

# HS2 Calvert Infrastructure Maintenance Depot

The Calvert Infrastructure Maintenance Depot (IMD) is the main centralised maintenance facility for Phase 1 of HS2. It will house and maintain the on-track maintenance machines (OTMs), act as a base for maintenance planning and for the British Transport Police.

Calvert IMD will be located on land adjacent to the main HS2 route, north-east of the Bicester to Bletchley Line and around 600m south of Steeple Claydon. It is designed to meet HS2's highest sustainability criteria. New open spaces and green amenities will be provided around the IMD, connecting to the wider landscape.

The local community will also benefit from the IMD in other ways. New jobs and business opportunities will be provided, as well as additional educational activities including school visits and apprenticeship schemes.

Construction works for the IMD are expected to begin in 2025, and complete in 2028. The IMD will open for trial operations from 2029. Operations will build up gradually over a number of years after that.

## The purpose of this event

We are committed to keeping you informed about work on HS2 and to working with local communities so that we can best minimise the disruption and impact of the IMD during construction and operation.

As we continue to develop the designs for the IMD, we would like to hear your views on the building design, landscape design and public engagement activities.



Infrastructure Maintenance Depot (IMD) location



# Functions of the IMD

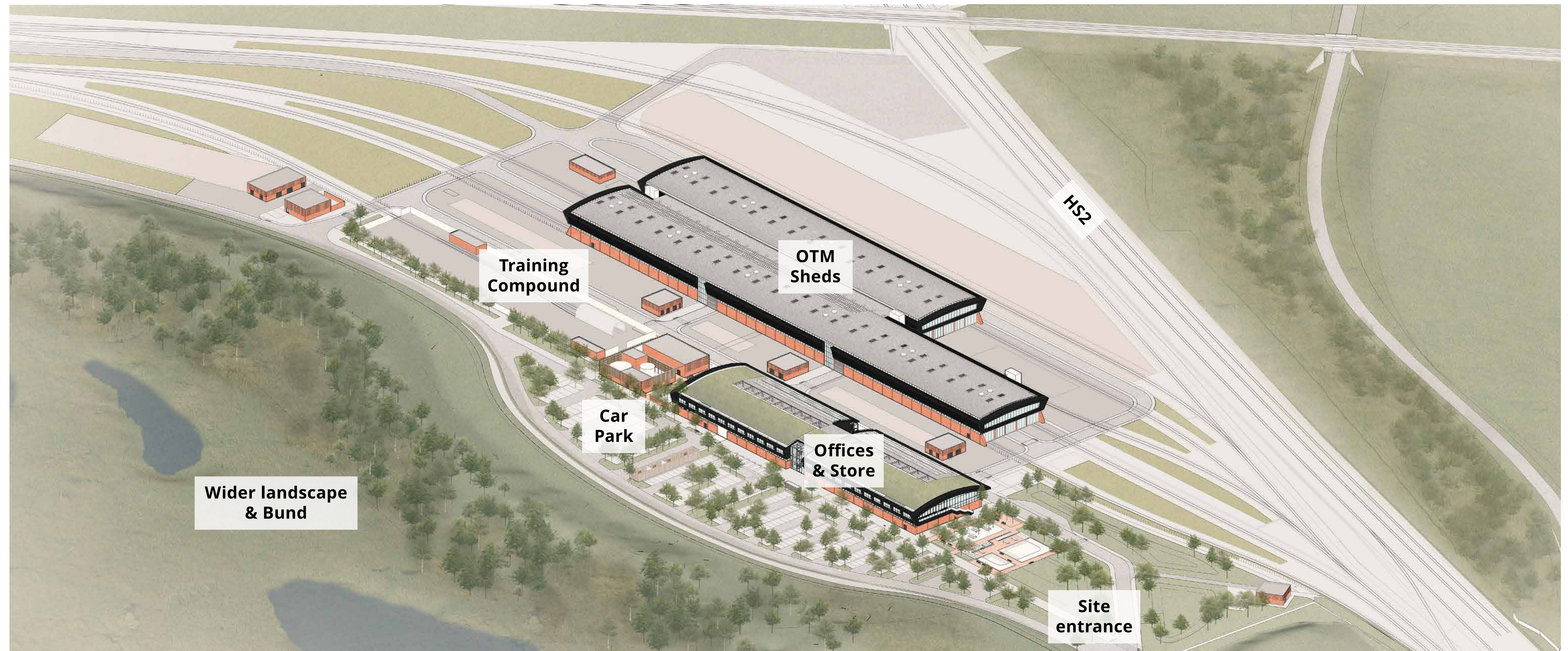
HS2 needs a comprehensive maintenance regime so that its infrastructure can operate safely and efficiently. The primary purpose of the IMD is to store, configure and manage a fleet of On Track Maintenance Machines (OTMs).

