

Assignment 2: As the responsible project manager, how would you approach the process of introducing a specified new piece of equipment (such as a survey unit or microscope) or change in working practice (such as revised recording form) for use by your team, and what measures would you take to ensure that it was being used correctly and safely (documentation, training and monitoring)?

Introduction

The Archaeology Department at Durham University has recently applied for and been granted a licence to import, store, and handle soil recovered from abroad for a range of physical and chemical analytical purposes linked to archaeological research. This licence is governed by the Department of Environment, Food and Rural Affairs (DEFRA) and enforced by the Animal and Plant Health Agency (APHA), which stipulates any soils needing to be brought into England and Wales from all other countries except Switzerland, Liechtenstein and member states of the EU require continuous authorisation from the time they are imported to their destruction through analysis or disposal (APHA and DEFRA, 2022). The large piece of work that went into the receipt of the licence necessitated the creation of a protocol document specifying the standard operating procedure for work with licenced soil material, a document detailing the planned analytical processes to be undertaken and the locations materials are to be analysed and stored within, as well as an entire new set of risk assessments for existing processes to ensure compliance with DEFRA's requirements. However, this work was only the first stage of the process required for the Department to be able to work on any imported authorised soil. Now, these legal requirements must be put into practice, requiring a change in usual working procedure for departmental staff, researchers, and students who will be involved in work with licenced material, regardless of their previous experience of employing analytical soil science techniques within archaeological research contexts. For the purposes of this essay, I will be discussing my ideal approach to the process of implementing this change in working practice as if I was the project manager in charge of a staff team who will be working on materials covered by this licence. By devising and justifying a series of five key steps to ensure the effective introduction and continued application of the necessary changes to laboratory practice, health and safety considerations, and storage methods, this essay not only intends to

demonstrate how these adjustments would be put in place, but also the measures I would take to ensure work with licenced soil was being carried out in a safe and correct manner.

Step 1: Planning

Like with many projects intended to introduce change within a team, the first step that must take place is formulating a plan defining the aims and scope of the required change, and detailing how the achievement of the desired outcome will be measured. In this scenario, the principal aim is to ensure all work with licenced soil is compliant with the licence requirements. This will be considered to be accomplished when all team members have been deemed competent to work independently with licenced material and can monitor their own and others' enforcement of the protocol (Appendix 1: Parker, 2024), including adhering to additional equipment sterilisation steps, advanced personal protective equipment (PPE) requirements, and stricter sample disposal methods to prevent contamination from or release of imported materials into the environment (APHA and DEFRA, 2022). It is essential that the team, who will be actively implementing this new practice in their routine responsibilities, are included in the planning stage from the start through regular group meetings, to involve them in the decision-making process and incorporate their ideas of how the changes can be best made to avoid hindering their current effective workflows. This inclusion would hopefully also encourage acceptance of the proposed changes by providing opportunities for concerns to be raised and acted upon at an early stage.

Although this hypothetical "project" will only generate change on a small-scale internally within the Department, adapting the recommended planning model of an established project management guide like Historic England's *Management of Research Projects in the Historic Environment* (2015) would be useful to illustrate the planned process of change to team members. If for example, the application submission to DEFRA represents the start-up stage where the need was identified for the Department to be able to analyse authorised soils to increase geographical breadth of research and diversify income sources by providing additional opportunities for geoarchaeological commercial work, this first planning step for

practical implementation serves as the initiation stage, in which the “project” is justified and execution steps required to meet the aims are established. Table 1 presents a summary of the proposed project stages, adapting MoRPHE guidelines (Historic England, 2015), which would be used within team meetings to make them more accessible for people with visual-focused learning styles and those with additional needs (NHS England, 2025) by providing a written representation of the proposed plan. At the end of this step, it is hoped that the team would understand that changes to working practice are necessary to realise the reputational and financial advantages of working with licenced soil for the Department, and would be aware of the steps and actions required to achieve successful employment of licence requirements.

Table 1: Proposed project stages for the practical implementation of DEFRA requirements for work with licenced soil, adapted from MoRPHE guidelines (Historic England, 2015). This would be used as a tool in planning meetings to clearly lay out the steps required to introduce this new working practice.

