

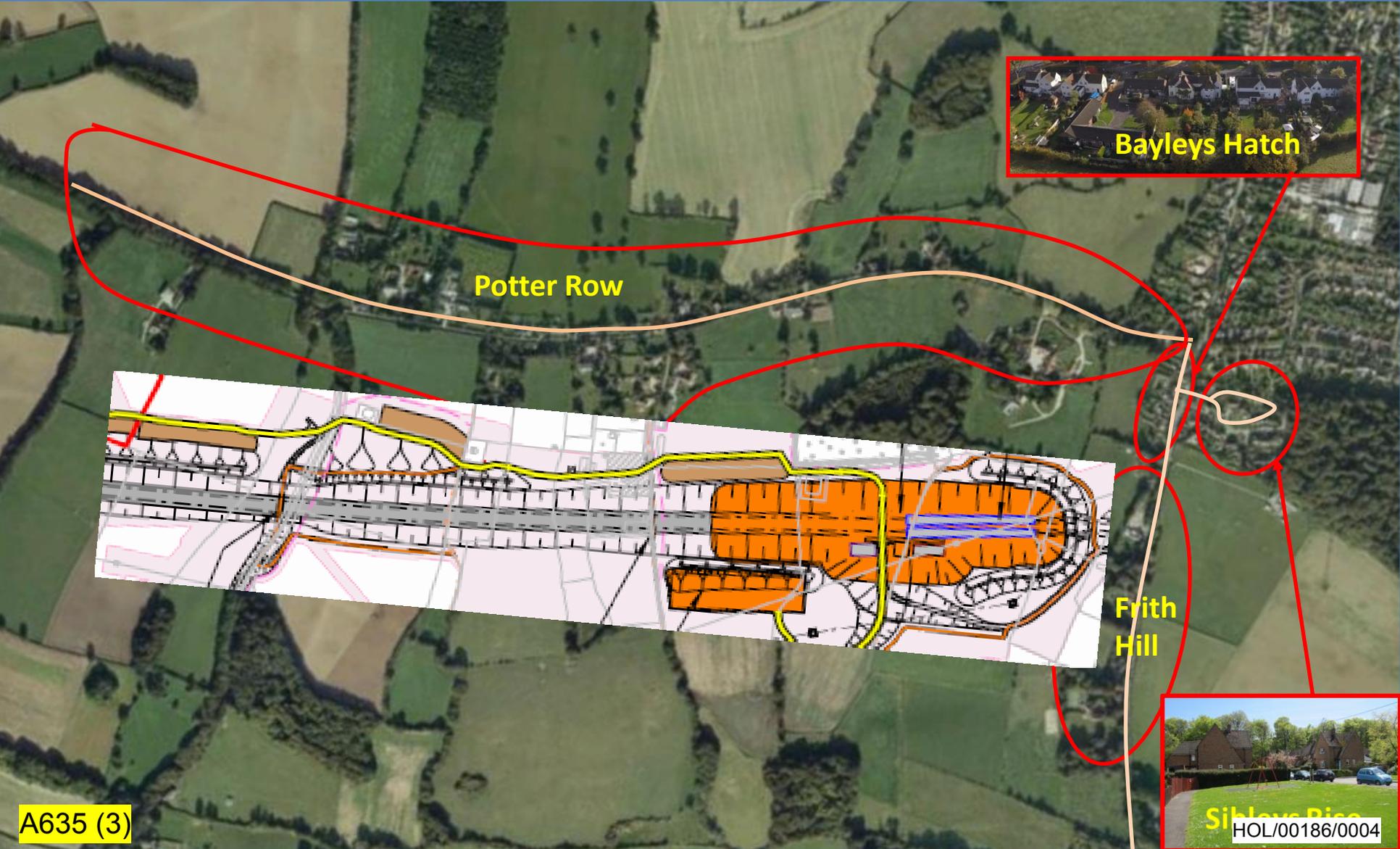
Petitions of Potter Row/South Heath

Petitioner	Petition Nos.
Potter Row Neighbourhood Watch Scheme	186
Sibleys Rise Residents Group	655
Bayleys Hatch – Gill Williamson, Simon Hook & others	368 & 30
Associated petitions	
Barbara Dennis and Donald Dennis	195 & 196
Robert Simm and Debra Simm	183 & 184
Anne Kenyan	187
Christopher Paine	344
Roger Manton	401
Anthony O’Conner	072
Sara O’Conner	073
Hilary Wharf and Bruce Weston	262

Who we are



Who we are



Potter Row

Frith Hill



A635 (3)

HOL/00186/0004

Tunnel extension

Our ask

- **To recommend that an independent assessment of a 1km extension to the bored tunnel be conducted for the Secretary of State to consider.**
 - Believe that significant environmental and engineering benefits at same or less cost than current proposal have not been fully considered
 - Support from local groups, including BCC, CCB and GMPC
 - The process for implementation would be as others have already put forward (at Wendover) ie TWAO.

Tunnel extension

- **Proposal – 1km further to Liberty Lane**
- **Tunnel boring cost**
- **Spoil logistics and cost**
- **Cost – summary**
- **Schedule**
- **Benefits v cost**

Malcolm Griffiths: BSc ex CEng, MICE, MSPE

- **Conoco Phillips Gas and Power Europe Ltd (1998 – 2003)**

- **Managing Director**

- Interconnector (UK) Ltd, Gulf Resources Indonesia

- **Conoco UK Ltd** (major UK oil and gas producer) (1979 – 1998)

