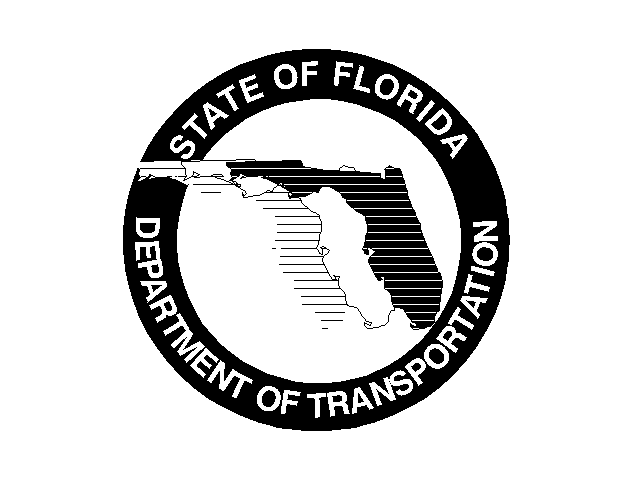
**Quality Control Plan**

**DISTRICT IV Transportation Development**



February 2006

**DISTRICT 4 TRANSPORTATION DEVELOPMENT**

**QUALITY CONTROL PLAN**

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**I. PURPOSE**

Quality control (QC) is the process performed to ensure conformance to valid requirements. This process includes quality planning, training, providing clear decisions and directions, constant supervision, immediate review of completed activities for accuracy and completeness, and documenting all decisions, assumptions and recommendations.

There are three main objectives of a Quality Control Plan:

* To provide a mechanism by which all products of the District Design Office will be subject to a systematic and consistent review, to ensure that the project plan package will be substantially error free.
* To provide for a well documented design process. A properly documented project file should support major decisions made during the project development and design, as well as provide a record of the quality control process.
* To provide feedback from the reviews and communication that will assist designers in improving the design process.

**II. INTRODUCTION**

Construction project plans for a modern transportation facility are complex contractual documents with numerous engineering details. The design details and drawings are developed through many integrated and inter-related processes. These require the input, advice and cooperation of many offices, agencies and individuals. The expertise of many professionals must be coordinated and expressed in the project plans package.

The Florida Statutes 20.23(4)(b) requires a Quality Control Process. All District Four roadway plans, specifications and estimates prepared by either in-house design managers or by consultants will be prepared in accordance with a documented Quality Control plan.

This Quality Control Plan has been developed to provide guidance to the Engineer of Record and promote communication between Design, Construction, Maintenance and various other Departments. This plan is not intended to be rigid; rather it establishes a framework for effective quality control and assurance. The Engineer of Record, in conjunction with the Florida Department of Transportation (FDOT) Project Manager is responsible to ensure all project components are economical, accurate, coordinated, checked and conforms to valid requirements. FDOT Consultant Project Managers are encouraged to randomly visit their Consultant’s Office for unannounced Quality Assurance reviews to ensure compliance to the Consultant’s Project specific Quality Control Plan.

**III. PROJECT CONCEPT (SCOPE)**

Complete scope development early in the design process is important. Scope changes late in design can impact quality and schedule. Scope changes during construction will result in supplemental agreements and time extensions. **A Project Quality Control Plan is required for every contract.** The Project Quality Control Plan must address project specific scope of service needs and be approved by the District Design Engineer (DDE), District Consultant Management Engineer (DCME), or their designee as appropriate. It may be found in the Project Management Plan.

**A. Data Collection**

Scopes must be well defined prior to final design. All projects will have a scope report. Major projects will have a Project Development Report. Smaller projects may have a development report from Traffic Operations or a Resurfacing, Restoration, and Rehabilitation (RRR) Report. The Project Manager will ensure that the scope is complete and appropriate. Additional information concerning the Scope development can be found in Chapter 13 Volume I of the Plans Preparation Manual (PPM). Flow charts for landscaping and lighting processes are available from District IV’s Web site.

