

# Hinksey and Osney Environmental Group – Towards a better flood alleviation scheme

- We are a coalition of local residents, landowners and academics with the common goal of preserving unique aspects of Oxford's ancient southern flood plain
- We recognize the need for (and support) a comprehensive flood scheme for West and South Oxford
- We offer a better scheme which will deliver all the same benefits for Oxford without the unacceptable economic and environmental costs of the withdrawn scheme

# Background

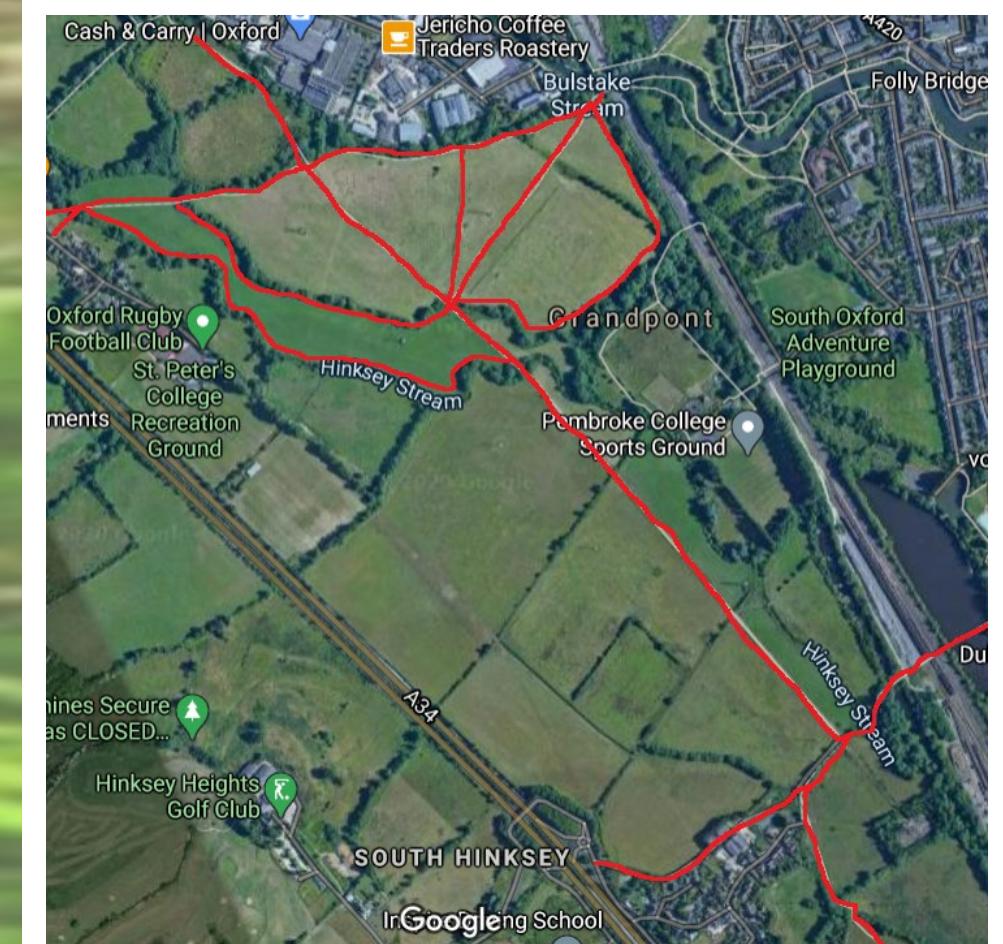
- Following Oxford flooding in 2007 the Environment Agency was tasked to revisit its shelved flood alleviation scheme.
- Oxford University has plans to develop Osney Mead industrial estate as an engineering campus, science park and staff housing.
- Oxford City Council needs to expand the city's residential housing stock and brown-field flood plain offers opportunities.
- The goals of these three public bodies neatly dovetail together in the Oxford Flood Alleviation Scheme.
- Flood prevention is perceived as a popular vote winner

# Withdrawn scheme poor value for money

- EA claim that Oxford will benefit by £10 in prevented flood damage for every £1 spent over the 100 year lifetime of the scheme.
- Independent re-analysis has challenged the EA's calculation  
<https://hinkseyandosney.org/news/2018-11/an-economist-reviews-the-economic-case-for-ofas-and-finds-it-wanting>
- The revised incremental cost benefit ratio (iCBR) is 2.0, not 10.0
- HM Treasury rules state that all infrastructure schemes in excess of £100M must have the economic justification approved by a Treasury economist. FOI request in 2019 revealed that OFAS had not been approved.