- **Board Member, Engineering, Operations and Projects Manager**

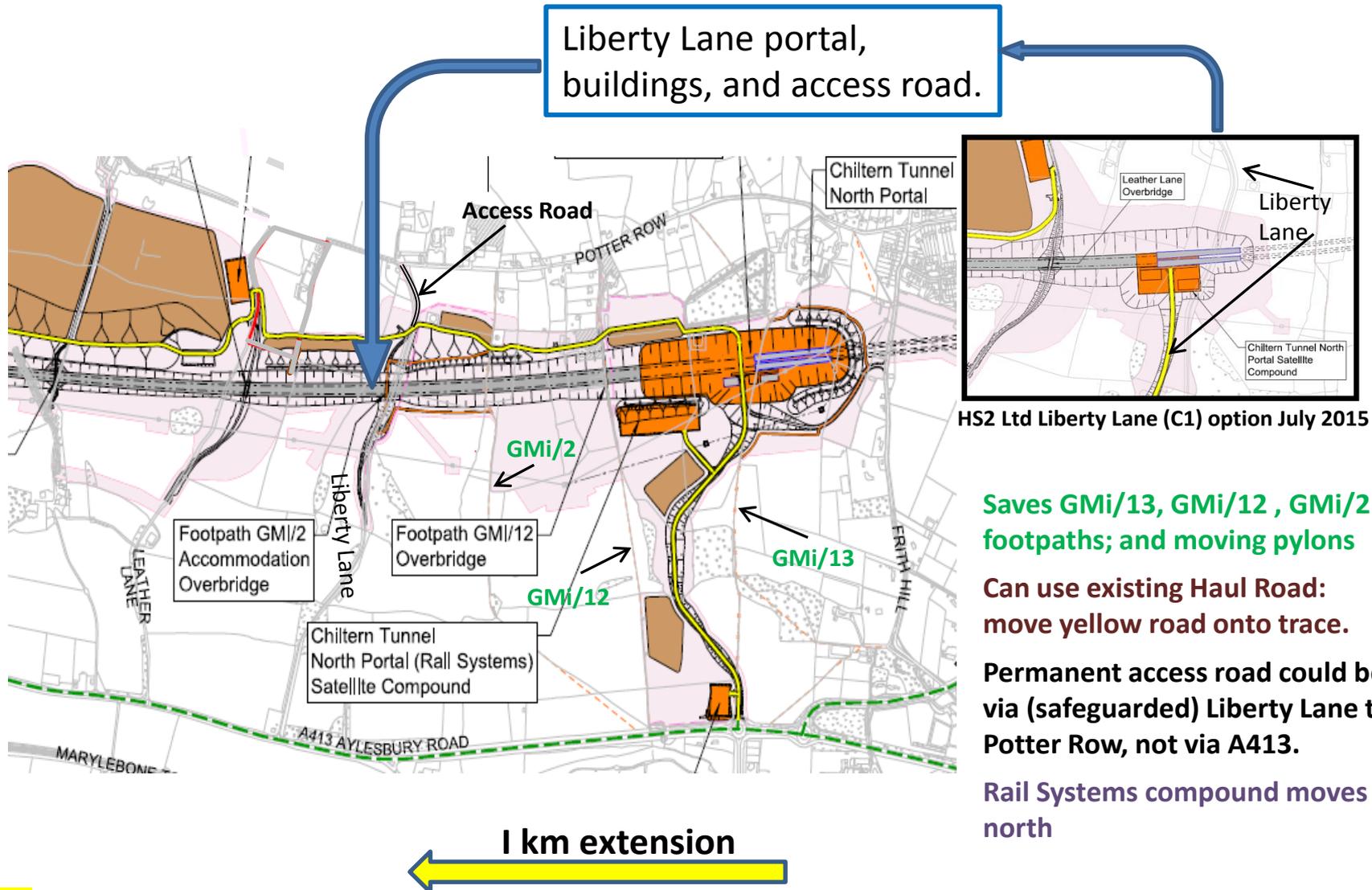
- UKOOA Piper Alpha Inquiry, Oasis Oil Co Libya

- **G. Wimpey & Co Ltd (1970 – 1979)**

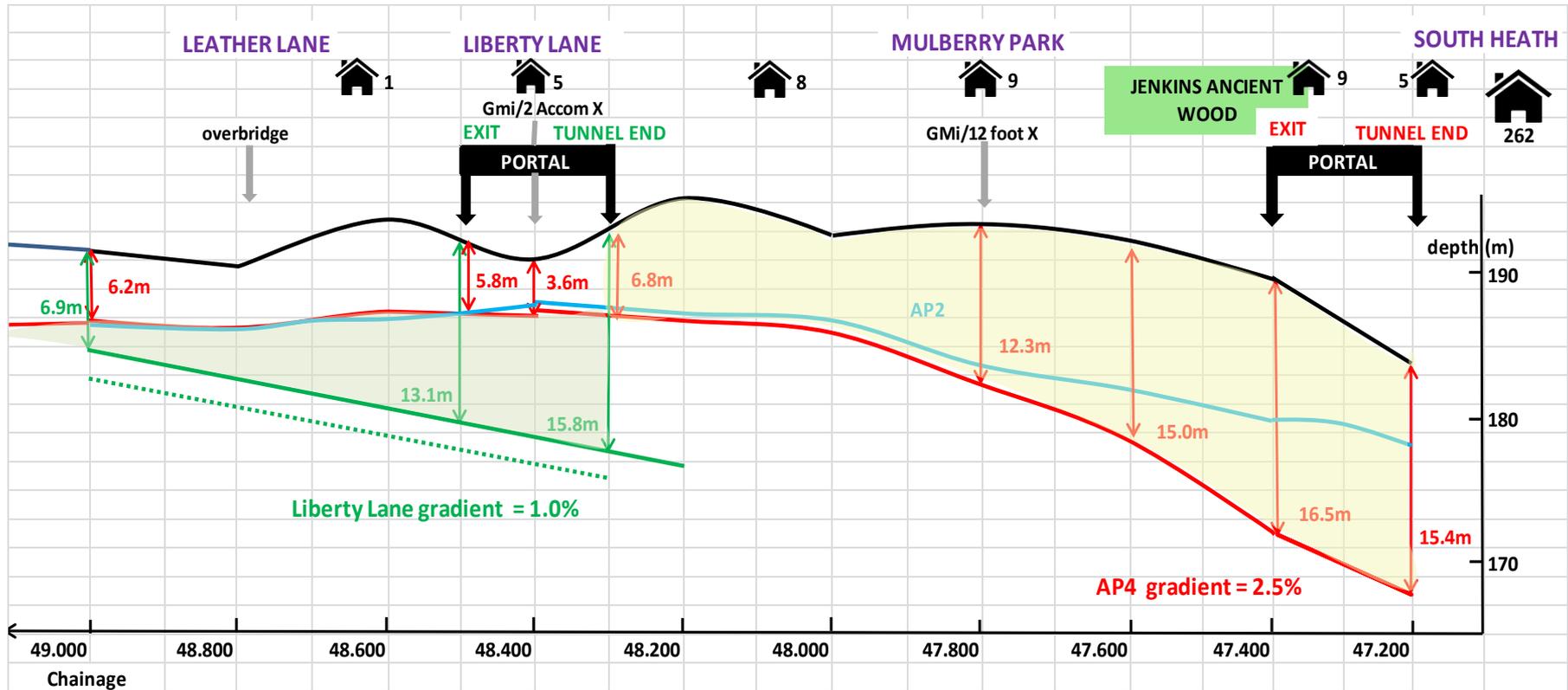
- **Planning Engineer, Cost Engineer, Construction Supervisor, Project Manager**

