Introduction

The Project Delivery Network Environmental Design QC Checklist is to be used with the *UDOT QC/QA Procedures*. This checklist is a tool to assist the project team in verifying all work is produced with due diligence, using acceptable industry standard techniques, available resources and data, and reasonable decisions by competent professionals. The checklist is a tool and cannot replace the sound judgment and experience of competent professionals. It is the Design Team's responsibility to verify the quality of project documents **before** distribution.

For suggestions or answers to questions please contact*:*
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QC Documentation

Consistently documenting the QC process is an essential step to the QC procedures. The documentation provides the following benefits:

1. It confirms for project teams that each step in the QC process was completed correctly.
2. It confirms for UDOT that the QC procedures are followed consistently by all project teams.
3. It provides the opportunity for all to find ways of improving the QC/QA procedures.

Documentation has always been used by the project team to perform required quality assurance verification and has been maintained by the design team for reference during construction. It has also served as the way for UDOT to perform project audits to verify the design team followed the required QC/QA procedures. Providing this documentation in ProjectWise increases the opportunities to realize the benefits of QC documentation.

UDOT **requires** the Originator to upload all QC documentation for each deliverable into ProjectWise and attribute it as directed by this QC/QA Design Checklist (see *Recommended QC Documentation Table*). Every deliverable and applicable checklist item must have some form of documentation demonstrating the QC was completed. The QC documentation must be uploaded at or before each milestone review package distribution. The QC process is incomplete until all QC documentation is uploaded and attributed correctly.

The following recommendations are provided for creating QC documentation files:

- Provide all QC documentation required to review the QC process.
- Separate or combine QC documentation into files that are logical for the size and complexity of the project. For example, smaller projects can combine multiple disciplines' plan sheets into one QC file while larger projects should maintain separate files.
- Insert the entire final deliverable copy into the file before the QC check prints.
   > *Example*: M&P deliverable, M&P check prints
- Collate the plan sheets, specifications, and special provisions so that each sheet and spec. has the deliverable and check print redlines together.
   > *Example*: EC-01 deliverable, EC-01 check prints, EC-02 deliverable, EC-02 check prints, etc.

UDOT QC Documentation Recommendations and Instructions

A balance between consistency and flexibility is required to meet the demands of quality control and the variation in project scopes, teams, budgets, and methods. UDOT is not providing a list of requirements for QC documentation to help meet this balance. UDOT is only requiring that the project team provide all QC documentation, upload it to ProjectWise, and attribute it properly.

Recommended QC Documentation and *UDOT QC Instructions* are provided within the checklist to assist project teams, Checkers, and QA reviewers. These recommendations and instructions are given as guidance and are not meant to change the way a project team performs their QC process if the process meets all UDOT requirements. Project teams may adapt the recommendations and instructions as needed or use them to verify their process meets UDOT's requirements. The recommendations and instructions are not and cannot be completely comprehensive so it is necessary for project teams to make some alterations to the recommendations as needed to meet specific project challenges.

The *UDOT QC Instructions* for each checklist item or group of checklist items can be found italicized under the corresponding items followed by the right justified *Recommended QC Documentation.*

Not all checklist items have a recommended QC documentation. The completed checklist serves as the QC documentation for these items. Provide additional documentation when available.

Some checklist items require coordination, acceptance, or approval to be completed. A space has been provided for these items to identify the documentation being provided as evidence of completion.

The **Originator** is responsible to have all their work checked and to provide and upload all documentation. The **Checker** is responsible to complete a thorough check and provide all documentation to the Originator. Complete QC reviews **before** deliverable distribution.

QC Checklist Instructions

It is **required** to complete and upload into ProjectWise all 14 Design QC Checklists unless otherwise noted by the UDOT Project Manager on the Project QC/QA Plan (s*ee the UDOT QC/QA Procedures for the Project QC/QA Plan form and instructions*). The Checker must verify all items in the checklist are complete and correct for each deliverable listed along with any additional items the Checker deems necessary.

