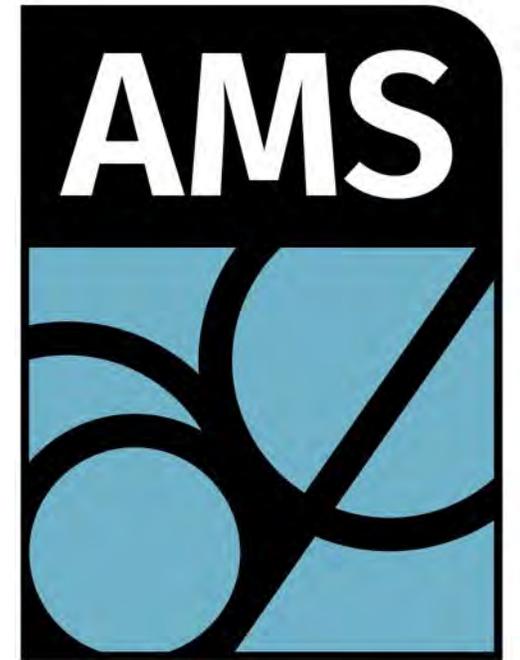


# TII Cultural Heritage Impact Assessment Guidelines – Training on Application

Institute of Archaeologists of Ireland CPD

13 March 2025

**IAI** Institute of  
Archaeologists  
of Ireland



**Archaeological**  
Management Solutions



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

# Part 1

Introduction



**Rónán Swan, Head of  
Archaeology and Heritage, TII**

## Today's Training

### Programme

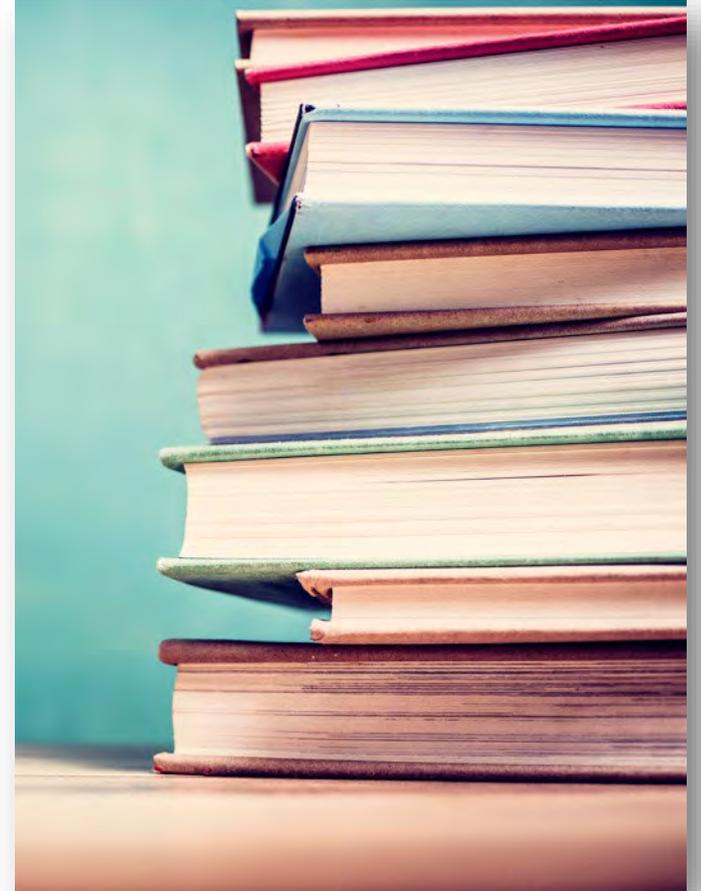
1. Introduction (Rónán Swan, TII)
2. Essential Requirements (Bryn Coldrick)
3. Key Inputs (Bryn Coldrick)
4. Determining Significance of Effect (Joanne Hughes)
5. Geospatial Data – Analysis and Outputs (Richard Clutterbuck)
6. Open Discussion/Q&A
7. Closing Remarks



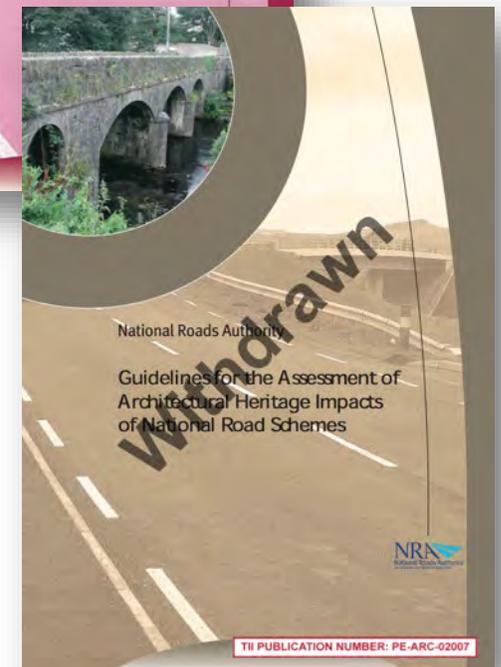
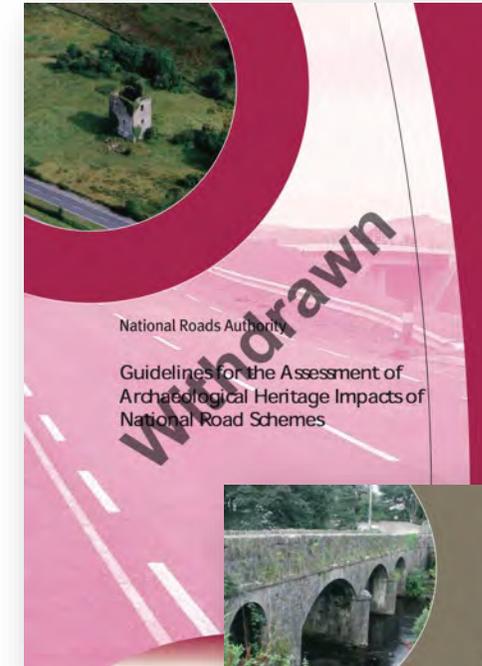
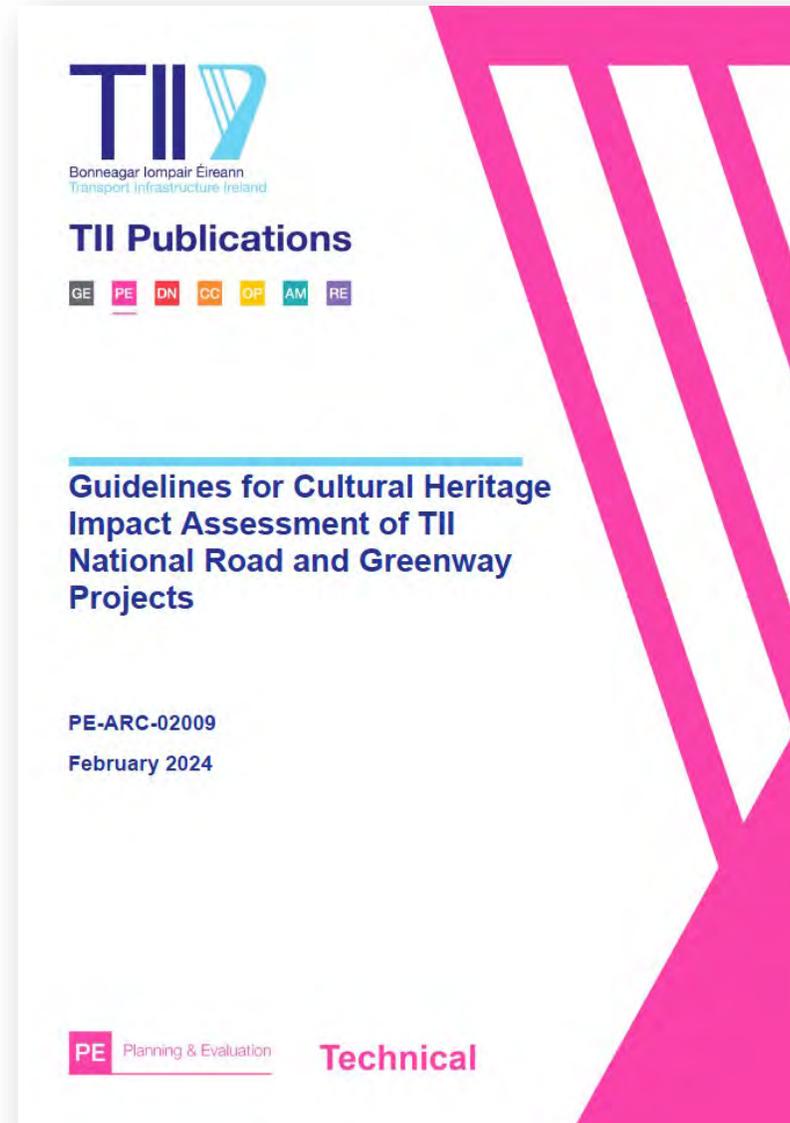
## Today's Training

### Key Learning Outcomes

1. Greater familiarity with the new CHIA guidelines
2. Understanding of essential requirements
3. What information and surveys are needed at each Phase/Stage
4. How to determine Significance of Effect
5. Introduction to Geographic Information Systems (GIS)



- Published February 2024
- Replace the 2005 NRA guidelines
- Align with EIA Directive 2014-52-EU; EPA guidance; PMG; PAG; PMM
- To be used by suitably qualified Cultural Heritage Professionals, TII Project Archaeologists, Project Managers, Environmental Coordinators etc.
- To be used throughout the planning, design, and environmental evaluation of national road and greenway projects
- Applicable to Projects which are funded through TII and/or when TII is the Approving Authority, unless otherwise instructed by TII



# Part 1

## Introduction

### Why new Cultural Heritage Impact Assessment Guidelines?

#### Purpose

- supersede 2005 NRA archaeological and architectural heritage guidelines and incorporate cultural heritage more broadly.
- ensure consistent approach to the mitigation of Cultural Heritage impacts of TII national road and greenway projects.
- reflect evolving best practice
- minimise the impact on Cultural Heritage
- enhance the opportunities for Cultural Heritage

#### Application

- for projects requiring planning consent with TII as Approving Authority, Sponsoring Agency or funder.

#### Reflect wider developments

- Legislation – EIA Directives, Historic and Archaeological Heritage and Miscellaneous Provisions Act 2023.
- Regulation – 2017 Code of Practice for Archaeology, EPA 2022 EIAR guidelines, current TII PMG, PMM and PAGs.
- Methodologies – Digitisation, Lidar, GIS, AI/Machine Learning, TII Digital Heritage Collections.

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**From:** *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024

# Part 1

## Introduction

### Overview: CHIA Guidelines (PE-ARC-02009)

#### Key principles

- aligns with PMG and PMM
- supports TII's Sustainability Implementation Plan (Principle 3 'Collaborate for a holistic approach' and Principle 6 'Create total value for society')
- codifies best practice developed since 2005
- addresses broader definition of cultural heritage
- provides consistency and clarity of purpose and scope to Technical Advisor (TA) and Cultural Heritage Professional (CHP) duties, thus minimising potential for claims
- applies CHIA proportionately to nature and extent of scheme and importance of CH receiving environment
- emphasises professional judgement of CHP (typically archaeologists and built heritage specialists)
- outlines clear process for determining significance of effect
- requires approval of all CHP outputs by the Project Manager (PM) in conjunction with the Project Archaeologist (PA)
- highlights the relationship between the PM and the PA

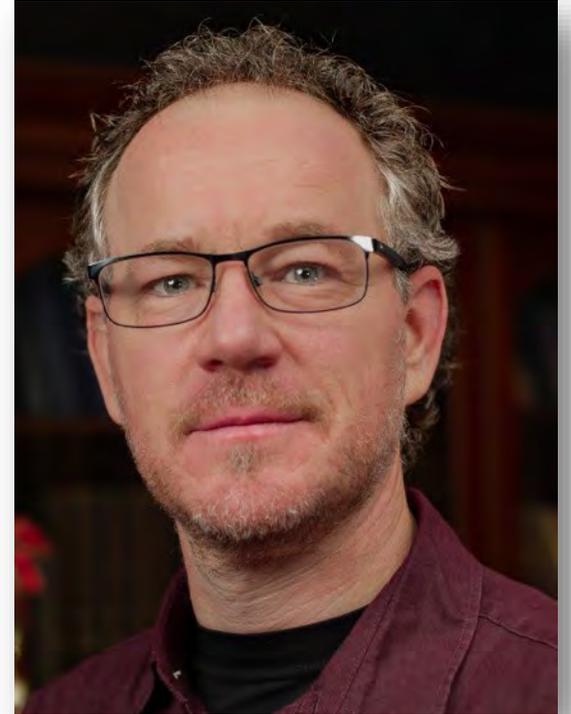
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**From:** *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024

# Part 2

Essential Requirements



**Bryn Coldrick, Senior Consultant  
– Cultural Heritage, AMS**

## Part 2

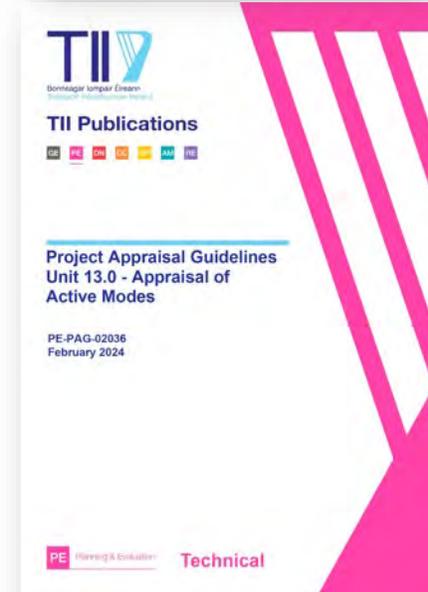
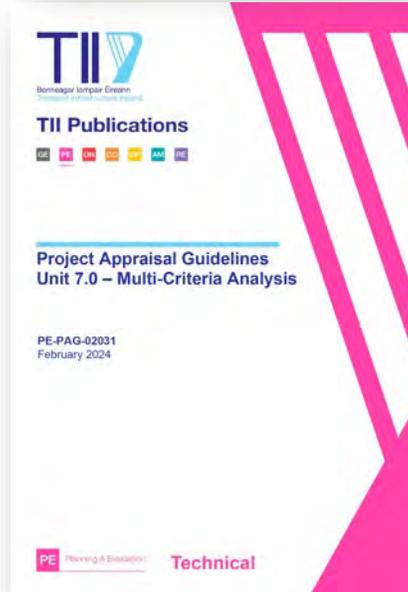
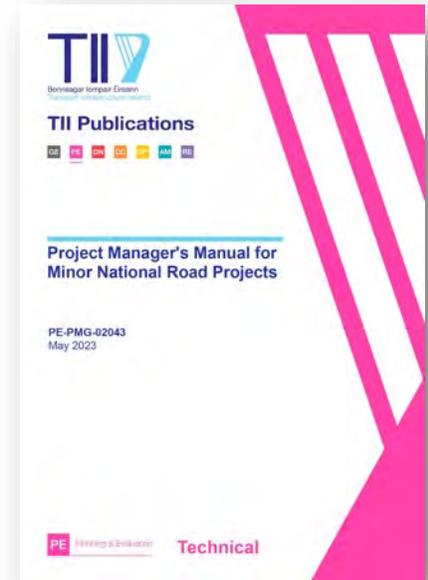
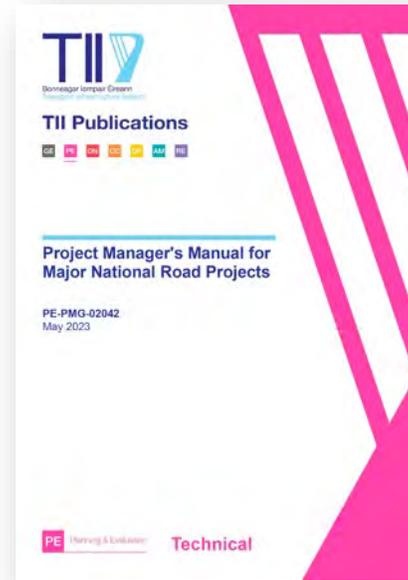
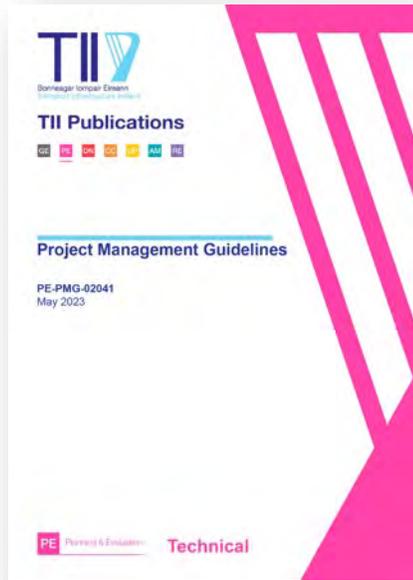
### Essential Requirements

1. Aims and Objectives of CHIA
2. Four-step CHIA Process
3. Mitigation Measures
4. Tasks and Deliverables



# Part 2

## Essential Requirements



The carrying out of CHIA occurs during TII PMG Phases 1–4, and the implementation/monitoring of mitigation measures arising from CHIA occur in Phases 5–7

# Part 2

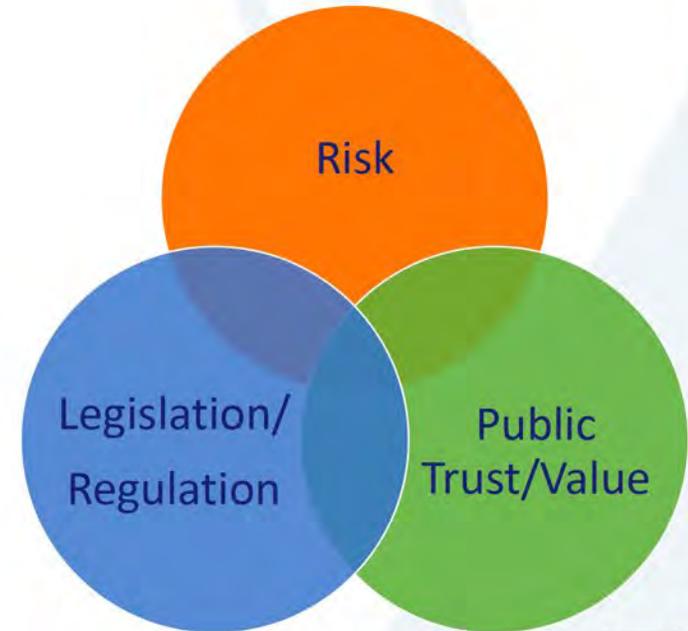
## Essential Requirements

### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment

#### TII Archaeology & Heritage

“TII’s Archaeology and Heritage section’s primary objective is to minimise the archaeological and heritage impacts associated with TII’s capital projects and programmes.”

