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CONSTRUCTION QUALITY PLAN
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CONSTRUCTION QUALITY PLAN

1 GENERAL

This Plan’s purpose is to define the Quality Management System for this project. It outlines how Quality will be achieved, controlled, assured, demonstrated and managed.

This document: (1) describes the roles, duties, and activities that define the D-B Team’s role for SH 121, Segments 1-5, (2) outlines the lines of communication between Cintra (the Developer) representative on site and the Design-Build, and (3) includes management structures for the D-B Team’s site personnel.

A general objective for this project is that it be executed with a partnering ethos. As such, parties associated with the works shall adopt a collaborative manner and shall contribute to realizing the best aspirations of all the parties involved.

1.1 Project Brief

The SH-121 Turnpike Project extents from the west end of Business SH 121 to US 75 in Denton and Collin Counties. The aim of the project is to upgrade the existing facility from a 4-lane divided arterial to a 6-lane limited access toll road plus three-lane continuous frontage roads in both directions. Certain portions of the SH-121 Turnpike Project have already been completed, certain portions are currently under construction and others would be design and constructed by the developer. The improvements to be completed by the developer will include:

- Design and construction of a segment of SH 121 in Collin County.
- Design and installation of electronic toll collection equipment
- Design and construction of the SH 121 / US 75 interchange.
- Other potential facilities to the extent necessary for connectivity and financing.

The major construction activity will take place in Collin County. In this section of SH 121 the developer will improve the existing SH 121 by constructing 3 + 3 mainlanes between the three-lane continuous frontage roads that have recently been completed on both sides. This improvement will affect the last 9 miles of SH 121 from Hillcrest intersection up to the interchange with US 75 (Segment 3). There are 7 interchanges along this section: Coit Road, Independence Parkway, FM2478 (Custer Road), Alma Drive, Stacey Road, Lake Forest Drive and Watters Road. All of them have the same layout with the main lanes crossing over the secondary roads. The grade separation structure at FM 2478 (Custer Road) is currently under construction so it will not have to be included in the scope of work of the developer.

The second main construction site will be located at the SH 121 / US 75 five-level interchange (Segment 4). This six direct connector interchange will replace the existing one, which dates back to 1959. A careful study of the traffic detours and phasing will be necessary to demolish the existing structure, construct the new ones while maintaining the traffic flow.

Along segments 1 and 2 there will be no major construction but strong coordination will be needed to avoid conflicts with other contractors. We anticipate beginning construction on late September 2007. By that time, if there are no delays, all but one of the on-going contracts along SH-121 should have been completed. Austin Bridge & Road LP is currently working on a section of segment 2 extending from 0.17 miles East of FM 2281 to 0.23 miles west of the DALLAS NORTH TOLLWAY. This contract is expected to be completed by December 2007 so there will be a three month overlap with possible work interference. Right now, the traffic is using the existing frontage roads while the main lanes are being constructed.
Project elements consist of the following:

The project consists of:

**Bridges and Structures**
- 90 bridges, New Construction
- Retaining Walls

**Pavement**

The project consists of:
- 34.5 miles Main lanes (3+3)

**Work items**
- Pavement concrete
- Pavement asphalt
- Compacted Aggregate base
- Embankment
- Lime Stabilization

**Earthworks**

**Work items**
- Excavation
- Embankment
- Borrow excavation and embankment

The Scope of Work (Work) is defined by an agreement between the Developer and the D-B Team. All Work is performed in accordance with the Comprehensive Development Agreement (CDA) and the Design and Build Agreement (D-B Agreement). As such, the D-B Team is responsible for designing and constructing the Works. The D-B Team is also responsible for the warranty period specified in the D-B Agreement, following Substantial Completion. Deviations from TxDOT standards and concessionaire requirements may be necessary and will require written approval in accordance with the CDA.

1.2 Quality Objectives

The primary Quality Objective is to complete the project in accordance with the CDA, within schedule, within budget, and in conformance with the Quality Assurance Manual.

1.3 Contract review

The General Manager and his delegated staff will meet regularly with the Developer to assess contract progress. Meeting minutes will be taken and actions due are noted and circulated to the appropriate persons.

The contents of these meetings and recorded documents are deemed to be commercially sensitive and thereby maintained in the General Manager’s office.
2 ORGANIZATION

“The D-B Team”, is a Limited Liability Company formed by Ferrovial Agroman US Corp. and WW Webber Construction Corporation as its members, with overall responsibility for the design and construction of SH 121 Segments 1-5.

In the Attachment 3 and 4 are described the D-B Team organizational Chart.

There are six major disciplines/functional areas within the D-B Team organization. The scope of each of them is defined as follows:

2.1 Supervisory Board and General Manager:
The executive body for the D-B Team is the Supervisory Board (SB).

The SB is formed by Senior Executives from both Ferrovial Agroman and W.W.Webber, and shall define the general policy of the D-B Team and supervise on an ongoing basis the performance of the Design-Build works.

The General Manager shall be responsible for the coordination and integration of the different departments within the D-B Team organization. The General Manager shall be responsible for the setting up and organization of the D-B Team site team and offices at the beginning of the project.

The procedures mainly relevant to this section of the plan are:

Process Procedures Manual Section 1.1 Management Review  
Process Procedures Manual Section 1.2 Contract Review  
Process Procedures Manual Section 1.4 Procurement (Material)  
Process Procedures Manual Section 1.10 Corrective and Preventative Action  
Process Procedures Manual Section 1.11 Internal Audits  
Process Procedures Manual Section 1.12 Developer Complaints/Compliments

2.2 Quality, Environment and Health & Safety
The Quality Manager, Health and Safety Manager and Environmental Compliance Manager report directly to the General Manager with dotted-line reporting to the SB (to ensure Independence)

Quality plans, Environmental plans, and Health and Safety plans provide the framework that set out principle objectives of these three disciplines. The D-B Team will generate the Quality, Environmental and Health & Safety plans which shall be used and updated throughout the duration of the project. The enforcement of all these plans is the responsibility of the entire D-B Team.

Document Control will maintain the Quality, Environmental, and Health and Safety records that are generated during the project.

The procedures mainly relevant to this section of the plan are:

Process Procedures Manual Section 1.3 Documents and Data Control  
Process Procedures Manual Section 1.8 Construction Management  
Process Procedures Manual Section 1.9 Control of non-conforming Product  
Process Procedures Manual Section 1.10 Corrective and Preventative Action  
Process Procedures Manual Section 1.11 Internal Audits  
Process Procedures Manual Section 1.12 Developer Complaints/Compliments  
Process Procedures Manual Section 1.14 Control Quality and Environmental Records
Process Procedures Manual Section 1.17 Quality Assurance Management

2.3 Design
The D-B Team design team is responsible for the coordination of the design. The design team shall be responsible for control, inspection, checking and revision of the technical performance of the detail design and financial cost of the services associated with the Design. The D-B Team Design Manager will check and oversee the design prepared by the designers to ensure compliance with the contract documents. The Design Manager shall coordinate the interfaces between different designers which are involved in the project agreement.

The Design Manager will check the progress of the design to meet the design and the construction schedules. The Design Manager is responsible for identifying and taking necessary actions in the event of a slippage.

The procedures/documents mainly relevant to this section of the plan are:

- Construction Quality Plan Attachment 6 Design Chart
- Construction Quality Plan Attachment 7 Design Schedule
- Process Procedures Manual Section 1.7 Procurement (Design)
- Process Procedures Manual Section 1.18 Geotechnical Field Work
- Process Procedures Manual Section 1.19 Aesthetics and Landscaping

2.4 Construction (Including Surveying, Utilities and Planning)
The D-B Team Construction Manager is responsible for ensuring that all aspects of the construction works are carried out in accordance with the contract documents within budget and schedule. The Construction Manager will also ensure that all construction works are carried out in accordance with current environmental and Health & Safety legislation. The Construction Manager reports to the General Manager and will liaise on an on-going basis with all other D-B Team staff members to ensure the requirements of the Design-Build Contract are being fulfilled.

The procedures mainly relevant to this section of the plan are:-

- Process Procedures Manual Section 1.8 Construction Management
- Process Procedures Manual Section 1.16 Utility Relocation

2.5 Procurement
The Controls Manager and Procurement Managers shall optimize purchasing during the project, establishing rules that guarantee that the products and services purchased meet the contract requirements with the Developer, taking into account price, schedule, quality, and overall best value. The Procurement Manager will report to the Controls Manager and will be responsible to produce, maintain and enforce the procurement policy defined by the Supervisory Board and the CDA.

The procedures mainly relevant to this section of the plan are:

- Process Procedures Manual Section 1.4 Procurement (Materials)
- Process Procedures Manual Section 1.5 Procurement (Subcontractors)
Process Procedures Manual Section 1.7 Procurement (Design)

2.6 Administration and Accounting
The Administration Manager shall be responsible for the proper administration of accounts relating to the business performance of the Design and Build Agreement and the D-B Team in accordance with corporate policies and applicable laws and regulations.

The Administration Manager shall execute the business administration for the D-B Team and have care and custody of its funds, securities, evidences of indebtedness and all personal property and deposit in accordance with the instructions received by the General Manager and the Supervisory Board. The Administration Manager is responsible for accounts payable and receivable and maintaining payrolls and all other financial matters pertaining to the project.

2.7 Interrelation between Disciplines/Functional Areas
Meetings between the discipline/functional area managers are the primary means to disseminate information and control their efforts. At these meetings, managers will provide progress updates and highlight issues arising during execution of the Work. The relationship between all departments within the D-B Team is set out in the organization chart, provided in Attachment 4.

The procedures/documents mainly relevant to this section of the plan are:

Construction Quality Plan Attachment 4 D-B Team Organization Chart

2.8 Contractual Relationship Between the D-B Team and Design Consultants
The contractual relationship between the Design Consultants and the D-B Team is as follows:

The D-B Team will enter into a contract to carry out the design and construction of SH 121 Segments 1-5 and will perform its obligations according to the Design and Build Agreement. (CDA included by reference in D-B Agreement).

Responsibility for design and design quality will be delegated by contract to the Design Consultants, via subcontracts. These subcontracts will incorporate by reference the Design and Build Agreement, CDA, Technical Requirements, and other relevant contract documents.

The procedures/documents mainly relevant to this section of the plan are:

Construction Quality Plan Attachment 5, Design Chart
Design Quality Plan
3 PROCUREMENT

The procurement of the following goods and services are detailed in the stated documentation,

- Procurement of Materials - Process Procedures Manual, Section 1.4
- Procurement of Subcontractors - Process Procedures Manual, Section 1.5
- Procurement of Designers - Process Procedures Manual, Section 1.7

The D-B Team’s Organization is made up of the main discipline managers as shown in:

- Attachment 3. Organization Chart.
- Attachment 7. Job Description.

General procedures for the overall control of subcontractor and consultants are described in PPM 1.5, 1.10, 1.11, 1.13, 1.16, 1.17, 1.18, and 1.19.

4 INTERFACES

4.1. Interface between D-B Team and Subcontractor

D-B Team procedures will be utilized on this project, and where appropriate, flow down to the Subcontractors.

4.1.1. Subconsultants (designers) quality plan

A copy of the Design Consultant’s Quality Plan will be held on site by the D-B Team’s Quality Manager.

4.1.2. Schedule

The design schedule will be developed by the Design Consultant(s) to conform with the D-B Team’s baseline schedule.

4.1.3. The Design Process

The design process is detailed in the Design Quality Plan. It will address the following points:

- Procedures for ensuring compliance with the CDA.
- Development and review of Drawings.
- Development and review of Specifications
- Project Design Reviews

4.1.4. On Site Drawing/Document Register

An on site drawing/document register shall be maintained by the Design Manager for the duration of the design phase. This register shall be updated continuously as new drawings are issued and a copy of the register shall be maintained in Document Control.

Issuance of Construction drawings will be controlled by Document Control. Drawings (and other similar construction documents) shall be marked "Issued for Construction" or with similar wording to denote that they are suitable for issuance to construction personnel.
4.1.5. Design Liaison

The Design Manager will liaise with the Construction Manager and respond to any queries which may be raised. The Design Manager has the authority to modify/clarify the design but, will coordinate with the Design Quality Manager and the Design Consultants, as required.

4.1.6. Recording

The Design Manager will also record design progress. For this purpose the works will be broken down into reasonably defined elements, e.g.:

- Drainage by network and Station;
- Earthwork by Station;
- Pavement by layer and Station;
- Structures by structure and component.

For easy reference, the index of D-B Team’s Quality Assurance Manual and Process Procedures are listed in Attachment 2 of this document.


This interface is described in the D-B Process Procedures 1.16 "Utility Relocation". The interface between the developer and the Utility Adjustment Work will be performed by the Utility Manager.

5  PROCEDURES

D-B Team procedures will be utilized on this project, and where appropriate, flow down to the Subcontractors.

For easy reference, the D-B Team’s Quality Assurance Manual and Process Procedures are included in Attachment (1) & (2) of this document.

6  QUALITY CONTROL

The D-B Team is committed to the application of responsible and professional quality control for all project deliverables, including subconsultant deliverables, to ensure accuracy, completeness and adequacy for the intended purpose.

The construction activities will be assigned to professionally qualified individuals who will be required to comply with the D-B QMP.

Quality control includes management and monitoring of construction inputs and outputs.

6.1. Progress reporting to the developer

A Progress Report will be prepared monthly and submitted to the Developer no later than five working days after the end of each calendar month.
The report will detail the progress achieved in the previous month and will compare actual progress to planned progress. The discussion will also include recovery plans, if applicable.

6.2. Work Plans/Method Statements

6.2.1. Introduction

Work Plans/Method Statements define the proposed method of executing an element of work, taking into account the particular requirements of the project, including site conditions, safety hazards, the contract drawings, specifications, and industry practice. They define the proposed use of equipment, labor, and materials. Needed permits are identified and may be supplemented by drawings, sketches, and product data as necessary.

The principle aim of a method statement is to ensure that:

- Risks are assessed, safe working methods defined, and workers involved are made aware of the risks associated with the task;
- Tasks are thought out in advance of field performance;
- Resources are available prior to task commencement.

These work plans will:

- Cover key activities identified through the schedule and be task-specific;
- Identify responsible personnel;
- Identify the required control measures and preparations;
- Be prepared in accordance with the safety standards outlined in the Health & Safety Plan and Risk Assessment.

Details of these work plans will be used in safety awareness talks prior to the work commencing. Environmental and security issues will also be considered where appropriate.

The following is a non-exhaustive list of activities which may require work plans. Reference numbers will be allocated as the method statements are produced:

- Traffic Management segregated into each traffic management operation, including traffic diversions, traffic re-routing and permanent and temporary diversions;
- Demolition and site clearance;
- Safety fences, safety barriers and pedestrian guard rails;
- Drainage and service ducts;
- Earthworks, including method statements for different materials;
- Road pavements including instructions for different materials;
- Curbs, Footpaths and Paved areas;
- Traffic signs;
- Road lighting;
- Electrical work;
6.2.2. Responsibility for preparation, issue, review and approval are listed below:

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<th>Discipline Foreman</th>
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<tr>
<td>Review:</td>
<td>Segment Manager</td>
</tr>
<tr>
<td>Approval:</td>
<td>Construction Manager</td>
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</tbody>
</table>

A standard format shall be used for all work plans.

A register of work plans generated throughout the project shall be maintained by the D-B Team.

During the course of construction, amendments and alterations may be required to the work plans. Records of changes will be maintained on file in the Work Plan Register.

The D-B Team will liaise with the Developer and will coordinate its activities within the Developer’s Public information and Communications Plan.

6.3. Inspection and Testing

Testing of Materials and Workmanship will be in accordance with the Contract documents. Oversight by the Independent Engineer and by TxDOT is defined in CDA. Testing and sampling will be carried out by the D-B Team.

Specific “Hold Points” for the activity are identified in the Inspection and Test Plans for each of the work activities if required.

The issued procedures describe the process of inspection, testing, reporting, and the control of non-conformances.

Product conformity certificates and external test results are acceptable. All proving records will be kept for verification and release of Hold Points, as required.

Measuring equipment will be calibrated and maintained at intervals recommended by the supplier of the equipment, and at a minimum, intervals required to maintain accreditation. The results will be recorded on Instrument checklist documents.

The action necessary upon discovery of a non-conformance is detailed in PPM 1.9.

Remedial and preventative actions taken in accordance with non-conformances, shall receive the concurrence of the Quality Manager.

A register of ITPs generated throughout the project shall be maintained by the D-B Team.
6.4. Amendments to the Quality Plan

The Quality Manager will keep the various Quality plan(s) under review, incorporate decisions of meetings, changes, and re-issue revised Quality plans, as appropriate. A record of the revisions will be maintained and forwarded to the General Manager.

During the course of construction, amendments and alterations may be required to the ITPs. Records of changes will be maintained on file in the ITP Register.

The procedures/documents mainly relevant to all this section of the plan are:

**Process Procedures Manual** Section 1.8 Construction Management

**Process Procedures Manual** Section 1.17 Quality Assurance Management

7 AUDIT

The object of auditing is to assess whether the system is being implemented as planned and whether it continues to be effective. The D-B Team procedure for quality audits will be followed.

The Developer or other interested third parties may with prior notice, perform external audits on the Contractor.

The General Manager will determine the frequency of internal audits, jointly with the Quality Manager.

An audit report will be completed for each audit. A copy will be forwarded to the General Manager and the Quality Manager. The original will go to Document Control. Persons independent of the activity being audited will carry out internal audits.

The findings of all audits will be considered at a specific Supervisory Board review meeting, for verification of compliance to the D-B Team Quality plan(s). This review meeting will be held on a semester basis. Opportunities for improvement, if any, will be discussed.

The procedure/document mainly relevant to all this section of the plan is:

**Process Procedures Manual** Section 1.11 Internal Audits

8 CORRECTIVE ACTION

8.1. Problem identification / Non-conformance control.

8.1.1 Introduction

Non-conformances shall be processed in accordance with procedures detailed in Process Procedures Manual, Section 1.9, which applies to all non-conformances such as defects, damage, errors or omissions in material or work that cannot be easily remedied at the time of discovery. Minor non-conformances that can be readily remedied at the time or material rejected at time of delivery shall not be recorded as Non-Conformance reports.

8.1.2 Non-Conformance Reports

Non-conformances (refer to Process Procedures Manual, Section 1.9 for further details of this procedure) shall be recorded on a non-conformance report form and the proposed solution action agreed with the responsible party. All NCRs affecting a section of the works will be reviewed and closed out prior to its completion and handover.
All non-conformances shall be reported openly to all interested Parties (DB Construction Team, Developer, TxDOT and Independent Engineer). The Quality Manager will review the proposed corrective action with a view to assessing both immediate and whole project consequences.

The procedures/documents mainly relevant to this section of the plan are:

**Process Procedures Manual** Section 1.9 Control of Non-Conforming Product

### 8.1.3. Major Breaches
The D-B Team will report significant project problems to the Developer.

### 8.1.4. Close Out of NCR
The Quality Manager has the authority to proceed with close-out of NCRs. Required design deviations will be processed ahead of NCR close out. NCRs may be generated by the Developer or Independent Engineer, in this case, the generator must agree with the solution before the NCR is closed.

8.2. Corrective and Preventative Action

#### 1.8.2.1. Corrective Action
The Quality Manager will monitor all non-conformances raised by surveillance, inspection, test and audit to identify adverse trends or recurring problems. The Quality Manager shall investigate the root cause with the staff involved and any required improvements to the system.

#### 1.8.2.2. Preventative Action
While systems exist to rectify non-conforming materials and workmanship, proactive steps may be taken to reduce the occurrence of non-conformances. Suggested future preventative action may be included as part of a non-conformance investigation. Preventative action, such as competency requirements, training identification and provision and the auditing schedule, all contribute to the reduction in errors and omissions which result in non-conformance.

The procedure/document mainly relevant to this section of the plan is:

**Process Procedures Manual** Section 1.10 Corrective and Preventative Action

### 8.3. Testing
In the case of some NCRs, the need for additional testing will be identified by the Quality Manager or Design Manager. Additional testing and re-sampling will be carried out by the D-B Team.
9 DOCUMENT MANAGEMENT

Records will be maintained in Document Control. Personnel responsible for the compilation of records are identified in the procedures. Photographs may supplement progress records, where applicable. Recordkeeping will be compliant with the contract documents.

The procedures/documents mainly relevant to this section of the plan are:

- **Process Procedures Manual**: Section 1.3 Document and Data Control
- **Process Procedures Manual**: Section 1.8 Construction Management
- **Process Procedures Manual**: Section 1.14 Control of Quality and Environmental Records.
QUALITY ASSURANCE SYSTEM MANUAL
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COMPLIANCE STATEMENT

The Quality Assurance System described in this manual is binding for all FERROVIAL AGROMAN employees who are included within its scope.

The persons who occupy each one of the management positions must ensure that all the persons under their responsibility have understood the objectives and lines of action for the Quality Assurance System. They must also ensure that these subordinates apply the procedures that are related to their positions, in order to ensure that all quality, prevention and environmental policies are complied with.

The Director of Quality Control, Prevention and Environment must perform all activities relating to this role as well as those that are indicated in this Manual. This Director thereby ensures compliance and, when appropriate, proposes any necessary actions to the FERROVIAL AGROMAN Committee, to ensure that all Quality Assurance System operations are permanently in keeping with the established objectives.
Section 1: Quality Management System

General Requirements

The objective of this manual is to describe the Quality Assurance System (including quality management, occupational risk prevention and environmental issues) established in FERROVIAL AGROMAN, in order to ensure that all quality assurance, prevention and environmental policies are complied with.


This QUALITY Assurance Manual includes the following:

- Quality assurance, prevention and environmental policies
- Strategy for identifying and updating quality control, prevention and environmental objectives
- Management’s revision process for the Quality Assurance System

ISO certification is not required for the Developer or any Contractor however this Quality Management System accomplishes the requirements of BS EN ISO 9001 and BS EN ISO 14001. The Project’s managers shall ensure that the Quality System is utilized to determine Developer needs (both stated and implied) to enhance Developer satisfaction.

The Quality Management System is set out for each contract by a Quality Plan.

The activities of the D-B Team’s Suppliers and Subcontractors shall conform to either their own effective Quality Management Systems, or to the Quality Management System procedures defined by the D-B Team to ensure compliance with the contract requirements. Project procedures shall be prepared in advance of the commencement of the construction activities, if different from the procedures outlined in the Procedures Manual.

The responsibility for Preparation, Implementation, Revision, Review and Approval of the Manual, Procedures & Quality Plans is shown on the front page of each document.

Document and Data Control for Quality and Environmental documentation.

The D-B Team has established and maintains a procedure to control documents and data (as defined below) to ensure that:

- All necessary and appropriate documents are available;
- All documents and changes are in writing, reviewed and approved, and promptly implemented;
- The dates of issue and receipt of documents and amendments are recorded;
- Obsolete documents are promptly removed from issue or use;
- Documents of external origin are identified and controlled.

Documents to be controlled will normally include: Quality Manual, Procedures, Quality Plans, Environmental plan and other relevant documents, Health & Safety Plan(s), Developer Instructions, Project Briefs, Design Statements, Calculations, Drawings (whether internally or externally produced), Specifications, Conditions of Contract, Inspection and Test Plans, Resulting Records.
Quality Manuals will be updated after a number of changes have been made. These documents are available to all staff and Project staff will be notified of all revisions.

A Flow-Chart of the Quality Documentation Structure is illustrated on the following page.
Quality Documentation Structure

Design-Build Contractor
- Procedures Manual.

Construction Contract
- Scope of Work, Contract Drawings, Specifications, Variation Orders, reference Standards etc.

Construction Quality Plan
- List of documents required to control a specific package of work

Design Quality Plan
- List of Documents required to control a specific package of work

Inspection Quality Plan
- List of Documents required to control a specific package of work

Inspection and Test Plans
- Specific inspections and tests required and records generated to demonstrate compliance. May require stage inspection / tests comply storage requirements.

Records
- Review the records, including Developer feedback. Verify compliance to the Contract. Feedback to the Design-Build Contractor Quality documentation for improvement, and ensure safe storage and retrieval.
Control of Quality Records

The D-B Team has established and maintains a procedure to comply with the Quality Management System and Contract requirements. Quality Records are generated in many forms, such as Minutes of Contract Review Meetings, Inspection and Test Results, Product Conformity Certificates, Confirmations of Verbal Instructions, Resolved Non-Conformance Reports, Data on Computer Disks etc. Compliance is demonstrated as described below:

- Quality Records are prepared and maintained to demonstrate (1) that the Work meets Specification and (2) the effective operation of the D-B Team's Quality Management System. (These are identified in the Quality Plan for the Contract);
- Pertinent Supplier and Subcontractor Quality Records also form part of this data;
- The scope and retention of Quality Records shall be agreed with the Developer for the project. Quality Records are made available to the Developer or its representative where specified in the Contract;
- A systematic approach is applied to the storage, protection and retrieval of Quality Records. Records are kept for a minimum period determined by the D-B Team's policy and Contract requirements.
Section 2: Management Responsibility

Developer Focus

The D-B Team recognizes the importance of the Developer’s needs. D-B Team staff shall make themselves familiar with the Contract requirements, both stated and implied. All post delivery requirements, as well as statutory or regulatory constraints, shall be addressed to ensure that the Developer’s requirements are satisfied.

