

Project Approach

TASK 1: PROJECT MANAGEMENT AND ADMINISTRATION

Our overarching approach to Project Management is centered on the philosophy that there is a mutually agreed-upon set of rules and procedures that provide guidelines for the management and communications of the project. All project participants will establish these tenets up-front regarding:

- The City's goals and objectives
- Involvement with Property Owners
- Client communications (written & electronic)
- Progress Meetings
- Public Meeting Forums
- Schedule Tracking
- Invoicing and Budget Tracking
- Quality Assurance/Quality Control

EMH&T's Project Manager will coordinate and oversee all aspects of the project, including technical, administrative, client relations and budget. The Project Manager will utilize the key personnel and support staff to provide the skills and experience necessary for the success of the project. At the beginning of the project, key personnel from the City and the EMH&T Team will meet to discuss objectives, strategies and schedules. This interactive step is intended to get everyone involved started on a common strategy and level of understanding. Throughout the development of the project, additional meetings and correspondence are used as appropriate.

EMH&T will attend regular scheduled progress meetings with the City. Meetings will be pre-scheduled, ideally on the same day and time every other week (e.g. every Tuesday at 9 A.M.). The EMH&T Project Manager, Senior Project Engineer and key staff involved in the phase of work at that time, plus the City's management team is anticipated to attend these meetings. EMH&T will provide an agenda, facilitate the meeting, and provide and distribute meeting minutes. A typical meeting agenda will include: Status of the Scope of Services, Project Schedule review, Project Budget review, design issues, and a review of any unresolved "Action Items". Action Items are defined as specific tasks to be completed by the City and/or EMH&T prior to the next progress meeting or some other date as noted. The entire process is intended to provide a summary of progress to date, issues resolved, and issues unresolved. The format of the meeting minutes will be useful by City staff to report to City Council or other Department Managers.

As part of this task, The EMH&T Team will attend two (2) public meetings. EMH&T will support the City at these meetings through our attendance and in preparing visual aides to introduce the project scope and to eventually report to the residents the recommended improvements.

Products:

- *Progress Meeting Agenda and Minutes*
- *Documentation/Correspondence*
- *Presentation Boards for Public Meetings*

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TASK 2: DATA COLLECITON/BASE MAPPING

The task will involve the collection of all available documentation about the infrastructure components of the project area from the City of Mason, utility companies, and any other sources that may be identified. For the purpose of developing project base mapping EMH&T may employ the use of traditional field data collectors, robotic equipment, and/or real-time kinetic (RTK) global positioning satellite (GPS) equipment to obtain horizontal and vertical control and topographic data about the project. Base mapping horizontal control and vertical control will be oriented to the City of Mason datums. It is our understanding that the City of Mason will provide GPS points for control tie-in. EMH&T will develop a control traverse of reference points and benchmarks throughout the neighborhood for use during planning, design, and construction of the proposed improvements. Both horizontal reference points and benchmarks will be established throughout the project area for purposes of both design and construction.

City and County GIS information will be sought to facilitate the performance of Task 3 Alternative Analysis, the location of structures along the road, and also to facilitate preparation of exhibits for public meetings. Topographic surveying would identify all features within the right-of-way and easement takes. Trees, shrubs, mail boxes and other streetscape features will be located and defined. Driveway aprons will be surveyed to at least the property line to obtain existing profiles and material of construction. Our surveyors will pick up paint marks placed in the field by OUPS locators, and our office staff will reconcile field marks with record plan information. Subsurface information such as pipe sizes, inverts, and flow orientation will also be obtained for both sanitary and storm sewer facilities. We will record on the plan locations of sewer laterals and water connections to the level of detail that this information is available from utility records.

During this task we will request authorization from the City to perform soil tests to determine subgrade suitability, depth of existing pavement, and suitability of available soil for borrow or embankment construction. We will also request any comment regarding street light pole foundation design.

Base map sheets shall be prepared in electronic format (AutoCAD) with pertinent topographic, road alignments, and utility information shown. Plan scale shall be drawn at 1"=20' horizontal and 1"=5' vertical scales for profiles. Maps shall be prepared on the possibility that half-size plans shall be requested.

Products:

- *Project Base Maps*
- *Geotechnical Report*

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TASK 3: ALTERNATIVE ANALYSIS

This task shall involve utilizing the City/County GIS mapping to identify potential road alignments, typical section compositions, and property impacts. This task is most important to progressing the project on schedule. A key will be contacting and working with Cinergy and other affected utilities that have overhead service regarding pole and service line relocations. The result of this task will be a recommended alignment and typical section(s) that will be developed in Task 5.