OTMs are a complex fleet of railway machines that are responsible for the upkeep of the track between London and Birmingham. These machines will leave the IMD at night to perform maintenance activities on the tracks when the HS2 trains aren't running.

The IMD will also include:

- **OTM workshops**
- **Storage facilities, one covered and one open-air**
- **Offices for the IMD workforce**
- **A training compound**

The majority of staff at the IMD will be either maintenance staff working on the OTMs or office staff planning and delivering the maintenance activities.



IMD building and facilities



# Operation of the IMD

The IMD will operate 24 hours a day, 365 days a year.

- A typical day will begin with the OTMs leaving the depot at around midnight. The machines will return at around 5am (8am on Sundays).
- During the day the maintenance crews will work on the machines in shifts, while office staff plan maintenance along the line.
- Training of up to 30 Calvert IMD maintenance staff may take place within the buildings.
- Up to 180 staff will be on-site at any one time between 9am-5pm, with up to 110 staff working night shifts.

We will be looking to recruit locally as far as possible.

The IMD operations are unlikely to disrupt daily activities of residents and businesses in the local area. HS2 is committed to streamlining these activities to avoid undue disruption in and around the site.



An example of an On-track Maintenance Machine (OTM)



View of the IMD from the site fence near the site entrance, year 0



# Design development

As part of HS2's value engineering initiative, significant design changes have been introduced for the IMD since the HS2 Phase 1 Act became law in 2017.

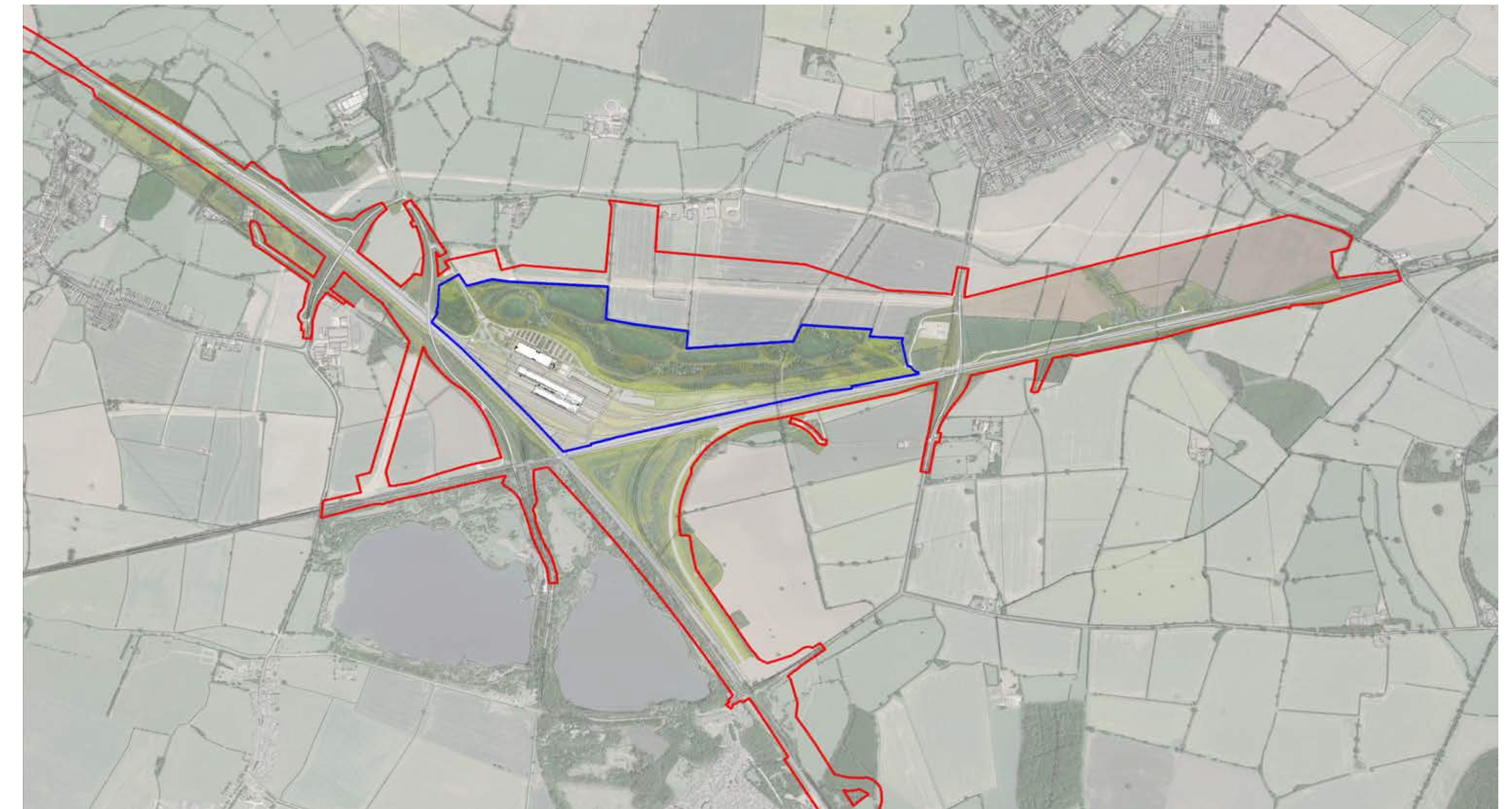
We have:

- Removed the Southern Access Chord into the IMD (an additional length of track) to simplify the construction process.
- Reduced the amount of track required for the operation of the railhead by 6km.
- Reduced the land required for the IMD from 38 hectares to 28 hectares.
- Integrated the IMD into the wider landscape by providing visual screening (bunds) for the IMD buildings.
- Introduced planted landscape earthworks and green roof.
- Provided amenity space to the local community around IMD.

Benefits of this approach:

- **Quicker construction programme** with less disruption and noise for the local community.
- **Reduction in excavated material** by 600,000 cubic meters.
- **Less noise and fewer train movements.**
- **Reduced visual impact.**

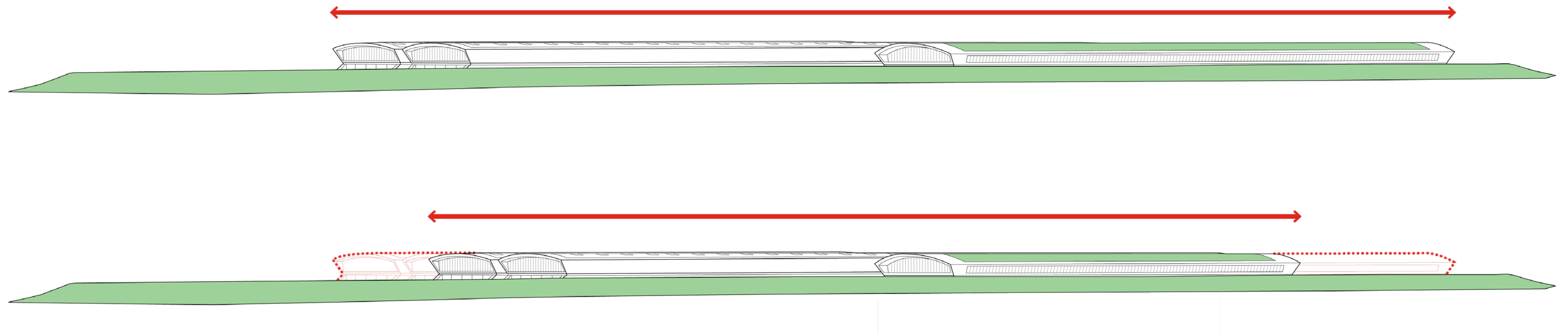
**The land required for the IMD buildings has been reduced by 33%, allowing the land outside the IMD to be better developed for use by the community.**



## Reduction in land required for the IMD buildings

The area outlined in **red** was allocated for the IMD and Railhead in the HS2 Hybrid Bill.

The smaller area bounded by the **blue** line, including ponds and the IMD, shows the current design.



**View from the north: Consolidation and compacting of the building reduces the length of and views to the IMD**



# Building design

The design seeks to ensure that the IMD connects to the local context, environment and social setting.