Stage	Description	Outputs
1	Initiation: Planning	• Aims and scope of planned change defined. • Change in working practice justified. • Steps and actions required to introduce change defined.
2	Execution Stage 1: Implementing Documentation and Facility Requirements	• Creation of licenced soil Teams channel. • All essential documents uploaded to Teams channel. • Creation of Microsoft Form for risk assessment sign-off. • Equipment designated for use with licenced soil labelled. • Appropriate PPE and disinfectant restocked. • All equipment stored in designated locked cabinet. • Printed versions of risk assessments, COSHH forms and the protocol put into the labs.

3	Execution Stage 2: Inductions and Training	• All relevant risk assessments signed off by team. • Specialised lab induction from Professor Milek received by team. • Team completed series of training sessions with Professor Milek.
4	Execution Stage 3: Monitoring and Competency Checks	• Weekly progress meetings with project manager attended by team. • Final competency sign-off for independent working achieved by team. • Creation of informational video for students by team. • Approval for work with students received.
5	Review Stage: Feedback and Evaluation	• Feedback provided by team to project manager. • Process implementation evaluated by project manager. • Recommendations for change formulated and documented by project manager.

Step 2: Implementing Documentation and Facility Requirements

As all essential documentation was created in advance of the initial application submission to DEFRA, as any changes to planned processes would result in a charge once the licence is granted (APHA and DEFRA, 2025), within the implementation process there is no need to produce additional documentation. It is, however, essential that this existing documentation, which includes the protocol document, 24 DEFRA-compliant risk assessments (Appendix 2: Parker and Milek, 2025), and COSHH forms for controlling safe chemical use, can be accessed easily, updated regularly, and signed-off appropriately. Therefore, within this second stage, I would designate the creation of a dedicated licenced soil channel within the Department's existing environmental laboratories Teams page to a team member, and assign them the responsibility of ensuring these essential documents are uploaded to the files tab and also sign-posted to in the channel's posts tab, to ensure

they are readily available to all users working with licenced materials. To comply with the legal requirements of the *Management of Health and Safety at Work Regulations* (1999; HSE, 2013b), myself and Professor Milek, the academic lead in charge of managing compliance with the licence terms, will monitor risk assessment implementation over time and review and update these documents annually, or sooner if issues arise that show the control measures specified are not sufficient enough to ensure risks to lab users are as low as is reasonably practicable. As is recommended by the Health and Safety Executive (2013b), during the risk assessment review process, the rest of the team would be asked to provide feedback on how the risk assessments work in practice, and suggestions for how they could be improved to be implemented most effectively. Lastly, as part of documentation implementation and management, a Microsoft Form (Appendix 3) will be created to monitor and record risk assessment sign-off required from all users in advance of working with licenced materials. This software is used in the same way elsewhere across the Department's laboratories and would be useful here, as the form can be integrated within the dedicated Teams channel alongside the risk assessments, and submitted information can be exported to Excel for record keeping purposes (Microsoft Support, 2025b). By using this software, compliance with the licence requirements to record origins of held authorised soils, duration of planned work with materials, and intended final outcome for the analysed materials (e.g., disposal or retainment) can also be achieved (APHA and DEFRA, 2022). As can be seen in Appendix 3, by incorporating questions related to this required information into the risk assessment sign-off form, all necessary records would be compiled using one simple, user-friendly method, and can be exported and stored together within Excel to facilitate monitoring and presentation of records during annual audits.

Additionally, before any work with authorised soil, including training and inductions, can take place, actions must be taken to ensure laboratories and storage rooms have the necessary equipment and resources in place for DEFRA compliance. As specified in email communications between Professor Milek (2025) and DEFRA, this would include provision of: separate equipment (e.g., weighing spatulas and desiccators); appropriate disinfectant; additional PPE in the form of disposable aprons; and waste containers for work with licenced soil, with all waste requiring three layers of containment up until the point of disposal via incineration

