Flood Alleviation Scheme

Submitted planning documents to Calderdale Council

Objections are to be submitted **before** October 8th 2025

Executive Summary: Hebden Bridge Flood Alleviation Scheme (25/00947/FUL)

Project Overview

The Hebden Bridge Flood Alleviation Scheme (FAS) proposes a comprehensive programme of flood defence works throughout the town of Hebden Bridge, West Yorkshire. These include flood walls, embankments, culvert modifications, and Property Flood Resilience (PFR) measures across various key sites such as:

- St Pol Square
- Bridge Gate
- Market Street
- Central Street
- Stubbing Holme Road
- Keighley Road
- Birchcliffe Road
- Riverside areas and key tributary zones (e.g. Hebden Water, River Calder)

The scheme is led by the Environment Agency (EA) in collaboration with BAM Nuttall and Mott MacDonald Joint Venture (BMMJV), with Calderdale Council and West Yorkshire Archaeological Advisory Service involved.

Strengths & Positives:

1. Flood Protection & Community Safety

- Aims to protect over **300 properties** and key town infrastructure from repeat flooding events.
- Focus on long-term resilience in a flood-prone valley town with multiple converging rivers and watercourses.

- Provisions for **Property Flood Resilience (PFR)** measures to be offered to homes and businesses in at-risk areas.

2. Heritage & Archaeological Consideration

- Comprehensive **Heritage Desk-Based Assessment** and **Archaeological Watching Briefs** (e.g., Innovation Mill tail race, St Pol Square) ensure that works are conducted with respect to Hebden Bridge's historic character.

- Non-designated assets such as the **Innovation Mill culvert** are being recorded and preserved during works.

3. Biodiversity Net Gain (BNG) Commitments

- Incorporates a BNG strategy to restore or improve habitats impacted by works, with pledges to replant more trees than are removed.

- Recognises Hebden's ecological sensitivity and includes wildlife surveys, aquatic assessments, and mitigation for protected species (e.g., bats, otters, birds).

4. Environmental Assessments

- Flood Risk Assessments, Drainage Strategy Reports, and Hydraulic Modelling have been conducted to guide design and impact.

- Geo-environmental and contaminated land surveys completed to inform safe excavation and remediation works.

5. Design & Community Integration

- The design attempts to be sensitive to the character of Hebden Bridge, avoiding mass concrete and integrating with stonework, heritage aesthetics, and the conservation area.

- Works near the **Old Packhorse Bridge** and **St Pol Square** include heritage-sensitive interventions.

Weaknesses & Risks:

1. Tree Removal & Habitat Loss

- **117 trees are scheduled for removal**, with limited information provided in documents about **exact species or locations**.

- Potential disruption to mature riverside ecology and nesting bird habitats, especially near Stubbing Holme and riverside corridors.

- Some reports state replanting will occur post-works, but exact replanting plans and timelines remain vague.

2. Public Access, Roads & Disruption

- Multiple road closures, diversions, and pedestrian reroutes are anticipated in **high-traffic areas** including:
    - Market Street
    - Bridge Gate
    - St Pol Square
    - Central Street
    - Keighley Road & Birchcliffe Road
    - Stubbing Holme Road
- However, **no full Construction Traffic Management Plan (CTMP)** is currently submitted. The absence of detailed phasing, public access plans, and guaranteed business continuity creates potential risks for:
    - Local trade
    - Emergency access
    - Residents 'daily movement
    - Tourism (a core economic sector)

3. Heritage Impact

- Although considered, there remains potential risk to **non-designated assets**, such as:
    - Subsurface mill infrastructure
    - Former building remains (e.g. lost properties around St Pol Square)
    - Potential unrecorded archaeological deposits
- The cumulative heritage impact of multiple infrastructure works across the conservation area may not be fully understood without further on-site investigation.

4. Property Flood Resilience (PFR) Gaps

- PFR is proposed for **certain homes and businesses**, but:
    - No definitive list of properties is available
    - Unclear scoring methodology for eligibility
    - Some **residents in Erringden, Market Street, and Stubbing Holme Road** are referenced, but **no full breakdown of residential vs commercial** uptake is given
- **Public funding source of PFR not confirmed**, raising concerns about cost burden or equity of protection.

5. Drainage and Subsurface Infrastructure

- References are made to **cleaning and improving underground drainage, culverts, and pipes**, but no detailed operational plan is provided.
- Hydraulic modelling is mentioned in multiple documents, but the underlying data is not fully transparent or publicly available in accessible formats.

6. Lack of Public-Facing Detail on Long-Term Impact

- Some details (e.g. biodiversity offset sites, traffic diversion duration, business access plans) are expected to be submitted later by contractors, leaving **planning approval dependent on future conditions**.
- Community concern may be warranted around transparency and timing of impact mitigation.

Key Points of Note:

- **Calder Holmes Park** and **St Pol Square** will be affected by site works. Public access may be temporarily impacted, but definitive closure information is not provided.
- Tree removal, including mature riverside trees, remains one of the most visually and ecologically sensitive aspects of the scheme.
- Innovation Mill's historic culvert is a critical feature being protected and recorded, with archaeological input noted as ongoing.
- The **Flood Alleviation Scheme is vital**, but a balance between **speed of implementation** and **heritage/ecological sensitivity** is needed.
- Local residents and businesses may wish to **request detailed CTMP and PFR property lists** before construction begins.

Conclusion:

The Hebden Bridge FAS represents a necessary step forward in improving long-term flood resilience for a vulnerable and historic town. While its intentions are clearly rooted in public safety and environmental improvement, execution must be held to high standards due to Hebden Bridge's **heritage value, ecological sensitivity**, and **community reliance on tourism and small business**.

Stakeholders should remain involved, asking for:

- Transparent and timely updates
- Detailed traffic, access, and ecological impact plans
- Full clarity on Property Flood Resilience rollout and funding

SITE NOTICE

- It maps or records **where the legal site notices** (Article 13 / development notices) are posted on or around the site boundary.
- The notice likely shows **locations like gates, entrances, boundaries, pedestrian access points** — places where passers-by or local users of riverside paths might see them.
- It may include **photographs or descriptions** of how and where notices are displayed (e.g. on hoardings, walls, fences).
- It aims to comply with legal requirements that **site notices** be placed visibly so that local people have notice of the application.

Site Notices Planning Application 25/00947/FUL Hebden Bridge FAS
23 September 2025, 19 Notices are located at:

- Midgehole on lamppost by bridge
- Lee Mill Road – Footpath sign Hebden Grove
- Hawksclough compound
- Mayroyd Mill
- Station Road – Entrance to park N
- Holme Street entrance to park
- Hebble End Road adj to bridge
- Stubbing Holme Road adj to compound proposed car park
- South side Central Street Bridge
- Central Steet close to School
- Blazing Saddles
- New Bridge/ Old Gate
- New Bridge W adj to No 1
- Old Gate / Packhorse Bridge
- St Georges Bridge / Innovation Mill
- Little Park/ Valley Road
- Wavey Steps X 2
- Car Park Bridge Gate

Limitations:

Here are issues or gaps that are often found (and which you should check) in the site notice documentation — and which become grounds for objection or scrutiny:

1. **Visibility & readability**
    - Just because a notice is placed doesn't guarantee that people see it (if it's obscured, too high, weather-damaged, or behind fencing).
    - Notices should be placed where **pedestrians, riverside walkers, and local residents** are likely to pass by. If these notices are only in obscure or restricted parts, many people will miss them.
2. **Number and spacing of notices**
    - Legal practice usually expects **multiple notices** around the perimeter, especially in key public access routes. If only one or two are shown, that might be inadequate coverage.
    - Check whether the notices cover all relevant public footpaths, bridges, riverside walks, and boundaries.
3. **Duration and maintenance**
    - Notices must remain legible and intact for the consultation period. The document may not guarantee they'll be maintained (not vandalised, not deteriorated).
    - If notice falls or fades, people lose their opportunity to respond.
4. **Access to notice in flood / river bank areas**
    - For riverside paths (often muddy or closed during high water), if the notices are placed in areas that are regularly inaccessible, that strains the "reasonable notice" principle.
5. **Interplay with other notification modes**
    - Site notices are a minimum requirement, but in a major project in a Conservation Area, you should expect **multiple modes of public notice** (local press, website, mail drops). If site notices are used as the sole public notification method, that's weak.

Notice 15 - Issued 24th September 2025

What It Confirms:

- **Application Name**: Hebden Bridge Flood Alleviation Scheme.
- **Applicant**: Environment Agency.
- **Application Includes**:
  - Wall reconstruction along Hebden Water & River Calder
  - Vertical rising barriers
  - Weir modifications (x5)
  - Replacement of Central Street Footbridge
  - Bridge reinforcement (2 sites)
  - Demolition of outbuildings
  - Public open space landscaping
- **Affects**:
  - **Hebden Bridge Conservation Area**
  - **Listed buildings** (character and setting)
  - **Public Rights of Way**
- **Environmental Statement** accompanies application.
- **Application available online and in physical locations** (Town Hall, libraries, info centre).
- **Charge for full Environmental Statement**: £750
- **Public comment period**: 21 days from date of notice (23rd September)

Weaknesses & Risks:

1. *Equality & Accessibility (Digital Divide / Cost Barrier)*

Ground for objection: The Environmental Statement is **priced at £750**, which creates a financial barrier to full public engagement — this may violate the **Public Sector Equality Duty** under the **Equality Act 2010**, especially for:

- Elderly residents
- Low-income individuals
- Digitally excluded people (no internet access or skills)
- Disabled individuals requiring alternative formats

Argument:

"The £750 charge for a copy of the Environmental Statement excludes residents on lower incomes and creates a class-based barrier to full engagement. It is not reasonable to expect vulnerable or digitally excluded groups to access multi-volume PDF files or attend the limited hours of the information centre or libraries."

2. Limited Public Notification Channels

- The only **press notice** was in the **Halifax Courier**, a physical print publication with **limited reach among the digitally active and younger demographics**.
- The **notice itself is technical and legalistic**, with no accessible summary.

Argument:

"This application affects a wide and diverse community across Hebden Bridge, Mytholmroyd, and Midgley. Relying on a single print notice in the Halifax Courier and site notices only — without proactive outreach via social media, community centres, or local digital networks — falls short of modern standards for public engagement, especially for a major scheme of this scale and impact."

3. Heritage and Conservation Area Impact

- The application explicitly affects **listed buildings** and the **Conservation Area**, which demands:
    - Extra scrutiny
    - Public heritage consultation
    - Clear visual impact assessments

Argument:

"We request clarity on how statutory obligations under the Planning (Listed Buildings and Conservation Areas) Act 1990 have been met in terms of consulting the public and affected heritage

stakeholders. At present, the notice does not specify which buildings are impacted or how their settings are being protected."

4. Information Complexity and Volume

- The planning documents are spread across **over 135 technical PDFs and Excel sheets**, many of which are hundreds of pages.
- There is **no non-technical summary** or **plain English explanation** available.

Argument:

"The volume and technical nature of the documentation places an unreasonable burden on ordinary citizens to understand and respond. A plain-language summary should be a mandatory part of this consultation to ensure informed community input, particularly from non-experts."

Article 13 Notice:

Halifax Courier August 21st 2025

Applicant:
Mott MacDonald, on behalf of the **Environment Agency (EA)**.

Proposal (Hebden Bridge Flood Alleviation Scheme - HBFAS):
A wide-scale flood defence and engineering project involving:

Location:

- Hebden Water
- River Calder
- Rochdale Canal
- Between Hebden Bridge town centre, Mytholmroyd, Stubbing Holme and Midgehole.

Works Proposed:

- Repair and **reconstruction of river walls** along Hebden Water and River Calder.
- **New flood defence walls** in St Pols Car Park.
- **Vertical rising flood barriers** on Bridge Gate and Old Gate.
- **Strengthening of specific private properties**.
- **Modification of five weirs**.
- **Replacement of Central Street footbridge**.
- **Reinforcement of two bridges across Hebden Water**.
- Creation of **two construction compounds**.
- **Demolition** of outbuildings to the rear of No. 35 West End.
- **Landscaping and public open space improvements** along waterways.

Weaknesses & Risks:

The **Article 13 notice was only published in the Halifax Courier**, a print newspaper on **August 21st, 2025**.

Why This Is a Problem:

1. Lack of Accessible, Inclusive Notification

- Publishing **only** in a **physical local paper excludes a large portion of the community**, especially:
    - Younger generations who do not read print newspapers.
    - Individuals without regular access to physical newspapers (e.g., digital-first households).
    - Residents who have literacy issues or for whom English is not a first language.
    - Neurodivergent individuals or disabled residents who rely on **digital notifications, screen readers, or accessible formats**.

2. Failure to Meet the Public Sector Equality Duty (PSED)

Under the **Equality Act 2010**, public bodies (including the Environment Agency and Calderdale Council) must:

- **Advance equality of opportunity** and
- **Foster good relations** between different people
- **Eliminate discrimination** in access to public participation.

By publishing in a single print outlet, the process **fails to account for diverse community needs**, especially in a digitally connected society.

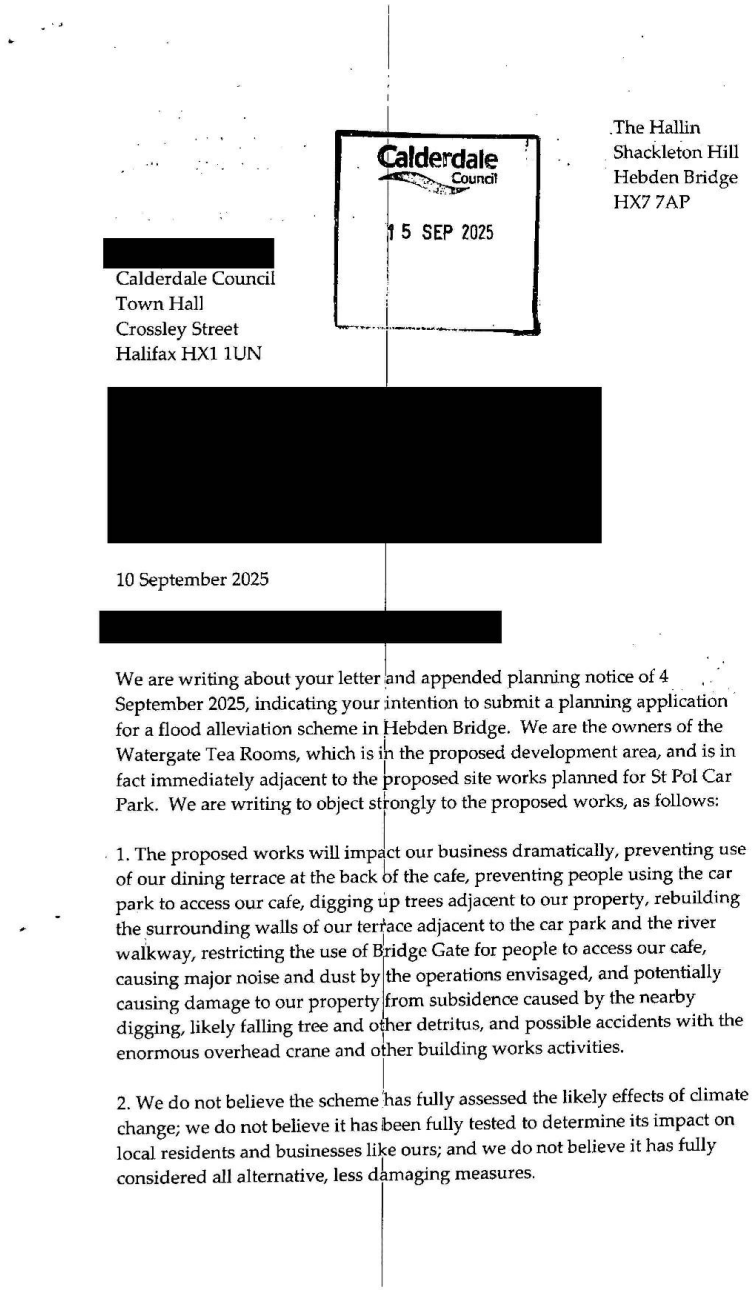
3. Insufficient Public Engagement for a Major Development

This is a **major infrastructure project** with:

- River modification
- Demolition
- Environmental and heritage implications

As such, it **requires broad and inclusive public awareness**. Posting only in the Halifax Courier **does not satisfy best practice standards** for inclusive consultation.

OBJECTION SUBMITTED BY WATERGATE TEAROOM 10th September 2025 (prior to seeing the final FAS Reports)



The Hallin
Shackleton Hill
Hebden Bridge
HX7 7AP

Calderdale Council
15 SEP 2025

[redacted]
Calderdale Council
Town Hall
Crossley Street
Halifax HX1 1UN

[redacted]

10 September 2025

[redacted]

We are writing about your letter and appended planning notice of 4 September 2025, indicating your intention to submit a planning application for a flood alleviation scheme in Hebden Bridge. We are the owners of the Watergate Tea Rooms, which is in the proposed development area, and is in fact immediately adjacent to the proposed site works planned for St Pol Car Park. We are writing to object strongly to the proposed works, as follows:

1. The proposed works will impact our business dramatically, preventing use of our dining terrace at the back of the cafe, preventing people using the car park to access our cafe, digging up trees adjacent to our property, rebuilding the surrounding walls of our terrace adjacent to the car park and the river walkway, restricting the use of Bridge Gate for people to access our cafe, causing major noise and dust by the operations envisaged, and potentially causing damage to our property from subsidence caused by the nearby digging, likely falling tree and other detritus, and possible accidents with the enormous overhead crane and other building works activities.

2. We do not believe the scheme has fully assessed the likely effects of climate change; we do not believe it has been fully tested to determine its impact on local residents and businesses like ours; and we do not believe it has fully considered all alternative, less damaging measures.