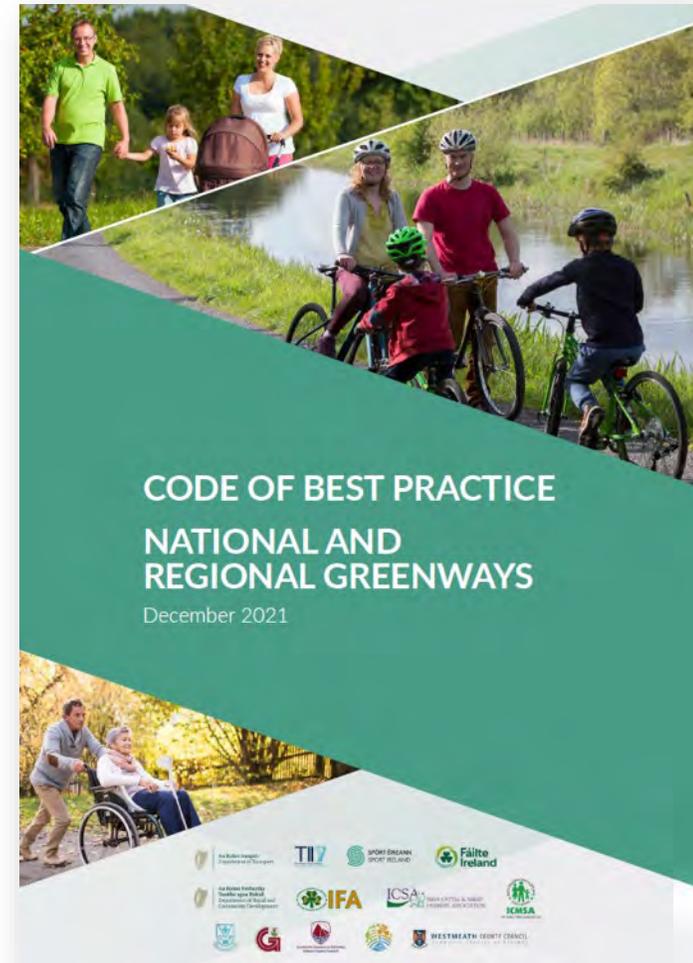
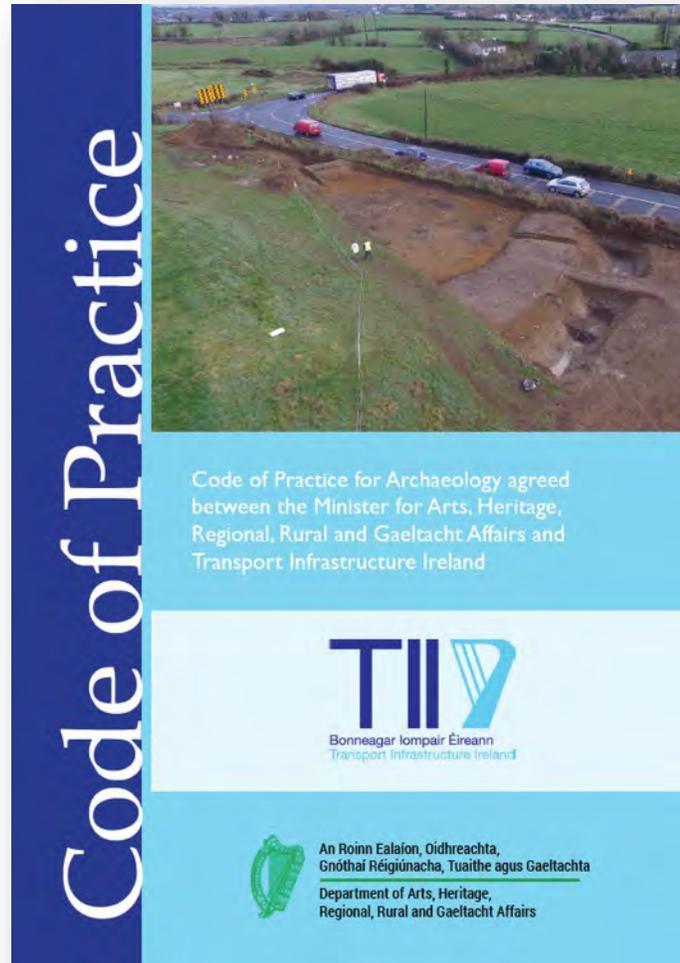
TII Annual Plan and Budget Annex



# Part 2

## Essential Requirements

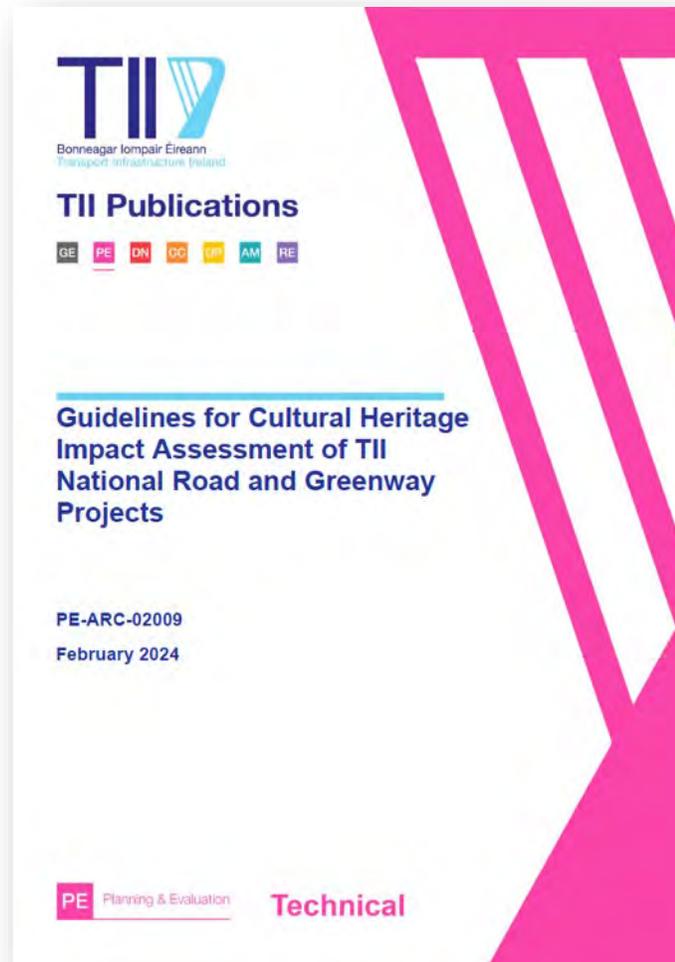
### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment



# Part 2

## Essential Requirements

### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment



The overall objective of these guidelines and is to ensure that TII Projects:

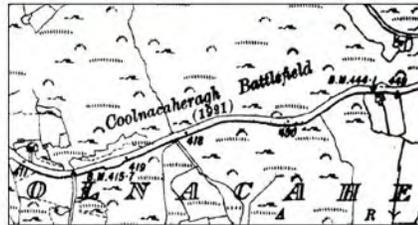
- minimise the impact on Cultural Heritage, and
- enhance the opportunities for Cultural Heritage, where possible (e.g. through improved access, amenity, and knowledge sharing)

# Part 2

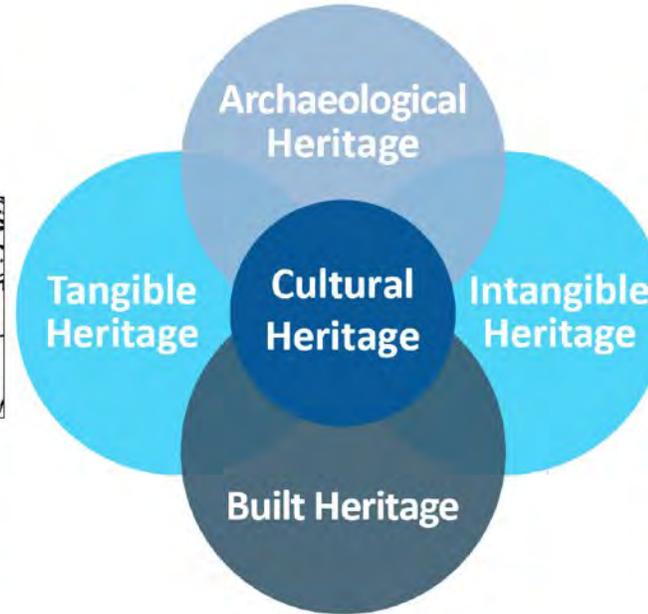
## Essential Requirements

### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment

#### Overview: what is Cultural Heritage?



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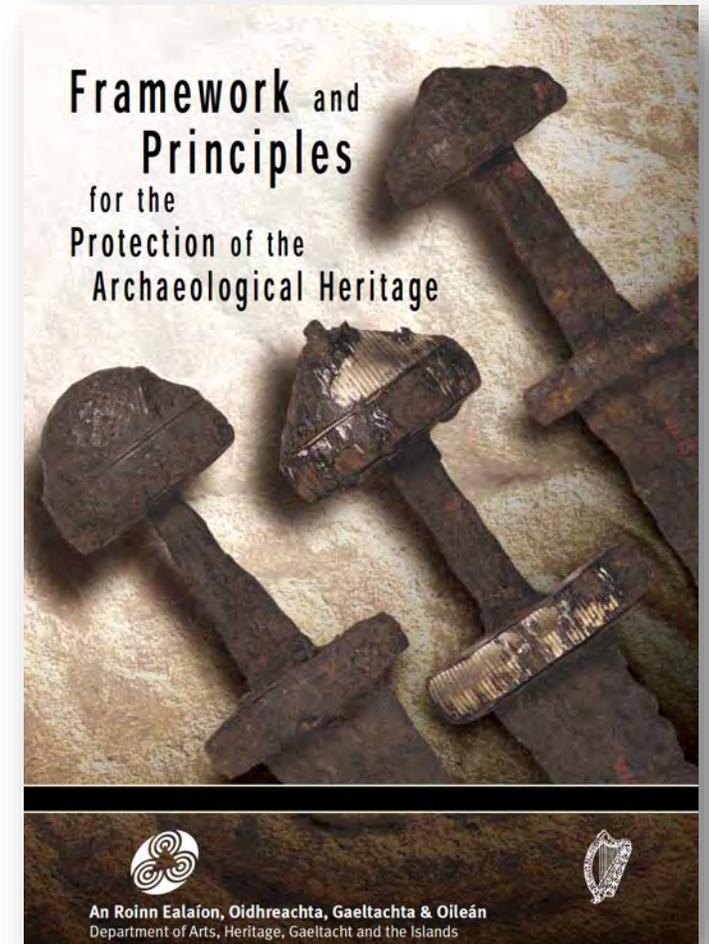
From: *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024.

# Part 2

## Essential Requirements

### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment

- Legal/regulatory compliance
  - National legislation
  - International treaties/conventions
  - EU EIA Directive
- Government policy (e.g., Framework & Principles)
- Approvals processes
- TII Code of Practice
- Minimise risk (unnecessary impacts, programme delays, costs)
- Public benefit



**Top Tip:** The cultural heritage regulatory and policy framework is summarised in Appendix 3

# Part 2

## Essential Requirements

### 2.1 Aims and Objectives of Cultural Heritage Impact Assessment

#### INFORMATION BOX 1: What is Cultural Heritage Impact Assessment (CHIA)?

CHIA is a process for identifying and assessing effects on Cultural Heritage and, where necessary, developing measures to mitigate the adverse effects and/or enhance potential positive effects. The purpose of CHIA is to understand the consequences of change to Cultural Heritage Receptors so that informed decisions can be made about their sustainable management.

CHIA involves:

- identification of Cultural Heritage Receptors,
- identification of potential impacts to those Receptors,
- assessment of the significance of effects resulting from these impacts, and
- formulation of mitigation measures for adverse effects and enhancement measures, where possible.

CHIA is a process that extends across PMG Phases 1–4 and requires the application of various assessment methodologies. CHIA results in the production of different types of outputs at different stages of the process and analysis, including Cultural Heritage Datasets (CHDs), reports, mapping, spatial data (e.g. GIS/CAD vector files), as well as input to other assessment processes such as Multi-Criteria Analysis (MCA).

At all PMG Phases/Stages, CHIA should be undertaken by competent and suitably qualified Cultural Heritage Professionals with sufficient expertise, working under the supervision of a TII-assigned Project Archaeologist or Local Authority assigned Resident Archaeologist, as applicable.

# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### INFORMATION BOX 3: The four-step CHIA process

**Step 1: Establish Scope**

Establish scope and confirm Study Area/Assessment Corridors.

**Step 2: Analysis**

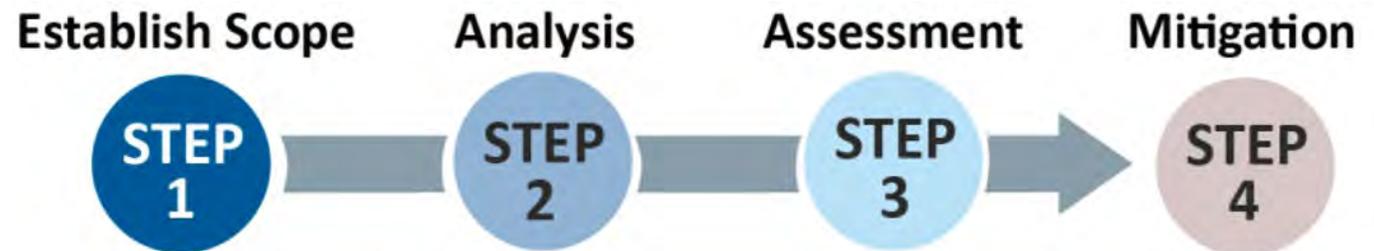
Compile Cultural Heritage Dataset and analyse data gathered through desktop research, fieldwork and consultation to establish the Cultural Heritage baseline of the receiving environment.

**Step 3: Assessment**

Identify and describe the likely direct and indirect impacts on Cultural Heritage Receptors and assess the significance of their effects.

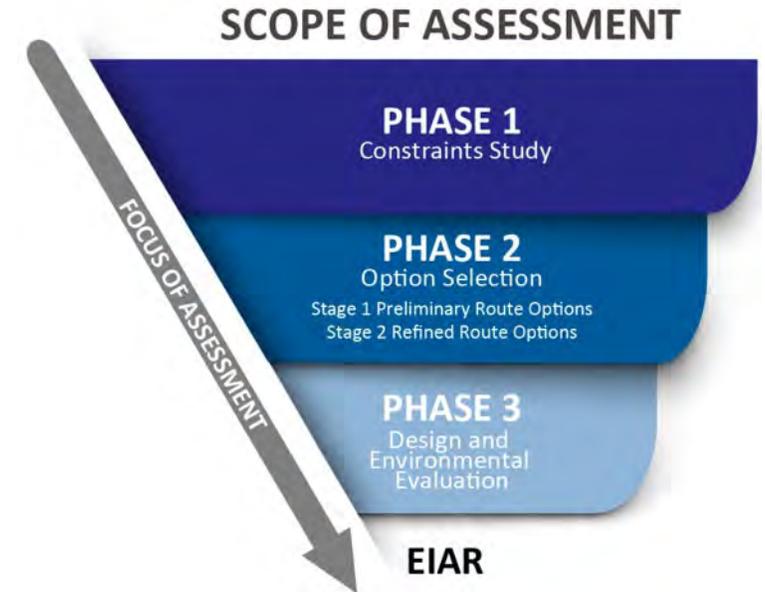
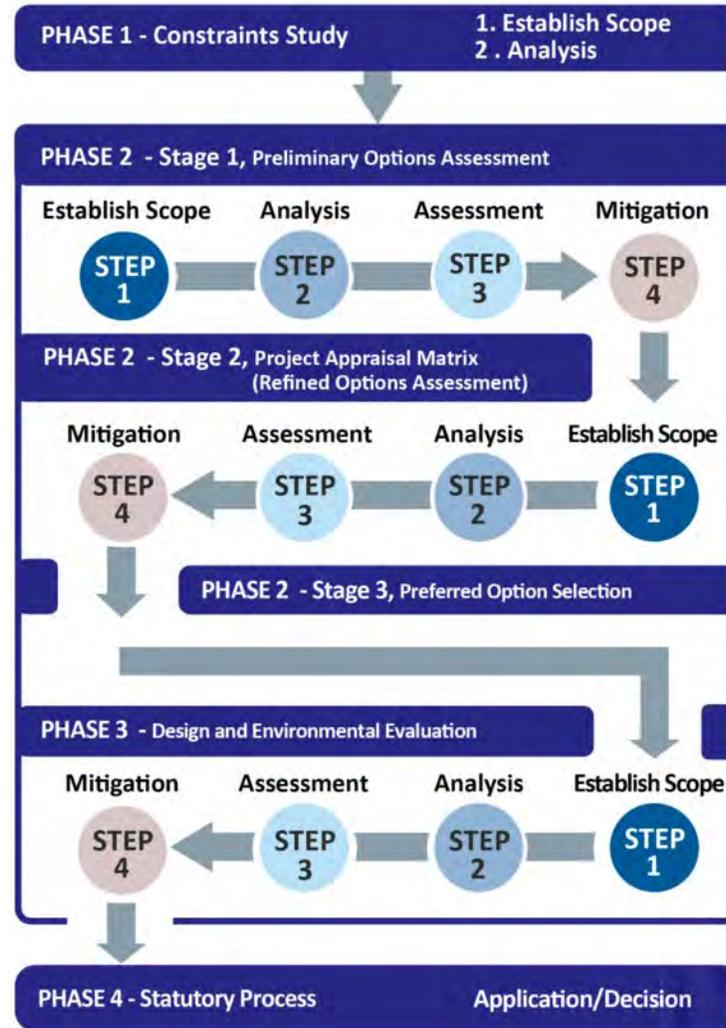
**Step 4: Mitigation and Enhancement**

Set out suitable mitigation/enhancement measures to be considered during options selection and design, including the measures to be implemented during construction and operation of the Project.



Top Tip: The four-step process is set out in Chapter 5

## 2.2 Four-step CHIA Process



# Part 2

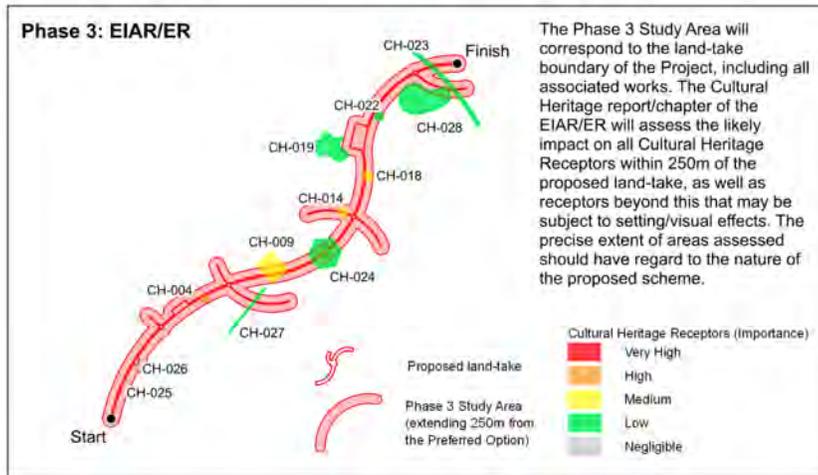
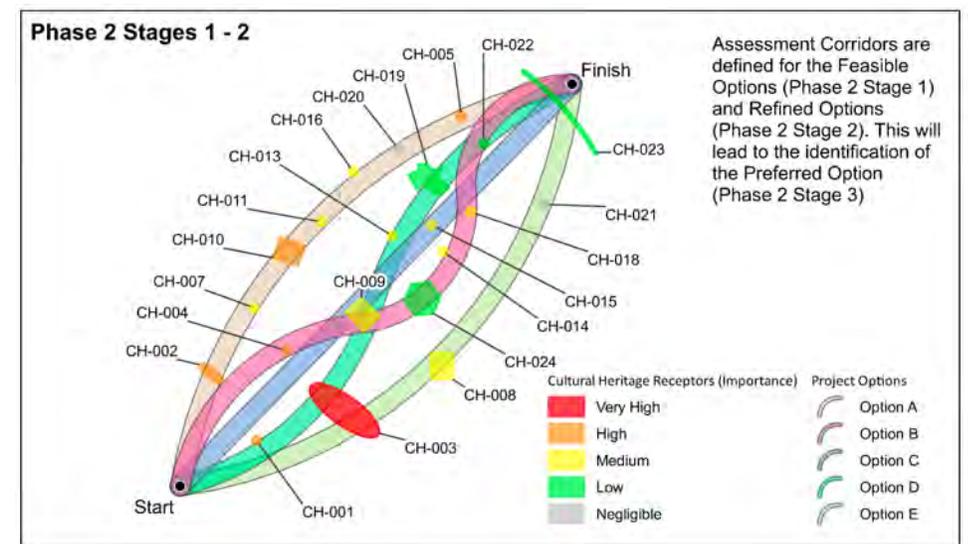
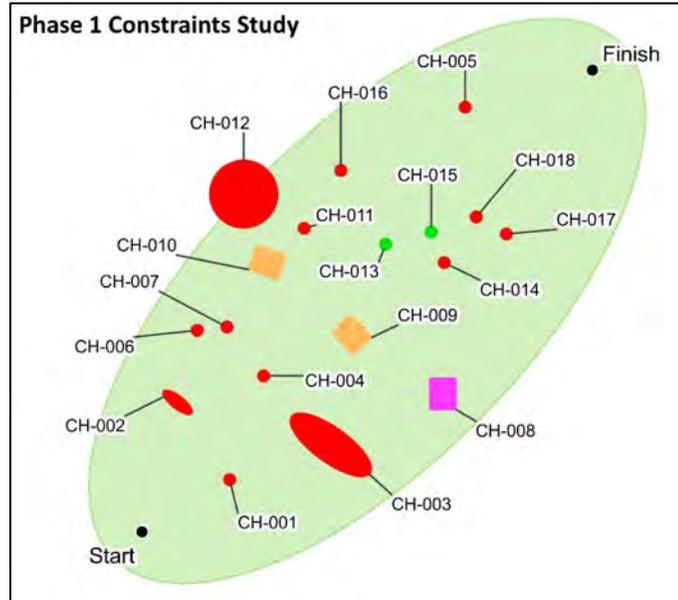
## Essential Requirements

Planning and Design	Phase 0	Scope and Strategic Assessment
	Phase 1	Concept and Feasibility
	Phase 2	Options Selection
	Phase 3	Design and Environmental Evaluation
Construct / Implement	Phase 4	Statutory Processes
	Phase 5	Enabling and Procurement
	Phase 6	Construction and Implementation
	Phase 7	Close out and Review

PMG Project Phases

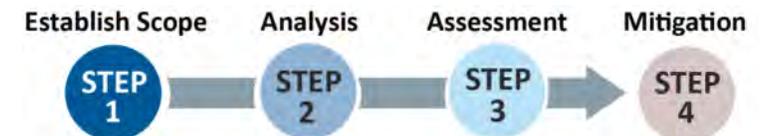
# Part 2

## Essential Requirements



The geographical scope decreases between Phase 1 (Constraints) and Phase 3 (EIAR).

