

Ciria Safespur - Re-use and recycling of crushed concrete aggregate

3 April 2013 – Salford Quays

Re-use of Demolition Waste at the Former AWE Cardiff
Patrick Higgins , SKM Enviros

What will this brief case study cover?

- Client objectives within the project
- Options for dealing with demolition waste and selection process
- Risks to a sustainable outcome – how were these managed?
- How the outcome can be beneficial to all stakeholders

Note: this presentation relates to slab level and below.

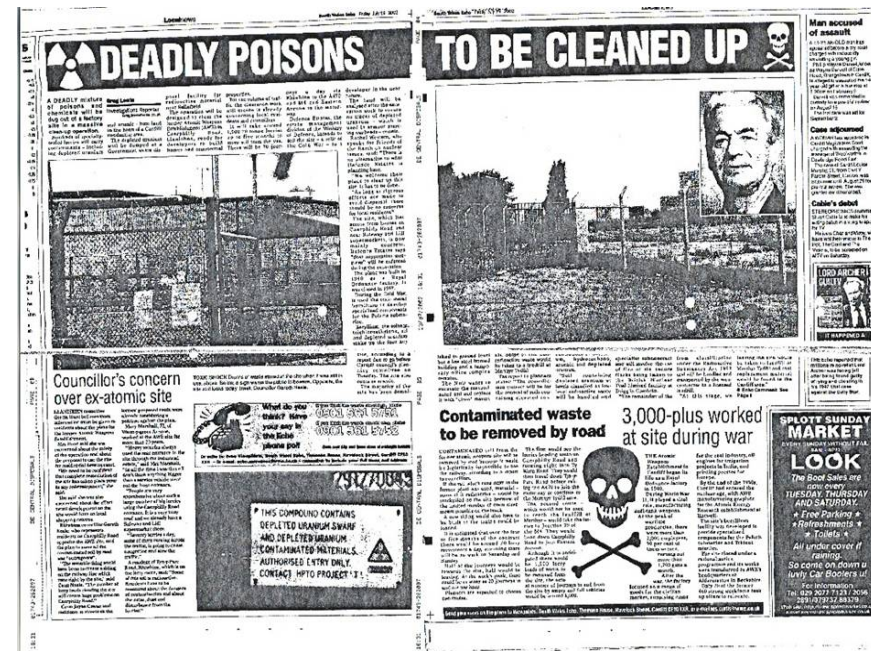
Background

- AWE Cardiff ceased operational use in 1997.
- Decommissioned by AWE 1998 – 2001 and demolished to slab level.
- Handover to Defence Estates 2001/2002.
- Remediation in preparation for sale 2002/2003 conducted under management of SKM Enviros.
- Site not licensed under NIA but subject to RSA and high level of attention from EA.



Context

- Stakeholder interest was high (and in part hostile) but a comprehensive stakeholder engagement process was started by AWE and continued by DE.
- Waste leaving the site was refused by nearest landfill as a result of pressure group action.
- Note that project pre dates requirements for SWMP implemented in 2008.



Contamination Summary

- Key contaminants of concern – beryllium and depleted uranium in localised parts of the site.
- Contaminated soils from the site removed to landfill along with all concrete from ‘areas of concern’ (following comprehensive surveying/testing).
- DU facility footprint scabbled.
- Majority of the remaining site covered by concrete – SI data confirmed no significant risks.



