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Using SAFEGROUNDS Best Practice Guidance for Site Characterisation and decommissioning at Rosyth Dockyard

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Background (1)

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Background (2)

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- Construction 1909 – 1916
- Function is to refit and repair Ministry of Defence Warships
- Ship-breaking industry was maintained from 1926 – 1963
- Dockyard contractorised in 1987 - Babcock Thorn Ltd
- Babcock International Group purchased the Site from the MOD in 1997.

Background (3)

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- Early 1960's – Nuclear Submarine refitting started
- 1993 – Transfer of Submarine Refitting Work to Devonport
- 2002 – Last Submarine Refit carried out at Rosyth
- 2001-2004 – Decommissioning Assessment Phase
- 2005-2009 – Decommissioning Works Phase

Mission Statement

To render the site such that there is no danger from ionising radiations from anything remaining on the site

Decommissioning Strategy

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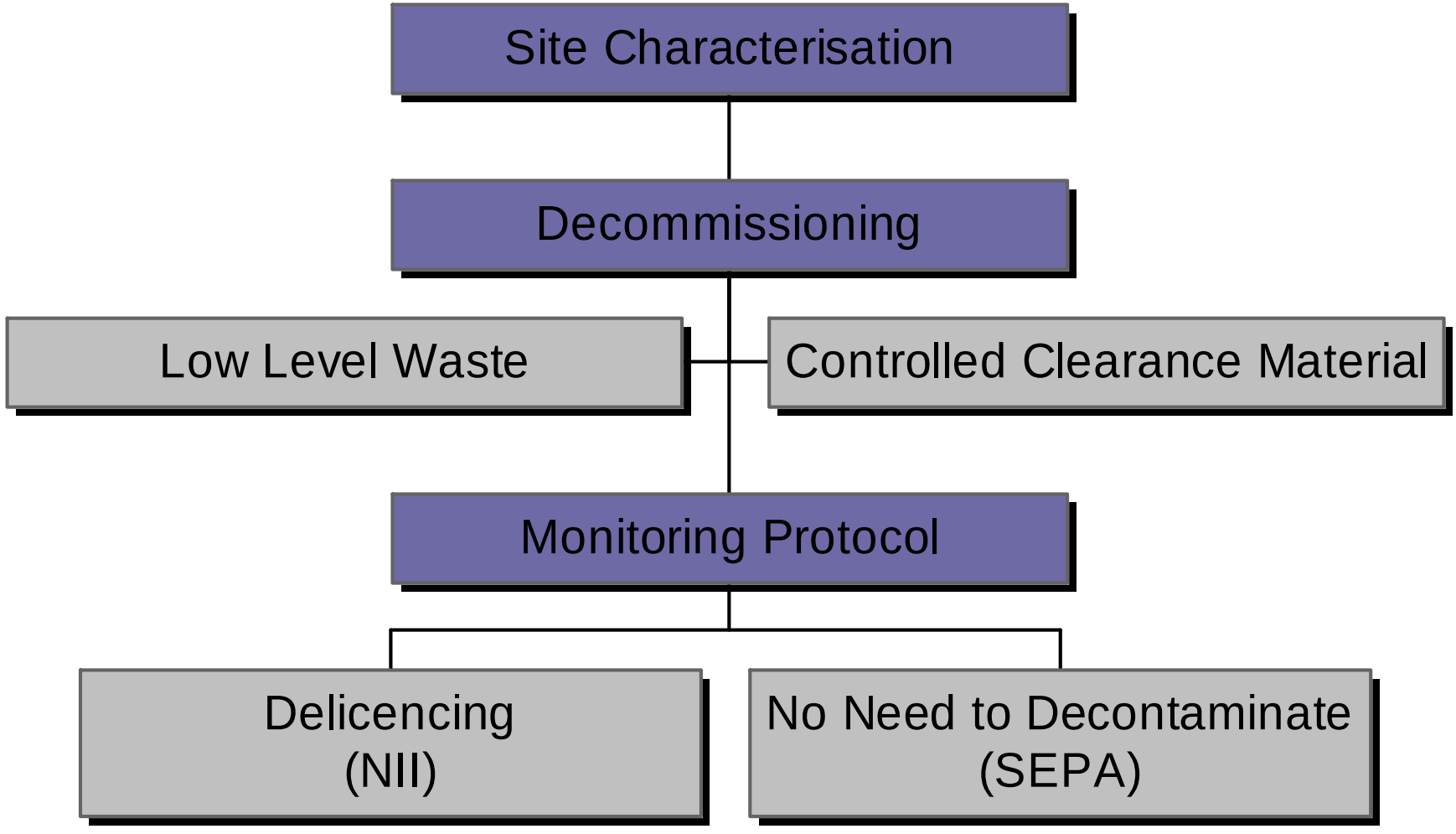