But the level of detail concerning Cultural Heritage Receptors increases to better understand and mitigate likely effects.



# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### Step 1: Establish Scope of Assessment and Confirm Study Areas

- a) Project set-up – programme, key stages, outputs, and communication requirements/protocols
- b) Confirm the Study Area/Assessment Corridors for Each Phase
- c) Confirm Scope of the CHIA – format of Cultural Heritage Dataset (CHD), Cultural Heritage Receptor types, personnel (who does what), sources of information, methods, etc.

All of the above to be presented in an Assessment Method Statement (see below)



# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### STEP 1 OUTPUTS

The key output from Step 1 (Study Area and Scope) is an **Assessment Method Statement (Output Refs. 1.0a, 2.0a, 2.1a, 3.0a)** that includes:

- name(s) of the Cultural Heritage Professional(s) who will undertake the CHIA, including their qualifications, experience, and any professional memberships (where applicable),
- confirmation of the Cultural Heritage objectives for the Phase (i.e. to reduce adverse effects and enhance opportunities for Cultural Heritage),
- assumptions and proposed actions,
- confirmation of the Study Area/Assessment Corridors, and reasonings for any proposed amendments for Cultural Heritage to any given Study Areas/Assessment Corridors,
- level of assessment to be undertaken, commensurate with the nature and scale of the Project, the PMG Phase, the required assessment/approvals processes, and the nature of the receiving Cultural Heritage environment,
- range of Cultural Heritage Receptors to be considered by the nominated Cultural Heritage Professional(s) (i.e. Archaeological Heritage, Built Heritage and/or Intangible Cultural Heritage),
- methodology for desktop research (including main sources of information) and fieldwork,
- details of any specialist surveys/assessments and consultation to be carried out,
- means of coordination with other specialists (e.g. Landscape, Biodiversity, Population and Human Health),
- methodology for measuring distances between Cultural Heritage Receptors and Project Options/Preferred Option,
- criteria for determining the importance of Cultural Heritage Receptors,
- methodology for assessing and describing impacts on Cultural Heritage,
- methodology for Options Appraisal/MCA/impact assessment, etc.
- format and contents of outputs, including CHDs, reports, figures, GIS/CAD files, etc., and
- agreed programme, key milestones, and outputs.

The Assessment Method Statement should be a concise summary of the above matters, for agreement by the Project Archaeologist and Project Manager prior to commencement of the CHIA at each PMG Phase. The final Assessment Method Statement shall be adhered to throughout the relevant Phase, unless otherwise agreed with the Project Archaeologist and approved by the Project Manager.



**Top Tip:** Assessment Method Statements are required for each phase/stage and may have different methodology/deliverables etc.

# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### Step 2: Analysis

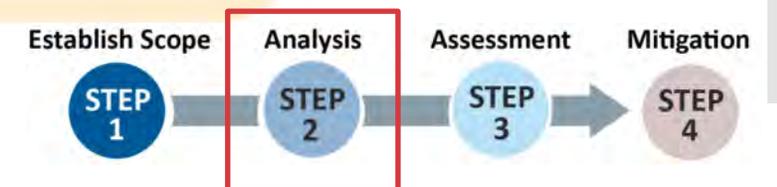
- Desktop research
- Fieldwork
- Specialist Surveys/Assessments
- Consultation



#### STEP 2 OUTPUTS

Key outputs from Step 2 (Analysis) are:

- A **Cultural Heritage Dataset** recording relevant information for all potential Cultural Heritage Receptors within the Study Area/Assessment Corridors (**Output Refs. 1.0b, 2.0b, 2.1b, 3.0b**),
- **Mapping/geospatial data** of Cultural Heritage Receptors within the Study Area/Assessment Corridors (**Output Refs. 1.0c, 2.0c, 2.1c, 3.0c**), and
- **Specialist reports** where applicable (e.g. geophysical surveys, Lidar assessments, underwater surveys, test excavation reports).



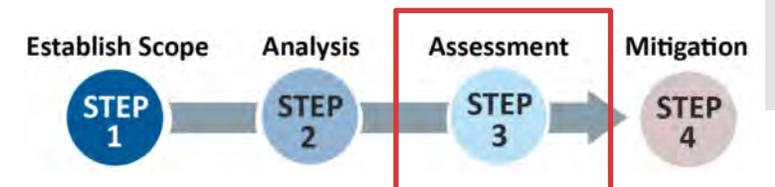
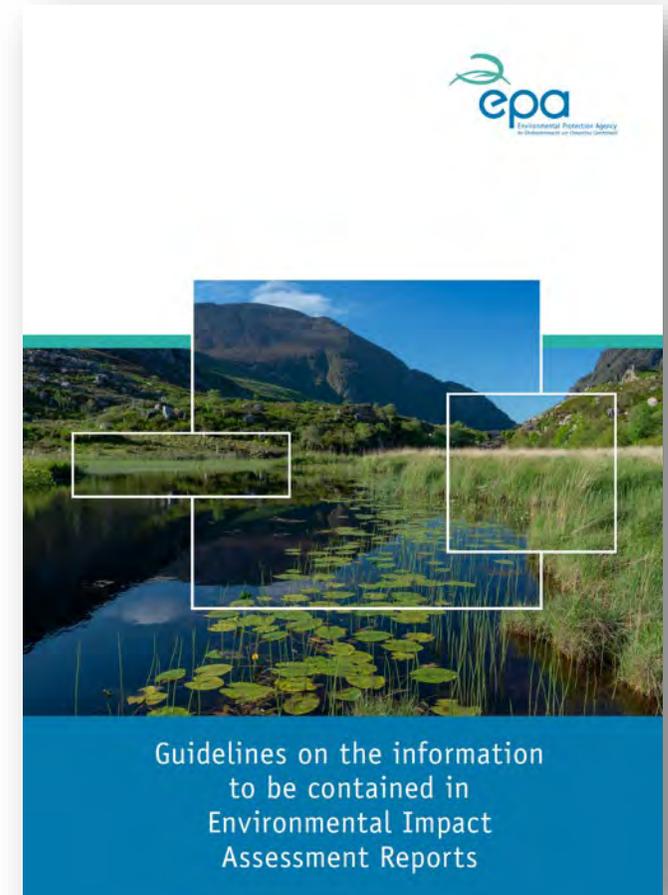
# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### Step 3: Assessment of Likely Impacts and Effects

- a) Rate importance of Cultural Heritage Receptors
- b) Describe impacts/effects
- c) Assess Significance of Effects
- d) Assess Interactions, Cumulative Effects and Residual Effects
- e) Input to Options Appraisal, MCA, EIAR



# Part 2

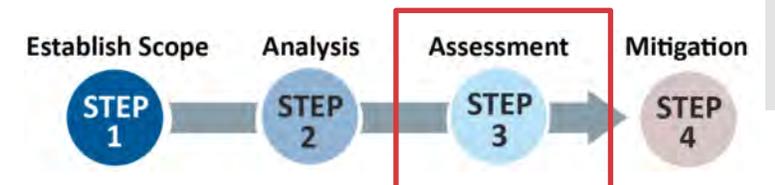
## Essential Requirements

### 2.2 Four-step CHIA Process

#### STEP 3 OUTPUTS

Key outputs from Step 3 (Assessment) are:

- a **CHIA report or chapter** for inclusion in the overall Options Report and/or EIAR/ER (depending on the PMG Phase), describing the results of desktop research, fieldwork, specialist surveys/assessments, and consultations, including likely effects on Cultural Heritage; for Phase 3 this shall include type, quality, magnitude and significance of impact/effect, cumulative effects, and residual effects (**Output Refs. 2.0d, 2.1d, 3.0d**),
- **updated CHD and mapping/geospatial data** based on additional research, fieldwork, specialist surveys/assessments, consultations, etc. (**Output Refs. 2.0b, 2.0c, 2.1b, 2.1c, 3.0b, 3.0c**),
- completed Receptor Survey Forms, field notes, and photographic records for each Cultural Heritage Receptor to be submitted as part of the **Phase 3 Project Archive (Output Ref. 3.0g)**, and
- Cultural Heritage input into the **MCA** for the Project (Phase 2) (**Output Refs. 2.0e, 2.1e**).

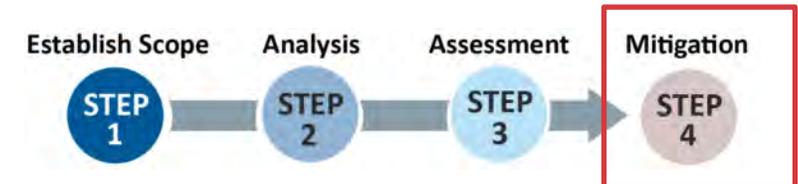


# Part 2

## Essential Requirements

### 2.3 Mitigation Measures

Avoidance
When no impact is caused, often through consideration of alternatives (i.e. a design solution). Every effort should be made to avoid and preserve Cultural Heritage Receptors <i>in situ</i> , where feasible. Avoidance is generally the most cost-effective form of mitigation and may be viewed as part of the consideration of alternatives.
Prevention
When a potential impact is prevented by a measure to avoid the possibility of the impact occurring. Usually refers to technical measures. Prevention measures are also put in place to prevent the effects of accidental events from giving rise to adverse effects (e.g. fencing off a site to prevent accidental damage during construction).
Reduction
When an impact is lessened. This is a common strategy for dealing with effects which cannot be avoided, and can involve reducing the effect and reducing exposure to the effects (e.g. using barriers or planting to screen off a Project and reduce the visual impact on a Cultural Heritage Receptor).
Remedy/Offset
When adverse effects are compensated for or resolved by a remedial action such as excavation, recording and publishing ('preservation by record'), or when an adverse effect is balanced by a positive effect (e.g. provision of a new amenity area to compensate for the unavoidable loss of access to the grounds of an historic house).



# Part 2

## Essential Requirements

### 2.2 Four-step CHIA Process

#### Step 4: Mitigation (and Enhancement)

- a) Identify appropriate mitigation and/or enhancement measures for Cultural Heritage Receptors
- b) Prepare Cultural Heritage Mitigation Plan
- c) Provide input to Schedule of Environmental Commitments and CEMP (Phases 3-4)

#### STEP 4 OUTPUTS

Key outputs of Step 4 (Mitigation and Enhancement) are:

- **mitigation and enhancement proposals** for consideration by the Project Team set out in the relevant reports/chapters (**Output Refs. 2.0d, 2.1d, 3.0d**), and
- a **Cultural Heritage Mitigation Plan (CHMP)** and Cultural Heritage input to the Schedule of Environmental Commitments and Construction Environmental Management Plan (CEMP), where applicable (**Output Ref. 3.0e**).



# Part 2

## Essential Requirements

### 2.3 Mitigation Measures

#### Overview: Selection of Mitigation Measures (Phases 5–7)



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From: *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024

# Part 2

## Essential Requirements

### 2.3 Mitigation Measures

#### Overview of Mitigation – Stages (i) to (iv) Archaeological Services Contract (Phase 5–7)

Stage	Sub-Stage	Type
Stage (i)	Test Excavation & Survey Services	
	Stage (i)a	Standard Test Excavations
	Stage (i)b	Site-Specific Test Excavations
	Stage (i)c	Test Excavations in Wetland/Scrub
	Stage (i)d	Underwater Surveys
	Stage (i)e	Built Heritage Surveys
	Stage (i)f	Townland Boundary Surveys
	Stage (i)g	Topographical Surveys
	Stage (i)h	Metal Detector Surveys
	Stage (i)i	Geophysical Surveys
	Stage (i)j	Aerial Surveys
	Stage (i)k	Monitoring During Construction
	Stage (i)l	Palaeo-environmental/Geoarchaeological Coring, Analysis and Reporting
	Stage (i)m	Test Excavations in Felled Forestry
Stage (ii)	Pre-Excavation Services	
Stage (iii)	Excavation & Post-Excavation Assessment Services	
Stage (iv)	Post-excavation & Dissemination Services	

## 2.4 Tasks and Deliverables

# Part 2

## Essential Requirements

### PHASE 1 OVERVIEW OF ESSENTIAL REQUIREMENTS

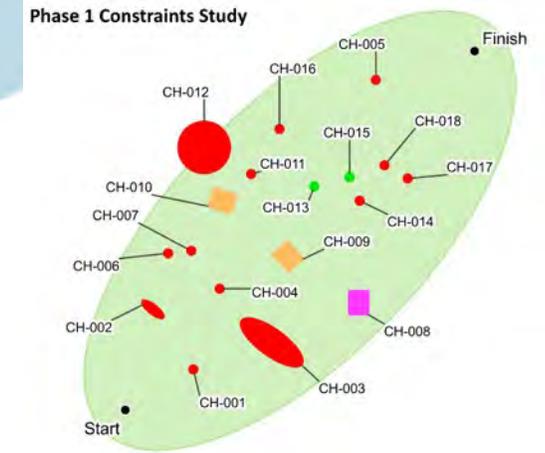
#### TASKS

- ✓ Prepare an Assessment Method Statement confirming the Study Area and outlining the scope of the study, including the range of Cultural Heritage Receptors to be considered, methodology to be used, sources of information, and the format of outputs.
- ✓ Carry out desktop research with reference to the sources of information suggested by these guidelines (see **Section 5.4.1**, **Figure 5.7** and **Appendix 6**).
- ✓ Identify and map the Cultural Heritage Receptors within the project study area and identify key constraints.
- ✓ Prepare the CHD containing essential data relevant to each identified Cultural Heritage Receptor.
- ✓ Identify any transboundary issues that need to be considered.
- ✓ Prepare a Constraints Study Report.

#### OUTPUTS

- Phase 1 Assessment Method Statement (**Output Ref. 1.0a**).
- CHD recording the known Cultural Heritage Receptors (**Output Ref. 1.0b**). Mapping/geospatial data for the Cultural Heritage Receptors (**Output Ref. 1.0c**)
- Constraints Study Report (Output Ref. 1.0d; note: for greenways, this may be submitted during Phase 2)

## Phase 1 – Constraints Study



**Top Tip: For Constraints Study, don't try to capture everything – focus on the known Key Constraints (designated and undesigned) and Opportunities**

# Part 2

## Essential Requirements

### 2.4 Tasks and Deliverables

Field Name	Data Type	Description	Source(s)/Notes
<b>ID</b>	Integer	Unique number or primary key applied to each row or entry by geospatial database.	N/A
<b>Receptor No.</b>	Text	Unique identifier assigned by the Cultural Heritage Professional to each Cultural Heritage Receptor in the format CH-001, CH-002, etc. This number should remain with the receptor from the start of the process to the finish and should appear on maps illustrating the CHIA. A single sequence should be followed for all types of Cultural Heritage Receptor.	N/A
<b>Receptor Class</b>	Text	Category of Cultural Heritage Receptor: Archaeological Heritage, Built Heritage, Intangible Cultural Heritage	See <b>Table 5-3</b> , <b>Table 5-4</b> and <b>Table 5-5</b>
<b>Receptor Type</b>	Text	Receptor type, assigned by the Cultural Heritage Professional. Standard terminology shall be used (e.g. ringfort, wreck, vernacular cottage).	See <b>Table 5-3</b> , <b>Table 5-4</b> and <b>Table 5-5</b>
<b>Distance to Option A</b>	Integer	The shortest distance, expressed in metres (m), between the Cultural Heritage Receptor and Option A	Measurements should be from the known (or reasonably assumed) boundary of the Cultural Heritage Receptor to the Option <u>centreline</u> or the edge of the Assessment Corridor as agreed with the Project Archaeologist and set out in the Assessment Method Statement.
<b>Distance to Option B (etc.)</b>	Integer	The shortest distance, expressed in metres (m), between the Cultural Heritage Receptor and Option B	Measurements should be from the known (or reasonably assumed) boundary of the Cultural Heritage Receptor to the Option <u>centreline</u> or the edge of the Assessment Corridor as agreed with the Project Archaeologist and set out in the Assessment Method Statement.
<b>Receptor Description</b>	Text	Descriptive text of the Cultural Heritage Receptor including its immediate and wider setting, characteristics, size, condition and preservation and any other relevant attributes (e.g. folklore)	
<b>Importance</b>	Text	The importance of Cultural Heritage Receptors shall be evaluated by the Cultural Heritage Professional; A five-level rating system is recommended: Very High - High - Medium - Low - Negligible.	See <b>Section 5.5.1</b>

Extract from suggested Cultural Heritage Dataset (Appendix 5)

**Top Tips:** A basic/starting CHD can be imported via the Historic Environment Viewer/[www.data.gov.ie](http://www.data.gov.ie). Be sure to include the date of download from [data.gov.ie](http://data.gov.ie) in the CHD and mapping outputs

# Part 2

## Essential Requirements

### 2.4 Tasks and Deliverables

Receptor No.	Receptor Type	Designation	Brief Description
CH-001	Fulacht Fiadh	SMR	Circular grass-covered mound visible above the floor of a turlough
CH-002	Field system	RMP	Field system identified from aerial photography
CH-003*	Passage Tomb Complex	National Monument	<b>Complex of Neolithic passage tombs overlooking the river valley</b>
CH-004	Ringfort	RMP	Earthen ringfort, truncated by field boundary/hedgerow
CH-005	Bullaun	RMP	Undressed granite bullaun stone with a single, centrally placed oval hollow
CH-006	Ring-Barrow	RMP	Ring-barrow defined by a slightly domed central area and surrounding ditch
CH-007	Fulacht Fiadh	SMR	Semi-circular mound in a marshy area adjacent to a paleochannel
CH-008	Mill Complex	Undesignated	Mill complex containing intact mill, miller's house, and outbuildings. Not recorded on RPS or NIAH.
CH-009	Pitfield	None	Series of pits visible on aerial photography
CH-010*	Country House	Protected Structure	<b>Eighteenth-century house set within parkland which includes intact demesne walls, gate lodges, wrought-iron gates, and original gate piers. Rated as being of national importance by the NIAH.</b>
*Denotes key constraints			

Sample table for Constraints Study report

## 2.4 Tasks and Deliverables

# Part 2

## Essential Requirements

### PHASE 2 STAGE 1: OVERVIEW OF ESSENTIAL REQUIREMENTS

#### TASKS

- ✓ Prepare an Assessment Method Statement confirming the Assessment Corridors and outlining the scope of the study, including the range of Cultural Heritage Receptors to be considered, methodology to be used, sources of information, fieldwork, and the format of outputs.
- ✓ Undertake further research with reference to the sources of information suggested by these guidelines (see **Section 5.4.1**, **Figure 5.7** and **Appendix 6**).
- ✓ Carry out a survey from accessible land and targeted site inspections, where necessary.
- ✓ Update the CHD with additional data for previously identified and newly identified Cultural Heritage Receptors.
- ✓ Liaise with the Project Archaeologist, Project Manager, and other relevant professionals to ensure ongoing communication and identification of interactions.
- ✓ Prepare specification for specialist surveys.
- ✓ Review the Project options against the baseline Cultural Heritage information and assess the likely effects of each option on Cultural Heritage.
- ✓ Compare and rank the identified options from a Cultural Heritage perspective in the Phase 2 Stage 1 MCA.
- ✓ Prepare a Phase 2 Stage 1 CHIA report/chapter on findings.