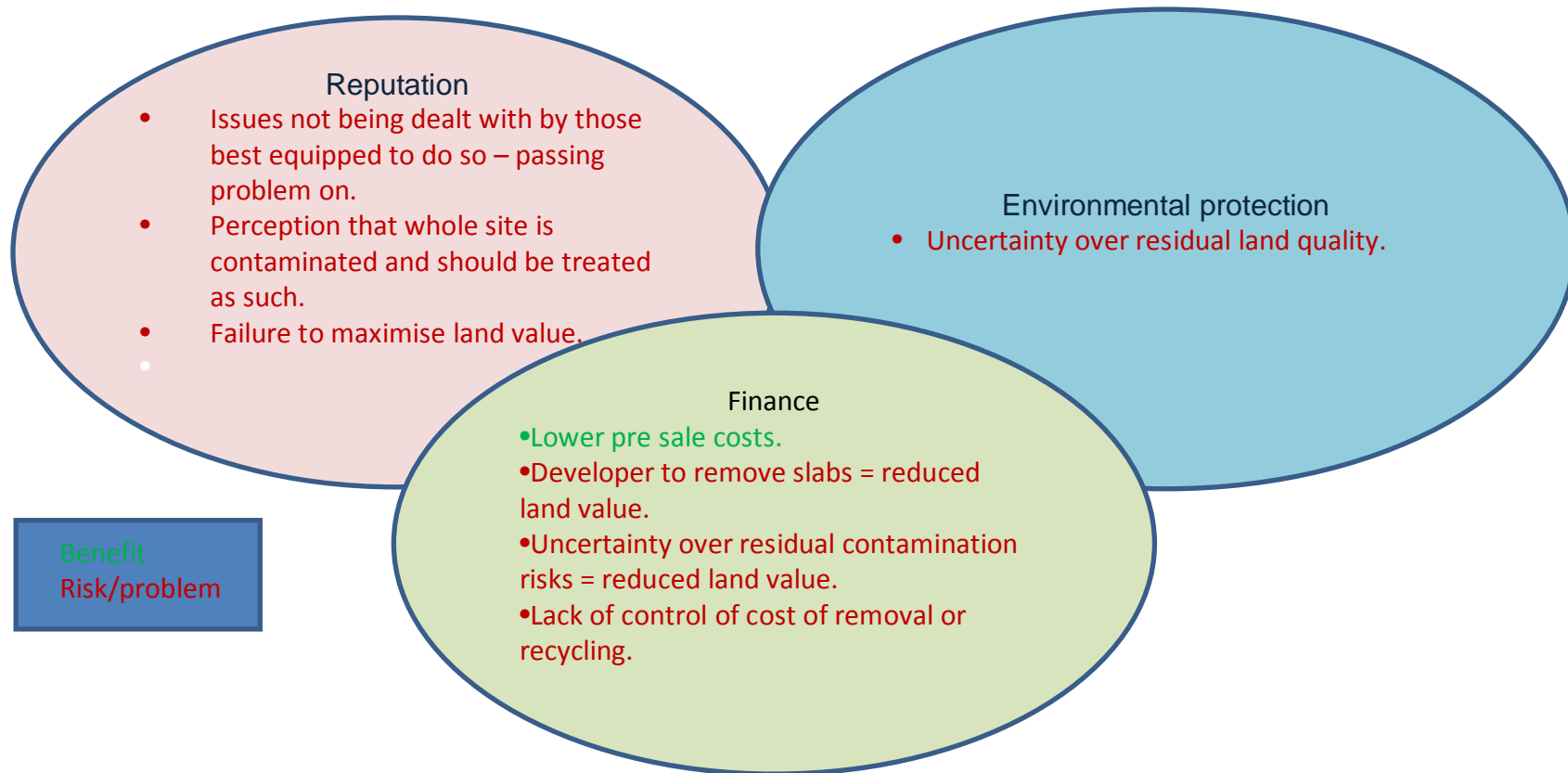
Client drivers

- To maximise the asset value of the site
- To fully assess environmental risk
- To make sure that risk is managed by those best equipped to do so
- To implement best practice
- To apply Safegrounds principles to contaminated land management
- To follow the principles of the waste hierarchy (in spirit at the time)
- To manage reputational risks to MOD