The IMD takes into account the character and heritage of the local area in its design. Ageing brick and metal finishes reflect previous industrial uses, specifically the Calvert brickworks. New trees and landscaping help to soften the appearance of the IMD in its location. Night glazed facades help to minimise glare and visibility at night.

Sustainability is at the heart of the design. The Calvert IMD will achieve a minimum of BREEAM 'Excellent' rating, under the world's leading sustainability assessment method.

This includes:

- **A net zero energy strategy.**
- **Local sourcing of materials.**
- **Maximising green infrastructure wherever possible.**
- **Using water harvesting technologies.**

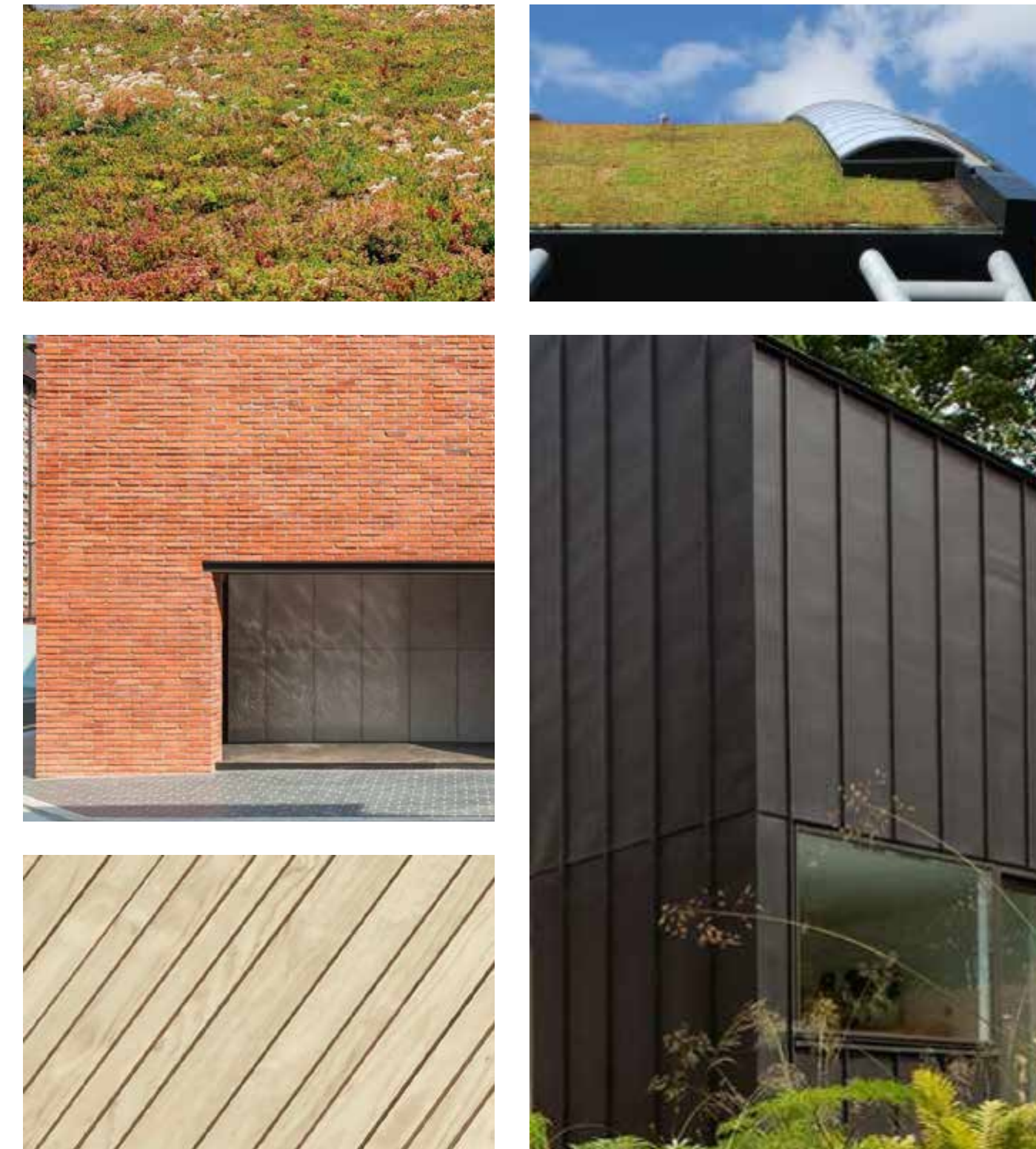
The current design shows an approximate 28% reduction in lifetime carbon.

