

**JV Morgan Sindall Infrastructure
BAM Nuttall Ltd and Ferrovial
Agroman.**

fusion
Connecting people

HS2 Phase 1 Central Section: Area wide Historic Environment

**The work package delivery plan – overview to Heritage Sub
group**

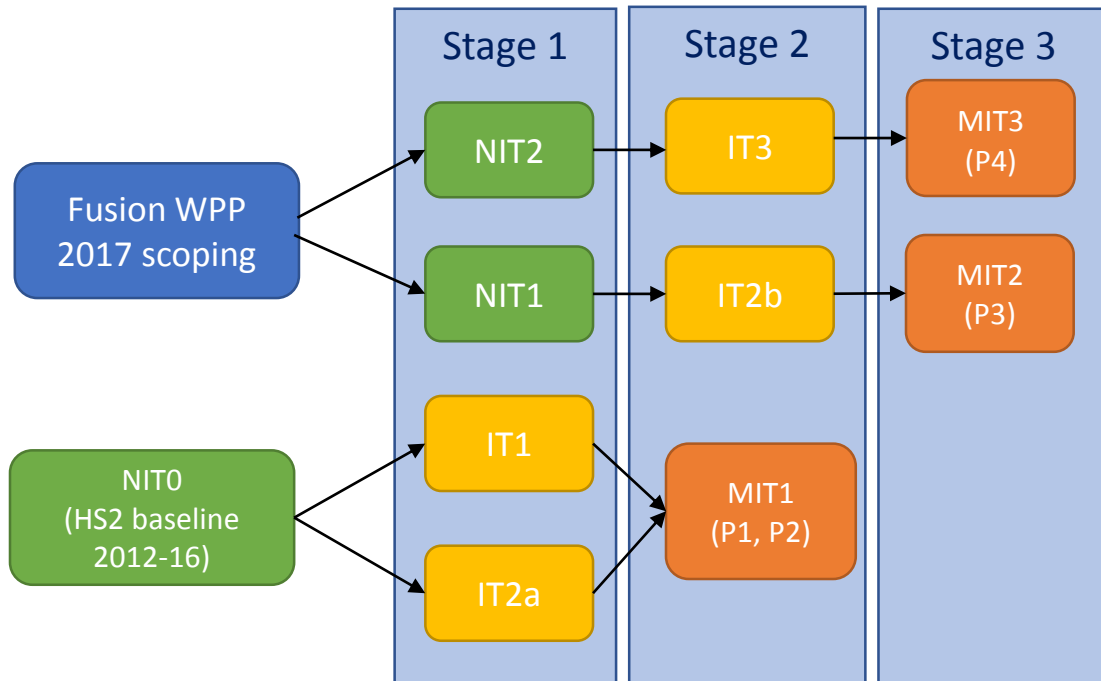
Fusion Historic Environment Team 14 Dec 2017

Decision making in archaeological reconnaissance

Application and interpretation of magnetic geophysical surveys and trial
trench evaluation results

Central Area Wide HERDS Scope

Three archaeological **mitigation phases (MIT)** have been defined according to MWCC handover dates.
(P1, P2, P3,P4)



The mitigation scope (MIT) is determined by intrusive surveys (IT) which at the same time are based on previous non-intrusive survey results (NIT) and the identification of positive archaeological anomalies.