Rosyth Site Characterisation

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Rosyth – Key Site Features

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Rosyth Site Schematic (1)

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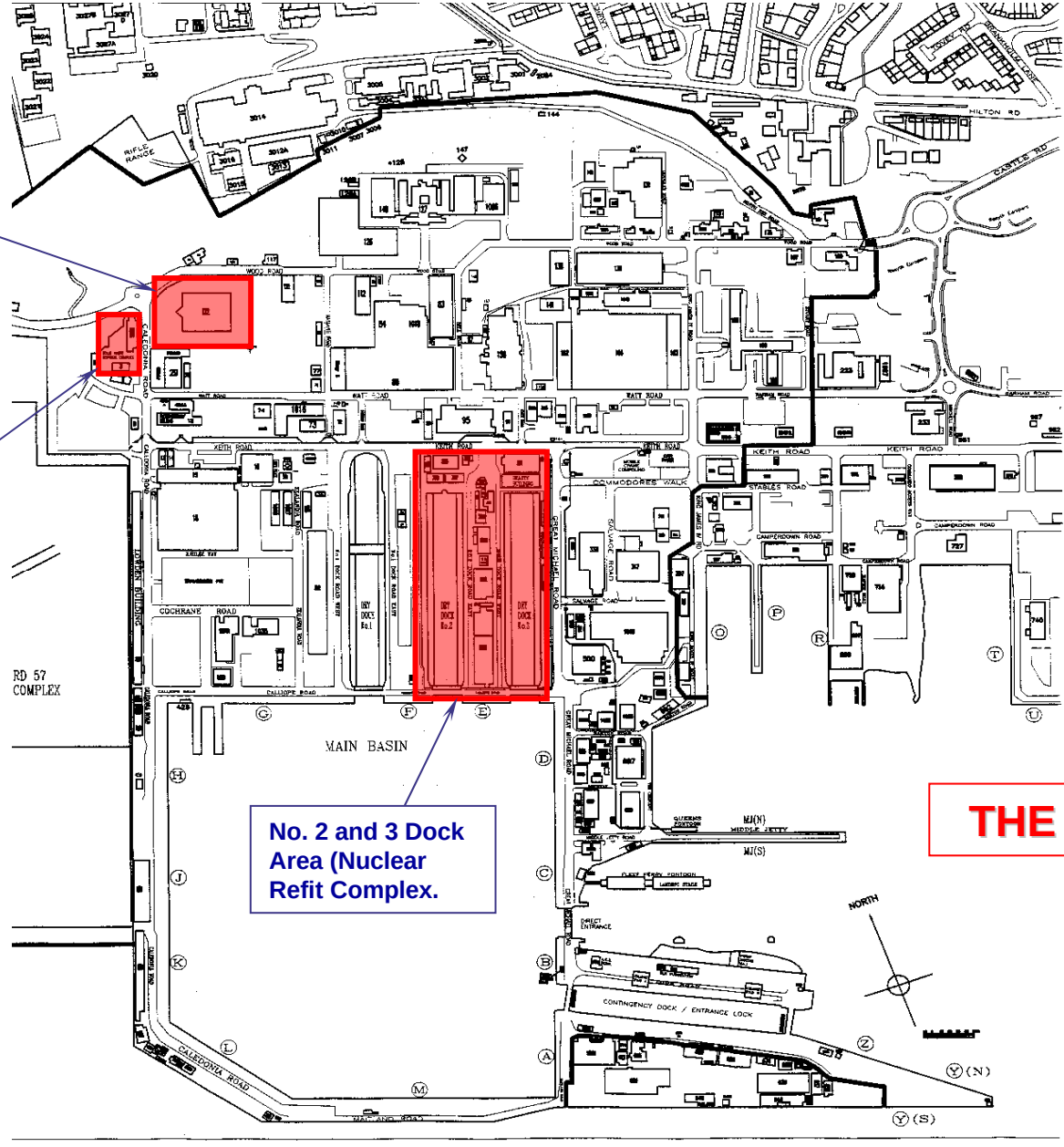

