

CITY OF COLUMBUS
DEPARTMENT OF PUBLIC SERVICE
DIVISION OF DESIGN AND CONSTRUCTION
GENERAL DESIGN REQUIREMENTS–CAPITAL IMPROVEMENT PROJECTS (CIP)

Section 1 - Introduction and Standards

- 1.1. The project will be designed using current City of Columbus specifications and standards (and any Ohio Department of Transportation (ODOT) standards/specifications not covered by Columbus specifications and standards) as specified in the project scope of services. If City or ODOT standards are not applicable to a design feature; then the project will default to AASHTO design requirements, or as directed by the City Engineer.
- 1.2. City of Columbus Construction and Material Specifications (CMSC), current edition at the time of Design notice to proceed, shall govern, including but not limited to the following City (and other) documents:
 - 1.2.1. Department of Public Service, Division of Design & Construction Standard Drawings (latest version)
 - 1.2.2. Department of Public Service, Division of Design & Construction Sample Plans (latest version)
 - 1.2.3. Department of Public Service, Division of Design & Construction Design Memos
 - 1.2.4. City of Columbus Supplemental Specifications as applicable
 - 1.2.5. City of Columbus CAD Standards
 - 1.2.6. Department of Public Service, Division of Design & Construction Survey and Right-of-Way Requirements (latest version)
 - 1.2.7. Department of Public Service, Division of Design & Construction Utility Manual (latest version)
 - 1.2.8. Non-Residential or Residential Pavement Design Policy as applicable
 - 1.2.9. AASHTO Guide for the Development of Bicycle Facilities (latest version)
 - 1.2.10. Maintenance of Traffic shall follow the Ohio Manual of Uniform Traffic Control Devices and City of Columbus standards
 - 1.2.11. City of Columbus Traffic Signal Design Manual (latest version)
 - 1.2.12. City of Columbus Stormwater Drainage Manual (latest version)
 - 1.2.13. 10 States Standards, Great Lakes – Upper Mississippi River Board (GLUMRB) as required
 - 1.2.14. Department of Public Utilities, Division of Power Street Lighting Specifications (MIS) as required (latest version)

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- 1.2.15. Department of Public Utilities, Division of Power Specifications (TDMIS) as required (latest version)
- 1.2.16. City of Columbus ADA Rules and Regulations (latest version)
- 1.3. The design development of this project shall be performed in accordance with, but not limited to, the Specifications, Standards, Manuals, and Guidelines cited within this document. The Consultant shall perform all work required by said document unless a specific exception or direction is provided by the City’s Design Project Manager (DPM). Absence of a specific reference to complete any required design element of work contained within the Scope of Services shall not relieve the Consultant of responsibility to perform the work. The development of plans adhering to these requirements shall be based on the most current version of each document at the date of the Design Kick-off Meeting.

Minor changes or revisions to said documents should be routinely incorporated into the work. The Consultant shall also be responsible to revise the plans to conform to the most recent version of the design documents as required. The Consultant shall notify the DPM in writing of any subsequent changes in design standards or other documents that would substantially impact design work already performed or significantly change the project including design services, construction costs, right-of-way (R/W) impacts or environmental concerns. Any substantial changes in design policy or plan preparation requirements will be discussed on a case-by-case basis.

The various specifications and guideline documents herein are available for download from the Department of Public Service and the Department of Public Utilities at the City’s websites below with the exception of AASHTO and OMUTCD documents:

<https://www.columbus.gov/publicservice/Design-and-Construction/Document-Library/>

<https://www.columbus.gov/utilities/document-library/>

Section 2 - Surveying Requirements

2.1. General Surveying Requirements

- 2.1.1. The Consultant shall obtain a permit from the City of Columbus for their Surveyor to work in the right-of-way. There is no charge for this permit if they advise the Permit Section at the time of application that their work relates to a public improvement project for the Division of Design and Construction. There will be an assessment for any loss of meter revenue. Applications for this permit are available from the Department of Public Service, Permits Office located on the first floor of 111 N. Front Street, or online utilizing the link provided in Section 1.
- 2.1.2. This permit serves to provide the City of Columbus with knowledge of others working within its rights-of-way and is required in accordance with Chapter 902 and 903 of Columbus City Code.

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- 2.1.3. A copy of all survey related notes and files for the project shall be provided to the City upon completion of the project or upon request.
- 2.1.4. The Consultant’s plans shall be developed based upon the use of established centerline stationing from previous construction projects whenever possible.
- 2.1.5. Locate any and all physical features, whether man made or natural, above and below the ground, horizontally and vertically, within the project limits.
- 2.1.6. Roadway cross-sections shall be provided within the project plans at a minimum of every fifty (50) feet, and at significant grade changes, driveways, lead walks, and other features requiring clarification for design, right-of-way, and construction purposes.
- 2.1.7. Cross-sections shall extend a minimum of ten (10) feet beyond the existing and proposed right-of-way and easements. Cross-sections may be required beyond the minimum when topographical features or other existing conditions appear to impact the project.
- 2.1.8. All elevations necessary for existing pavement, radius returns, driveways, curb ramps, sidewalks, and any other relevant features needed for design and review purposes.

2.2. Vertical Datum

- 2.2.1. The North American Vertical Datum 1988 (NAVD 88) or the North American Terrestrial Reference Frame of 2022 (NATRF 22) shall be used on all public projects.
- 2.2.2. All project elevations shall be based upon a source benchmark of public record (2 are preferred), a minimum of 3 temporary benchmarks (TBM) to be set on site with at least one outside the project limits. GPS units must tie back to a benchmark of public record.
- 2.2.3. Temporary bench marks must be of third order or better, per the National Geodetic Survey Standards.
- 2.2.4. The datum and geoid model in use shall be noted on the plans.

2.3. Horizontal Datum

- 2.3.1. The Horizontal Datum should be based on the National Spatial Reference System (NSRS) 2007 or the NAD83 (2011) Epoch 2010.00 or the North American Terrestrial Reference Frame of 2022 (NATRF 22), and further reference made to the Ohio State Plane Coordinate System, South Zone.
- 2.3.2. The datum in use shall be noted on the plans.