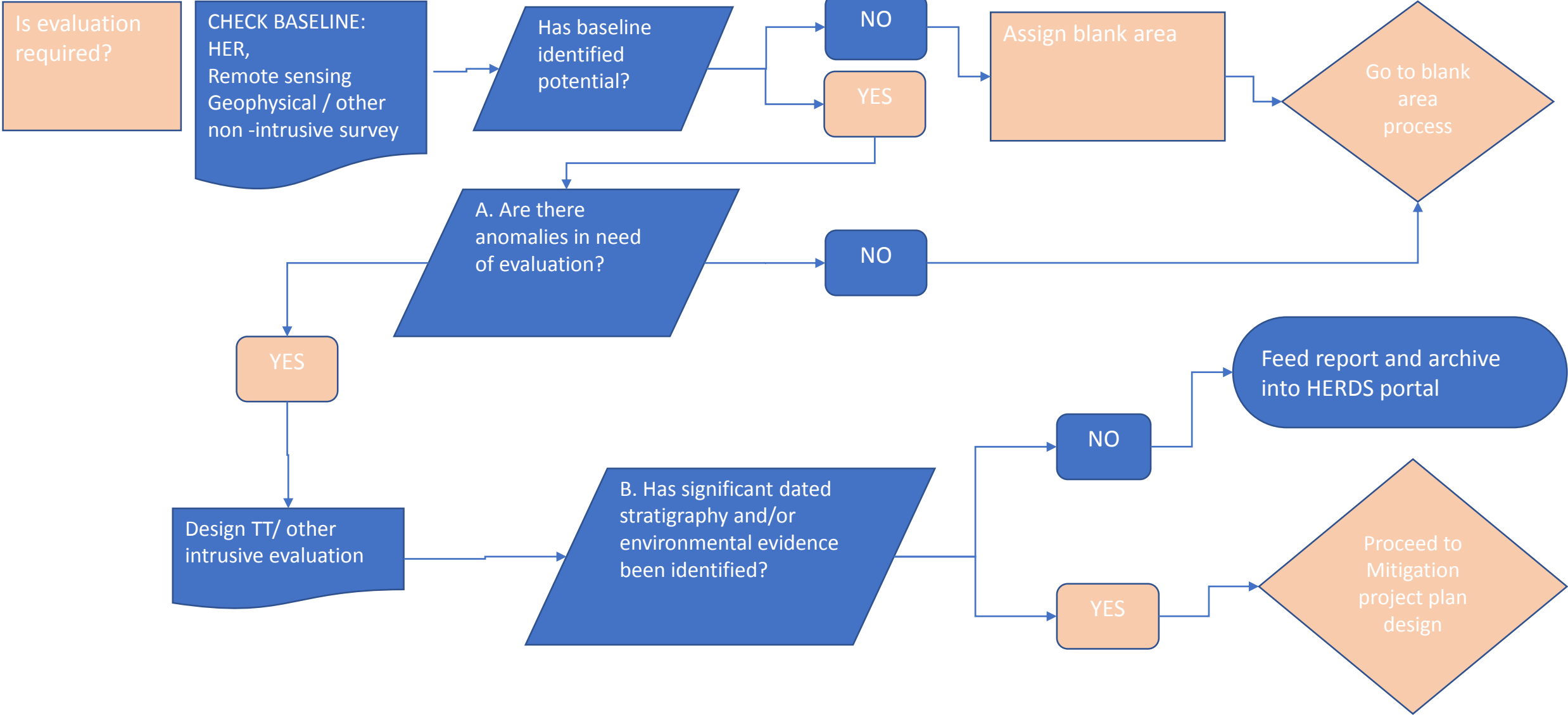


- **NIT** will comprise **geophysics, heritage building recording and setting surveys as well as Historic landscape studies..**
- **IT** will consist mainly of **trial trenching**, however there may be some locations where other type of intrusive surveys will be required such as **geo-archaeological investigations (boreholes) or salvage works.**