Rosyth Site Schematic (2)

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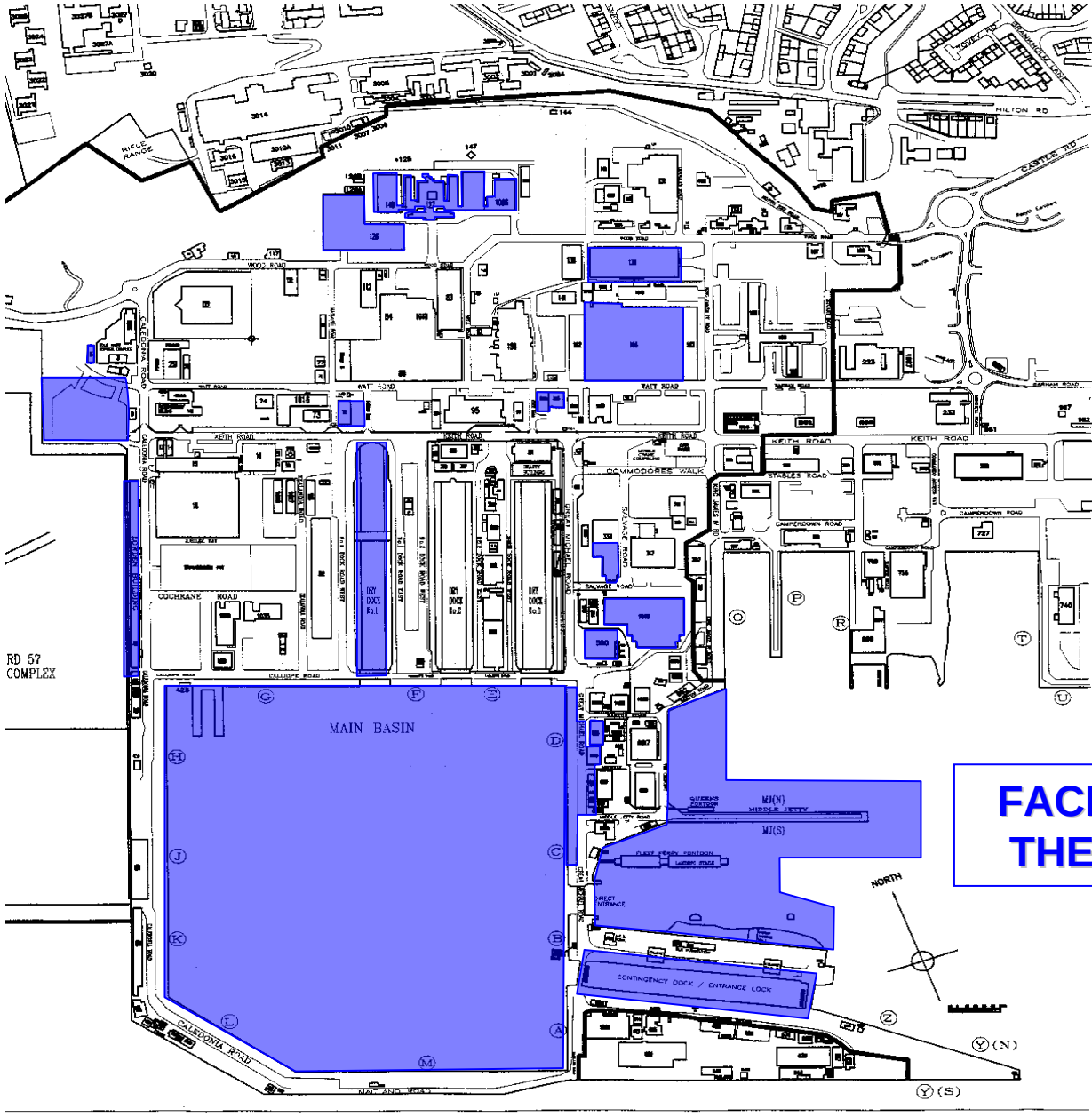