## Form

The curved shed design references local agricultural structures and the historic railway shed, and the green roofs will help make the IMD less visible from Steeple Claydon and surrounding areas.

## Materials

The materials aim to reference local building designs including the historic Calvert brickworks.



Brick & dark timber barn, Buckinghamshire



Calvert brickworks



View of the admin and store from the wider landscape - year 0



# Landscape design

## Creating a landscape bund

Landscaping will be constructed on the north side of the IMD over the entire length to help provide visual screening from surrounding areas.

The earthworks will be installed at an early stage of construction to allow vegetation to establish.

## Planting framework

We are proposing extensive planting in the area around the IMD, including the planting of approximately 15,000 trees and 20,000 native shrubs. Our intention is for all planting to be native species, based on local habitat types including wetland meadows, scrub planting, mixed hedgerows and native tree planting.



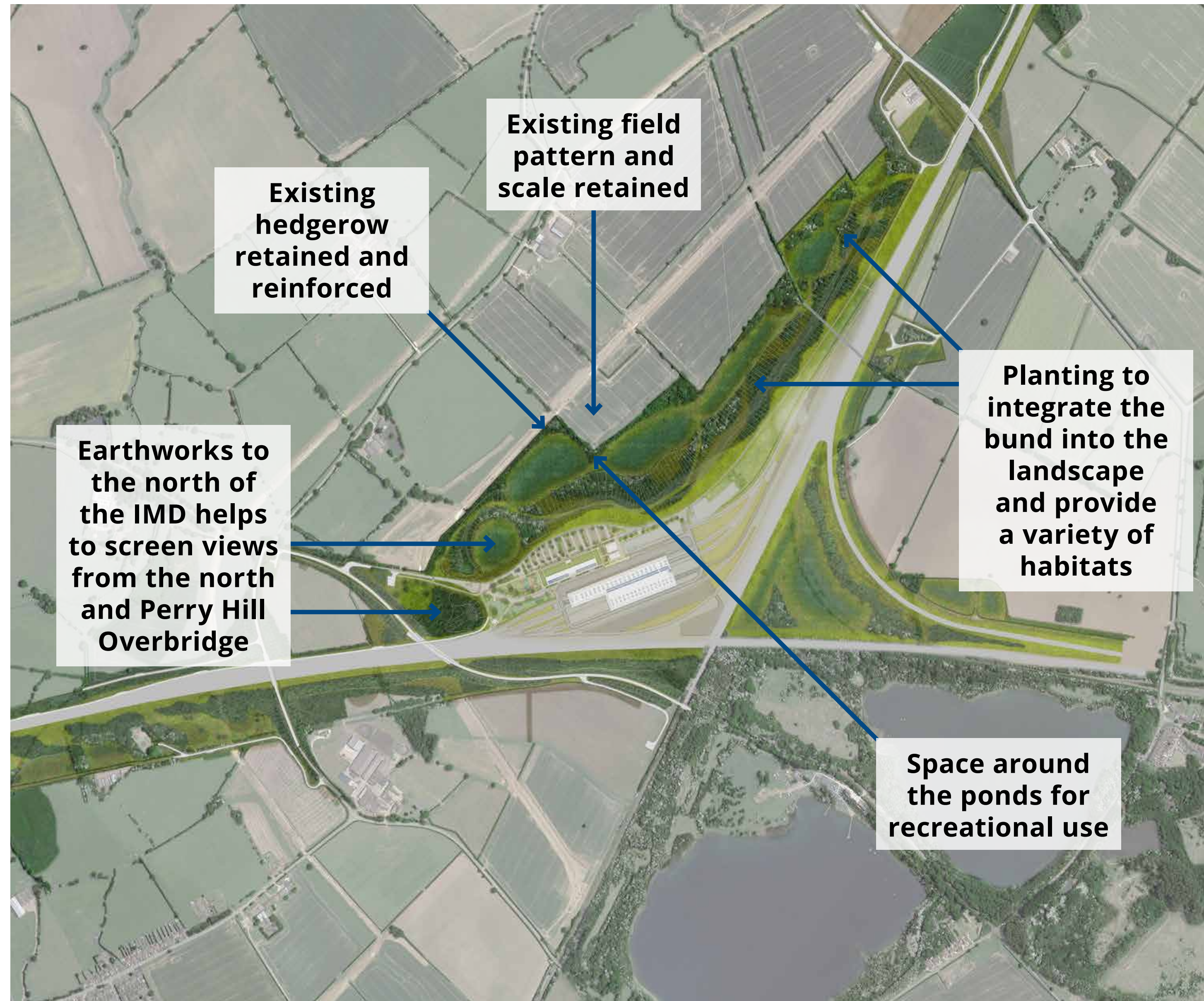
View of IMD from new footpath in the wider landscape to the north-east of the site – year 0