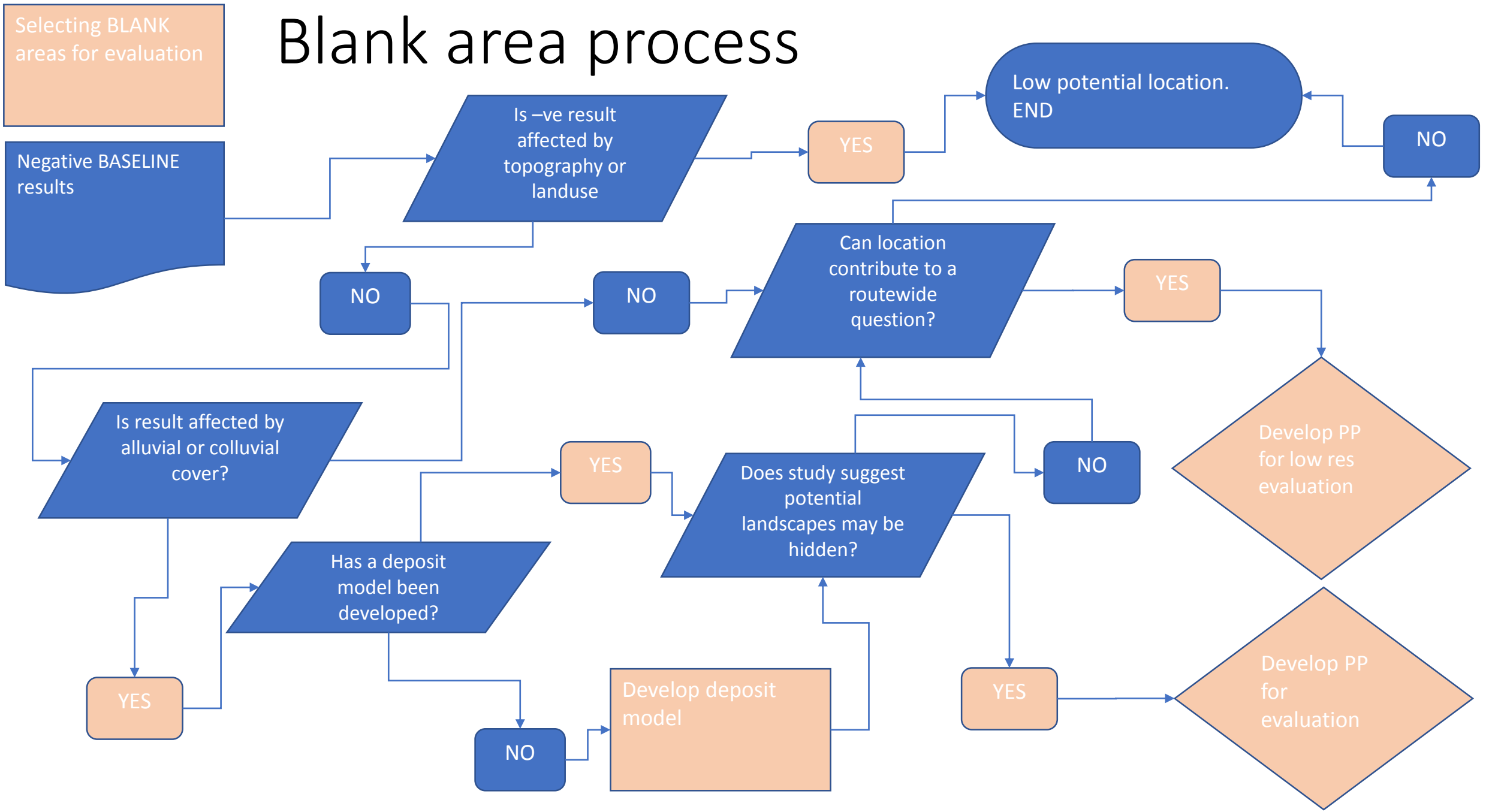
Approach

- **Robust baseline**
- **Target maximum magnetometry coverage**
- **Select sites for intrusive evaluation – various resolution/sample size depending on targets**
- **Select sites for investigation**
- **Develop decision making model**
- **Develop process for “blank area” testing**

Is site evaluation required?