FACILITIES OUTWITH THE LICENSED SITE

Rosyth Site Schematic (3)

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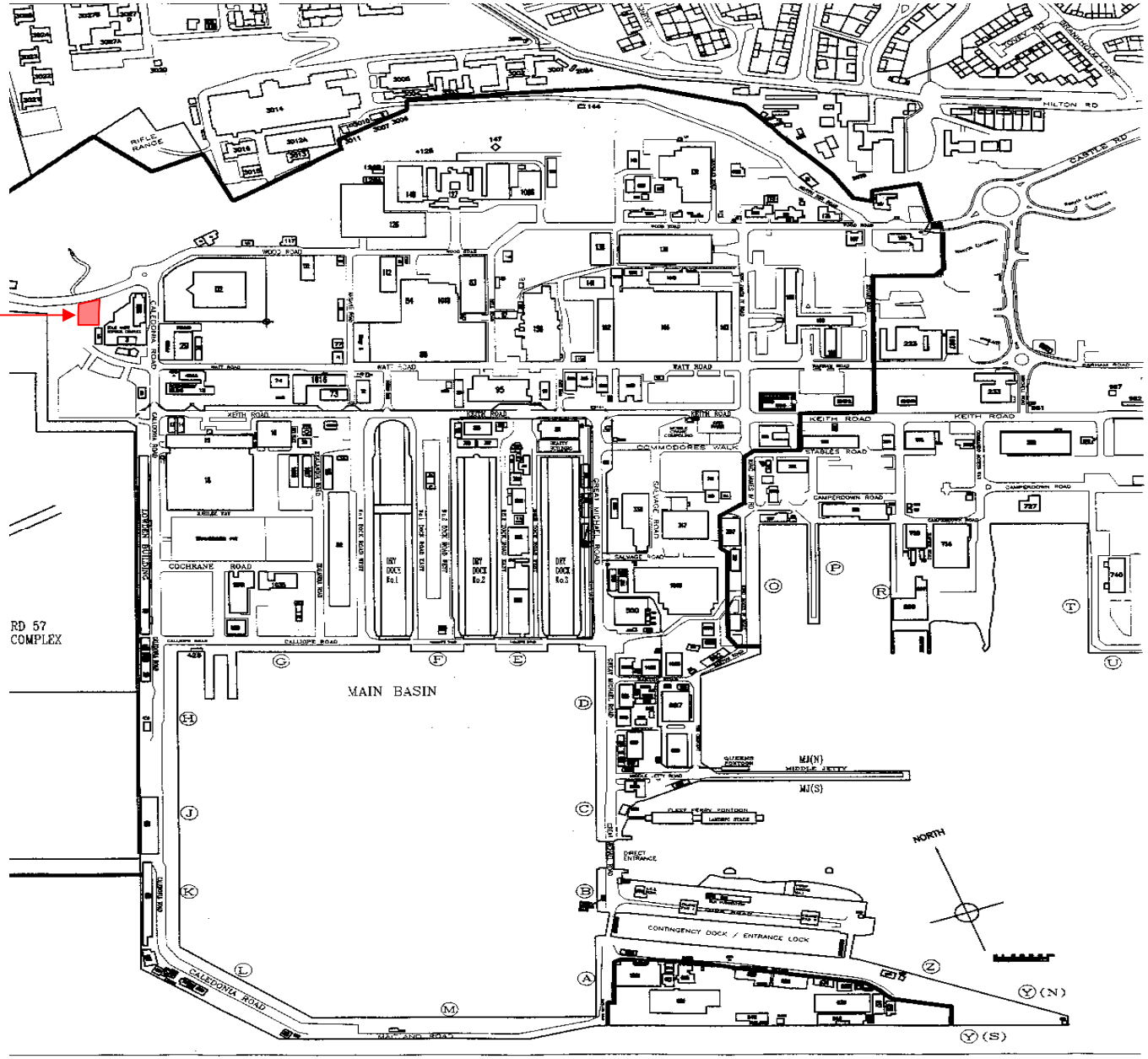
VLLW PIT