- Channel Tunnel, M5, Nigg Bay Dry Dock, Elf TP1, Shell Brent Field, BP Forties Field

Tunnel extension: proposal



Tunnel extension: better portal siting



- Safeguards community for the long term; blights far fewer homes
- Flatter gradient at tunnel exit. Cutting less deep and hence less wide
- Protects Jenkins Wood
- Reduces cutting spoil extracted and amounts going to landfill

The cost debate

	HS2 Ltd cost	REPA cost estimates		
Extension to:	Liberty Lane	Liberty Lane	Liberty Lane	Liberty Lane
Basis:	C1 - C6	C1 - C6	C1 - C6	C1 - C6
C6 = South Heath: 47.205 C1 = Liberty Lane: 48.300	Updated HS2 Ltd costs for post July 2015 changes	Adjusted ONLY for tunnel cost (REPA benchmarking)	Adjusted ONLY for alternative spoil scheme (for moving 650km3)	Adjusted for OTB Report (& 80m/wk), cuttings cost (at £22m3), and spoil scheme
extra kms:	1.1	1.0	1.0	1.0
	(b)	(c)	(d)	(e)
Tunnel cost	£54.6	£27.8	£49.9	£27.1
Sub total (before new spoil figures)	£25.2	-£3.4	£20.1	-£8.9
HS2 Ltd adjustment for spoil transport (to replace 650km3)	£11.0	£11.0		
Alternative spoil Scheme			-£21.2	-£21.2
Total £M	£36.2	£7.6	-£1.1	-£30.1

Colonel David John Hindle BSc., MSc., DIC., MICE

Qualifications:

BSc (Hons, 1st class) Mining - University of Wales, University College Cardiff

MSc (Distinction) Engineering Geology – University of London, Imperial College

DIC (Diploma of Imperial College)

Member of the Institution of Civil Engineers

Member of the Institution of Royal Engineers

Member of the British Tunnelling Society

Colonel, Engineer & Logistics Staff Corps RE(V)

Experience:

Over 40 years in mining and tunnelling in the UK and Worldwide.

Advisor to HM armed forces on ground engineering matters (via the Staff Corps).

Co-founder of OTB Engineering Limited, a civil and mining consultancy based in London, with offices in the North of England & Vietnam, employing around 60 staff.

Co-founder of Innovative Support Systems Ltd., a specialist manufacturer of ground and tunnel support systems based in Barnsley.

Member [British Tunnelling Society \(BTS\)](#) and involved in creation of BTS benchmarking study for Infrastructure UK (published by Treasury)

Project Spotlights: Crossrail, Thames Tideway, Tottenham Court Road Station Upgrade, Thirre Tunnel Albania, Farnworth Railway Tunnel Enlargement, Gibraltar Kings Lines Fuel Storage Caverns, Ningbo Metro China.

Expert Witness: Expert witness for Scottish & Southern Energy on the Glendoe HEP scheme recovery project litigation; Lancing Bypass tunnels Public Enquiry.

OTB Engineering - study findings



Remit: to comment on the REPA engineering team tunnel boring cost estimates (of c. £26.4k/metre) based on a BTS benchmarking study, that are about half the HS2 Ltd cost estimates.

Findings: “It is feasible to extend the Chilterns tunnel and an additional length could be constructed for between c. **£22.3k/m** (our best estimate) and **£25.7k/m** (best estimate when adjusted to a rate of 80m/wk). This is marginally less than the REPA estimate of around **£26.4k/m** and substantially less than the HS2 Ltd amount of **£44k/m to £49k/m**”.

Key issues:

- Rate of progress 120m/wk vs 80m wk
- Cost vs length
- Extra over costs for 1 km extension
- HS2 Ltd cost figures

Guiding Policy on waste

Policy requirements clear – but optimal solution not yet adopted

National Policy Statement for National Networks:

5.42: “...Minimise volume of waste produced, and the volume of waste sent for disposal unless it can be demonstrated that the alternative [*ie deep cuttings*] is the best overall environmental outcome.”

- **More tunneling means less spoil, so environmentally preferable**

5.43: “....Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arising in the area.”

- **More analysis on waste capacity needed, but can be reduced by taking less waste to landfill**

..... tunnel extension logical outcome of applying NPSNN policy

Tunnel extension: costs

	HS2 Ltd cost estimates		REPA cost estimates		
Extension to:	Liberty Lane	Liberty Lane	Liberty Lane	Liberty Lane	Liberty Lane
Basis:	C1 - C6	C1 - C6	C1 - C6	C1 - C6	C1 - C6
C6 = South Heath: 47.205 C1 = Liberty Lane: 48.300	HS2 Ltd 17 July 2015	Updated for HS2 Ltd cost changes since July 2015	Adjusted ONLY for tunnel cost (REPA benchmarking)	Adjusted ONLY for alternative spoil scheme (for moving 650km3)	Adjusted for OTB Report (& 80m/wk), cuttings cost (at £22m3), and spoil scheme
extra kms:	1.1	1.1	1.0	1.0	1.0
	(a)	(b)	(c)	(d)	(e)
Land & Property	-£13.1	-£13.1	-£13.1	-£13.1	-£13.1
Tunnel cost	£47.7	£54.6	£27.8	£49.9	£27.1
Bored Tunnel incl above	£46.6	£53.1	£26.4	£48.5	£25.7
Civils	-£2.8	-£23.7	-£23.7	-£23.7	-£28.1
Cuttings incl above	-£4.4	-£9.9	-£9.9	-£9.9	-£14.3
Railway systems	£3.3	£5.0	£5.0	£5.0	£5.0
Indirect less ecp/VE	£4.6	£2.4	£0.6	£2.1	£0.3
Sub total	£39.7	£25.2	-£3.4	£20.1	-£8.9
HS2 Ltd adjustment for spoil transport (to replace 650km3)		£11.0	£11.0		
Alternative spoil Scheme				-£21.2	-£21.2
Total	£39.7	£36.2	£7.6	-£1.1	-£30.1

..... no net increase in cost

Tunnel extension: schedule

- **No impact on tunnelling programme**
- **Extra 2/3months can be accommodated in program to fit-out from both ends:**
 - Fit-out one end*: M25 to Mantles Wood: 13.3km
 - AP4: Fit out both ends: M25 to South Heath: 15.9km
 - Fit out both ends: M25 to Liberty Lane: 16.9km