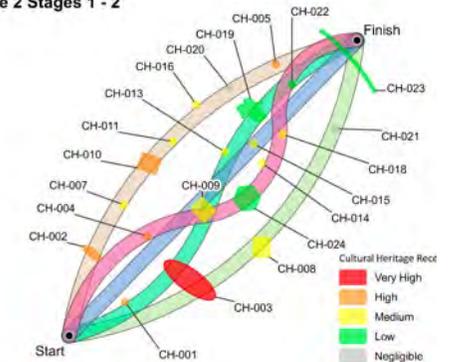
#### OUTPUTS

- Phase 2 Stage 1 Assessment Method Statement (**Output Ref. 2.0a**).
- Updated CHD (**Output Ref. 2.0b**) and mapping/geospatial data (**Output Ref. 2.0c**) to assist the identification and refinement of options.
- CHIA report/chapter referencing each of the identified options to be included in the Stage 1 Options Report (**Output Ref. 2.0d**).
- Comparative ranking (MCA) of the identified options relative to their likely effects on Cultural Heritage for input under Environment to MCA/Project Appraisal Deliverables (**Output Ref. 2.0e**).

**Top Tip:** For new Route Option alignments, the assessment corridor is generally 500m (i.e. 250m from the centreline). Corridor widths can be adjusted for urban areas and greenfield vs fixed route (e.g., a greenway following an historic rail line). This can be addressed in the Assessment Method Statement.

## Phase 2 Stage 1 – Preliminary Options Assessment

Phase 2 Stages 1 - 2



Planning and Design	Phase 0	Scope and Strategic Assessment
	Phase 1	Concept and Feasibility
	Phase 2	Options Selection
	Phase 3	Design and Environmental Evaluation
	Phase 4	Statutory Processes

## 2.4 Tasks and Deliverables

# Part 2

## Essential Requirements

### PHASE 2 STAGE 2: OVERVIEW OF ESSENTIAL REQUIREMENTS

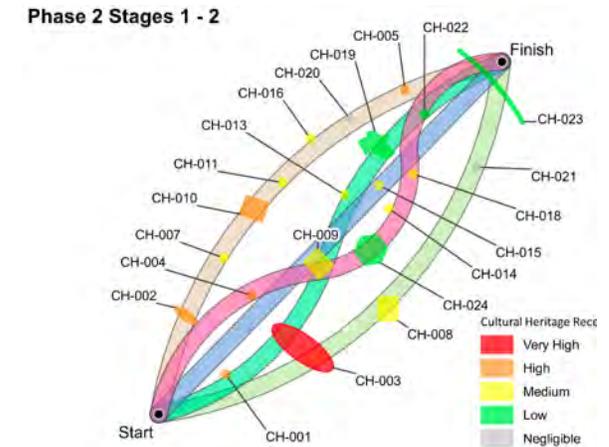
#### TASKS

- ✓ Review the Phase 2 Stage 1 CHIA report/chapter to identify the issues that need to be covered in the Stage 2 assessment.
- ✓ Prepare an Assessment Method Statement confirming the Assessment Corridors and outlining the scope of the study, including the range of Cultural Heritage Receptors to be considered, methodology to be used, sources of information, fieldwork, consultations, specialist surveys/assessments and the format of outputs.
- ✓ Undertake further research with reference to the sources of information suggested by these guidelines (see Section 5.4.1, Figure 5.7 and Appendix 6).
- ✓ Carry out survey(s) from accessible land and targeted site inspections, where necessary.
- ✓ Consult with any landowners/occupiers and/or special interest groups identified as having Cultural Heritage knowledge/concerns.
- ✓ Prepare specifications for specialist surveys and assessments.
- ✓ Incorporate the results of any consultations and specialist assessments or surveys commissioned for the Project.
- ✓ Update the CHD with additional data for previously identified and newly identified Cultural Heritage Receptors.
- ✓ Liaise with the Project Archaeologist, Project Manager, and other relevant professionals to ensure ongoing communication and identification of interactions.
- ✓ Review the refined Project options against the baseline Cultural Heritage information and assess the likely effects of each option on Cultural Heritage.
- ✓ Identify enhancement opportunities for important Cultural Heritage Receptors.
- ✓ Compare and rank the identified options from a Cultural Heritage perspective in the Phase 2 Stage 2 MCA.
- ✓ Prepare a Phase 2 Stage 2 CHIA report/chapter on findings, including measures that should be considered by the Design Team to mitigate adverse effects and enhance opportunities.
- ✓ Provide input to the Project Appraisal Deliverables (MCA).

#### OUTPUTS

- Phase 2 Stage 2 Assessment Method Statement (**Output Ref. 2.1a**).
- Further refined and updated CHD (**Output Ref. 2.1b**) and associated mapping/geospatial data (**Output Ref. 2.1c**) relevant and scaled to the identified options, and based on additional research, fieldwork, specialist surveys/assessments, consultations, etc.
- CHIA report/chapter referencing each of the identified options to be included in the Options Report (**Output Ref. 2.1d**).
- Comparative ranking (MCA) of the identified options relative to their likely effects on Cultural Heritage for input under Environment to MCA/Project Appraisal Deliverables (**Output Ref. 2.1e**).

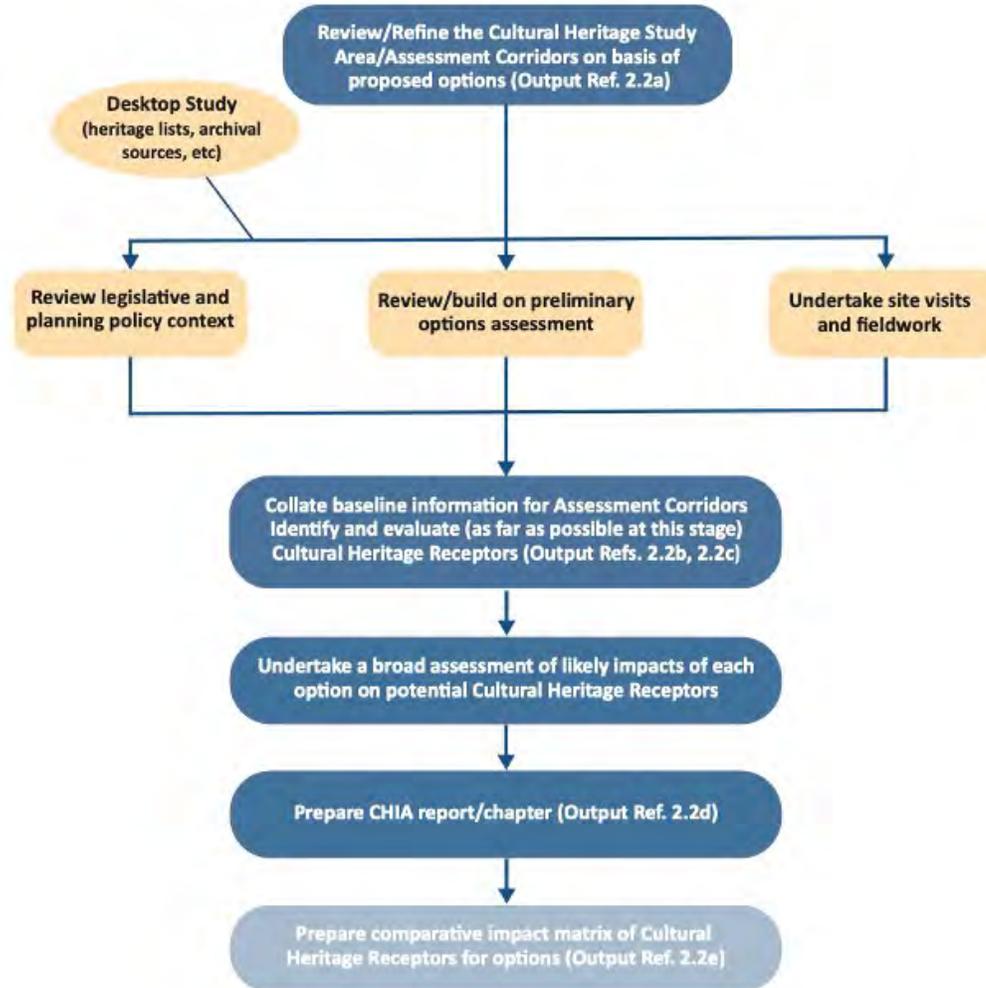
## Phase 2 Stage 2 – Refined Options Assessment (Project Appraisal Matrix)



Planning and Design	Phase 0	Scope and Strategic Assessment
	Phase 1	Concept and Feasibility
	Phase 2	Options Selection
	Phase 3	Design and Environmental Evaluation
	Phase 4	Statutory Processes

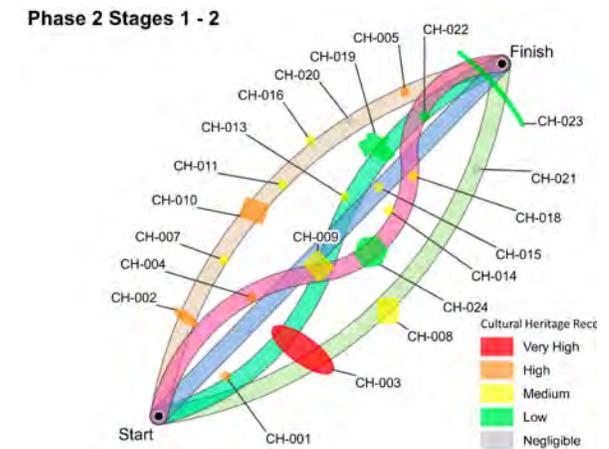
**NB: all outputs need to be approved by the PM in conjunction with the PA**

## 2.4 Tasks and Deliverables



Outline of CHIA's role in the option selection process (Phase 2 Stage 2)

### Phase 2 Stage 2 – Refined Options Assessment (Project Appraisal Matrix)



Planning and Design	Phase 0	Scope and Strategic Assessment
	Phase 1	Concept and Feasibility
	Phase 2	Options Selection
	Phase 3	Design and Environmental Evaluation
	Phase 4	Statutory Processes

# Part 2

## Essential Requirements

**Top Tip:** For Minor Projects <€5m, where Phase 2 stages may have been amalgamated, the baseline Cultural Heritage Receptors may be presented in a report commensurate with the scale and nature of the Project, accompanied by the CHD and mapping/geospatial data.

## 2.4 Tasks and Deliverables

# Part 2

## Essential Requirements

### PHASE 3: OVERVIEW OF ESSENTIAL REQUIREMENTS

#### TASKS

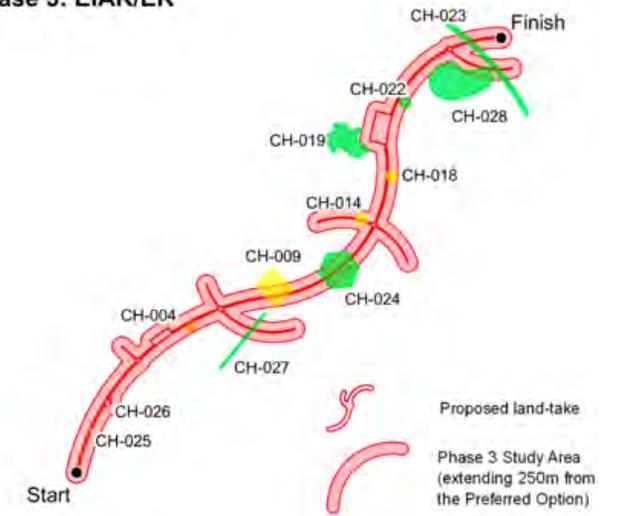
- ✓ Review the Phase 2 Stage 2 CHIA report/chapter, and other relevant reports to identify the issues that need to be covered in the Phase 3 assessment.
- ✓ Prepare an Assessment Method Statement confirming the Phase 3 Study Area and outlining the scope of the study, including the Cultural Heritage Receptors to be considered, methodology to be used, sources of information, fieldwork, consultations, specialist surveys/assessments and the format of outputs.
- ✓ Undertake further research with reference to the sources of information suggested by these guidelines (see Section 5.4.1, Figure 5.7 and Appendix 6).
- ✓ Carry out a full walkover of the proposed Project including junctions, connecting roads, attenuation ponds, site compounds, quarries, etc.
- ✓ Consult with any landowners/occupiers and/or special interest groups identified as having Cultural Heritage knowledge/concerns.
- ✓ Prepare specifications for specialist surveys and assessments.
- ✓ Incorporate the results of any consultations and specialist assessments or surveys commissioned for the Project into the CHIA.
- ✓ Update the CHD with additional data for previously identified and newly identified Cultural Heritage Receptors.
- ✓ Liaise with the Project Archaeologist, Project Manager, and other relevant professionals to ensure ongoing communication and identification of interactions.
- ✓ Assess the importance of and magnitude of impact and likely significance of effect upon the Cultural Heritage Receptors affected by the proposed Project. Consult with the NMS and Local Authority Heritage Office in relation to likely impacts of the proposed Project, particularly likely significant effects, and proposed strategies to mitigate adverse effects.
- ✓ Prepare the CHMP and have input to the Schedule of Environmental Commitments and CEMP, where required.
- ✓ Prepare a Phase 3 CHIA report/chapter on findings, including measures that will be taken to mitigate adverse effects (e.g. avoidance), remedy/offset unavoidable effects (e.g. preservation by record) and enhance opportunities.
- ✓ Compile all relevant data and records (Receptor Survey Forms, field notes, photographs, consultations with third parties, etc.) into a Phase 3 Project Archive.

#### OUTPUTS

- Phase 3 Assessment Method Statement (**Output Ref. 3.0a**).
- Detailed and updated CHD based on additional research, fieldwork, specialist surveys/assessments, consultations, etc. (**Output Ref. 3.0b**).
- Updated mapping/geospatial data for Cultural Heritage Receptors (**Output Ref. 3.0c**).
- Detailed CHIA report/chapter for the proposed Project (based on detailed design and updated CHD), including description of baseline; assessment of direct and indirect effects on Cultural Heritage; interactions; cumulative effects; detailing of mitigation measures, etc., either as standalone CHIA Report or, where required, as a chapter of the EIAR (or ER for Part 8 developments) (**Output Ref. 3.0d**).
- CHMP and input to the Schedule of Environmental Commitments and CEMP where required (**Output Ref. 3.0e**).
- CHIA input to Project Appraisal Deliverables, where required (**Output Ref. 3.0f**).
- Phase 3 Project Archive (**Output Ref. 3.0g**).

## Phase 3 – Design and Environmental Evaluation

### Phase 3: EIAR/ER



**Top Tip: The Study Area for the Phase 3 assessment should correspond to the land-take boundary, plus an additional 250m**

## 2.4 Tasks and Deliverables

# Part 2

## Essential Requirements

### PHASE 4: OVERVIEW OF ESSENTIAL REQUIREMENTS

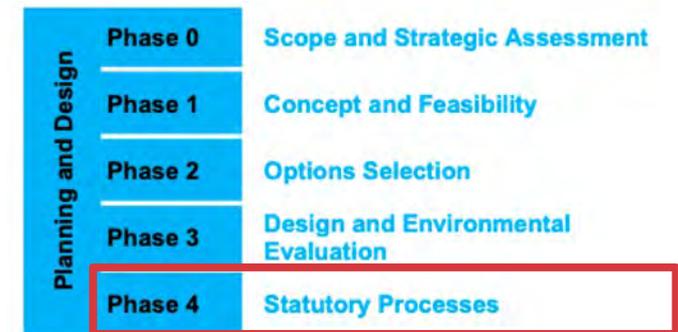
#### TASKS

- ✓ Review Cultural Heritage issues raised in submissions to the consenting process, including requests for further information issued by the Competent Authority and concerns raised by the public, and draft responses, where required.
- ✓ Review and, if necessary, update the CHIA and prepare errata for the original EIAR.
- ✓ Prepare a Cultural Heritage Brief of Evidence where a public Oral Hearing is to be held.
- ✓ Present Brief of Evidence and respond to questions at Oral Hearing, where required.
- ✓ Review and, if necessary, update the CHMP and Cultural Heritage aspects of the Schedule of Environmental Commitments.
- ✓ Review and report on any Cultural Heritage aspects addressed in the decision of the Competent Authority and/or planning inspector's report.
- ✓ Provide input to the updated CEMP, where required.
- ✓ Draft the archaeological services Method Statements to accompany a licence application for archaeological works, where required.
- ✓ In the event of a Judicial Review, contribute to affidavits (as may relate to Cultural Heritage) and provide further information/clarification to the legal team, including any additional archaeological sites or monuments that may have been identified since the Project was approved.
- ✓ Compile all relevant data and records (Receptor Survey Forms, field notes, photographs, consultations with third parties, responses to submissions, etc.) into a final Project Archive for use by the Archaeological Consultant and others with responsibility for implementing the Cultural Heritage mitigations/planning conditions.

#### OUTPUTS

- Responses to queries and submissions relevant to CHIA, where required (**Output Ref. 4.0a**).
- Draft Brief of Evidence on CHIA for Oral Hearing, where required (**Output Ref. 4.0b**).
- Final Brief of Evidence on CHIA for Oral Hearing, where required (**Output Ref. 4.0c**).
- Present Brief of Evidence and respond to questions at Oral Hearing, where required (**Output Ref. 4.0d**).
- Review CHIA aspects of approval and the Schedule of Environmental Commitments, where required (**Output Ref. 4.0e**).
- Draft Method Statements (including mapping) to accompany a licence application for archaeological works, where required (**Output Ref. 4.0f**).
- Cultural Heritage input to the updated CEMP (**Output Ref. 4.0g**), where required.
- Phase 4 Project Archive (**Output Ref. 4.0h**).

## Phase 4 – Statutory Processes



**Top Tip: Cultural Heritage Professionals should be familiar with other EIAR chapters and mitigations prior to the Oral Hearing– in particular, be sure to coordinate with the Landscape Specialist on Landscape and Visuals (LVIA)**

# Part 2

## Essential Requirements

### 2.5 Data Management and Project Archives

- Project Archives include:
  - CHD and associated spatial data (include vector layers in ESRI shapefile or geodatabase format (GIS, using the Irish Transverse Mercator coordinate reference system) and/or AutoCAD using standard attributes and layering conventions)
  - completed reports (in PDF/A format and consisting of a single file)
  - impact assessment spreadsheets, photographs, field records, and any other Cultural Heritage data/records generated by the CHIA (e.g., raw survey data from Lidar assessments, geophysical surveys, topographical surveys; consultations with third parties, etc.)
- It is crucial that the CHD developed for the CHIA is of a standard format and compiled to a high degree of quality prior to handover (refer to Appendix 5).
- Project Archives and final Cultural Heritage Mitigation Plans are to be submitted at the end of PMG Phases 3 & 4, or as otherwise required. These will be needed by the Archaeological Contractor (Phases 5–7).
- CHPs are to submit spreadsheet (in MS Excel or equivalent) containing the required metadata for all final relevant reports and datasets to facilitate upload to the TII Digital Heritage Collections (refer to Section 6.7.6 of the CHG).