- The checklist items are not to be interpreted as the only items that need to be checked.
- The Checker places his or her name in the space provided at the beginning of the checklist. Fill out one checklist and include all names if multiple Checkers are used for the same deliverable. Place the Checker's initials next to each item they checked. Use the text box to the left of the item number provided in the form for the Checkers' initials unless the item is not applicable.
- Check the checkbox next to each item that has been checked. Place an **NA** in the checkbox or the text box provided to the left of each item number if the item is not applicable to the project. **ALL** items must have check mark or NA.
- Provide documentation demonstrating the action occurred for checklist items that recommend **Approval Documentation, Coordination Documentation,** or **Acceptance Documentation**. Documentation may be formal communications, emails, meeting notes, phone conversation logs, or other forms that document communication process. Place the file name in the space provided and follow the attributing convention in the Recommended QC Documentation Table.
- Provided at the end of each checklist is an Estimate Review Checklist. Complete and submit this checklist when checking the estimate as well as completing any checkboxes found on the activity checklist.
- A comments sheet is provided at the end of each discipline's checklist for the Originator and Checker to make comments, notes, and clarifications. Only one comment sheet is provided to minimize space and printing when printing the entire checklist. Use this sheet to document and consolidate the QC check comments.
- Each discipline checklist is separated into activity checklists. Complete the activity checklists necessary for the phase of the project. The Recommended QC Documentation table recommends uploading each activity checklist as a separate file. The checklists may be combined, but each

checklist must be included in the file name and attributed properly (example: QC_4U1_4U3_Checklist_*ddmmyy*).

- Every checklist item in each section of all required Design QC Checklists (see the Project QC/QA Plan) must be completed. It is unacceptable to address an entire section with a blanket statement or a continuous line through all boxes. Each item must have "NA" next to it even if an entire activity or section is not applicable.
- Previously completed checklists may need to be completed again if, after a milestone, changes were made to elements checked on the previous checklist. Complete the necessary checklist items associated with the changed element and mark "NA" on all other items. Combine these checklists with the existing phase checklist into one file (example: QC_4R1_3R1_Checklist_*ddmmyy*).
- Do not recheck items that have been QC checked previously and have not changed or are not affected by a change.

The Originator is required to upload the completed checklist into ProjectWise and attribute it correctly (*see Recommended QC Documentation Table*) once all items are checked and verified. Properly attributed documents can be verified by checking the QC Saved Search folders in ProjectWise.

The following explanations are to aid in completing the QC checklist items:

- A checklist item deemed "complete," "correct," or "accurate" does not denote that the item is perfect, but rather that the item satisfies design criteria based on known information, acceptable techniques, and sound judgment."
- A checklist item deemed "addressed" denotes the item as "reviewed all known concerns and verified the concerns are appropriately mitigated and satisfy design criteria." Addressed concerns are not necessarily incorporated into the design, but satisfactorily mitigated.
- A checklist item deemed "identified" denotes the item as "an acceptable and economical approach to satisfy design criteria based on known information."
- A checklist item deemed "verified" denotes the item as "verified the approach/conclusion as acceptable based on known information."

QC Documentation ProjectWise/Attributing Instructions

ALL QC documentation must be uploaded into ProjectWise and attributed correctly. Please see UDOT ProjectWise Online Training for more information on ProjectWise and attributing documents.

There are three potential attributing scenarios for all QC documentation in ProjectWise:

1. Not in ProjectWise initially (e.g. scanned documents that will be uploaded/attributed)
2. Already in ProjectWise but either not attributed or attributed incorrectly
3. Already in ProjectWise and correctly attributed for another reason but also in need of a supplemental attribute specifically for QC

No matter how the required documents initially exist, all must be attributed for QC as directed below or the QC documentation is not considered complete as required

It is *required* to properly attribute **ALL** QC documentation. To assist project teams properly name and attribute each document, the following table *Recommended QC Documentation* provides naming and attributing conventions for all recommended QC documentation. These naming and attributing conventions can be adapted for use with all additional documentation or altered for combining documents. Name a file logically with all elements included in the file and follow the naming and attributing convention if altering or combining files. Remember, the goal of naming and attributing is to make the document searchable by someone not intimately associated with the project.