Traffic Management & Likely Issues

1. Traffic Management Overview *(From: Outline Construction Environmental Management Plan)*

Document: *25_00947_FUL-OUTLINE_CONSTRUCTION_ENVIRONMENTAL_MANAGEMENT_PLAN-1851019.pdf*

Section 6.4 - Construction Traffic Management
The Principal Contractor will prepare a Construction Traffic Management Plan (CTMP) prior to construction, which will:

- Detail traffic routing for all plant and materials delivery
- Minimise disruption to local residents, businesses and emergency services
- Include measures to avoid construction vehicles accessing unsuitable roads

Construction vehicle movements will be monitored and managed to minimise **congestion**, particularly on **narrow streets** within Hebden Bridge.

Access to properties and businesses will be maintained, although short-term restrictions may be required.

2. Road Closures and Diversions *(From: Planning, Design & Access Statement)*

Document: *25_00947_FUL-PLANNING_DESIGN_AND_ACCESS_STATEMENT-1851020.pdf*

Section 3.6 - Construction Management:

- Some **temporary road closures and diversions** will be necessary during specific phases of construction.
- These will be coordinated with **Calderdale Council Highways** to reduce disruption.
- Clear signage and notice periods will be provided to residents and businesses.

Bridge Gate, **St Pol Square**, and **Market Street** are areas likely to be affected due to proximity to major flood defence works.

3. Temporary Traffic Impacts *(From: Flood Risk Assessment)*

Document: *25_00947_FUL-FLOOD_RISK_ASSESSMENT-1853417.PDF*

Appendix E - Construction Strategy:
Mentions "**short-term road closures and phased working** to avoid full disruption to town centre flow."

- Coordination with local authorities will aim to keep **at least one lane operational** where possible.
- Work around **culverts and river walls near roads** may require **pedestrian diversions** and partial closures.

4. Specific Site Impacts *(From: Preliminary Ecological Appraisal)*

Document: *25_00947_FUL-PRELIMINARY_ECOLOGICAL_APPRAISAL_REPORT-1853413.PDF*

Notes that **roadside vegetation removal** and **access for heavy plant** will require **lane narrowing or partial road closures**, particularly near:

- **Keighley Road**
- **Birchcliffe Road**
- **Stubbing Holme Road**

5. Tail Race / Culvert Excavation (St Pol Square & Bridge Gate are*a)*

Document: *Archaeological Watching Brief Report – St Pol Square*

Construction in **St Pol Square Carpark and Bridge Gate** may require **temporary rerouting of vehicle and foot traffic** during excavation and culvert stabilisation.

6. General Construction Impacts

From multiple documents:

The scheme spans multiple key pedestrian and traffic areas including:

- **Bridge Gate**
- **New Road Bridge**
- **St Pol Square**
- **Market Street**
- **Old Gate**
- **Central Street**
- **Riverside paths and roads near the Wavy Steps**

Impacts may include:

- Road narrowing
- Controlled access to footpaths
- Traffic light systems to control flow
- Redirection of delivery and waste vehicles

7. No Formal Traffic Plan Yet

The **full Construction Traffic Management Plan (CTMP)** is pending and will be submitted by the Principal Contractor before main works begin.
This means road names, durations, and alternative routes are not fully confirmed yet, but these issues are flagged as requiring formal agreements with the Council.

Weaknesses & Risks:

- **Lack of detailed traffic mitigation strategy at this stage.**
- **No clear timeline or phased map** of traffic disruptions.
- **Potential high impact on tourism, access to Market Street and local businesses**, especially with possible closure of St Pol Square and Bridge Gate.
- **No confirmation of consultation with transport services** (e.g. buses, emergency access).
- Businesses and residents likely to be affected are not clearly listed with notification plans.

Calder Holmes Park

1. ***Construction Compound and Site Access***

    - **Calder Holmes Park** is explicitly identified as the **main construction compound location** for the Hebden Bridge Flood Alleviation Scheme.

    - The **Outline Construction Environmental Management Plan (OCEMP)** confirms that **part of Calder Holmes Park will be used** to accommodate construction activities, such as equipment storage and contractor facilities.

2. ***Potential Public Impact***

- While there is **no direct statement** saying the entire park will be **fully closed**, documents imply **restricted access** in **designated areas**, particularly where the construction compound and site operations will be located.

- Some parts of the park may remain **open for public use**, but **movement through and within the park may be limited**, especially during peak construction phases.

3. ***Timeline and Phasing***

    - The use of the park is tied to key construction phases. No **specific dates** are confirmed for when the park will be impacted, but it is associated with the **main works period (2026–2028)**.

    - It is **unclear** how long specific sections of the park will be affected or whether any areas will be permanently altered or reinstated post-works.

4. ***Environmental and Mitigation Commitments***

    - The **Preliminary Ecological Appraisal Report** and **Planning, Design and Access Statement** acknowledge that **Calder Holmes Park** includes amenity grassland and tree planting that may be affected.

    - There is an intention to **minimise environmental impact**, but no detailed **reinstatement plan** or commitment for **public consultation** around the park's use was found.

5. ***Tree Removal in Calder Holmes Park***

    - Multiple documents, including the **Tree Survey** and **Design Statement**, indicate that **tree loss will occur** in and around Calder Holmes Park, though not all specific tree locations are mapped precisely.

    - There is **no clear breakdown** of how many of the **117 trees to be removed** are located within Calder Holmes Park specifically.

Positives:

- The use of an existing public open space (Calder Holmes Park) as a construction compound is consistent with limiting disruption elsewhere in the town centre.
- Acknowledgement of **potential ecological and visual impacts** in park areas.
- References to **temporary use** of the park rather than permanent development.

Weaknesses & Risks

- **No clear public notice** or dedicated community consultation regarding the **impact on park access or amenities**.

- Lack of clarity on **exact area affected**, **duration**, and **mitigation** for park users.
- Insufficient information on **reinstatement or compensation** of green space and trees post-construction.
- **Public amenity impact** is not given full consideration in comparison to flood risk infrastructure benefits.

Biodiversity Net Gain Report (BNG)

1. ***On-site biodiversity will be reduced.***
    - The scheme results in a **net loss of -6.93 habitat units** (27.23%) on-site.
    - There is **no measurable net gain for watercourses** (0% gain), despite improvements.
    - Some gain in hedgerows (+0.36 units) — but **no baseline data** makes this unverifiable.
2. ***Biodiversity Net Gain (BNG) will be achieved only through off-site areas.***
    - **Two off-site locations** will be used to meet the 10% BNG requirement:
        - A **private habitat bank** (under negotiation)
        - **Warland site** (details not confirmed)
    - Neither off-site area has a signed legal agreement.
3. ***BNG will be made legal later.***
    - A future **Section 106 agreement or Conservation Covenant** is proposed.
    - **Currently, no legal mechanism is in place** to enforce BNG delivery.
4. ***No key documents submitted.***
    - The **Habitat Management and Monitoring Plan (HMMP)** and **Biodiversity Gain Plan (BGP)** are **not included** and will be prepared later — as a planning condition.
5. ***Habitat creation will take years.***
    - Because of construction delays, reinstated habitats (e.g. Calder Holmes Park) won't count as "temporary losses."
    - The offset assumes a **4-year delay** for all habitat recovery.

6. ***Some areas excluded from BNG.***
    - Example: The **trees around Co-op and Crown Street** are excluded, even though they're being removed.
    - This is due to legal limitations or lack of long-term management options.
7. ***Climate change is acknowledged, but solutions deferred.***
    - They mention it will "influence future management decisions" — but no binding strategy is proposed now.

What's Missing:

Here's what **hasn't been included** and raises questions:

⚠️ Problem	📍 Why It Matters
No proof of Biodiversity Net Gain on-site	They're asking for approval based on promises for off-site planting — nothing local.
No signed legal agreement for off-site habitat bank	If that falls through, they can't meet legal biodiversity rules.
Calder Holmes Park will be lost for years	The reinstatement delay means it doesn't count as 'temporary loss' — it's a real net loss.
Hedgerows and individual trees are excluded from the BNG metric	This makes the habitat loss look smaller than it really is.
Climate change adaptation is hypothetical	They talk about climate risks but give no funded strategy for how new habitats will survive.
The HIA (Heritage Impact Assessment) is not easily accessible	This makes it harder to assess if tree losses in a conservation area are lawful or excessive.

Weaknesses & Risks

On-site biodiversity will be reduced by 27%.
No gain at all for river habitats (0% gain).
Hedgerow and tree loss is real — but not counted in the official metrics.

Instead of restoring nature here, the EA plan relies on **two off-site areas** — one of which hasn't even been legally confirmed yet.

They haven't submitted a Habitat Management Plan or a Biodiversity Gain Plan — they'll do that **after** approval.

So what does that mean for Hebden?

- Trees and green space lost for years
- Legal agreements still missing

- Risk of biodiversity decline right in the heart of our town

The Flood Risk Assessment Report (FRA)

Here are the points that stand out as especially important (both positives, and areas to double-check):

What they acknowledge or propose:

1. ***Flood sources considered*** — The assessment covers flood risk from rivers, surface water, groundwater, and, where relevant, infrastructure failure. They map areas that are within flood zones and model potential water depths under various design storm scenarios.

2. ***Design flood levels & allowances*** — The scheme uses design criteria (e.g. climate change allowances) to set flood defence heights and capacities. They appear to factor in increased rainfall intensity, future climate change scenarios, which is good practice.

3. ***Flood defence interventions*** — The works proposed include improvements to weirs (raised, lowered, removed / notched), flood walls, embankments, control structures—all intended to reduce flood risk across Hebden Bridge.

4. ***Residual risk & overflows*** — The FRA includes discussion of potential overtopping, breach scenarios, and escape routes. It notes where risks remain even after the works, and tries to identify mitigation (e.g. warnings, maintenance, ensuring access during flood, etc.).

5. ***Mitigation measures*** — There are proposed flood risk mitigation designs and operational / maintenance measures, e.g. ensuring freeboard, allowing flow paths, ensuring access for flood wardens, possibly emergency plans.

Weaknesses & Risks

These areas are ones where the FRA may not fully satisfy what residents might reasonably expect, or where there could be legitimate concerns:

1. ***Uncertainties around future flood events***

    - Even with climate change allowances, there might be storms beyond modelled scenarios.

- The report might assume perfect maintenance of all structures — realistically, deterioration, silt, debris etc. can reduce efficiency and raise risk.

2. ***Access during flood & construction phases***

   - Does the FRA fully show how access (roads, pedestrian paths) will remain safe / clear during construction and in serious flood events?

   - Are evacuation routes guaranteed? If flood walls or temporary works block usual passageways, that could be a danger.

3. ***Residual risk clarity***

   - Where defence might overtop: what is the strategy / warning systems / safe zones?

   - Are community members clearly aware of which properties / streets might remain vulnerable even after construction?

4. ***Maintenance & long-term reliability***

   - Flood mitigation works need ongoing maintenance. Who is responsible, and is the funding and schedule guaranteed?

   - Flood boards, debris clearance, structural inspections — if neglected, defences can fail.

5. ***Interaction with ecology / biodiversity / heritage***

   - Sometimes flood walls / barriers / raised banks can conflict with habitat, trees, visual heritage. Does the FRA acknowledge these trade-offs well?

   - Are the flood works likely to lead to loss of mature trees or heritage features that also serve natural flood management (trees, vegetation absorb runoff etc.)?

6. ***Potential for unexpected consequences / upstream/downstream shifts***

   - Does changing weirs or modifying flows at one point in the river increase flood risk downstream or in neighbouring towns or homes not immediately in the scheme footprint?

   - Surface water runoff: with construction and loss of trees, will surface water flow worsen in local streets?

7. ***Community awareness of flood risk post works***

   - If defences are built, sometimes people assume they are completely safe. Clarity is needed about what level of protection is provided, what still remains risk, and what people need to do (flood plans etc.).

Questions to ask:

To use the FRA effectively in community work or objections:

- **Quote the relevant sections**: E.g. show how much flood depth reduction is claimed, what flood events are modelled vs what you think realistic.
- **Ask for clarity or proof**: e.g. "Please provide demonstration of maintenance schedule and responsibility for works, especially for structures like weirs, sluice gates, etc."
- **Raise questions about access & evacuation**: Are temporary blocks being made safe? Are escape routes mapped?
- **Compare with local flood experience**: If residents know parts of town flood even under smaller floods, compare predicted models vs lived reality.
- **Push for monitoring & reporting conditions**: Ask that flood defence performance be monitored over time, with responsibility and public reporting.

St George's Bridge Proposed Plans

Below are key elements the drawings/plans show or suggest.

- The plans show modifications to the area around St George's Bridge: likely adjustments for flood barriers, walls, possibly pedestrian routes.
- There are sections with flood defence walls / parapets along river edges visible in the drawings.
- They include raising or strengthening of certain structures near St George's Bridge, plus potential walkways or changes to embankments.
- There's also indication of close encroachment by the flood protection works to existing structures—very tight buffer zones in the drawings between new works and existing buildings or public routes.

Weaknesses & Risks

From the "St George's Bridge" proposed plan, these are areas you might question or object on:

1. ***Visual Intrusion & Heritage Impact***
    - Because this is a conservation area, raising walls or adding new flood parapets close to historic structures likely affects views, historic facade lines, and the character of the area.
    - The plan's proximity to existing heritage buildings might lead to adverse visual impact.
2. ***Loss of Access / Public Realm Changes***

- The drawings suggest walkways or embankments may be changed in ways that could reduce public access or make paths less usable.

- Tight buffer zones may restrict riverside activities or alter how people use that space (e.g., for walking, seating, views).

3. ***Tree Loss or Green Buffer Loss***

    - These plans appear to leave little room for green buffer between the river and new flood structures. If trees or vegetation are currently there, they're likely to be removed or adversely impacted.

    - That contributes to longer-term loss of riverbank ecology (shade, habitat) and visual amenity.

4. ***Structural / Flood Defences Close to Buildings***

    - Modifications near St George's Bridge may be very close to existing property boundaries or public infrastructure. This can pose maintenance, aesthetics, or water leakage/flashing issues later.

5. ***Scale and Materials***

    - The drawings probably use certain wall thicknesses/materials etc that may not visually match heritage materials – stone, masonry, etc. If modern materials are used without good finish, could be visually jarring.

Archaeological Strategy

- The strategy identifies **areas of archaeological potential / sensitivity**, particularly near historic weirs, old industrial structures, river bridges, and riverbanks that may contain buried historic features.
- It sets out a **phased approach**:

    1. **Pre-construction surveys** (e.g. trial trenching, geophysical surveys) in areas likely affected.

    2. **Assessment and decision-making**: where features are found, deciding whether to preserve in situ, avoid, or excavate/record.

    3. **Monitoring and watching briefs** during construction in zones of lower certainty.

    4. **Post-construction archaeological recording**, reports, and archiving.

- It commits to **liaison with heritage bodies** (Historic England, local archaeology groups), ensuring that when remains are found, decisions are made with expert input.
- It mentions construction constraints (e.g. how to dig safely near sensitive zones, how to sequence works to avoid damaging remains).
- It discusses how mitigation should be proportionate to significance — that is, highly significant remains get more protection or careful treatment; lesser ones may be recorded and removed.

Weaknesses & Risks:

Here are spots where the strategy is vague or lacking, which you can point out in objections:

Missing / Weak	Why It Matters / How You Can Use It
Precise mapping of archaeological zones vs works footprint	We need to see overlay maps showing exactly which proposed flood works overlap zones of high archaeological sensitivity. Without them, communities can't judge risk.
Decision criteria transparency	The strategy says "preserve or excavate depending on significance," but doesn't clearly define how "significance" is judged in each context. That leaves too much discretion to engineers or contractors.
Public access to findings	If remains are excavated and recorded, will the community see the findings (reports, artefacts, public displays)? The document doesn't guarantee that.
Conflict with tree removal / root zones	Excavation work and root zones are likely to intersect. The strategy doesn't clearly explain how tree/root preservation and archaeological protection will be balanced.
Mitigation cost and funding	It mentions mitigation but doesn't always tie it to guaranteed budgets or who bears cost in problematic or unexpected cases.
Construction risk / unanticipated finds	It lacks detail about what happens if unexpected major features are discovered during works (e.g. construction halts, redesign, compensation) — how does that affect schedule or cost?
Enforcement and oversight	The strategy doesn't clearly state how mitigation, monitoring and compliance will be enforced — whether independent oversight is possible or public reporting required.

Questions To Ask:

Here are some powerful questions or objection lines you can use based on the strategy's content and gaps:

1. **Overlay mapping request:**
   "Please provide maps showing zones of archaeological sensitivity overlaid with the proposed flood works / tree removal plans. This is necessary so residents can see which areas are at risk of disturbance."

2. **Clarify significance criteria:**
   "What criteria will be used to decide whether archaeological remains are preserved in situ,

recorded and removed, or disturbed? Who defines the significance, and can the community see those criteria?"

3. **Community access to records:**
"If archaeological material is recorded or excavated, will the full reports, site archives, and findings be publicly accessible, including for educational or heritage use?"

4. **Balancing trees and archaeology:**
"Given that tree removal and root zones may intersect archaeological features, how will decisions be made to protect both? What will take precedence and by what criteria?"

5. **Unexpected finds contingency:**
"If major unexpected archaeological remains are uncovered during construction, what is the formal mechanism for halting or redesigning works? Will there be mandatory further consultation?"

6. **Budget / liability clarity:**
"Who is financially responsible for archaeological mitigation if costs exceed estimates? Is there a contingency fund or protections so mitigation is not compromised?"

7. **Independent oversight and transparency:**
"Will there be independent heritage / archaeological oversight (not just by the contractor), and will monitoring / compliance reports be made public on a regular basis?"

Aquatic Baseline Report

- Surveys of aquatic organisms, fish populations, macroinvertebrates, water quality, substrate and flow regimes, and ecological features of Hebden Water and associated streams.
- Baseline data for species presence / absence / abundance, including fish species (e.g. trout, etc.).
- Habitat assessment of river morphology, flow diversity, riffle / pool / glide habitats, substrate composition.
- Assessments of existing barriers (weirs, drops) that impede fish movement and sediment transport.
- Identification of ecological constraints and sensitivities — places where aquatic habitat is already under stress, or where modifications will be particularly sensitive.
- Recommendations for how to minimise harm during construction (e.g. timing works to avoid spawning seasons, sediment control measures, maintaining flow, habitat restoration).