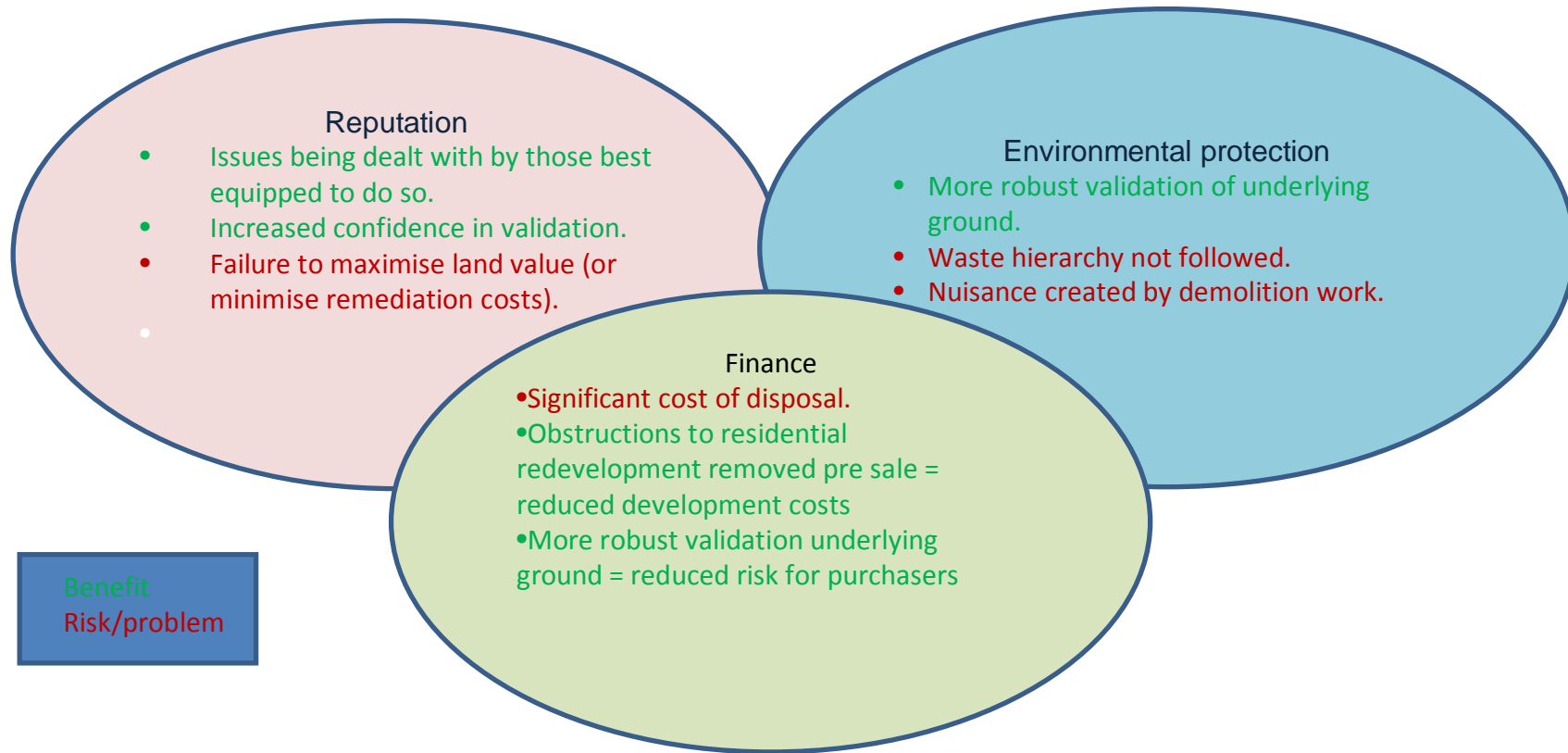
Options for management

- Leave concrete on site – pass to the developer market
- Remove slabs and dispose of to landfill
- Remove concrete and allow suitable reuse