**Fit-out from one end
scheduled by HS2 Ltd at c. 3 yrs*

..... no evident scheduling issue

Tunnel extension: balance sheet

Benefits

- **Safeguards** South Heath area community for the long term
- **Protects** from operational noise above LOAEL (c 120 homes)
- **Provides** better portal siting
- **Preserves** archeological assets; AONB landscape; agricultural land; Jenkins Wood
- **Prevents** footpath severance, blight (300 homes), pylon changes, demolition
- **Reduces** waste going to landfill

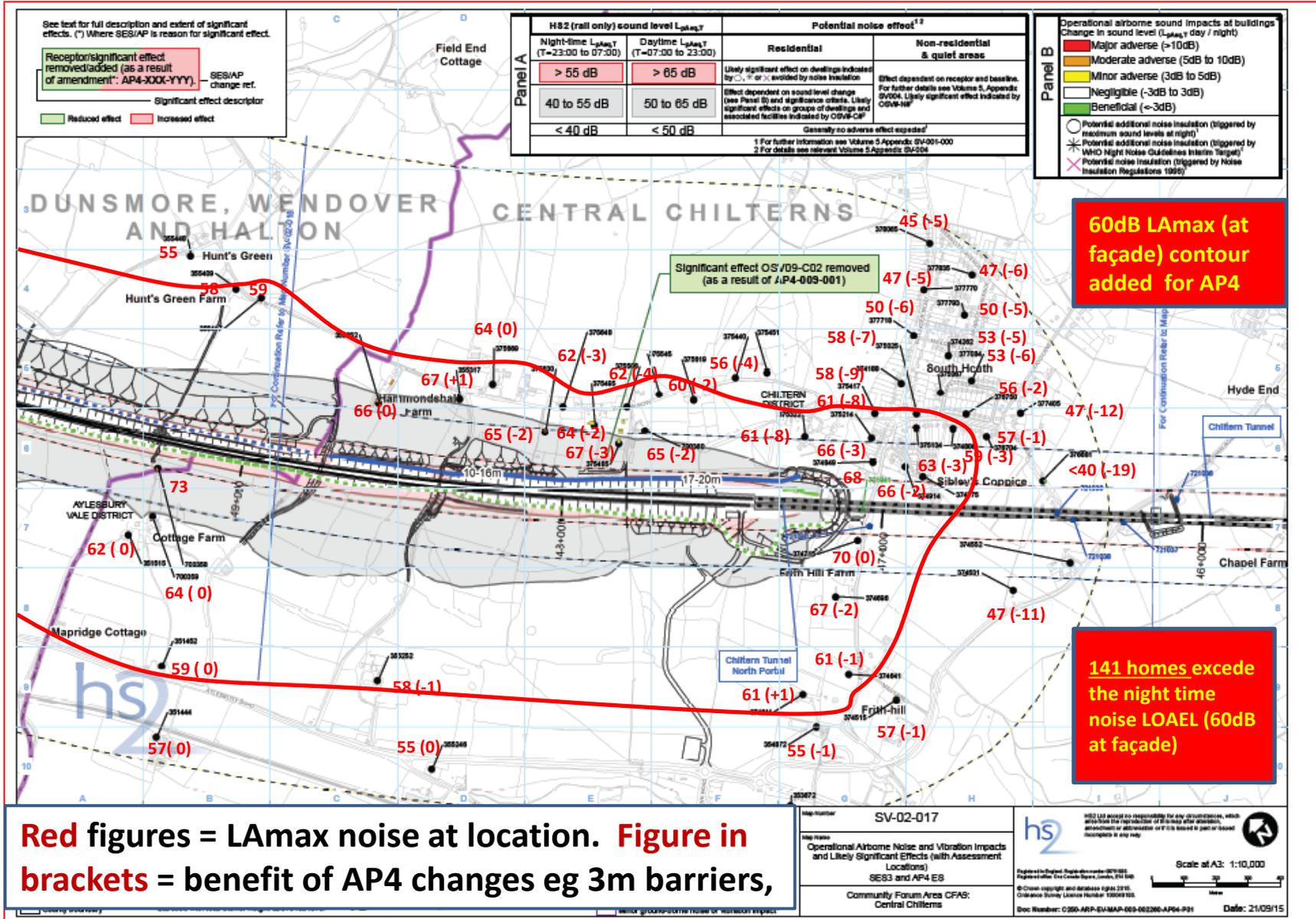
Costs

- **No** net money cost
- **No** time cost to overall Chiltern tunnel programme
- **No** new community disadvantage