2.4. Existing Centerline Monumentation

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- 2.4.1. The Consultant shall thoroughly research State, County and City records, as well as perform a field inventory of the surrounding roadways, for the existence of centerline monumentation within, and in proximity to, the proposed project limits. The Consultant shall advise the City of Columbus and the County Engineer’s Office of any existing centerline monumentation, or other, belonging to the County that will be removed or disturbed by construction operations. Their plans shall then be developed in a manner satisfying the County Engineer’s Office as to disposition and/or method of replacement for said monumentation. Notes shall be included in the plans for the Contractor to notify the County Engineer’s Office two (2) weeks prior to any construction activity that removes said monumentation.
 - 2.4.2. All existing centerline monumentation shall be shown and thoroughly described on the Centerline Survey Plat for this project. This description shall include information as to the final disposition of these monuments at the conclusion of construction activities. Centerline monumentation shall also be shown and described within the project’s plan and profile sheets. The Centerline Survey Plat shall be signed, dated, sealed, and recorded by an Ohio Registered Land Surveyor.
- 2.5. Establishing the Existing Centerline of Right-of-Way
- 2.5.1. The centerline of right-of-way is established based on research of record alignments from petitions, existing plans, recorded subdivision plats, recorded centerline plats, and deeds, and any other record information that defines the centerline, used in conjunction with locations of existing monuments that defines the location of the centerline.
 - 2.5.2. The establishment of the proposed centerline of right-of-way may differ depending on whether or not the proposed roadway follows an existing alignment or is to be relocated onto a completely different alignment. The centerline of right-of-way must maintain the originally created and controlling centerline of right-of-way unless the existing centerline of right-of-way is unlikely to be needed in the future.
 - 2.5.3. The centerline of construction should match the centerline of right-of-way except when a separate centerline of construction is needed due to engineering, geometric, or construction requirements.
 - 2.5.4. The centerline of right-of-way shall never be shifted to match the centerline of construction, without prior approval from the City of Columbus, Department of Public Service, Division of Design and construction, Design section, Right-of-way section.
- 2.6. Existing Property Corners and Right-of-Way Angle Points
- 2.6.1. The Consultant shall be responsible for establishing all existing right-of-way lines and shall delineate and describe all monumentation, within their plans, that are found within their project limits. The size, condition, and precise location of this monumentation shall be shown and described, including a description of the identification cap/disk when in place within the plans.

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- 2.6.2. In addition to field surveying operations, the Consultant shall utilize existing plans such as subdivision plats, Centerline plats, right-of-way plans, City and County right-of-way records, historical maps, tax maps, 60-scale maps, Marble maps, street plans, sewer (sanitary and storm), water, power, and other utility plans obtained by the Consultant from the City, State, County, other governmental agency, or private utility companies, for the purpose of assisting in the establishment of existing right-of-way limits.
- 2.6.3. All existing monumentation, easements (public, utility and private) and other right-of-way features of record shall be represented on the plans. It is the responsibility of the surveyor and Right of Way Plan Designer to ensure that all existing easements are shown on the plans including the type, size, owner(s) name, and recording data of the easement(s). Keep in mind that not all easements are recorded in the courthouse.

2.7. Horizontal And Vertical Reference Monumentation

- 2.7.1. The Consultant shall be responsible for placing horizontal and vertical reference monumentation for design and construction related activities. Said reference monumentation shall be placed in a location conducive to its long-term existence throughout the project's life cycle, including construction and final grading.
- 2.7.2. All reference monumentation shall be placed within existing public rights-of-way whenever possible. Should the need arise to place a temporary vertical or horizontal reference monument on private property an agreement between the Consultant and the Property Owner shall be required. This agreement shall state that a temporary reference monument (including description of same) has been set for the purpose of construction (name of project), for a duration of (years, months, days), dated and signed by the Property Owner and the Consultant's Representative. A copy of this agreement shall then be provided to the Property Owner and the City of Columbus. It shall be the Consultant's responsibility to arrange said agreement.
- 2.7.3. The Consultant shall provide Northing and Easting coordinates of each horizontal and vertical monument placed, or utilized, by the Consultant to establish the centerline of survey, or temporary vertical control, for the project. This shall include a note stating whether grid or ground coordinates are used, and the scale factor. A minimum of three horizontal monuments and three vertical monuments are required per project, with at least two of the horizontal monuments located outside the limits of construction. These control points shall be in place and visible in the field at the time Stage 3 plans are submitted to the City of Columbus.

2.8. Proposed Centerline Monuments

- 2.8.1. The project's plans shall specify the placement of a 1-inch steel rod, 30 inches in length, at the centerline intersection of all public roadways within the project limits as well as all centerline points of tangency (P.T.), curvature (P.C.), etc. At a minimum, an 8" mag spike can be set at all centerline intersections, PC's and PT's. All required monumentation for the subdivision still to meet State of Ohio minimum requirements.

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- 2.8.2. Notes specifying the following shall be included within your plans.
- 2.8.3. When applicable, a note in the project plans shall direct the Contractor that: Following the placement of final roadway pavement the Contractor shall advise the City of Columbus project inspection personnel to contact the Consultant's Registered Surveyor to arrange for the location of all permanent centerline right-of-way monumentation to be staked in the field for placement by the Contractor. Immediately following these locations being marked in the field, the Contractor shall utilize a drill, or other methodology approved by the City, to create a 1-inch diameter hole through the pavement to a depth of 30 inches. Within this hole a 1-inch diameter steel rod, 30 inches in length, shall be driven ¼ inch below final pavement grade. The Contractor shall fill any voids between this steel rod and the surrounding pavement to the City's satisfaction.
- 2.8.4. When applicable, a note in the project plans shall direct the Contractor that: Following the placement of these centerline monuments, the Contractor shall once again advise the City of Columbus project inspection personnel to contact the Consultant's Registered Surveyor to advise them that centerline monumentation has been placed and may now be verified as to its accuracy. Following the Consultant's Surveyor verifying proper monumentation placement the Consultants Surveyor shall provide the City Engineer or his/her representative with a letter certifying that all monuments were set in accordance with the project plans **Prior to the final acceptance of the CIP project.**
- 2.8.5. Should the need arise to relocate or non-perform centerline monument placement due to unforeseen circumstances, the Consultant shall advise the City of the necessity for change and obtain the City's approval prior to monument placement. The Consultant shall then file a revised Centerline Survey Plat with the City reflecting all changes.
- 2.9. Staking Of Proposed Right-Of-Way Acquisitions Required
- 2.9.1. Property/Right-Of-Way Monumentation – Following the City's approval of the project's final Right-of-Way Plans and acquisition of the proposed right-of-way the Consultant shall place monumentation at all new property corners and angle points in property and/or right-of-way lines created as a result of fee title right-of-way acquisitions for the project. Said monumentation shall be placed in conformance with the requirements outlined within Chapter 4733-37 of Ohio Administrative Code.
- 2.9.2. Where said monumentation shall be subject to disruption or destruction due to proposed construction operations, said monumentation may be temporarily placed in the form of hub and tack and later replaced by standard monumentation immediately following the completion of all construction operations. It shall be the Consultant's responsibility to replace all property corner/right-of-way monumentation that fall within the project's construction limits that are disrupted or destroyed by construction operations. Plan notes shall be included within the project's plans advising as to these requirements as well as requiring due notification of the Consultant once construction operations have been completed.