The D-B Team managers shall monitor information and data, relating to the Developer’s perception of the D-B Team, to determine whether the organization has complied with the Developer’s requirements.

The D-B Team places particular emphasis on ensuring Developer satisfaction by:

- Preventing non-conformities at all stages,
- Adhering to the construction schedule,
- Employing efficient construction techniques,
- Providing value for money,
- Ensuring the safety of all concerned and meeting applicable regulatory and statutory requirements.

Quality Policy Statement

The D-B Team views Quality Assurance as a major component of every activity. In order to meet the specified and implied requirements of the Developer, the D-B Team has identified key processes, and developed a Quality Management System (QMS). The Quality Assurance Manual and Process Procedures describe this system and assign responsibilities for the Quality and the Construction Process. It is reviewed annually to ensure continuing suitability, changes in scope, Developer requirements and feedback from all sources for improvement to the QMS.

Data gathered from a) Developer feedback, b) Internal and External audits and c) other sources shall be utilized to continually improve the organization’s performance.

The D-B Team will ensure that all staff understand the importance of quality in their work and accept the need to employ the working practices and procedures as defined in the Quality Manual and the Process Procedure Manual.

The Quality Manager is the principal management representative who has the authority and the responsibility to ensure compliance with the Quality Management System. The Quality Manager reports directly to the General Manager with dotted-line reporting to the Supervisory Board.
Quality Objectives

The D-B Team has:

- Developed a process-approach system;
- Identified the processes for effective management;
- Instituted continuous improvement by measurement of process performance.

The D-B Team is committed to uniformity of work methods as defined in the Procedures Manual. The D-B Team engages only those Suppliers/Sub-contractors who can demonstrate their ability to comply with the Developer specified requirements, schedule, price, safety requirements and applicable regulatory and statutory requirements.

Scope

This Quality Assurance Manual describes the D-B Team’s Quality Management System and outlines the overall organizational responsibilities for Quality Management. The Quality Management System consists of the following documents:

- Quality Assurance Manual;
- Procedures Manual;
- Various Quality Plans, e.g. Design Quality Plan;
- Environmental Plan;
- Health & Safety Policy;
- Health & Safety Plan

These documents are “Controlled Documents” with distribution as shown within each document. The Controlled status of the Project Quality Plan and Procedures therein, will lapse when that Project is completed.

Management Review

The D-B Team’s Quality Management System is formally reviewed at least twice a year by the D-B Team Supervisory Board, General Manager, key personnel, and the Quality Manager to ensure its continuing suitability and effectiveness in meeting Developer requirements, and applicable statutory and regulatory requirements.

The D-B Team’s stated policies and objectives are reviewed for compliance and any changes will be implemented and documented accordingly for continual improvement.

Records of such reviews shall be maintained by the Quality Manager in the form of Minutes of the Review Meeting with actions for follow-up and distribution.
Section 3: Resource Management

*Organization*

The ultimate responsibility for Quality and the provision of resources rests with the General Manager. The Quality Manager is responsible for the development and maintenance of the D-B Team's Quality Management System, and for ensuring that all employees conform to its requirements. The Quality Manager is responsible to identify Quality problems, initiate solutions, and eliminate recurrence.

The need for effective communication within the organization, and the importance of meeting Developer, statutory, and regulatory requirements is stressed throughout the quality documentation.

The D-B Team managers are responsible for ensuring that the activities which they control function effectively in accordance with this Manual and the associated Procedures Manual. The Quality Assurance System defines how every member of the staff contributes to fulfilling the D-B Team's Quality Policy. Ultimately, the responsibility for Quality rests with all D-B Team employees. The competence of all personnel is monitored through the management system.

The D-B Team Organizational Structure (as illustrated in the Organization Chart) defines the relationships between the members of the D-B Team and shows how authority to control quality is delegated.
Competence, Awareness, and Training

The D-B Team places significant emphasis on the competence of its personnel for effective quality control of the Work. The D-B Team monitors the competence of its personnel and has established and maintains procedures to ensure:

- **Competence:**
  - Quality Manager
  - D-B Contractor Office
  - Departments on site

- **Awareness:**
  - Flow Chart Illustrating Quality Assurance Interface With D-B Team Organization

- **Training:**
  - Site staff to clearly identify their requirements to the Purchasing Department
  - Input for annual Management Review for continual improvement

**Quality Manager**

- Assess: Quality control, Training needs (Q.A.) monitor stated Policies and objectives for compliance and changes.

**D-B Contractor Office**

- Main Office - assess tenders for Q.A. input, provide correct documentation. Review contract, identifying regulatory, statutory and Developer requirements.

**Departments on site**

- Sites / Testing Laboratory - advise and liaise to ensure compliance to Design-Build Contractor Quality system.

- **Quality Manager**

  - Establish: Quality requirements.
  - Establish Quality requirements. Advise on preparation and review for design process.
  - Suppliers/subcontractors: assess and review their Quality arrangements, performance & Quality records.
  - Liaise with Developer on Quality matters.

- **D-B Contractor Office**

  - Purchasing – ensure Quality Requirements are made clear.
  - Design – when required ensure checks, reviews, site input, change control are done.
  - Subcontractors / suppliers (as per purchasing above).
  - Establish Developer's needs, review and comply from tender stage to execution.

- **Departments on site**

  - Main Office - assess tenders for Q.A. input, provide correct documentation. Review contract, identifying regulatory, statutory and Developer requirements.
  - Subcontractors/Suppliers Quality records.
  - Ensure site documentation agrees with contract specification and can demonstrate compliance using records.
  - Initiate surveillances. Establish if independent inspection is needed and review results when performed for compliance.

- **Initiate, follow up, analyse and report to the Management, present to third parties for QA**

- **Maintain approved supplier / Sub-Contractor list.**

- **Main Office**

  - Audit-Suppliers/Subcontractors
  - Audit-Main Office
  - Audit-Construction on site

- **Sites**

  - 1. Non-Conformances
  - 2. Corrective Actions
  - 3. Review Records
The staff and operatives employed in the execution and supervision of construction works are adequately competent for the duties they perform;

Training needs are identified and records are kept of training received and employee performance;

All staff, including new hires, who are likely to affect quality, have access to a (controlled) copy of the Quality Assurance Manual and the Procedures Manual so that the Quality requirements are widely understood from the start of the employment.

As part of a continuing education program, the D-B Team may use external courses and/or in-house training courses specific to site or office work, including training in Quality Management Systems, Health & Safety, Technical, Commercial, and Environmental requirements. These records are maintained in a system file.
Section 4: Project Execution

Contract Review

The D-B Team has established and maintains a procedure for contract review and for effective coordination of contract activities, including Developer liaison.

The contract is reviewed to ensure that the Developer requirements are adequately defined and documented and that the D-B Team has the capability to meet these contractual requirements with suitable resources. Where these requirements are delegated to consultants, Subcontractors and suppliers, these requirements will be included in the Contract Review.

The Contract is formally reviewed before and after Contract award to ensure that the proposal and award requirements of the Contract are identical, and, where they differ, differences are resolved. The review is carried out at the Contract Hand-Over meetings. Channels of communication and interfaces with the Developer's organization are subsequently established. For details refer to PPM 1.2.

At project level, review meetings are normally conducted monthly with the Developer's representative, and actions are circulated as required by the General Manager. Items of discussion/review include schedule, progress, resources, changes, (manpower, materials, scope of work) and safety. These meetings will provide data for 'Developer Satisfaction' monitoring.

All reviews are recorded and maintained as part of the Quality Records.

Design Control

The D-B Team will establish and maintain procedures to ensure that the design is planned, controlled and verified to conform to the specified requirements.

Design will be performed by the consultants as specified in the contract document(s). The Design Consultant(s)' selection will be made on the basis of past performance, a functioning Quality Management System, and the ability to meet the contract requirements.

The measures established in the procedure will ensure that:

- Design planning is carried out in a controlled manner by qualified personnel with adequate resources. A design plan will be reviewed and updated when necessary;
- Design interfaces are identified, (e.g. organizational, technical) the necessary information is documented, transmitted and reviewed until accepted;
- Design input requirements are identified, documented and their selection reviewed for adequacy. Ambiguities if any, shall be resolved by reviewing these with the originators;
- Design output is checked to ensure it meets the design input and reviewed before its release;
- Design changes and modifications shall be identified, documented, reviewed relative to original specification and/or product liability, and submitted to the Developer for approval where contractually required;
- Design verification is subject to independent verification and as defined by the Contract documents;
- Design validation is achieved by successfully following the previous steps;
- Specially developed computer programs shall be qualified and documented.
In certain circumstances design review may be omitted, e.g. repeat design of the same type, very simple design or single stage designs (one step), as approved by the Design Manager.

**Purchasing**

The D-B Team has formalized a purchasing procedure to ensure that:

- Products and services are provided by Suppliers and Subcontractors who can demonstrate their ability to supply a product which conforms to the specified purchase requirements (quality, schedule, and price).
- Selection is based on:
  - Inspection and assessment of Suppliers’/Subcontractors’ Quality Management Systems, where appropriate. (Q.A. certified suppliers will be accepted on the strength of their valid third party certificate to known quality standards);
  - Review of previous records, qualifications of personnel and performance to provide materials/services similar to those to be procured. Exceptions will be new Suppliers/Subcontractors, Specialists, and when only one source is available;
  - Survey and evaluation of the Suppliers/Subcontractors facilities to ensure quality is consistently achieved, and to assess whether the materials/services conform to the required standards of quality, on a specific contract. A reassessment may be necessary if survey and evaluation warrant such action.
- When Purchase orders are issued to Suppliers or Subcontractors, they will incorporate:
  - Material/product specifications and relevant quality standards;
  - A requirement to identify environmentally hazardous materials and provide Material Safety Data Sheets.
- Purchase requisitions are reviewed and approved to ensure the adequacy of the specified purchase requirements prior to communication to the supplier (as defined in the procedure 1.4).
- If Developer approval of a Supplier/Subcontractor is required prior to placing an order, approval will be obtained by the Procurement Manager.

**Process Control (Infrastructure)**

The D-B Team has established and maintains procedures to review infrastructural requirements to ensure that project execution is accomplished. The following areas are specifically addressed to ensure that the construction process delivers a product that complies with the specified requirements:

- Buildings, workplaces and associated utilities
- Process equipment (hardware and software)
- Supporting services (administration, transport, logistics etc.)

**Process Control (Work Environment)**

The D-B Team shall, by a process of review and/or reporting, establish a work environment that promotes completion of the Work according to the Contract requirements.
**Process Control (Construction Control)**

The D-B Team has established and maintains procedures to comply with the following objectives:

- Control construction activities and deliver Work that meets Contract requirements;
- Define the manner of meeting the specification set, with reference to Standards and Codes of Practice (where applicable);
- Outline the D-B Team's work and administrative procedures and ensure that they are identified in the Project Quality Plan;
- Provide a means of monitoring and controlling the construction process, via an Inspection and Test Plan;
- Ensure that the D-B Team's Subcontractors are also required to observe documented work procedures and method statements;
- Ensure the designers that work for the D-B Team follow all the Specifications and requirements stated in the contract.
- Keep records of supervision and the circumstances under which the work was accomplished and include the measures required to protect the permanent works (where applicable);
- Maintain records of special processes (e.g. welding, complex computer programs, use of ground anchors, etc) including equipment and personnel (with qualifications) as appropriate. The Project Quality Plan will identify any special processes and procedures to control this activity.

**Control of Developer Property**

The D-B Team shall exercise care with Developer property while it is under the D-B Team’s control or is being used by the D-B Team.

The D-B Team has established and maintains a procedure for the identification, verification, storage and maintenance of Developer property, provided for use or incorporation into the product (works). The procedure will ensure that:

- Incoming property is not used or processed until it has been inspected or otherwise verified as conforming to the specified requirements;
- Any property that is lost, damaged or otherwise unsuitable for use is recorded and reported to the Developer and records maintained;
- Agreement is reached with the Developer regarding the fitness of the supplied property for its purpose and incorporation into the product.

**Note:** Developer Property may include ‘Intellectual’ property e.g. Specification, Drawings, Computer Software, etc.

**Product Identification and Traceability**

Where appropriate, the D-B Team shall establish and maintain procedures for identifying products from applicable drawings, specification or other documents during all stages of production, delivery and installation, as required by the Contract documents.
Where, and to the extent that traceability is a specified requirement, individual products or batches shall be given unique identification. This identification will be recorded including their status and location in the works. These records will form part of the quality documentation.

**Inspection and Testing**

Within the Procedures Manual, the D-B Team has established and maintains procedures to ensure that:

- Acceptance of incoming products is achieved by signing the delivery ticket. Upon delivery, visual inspections will be made and any damage/discrepancy will be noted on the delivery ticket. When inspection is not possible (due to, say, bulk delivery), a note may be made on the delivery ticket stating 'not checked' etc.;

- When a product requires urgent release for production purposes, it shall be positively identified and recorded in order to permit immediate recall in case the product is unsuitable and cannot be used in the works;

- When a product is to be inspected and checked at the supplier’s premises, the D-B Team shall specify the checking and compliance criteria to be fulfilled prior to product release;

- Effective in-process checks, inspections, and tests are in place and identified in the Project Quality Plan. The Quality Plan shall identify the records to be kept and maintained to provide evidence that the product has passed these inspections and tests. Any non-conforming product will be identified and remedied as described in Section 5. Suppliers’ and Subcontractors’ quality documents will provide for the D-B Team’s “Hold Point” within the process (as appropriate);

- When traceability of a product is required, records containing the unique identification, status and location of the product are maintained;

- Quality plans prepared by the D-B Team shall allow for the Developer (or his/her representative) to insert their “Hold” point, if contractually required. “Hold” - No further activity to progress until cleared by signing off. (Verbal clearance may be accepted if the Developer does not practice signing off process, but, contemporaneous records must be retained by the D-B Team);

- Prior to handover to the Developer, all construction is subjected to final inspection and tests in accordance with the Quality Plan and records collated to provide evidence of conformance of the finished product to the specified requirements. Normally a punch list is produced by the D-B Team (in conjunction with the Developer) of items requiring remedial action. Completion of such punch-listed work will be considered final satisfactory inspection. Punch-lists shall be signed off by the Developer or its representative, to confirm substantial completion of works.

- The records are formatted so that persons authorizing the release/acceptance are identified.
Control of Inspection, Measuring and Test Equipment

The D-B Team has established and maintains procedures to ensure:

- Procedures shall be implemented whereby all equipment used in the inspection, measurement and testing is maintained and calibrated. The equipment is to be used in a manner which ensures that its limits of accuracy are known and applied to ensure that the measurements taken are meaningful relative to tolerances specified, and in appropriate environmental conditions. At times, comparing results with other calibrated equipment may be satisfactory, provided that the calibration history of the reference instrument is recorded;
- All testing standards are approved to known and acceptable Standards;
- All measuring equipment having a bearing on Quality will have a tag, sticker or other marking, indicating its calibration status. Handling, presentation and storage of all measuring and test equipment will be such that fitness for use is maintained;
- Records of the results of the calibration tests of the measuring equipment are maintained and will include, details of equipment, type, frequency of checks, check method, acceptance criteria and actions taken when results are unsatisfactory, e.g. re-testing;
- Templates, profiles and other equipment used in setting out are checked regularly and records of these checks maintained, where appropriate;
- If Computer Software is used for monitoring and measuring of specified requirements, then the ability of the software to satisfy the intended application shall be confirmed prior to initial use and, later, while in use.

In addition to all survey equipment, the requirement will apply to concrete batch plants, weigh stations, laboratory equipment, pressure gauges, etc. If these services are procured from external sources, they are subject to procedures for the control of Suppliers.

Inspection and Test Status

The D-B Team Quality Management System ensures, via established procedures, that the inspection and test status of each part of the work is evident at all stages of construction.

Inspection records generated on a contract show either compliance to the specification or non-compliance via Non-Conformance Reports, until resolved.

Items or parts of the works which do not conform to the specified requirements are identified by the means of a Non-Conformance report. All relevant personnel are copied. The NCR notifies them of the time, date, location and the nature of the non-conformance. These items or parts of the works are only deemed acceptable to become part of the works when the NCR has been satisfactorily resolved.

Completion of a particular part of a project is achieved only when the appropriate records identify completion of work together with any inspections and proving tests which have been completed, giving acceptable records.

Where traceability is a requirement, the D-B Team shall control and record the unique identification and location in works to the extent specified in the Contract documents. This will apply to non-conforming products released after satisfactory inspections/tests, as applicable.
Handling, Storage, Packaging, Preservation and Delivery

Generally, this requirement will not apply to construction contracts, but if required, procedures will be established to provide:

- Methods and means of handling so as to prevent damage or deterioration;
- Secure storage area pending use or delivery, stock assessment at frequent intervals to detect deterioration, methods for authorizing receipts and dispatch from storage yards;
- Control on packing, preservation and marking processes to the extent necessary to ensure conformance to specified requirements;
- For the protection of the product after final inspection and test until handover to the Developer. The protection shall include delivery to destination where specified.

Note: Partially or fully completed sections of works are protected until handover to the Developer. This is part of the Construction Management Process.
Section 5: Measurement, Analysis of Data, and Improvement

General:
The D-B Team measures the performance of its processes by:

- Evaluating the Work relative to specified and implied requirements;
- Assessing the capability of its processes;
- Comparing the achievement of project objectives against project expectations;
- Examining comments received from the Developer and other interested partners.

Since most construction/installation projects are unique by definition, it is not feasible to carry out statistical analysis. When there is a repetitive activity, statistical techniques could be developed to verify the acceptability of process capabilities and product characteristics in accordance with specified acceptance criteria, for that particular activity. Procedures would then be established for statistical analysis.

Note: The process of measurement, analysis and improvement is performed in full for all processes and is addressed via the applicable process procedures. The items covered include, for example, conformity of products, conformity to the Quality Management System, Developer satisfaction, characteristics and trends of processes and products highlighting opportunities for preventive measures and improvement.

Monitoring and Measurement:
The General Manager and Quality Manager are responsible for establishing a Developer Relations policy. This may involve direct contact with the Developer on a periodic basis to determine levels of Developer Satisfaction. The Quality Manager will analyze Developer complaints and identify corrective actions where required. Results of such analysis will be reported as necessary at Management meetings.

Monitoring and Measurement of Processes:
All processes are controlled by their own procedures as detailed in the Process Procedures Manual. If required, the Quality Manager will identify the scope, type and frequency of measurement of characteristics necessary to assess a process and, if necessary, will produce specific instructions for processes which affect performance. The Quality Manager will produce, monitor and revise, at a suitable frequency, a non-exhaustive measurement and monitoring description for the processes. This will be referred to during internal audits.

Monitoring and Measurement of Product:
Within the Procedures Manual, the D-B Team has established and maintains various procedures to ensure that:

- Incoming products are inspected at the time of delivery, taking due note of quality controls exercised at the source and quality documents provided with the incoming product(s). (This includes contracted out design related work as well as sub-contract work and bought-in Suppliers/Products).
When a product is required urgently to be released for production purposes, it shall be positively identified and recorded in order to permit immediate recall in case of non-conformance to specified requirements.

Effective in-process checks, inspections and tests will be identified in the Construction Quality Plan. The Quality Management Plan shall identify records to be established and maintained to provide evidence that the product has passed its inspections and tests. Any non-conforming product will be identified and remedied as described in Section 1.9. Suppliers and Subcontractors Quality documents will comply with the D-B Team's Quality Plan(s).

Prior to Substantial Completion, all construction is subjected to final inspection and tests in accordance with the Quality Plan. Records will be gathered to provide evidence of conformance of the finished product to the specified requirements. Normally, a punch list is jointly produced of items needing some work. Completion of such listed work will be considered final satisfactory inspection. A letter/certificate from the Developer or its representative of Substantial Completion of works is considered as satisfactory delivery of the final product.

**Monitoring and Measurement of the Interested Parties:**

The D-B Team will collect whatever information is required to meet its needs and Contract requirements. Measurements will be in the form of:

- Personnel performance reviews;
- Financial performance;
- Evaluation of suppliers and subcontractors, e.g. supply chain management, quality management systems, NCRs.
- Developer complaints and compliments.

**Control of Non-Conforming Product:**

The D-B Team has established and maintains a procedure to identify and control any product which does not conform to specified requirements (and where possible to be segregated from the fabrication/construction activities to avoid inadvertent use). Non-conformance Reports shall be written by the persons responsible for the activity, or by the Quality Manager, as detailed in PPM 1.9.

Non-conformances are recorded and reviewed for appropriate remedial action using non-conformance reports and remedial action sheets. PPM 1.9 details the sequence of processing a Non-Conformance Report. Response is also required to avoid recurrence of the non-conformity. This will be verified before closure.

Remedial actions taken are inspected and tested, as necessary, in accordance with specified requirements. This could be achieved either through rework, concessions, scrap or return to the supplier. (When a supplier is responsible).

In appropriate circumstances, the Developer will be consulted to approve the remedy. Consent/approval will be documented.
Analysis of Data:
The Quality Manager is responsible for collating and analyzing factual data from all relevant sources to demonstrate that the Quality Management System is effective. Sources can include Internal Quality Audits, Non-Conformance Reports, Supplier Performance Information, Developer Rejections and / or Complaints, Process Performance, Data based on adherence to schedule, Site Progress, and Developer Satisfaction Monitoring. Any trends and characteristics of process and products will be considered for opportunities of improvement.

Review of any such analysis shall be reported to the General Manager and Supervisory Board.

Continuous Improvement:
The D-B Team will pursue a policy of continuous improvement of this Quality Management System via Internal Audits, review of NCRs, and so forth.

Corrective and Preventative Action:
The D-B Team has established and maintains a procedure (PPM 1.9) used for identifying any non-conformance (i.e. an occurrence not in conformance with procedure) within the Quality Management System. Such occurrences require the implementation of corrective actions where evidence of failure within the Quality Management System is apparent, or where the possibility (potential) of failure within the Quality Management System exists.

Corrective action is taken in accordance with established procedures to:

- Review and investigate the cause of non-conforming products or work by analysis of all relevant processes, work operations, concessions, quality records, audit observations, complaints and initiate corrective action to prevent recurrence;
- Initiate preventive actions to deal with problems including Developer complaints to a level corresponding to the risks encountered;
- Apply controls to ensure that corrective actions are taken and are effective;
- Implement record and review changes resulting from corrective and preventative actions in the procedures, and for general improvement of the Quality Management System.

In general, the Quality Manager will raise the CARs (Corrective Action Request/Report). The procedure 1.10 Corrective and Preventative action elaborates further on the raising and resolution of CARs.

Continual Improvement of the Organization:
D-B Team personnel are encouraged to seek out improvements for existing practices. Their recommendations will be reviewed and, if implemented, monitored and controlled. They will have the necessary authority, technical support, training and resources for implementing the changes associated with the improvements.
Internal Audits:

The D-B Team maintains the effectiveness of its Quality Management System by conducting formal internal audits. The Quality Management System Audits enable the D-B Team to verify that the Quality Management System is functioning to specified requirements, and to confirm its continued suitability. These audits provide confidence within the D-B Team, and act as an assurance to external organizations that the D-B Team has an effective quality management system. The audit findings are analyzed and data is used for the continual improvement of the Quality Management System.

Internal Audits are carried out by staff who are independent of the activity. Audits are scheduled on the basis of the status and importance of the activity. The Quality Manager will prepare an Audit schedule on a predetermined basis. The frequency of audits will be at least annually for a department’s activity. Contracts will also be audited at least annually if their duration is longer than three (3) months, otherwise records will be reviewed.

The process of auditing and conducting follow-up actions is performed in accordance with PPM 1.11. Internal Audits. The results of the audits are documented and brought to the attention of the management representative of the section audited for timely corrective action. Copies are also distributed to the General Manager.

The Quality Manager may perform an unscheduled audit under special circumstances.
Section 6: Safety, Health, and the Environment

The D-B Team has produced a Health and Safety Plan and an Environmental Plan. These Plans very clearly confirm that safety, health and the environment are management priorities.

The D-B Team will employ a full-time, professional Health & Safety Manager and an Environmental Compliance Manager who report directly to the General Manager with dotted-line reporting to the Supervisory Board.

They will ensure that the Project is designed and constructed taking into consideration Environmental and Health and Safety related issues.

C E R T I F I C A T E

IQNet and AENOR hereby certify that the organization

FERROVIAL AGROMAN, S.A.

Oficina Central
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28012 - MADRID

SEE ADDRESSES SPECIFIED IN ANNEX

for the following field of activities

TYPE OF CONSTRUCTION AND PROJECT OF EARTHWORKS AND PERFORATING BRIDGES, VIADUCTS AND LARGE STRUCTURES, BUILDINGS, RAILWAYS, HYDRAULIC WORKS, MARITIME WORKS, ROADS AND RUNWAYS, CRUDE AND GASEOUS TRANSPORTING WORKS, ELECTRICAL INSTALLATIONS, MECHANICAL INSTALLATIONS, SPECIAL CONSTRUCTION WORK, THE CONSERVATION AND MAINTENANCE OF ROADS, RUNWAYS, MOTORWAYS, HIGHWAYS, CARRIAGEWAYS AND RAILWAYS (HIGH-SPEED RAILWAYS, INCLUDED).

has implemented and maintains a

Quality Management System

which fulfills the requirements of the following standard

ISO 9001:2000


Registration Number: ES-0304/1995

Dr. Fabio Roverisi  
President of IQNet

Ramón NAZ  
General Manager of AENOR

IQNet Partners:

AENOR Spain  AFAQ France AIB-Vinçotte International Belgium ANCE Mexico APCER Portugal CISO Italy CQC China

CQM China CQS Czech Republic DQS Germany DS Denmark ELOT Greece FCIAV Brazil PONDONORMA Venezuela

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SAI Global Australia SFS Poland SD Israeli SQ Slovenia SQS Switzerland SRAC Romania TSET Sz Peceringh Russia

IQNet is represented in the USA by the following partners: AFAQ, AIB-Vinçotte International, CISO, DQS, REMA, NSAI, QMD and SAI Global

* The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certificate

CERTIFICATE

IONet and AENOR hereby certify that the organization

FERROVIAL AGROMAN, S.A.