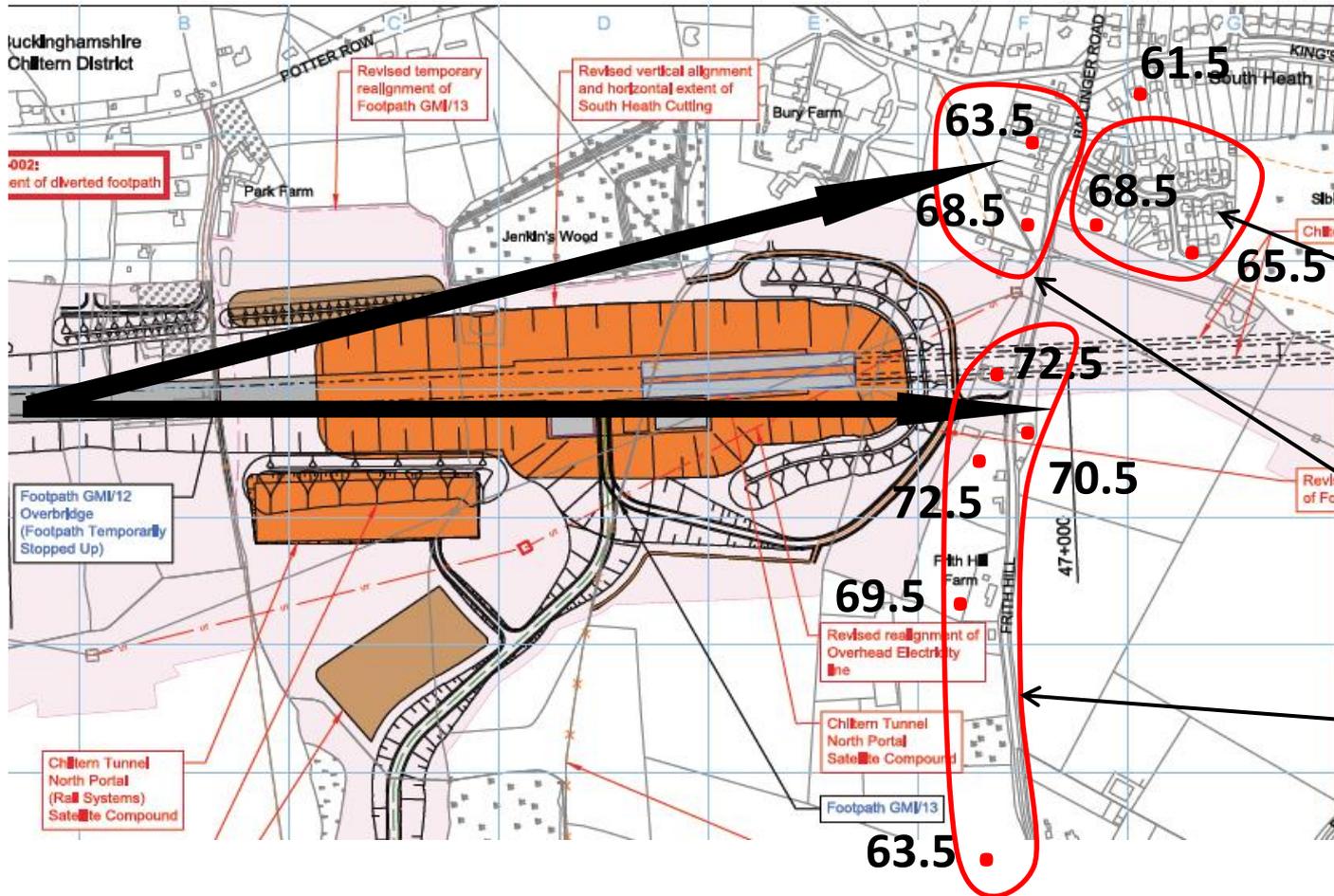
c 650 people directly benefit in the community

..... benefits to people and the environment come free

LAmx data added and places in excess of nighttime LOAEL



Bayleys Hatch, Sibleys Rise, Frith Hill



Homes that exceed LAmx LOAEL (60dB)

Sibleys Rise
(all 44, 400-600m from portal exit)

Bayleys Hatch
(all 16, 400m/500m from portal exit)

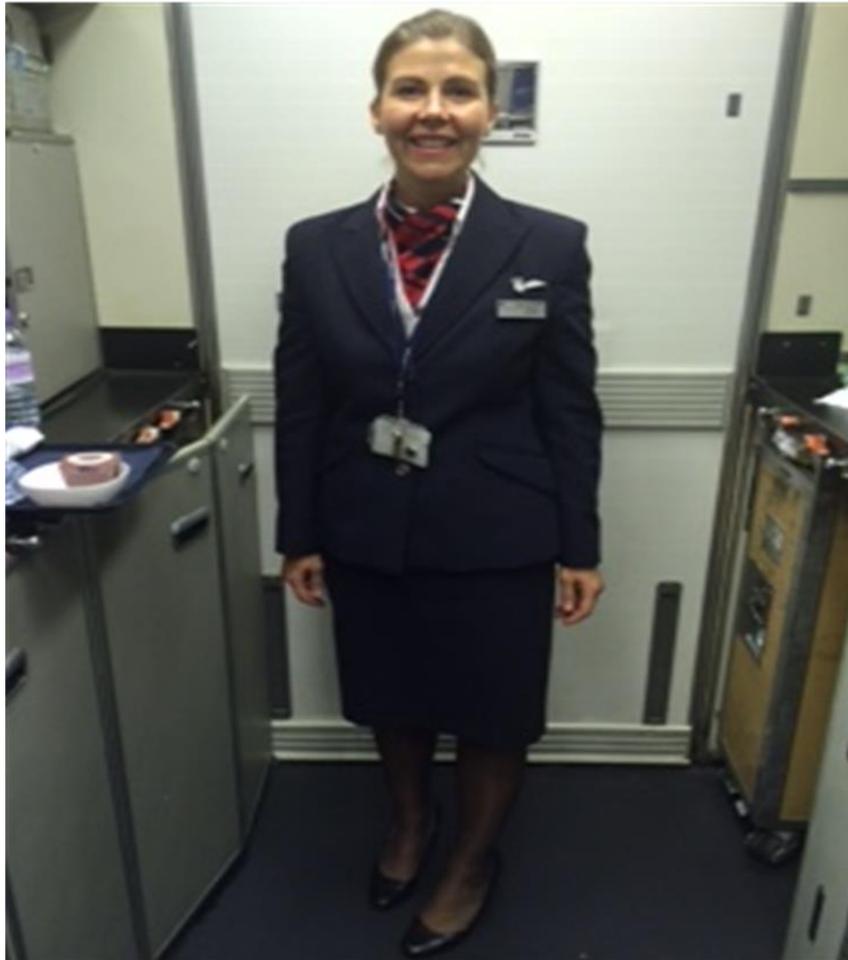
Frith Hill
16, 300-600m from portal exit