- Some proposals for enhancements: improving connectivity (e.g. fish passes, notching weirs, removing barriers), substrate improvements, restoring aquatic habitat diversity.

Weaknesses & Risks:

- It provides **baseline data**, but it doesn't guarantee that all proposed modifications to the river (weir removals, walling, bank changes) will *maintain or improve* those baseline conditions — there's risk of degradation.
- The report may assume ideal mitigation — but it might underplay **how difficult it is** to restore aquatic habitats, especially in urban, channelised, constrained rivers.
- It may not fully model **cumulative impacts** (construction runoff, turbidity, sediment displacement) over long periods.
- Species-level impact: for rare or sensitive species, the report might treat them generically rather than assessing the importance of particular local populations.
- Temporal mismatch: if works are timed poorly, spawning or migration seasons could be harmed. The report may recommend timings, but implementation fidelity is uncertain.
- It may not fully consider **climate change** impacts on aquatic habitat (e.g. low flows, drought, higher temperatures) in future decades.
- Enforcement / post-monitoring: baseline is established, but how will ongoing monitoring and enforcement of aquatic health be secured legally?

Questions To Ask:

- Ask for the *map overlays* of baseline aquatic habitat features vs proposed works (weirs, walls) to see where high sensitivity zones overlap construction zones.
- Quote species data: e.g. "they report trout in … section X. Any disturbance there must be tightly controlled or avoided."
- Demand **conditions** in planning approval: ensure that mitigation measures (timing windows, sediment controls, fish passes) are **binding and enforceable**, not just aspirational.
- Raise concern about **cumulative / long-term impact**: even small changes to flow, substrate, or bank structure can degrade aquatic habitat over time.
- Use aquatic baseline comparison to challenge oversimplified "net gain" narratives — if baseline is already stressed, "gain" is harder to achieve.

Equality Impact Assessment

Here are key findings and commitments in the EIA:

Feature	What the EIA Acknowledges / Commits To
Protected / vulnerable groups	Older people; people with disabilities; those without cars; parents with children; ethnic minorities; neurodivergent people; those in deprived wards.
Risk of exclusion	They accept that not everyone will be reached by typical communications (e.g. online) and that some groups are less likely to engage.
Mitigation / inclusive access	Proposes "multiple formats" (print, online, community drop-ins) and aims to provide translation / non-technical summaries. Also mentions reimbursing travel costs for consultations.
Accessibility of public realm	The EIA warns that loss of parking and changes to paths / embankments could disproportionately affect those with mobility constraints.
Monitoring & review	Commits to regularly reviewing impacts, adjusting communication and engagement strategies where barriers are identified.

Weaknesses & Risks:

Here are the gaps, weaknesses, or things you can challenge:

1. ***No binding guarantees / enforcement***
    - The EIA states commitments (e.g. multiple formats, access) but doesn't show legally enforceable mechanisms or how failures will be rectified.
2. ***Lack of specificity***
    - Doesn't list which wards or streets are most affected or which groups will be hardest hit.
    - Doesn't specify which paths or areas will become less accessible, or to what degree.
3. ***Timing & resources unclear***
    - Some mitigations (e.g. promotion in multiple languages, reimbursing travel) are proposed but no clear resource, schedule, or guarantee that they will happen.

4. ***Overlap with other plans / duplicate burdens***

    - Doesn't fully address whether people might already suffer from lack of access, and how this scheme's changes accumulate.

    - Doesn't always integrate heritage, environment, physical changes — the EIA is somewhat siloed.

5. ***No detailed measurement / base-line***

    - There is little quantitative baseline showing how many people currently rely on car-parking, or how many have mobility challenges affected by proposed changes.

    - It lacks metrics to measure how well mitigation succeeded.

6. ***Late engagement risk***

    - Some mitigation is proposed, but if engagement is late (after plans are fixed), people can't influence design. That makes mitigation reactive, not inclusive.

7. ***Unclear handling of irreversible losses***

    - For irreversible changes (e.g. permanent loss of accessible parking or mature trees in key routes), the EIA doesn't clearly address how to compensate or redesign to avoid harm.

Questions To Ask:

Here are ways to leverage the EIA's own admissions and gaps:

- **Quote commitments** in the EIA (e.g. "must provide multiple formats") and hold EA / CMBC to them — ask when / how these will be delivered.
- Ask for **detailed accessibility plans**, showing which paths, crossings, ramps will be adjusted or widened to remain accessible.
- Challenge the **lack of baseline metrics** — demand that they produce a map or data of which properties / streets / paths will be less accessible, and for whom.
- Request that **failing mitigation** must trigger design revision, not just adjustments — i.e. a feedback mechanism.
- Use the EIA's recognition of **parking / path loss** as a foothold to push harder on those areas — if they admit risk, mitigation must be robust.

Geo-Environmental Report

Here are the main findings and commitments in the report:

- The report assesses **ground conditions**, including soil types, contamination risk, groundwater, and geotechnical constraints.
- It includes **site investigation** data: boreholes, trial pits, soil samples, groundwater levels.
- It comments on **contaminated land risk** (if any), mapping or noting where potential pollution sources, made ground, or previous industrial uses might pose constraints.
- It provides **ground stability / geotechnical risk** analysis (slopes, embankment stability, infiltration, settlement risk).
- It identifies areas where structural works (e.g. walls, foundations, embankments) may need special design or remediation (e.g. deeper foundations, drainage, retaining walls).
- It offers **mitigation measures**: soil remediation, capping layers, drainage control, monitoring, careful design in sensitive zones.
- It also likely discusses **construction phase risks** (e.g. handling contaminated soils, dewatering, groundwater interference, vibration, subsidence) and how to manage them.

Weaknesses & Risks:

Though the report is technical and detailed, there are critical gaps or areas where the public or decision-makers should scrutinise:

1. ***Public visibility of data***
    - The public can't easily see where boreholes / trial pits are located relative to heritage structures or trees.
    - The mapping of contamination or soil weakness overlaid with flood works / tree removal isn't publicly accessible.
2. ***Detail on mitigation vs feasibility***
    - It describes mitigation approaches (e.g. clean capping, drainage) but may not address **cost, long-term maintenance, or likelihood of success** in tight urban conditions.
    - Some mitigation is assumed feasible, but not clearly demonstrated in constrained locations (narrow riverside, adjacent buildings, conservation sites).
3. ***Risk of subsidence / settlement near heritage structures***

- Works near old buildings (bridges, listed buildings) require careful foundation and vibration control. The public report may not show how such adjacent heritage properties will be protected.

4. ***Interaction with tree root zones***

    - Removing trees or constructing close to existing root zones can disturb soils and cause ground movement. The report may not fully detail how tree removal, root disturbance, or soil compaction will be handled in heritage-sensitive zones.

5. ***Dewatering / groundwater impacts***

    - If excavation or construction needs dewatering, that can alter groundwater flow, affect adjacent foundations, wetlands, or archaeological remains. The report may understate the risk to adjacent buildings or heritage sites.

6. ***Construction constraints in tight spaces***

    - The report might assume enough working space. But in narrow river corridors, fitting machinery, materials, drainage etc without damaging adjacent properties may be "optimistic".

7. ***Monitoring / contingency***

    - While mitigation is proposed, the public doesn't usually see a clear **monitoring plan, thresholds, or trigger actions** (what happens if settlement or contamination is worse than predicted).

Questions To Ask:

- **Ask for overlay maps**: Request maps that overlay the geo-environmental data (boreholes, contamination zones, weak soils) with flood works, heritage buildings, and trees.
- **Question foundation designs near heritage assets**: Ask how foundations and retaining structures near listed buildings or bridges will guard against vibration, settlement, or soil movement.
- **Demand clarity on mitigation viability**: Just because mitigation is proposed doesn't mean it's realistic in tight conservation areas — push them to prove it for each constrained location.
- **Raise concerns about groundwater and dewatering**: Especially in a valley environment, groundwater changes can cause knock-on effects to adjacent properties or heritage foundations.
- **Insist on a robust monitoring / contingency plan**: Mitigation must be paired with real-time monitoring and thresholds triggering halt / redesign if things deviate.
- **Use root zone / tree interaction**: If tree removals or root damage are proposed, point out that the geo report should show how that will affect soil stability and construction.

Statement of Community Involvement

- The document says there has been **extensive consultation** over many years: in-person events, drop-ins, virtual sessions, small landowner meetings etc.
- It outlines **engagement with statutory and non-statutory stakeholders**, including landowners, historic bodies, environmental organisations.
- It mentions that events and consultations have been promoted through multiple channels: local press, mail drops, online platforms, social media.
- It claims efforts were made to reach *seldom heard groups"*, and that non-technical summaries, transparent materials, and "plain English" explanations were used.
- It asserts that feedback from community consultations has been *reviewed and considered* in design evolution.
- It promises ongoing engagement throughout technical and construction phases, not just during early design.
- It also includes a summary of consultation events (dates, attendance, methods) and indicates that engagement evolved in response to community feedback.

Weaknesses & Risks:

Here are the gaps, inconsistencies, or weak areas you can raise:

1. ***Lack of documentation of outcomes***
    - The SCI states feedback was "considered," but doesn't clearly show *which changes* were made because of that feedback.
    - It lacks **before / after design snapshots** or "you said, we did" type mapping.
2. ***Insufficient reach to marginalised groups***
    - While "seldom heard groups" are mentioned, there's little detail on how many people in those groups were reached, how feedback was solicited, or how barriers (digital exclusion, mobility) were overcome.
    - No evidence of in-person drop-ins in places accessible to less mobile or elderly people in more remote parts of the town.
3. ***Timing of consultations is late***

- Many consultation events reportedly happened after design was already fairly developed, which limits meaningful influence.

- There's little evidence of **early-stage ideation sessions with broad community input** before major design proposals were formed.

4. ***Promotion / awareness is vague***

    - The channels used (local press, mail, online) are broad; but there's no data on penetration or effectiveness in reaching all corners of Hebden Bridge—especially low-income, non-digital, or non-English speaking households.

5. ***No clear mechanism for objection / redress***

    - The SCI doesn't clearly state what will happen if the community strongly opposes parts of the design—whether those objections will force design revision or have formal weight.

6. ***No guarantee of ongoing transparency***

    - The promise of continued engagement is there, but no schedule, commitment or binding requirement for major design revisions to be re-consulted.

7. ***Lack of maps / overlays in public consultation materials***

    - The SCI doesn't show whether consultation materials included **detailed maps of tree loss, flood works, heritage overlays**, etc. If they didn't, many residents wouldn't have had the information necessary to give informed feedback.

Questions To Ask:

- **Ask for the "You Said / We Did" breakdown**: demand evidence of how community input changed things.
- **Challenge the reach**: ask how many residents were informed via non-digital methods (leaflets, posters, door-drops)—and show that many locals still had no idea what was proposed.
- **Insist early consultation be demonstrated**: designs should evolve from community ideas, not just presented for comment after they're mostly decided.
- **Demand redraw / reconsult** if parts of the design do not reflect feedback, especially when objections are concentrated in certain neighbourhoods (trees, access, parking).
- **Push for binding consultation triggers**: if design changes alter heritage, tree loss, or access, those changes should require fresh public consultation.

Options Appraisal Report

- The report presents multiple **design options** for flood alleviation (various wall heights, barrier types, weir modifications, flood walls, embankments, etc.) and compares them in terms of cost, effectiveness, environmental/heritage impact, and feasibility.
- It outlines criteria used to score or weigh options (e.g. technical performance, environmental impact, visual impact, cost, public acceptability).
- It shows that some options were rejected in early stages because of high heritage or environmental impact (e.g. too intrusive walls, visual disruption).
- The preferred option is justified as a "best compromise" among trade-offs.
- It acknowledges constraints (narrow valley, existing buildings, conservation status) and uses those as reasons why certain lower-impact designs were less feasible.
- It often uses terms like "minimise impact where possible," "balance between engineering and environment," "mitigation measures," etc.
- The report usually presents comparison matrices (option vs criteria) to show why the chosen design was selected.

Weaknesses & Risks:

Here are the main issues or places to challenge the Report's logic:

1. *Transparency of scoring / weighting criteria*

- The criteria and scores for each option are often opaque — it's not always clear *how much weight* each factor had (heritage, visual impact, cost).
- Some options might have been underweighted in heritage impacts relative to cost, without justification in public documents.

2. *Rejected options with lower visual impact*

- Options that may have had less visual or heritage harm (e.g. lower walls + more attenuation upstream) are sometimes described as "impractical" but with no fully transparent supporting data.
- The report may downplay or dismiss alternative flood management strategies (e.g. upstream natural flood management, soft engineering) too quickly.

3. *Compromises skewed toward engineering rather than heritage*

- Some design choices seem forced by construction convenience (access, machinery) rather than heritage / conservation sensitivity.
- The report often accepts more visually intrusive options because "cost and constructability" override aesthetics.

4. *Insufficient community / public preference data*

- Though "public acceptability" is listed as a criterion, it's unclear how deeply public views were captured or weighted in the option selection process.
- Residents 'preferences (e.g. for less intrusive but more costly options) may not have been adequately explored or shown.

5. *Legacy and maintenance risk*

- Option appraisals sometimes assume perfect future maintenance and operation (soiling, repairs, vandalism) — which may not be realistic, especially in heritage zones.
- They may not fully factor long-term visual degradation, material weathering, or mitigation failure into the scoring.

6. *Unclear follow-through on mitigation of worst impacts"*

- The report promises mitigation (e.g. planting, glazing, screen walls) but lacks detail on cost, feasibility, integration, or legal enforceability.
- Some "mitigated" options may still leave residual harm to heritage, trees, or views, but are accepted.

7. *Lack of iterative design with community feedback*

- The report reads as if design options were internally whittled, then presented. It gives limited evidence of design changes directly driven by community feedback or heritage-led input.
- Some option rejections are framed as "too difficult to implement" instead of "too harmful to heritage," which shifts burden to accept less visually sensitive but more "practical" options.

Questions To Ask:

You can frame objections or demands around:

- **Transparency demand**: ask for the full scoring breakdown (weightings, raw scores) for each option vs criteria — especially heritage, visual, and community acceptability.
- **Revival of lower impact options**: challenge the rejection of options that are less intrusive but more expensive — the community deserves to know *why* those were dismissed.
- **Stronger heritage weighting**: demand that heritage / visual impact be given *equal or higher* priority in option scoring than cost or ease.
- **Public preference input**: require that designs be revisited if public objection or feedback strongly favors less intrusive options, even if more expensive.
- **Mitigation detail and practicality**: push for explicit details on how promised mitigations (glass walls, planting, screening) will be implemented and enforced.

- **Long-term degradation**: require that option scoring includes factors like material aging, maintenance failure, and visual decline over decades.
- **Design re-consultation**: if design is changed from the "preferred" option (e.g. wall heights or alignments), new public consultation should be mandatory.

Heritage Desk-Based Assessment Report

Document Name:

Hebden Bridge Flood Alleviation Scheme – Heritage Desk-Based Assessment
Reference: ENVIMNE790483-BMM-00-HB-RP-HE-C0300_21-A4-P02-C0300-EA4-LOD4
Prepared by: BAM Nuttall and Mott MacDonald Joint Venture (BMMJV)
Date Issued: June 2020 (as part of the scoping opinion request)

Purpose of the Report

The HDBA was conducted to:

- **Assess the historic environment baseline** for Hebden Bridge.
- **Identify potential impacts** of the proposed flood works on **designated and non-designated heritage assets**.
- Support planning compliance in line with the **National Planning Policy Framework (NPPF)** and **Historic England** guidance.

Heritage Assets Covered Include:

- ***Scheduled Monuments:***
    - *Old Packhorse Bridge* (Grade II* & Scheduled)
- ***Listed Buildings:***
    - *White Lion Inn*, *Bridge Mill*, *Black Pit Aqueduct*, *Neptune Inn*, etc.
- ***Non-designated assets:***

- *Innovation Mill tail race*,
- *Historic culverts*,
- *Stone walls*,
- *Post-medieval building foundations*, etc.

- ***Conservation Area:***
  - *Hebden Bridge Conservation Area* – characterised by its unique townscape, historic stone buildings, and integration with waterways.

Key Focus Areas Identified in the Report:

- **St Pol Square Carpark** and the **Innovation Mill tail race**
  → Confirmed as important non-designated archaeological features.
- **Bridge Gate / Old Gate**
  → Sensitive zones due to proximity to Old Packhorse Bridge and concentration of listed buildings.
- **Hebble End**, **Foster Mill**, **Lower Mill**, etc.
  → Impact through weir alteration and footpath realignment.
- **Landscape sensitivity**
  → Emphasis on preserving visual continuity and materials (stone, iron, etc.).

Findings from the HDBA Included:

- **High archaeological potential** in areas like St Pol Square, Old Gate, Central Street.
- Several **undocumented or poorly recorded assets** were identified as at risk from excavation and construction.
- Recommendations for **archaeological watching briefs**, which have since been completed (e.g. GI works in 2021).

Public Access & Transparency

While the report is referenced multiple times in the public planning documents (including the archaeological watching brief reports), the **full Heritage Desk-Based Assessment itself is not widely circulated** or easily accessible online — this may be grounds to request full publication and public inspection under planning transparency obligations.

Archaeological Report – St Pol Square

Location Overview

- **Site**: St Pol Square Car Park, Bridge Gate, Hebden Bridge
- **Grid Reference**: SD 99182 27244
- **Designations**:
  - Within **Hebden Bridge Conservation Area**
  - ~60m from **Scheduled Monument** and **Grade II*** listed **Old Packhorse Bridge**
  - Directly above the **Innovation Mill tail race** (a non-designated but historically significant underground culvert)

Key Terms Explained:

- **Tail Race:** An outflow channel carrying used water from a mill.
- **Watching Brief:** Archaeological monitoring during intrusive works to record evidence as it's uncovered.
- **OASIS Form:** National online system for reporting archaeological work in the UK.

Historical and Archaeological Context

1. *Innovation Mill Tail Race*

- Subterranean water channel associated with **Bridge Mill (now Innovation Mill)**.