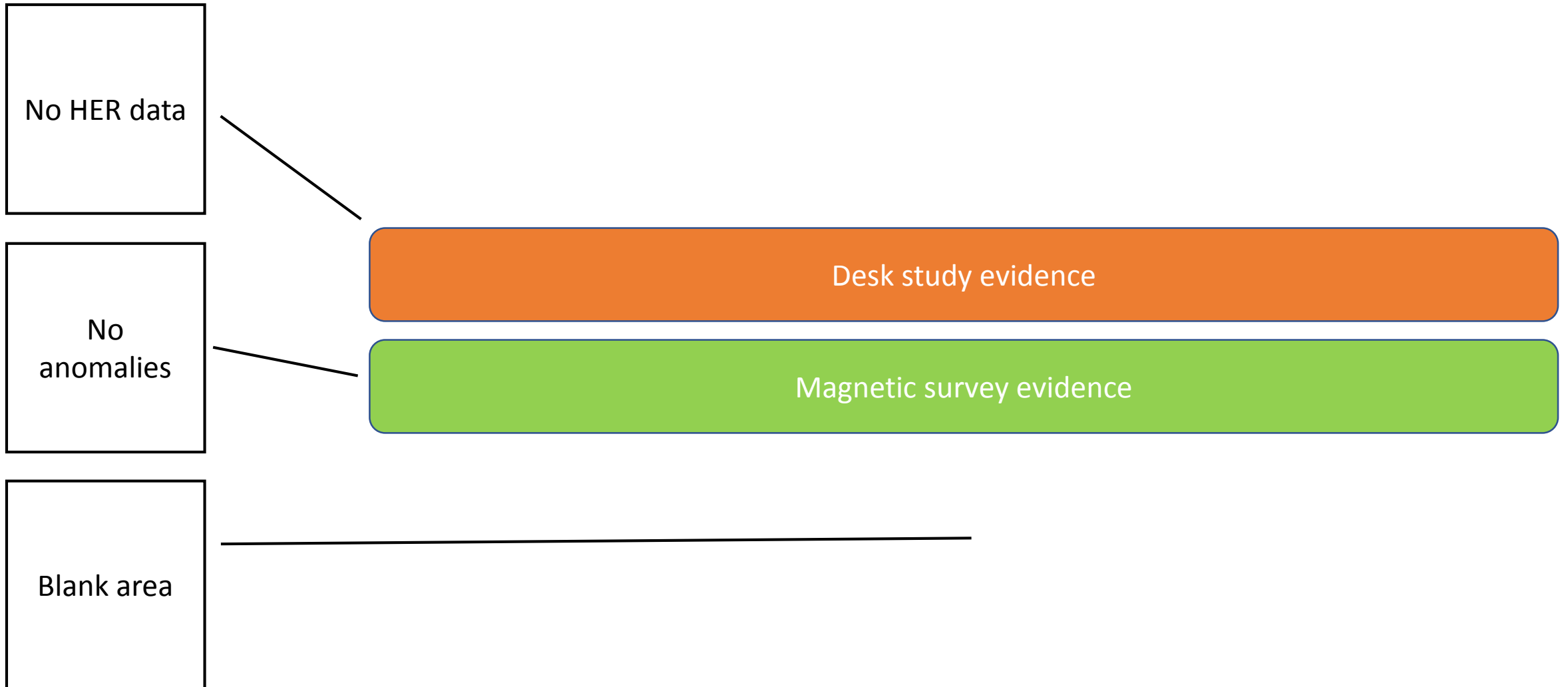
Blank area process



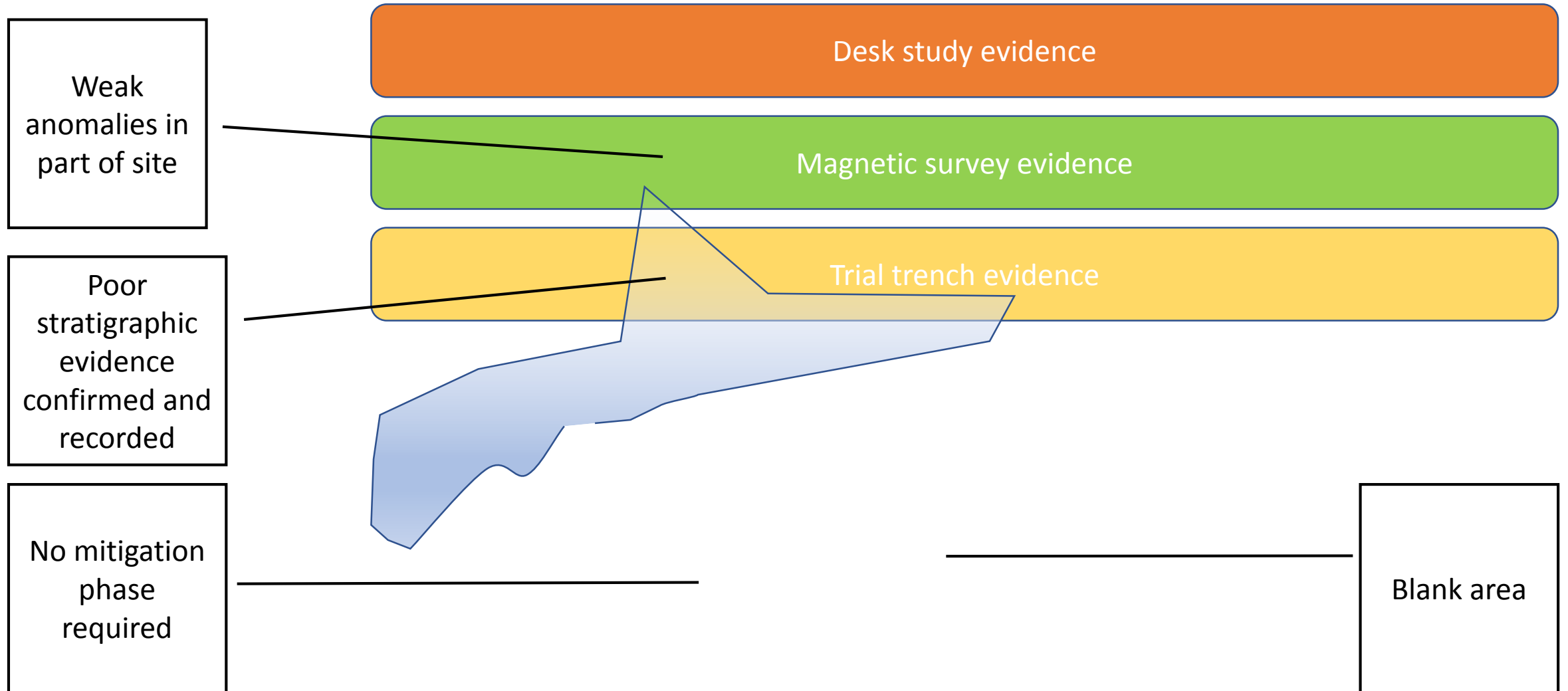
Character zones

- Led by character of landscape zone
- Alluvial and urban areas highlighted for a different approach – deposit model leads the reconnaissance comprising deeper geophysics/boreholes/auger surveys with targeted evaluation
- Magnetic Geophysics used as principal reconnaissance tool together with other remote sensing and HER data where archaeological potential is near surface.
- Resistivity used to better define potential structural remains
- Trial trenching used to assess anomalies and define character of seemingly blanker zones in geophysical coverage
- Trial trench results will be used to determine where detailed investigation is required
- Question: once complete the EWC baseline will need to be assessed for actions during the main contract earthworks