Noise source

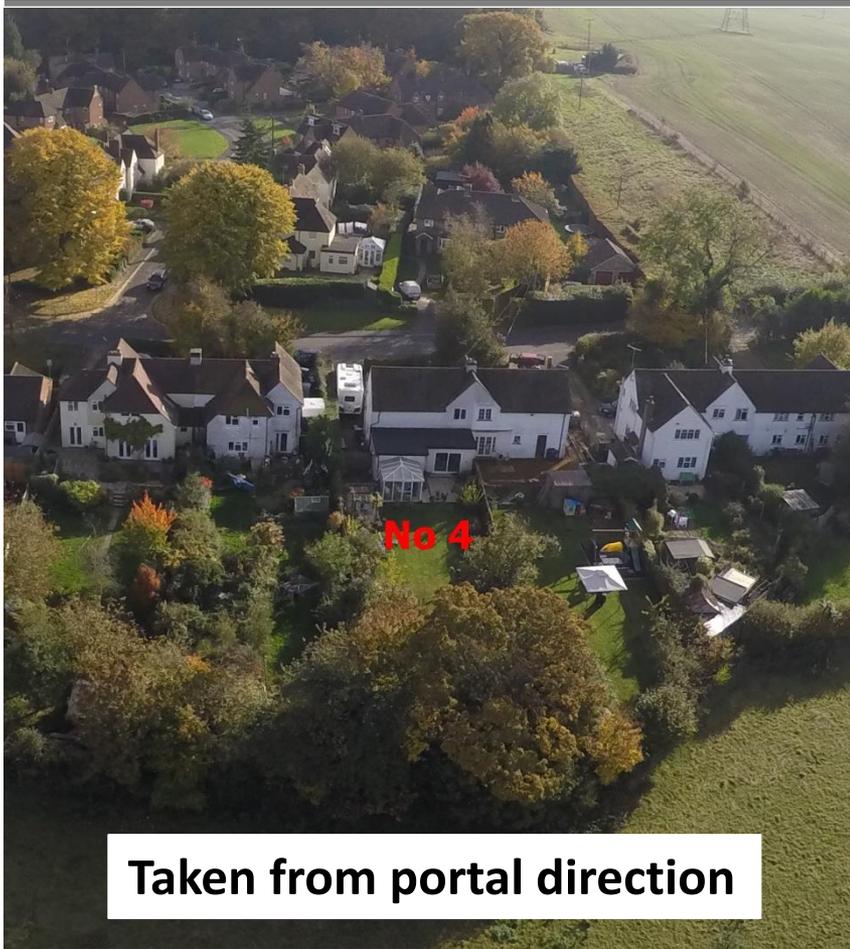
Noise Case study 1: Bayleys Hatch



Noise Case study 1: Mrs Louise Binns



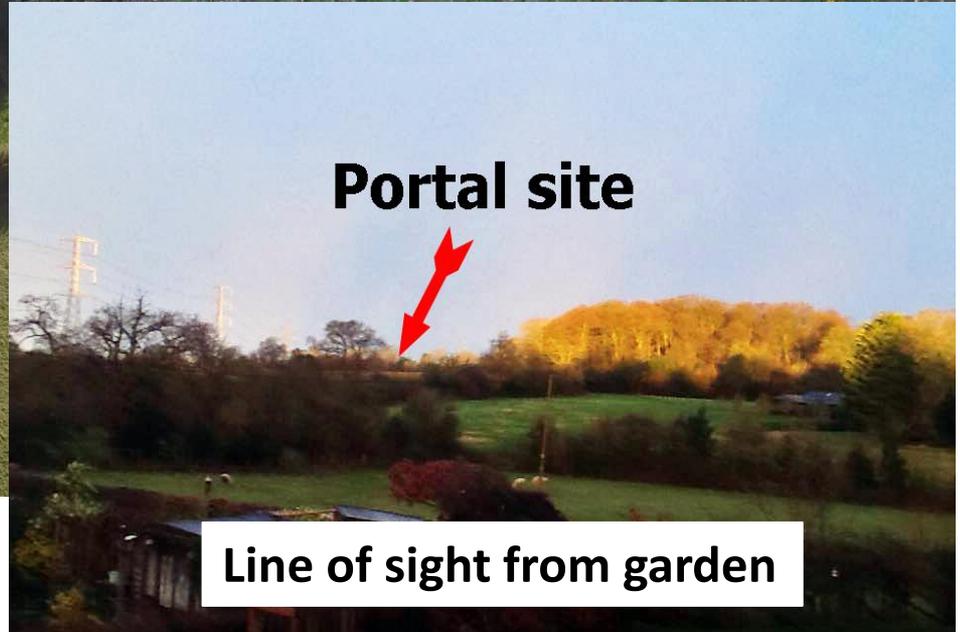
Noise Case study 2: Gillian Williamson



Taken from portal direction



soon to be the portal



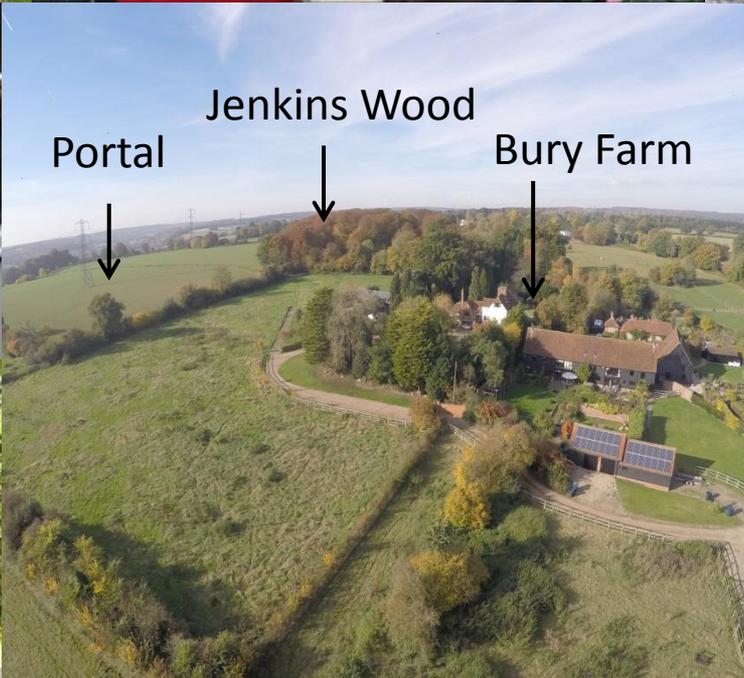
Portal site

Line of sight from garden

Noise - case study 3: Potter Row



3 arenas within 400m of line



A635 (22)