Recommended QC Documentation

Recommended Documentation	Naming Convention	Document Type Filter	Document Type	Document Subtype	Document Phase*
ePM Screen 775 Redlines	*PIN _QC_ePM775_mmddyy*	Environmental	QC/QA +	Project Documents	Scoping
Environmental Scoping Summary	*PIN _QC_Env_Scoping_Summary_mmddyy*	Environmental	QC/QA +	Project Documents	Scoping
Checklist 1E1	*PIN _QC_1E1_Checklist_mmddyy*	Environmental	QC/QA +	QC Checklist	Scoping
Checklist 2E1	*PIN _QC_2E1_Checklist_mmddyy*	Environmental	QC/QA +	QC Checklist	GR
CATX Redlines	*PIN_ QC_CATX_ID _mmddyy*	Environmental	QC/QA +	Project Documents	PIH
Approval Documentation	*PIN _QC_Env_Accept_Doc_ID_mmddyy*	Environmental	QC/QA +	Meeting	PIH
Commitment Documentation	*PIN_ QC_Env_Commit_Doc_ID_mmddyy*	Environmental	QC/QA +	Meeting	PIH
Checklist 3E1	*PIN_ QC_3E1_Checklist_mmddyy*	Environmental	QC/QA +	QC Checklist	PIH
Advertisement/Notice Redlines	*PIN_ QC_HearingAdvertID _mmddyy*	Environmental	QC/QA +	Project Documents	PIH
Material/Display Redlines	*PIN_ QC_HearingDisplayID _mmddyy*	Environmental	QC/QA +	Project Documents	PIH
Comment Resolution Document	*PIN _QC_CRF_HearingID_mmddyy*	Environmental	QC/QA +	Comment Resolution	PIH
Checklist 3E2	*PIN _QC_3E2_Checklist_mmddyy*	Environmental	QC/QA +	QC Checklist	PIH
Checklist 4E1	*PIN _QC_4E1_Checklist_mmddyy*	Environmental	QC/QA +	QC Checklist	PS&E

UDOT Project Delivery Network
Environmental QC Checklist

Recommended QC Documentation
QA Verification Documentation

1E1 Assess Environmental Needs (CE)/Review Commitments (EA/EIS)

Review environmental commitments on the ePM Screen 775 for EA/EIS projects.

References

1. ePM Screen 775
2. Project Rod or FONSI
3. UDOT Project Delivery Network
4. UDOT Practical Design Guide
5. UDOT QC/QA Procedures

Project Commitment Report

Checker: _____

Date Completed: _____ **PIN:** _____

This QC Check is to be completed by the person responsible to coordinate and track the Environmental commitments. However, if changes need to be made, a QC Back Checker is required to check and verify changes. See UDOT QC/QA Procedures Section 3.4 for more information.

1. ☐ All project commitments are correctly entered into the project commitments database.

2. ☐ ePM screen 775 matches the ROD or FONSI.

Check the ePM Screen 505 following the UDOT QC/QA Procedures Section 3.4.

Recommended QC Documentation: ePM Screen 775 Redlines

3. ☐ All critical commitments that may affect the project scope, schedule, and budget are highlighted on the Project Commitment Report.

Environmental Scoping Summary

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ All potential resources and impacts have been identified.

2. ☐ The recommended schedule is reasonable for obtaining necessary clearances.

Check the summary following the UDOT QC/QA Procedures Section 3.4.

Recommended QC Documentation: Environmental Scoping Summary Redlines

2E1 Analyze Environmental Resources

Provide environmental resource locations to the roadway designers for consideration during design.