# Sustainable landscape

The design aims to connect to the wider landscape and benefit the community through the use of public and amenity spaces, including new green spaces and footpaths around the IMD.

The landscape design, within and around the IMD, sustains habitat corridors to Calvert Jubilee Nature Reserve, Sheephouse Wood, the chain of woodlands within Claydon Bowl and the wider habitat network.



Landscape connections



## Habitat connections



We are ensuring no significant adverse effects from OTM horn noise on bat flight paths and roosts.



# Views of the IMD

These images show examples of what the IMD will look like from local viewpoints at different times of the year, day and night, and both when the IMD first opens and 15 years later.

The combination of building and landscape design features, including a bund, will help make the IMD less visible in the landscape.

The Perry Hill Road realignment replanting will further obscure the view of the IMD.

Use of dimming lights in office building will significantly minimise light spillage at night.



View from Perry Hill road realignment, North side of Perry Hill bridge



Summer, Year 0



Summer, Year 15



Night, Year 15



View north-east from Portway Farm



Winter, Year 0



Winter, Night, Year 0



Winter, Year 15



Winter, Night, Year 15



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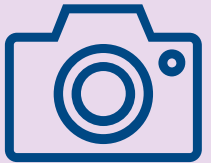
The combination of building and landscape design features, including a bund, will help make the IMD less visible in the landscape.

The low profile of the IMD and its curved roof results in a minimal intervention in the landscape from Church End, even during the winter months. This is reduced further by the proposed planting strategy around the IMD.

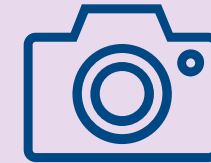
Use of dimming lights in office building will significantly minimise light spillage at night.



View from Claydon House courtyard



View south-west from Church End, Steeple Claydon



Winter, Year 0



Summer, Year 0



Winter, Year 0



Dusk, Year 0



Night, Year 15



Summer, Year 15



## Noise

We have committed to reducing operational road and rail noise as far as reasonably practicable.

### To mitigate noise impact, the design includes:

- A bund on the north-east boundary of the site. This bund form provides optimum screening of noise from the external training compound.
- Lowering of the sidings below the level of the surrounding fields.
- Removing operational train horn testing at night.

### The main sources of noise are expected to be:

- OTMs entering and leaving the site.
- OTMs moving between the stabling yards and the main workshop.
- The delivery of heavy equipment and infrastructure by rail and lighter equipment by road.

During the daytime, the predicted noise level associated with rail and road sources from the IMD at nearby residential areas at Addison Road, Briar Hill, Twyford Road and West Street is between 40-50dB. This equates to the sound of a refrigerator or light rain.

During the night, noise levels are predicted to be between 7-25dB. This is similar to the sound of rustling leaves.

Both day and night noise levels will be less than the limits set by government.

## Light

Consideration has been given to reducing light pollution resulting from working at night by:

- Keeping the height of external lighting installations as low as possible.
- Using automatic lighting control systems with photocells and time clocks to control their operation.
- Using LED or low energy lamps.
- Installing low profile lighting and support systems.

### Interior Lighting Mitigation Strategies:

We plan to use zoning and screening to avoid unnecessary light spill from the building interior. This includes dimming the office window lights and using internal blinds to mitigate light spill at night. Additional zones of internal and external light fixtures will be controllable and allow for dimming.

### Exterior Lighting Mitigation Strategies:

The bund will significantly shield surrounding areas from the IMD during the night.

Our night views show how much light will be visible from various local spots.



SECTION B-B1

Cross section of the bund and IMD (not to scale, artistic impression only)



# Construction

The Calvert area has seen a great deal of construction work in recent years. We are keen to adopt best practices to reduce the impact of construction.