Potter Row



HOL/00186/0023

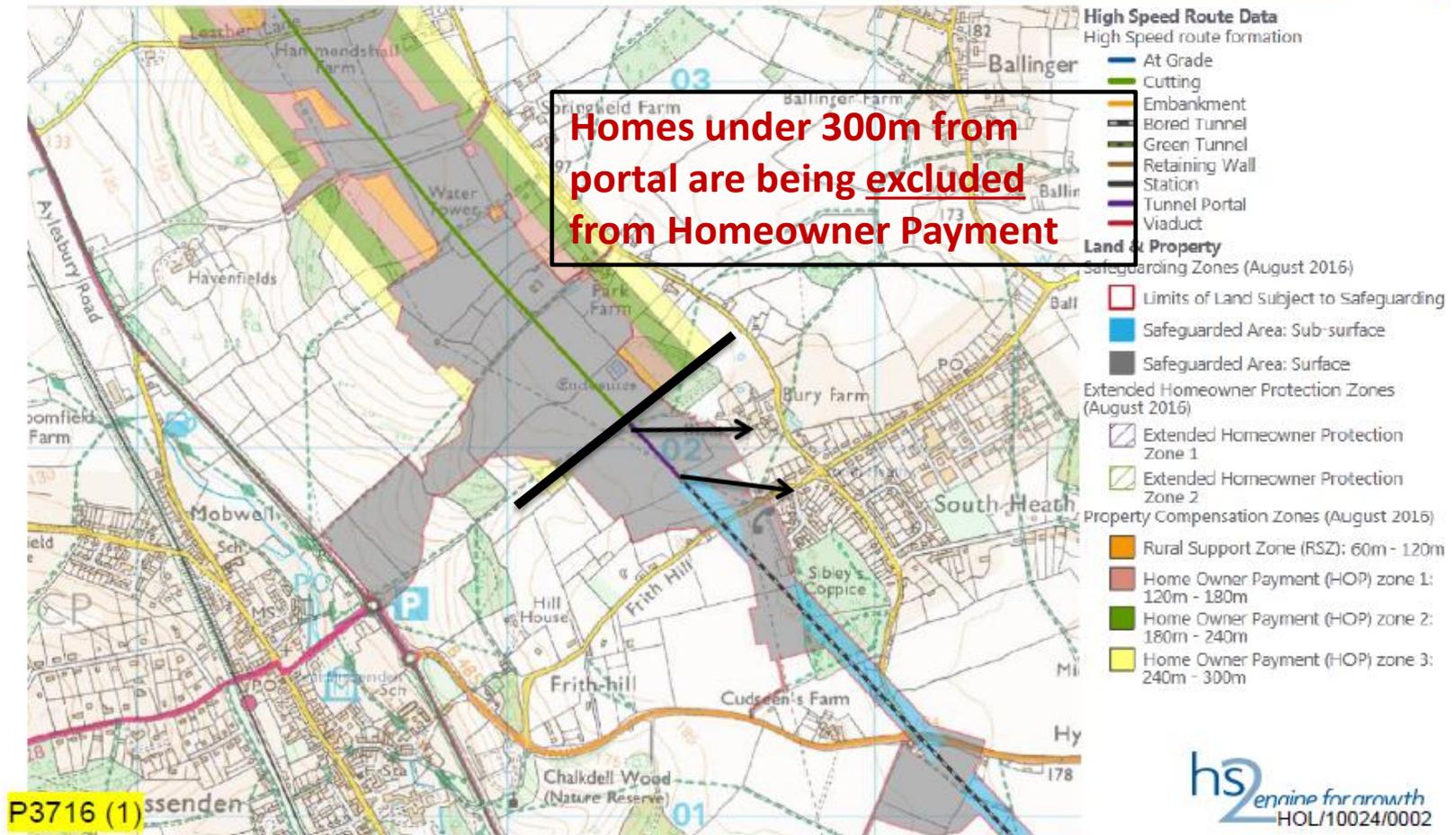
Noise

ASKS

- Better noise mitigation behind the portal eg longer portal, and alongside the line eg more effective barriers
- Reduced train speed at night
- Assurances that noise levels will not be increased above ES levels eg by contractors using their limits of deviation, slab track adopted, tunnel boom, TSI trains rather than quieter HS2 trains. We seek protection from the 'reasonable practicability' clause that otherwise the contractor can invoke under E20 causing worse outcomes for the resident.