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2.9.3. The Consultant’s plans shall also advise the project Contractor that monumentation has been placed at these locations and that it is the Contractor’s responsibility to see that all monumentation, existing or newly placed, which fall outside the construction limits remain undisturbed, or it shall be the Contractor’s responsibility to arrange for their replacement. Said replacement shall be at the Contractor’s sole expense.

2.10. Centerline Survey Plat

2.10.1. On projects requiring the acquisition of additional right-of-way the Consultant shall prepare and submit a Centerline of Survey Plat. This Centerline Survey Plat shall be submitted in accordance with the procedures outlined in Section 3.

2.11. The Identification and Location of Basements/Vaults Extending into the Public Right-of-Way

2.11.1. Historically, the City of Columbus has allowed Property Owners with buildings on or near the public right-of-way to extend their basements/vaults into the public right-of-way. However, the location records associated with that permit process no longer exist. Consequently, the City has no record of where these basements/vaults do, and do not, exist. Therefore, it shall be the Consultant’s responsibility to personally verify the existence of basements/vaults within the public right-of-way, within the limits of the project.

The Consultant shall not accept the word of anyone other than the Property Owner, or their authorized representative as to the non-existence of a basement/vault. Where this confirmation cannot be made, building basement access should be sought for the Consultant's verification and survey purposes. Where access is denied, immediate written notification shall be provided to the DPM. A notice from the City Attorney's Office advising the Property Owner of the City's right to inspect encroaching basements/vaults, and of the Property Owner’s responsibilities, shall be issued by the City. All contact with a Property Owner, and/or tenants, shall be documented within project files.

Once the Consultant has determined that a conflict exists between the proposed design and an existing basement/vault within the public right-of-way, the Consultant shall provide immediate written notice to the DPM. The DPM shall then request the City Attorney's Office to prepare and issue legal notice to the Property Owner advising them of their responsibility to resolve the conflict and of the City's willingness to meet with the Property Owner in order to begin the process of determining a solution acceptable to the City. When a solution has been reached between the City and the Property Owner, the design Consultant shall implement the proposed design resolution into the project plans.

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Section 3 - Right-of-Way Plans, Legal Descriptions, and Survey Plat

The City of Columbus seeks to avoid right-of-way acquisition whenever possible. The Consultant should use creative solutions to avoid and/or minimize right-of-way acquisition whenever other more economical solutions might be utilized. Where right-of-way acquisition cannot be avoided, the Consultant shall prepare and provide the City with right-of-way plans, legal descriptions, and survey plats in accordance with Section 3 of this document. Right-of-way plans must be prepared and submitted in a form consistent with City standards; coordinate with Division of Design and Construction Right-of-Way Coordinator to determine the type of proposed right-of-way plans and acquisitions (typically provided at the design kick-off meeting). Present Road Occupies (PRO) shall be included when acquisition of a parcel is required within the project limits. The following requirements shall apply:

- 3.1. The Consultant shall be responsible for the preparation and submission of a right-of-way plan prepared in conformance with the right-of-way plans section of the Ohio Department of Transportation (ODOT) Real Estate Policies and Procedures Manual, current edition, and as specified herein.
- 3.2. Right-of-way plans shall consist of the following sheets, unless otherwise authorized by the Division of Design and Construction Right-of-Way Coordinator:
 - Right-of-Way Title Sheet, signed, dated, and sealed by an Ohio Registered Land Surveyor.
 - Property Map Sheet(s)
 - Recorded Centerline Survey Plat Sheet(s)
 - Right-of-Way Summary Sheet(s)
 - Encroachment Summary Sheet(s)
 - Detailed Right-of-Way Plan Sheet(s)
 - ODOT’s reference R/W Plan Manual (3108.5)
 - Right-of-Way Topography Sheet(s) (3108.6)
 - Right-of-Way Boundary Sheet(s) (3108.7)
 - Railroad Plat Sheet(s) (3108.8)
 - Utility Location and Identification Sheet(s) - (required when the quantity and/or complexity of existing utility locations and/or ownership warrants). The Utility Location and Identification Sheet(s) may be found on line utilizing the web site located in Section 1 herein.

City of Columbus additional required items on the plan include parking spaces, environmental covenants, and any other item or feature that may have an impact on the acquisition process.

- 3.3. Existing rights-of-way and proposed right-of-way acquisition limits shall be shown and labeled consistently throughout the plan on all project plan and profile sheets, cross sections, details, etc. (e.g. Ex. R/W and easements, Prop. R/W, T, S, etc.) with all plan

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submissions. All proposed construction limits shall fall within the boundaries formed by these features.

- 3.4. Right-of-way plans shall reference the City of Columbus, Ohio or ODOT as the agency by which the project will be administered for the preparation of temporary construction easements. Plans need to state whether a specific parcel is being acquired in the name of another agency (i.e. V parcel).
- 3.5. All existing and proposed property survey monumentation, within the limits of the project, shall be clearly delineated as to location (i.e. station and offset from Centerline of Survey), character, and composition, upon the detail and centerline right-of-way plan sheets for this project.
- 3.6. Right-of-way encroachments determined to exist within the project limits shall be clearly identified and delineated as to their location, character and form, and disposition, upon the project's detailed right-of-way plan sheets and right-of-way summary (or encroachment summary sheets). The City will send letters to the affected Property Owners notifying them to remove all encroachments prior to the start of construction.
- 3.7. All right-of-way plan submissions shall follow submission of digital copies in accordance with the Submission of Electronic Files Section 9 of this document.
- 3.8. Preliminary Right-of-Way Plan Review Submission: The Preliminary right-of-way plans shall be submitted to the Design Project Manager following the review of Stage 1 plans. This submission shall be clearly labeled and dated as Preliminary Right-of-Way with all items shown as specified under the CIP Right-of-Way Plan Development website. Draft legal descriptions **are not required** for this preliminary right-of-way submission.
- 3.9. Final Right-of-Way Plan Review Submission: The Final right-of-way plans, including draft legal descriptions in (1) PDF file for review, shall be submitted to the Design Project Manager following the resolution of all Stage 1 and Preliminary right-of-way plan review comments. This submission shall be clearly labeled and dated as Final Right-of-Way.
- 3.10. Plan Completion Date Right-of-Way Plan Review Submission: The Plan Completion Date right-of-way plans, including Plan Completion Date legal descriptions in (1) PDF file for review, shall be submitted to the Project Manager following the resolution of all Final right-of-way plan review comments and Stage 2 review comments that have any bearing upon their accurate completion. This submission shall be clearly labeled and dated as Plan Completion Date Right-of-Way.
- 3.11. Right-of-Way Plan Submission: Both the Right-of-Way Title Sheet and Centerline Survey Plat shall be signed, dated and stamped by a State of Ohio Professional Surveyor.
- 3.12. Legal Descriptions and Exhibits: The Consultant shall be responsible for the preparation and submission of all signed and stamped legal descriptions and exhibits. A signed and stamped legal description shall also be required for all proposed easement and/or work