**B. On-Site Field Review (Preliminary Field Review)**

An on-site field review is required. This review should include representation from each of the relevant FDOT Departments particularly Maintenance and Construction, as well as City and County Staff. Please read and follow the “Guidelines for Coordinating with Local Government during the Design & Construction Process” as found on the District Four Transportation Development Knowledge based website. Meeting minutes will be recorded and addressed in writing. The project concept review (scope) will be complete once each attending party and relevant FDOT Departments’ concerns has been resolved.

**C. Problem Areas**

Many scope changes occur inappropriately after the Initial Engineering Phase. All major scope elements should be identified and agreed on by the start of the Initial Engineering Phase. An electronic scope history report is now updated by the project manager for all changes to the scope, schedule and budget. This documentation is required and can be found in the electronic project suite found on the District IV Transportation Development website. It is particularly critical that local governments have input to the scope.

Some common problems with scope development have been:

**-** Landscaping and amenities such as brick pavers **-** Utility Work

**-** Signal maintaining agency requirements **-** City supplied plans elements

**-** Incidental drainage improvements - Access Management issues

**-** Required Joint Participation Agreements - Lighting & Landscape

**-** Shoulder work - Maintenance Agreements

**D. Right of Way Scope**

Right of way requirements need to be independently reviewed for final acceptance well before the acquisition phase. A team including the Designers, Right of Way Staff, and Legal Staff will review the proposed right of way parcel by parcel. Issues such as the need and cost of each parcel, the need for Fee Title, Permanent Construction Easements (PCE), Temporary Construction Easements (TCE), License Agreements as well as the drainage requirements (Retention/Detention Ponds) or other site specific concerns will be addressed. Right of Way Staff, Legal Staff and the Designers need to work closely throughout the development of the right of way requirements.

**IV. COST ESTIMATES**

Accurate project construction cost estimates is critical to proper planning and programming. During the project design phase, changes to the scope or project requirements may occur which would affect the construction cost. The Project Manager must be aware of these work item changes and update the cost estimate and scope history report accordingly. The project cost estimate may be updated at any time during the design. As a minimum, the construction cost estimate and the detailed scope history report will be reviewed by the Project Manager every six months, updated during the yearly Work Program Review Cycle, and submitted at each project phase review submittal.

**A. Work Program Support**

All projects within the five-year plan are required to have current cost estimates. Each fall, the Department has a work program gaming cycle to update the five-year work program beginning with the upcoming fiscal year. All estimates will be up-to-date by September of each year along with the updated scope. The Engineer of Record, Project Manager, District Estimates Office, and the State Estimates Office will review all construction cost estimates for accuracy. All comments and revisions to the project estimate are to be coordinated by the Project Manager through the District Estimates Office.

**B. Long Range Estimates**

After the project scope has been established, the Engineer of Record will have the information necessary to prepare an accurate Long Range Cost Estimate (LRE). The completed LRE will be submitted to the District Estimates Office for review along with two copies of the scope history report. The Engineer of Record should also include any other information, which may be required for the estimates engineer to competently review the LRE. The District Estimates Coordinator is responsible for providing the District Program Manager with the construction cost estimate of the project.

**C. Contract Estimate (Trns\*Port)**

Once the quantities have been determined and loaded into Trns\*Port (near the construction field review meeting as you approach the Final Engineering Phase Review submittal) the Project Manager will request the Engineer’s Estimate from the Engineer of Record, which will be used for verification of the existing Work Program estimate as well as any over-rides to the Department’s Trns\*Port unit prices (by the District Estimates Office). The designer will create the Project Summary of Pay Items and include it either on plan-sheets or 8 ½ by 11 printouts, and the finished Computation Booklet in the Final Engineering phase submittal (please review the District Four Trns\*Port Process @ appendix “E”). The Estimates Office will override unit costs shown in the Trns\*Port as appropriate and provide an updated cost estimate to the Project Manager and Work Program.

## D. Right of Way Estimates

All right of way cost estimates should be kept current, never older than 12 months. Any changes that result in a revision of the proposed right of way will be sent to the Right of Way Office. The right of way cost estimate along with the project schedule will be updated as necessary.