Blight and Compensation

Property Zones – South Heath & Great Missenden



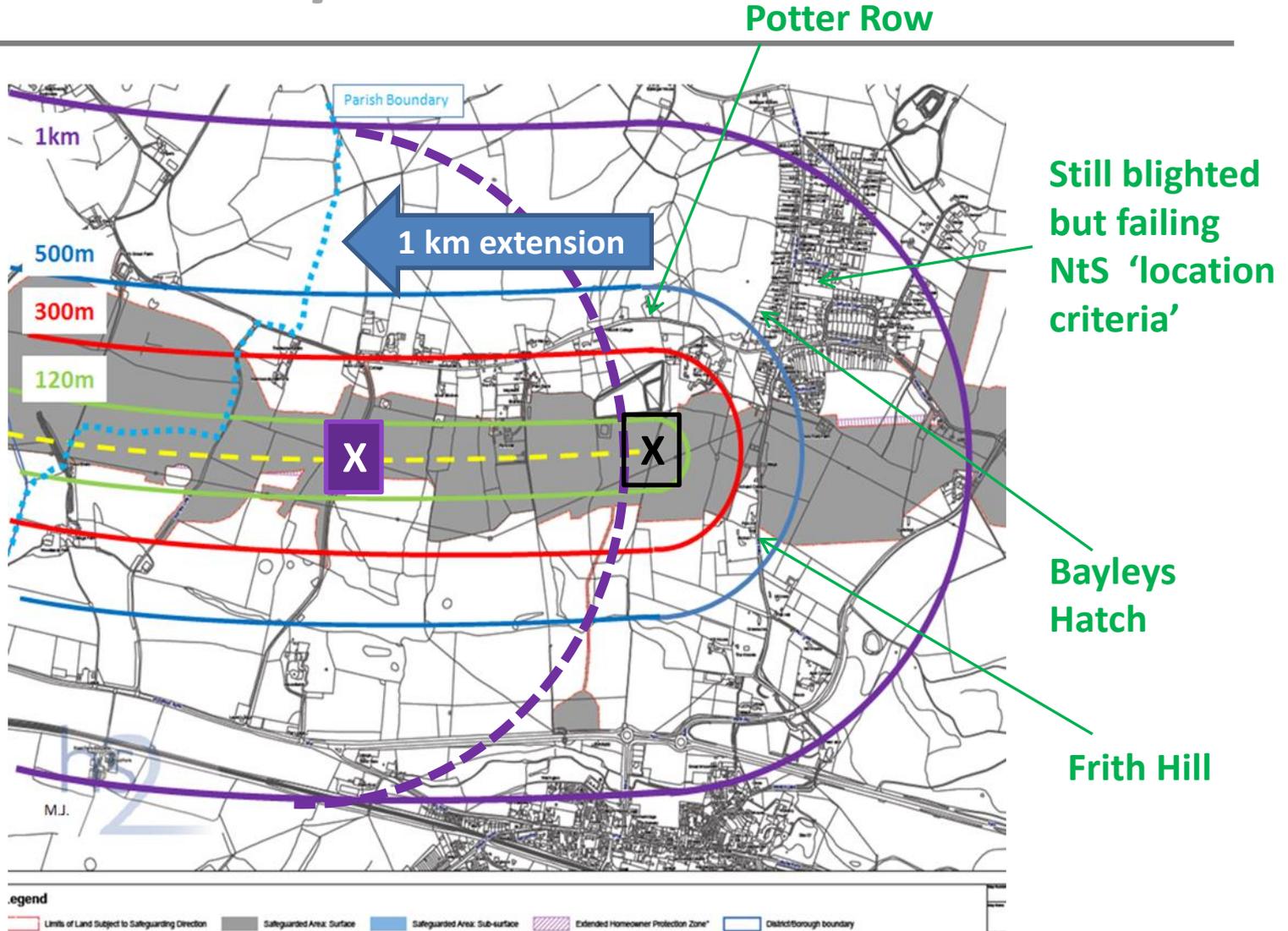
Blight and Compensation

334 homes within 1 km of South Heath portal

36 homes 1km from Liberty Lane portal



Liberty Lane portal

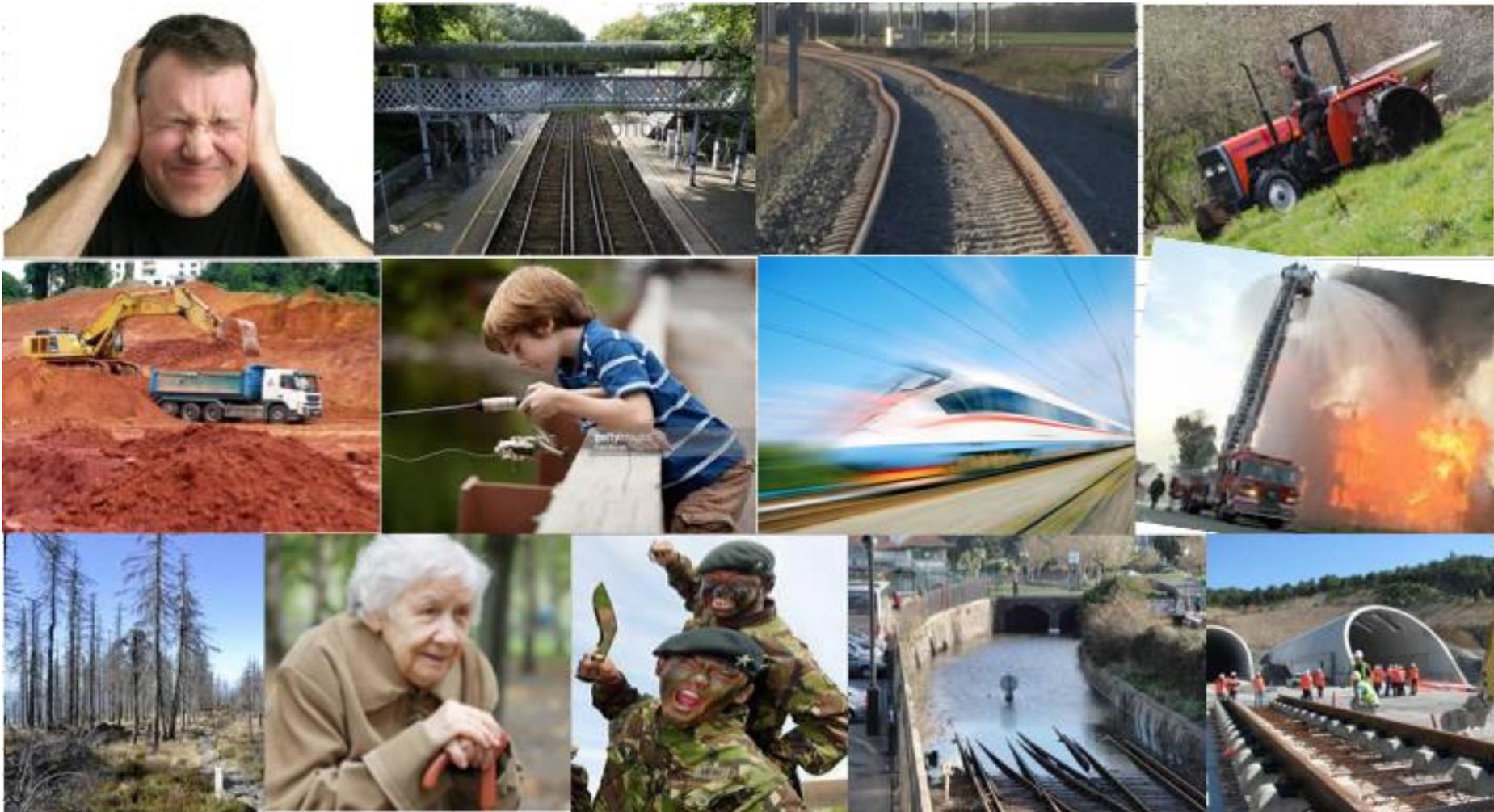


Blight and Compensation

ASKS

- **Homeowner Payment** to apply to all homes within 300m (in any direction) of the line when it emerges from the tunnel
- **Need to Sell scheme:** Rule changes and accessibility issues:
 - help for those least able to claim NtS – “HS2 clinics”, “prisoners friend”
 - More clarity on compelling reason to sell eg precedents; need for financial evidence; retirees; home an unreasonable burden; examples including inclusion of fulfilment of retirement plans
- **Location criteria:** Recognition that north side of South Heath is blighted (and removal of location criterion), for a fair chance of qualifying given the extent of property market blight, and the noise evidence that suggests not without good reason.

Living by a vulnerable location



Policy Assurance

ASK

That the statement made below be an assurance:

“.....that they will meet or better the performance standards of HS1 in terms of safety and security. That they will reduce safety risks to as low as is reasonably practicable, and that they will do so in line with current best international practice. That is a statement of the general policy of the promoter.”

HS2 Ltd to the HoL SC 11th July 2016

ASKS summary

- **Recommend an independent assessment of a 1km tunnel extension**

OTHER

- **Better environmental mitigation**
 - Reduced cutting width/retained wall; Jenkins Wood protection; better noise mitigation alongside and behind the portal
- **Assurances**
 - On noise; limits of deviation; safety policy
- **Compensation**
 - Homeowner Payment for those 300m from portal; process help for NtS; blight recognition for Sibleys/South Heath; support HS2AA requests for NtS changes eg retirees, house no longer fit for purpose.

Cheryl Gillan, MP



Photographed from the actual proposed HS2 route (above ground) parallel to Potter Row, priceless scenery that will be destroyed.