- Believed to **pre-date 1510**, as the Packhorse Bridge was purpose-built to cross it via a third inland arch.
- Likely modified during the **post-medieval industrial expansion**, and later culverted.
- Identified as an **important non-designated heritage asset**.
- Its historical function ties directly into **Hebden Bridge's early economic development** and water-powered industry.

2. *Historic Buildings on Site*

- **19th-century OS maps** show:
  - A **row of terraced worker houses**
  - Several **larger commercial buildings**
- All demolished by the **late 20th century**
- Possibility that **archaeological remnants** of these structures remain underground.

3. *Medieval and Early Activity*

- Limited known medieval evidence in Hebden Bridge proper, but **settlement existed on nearby hilltops**.
- Corn mills were constructed either side of Hebden Water by 1314, indicating **early water management infrastructure**.

Brief Findings (June 2021)

- **Conducted by**: BMMJV (Mott MacDonald + BAM Nuttall JV)
- **Works**: Three **trial holes** excavated using vacuum technique under archaeological supervision

Findings:

- **All three trial holes encountered** the **top of the tail race culvert**
- **No medieval fabric identified**, but the culvert was of **post-medieval construction**
- **No structural remains** of the former terraced houses or businesses were found
- **No artefacts** or dateable finds retrieved
- Most soil deposits appear to be **modern levelling layers**, likely post-demolition

Despite limited findings during initial investigations:

- There remains **moderate to high potential** for:
    - **Sub-surface heritage assets** associated with 19th-century housing/commercial buildings
    - **Industrial water infrastructure** related to Hebden Bridge's early growth
    - **Undocumented historical deposits** below areas not yet excavated

Strengths:

✅ Strength	🔍 Details
Robust methodology	Work followed **Chartered Institute for Archaeologists (CIfA)** standards and EA's technical heritage guidance
Early-stage awareness	Presence of historic assets was acknowledged in pre-construction planning (via Desk-Based Assessment and Watching Brief)
Location clarity	Trial holes were clearly mapped and recorded with detailed context descriptions
Conservation alignment	Reports explicitly note the need to minimise impacts in the **Hebden Bridge Conservation Area**

Weaknesses & Risks:

❌ Weakness or Risk	⚠️ Details
Undervalued status of tail race	Though recognised, the **Innovation Mill tail race** is **not a designated asset**, leaving it vulnerable during main construction
Lack of safeguarding plan	There is no detailed strategy for how archaeological remains will be preserved during the **actual construction phase** of the FAS
No community visibility	Findings, historic importance, and likely risks are **not widely shared with the public** in accessible formats

Potential loss of unrecorded layers	Small trial holes cannot rule out significant undiscovered remains elsewhere on site
Impacts on setting	There is insufficient attention paid to the **visual and sensory impact** on surrounding heritage features (e.g. Old Packhorse Bridge, Innovation Mill)

Additional Key Points:

Built Heritage Integration

- The **tail race** is a central part of the town's **historical identity**, even though it is **no longer visible**.
- Its culverted form makes it **easy to overlook**, but destruction during groundworks would be a **permanent loss**.

Construction Phase Concerns

- While a **watching brief** was done pre-design, the actual **excavation and construction phase** poses far greater risk.
- **No clear mitigation strategy** is outlined for unexpected archaeological discoveries.

Heritage vs Infrastructure

- There is an evident tension between the **urgent need for flood defences** and the **delicate heritage balance** in Hebden Bridge.
- This particular site is a **microcosm** of that dilemma: public safety vs historical conservation.

Weaknesses & Risks:

If submitting comments or objections to the planning scheme, the following points are notable:

1. **Innovation Mill tail race is a historic, non-designated heritage asset** of pre-1510 significance, and the scheme does not provide adequate protection or mitigation for it.
2. The **former terraced housing and commercial buildings** shown on 19th-century maps have not been fully investigated, leaving potential subsurface heritage **at risk** during construction.
3. The **lack of a published construction-phase archaeological management plan** opens the door to permanent loss or damage of heritage assets without public oversight.

4. The site lies within the **Hebden Bridge Conservation Area** and adjacent to a **Scheduled Ancient Monument**. The scheme risks **neglecting setting impacts** and **diminishing cultural value**.

5. The **public have not been meaningfully consulted** or informed about the archaeological value of this area — especially considering its **links to early water engineering and mill infrastructure**.

6. The scheme, if approved in its current form, may be **non-compliant with the National Planning Policy Framework (NPPF)** heritage guidance — particularly sections 194–202 regarding substantial harm to heritage assets.

- **No identification or description of which modern businesses or buildings** above this culvert may be impacted by further works.

- **Public engagement or risk communication** regarding disruption during excavation of this tail race or any nearby businesses (e.g. Shoulder of Mutton pub) is absent.

- No mention of **public right of way** constraints or diversions during the archaeological works or future construction phases.

- **No mitigation strategy** detailed for protecting the visible or hidden **heritage character** of this part of Hebden Bridge during or after construction.

Area Sensitivity:

- The tail race runs beneath an area formerly containing heritage properties and now a key **town centre location**.

- The archaeological potential of surrounding structures (especially historic drainage, masonry, and former mill infrastructure) could be higher than currently evaluated.

Questions To Ask:

1. **Omission of heritage risk detail** for local businesses or structures — particularly those built above or near the tail race route.

2. **Lack of clarity** on how public access and local businesses will be impacted when works on this culvert proceed.

3. **Limited public engagement** on archaeology plans, despite being within a conservation area with significant historical interest.

4. **No mention of continuity of services or infrastructure** during archaeological or main works (e.g. risk of drain collapse, restricted access, noise).

5. **Failure to include public feedback** or provide accessible summaries of findings in community briefings.

Environmental Summary Volume 3C

- This volume includes **technical appendices, supporting data, and model outputs** for particular topic areas (e.g., detailed ecology, hydrology, species surveys).
- It provides **sensitivity analyses**, **design assumptions**, **scenarios**, and extension of baseline data to underpin the impact assessments in the main volumes.
- You will see **tables of change**, **comparative impact assessments**, and **residual / cumulative effect statements**.
- Also included are constraints, limitations, and conditions on mitigation (i.e. where mitigation is contingent, or subject to further design changes).

Main Impacts & Mitigations Highlighted:

These are among the more important impacts and the mitigations proposed:

Impact	Mitigation / Proposed Measures
Loss or alteration of habitats (especially riparian, riverbank, floodplain vegetation)	New planting, buffer zones, habitat creation, revegetation, ecological enhancement
Disruption to aquatic ecosystems / fish movement (weirs, flow changes)	Fish passes, notching weirs, flow restoration, sediment management
Tree removal and loss of green buffer	Replacement planting, screening, selective retention, arboricultural protection
Visual / landscape change	Use of sympathetic materials, glazing or transparent panels, landscaping to soften edges
Construction disturbance (noise, dust, access, temporary closures)	Time restrictions, dust suppression, noise limits, traffic / pedestrian management
Cumulative impacts with other projects	The report includes cumulative effect sections to show how this scheme adds to existing pressures
Residual effects (after mitigation)	Some impacts are accepted as residual, particularly in heritage or visual domains — called “moderate adverse” or “minor to moderate” depending on location

Weaknesses & Risks:

- Many of the mitigations or design elements are **not final** — subject to "design evolution."
- The volume acknowledges **uncertainties in baseline data**, or in predicting response of habitats, species, and structural interactions.
- Some mitigation is **conditional** (i.e. "if effect exceeds X, then mitigation Y") rather than guaranteed.
- There are **assumptions about future maintenance, growth of planting, success rates** which may not hold in practice.
- Some components (especially in constrained, narrow areas) are flagged as difficult to deliver or may require adaptation or compromise.

Questions To Ask

Environmental / Ecological Objections:

1. ***Uncertain mitigation performance***
    - Many mitigation measures rely on best-case success (e.g. new planting, habitat creation). There's no guarantee they will fully make up for habitat loss, especially in tight, urban or constrained areas.
2. ***Residual / irreversible harm***
    - Some "residual impacts" are accepted even after mitigation. In a conservation zone and ecologically sensitive river valley, accepting harm should require strong justification.
3. ***Off-site compensation dependency***
    - The volume supports that on-site mitigation alone is insufficient, pushing more burden onto off-site compensation. That weakens local ecological resilience.
4. ***Cumulative impact underestimation***
    - While cumulative sections exist, there may be underestimation of how this scheme combines with other pressures (development, climate change, vegetation loss) to push local biodiversity decline.

5. ***Species-level risk***

    - Detailed species data (fish, macroinvertebrates) might show fragile populations; any disturbance may push them beyond recovery. If key species are near tolerance thresholds, small impact could be critical.

Heritage / Conservation Objections:

6. ***Visual / landscape intrusion beyond mitigation***

    - The volume shows that in sensitive heritage areas, new walls, parapets, barriers will have "moderate adverse" visual effects even after mitigation. That may conflict with conservation policy expectations in a Conservation Area.

7. ***Design flexibility clause risks heritage harm***

    - Because many mitigation and design elements are flexible or contingent on future design, there is risk that later versions shift more harm onto heritage or aesthetics to meet engineering constraints.

8. ***Tree and buffer zone loss not fully offset***

    - Given the detailed ecological and landscape modelling, the volume shows that buffer zone losses (trees, shrubs) are material and some mitigation can't fully restore the character lost — especially immediately visible mature vegetation.

Procedural / Legal Objections:

9. ***Lack of fixed commitments / conditional mitigation***

    - Many measures are proposed but not binding in this volume. As an objection, demand binding planning conditions for all mitigation elements (planting, monitoring, failure fallback).

10. ***Inadequate community / stakeholder control over design evolution***

    - Because design changes are permitted later, the public may not have a say in those changes, especially when they affect heritage, view, tree removal areas.

11. ***Uncertainty burdens placed post-approval***

    - Some mitigation, design details, or compensatory elements are meant to be resolved *after* planning approval. That shifts risks onto residents and weakens accountability.

12. ***Assumptions not accessible to public scrutiny***

    - The models, sensitivity assumptions, thresholds used in 3C may not be fully published to the general public. Without that transparency, meaningful challenge is hard.

Environmental Summary Volume 3D

Volume 3D is one of the technical appendices or supporting sections. While it often contains specialised detail (e.g. noise, air quality, lighting, or very specific site layouts), here's what stands out in 3D:

Key Environmental & Heritage Impacts:

1. ***Light / Lighting Impacts***
    - Introduction of lighting along flood walls, parapets, and control buildings may impact the night-time character of the riverside, detract from heritage ambiance, and potentially affect bat or nocturnal species.
2. ***Noise & Vibration***
    - Construction noise, vibration near historic structures (bridges, listed buildings) can cause structural or cosmetic damage, or affect sensitive species (e.g. bats, riverbank fauna).
    - Operational noise from control structures (pumps, motors) could introduce unwanted mechanical sounds near heritage settings.
3. ***Air / Dust / Emissions***
    - During construction, dust and particulate emissions can affect sensitive façades, stonework, sculptures, and heritage masonry.
    - Machinery emissions and site traffic may temporarily degrade air quality locally.
4. ***Lighting / Glare / Visual Intrusion***
    - Night-time lighting could introduce glare or visual intrusion into historic streetscapes, river views, bridges.
    - Glazing panels or reflective materials could cause unwanted reflections, impacting heritage facades or sight-lines.
5. ***Temporary Disturbance / Access***

- Temporary scaffolding, hoarding, site traffic may obstruct heritage footpaths, views of listed buildings, or traditional access routes.

- Visual blight during construction phases in heritage zones.

Mitigation Proposed:

1. **Lighting design controls**

    - Use of shielding, downward-facing lights, low-level luminaires, timers / cut-off after dark to reduce light spill and glare.

2. **Noise / vibration management**

    - Use of quieter plant, restricted working hours, buffer zones between works and heritage buildings, vibration monitoring near sensitive structures.

3. **Dust / air quality control**

    - Dust suppression (spraying water, covering stockpiles), limiting work in high wind, vehicle cleaning, controls on engine emissions.

4. **Screening & visual design**

    - Screening (vegetation, walls), non-reflective materials, design that minimises visible mechanical elements.

5. **Construction phasing & access management**

    - Phasing works to limit simultaneous disruption in heritage zones, keeping key views open, maintaining pedestrian / public access routes where possible.

Questions To Ask:

Based on what 3D reveals, here are objection points you can use:

1. ***Night-time lighting in heritage zones***

    - The imposition of flood defence lighting will change the nocturnal character of historic riverside areas. Even with mitigation, the presence of modern luminaires may erode the heritage ambiance.

- Demand a "dark sky / low lighting" regime in heritage overlays, or exclusion zones where no lighting is allowed.

2. ***Vibration risk to heritage structures***

    - The proximity of construction vibration to listed bridges, walls, or old masonry must be tightly controlled. If baseline surveys of heritage structure condition aren't published, that's a serious omission.

3. ***Dust / air quality damage to stonework and detail***

    - Historic facades and stone can be degraded by dust, grit, and acid in emissions. Mitigation must include protective covering or façade cleaning protocols for heritage assets.

4. ***Visual intrusion at night / light spill***

    - Even with shielding, lighting installations may reflect into sensitive views, create unwanted skyglow, and alter the nighttime "feel" of heritage areas.

    - Request visual simulations or mock-ups showing lighting at night from key heritage viewpoints.

5. ***Temporary construction visual impact***

    - During construction, the temporary structures, hoardings, cranes, etc. will dominate heritage views. The plan appears not to fully restrict or manage that in high-sensitivity zones.

6. ***Inadequate enforcement of mitigation***

    - Many of these mitigation commitments are aspirational. Unless binding planning conditions enforce them (with penalties or fallback), there's a risk of underperformance.

7. ***Lack of detail on interaction of mitigation with heritage design***

    - The document gives mitigation types but often lacks detail on how they integrate with heritage materials (matching stonework, style, colour) or how glare or reflections will be prevented in sensitive heritage facades.

Environmental Statement Volume 3E

Volume 3E typically includes technical appendices and supporting data (e.g. detailed species surveys, noise or lighting appendices, design detail). From what I saw, here are the central points:

- **Detail-level habitat / species impacts**: More granular assessments of how specific habitats (e.g. riparian edges, riverbanks) and species (aquatic, invertebrates, flora) are affected by works close to water, structures, embankments.

- **Construction-phase disturbance**: Appendices in 3E tend to flesh out how construction in tight zones affects fauna, flora, soils, bank stability, and adjacent habitats.
- **Residual damage**: Even after mitigation, some habitat or species losses are accepted as residual, especially in constrained zones.
- **Sensitive areas**: Some zones are highlighted as especially sensitive — e.g. near bridges, heritage structures, or in narrower river meanders — where even small changes have outsized effect.
- **Interaction with water quality / sediment**: Some of the finer modelling on sediment, turbidity, and waterborne pollutant movement during works is included, showing how disturbance may degrade aquatic habitats temporarily or in the long-term.

Mitigations Proposed:

- **Enhanced buffer zones / retention strips**: Trying to retain as much riparian vegetation as possible in sensitive zones.
- **Stepwise construction sequencing**: Phasing work to avoid simultaneous disturbance in adjacent zones.
- **Sediment control and pollution prevention**: Use of silt traps, turbidity barriers, dewatering controls, management of spills, runoff control.
- **Restoration planting and habitat reestablishment**: After works, reinstatement of riparian edges, bank planting, reintroduction of native species, local seed sourcing.
- **Monitoring of water quality & species**: Pre- and post-construction surveys, water quality monitoring, habitat condition monitoring with thresholds for action.
- **Adaptive mitigation**: If certain impacts exceed thresholds, measures are to be adjusted (e.g. more planting, erosion control).

Questions To Ask:

Using Volume 3E you can press for stronger conditions on these points:

1. ***Residual harm in constrained zones***
    - Some losses are accepted as residual even in heritage-sensitive or visually prominent zones. In a Conservation Area, residual harm must be minimised or eliminated, not simply accepted.
2. ***Sensitivity underestimation***
    - The report may underplay the sensitivity of narrow river edges, meanders, or heritage contexts — small changes here have large impact.

- You can demand that mitigation proposals be stress-tested under worst-case assumptions (e.g. high rainfall, reduced vegetation survival).

3. ***Uncertainty in species recovery***
    - Mitigation relies on species and habitat recovery (planting, reintroduction). If survival rates are lower than expected, the ecological loss may persist.
    - Pressure to require **guaranteed fallback measures** if recovery fails.
4. ***Water quality / sediment control risk***
    - During excavation and works near water, sediment disturbance can spread downstream affecting aquatic life. If mitigation fails or is overwhelmed by storm events, damage can be lasting.
    - Demand stricter controls, real-time monitoring, and contingency shutdowns under high flows.
5. ***Adaptive mitigation is conditional, not guaranteed***
    - Many mitigation measures are conditional ("if threshold exceeded, then") rather than fixed. That leaves open the possibility of harm if thresholds not detected or acted on.
    - Request binding triggers and guaranteed fallback mitigation if thresholds are exceeded.
6. ***Public transparency on monitoring and thresholds***
    - Monitoring plans, thresholds, and contingency actions are technical — often hidden in appendices. Residents should have access to these, and clear explanation of what happens if mitigation fails.
7. ***Risk of delay or failure in restoration***
    - Bank planting, edge restoration, and habitat reinstatement may be delayed (weather, funding, site access) or fail entirely (drought, disease).
    - The scheme must include performance guarantees and replacement if mitigation fails early.
8. ***Cumulative / long-term sediment / aquatic effects***
    - Sediment disruption may have cascading effects downstream or in linked waterways. The volume may not fully account for cumulative downstream aquatic impacts.
    - Pressure to include long-term aquatic monitoring in downstream reaches.

Landscaping Materials Specification

Here are the main elements and promises in the landscaping spec:

- It provides a **detailed list of materials** to be used in landscaping: trees, shrubs, ground cover, planters, hard landscaping materials (paving, stone, edging), soil types, seed mixes, mulch, etc.
- It specifies **species recommendations**, often native species or locally appropriate species, for planting in different zones (riparian zones, banks, public realm).
- It describes **planting standards**: soil preparation, planting pits, root ball handling, staking, protection from wildlife, mulching, watering, maintenance regimes, etc.
- It covers **hard materials**: paving types, edging treatments, wall materials, surface finishes, permeability, drainage details.
- There's attention to **durability, aesthetics, and compatibility**: materials chosen to match heritage or existing local stonework, colour palettes, textures that harmonise with the conservation context.
- It outlines **maintenance responsibilities** and recommended maintenance schedules (watering, pruning, weed control, replacement of failed plantings).
- It also includes **installation conditions and tolerances**, ensuring that workmanship quality is maintained (soil depths, compaction, drainage, finishes etc.).