Officina Central
CL. RIBERA DEL LOIRA, 42
28042 - MADRID

SEE ADDRESSES SPECIFIED IN ANNEX

for the following field of activities

TYPE OF CONSTRUCTION AND PROJECT OF EARTHWORKS AND PERFORATING, BRIDGES, VIADUCTS AND LARGE STRUCTURES, BUILDINGS, RAILWAYS, HYDRAULIC WORKS, ELECTRICAL INSTALLATIONS, MECHANICAL INSTALLATIONS, SPECIAL CONSTRUCTION WORK, THE CONSERVATION AND MAINTENANCE OF ROADS, RUNWAYS, MOTORWAYS, HIGHWAYS, CARRIAGeways AND RAILWAYS

(HIGH-SPEED RAILWAYS, INCLUDED),

has implemented and maintains a

Environmental Management System

which fulfills the requirements of the following standard

ISO 14001


Registration Number: ES-97/038

Dr. Fabio Roversi
President of iQNet

Ramón NAZ
General Manager of AENOR

iQNet Partners: AENOR Spain, AFAQ France, AIB-Vinpeco International, Belgium, ARMCE, Mexico, APCR, Portugal, CIES Italia, CQC China, CQM China, CQG Czech Republic, DQS Germany, DVS Denmark, EUQ Greece, FCAS Brazil, FONDOMIB Venezeula, IRQHA Hong Kong, ICONTEC Colombia, IMNC Mexico, IRAM Argentina, JQA Japan, KEMA Netherlands, KPC Korea, MSIT Hungary, Nemko Certification Norway, NSAI Ireland, OQS Australia, PCBC Poland, PSM Certification, Singapore, QCNI Canada, RA Philippines, SAI Global Australia SFS Finland, SII Israel, SInQ Sicilia, SQS Switzerland, SRAH Romania, TEST St Petersburg, Russia

The list of iQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification

QUALITY ASSURANCE POLICY.

Our mission is to carry out all work and services to our client’s full expectations, by optimizing prices, delivering on time and assuring quality and higher profitability.

We endeavor to be recognized in Spain and throughout the world as market leaders, due to the high level of satisfaction reflected in our clients, employees and shareholders.

We should orient our work towards these principles:

< Our clients are the focus of everything we do.- All of our work is centered on understanding our client’s needs in order to fulfill all cost, time and quality objectives.

< Company profitability is a guarantee for the future.- The company’s solidity and shareholder satisfaction are achieved by generating a sufficient profit level and by providing the service that the client needs.

< Our employee’s commitment is crucial in reaching quality objectives.- We will encourage motivation, participation, training and development for all members of the organization so that our company achieves success. Occupational risk prevention is the best guarantee for the health and safety of our workers.

< Our suppliers and subcontractors are essential to our business.- We consider our suppliers and subcontractors to be our collaborators, with common goals, contributing their efforts and creativity to provide the client with the best possible quality service. We seek to establish long-term relationships with these collaborators when possible.

< Continuous improvement is crucial to our success.- We must strive for excellence in our projects, our services, our technical capabilities, our human relationships and our competitiveness.

< Quality is everyone’s responsibility.- Prevention, rather than inspection, is the key to quality assurance. Each person is responsible for the quality of the products and services he renders.

< Respect for our society and the environment is an indispensable part of our activities. - We endeavor to make a positive contribution to society, by respecting the environment throughout our work.
OCCUPATIONAL RISK PREVENTION POLICY

One of our main objectives that constitute a fundamental role in all our activities is occupational risk prevention, as this affects the health and safety of all workers.

We should keep in mind the following principles in our work activities:

- Occupational risk prevention is a basic activity, which in no case shall be overridden by any other requirement whatsoever. We must all participate in this task together: government, companies and workers.

- We must incorporate aspects related to occupational risk prevention into our activities, with a view to fulfilling the requirements enforced by legal regulations and which must be fully assumed by all of us.

- We must plan, organize, coordinate and establish a monitoring system for occupational risk prevention in all our work centers, as an integral part of general planning, in accordance with prevailing legislation.

- We must evaluate risk in all our work centers. In particular, the mandatory Health and Safety Plan must be available and properly enforced on all work sites.

- Prior to commencing work at each work centre, we must analyze the occupational risk prevention policy and apply it efficiently to eliminate accidents.

- The Prevention Service must be available at all times to provide advice, answer any questions and collaborate in developing the program set up.

- A high level of occupational risk prevention is an undeniable seal of quality for a company’s image; it represents yet another reason for everyone to make a concentrated effort to reach this objective.
ENVIRONMENTAL POLICY

- Respecting the environment should be considered as an essential part of our activities and objectives. Our desire is to make a positive contribution to conserving those natural resources considered to be of ecological, scenic, scientific, cultural or recreational interest, through the progressive environmental integration of our activities, and through awareness and compliance to all environmental legislation that affects us.

- All personnel should be aware of these principles. They are described more specifically in the following action priorities:

  - The integration of Environmental and Quality Management Systems in all operations, activities and services linked to our projects or directly related to them

  - Establishing procedures to familiarize and update us with regard to the legal requirements that affect us, as well as customizing the procedures to each production centre

  - Awareness of and adherence to current codes relating to good environmental practices in our market sector, as well as awareness of any possible future codes

  - The entire organization’s commitment to continuous improvement through analysis, based on technical and economical criteria, new and preferably preventative procedures, measures and practices that are aimed at progressively improving our environmental behavior

  - Our technicians and managers will progressively increase their knowledge in environmental material, through training plans

  - Maintaining internal audit plans as a tool for forecasting the environmental effects of our activities and controlling the efficiency of the applied measures.

  - Periodically adapting our Environmental Policy to the new environmental demands

  - Maintaining communication channels open with relevant external agents, letting our environmental conservation activities be known

  - Actively participating in the efforts made by the government and social partners in providing new solutions to environmental problems in our surroundings. Also permanently collaborating with the scientific community in order to maintain our innovative capacity in the processes and services that we offer to our clients
PROCESS PROCEDURES MANUAL
1. - PPM 1.1 Management Review

1. Purpose and Scope

1.1. Establish a Quality Management System that meets project needs and is functional.

1.2. Ensure that changes to the Quality Management System, if any, are evaluated and documented.

1.3. Scope encompasses all aspects of the D-B Team’s activities which affect the quality of the Design Build Contractor’s products and services, to the agreed requirements of the Design and Build Agreement and other relevant contract documents.

2. Definitions

2.1. Review: A formal regular evaluation by the General Manager and the Construction Manager of the status and adequacy of the quality system (procedures, stated business objectives, working methods) in relation to Quality Policy.

The evaluation will take into account any changes incepted by new:

- Technologies;
- Quality concepts;
- Market strategies;
- Social or environmental conditions;
- Law.

3. References


3.2 Other procedures having a quality impact

4. Responsibilities (for this procedure)

4.1 Preparation by Quality Manager.

4.2 Review by General Manager.

4.3 Approval by the Supervisory Board.
5. Procedure

5.1. Frequency

A Management Review Meeting will be held at least every semester to discuss the status of the Quality System. An agenda will be prepared by the QA/QC Manager and circulated indicating topics for discussion at the meeting.

5.2. Attendance

The meeting will be coordinated by the Quality Manager who will record the minutes of the meeting indicating actions to be completed.

The attendees will include the General Manager, the Construction Manager, the Design Manager, other requested Managers, and the Quality Manager. Managers, who are unable to attend, may forward points they wish to be discussed at this meeting via a memo to the Quality Manager.

5.3. Agenda/Meeting

The meeting will be chaired by the General Manager and the agenda will cover fulfillment of the Quality Plans, results of internal and/or external audits, any departures from procedures indicating possible improvements, Developer complaints/compliments, and status and analysis of non-conformances to indicate any quality trends. Any new policies and objectives for inclusion in the Quality System and Environmental Management System will be presented for discussion and documentation amended accordingly.

The review will also take into account any observations made by the operating staff, Suppliers, Subcontractors, Designers, Quality staff, Developer, and agencies/organizations affecting quality. Such recommendations, observations and any conclusions reached will be considered for improving procedures.

The agenda will also include adequacy of the resources to meet the quality requirements, and the need for staff training.

Suggested items include:

- Non-conforming items occurring during the period (including the results of Quality Audits);
- Corrective/Preventive Action recommended and responsibility (including Quality Audits);
- Effectiveness of previous corrective/preventive actions, if any;
- Supplier, Subcontractor, Designers;
- Supplier visits to assess Quality Assurance and Controls;
- Documentation Changes (including procedures);
- Contract Review (general)/Quality Planning;
- Developer Complaints / Compliments;
- New Products / Services for consideration;
- New Suppliers / Subcontractors, Designers.
- Training Requirements/resources;
- Any other Business;
5.4. Follow-Up

The Quality Manager will take and circulate the meeting minutes, and follow-up on actions agreed to at the meeting.

6. Records

The meeting minutes are the only formal documentation generated by this procedure and shall be kept on file in document control. Each participant shall review the meeting minutes and acknowledge acceptance or disagreement of the minutes within five (5) business days.
2.-PPM 1.2 Design & Build Contract Review

1. **Purpose and Scope**

   1.1. To ensure that the Developer’s requirements are adequately defined, specified and documented.

   1.2. To ensure that any requirements differing from those in the proposal and in the Design and Build Agreement are resolved, and that any further amendments to the Design and Build Agreement are controlled and documented.

   1.3. To ensure that adequate resources are available to meet the Design and Build Agreement requirements.

   1.4. The Scope covers any Changes/Variations/Instructions issued during the execution of the Design and Build Agreement.

2. **Definitions**

   2.1. **Design and Build Agreement** - Formal business agreement between the D-B Team and the Developer for the execution of the works to the agreed requirements at specified price.

   2.2. **Comprehensive Development Agreement (CDA)** - Formal business agreement entered into between the Developer and TxDOT.

   2.3. **Contract Review** - An evaluation by the Design-Builder Contractor’s management of the Contract documents to assess the D-B Team’s obligations.

   2.4. **D-B Team Management Team** - The General Manager, the Design Manager, the Construction Manager, and the other relevant Managers.

3. **References**


   3.2. Design and Build Agreement.


4. **Responsibilities (for this procedure)**

   4.1. Preparation by the General Manager.

   4.2. Review and approval by D-B Team Supervisory Board.

5. **Procedure**

   5.1. Upon execution of the Design and Build Agreement, the Supervisory Board will appoint a General Manager. The General Manager will convene a contract meeting.

   5.2. Contract Reviews may be conducted in separate meetings.
Construction Quality Plan

a) Pre-Agreement Meeting/Project Information Meeting.

b) Design-Build Contract Management Review Meeting. (General Manager).

**Note:** The Pre-Agreement Meeting will be chaired by the Chief Estimator. There may be more than one meeting for a complete handover of the Project. The Pre-Agreement Meeting will take place as soon as confirmation of award is given. It will be conducted by the Chief Estimator (or an appointed assignee) and will be a formal handover from the Estimating Department to the D-B Team Management team.

The General Manager will then assume responsibility for the Project.

The D-B Team Management Review Meeting will take place after the D-B Team Management Team has had time to familiarize themselves with the Contract and formed initial views/proposals. The Meeting will be chaired by the General Manager.

This meeting between the D-B Team Management Team will be conducted for the purpose of understanding the requirements set forth in the Design and Build Agreement and other relevant contract documents.

The General Manager will appoint a responsible person to take and issue meeting minutes.

5.3. The Review is aimed to affirm the following points:

5.3.1 Work scope and assessments of any changes in the requirements of the Developer;

5.3.2 Developer Specifications, National and other Standards specified;

5.3.3 Regulatory requirements, e.g. Health & Safety, environmental;

5.3.4 Any restrictions imposed on working methods/plant etc.;

5.3.5 Change in Management Staff (if different from the D-B Team’s proposal).

5.4. If any issues arise as a result of the review, the General Manager will contact the Developer for clarification. All the correspondence will be filed in Document Control. If such a query affects the Quality Assurance or Quality Control requirements of the Design and Build Agreement, a copy will be forwarded to the Quality Manager for appropriate action.

5.5. To ensure communications with the Developer’s representative are controlled, the Design and Build Agreement Review shall endeavor to establish primary levels of communication (verbal and writing, contacts). This may be further developed to suit the site requirements at different levels.

5.6. Review of Supplier/Subcontractor/Designers queries

Suppliers and Subcontractors may need to obtain clarification on queries sufficiently in advance to avoid delays. Queries will normally be processed through the Procurement Manager and/or the Project Controls Manager who will comment on the nature and intent of the query. Records of supplier/subcontractor queries will be filed in document control.

5.7. Further Design and Build Agreement Reviews

After the initial Design and Build Agreement Management Review Meeting, further reviews will be carried out at project level by period meetings. Actions noted at such meetings will be circulated to those concerned.
Project Management will decide the frequency of such meetings.

5.8. End of Contract Report

A final report shall be produced by the General Manager, at the end of the Design and Build Agreement review as an historical report, highlighting the significant areas of problems and successes. As a guide for contents, the following is suggested:

- Brief description of the Work;
- Construction Methods (i.e. methods actually used to construct the Work, highlighting the differences from proposal assumptions);
- Site Organization (e.g. organization chart, responsibilities);
- Program: How the Contract was actually performed relative to the planned program. Where there were delays and what actions were taken;
- Labor: Difficulties, shortages, recruitment;
- Plant: Availability, reliability, specific costs to run major items, transport, servicing, (internal and external) site purchase, special items designed and/or fabricated, transport difficulties;
- Materials: Shortages, surpluses, long deliveries, price level and availability, new and/or problem suppliers;
- Subcontractors (their performance), difficulties, safety. New Subcontractors.
- Safety: Performance, difficulties, accidents, incidents, Subcontractors’ performance;
- Staff: Performance, attitudes, failings, communications;
- Claims, Changes, Contractual claims (and counter-claims) and Insurance claim evaluations. Change orders (how and why these occurred);

Engineering problems and solutions

a) Photographs: Specific items of technical interest with descriptions and dates;
b) Consultants (their performance)
c) General: Any other areas of concern;
d) Summary: Lessons Learned.

This list is not exhaustive—it should be used as a guideline.
3. - PPM 1.3 Documents and Data Control

1. Purpose and Scope

1.1. Legal Purpose

Quality Systems generate documentary records. Such records may be used as evidence in legal proceedings. Therefore, specific records will be maintained for the period detailed in the contract documents (depending on the type of records) but to be decided by the Supervisory Board with due regard to statutory requirements.

1.2. Quality Purpose

In establishing and maintaining procedures to control documents and data of relevance to the Quality System, these document control procedures will ensure:

a) That the relevant documents are available at the locations at which they are needed;

b) That the obsolete documents are removed from the system and replaced with the new versions to avoid inadvertent use. These may be kept for reference but must be suitably marked as “SUPERSEDED”.

1.3. Scope

All documents, including the Quality Manual, environmental manuals, Process Procedures Manual, Quality Plans, Drawings, Conditions of Contract, Specifications, Procedures, Federal Standards, and so forth, which support the Quality System for the execution of the Work are within the scope of this procedure. Documents from Subcontractors/Consultants/reviewers and inspectors involved in the Design and Build Agreement, such as specific Drawings, Method Statements/Work Plans, and so forth, are also covered by this procedure.

1.4. The Quality Manager will maintain a list of all Quality Documentation, with current issue status. The Environmental Compliance Manager will also keep a list of all environmental documentation. Documents shall reside in Document Control.

1.5. Control of Quality and Environmental Records are described in more detail in PPM 1.14.

2. Definitions

2.1. Quality and Environmental Documentation: Documents and Data can be in many formats (i.e. electronic media and/or hard copies). The following is a list for guidance:

- Main Contract and Attachments;
- Drawings;
- Specifications;
- Inspection Instructions;
- Test Procedures;
- Work Instructions/Method Statements/Work Plans;
- Operation Sheets;
- Quality Manual;
Construction Quality Plan

- Procedures Manual;
- Environmental plans, e.g. HMMP, Project Mitigation Plan;
- Quality Plans;
- Utility Assemblies.

Note: Many of the above documents contain Records in the form of Attachments, which shall be maintained and made available for verification purposes.

3. References


3.2. Inspection & Test Plans.

3.3. Environmental Plans

4. Responsibilities

4.1. Preparation by Quality Manager

4.2. Review by the Controls Manager

4.3. Approval by General Manager

5. Procedure

Prior to issuance to any parties, all documents including drawings, specifications, procedures, and so forth, shall be verified as approved for use by relevant authorized persons, e.g. Final signed and sealed drawings and specifications used for construction will be marked, "ISSUED FOR CONSTRUCTION." In order to control the distribution of records, a document transmittal sheet is used.

5.1. The standard method for adding, deleting, or amending a document or its contents is by following the review cycle as shown on the front page of the original document (i.e. Prepared by, Reviewed by and Approved by). The department involved in the execution of the Procedure is the ‘Owner’ of that document, (e.g. the Construction Department is responsible for establishing, maintaining and improving the Construction Management Procedure).

5.1.1 Revisions of a minor nature will be marked up in the margin by a line, and also on the Revision Record sheet of the procedure. If the altered documents are drawings, then the ‘Revision’ box will be completed and the area affected by change will be highlighted wherever possible with a revision number alongside it.

5.1.2 Distribution of the altered document will be the same as the original issue, although in some instances the number of copies may vary due to fluctuating staff levels.

5.2. The Company Quality Manual and Procedures Manual will be controlled by the Quality Manager, while any site-generated documents will be under the jurisdiction of the General Manager and the relevant Managers, and will be reviewed by the Quality Manager, as appropriate. The Environmental Plan will be controlled by the Environmental Compliance Manager.

5.3. A document need not be fully revised every time a minor change is made. The full document will be revised after a reasonable number of changes have occurred. To incorporate minor changes only the page
containing the minor amendment and the Revision Record Sheet will be issued, and not the whole document. This will be done through the Quality Manager.

5.4. A register will be kept of all Quality and Environmental Documents generated by the Quality Manager, together with the names of persons in receipt of controlled documents, and the latest revision number.

5.5. Uncontrolled copies (i.e. copies issued for information purposes only) are not the responsibility of the originator, and therefore the user of an uncontrolled document must ensure that the document is current.

5.5.1 In the case of drawings, specifications and technical documents, the designer’s (i.e. engineer who sealed the Plan) approval must be obtained before any changes are adopted.

5.5.2 Codes, Regulations and Reference Manuals are available for review in the Procurement Department. Users shall confirm the revision status of any standard they wish to use and inform the Procurement Department of revised or superseded documents.

5.5.3 Notes on Control of Documents: The Document Transmittal Sheet shall be used for transmittal of quality assurance documents such as Procedures, Quality Plans, Inspection and Test Plans, Specifications, Site Instructions, Technical Queries, Changes, and so forth.

_The recipient will ensure:_

a) Documents are checked against the transmittal note for content, issue status revision number, and so forth;

b) Any documents which have been superseded as a result of the issue are either destroyed or kept in a manner such that these will not be accidentally used, and should be marked “SUPERSEDED”;

c) Drawings, Specifications, Site Instructions, Standards, Quality Assurance Documents, and so forth, shall show date of receipt and indicate their status. Superseded material shall be removed/destroyed as stated in point b)

d) Staff leaving the D-B Team or being transferred to another site will return any controlled documents in their possession to the Controls Manager.

e) If required under the Design and Build Agreement, the Independent Engineer will be given access to Quality and/or Environmental Documents.

5.6. The storage period (if any) after the completion of the Design and Build Agreement will be either as specified in the Design and Build Agreement, required by law, or as specified by the D-B Team Supervisory Board.

5.7. Data stored on Computer Disks or web access sites will also be controlled in such a way that access is only possible to authorized persons. It may be necessary to restrict access to certain levels of information. Every department that uses computer systems will establish these levels. All work will be routinely backed up at the end of every working day.

In any case, all disks containing information on Quality or Environmental Systems will be duplicated and stored off-site.
4. - PPM 1.4 Procurement (Materials and Supplies)

1. Purpose and Scope

1.1. The purpose of this procedure is to ensure that all materials, goods, and products purchased by the D-B Team meet the Project requirements at the most economical price and comply with the CDA.

1.2. The scope covers all materials, goods, and products ordered by the D-B Team for use on the Comprehensive Development Agreement (defined in the Design and Build Agreement). Subcontract services are not within the scope of this procedure.

2. Definitions/ Acronyms

2.1. P.R. - Purchase Requisition.

2.2. P.O. - Purchase Order.

3. References


3.2. Comprehensive Development Agreement and associated documents.

3.3. American & International Standards, Codes of Practice, Material Data Sheets.

4. Responsibilities

4.1. Preparation by the Procurement Manager.

4.2. Review by the Construction and Controls Manager.

4.3. Approval by the General Manager

5. Procedure

5.1. The process of procurement of materials starts from the Proposal stage. The Procurement Manager maintains on a database a source list of materials and approved suppliers, based on historical data.

5.2. Contract Stage

All materials to be procured will be requisitioned on a Purchase Requisition.

The General Manager and his staff are responsible to ensure that the Purchase Requisition is completed in full, and includes correct resource allocation codes. The Procurement Manager will advise on the adequacy of the suppliers and/or vendors available to provide materials supplies. The General Manager and the Construction Manager will make the ultimate decision regarding selection of supplier or vendor.

The requestor of a product may suggest a possible supplier if known, or if requested in the contract. In addition, the requestor must state all unique characteristics required.

Upon receipt of the Purchase Requisition, the Procurement Manager may seek additional quotes from suppliers not contacted during the proposal stage.
The Procurement Manager will also forward to the appropriate supplier, necessary data such as Specifications, Bill of Quantities, Contract Specific Clauses, Drawings, and so forth, to ensure accurate pricing.

The Procurement Manager shall send a Quality Assurance Questionnaire to the Supplier to determine what quality measures the Supplier has in place.

5.3. The approved suppliers database will be established and maintained on the basis of the suppliers’ ability to show consistent reliability for:

a) Product compliance to specification;

b) Price;

c) Compliance with agreed delivery schedules;

d) Quality assurance compliance.

5.4. The Procurement Manager will review the quotes from the proposal stage and transmit additional inquiries. If necessary, meetings will be held with the relevant suppliers to clarify any queries and confirm ability to meet the contract requirements. The Procurement Manager or designee will keep records of such meetings.

5.5. The Procurement Manager or designee will complete a Cost Comparative sheet for all materials within the parameters set out in purchasing policy. A review will then be undertaken and a Supplier will be chosen.

5.6. A Purchase order is then sent out to the chosen Supplier. Terms and Conditions are as described in the Purchase Order, but, as a minimum, each Supplier shall provide:

a) Certificates of conformity for the products supplied to specification with the delivery, unless already established;

b) Material Safety Data Sheets;

Each Purchase Order should contain information pertaining to special terms and conditions, max limitation quantities and any other project specific requirements.

5.7 For products or materials that require traceability for a contract, this will be clearly noted on the Purchase Requisition, and then repeated on the Purchase Order to allow the supplier to make the necessary provisions.

5.8 The Procurement Manager’s Representative will maintain a Purchase Requisition summary list for each contract.

5.9 The Procurement Manager will correspond with Suppliers during the Project’s life cycle, as necessary, to address contract-related issues that arise, e.g. nonconforming materials.

6. Records

The Procurement Manager will maintain records of Quotes, Comparisons, Purchase Requisitions, Purchase Orders and Suppliers List (on Database) by suitable categorizations. Specification, Drawings, Bill of Quantities, and so forth, used in the quotes will be filed in the applicable Contract file(s)—stored in Document Control.
5. - PPM 1.5 Procurement (Subcontractor)

1. Purpose and Scope

1.1. The purpose of this procedure is to enable the selection of Subcontractors on the basis of scope of work, competency to perform the work, health and safety, quality control and assurance, and overall best value to the Project and compliance with CDA.

1.2. The procedure covers all construction Subcontracts.

2. Definitions

2.1. Subcontractor: A company, organization or individual providing a service or product, which may include, labor, plant, materials or other facilities or resources to the D-B Team.

3. References


3.2. The D-B Team Health and Safety Plan

3.3. The D-B Team Environmental Plan (esp. noting the environmental training program for all subcontractor employees who will be on site).

3.4. The D-B Team approved Subcontractors list.

3.5. Appropriate forms of Subcontract.


4. Responsibilities (for this procedure)

4.1. Preparation by the Procurement Manager.

4.2. Review by the Construction and Controls Managers.

4.3. Approval by the General Manager.

4.4. The responsibility for the approval of a Subcontractor rests with the General Manager (or a delegated authority). The Procurement Manager shall provide the Construction Manager and the General Manager with all the necessary assessment details of the Subcontractor for his review and approval.

