Annex 4 - Detailed Specification.

Background to Natural England.

Our remit

Natural England is the government’s advisor on the natural environment. We provide practical advice, grounded in science, on how best to safeguard England’s natural wealth for the benefit of everyone.

Our remit is to ensure sustainable stewardship of the land and sea so that people and nature can thrive. It is our responsibility to see that England’s rich natural environment can adapt and survive intact for future generations to enjoy.

NERC Act

Natural England was formally established on 01 October 2006 following the successful passage of the [Natural Environment and Rural Communities (NERC) Act 2006](http://www.opsi.gov.uk/acts/acts2006/ukpga_20060016_en_1) through Parliament. We are an independent statutory Non-Departmental Public Body.

The NERC Act sets out Natural England's purpose: to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development.

The Act states that this purpose includes:
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* promoting nature conservation and protecting biodiversity
* conserving and enhancing the landscape
* securing the provision and improvement of facilities for the study, understanding and enjoyment of the natural environment
* promoting access to the countryside, open spaces and encouraging open air recreation
* contributing in other ways to social and economic wellbeing through management of the natural environment.

You can [read more about what we do](https://www.gov.uk/government/organisations/natural-england/about) on GOV.UK.

England Green Infrastructure Mapping Database - Urban Habitat Mapping Method Review.

Project reference - UHM Review.

Background to the specific work area relevant to this purchase

The England Green Infrastructure Mapping database is a part of the England Green Infrastructure Standards Framework and is being delivered as part of the Natural Capital and Ecosystems Assessment Programme

The current version of the England Green Infrastructure Mapping can be viewed via the link below. Please note that this does not include any of the existing (Phase 1) Urban Habitat and Naturalness mapping (Pilot and phase 1 mapping is due to go live during late September 2024).

[Home (naturalengland.org.uk)](https://eur03.safelinks.protection.outlook.com/?url=https%3A%2F%2Fclicks.eventbrite.com%2Ff%2Fa%2FB_lhmLe6lSzEykzJa0id7g~~%2FAAQxAQA~%2FRgRjk2ROP0RLaHR0cHM6Ly9kZXNpZ25hdGVkc2l0ZXMubmF0dXJhbGVuZ2xhbmQub3JnLnVrL0dyZWVuSW5mcmFzdHJ1Y3R1cmUvSG9tZS5hc3B4VwNzcGNCCmGyzjCyYSIWXadSIW1hcnRpbi5tb3NzQG5hdHVyYWxlbmdsYW5kLm9yZy51a1gEAAAAAA~~&data=05%7C01%7CMartin.Moss%40naturalengland.org.uk%7C160138e94e8e43b0c07408dad38ce2d7%7C770a245002274c6290c74e38537f1102%7C0%7C0%7C638054899321484718%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C3000%7C%7C%7C&sdata=aN0BFX6dI2E03vTyi3So%2Boj9CgIWmLrVQTUphCSn0E4%3D&reserved=0)

Information about the Natural Capital and Ecosystems Assessment Programme can be found via the link below.

[Natural Capital and Ecosystem Assessment Programme - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/natural-capital-and-ecosystem-assessment-programme/natural-capital-and-ecosystem-assessment-programme)



The overall purpose of the England Green Infrastructure Mapping Database is to provide England level data to support a range of planning, strategy and resource targeting processes to help and designed to help deliver the England Green Infrastructure Standards framework.

Project scope and overview.

An Earth Observation based approach to developing Urban Habitat and Naturalness Maps was developed during 2021/22 and further refined during 2022/23 which included the upscaling of application of the method to a small selection of major urban conurbations in England (Tyneside, Greater Manchester, Greater Birmingham).

In upscaling (known as the Phase 1 roll out), the Urban Habitat and Naturalness method was refined to a point where it is intended that no further refinements will be made (see exceptions below) so as to ensure that a suite of maps for all the major urban conurbations in England can be developed with a consistent method underpinning their development.

Subsequent phases of work (Rollout Phases 2 and 3) resulted in some minor modifications but the overall approach remains essentially as developed by the end of Phase 1.

An overview of Urban Habitat and Naturalness Mapping and the essential process steps is set out in **Annex 6** - Urban Habitat and Naturalness Mapping - Briefing.

A detailed explanation of the Urban Habitat method is set out in **Annex 5**. Please note that the “Naturalness” aspect of the approach is NOT part of the scope of this project and the project will focus on the Urban Habitat Mapping Method only.

Natural England now undertake a review of experience gained applying the Urban Habitat Mapping approach over the last 3 years and update the approach based on experience gained and to identify options for improvement, including those offered by any recent developments in data availability and/or software developments.