What Looks Good / Positive Aspects:

- Use of **native species or locally appropriate plants** — this helps mitigate biodiversity loss and increases likelihood of successful establishment.
- Detailed planting standards and instructions — minimises risk of poor planting or failure due to shallowness, compaction, or poor soil.
- Harmonisation with local aesthetic — choosing materials and finishes to mesh with historic stone, local character.
- Inclusion of maintenance schedule is important — long-term success of landscaping is often where schemes fail.
- Attention to drainage, root zone conditions, soil preparation — shows understanding that landscaping in flood or riverbank zones is not trivial.

Weaknesses & Risks:

Here are the gaps, omissions, or weak spots you can use as critique:

1. ***Survival rates and contingency planting not robustly included***
    - The spec assumes all plantings will succeed, but does not sufficiently plan for replacement *if many fail*(especially early years).
    - It often gives a planting schedule but may not guarantee fallback planting for failure, disease, drought, or damage.

2. ***Hard landscaping intrusion in heritage spaces***

    - Some of the paving, edges, and hard materials may contrast with heritage stone or traditional surfaces.

    - The spec might not sufficiently limit the visual contrast or ensure materials truly match surrounding conservation textures.

3. ***Limited space / compatibility constraints***

    - In constrained zones (walkways, tight riverside edges), soil depth, root zones, drainage, and planting space is limited. The spec may not sufficiently adapt to the challenges of narrow river corridors.

    - There might not be enough room for mature root spread, leading to failures or conflict with structure foundations.

4. ***Lack of buffer for tree root protection adjacent to hard works***

    - The specification might not clearly define root protection areas (RPAs) relative to foundations, walls, flood structures.

    - In heritage zones, root protection is as vital as selecting species.

5. ***No guarantee of visual maturity / canopy in meaningful time***

    - Young plantings take years to mature. The spec may not set interim standards or guarantee visual screening for initial years.

    - In a heritage context, the interim visual character is often what matters to residents.

6. ***Maintenance may be overly idealistic***

    - The maintenance schedule may assume ideal watering, neglect, no vandalism, perfect conditions. In flood risk zones, extreme weather, runoff, soil changes, compaction, or erosion may undermine plantings.

    - It is important to require monitoring and replacement if failures exceed a threshold.

7. ***No explicit tie-back to tree removals or habitat offsets***

    - The spec deals with landscaping and materials, but does not always connect clearly to how tree losses or habitat mitigation are being replaced (which trees, where, when).

    - If some plantings are outside the public visibility zones, they may not compensate for local visual or ecological losses in the town centre.

Questions To Ask:

- **Ask for planting success guarantees**: insist that the planning consent include a clause requiring replacement of plantings if survival falls below, say, 90% after 5 years.
- **Demand peer review / heritage review of hard material choices**: if you or local stone masons think the paving or edging does not match traditional patterns, demand alternatives.
- **Request mapping of root protection vs flood structure works**: to ensure no conflict between hard structures and tree root zones in heritage areas.
- **Request interim visuals**: mock-ups or simulations for 1 year, 5 years, 10 years after planting — so people can see how gardens will look in early years, not just mature.
- **Public volunteering or community planting involvement**: engage local groups in planting, monitoring, replacement to build ownership and reduce failures.
- **Connect landscaping spec back to tree loss / habitat objections**: if the landscaping spec doesn't meaningfully offset the trees lost in the town centre or view corridors, that is a valid complaint.

Phase 1 Geo-Environmental Desk Study

The Phase 1 Geo-Environmental Desk Study is the early, preliminary investigation into ground conditions. It provides:

- **Historical land use review**: Maps and documents showing former industrial sites, landfills, prior uses, contaminative history.
- **Geo-environmental constraints**: Identification of "potentially contaminative" land uses (e.g. past mills, chemical operations, fill, workshops) in or near the scheme footprint.
- **Soil, geology and groundwater overview**: Basic description of soil types, stratigraphy, groundwater depth, permeability, natural deposits, and overburden.
- **Sensitive receptors**: Lists of sensitive sites (e.g. heritage buildings, riverbanks, utilities) that could be affected by contamination, dewatering, or excavation.
- **Preliminary risk assessment**: They classify potential risks (low, moderate, high) for different parts of the site (for example, where past uses suggest possible contamination).
- **Recommended further investigation**: The study usually ends by saying "further intrusive investigation (Phase 2, trial pits, boreholes, sampling)" is necessary in key zones of uncertainty or elevated risk.

Weaknesses & Risks:

Here are areas where this Phase 1 report raises red flags or leaves gaps you should challenge:

1. ***Historical contaminant sources adjacent to heritage sites***

- If past industrial use was close to listed buildings or heritage bridges, excavation or dewatering may disturb contaminated soils or groundwater, causing migration of contaminants or damage to foundations.

2. ***Uncertainty / potential risk" zones***

   - The Desk Study flags *potential risk* but doesn't go further — large zones may be classified "uncertain" or "to be investigated." That leaves open the possibility of surprises in construction.

3. ***No detailed maps / overlays***

   - The study may list historic maps or risk zones but not overlay them clearly with proposed flood works, tree removal, heritage zones. Public can't see exactly where risk meets works.

4. ***Groundwater / geotechnical implications close to historic structures***

   - Dewatering, changes to hydrostatic pressure, or intercepting water flow may affect adjacent heritage foundations, retaining walls, or old masonry that were not designed for new loadings.

5. ***Limited baseline soil / contamination sampling***

   - Phase 1 is largely desk-based — they haven't done trial pits / boreholes. Because of that, they may underestimate contamination or challenging soil conditions that appear only when digging.

6. ***No binding mitigation yet***

   - The report will recommend further investigation or remediation but doesn't commit to how that will be enforced or guaranteed, especially in heritage-sensitive zones.

7. ***Propagation risk beyond site boundary***

   - Contaminated groundwater / soil movement during works might affect sensitive receptors outside the immediate footprint (e.g. neighbouring historic buildings, river, public realm). The study may not assess off-site receptor pathways fully.

Questions To Ask:

You can use points from this report to frame objections or demand clarifications:

- **Demand full overlay maps**: ask for contamination / risk zones overlaid on flood works, heritage, and tree removal zones so people can see where risk meets value.
- **Request intrusive investigation evidence**: until soil, groundwater, contamination tests are done, major design decisions are premature.
- **Insist protective conditions for heritage structures**: mitigation plans must explicitly protect foundations, masonry, old bridges etc from settlement, vibration, groundwater alteration.

- **Require binding remediation / contingency plans**: if contamination or poor soil is found, plans to remediate or redesign must be legally enforceable.
- **Ask for monitoring of off-site effects**: ensure plans cover not only on-site but adjacent properties, roads, heritage walls being impacted by movement or contaminant migration.
- **Challenge assumptions of "low risk" zones**: if the Desk Study labels big areas as low or negligible risk based on limited data, demand proof (soil samples, boreholes).
- **Require public disclosure of future investigation results**: when Phase 2 or further reports come, they should be published and subject to consultation.

Phase 2 Geo-Environmental

- **Site investigations**: boreholes, trial pits, soil sampling, groundwater monitoring, geotechnical testing.
- **Contamination assessment**: identifies where "made ground," previous industrial use, or possible contaminants exist under the site or in nearby soils.
- **Ground conditions & stability**: soil types, bearing capacity, risks of settlement, slope stability, groundwater / drainage conditions.
- **Impact on structures & heritage**: evaluation of how excavation, dewatering, and movements could affect adjacent buildings, foundations, retaining walls, and heritage masonry.
- **Mitigation strategies**: recommendations for remediation, structural design adaptation, monitoring, managed excavation, capping, drainage, or barriers.
- **Residual risks & uncertainties**: areas where data is limited, where further monitoring is required, or where risk can't be fully eliminated.

Strengths & Promises

- The report gives more concrete data than the desk study, which means risk assessments are better informed.
- Mitigation proposals are detailed in many areas, with design suggestions like foundation types, soil capping, drainage, dewatering control, and monitoring.
- It acknowledges the risk to heritage and existing structures and includes provisions to monitor and protect them during works.
- It provides spatial mapping of borehole/trial pit locations, which help in visualising ground conditions across the site.

Weaknesses & Risks:

Here are the issues in the report that you can legitimately challenge or press for clarifications on:

1. ***Overlay with heritage / tree / works footprint lacking***
    - The report shows where soil issues or contamination are, but it's not clear (in what's publicly visible) how those zones overlap with proposed tree removal, flood walls, or heritage features. You should demand maps combining those layers.
2. ***Residual uncertainty / data gaps***
    - Even with thorough testing, some areas remain uncertain (i.e. where boreholes didn't reach, or data variability). Those uncertainties might hide worst-case conditions.
3. ***Risk to adjacent heritage structures***
    - Excavation, dewatering, and ground movement can damage foundations, old walls, bridges. The report proposes mitigation, but you need stronger guarantees (monitoring, vibration limits, immediate halt triggers) especially near historic structures.
4. ***Mitigation contingent / non-binding***
    - Some mitigation measures are proposed but not yet committed legally. Without binding enforcement, worst-case scenarios (cost overruns, shortcuts) could degrade effectiveness.
5. ***Interaction with vegetation / root zones***
    - Tree removal and excavation root disturbance can combine to destabilise soils. The report may not fully model root damage or how trees and soil behaviour interact under flood works.
6. ***Dewatering / groundwater alteration risks***
    - Lowering water tables or redirecting groundwater could affect adjacent properties, foundations, and historic masonry. The ripple effect must be carefully controlled.
7. ***Long-term monitoring and fallback contingency***
    - The report likely includes monitoring suggestions, but doesn't guarantee what happens if remediation or mitigation fails over time. There must be fallback strategies and enforcement.
8. ***Surface / slope stability in riverbank areas***
    - Some banks will be altered for flood works. The risk that steepening or changes in water flow could destabilise soil, cause erosion, or bank collapse needs very robust safeguards given heritage proximity.

Questions To Ask:

You can base part of your objection or questions to the planning committee or EA around:

- “Please provide overlay maps showing soil / contamination risk zones together with proposed tree removal, flood wall alignment, and heritage assets, so residents can see where risks and value overlap.”
- “What legally enforceable measures (e.g. vibration limits, real-time monitoring, automatic halt triggers) will protect heritage structures during excavation and dewatering?”
- “If mitigation or soil remediation fails, what fallback strategies or redesign mechanisms are guaranteed to prevent damage to adjacent properties / heritage assets?”
- “How will root zone disturbance from tree removals be integrated into the ground stability model? Has interaction between tree roots and loaded soil been assessed?”
- “Will the Phase 2 findings (contamination, soil strength) be published publicly with full data so the community can scrutinise them (borehole logs, soil sample analyses, cross-sections)?”

Planning Application Cover Letter

The Cover Letter is a formal introductory piece submitted alongside the planning application. Key points typically include:

- Identification of the project: “Hebden Bridge Flood Alleviation Scheme (Application 25/00947/FUL).”
- Summary of what the application includes: main works, tree removals, flood defences, environmental mitigation, landscaping, etc.
- A statement of conformity with local & national planning policy, regulatory frameworks (e.g. Environment Agency, conservation, habitats, heritage).
- Assertions that necessary assessments (Environmental Statement, BNG, HIA, geo-environmental, arboricultural, aquatic, archaeological) have been prepared and accompany the application.
- A request for support or approval, alongside declarations about consultation, exhibition of plans, public engagement, etc.
- Possibly a statement about how the scheme fits with broader flood risk management strategy, responsibilities, and community benefit.

Implicit Commitments & Risks

The Cover Letter often sets the tone for how the developer / EA frames the project to regulators, planners, and the public. From it, you can infer:

- They regard the application as comprehensive and policy-compliant, implying that they believe all necessary reports and mitigations are in place.

- The letter often claims that the design is balanced—i.e. between flood mitigation, environmental concerns, heritage constraints.
- It suggests that community engagement and consultation have been satisfactorily undertaken.
- It may frame the scheme in terms of "necessity" or "priority" (i.e. flood risk demands this investment) to strengthen the argument against objections.
-

The cover letter is not where the technical details are, but you can challenge its claims or framed promises:

1. **Overstated completeness**
    - If it claims that all assessments are "complete and submitted," yet some reports (e.g. full HIA, BNG detailed spreadsheets, full public access to documents) are inaccessible, that's misleading.
2. **Consultation claimed as sufficient**
    - It may assert that community consultation has been "thorough" or "wide," but as you've found in the SCI, EIA, etc., there are gaps. You can challenge the claim of adequacy.
3. **Policy compliance assertions**
    - The letter likely asserts compliance with planning policies (local and national). You can counter with evidence where the scheme may breach or insufficiently meet heritage, conservation, biodiversity, or flood policy requirements.
4. **Benefit framing without acknowledging costs**
    - It may frame the scheme as bringing significant public benefit (flood protection, safety). It may gloss over heritage loss, tree removal, visual impact, public amenity loss. You can argue that the letter's framing is unbalanced.
5. **Future commitments without binding terms**
    - The letter might refer to future mitigation, ongoing obligations, or conditions to be met. But unless those are bound in the planning permission, they remain aspirational.

Water Framework Directive

- The assessment examines how the proposed Flood Alleviation Scheme will affect the **water bodies** (Hebden Water, associated tributaries) in relation to the **Water Framework Directive** standards (ecological status, hydromorphological changes, water quality, continuity, morphology).
- It identifies where the scheme may cause **deterioration** of water status (e.g. through changes in flow, channel modification, barrier effects, sediment movement).
- It assesses the **"no deterioration"** test—meaning the scheme must show it does not worsen the existing quality of water bodies in terms of their WFD status.
- It proposes **mitigation measures** to avoid deterioration: e.g., designing weir modifications (notches, fish passes), maintaining continuity for aquatic organisms, improving connectivity, ensuring minimal encroachment into watercourse geometry.
- It also discusses whether any improvements to water quality or ecology might be achieved via the scheme (though typically such restorative gains are limited in flood defence projects).

Key Impacts and Risks

- **Hydromorphological change**: The scheme involves structural interventions in the river (weirs, walling, bank works) which will alter river shape, flow paths, sediment transport, and channel dynamics. These are central to WFD concerns.
- **Barrier effects**: If weirs are modified but still act as partial barriers, fish or invertebrate movement might still be impeded.
- **Potential deterioration**: The assessment flags parts of the scheme where metric thresholds might be challenged (i.e. if the works lead to deterioration in ecological metrics).
- **Sediment disruption**: Construction and modification of the river may cause sediment disturbance, deposition, turbidity, affecting aquatic habitats downstream.
- **Uncertainty & allowances**: The assessment acknowledges uncertainties — e.g. in how the river will respond long-term to changes, how mitigation will perform, and how future climate change may stress the river further.

Mitigation Measures & Commitments

- **Weir modifications**: Use of notching, partial removal, fish passes, and ramps to restore connectivity and minimise barrier impact.
- **Minimal intrusion**: Limit the encroachment into river cross-sections so as not to excessively restrict flow area or change channel morphology.
- **Channel enhancement**: In selected reaches, improving habitat (riffles, low-flow refugia, substrate) to boost ecological function.
- **Monitoring and adaptive management**: After works, monitoring aquatic ecology (fish, invertebrates, substrate, flow) to detect whether mitigation is successful, and ability to adjust if not.
- **Compliance with WFD "no deterioration" principle**: The scheme must show that it does not push the waterbodies to a lower ecological class/status.

Questions To Ask

From what the document reveals (and what remains uncertain), here are objection points you can raise:

1. ***Risk of degradation / failure of no deterioration"***
    - If any elements of the works cause degradation (even locally) of ecological status, that conflicts with WFD obligations. The scheme must robustly prove no net negative impact.
    - Challenge whether the proposed mitigations fully compensate for all hydromorphological changes.
2. ***Uncertainty in mitigation performance***
    - Many mitigations (e.g. habitat enhancements, fish passes) depend on long-term success. If they fail or do not deliver, the river might remain or become worse. Require contingency plans and binding guarantees.
3. ***Cumulative impact underplayed***
    - The assessment may treat the scheme in isolation. The cumulative effect of multiple changes—sediment, altered flows, climate stress—could push the waterbody towards deterioration. Demand holistic assessment including future developments.
4. ***Barrier effect residuals***
    - Even with partial weir removal, the remaining structures may still impede movement during low flows. Ask for flow modelling across seasons to ensure connectivity.
5. ***Monitoring & enforcement lacks clarity***

- The assessment proposes monitoring, but may not specify frequency, threshold levels, or triggers for corrective action. Demand that these be locked into planning conditions and publicly reported.

6. ***Climate change interactions***

    - Future droughts or extreme flows may exacerbate impacts (e.g. by lowering base flows or intensifying sediment movement). The WFD assessment should account for those scenarios. If it doesn't, that's a gap.

7. ***Transparency of baseline / modelling***

    - The modelling assumptions and baseline data used in WFD calculations must be shared publicly — e.g. flow data, ecological status, model parameters. If those are hidden, it's hard to test their claims.

Heritage Statement For Non-Designated Weirs

This statement is specifically focused on the **weir structures** along Hebden Water (and possibly the River Calder) that are **not formally listed**, but still have heritage interest. Key points include:

1. Purpose & Scope

- The statement addresses **non-designated heritage assets** specifically relating to **weir structures** (i.e. those not officially listed or scheduled) which the scheme proposes to modify - Lower Mill, Foster Mill, Hanginroyd Mill, Bridge Mill (Innovation) and Lee Mill
- Its role is to assess how modifying these weirs may affect heritage value, archaeological potential, and setting, and to propose mitigation.