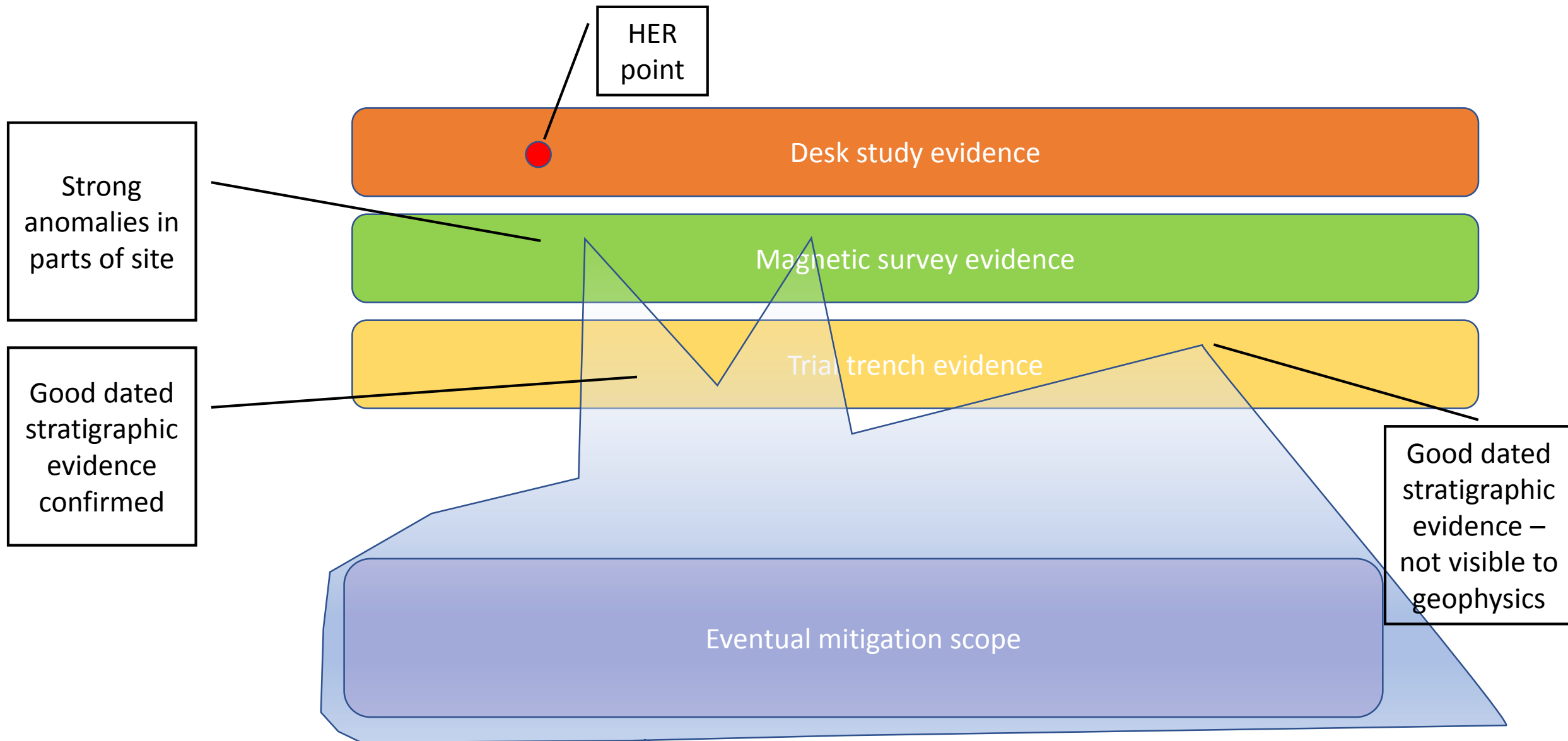
Evidence iceberg – no activity signal



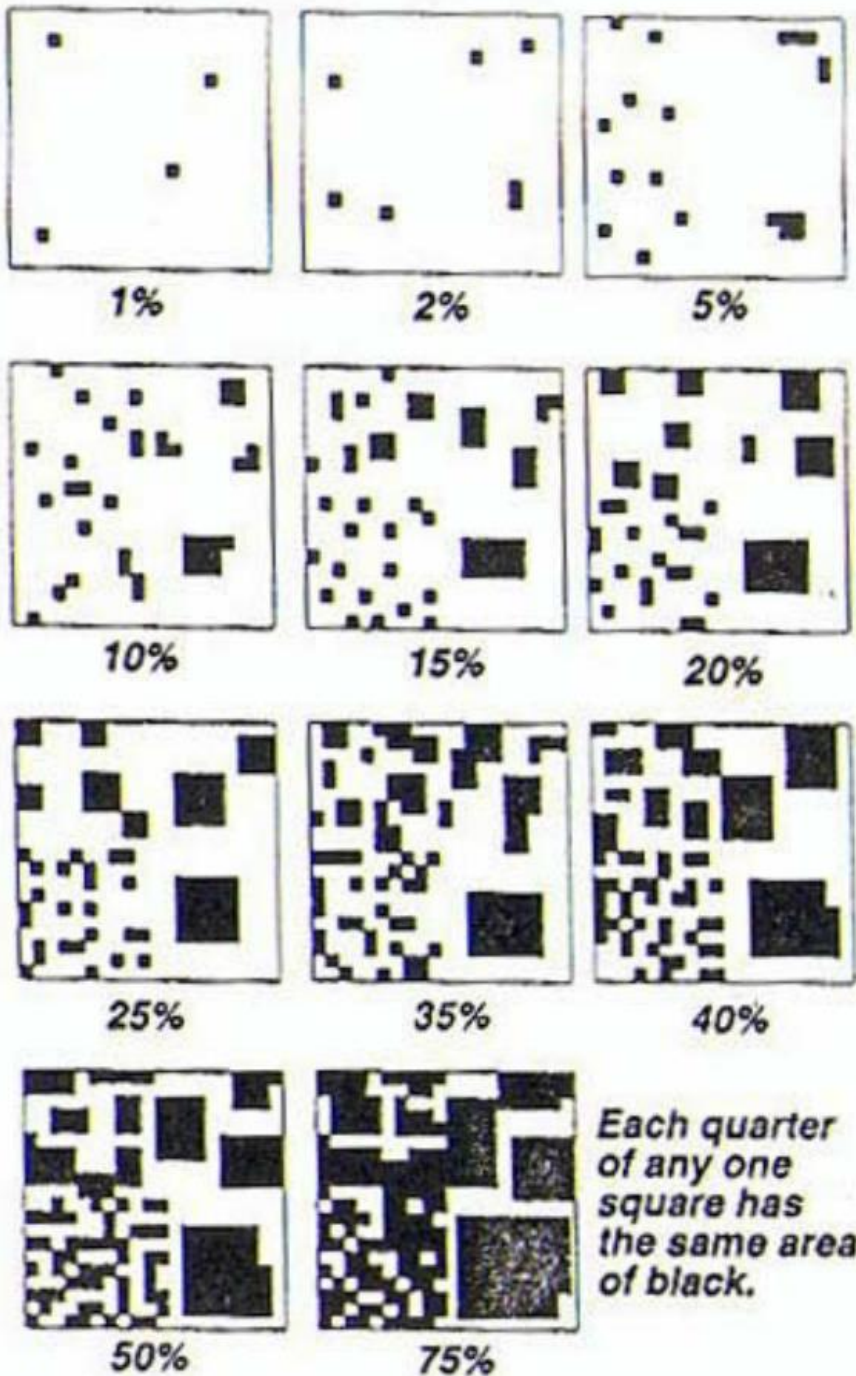
Evidence iceberg – weak activity signal



Evidence iceberg – strong activity signal



Estimating feature density



- 5% feature coverage – Low density
- 15% feature coverage – Medium density
- 25% feature coverage – High Density with single area of significant stratigraphy
- 35% feature coverage – High density with 2-3 areas of significant stratigraphy

Recent work – Topsoil sampling M25



TTE Doddershall Habitat site



TTE Stoke Mandeville habitat



TTE Chalfont Lane South



Setting recording surveys – Putlowes, Doddershall House, Edgcote House



Borehole recording for deposit models – Westbury Viaduct