# Loss of Amenity

- A network of informal paths have become established on the flood plain linking North Hinksey, with West Oxford, the Thames and South Hinksey
- In 2020 approximately 500 walkers, joggers & people exercising animals were crossing the floodplain from North Hinksey each day
- The scheme makes no provision for pedestrians crossing the new channel, cutting the village off from South Oxford
- The network of streams used by canoeists, kayakists and anglers will be dried out, excluding fish, and encouraging mosquitoes.



# Substantial & permanent environmental damage (biodiversity)

- \* Positive environmental and public amenity benefits of the scheme have been claimed: enhanced biodiversity and greater public amenity from the parkland, newly planted trees and artificial ponds created.
- HOEG specialist Dr Tim King used the same DEFRA calculator and the EA's own figures to re-calculate the biodiversity: rather than a gain of +40 units, the true figure is net loss in biodiversity of -160 units.
- Also:
- 275,000 tons of earth to be removed through 27,500 vehicle movements causing a massive carbon footprint and 'traffic' on surrounding roads

# Substantial, permanent environmental damage (trees) ref NHPCC Climate Emergency

- HOEGs independent, scientifically conducted survey estimates the tree loss at 3850 <https://hinkseyandosney.org/news/2018-10/evidence-that-almost-4000-trees-will-be-destroyed>
- The EA plans to plant 4000 new trees elsewhere on the flood plain to enhance the amenity and biodiversity.
- BUT:- The loss rate for young saplings can be as high as 90 %. Many trees will be killed by the roe and muntjac deer that browse on the floodplain. To prevent this the EA must cull them or fence-off the saplings from the public.
- 4000 saplings of the same age support no nesting birds, roosting bats or squirrels and very few insects or fungi.
- A realistic timeframe for recovery of lost woodland biodiversity is 80 years, not within an adult's lifetime.

# Aerial view



Aerial photograph showing the impact of felling some 2000 of the 3780 trees which must be permanently lost for the OFAS second stage channel, and changes to land access. Bridges shown are the only intended crossing points for the permanent watercourse.

# Substantial & permanent environmental damage (meadow assets)

- Hinksey Meadow, MG4 grassland owned by Oxford Preservation Trust is part ( 3.4%) of only 1171 ha remaining in the UK, where once it was widespread. One third of this will be lost.
- Seacourt Nature Park will disappear.
- All the trees bordering the Hinksey Stream along North Hinksey Lane will be cut down
- Nearly all the tree cover to the north of North Hinksey will be permanently lost
- In order to work, the secondary (flood) channel has to be devoid of obstructions (trees and fencing)

# Layla Moran MP said in Parliament on Feb 24

“Can the Minister help me to bring together the Environment Agency, Highways England, local councils, local councillors and the community to ensure that we solve this problem together?

Is the Minister aware of the environmental concerns that have come up with the scheme, such as the damage that will be done to Hinksey meadows and the loss of hundreds of trees and much habitat in the medium term?

I think the scheme should go ahead— but it should not be a matter of taking with one hand and giving with the other. We need to do much more to help protect precious habitat and wildlife now.”

The Minister replied “Not every flood mitigation proposal will go ahead ....there are many ways of skinning a cat, and many approaches to flood mitigation.”

# Alternative 'Incremental' approach

- Breaking the scheme down into its individual components means that the cost/benefit of each can be clearly seen. Some actions produce a large benefit, for relatively little cost, whereas others produce a more modest benefit for proportionately larger cost.
- The channel proposed by OFAS between Botley and the Old Abingdon Road costs 23% of the total but produces only 4.5% of the financial benefits.