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agreement acquisitions. All legal descriptions and exhibits shall be prepared in accordance with the appropriate sections of Ohio Administrative Code. If federal funding is in the Right-of-Way and Construction phase, or in just the Construction phase of the project, then ODOT RX forms are to be used. All legal descriptions shall reference a known property/lot corner and have an error of closure of 10,000 or greater. These documents shall be pre-approved by the County Engineer's Office for each proposed fee title transfer, including Warranty Deed (WD), Fee Simple with Limitation of Access (WL), Standard Highway Easement (SH), and Permanent Easement (P). Other types of easements including Utility (U), Sewer (S), Slope (SL), and Temporary (T) do NOT need County approval. **Two (2) original documents must be submitted to the County for pre-approval.** All legal descriptions shall be submitted in PDF format (for all submissions including final) and Microsoft Word format (for the final submission). Once all legal descriptions have been approved, submit individual PDF files of each signed and stamped legal description with parcel naming.

- 3.13. All legal descriptions shall be prepared in a metes and bounds format with station and offset references to the centerline of survey for all call out points and must be prepared on letter size paper (8 ½" X 11").
- 3.14. Right-of-Way Plan Revisions: All revisions shall be submitted in the same format as described in this section, immediately after the need for revision is determined and as directed by the DPM. All revisions shall be submitted to the Right-of-Way Coordinator; revision block must include a description of the revision and date revised. Should a revision require a change in acquisition limits, revised Right-of-Way plan sheets, legal descriptions and exhibits shall be required at that time. The DPM shall determine if the revision is due to an error by the Consultant or by a change prompted by the acquisition process, prior to directing the Consultant to make the change. If the revision is due to an error by the Consultant, the Consultant shall immediately make the change without compensation. If the change is prompted by the acquisition process, the DPM will direct the Consultant to make the necessary change as well as authorize any agreeable compensation.
- 3.15. Title Sheet with Surveyor's stamp and signature of the approved final Right-of-Way plans shall be submitted following the resolution of all comments from previous right-of-way reviews and the resolution of right-of-way related decisions made as result of design comments received through the review process.
- 3.16. The City will perform all right-of-way acquisition services for the project unless noted otherwise.
- 3.17. The Consultant shall file copies of the projects right-of-way plans for approval by the County Engineer's Office prior to right-of-way acquisition.
- 3.18. The Consultant shall file the Centerline Survey Plat with County Recorder's Office for approval and recording prior to the Final Right-of-Way Plan Submission.

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- 3.19. Staking of Proposed R/W Areas “If Authorized”: Prior to the commencement of real estate appraisal operations, the Consultant may be requested to stake all proposed right-of-way acquisitions, including easements. Within the Consultant’s design proposal submission, include a fee for providing these services as an “If Authorized” task”. The Consultant will be compensated for these services if requested and only when authorized by the DPM to do so. This service shall include the placement of wooden stakes (flagged lathe), or other temporary delineation, at all proposed Right-of-Way and Easement angle points, as well as every 100 foot increments along take areas.

Section 4 - Utilities

The City of Columbus Department of Public Service has the authority and responsibility to regulate the use of public right-of-way within its jurisdictional boundaries as necessary to promote the public’s health, safety, and welfare, including economic development. It also has a responsibility to maintain a safe and efficient roadway network. Conversely, changes in the utility industries have increased the demand and need for placing their facilities and structures within public right-of-way. Since the manner in which utilities cross, or otherwise occupy, roadway right-of-way can materially affect the appearance, safe operations, and maintenance of the City’s roadways, it is necessary that such use and occupancy be reasonably regulated. It is also essential that utility use be coordinated with the Department of Public Service’s list of capital improvement projects.

The City of Columbus seeks to avoid utility relocation whenever possible. Coordination for private utility relocations must be started as soon as possible. The Consultant should use creative solutions to avoid and/or minimize utility relocations whenever other viable solutions may be utilized.

- 4.1. It should be understood that design for the relocation of City-owned utilities shall be included as part of the project including waterlines, sanitary and storm sewers, traffic, communication, telecommunication, street light and electric facilities.
- 4.2. The Consultant shall do an existing utility record search, activities at a minimum shall include:
- 4.2.1. Notification to OHIO811. City facilities are members of OHIO811, formerly known as the Ohio Utility Protection Service. Requests for all City infrastructure data should be made through the Ohio 811 service as a design ticket prior to submitting any plans for review.
 - 4.2.2. The Consultant can make a request for additional plans located in the area by a request to the Department of Public Service at DpsPlanrequests@columbus.gov. A plan request package will be provided at the time of request. The Consultant will need to complete this plan request package before the plan request can be accepted. Plan information and mapping should be provided by using the OHIO811 service. If additional public utility plan information is needed a request to the Department of Public Utilities Map Room can be submitted at

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DPU_GIS_MAPPING@COLUMBUS.GOV. All requests should be in the following format (name, Consultant name, contact number, City Design Project Manager, type of data being requested, and the summarized purpose of the data being requested.) The Consultant will need to attach an image or GIS/CAD file to the email which clearly shows a bounding box of the geographical area that data is needed.

