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SECTION 11 - CONSTRUCTION DOCUMENTS

11.1.0 GENERAL

Prior to obtaining construction plan approval, development improvement plans must be submitted and formally approved by local governing bodies, which may include any combination of a Planning Board, Planning and Zoning Commission/Committee, Public Works/Engineering, Board of Adjustment, City Council or County Commissioners. In rare cases, approval from a similarly designated State Commission or Board is required for developments on State land. Local development improvement approvals generally require the following reports and plans:

- Concept Plan
- Master Plan
- Subdivision Plat, if not legally subdivided
- Local Development Improvement Plan*
- Drainage Report
- Traffic Impact Study
- Soils Report
- Utility Report
- Geologic Hazards
- Archeological and Historic Artifacts Report
- Others, as specified by local jurisdiction ordinance, code or development criteria

*The formal name of a local development improvement plan varies by jurisdiction. Common designations are Subdivision Improvement Plan (SIP), Final Development Plan (FDP), General Development Plan (GDP), and others as prescribed by the entity. The elements typically required with a development improvement plan drawings, but which may vary by jurisdiction, include the following items:

- Cover Sheet
- Existing Conditions Plan (survey)
- Site Plan
- Grading Plan
- Erosion Control Plan
- Utility Plan
- Architectural Building Elevations
- Photometric Plan
- Landscape Plan
- Construction Details

See RTD CADD Standards found under separate cover for examples and drawing style formats that shall apply in terms of placing a map index, scale, north arrow, title block, electronic file designations, etc.

11.2.0 BID DOCUMENTS

A set of Bid Document drawings shall typically contain the elements listed below. The set shall be broken into four key sections, General, Civil, Details and Systems. Depending upon the scope of the project, some of these elements may be eliminated or especially on smaller projects, combined onto a single sheet (i.e., Cover Sheet and Sheet Index). Conversely, large or complex projects may require several sheets per element.

General

- Cover Sheet
- Sheet Index
- Standard Abbreviations and Symbols
- RTD Standard Plan List
- CDOT Standard Plan List
- General Notes
- Approximate Quantities

Civil

- Survey Tabulation
- Existing Conditions Plan (survey)
- Demolition Plan
- Detour / Temporary Access Plan
- Erosion Control Plan (SWMP)
 - Erosion Control Details
- Grading Plan
- Site Plan
- Plaza Plan
- Horizontal and Vertical Control Sheet
- Paving Plan
 - Paving Details
 - Plaza Paving Details
- Pavement Markings and Signage Plan
- Utility Plan and Profile
 - Storm Sewer
 - Water Service
 - Sanitary Sewer
 - Utility Details
- Irrigation Plan
 - Irrigation Details
- Landscape Plan

- Landscape Details
- Retaining Wall Layout
 - Retaining Wall Elevations
 - Retaining Wall Details
- Drivers Relief Station
 - Foundation / Structural
 - Mechanical
 - Architectural
- Traffic Signal Plan
 - Foundation / Structural
 - Traffic Signal Details

Details

- Miscellaneous Details
- ID Signs
- Project Sign
- Pedestrian Shelter Details

Systems

- Electrical Legend and Schedules
- Show all components from site transformer to area of use
- Show contractor service connect/disconnect cabinet and switch
- Electrical One-Line Diagram
- Electrical Site Plan
- Drivers Relief Station Electrical Plan
- Electrical Details

11.3.0 CONSTRUCTION DRAWINGS

A set of Construction Drawings shall be exactly the same as the Bid Set, with the following exceptions:

- Cover Sheet shall have the title of Bid Set replaced with Construction Drawings.
 - Shall include the signatures of appropriate design Professional Engineer (PE) and RTD management.
 - Select sheets within the set shall be signed and sealed by the appropriated discipline Professional Engineer or Registered Architect.
 - Both half and full size drawings shall be signed and sealed.
- As required, drawings shall be signed and sealed. This may also involve getting stamps or signatures from a local jurisdiction to indicate acceptance from building department, public works, engineering, etc.

- Any sheets that were modified or added by addendum shall be inserted into the plan set with the original sheets removed and replaced.
- If a sheet has been eliminated by addendum from the plan set, the name of the plan sheet shall be stricken through in the sheet index and the phrase **INTENTIONALLY OMITTED** added in a bold font and the sheet removed without renumbering the subsequent sheets in the set.
- Revisions shall be noted and dated consecutively in the revisions block.

11.4.0 DRAWING SCALE

While projects vary greatly in size, a site plan for a typical bus transit facility is usually drawn at scales of 1 inch = 30 or 40 feet. Care must be taken when choosing the scale of a drawing to assure that details and text will be readable on a half size drawing. When it is necessary to break up a plan view onto several sheets in order to obtain a workable scale, a key map shall be included on each sheet, with the appropriate sheet on the key map being shaded in.

See RTD CADD Standards for additional information regarding drawing scales and font sizes.

11.5.0 SPECIFICATIONS

RTD Master Specifications will be the basis for the Technical Specifications that shall be included with all construction document packages. Design Engineers shall modify these Master Specifications to be site and project specific. Standardized examples of the Master Specifications can be found under a separate cover.

Where RTD Master Specifications do not exist for certain items of work, the Design Engineer shall be responsible for developing Technical Specifications (in CSI format) as required.

11.6.0 BID PACKAGE

The Technical Specifications, approved plans and contractual terms and conditions shall be included with all bid packages for constructing park-n-Rides and transfer facilities.

A summary of approximate planned quantities and an independent cost estimate shall be prepared, reviewed and approved prior to issuing a set of construction plans for bidding and construction. Cost estimates shall be signed and sealed by a Professional Engineer.