IPD Stage 4UT1 – Utilities Unit QC Checklist

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| **SPOT ID/Project TIP #:** | Click to edit. |
| **County:** | Click to edit. |

4UT1 – UC Plans, Special Provisions, and Estimate

| **Item #** | **Review Item** | **Yes** | **No** | **N/A** |
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|  | **UC Plans** | | | |
|  | General |  |  |  |
|  | Plans use UC title sheet and plan sheets. |  |  |  |
|  | Review plans are in color. Final plans are in black and white. |  |  |  |
|  | The plans were prepared using the utilities CADD workspace and format. |  |  |  |
|  | Each sheet has the correct project number and sheet number. |  |  |  |
|  | Plans are clear and legible when printed half-size. |  |  |  |
|  | Title Sheet |  |  |  |
|  | All owners and facility types (water, sewer) are listed. Sheet index is correct. |  |  |  |
|  | Title sheet graphically show correspondence between roadway sheet numbering and UC sheet numbering. |  |  |  |
|  | Appropriate project personnel are listed on the title sheet. The Utilities Lead is listed, and all other personnel listed were involved in the project. |  |  |  |
|  | All project information is correct. Work performed section lists the utility types being relocated in plans. |  |  |  |
|  | Vicinity map is included, and all parts are legible. |  |  |  |
|  | Project scale for plans and profiles is shown and accurate. |  |  |  |
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|  | Plan Sheets |  |  |  |
|  | All reference files and levels required for utilities plans are shown on the plans. |  |  |  |
|  | All pay items match the wording in the *Standard Specifications* or the Special Provisions. Pay items are boxed. Informational callouts are not boxed. |  |  |  |
|  | Fitting weights, broken down for sewer and water, are shown on each plan sheet. |  |  |  |
|  | Manhole and manhole wall quantities are calculated per the Standard Specifications, i.e. all manhole height in excess of 6’ above the invert is paid for as manhole wall. |  |  |  |
|  | All utility design conforms to the requirements of the UAM |  |  |  |
|  | The correct line styles and levels are used. All drafting is clear. Plan labels do not hide plan features or information. |  |  |  |
|  | Plans use the project scale, except where agreed upon with the Utilities Lead for design. |  |  |  |
|  | All sheets have project begin or end flags, or match lines labeled with appropriate matching sheets. |  |  |  |
|  | UC plan sheet correspond to roadway sheets, except where agreed upon with the Utilities Lead for design. |  |  |  |
|  | All lines have stationing corresponding to the profile for the lines. Lines are identified in a corresponding manner on the plan view and on the profile view. |  |  |  |
|  | All levels required for roadway plans are shown, except: |  |  |  |
|  | COGO levels have been removed. |  |  |  |
|  | Baselines have been removed. |  |  |  |
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|  | Details: |  |  |  |
|  | Details are easily legible on half-size prints. |  |  |  |
|  | Details comply with the Guidance on Proprietary Products. |  |  |  |
|  | Bedding and other details do not weaken the requirements of the *Standard Specifications* for compaction. |  |  |  |
|  | Soil type or soil bearing assumptions are clear in all thrust block details. Thrust block designs are appropriate for the soils expected on the project. |  |  |  |
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|  | Notes sheet: |  |  |  |
|  | Except to identify the owner and contact, the General Notes section has not been modified. |  |  |  |
|  | Notes do not include utility owner specifications by reference. |  |  |  |
|  | Notes do not provide for direction of the contractor by the utility. |  |  |  |
|  | Notes do not provide for warrant provisions or liquidated damages. |  |  |  |
|  | Notes do not repeat or paraphrase requirements of the Standard Specifications. |  |  |  |
|  | Notes only specify a project requirement or obligation of the contractor to the Department. Notes do not create an obligation of the Department to the utility. |  |  |  |
|  | Notes may be used to require the contractor to allow access by the utility with the agreement of the Utilities Lead for design. |  |  |  |
|  | Profiles: |  |  |  |
|  | Profiles are provided for all water and sewer lines. |  |  |  |
|  | All utility and drainage crossings are shown on the profiles. |  |  |  |
|  | Appropriate separation is maintained from water lines to other utilities and drainage, or the design of mitigating measures is provided. |  |  |  |
|  | Gravity sewer profiles include manhole rim and invert elevations, manhole diameter, and pipe diameter and slope. |  |  |  |
|  | Appropriate cover is maintained for water lines to proposed ground and to conditions expected at the time of construction of the line |  |  |  |
|  | Both existing and proposed grades are shown. |  |  |  |
|  | Entry and exit locations of HDD are shown. |  |  |  |
|  | Bore pits and encasements are shown for bore and jack installation. |  |  |  |