**V. PLAN REVIEW**

Phase reviews are performed to allow other District Office units and outside agencies an opportunity to provide input regarding the development of the project and to review the adequacy and completeness of the plans. The plans review process assists the Engineer of Record and designer in the production of a functional and complete set of plans.

**A. Peer Review**

The peer review is an important tool for the Engineer of Record. This review is an independent internal evaluation of the design issues, criteria, concepts, and quantities. An engineer or review team not directly associated with the project design should perform the peer review. The intent of this review is to insure the integrity of the design by improving the overall quality of the plans prior to the submittal to the various functional areas for review. The project quality control plan should indicate those assigned for this review.

**B. Phase Submittal**

The plans review phase submittal will occur at two stages of the plans development. Typically, projects will have two phase reviews: initial engineering and final engineering. Structure plans will be reviewed at the Bridge Development Report (BDR)/30% Structures (roadway’s initial engineering phase) and 90% Structures which corresponds to roadway’s final engineering phase. A detailed description of the initial/final engineering activities can be found in the PPM Volume I (chapters 13 & 14). Requirements for various portions of the plan-set can be found in the PPM Volume II (chapter 2). The District IV Transportation website is also a valuable tool for obtaining the latest CADD Compliance checklists available for the initial, final as well as production complete submittals. Please review **appendix “A & B”** for additional initial engineering requirements. The design team will submit one plan-set, then the FDOT Project Manager will perform a quality assurance review to determine if the plan-set is complete and meets the intended scope. The FDOT Project Manager will then create and submit an Electronic Review Comment (ERC) submittal to the appropriate ‘functional’ office personnel to perform the plans review. All previous signed comments and responses will be submitted with the phase submittal as well as copied to other FDOT Production Departments as specified in the project specific QC Plan and PPM Volume I Section 13-5.

The FDOT District IV Functional Offices for PHASE REVIEWS:

* DISTRICT FINAL PLANS (Initial & Final phases)

Review all plan components as well as Category II Structures for geometric ties to roadway @ Initial Engineering phase. Review all plan components, estimates, quantities, and specifications plus Category I Structures@ Final Engineering phase. One set @ Initial, two @ Final Engineering phase.

* DISTRICT & RESIDENT CONSTRUCTION (Initial & Final phases)\*

Ensure constructible, cost effective, and safe Traffic Control Plan. Constructability meeting (between Initial & Final) & Biddability @ (Final Engineering phase). \*One set for each office.

* DISTRICT & RESIDENT MAINTENANCE (Initial & Final phases)\*

Each phase reviewed with special emphasis on correction of existing site concerns and eliminating potential maintenance problems. \*One set for each office.

* DISTRICT STRUCTURES (BDR/30% Structures with roadway Initial Engineering Plans) & 90% Structures with Roadway’s Final Engineering submittal) Reviews all Category I Structures and miscellaneous structures. Category 2 Structures reviewed by Central Office Structures. One set.

The FDOT District IV Functional Offices for PHASE REVIEWS (cont.):

* DISTRICT DRAINAGE (Initial & Final phases)

Reviews Conceptual Drainage Report, Drainage Map, Pond Siting Report (if applicable), Preliminary Bridge Hydraulic Report (BHR) (if applicable), and finalize permit determination with completed Permit Involvement Form @ Initial Engineering Phase;

Review drainage report, supporting calculations, final BHR (if applicable), construction plans, final permits for compliance with design, and assists in development of mitigation plans @ Final Engineering Phase. One set.

* DISTRICT TRAFFIC OPERATIONS (Initial & Final phases)

Special emphasis of the review will focus on existing and proposed operational concerns, safety related issues, and will assure that the signing & pavement marking plans and signalization designs are acceptable to the Department and Maintaining Agencies. One set.

* DISTRICT PLANNING & ENVIRONMENTAL MANAGEMENT OFFICE (Initial & Final phases). Review plans for conformance with the National Environmental Policy Act (NEPA), assess wetland impacts and assist in the development of mitigation plans. One set.
* DISTRICT LIGHTING (Initial & Final phases)

Initial Engineering phase (Justification Report), Final Engineering phase (Photometric &

Voltage Drop calcs). One set.