**End of Part 2 – Essential Requirements**

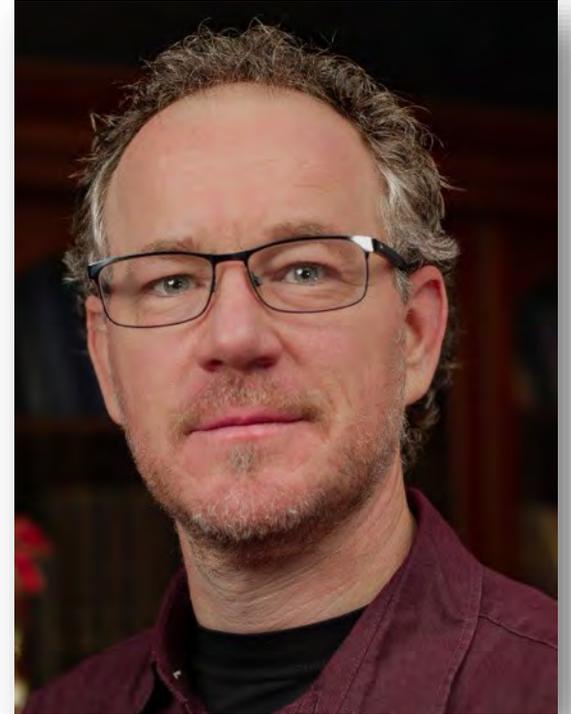


# Coffee Break



# Part 3

Key Inputs



**Bryn Coldrick, Senior Consultant  
– Cultural Heritage, AMS**

# Part 3

## Key Inputs

1. Sources of Information
2. Roles and Responsibilities
3. Competency and Professional Judgement
4. Communication and Interactions
5. Identifying Opportunities
6. Geoarchaeological/  
Palaeoenvironmental  
Archaeology

### 3.1 Sources of Information and Fieldwork, Phases 1–3

	Constraints Study Phase 1	Preliminary Route Options Phase 2 Stage 1	Project Appraisal Matrix (Refined Route Options) Phase 2 Stage 2	Preferred Option Phase 2 Stage 3	Design and Environmental Evaluation Phase 3
Sources of Information	<ul style="list-style-type: none"> <li>Archival sources</li> <li>Cartographic sources (including historic mapping)</li> <li>Development Plans/Heritage Plans</li> <li>Online datasets</li> <li>Published literature/sources</li> <li>Satellite and aerial imagery/Lidar data</li> <li>Statutory and non-statutory heritage inventories</li> </ul>	<ul style="list-style-type: none"> <li>Archival sources</li> <li>Cartographic sources (including historic mapping)</li> <li>Development Plans/Heritage Plans</li> <li>Online datasets</li> <li>Previous archaeological investigations</li> <li>Published literature/sources</li> <li>Satellite and aerial imagery/Lidar data</li> <li>Statutory and non-statutory heritage inventories</li> </ul>	<ul style="list-style-type: none"> <li>Archival sources</li> <li>Cartographic sources (including historic mapping)</li> <li>Development Plans/Heritage Plans</li> <li>Environmental Information</li> <li>Information from public consultations</li> <li>Online datasets</li> <li>Previous archaeological investigations</li> <li>Published literature/sources</li> <li>Satellite and aerial imagery</li> <li>Statutory and non-statutory heritage inventories</li> </ul>	Confirm/clarify assessment, as required by the Project Manager	<ul style="list-style-type: none"> <li>Archival sources</li> <li>Cartographic sources (including historic mapping)</li> <li>Development Plans/Heritage Plans</li> <li>Environmental Information</li> <li>Historical photographs</li> <li>Information from public consultations</li> <li>Online datasets</li> <li>Previous archaeological investigations</li> <li>Published literature/sources</li> <li>Satellite and aerial imagery</li> <li>Specialist Reports (e.g. geophysical survey reports, Lidar assessment reports)</li> <li>Statutory/non-statutory inventories</li> </ul>
Fieldwork	<ul style="list-style-type: none"> <li>N/A</li> </ul>	<ul style="list-style-type: none"> <li>Surveys from accessible land</li> <li>Targeted site inspections</li> <li><b>Specialist Surveys/Assessments*</b></li> <li>Application of the TII Automatic Detection of Archaeological Features Lidar software</li> </ul>	<ul style="list-style-type: none"> <li>Consultations with landowners/special interest groups (e.g. local heritage groups)</li> <li>Surveys from accessible land</li> <li>Targeted site inspections and built heritage surveys</li> <li><b>Specialist Surveys/Assessments*</b></li> <li>Lidar analysis</li> <li>Geoarchaeological/palaeo-environmental assessments</li> <li>Geophysical surveys</li> <li>Targeted test excavations</li> <li>Topographical surveys</li> <li>Underwater surveys</li> </ul>	Confirm/clarify assessment, as required by the Project Manager	<ul style="list-style-type: none"> <li>Consultations with landowners/special interest groups (e.g. local heritage groups)</li> <li>Full walkovers</li> <li>Site inspections</li> <li>Built heritage surveys</li> <li><b>Specialist Surveys/Assessments*</b></li> <li>Lidar analysis</li> <li>Geoarchaeological/ palaeo-environmental assessments</li> <li>Geophysical surveys</li> <li>Test excavations</li> <li>Topographical surveys</li> <li>Underwater surveys</li> </ul>

Cultural Heritage Dataset

\* Undertaken, where required, following agreement with TII-assigned Project Archaeologist, usually under a separate contract.

**Key Point**

Figure 5-7 provides list of sources/fieldwork to assist PA/PM in preparing specifications for Technical Advisors

Part 3

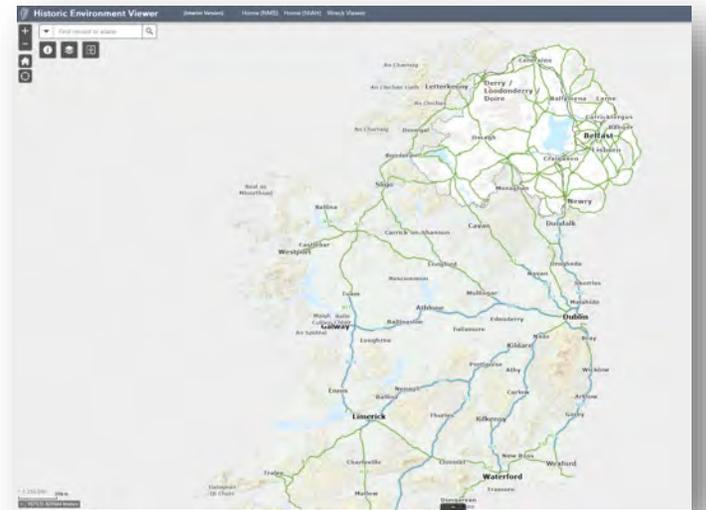
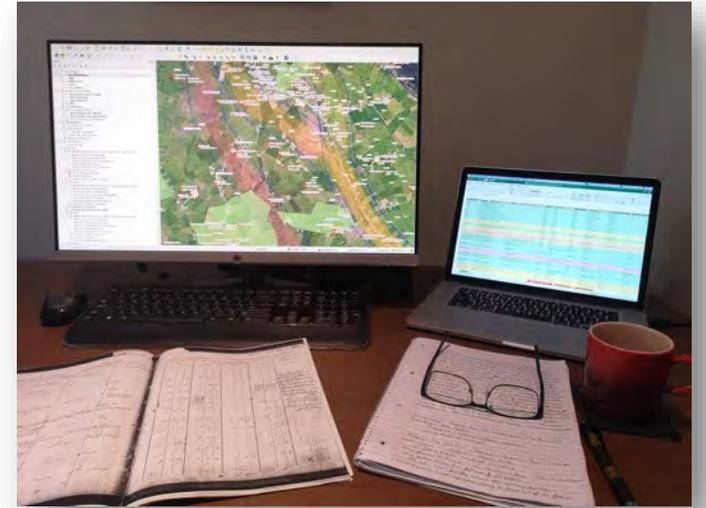
Key Inputs

## Part 3

### Key Inputs

#### Desktop Research (non-exhaustive)

- Archival sources
- Cartographic sources (including historical mapping)
- Development Plans/Heritage Plans
- Environmental Information
- Historical photographs
- Information from public consultations
- Online datasets
- Previous archaeological investigations
- Published literature/sources
- Satellite and aerial imagery
- Specialist Reports (e.g. geophysical survey reports, Lidar assessment reports)
- Statutory/non-statutory inventories

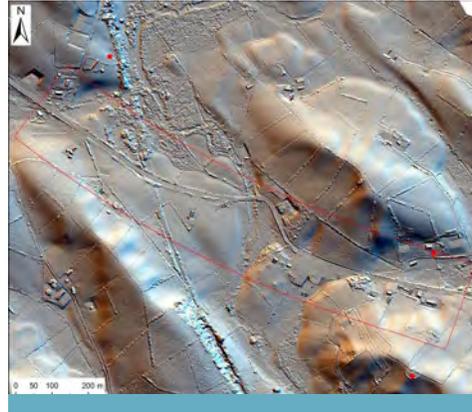


**Top Tip: Section 5 and Appendix 2 gives more detail on Information Sources**

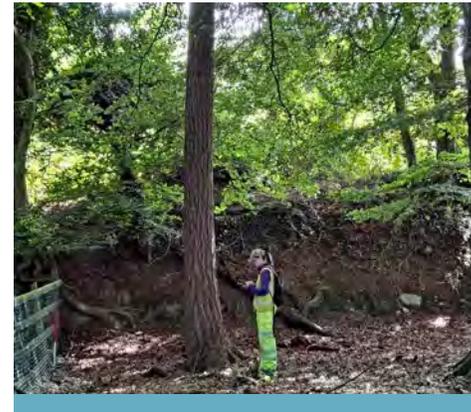
## Typical Methodologies, Phases 2–3

# Part 3

## Key Inputs



**Lidar Analysis**



**Surveys, Walkovers,  
Targeted Site Inspections**



**Geophysical Surveys**



**Underwater Surveys**



**Built Heritage Surveys**



**Test Excavations and  
Topographical Surveys**

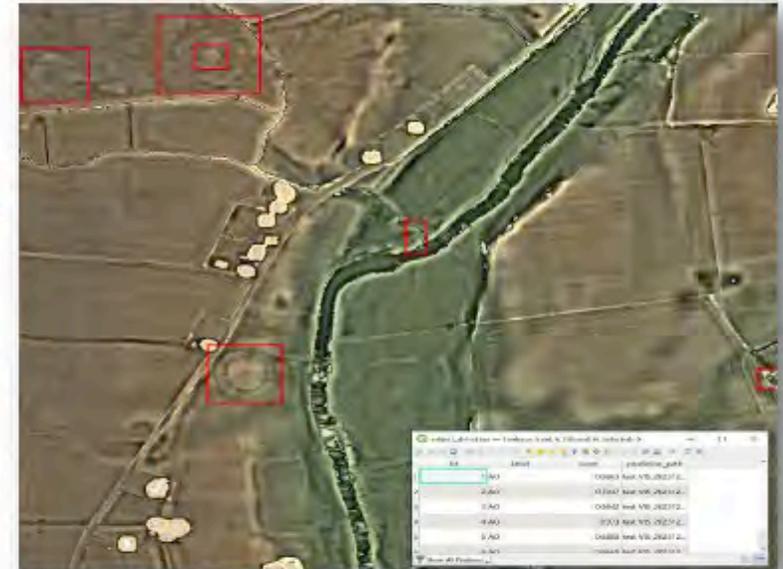
## Part 3

### Key Inputs

### 3.1 Sources of Information

#### Overview: Automatic Detection of Archaeological Features machine-learning tool

- To be used at **Phase 2** by CHP assessing Lidar data
  - earlier identification of previously unknown sites and potential National Monuments
  - greater opportunity for avoidance through design
  - more informed and robust assessment of route options
  - informs scope of **Phase 3** geophysical survey and targeted testing
- Runs on open-source software
- GIS compatible outputs



Slide | 15

# Part 3

## Key Inputs

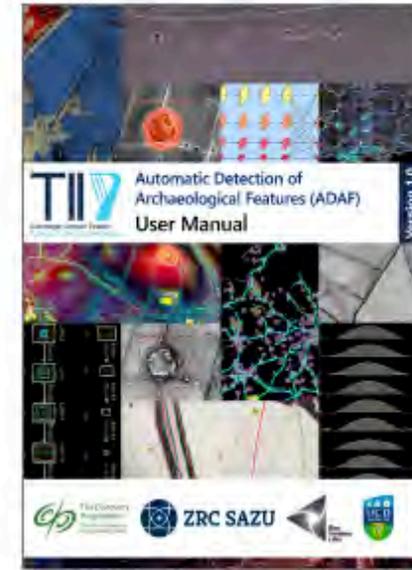
### 3.1 Sources of Information

#### Overview: Automatic Detection of Archaeological Feature machine-learning tool



<https://github.com/EarthObservation/adaf>

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**From:** *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024

## Part 3

### Key Inputs

#### Consultation

- Statutory consultation
  - National Monuments Service
  - National Built Heritage Service
  - Local Authority Heritage Officers/ ACOs
- Public consultation
  - Project website
  - Information days
- Local consultation
  - Archaeological & historical societies
  - Landowners/occupiers



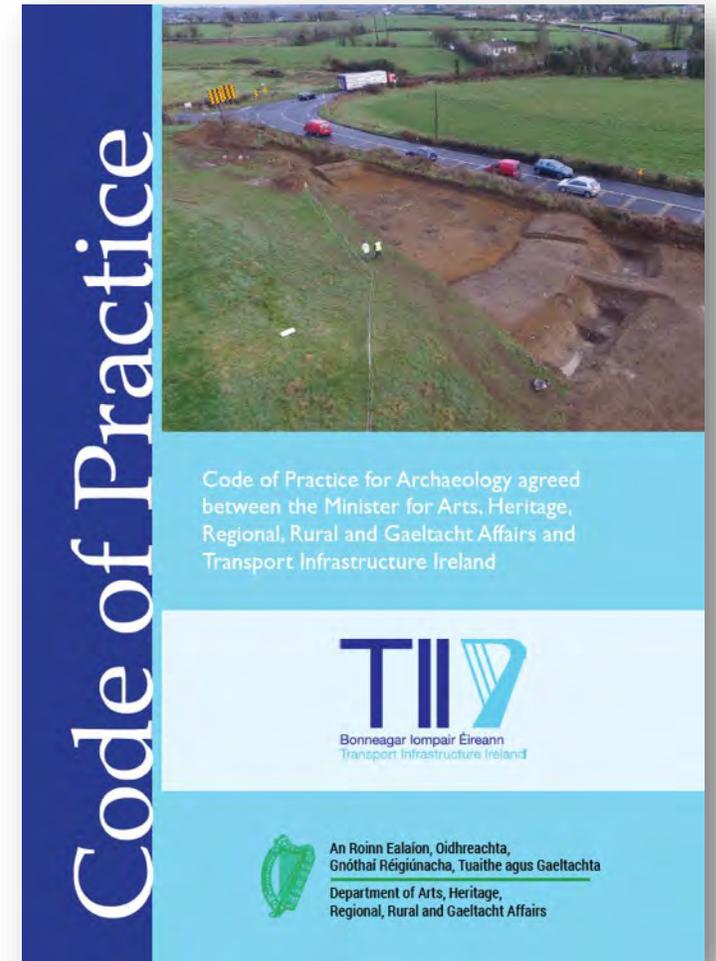
Photo: Microsoft stock image

## Part 3

### Key Inputs

### 3.2 Roles and Responsibilities – Project Archaeologist

- Oversee the archaeological elements of each TII Project
- Work closely with Project Manager\* to ensure that CHIA, mitigations and enhancements are in accordance with guidelines, legal requirements and best practice
- Main point of contact with the Department
- Advise Project Team on archaeology and other Cultural Heritage
- Provide regular updates to TII's Head of Archaeology and Heritage



\*For the role of the Project Manager, see *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024. On TII Publications.

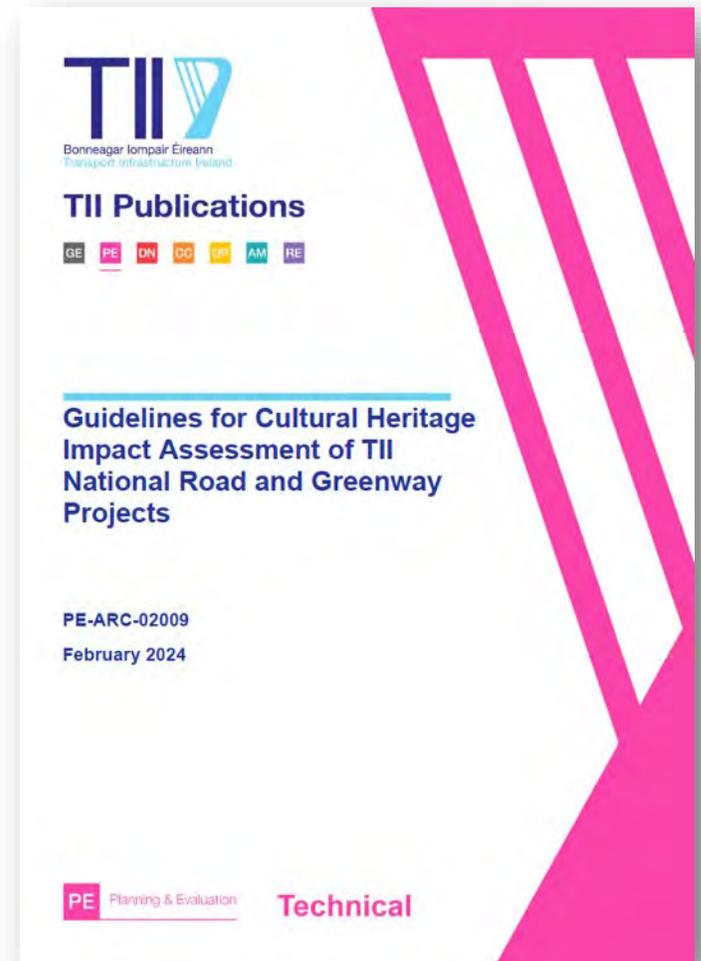
<https://www.tiipublications.ie/training>

## Part 3

### Key Inputs

### 3.2 Roles and Responsibilities – Cultural Heritage Professionals

- Provide expert, independent advice to Project Team on archaeological and other cultural heritage matters
- Undertake all relevant aspects of CHIA – desktop research, fieldwork, analysis, assessment, write-up etc. – in line with best practice
- Interact with other relevant specialists (e.g. Landscape) and incorporate findings
- Take instruction from PA, and address all reasonable comments
- Prepare Briefs of Evidence and act as Expert Witness at Oral Hearings where required



## Part 3

### Key Inputs

### 3.3 Competency and Professional Judgement

- All Cultural Heritage Professionals who carry out CHIA on TII projects must be suitably qualified, experienced, and competent
- Competence is reflected by an appropriate combination of expertise, experience, skills, and knowledge (EPA 2022, p.14)
- Can be demonstrated through relevant qualifications, membership of, or accreditation by, a relevant professional body, and/or experience on past projects
- Certain tasks may need to be subcontracted to other specialists (e.g. geophysics)



*The EIA Directive (as transposed into Irish law under Section 52(a) of the European Union (Roads Act 1993) (Environmental Impact Assessment) (Amendment) Regulations 2019) requires EIARs to be prepared by 'competent experts'.*

**Top Tips: Appendix 1 provides a definition of a qualified and competent Cultural Heritage Professional. Cultural Heritage Professionals should be engaged and consulted throughout the process (Phases 1–4)**

## Part 3

### Key Inputs

### 3.3 Competency and Professional Judgement

- Professional judgement is a key requirement in the preparation of all CHIA outputs
- Professional Judgement is a key aspect of the qualitative assessment in Phases 2 & 3
- Professional Judgement is crucial for:
  - Correctly interpreting and following legal requirements, guidelines and best practice
  - Giving sound advice to the Project Team
  - Identifying key constraints and previously unrecorded receptors
  - Rating importance and assessing significance of effect
  - Formulating appropriate mitigation and enhancement strategies
  - Defending the EIAR at Oral Hearing
  - Reducing risk