- Freight trains will be used to bring aggregate into Calvert, which is estimated to have saved 8,300 tonnes of carbon by removing around 24,000 trucks off the roads in 2021.
- The construction of an internal site access road will significantly reduce the volume of traffic on rural roads.
- We will be using carbon-friendly reinforced concrete, created from worn-out wind turbine blades otherwise destined for the incinerator.
- EKFB (the Main Works Civils Contractors in the Calvert area) has signed-up to the national Considerate Constructors Scheme 'Ultrasite', the highest standard available. The latest audits in early 2022 scored every site as 'excellent' and 'exceptional' in terms of safety.

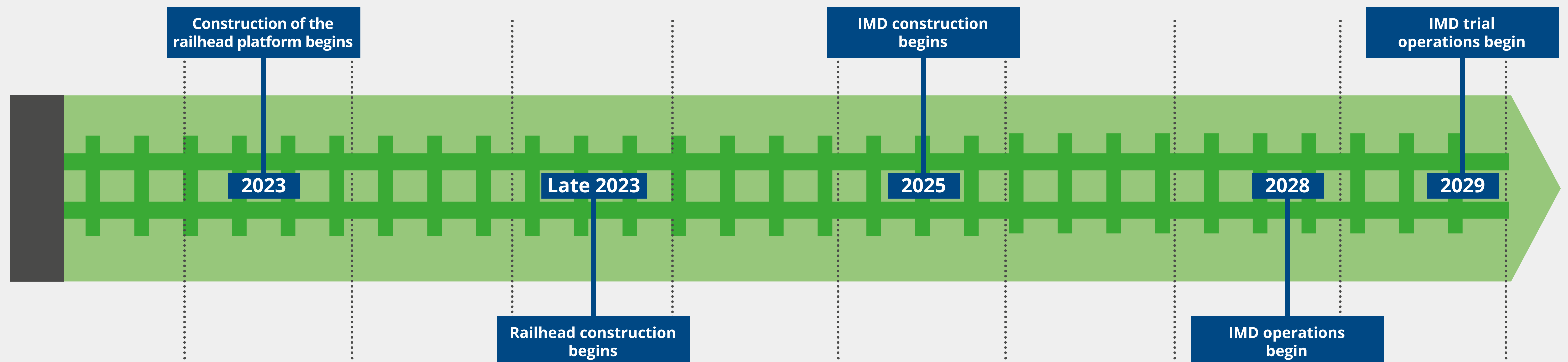
Before the IMD is constructed, a railhead will be built on the same site. This will allow a lot of the materials needed to construct the HS2 railway and the IMD to be transported by train, reducing the number of vehicles on the roads. The railhead will be converted into the IMD when no longer required.

The railhead will be constructed in a way that minimises waste and allows materials to be re-used as far as possible, and designed to maximise the re-use of materials when it is converted into the IMD.

Construction of the platform is expected to begin next year, with works beginning on the railhead late 2023. Construction of the IMD is due to be complete in 2028.



Freight trains delivering construction material





# Seeking your views

The purpose of this public engagement is to understand your views on the design vision and intentions of the developing design.

In particular we would like to hear from you about

- The IMD building design
- The surrounding landscape
- Recreation & education opportunities
- Construction objectives

## Public Engagement Survey

We would like to hear your views on the HS2 Calvert IMD design.

Please take a few minutes to complete our questionnaire.

You can find our questionnaire online at:

[www.hs2inbucksandox.co.uk](http://www.hs2inbucksandox.co.uk)

If you would like to submit a copy of the completed questionnaire by email or by post, you can find the questionnaire on our website and return it



**By post**

**FREEPOST HS2 Community Engagement**



**By email**

**HS2enquiries@hs2.org.uk**



**1** **CONSIDER RESPONSES**  
We will consider the responses we receive and whether aspects of them can be incorporated into the final proposed design

**2** **FEEDBACK REPORT**  
We will summarise the comments we received and confirm how they can inform the final design

**3** **“YOU SAID, WE DID”**  
We will continue engagement with detailed information on the feedback that we received, and any changes made to the final design

**4** **SUBMIT SCHEDULE 17**  
We will submit our request for approval of the Schedule 17 application, seeking approval for the final design

**5** **CONSTRUCTION ENGAGEMENT**  
We will continue engagement with the local community to describe and discuss the construction impacts and the mitigation that we will put in place