4.5. Other responsibilities for Subcontractor selection are described in this Procedure.

5. Subcontractor Procedure

5.1. Pre-Contract and Contract Procedure

Procurement of subcontract services starts from the Proposal stage. The Procurement Manager provides a list of Subcontractors and determines their level of interest to participate in the Project.
5.2. **Inquiries, Quotations and Comparisons**

5.2.1 Following Notice to Proceed, a meeting will be held to include the Procurement Manager, the Construction Manager, and the General Manager, plus any other parties as deemed necessary to discuss Subcontract packages. The information will be presented by the Procurement Manager.

5.2.2 Subsequently, the Procurement Manager shall extract and copy the relevant information from the contract documents which shall include:

- Safety, Health and Environmental documentation;
- Drawings;
- Specifications;
- Unpriced Bill of Quantities;
- Specific conditions of Subcontract;
- Extracts from contract documents including Contract Details, Instructions to Proposers, and other sections, as required.
- Subcontractor Quotations and Quality Assurance documents and any other information where submitted;
- Letter of Award.

5.2.3 The Procurement Manager creates a Subcontract Procurement File.

5.2.4 The Procurement Manager notifies qualified Subcontractors of Award of Contract and provides scope of work and proforma subcontract for review and comment.

5.2.5 All Requests for Proposal (RFP) to Subcontractors are forwarded under cover of the D-B Team standard Letter. Attachments include the D-B Team’s Health and Safety Plan and a Quality Assurance Questionnaire.

5.2.6 All RFPs sent out and received are recorded in the Subcontract Buying Database for cost comparison.

5.2.7 A copy of the completed Quality Assurance Questionnaire from the Subcontractors shall be forwarded to the Quality Manager.

5.2.8 Following initial comparisons between Subcontractors, the Construction Manager shall convene Pre-Let meetings with the preferred Subcontractors and the Procurement Manager. A Pre-Let meeting agenda shall be developed. The Subcontractors compliance matrix shall be completed at this meeting.

5.2.9 Responsive subcontractor proposals are evaluated based on price, qualifications, schedule, inclusions/exclusions to determine fit and best-value for the project.

5.3. **Subcontract Documentation**

5.3.1 Following the selection of a Subcontractor, the Procurement Manager drafts the Subcontract.

5.3.2 All Subcontracts should have reference to and contain a Subcontract Bill of Quantities, Lump Sum Price, or Schedule of Rates.
5.3.3 Prior to final compilation, the Procurement Manager shall review the proposed Subcontract document.

5.3.4 Three (3) sets of completed Subcontract Documents are sent to the Subcontractor for signature under cover of Company Standard Letter. A record Subcontract shall be retained by the Procurement Manager.

5.3.5 Copies of Subcontractor’s document details are filed in the Subcontractor Procurement File and relevant extracts are provided to the Construction Manager and relevant Section Managers.

5.3.6 Returned or queried Subcontracts are checked by Procurement Manager for amendments by the Subcontractor. Any disagreement with these amendments, actual or proposed, must resolved with the Subcontractor immediately. The General Manager must also be immediately informed of any matter which may affect or vary the final Subcontract terms and conditions and/or execution of the works. If these amendments are acceptable and are properly initialed by the Subcontractor, the Subcontract is then signed by the authorized D-B Team signatory, one original is retained and filed in document control (Subcontractor Procurement File), a second original is sent to the D-B Team home office, and the third original is returned to the Subcontractor under cover of a letter.

5.3.7 Other returned information such as method statements, risk assessments, hazardous materials data sheets, waste disposal, materials sources, contact numbers, and so forth, is copied to the site and relevant personnel with the original details retained along with the original signed Subcontract in the Project Office Document Control System.

5.3.8 The Procurement Manager notifies the Administration Manager of the new Subcontractor.

5.3.9 The Subcontract Register is updated.

5.4. Supply Chain Management / Subcontractor Performance Review

5.4.1 The D-B Team is constantly seeking out best practices that will lead to superior performance in satisfying Developer needs and the D-B Team’s internal cost effectiveness. Towards this goal, the D-B Team is establishing a relationship with its Subcontractors to create a list of preferred Subcontractors. Subcontractor performance is therefore monitored on various items, e.g. safety, Non-conformances, on the contract. This data will be analyzed and used for establishing reliable relationships.

5.4.2 The Construction and Design Managers shall monitor Subcontractor performance on a regular basis while the works are being carried out on site. Any problems, difficulties, failures, or queries, which bring into question matters within the scope of this procurement procedure shall be identified and resolved jointly with the Procurement Manager in conjunction with other relevant personnel.

5.4.3 In order to control the performance of Subcontractors, their progress payments will be reviewed by the relevant Project Controls Representative and authorized by the General Manager.

5.4.4 Upon completion of the Subcontractor’s works, the Construction Manager with input from the Procurement Manager will complete a Subcontractor's Performance Survey. Copies of this document are distributed to the Document Control System, and recorded in the Subcontractor database for future reference.
6. Records

The Procurement Manager will maintain records of Quotes, Comparisons, Purchase Requisitions, Purchase Orders and Subcontractors List (on Database) by suitable categorizations. Specification, Drawings, Bill of Quantities, and so forth, used in the quotes will be filed in the applicable Contract file(s)—stored in Document Control.
6.- PPM 1.6 Traffic Management

1. Purpose and Scope

The proposed traffic management plan is developed in conjunction with the Health and Safety Manager, Construction Manager, and the Segment Managers. All matters relating to arrangements, timing, and communications with the public and other stakeholders will be discussed with the construction team, after which a general plan will be drawn up and forwarded to the Developer and relevant governmental entities. Any recommendations, suggestions or conditions they may have will be considered and applied, as applicable, to the traffic management plan. These plans are also discussed at the periodic construction, traffic management, and safety meetings.

2. Definitions

2.1 Traffic Management Plan (TMP)
Means the work associated with Traffic Management during the Project.

2.2 Process Procedure (PP)
A Process Procedure is a document that details the purpose and scope of a generic activity, and specifies how it is to be carried out. The Quality Manual describes the intent (i.e. “what” is to be done), the procedure details not only “what” but also “who, how, when, where and why”. The output from a procedure provides objective evidence (in the form of records) of the compliance to the Specification and Developer requirements.

2.3 Method Statements /Work Plans
Written instructions for individual construction activities.

2.4 Traffic Control Plan (TCP)
The Traffic Control Plan is the set of drawings developed by a licensed Profession Engineer (PE) to show the flow of traffic in construction zones and to show the location of use of traffic control devices. The TCP is used in conjunction with, and shall comply with the requirements of the Texas Manual on Uniform Traffic Control Devices.

3. References

3.2. The D-B Team Health and Safety Plan.
3.3. Contract specific documents such as Specifications and Drawings.
3.4. The D-B Team Material and Subcontract Procurement Procedures

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager.
4.2. Review by the Construction Manager
4.3. Approval by General Manager.
4.4. Specific Responsibilities
Traffic Safety Officer (TSO)

Traffic management issues will be managed by the appointed Traffic Safety Officer. The Traffic Safety Officer will be required to supervise all aspects of Traffic Management during the Project’s Design and Construction. Third party consultants may be employed to provide this service. The TSO will supervise the activities of Segment Traffic Representatives to implement the Facility wide procedures and requirements at Segment Level. The TSO reports to the Construction Manager.

5. Procedure

The D-B Team provides Traffic Management for the execution of the Work in accordance with the Design and Build Agreement, Comprehensive Development Agreement, Technical Requirements (Section 18), and Texas Manual on Uniform Traffic Control Devices for Streets and Highways, 2006 Edition.

Traffic control is accomplished by applying the engineered Traffic Control Plan in conjunction with the standards defined in the Texas Manual on Uniform Traffic Control Devices for Streets and Highways, 2006 Edition.

Prior to commencement of work in a specific area, a notification system will be used to ensure that Developer, governmental agencies, local businesses and residents, and the traveling public are advised of upcoming changes to traffic patterns, e.g. lane closures.

Each Segment will have designated traffic control representatives, reporting directly to the Traffic Safety Officer and the Segment Managers, who are responsible for the accurate implementation, communication and recording of the individual Segment plans. These representatives will work directly with the Segment Manager to ensure compliance with the guidelines of the individual Segment traffic management plan.

Proposed changes to the signed and sealed Traffic Control Plan will be reviewed by a licensed PE, then signed and sealed if approved prior to field issue.

Traffic Management and Control Plan Outline.

I. Introduction

Overview
1. Safety criteria
2. Public awareness programs
3. Local agencies/stakeholders involvement
4. Traffic Management Plan
5. Impact areas
   a. residences
   b. businesses
   c. other

II. Organization and Management Structure

A. Key Personnel
1. Roles and Responsibilities
   a. Construction Manager
   b. Segment Manager
   c. Traffic Safety Officer

B. Traffic Management Plan
1. Pre-planning
2. Updates

C. Subcontractors and Vendors
   1. Selection process
      a. services and responsibilities
      b. qualifications
   2. Traffic control maintenance
   3. Courtesy Patrol

D. Dedicated traffic control staff
   a. Roles and responsibilities
   b. Qualifications
   c. Monitoring and coordination of subcontractors
   d. Reporting and recording responsibilities
   e. Roles and responsibilities in roadway maintenance

E. Contractual arrangements
   1. Reporting and recording requirements
   2. Design and Build Agreement pass-thru terms and conditions

III. Procurement

A. Uniform standards—TMUTCD

B. Equipment
   1. Signage
      a. permanent
      b. temporary
   2. Message boards
   3. Barrier
   4. Traffic signals
      a. permanent
      b. temporary
   5. Pavement markings
   6. Other

IV. Schedule
   A. Preliminary planning
   B. Schedule updating
   C. Segment 5
   D. Segment 6A
   E. Segment 6B

V. Traffic Control Procedures
   A. Subcontractor and vendor procurement
   B. Coordination
      1. Community awareness
      2. Local/state agencies and stakeholders
   C. Quality control
   D. Traffic control request forms
7.- PPM 1.7 Procurement (Design)

1. Purpose and Scope

1.1. The purpose of this procedure is to enable the selection and procurement of Designers (and other professional consultants) on the basis of capabilities, quality assurance, technical experience, past performance, safety and health, price, and overall best value and compliance with the CDA.

1.2. The procedure covers all Design subcontracts entered into with the D-B Team.

2. Definitions

2.1. Designer: A company, organization or individual providing technical services, e.g. design, checking or other similar facilities or resources, to the D-B Team.

3. References


3.2. The D-B Team Health and Safety Plan.

3.3. The D-B Team approved Subcontractors list.

3.4. Appropriate forms of Subcontract.

3.5. Disadvantaged Business Enterprise (DBE) Plan

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager.

4.2. Review by the Design Manager.

4.3. Review by the Procurement Manager.

4.4. Approval by General Manager.

4.5. The responsibility for the selection of a Designer rests with the General Manager (or a delegated authority). The Procurement Manager and the Design Manager shall provide the General Manager with all the necessary assessment details of the Designer for his review and approval.

4.6. Other responsibilities for Designer selection are described in this Procedure.

5. Procedure

5.1. Inquiries, Quotations and Comparisons

5.1.1. A meeting will be held including the Procurement Manager, General Manager, Design Manager, plus any other parties as deemed necessary to define the procurement strategy for design.

5.1.2. As part of this meeting, the main Design packages will be outlined by the Design Manager.

5.1.3. Subsequently, the Procurement Manager shall extract and copy the relevant information for the procurement documents, which shall include:
5.1.4. The Procurement Manager creates a Design Procurement File, according to the criteria of the D-B Team.

5.1.5. The Procurement Manager notifies proposing Designers of the conditions of Contract and invites review and quotes of Designer’s prices.

5.1.6. All requests for proposal (RFPs) to Subcontractors are dispatched under cover of the D-B Team standard Letter. A Quality Assurance Questionnaire may accompany the RFP at the discretion of the Design and Quality Managers.

5.1.7. All RFPs sent out and proposals received are recorded on a spreadsheet for comparison of cost and technical capability.

5.1.8. A copy of the completed Quality Assurance Questionnaire from the preferred Bidders shall be forwarded to the Quality Manager.

5.1.9. Following initial comparisons of the proposals, the General Manager shall convene Pre-award meetings with the preferred Bidders the Design Manager and the Procurement Manager.

5.2 Designer Documentation

5.2.1 Following the selection of a Designer, the Procurement Manager drafts the subcontract agreement.

5.2.2 The subcontract should have reference to and contain (1) terms and conditions, (2) scope of work, (3) price w/a schedule of values for payment, (4) schedule of design deliverables, (5) waiver of liens, (6) insurance requirements, and (7) any other documents that are relevant to the subcontractor’s scope of services.

5.2.3 Prior to final compilation, the Design Manager and the Procurement Manager shall review the proposed subcontract.

5.2.4 Three (3) sets of subcontract documents are sent to the Designer for initial signature under cover of D-B Team Standard Letter. A record shall be retained by the Procurement Manager in all cases.

5.2.5 Returned Subcontracts are checked by Procurement Manager for amendments by the Subcontractor. Any disagreement with these amendments, actual or proposed, must be taken up with and resolved with the Designer immediately, including reference where necessary to other parties involved in meetings and discussions. The General Manager must also be immediately informed of any matter which may affect or vary the final Contract terms and conditions and/or execution of the works. If these amendments are acceptable and are properly initialed by the Designer, the Contract is then signed by the authorized D-B Team signatory. One original is retained and filed in document control, a second original is provided to the D-B Team’s home office, and the third original is returned to the Designer under cover of a letter.
5.2.6 Other returned information, e.g. method statements, risk assessments, contact numbers, is copied to the site and relevant personnel with the original details retained along with the original signed contract in the Project Document Control System.

5.2.7 The Design Manager and the Procurement Manager notifies the Administration Manager on the Subcontractors Approval/Notification Form.

5.3 Supply Chain Management/Subcontractor Performance Review

5.3.1 The Company is constantly seeking out best practices that will lead to superior performance in satisfying the Developer’s needs and the D-B Team’s internal cost effectiveness. Towards this goal, the D-B Team is establishing a relationship with its Designer to create a list of preferred Designers. Subcontractor performance is therefore monitored. This data will be analyzed and used for establishing reliable relationships.

5.3.2 The Design Manager shall monitor the Designer’s performance on a regular basis while the works are being carried out. Any problems, difficulties, failures, or queries, which bring into question matters within the scope of this procurement procedure shall be identified and resolved jointly with the Procurement Manager in conjunction with other relevant personnel.

5.3.3 In order to control the performance of Designers, their progress payments will be reviewed by the General Manager and the Design Manager.

Upon completion of the Designer’s works, the General Manager with input from the Design Manager will complete a Subcontractor’s Performance Survey. Copies of this document are distributed to the Document Control System and recorded in the subcontractor database for future reference.
8.- PPM 1.8 Construction Management

1. Purpose and Scope

1.1 The purpose of this document is to set forth guidelines and procedures to ensure the execution and supervision of the constructed works, including that of all subcontractors, self-performed work, vendors and suppliers, are in accordance with the provisions of the Design and Build Agreement and CDA.

1.2 The scope covers all construction activities undertaken on contracts. This will include procurement of material and supplies, directly performed work, and subcontracted work.

2. Definitions

2.1. The Developer & Independent Engineer:

- Developer: The purchaser/ultimate user of the Project that is being built under the Design and Build Agreement.
- Independent Engineer: The person and/or organization employed by the Developer and TxDOT to oversee the execution of the project.

2.2. Quality Management Plan (QMP)

Describes the quality assurance and quality control activities necessary to manage the design and construction of the Project.

2.3. Inspection and Test Plan (ITP)

An Inspection and Test Plan is a document which sets out the requirements, frequency and responsibilities for activities such as measuring, examining, testing and gauging one or more characteristics of a product or service, and comparing the results with specified requirements to determine conformity to the Contract Specification. Inspections and tests are detailed in the applicable procedures and results recorded on forms.

2.4. Process Procedure (PP)

A Process Procedure is a document that details the purpose and scope of a generic activity, and specifies how it is to be carried out. The FMP describes the intent (i.e. 'what' is to be done), the procedure details not only 'what' but also 'who, how, when, where and sometimes why'.

2.5. Works Plan/Method Statements (MS)

These are written instructions for individual construction activities.

3. References

3.2. The D-B Team Health and Safety Plan.
3.3. Contract specific documents such as Specifications, Drawings, and schedules.
3.4. Product and material safety data sheets (MSDS), hazard data sheets, and material conformity certificates.

3.5. Comprehensive Development Agreement.

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager.
4.2. Review by the Construction Manager
4.3. Approval by General Manager.

5. Procedure

To meet the contractual obligations of the Design and Build Agreement, the D-B Team will establish and maintain a series of execution oriented procedures during construction.

Each procedure will be structured so that audit criteria may be applied to it to ensure compliance with the terms and conditions of the Design and Build Agreement and CDA.

5.1. Construction Management Procedures

This procedure begins with the acquisition of the site for execution of the Contract. Activities such as pre-construction planning, site orientation visits, and verification of services will be the responsibility of the Hub Office management team.

The management team will take photos, video footage, and/or use digital imagery to document existing conditions before construction activities commence.

The responsibility for the development of the construction portion of the Quality Assurance Manual will rest with the General Manager and his designated quality management staff, including the Quality Manager.

The Quality Management Plan (FMP) is the principal management plan for the construction phase.

5.1.1. The FMP will briefly describe the project, the scope of the Work, the location, the quality objectives for the Work, and the organization (including responsibilities and duties) required to achieve these objectives.

5.1.2. The construction phase may require additional procedures and instructions to supplement those contained in the FMP, as well as specific Method Statements to carry out the Work. These will be identified, established and issued for implementation by the General Manager or the Construction Manager. The Quality Manager may be consulted on the preparation of these documents. Procedures and Method Statements may only be prepared by competent persons. Method Statements and Procedures are also required for critical Subcontractor activities. The General Manager will ensure these are prepared and approved prior to the commencement of activities.

5.1.3 Method Statements shall contain details regarding the manner of production, construction, installation of products and materials, use of plant and equipment, specified tolerances, and task safety.

5.1.4 A Request for Information (RFI) may be issued by the D-B Team or its Subcontractors to clarify or supplement information supplied, which is either insufficient or ambiguous. Such information may be contained in Specifications, Drawings, or Instructions issued.
5.1.5. It may be necessary to submit certain documents to the Developer for approval. A Request for Approval shall be issued in these circumstances.

5.2. Inspection and Test Plan (ITP)

5.2.1 In order to provide assurance that the specified quality is being built into the works, objective evidence is required. For this purpose inspections and tests shall be performed as specified in the FMP, the ITP, and Method Statements. The records will be reviewed and maintained as the work progresses to show compliance to the Contract requirements.

5.2.2 Inspection, measurement and test plans shall be developed based on the requirements of the FMP and any additional requirements as stated in Method Statements.

5.2.3 Inspection and Tests may also be performed off-site for products and services obtained from Suppliers and Subcontractors prior to incorporation in the permanent works. Where Suppliers hold current approved quality management certificates or certificates from independent accredited testing laboratories, no further testing will be required. Periodically, it may be necessary to carry out testing using a certified laboratory. Inspection at time of receipt may be limited to visual checks in these cases.

5.2.4 The Quality Manager will observe, review and audit Contract activities, which have an effect on the quality of the works. Suppliers and Subcontractors working for the D-B Team will be required to complete a Quality Assurance Questionnaire, and will be assessed by the Quality Manager by reviewing the responses and/or carrying out assessment visits. Reports of such visits will be recorded and issued appropriately.

A schedule of quality audits will be drafted and distributed to the relevant personnel. Generally, the audit team will be drawn from the D-B Team staff at the appropriate times. Compliance to quality requirements as specified in the Contract will be monitored on this basis and will be reported to Department Managers and the General Manager. Corrective Action Reports will be created when non-conformances are identified. This will be carried out as per the Procedure for Internal Audits.

5.3 Materials Control and Traceability

5.3.1 The General Manager, through the Construction Manager will ensure that responsibility is allocated to the Segment Managers and their staffs for inspecting ordered materials, carrying out receipt inspections, verifying any product conformity certificates applicable to the supplied materials and ensuring Material Safety Data Sheets are supplied for their safe use.

5.3.2 If a material storage yard manager is appointed, he will be responsible for the safe and proper storage of material.

5.3.3 Any damaged or unacceptable products will be subject to the Control of Non-Conforming Products procedure until resolved. Isolation areas will be used to segregate such materials from the works.

5.3.4 Traceability of products will be documented to the extent specified by the Design and Build Agreement, or as required by statute.

5.3.5 When inspections are required by the Developer before incorporation of products into the works, these will be identified in the inspection and test plan and the relevant Method Statements. Materials supplied by the Developer supplied materials (if any) must also be inspected, and, if found unacceptable, the Developer shall be informed in writing.

5.4 Survey Control
5.4.1 All instruments used for establishing horizontal and vertical controls will be maintained at an acceptable calibrated status. A log will be kept of instruments used on site noting the instrument number, make, model, calibration date, calibration method, and any other regular checks carried out.

5.4.2 Survey books will be maintained legibly, and in such order as would enable them to be understood by other engineers.

5.4.3 Regular checks will be implemented to verify the accuracy of survey control stations. Survey tolerances will be identified and complied with. Any non-compliance will be resolved.

5.5 Site Control of Subcontractors

5.5.1 Reference is made to PPM Section 1.5, Procurement-Subcontractors, which provide the guidelines for selection of suitable Subcontractors for Contract work.

5.5.2 Selected Subcontractors must supply details of their personnel (including responsibilities), inspection and testing arrangements for work and materials, and supply of records. All activities undertaken by Subcontractors will be subject to inspection, test, and audit by the Company or any overseeing authority. Following the completion of subcontracted work, the General Manager will prepare a Subcontractor Performance Report to form part of the permanent records which will be copied to the Construction Manager and Procurement Manager.

5.6 Contract Review and Construction Planning

5.6.1 Following the award of a Contract, an initial review will be carried out as detailed in the Procedure Design-Build Contract Review (PPM 1.2).

5.6.2 Continuous contract reviews will be carried out for the General Manager. These reviews will cover:

- Assessment of any changes to the scope and/or the schedule requirements of the Developer, including new Drawings, if any;
- Changes to the Specifications and/or standards (if any);
- Matters pertaining to Safety, Health and the Environment;
- Schedule review and update;
- Material Issues (If any)

5.7 Contract Correspondence

5.7.1 The General Manager is responsible for acknowledging and replying to all correspondence received from the Developer. All incoming site correspondence must be identified for distribution by the General Manager, and all outgoing correspondence must be approved by the General Manager or his designee.

5.7.2 As a standard practice, all correspondence received shall be date stamped upon receipt and presented to the General Manager for distribution.

5.7.3 All correspondence must be maintained in an organized Project Office filing system, with each document uniquely referenced.

5.7.4 In certain circumstances, some correspondence may require the authorization and signature of the Developer. The General Manager is responsible for ensuring that this procedure is correctly followed.
5.7.5 The Construction Manager will ensure that each Segment Manager reviews regularly and causes to be maintained all site diaries of the appropriate supervisory staff, including Superintendents and Construction Representatives, to record overall progress on the construction of the works.

5.7.6 A systematic control will be established for obtaining approval of materials and products into the permanent works.

5.7.7 The General Manager, Construction Manager, and Segment Managers will ensure that all controlled documents such as Method Statements, Schedules, Drawings, and Quality Procedures are distributed using prescribed Document Control methods, as per the guidelines in the Document Control procedures.

The Controls Manager will be responsible for tracking and compiling quantities, producing work plans, memorializing field activities, and other duties as directed by the Construction Manager.

5.8 Protection to Permanent Works

The Segment Manager and his staff of Superintendents will be responsible for ensuring that any completed or permanent works are suitably protected from potential damage until the Project Segment hand-over is complete.

5.9 Developer Supplied Materials

Where materials are supplied by the Developer for incorporation into the works, they shall be subject to the same inspection and control as any other materials such as those sourced directly from approved suppliers. Where these materials are not required (or are surplus to requirements) the General Manager will seek instruction from the Developer regarding their removal or disposal.

5.10 Internal Communications

In order to facilitate internal communication of the D-B Team staff, the following measures must be implemented:

- Staff meetings will be held on a regular frequency to be determined by the respective manager. The agenda should include labor, equipment, materials, Subcontractors, progress, and work activities for the next week. Any problems on safety, quality and any other aspects of the Contract should be discussed and appropriately assigned for action.
- Copies of relevant letters, instructions, confirmation of verbal instructions, technical issues, drawings, specifications, etc., must be distributed in a timely manner.
- Subcontract coordination meetings shall be conducted.
9.- PPM 1.9 Control of Non-Conforming Products

1. Purpose and Scope

2. The purpose of this procedure is to define the requirements for the identification, documentation and resolution (elimination) of non-conforming products and/or services, including any environmental non-compliance, which may occur at any stage in the project cycle. This process will ensure that non-conforming products are controlled by taking actions to preclude their use or application in the Work.

3. At times it may be possible for a non-conforming product to be accepted by requesting concession or minor alteration of a specification. The purpose of this procedure is to control such changes and provide verification of acceptance from the Developer.

4. The scope includes all materials and products used in the construction of the D-B Team’s project, and any section of completed or partly completed work which is within the scope of this procedure.

2. Definitions

2.1. Non-Conformance: A Non-Conformance is an event that does not comply with the requirements of the contract.

2.2. Modify: The action of removing an error by returning to the previously acceptable stage and redoing the work to the specified requirement.