Site Characterisation Conceptual Model

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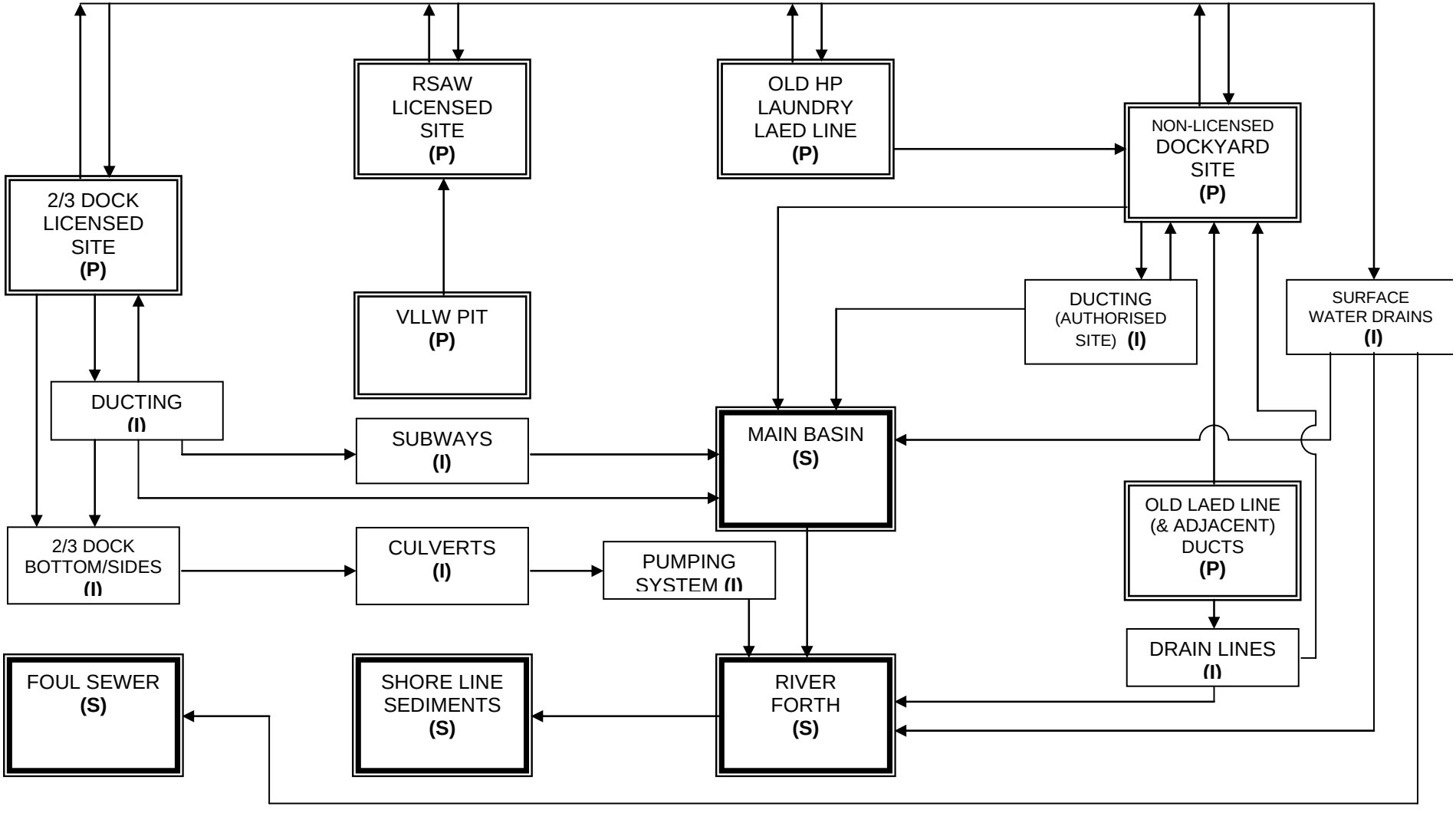