References

1. [UDOT Environmental Process Manual of Instruction](#)
2. [UDOT Project Delivery Network](#)
3. [UDOT Practical Design Guide](#)
4. [UDOT QC/QA Procedures](#)

Environmental Resource Locations

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ All environmental resources within the project limits are identified.

2. ☐ The Microstation design file correctly identifies the environmental resources *(may be separate file or combined with topo and/or other design files).*

    a. ☐ The file is correctly georeferenced (correct project coordinates).

    b. ☐ All resource locations within the project limits are included.

    c. ☐ Conforms to UDOT CADD Standards.

This checklist is the QC documenation. Check the above items and provide additional documentation if possible.

3E1 Write Categorical Exclusion Document and Obtain Approval

Complete and obtain approval of the categorical exclusion for the project.

References

1. [UDOT Environmental Web Page](#)
2. [Categorical Exclusion (CE) Delegation Page](#)
3. [UDOT Environmental Process Manual of Instruction](#)
4. [UDOT Project Delivery Network](#)
5. [UDOT QC/QA Procedures](#)
6. [UDOT Practical Design Guide](#)
7. ePM Screen 770

Approved Categorical Exclusion

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ The **Title/Signature** is complete.

    a. ☐ The project is properly categorized.

    b. ☐ The (c) or (d) list description is appropriate for the project as it is described in the CE.

    c. ☐ Someone other than the preparer signed as the reviewer. The reviewer and the approver are not the same person. The approver is the Region Environmental Manager/Environmental, Engineer/Environmental Lead, or appropriate Central UDOT Environmental Staff.

2. ☐ The **Purpose & Need** section is complete.

    a. ☐ The Purpose & Need section clearly describes the transportation problems/deficiencies in the project area (e.g. congestion, safety, traffic, unsafe geometries, or lack of trail facilities).

    b. ☐ The Purpose & Need section clearly and concisely explains the need for the project.

    c. ☐ The Purpose & Need does not discuss a solution.

3. ☐ The **Description** is complete.

    a. ☐ The description section clearly and accurately describes what actions are proposed with this project.

    b. ☐ The description section details the length and location of the project.

        i. ☐ Includes mile posts

        ii. ☐ Includes route

        iii. ☐ Includes width, length, and depth of excavation (if applicable)

    c. ☐ All referenced maps, typical sections, etc. are included in the Appendix or as an attachment.

    d. ☐ The proposed actions (detailed in the description section) address the identified needs for the project.

3E1 Continued

    e. ☐ All needs discussed in the Purpose & Need are addressed by this project.

4. ☐ The **Public Involvement** section is complete.

    a. ☐ A public meeting was determined necessary if one of the following was a part of the project:

        i. ☐ Additional through travel lanes

        ii. ☐ Substantially changed layout or function of the facility

        iii. ☐ Adverse impacts

    b. ☐ Coordinated with the PI manager prior to the meeting.

    c. ☐ All comments from the public hearing are summarized, addressed, and included in an appendix.

    d. ☐ A copy of the public hearing transcript and certification of public hearing are attached.

5. ☐ The **Right of Way** section is complete.

    a. ☐ All ROW impacts are summarized, with the number of parcels and number of acres, and included in the comment section.

6. ☐ The **Cultural** section is complete.

    a. ☐ All of the appropriate clearance memos from the Region Archaeologist, SHPO, THPO, and Native American consultation letters are included in an appendix or attachment.

    b. ☐ If applicable, the signed MOA is attached.

    c. ☐ All mitigation measures are included in the project commitments (CE document and ePM).

7. ☐ The **Paleontological** section is complete.

    a. ☐ Clearance letter from the UDOT Region Archaeologist is attached.

    b. ☐ The appropriate letter from the UGS is attached (if applicable).

    c. ☐ All mitigation measures are included in the project commitments (CE document and ePM).

8. ☐ The **T&E Species** section is complete.

    a. ☐ For projects that will have no affect on threatened and endangered species, a clearance memo from UDOT's Wildlife Biologist is attached.

    b. ☐ If an Endangered Species Act Section 7 consultation was required (i.e. projects that affect threatened and endangered species), there is a written concurrence memo from the USF&WS attached.

    c. ☐ All mitigation measures are included in the project commitments (CE document and ePM).