2.3. Repair: The action of performing additional work to an agreed alternative specification.

2.4. Accept ‘As is’: No additional work will be performed.

2.5. Re-Test: In case there is a doubt of incorrect inspection and testing, further testing can be done by specifying the test, location, method, environment, etc.

3. References

3.1 The D-B Team Quality Management Plan (QMP) and Process Procedures Manual.

3.2 Quality Management Plan

3.3 Project Inspection and Test Plans

3.4 Contract specific Drawings and Specifications

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager.

4.2. Review by the Construction Manager

4.3. Approval by the General Manager

5. Procedure

5.1. Identification of Non-Conformances.

5.1.1. Identification of non-conformances may be performed by:

- Technical staff of the D-B Team.
Quality, Environmental and Health and Safety Teams

The Independent Engineer also has the authority to issue Non-Conformance reports and these NCRs will be addressed by the Quality Manager. All NCRs that are raised shall be specific and individual in relation to a non-conformance. Contractual reference (specification, drawings, contract clause, works element, etc) should also be as detailed as possible.

5.1.2. Non-conformances occurring on site will be identified by the D-B Team staff, suppliers, subcontractors, the Quality Manager or approved inspection authority.

5.1.3. To commence the process, staff should raise the Non-Conformance Report (NCR) using the standard Non-Conformance Report form and, at the same time, the NCR should be communicated to the relevant construction staff supervising that element of work, so that the D-B Team staff is aware of the situation. Initial notification of the construction staff can be done verbally.

5.1.4. All Non-Conformance Reports shall be reviewed on a case-by-case basis by each Section Manager.

5.1.5. The Quality Manager (or designee) will conduct weekly meetings with the Independent Engineer and the D-B Team’s staff to review all open NCRs. Each open NCR is examined to determine if the required action has been taken and the relevant information required to close out the NCR has been attached to the NCR. If the latter has taken place, then the NCR may be closed out by the Quality Manager (or by a person appointed by him) examining the attached information to ensure that the NCR is correctly closed out. The NCR is closed by signing the NCR form. All sections of the NCR form are to be completed for the NCR to be satisfactorily closed out. In some instances, however, sections of the form may not be applicable to the NCR in question and, in these situations, the non-relevant sections of the form should be marked N/A (not applicable). If the information attached or the action taken to close out the NCR is insufficient in the opinion of the Quality Manager, then additional information and/or further action are taken to close out the NCR. Details of the additional information and/or action taken to be detailed on the NCR form. NCR registers will be made available to all D-B Team staff and Independent Engineer.

5.1.6. Each NCR has a unique number. When a non-conforming work product occurs, an NCR form is filled out and the original NCR is provided to the Quality Manager. The NCR is assigned a unique number so that it may be monitored. Only one record NCR log will be maintained by the Quality Manager.

5.1.7. NCRs received from the Developer or the Independent Engineer will be processed like a D-B Team generated NCR.

5.1.8. Minor errors which occur during construction may be corrected by minimal rework through standard working practices without any change to permanent works. Such instances need not be recorded as an NCR and all staff shall use “reasonable” expertise and judgment in determining these situations.

5.1.9. Completed work which is not in accordance with the Drawings and Specifications, for which an alteration would be necessary for its acceptance, or where repairs are required to comply with the Drawings and Specifications, will be recorded as a Non-Conformance.
5.1.10. The D-B Team will allocate a suitable area for controlled storage of Non-Conforming items. This will help in segregating these items to avoid inadvertent use.

5.2. Recording and Resolution of Non-Conformance Reports.

5.2.1. Any non-conforming product delivered to the site by a Supplier and incorporated into the works will be identified and recorded as an NCR. The product (if identified before use), will be segregated and marked up ‘NOT FOR USE’ in whatever practical manner to prevent inadvertent use or mixing with conforming products. The NCR system is for internal use only. Suppliers will be notified in writing when a product does not conform to project requirements. Unused, non-conforming products need not be recorded on the NCR form, but shall be sent back to the Supplier for replacement with acceptable product.

When traceability is a required parameter of the Contract, items will be uniquely identified and their location where used in the works will be recorded. The ‘Location’ of concrete and earth product incorporated into the works shall be recorded to enable traceability.

5.2.2. Each NCR will have a unique number. The details of the non-conformance will show the item and activity with a brief description. The person who is responsible for controlling the activity must be identified in the ‘Response Required From’ section of the Non-Conformance Report. Typically this may include the Segment Manager or Superintendents.

The person responsible for originating the document must be identified in the ‘Originator’ section of the Non-Conformance Report. Such persons should be sufficiently competent in identifying any non-conformance in a particular item or activity.

A copy of each NCR must be sent to the Quality Manager who will ensure that the information has been entered correctly, and will be used for internal reporting.

Typical uses for NCRs may include (but are not limited to):

a) Deviation in alignment (horizontal or vertical) in excess of specified tolerance;
b) Errors and omissions in part completed or fully completed works;
c) Incompatible sizing;
d) Use of incorrect or unsuitable materials or products.
e) Work products completed and not meeting specifications.

The Originator of an NCR may elaborate on the details and circumstances of the non-conformance on additional sheets and/or photographs which may be attached to the NCR.

The ‘Action’ sections of the NCR should be completed by the person who is required to respond to the NCR. This person should select one of the ‘Actions’ as appropriate, and expand on the suggested action proposed for the resolution of the non-conformance. The Quality Manager will evaluate the suggested action.

Approval by the Quality Manager is required to close out all NCRs. A list of personnel approved to sign off on NCRs will be communicated to Independent Engineer by the D-B Team.

NCRs will be distributed to the following personnel:

- Construction Manager.
■ Segment Managers.
■ Other relevant personnel, e.g. Procurement Manager when a Supplier is having problems.

5.2.3. Decisions on the resolution of Suppliers non-conforming products shall be subject to the approval of the Construction Manager in consultation with the Quality Manager, and the Procurement Manager.

5.2.4. Objective evidence shall be retained to substantiate wherever possible that repaired and reworked items have been re-inspected or re-tested according to the applicable procedures. For subcontracted work, NCRs shall also be controlled by this procedure unless agreed otherwise.

5.3. *Change Control*

The Construction Manager and the Segment Managers are responsible to ensure that all activities are performed in accordance with the approved procedures, applicable Drawings and Specifications. When errors occur, this procedure ensures that a controlled approach is taken to resolve these non-conformances in the most economical manner.

5.4. *NCR Data Analysis & Improvement*

The Quality Manager will review and carry out analysis to identify any adverse trends and will report to the General Manager and Construction Manager with recommendations for improvement (e.g. additional training).
## Construction Quality Plan

### NON-CONFORMANCE REPORT

<table>
<thead>
<tr>
<th>Center Code:</th>
<th>Project:</th>
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<tbody>
<tr>
<td>Tx:2</td>
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<table>
<thead>
<tr>
<th>Area</th>
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<tbody>
<tr>
<td>Subactivity</td>
<td>Element</td>
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<table>
<thead>
<tr>
<th>Plans reference:</th>
<th>Specifications reference:</th>
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<table>
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<tr>
<th>Location:</th>
<th>Position:</th>
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### DETAILS OF NON-CONFORMANCE:

### CAUSE:

Action tick as appropriate

1. Reject/Remove  
2. Repair  
3. Modify  
4. Re-test (Specify)  
5. Accept "As is"  
6. Others

REQUIRE CORRECTIVE ACTION (PPM 1.10):  

1. Yes  
2. No

**Supplier and/or Subcontract:**

**Fee of:**

D&B CONTRACTOR  
SUBCONTRACT

### DESCRIPTION OF RESOLUTION ACTION:

### RAISED BY:

<table>
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<tr>
<th>Date:</th>
<th>Signed:</th>
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### APPROVE BY:

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<th>Date:</th>
<th>Signed:</th>
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### RESOLUTION VERIFY BY:

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<th>Date:</th>
<th>Signed:</th>
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10.- PPM 1.10 Corrective and Preventative Action

1. Purpose and Scope

1.1. The purpose of this procedure is to ensure that defects, wherever located in the D-B Team’s activities are identified by non-conformance reports (NCR’s) and remedied. In addition, the root cause shall be identified to and changes to the FMP made, if necessary, to prevent recurrence.

1.2. These actions will be recorded and used in the continual improvement of the Quality Management System.

1.3. Scope - This procedure encompasses all activities affecting the quality of products/services that the D-B Team provides to the Developer. It includes Developer Complaints.

2. Definitions


2.1.1 These reports may be generated as a result of an Audit finding or by some other means. The Corrective Action Report is the document initiated by the Quality Manager or as a result of an audit raised by the Lead Auditor to identify, record, and resolve a non-conformance from the Quality system.

2.1.1 Non-conformance Reports are the documents initiated by competent personnel to identify, record, and resolve items (material, equipment or portion of completed works) where the quality characteristic is indeterminate or non-conforming to applicable specifications or drawings.

2.2 Preventative Action (P.A.): An action to pre-empt a non-conformance.

2.3 Observation: Non-conformances, which are single occurrence, corrected immediately, and do not affect the permanent works. They will be reported as observations in an Audit Report.

3 References

3.1 The CDA
3.3 Environmental Plan
3.4 Quality Management Plan.
3.5 Inspection and Test Plans.

4 Responsibilities (for this procedure)

4.1 Preparation by the Quality Manager
4.2 Review by the Corporate Quality Manager.
4.3 Approval by the General Manager

5 Procedure

5.1 Investigations shall be carried out by the Quality Manager to determine the cause of quality problems and to identify possible quality system defects especially when:
5.1.1 Analysis of all NCRs indicates significant, recurring defects in materials, equipment, or portions of completed work, or recurring disregard to environmental controls.

5.1.2 Developer complaints are frequent.

5.2 A Corrective Action Report shall be prepared for all such investigations containing the following information:

a) The details of the audit or department/section under investigation.

b) The unique number or numbers for the C.A.R. from the Quality Manager. There are two types of C.A.R., one is audit generated and the other is generated outside an audit.

c) Description of the item/activity which is the subject of the C.A.R. (s).

d) References of the document and clauses against which the C.A.R.s are identified.

e) A brief description of the non-conformance from the quality system or environmental controls requiring corrective action.

f) A proposal to remedy the situation and, further, a proposal for preventing recurrence.

g) Approval for proposals from the Department or General Manager shall be obtained prior to verification and closing out of the C.A.R.s by the Quality Manager.

Analysis of internal audit reports, Subcontract/Supplier audit findings shall be conducted by the Quality Manager to identify trend or deficiencies in the Quality Management System. If identified, the steps outlined in 5.2 shall be followed.
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<tr>
<th><strong>Construction Quality Plan</strong></th>
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**CORRECTIVE AND PREVENTATIVE ACTION REPORT**

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<th>Project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tx 2</td>
<td>SH 121 TOLLWAY SEGMENTS 1-5</td>
</tr>
</tbody>
</table>

**CAUSE:**

(Item/Activity, Description, Location)

**ANALYSIS:**

**DESCRIPTION OF THE CORRECTIVE/PREVENTATIVE ACTION ADOPTED:**

**IMPLEMENTATION:**

<table>
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<tr>
<th>Due Date</th>
<th>Responsible</th>
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**Approve by (QM, originator):**

Date: / /

**VERIFICATION AND CLOSE OF THE CORRECTIVE/PREVENTATIVE ACTION:**

Date of implementation: / /

**Verify by (QM):**

Date: / /
11. - **PPM 1.11 Internal Audits**

1. **Purpose and Scope**

The purpose of this procedure is:

To establish measures for Planning, Performance, Recording and Reporting of Internal Audits.

To determine whether quality management activities and associated results comply with planned arrangements and whether these arrangements are implemented effectively and suitably to achieve set objectives.

To provide the D-B Team, Subcontractors, and/or Suppliers/Vendors opportunity for improvement.

To meet regulatory requirements, if any.

The scope will encompass all documentation of Work performed by the D-B Team.

2. **Definitions**

2.1. **Audits** - A systematic and objective examination to determine whether quality management activities and associated results comply with planned arrangements, and whether these arrangements are implemented effectively and suitably to achieve set objectives.

2.2. **Internal Audits** - Audits performed by the Quality Manager (or suitably qualified delegated personnel) on specific sites or departments within the D-B Team.

2.3. **External Audits**

2.3.1 Audits performed by the Quality Manager or suitably qualified delegated personnel on Subcontractors and Suppliers employed by the D-B Team.

2.3.2 Audits carried out by the Developer on the D-B Team’s Quality Management System.

2.4. **Review System** - A general examination of the Quality System using the documentary information available to establish whether Quality requirements are being met or can be achieved. A report shall be produced giving conclusion, recommendations or corrective actions, as appropriate.

2.5. **Surveillance** - The continual monitoring and verification of the effectiveness and validity of procedures, methods, conditions, processes, products and services. It also includes analysis of records in relation to stated references to ensure that specified requirements are being complied with.

3. **References**


3.2. Project Inspection and Test Plans.

4. **Responsibilities (for this procedure)**

4.1. Preparation by the Quality Manager

4.2. Review by Corporate Quality Manager.
4.3. Approval by the General Manager

5. Procedure

5.1. General

5.1.1 Auditors and Lead Auditors must be suitably qualified. The Quality Manager will select the auditors. If no suitably qualified persons are available, then the Quality Manager will help prepare a checklist against which the audit will be performed by delegated persons.

5.1.2 The persons carrying out the audit will have no functional responsibility for the performance of the activity being audited.

5.1.3 Audits will be performed in accordance with the audit schedule to be prepared by the Quality Manager and approved by the General Manager. Unscheduled audits may be necessary under certain circumstances and will be carried out by the Quality Manager (or suitably qualified deputy).

5.1.4 A lower level of monitoring may be necessary in the form of surveillance (observation) and/or review.

5.1.5 Unscheduled audits will be performed when it is suspected that quality is being jeopardized or when significant changes are made to the functional areas of the Quality Management System.

5.2. Audit Schedule

5.2.1 Audits will be planned in advance and a schedule prepared subject to the approval of the General Manager. These audits are used to verify the implementation of all quality-related activities carried out both by the D-B Team and its Suppliers/Subcontractors. Audits will be carried out at least annually.

5.3. Selection of the Audit Team

5.3.1 The Quality Manager may carry out the audits alone, or may select a suitably qualified deputy to act on his/her behalf. The Quality Manager may allocate a Lead Auditor and assist in the selection of the other members of the audit team. The auditors will be briefed by the Quality Assurance Manager on the performance of the audit.

5.3.2 The Lead Auditor is responsible for coordinating the audit plan, date(s) and time of the audit, conducting the audit, summarizing the audit findings at exit interview, preparing an audit report and circulating and following-up the associated Corrective Action Reports (if any). The Quality Manager will assist him in this task.

5.3.3 The use of external auditors may be decided by the Quality Manager with the consent of the General Manager.

5.4. Audit Plan and Notification

5.4.1 The audit plan identifies the purpose of the audit, the specific requirements to be audited (including reference to specific documents), and thereby permits development of a checklist for use during the audit.

5.4.2 The Quality Manager will allocate a unique number to each audit.

5.4.3 The Quality Manager will issue an audit notification to the section or department to be audited. The Quality Manager will then consult with the Lead Auditor detailing the scope of the audit, the name(s) of
the auditor(s), reference documents, the timing of the audit, the date(s) and any works visits necessary. Site visits will be made jointly with the D-B Team staff. Notes will be made of any relevant points where verification is sought in identifying compliance to procedures.

5.5. **Audit Performance**

5.5.1 A pre-audit meeting shall be conducted by the Lead Auditor in order to establish a general overview of the areas to be audited, establish escorts for site visits, anticipated time for closing meeting and venue, etc. The names of those present shall be recorded.

5.5.2 An audit checklist may be used as the basic agenda for some audits at the discretion of the auditor.  
5.5.3 All deficiencies shall immediately be brought to the attention of the Department or Segment Manager of the audited Department/Segment, discussed and corrected wherever possible. When deficiencies show a non-conformance in relation to the Quality Management System it will be subject to the issue of a Corrective Action Report. Non-conformances of a less serious nature will be noted and reported as an "Observation". As a guide, observations are those types of deviations where they are:

a) a single, non-recurring event;  
b) an event not affecting any permanent works;  
c) An event that is corrected immediately.

5.5.4 Key documents or records which are witnessed shall be identified on the check list. Where possible, copies shall be obtained as documentary evidence. The names of persons consulted during the audit shall be recorded.

5.5.5 A closing meeting shall be conducted by the Lead Auditor who will outline a summary of findings identified during the audit for correction by the D-B Team. Any Non-conformances (Corrective Action Reports) shall be tabled and, in principle, acknowledged by the auditee. Recommendations and possible solutions shall be discussed in an attempt to reach a mutual agreement prior to the conclusion of the audit. The D-B Team may take this opportunity to amend the procedures applicable to his Department/Section. The names of the attendees at the closing meeting shall be recorded.

5.6. **Audit Reports**

5.6.1 The audit report shall contain as a minimum:

a) audit number and date(s) of audit;  
b) title, address, location of the audit;  
c) audit scope;  
d) names of persons consulted during the audit;  
e) the audit team;  
f) list of criteria audited and the result;  
g) audit conclusion or summary;  
h) Non-conformance Reports and/or Corrective Action Reports with unique numbers and response due dates, other observations requiring attention.
5.6.2 The report will be signed by the lead auditor and reviewed by the Quality Manager who will transmit the Audit Report to the audited Segment or Department Manager and the General Manager. This shall be done within three (3) days of the audit.

5.7. Follow-Up Activities

5.7.1 The D-B Team will respond to the findings no later than three (3) weeks from the receipt of the report.

5.7.2 The Lead Auditor or Quality Manager shall follow-up any C.A.R.s and notify the D-B Team of the C.A.R.’s disposition, e.g. closure. The Quality Manager will monitor the responses for compliance and report the results to the General Manager and applicable Department Managers.
AUDIT OBSERVATION REPORT

ZONE DIRECTION / SERVICE:

DELEGATION:

CENTRE:

CODE:  Tx-2  COUNTRY/CITY:  DALLAS

N° OF AUDIT:  AUDIT DATE:

AUDIT TEAM:

OBSERVER:

AUDIT AREAS:

PERSONNEL INTERVIEW (Name, Organization position):

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REMARK:
12. - PPM 1.12 Developer Complaints & Compliments

1. Purpose and Scope

1.1. The Purpose of this procedure is:
To ensure that complaints received from the Developer on aspects other than quality will be investigated appropriately.

1.2. The scope covers complaints received from the Developer on completed work (which does not form part of the final “punch” list), and from members of the public related to the D-B Team’s activities (e.g. noise, dust or other hazards).

2. Definitions

2.1. Complaint: An expression of dissatisfaction (either verbally or in writing), with respect to any aspect of the Design and Build Agreement, including scope, execution or status which has an overall effect on the quality of the end product, and which is not covered by a Non-conformance Report.

Note: A low Complaint rate is not proof of Developer satisfaction; however a high Complaint rate is proof of dissatisfaction.

2.2. Compliment: An expression of satisfaction beyond the normal compliance to the Design and Build Agreement requirements. This type of expression will usually be received by letter.

3. References

3.2. The D-B Team Safety, Health and Environmental Manuals.

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager
4.2. Review by Corporate Quality Manager
4.3. Approval by the General Manager

5. Procedure

5.1. The non-conformance system and the corrective action reporting system will generally be sufficient to control any non-conformances in relation to the Contract Requirements. A Quality Plan is the communication document between staff and Developer (and related third parties) to ensure compliance with Developer, statutory, and regulatory requirements.

5.2. When a complaint is raised by the Developer (or an outside party), to any member of the D-B Team staff, then a Developer Complaint Form shall be completed by the individual receiving the complaint. The form will document all relevant information pertaining to the complaint.

5.3. A copy of the Complaint Form will be kept for reference and the original will be filed in Document Control. The recipient of the complaint will pass this information to the relevant Department Manager or General Manager for use in preparing a response. A copy of the Complaint Form shall be forwarded to the Quality Manager for his information.
5.4. Once a complaint has been received, the Quality Manager may provide assistance (if required) to the relevant Department Manager or General Manager in investigating the cause of the complaint, whether a Non-conformance Report already exists, or whether one should have been raised at the time. Such details will be noted by the Quality Manager in the “comments” section of the Complaint Form.

5.5. The Quality Manager may also assist the Department Manager or General Manager on the possible reply to the Complaint. The General Manager will review the response before it is dispatched. In certain circumstances, corrective actions might have been already agreed upon by the Department Manager to site-related complaints. These actions or agreements will be noted on the Complaint Form.

5.6. If the Complaint is in connection with work carried out by a Supplier or Sub-contractor employed by the D-B Team, then the Quality Manager will investigate the matter in consultation with the persons responsible for the procurement of the particular Supplier or Subcontractor. The results will be noted by the Procurement Manager, and the Approved Suppliers/Subcontractors list will be updated accordingly.

5.7. A Developer or outside party complaint is an important document in the ‘quality loop’ as it provides feedback for the improvement and ‘fine tuning’ of the Quality Management System. The Quality Manager will maintain a file of complaints.

5.8. Occasionally, the D-B Team may receive a compliment from the Developer or other bodies regarding its performance. Copies of these documents shall be forwarded to the Quality Manager for his information. The Quality Manager will maintain a file of such compliments.

6.0 Records

Complaints, compliments, and responses to same will be filed in Document Control.
13. - PPM 1.13 Health and Safety

1. Purpose and Scope

1.1 The purpose of this document is to:

Establish procedures for compliance with TxDOT and OSHA health and safety requirements during execution of the Work.

a) Identify core values and operations practices, including:
b) outline responsibilities of employees and management;
c) outline safety performance measurement to track success and continuous improvement;
d) safety training as a continuous process;
e) safety and health principles;
f) Field safety practices and activities.

1.2. The scope is to develop a Project Health and Safety Plan.

2. Definitions

2.1. OSHA: Occupational Safety and Health Administration, is an agency of the United States Department of Labor. It was created by Congress on December 29, 1970 under the Occupational Safety and Health Act. Its mission is to assure the safety and health of America's workers by setting and enforcing standards; providing training, outreach, and education; establishing partnerships; and encouraging continual improvement in workplace safety and health.

2.2. TxDOT: Texas Department of Transportation is a state agency responsible for constructing and maintaining interstate highways, U.S. highways, state highways and farm to market roads in Texas.

Hazard Communications/MSDS Program: Materials Safety Data Sheets.

3. References


3.2. The D-B Team Health and Safety Plan.

3.3. Product and material safety data sheets (MSDS) and material conformity certificates.

4. Responsibilities (for this procedure)

4.1. Preparation by the D-B Team Health and Safety Manager.

4.2. Review by the Construction Manager

4.3. Approval by the General Manager

5. Procedure

5.1 Project Health and Safety Plan.

A comprehensive Health and Safety Plan will be developed to promote a safe work environment and will include the following general topics:
5.1.1  Safety orientation during the hiring process, including:

a)  Drug and alcohol testing requirements;

b)  Outline policy for qualification to drive company vehicle;

c)  Outline Hazard Communications/MSDS program;

d)  Review standard safety rules, Employee Handbook and Safety Orientation information;

e)  Outline requirements for personal protective equipment (PPE);

f)  Outline project-wide safety policy commitment;

   g)  Outline injury reporting significance and basic procedure.

h)  Each subcontractor will provide a Health and Safety Manager who will monitor and train its employees under the supervision of the DB Contractor.

5.1.2  Safety meetings are to be conducted to promote the discussion of health and safety issues, preparation for the start of new construction activities, new safety techniques and methods and changing work conditions. Examples of these meetings are:

a)  Monthly Supervisors Safety Meetings conducted by the Health and Safety Manager.

b)  Weekly Toolbox Safety Meetings conducted by the Segment Safety Representative, Segment Manager and/or Superintendent.

c)  Daily safety meetings, as required by changing conditions or activities, conducted by both the Superintendent and the craft foremen.

5.1.3  A Hazard Analysis will be required prior to the start of any operation. The craft superintendent will assist foremen in preparing the analysis. Other supervisors and craft personnel will be asked and encouraged to contribute ideas.

5.1.4  A Safety Task Assessment (STA) will be developed prior to the start of any task by every crew and will be facilitated by the supervisor or his designee. The input of everyone on the crew should be encouraged and solicited. The STA should define what the task is, how it is going to be done, identify any hazards associated with each step in the task, and any and all resources needed to accomplish the task safely. Steps will then be taken to either eliminate the hazard or reduce the exposure to the hazard to acceptable levels. The supervisor should ensure that any hazards present and the preventive measures are explained and understood by each employee involved in the task.

5.1.5  The D-B Team Health and Safety Plan will include a medical treatment case management protocol covering four (4) key points, with the goal being the provision of the best medical treatment to the injured employee:

a)  First Aid

b)  Emergency Response

c)  Medical Intervention
5.1.6 The primary goal of the Health and Safety Plan is to prevent accident/incidents in the work place. Should an accident/incident occur, an investigation is conducted to identify the causal factors. Subsequently, actions for prevention are implemented. In the event an incident occurs, an Incident Review Team will be convened. The team will consist of the General Manager, Health and Safety Manager, Construction Manager and the Segment Manager and Segment Safety Representative, Superintendent, Foreman, and individual(s) involved in the incident to conduct an accident investigation.

