

# 1.0 Introduction

---

## 1.1 Purpose and Definitions

This manual describes the Independent Assurance (IA) procedures for Construction Engineering and Inspection (CEI) processes. The purpose of this IA procedure is to provide a uniform, documentable, management system to ensure CEI requirements are being met. These important requirements are organized into the checklists that make up this manual and will be used as the basis of the IA review.

### **Construction Management**

Construction Management will be the responsibility of the Authority, who may authorize a designated Construction Management Consultant (CMC) to perform some of these functions. This guide will refer to the Authority when referring to either the Orlando-Orange County Expressway Authority or the designated CMC.

### **Construction Engineering and Inspection (“CEI”) Consultant**

The CEI Consultant provides construction engineering and inspection services during the construction phase of a project. These services usually include monitoring of the construction work through inspection and testing, monitoring progress against the construction schedule, producing, checking and recommending interim and final payments; administration and evaluation of changes, coordination of utility companies, coordination with and response to concerns from adjacent property owners, and providing accurate records that verify that the project has been built in substantial and reasonable conformity with the Contract plans and specifications.

**Compliance:** A satisfactory performance of requirements as determined by an independent assurance review.

**Deficiency:** A non-satisfactory performance of a requirement as determined through the independent assurance review..

**Independent Assurance (IA):** The process used by the Authority to monitor and ensure that CEI activities are in compliance with predetermined standards, including but not limited to field performance, administrative practices, and estimating procedures.

**CEI Guidelist:** A list of major items that assists the CEI staff in their inspections of work related to each assessment category. The guidelists are worded in such a way as to focus the CEI staff’s attention on insuring the Contractor’s performance. Each of the assessment categories has a guidelist that covers the significant inspection requirements corresponding to that category.

**The guidelists are not a comprehensive source for identifying everything which an inspector**

**or construction manager must know.** Instead, they are intended to be a guide for identifying significant and critical areas of concern, the details of which are covered in the contract documents. The guidelist should be utilized as a reference guide, and should be used in conjunction with the contract specifications not in lieu of.

## **1.2 Scope**

Like the ACPAM, the scope of the IA Manual includes the direction that it must be integrated with individual contract requirements, standard specifications and other Project Procedure Manuals in a way that will provide maximum uniformity while maintaining and permitting reasonable flexibility.

This IA procedure explains what the Authority will do to conduct an effective IA program. The goal of the IA program is to continually improve CEI performance. In order to accomplish this goal, the procedure requires the CMC to formally review the CEI teams performance for which they are directly and indirectly responsible. This review process is referred to as "Independent Assurance" (IA) and the reviews that are performed are referred to as Independent Assurance Reviews or IARs. IARs are conducted by reviewing and recording how well CEI personnel are performing the most important responsibilities they are assigned. These responsibilities are referred to as Requirements and they are compiled into a three stage review process, as well as continuous reviews of certain material records throughout the duration of the construction contract.

The IA program is separated into two major divisions: Administrative and Field. The three stage review process contains elements of both administrative and field, with the primary focus on administrative procedures. This review process is conducted on projects at the beginning, middle, and final portions of the project to ensure that the CEI team are meeting or exceeding the expectations of the Authority. A detailed report and comments will be discussed with the Sr. Project Engineer at the completion of the review, and a copy of the report will be provided for the project files. Any critical items must be addressed prior to any subsequent reviews to ensure that critical items are addressed in a timely manner. Also, recommendations will be provided to the CEI team at certain stages to help expedite processes as necessary.

The field reviews are separated into two categories, continuous, and periodic. The continuous reviews consist of the records for concrete, earthwork, and asphalt, which are reviewed at determined intervals throughout the duration of the project. All of these reviews are provided via email to the CEI Project Administrator, as well as to the QC Manager for the Contractor, since both parties are responsible for their contributions to the record keeping. Any outstanding issues associated with these reviews are rechecked during subsequent reviews to ensure that all prior issues are corrected. The periodic reviews consist of site visits, performance evaluations, daily interactions with inspection staff, and comparison samples as necessary to ensure that inspections are performed to the Authority's standards. Any issues noted during these review will be brought to the attention of the appropriate members of the

CEI teams management staff to ensure that critical issues are addressed throughout the project.

The frequency of IARs will be determined by the Authority. IARs may be performed at any time the Authority deems necessary. The number and frequency of reviews will be dependent upon findings of earlier reviews, overall project duration, and other factors.

The Authority will establish and maintain the schedule of IARs to be performed. The respective Project Manager, Resident Engineer and/or Project Engineer will be contacted to establish and coordinate the specific schedule for the IAR.

### **1.3 Revision Process**

The Authority is responsible for maintaining the manual in a current and pertinent state. These responsibilities include providing new guidelists and requirements and/or revisions to the field promptly. Please check the website often for the most current version of this manual.

It is the intent that this guide be a “living document”. Regular reviews by the users should lead to suggestions for improvements, modifications, additions or deletions. Suggestions are welcome and should be forwarded to the Authority. Suggested modifications will be reviewed and, where desirable, incorporated in periodic revisions.

Suggestions or comments relating to the content of this manual should be forwarded to:

[Dreiling@oocea.com](mailto:Dreiling@oocea.com)

### **1.4 Responsibility of CEI**

The Sr. Project Engineer must carefully study the CEI Agreement (“Agreement”) and ensure that the services specified in the Agreement are performed and/or provided. The Sr. Project Engineer or the senior representative on the project must, monitor the work of their staff closely. Periodically, the CEI team shall perform an internal quality assurance review of their field and office operations by an individual not assigned to the project to ensure close adherence to requirements. Copies of these reviews must be retained at the CEI field office in a Quality Assurance file, and made available for review at the request of the Authority throughout the construction contract. A history of items addressed should also be included within this file to track comments and corrections.

The term “Sr. Project Engineer” used throughout this guide describes the person responsible for the execution of the construction phase services under the CEI Agreement. The term “Resident Engineer” or abbreviation “RE” when used in conjunction with an action, activity or a response does not necessarily imply that the action, activity or response is to be performed by the RE. It is understood that the RE may delegate such tasks to other members of the field staff. However, the RE will remain responsible and accountable for the performance of those tasks.

## **1.5 Abbreviations**

The following abbreviations are used in this Manual:

RE	Resident Engineer
PE	Project Engineer
OE	Office Engineer
SDE	Section Design Engineer (often referred to as the Engineer of Record (EOR) or Architect/Engineer (A/E))
EOR	Engineer of Record
GEC	General Engineering Consultant
CMC	Construction Management Consultant
CEI	Construction Engineering and Inspection Consultant
Authority	Orlando-Orange County Expressway Authority
FDOT	Florida Department of Transportation