9. ☐ The **Wildlife** section is complete.

    a. ☐ The memo from UDOT's Wildlife Biologist is attached.

    b. ☐ All mitigation measures are included in the project commitments (CE document and ePM).

3E1 Continued

10. ☐ The **Noise** section is complete.

   a. ☐ For Type I projects, the noise study is attached.

   b. ☐ The noise study follows the newest UDOT policy (January 15, 2008).

   c. ☐ All mitigation measures are included in the project commitments (CE document and ePM).

11. ☐ The **Wetlands, Water** section is complete.

   a. ☐ For projects that are not specified in Question 1 on Screen 11a (ePM 770), the Region or Central landscape architect memo or Army Corps of Engineers letter is attached.

   b. ☐ If a stream alteration permit or CWA 404 permit was completed prior to approval of the CE, the mitigation commitments are included and appropriate letters attached.

12. ☐ The **Air Quality** section is complete.

   a. ☐ If this project is in a CO or PM10 maintenance or non-attainment county and adds or alters roadway capacity or will result in increase traffic volumes, the following have been completed correctly and are attached:

      i. ☐ The air quality supplement

      ii. ☐ The applicable CO or PM10 analysis

13. ☐ The **Relocations** section is complete.

   a. ☐ If there are relocations, the number and the addresses of the relocations are listed in the comment box.

14. ☐ **Section 4(f)** is complete.

   a. ☐ If de minimis and not historical, the following are complete and attached:

      i. ☐ A public notice was posted and the public had the opportunity for review.

      ii. ☐ All comments from the public are summarized, received a response and are attached.

      iii. ☐ A concurrence letter from the official with jurisdiction is attached

      iv. ☐ The FHWA has concurred with the de minimis finding. (This item only applies if it is a CE3 and if it is de minimus for parks and recreation or wildlife refuge.)

   b. ☐ If there is an Individual or Programmatic 4(f) evaluation, the Individual or Programmatic 4(f) evaluation is attached.

   c. ☐ If applicable, UDOT Environmental Services (or FHWA for CE3) has approved the Individual or Programmatic 4(f) evaluation and the applicable documentation is attached.

15. ☐ The **Mitigation Commitments** section is complete.

   a. ☐ All applicable mitigation commitments described in the CE, clearance memos or technical studies are entered into ePM's project commitments.

3E1 Continued

Check the CATX document following the UDOT QC/QA Procedures Section 3.4. Documentation demonstrating all items were checked is required. There may be multiple QC checkers reviewing different sections or one QC checker reviewing the entire document. Use the same checklist, if possible, when multiple Checkers are used. Include all Checkers names on the checklist and initials next to the items they checked. Provide all redlines, coordination documentation, and this checklist.

Recommended QC Documentation: CATX Redlines

b. ☐ The Region Environmental Manager, Region Project Manager, or District Engineer agrees with all of the listed mitigation commitments.

Approval Documentation: _____

c. ☐ An individual is assigned responsibility to implement each commitment.

Commitment Documentation: _____

16. ☐ The following permits have been considered (if required, they have either been completed or are included as commitments):

Federal Permits

Req'd   NA

☐   ☐ Section 404, Clean Water Act (USACE)

☐   ☐ Section 401, Clean Water Act, Water Quality Certification (Utah Division of Water Quality)

☐   ☐ Section 402, Clean Water Act, UPDES Permit (Utah Division of Water Quality)

☐   ☐ Approval of Addition or Modification of Interstate Highway Access Points (FHWA)

☐   ☐ Incidental Take Statement, Endangered Species Act (USFWS)

☐   ☐ Air Quality Fugitive-Dust-Control Plan

☐   ☐ Certificate of Public Convenience and Necessity (FERC)