* DISTRICT MATERIALS LAB (Initial & Final phases)

All projects with Bridge Foundations, Pile Driving, or special requests. One set

* CITY, COUNTY & FEDERAL (Initial & Final phases)

Plans reviewed for miscellaneous aspects of project development. One set per agency.

The Design unit will soon be 100 % electronic submittals (including phase reviews) which will make it easier for other departments to overview the plan development. All Departments may request plan-sets or portions of plan-sets at various stages of development in order to assure compliance with their respective concerns. The list of potential requestors and contacts can be found in the PPM Volume I Chapter 16. In addition to the above list of functional review departments, each project phase submittal will be sent to the following departments with the note (LETTER ONLY): PTO, Planning & Programs, Model Development, Rail, Right of Way, District Permits, and District Utilities.

**C. Review Considerations**

Each reviewer is to concentrate on their specialty, but is free and encouraged to comment on other areas. User safety will be a paramount concern. All reviewers are reminded to look at and question the big picture of project purpose and fulfillment of project scope. Reviewers must also be aware that plans may be complete, accurate, clear in terms of presentation, and at the same time, depict a marginal or inappropriate design (uneconomical or impractical to construct). The construction plan documents are the vehicle by which the design concept and intents are conveyed to the contractor. The Engineer of Records' responsibility to produce a quality design does not conclude with the conformance to the valid requirements, but with the clear conveyance of the design intentions.

**D. Review Comments**

Electronic Review Comment (ERC) software will be utilized for all engineering reviews. This software package can be found at [www.fdotd4erc.com](http://www.fdotd4erc.com) …Please review the quick reference guide based on your ERC user role once you have obtained your personal user-ID and password from a District IV ERC Administrator (see your Project Manager). Each Reviewer will submit comments via the ERC system related only to the **Engineering** aspects concerning engineering criteria, safety, analysis, cost benefit studies, cost, conflict avoidance, material selection, right of way encroachments, and project specific data. Only these engineering comments and their responses will require sign-off by the DDE or the DCME. The reviewer will refrain from typing editorial and format comments, however the marked plans may be submitted to indicate these concerns. An editorial comment is a statement of the reviewers’ opinion, or a statement that is broad and general. A format comment concerns the presentation of information. All phase review comments will be returned to the Project Manager within one month or as agreed to at the time of the submittal. The Project Manager will send the signed comments/responses to all relevant FDOT Departments & reviewers. No Phase is complete until all engineering review comments have been resolved and documented.

## E. Mandatory Site Review

A mandatory site review is to be held at the final engineering completion stage. This meeting is referred to in the Plans Preparation Manual as the Plans, Specifications, and Estimates, or P.S. & E. Meeting. A thorough review of the existing conditions against the plans at the latest stage practical before the letting will facilitate the reduction of supplemental agreements caused by a change in field conditions. This review will include all pertinent functional offices. The final engineering phase review and PS&E field meeting will also be used to verify that all issues encountered during the constructability coordination meeting has been included into the project.

**VI. CONSTRUCTION REVIEWS**

**A. Constructability**

A constructability coordination meeting is required to ensure that the project can be economically built as designed without undue hardship to the contractor or the traveling public. The District Construction Office will indicate the need for this meeting once the District Construction Office and the respective Operation Center has reviewed the completed Traffic Control Plans that is expected to be used for the project. The Project Manager will conduct this meeting during the development of the final plans (before the final engineering phase submittal). The Project Manager will schedule this meeting and provide two advance copies of the complete (all components) plan-set (one for the District Construction Office and one for the respective Operation Center) for their use in this field meeting. The District Construction Office will provide a letter of TCP approval to the Project Manager once all concerns have been addressed. The Construction Office will utilize the final engineering plan submittal to assure their constructability concerns were addressed.

A comprehensive constructability coordination meeting may include:

Feasibility of unique design concepts

Verification of Railroad coordination or need for special flagging agreement

Accessibility of construction equipment (staging areas)

Maintenance of highway traffic during construction

Special circumstances such as environmental mitigation work, permit work, utility work or special arrangements for project specific features

**B. Biddability**

The plans, summary of quantities, computation book, and pay item/general notes are thoroughly checked for correctness and compatibility to the project scope. In addition to the Designer’s own peer review of these items…the Construction Office will perform a similar review at the Final Engineering completion stage. The reviewers will determine whether or not the plans adequately describe the proposed work and that the appropriate pay items are provided. The District Construction Office will calculate the construction days as a result of this review.