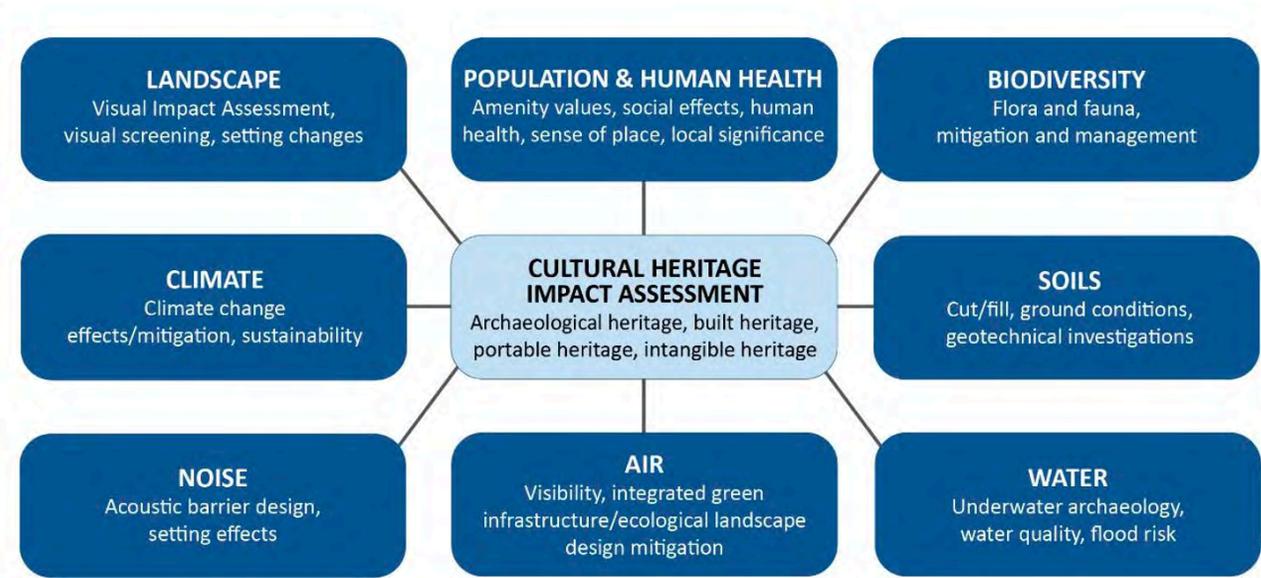
# Part 3

## Key Inputs

### 3.4 Communication and Interactions

- Liaison between the various specialists is crucial for:
  - understanding sensitivities
  - identifying gaps
  - eliminating contradictions in assessments
  - coordinating mitigation measures
- CHIA must have regard to and cross-reference other assessments and environmental factors

- Identification of potential interactions should, as a minimum, be carried out in a Project Team or workshop environment – however, CHPs are encouraged to maintain communication with relevant specialists throughout as needed



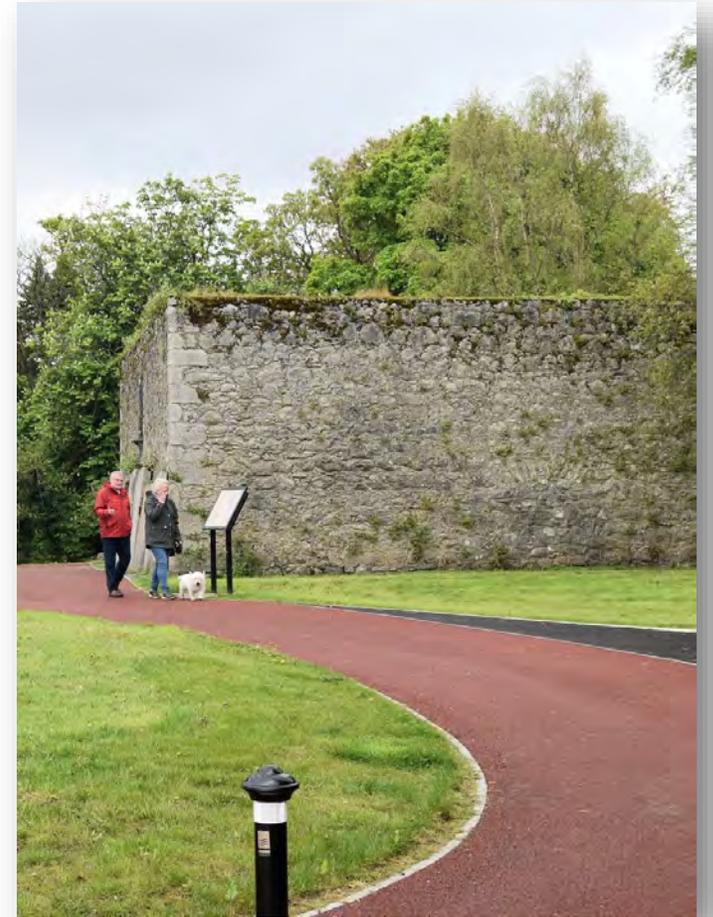
Top Tip: Further information on impact interactions is given in the EPA guidelines (2022) and relevant European Commission guidelines (refer to Appendix 4)

## Part 3

### Key Inputs

### 3.5 Identifying Opportunities

- Enhancement opportunities aim to deliver positive, sustainable outcomes
- The CHP shall identify potential opportunities for consideration by the PA/PM for inclusion in the Schedule of Environmental Commitments for the EIAR/ER, where appropriate
- NB: there is a difference between compensatory opportunities (e.g. restoring a roadside monument to offset adverse effects; dissemination/outreach, etc.) and greenways which have opportunities as a focus
- Greenways allow users to passively engage with historic infrastructure such as disused railway lines, bridges, etc.
- Recommended opportunities should be supported with appropriate reference(s) (e.g., website highlighting a local CH asset, HEV, County Development Plan, Heritage Plan etc.)



**Top Tips:** Types of enhancement opportunities are given in Section 5.6.2 of the CHIA Guidelines. Cultural Heritage opportunities need to address the 'Five S criteria'—Scenic, Sustainable, Strategic, Segregated, with lots to See and do.

## Part 3

### Key Inputs

### 3.6 Geoarchaeological/Palaeoenvironmental Archaeology

- Palaeoenvironmental/Geoarchaeological Coring, Analysis and Reporting may form part of archaeological services post-consent (Stage (i))
- Such assessments are to be carried out by competent specialists
- For palaeoenvironmental/geoarchaeological studies, the following sources should be consulted:
  - Geotechnical Investigation reports [incl. borehole logs]
  - Irish soils and subsoils maps
  - Project-specific geotechnical data
  - Published analysis of Irish Quaternary pollen sites (for example, the Irish Pollen Site Database, the European Pollen Database)
  - Reports and Maps of the Bog Commissioners



Stage (i) core sampling (Photo: NUI Galway)

This list is not exhaustive

**End of Part 3 – Key Inputs**



# Part 4

Determining Significance of Effect



**Joanne Hughes, EIA Manager,  
AMS**

## Part 4

### Determining Significance of Effect

1. Determining Significance of Effect
2. Rating Importance
3. Magnitude of Impact vs Significance of Effect
4. Multi-Criteria Analysis (MCA)/Project Appraisal Balance Sheet (PABS)
5. Ranking options (Phase 2)

# Part 4

## Determining Significance of Effect

### 3.1 Determining Significance of Effect

## Overview: Determining Significance of Effect (Phases 2 & 3)

Baseline Importance



Magnitude of Impact



Significance of Effect

Importance	Suggested Examples (in alphabetical order)
<b>Very High</b>	Designated Built Heritage Receptors rated as being of international importance, including associated historic gardens and designed landscapes. Designated features of international intangible heritage value. Designated historic landscapes of international value. National Monuments. Other designated Cultural Heritage Receptors of international importance. World Heritage Properties.
<b>High</b>	Architectural Conservation Areas. Built Heritage Receptors rated as being of national importance by the NIAH, including associated historic gardens and designed landscapes. Historic landscapes (designated or undesignated) of outstanding interest and of demonstrable national value. These will be well-preserved historic landscapes exhibiting considerable coherence, time-depth, or other critical factors. Other designated or undesignated Cultural Heritage Receptors of demonstrable national importance. Places or features of national intangible heritage value. Protected Structures. Recorded Monuments (or sites and monuments scheduled for inclusion on the RMP) of high quality and importance. Sites and monuments subject to a Preservation Order or Temporary Preservation Order. Undesignated receptors of high quality and importance. World Heritage Tentative List properties.
<b>Medium</b>	Built Heritage Receptors rated as being of regional importance by the NIAH, including associated historic gardens and designed landscapes. Historic landscapes of regional value (designated or undesignated). Historic townscapes or built-up areas with demonstrable historic integrity in their buildings or built settings (e.g. including street furniture and other structures). Other designated or undesignated receptors of regional Cultural Heritage importance. Places or features of regional intangible heritage value. Recorded Monuments (or sites and monuments scheduled for inclusion on the RMP).
<b>Low</b>	Built Heritage Receptors rated as being of local importance by the NIAH, including associated historic gardens and designed landscapes. Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations. Historic townscapes or built-up areas of limited historic integrity in their buildings, or built settings (e.g. including street furniture and other structures). Other designated or undesignated Cultural Heritage Receptors of local importance. Places or features of local intangible heritage value. Receptors compromised by poor preservation of contextual associations with inherent, albeit limited, Cultural Heritage value. Undesignated historic buildings of modest quality in their fabric or historical association.
<b>Negligible</b>	Receptors/landscapes with very little surviving Cultural Heritage interest.

Slide | 20

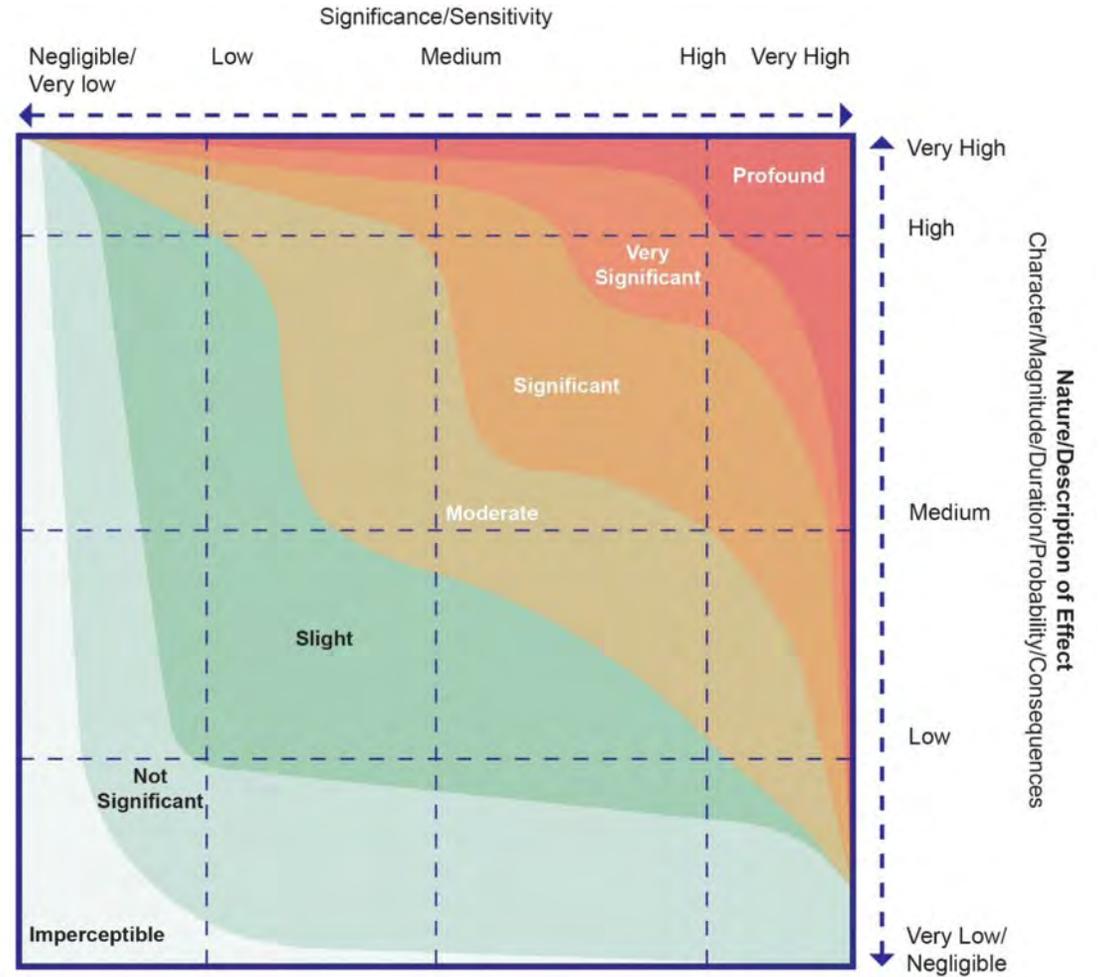
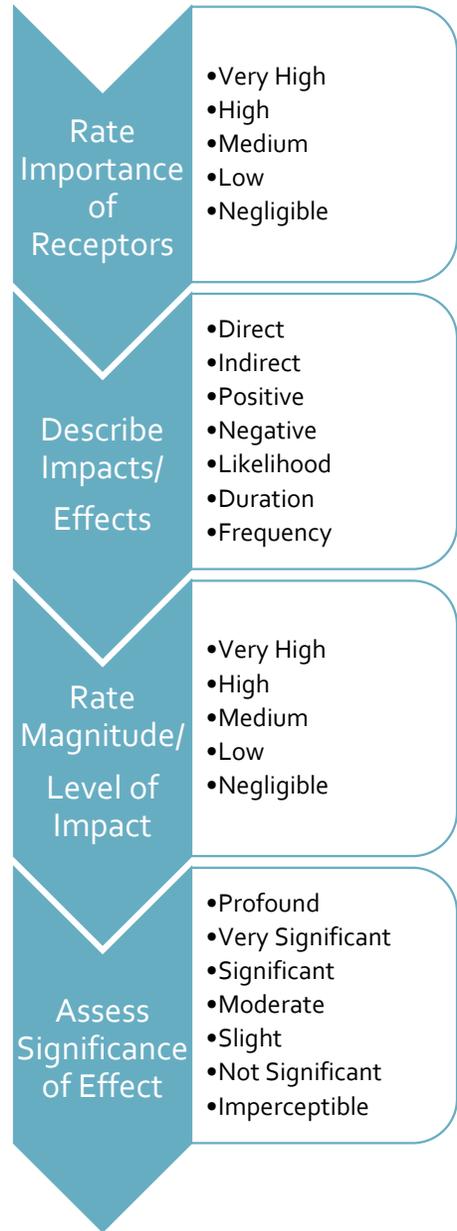
Magnitude of Impact	Criteria/Typical Descriptions
<b>Very High</b>	Major alteration to, or complete loss of, a Cultural Heritage Receptor. Effects likely to be experienced at a very large scale, considered permanent and irreversible.
<b>High</b>	Notable or long-term change to a Cultural Heritage Receptor.
<b>Medium</b>	Moderate or long-term change over a restricted area or a moderate change to a Cultural Heritage Receptor.
<b>Low</b>	Minor, short- or medium-term change over a restricted area or a minor change to a Cultural Heritage Receptor.
<b>Negligible</b>	Imperceptible change to a Cultural Heritage Receptor.

INFORMATION BOX 10: Describing Significance of Effect	
<b>Describing the Significance of Effects (based on EPA 2022, tables 3.4, p.54)</b> Cultural Heritage Professionals may adapt these definitions; however, they must define them in their reports.	<b>Profound</b> An effect which obliterates a Cultural Heritage Receptor of high or very high importance.
	<b>Very Significant</b> An effect which, by its character, magnitude, duration or intensity, considerably alters most of an important aspect of the Cultural Heritage Receptor.
	<b>Significant</b> An effect which, by its character, magnitude, duration or intensity, alters an important aspect of the Cultural Heritage Receptor.
	<b>Moderate</b> An effect that alters the character of the Cultural Heritage Receptor in a manner that is consistent with existing and emerging baseline trends.
	<b>Slight</b> An effect which causes noticeable changes in the character of the Cultural Heritage Receptor without affecting its importance.
	<b>Not significant</b> An effect which causes noticeable changes in the character of the Cultural Heritage Receptor but without significant consequences.
	<b>Imperceptible</b> An effect capable of measurement but without significant consequences.

From: *Guidelines for Cultural Heritage Impact Assessment of TII National Road and Greenway Projects* by Michael Stanley and Rónán Swan, TII Standards Roadshow, May 2024

# Part 4

## Determining Significance of Effect



Adapted from EPA Guidelines On The Information To Be Contained In Environmental Impact Assessment Reports, August 2017

## Part 4

### Determining Significance of Effect

## 3.2 Rating Importance

### INFORMATION BOX 8: Criteria for assessing importance

**Amenity Value:** Regard should be taken of the existing and potential amenity value of a Cultural Heritage Receptor,

**Condition/Preservation:** A Cultural Heritage Receptor should be assessed in relation to its present condition and surviving features—this assessment can only be based on a field inspection. Well-preserved sites should be highlighted,

**Fragility/Vulnerability:** It is crucial to understand the level of threat to Cultural Heritage Receptors from erosion, natural degradation, climate change, agricultural activity, land clearance, neglect, careless treatment and/or development. These considerations will assist with determining cumulative effects,

**Group Value:** The value of a Cultural Heritage Receptor may be greatly enhanced by its association with related contemporary receptors in a specific area, or with receptors from different periods indicating an extended time presence. In some cases, it may be preferable to protect the complete group, including associated and adjacent land, rather than to protect individual receptors within that group,

**Local Interest:** It is vital to determine the local interest of Cultural Heritage Receptors. While some receptors may not appear in any official listings or designations, they can be of importance to a dedicated interest group and/or members of the local community (EPA 2003, p.27),

**Rarity:** The rarity of some receptor types can be a central factor affecting response strategies for development, whatever the condition of the individual receptor. It is essential to recognise receptors that have a limited distribution or are few in number,

**Special Interest:** The archaeological, architectural, historical, artistic, cultural, scientific, technical, traditional and/or social (including religious or spiritual) interest of the Cultural Heritage Receptor is central to the assessment of importance,

**Status:** Designation and level of statutory protection associated with a Cultural Heritage Receptor are crucial but are not the primary considerations,

**Visibility in the Landscape:** Receptors that are highly visible in the landscape have a heightened physical presence. The inter-visibility between receptors may also be explored in this category, along with how a particular receptor is experienced from within as well as from a viewscape perspective (i.e. views of the site and from the site may both be key attributes). These aspects should be determined and assessed in consultation with the Landscape Professional where required.

**Top Tips:** Legal status is just one criterion to be considered when rating importance. Receptors on the RMP should not automatically be rated as High without considering other factors (condition/preservation, special interest, rarity etc.). Undesignated receptors need to be considered and rated in the same way as designated receptors.

### 3.2 Rating Importance

Importance	Suggested Examples (in alphabetical order)
<b>Very High</b>	<p>Designated Built Heritage Receptors rated as being of international importance, including associated historic gardens and designed landscapes.</p> <p>Designated features of international intangible heritage value.</p> <p>Designated historic landscapes of international value.</p> <p>National Monuments.</p> <p>Other designated Cultural Heritage Receptors of international importance.</p> <p>World Heritage Properties.</p>
<b>High</b>	<p>Architectural Conservation Areas.</p> <p>Built Heritage Receptors rated as being of national importance by the NIAH, including associated historic gardens and designed landscapes.</p> <p>Historic landscapes (designated or undesignated) of outstanding interest and of demonstrable national value. These will be well-preserved historic landscapes exhibiting considerable coherence, time-depth, or other critical factors.</p> <p>Other designated or undesignated Cultural Heritage Receptors of demonstrable national importance.</p> <p>Places or features of national intangible heritage value.</p> <p>Protected Structures.</p> <p>Recorded Monuments (or sites and monuments scheduled for inclusion on the RMP) of high quality and importance.</p> <p>Sites and monuments subject to a Preservation Order or Temporary Preservation Order.</p> <p>Undesignated receptors of high quality and importance.</p> <p>World Heritage Tentative List properties.</p>
<b>Medium</b>	<p>Built Heritage Receptors rated as being of regional importance by the NIAH, including associated historic gardens and designed landscapes.</p> <p>Historic landscapes of regional value (designated or undesignated).</p> <p>Historic townscapes or built-up areas with demonstrable historic integrity in their buildings or built settings (e.g. including street furniture and other structures).</p> <p>Other designated or undesignated receptors of regional Cultural Heritage importance.</p> <p>Places or features of regional intangible heritage value.</p> <p>Recorded Monuments (or sites and monuments scheduled for inclusion on the RMP).</p>
<b>Low</b>	<p>Built Heritage Receptors rated as being of local importance by the NIAH, including associated historic gardens and designed landscapes.</p> <p>Historic landscapes whose value is limited by poor preservation and/or poor survival of contextual associations.</p> <p>Historic townscape or built-up areas of limited historic integrity in their buildings or built settings (e.g. including street furniture and other structures).</p> <p>Other designated or undesignated Cultural Heritage Receptors of local importance.</p> <p>Places or features of local intangible heritage value.</p> <p>Receptors compromised by poor preservation of contextual associations with inherent, albeit limited, Cultural Heritage value.</p> <p>Undesignated historic buildings of modest quality in their fabric or historical association.</p>
<b>Negligible</b>	Receptors/landscapes with very little surviving Cultural Heritage interest.