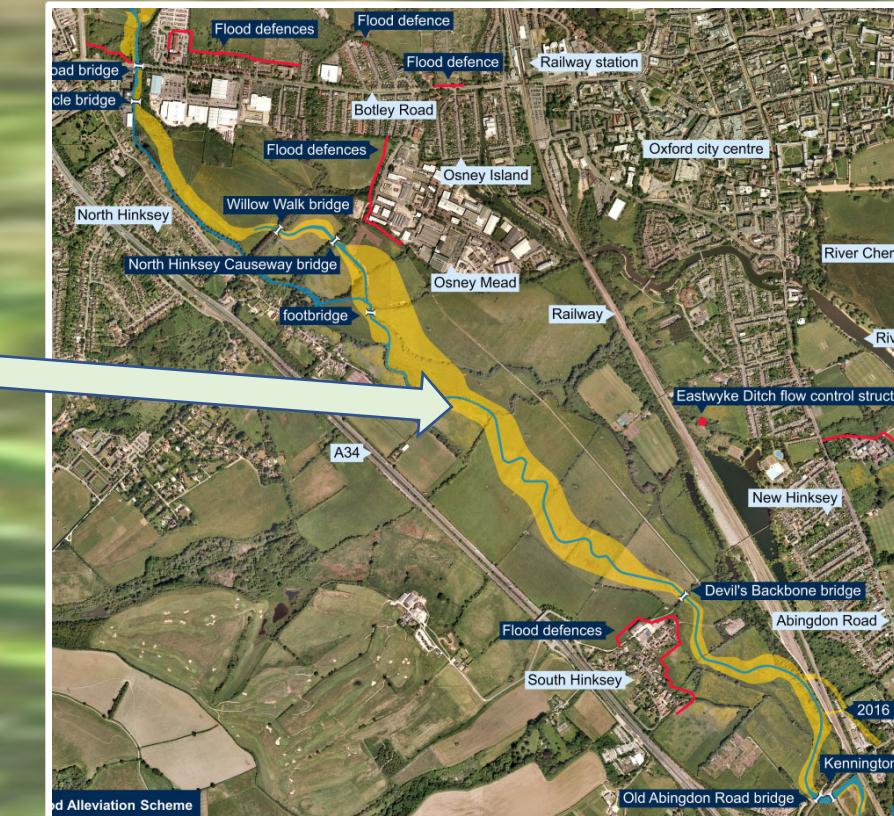
# Natural flood plain alternative

- An alternative proposal made by HOEG uses the flood plain to store flood water. This is what a flood plain does naturally.
- Water stored there for several weeks does no damage and drains gradually to mitigate the risk of flooding further downstream.
- Much of the flood defence works on the Botley Road and South Hinksey would still be needed, also removal of the Old Abingdon Rd pinch-point, allowing the flood plain to fill, with a minimum 50m-wide corridor for natural gravity flow in the same way as the sculpted channel.

# Christopher Sugden, Chair Ferry Hinksey Trustees , Convenor of HOEG

## Ferry Hinksey Trust objections

1. The Scheme removes a significant part of Trust's grazing land, to be fenced off;
2. It would be more disruptive in construction than either of HOEG's alternatives (following slides);
3. The Trust is prepared to force a public inquiry and to refuse to sign the CPO.



# HOEG Alternative 1 pumped pipeline

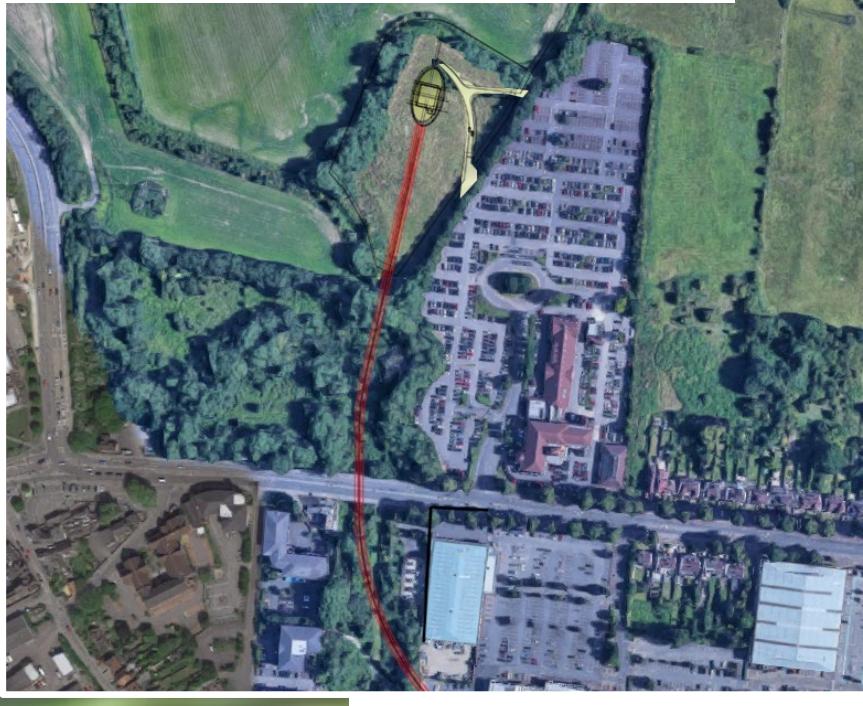
Concept by Jonathan Madden,

Design by Kevin Larkin (see following two slides)