Each subcontractor and principal vendor must agree as a condition of their agreement to follow the Health and Safety Plan when operating at the project site.
14. - PPM 1.14 Control of Quality and Environmental Records

1. Purpose and Scope

1.1. The purpose of this procedure is to ensure that Quality and Environmental Records are identified, generated, distributed and stored for the specified periods. These records help to safeguard the D-B Team’s interests for future reference.

1.2. This procedure describes the primary responsibilities and principles used by the D-B Team for indexing, filing and retrieving Quality and Environmental Records generated during design, procurement, and construction phases of the Design and Build Agreement.

1.3. This procedure covers Quality and Environmental Records only; it does not cover records such as personnel records, accounting and taxation records, schedule, and cost reports. Such records will be maintained by the relevant departments.

2. Definitions

2.1. Design and Build Agreement: The agreement in writing between the D-B Team and the Developer to design and construct the Work.

2.2. Records: Quality and Environmental Records which provide documentary evidence of the specification of individual items, standards of work, and compliance with the Quality Management System. A document is considered a Quality or Environmental Record when it has been fully completed, verified (when applicable) and signed by the relevant personnel.

3. References


3.2. Design and Build Agreement Plans and Inspection and Test Plans.

3.3. CDA Technical Requirements, Section 2.5 “Document Management System”.

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager

4.2. Review by the Controls Manager

4.3. Approval by the General Manager

5. Procedure

5.1. Where the Design and Build Agreement includes a design element, the Designer will maintain documents which will form part of the overall Design and Build Agreement project record (inclusive of sub consultants and subcontractors).

One master set of design records (which are approved for construction) shall be maintained on the site where the works are being executed (Document Control). The Design Manager is responsible for the transmittal of revisions to the Construction Manager.
5.2. The Controls Manager is responsible for filing and maintaining records during the execution of the Design and Build Agreement. These records are generally defined in applicable Procedures and must include records supplied by Consultants, Subcontractors and Suppliers.

5.2.1. The list of the Quality Records to be maintained as part of the Design and Build Agreement must be established by the site management team in consultation with the Quality Manager.

5.2.2. All records shall be uniquely identified and only the current revision of any document is permitted for use.

5.3. Records shall be maintained by establishing a Document Control System and Correspondence Register, detailing which records are held in each specific file. All files shall be kept in a secure place and in an environment which will minimize deterioration.

5.4. Records must not be removed from the Document Control System by any unauthorized personnel. Responsibility for the copying and distribution of documents shall be delegated to suitable members of the administrative staff by the Controls Manager. Any document(s) which are temporarily removed (permitted for short periods only) shall be noted by the relevant member of the administrative staff, who will be responsible for ensuring the return and proper re-filing of the document(s).

5.5. Records shall be filed and maintained as required by the Design and Build Agreement. At the completion of the Contract, records will be classified and separated according to the storage period requirement.

5.6. Packaging (collating and filing) of Records.

5.6.1. The records shall be separated in accordance with paragraph 5.5 above. Each file shall be labeled to show file index number, section of the Work, structure number (if any), and Design and Build Agreement Title and Number.

5.6.2. Each file shall be checked by the Controls Manager (or his/her delegate) for completeness, legibility and retrieval.

5.6.3. Subcontractors and Suppliers records shall be packaged similarly (where applicable).

5.7. Compliance with paragraphs 5.1 to 5.7 of this procedure shall be verified by the D-B Team Quality Manager (or delegated persons) through surveillances, reviews and audits.

Records generated by Subcontractor and Supplier interaction with the D-B Team are also subject to the above controls.

5.8. Records which are to be stored by the D-B Team will be sent to a suitable storage facility. The documents will be marked with the unique Design and Build Agreement Title and Number for easy retrieval. The storage period for the records is dependent on Design and Build Agreement requirements.

6. Records

6.1. The Record Files will contain all or some of the following:

a) Drawings and Specifications (Approved for Construction);

c) Developer Complaints and Compliments;

d) Material Certification Records, Certificates of Conformity and In-Process Test, Inspection and Traceability Records;

e) Audit and Review Reports;

f) Training Records;

g) Developer Representative authorizations;

h) Calibration Certificates of Test and Measurement Equipment;

i) Corrective Action Reports;

j) Records of Management Review.

k) Environmental Records.

l) Test results and inspection reports carried out in conformance with the Inspection and Test Plan during the construction process to verify compliance with the Design-Build Agreement.

m) As-built drawings.
15. - PPM 1.15 Training

1. Purpose and Scope

The purpose of this procedure is:

To ensure that D-B Team personnel are adequately trained to carry out their duties.

To ensure that D-B Team personnel skills are developed sufficiently to enable them to progress within the Company and undertake increased roles of responsibility.

1.1. Scope: The procedure is applicable to all D-B Team personnel. Job Descriptions of key personnel who have a direct impact on quality matters are detailed in the Quality Management Plan and other related procedures.

2. Definitions

2.1. None.

3. References


3.3. Environmental Training.

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager

4.2. Review by the Construction Manager

4.3. Approval by the General Manager

5. Procedure

5.1. The General Manager, Construction Manager, and Section Managers will review the records of personnel under their supervision to assess training needs.

5.2. The records will be kept up-to-date and noted on a training log. All training undertaken will be documented. Any person responsible for arranging a training course shall inform the participants of the course date, and shall provide the course administrator with a list of names of the participants and other relevant details.

5.3. Training may be undertaken as an in-house activity or by an approved third party organization.

5.4. Managers will be responsible for reviewing and identifying training needs. Such reviews will be made at least annually. Training recommendations will be communicated to the appropriate manager(s) for review and approval.

5.5. The General Manager (or other delegated person), will review any training recommendations made and approve the training program.

5.6. After attending a training course, personnel are required to complete the Training Course Seminar Feedback Sheet.

5.7. The Administration Manager will maintain copies of certificates and training records in the respective personnel files. Access to personnel information is restricted due to confidentiality requirements.
16. - PPM 1.16 Utility Relocation

1. Purpose and Scope

1.1 The purpose of this procedure is to ensure that the D-B Team adequately prepares and plans for all Utility Adjustments associated with the construction of the Project in accordance with the CDA and, especially, the Technical Requirements.

1.2 Scope – The procedure is applicable to all utilities located within the limits of the Project.

2. Select Definitions

**Abbreviated Utility Assembly** means the collection of plans and other information and materials which Developer is required to submit to TxDOT in connection with each Utility proposed to remain at its original location within the Facility Right of Way, as more particularly described in the Technical Requirements; a single Abbreviated Utility Assembly may address more than one such Utility.

**Adjust** means to perform a Utility Adjustment.

**Adjustment Standards** means the standard specifications, standards of practice, and construction methods that a Utility Owner customarily applies to facilities (comparable to those being Adjusted on account of the Project) constructed by the Utility Owner (or for the Utility Owner by its contractors), at its own expense. Unless the context requires otherwise, references in the CDA Documents to a Utility Owner's “applicable Adjustment Standards” refer to those that are applicable.

**Alternate Procedure** means the alternate procedure for processing Utility Adjustments for FHWA approval pursuant to 23 CFR Section 645.119, which was approved by the FHWA for TxDOT by letter dated October 16, 1973.

**Alternate Procedure List** means the list of Utilities to be Adjusted (and related information) which Developer will prepare and TxDOT will submit to the FHWA, as such list may be amended from time to time.

**Betterment** has, with respect to a given Utility being Adjusted, the meaning (if any) set forth in the Utility Agreement(s) applicable to the Utility; in all other cases, “Betterment” means any upgrading of the Utility in the course of such Utility Adjustment that is not attributable to the construction of the Project and is made solely for the benefit of and at the election of the Utility Owner, including an increase in the capacity, capability, efficiency or function of an Adjusted Utility over that which was provided by the existing Utility. Notwithstanding the foregoing, the following are not considered Betterments unless otherwise provided in the applicable Utility Agreement(s):

(a) any upgrading which is required for accommodation of the Project;

(b) replacement devices or materials that are of equivalent standards although not identical;

(c) replacement of devices or materials no longer regularly manufactured with an equivalent or next higher grade or size;

(d) any upgrading required by applicable Law;

(e) replacement devices or materials that are used for reasons of economy (e.g., non-stocked items may be uneconomical to purchase);

(f) any upgrading required by the Utility Owner’s applicable Adjustment Standards; and
(g) Any discretionary decision by a Utility Owner that is contemplated within a particular standard described in clause (f) above.

With respect to any Replacement Utility Property Interest, "Betterment" has the meaning (if any) set forth in the applicable Utility Agreement(s). In all other cases, a Replacement Utility Property Interest shall be considered a Betterment, except to the extent that reinstallation of a Utility in the Replacement Utility Property Interest (i) is necessary in order to meet the requirements of the CDA Documents, or (ii) is called for by Developer in the interest of overall economy for the Project.

**Design Documents** means all drawings (including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams), specifications, reports, studies, calculations, electronic files, records and submittals necessary for, or related to, the design of the Project and/or the Utility Adjustments included in the Design Work and/or the Construction Work. Design Documents include the Final Design Documents.

**Developer-Managed Master Utility Adjustment Agreement** has the meaning set forth in the definition of "Master Utility Adjustment Agreement".

**Developer's Utility Tracking Report** means the report regarding Utilities likely to be impacted by the Project which Developer shall maintain on a current basis, as more particularly described in the Technical Requirements.

**Existing Utility Property Interest** means any right, title or interest in real property (e.g., a fee or an easement) claimed by a Utility Owner as the source of its right to maintain an existing Utility in such real property, which is compensable in eminent domain.

**Final Design Documents** means the complete final construction drawings, including plans, profiles, cross-sections, notes, elevations, typical sections, details and diagrams, specifications, reports, studies, calculations, electronic files, records and submittals, necessary or related to construction and maintenance of the Project and any Utility Adjustments included in the Design Work or the Construction Work.

**Master Utility Adjustment Agreement (MUAA)** means an agreement between Developer and a Utility Owner which sets forth terms and conditions for one or more Utility Adjustments, as the same may be amended or supplemented from time to time and as more particularly described in the Technical Requirements. A document is a "Master Utility Adjustment Agreement" if it meets the foregoing definition, without regard to the title of the document.

(a) **Developer-Managed Master Utility Adjustment Agreement** means a Utility Adjustment Agreement providing for design and construction by Developer of the Utility Adjustment(s) addressed therein.

(b) **Owner-Managed Master Utility Adjustment Agreement** means a Utility Adjustment Agreement providing for design and construction by the Utility Owner of the Utility Adjustment(s) addressed therein.

**Protection-in-Place (or Protection in Place)** means any action taken to avoid damaging a Utility which does not involve removing or relocating that Utility, including staking the location of a Utility, exposing the Utility, avoidance of a Utility’s location by construction equipment, installing steel plating or concrete slabs, encasement in concrete, temporarily de-energizing power lines, and installing physical barriers. The term includes both temporary measures and permanent installations meeting the foregoing definition.

**Service Line** means (a) a Utility line, the function of which is to directly connect the improvements on an individual property to another Utility line located off such property, which other Utility line connects more
than one such individual line to a larger system, or (b) any cable or conduit that supplies an active feed from a Utility Owner’s facilities to activate or energize TxDOT’s or a local agency’s lighting and electrical systems, traffic control systems, communications systems and/or irrigation systems.

**Subsurface Utility Engineering (SUE)** means an engineering process for accurately identifying the quality of subsurface utility information needed for highway plans, and for acquiring and managing that level of information during the development of a highway project, as more particularly described at the FHWA website http://www.fhwa.dot.gov/programadmin/sueindex.htm.

**Supplemental Utility Assembly** means the collection of agreements, plans and other information and materials which Developer is required to submit to TxDOT in connection with each Utility Adjustment being added to an existing MUAA by means of a UAAA, as more particularly described in the Technical Requirements.

**Utility (ies)** or **utility (ies)** means a public, private, cooperative, municipal and/or government line, facility or system used for the carriage, transmission and/or distribution of cable television, electric power, telephone, telegraph, water, gas, oil, petroleum products, steam, chemicals, hydrocarbons, telecommunications, sewage, storm water not connected with the drainage of the Project, and similar substances that directly or indirectly serve the public. The term “Utility” or “utility” also includes radio towers and/or transmission towers, and excludes (a) storm water facilities providing drainage for the Final ROW, (b) street lights and traffic signals, and (c) ITS and IVHS facilities. The necessary appurtenances to each Utility facility shall be considered part of such Utility. Without limitation, any Service Line connecting directly to a Utility shall be considered an appurtenance to that Utility, regardless of the ownership of such Service Line.

**Utility Accommodation Rules (UAR)** means the Utility Accommodation Rules issued by TxDOT, at 43 Tex. Admin. Code, Part 1, Chapter 21, Subchapter C, as the same may be amended, supplemented or replaced by TxDOT from time to time.

**Utility Adjustment** means each relocation (temporary or permanent), abandonment, Protection in Place, removal (of previously abandoned Utilities as well as of newly abandoned Utilities), replacement, reinstallation, and/or modification of existing Utilities necessary to accommodate construction, operation, maintenance and/or use of the Project; provided, however, that the term “Utility Adjustment” shall not refer to any of the work associated with facilities owned by any railroad. For any Utility crossing the Facility Right of Way, the Utility Adjustment Work for each crossing of the Facility Right of Way by that Utility shall be considered a separate Utility Adjustment. For any Utility installed longitudinally within the Facility Right of Way, the Utility Adjustment Work for each continuous segment of that Utility located within the Facility Right of Way shall be considered a separate Utility Adjustment.

**Utility Adjustment Agreement Amendment (UAAA)** means an agreement between Developer and a Utility Owner that amends a MUAA, as more particularly described in the Technical Requirements.

**Utility Adjustment Concept Plan** means a conceptual design document for the entire Project or for a segment thereof, which shows all of the approximate existing locations, and Developer’s recommendation for all of the adjusted locations, of each Utility impacted by the Project or segment, as more particularly described in the Technical Requirements.

**Utility Adjustment Field Modification** means any horizontal or vertical design change to a Utility Adjustment proposed by Developer or a Utility Owner due either to roadway design or to conditions not accurately reflected in the corresponding Utility Assembly for which the review and comment/approval process has been completed, that alters the design included in that Utility Assembly. An example would be shifting the alignment of an 8” water line to miss a roadway drainage structure. A minor change (e.g., an additional water valve, an added Utility marker at ROW line, a change in vertical bend, etc.) will not be considered a Utility Adjustment Field Modification, but shall be shown in the Record Drawings.
Utility Adjustment Plans means the plans, specifications, and cost estimates furnished for a particular Utility Adjustment, as more particularly described in the Technical Requirements.

Utility Adjustment Work means all efforts and costs necessary to accomplish the required Utility Adjustments, including all coordination, design, design review, permitting, construction, inspection, maintenance of records, relinquishment of Existing Utility Property Interests, preparation of Utility Joint Use Acknowledgements, and acquisition of Replacement Utility Property Interests, whether provided by Developer or by the Utility Owners. The term also includes any reimbursement of Utility Owners which is Developer’s responsibility. Any Utility Adjustment Work furnished or performed by Developer is part of the Work; any Utility Adjustment Work furnished or performed by a Utility Owner is not part of the Work.

Utility Agreement means a MUAA and/or UAAA, as the context may require.

Utility Appurtenance Adjustment means the adjustment of Utility appurtenances (e.g. manholes, valve boxes, and vaults) for line and grade upon completion of roadway work.

Utility Assembly means the collection of agreements, plans and other information and materials which Developer is required to submit to TxDOT in connection with each Utility Adjustment (or group of Utility Adjustments subject to the same original Master Utility Adjustment Agreement), as more particularly described in the Technical Requirements. Depending on the context, the term also refers to Supplemental Utility Assemblies and Abbreviated Utility Assemblies (both also described in the Technical Requirements).

Utility Assembly Checklist means a checklist listing the required components of a Utility Assembly, as referenced in the Technical Requirements.

Utility Assembly Number (also Assembly Tracking Number) means the unique number given by Developer to each Utility Assembly, using the form “YYY-U-XXXX.” The “YYY” shall refer to the assigned number of the highway and the “XXXX” shall refer to the 4-digit number assigned to each Utility Assembly (beginning with 0500 and numbered consecutively thereafter). The Utility Assembly Number shall be referenced on each corresponding MUAA, UAA, and UAAA.

Utility Design Coordinator (UDC) means the Registered Professional Engineer designated by Developer to be responsible to coordinate the Utility Adjustment design with the overall highway design features during the planning, design, and construction phases of the Work, as more particularly described in the Technical Requirements. Comprehensive Development Agreement (CDA).

Utility Enhancement means Betterment or a Utility Owner Project, as referenced in the CDA.

Utility Joint Use Acknowledgment or Utility Joint Use Agreement means an agreement between TxDOT and a Utility Owner that establishes the rights and obligations of TxDOT and the Utility Owner with respect to occupancy of the Facility ROW by such Utility Owner's Utility.

Utility Manager (UM) means the senior staff person designated by Developer to be responsible for coordination and oversight of Utility Adjustment operations during the planning, design, and construction phases of the Work, as more particularly described in the Technical Requirements.

Utility Memorandum of Understanding (“Utility MOU” or “MOU”) means a non-binding agreement or memorandum of understanding between TxDOT and a Utility Owner, establishing a cooperative general framework for the Utility Adjustment of such Utility Owner's Utilities. A document is a "Utility MOU" if it meets the foregoing definition regardless of the title of the document.

Utility Owner means the owner or operator of any Utility (including both privately held and publicly held entities, cooperative utilities, and municipalities and other governmental agencies).
Utility Owner Project means the design and construction by or at the direction of a Utility Owner (or by Developer) of a new Utility other than as part of a Utility Adjustment. Betterments are not Utility Owner Projects. Utility Owner Projects are entirely the financial obligation of the Utility Owner.

Utility Strip Map means a SUE map depicting existing Utilities potentially impacted by the Facility.


Work means all of the work required to be furnished and provided by Developer under the CDA Documents, including all administrative, design, engineering, real property acquisition and occupant relocation, construction, Utility Adjustment, utility accommodation, support services, operations, maintenance and management services, except for those efforts which such CDA Documents expressly specify will be performed by Persons other than Developer-Related Entities.

3. References
3.2. The D-B Team Health and Safety Plan.
3.3. Specifications, Drawings, and other relevant design documents.
3.4. Product and material safety data sheets (MSDS), hazard data sheets, and material conformity certificates.

4. Responsibilities (for this procedure)
4.1. Preparation by the Quality Manager.
4.2. Review by the Utility Manager
4.3. Approval by General Manager.
4.4. Specific Responsibilities.

Utility Manager (UM):
- Ensure that Utility conflicts are resolved as mutually agreed by all parties,
- Attend and lead Utility coordination meetings,
- Establish, coordinate, and update the design schedules and sequence of work schedules,
- Track the schedule of Utility Assemblies,
- Report on the status of New Utility Property Interest acquisitions by the Utility Owners,
- Prepare and provide the documentation necessary for federal funding reimbursement, in conformance with the provisions of 23 C.F.R. Section 645 Subpart A,
- Ensure that all Utility plans are signed and sealed by a Registered Professional Engineer.

Utility Design Coordinator (UDC)
The UDC will coordinate the Utility Adjustment design with the overall highway design features and obtain the executed Utility no conflict sign-off form. The UDC will review and provide written approval that the Utility Design is compatible with the Ultimate Roadway Design. The UDC will be a registered professional engineer.

Note: General responsibilities are defined in the Technical Requirements.
5. Procedure

5.1. Utility Identification and Tracking
Identify utilities that conflict with the Project.

Develop and maintain a Utility Tracking Report per Technical Requirements. It shall be updated periodically and submitted to TxDOT. Prepare a Utility Strip Map and submit it to TxDOT.

5.1.2 Utility Adjustment Concept Plan (ref. Technical Requirements 6.3.3)
Develop a Utility Adjustment Concept Plan. This Plan will be coordinated with the D-B Team Design Manager to ensure compatibility with the general design consultant’s design (e.g. roadway, drainage, electrical, structural). The Plan was also be coordinated with each Utility Owner. Meet with Utility Owners to discuss the Project and utility relocation requirements, e.g. betterments, protection in place, abandonment and removal. Decide if the relocation will be Owner or Developer managed. Submit the Utility Adjustment Concept Plan to TxDOT for review.

5.1.3 Master Utility Adjustment Agreements (ref. Technical Requirements)
Provide Master Utility Adjustment Agreements (MUAA) to the Utility Owners using the TxDOT MUAA forms in the Technical Requirements.

Note: Each MUAA is subject to TxDOT review and approval.

5.1.4 Failure to Cooperate
If a Utility Owner fails to cooperate with the relocation effort, then the D-B Team shall notify the Developer and the Developer shall notify TxDOT in accordance with the process described in the Comprehensive Development Agreement (CDA).

5.1.5 Coordination Effort
From the point of initial contact through the point of acceptance by the Utility Owner of the Utility Adjustment, the Developer and D-B Team will be engaged in regular coordination with the Utility Owner and with TxDOT.

Design coordination will be facilitated by the Utility Design Coordinator to ensure that the Utility Adjustment plans are compatible with the overall highway design and the Utility Owners’ needs per Technical Requirements. The Utility Adjustment plans are included in the Utility Assembly for TxDOT’s approval.

The Utility Manager will coordinate with Utility Owners to finalize the MUAs. The MUAA is included in each Utility Assembly for TxDOT’s approval.

The coordination effort will be accomplished by email, telephone conversations, letter, and meetings. Meeting notice and agendas will be provided to TxDOT two Business Days in advance of the meeting and provided to the Utility Owner three Business Days in advance of the meeting.

5.1.6 Affidavit of Property Interest
The Utility Manager (or designee) will prepare an Affidavit of Property Interest for each Existing Utility Interest. It will be included in the applicable Utility Assembly.

5.1.7 Replacement Utility Property Interests
The Utility Manager (or designee) will coordinate with each Utility Owner to assist their efforts to acquire Replacement Utility Property Interests.
5.1.8 **Relinquish Existing Utility Property Interests**
The Utility Manager (or designee) will cause the Utility Owners to relinquish each Utility Property Interest unless the utility (1) remains in its original location or (2) is installed in a new location.

5.1.9 **Quitclaim Deeds**
The Utility Manager (or designee) will have prepared a Quitclaim Deed for each relinquished Existing Utility Property Interest using TxDOT’s standard form included in Technical Requirements.
Note: Quitclaim Deed is subject to TxDOT’s review as part of the Utility Assembly.

5.1.10 **Utility Joint Use Acknowledgments**
The Utility Manager (or designee) will prepare Utility Joint Use Acknowledgments per the criteria defined in Technical Requirements, and using the standard form.
Note: Utility Joint Use Acknowledgments are subject to TxDOT’s approval as part of the Utility Assembly.

5.1.11 **Ultimate Configuration**
The Utility Design Coordinator will check the compatibility of the utility relocations with the initial design and Ultimate Configuration.

5.1.12 **Utility Assemblies**
Prepare Utility Assemblies (or Supplemental Utility Assemblies or Abbreviated Utility Assemblies) as prescribed in Technical Requirements

5.1.13 **Construction Notification**
The Utility Manager will notify the Utility Owners prior to starting Construction Work for that Utility Adjustment. The minimum notice period will be negotiated with each Utility Owner. Construction Work may only commence after TxDOT has provided Notice to Proceed.

5.1.14 **Emergency Procedures**
The Utility Manager will establish procedures (e.g. emergency contact names and telephone numbers) with each Utility Owner prior to commencing Construction Work. See Technical Requirements 6.4.6.

5.1.15 **Construction**
The D-B Team or Utility Owner will perform Construction Work in accordance with the criteria prescribed in Technical Requirements.
Note: Construction cannot commence until all conditions are met as set forth in Technical Requirements

5.1.16 **Construction Inspection**
The Quality Manager (or designated inspection entity) shall inspect the Utility Adjustment Work in accordance with Technical Requirements. Inspection and Test Plans will be developed depending upon the unique needs of each Utility Adjustment.

5.1.17 **Utility Adjustment Field Modifications**
Field modifications will be reviewed and approved by the Utility Owners in the same manner that the original Utility Adjustment drawings were approved. Field medications will also be reviewed by the D-B Team Design Manager to ensure no conflict with the highway design. The Developer and/or D-B Team will request that the Utility Owner expedite its review, since the modification will likely be during construction work that has already commenced. The Utility Design Coordinator will coordinate.

The field modifications will be simultaneously transmitted to TxDOT for review and comment. Again, with expedited review requested.
Modified Utility Adjustment drawings will be processed through the D-B Team’s Document Control (See PPM 1.3) to the D-B Team Construction Manager (if Developer Managed). If Owner-Managed, then the Utility Owner will provide modifications to its construction field personnel.

Document Control will provide modification drawings to the D-B Team Design Manager for inclusion in the Record Drawings for the Project.

5.1.18 Utility Service Commencement
The Utility Manager will coordinate with Utility Owners the timing for placing the newly Adjusted Utility into service and terminating the replaced Utility. Utility Service must be maintained.

5.1.19 Traffic Control
The D-B Team or Utility Owner will provide Traffic Control.

5.1.20 Record Drawings
The Utility Manager (or designee) will provide Record Drawings to TxDOT no later that 120 days after the Utility Owner accepts the Utility Adjustment.