Images by OPW, NMS, Fáilte Ireland and AMS

## Part 4

## Determining Significance of Effect

## Part 4

### Determining Significance of Effect

#### 3.3 Magnitude of Impact vs Significance of Effect

Magnitude of Impact	Criteria/Typical Descriptions
<b>Very High</b>	Major alteration to, or complete loss of, a Cultural Heritage Receptor. Effects likely to be experienced at a very large scale; considered permanent and irreversible.
<b>High</b>	Notable or long-term change to a Cultural Heritage Receptor.
<b>Medium</b>	Moderate or long-term change over a restricted area or a moderate change to a Cultural Heritage Receptor.
<b>Low</b>	Minor, short- or medium-term change over a restricted area or a minor change to a Cultural Heritage Receptor.
<b>Negligible</b>	Imperceptible change to a Cultural Heritage Receptor.

## Part 4

### Determining Significance of Effect

### 3.3 Magnitude of Impact vs Significance of Effect

<b>INFORMATION BOX 10: Describing Significance of Effect</b>	
<p><b>Describing the Significance of Effects (based on EPA 2022, table 3.4, p.50)</b> Cultural Heritage Professionals may adapt these definitions; however, they must define them in their reports.</p>	<p><b>Profound</b> An effect which obliterates a Cultural Heritage Receptor of high or very high importance.</p>
	<p><b>Very Significant</b> An effect which, by its character, magnitude, duration or intensity considerably alters most of an important aspect of the Cultural Heritage Receptor.</p>
	<p><b>Significant</b> An effect which, by its character, magnitude, duration or intensity alters an important aspect of the Cultural Heritage Receptor.</p>
	<p><b>Moderate</b> An effect that alters the character of the Cultural Heritage Receptor in a manner that is consistent with existing and emerging baseline trends.</p>
	<p><b>Slight</b> An effect which causes noticeable changes in the character of the Cultural Heritage Receptor without affecting its importance.</p>
	<p><b>Not significant</b> An effect which causes noticeable changes in the character of the Cultural Heritage Receptor but without significant consequences.</p>
	<p><b>Imperceptible</b> An effect capable of measurement but without significant consequences.</p>

### 3.3 Magnitude of Impact vs Significance of Effect

## Part 4

## Determining Significance of Effect

Receptor No.	Receptor Type	Approx. Distance	Notes*	Construction Effects
CH-004	Ringfort - rath	40m	There is likely to be a moderate negative effect on the setting of the ringfort during construction. During operation, this will be mitigated through appropriate screen planting.	Moderate Negative
CH-010	Country House	1.2km	There will be increased separation between the proposed road and this country house compared with the existing situation, making a positive contribution to the setting of this nationally important heritage receptor.	Moderate Positive
CH-026	Vernacular House & Outbuildings	0m	The proposed construction compound will have a direct impact on the outbuildings associated with this derelict vernacular cottage, resulting in a moderate negative effect during construction. Adverse effects will be compensated for through building recording, excavation, and dissemination of findings.	Moderate Negative
CH-028	Demesne	0m	A proposed link road crosses the demesne. However, the demesne landscape is much degraded today due to modern farming and residential development and there are no original demesne features within the project footprint. The significance of effect during construction is therefore considered to be imperceptible. During operation, a stone wall will be used to highlight the former demesne landscape.	Imperceptible Negative

Top Tip: This information can be presented in an appendix and within the CHD.

## Part 4

### Determining Significance of Effect

## 3.4 Multi-Criteria Analysis (MCA)/Project Appraisal Balance Sheet (PABS)

Table 5.8 - Example of Overall Ratings (after TII 2023b, p.14).

Score	Overall Option Assessment
7	Major Positive
6	Moderate Positive
5	Minor Positive
4	Neutral
3	Minor Negative
2	Moderate Negative
1	Major Negative

## 3.5 Ranking options (Phase 2)

### Part 4

### Determining Significance of Effect

Receptor No.	Receptor Type	Designation	Description	Distance from Centreline*	Importance	Magnitude of Impact	Significance/Quality of Effect**
CH-001	Fulacht Fiadh	SMR	Circular grass-covered mound - possible fulacht fiadh	175m	Medium	N/A	N/A
CH-003	Passage Tomb Complex	National Monument	Complex of Neolithic passage tombs overlooking the river valley	0m	Very High	High	Profound Negative
CH-009	Pitfield	None	Series of pits visible on aerial photography - confirmed by geologist to be natural features	0m	Negligible	Very High	Imperceptible Negative
CH-013	Burial Ground	None	Burial ground shown on first-edition six-inch OS map (1840)	110m	Medium	Medium	Moderate Negative (setting effects) Moderate Positive (improved access/amenity)
CH-019	Area of Potential	None	Area of Archaeological Potential - Peatland	0m	Low	Low	Slight Negative
CH-022	Area of Potential	None	Area of Archaeological Potential - Lidar (likely cattle feeder)	0m	Negligible	Low	Imperceptible Negative
CH-023	Railway Line	None	Section of historic (C19th) railway line	0m	Low	Low	Not Significant Negative
CH-027	Hollow Way	None	Possible hollow way identified during fieldwalking	110m	Low	Low	Not Significant Negative
CH-028	Demesne	NIAH	Designed landscape/demesne	0m	Low	Low	Slight Negative

\* In this example, the route options are defined as centrelines. \*\* This information can be presented in an appendix and within the CHD.

**Example of Cultural Heritage Receptors (designated and undesignated) which would potentially be affected by a notional option alignment**

### 3.5 Ranking options (Phase 2)

## Part 4

## Determining Significance of Effect

Significance/Quality of Effect	Option A	Option B	Option C	Option D	Option E
<b>Profound Negative</b>	Nil	Nil	Nil	CH-003 (Passage Tomb Complex)	CH-003 (Passage Tomb Complex)
<b>Very Significant Negative</b>	CH-010 (Country House)	Nil	Nil	Nil	Nil
<b>Significant Negative</b>	CH-011 (Enclosure)	Nil	Nil	Nil	CH-008 (Milling Complex)
<b>Moderate Negative</b>	CH-002 (Field System), CH-020 (Corn Mill)	CH-004 (Ringfort), CH-014 (Church), CH-018 (Ringfort)	Nil	CH-013 (Burial Ground)	CH-021 (Area of Archaeological Potential - Lidar)
<b>Slight Negative</b>	CH-007 (Fulacht Fiaidh), CH-016 (Enclosure)	CH-024 (Area of Archaeological Potential - Peatland), CH-025 (Water Pump), CH-026 (Vernacular House)	CH-028 (Demesne), CH-015 (Architectural Fragment)	CH-019 (Area of Archaeological Potential - Peatland), CH-028 (Demesne)	Nil
<b>Not Significant Negative</b>	CH-005 (Bullaun), CH-023 (Railway)	CH-023 (Railway)	CH-023 (Railway)	CH-023 (Railway), CH-027 (Hollow Way)	CH-023 (Railway)
<b>Imperceptible Negative</b>	Nil	CH-009 (Pitfield)	CH-009 (Pitfield)	CH-022 (Area of Archaeological Potential - Lidar), CH-009 (Pitfield)	Nil
<b>Moderate Positive</b>	Nil	CH-014 (Church)	CH-010 (Country House)	CH-013 (Burial Ground)	Nil
<b>Overall Impact Rating</b>	<b>Major Negative 1</b>	<b>Moderate Negative 2</b>	<b>Minor Negative 3</b>	<b>Major Negative 1</b>	<b>Major Negative 1</b>
<b>Preference Level</b>	<b>Third Preference</b>	<b>Second Preference</b>	<b>First Preference</b>	<b>Fourth Preference</b>	<b>Least Preferred</b>

Significance/Quality of Effect	Option A	Option B	Option C	Option D	Option E
<b>Profound Negative</b>	0	0	0	1	1
<b>Very Significant Negative</b>	1	0	0	0	0
<b>Significant Negative</b>	1	0	0	0	1
<b>Ranked order of preference for Cultural Heritage</b>	<b>3<sup>rd</sup></b>	<b>2<sup>nd</sup></b>	<b>1<sup>st</sup> (Preferred)</b>	<b>4<sup>th</sup></b>	<b>5<sup>th</sup> (Least Preferred)</b>

Sample Project Appraisal Matrix for Cultural Heritage

## End of Part 4 – Determining Significance of Effect



# Part 5

Geospatial Data – Analysis and Outputs



**Dr Richard Clutterbuck, Project  
Archaeology Manager, AMS**

## Part 5

### Geospatial Data – Analysis and Outputs

1. GIS (Hardware and Software)
2. Mapping Study Areas
3. Mapping Cultural Heritage Receptors
4. Basic Analysis (intersections, measurements etc.)

## Part 5

### Geospatial Data – Analysis and Outputs



**ArcGIS**

**QGIS**



**GRASS GIS**



**SAGA**



**QFIELD**



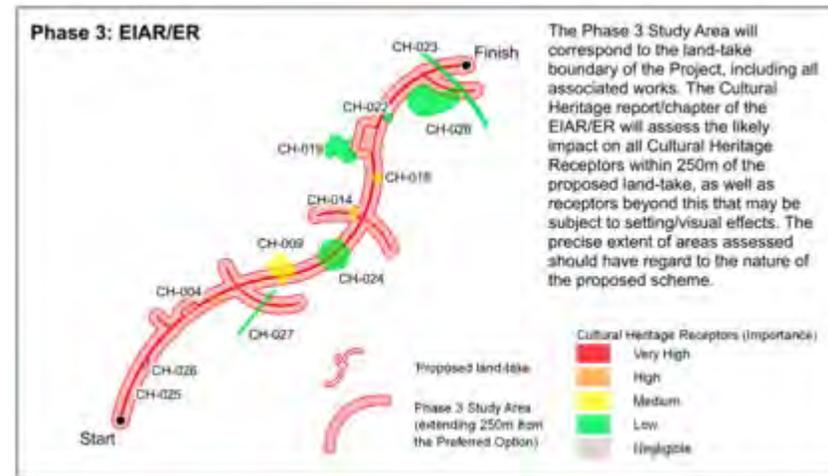
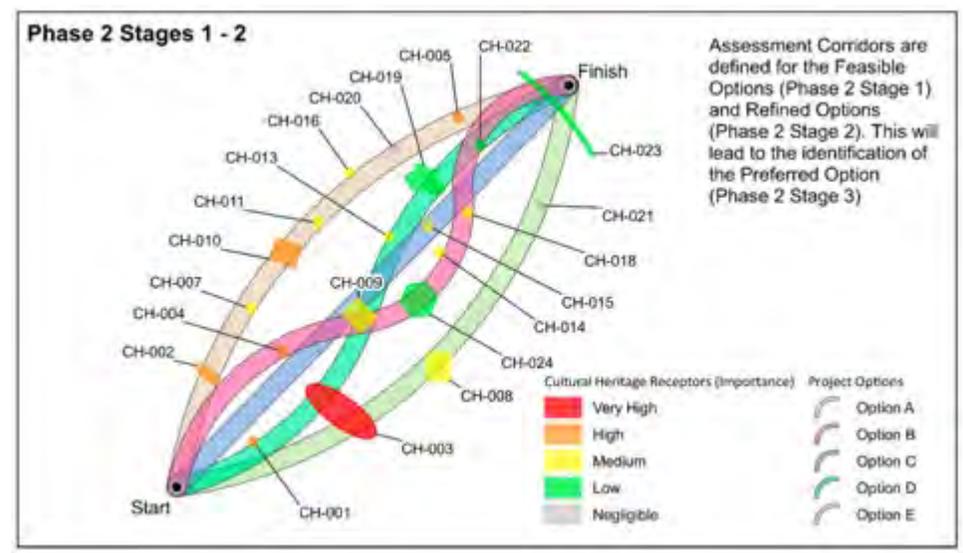
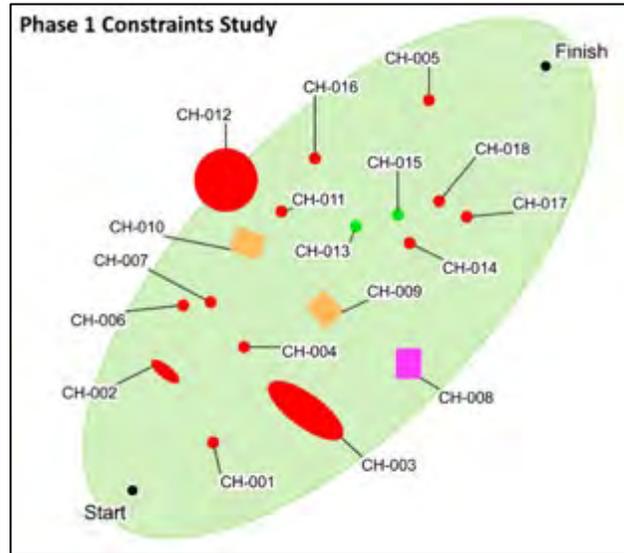
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**ArcGIS Field Maps**

# Part 5

## Geospatial Data – Analysis and Outputs



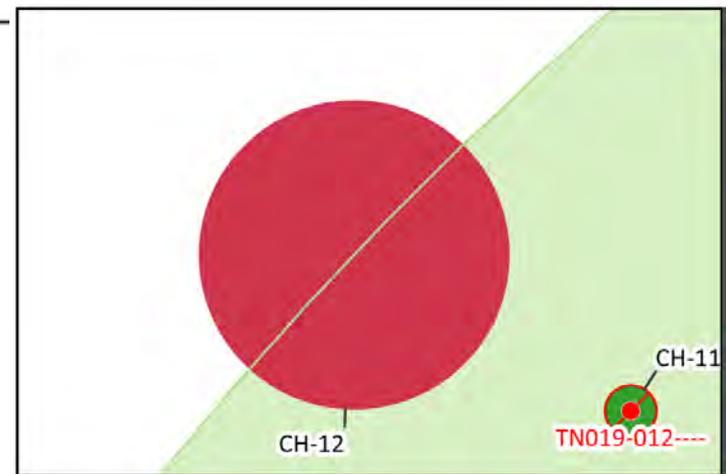
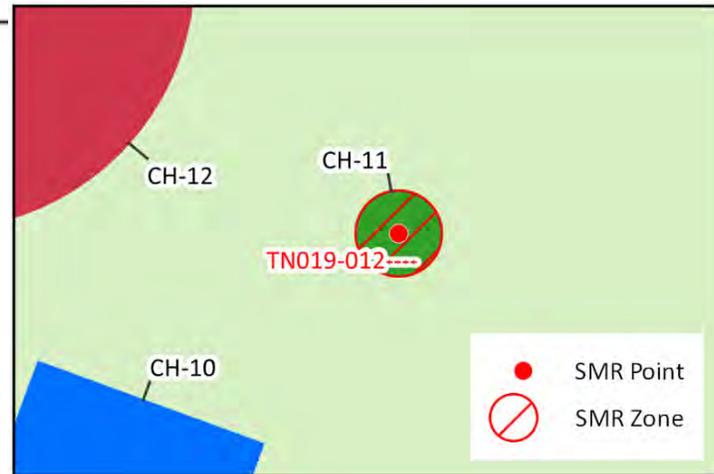
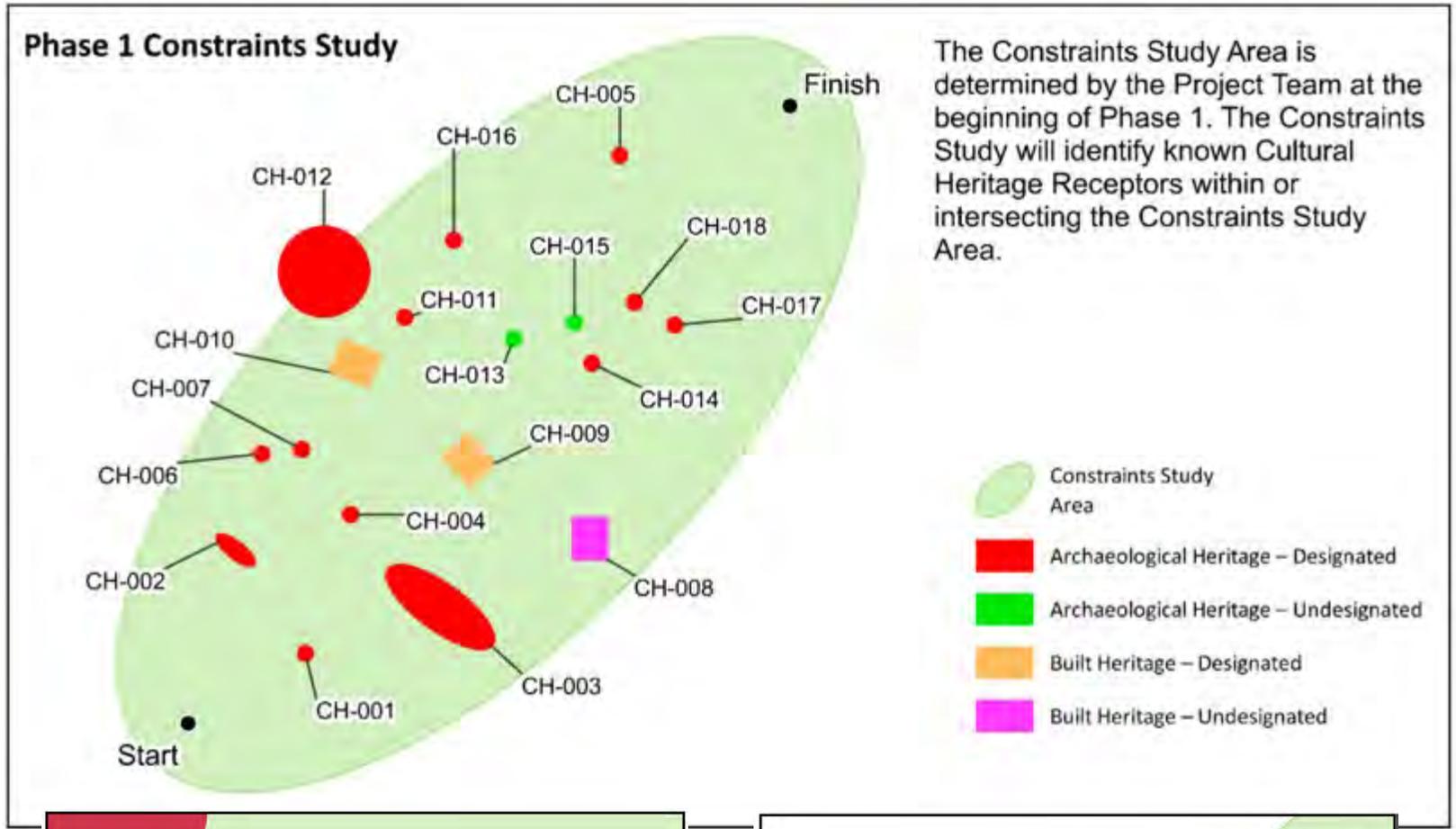
### Key points

PM to confirm study area/assessment corridors at each Phase.

