

13.0 Engineering Amendments

Engineering report amendments are used when the needs of a project change after the initial engineering report/environmental information document (ER/EID) is approved. Examples where an ER/EID amendment would be needed are:

- When a project as currently designed bids out higher than ten percent of the budget, and a redesign is needed.
- When the scope of a project changes due to pipe length and/or diameter changes.
- When additional treatment processes are included in the project scope.
- When major treatment processes change.¹
- When the environmental footprint of a project changes.

An ER/EID amendment is not needed for changes strictly related to funding. For example, if a project shifted from a Clean Water State Revolving Fund (CWSRF) loan to a State Revolving Loan (SRL), then no ER/EID amendment is needed. Or, if the scope of a project changes with costs remaining within ten percent of the original budget and the environmental impact footprint remains the same, no ER/EID amendment is needed.

Engineering Report amendments *cannot* be used for the following reasons:

- The additional funding requested is ten percent greater than the project cost or more than \$500,000, whichever is less. Funding requests greater than these limits must go before the Local Government Commission (LGC) for approval.
- The environmental footprint of the proposed project increases to above the minor construction activities criteria. For example, if, upon design, the Consultant realizes that greater than three miles 18-inch pipe is needed rather than 16-inch pipe, then the project goes above the minor construction activities, which will require a Finding of No Significant Impact/Environmental Assessment (FONSI/EA).
- The change in the project design is significant. For example, if a wastewater treatment plant expansion must be completely redesigned, then no amendment will be allowed.
- Use of remaining funds. Sometimes, bids may come in lower and result in leftover funds. These funds may not be used to add onto a project (e.g., continue collection system rehabilitation) or for a completely new project (for example, completing a collection system expansion in one part of town and then wanting to complete collection system rehabilitation in another part of town).

When an ER/EID amendment is submitted for a CWSRF-funded project, the deadlines related to the initial project will be in place, and the ER/EID amendment will have to be approved by the deadlines to keep funding.

If any of these conditions occur, then for the CWSRF or SRL programs, then a new application must be filed. For projects funded with State Emergency Loan funds, contact the Infrastructure Finance Section for additional guidance.

¹ If questions arise as to what is considered to be a major process change, please contact IFS staff.

The following sections discuss what must be included in the ER amendment.

13.1 Summary, Conclusion, and Recommendation

Summarize the current problem that requires the original ER/EID to be amended (e.g., problem definition and why the problem has occurred). Discuss the proposed solution and the recommendation to achieve the proposed solution.

Since the ER/EID amendment is actually part of the ER/EID, then the ER/EID amendment must be signed and sealed by a Professional Engineer registered in North Carolina.

13.2 Project Description

Explain the scope of the original project and then how the scope changes. Provide a figure that shows the scope of the original project and the changes proposed in the ER/EID amendment. The differences should be clearly demarcated. The figure should be on suitable basemapping such as aerial photography or a USGS topographic quadrangle map. Other basemapping may be used so long as it provides a clear picture of the project. The figure must include a figure number, title, legend or labeling, North Arrow, and scale.

Original project – The scope of work that was approved in the original Engineering Report.

13.3 Justification

Justify why the change to the original project is needed. Provide an engineering justification for making the modification and any needed engineering calculations to support the proposed modifications.

All areas affected by the change should be addressed in the calculation. If only a small portion of the original project is changed, detail how it will impact the other parts of the project and whether the change to the project will result in a negative impact to other parts of the project.

The justification for the change in the project must link back to why the original project was proposed.

13.4 Cost Effectiveness

Discuss how the modification will impact the cost of the project. To do so, provide a comparison table that shows the following:

- The capital costs of the original project and amended project.
- The total operations and maintenance costs of the original project and amended project.
- The total present worth of the original project and the amended project.
- A percent change of each parameter (e.g., capital costs).

Use the tables provided in the workbook entitled Present Worth Analysis, which is located in the Toolbox to calculate the new present worth (including capital cost) of the proposed change to the project. These present worth tables should be provided in an appendix to the ER/EID amendment.

13.5 User Fee Analysis

Sometimes, modifying a project will require a change in user fees. In a table, show the following:

- The user fee for current interest rate and worst-case scenario for the original project.
- The user fee for current interest rate and worst-case scenario for the amended project.
- The percent change in user fee for the current interest rate and worst-case scenario.

Note that amending a project may not always cause a change in user fees. In an appendix, provide supporting calculations. Supply any additional discussion.

13.6 Environmental Footprint

Determine whether the new work will take place within the existing environmental footprint. Provide a figure that shows the original environmental footprint and then where the new work will occur. The figure must contain a figure number, a title, a legend or labeling, a North

If public participation is required due to a change in environmental corridor, the project must still adhere to the deadlines associated with the original project.

Arrow, and a scale. If the work is indeed within the existing environmental footprint, then state as such. If the work is outside of the existing environmental footprint, then briefly describe in a narrative how the change in environmental footprint will impact each natural resource category. If resources such as threatened and endangered species or wetlands will be impacted, show these impacts on the environmental footprint figure.

If the ER/EID amendment is a modification to a project that initially received a Determination of Minor Construction Activity (DMCA), then the EID portion will be reviewed by the Environmental Assessment Coordinator, and an amended DMCA will be written and posted as per the discussion in Section 2.2.8.1. If the ER/EID amendment is a modification to a project that initially received a Finding of No Significant Impact (FONSI), then the ER/EID amendment must be circulated to all review agencies. An amended FONSI and environmental assessment (EA) will be written, and the public participation requirements discussed in Section 2.2.8.2 must be followed.