**VII. Production Complete**

The Engineer of Record/Project Manager will certify that the plans are complete, all previous review comments have been properly addressed and that the project is production complete. The production complete package will be delivered to the Final Plans Section on the scheduled production complete date. All class one (Tally) projects will follow the State Roadway Design’s electronic delivery requirements (see the FDOT State Roadway Design’s website for the latest flow chart). District let projects will still require signed & sealed paper plans as part of this submittal. Please review **appendix “D”** of this package for the required information concerning the production complete submittal. The Final Plans Office will conduct a quality assurance review of the submitted production complete package. The outcome of the quality assurance review will be summarized in a total quality assurance concern memo to the FDOT Project Manager. The FDOT Project Manager will then coordinate with the Engineer of Record to address any required changes to the record plans and identify those changes in the “change memo”. A production complete quality delivery indicator will be determined for the production complete package (see Appendix “F”). The quality delivery indicator (QDI) may be used by the FDOT Project Manager when completing their consultant performance evaluation and/or used as additional information when determining potential firms on future design projects.

**A. Specifications**

The District Specifications Office will assemble and/or review the specifications package. The production complete package is evaluated to determine the appropriate contents of the specifications package. The proposal summary of quantities, record plans, technical special provisions (if any), permits, utility schedules, and any project specific concerns are utilized to assemble this package. If the Engineer of Record produces the specification package then the District Specification’s Office will perform a quality assurance review of the specifications workbook (as a minimum) on the production complete date and receive the signed/sealed specification package no later than the specs/estimates date-(typically 4 weeks after the production complete date). Please note: the basis of estimates will determine the pay items that require technical special provisions (TSP). As a guide…the pay items that print with a “T” in front of them require either a TSP or special plan details.

**B. Estimates**

The District Estimates Office will prepare the authorization estimate based on the production complete plan set. It will be used for verification (and potential) updating the budget allocation. The official preliminary estimate will be prepared and verified one month prior to the scheduled letting. The official estimate will be used during the post bid analysis for determination of contract award. All projects will employ the Trns\*Port System.

**VIII. POST DESIGN ANALYSIS**

**A. Review of Supplemental Agreements**

Twice each year, a District Construction Review Team evaluates the supplemental agreements (SA) generated during the previous six months. This SA review concentrates on contract changes that result in cost over-runs and increases in construction time. The SA team performs a detailed review of the individual issues and classifies them into major work categories. The SA team then uses this information to produce three charts that illustrate the percentage distribution of problem types. The charts include:

SA distribution by codes and dollars

Cost distribution by frequency of occurrence

Time extensions

The information provided by this analysis enhances the Department's ability to identify specific problem areas for additional training and/or process improvement opportunities. The Final Plans Office correlates the current plans review comments to the general areas that causes the current construction supplemental agreements and produces a “top-ten” list. This “top-ten” list provides valuable insight to help reduce future cost overruns and time extensions on projects currently being developed. This “top-ten” list is distributed to all FDOT Departments, placed on the D4 Intranet Website as well as made available to all consultants working for the FDOT.

**B. Construction and Design Coordination**

The Design Project Manager shall assure that their project has a “hand-off meeting” with Construction. The “hand-off” meeting shall follow the published District Four hand-off meeting guidelines.

Construction will invite the design team to their project’s Maintenance/Construction walk thru @ 60-70% construction complete (or when it is scheduled). Construction will coordinate any questions related to the plans thru the respective District Four Project Manager.

**C. Design/Construction Team**

This is a team approach being undertaken within the District to identify and alleviate problems encountered during the construction of a project. The team is comprised of the District Design Engineer, District Consultant Management Engineer, District Roadway Engineer, District Construction Engineer, Assistant District Construction Engineer and one Operations Engineer. Other units (Structures, Drainage, Soils, etc.) are invited to attend when problem areas extend into their expertise.