This project will essentially comprise 4 core tasks;

1. Work with 6 stakeholders (representing the areas for which Pilot and Phase 1 data are available from Natural England – contacts will be provided by Natural England at the start of the project) to gain feedback on the data. This will involve participating stakeholders being provided with their data (under license from and by Natural England) and a process being run to gather their feedback on the quality, usability and structure of the data.
2. Undertake a detailed methodological review and develop proposals for how a “next iteration” Urban Habitat Method can be developed. This will include establishing options for improvement relating to data used to create the maps, approaches to processing the data and potential software changes.
3. Run a test for one location (this will be somewhere that is covered by Phase 1 data, probably at district level and to be agreed at commencement of the project). This will involve creating a new Urban Habitat map for the selected location using the agreed modifications for the proposed “iteration 2” of the mapping approach.
4. Undertake a statistical and accuracy (confusion assessment) review of the outputs of the test “iteration 2” in comparison the existing Phase 1 data for the selected location to identify the impact of the methodological changes.

Timetable.

The project is anticipated to begin in early November 2024 with a target outputs delivery date of 31st March 2025. A detailed timeline is set out in the Request for Quote.

Requirement

Tasks.

**Task 1. Stakeholder engagement and feedback.**

Natural England will provide contacts (up to 6) for the Pilot and Phase 1 mapping locations. This task will provide the contacts with their Urban Habitat Data (this will be done by Natural England) and the project will seek user feedback and suggestions for the stakeholders regarding their views on the maps and potential for improvements.

**Task 2. Methodological review and identification of amendments.**

Following stakeholder feedback, proposals should be developed for how the existing Urban Habitat Mapping method could be enhanced, improved, simplified and / or speeded up (in terms of processing times). Options and proposals will be discussed with the Project Steering Group and an agreed set of modifications developed for taking forward to the next task.

**Task 3. New method test application.**

For a selected location (likely to be a Local Authority district area already covered by Phase 1 data (and therefore not a Pilot location), the agreed new approach (Iteration 2) will be applied to develop a “second generation” Urban Habitat map for that location.

**Task 4. Comparative assessment of “New test application” with existing Phase 1 Urban Habitat Mapping data.**

An analysis of the impact of the “iteration 2” method as compared to the existing Urban Habitat data for the selected test location will assess the impact of the methodological modifications of the data generated. This will involve impacts on accuracy and confusion characteristics at both Broad and Detailed Habitat level, and processing times and requirements involved in delivering the “iteration 2” Urban Habitat maps.

**Task 5. Outputs and reporting.**

The following outputs will be required;

1. A detailed report setting out the results from tasks 1 to 2 will be required.
2. A new “Iteration 2” Urban Habitat map data for the selected location for task 3, including accuracy assessment / confusion matrix. Data provided should be compatible with ArcPro GIS.
3. A new “User Guide” for delivering “iteration 2” Urban Habitat Maps. This should be a step by step technical guide to generating the Urban Habitat maps using the agreed “Iteration 2” approach within the selected software environment.
4. A report detailing the results of the comparative review.
5. Copies of any codes used (example use of “R”).

Data requirements.

Data used for the Phase 1 (and later) Urban Habitat Mapping are listed in **Annex 6**. Please note that data that is not Open Government License will be provided to the successful contractor under PSGA Contractor License terms and conditions once the contract is live.

Sustainability

Natural England protects and improves the environment and is committed to reducing the sustainability impacts of its activities directly and through its supply chains. We expect the Contractor to share this commitment and adopt a sound, proactive sustainable approach in keeping with the 25 yr environmental plan/our commitments compliant with all applicable legislation. This includes understanding and reducing direct and indirect sustainability impacts and realising opportunities, including but not restricted to; resilience to climate change, reducing greenhouse gas emissions, water use and quality, biosecurity, resource efficiency and waste, reducing the risk of pollution, biodiversity, modern slavery and equality, diversity & inclusion, negative community impacts.

As a delivery partner, the successful contractor is expected to pursue sustainability in their operations, thereby ensuring the Contracting Authority is not contracting with a supplier whose operational outputs run contrary to the Contracting Authority’s objectives. The successful contractor will need to approach the project with a focus on the entire life cycle of the project.

Outputs and Contract Management

The project is anticipated to begin in early November 2024 with a target outputs delivery date of 31st March 2025.

|  |  |
| --- | --- |
| Action  | Date  |
| Date of issue RFQ | 30/09/2024 |
| Deadline for clarifications questions | 14/10/2024 |
| Deadline for receipt of quotation  | 28/10/2024 |
| Intended date of contract award | 04/11/2024 |
| Intended contract start date  | 11/11/2024 |

Martin Moss will be the Natural England Contract Manager for this project.

A Project Steering Group of Natural England and successful contractor representatives will be established at start of contract to oversee project delivery. It is anticipated project progress meetings will be held monthly (by Teams) from the initial project inception meeting.

All meetings will be online via Teams.