2. Weir Locations & Identities

- It refers to the same weirs described in the main scheme documents (the five weirs). The one it focuses on is the **"non-designated weirs"** as distinct from listed or scheduled heritage assets.
- The modifications are intended on these **non-designated weirs** mainly to facilitate **fish passage**, improve ecological connectivity, and reduce barriers to aquatic life.

3. Proposed Modifications

- The modifications are not wholesale removals, but **targeted alterations** such as:
    - Lowering portions of the weir crest at controlled positions
    - Inserting **baffles** or **notches**
    - Creating **stepped or bypass channels** adjacent to weir walls
    - Adding **slots** or fish ladders in certain reaches

- The works aim to **retain as much original fabric** as possible.

4. Heritage Impact Assessment

- The document assesses the magnitude of impact on heritage significance, considering:
    - **Physical integrity**: how much original structure is altered or lost.
    - **Setting and visual impact**: how the changes may alter the character or views of the riverscape.
    - **Archaeological potential**: whether underlying or adjacent remains may be disturbed by modifications.
    - **Cumulative impacts**: alongside other flood defence works across the town.
- It suggests that the works can be designed such that **heritage harm is minimised** and that **mitigation (recording, photographic survey, sensitive detailing)** can reduce residual impacts.

5. Mitigation Measures Proposed

- **Conditional retention** of existing stone and masonry where possible.
- **Photographic record** and measured drawings of the weirs before alteration.
- **Archaeological watching brief** during any ground intrusion work.
- **Use of matching stone, mortar, and textures** in repairs.
- **Gradual transitions** so that new alterations blend in.
- **Limiting extent of new cuttings or removal** of masonry.
- Ensuring changes are **reversible or maintainable** where feasible.

Weaknesses & Risks:

Based on the heritage statement and combining with what was found elsewhere, here are likely impacts:

Impact on Homes & Properties

- Homes adjacent to riverbanks near weirs may be affected by **noise, vibration, and temporary flooding risk** during weir modification works.
- Modifications may require **temporary scaffolding, coffer dams, or river diversions**, which could put pressure on adjacent property boundaries, walls, or foundations.
- If access paths or riverside walkways are adjacent to weirs, homeowners ’**access to gardens or lower levels** might be interrupted.

- Because the weirs are integral to water flow, any structural error could affect upstream water levels, potentially increasing flood risk locally if not carefully controlled.

Traffic, Road & Access Impacts

- Weirs often straddle or adjoin road/bridge crossings. Work on them may necessitate:
    - **Partial or full closures** of bridges or road lanes during phases of construction.
    - **Traffic diversions** while certain parts are blocked for safety, material delivery, or erection of temporary works.
    - **Temporary suspensions of footpaths/pedestrian routes** crossing the river near weirs.
- Large machinery, stone transport, and maintenance vehicles will require **access routes**, possibly via narrow town streets, causing congestion or parking restrictions.
- The heritage statement itself does not detail traffic management, but because weirs are in river corridors, works are likely to intersect with **river-crossing infrastructure** (bridges, roads) that vehicles use.

Questions To Ask:

1. ***"Non-designated" doesn t mean unimportant***
    - Because these weirs are non-designated, there is a risk they'll be treated more lightly than **designated heritage assets**, even though they are part of the historic riverscape. This bias may lead to greater harm.
2. ***Lack of precise mapping / overlap***
    - The statement may describe weirs in general, but likely *does not* spatially overlay proposed weir modifications against all heritage features, visual viewpoints, or tree buffer zones.
    - Without that, the real extent of visual or heritage damage is obscured.
3. ***Reversibility is overstated***
    - While it mentions that modifications "ideally" be reversible, in practice structural works (foundations, walling, concrete, integrative works) may make full reversal impractical.
4. ***Mitigation dependency and uncertainty***
    - Key mitigation is conditional (e.g. minimising visible change, using sympathetic materials). But these are not guaranteed or enforceable if constraints or budgets change.

5. ***Visual impact underplayed in some locations***

    - In highly visible stretches (town centre, near bridges), the statement may underestimate how noticeable even "minor" weir changes are to local views and character.

6. ***Neglect of tree / riverside buffer interaction***

    - The statement tends to focus on the weir structures themselves, without full integration of how surrounding trees, buffer vegetation, views, and riverside character will be affected by weir modifications and associated removal of tree cover.

7. ***Future design flexibility creates risk***

    - Because they reserve the right to alter designs later, the statement may not fully guarantee heritage protection under all future versions.

Ecological Preliminary Report

The Preliminary Ecological Appraisal (PEA) is an early ecological survey to identify existing biodiversity, habitats, species of interest, and ecological constraints. Some of the main items you're likely to find in it include:

- **Habitat types present**: maps and descriptions of hedgerows, scrub, grassland, woodland patches, river margins, banks, aquatic habitat, riparian vegetation.
- **Species observations / potential**: recording of visible species (birds, bats, invertebrates, possibly protected species), limitations on surveys (seasonality), and zones where further detailed survey is recommended.
- **Ecological constraints & sensitivities**: certain habitat patches or species presence may impose restrictions on where construction can go, buffer zones, or timing for works.
- **Recommendations for further survey work**: e.g. bat roost assessment, breeding bird surveys, aquatic invertebrates, dormouse or small mammals, amphibians.
- **Preliminary mitigation proposals**: retention of habitat patches, buffer zones, good practice working methods, avoidance of key zones, planting, habitat compensation.

Weaknesses & Risks

- **Survey timing & seasonality**: If the survey was done outside the optimal window for bird breeding, bat activity, invertebrates etc, it may miss species. Mitigation may be under-informed.
- **Insufficient detail for high-sensitivity zones**: Some areas (river margins, woodland edges) might be lumped generically, without recognising micro-habitats or rare species niches.
- **Reliance on preliminary status**: As a "preliminary" document, it may disclaim that further surveys are needed. But the danger is decisions may be made before those more detailed results are available.
- **Buffer / exclusion zones vague or weak**: The PEA may recommend buffer distances (say, 5m or 10m) but not assess whether those are sufficient given the scale of flood works.
- **Compensation vs retention emphasis**: If many habitats are considered "loss and replace", the report might downplay that **retention / avoidance** should always be prioritised, especially in a conservation zone.
- **No quantification of ecological value loss**: The PEA is descriptive; it might not put numbers on units of habitat lost or species population impact. Harder to test trade-offs.
- **No guarantee of long-term success**: Mitigation planting or habitat compensation is proposed, but survival, maintenance, connectivity, and resilience under climate conditions may not be robustly addressed.

Design & Access Statement

- **Design Philosophy & Objectives** — the guiding principles, design goals (flood resilience, visual harmony, sustainability, community amenity).
- **Site Analysis** — existing conditions, constraints (topography, heritage, access, river courses).
- **Design Proposals** — layout of walls, flood barriers, walkways, landscaping, access routes, building refurbishments.
- **Access & Movement** — how people (pedestrians, vehicles), access for maintenance, connections across the site are maintained or altered.
- **Materials, Appearance & Integration** — proposed materials, façade treatments, attempts to blend with local character.
- **Public Realm & Landscaping** — riverbank edges, planting, open spaces, riverside walk continuity.
- **Justification of Design Choices** — trade-offs made, why certain options were selected over alternatives.
- **Heritage & Visual Impact Considerations** — how the design respects heritage setting and views.

- **Implementation Phasing & Management** — construction stages, temporary access, maintenance strategies.

Weaknesses & Risks:

1. ***Design vs Heritage Tension***
    - Some proposed structures (walls, vertical barriers) might dominate heritage settings. The statement underplays how visually intrusive they will be.
    - The materials selected might not always match historic texture or patina — creating contrast rather than blending.
2. ***Access / Public Realm Compromises***
    - The design may alter or narrow paths, change walkways, or obstruct riverside access. If so, these should be justified clearly — and mitigation (alternates) shown.
    - For people with mobility issues, subtle changes (slopes, ramp gradients, barrier placements) must be well-designed. If not, that's a viable objection.
3. ***Landscaping & Tree Integration***
    - The design statement may rely on new planting to mask hard structures, but mature trees lost will take decades to compensate.
    - The layout may not leave adequate space for root zones or healthy growth of replacements.
4. ***Assumptions & Missing Detail in Alternatives***
    - Some design options likely were discarded — but the statement may not fully present or justify those alternatives in detail.
    - It may state that constraints forced certain harms, but not show thorough comparison of lower-impact designs.
5. ***Phasing / Construction Access Conflicts***
    - During construction, some areas might be closed or disrupted; the statement's plans may not sufficiently ensure public continuity or safety.
    - If temporary structures or passages are narrow, unsafe, or poorly signposted, that's a practical concern.
6. ***Enforcement of Promises***
    - Many design statements make aspirational commitments (e.g. "will use sympathetic materials") without binding guarantees. Those need to be locked into planning conditions.
7. ***Overemphasis on Engineering Convenience***

- Design decisions may favour ease of construction over heritage, ecology, or community experience.
- Some aesthetic or access trade-offs might have been made purely to facilitate machinery or cost savings.

Construction Environment Plan:

The CEMP outlines how environmental risks will be managed during the construction phase of the Hebden Bridge Flood Alleviation Scheme. Key elements include:

Key Sections & Measures

1. ***Roles, Responsibilities & Governance***
    - The plan assigns responsibility to particular roles (site manager, environmental manager, contractor) for implementing mitigation, monitoring, reporting.
    - It should specify lines of accountability, liaison with local authorities, and compliance monitoring.
2. ***Construction Phase Control Measures***
    - **Erosion & Sediment Control**: use of silt fences, sediment traps, turbidity barriers in rivers, careful management of runoff.
    - **Pollution / Spill Management**: procedures for fuel / oil storage, spill response plans, bunding, containment.
    - **Dust / Air Quality Management:** watering, wheel washing, limiting vehicle emissions, screening of dusty activities.
    - **Noise & Vibration Control:** restrictions on operation hours near noise-sensitive receptors, vibration limits near structures, use of quieter plant.

- **Waste Management**: plans for construction waste, segregation, disposal, reuse.
- **Traffic & Access Management**: defined routes for site traffic, vehicle cleaning, minimising disruption to public roads / pedestrian access.
- **Protection of Flora / Fauna**: buffer zones, tree root protection, nesting season avoidance, wildlife crossings.

3. ***Monitoring, Auditing & Reporting***
   - Required environmental monitoring (water quality, noise, dust, vibration) at set intervals and locations.
   - Audits or inspections to ensure compliance with mitigation measures.
   - Reporting procedures, including how noncompliance is reported, remedial action triggered, and decision escalation.
4. ***Contingency & Corrective Actions***
   - If monitoring shows thresholds are exceeded, the plan should trigger corrective mitigation (e.g. reduce activity, additional buffer, modify method).
   - Emergency response procedures (spills, flooding, equipment failure).
   - Adaptive management: the ability to alter methods in response to unforeseen environmental issues.
5. ***Phasing & Staging of Works***
   - The CEMP generally outlines how works will be phased to reduce simultaneous disturbance (e.g., only one riverbank section active at a time).
   - It may define periods or sequences when work in sensitive zones (near heritage, near trees, near water) is restricted.

Weaknesses & Risks

Even though a CEMP is good practice, there are often gaps or weak points. These are things to check carefully and press on in your objections:

1. ***The Outline" nature means details are deferred***
   - Because it is an **outline plan**, many mitigation details likely are not fixed — they depend on final design choices. This gives room for slippage or weakening during execution.
2. ***Vague thresholds / triggers***

- Sometimes the plan states that "if threshold exceeded" then corrective action, but doesn't specify **which thresholds**, **who monitors them**, or **how quickly action must follow**.

3. ***Lack of enforcement detail***

   - It may lack clarity about **penalties, governance**, or **independent oversight** to ensure that contractors cannot simply bypass or underperform mitigation.

4. ***Limited site-specific nuance***

   - In constrained zones (heritage buildings, near mature trees, riverbanks) the CEMP may treat mitigation generically rather than tailoring to sensitive adjacent conditions.

5. ***Interactions / cumulative effects underplayed***

   - Multiple mitigation measures might interact in trade-offs (e.g., dust suppression water runoff + sediment control) which may be under-analysed.

6. ***Monitoring excepted in some zones***

   - Sometimes, the plan defines fewer monitoring points in less obvious or harder-to-access places, which may miss localised damage or breach.

7. ***No guarantee of public oversight or transparency***

   - The CEMP may not commit that monitoring data or audit reports will be made publicly available (so the community can check whether mitigation is working).

8. ***Contingency capacity might be insufficient***

   - If unforeseen environmental damage occurs (e.g. severe storm, equipment failure), the CEMP's remedial options might be weak or slow to deploy.

Breeding Bird Report (June 2025)

- The proposed development is within the **impact risk zone of the South Pennine Moors SPA** and in a **priority area for curlew and lapwing conservation**.
- The scheme affects river weirs and adjacent grassland, woodland, and scrub habitats — especially around **Machpelah** and **Hebden Water**.

Notable Species Present:

- **Schedule 1 protected species recorded:**
    - Barn owl (potential nesting site 1.1km away)
    - Red kite
    - Goshawk
- **BTO notable or priority species:**
    - Dipper, grey wagtail, redstart, swift, swallow, starling, linnet, reed bunting, pied flycatcher
- **Breeding and foraging activity recorded** particularly along tree lines, grassland and riverbank areas within and adjacent to the scheme.

Key concerns and Risks:

- **Construction impacts:** Noise, vibration, increased activity, and light disturbance could **displace birds**, disrupt nesting, and damage foraging habitats.
- **Habitat loss:** Trees, vegetation, scrub and wall crevices along waterways may be removed, affecting nesting and commuting routes.
- **Timing conflict:** Some works will take place during **March–August**, the **government-defined bird breeding season**.
- **Fragmentation:** Temporary disruption of bird movement due to construction machinery, materials storage and channel works.

Proposed Mitigation Measures:

- Appointment of an **Ecological Clerk of Works (ECoW)** for monitoring.

- Vegetation clearance **outside March–August** where possible, but some in-season clearance is admitted to be unavoidable.
- **Toolbox talks, exclusion zones, and noise barriers** around active nests if found.
- Encouraged use of **directional lighting**, low-noise equipment, and planting of native shrubs/trees post-works.
- Acknowledgement that birds may still be disturbed even with measures in place.

Weaknesses & Risks:

Protected Species and Schedule 1 Legal Risks

- Works are **not guaranteed to avoid** disturbing:
  - **Barn owls**, which require a **175m exclusion zone** from heavy construction
  - **Redstart, dipper, grey wagtail, tawny owl**, and other key local breeders
- The Wildlife and Countryside Act 1981 (as amended) makes it **illegal to disturb nesting Schedule 1 birds** — yet:
  - Some clearance and construction is still proposed during peak breeding season.
  - Mitigation is presented as advisory rather than **legally enforced conditions**.
- **Objection Grounds:** The current mitigation does not meet the legal threshold for protecting these species.

Biodiversity Loss Without Guaranteed Net Gain

- While replanting and wildflower sowing are suggested:
  - There is **no detailed timeline**, **no commitment to post-construction management**, and no **monitoring plan** to ensure success.
- The scheme admits **permanent habitat loss** (trees, walls, foraging ground) and **temporary habitat fragmentation**.
- National Planning Policy Framework (NPPF) requires **measurable biodiversity net gain** — this is not demonstrated.

Proximity to South Pennine Moors SPA

- Although direct SPA species use is limited, the **impact zone overlaps a designated European site**.
- Merlin observed flying over the site.

- Even minor risks to SPA integrity require a **Habitat Regulations Assessment (HRA)** under the **Conservation of Habitats and Species Regulations 2017**.
- The absence of a clear HRA screening or Appropriate Assessment could be a legal flaw.

Disturbance from Noise and Lighting

- **Construction noise >70dB** likely during piling and machinery use.
- **No binding conditions** for:
    - Location-specific noise barriers
    - Light spill prevention
    - Use of low-noise equipment
- The scheme assumes **bird species will habituate to noise**, which contradicts peer-reviewed data on breeding disruption.

Data Validity and Survey Lifespan

- Surveys are **valid for only 18 months** per CIEEM standards.
- With phased construction and potential delays, the risk of outdated data is high — but **no reassessment timeline is guaranteed**.
- **Objection Grounds:** Without regular review, mitigation measures may become scientifically invalid during the project lifespan.

Summary of Objection Themes:

Category	Objection Focus
Wildlife Legislation	Schedule 1 species at risk – legal breach under Wildlife and Countryside Act
Biodiversity & Net Gain	Habitat loss unbalanced by clear post-construction ecological restoration plan
Noise/Light/Disturbance	No enforceable mitigation plans in high-sensitivity areas
Legal/Procedural Compliance	HRA and SPA impact potentially underestimated
Ecological Data Validity	No plan for re-surveying or data refresh if delays occur

Stonework & Cladding Principles

From examining that document, its goals appear to be:

- **Guiding specification of stone materials** — types, finishes, textures, jointing, weathering expectations.
- **Standards for installation** — how stone should be fixed to underlying structure, how expansion/movement should be accommodated, detail around junctions, sills, copings, drip details, mortar mix, and pointing.
- **Visual integration / matching local character** — ensuring stonework and cladding respect local stone types, colour, grain, tooling, weathered appearance.
- **Durability & maintenance** — specifications on expected longevity, future repairs, how cladding is to age gracefully, how to avoid water ingress, freeze-thaw cycling, cracking, joint movement.
- **Detailing/specification of ancillary elements** — flashings, abutments, interfaces with metalwork, changes in levels, coping stones, drainage sloping.

In short, the document is intended to set the **quality bar** for stone/cladding work so that when the flood scheme touches structural or façade elements (walls, barriers, parapets), there's a guide for how "good" the finish must be.