The team goal is for a continuous exchange of information between Construction and Design. This feedback allows for continuous improvement of the production process focusing on problems encountered in the field. Issues of discussion include:

Review of supplemental agreements and codes

Central Office quality assessment reviews

Construction issues on jobs currently in production

Establish mutual goals for design and construction

Establish expectations for the task teams to ensure goal attainment

**IX. TECHNICAL TRAINING**

District IV actively pursues appropriate technical training opportunities available for both Production and Operation participation. This pursuit provides essential growth of quality control training within the work units and allows for more open communication between departments.

### APPENDIX “A”

#### *INITIAL ENGINEERING CHECKLIST FOR FINAL PLAN’S OFFICE*

**A-Design Documents:**

A1 Signed Exceptions / Variances (copy attached)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A2 RRR / Engineering Report / Approved QC Plan

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A3 Approved Typical Section (copy attached)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A4 Approved Pavement Design (copy attached)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A5 Approved Access Management Plan

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A6 Joint Project Agreement(s) Commitment Letter

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A7 Lighting Justification Report

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A8 Landscape Maintenance Commitment Letter

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A9 Conceptual Drainage Report

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A10 Approved Pond Siting Report

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A11 Completed bridge development report (BDR)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A12 Approved bridge hydraulic report (BHR)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A13 Completed Permit Involvement Form

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A14 Approved Community Awareness Plan

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

A15 Lighting Maintenance Commitment

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B-Plan Set**:

B1 Plan set (Including Preliminary Structures if applicable)

See summary of Phase submittals (appendix “B”)

##### C- Estimate Documents:

C1 Current LRE Output (two copies)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

C2 Scope History Report

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

The below referenced Phase Submittal list (appendix “B”) and details are intended as general guidelines for the Initial and Final Engineering Phase submittals. Regardless of the project type, (RRR, reconstruction, etc) if there is a “significant” effort needed in any discipline, the PM shall provide more details for that specific work at the Initial Engineering Submittal.

“Significant” effort would be described as:

* Seawall construction
* Trunk line replacement or construction…show location of new trunk line (individual inlet locations not mandatory at the initial submittal).
* New lighting system
* Roadway widening which would affect drainage system for a substantial length of the project.
* Major bridge widening, replacement or construction

Extensive permit issues as defined in the Permit Involvement Form. (PIF)

### APPENDIX “B”

|  |  |  |
| --- | --- | --- |
| PHASE SUBMITTAL Requirements (See individual sheet descriptions for details.) | | |
| **Item** | **Initial Submittal** | **Final Submittal** |
| Key Sheet | P | F |
| Summary of Pay Items |  | F |
| Drainage Map | P | F |
| Interchange Drainage Map | P | F |
| Typical Section | F |  |
| Summary of Quantities |  | F |
| Box Culvert Data |  | F |
| Summary of Drainage Structures |  | F |
| PNC Sheet | F | F |
| Project Layout | P | F |
| Roadway Plan and Profile | P | F |
| Special Profiles |  | F |
| Interchange Layout | P | F |
| Drainage Structures |  | F |
| Lateral Ditch Plan-profile |  | F |
| Lateral Ditch Cross-section |  | F |
| Retention/Detention Ponds | P | F |
| Cross Section Pattern line |  | F |
| Roadway Soil Survey\* | F | F |
| Cross Sections | P | F |
| SWPPP\*\* |  | F |
| Traffic Control Plans | P | F |
| Utility Adjustments | P | F |
| Selective Clearing & Grub |  | F |
| Misc Structure Plans |  | F |
| S & P Marking Plans |  | F |
| Signalization Plans |  | F |
| Lighting Plans (Incl MOA) |  | F |
| Landscape Plans (Incl MOA) |  | F |
| Plans JPA |  | F |
| Mitigation Plans |  | F |
| Structures Plans | P | F |
| Notes to Reviewer | P | F |

\* Signed sheet from Lab for initial submittal

(P) = preliminary; (F) = Final

\*\* SWPPP should be discussed with construction and permits throughout the life of project