(APHA and DEFRA, 2022). To administer these needs, I will ensure all equipment and the waste storage bags and container designated for use with licenced soil is labelled clearly and stored together with refreshed stock of PPE and disinfectant in a locked cabinet in the main environmental lab, to both limit the risk of equipment being used with non-licenced materials and causing contamination, and to act as an additional level of secure containment for waste. Smaller working kits will also be provided within other labs where licenced work is permitted, and key access will be controlled by the Department's technicians who can access the form's Excel data to confirm users are approved for this work. The team will be fully involved in implementing these changes to become familiar with the equipment and facility requirements for work with licenced soil. Whilst the protocol (Parker, 2024) states users are responsible for ensuring all necessary equipment, PPE, and disinfectant are available in advance of planned work, one team member will also be delegated to monitor stock levels regularly, to facilitate continuous workflow by ensuring required resources never run out. To foster a culture of safe laboratory practice, printed versions of the protocol document, risk assessments, and Control of Substances Hazardous to Health (COSHH) documentation compliant with HSE's regulations (2013a) and updated annually by the Department's health and safety lead (NHS Rotherham Doncaster and South Humber, 2025), will be made available in the laboratories and stores, allowing users to refer back to required control measures whilst working with authorised soils and seek guidance on appropriate procedures should a spillage occur. Ultimately, at step 2's conclusion, all licenced facilities should contain the required resources and documentation to enable work with licenced soil to begin, and the team should be familiar with ongoing facility maintenance requirements.

Step 3: Inductions and Training

As my team will not only be using licenced material in their own work, but will likely have responsibility for training and supervising students, it is crucial that they receive comprehensive induction and training themselves to be able to deliver the same for others in future. Aligning with the Department's general laboratory safety rules (Upex, 2024), all team members will have already received an induction for the

environmental labs to be able to undertake their pre-existing responsibilities, but due to the additional cleaning procedures and waste management required, a specific induction for licenced work is deemed necessary as a preventative measure against contamination caused by inappropriate laboratory practice. Despite my involvement in creating the application documents, due to my limited experience of actively working with licenced material in laboratory contexts, Professor Milek is instead best placed to undertake this responsibility as Lab Manager for the environmental labs and with her considerable experience working to and enforcing DEFRA licence requirements. As project manager I would also receive the specialist induction to support my team in the delivery of future research-based, commercial, and student-facing work with authorised soils. Amongst other things, this induction would cover:

- Additional cleaning protocols using disinfectant, as specified in the protocol (Parker, 2024).
- Retainment and appropriate storage of waste soils and cleaning materials, as specified in the protocol and licence conditions (APHA and DEFRA, 2022).
- Safe transport of materials between storage rooms and laboratories.
- Correct storage and handling of the disinfectant, including accidental release measures, following COSHH regulations (HSE, 2013a).
- Making bookings for work with licenced soil using laboratory Teams page calendars, specifying no work with non-licenced material is permitted at the same time to avoid contamination.
- Maintaining a centralised licenced material log book in the lab to support the online booking system, where all inductions, training activities, and independent work must be recorded, giving details of users' name, date, origins and site names of samples worked on, and analyses undertaken.

After signing all the relevant risk assessments and receiving this induction, the team would then be trained in applying the DEFRA requirements to the 24 processes covered by the Department's licence. As the team would already be trained in applying these processes to non-licenced materials, the training process does not have to be exhaustive, but does need to allow each team member to develop and demonstrate a solid understanding of how to prevent contamination by and release of authorised soils. To achieve this, I would arrange several group training sessions in which the team would receive practical demonstrations with verbal instruction from

Professor Milek before repeating the processes under her supervision and writing summary notes to refer to in future, thereby appealing to multiple learning styles (Travers *et al.*, 2018). Additional one-to-one coaching sessions could also be organised for those needing further support to work confidently with licenced materials, providing opportunities to ask questions, develop alternative approaches to resolve issues they faced when doing the process, and improve skill reinforcement through encouragement of good laboratory practice (Travers *et al.*, 2018). Through this induction and training process, the team and I should develop a strong working knowledge of how to safely and correctly work with licenced materials across the full range of processes.

Step 4: Monitoring and Competency Checks

Once the series of training sessions have been completed and each team member has been deemed competent enough to work with licenced material safely and accurately by Professor Milek, they will be permitted to work independently on commercial and research samples. For the first month of independent working, I would hold weekly one-to-one progress meetings with the team to monitor their adoption of the new working practice and compliance with licence requirements. In these meetings, I would go through the Teams booking calendars and laboratory log book with the team member to ensure they are appropriately documenting work they are carrying out, and thereby meeting the licence's record keeping obligations (APHA and DEFRA, 2022). I would also encourage them to self-reflect on their experience of working independently so far, asking them to share what has gone well, what could be improved, what lessons they have learned, how they will implement these observations into their practice the following week, and what support they may need from myself or Professor Milek to do this. This retrospective approach is applied widely throughout educational and professional settings, fostering active reflection, reinforcement of positive practice, and goal setting (Mandouit and Hattie, 2023), and is one I've found particularly useful to continually develop and increase confidence in my own practice. Additionally, these meetings would also provide opportunities for the team to suggest changes within the new

working practice itself they feel would facilitate its implementation, as licence requirements can only be achieved if users have the sufficient resources to do so.