Weaknesses & Risks:

While the stonework principles are helpful in theory, there are several gaps or risks you can challenge:

1. ***Non-binding language / aspirational tone***
    - If the document uses words like "should", "preferably", "where possible", it might not commit to enforceable standards.
    - Objection: demand that all principle provisions become **conditions of consent**, so the contractor must comply, not merely "aim" for them.
2. ***Insufficient integration with structural & environmental stress***
    - Stone on river banks, flood walls, and water-exposed settings must endure moisture, freeze-thaw cycles, humidity, potential hydraulic pressure. If the principles don't account robustly for those stressors, the stonework may degrade early.
    - Objection: require stonework principles to include **performance testing**, stress resilience, and clearly defined maintenance schedules under flood conditions.
3. ***Lack of clarity on local reference / matching samples***
    - The principles may refer to "matching local stone" but not specify which quarries, grain, weathering, colour, or how new stone integrates with aged stone.
    - Objection: demand sample panels on-site, third-party approval, and that new stone must not visually jar in heritage areas.
4. ***Missing specification of fixings, anchors, movement joints***
    - Particularly in cladding or stone panels, the durability depends heavily on anchoring systems, tolerances, movement joints, drainage behind stone. If the document is weak on these technical details, failure risk is high.
    - Objection: insist that stonework principles include precise specification of anchor types, movement allowance, drainage behind stone, and that those must be made available to public review.

5. ***No fallback for remedial works or failure***

    - If imperfections or damage occur over time (cracking, spalling, mortar failure), the document may not impose responsibility or guarantee repair.

    - Objection: require that principle include **guaranteed maintenance obligations**, warranties, or repair plans for stonework for a long term (e.g. 30 years).

6. ***No linkage to heritage / conservation oversight***

    - The principles likely do not explain how stone preferences will be coordinated with **heritage officers**, **conservation-area plans**, or local stone vernacular.

    - Objection: demand that any variation from these principles be approved by the local conservation officer or by a heritage panel.

Bat Survey Report

What the Report Covers / Shows:

- **Baseline survey effort**: methods (dusk/dawn transects, static detectors, emergence surveys, inspection of buildings / trees) and timing (seasons, weather conditions).
- **Species recorded / likely species**: which bat species were detected (or suspected) in the scheme area, their habitat use (foraging, commuting, roosting) and their relative activity levels.
- **Potential roost features**: identification of trees, buildings, culverts, crevices, walls or structures that could support roosts.
- **Impact assessment**: anticipated risks from the scheme to bats — e.g. loss of foraging habitat, severed commuting routes, disturbance, artificial lighting, destruction of roost potential features.

- **Mitigation recommendations**: e.g. lighting design (low-level, shielded, directional), retention of buffer zones, sensitive timing for works, creation of bat boxes or replacement roost habitat, exclusion or soft-felling of trees under supervision.
- **Monitoring / further surveys**: when additional surveys might be needed, how post-construction monitoring might be structured, or when adaptive mitigation may be required.

Weaknesses & Risks:

These are the spots where the Bat Survey Report is vulnerable and where you can press for more detail, stronger provisions, or outright refusals without fix:

1. ***Survey timing, coverage and detectability***
    - If surveys were done only in narrow windows or under limited conditions (e.g. late in season, poor weather), they may miss roosts or species (especially rarer ones).
    - Some structures or large old trees may not have been fully surveyed, especially interior inspection of cavities or behind wall cladding.
2. ***Assumption of absence / low use***
    - The report may conclude that "no significant roosts detected" or "activity is low," but absence of evidence is not evidence of absence — particularly for elusive species.
    - Use of interim or rough assessments may downplay the importance of potential roost structures.
3. ***Lighting & Hard Barrier Impact Underestimated***
    - Artificial lighting is a significant bat deterrent. If the mitigation for lighting is vague (e.g. "minimise spill"), it might not adequately protect commuting routes or feeding zones.
    - Barriers (walling, fences, vertical structures) may be treated as minor, but even small obstacles can disrupt flight lines.
4. ***Weak buffer / exclusion zones***
    - The recommended buffer distances (if any) may be minimal, especially near linear features or watercourses.
    - The report may not demonstrate that the buffer is adequate for all sensitive species present.
5. ***Lack of enforceable mitigation / fallback***
    - Mitigation is likely presented as advisory ("should", "recommended") rather than mandatory or enforceable by condition.

- It may not commit to what happens if mitigation fails or bat use declines.

6. ***No long-term monitoring or adaptive management guarantee***

    - The report may propose monitoring but without specifying duration, thresholds for corrective action, or public reporting.

    - Without strong monitoring, damage or decline might go unnoticed and unremedied.

7. ***Habitat loss not fully accounted***

    - Loss of foraging habitat (tree lines, hedgerows, riparian vegetation) may be accepted too lightly, without sufficient replacement or connectivity planning.

    - The cumulative loss of linear features (trees, scrub) may have a greater effect than the report estimates.

Questions To Ask:

Here are specific objections or demands you can raise, based on the weaknesses above:

- **Demand full disclosure and independent verification**: ask for all detector logs, time-stamped data, location maps of bat passes, and that an independent bat ecologist reviews them.

- **Insist on mandatory conditions**: lighting must be **bat-friendly** (shielded, low lux, cut-off times), and any walls or barriers must include **bat passages or internal gaps** for commuting.

- **Require buffer / exclusion zones with legal enforceability**: e.g. no works within X meters of identified bat paths or roost features during key seasonal windows.

- **Compulsory long-term monitoring and reporting**: e.g. monitoring for 5–10 years post-construction, with trigger thresholds to require remedial measures.

- **Backup mitigation in case of failure**: if bat population declines, there must be fallback actions (e.g. creation of new roost structures, habitat restoration).

- **Delay final works until further surveys if uncertainty remains**: especially for seasons or special species that may not have been captured by initial surveys.

- **Habitat connectivity preservation**: ensure that all linear vegetation corridors, tree lines, and hedgerows remain connected or replaced in ways that support bat movement across the site.

Major Areas / Sites & Proposed Work

Area / Site	Proposed Work / Activity
Hebden Water & River Calder (general reach)	Repair / reconstruction of river walls; modifications to riverbanks and flood defence works
St Pols Car Park	Construction of new walls within the car park
Bridge Gate	Installation of vertical rising flood barriers
Old Gate	Installation of vertical rising flood barriers
Specific private properties	Repair and reinforcement of property walls / structures adjacent to river or flood works
Weirs (five of them)	Modification works: partial removals, notching, lowering, inclusion of fish passes / hydraulic alterations
Central Street Footbridge	Replacement of the footbridge
Two bridges across Hebden Water	Reinforcement works on existing bridges
Construction compounds (two locations)	Use of land for staging, storage, equipment, site offices etc.
Outbuildings to rear of No. 35 West End (along Hebden Water)	Demolition of outbuildings - Blazing Saddles
Landscaped public open spaces	Landscaping, planting and public realm improvements adjacent to waterways and flood structures
"Machpelah area"	Initially in footprint but later discounted (mentioned in bird survey / scheme revisions)
Walls / Cladding / Stonework zones	Stonework, cladding, wall finishes in flood defence walls and parapets — areas where visual and heritage impact needs mitigation

1. 35 West End, Hebden Bridge

- **Mentioned in**: Planning Notice, Design & Access Statement
- **Context**: Outbuildings to the rear of this property will be **demolished**.
- **Location**: Along Hebden Water, within the scheme's central zone.
- **Use**: Likely residential or mixed use.

2. Properties on Bridge Gate & Old Gate

- **Mentioned in**: Multiple documents

- **Context**: These will undergo **"repair and reinforcement of specific properties"** and be impacted by the **installation of vertical rising flood barriers**.
- **Detail**: No exact addresses given, but multiple premises along both streets are within scope.
- **Use**: Many of these are **shops, cafés, and small businesses**, possibly with flats above.

3. Properties Affected by Wall Works

- **St Pol's Car Park Area**
    - Backing properties may be impacted by **new flood walls** and **compound access routes**.
- **Central Street**
    - Replacement of the **footbridge** may affect nearby buildings (though no exact properties are named).

4. Machpelah Area

- **Mentioned in**: Ecological Reports
- **Context**: Originally within redline boundary, **later removed**. Includes **open green space and adjacent residential units**.
- **Note**: Though removed, it was initially surveyed as a development area.

5. Stubbing Holme Road / Holme Street

- **Mentioned in**: Stonework Principles & Design Statement
- **Context**: May face **access disruption** and **visual impacts**.
- **Buildings**: Commercial and residential premises flank both sides of the river here.

6. Weir Locations (HW1 to HW5)

- **Mentioned in**: Ecological Reports and CEMP
- **Context**: Some **residences near weir areas** may face disturbance.
- **Detail**: No explicit addresses but proximity to residential zones is acknowledged (especially north of town).

7. Properties Impacted by Vibration, Access, or Utility Works

- **Mentioned in**: CEMP and Flood Risk Assessment
- **Context**:

- “Reinforcement works” to **unnamed properties**.
- Disruption to **access/parking** for private dwellings.
- **Vibration/noise risk** for adjacent homes.

Summary of Quantity and Types:

Property Type	Estimated Number	Location Context
Residential houses	~6–12	Primarily along Hebden Water & Old Gate
Mixed-use buildings	~10+	Bridge Gate, Holme Street, West End
Commercial only	~8–15	Town centre (shops, pubs, cafes)
Public-facing buildings	Several	Old Gate pub

- Very few other public or commercial properties are **explicitly named with addresses** in the documents
- Many properties are described generically (e.g. “properties on Bridge Gate / Old Gate”, “specific properties”) without giving a business name or address.
- No full list of all shops, cafés, or businesses along the riverfront is given in the technical or design documents

Weaknesses & Risks

1. Design and Access Statement

- Mentions that **homes and businesses** will be protected by the scheme, but does **not specify addresses**.
- The term "residential properties" is used generally when discussing visual impact and consultation.
- It notes that views of the river will change **for nearby homes** but does not list how many or which.

2. Outline Construction Environmental Management Plan

- States construction compounds will be **near residential and commercial properties**, and measures will be taken to reduce **noise, dust, and light pollution**.
- No addresses are provided, but it implies **homes are in close proximity** to several worksites.

3. Planning Application Documents (Various)

- The **number of homes** is not stated explicitly in any one document.
- Several maps show **residential zones or buildings near**:
  - **Central Street Footbridge**
  - **Bridge Gate**
  - **Old Gate**
  - **St Pol Car Park**
- These areas are lined with residential flats above shops and independent dwellings.

4. Environmental Statement – Volume 2 & Appendices

- Notes the **impact on visual amenity** for "nearby residential dwellings."
- Homes are referenced in relation to:
  - **Potential noise** from construction.
  - **Visual impact assessments**.
  - Potential **flood protection benefit**.

No Precise Home Count or Addresses

Despite broad mentions of "homes" or "residential properties":

- **No clear number** of homes is ever given.
- **No addresses** or property names are listed.
- **No compensation plans** or communications to individual homeowners are visible in the public-facing documents

PLEASE NOTE

Omission of Major Works at The Shoulder of Mutton Pub – Grounds for FULL Objection

Application Reference: 25/00947/FUL – Hebden Bridge Flood Alleviation Scheme
Location: Hebden Water & River Calder, Hebden Bridge
Key Omission: *No reference to proposed 2028 works to remove and rebuild the rear river-facing wall of the Shoulder of Mutton pub — a major structural intervention.*

Why This Is a Serious Issue:

1. Major Public Disruption Not Disclosed

- Closing a central, high-footfall business like the Shoulder of Mutton pub — a **listed local venue** and cultural site — has **significant implications**:
    - Loss of trade and employment
    - Social and tourism impact in the town centre
    - Noise, dust, and disturbance in a tightly packed heritage area
- Yet this **entirely absent** from:
    - Planning & Design Statement
    - Construction Environmental Management Plan
    - Flood Risk Assessment
    - Heritage Impact Assessments
    - Public Notices

This renders the current application **incomplete and misleading** under planning disclosure obligations.

2. Failure to Assess or Mitigate Heritage Risk

- The pub dates back several centuries and is an **integral part of Hebden Bridge's conservation area**.
- Demolishing and rebuilding part of the structure **requires a Listed Building Consent** if the building is listed — and full heritage impact statements if it is a **non-designated heritage asset**.
- No structural surveys, materials guidance, or **impact mitigation** for this work is included — a significant procedural breach.

3. Inaccurate Environmental Assessment

- Removing and reconstructing the riverside wall will involve:
    - Major construction equipment in the river channel
    - Temporary closure or scaffolding above the water
    - Noise and light disturbance in the heart of town
    - Potential pollution or silt disturbance directly into Hebden Water
- Yet **no environmental modelling, seasonal planning, or mitigation** for this specific location exists in the Environmental Management Plan or Flood Risk documents.
- This makes the **CEMP (Construction Environmental Management Plan)** unfit for purpose and potentially in violation of **Environmental Impact Assessment (EIA) Regulations**.

Why This Is a Valid Ground for Objection:

Issue	Relevance
Lack of Disclosure	A major phase of the project is hidden from all documentation, breaching transparency obligations.
No Heritage Impact Assessment	Undermines conservation policies and listed building protections.
No Environmental Mitigation Plan	Illegal under EIA regs if works involve river channel disturbance and protected zones.
No Public consultation	Breach of Localism Act & NPPF principles on public participation.
Misleading Scope	Invalidation of consent process due to incomplete description of works.

HYDRAULIC MODELLING

1. Hydraulic Modelling Overview

- The hydraulic modelling was carried out using **ISIS-TUFLOW** software, a widely accepted industry standard for simulating river and floodplain interactions.
- The model integrates both **1D river channel flows** and **2D floodplain interactions**, offering a detailed and site-specific representation of how water behaves in Hebden Bridge during various flood scenarios.

2. Purpose of Hydraulic Modelling

- **Designing Defence Heights**: Hydraulic modelling determines required defence wall heights throughout the catchment to ensure protection against a 1 in 100-year flood event (plus climate change).
- **Determining Flood Mechanisms**: The model evaluates how and where water overtops, flows, or pools across the urban area.
- **Assessing the Impact of Proposed Works**: The model is used to assess how various design scenarios would influence flood risk upstream, downstream, and on-site.

3. Specific Uses in the Scheme

- **Wall Heights and Locations**: Defence walls, earth bunds, and raised thresholds are designed based on output from the hydraulic model. Specific areas like **Stubbing Holme Road**, **Central Street**, and the **Machpelah area** are included in these calculations.
- **Flow Paths**: The model shows that out-of-bank flows from Hebden Water affect several low-lying areas, notably **Market Street**, **Bridge Gate**, and the **valley floor**, including impact around key transport and business hubs.
- **Property Flood Resilience (PFR)**: The model was used to score and select properties for PFR where physical barriers weren't viable or where hydraulic benefits were limited.

4. Model Validity and Environment Agency Review

- The model outputs were reviewed and approved by the **Environment Agency**.
- The modelling includes both present-day and future scenarios (factoring in **Climate Change Allowances** of up to +70% peak flows by the 2080s).
- Confidence levels are stated to be high, but **local ground verification and LiDAR data** were used to increase precision.
-

5. Hydraulic Modelling Inputs

- **Topographic surveys**
- **LiDAR datasets**
- **Bathymetric surveys** (of the River Calder and Hebden Water)
- **Hydrological data** from past floods and flow gauges
- Structural details of culverts, bridges, and embankments

6. Key Outcomes

- **Up to 15 critical overtopping locations** were identified in the baseline model.
- The **"do something" scenario** (with new walls, weir work, and upstream attenuation) reduces the number of properties at risk by a substantial margin.
- **Model confirms no increase in flood risk to upstream or downstream areas** due to the scheme.

7. Limitations & Assumptions

- Modelling assumes **clean channels** (i.e. no blockage from debris).
- Modelling **does not factor in surface water runoff** in fine detail, which is instead addressed through separate drainage and urban surface water reports.
- **Combined sewer surcharge scenarios** (e.g. from Keighley Road or Birchcliffe Road) are not fully integrated into the fluvial model.

8. Associated Report

- **Document title**: *Fluvial Hydraulic Modelling Report* – ID: ENVIMNE790483-BMM-00-HB-RP-EN-C1101
- **Included within**: Technical appendices referenced in the Flood Risk Assessment and Design & Access Statement.
- **Not currently extracted or shared directly**, but referenced throughout all flood defence planning documents.

Summary of Relevance

Section	Use of Modelling	Outcome
Wall height determination	Determines crest height of new defences	Prevents overtopping

PFR Scoring	Informs selection of homes for resilience	Used where walls not feasible
Environmental impact	Assesses flow impact on habitats and biodiversity	Confirms no detriment
Planning justification	Supports scheme approval under NPPF	Meets flood mitigation criteria

Weaknesses & Risks

1. **Omission of Surface Water Interaction**: Despite mentions of urban runoff issues on Keighley Road, Birchcliffe Road, and Market Street, these are **not modelled** in full hydraulic integration, posing a potential gap in flood impact analysis.

2. **No Public Access to Model Data**: The actual full modelling report (C1101) is not currently viewable by the public despite being referenced. This limits transparency for community review.

3. **Reliance on Assumptions**: Assuming clean channels and no blockage may underestimate risk during extreme weather or maintenance failures.

4. **Scoring System Opaque**: The use of modelling to prioritise which homes receive PFR measures is not published in full, raising concerns about fairness, especially between homes and businesses.

ERRINGDEN — FULL REPORT SUMMARY

1. *Contextual Reference to Erringden*

- **Erringden** appears primarily in reference to **Erringden Hillside** and **Erringden Road**, both of which are mentioned in technical appendices and maps related to flood alleviation impacts, especially in relation to **visual impact**, **access routes**, and **nearby woodland and moorland areas**.

- It is part of the **wider hydrological catchment** area considered in surface water and runoff modelling.

2. *Landscape and Tree Planting at/near Erringden*

- **Reinstatement and planting schemes** are proposed at various sites affected by construction. Specific references to Erringden planting include:

"Areas adjacent to the southern access track near Erringden Hillside will be restored with **native tree planting and ground cover species** consistent with local habitats."
— Outline Construction Environmental Management Plan (CEMP)

- **Species selection** mentioned includes:
  - *Hawthorn*, *oak*, *holly*, and *rowan*.
  - **Replanting will target visual screening**, ecological value, and slope stabilisation.
- The **tree planting and landscaping strategy** aims to:
  - Compensate for trees lost to construction access and compound zones.
  - Reduce visual impact from receptors (homes) overlooking the Scheme.
  - Re-establish **woodland continuity** at key pinch points near Erringden.