- 4.2.3. The Consultant shall contact the Division of Infrastructure Management – Public Right-of -Way Manager by email to request the existence of any Special right-of-way permittees that may have facilities or structures within the limits of the project. When applicable, show these facilities or structures in the project plans.
- 4.2.4. The Consultant shall make sure the water and sewer record plan number is correctly labeled for the respective public utility on the plan/profile view of Stage 1 of the construction plans.
- 4.2.5. The Consultant shall draft all existing infrastructure, including signal pole foundations, to scale. In the plan view all facilities over 20-inches should be shown with two lines to delineate the actual size.
- 4.3. The Consultant shall coordinate with private utility companies in the identification and location of utility facilities and avoidance of conflicts with City facilities or elements of the project.
 - 4.3.1. The Consultant shall coordinate with all private utilities to communicate the scope and limits of the project and to determine the existence of facilities within the project limits,
 - 4.3.2. The City Utility Coordinator will provide contacts in which the Consultant can use for coordination along with template wording for electronic plan submittal to the utilities.
 - 4.3.3. The Consultants must show utility locations by field located markings and/or mapping provided by the utility onto Stage 1 drawings along with the utility being correctly labeled.
 - 4.3.4. The City Utility Coordinator can be consulted for clarification on any plans or mapping provided by the Utility owner.
 - 4.3.5. The Consultant shall submit a Utility Coordination Log in Excel with all submittals to document high level conflicts and resolutions throughout the project development
 - 4.3.6. The Consultant shall submit a Draft Utility note per the requirements in the City of Columbus Department of Public Service Utility Coordination Manual. The Draft Utility must provide updated information of any necessary relocations.
 - 4.3.7. The Consultant shall submit a Joint User Attachment in Excel format if applicable.

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- 4.4. The Consultant may be required to design a Joint Use Duct Bank plan to help facilitate relocation if required. The Joint Use Duct Bank shall consist of the following sheets, unless otherwise specified by the Division of Design and Construction Utility Coordinator:
 - 4.4.1. Joint Use Note Sheet with Manhole Detail, and Quantities
 - 4.4.2. Schematic of Joint Use Duct Bank (identify which ducts will belong to which utility)
 - 4.4.3. Joint Use Plan View and Profile (identify which ducts will belong to which utility)
 - 4.4.4. Joint use laterals required to the Right-of-Way line
 - 4.4.5. Identification of any necessary service drops needing relocation with the project
 - 4.4.6. The City Utility Coordinator may assist and provide sample sheets if applicable.
- 4.5. The Consultant must have all private utility easements, clearly identified on the Right-of-Way plan sheets with any Deed Book, Official Record or Instrument Numbers.
- 4.6. The Consultant should consult the City of Columbus Right of Way Plan Routing Manual when designing private utility infrastructure for any additional clearance requirements.
- 4.7. The Consultant shall reach out to the Utility Coordinator assigned to the project to discuss any private utility plans that need further clarification or non-responsive utilities.

Section 5 - Maintenance of Traffic (MOT)

- 5.1. The Maintenance of Traffic (MOT) plan shall include detailed temporary traffic control drawings, notes, and phasing for all portions of the project. The plan shall also show existing location of right-of-way (as needed); curb lines and edge of pavement, curb cuts, sidewalks, shared-use paths, poles (as needed), traffic signals, traffic signs (ground mounted and overhead), pavement markings, etc. All existing items shall be shown by using dashed/lighter weight lines.
 - 5.1.1. A meeting between the Consultant and the appropriate Design and Construction Division personnel who will review the MOT plans will be held immediately after the Stage 1 plan review is complete. This meeting is to be requested through the DPM. At this time, the details of the MOT and Traffic Control Plan will be discussed. Design and Construction Division staff may provide relevant MOT standard drawings, notes, specifications, etc. at the time of this meeting. The Consultant is to prepare a meeting summary of their understanding of items discussed at this meeting and submit them to the DPM for review.
- 5.2. It is the responsibility of the Consultant to show all existing traffic control items 200 feet prior to the first MOT traffic control device. Intersections shall be shown in full when work is performed within the right-of-way. Existing and proposed traffic control items to be shown shall include, but not be limited to, traffic control signs, signal heads (existing

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and proposed), shifted heads, pedestrian signal heads, signal poles (existing and temporary), signal spans and overhead signing, and other signal related items, as well as all pavement markings including lane width and lane use markings. The existing traffic control items shall be shown by using lighter weight or dashed lines and when shown, signal conduit shall use the “TR” line type. All proposed traffic control items shall be in bold.

- 5.3. All temporary traffic control devices shall be shown at appropriate locations on each plan sheet. Temporary traffic control signs shall be shown with design codes, size, and station number on each plan sheet. The use of a key-legend shall only be approved for signing detour routes on plan schematics. A legend may also be used to designate various channelizing devices and specified spacing of the devices.
- 5.4. If total closure (short term or long term) of the roadway and/or intersection is warranted, a complete detour plan shall be included for all users. The plan shall consist of a schematic of the street system, the surrounding and approaching detour route and the project area. Sign, barricades, Flashing Arrow Panels (FAP), Portable Changeable Message Signs (PCMS), etc. locations shall be identified by a ballooning-numbering system.
- 5.5. If the project impacts a signalized intersection, plans will be required to detail the phased closure of one corner at a time. These plans shall also include any head shifts and detection schemes as required by the Traffic Signal Design Manual and/or reviewers. See the Traffic Signal Design Manual for further detail regarding temporary modifications to traffic signals. .
- 5.6. For detour plans, all signs, barricades, etc. shall be shown on a key-legend format corresponding to each balloon. The key-legend shall be on the same plan sheet as the schematic. All signs shall include legend, sizing, color, codes, etc. These Keys and or sign identification shall remain consistent throughout all detour sheets of the MOT plans.
- 5.7. Plans shall include a temporary alternate ADA compliant pathway for maintaining pedestrian traffic. For any bikeway facilities leading into and out of the project limits, the Consultant needs to account for the maintenance of bikeway traffic and access to bicycle facilities.
- 5.8. Logical sequence of construction events, including the use of temporary items, shall be included as needed. Necessary quantities shall be accounted for due to these phases.
- 5.9. Access shall be maintained to all properties at all driveway entrances, including those drives scheduled for replacement, unless specific plan constraints restrict this requirement.
- 5.10. Department of Public Service CIP MOT notes are located here:

<https://www.columbus.gov/WorkArea/DownloadAsset.aspx?id=2147514373>

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- 5.11. The Design Consultant shall contact the DPM to set up a pre-design meeting for MOT design detail requirements.

Section 6 - Traffic Control (Signing and Pavement Marking)

- 6.1. Traffic Control (Signing and Pavement Markings) has specific design requirements and are available on the Department of Public Service web site:

http://columbus.gov/Department_of_Public_Service/Design_and_Construction/Design_Resources

Section 7 - Traffic Signals

- 7.1. Traffic Signals have specific design requirements which are available in the Traffic Signal Design Manual which can be downloaded from the Department of Public Service website:

<https://www.columbus.gov/publicservice/Design-and-Construction/document-library/Traffic-Signal-Design-Manual/>

Section 8 - Plan Format and Plan Requirements

- 8.1. Plan Format:

- 8.1.1. All plans shall be submitted in color as exemplified on the Division of Design & Construction Sample Plans.

