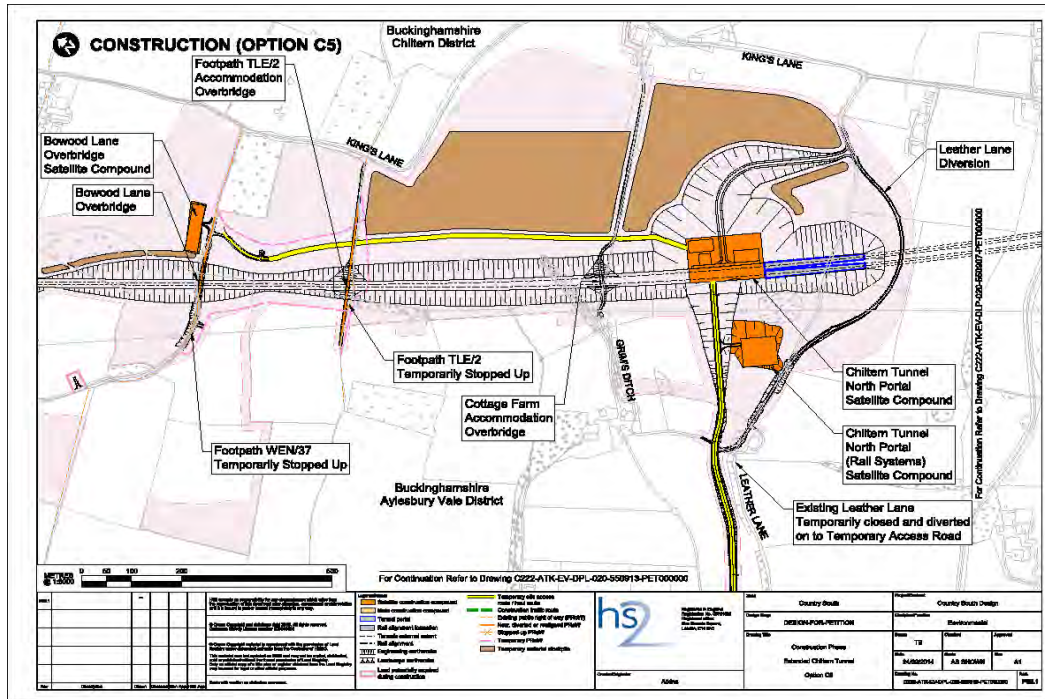


...still plenty of space?

Spoil and Hunts Green



REPA C5 Proposal (Leather Lane)



- Hunts Green = 1Mm³ and to no longer be a permanent dump
- But extra cost of disposal not included in the REPA cost savings by HS2 Ltd

.....a big extra cost ignored by HS2 Ltd

Excavation costs



- **So where does £16.3m³ come from?**
 - 26 June 2015 REPA meeting
 - 30 June 2015 REPA letter to HS2 Ltd
 - 17 July letter from HS2 Ltd in response

..... £16.3m³ seems unlikely for South Heath

Cost – the dispute



Item	Net Costs in £m	HS2 Ltd July 15	HS2 Ltd* published rates	REPA 11 June 2015 Report	REPA 19 July Amended	Difference
Land & Property (£m)		-32.7		-11.4	-11.4	21.3
Tunnels (£m)		134.5		71.5	55.5	-79.0
Bored Tunnels		181.8	170.2	139.4	102.7	-79.1
Green Tunnel		-57.1		-67.9	-57.1	0.0
Portals		-10.4			-10.4	0.0
Shafts		14.2		0.0	14.2	0.0
Disposal costs		6.1		0.0	6.1	0.0
Civil Engineering (£m)		-57.0		-68.6	-83.4	-26.4
Cuttings		-33.3	-79.4	-53.8	-53.8	-20.5
Landscape/Planting/Noise		-7.3		0.0	-7.3	0.0
Bridges		-10.5		-7.8	-7.9	2.6
Highways		-7.2		-2.0	-7.2	0.0
Utilities Culverts		-7.3		-5.0	-7.3	0.0
Extended preliminaries		8.5		0.0	0.0	-8.5
Railway systems (£m)		21.7		0.0	21.7	0.0
Indirect costs (£m)		18.0		0.0	-1.1	-19.1
ECP/VE (£m)		-8.1		0.0	0.5	8.6
Net TOTAL £m		76.4		-8.5	-18.1	-94.6

* from Tunnel Guide (for tunnelling), and 2012 Appendix A (for cuttings)

Main differences:

- Tunnel boring savings
- Cuttings savings
- No programme delay
- Hunts Green saving yet to come

Also

- Lower property figure
- Lower bridges figure

.....and there are other non-promoter cost savings too