- GIS to be used
- Polygons rather than points
- Phases 2–3 to map baseline Importance

# Part 5

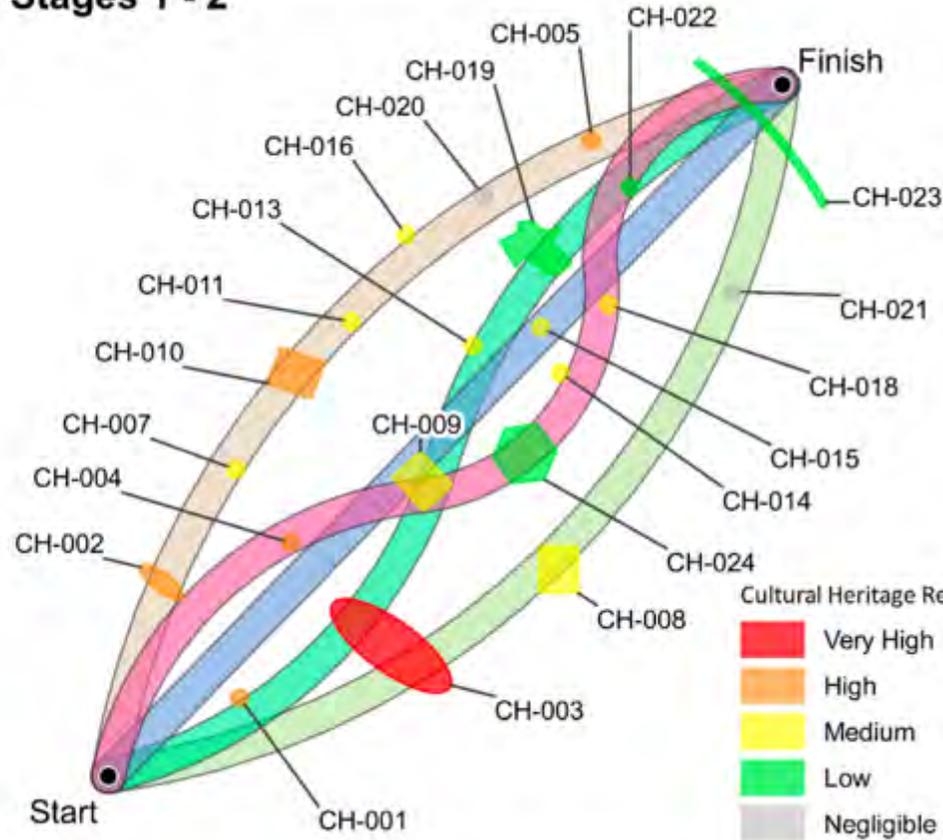
## Geospatial Data – Analysis and Outputs



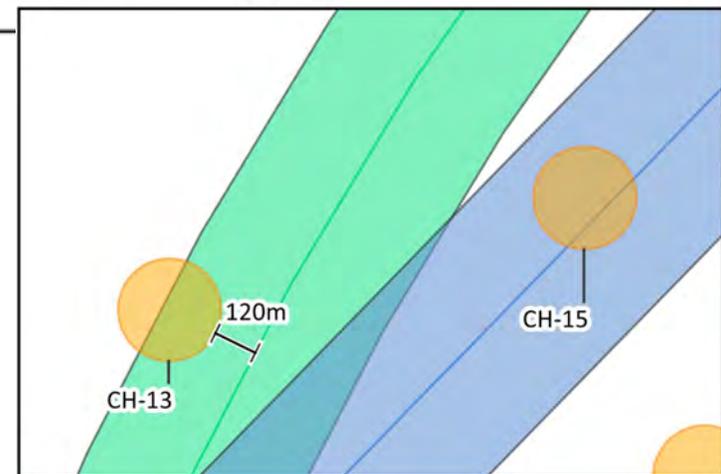
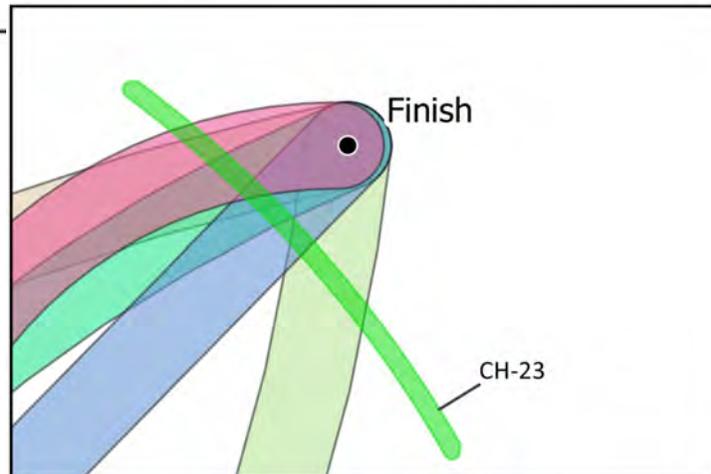
# Part 5

## Geospatial Data – Analysis and Outputs

### Phase 2 Stages 1 - 2

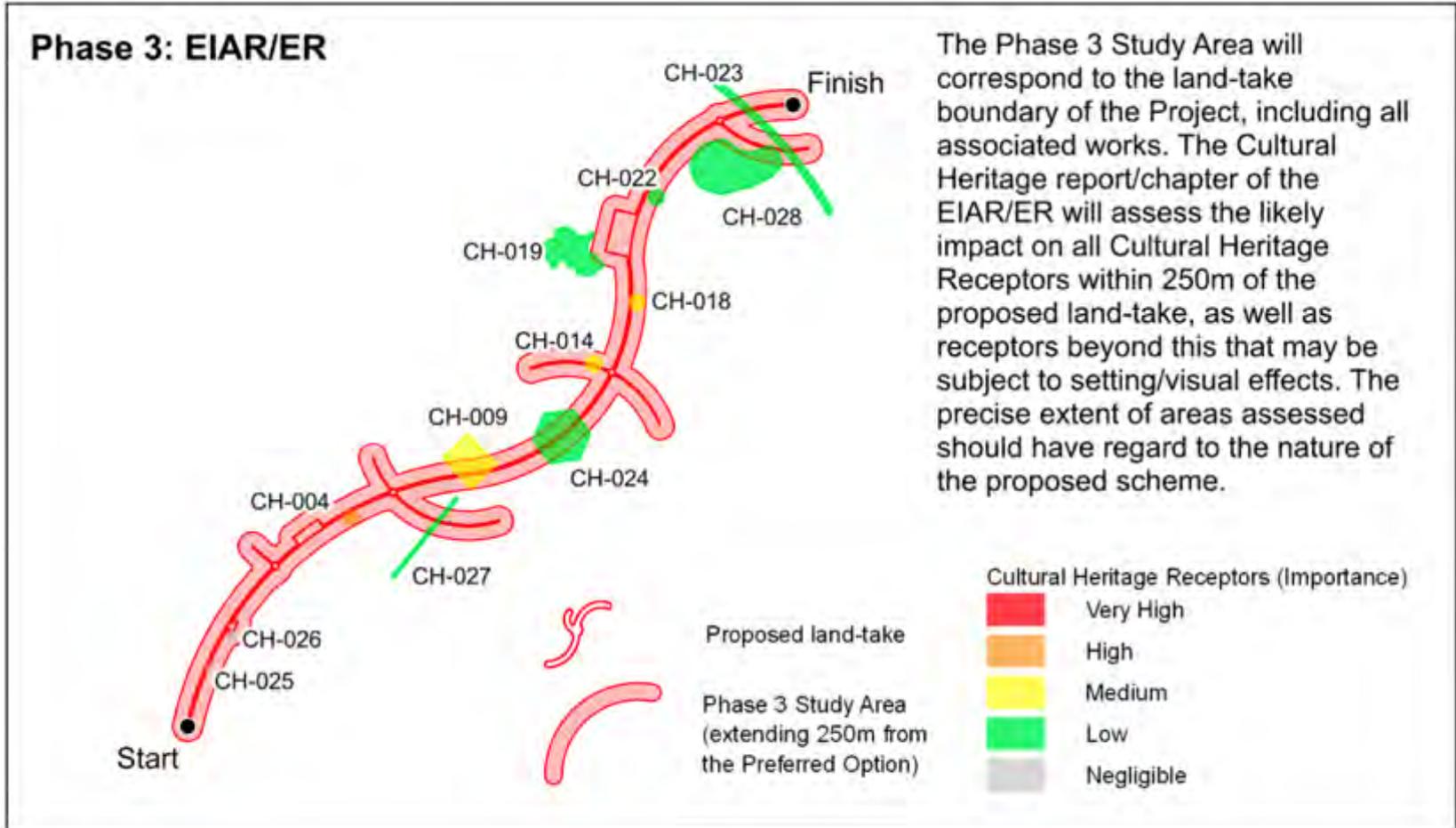


Assessment Corridors are defined for the Feasible Options (Phase 2 Stage 1) and Refined Options (Phase 2 Stage 2). This will lead to the identification of the Preferred Option (Phase 2 Stage 3)



# Part 5

## Geospatial Data – Analysis and Outputs



## Part 5

### Geospatial Data – Analysis and Outputs

## 5.3 Mapping Cultural Heritage Receptors



The central coordinate for the Cultural Heritage Receptor consists of the six-digit easting (Centre X) and the six-digit northing (Centre Y) coordinates. The horizontal extent of the receptor is defined by the range of values from the minimum to maximum easting (Min X to Max X), and minimum to maximum northing (Min Y to Max Y). These figures are also derived from the southwest (minimum) and northeast (maximum) coordinates for the receptor's bounded box, calculated in a GIS.

The Coordinate Reference System is Irish Transverse Mercator (EPSG:2157).

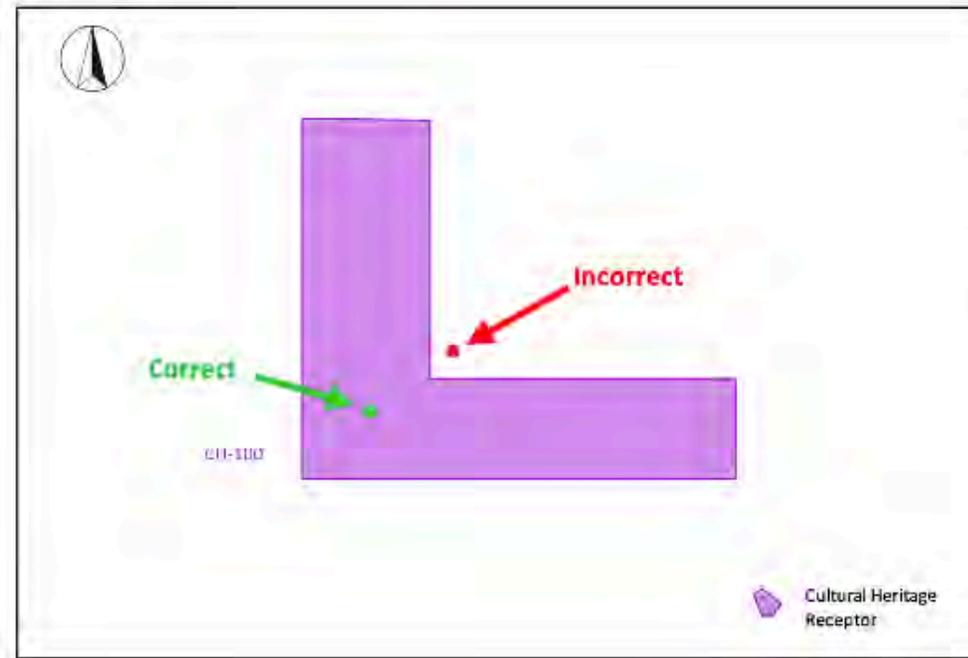
Measuring the horizontal extents of Cultural Heritage Receptors for inclusion in the CHD (Phase 3)

See Appendix 6 Information Sources and Repositories for additional information on geospatial datasets for cultural heritage

## Part 5

### Geospatial Data – Analysis and Outputs

#### 5.3 Mapping Cultural Heritage Receptors



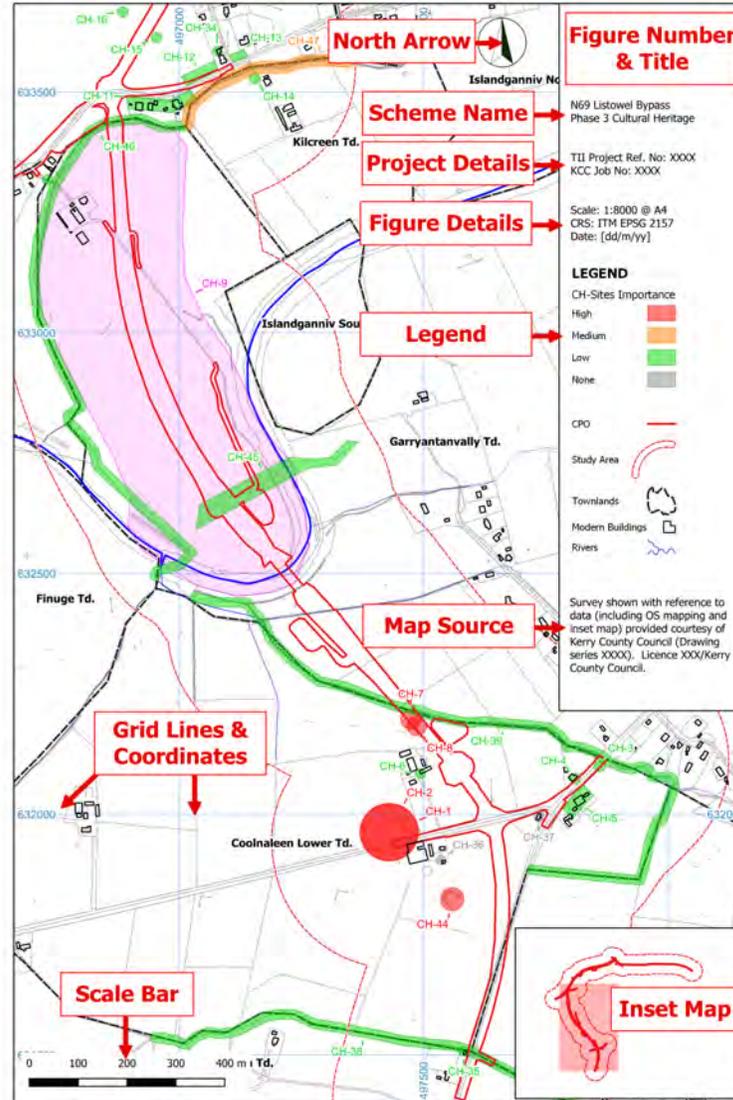
For some Cultural Heritage Receptors, a GIS may calculate the centre point (or 'centroid') as lying outside the footprint of the receptor polygon. Take care to ensure the central coordinate is located inside the receptor polygon.

**Calculating the centre point (centroid) of Cultural Heritage Receptors**

## 5.3 Mapping Cultural Heritage Receptors

### Part 5

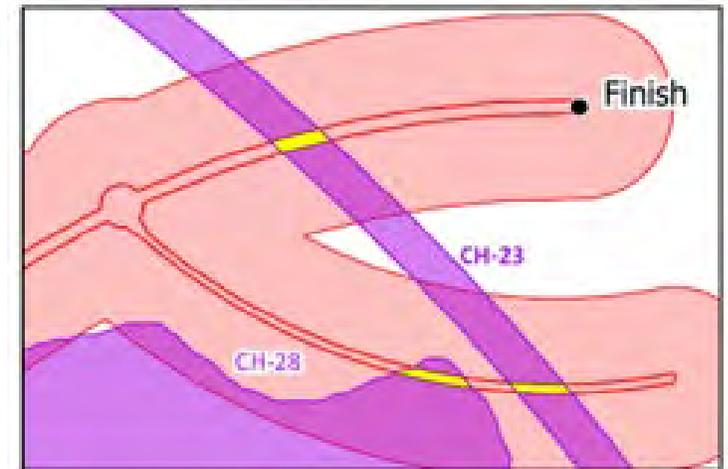
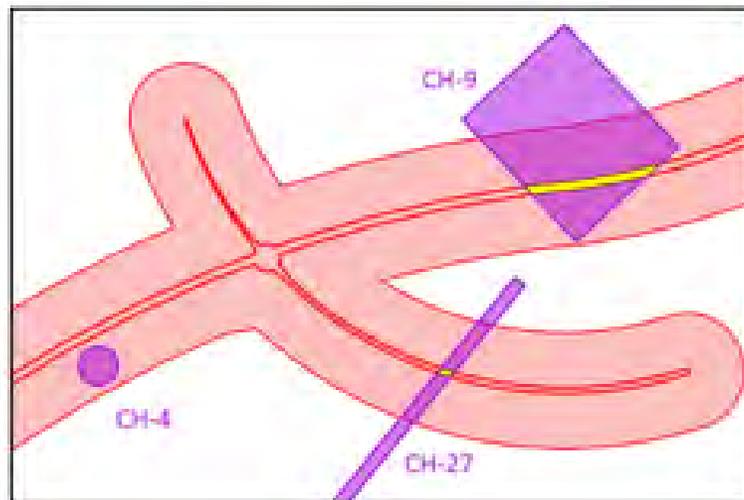
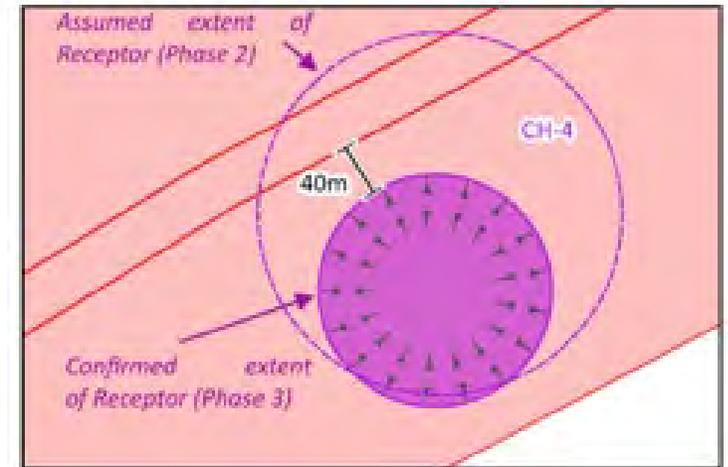
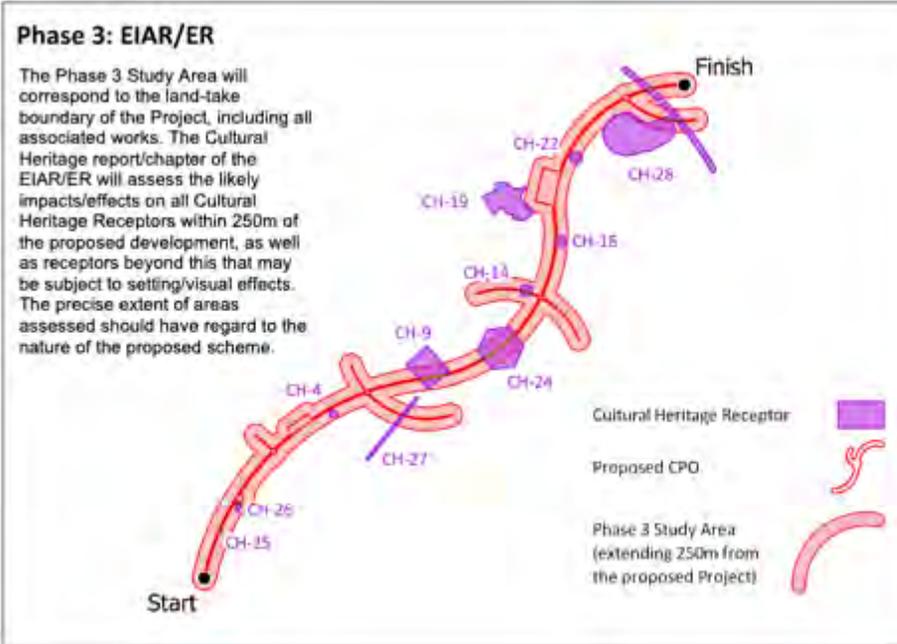
### Geospatial Data – Analysis and Outputs



## 5.4 Basic Analysis (intersections, measurements etc.)

### Part 5

### Geospatial Data – Analysis and Outputs



Using GIS to measure distance (Phases 2–3)

Using a GIS to map receptors in relation to the proposed Project and assess likely impacts/effects (Phase 3)

**End of Part 5 – Geospatial Data**



# Coffee Break





# Part 6

General Questions

# Part 7

Closing Remarks



**Rónán Swan, Head of  
Archaeology and Heritage, TII**

# Further questions?

## Further questions?

- Email Rónán Swan, Head of Archaeology & Heritage, TII: [Ronan.Swan@tii.ie](mailto:Ronan.Swan@tii.ie)
- Email Bryn Coldrick, AMS: [Bryn.Coldrick@ams-consultancy.com](mailto:Bryn.Coldrick@ams-consultancy.com)
- Register for TII updates at [infopubs@tii.ie](mailto:infopubs@tii.ie)

THANK YOU