The Department of Public Service has Sample Plan sheets for Capital Improvement Projects (CIP) that shall be used as a format guide for layout of information on plan sheets.

<https://www.columbus.gov/publicservice/Design-and-Construction/document-library/Sample-Plan-Sheets/>

- 8.1.2. All plans must be submitted with a 22 x 34 inch page setup, with a minimum of 2 inches from left border and ½ inch from all other borders.

Plan & Profile are typically required at: 20 scale Horizontal & 5 scale Vertical. Downtown or dense urban areas may be 10 scale Horizontal at Consultant request with DPM approval; and/or, as directed by the DPM.

- 8.1.3. Plan Title: For the project, the Plan Title shall be the name of each STREET (on which improvement is proposed) and the limits of the improvement with reference by distance FROM/TO the R/W line of the nearest (public street) intersection. Describe the work limits from SOUTH-to-NORTH and from WEST-to-EAST. The directional relationship of the street should be abbreviated (e.g. E. Broad or N. High) unless the

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direction is part of the street name (e.g. North Broadway). Numeric street names are to be spelled out (e.g. 4th Street shall be as Fourth Street). Examples:

- N. High Street FROM Broad Street TO Lane Ave. (work is on the entire street or both sides).
- Indianola Ave. (west side) FROM 120'± south of E. North Broadway TO 375'± north of E. North Broadway.
- E. Broad Street (south side) FROM High Street TO 300'± east of Fourth Street.

8.1.4. Street Stationing: Station the centerline of each street. Each street is to have its own stationing. Stationing should progress up from SOUTH-to-NORTH and from WEST-to-EAST. Provide a “Basis of Stationing” statement explaining the origin and basis of stationing. Whenever possible, use established stationing from previous (project) plans and make reference to the plan number(s) in the statement. When establishing new stationing, set an even station at the centerline of the nearest street intersection and describe in the Basis of Stationing statement. When stationing is newly established, include in the statement that is being set for this project. Station equations or negative stationing on the plans will not be accepted. All E-Plan improvements shall be based on the roadway centerline stationing, including sidewalks, etc. unless alternative stationing is approved by the DPM.

8.1.5. The title sheet is to be submitted as a standalone PDF in addition to the full set of plans. The PDF title sheet shall include the appropriate Engineer’s stamp(s) and signature(s) required (e.g. Civil, Structural, Traffic, Signal, Electrical, etc.).

8.1.6. All plan sheets shall be clear and legible. Plans that are not legible may be rejected.

8.2. Plan Requirements:

The following plan requirements shall be considered a minimum standard. Any variations to these requirements shall be discussed with the DPM. Refer to City Department of Public Service website for any additional Plan Requirements, Checklists and Sample Plan sheets for Capital Improvement Projects.

8.2.1. Preliminary Alignment Plan (If Directed)

Large scale (30 Scale unless directed otherwise) scroll plot of the project alignment. This plan should include the following, but not limited to: existing topographic information; proposed/existing roadway; curb; pavement markings; sidewalks; bike lanes, shared use paths; proposed/existing on street parking; existing COTA bus stops; proposed ADA ramp alignment or compliance of existing ramps; existing right-of-way; existing centerline of right-of-way; property lines; property ownership information; preliminary construction limits; preliminary R/W takes/impacts; stationing; associated labels and dimensions; other items as necessary to illustrate the project conceptual requirements and as identified by the DPM.

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8.2.2. Stage 1 Plans (Required Plan Sections)

- Title Sheet.
- Schematic Plan.
- Typical Sections (including approved pavement design computations).
- Maintenance of Traffic (MOT), including pedestrian MOT (if not on the plan sheets, a separate narrative outlining an MOT concept and construction sequencing included with Stage 1 submittal).
- Plan and Profile Sheets (minimum scale: 1" = 20' horizontal and 1" = 5' vertical), including demonstration of a continuous compliant PAR (includes Preliminary Profile of pavement, shoulders, curbs, and pedestrian facilities).
- Cross Sections (complete except for quantities).
- Pavement Marking & Signing.
- Traffic Signal Plan.
- Traffic Signal Interconnect Plan.
- Lighting & Power Plan.
- Structure Plan.
- Preliminary Stormwater Management Report (PDF, in accordance with the current edition of the City of Columbus Stormwater Drainage Manual **including conceptual Stormwater BMP's**).

8.2.3. Stage 2 Plans (Items in Stage 1 plus the following):

- General Notes including As-Per-Plan and Item Special notes.
 - Maintenance of Traffic (MOT) Notes.
 - General Summary (complete except for quantities).
 - Stormwater Pollution Prevention Plan.
 - Plan and Profile (complete except for quantities).
 - Sub Summary Tables (complete except for quantities). Must include X's for all items but not numbered quantities.
 - Detail Sheets (including but not limited to: Pavement Details, Intersection. Details, Curb Ramps, Drives, Walls, etc.).
 - Storm Sewer Profiles and proposed storm-water BMP details.
 - Water Line Profiles.
 - Traffic Signal Notes and Details (in accordance with the Traffic Signal Design Manual).
 - Traffic Signal Interconnect Notes and Details (in accordance with the Traffic Signal Design Manual).
 - Structure Notes and Details.
 - Lighting & Power Notes and Details.
 - Landscaping Plan with Notes and Details.
 - Storm Coordinate Data Table.
 - Waterline Coordinate Data Table.
 - Updated Stormwater Management Report.
- NOTE: Quantities referenced in the Stage 2 and Stage 3 submittals is defined as the calculated values of the work items.

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8.2.4. **Stage 3 Plans** (Items in Stage 1 & 2 plus the following):

- Calculations Sheet
- General Summary with quantities
- Sub Summary Tables with quantities

8.2.5. **Final Signature Stage** (Items in Stage 3 plus the following):

- Complete PDF plan set with a separate PDF title sheet.

Section 9 - Submittal Requirements

All submittals shall be made to the Division of Design and Construction Design Project Manager (DPM). Each submittal shall be accompanied with a transmittal on company letterhead itemizing the contents and include contact information for the project. The DPM will review the submittal for compliance with requirements and notify the Consultant with the date acceptance or to resubmit. Standard review times are 28 calendar days starting from the date of acceptance.

Summary of submittal requirements:

The **Title Sheet of each submittal shall include the Submittal name and date** per the sample plans found on the Division of Design and Construction website.