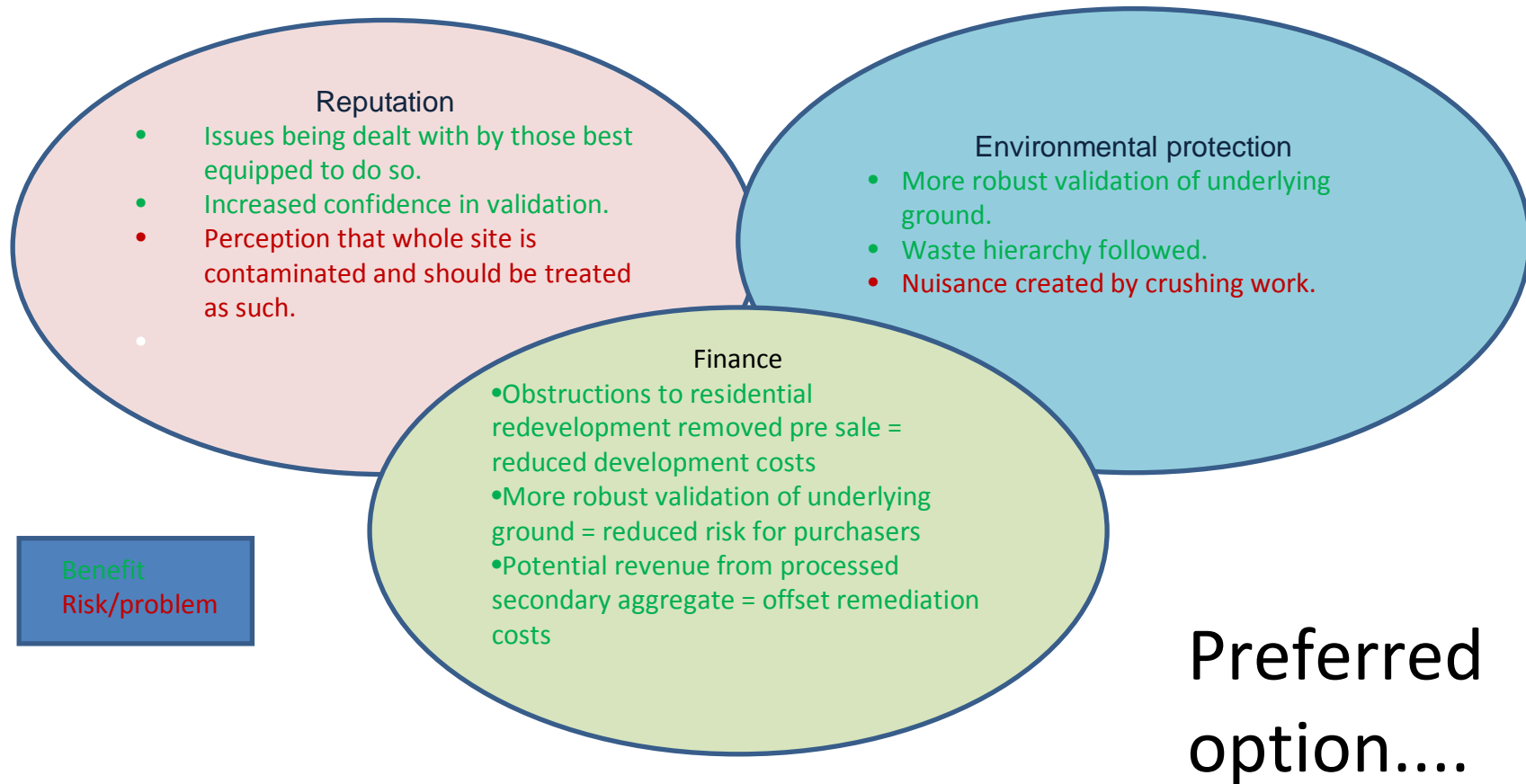
Leave slabs in place and pass to development market



Remove slabs and dispose of to landfill



Concrete removal and re-use



Mitigation of risks

Reputational risks

- Early and detailed stakeholder engagement was critical including appropriate communication of technical information.
- Continued communication through project.
- All material arising from contaminated areas to landfill (excessive?)
- Careful design, implementation and recording of validation programme.

Environmental Protection risks

- Sensitivity in carrying out operations – restricted working hours.



Outcome

- All concrete and tarmac hardstanding broken up, crushed and removed from site for re-use.
- c. 14,000m³ of material in total. Small amount used on site to backfill deep structures.
- Removal of crushed material cost neutral.
- No concerns voiced by stakeholder liaison group.
- Appropriate testing and screening of material undertaken.
- Clear chain of custody records maintained.
- Site sold quickly, at a higher than expected price for residential development.
- Balance between client implementing best practice, complying with waste hierarchy, delivering value for land and protecting reputation.