KEY: **P** = Primary Source Area **I** = Intermediate Transfer Area **S** = Sink Area

Land Surface Radiation Survey

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- Ground Radiation Survey (GROUNDHOG)
- Contractor - RWE Nukem
- General Conclusion
  - Low site background
  - Minor contamination spots identified
  - Little unexpected contamination found

Land Surface Radiation Survey

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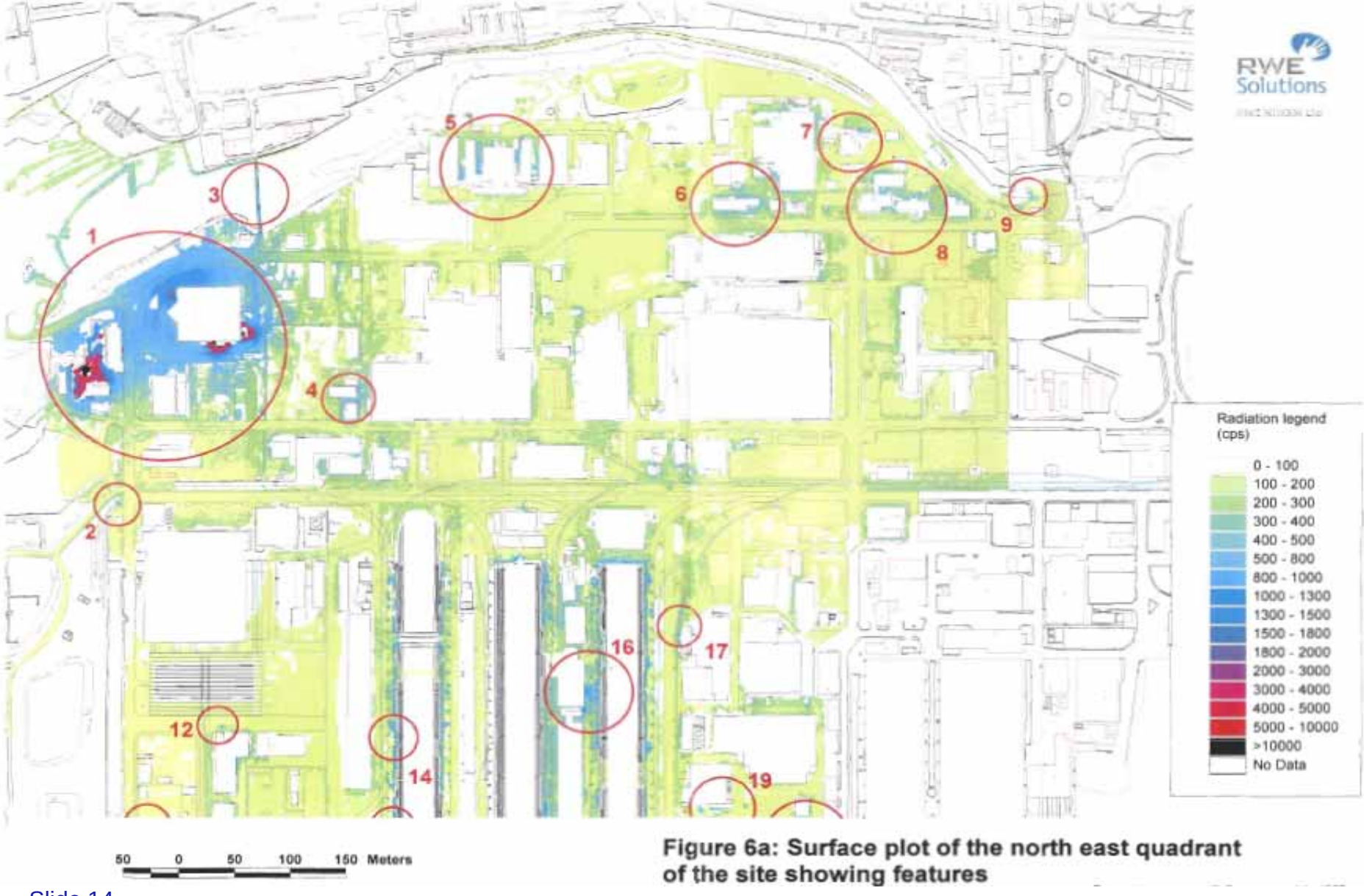