### APPENDIX “C”

#### *FINAL ENGINEERING CHECKLIST*

1. Signed and sealed Technical Special Provisions (T S Ps)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

2. Executed Joint Project Agreements

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

3. Executed Maintenance Agreements

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

4. R/W clear letter

\_ Complete \_ Incomplete \_Missing

5. Permit clear letter

 \_ Complete \_ Incomplete \_Missing

6. Approved permits

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

7. Utility clear letter

 \_ Complete \_ Incomplete \_Missing

8. Approved utility work schedules

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

9. Railroad clear letter

\_ Complete \_ Incomplete \_Missing

10. Computation Booklet

\_ Complete \_ Incomplete \_Missing

11. Exceptions and/or Variances

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

12. Engineer’s cost estimate

(including all lump sum quantity take offs)

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

13. Detailed Scope of Work (including scope history report)

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

14. Electronic plan set

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

15. Approved initial engineering review comments and responses

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

16. PS& E meeting information memo, (including time and location map)

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

17. Approved Pavement Design

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

18. Approved Typical Section

 \_ Not Applicable \_ Complete \_ Incomplete \_Missing

19. Traffic Control Plan approval letter from District IV Construction Office

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

20. Community Awareness Plan

\_ Not Applicable \_ Complete \_ Incomplete \_Missing

**Please note: all the above copies of documents should be electronic (scanned images or PDF).**

### APPENDIX “D”

#### *PRODUCTION COMPLETE CHECKLIST*

**A - SPECIFICATIONS FILE:**

**A1**  Technical Special Provisions signed & sealed (via PEDDS):

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A2**  Highlighted Workbook:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A3**  Permits: (\_ of \_)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A4** Occupancy Permit:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A5**  Utility Work Schedules: (\_ of \_)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A6** Railroad Work Schedules: (\_ of \_)

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**A7**  Contamination Impact Certification

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B - CONTRACT FILE:**

**B1** Contract File Index **(Exhibit 20-B):**

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B2** Construction Time Estimate Memo:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B3** Preliminary Engineering Certification **(Federally Funded Projects – Exhibit 20-G):**

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B4** Utility Certification Letter:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B5** Status of Environmental Certification **(Federally Funded Projects – Exhibit 20-D):** \_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B6** Permit Transmittal Memorandum:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**B7** Railroad Clear Letter:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**C - ELECTRONIC DELIVERY**:

**C1** Project Manifest Document, signed by the EOR:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**C2** Project Authentication Document, signed, EOR (1 Copy), PM (1 Copy):

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**C3** Signature Documents, originals signed and sealed:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**C4** Compliance Certification Checklist Report:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**D - PLAN SET:**

**D1** One Project CD\*: \_ Not Applicable \_ Complete \_ Incomplete \_ Missing

\*For District Let projects, until District goes electronic, submit Original, paper, signed & sealed, hard set + 2 copies.

Also, submit 1 copy for Construction, 1 copy for Resident Engineer, 1 copy for each utility company with utility work schedules.

**E - COMPUTATION BOOK:**

**E1** Signed Original + 2 copies:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**E2** Plans, Specifications and Computation Book Form **(Exhibit 20-E)**: \_ Not Applicable \_ Complete \_ Incomplete \_ Missing

##### F - ESTIMATES:

##### 

**F1** Request for Control Group Change Form **(Exhibit 20-H):** \_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**F2** Cost Breakdown for LS items (Landscaping, Irrigation, etc): \_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**F3** Items of Work**; (**Exhibit 22-A for Lump Sum Projects):

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**G - MISCELLANEOUS:**

**G1** Appropriate approval and concurrence of review comments

and responses.

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**G2** Maintenance Agreements:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**G3** Joint Project Agreements:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

**G4** RW Certification letter:

\_ Not Applicable \_ Complete \_ Incomplete \_ Missing

### APPENDIX “E”

**District Four TRNS\*PORT PROCESS**

**INITIAL ENGINEERING STAGE**

* Project Manager contacts the Final Plans Office and provides the following information to the Estimates Coordinator.