☐   ☐ Material Site Right-Of-Way Permit (BLM)

☐   ☐ Navigable Waterways Permit (U.S. Coast Guard and/or USACE)

State Permits

Req'd   NA

☐   ☐ Utah State Stream Alteration Permit (Utah Division of Water Rights)

☐   ☐ Air Quality Approval Order (Utah Division of Air Quality)

☐   ☐ Water Rights (Utah Division of Water Rights)

☐   ☐ Certificate of Registration (Utah Division of Wildlife Resources)

☐   ☐ Approval of Remediation Work Plan (UDEQ and EPA)

☐   ☐ Archaeological and Paleontological Excavation Permits

☐   ☐ Easement for Right-of-Way (UDOT)

3E1 Continued

<u>Local Permits</u>

<u>Req'd</u>   <u>NA</u>

☐   ☐ Floodplain Development Permit (Local Jurisdictions)

☐   ☐ Salt Lake County Flood-Control Permit

☐   ☐ Environmental Clearances for Off-Site Work (Various Agencies)

This completed checklist serves as QC documentation for the permit check. Check the above items and provide additional documentation when possible.

3E2 Conduct Public Hearing (CATX)

Conduct the public hearing to provide the public with an opportunity to comment on the categorical exclusion document.

References

1. UDOT Public Meeting Calendar
2. UDOT Public Involvement Plan
3. UDOT Project Delivery Network
4. UDOT QC/QA Procedures

Advertisement and/or Legal Notice for Opportunity for Public Hearing

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ All advertisements contain correct and clear content.

2. ☐ All contacts, date, location, and time listed in the advertisement are correct.

3. ☐ All logos and graphics are up to date and correct.

4. ☐ The ad is planned for posting in accordance with applicable regulations.

5. ☐ ADA compliance is indicated and meets current regulations.

Check each notice following the UDOT QC/QA Procedures Section 3.4 before circulated to the public.

Recommended QC Documentation: Advertisement/Notice Redlines

Meeting Materials and Displays

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ All materials comply with current UDOT style guides.

2. ☐ All materials are consistent (content, contacts, titles, project summaries, etc.).

3. ☐ Most current project design is used in materials/as reference.

4. ☐ Leadership and design team have coordinated to make sure the message is consistent.

5. ☐ All branding is consistent.

Check each meeting material and/or display following the UDOT QC/QA Procedures Section 3.4. Prepare a draft version of the material/display and complete the QC check before producing the final version.

Recommended QC Documentation: **Material/Display Redlines**

Summary of Comments

Checker: _____

Date Completed: _____ **PIN:** _____

   1. ☐ All comments are documented.

   2. ☐ All comments are addressed.

   3. ☐ Contact information for all comments is included.

Verify all comments are addressed and all actions implemented. See the UDOT QC/QA Procedures section 6.0 for more information.

Recommended QC Documentation: Comment Resolution Document

4E1 Prepare/Submit Permits

Based on the impacts identified in the categorical exclusion, prepare and obtain any permits necessary for the project.

References

1. [UDOT Environmental Web Page](#)
2. [UDOT Environmental Process Manual of Instruction](#)
3. [UDOT Project Delivery Network](#)
4. [UDOT QC/QA Procedures](#)

Approved Permits

Checker: _____

Date Completed: _____ **PIN:** _____

1. ☐ All permits assigned to Preconstruction were processed.

2. ☐ All permits assigned to Construction are included in the specifications.

3. ☐ The schedule for obtaining permits is appropriate.

4. ☐ The PM is aware of all permits needed and who is assigned to obtain each.

This completed checklist serves as the QC documentation. Check the above items and provide additional documentation when possible.

QC Check Comments

Provide comments, methods, assumptions, explanations, file locations, and any other information needed to facilitate the QC check. Print and attach this sheet to the checklist. Upload this sheet with the associated checklist.

PIN: _____   Activity: _____   Deliverable(s): _____

Originator: _____

QC Checker: _____

Additional Commenter(s): _____