Figure 6a: Surface plot of the north east quadrant of the site showing features

Land Surface Radiation Survey

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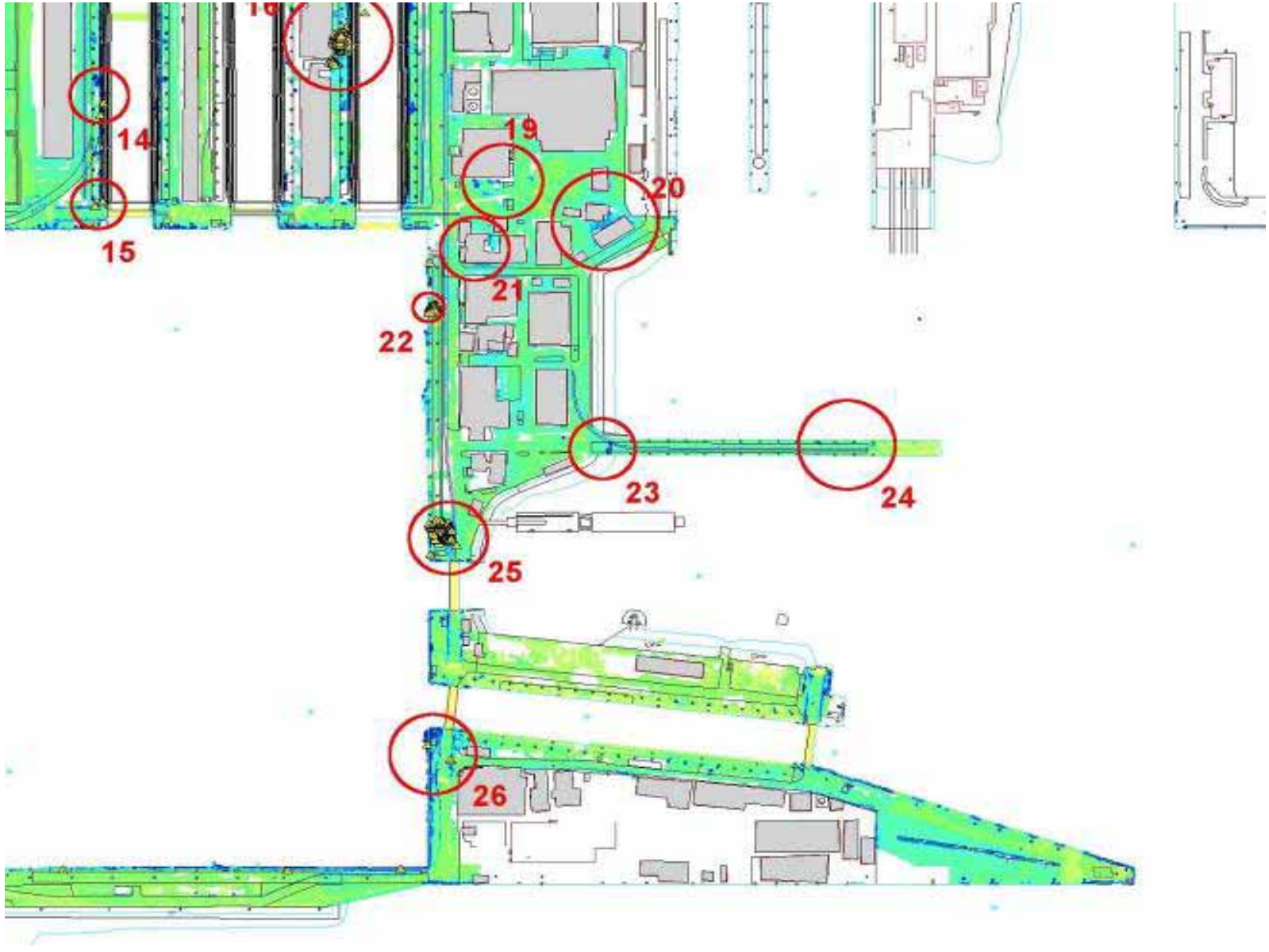