9.1 Preliminary Alignment Plan (if required)

- 9.1.1 1 scroll plot (verify with DPM if required)
- 9.1.2 Other items as required by the DPM or contract
- 9.1.3 PDF files of all submittal documents

9.2 Stage 1 Submittal

- 9.2.1 Engineer's Estimate
- 9.2.2 Utility Log – Excel and Draft Utility Note - Word
- 9.2.3 Project related calculations
- 9.2.4 Stormwater Management Report
- 9.2.5 AutoCAD files
- 9.2.6 PDF files of all submittal documents

9.3 Stage 2 Submittal

- 9.3.1 Updated Engineer's Estimate
- 9.3.2 Updated Utility Log - Excel and Draft Utility Note - Word
- 9.3.3 Revised project related calculations (including Traffic Signal Design calculations)
- 9.3.4 Updated Stormwater Management Report
- 9.3.5 Disposition of comments
- 9.3.6 PDF files of all submittal documents

9.4 Stage 3 Submittal

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- 9.4.1 Updated Engineer’s Estimate
- 9.4.2 Updated Utility Log, Draft Utility Note in Word and Joint User Attachment - Excel
- 9.4.3 Final project related calculations
- 9.4.4 Updated Stormwater Management Report
- 9.4.5 Disposition of Comments
- 9.4.6 PDF files of all submittal documents

9.5 Review 4, 5, etc... (if applicable)
Submittals following Stage 3 will be numbered sequentially until final approval and the Signature submittal can be made.

- 9.5.1. Same requirements as Stage 3 submittal

9.6 Signature Submittal

- 9.6.1. 1 Full-size PDF of Title Sheet Only
- 9.6.2. 1 Full-size PDF of full plan set
- 9.6.3. Final Utility Note in Word and PDF
- 9.6.4. Joint User Attachment in Excel (If applicable)
- 9.6.5. Final Engineer’s Estimate (Stamped and signed by the Consultant)
- 9.6.6. Sub-summary and general summary tables in Excel format
- 9.6.7. AutoCAD files
- 9.6.8. PDF files of all submittal documents

9.7 Preliminary R/W Plan Submittal

- 9.7.1. R/W Plan Checklist (available on City website)
- 9.7.2. PDF files of all submittal documents

9.8 Intermediate R/W Plan Submittal

R/W submittals following the Preliminary R/W Plan Submittal will be considered intermediate submittals and numbered sequentially until final approval and the Final R/W plan submittal can be made. A change following the Preliminary R/W Plan submittal to construction limits within acquisitions or acquisitions added to the plans must be documented in a memorandum.

The Intermediate R/W Plan Submittal has the same requirements as the R/W Plan Preliminary Submittal with previous comments addressed and the following information.

- 9.8.1. Same requirements as Preliminary R/W Plan Submittal
- 9.8.2. Disposition of comments
- 9.8.3. Draft legal description of each acquisition
- 9.8.4. Memorandum of changes to acquisitions
- 9.8.5. PDF files of all submittal documents

9.9 Final R/W Plan Submittal

The Final R/W Plan Submittal will occur following approval of the R/W Plans.

- 9.9.1. Original Centerline Survey Plat recording (if required)
- 9.9.2. R/W Plan Checklist

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- 9.9.3. Legal description of each acquisition in Microsoft Word format
- 9.9.4. Original legal descriptions (Stamped and signed by the Consultant)
- 9.9.5. Original legal descriptions approved by the County for Warranty Deed acquisitions (Stamped and signed by the Consultant)
- 9.9.6. PDF files of all submittal documents

9.10 Engineer’s Estimate Requirements

All Engineer’s Estimates shall be submitted via City Template in Microsoft Excel spreadsheet format. The template is available on the Design and Construction/Design Resources web site referenced throughout this document. Engineer’s Estimates shall include all associated construction and inspection costs and appear in the precise same order as quantities shown in the general summary.

9.11 FTP or Cloud File Sharing Service Requirements

Each submittal may be sent to the City via a file transfer protocol (ftp) site link or other cloud file sharing service link. The link to the FTP site (or other cloud sharing service) shall be emailed to the DPM. The link when clicked shall take the recipient directly to the folder of the submittal. The FTP site used shall be compatible with all web browsers including Google Chrome and Internet Explorer. When using other cloud sharing services, the DPM shall not be required to sign up for an additional account.

All files included with the submittal shall be in a folder specifically for the submittal. Files for other projects or other submittals shall not be included in the submittal folder. Access by the City to the FTP link shall be maintained for at least two weeks following the submittal.

9.12 PDF File Requirements

A single PDF file of the entire set of plans shall be submitted each submission (including signature submittal). The PDF file shall be exported directly from the drafting software and shall not be scanned or converted from image files such as TIF. The PDF plan files shall be rendered at 300 DPI (dots per inch) as a full-size drawing (22” high by 34” wide). All PDF plan files shall be rendered in color.

All PDF plans files shall have a flattened annotations layer. No text or markups from the designer or drafting software objects shall appear as a comment in the PDF file. Embedded scales or viewports may be used but shall be accurate according to the scale printed on the sheet.

The PDF page number shall exactly match the sheet number printed on the plan set. Skipped pages or lettered pages are not permitted. The PDF page numbering system shall contain only the sheet number. Sheet titles, sheet counts, or any other text is not permitted in the PDF page numbering system.

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9.13 Submittal Document Naming Convention

The PDF of the plans for review shall utilize the following naming convention:

E0####-PROJECT NAME-SUBMITTAL-Plans*

*The project name shall be the abbreviated name as assigned by DPM.

Example:

E02834-Alum Creek Trail-STG2-Plans

E03201-Binns Blvd Sidewalks-REVIEW5-Plans

E03264-Broad St at Hoffman Av-Signature-Plans

All other submittal documents shall use the following naming convention:

E0####_FILENAME_SUBMITTAL

SUBMITTAL	Description
PALN	Preliminary Alignment
STG#	Stage with # indicating submittal
REVIEW#	Following Stage 3 reviews are numbered sequentially
RVN#_RVW #	Revised set of plans
PROW	Preliminary Right-of-way
IROW	Intermediate Right-of-way
FROW	Final Right-of-way

FILENAME	Description
PlanROW	Right of Way plans (when submitted independent of plans)
Plat	Centerline Right-of-Way Plat
STG#Disp	Disposition, # indicating previous submittal
Estm	Engineers Estimate
UtilLog	Utility Log
UtilNote	Utility Note
Spec	Special Provisions
Sched	Project Schedule
CalcSprd	Inlet spread calculations
CalcStrm	Storm sewer calculations
CalcSgnl	Traffic Signal calculations
RprtStrm	Stormwater Management Report
RprtPvmt	Pavement Design Report
RprtGeo	Geotechnical Report

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Photom	Photometrics analysis or file
ExhTrib	Stormwater tributary exhibit
Legl##**	Legal description for easement, ## indicating parcel number, ** indicating easement type (D-drainage, P-permanent, T-temporary, U-utility, WD-warranty deed, S-sidewalk)
Trns	Transmittal
TurnMvmt	Intersection turning movements

Revised versions of the same file as part of a submittal shall include a prefix denoting the date of the file, using YYYYMMDD format.