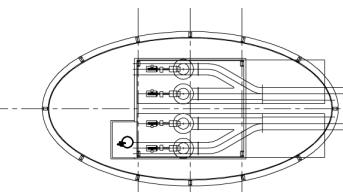
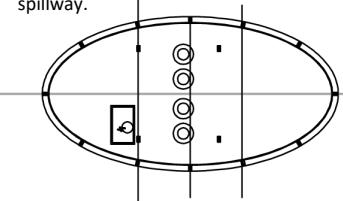
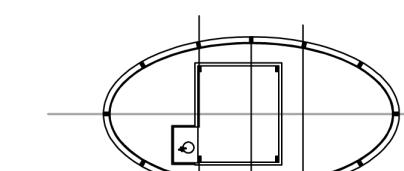
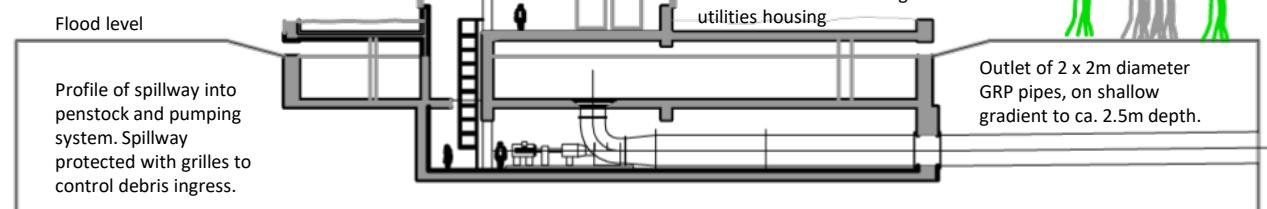
- Pumping station N of Botley Road, electric with diesel backup;
- Twin 2m diam GRP pipes installed cut and cover;
- Any surplus upcast spread locally;
- Pumping capacity greater than flood scheme design;
- EA are on record that 'it would work'.



# HOEG Alternative 1 pumped pipeline



Triple level plan and profile drawings of pump house. Vehicular access to pump house from car park.



i) Top: Utilities – diesel electric standby generator; switch gear; fuel tanks.