|  | Bore Pits: |  |  |  |
|  | Other utilities in proximity to bore pit at the time of the bore have been considered. |  |  |  |
|  | Shoring needs for maintenance of traffic and structural integrity of adjacent buildings has been considered, with appropriate pay items coordinated with geotech and work zone traffic control. |  |  |  |
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|  | Horizontal Directional Drilling: |  |  |  |
|  | The radius of the HDD was designed taking the pipe radius, material, geotechnical conditions, and the required boring rig into account for constructability. |  |  |  |
|  | Pay items are accurately called out based on the selection of pipe for the HDD, e.g. if HDPE is required, the radius is upsized. |  |  |  |
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|  | On site detours and work bridges are shown where applicable on the plans. |  |  |  |
|  | The location of features such as manholes and valves is given by station and offset where appropriate. |  |  |  |
|  | Plans follow the guidance on proprietary products. |  |  |  |
|  | Ferrous encasements 24” and larger have been designed for a lifespan of 100 years in the surrounding soil and certified by a qualified Engineer, or have been specified to be filled with grout. This design has been reviewed and approved by the utility. |  |  |  |
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|  | **UBO Special Provisions** | | | |
|  | The most recent UC Special Provisions Template was used in preparation of the Special Provisions. |  |  |  |
|  | UC Special Provisions comply with the requirements of the UAM. |  |  |  |
|  | Only articles in Division 15 have been modified. No articles outside of Division 15 have been modified. |  |  |  |
|  | Individual requirements from industry specifications are not repeated in the SPs. |  |  |  |
|  | Writing style and format conforms to the *Provision Writers’ Guide*. |  |  |  |
|  | Specification of Proprietary Items conforms to the guidance on proprietary products. Justification is provided for all proprietary items that appear in the Special Provisions. |  |  |  |
|  | Pay Item descriptions are provided for all utility items identified as requiring a special provision in the Master Pay Item List. |  |  |  |
|  | Special pay items conform to the *Provision Writers’ Guide*. |  |  |  |
|  | With the exception of test observation and the operation of valves, the Special Provisions do not grant the utility the ability to direct the contractor, except through the Engineer. |  |  |  |
|  | Special pay items are used only when standard pay items are not appropriate. |  |  |  |
|  | There are no obligations between the Utility and the Department created in the Special Provisions. |  |  |  |
|  | UC Special Provisions conform to guidance on UC Special Provisions on the Utilities Connect website |  |  |  |
|  | **Estimate** | | | |
|  | An excel spreadsheet is provided with plan turn-in showing pay item counts by sheet and total for the project. |  |  |  |
|  | All items are entered into the Pay Items and Quantities (PIQ) tool on the SharePoint project site. |  |  |  |
|  | An NPAR category was created and populated where there is betterment or costs are shared. |  |  |  |
|  | A detailed quantity estimate and description of new facilities and upsized betterment has been provided to the Utilities Lead for design. |  |  |  |
|  | All pay items that are not standard pay items use Special Provision pay items. |  |  |  |
|  | Additional required items, such as geotech fabric, asphalt pavement repair, and foundation conditioning material have been estimated. |  |  |  |
|  | Special Provision pay items were entered using the appropriate Generic Utility Item pay item from the SP section. |  |  |  |
|  | Estimates accurately reflect the plan quantities. |  |  |  |
|  | **Deliverables** | | | |
|  | The latest version of the QC checklist is being used. |  |  |  |
|  | QC approves UC Plans and submits to Utilities Lead for review. |  |  |  |
|  | QC approves UC Special Provisions and submits to Utilities Lead for review. |  |  |  |
|  | The plan sheet pdf files are named and numbered in accordance with the requirements for file naming. |  |  |  |
|  | The special provisions pdf file is named in accordance with the requirements for file naming. |  |  |  |
|  | Encasement certifications are supplied as a supplemental contract item, if applicable. |  |  |  |

*For items marked* ***No*** *that require further explanation, provide comments or action items in the table below.*

| **Item #** | **Comments and Action Items** |
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| Click to edit. | Click to edit. |

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| ***This checklist may not be comprehensive to every project. All items may not be applicable for smaller projects. It is the responsibility of the reviewer to ensure that an adequate review is performed.*** | | | |
| **QC Reviewer Name:** | | Click to edit. | **Date:** | Click to edit. |
| **QC Reviewer (Signature):** | |  |  |  |