5.2 Deliverables to TxDOT

5.2.1 Utility Strip Map
5.2.2 Utility Tracking Report
5.2.3 Utility Adjustment Concept Plans
5.2.4 Master Utility Assembly Agreements
5.2.5 Utility Adjustment plans
5.2.6 Affidavits of Property Interest
5.2.7 Quitclaim Deeds
5.2.8 Utility Joint Use Agreements
5.2.9 Utility Assemblies (contains aforementioned components)
5.2.10 Utility Adjustment Field Modifications
5.2.11 Record Drawings
17. - PPM 1.17 Quality Assurance Management

1. Purpose and Scope

1.1. The purpose of this procedure is to ensure that the Contract is executed in accordance with the Contract requirements, including any work performed by Subcontractors and Sub consultants, and to ensure that Quality Records are identified, generated, distributed and stored for the specified time. "Quality" deliverables will be identified prior to project commencement.

1.2. The scope covers all design and construction activities undertaken on contracts.

2. Definitions

2.1. Construction Quality Plan (CQP)

A Construction Quality Plan is a document setting out the specific quality objectives, practices, resources and sequence of activities relevant to a particular Contract or project.

2.2. Inspection and Test Plan (ITP)

An Inspection and Test Plan, e.g. Design Quality Plan, sets out the requirements, frequency and responsibilities for activities such as measuring, examining, testing and gauging one or more characteristics of a product or service, and comparing the results with specified requirements to determine conformity to the Contract Specification. Inspections and tests are detailed in the applicable procedures and results recorded on forms appended to these procedures.

2.3. Process Procedure (PP)

A Process Procedure details the purpose and scope of a generic activity, and specifies how it is to be carried out. The Quality Manual describes the intent (i.e. 'what' is to be done), the procedure details not only 'what' but may also detail 'who, how, when, where and why'. The output from a procedure (when complied with), provides objective evidence (in the form of records) of the compliance to the Specification and Developer requirements.

2.4. Work Plans/Method Statements (WP)

These are written instructions for individual construction activities.

2.5. Verifying Document:

Any document that records the result of an inspection or a test. These include, signed off Requests for Inspection of Work, laboratory test result certificates, concrete placement record sheets, temporary works certificates, and engineer diaries. These records must be maintained, stored and made available when required.

2.6. Quality and Environmental Documentation:

Documents and Data can be in many formats (e.g. electronic media and/or hard copies). The following is a list for guidance:

- Main Contract and Attachments;
- Drawings;
2.7. Non-Conformance Report (NCR)
Non-conformance Reports are the documents initiated by competent personnel to identify, record, and resolve items (material, equipment or portion of completed works) where the quality characteristic is indeterminate or non-conforming to applicable specifications or drawings.

2.8. Corrective Action Report (CAR)
These reports may be generated as a result of an Audit finding or outside an Audit. The Corrective Action Report is the document initiated by the Quality Manager or as a result of an audit raised by the Lead Auditor to identify, record and resolve a non-conformance from the approved Q.A. system. Refer to PPM 1.10, Corrective Action Report (Non Audit) and PPM 1.11, Corrective Action Report (Audit).

2.9. Audits
A systematic and objective examination to determine whether quality management activities and associated results comply with planned arrangements, and whether these arrangements are implemented effectively and suitably to achieve set objectives.

Internal Audits - Audits performed by the D-B Team Quality Manager (and/or suitably qualified delegated personnel) on specific departments.

Audits performed by the D-B Team Quality Manager (and/or suitably qualified delegated personnel) on Subcontractors and Suppliers employed by the Company.

External Audits
Audits carried out on the D-B Team Quality Management System by outside Organizations (e.g. Developer Representatives)

3. References
3.2. D-B Team Health and Safety Plan.
3.3. Specifications, Drawings, and other relevant contract documents.
3.4. Product and material data sheets, material safety data sheets (MSDS), material conformity certificates.

4. **Responsibilities (for this procedure)**

4.1. Preparation by the Quality Manager.

4.2. Review by the Corporate Quality Manager.

4.3. Approval by the General Manager.

4.4. Responsibilities for various activities may be delegated by the Quality Manager.

5. **Procedure**

5.1. **Requirements for Quality Assurance Management**

5.1.1 Quality Assurance Management System requirements for the construction of the works are detailed within the following documents:

- Specifications
- Drawings
- Contract documents
- Inspection and Test Plans
- Method Statements

5.1.2 The above documents specify the following,

- The general standards of the works;
- The specific standards of the works;
- The limit and extent of the works;
- The required testing to be conducted;
- The level of supervision of the works;
- The method to be used to construct each element of work.

5.2 **Structure of Quality Assurance Management System on the project**

5.2.1 In order to provide assurance that the specified quality is being built into the works, objective evidence is required. For this purpose inspections and tests shall be performed as specified in the Inspection and Test Plans (ITPs) and Work Plans. The records will be reviewed and maintained as the work progresses to show compliance to the Design and Build Agreement requirements.

5.2.2 Inspection, measurement and test plans shall be developed based on the Plans, Specifications, and any additional requirements as stated in Work Plans. All records shall be maintained on the specific forms developed for the project. All such documentation is required to demonstrate compliance with the specified quality parameters.

5.2.3 Inspections and Tests will be performed by the Quality Control Team, and if required from Suppliers and Subcontractors, prior to incorporation in the permanent works. Where QA/QC Team or Suppliers hold current approved quality management certificates or certificates from independent accredited testing
laboratories, no further testing will be required. Periodically it may be necessary to carry out testing using an external organization (e.g. chemical analysis). Material receipt inspection may be limited to visual checks in these cases. Selection of independent testing facilities will be made by the General Manager with assistance from the Quality Manager, if required.

5.2.4 The Quality Manager will carry out surveillances, reviews and audits of Contract activities, which have an effect on the quality of the works. Suppliers and Subcontractors working for the D-B Team will be subject to comparable reviews and audits. Reports of such visits will be recorded and issued appropriately.

A schedule of quality audits will be developed and distributed to the relevant personnel to ensure availability of staff at the appropriate times. Compliance to quality requirements will be monitored on this basis and will be reported to D-B Team Management. Corrective Action Reports will be raised when non-conformances are identified. This will be carried out as per the Procedure for Internal Audits. (Refer PPM 1.11).

5.2.5 Materials Control and Traceability

The General Manager will ensure that responsibility is allocated to authorized personnel for ordering materials, carrying out receipt inspections, verifying any product conformity certificates applicable to the supplied materials and ensuring material safety data sheets are supplied for their safe use.

Any damaged or unacceptable products will be subject to the Control of Non-Conforming Products procedure (Refer to PPM 1.9) until resolved.

Where required, traceability of products will be accomplished by recording location, date of manufacture, receipt date, unique number, date of use, tests, results or other relevant data.

When inspections are required by the Developer before incorporation into the works, these will be identified in the Inspection and Test Plan and the relevant Method Statements. Materials supplied by the Developer (if any) must also be inspected and, if found unacceptable, the Developer shall be informed in writing.

5.2.6 Survey Control

All instruments used for establishing horizontal and vertical controls will be maintained at an acceptable calibrated status. A log will be kept of instruments used on site noting the instrument number, make, model, calibration date, calibration method, and any other regular checks carried out (Refer to PPM 1.8).

Survey books will be maintained legibly, and in such order as would enable them to be understood by other engineers.

Monthly checks will be implemented to verify the accuracy of survey control stations. Survey tolerances will be identified and complied with. Any non-compliance will be resolved through the procedure for Corrective and Preventive Actions (Refer to PPM 1.10). Site Engineers and their supervisors will ensure compliance to the above requirements.

Survey checks will be carried out on certain critical elements of the works as they proceed to verify that the elements have been constructed as per the contract. Results of these checks to be recorded and stored in document control.

5.2.7 Testing

An accredited testing laboratory will perform required construction testing. Quality Control is part of the Quality Management Team on the project and its responsibilities are as follows:

- Reviewing, updating distributing and filing of Quality Control and subcontractor test reports.
Supervising testing performed by subcontractors.

Liaise with the Procurement Manager on assessment and approval of material supply sources.

Advise and liaise with construction and departmental managers regarding material testing requirements.

Analyze material test data and report results to the Construction manager and General Manager.

The Quality Manager will assist in investigating the cause of material test failures and recommend corrective action if (any) in consultation with the Site Management. Also, assist in the discharge of non conformances relating to material test failures.

Testing will be carried out by the QA/QC DB Quality Staff. Specialized subcontractors may perform these duties, if required. The required documentation necessary to verify the test results will be obtained and stored in Document Control.

5.3 Construction, Inspection and Non-Conformance Process

5.3.1 Prior to the commencement of construction of an element of works (e.g. concrete placement), the D-B Team Construction Department shall inform the Developer’s representative of their intention to perform a particular operation.

5.3.2 Inspections take place, issues are identified and addressed.

5.3.3 NCRs will be generated during the construction process when an element of work fails to comply with the contract documents.

a) Developer NCRs shall be communicated to D-B Team Quality Manager for resolution by the Construction Manager.

b) D-B Team NCRs shall be routed through Quality Manager for resolution by the Construction Manager. They shall be available for inspection by the Developer for audit purposes. All NCRs will be closed by the Quality Manager.

5.3.4 Where a design solution is involved in the resolution of an NCR (from whatever source it has been raised), the Quality Manager shall transmit the NCR to the Design Manager for action.

5.3.5 Completed inspection reports, “Closed out” NCRs, laboratory test results, and other relevant records, shall be retained in Document Control.

5.3.6 The following are other relevant documents pertaining to this procedure,

- Process Procedures Manual Section 1.8: Construction Management.
- Process Procedures Manual Section 1.9 Control of Non-Conforming Products.
- Process Procedures Manual Section 1.10 Corrective and Preventive Action.
- Design Quality Plan.

5.4. Document Control of Records

5.4.1 Quality Systems generate documentary records. It is necessary to maintain specific records for the period detailed in the contract documents and required by governmental statutes. It is essential that the relevant records are available at the locations, at which they are needed to verify the following:

- The works have been constructed as per the contract
- The works have been witnessed and recorded
- The required tests have been conducted and recorded
Test results have been analyzed to establish compliance

5.4.2 The responsibility for filing and maintaining records during the execution of the Contract lies with the D-B Team management team. These records are generally defined in applicable Procedures, Work Plans, ITPs, and quality plans. They include records supplied by Subcontractors and Suppliers.

5.4.3 The list of the Quality Records to be maintained as part of the Contract must be established by the D-B Team management team in consultation with the Quality Manager.

5.4.4 All records shall be uniquely identified by the presence of a unique number. A register of all pertinent documents are maintained on the site computer network. For details of the Site Filing System, see PPM 1.3, Documents and Data Control and PPM 1.14 Control Quality and Environmental Record.

5.4.5 Records shall be filed and maintained for the duration of the activities on a Contract. At the completion of the Contract, records will be classified and separated according to the storage period requirement.

5.4.6 Records generated by interaction with Subcontractors and Suppliers are also subject to the above controls.
18. - PPM 1.18 Geotechnical Investigation

1. Purpose and Scope

1.1. The purpose of this procedure is to describe the primary responsibilities and processes used by the D-B Team for creating, executing, and documenting the Geotechnical Investigation Plan.

1.2. This procedure addresses Geotechnical Investigations.

2. Definitions


2.2. Records: Documentary evidence gathered or created by the Geotechnical Consultant related to performance of the Work.

3. References


3.3. Contract Plans and Inspection and Test Plans.

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager

4.2. Review by Design Manager

4.3. Approval by the General Manager

5. Procedure

5.1. A Geotechnical Investigation Plan is developed through consultations between the Geotechnical Design Consultant and the General Design Consultant under the supervision of the Design Manager. By working in concert, these consultants determine the location, quantity, and depth of borings, sampling and laboratory test work, and other NDT investigations to be undertaken throughout the Project corridor. The boring layout will minimally encompass borings for bridges, retaining walls over five (5) feet in height, high mast illumination, paving, slopes, and overhead sign structures.

5.2. The number and locations of soil borings required for the foundation explorations will be established by the complexity of the geological conditions and the dimensions of the structure and be based on the guidelines outlined in the TxDOT Geotechnical Manual. Generally, soil borings will be deeper than the probable tip elevation of the foundation.

5.3. The D-B Team will have a single point of contact who will contact landowners to inform them of the activities scheduled to take place on their property during these Geotechnical Investigations. The Geotechnical Consultant will provide a daily log of personnel conducting field operations and their location.

5.4. The Geotechnical Consultant will contact Texas One call System 2 business days prior to the anticipated start of boring activities, to ensure no utilities are present in the area of the proposed borings. If there is a conflict, then the Geotechnical Consultant will confer with the General Design Consultant to adjust the boring plan.
5.5. The Geotechnical Consultant will generate a traffic control plan in accordance with the *Texas Manual on Uniform Traffic Control Devices* (latest edition) and make arrangements for traffic control, if required.

5.6. Prior to commencing field work, the Geotechnical Consultant’s and General Design Consultant’s field personnel will receive (1) safety training and (2) environmental training.

5.7. The Geotechnical Consultant will have the boring hole locations surveyed in by a Registered Professional Land Surveyor (RPLS). The RPLS will provide the coordinates of the hole and the elevation of the existing ground where the bore is made. If the bore is moved, e.g. drill rig cannot drill at the surveyed location, the RPLS will amend the boring layout to reflect “as-built” boring locations. In all cases, the hole coordinates and elevation of existing ground at point of entry must be documented.

5.8. Testing will be performed in agreement with TxDOT Geotechnical Manual. The testing and sampling program will be contained in the Geotechnical Investigation Plan.

5.9. When a boring has been completed, the hole will be backfilled with bentonite (top 10 feet; points below 10 feet may be filled with in-situ material).

5.10. Analyze sample and prepare geotechnical reports:

   1. Earthworks and retaining walls.
   2. Foundations (bridge, culverts, misc. structures)
   3. Pavement Design

6. Records

6.1. The Geotechnical Consultant shall establish a record-keeping procedure approved by the D-B Team Design Manager to properly identify field samples collected for laboratory analysis to ensure the integrity of information that is used in the design process.

6.2. Records shall be maintained by establishing a Document Control System.

6.3. Records must not be removed from the Document Control System by unauthorized personnel.

6.4. Records shall be filed and maintained for the duration of the Contract. At the completion of the Contract, records will be classified and separated according to the storage period requirement.

6.5. Records generated by Subcontractor and Supplier interaction are also subject to the above controls.

6.6. Compliance with paragraphs 5.1 to 5.9 of this procedure shall be verified by the Quality Manager (or delegated persons) through surveillances, reviews and audits.
19. - PPM 1.19 Aesthetics and Landscaping

1. Purpose and Scope

1.1. The purpose of this procedure is to outline how the aesthetics and landscaping allowance will be utilized.

1.2. This procedure describes the primary responsibilities and processes used by the D-B Team for creating, executing, and documenting use of the aesthetics and landscaping allowance defined in the Comprehensive Development Agreement and the Technical Requirements.

2. Definitions

2.1. Contract: The Agreement in writing between The D-B Team and the General Design Consultant to perform the Work defined in the Contract.

2.2. Records: Documentary evidence gathered or created by the D-B Team and its consultants related to performance of the Work.

3. References


3.2. The D-B Team Design Quality Plan

3.3. Comprehensive Development Agreement

3.4. Technical Requirements

3.5. Technical Documents

4. Responsibilities (for this procedure)

4.1. Preparation by the Quality Manager

4.2. Review by Design Manager

4.3. Approval by the General Manager

5. Procedure

5.1. An aesthetic and landscaping policy has been established for SH 121, segments 1-5. Prior to the start of any design element, the Developer shall define a scope of work for aesthetic and landscaping features to be performed by the D-B Team on a cost-plus basis, up to the amount of such allowance with the D-B Team having no further obligation to perform any additional work for Landscape and Aesthetic features without further compensation.

5.2. An Aesthetics and Landscaping plan will be developed by the Design Manager and the General Design Consultant in consultation with the Developer.

5.3. The aesthetics activities will include among other: design, formliner, sealing/painting on retaining walls, riprap, railing, bent caps, abutment caps, abutment wingwalls, columns, sign columns and accents (including raised, recessed or cast). The landscaping activities will include among others: trees, shrubs, hardscapes, stones, other vegetative material and QC/QA.

5.4. The General Design Consultant will ensure that, to the extent specified by the Developer, the requirements of SH 121 Landscape and Aesthetic Details will be incorporated into the design.
5.5. The D-B Team will submit panels for textured concrete surfaces to the Developer at least 10 days prior to commencing Work on these features.

5.6. Bridge aesthetic design procedures:
- Design and construct bridges with relatively long spans and fewer bents without compromising economics of optimization;
- Round columns will be used at stream crossings and bridges that are not viewable by the traveling public.
- Use similar shapes and details for all bridges;
- Minimize structure size consistent with function;
- Emphasize bridge railings by maximizing deck overhangs (up to 3 feet) to place the girder face in deeper shadow and use TxDOT standard bridge rails;
  ■ Minimize the superstructure depth;
  ■ Balance span lengths to the extent possible;
  ■ For steel superstructures, if any, use continuous spans with a minimum number of expansion joints; and for conventional concrete superstructures, use simple spans; and,
  ■ Make column size proportional with the bridge as a whole; and if possible locate columns under parallel bridges along a common line at each bent.

5.7. Retaining wall aesthetic design procedure:
  ■ Eliminate walls wherever possible in favor of slopes.
  ■ Where necessary, design retaining wall profiles and alignments to blend with the natural terrain.
  ■ Use similar wall colors, textures, and styles throughout the corridor.
  ■ Aesthetic treatments will be applied to the vertical surface where the surface is visible from the traveled way.

5.8. Trees, Shrubs, and Other Plants Material—the Design will incorporate the use of plant material with the requirements of the Technical Requirements.

6. Records

6.1. Records shall be maintained by establishing a Document Control System.

6.2. Records must not be removed from the Document Control System by any unauthorized personnel.

6.3. Records shall be filed and maintained for the duration of the activities on a Contract. At the completion of the Contract, records will be classified and separated according to the storage period requirement.

6.4. Records generated by Subcontractor and Supplier interaction are also subject to the above controls.

6.5. Compliance with paragraphs 5.1 to 5.8 of this procedure shall be verified by the Quality Manager (or delegated persons) through surveillances, reviews and audits.
Attachment 3. D-B Team Organization Chart
DESIGN QUALITY ORGANIZATION CHART SH 121

Developer

D-B Team

Environmental Compliance Manager Jennifer Oehl

General Manager Jose Carlos Esteban

Design Manager Fidel Saenz

Texas Department of Transportation

Developer QA/QC Assistant

Ferrovial Webster D&B (SB)

Design Quality Manager Esteban Trigueros

QA Document Control

 QC Lead

 QC Technicians

 QC Laboratory Technicians

Consultants and Subconsultants
Attachment 4.  D-B Team Design Chart
Attachment 5. Design Schedule

Refer to Appendixes D for further details
Attachment 6. Schedule of Works

Refer to Appendixes D for further details
Attachment 7. Job Descriptions
Job Description

Job Title

General Manager (Key personnel)

Responsible To

D-B Team Supervisory Board

Responsibilities:

The General Manager is the senior project executive and shall report to the D-B Team Supervisory Board. The General Manager shall be the primary interface with the Developer and other outside entities.

The General Manager is responsible for directing and supervising all department managers (e.g. Project Controls, Design, and Construction). The General Manager shall ensure that management systems (e.g. Quality Plans, Project Instructions, Management Review, Control of Non conforming Product) are in place and functioning to provide an integrated approach for the design and construction activities, to be delivered within the defined schedule and specified requirements.

The General Manager shall ensure the appropriate participation of all team members to provide the necessary expertise and resources for successful completion of the Works. Prior to award of any procurement package, the General Manager will review the bidders provided by the Procurement Manager, the Design Manager and/or Construction Manager and Quality Manager, and subsequently approve the award of the procurement package based on their assessment and recommendations.

The General Manager’s principal duties are to manage the project’s quality, functionality, safety, and financial outcomes.
CV: Key Expertise

José Carlos Esteban Blein

Project Experience:

2006 - Present: Ferrovial-Agromán, S.A. General Manager Joint Venture
- Widening project in the Indiana Toll Road. Toll road widening of three different segments: 3.40, 1.50 and 1.77 miles in length.
- Budget of $250,000,000
- Client: ITR Concession Company, LLC.

2002-2006 Ferrovial-Agroman, S.A. Site Manager
- Scutt Norte Litoral Motorway in Portugal. Toll road with 2 x 25 Km sections, 17 km new construction and 64 Km of Motorway in use with various improvement projects along the section. Project between the towns of Oporto, Viana do Castelo, Caminha and Ponte de Lima (Portugal).
- Budget $305,900,380 (Appx. $379,300,000)
- Client: Concesionaria Da Scut Norte, Portugal.

1998-2002 Ferrovial-Agroman, S.A.
- Collipulli Temuco Tollway in Chile. Project involving the widening of 110 km of motorway, 25 km of new construction and 110 Km of rehabilitation of the existing motorway, including the construction of 21 interchanges. Projects between the towns of Collipulli and Gorbea (IX Region, Chile). Held Post of Technical Manager between July 1999 and March 2001. In charge of pay requests, production and Customer relations.
- Budget: 157,873, 450 € (Aprox. $ 196,000,000)
- Client: SOCIEDAD CONCESIONARIA S.A. RUTA DE ARAUCARIA, Chile.

1997-1998 Ferrovial- Agroman S.A. Production Manager
- Project: 7th November Olympic Stadium, Tunis.
- Budget: 121,651,200€ (Aprox. $ 150,800,000)
- Client: Ministère de L´Equipement et L´Habitat. Tunisia

1995-1996 Ferrovial S.A. Estimator Assistant in the International Contraction Department

Education
Masters Degree in Civil Engineering
Madrid Polytechnical University, Madrid 1995

Reference
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Cintra Concesiones de Infraestructuras de Transporte, S.A.
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**Job Description**

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Responsible To</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Manager (Key personnel)</td>
<td>General Manager</td>
</tr>
</tbody>
</table>

**Responsibilities:**
The Construction Manager is responsible for managing all aspects related to construction. The Construction Manager shall have the overall responsibility for site administration and coordination of site operations, site surveying and control; quality control and testing; progress monitoring and verification of quality and quantity of work completed by subcontractors, health and safety for field operations, and cost control.

Upon completion of each construction phase, the Construction Manager shall affirm that the Works have been completed in compliance with the specified requirements. In addition, the Construction Manager shall ensure that all pertinent construction records are collected and prepared for archiving.

Prior to award of any procurement package related to construction/installation, the Construction Manager will assess the bidder’s competency to perform the Work. The actual supervision of construction activities on site shall be managed by the Segment Managers who shall report to the Construction Manager.
CV: Key Expertise

Mark D. Smith

Experience:

W. W. Webber, LLC - Dallas/Fort Worth, Texas

Project Manager May 1997 to Present
- US75 HOV Extension, Dallas & Collin Counties (8/06 to Present)(18 million)
- IH35E Widening for Auxiliary Lanes, Denton County (9/06 to Present)(4 million)
- IH30 HOV Extend Contra Flow with Movable Barrier, Dallas Co. (6/06 to Present)(14 million)
- Dallas North Tollway, NB & SB Safety Enhancements (1/06 to Present)(12 million)
- PGBT Shoulder Improvements & Barrier Installations (10/04 to 6/05)(10 million)
- President George Bush Turnpike, Segment IV (5/03 to 12/05)(35 million)
- IH30/IH35 Interchange Segment IV, Tarrant Co. (12/02 to 8/03)(16 million)
- IH35E HOV @ I30 Interchange, Dallas Co. (2/00 to 1/03)(17 million)
- Spring Creek Pkwy Pavement Widening, Collin Co. (4/99 to 2/00)(8 million)
- IH30 Bonded Concrete Overlay Project (5/97 to 8/98)(4 million)

Project Manager Responsibilities:
- Safely manage and supervise all aspects of each project from procurement to final estimate within the established time and budget.

Project Engineer August 1995 to April 1999
- IH35W & Western Center Blvd Interchange
- Interstate Highway 30 Bridge and Shoulder Rehabilitation Project between Dallas and Fort Worth
- Business 287 Bridge Rehabilitation Project
- SH34 Trinity River Bridge

Responsibilities:
- Generated monthly pay estimates and submitted to State for payment
- Scheduled project, tracked production and analyzed costs relationships
- Scheduled and approved all material purchases
- Processed subcontracts, purchase orders, and change orders as required
- Translated work schedules and conditions to public and private sectors
- Managed all office operations and provided survey information to field engineers

Education

University of Dayton,
Dayton Ohio
Bachelor of Science
Engineering, 1991

References:

See Attached page
T.J. Lambrecht Construction Company, Dallas-Fort Worth International Airport
April 1995 to August 1995

**Project Engineer/ Safety Coordinator on following projects:**
- Runway 16/34 East Grading and Major Drainage
- Taxiway ER(35) And P(N) Extension
- Transportation Complex Relocation

**Responsibilities:**
- Generated monthly pay estimates and submitted to CM/Owner for payment
- Approved all subcontractors invoice’s and produced DBE Reports
- Reinforced safety procedures to crews on a daily basis and reported to Airport weekly
- Implemented a storm water pollution prevention plan specifically designed for project

T.J. Lambrecht Construction Company, Euless, Texas
September 1994 to April 1995

**Project Engineer/ Estimator out of Division Office**
- Arlington Sanitary Landfill, Arlington, Texas
- State Highway 360, Arlington, Texas
- State Highway 380, McKinney, Texas
- Johnson Creek Flood Improvements, Grand Prairie, Texas

**Project Engineer Responsibilities:**
- Tracked and reported quantities throughout projects
- Coordinated subcontractors, material suppliers and utility companies
- Monitored schedules for fast-track projects
- Invoiced owner or general contractors monthly
- Generated claim for additional payment
- Produced linear schedule

**Estimator Responsibilities:**
- Quantity take-offs, site investigations and price quotes

T.L. James & Company, Inc., Cleburne, Texas
September 1992 to September 1994

**Project Engineer on State Highway US 67 Project**

**Responsibilities:**
- Performed design modifications on existing state designs to meet actual conditions
- Coordinated subcontractors, material suppliers and utility companies for entire project
- Interacted with State Project Manager to ensure accurate billing of work performed
- Instituted work schedules to minimize cost and maximize productivity
- Communicated daily work schedule to state personnel

**Job Description**

**Job Title**

Design Manager (Key personnel)

Manager

**Responsible To**

General

**Responsibilities:**

The Design Manager is responsible for managing the Design Team. The Design Manager shall also be responsible for ensuring that specific packages for design and related specifications meet the Comprehensive Development Agreement and Design and Build Agreement requirements. Further, that the design is functional and fulfils the specified criteria for safety, constructability, quality, cost effectiveness, and environmental guidelines with the project schedule.