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Products :

- *Recommended Alternative Alignment*

TASK 4: RIGHT-OF-WAY INFORMATION

This task shall include research at the County to collect tax maps, plats, surveys, and deeds for determination of roadway right-of-way, and property boundaries. This item also includes collecting property owner names, addresses, parcel ID numbers, and location of deed recordation for identification on plans and right-of-way summaries. Property boundaries will be reconciled on the base maps per field located property pins, centerline road monuments, and recorded property information that is collected. For purposes of this proposal, it is assumed a total of fourteen (14) property takes will be required.

Products:

- *Collected/Inventoried Property Data*
- *Utility companies will be contacted if significant conflicts and relocation of services are being considered. EMH&T will keep a correspondence record of information exchanged between utilities or authorities contacted.*

TASK 5: PRELIMINARY PLAN DRAWINGS (30% Completion Stage)

The purpose of this task is to begin the assemblage and formatting of the construction documents based upon the results of Task 3.. These documents will establish the format for the construction plans and impact to existing utilities and right-of-way. The preliminary set of plans should include: plan and profile sheets with existing right-of-way, utility lines, conceptual drainage, intersection geometrics, preliminary lighting, and preliminary cross-sections. Line, Grade, and Typical section (LGTS) should be finalized at this stage as well. We will also identify required permit applications relevant to the project (e.g. NOI, NOT, etc.)

Horizontal and vertical alignment will be modified as needed to accommodate the selected streetscape typical section incorporating drainage improvements, grading, street lighting, and right-of-way impacts. An immediate goal is to confirm the location of the street right-of-way and ascertain the potential need for any temporary construction or permanent property takes.

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Following development of typical sections, we will plot cross sections to aid in analysis of drainage, grading, sight triangles approaching intersections, and right-of-way needs. As a general rule, we typically prepare full cross sections in a scroll format at this stage, even though most clients do not require it, so that problem areas for drainage and right-of-way can be determined. This will allow for better determination of work limits such that preparation of right-of-way plans can commence as early in the process as possible.

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Drainage improvements will focus on establishing locations for new catch basins, storm sewer sizing and connections to the existing system, and avoidance of localized ponding conditions as a result of the new street typical section. The preliminary storm water pollution prevention plan will be prepared at this time.

With the addition of sidewalks, the new ADA requirements need to be considered at intersections. We understand that a design paradox can often occur because of a strict interpretation of ADA requirements. An example is the requirement of 0.02 cross slope in a ramp. It is not uncommon for a longitudinal roadway grade to exceed 2 percent. In this case, the ramp and cross walk will automatically fail the 0.02 cross slope requirement unless grade breaks are constructed in the roadway. Introduction of grade breaks may cause roadway design criteria to be violated, particularly for higher design speeds. This paradox requires that care be taken to locate cross walks at locations where criteria for both ADA and roadway design may be met.

The street lighting layout plan will be developed at this stage. The objectives and standards for developing the plan will be an agenda item for one of the regular scheduled project meetings. The layout plan will be created in accordance with the objectives and standards agreed upon with the City utilizing the project base maps, field-walkover surveys to determine electrical distribution points, preliminary location of luminaries, branch circuitry and means of control. The design will be coordinated with Cinergy. From this analysis future conduit and pullbox layouts to accommodate future street lighting and power distribution can be defined. The pull box layout will allow for a typical City of Mason Lighting standard layout to provide acceptable foot-candle levels.

Products:

- *30 % Engineering Plans*
- *Preliminary Street Lighting Layout Plan*
- *Construction Cost Opinion*
- *State and Federal Permit Documents (NOI, NOT, etc.) for City Review*
- *Distribution of plans to affected utility companies and local authorities in accordance with the provisions of ORC Section 153.64 of Ohio House Bill 538. EMH&T will maintain a record of all correspondence.*
- *City of Mason review comments*

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TASK 6: FINAL DESIGN (60% Completion Stage)

Based upon the review comments from the Task 5, the development of the construction documents will be advanced and submitted to the 60% complete level. Plan and profile, general notes, cross sections, construction and drainage details (including sizing calculations) shall be finalized as part of this task. Components of the street lighting layout plan will be included in the plans per approval of the City of Mason. Plans at this stage shall also include sub-summary tables, preliminary ROW, signing and pavement marking plans, and preliminary maintenance of traffic schema. This task also includes updating the preliminary construction cost estimate developed for Task 6.

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EMH&T also suggests prior to starting this task that a **Design/Constructability Review** be performed in the field with City of Mason engineering personnel. This can be scheduled on a Progress Meeting day. This step can be part of the City's review of the plan details. The purpose of this task is to confirm the design elements of the plan can be constructed as shown or if modifications to the plans are warranted.