Additional investigations

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- Intrusive samples
  - Old Solid Waste Area
  - Vicinity of VLLW Pit
  - Redundant Effluent Discharge Line
  - Middle Jetty contaminated area
- Radiation Surveys
  - Dock bottoms/ docksides/ nuclear berths
  - Surface water drains system

Additional investigations

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- Marine Areas
  - Main basin
  - Tidal area at approaches
- Site Drains Systems
  - Surface water drains and outfalls
  - Manholes

Facility Studies

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Seven main facilities

- Health Physics Building
- Refuelling Equipment Shop
- Submarine Crew Building (incl. former radiochemistry lab)
- Redundant Effluent Discharge Lines
- Reactor Support Active Workshop
- Former Health Physics Laundry
- Current Radiochemistry Lab

Monitoring Protocol

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- Final step in process of demonstrating “clearance” of a facility from regulatory control
- Has been agreed by the NII, DNSR and SEPA
- Demonstrates that a systematic and appropriate approach to surveying the site will be applied
- Defines different categories of area and the sequence of surveys for each area
- Defines clearance criteria - most important of which is 0.4 Bq/g and defines the use of BPEO assessments
- Assesses potential doses to the public from future use of land contaminated to 0.4 Bq/g
- Identifies radionuclide fingerprints to be used
- Explains the instrument types to be used

Stakeholder Interactions

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- Local Liaison Committees
- SEPA Waste Disposal Authorisation
- Regulatory Interface Forum
- Project Stakeholder Meetings
- Miscellaneous Presentations
- Company News Magazine
- Decommissioning Conferences

Waste Minimisation (1)

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Waste Minimisation (2)

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Waste Minimisation (3)

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Waste Minimisation (4)

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Facility	Total solid waste (tonnes)	Percentage by weight of low level radioactive waste	Percentage by weight of RSA93 exempt waste
Old Health Physics Laundry	568.1	0.2	99.8
Submarine Crew Building (including former radiochemistry laboratory)	1930.9	0.1	99.9
Active Effluent Discharge Lines and Duct	2070.1	2.1	97.9
Refuelling Equipment Store	2048.1	0.3	99.7
Health Physics Building (Figures to Date)	5032.3	1.0	99.0
Reactor Support Active Workshop (Figures to Date)	2233.1	0.7	99.3
Total	**7354.5**	**0.7**	**99.3**

Challenges

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- Discovery of Cs-137 in rail shed
- Publication of HSE Guidance on ‘No Danger’
- Throughput of samples for radiochemical analysis
- Refitting vessels in adjacent docks
- Interface of decommissioning works with ‘live’ services

Interface with ‘live’ services

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Interface with ‘live’ services

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Next steps

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- Current Phase of Project concludes end 2009
- Partial Site Delicensing
- ILW Store Decommissioning?
- VLLW pit Decommissioning?
- Submarine Decommissioning?
- Full Delicensing?