Duties shall also include the coordination of inter-disciplinary requirements within the various Consultants. On the completion of each design milestone, the Design Manager shall have the consultants certify that the design products have been completed in accordance with specified requirements. Prior to award of any procurement package related to design or professional services, the Design Manager is responsible for technical assessment of the proposers.

During the duration of the project, the Design Manager shall also be responsible for providing engineering support to the project team to provide technical input during the procurement process and for reviewing change proposals. The Design Manager will review design packages from Consultants prior to issue for construction.

A primary duty of the Design Manager is to establish an effective design review process to ensure that inter-disciplinary requirements have been completed prior to issue for procurement and, subsequently, for construction. The objective is to control changes without causing an adverse impact on the specified criteria, cost or schedule.
CV: Key Expertise

Fidel Sáenz de Ormijana

Project Experience:

2005-Present  FERROVIAL AGROMAN US CORPORATION
- Based in Austin, Texas (USA)
- Technical Director for the High Priority IH 35 Texas Corridor
- Cintra WW Webber LP

2001-2005  FERROVIAL AGROMÁN, S.A
- Based in Madrid (except 1999-2001, in Toronto)
- Leader of a 20 people team, responsible for design of a wide number of projects
- Coordinating external consultants and internal resources
- Author of over 16 papers. Design Manager for the following works:
  - Preliminary Design for DBFO Tender N4-N6 (Ireland) – 35 km.
  - Preliminary Design for DBFO Tender Dundalk (Ireland) – 10 km of new construction.
  - Preliminary Design for DBFO Tender SWM Detailed Design R-4 (Madrid, Spain) – 90 km

1999 - 2001 Highway 407 ETR (Toronto, Ontario), extensions: West (26 km), East (15 km).
- Based in Toronto, Design Manager responsible for the coordination of 16+ consultants and 12+ technical personnel in the B&B Contractor. Fast track project with very demanding deadlines where the design schedule was construction driven. Extensive public and stakeholder consultation.

1999 Detailed design for M-45 Concession Highway, Madrid (Spain).


Education

- Ph.D. in Civil Engineering
  University of Texas at Austin, Texas (EE.UU.) 1989
- M.S. in Civil Engineering
  University of Texas at Austin TX (EE.UU.) 1986
- B.S. in Civil Engineering
  Universidad Politecnica de Madrid, E.T.S.I. Caminos, Canales y Puertos, 1980

Reference

See Attached Page
- Secretaría de Recursos Naturales y Desarrollo Sustentable (Argentina). Preliminary design for tender Canal Federal Tramo I and Río Hondo Pumping Station.
- Gobierno de la Provincia de Mendoza (Argentina). Preliminary design for tender Canal Marginal Río Atuel.
- INRH (República Dominicana). Monción Dam. Filter design report.

1997 XUNTA DE GALICIA – Preliminary design for Caldas de Reis Dam.
- MIMAM – Preliminary design for long sea outfall Mompas (San Sebastián).
- MIMAM – Preliminary design for Ibiur Dam.
- MIMAM –Detail design for 40.000 Has irrigation subdivision Right Bank of Genil River. Palma del Río (Córdoba).
- JUNTA DE CASTILLA Y LEÓN Detail design for Ronda Interior Sewer System (1500 meters).
- PUERTOS DEL ESTADO – Detail design for Ro-ro Berth in the San Carlos Wharf (Palma de Mallorca).
- PUERTOS DEL ESTADO – Conceptual preliminary design for Solid Bulk Wharf Extension (Alicante).
- SECRETARÍA DE RECURSOS NATURALES Y DESARROLLO SUSTENTABLE (ARGENTINA) – Preliminary design for tender Acueducto Río Colorado.

1996 MIMAM – Preliminary design for Irueña Dam.
- MIMAM – Preliminary design for Sahechores Hydropower Plant (Civil Engineering).
- PUERTOS DEL ESTADO – Preliminary design for Guixar Wharf in Vigo.
- MIMAM – Preliminary design for tender Llucmajor. Wastewater Treatment Plant.
- JUNTA DE EXTREMADURA – Preliminary design for Jaraicejo Dam.
- MINISTERIO DE FOMENTO – Detail design for Costa del Sol Concession Highway (50 km).
- JUNTA DE EXTREMADURA – Detail design for Trujillo Dam.
- PUERTOS DEL ESTADO – Detail design for New Vehicle Terminal. Port of Tarragona.

- MOPTMA – Detail design for Lérida-Puigcerdá Road By-pass.
- MOPTMA – Preliminary design for tender Andévalo Dam (Huelva).
- MOPTMA - Preliminary design for tender La Loteta Dam (Zaragoza).
- MINISTERE DE L'AGRICULTURE - Project d'Amenagement L'oued Barbara (Tunex).
- MOPTMA – Detail design for Orotava-Los Realejos Highway (Tenerife).

1994 JUNTA DE EXTREMADURA – Preliminary design for tender Municipal Water Supply to Acebos, Hoyos, etc. (Cáceres)
- MOPT – Preliminary design for tender Peñarrubia Gijón-Este outfall.
MINISTERE DE L'AGRICULTURE, Republique Tunisienne, D.G.G.T. - Project d'Aménagement de L'Oued Barbara. Detail design for Conduit d'Amenée, Station de Pompage et Conduit de refoulement

References
Fidel Saenz de Ormijana
October 17, 2006

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Fax: 512-463-0283

Ed Pensock
Director of Corridor Systems
Texas Department of Transportation
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Austin, TX 78701
Phone: 512-936-0960
Fax: 512-936-0970

Dieter Billek
TTC-35 Project Manager
Texas Department of Transportation
125 East 11th Street
Austin, TX 78701
Phone: 512-334-3831
Fax: 512-334-3900
**Job Description**

**Job Title**

Health and Safety Manager

Responsible To

General Manager/Supervisory Board

**Responsibilities:**

The Health and Safety Manager shall monitor the Project Health and Safety Plan. The Health and Safety Manager shall ensure that all elements of the works comply with the current Health and Safety Plan, laws, and regulations and shall promote the principals and objectives for managing Health and Safety in relation to the work being performed during each stage of production.

The Health and Safety Manager shall provide training, ensure compliance with statutory requirements and give appropriate advice to management. The Health and Safety Manager shall monitor health and safety performance and standards on the project.

The Health and Safety Manager shall be available for inspections conducted by regulatory agencies, governmental entities, and the Developer.

The Health and Safety Manager shall liaise with all personnel including subcontractors and suppliers to perform the following duties:

- Plan and review specific work-risk assessments
- Address work permitting requirements
- Emergency Planning/First Aid Measures
- Incident reporting

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**Job Description**

**Job Title**

Environmental C. Manager (Key personnel)

Responsible To

General Manager/Supervisory Board

**Responsibilities:**

The Environmental Compliance Manager is responsible for coordination, inspection, and checking the environmental, archaeological and ecological aspects of design and construction.

Principal duties include:

- Act as the focus for all inquiries with regard to environmental issues and carry out periodic inspections of the site to affirm compliance with the environmental plans.

- Liaise with the environmental consultants, to monitor activities and take corrective action, where required. Where necessary, these actions will be developed into operational method statements and communicated to relevant personnel.
Ensure that the project specified environmental requirements are carried out and that the information/results is supplied to the relevant Agency or Employer.

Conduct meetings with appropriate personnel to disseminate information and to discuss any relevant environmental issues.

In the event of an environmental incident, implement the procedures as outlined in method statements. Additionally, examine the procedures which gave rise to the incident and mitigate against a repeat incident.

Conduct environmental training for all work personnel.

Ensure that all environmental documentation is maintained within the Document Control system.

Keep environmental plan current.

Manage the environmental team to prevent, minimize, or correct any violation of or noncompliance with environmental approvals.

Shall attend design meetings arrange by the Design Manager to coordinate the different design elements.
CV: Key Expertise

Jennifer A. Oshel

Professional Experience:

Sept. 2006 - present: Ferrovial Agroman US Corp., Austin, Texas

Environmental Specialist

- Responsible for managing environmental issues in relation to highway design and construction, including landscaping, fauna and noise mitigation measures, endangered species, habitat evaluations, impact on and environmental permits for jurisdictional waters and wetlands and SWPPP.
- Assist with selection, supervising, and managing external environmental sub consultants working on the evaluation of the environmental aspects, both during the proposal and the Design-Build Phase.
- Prepare environmental management plans and environmental monitoring plans during construction. Supervise and direct D-B Team personnel and external sub consultants during the implementation of these plans and mitigation measures during construction.
- Participate in meetings with the Owner (TxDOT or other DOTs) about design issues and environmental risks in the Project, both during proposal and Design-Build Phase.
- Advise on legislation and procedures concerning the environmental permit process.

May 1999 - Sept. 2006: Horizon Environmental Services, Inc., Austin, Texas

Environmental Specialist, Project Manager

- Responsible for coordination of project tasks, scheduling, technical guidance, report preparation, and reviews, as well as coordination with clients and regulatory agency personnel.
- Responsible for conducting more than 300 Phase I Environmental Site Assessments within the scope and limitations of ASTM standards E 1527-00 and E 1528-00 for Commercial Real Estate.
- Transactions in the State of Texas and other parts of the country, on both small and large acreage sites as well as linear corridor projects.
- Provide environmental constraint analysis on residential development projects.
- Conduct preliminary Phase II Environmental Site Assessments, including soil, surface water, and groundwater sampling.
- Conduct environmental assessments and habitat assessments for land development code compliance in the City of Austin, City of Lakeway, and City of San Marcos.
- Provide project support for threatened or endangered species habitat assessments and presence/absence surveys.

Education

B.S. Environmental Studies and Applications, Michigan State University, 1998

References

See Attached page
- Provide project support for geological assessments and karst surveys, conducting on-site identification of recharge features and karst characteristics
- Conduct on-site Section 404 determinations and delineations for jurisdictional wetlands or other “waters of the US”; provide staff support negotiating nationwide and regional general permits
- Provide project support for wetland mitigation projects including plant installation and monitoring activities
- Provide preparation and filing assistance for Federal Energy Regulatory Commission (FERC) resource reports and permit applications for natural gas pipeline environmental compliance
- FERC-certified Pipeline Inspector: perform active construction inspections, post-construction stormwater monitoring, monitoring of horizontal directional drill sites, and inspections within wetlands, creek crossings, and other environmentally sensitive areas


**Environmental Underwriting Technician**
- Responsible for constructing comprehensive liability coverage programs for aboveground and underground storage tanks
- Issued policies, performed data entry and file maintenance
- Provided guidance and support for complete re-development of policy management software

**Sept. 1997 - April 1998: Ingham County Bureau of Environmental Health, Lansing, Michigan**

**Environmental Assistant**
- Surveyed and inventoried Class V wells
- GIS-digitized county maps
- Provided technical support for an update of the county’s Solid Waste Management Plan
- Reviewed Superfund Amendments and Reauthorization Act (SARA) Title III Extremely Hazardous Substance Site Plans for county approval procedure
- Provided inspection assistance for underground storage tanks, wastewater treatment facilities, and restaurant procedures and food safety
References
Jennifer A. Oshel
October 16, 2006

Lee Sherrod  
Principle  
Horizon Environmental Services, Inc.  
2600 Dellana Lane  
Austin, Texas 78746  
Phone: 512-328-2430  
Fax: 512-328-1804

Kristin White  
President, Geologist  
Escraption Environmental  
701 Brazos, Suite 500  
Austin, Texas 78701  
Phone: 512-320-9122  
Fax: 512-597-0772

Valerie Learman  
Senior Environmental Specialist  
HBC Terracon  
5307 Industrial Oaks Blvd.  
Austin, Texas 78735  
Phone: 512-442-1122  
Fax: 512-442-1181
## Job Description

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Responsible To</th>
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</thead>
<tbody>
<tr>
<td>Quality Manager (Key personnel)</td>
<td>General Manager/Supervisory Board</td>
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</table>

**Responsibilities:**

The Quality Control/Quality Assurance Manager (Quality Manager) is responsible for ensuring that the Quality Program is functioning. The Quality Manager shall be responsible for conducting field QC and QA, documenting QC and QA, and providing records related to quality system to document control. The disposition of all non-conformities and implementation of corrective and preventive actions shall be determined by the Quality Manager.

The Quality Manager shall also be responsible for training and for planning quality audits. Prior to award of any procurement package, the Quality Manager will assess the Quality System of a bidder. The Quality Manager, in conjunction with the General Manager and selected managers are responsible for performing the Management Review.
CV: Key Expertise

Esteban Trigueros Castaño

Professional Experience:

Aug 2006 - Present: Quality Assurance and Quality Control Manager

- FERROVIAL AGROMAN US Corp.
- Clients: CINTRA / TxDOT (Texas State)
- Budget: $ 900,000,000
- Project: SH 130 SEGMENTS 5 and 6: TEXAS STATE (US)
A tollway between Austin and San Antonio, with 42 miles of new construction; comprising two mainlanes each direction, some frontage roads and interchanges. I will supervise one Environmental Manager, one Health and Safety Manager, five engineers, four surveyors and 32 laboratory technicians.


- FERROVIAL AGROMAN CHILE, S.A.
- Clients: Ministry of Transportation Chile / CINTRA
- Budget: $ 159,698,800
- Project: PANAMERICANA SUR - South Access to Santiago: CHILE.
- A highway between Santiago and Rancagua, with 47 miles of new construction; 10 miles with three mainlanes and 37 miles with two mainlanes each direction. I supervised five engineers, two surveyors and 22 laboratory technicians.


- FERROVIAL AGROMAN CHILE, S.A.
- Clients: Ministry of Transportation Chile / CINTRA
- Budget: $ 75,856,930
- Project: PANAMERICANA SUR - By Pass Rancagua: CHILE.
- A highway that by-passes the city of Rancagua, with 29 miles of new construction; comprising two mainlanes each direction. I supervised four engineers, two surveyors and 15 laboratory technicians.

- FERROVIAL AGROMAN CHILE, S.A.
- Clients: Ministry of Transportation Chile / CINTRA
- Budget: $ 163,691,270
- Project: PANAMERICANA SUR – Ruta 5: CHILE.
- Motorway in use, with 2 x 191 Kms, 60 of new construction; and 130 Km with various projects along the section. I supervised four engineers, tree surveyors and 26 laboratory technicians.


- PROINTEC S.A. (Consultant)
- Clients: Ministry of Transportation (MOPT) Spain
- Budget: $ 160,000,000
- Project: FREEWAY HUELVA-AYAMONTE. TRAMO: INTERCHANGE ALJARAQUE INTERCHANGE LEPE (OESTE). SPAIN.
- Motorway in use, with 2 x 24 miles of new construction; with various projects along the section. I supervised one engineers, two surveyors and 5 laboratory technicians.


- PROINTEC S.A. (Consultant)
- Clients: AUSOL (CINTRA)
- Budget: $ 382,000,000
- Project: TOLLWAY AUTOPISTA DEL SOL. SEGMENT: ESTEPONA-BENALMADENA.
- Motorway in use, with 2 x 61 miles of new construction with various projects along the section. I supervised two engineers, tree surveyors and 8 laboratory technicians.


- PROINTEC S.A. (Consultant)
- Client: Ministry of Transportation (MOPT) Spain
- Project: AUTOVÍA HUELVA-AYAMONTE. TRAMO: INTERCHANGE ALJARAQUE INTERCHANGE LEPE (OESTE).
- Geotechnical investigations to support Project Design
- PROINTEC S.A. (Consultant)
- Client: RENFE Ministry of Transportation(MOPT) Spain
- Project: HIGHSPEED RAILWAY AVE, SEVILLA -MADRID.
- Geotechnical investigations for embankment consolidation in Stream Tamarguillo Bridge.
- PROINTEC S.A. (Consultant)
- Client: TECSA-YARRITU JV, Spain.
- Project: MOTORWAY CN-232 BETWEEN CORNUDILLA- OÑA.
- Geotechnical investigations for River Oca Bridge foundation.
Construction Quality Plan

- PROINTEC S.A. (Consultant)
- Client: CANDELA & PARTNERS
- Project: USA FAMILY HOUSING, U.S. NAVAL BASE.ROTA.SPAIN.
- Geotechnical investigations for houses foundation


- PROINTEC S.A. (Consultant)
- Clients: Ministry of Transportation (MOPT) Spain
- Budget: $ 84,000,000
- Project: CN-433 DE SEVILLA - LISBOA. SEGMENT: ARACENA-CORTEGANA.
- Motorway in use, with 1 x 29 miles of new construction. I supervised one engineer, one surveyor and three laboratory technicians.

**Jun. 1993 - Dec. 1993: Geotechnical Manager**

- PROINTEC S.A. (Consultant)
- Client: Ministry of Transportation (MOPT) Spain
- Geotechnical investigations to support Project Design.
- PROINTEC S.A. (Consultant)
- Client: Junta de Andalucía (local Administration). Spain
- Project: WATER TREATMENT FACILITY IN THARSIS (HUELVA)
- Geotechnical investigations to support Project Design
- PROINTEC S.A. (Consultant)
- Client: Junta de Andalucía (local Administration). Spain
- Project: SEWAGE TREATMENT FACILITY IN PRUNA AND CORIPE (SEVILLA) AND OLVERA NORTH (CÁDIZ).
- Geotechnical investigations to support Project Design.
- PROINTEC S.A. (Consultant)
- Client: RENFE Ministry of Transportation (MOPT) Spain.
- Project: BALLAST QUARRY SUPPLIERS OF STATE RAILWAY.
- QC/QA quarries.
- PROINTEC S.A. (Consultant)
- Client: Ministry of Transportation (MOPT) Spain.
- Project: ALBA DAM FOUNDATION (BURGOS)
- Geotechnical investigations to support Project Design.
Nov. 1991 - Dec. 1993: Manager of Quality Assurance and Quality Control

- PROINTEC S.A. (Consultant)
- Clients: Ministry of Transportation Spain
- Budget: $ 88,000,000
- Project: CN-433 DE SEVILLA - LISBOA. SEGMENT: ARACENA-CORTEGANA.
- Motorway in use, with 1 x 42 miles with various projects along the section. I supervised one engineers, one surveyor and three laboratory technicians.
References

Esteban Trigueros
October 15, 2006

Carlos Rubio Ochoa
Chief Engineer, Construction
Tollway Access South of Santiago (Chile)
Ministry of Transportation, Chile
C/ José Miguel Carrera Nº 896
La Florida, Santiago, Chile
Phone: +56 (02) 282 12 94
Fax: +56 (02) 282 12 94

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Supervising Resident Engineer
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Phone: +56 (02) 282 12 94
Fax: +56 (02) 282 12 94

Eduardo Larrabe Lucero
Chief Executive Officer
Tollway Ruta 5 Santiago-Talca and Access South of Santiago (Chile)
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+56 (02) 232 54 72

Enrique Zamorano
General Manager
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Alfonso Delpiano
Concessionaire Supervising Engineer
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+56 (02) 536 24 93
## Job Description

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<tr>
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<tbody>
<tr>
<td>Administration (Accounting) Manager</td>
<td>General Manager</td>
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</table>

**Responsibilities:**

The Administration Manager manages the accounts and financial functions of the D-B Team.

The Administration Manager will prepare and submit financial statements, e.g. income statements, balance sheet, cash flow statement and will provide input as requested by the D-B Team Supervisory Board on these issues.

The Administration Manager will ensure that the information produced is accurate, in the correct format, and in the right quantity so that other parties get the information relevant to their requirements.

The Administration Manager will ensure that records are properly maintained.

The Administration Manager will ensure that continuous and regular reports of financial information are made available to the General Manager.

The Administration Manager will monitor and identify any training needs and will maintain all personnel records.

## Job Description

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<tr>
<td>Project Controls Manager</td>
<td>General Manager</td>
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</table>

**Responsibilities:**

The Project Controls Manager is responsible for performing project planning, scheduling, cost accounting, overall planning, cost estimation and control, project reporting and document control, information technology support and clerical support.

The primary objective of the Project Control Manager is to establish a planning, forecasting and reporting system for the overall project. The main tool for achieving these objectives would be through regular review, updating of forecasts and regular reporting of the monitored activities.
**Job Description**

**Job Title**

Procurement Manager

**Responsible To**

Controls Manager

**Responsibilities:**

The Procurement Manager is responsible for procuring qualified Consultants, Vendors and Subcontractors for the procurement packages required for the Works. The Procurement Manager shall also be responsible for preparing the list of proposed bidders for each package and to manage the regular evaluation of Consultants’, Vendors’ and Subcontractors’ performance for future use.

The Procurement Manager shall ensure that all clarification of queries for packages during procurement are processed through the procurement department. Prior to award of any procurement package, the Procurement Manager is responsible for assessing the bid, along with the Design Manager and/or the Construction Manager and Quality Assurance Manager. He shall then provide this information to the General Manager for review and final approval. After award of the procurement package, the Procurement Manager shall prepare all documentation for issue to Design and/or Construction Management and to Consultant/Vendor/Subcontractor.

**Job Description**

**Responsibilities:**

**Job Title**

Hazardous Material Manager

**Responsible To**

Environmental Compliance Manager

The Hazardous Material Manager will provide expertise in the safe handling of hazardous material and respond to situations that involve hazardous materials.

The Hazardous Material Manager will perform the following duties:

- Schedule and/or conduct training for employees.
- Verify all employee certifications prior to and required for any handling of Hazardous Materials.
- Maintain record of all incidents involving Hazardous Materials and notify and appropriate authorities of any such incidents.
## Job Description

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Responsible To</th>
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</thead>
<tbody>
<tr>
<td>Utility Manager</td>
<td>Design Manager</td>
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</table>

**Responsibilities:**
The Utility Manager will coordinate and oversee Utility Adjustment operations during the planning, design, and construction phases of the Work. The Utility Manager will establish procedures and requirements for Adjusting Utilities including coordination with Utility Owners, engineering, and construction.

The Utility Manager will provide reports as specified in the Design and Build Agreement, Comprehensive Development Agreement, Technical Requirements, and other relevant contract documents.

<table>
<thead>
<tr>
<th>Job Title</th>
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<tbody>
<tr>
<td>Project Archeologist</td>
<td>Environmental Compliance Manager</td>
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</tbody>
</table>

The Project Archeologist will be responsible for assessment of cultural resources potentially impacted by the work throughout the Term.

He shall be qualified and experienced of a “Principal Investigator” as set forth in the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation.

**Responsibilities:**

<table>
<thead>
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<th>Job Title</th>
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<tbody>
<tr>
<td>Natural Resource Biologist</td>
<td>Environmental Compliance Manager</td>
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</table>

The Natural Resource Biologist a member designated by the Environmental Compliance Manager to provide expertise on monitoring impacts on wildlife aquatic habitats and the natural environment due to construction activities related to the work.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Responsible To</th>
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<tbody>
<tr>
<td>Water Quality Specialist</td>
<td>Environmental Compliance Manager</td>
</tr>
</tbody>
</table>

The Water Quality Specialist will be designated by the Environmental Compliance Manager to provide expertise on monitoring impacts on water resources (municipal, domestic, irrigation water well).

The Water Quality Specialist be provided expertise in permitting delineation, stormwater pollution prevention, and the protection of jurisdictional waters related to the work throughout the Term.
Job Title: Utility Design Coordinator
Responsible To: Utility Manager

Responsibilities:
The Utility Design Coordinator is responsible as designated by the Construction Manager to coordinate the Utility Relocation design with the overall highway design features during the planning, design, and construction phases of the Work.

Job Title: Traffic Safety Officer
Manager
Responsible To: Construction

Responsibilities:
Traffic management issues will be managed by the appointed Traffic Safety Officer. The Traffic Safety Officer will be required to supervise all aspects of Traffic Management during the Comprehensive Development Agreement. Third party consultants may be employed to provide this service. The TSO will supervise the activities of Segment Traffic Representatives.

The Traffic Safety Officer will propose a traffic management plan developed in conjunction with the Health and Safety Manager, Construction Manager, and the Segment Managers. All matters relating to arrangements, timing, and communications with the public and other stakeholders will be discussed with the construction team, after which a general plan will be developed and forwarded to the Developer and relevant governmental entities.