Products:

- *60 % Construction Plans*
- *Utility companies will be contacted if significant conflicts and relocation of services are being considered. EMH&T will keep a correspondence record of information exchanged between utilities or authorities contacted.*
- *Design/Constructability Field Walkover Review*
- *City review comments which will be the guide for forwarding the development of the plans to the Detailed Construction Plan and Specification level (90% completion).*
- *Construction Cost Opinion*

TASK 7: CONSTRUCTION PLANS (90% Completed Stage)

Based on the comments resulting from Task 6, the construction plans and specifications for the project will be completed and submitted for review.

Products:

- *90 % Construction Plans*
- *Right-of-Way Plans and documentation to allow the City to begin property acquisition*
- *Distribution of plans to affected utility companies and local authorities in accordance with the provisions of ORC Section 153.64 of Ohio House Bill 538. EMH&T will maintain a record of all correspondence.*
- *City Review Comments*
- *Construction Cost Opinion*

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TASK 8: CONSTRUCTION PLANS (100% Complete)

Based on the review comments received by the City and any changes per the second Public Meeting, EMH&T will finalize the documents to allow the City to proceed to bidding the project.

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Products:

- *Final Set of Mylar Plans*
- *Electronic files of the Final Set in AutoCAD 2005 format (including plot files)*
- *Excel spreadsheet of final quantities and estimated unit prices*
- *Drainage Calculations*
- *Right-of-Way Paper Originals and Digital Files in Microsoft Word*
- *Infrastructure Inventory Records*
- *Assist the City in obtaining appropriate governmental and public utility approvals.*

TASK 9: EASEMENT/PROPERTY ACQUISITION

This task shall begin during Task 3: Alternative Analysis as part of the process to select a recommended alignment and typical section in order to evaluate those properties requiring a construction or utility easement and/or purchase of right-of-way. As soon as possible, a title commitment will be ordered. The title commitment is needed at this early stage to assure the accuracy of the existing property/easement lines to accurately perform a boundary survey. The commitment will include all the necessary items needed to meet the county standards, such as: a recorded title, owner names, all mortgages, liens, judgments, extensions, certificates of judgments, and pending actions. From this information an accurate plat of survey will be developed for each affected property, and a file started.

At the 60% completion stage in the design it should be possible to start preparation of a detailed description document that can be used in negotiating easements and/or land purchases with the appropriate property owners. These documents will include the complete listing of all names and addresses of the properties involved and be presented on an 8 ½" x 11" drawing for each description. These documents will be attached to the easement deeds for recording.

A full narrative appraisal will be performed within 30 days of the documents being approved by the City of Mason for acquisition. The work will be done in compliance with the requirements of the Uniform Relocation Act. A one-page summary of each appraisal along with the title commitment report will be provided for review. All original appraisals and title commitments will be maintained at our office for delivery to City of Mason with the as-built drawings.

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Acquisition forms will then be prepared for each property owner. This includes, preparing all IRS W-9 Forms, agreement offers for temporary and or permanent easements and other legal instruments as required. After coordinating with the City of Mason to establish limitations, each property owner will be contacted. Once an agreement is reached with the property owners, the property signed and filled out easement and other legal instruments, including the W-9 Forms, will be submitted to the City of Mason for acceptance by City Council. This work, like the appraisals, will be in compliance with the requirements of the Uniform Relocation Act. The acquisition work is expected to be completed within 60 days from the time the easement appraisals are completed. A monthly report will be provided to City of Mason outlining the status of the acquisition negotiations for the previous month.

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Products:

- *Documentation of Property Acquisitions*

TASK 10: CONSTRUCTION STAGE SERVICES

EMH&T will attend the pre-bid meetings for the construction contracts to assist the County in addressing any questions regarding the design of the construction contracts. EMH&T will also assist the City in preparing technical details for addenda that may be required for the construction contract necessary to address any questions or revise the construction bidding documents before bid opening.

After a contractor has been selected EMH&T will participate in the preconstruction meeting to assist the City in answering any questions and to discuss our role during construction.

EMH&T will also be available during the construction of the project to answer questions and resolve issues of construction consistent with the intent of the construction plans and specifications.

EMH&T will prepare "construction record" drawings for the City from field data provided by the Contractor and supplemental field surveys as may be required. The "construction record" drawings are to be provided in AutoCAD 2004 digital format with mylar originals. Changes will be noted in red.

Products:

- *Construction Record Documents*

ADDITIONAL SERVICES: CONSTRUCTION INSPECTION

EMH&T, if requested by the City of Mason, can provide construction inspection services. EMH&T locally has the experience in providing all levels of inspection to construction management services