3. *Surface Water Runoff and Drainage (Erringden & Surroundings)*

Erringden is within one of the **secondary catchments feeding into Hebden Water**, and runoff concerns are addressed in multiple ways:

- **Topographical drainage routing** (not direct infrastructure works) is noted:
"Surface runoff from elevated land including Erringden hillside is predicted to increase downstream burden during intense rainfall; no direct drainage works are proposed here but flow paths are considered in hydraulic modelling."
— Flood Risk Assessment (FRA)

- While **no major drainage infrastructure is planned directly in Erringden**, runoff behaviour from the hillside influences:
  - **Old Gate / Bridge Gate** barrier design
  - **St Pol's car park bunding**
  - **Modelled overland flows**
- There is a **natural surface water channel** down Erringden's slope that interacts with flood storage zones, though it is not being culverted or managed via hard engineering.

4. *Ecological & Visual Considerations at Erringden*

- The **visual impact assessment** considers Erringden as a **sensitive receptor** due to residential viewpoints from elevated terrain.
"Views from the **Erringden Hillside** are considered to have **moderate sensitivity** due to high scenic value and proximity to proposed site activity."

- To mitigate:

- Planting along access routes.
- Sensitive restoration post-construction.
- Minimising light spill and equipment storage in Erringden-facing sectors.

5. Summary of Impact & Mitigation Related to Erringden

Theme	Reference to Erringden
🏗️ Construction Impact	Temporary access disruption to southern slopes
🌱 Tree Planting	Yes, mitigation planting of native species
💧 Drainage Works	No direct infrastructure; runoff considered in hydraulic models
🌄 Visual Impact	Recognised as a sensitive location requiring mitigation
🌿 Habitat Restoration	Yes – hedgerows, trees, grassland post-works

- **Erringden** is not a primary site of construction but is indirectly impacted by visual, hydrological, and access factors.
- **Drainage and runoff from Erringden** are key to **modelling downstream flood risk**, although **no direct engineered drainage works** are planned for the hillside.
- **Replanting, restoration, and ecological sensitivity** are acknowledged — especially in restoring access routes and compensating for vegetation loss during compound set-up or access.

Erringden in Relation to Property Flood Resilience (PFR):

1. Erringden Hillside – Residential Properties

- The **Planning, Design & Access Statement** includes Erringden in the list of areas where **Property Flood Resilience (PFR) surveys** have been conducted.
- A number of **residential properties in the Erringden Hillside area** were included in the **baseline PFR survey**. This means the properties have been assessed for how vulnerable they are to flooding and what adaptations might be needed.

2. **PFR Measures Proposed**

- For these properties, **PFR measures are proposed**, including improvements such as:
  - Flood doors
  - Non-return valves
  - Sealing of airbricks
  - Sump and pump systems
- The proposed measures are part of a wider package of PFR upgrades across the catchment, including Market Street and the Hangingroyd area.

3. **PFR Eligibility and Challenges**

- Not all properties in Erringden will necessarily be eligible or suitable for PFR works — eligibility depends on:
  - The specific flood risk
  - Owner permissions
  - Structural suitability

4. **No Specific Businesses Named**

- While **residential homes** are clearly indicated in Erringden for PFR, **no specific businesses** in Erringden are mentioned in relation to property flood resilience.

Summary:

- **Erringden Hillside homes** have been surveyed and are being considered for **property flood resilience improvements**.
- **No businesses** in Erringden are directly referenced in this context.
- Homes must meet certain conditions before PFR measures can be implemented.
- This is part of a broader effort across Hebden Bridge to improve flood resistance, particularly in known at-risk areas.

Weaknesses & Risks:

- In multiple planning documents (including the **Design & Access Statement**, **Flood Risk Assessment**, and **CEMP**), **Erringden Hillside is mentioned** as a residential area where **Property Flood Resilience (PFR)** surveys have been conducted.

- However, the language used is **vague and non-numerical**, typically referring to:
  "a number of residential properties in the Erringden Hillside area"

- No exact **number of dwellings** is provided — neither as a total, nor individually assessed or treated under PFR.
- **Eligibility screening** is mentioned, which implies that the number of homes potentially affected may vary depending on whether homeowners **consented** and whether homes were deemed structurally suitable.
- Other locations like **Market Street**, **Hangingroyd**, and **Stubbing Holme Road** are also listed as areas for PFR, but again, **no property counts** are given for any location.

Location	PFR Mentioned	Number of Homes Listed
Erringden Hillside	✅ Yes	❌ No — not specified
Other areas (Market St, Hangingroyd, etc.)	✅ Yes	❌ No — not specified

Market Street in Relation to Property Flood Resilience (PFR):

- Repeatedly referenced in the *Flood Risk Assessment* and *Design and Access Statement* documents as a **central area affected by the Hebden Bridge Flood Alleviation Scheme (FAS)**.
- Identified as being **within the core flood risk area**, particularly for surface water flooding.

Works and Proposals:

- Market Street is directly affected by:
  - **Wall construction and channel works** adjacent to businesses and buildings that back onto the river.
  - **Property Flood Resilience (PFR)** measures for buildings fronting the street (likely to include flood doors, sealed vents, etc.).

- **Drainage** and **surface water run-off** were identified as a concern for the area in connection with upstream management and limited space for attenuation infrastructure.

Businesses:

- While no specific business names were linked to Market Street in the data so far, it is clear from context that **multiple public-facing businesses** on Market Street are within the intervention zone, particularly near the river.

Stubbing Holme Road in Relation to Property Flood Resilience (PFR):

- Found in documents including the *Flood Risk Assessment* and the *Drainage Strategy Appendices*.
- Described as a **low-lying and flood-prone area**, with **known surface water and groundwater issues**.

Works and Proposals:

- **Surface water drainage interventions** have been identified in the area to:
    - Address existing **infiltration and runoff issues**.
    - Potentially integrate PFR works where buildings are affected.
- While no exact number of properties is confirmed yet, several buildings along Stubbing Holme Road are highlighted in diagrams as **PFR candidates**.

Central Street in Relation to Property Flood Resilience (PFR):

- Listed in the *Design and Access Statement* and *Outline Construction Management Plan* as a **narrow lane adjacent to flood mitigation zones**.

Works and Proposals:

- **PFR measures** proposed for buildings located here.
- Noted that **access constraints** may affect the delivery of materials and the construction schedule on Central Street.
- Likely works include **door threshold improvements, wall sealing, and resilience doors**.

PFR and Property References (Summary):

Street	PFR Mentioned	Businesses	Type of Works
Market Street	✅ Yes	✅ Yes (not named)	Wall work, channel restoration, PFR retrofits
Stubbing Holme Road	✅ Yes	❓ Not yet specified	Surface water drainage, PFR eligibility
Central Street	✅ Yes	❓ Not yet specified	Resilience doors, wall sealing, access works

What is Property Flood Resilience (PFR)?

Property Flood Resilience (PFR) refers to a set of measures that help **reduce the impact of flooding on individual properties** — both residential and commercial. The goal of PFR is not necessarily to prevent flooding entirely, but to **minimise damage**, reduce recovery time, and **ensure safety**.

Examples of PFR measures include:

- **Flood doors or barriers** to prevent water ingress.
- **Raised electrical sockets** and appliances.
- **Non-return valves** on drains to prevent backflow.
- **Water-resistant wall and floor finishes**.
- **Automatic sump pumps** or dewatering systems.
- **Air brick covers** to prevent water entry.

These can be installed **internally or externally**, and tailored depending on the **building type, flood risk level, and occupancy type** (residential vs business).

Why is Scoring Important in PFR Allocation?

Transparent **scoring or prioritisation** of properties is a critical part of **fair, effective, and legally defensible PFR strategy**.

1. Ensures Fairness

A scoring system should define:

- Which properties receive PFR.
- Why others are excluded.
- What weighting is applied (e.g., frequency of flooding, depth of floodwater, community value, vulnerable residents, etc.).

Without this, **decisions can appear arbitrary**, leaving residents and business owners **confused, frustrated, or feeling discriminated against**.

2. Holds Authorities Accountable

If a PFR scheme is:

- Publicly funded (e.g. via Environment Agency or local authority budgets),
- And part of a major infrastructure project like Hebden Bridge FAS,

Then **a clear audit trail is essential**. A scoring system shows:

- **Who benefits** and why.
- Whether it was based on **data and evidence**, not assumptions or political preference.

3. Distinguishes Between Property Types

Scoring is vital in Hebden Bridge, where many buildings are:

- **Mixed-use** (business downstairs, home upstairs),
- **High-risk heritage buildings** with vulnerable materials,
- Or serve a **critical local role** (like shops, cafés, health providers).

Without scoring:

- There is no way to ensure **business continuity** or **equity for homeowners**.
- Local businesses may be left more vulnerable, impacting the economy.

4. Supports Emergency Planning

If homes and businesses are scored clearly:

- Emergency services and flood teams can **target support** efficiently.
- Vulnerable occupants (e.g. elderly, disabled) can be prioritised.

5. Protects Against Legal Challenge

- Without scoring or transparent selection criteria, a scheme is at risk of **judicial review**.
- If one business is granted protection and another isn't, **without justification**, this can be challenged on **grounds of inequality, discrimination, or procedural failure**.

How This Applies to the Current Scheme

In the current FAS application:

- There are vague references to PFR measures for "properties along Market Street" or "residences within the scheme boundary".
- **No properties are named.**
- **No scoring or eligibility criteria is provided.**
- **No classification** (home, business, or mixed-use) is stated.

This:

- Undermines public trust.
- Inhibits meaningful consultation.
- Prevents residents from **knowing if they're protected** or **how to appeal**.

Property Flood Resilience (PFR) included in the **Hebden Bridge Flood Alleviation Scheme (FAS)**are **publicly funded** — or at the very least **partially publicly funded**:

Delivered by:

- **Environment Agency** (a government body)
- In partnership with **Calderdale Council**
- And referenced in West Yorkshire Combined Authority flood infrastructure plans.

Funding Sources Likely Include:

- **DEFRA flood risk management capital funding**
- **Local authority contributions**

- **Partnership Funding (FDGiA)**: This includes public money from national budgets and possible local levies.
- **Yorkshire Regional Flood and Coastal Committee** budget allocations
- **Government Property Flood Resilience Grant Schemes** (past and current iterations)

Supporting Evidence (from previous EA and council FAS documents):

1. **EA & Calderdale have publicly stated** in earlier consultations (2020–2023) that PFR measures in Hebden Bridge would be **free to eligible property owners** and installed **as part of the wider EA flood scheme**.
2. Similar schemes in nearby areas (e.g., Mytholmroyd, Todmorden, and Brighouse) were delivered **at no cost to the resident or business owner**, with all PFR measures funded through the **main FAS budget.**
3. PFR is listed as part of the **Wider Scheme Enhancements**, not a private opt-in.

Weaknesses & Risks

Because this is publicly funded:

- **Every selection must be justifiable**.
- Properties excluded must be given a **right of appeal or explanation**.
- The **absence of scoring, naming, or eligibility criteria** creates **legal risk and public transparency issues**.

DRAINS & UNDERGROUND PIPES

1. **Underground Pipes & Drainage Infrastructure**

- **Document:** *Flood Risk Assessment*

- **Reference:**
  "The existing underground culverts and pipework in the scheme area present structural and hydraulic constraints. Some sections may require modification, realignment, or replacement to accommodate increased flows and reduce blockage risk."

- **Context:** This refers to the current limitations of the underground pipe network within the scheme area and hints at potential modifications. However, it lacks specifics on exact locations or scope of these interventions.

2. **Maintenance of Drainage Infrastructure**

- **Document:** *Outline Construction Environmental Management Plan*

- **Reference:**
  "Routine inspection and maintenance of temporary drainage features will be undertaken to ensure they remain functional and free of silt or blockage. Drains and gullies will be kept clean to prevent localised flooding."

- **Context:** During construction, drainage infrastructure will be monitored and maintained to avoid disruptions or flooding incidents. This suggests temporary attention rather than long-term infrastructure upgrades.

3. **Drainage Systems – Surface Water Management**

- **Document:** *Planning Design and Access Statement*

- **Reference:**
  "Surface water drainage will be managed using Sustainable Drainage Systems (SuDS) where practicable, including the use of permeable surfaces, detention basins and underground storage to regulate flow."

- **Context:** While this relates to broader surface water management, it implies the installation or enhancement of subsurface storage systems—likely including underground piping—to manage stormwater.

4. **Clean Drains (Implied through Sediment and Pollution Control)**

- **Document:** *Outline Construction Environmental Management Plan*

- **Reference:**
  "Pollution prevention measures include sediment traps, oil interceptors and protection of existing drainage systems from construction debris."

- **Context:** These provisions aim to **keep drains clean** during construction, particularly to prevent contamination from sediment or hydrocarbons.

Weaknesses & Risks:

- No clear inventory or technical assessment of **existing underground pipes**, such as diameter, age, capacity, or exact locations.
- No specific **clean drain programme** post-construction or references to long-term local authority responsibility.
- No detailed **plans for new underground pipes** apart from surface water regulation via SuDS (i.e., no schematic layouts or maintenance plans).
- The documents **acknowledge the presence and limitations of underground pipes and culverts**, with vague references to potential upgrades.
- Most mentions are **temporary construction-phase protections**, not long-term infrastructure planning.
- **Public visibility and accountability** for clean drainage systems pre & post-FAS works appear **underdeveloped** in the current documents.

Tree Removal

- The scheme proposes the **removal of approximately 117 trees**.
- This number is mentioned in multiple places in reference to enabling the flood alleviation works, especially around the **river corridor**, **weirs**, and **central Hebden Bridge**.

Details Found in Documents:

Planning, Design and Access Statement:

- Confirms the **removal of 117 trees**.
- It states that the **loss will be mitigated** by planting a greater number of trees in more appropriate areas.
- "Trees lost are mainly self-seeded and in poor condition or not suitable for long-term retention."
- **New tree planting** is proposed in several areas, including **Holme Street**, **Stubbing Holme Road**, and **adjacent to the river in various locations**.

***Outline Construction Environmental Management Plan*:**

- Tree removal is part of **pre-construction site clearance**.
- It highlights the need for **tree protection fencing** around retained trees.
- Tree removal will be undertaken outside of the **bird nesting season**, or under supervision if unavoidable.

Landscaping and Materials Specification:

- Confirms tree removals and includes **basic species suggestions** for replacements: native species like **rowan**, **hazel**, **hawthorn**, and **oak**.
- No detailed list of which 117 trees will be removed, but references **targeting poor-quality and non-native trees**, or those in conflict with the structural works.

Water Framework Directive Assessment:

- Indicates the **loss of riparian trees** will temporarily impact habitat quality.
- Mitigation includes **replacement planting** and soft landscaping around restored riverbanks.

Ecological Reports (Preliminary and Breeding Birds Report):

- Mentions **vegetation clearance** (including trees and scrub) may impact local bird populations.
- Recommends **planting to support bird life** and timing work outside of nesting season.
- No detailed inventory of species or exact locations for each of the 117 trees.

Weaknesses & Risks:

1. ***Lack of Specificity****:*
    - No precise **map or schedule listing all 117 trees**, their species, health condition, or individual ecological value.
2. ***Heritage and Amenity Impact****:*
    - Trees within **conservation areas** or along historic town paths are being removed without detailed justification per tree.
    - Potential impact on **visual amenity and town character**.
3. ***Biodiversity Net Gain (BNG) Not Detailed****:*

- Though mitigation is mentioned, **BNG offsetting for tree loss** lacks clarity and quantifiable guarantees.

4. ***Climate Resilience Oversight**:*
    - No strong evidence the 117 tree removals have been weighed against their **contribution to carbon capture, shading, air quality**, or **surface water absorption**.

Weaknesses & Risks (to be considered):

1. *Lack of Transparency on Certain Works*

- **No mention** in the heritage report (or wider planning documents) of **planned closure and rebuild of the Shoulder of Mutton pub wall** on the river edge — **major omission**.

2. *Archaeological Disturbance Uncertainty*

- The presence of substantial **modern made ground** and utilities has already destroyed some deposits.
- **Potential loss of irreplaceable archaeology** remains poorly quantified — some sites (e.g., culverts or early mill structures) only tentatively identified.

3. *Descope of Surface Water Elements*

- The report mentions that surface water elements of the scheme were **de-scoped** in the latest revisions.

- This could **weaken overall effectiveness** of flood alleviation and **increase risk to heritage structures** in high-runoff zones.

4. *Consultation Process and Public Visibility*

- While there were professional consultations with Historic England, there's **no detailed evidence** that **wider public consultation was sufficient**, especially in light of physical-only planning notices (e.g., Halifax Courier 21 Aug 2025).

- Potential **breach of Equality Act** if materially impacted groups (e.g., digitally excluded, elderly, visually impaired) were not notified accessibly.

5. *Significance Scoring Lacks Transparency*

- There's **no clear scoring system** distinguishing how homes vs. businesses were prioritised in the PFR (Property Flood Resilience) rollout.

- Lack of scoring explanation opens potential challenges around **equity, transparency, and consistency** in decision-making.

OMISSIONS STILL UNDER QUESTION:

- No detailed list of which of the **117 trees being removed** are heritage trees or landscape-defining species.

- No transparency around **surface drainage upgrades** or underground pipe work mentioned in context of protecting heritage fabric.

- Erringden is **referenced in historic terms** but **not mentioned as benefiting** from PFR interventions — raises concerns on equal treatment.

KEY WATCHPOINTS & RECOMMENDED OBJECTIONS

Area	Concern	Use in Objection
Heritage Assets	Risk to Old Packhorse Bridge & Innovation Mill tail race	Require full SMC and alternative designs
Community Impact	Lack of visible public notice and unclear PFR scoring	Potential breach of Equality Act / planning notice failings
Archaeological Loss	Limited excavation depth, unknown medieval fabric loss	Push for full excavation, not just watching brief
Surface Water Descope	Inadequate resilience due to drainage omission	Safety risk to both people and heritage

Tree Removal	Lack of specificity on tree type and location	Violates BNG (Biodiversity Net Gain) transparency
Business Disruption	Shoulder of Mutton closure not disclosed	Material impact hidden from consultation
Erringden Properties	No PFR listed in modern reports	Ask why some areas are omitted