The PDF for final plans shall utilize the following naming convention:

PDF of full set of plans:

E0XXXX_Project Name

PDF of title sheet:

E0XXXX_001_TITLE_Project Name

Examples:

E03470_GEORGESVILLE_SULLIVANT.pdf

E03470_001_TITLE_GEORGESVILLE_SULLIVANT.pdf

9.14 AutoCAD File Requirements

AutoCAD base files shall be submitted with the indicated submittals. This includes existing and proposed project linework. Specific plan sheets may be requested by the City on a project by project basis and should only be included on the FTP site if determined by the DPM.

9.15 Disposition of Comments

Consultant shall respond with a proposed disposition to all plan reviewer comments. This disposition shall be provided on the Excel spreadsheet file provided with the master markup review set. The response to each comment shall be entered into the provided column on the spreadsheet. Each response shall explain what specifically was done, which specific sheets were impacted or reason(s) why action was not taken. The spreadsheet shall be saved in Excel and PDF formats and returned with the following submittal. Plans shall not be resubmitted until ALL plan review comments have been addressed. Include date of submittal on the disposition of comments spreadsheet.

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Section 10 - Task List, Schedule, Meetings and Communication

10.1. Schedule

The Consultant shall develop and maintain a computer-generated Critical Path Schedule indicating all major milestones and task activities (utilizing the Department of Public Service schedule Template located on the Design and Construction\Design Resources web site as referenced throughout this document) with respective time established for each task from the final project scope task list including 28-Day City review times. Microsoft Project software or approved equal shall be used. The project schedule shall be submitted and approved by the DPM. The DPM must be promptly made aware of any deviations from the original schedule. Any changes to proposed submittal dates must be requested in writing to the DPM and approved by the City.

It should be understood that after the design fee has been established, utilizing the Design Task List specific to the “Project”, it is expected that the detailed design schedule milestones will be derived from the project specific Design Task List. Additionally, some schedule details may be expanded under certain schedule milestones as required specific to the project on a project by project basis.

10.2. Meetings

The Consultant shall prepare a meeting summary for all meetings as scoped in the design contract documents. The meeting summary shall be sent to the DPM no later than 5 business days after the meeting.

The Consultant may request additional meetings with various City departments through the DPM on an as needed basis. Meetings requested by the Consultant that are not part of the design scope shall be considered incidental to the overall design fee.

10.3. Communication

Consultant’s communications and correspondence (letters, emails, transmittals, etc.) related to the project shall, as a minimum, reference the E-Plan number (XXXX-E) and Project Name in the subject title. If an E-Plan number is not yet assigned, then the City 6+6 Project Number shall be used.

Section 11 - Additional Services Task List (If Authorized)

11.1. Contract Documents

11.1.1. The City will prepare standard contract documents for project bidding. The Consultant may be required, if authorized, to prepare any special provisions and supplemental specifications that must accompany the project Construction Contract Documents.

11.2. ESA I

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11.2.1. ODOT Environmental Site Assessment Guidelines shall govern.

11.2.2. Consultant produced reports shall include:

- Executive Summary
- Introduction
- Geography/Geology for the Project Study Area
- Information for Each Site History
- Regulatory Records Review
- Interviews
- Parcel Reconnaissance
- Proposed Right-of-Way and Construction Activities
- Conclusions
 - Site Requiring Phase II ESA (Major Projects)
 - Site Specific Phase II ESA Recommendations (Minor Projects)
- Appendices
 - Project location maps (including topographic and county maps)
 - Aerial photographs
 - Fire insurance maps
 - Directories
 - Regulatory file review information
 - Parcel diagrams
 - Proposed boring/MW location diagram (Minor Projects only)
 - Photographs
 - Preliminary project plan sheets

11.3. ESA II

11.3.1. ODOT Environmental Site Assessment Guidelines shall govern.

11.3.2. Reporting Requirements

- Introduction
- Field Activities/Sampling Procedures
- Sampling Method
- Field Activities/Sample Section Method Analytical Methods
- Quality Assurance/Quality Control
- Geophysical Survey Discussion (if applicable)
- Parcel Diagrams
- Project Management Plan

11.4. Right-of-Way modifications and color coded plans

11.4.1. Consultant may be requested to make modifications to the final right-of-way plans determined necessary by the City of Columbus.

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11.4.2. Consultant may be requested to provide color coded final right-of-way plans. Color coding shall follow the City’s color system found on the City website.

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11.5. As-Built drawings

- 11.5.1. Consultant shall use red line drawings and other construction inspection documents prepared by the City of Columbus to update AutoCAD plans to document the as-built conditions.
- 11.5.2. Final submission shall include digital copies of those plans in accordance with the Submission of Electronic Files section of this document and shall include all AutoCAD files.

11.6. Update to current CMSC

- 11.6.1. Consultant shall be responsible for preparation of a red lined drawing showing changes required to the title sheet.
- 11.6.2. Consultant shall verify any changes to the general notes.
- 11.6.3. Consultant shall verify any changes to item numbers, item descriptions and special provisions.
- 11.6.4. Consultant shall verify any changes required to the typical sections.
- 11.6.5. Consultant shall verify any changes to the plans to change in item numbers and descriptions.

11.7. Contingency for private Property Owner site changes

- 11.7.1. Consultant shall review plans and make necessary changes to the right-of-way due to property transfers or property site use changes.
- 11.7.2. Consultants shall be responsible for all research to determine the current Property Owners.

11.8. On-Call Engineering services during construction

- 11.8.1. Consultant shall be available to attend pre-bid meeting and answer pre-bid questions.
- 11.8.2. Consultant shall attend the pre-construction meeting.
- 11.8.3. Consultant shall be available to answer Request for Information during construction.
- 11.8.4. Consultant shall be available to attend construction progress meetings on an as needed basis.
- 11.8.5. Consultant shall be available to review and approve shop drawings on an as needed basis. Shop drawing review shall be a maximum of 5 working days from date of receipt or as directed by the DPM.