1. Consultant Company Name
2. Project Financial Number/Project Number

3. The NAME and USER ID of the person that is inputting the pay

items (KN404XX / RD452XX / PM404XX)

* Estimate Coordinator creates the project in Trns\*Port and passes control to the consultant firm or designer as requested.
* Designers use the PES designer interface available on the below Internet Web site to edit the Trns\*port project file with their project specific pay items and quantities.

**www3dot.state.fl.us/trnsport2**

* Designers and Consultants can print the Project Summary of Quantities…the 81/2 X 11” .PDF file for use in the Final Engineering Phase Review Submittal.

**PRODUCTION COMPLETE STAGE**

Approximately one month prior to Production Complete submittal…(or when all pay items and quantities are complete and loaded into and NO more changes).

Project Manager requests a proposal number from the Estimates Coordinator.

The Project Manager provides the **Letting Date** and the **Financial Project Number.**

Estimates Coordinator establishes the Proposal.

**Current Printing Process**

Estimates Coordinator runs a Summary of Quantities and sends it to FDOT FTP site ftp://ftp.dot.state.fl.us.

Project Manager/Designer goes to the FTP site, double clicks **out-going directory**, double click **ces directory**, and selects their project to download

Then Project Manager/Designer follows standard process for inclusion of summary of pay items into the plan set.

### APPENDIX “F”

**District IV**

**Quality Delivery Indicator**

Delivery of a “**Quality**” Production Complete Package “**on schedule**” is one of the goals for every project manager and designer.

Meeting the scheduled production complete date is currently being tracked while the quality of the delivered contract package has been more difficult to define. The overall quality of the design package can only be determined after construction of the project…sometimes years after the production complete date.

The Program Management Office proposes a simple method to determine the “quality delivery indicator” of the Production Complete Package. This could be used by Project Managers as an aid in determining Consultant Performance Evaluations for their specific project.

The Final Plans Office will provide a ‘quality delivery indicator’ for each production complete package. The quality delivery indicator will be provided to the Project Manager once the contract plans have been mailed. The quality delivery indicator will consist of two components: Record Plan changes and pay item changes.

An example of the production complete quality delivery indicator is as follows:

Situation: Project 123456-7

Production Complete package delivered on time with the following changes:

(A1) 100 plan sheets…with….10 plan sheets modified (A2)

(B1) 50 pay items……with…..5 pay items revised (B2)

While the production complete plan-set is in the Final Plans Office: 10 plan sheets are replaced along with 5 pay items modified (added, deleted or quantity modification) all documented in the change memo as per current policy.

The production complete quality delivery indicator will be calculated as follows: One minus the average of [(the total number of “changed record plans” divided by the total number of record plans) plus (the total number of modified pay items divided by the total number of pay items)]expressed as a percentage. Revisions (after the ship date) to the contract will also be monitored and documented as required. Plan-set components will have separate indicators to identify improvement areas. Production Complete Quality Delivery Indicator (%) will be determined by the following formula:

* (1 - [(A2/A1 + B2/B1)/2] X 100)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Project Fin ID | Total Number  of Record Plans(A1) | Total Number  of Pay Items(B1) | Total Number of  “Modified” Plan-sheets(A2) | Total Number of Pay Item changes(B2) | Production Complete Quality Delivery Indicator |
| 123456-7 | 100 | 50 | 10 | 5 | 90% |

APPENDIX “G”

PRODUCTION COMPLETE PROCESSING

## FROM PRODUCTION COMPLETE TO MAIL DATE

**8 WEEKS**

**PRODUCTION COMPLETE SPECS/ESTIMATE MAIL DATE DATE**  **PHASE**

**FIRST LAST**

**(4 WEEKS) (4 WEEKS)**

**2 WEEKS 2 WEEKS ESTIMATES & SPECS PROCESSED**

**Estimates, Specs and, Plan Changes & Legal Review (specs) &**

**Record Plan concerns Responses Advertised Estimate**

**Log In Project**  **Return Quality Project CD Returned**

**To Final Plans Assurance Concerns to Final Plans**

**To Project Manager** **with Change Memo**

**& Responses**

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