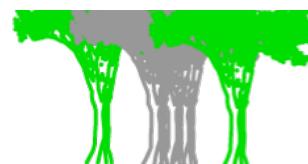
Spillway diameter: 100m

Major axis: 40m

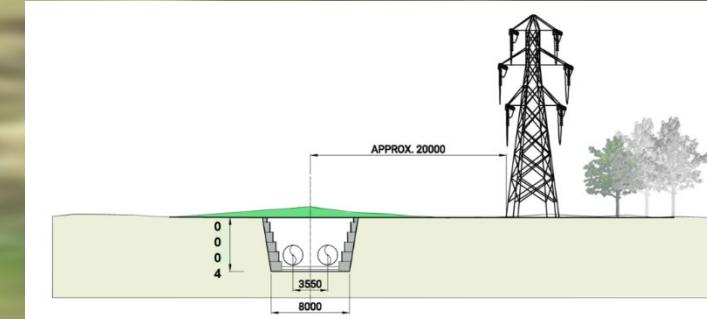
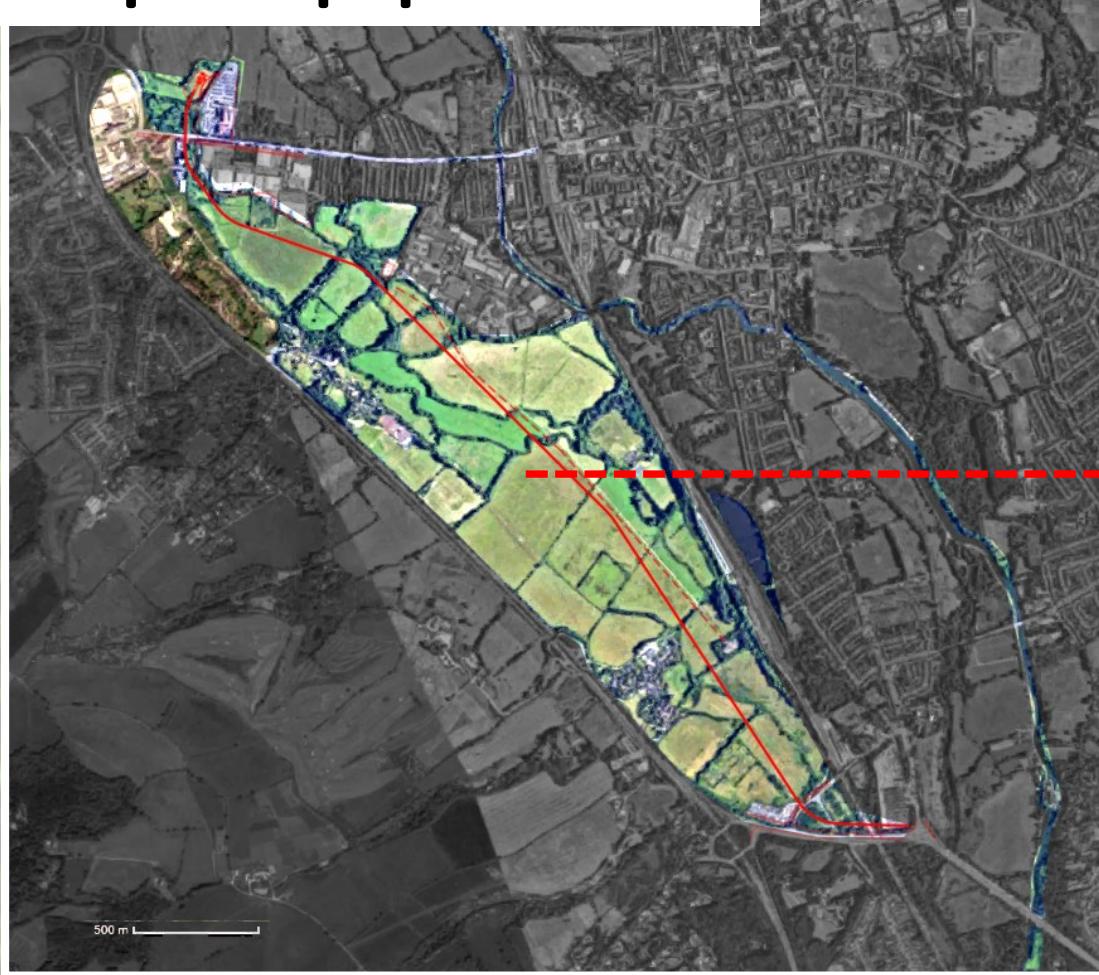
Minor axis: 20m

ii) Penstock level: flood water intake into axial flow pumps.

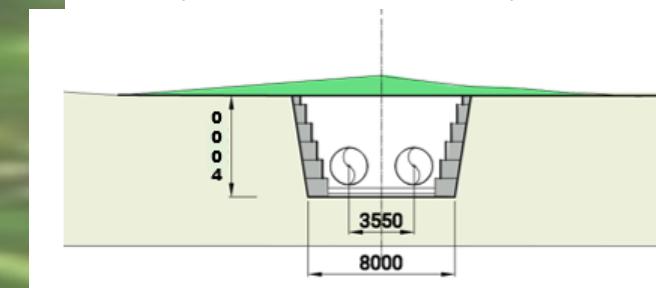
iii) Axial flow pump room. Sub-ground level. Four pump output converged into two pipes.



# HOEG Alternative 1 pumped pipeline



X-sections showing buried pipeline in trench to scale parallel to the Electric Road. (Measurements in mm)



# ‘HOEG Alternative 2 ‘Smoothed section of flood plain’

- Flood plain unchanged;
- 50m wide flotsam-free corridor with electric stock fencing supported by retained trees. Hedgerows affected are across the historic line of the Hinksey Stream, therefore less historic than retained hedge boundaries;
- **O** Bridges proposed by Scheme are retained at Willow Walk and Monks Causeway, adding a disabled ramp from Devils Backbone to railway footbridge;
- EA describe it as ‘smoothed section of flood plain’, and have asked for a drawing of disabled ramp.