After this first month, Professor Milek and I would once again observe the team's working practice to confirm competency has been maintained, and record this in the log book as a record of proficiency to be reviewed annually or after a break of 6 months from regular work with authorised soils. Approval would consequently be given to conduct more advanced work demonstrating the processes to students, and eventually supervising their work in the labs with licenced materials. However, if sufficient competency is not evidenced, additional monitoring and supervision support would be put in place until this is achieved. As teaching others is a great way to reinforce your own knowledge and understanding, to ensure the team is capable of disseminating this practice before working directly with students, I would ask them to create an informational video demonstrating safe and appropriate work with licenced soil in which they explain why the additional requirements and preventing contamination is necessary. This could be incorporated as a training resource within geoarchaeology modules with lab-based practicals, to provide alternative versatile and engaging learning resources to students who may benefit from auditory and visual demonstrations (Brame, 2016; Travers *et al.*, 2018). Therefore, by the end of stage 4, the whole team should have passed these competency checks for practical implementation of the changed working practice, and will not only be able to monitor the quality of their own work, but the work of others too.

Step 5: Feedback and Evaluation

As expressed in the previous steps, feedback is welcomed and encouraged at each stage of implementing this new procedure, to ensure its introduction is effective, practical, and sustainable. This final step is intended to provide a dedicated and structured method for the team to share their positive and negative experiences of maintaining compliance with licence requirements in their independent work, to evaluate how successful initial implementation of the changed working practice has been and identify where adjustments are required to resolve any issues encountered. Whilst many feedback models exist, I would aim to use one that focuses on allowing the team to identify and communicate the impact this process

has had on their typical working practice and develop actionable steps for meaningful change, such as the DESC model (Bower and Bower, 2004; Lelivelt, 2022). Through group feedback sessions, one-to-one meetings, and an anonymous digital feedback Form (Microsoft Support, 2025a), the team would have multiple avenues to give comment, and would be prompted to use the DESC model to structure their feedback as follows:

- **Describe** your experience of implementing the changed working practice so far, considering both positive and negative aspects.
- **Express** how the introduction of this change has impacted your usual laboratory working practice, your understanding of how and why to comply with licence requirements, and your approach to disseminating knowledge to others.
- **Specify** actions that can be taken by yourself, the team, and the project manager to maintain and improve successful implementation of the new working practice.
- **Consequences:** Explain and/or practically demonstrate how your recommended actions would enact positive change and ensure effective achievement of licence requirements.

By doing this, feedback will be collated from all parties affected by the change, and used together within an adapted version of the 360-degree feedback model (Lelivelt, 2022) by myself as the project manager to evaluate the process itself in detail, and devise appropriate plans for future improvements. These changes may involve updating documentation to be clearer and more accessible, altering workflows to prevent bottlenecks (e.g., more frequent waste disposals), and putting additional health and safety measures in place to promote safe practice and secure material containment. All of which can be documented similarly to how Updated Project Designs may be created in MoRPHE projects (Historic England, 2015) to inform changes to be made in ongoing practice.

Conclusion

Ultimately, my approach to introducing this change in working procedure via a five-step plan focuses on team involvement at every stage of the process, to foster collaborative, established, and confident practice from the beginning. Ensuring appropriate resources and facilities are in place in advance of induction and training facilitates quick assimilation of the new practice, providing a good foundation to demonstrate how the team should maintain laboratories as they develop in their independent work. The structured nature of the training and competency checks also benefits implementation of the changed practice, by providing the team with a clear development trajectory and goals to be able to undertake more advanced work. Lastly, comprehensive feedback routes allow me as the project manager to evaluate how successfully the practice has been put in place and how it has impacted staff, highlighting areas for improvement to ensure compliance with licence requirements is maintained in future. Therefore, whilst more formalised approaches with increased documentation could have been used, by adopting this flexible yet structured collaborative approach to the practical implementation of DEFRA requirements, correct and safe working practice would be sustained over time due to the early established understanding within the team of why these changes are important and necessary.

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Appendices

All appendices have been uploaded as supporting documentation.