Attachment A – Project Background and Scope of Services

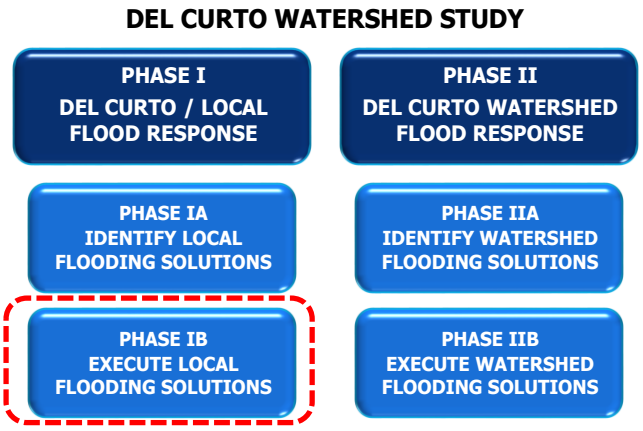
West Bouldin Creek – Del Curto Storm Drain Improvements – Phase IB (5789.069)

Project Background

On May 1, 2014, the City Council passed resolution No. 20140501-042 directing the City Manager to develop a plan to address the effects of infill development in the South Lamar Neighborhood and in other parts of Austin experiencing infill development. The resolution directed the City Manager to work with the South Lamar Neighborhood and City staff to propose a South Lamar Neighborhood Mitigation Plan that addresses the challenges created by many years of development on a site-by-site basis, lacking water detention and exacerbated by recent infill developments where inadequate infrastructure exists. In pursuing elements of the South Lamar Neighborhood Mitigation Plan, an initial watershed analysis by the Watershed Protection Department (WPD) has identified deficiencies in the stormwater infrastructure in parts of the West Bouldin Creek Watershed that fall within or near the South Lamar Neighborhood, as well as additional needs throughout the remainder of the watershed. WPD included this initial watershed analysis in a Draft Preliminary Engineering Report (PER), which is in the final stages of completion.

Overall Project Needs

To address the needs of the West Bouldin Creek Watershed, WPD has requested CAS Consulting and Services, Inc. (CAS) to assist in completing tasks associated with the watershed study started by WPD in 2013. The study's objectives are to cover the needs of the entire watershed, including: identifying and prioritizing facility needs, projected capital expenditures, funding sources, and potential public-private partnership opportunities.



During Phase IA, CAS identified a list of 20 project alternatives which covered a broad range of techniques to address the greatest flooding concerns of the Del Curto portion of the West Bouldin watershed. Through a series of meetings with City staff and neighborhood residents, this list was pared down to the 5 sub-projects which showed the greatest opportunity for flood reduction in a rapid implementation scheme, and which offered benefits beyond flood damage reduction. Phase IB is intended to develop the detailed design of the recommended projects, confirm the effectiveness of flood damage reduction in the project area and that adverse downstream impacts are avoided.

Recommended Sub-Projects from Phase IA:

All designs will be to current WPD standards.

- Stormdrain Bypass: Bluebonnet to Kinney (#2). For this sub-project, CAS will design a new stormdrain system to divert flow away from the existing undersized infrastructure between Bluebonnet and Kinney. In addition to the primary stormdrain which will run underneath the roadways from Bluebonnet to Del Curto, to Delcrest, to Kinney (solid yellow line), there may need to be additional stormdrain laterals to collect flows from adjacent streets (dashed yellow lines). The design of these potential laterals will also be included, as necessary to alleviate local flood issues.

- Curb & Gutter: Bluebonnet (#6). CAS will design a short segment of curb and gutter to protect properties along the east side of the southern end of Bluebonnet, in the area where there is no existing curb and gutter. This will couple with the stormdrain bypass to reduce storm flows from crossing the properties along the natural flow path towards Del Curto.

- Additional Channel Conveyance: Kinney to Thornton (#10). From the new stormdrain outfall at Kinney, the existing channel will be expanded to convey the storm discharge to the inlet headwall at Thornton. There are several locations where the existing trees, vegetation, buildings and other manmade structures encroach on the existing channel, and these will be considered in the design, along with environmental and aesthetic features intended to minimize impacts to the neighborhood character.

- Additional Stormdrain Conveyance: Thornton to outfall (#15). The existing stormdrain in this area will be redesigned, to convey not only flows from the sub-projects described herein, but also incorporating potential flows from the northern portion of the project area, which will be designed in Phase II.

- New & Revised Easements (#16). There are several locations along the existing drainage infrastructure which do not have sufficient (or any, in some instances) drainage easements for maintenance operations. In addition, widening of the existing channel between Kinney and Thornton may require expansion of any existing easements in the area. For this sub-project, CAS will perform the research and preparation of legal descriptions for permanent drainage easements for the existing and proposed drainage infrastructure. Once the designs of the projects has progressed, temporary construction easements can also be prepared.

All Sub-Projects

Phase IB – Execute Local Flooding Solutions; Scope of Services

1. Project Initiation and Management:

1.1. Prepare and submit contract support documents (RAP, SUF, QA/QC).

1.2. Prepare, execute and manage sub-contracts.

1.3. Provide overall project management and communications between all team members.

1.4. Prepare for and lead a project kick-off meeting with the project team key staff and City staff, meeting minutes will be provided.

1.5. Prepare for and lead monthly project status meetings (6 assumed), meeting minutes will be provided.

1.5.1 Prepare for and attend MIPT meetings with each of the 3 submittals.

1.6. Prepare for and support CoA lead for one (1) public meeting. This meeting (during the 90% review period by the City) will present the proposed plans to the public (includes preparation of an onscreen presentation and 1-2 display boards for each sub-project).

1.7. Prepare a project schedule for the kick-off meeting, with monthly updates (6 assumed).

1.8. Provide Quality Control reviews of deliverables according the QC plan.

2. Modeling:

2.1. Update the existing conditions HMS hydrology model (provided by the City), to provide finer resolution of the project area and to reflect current developed conditions in the project area. Analysis points will be created / evaluated at the following locations:

- Top of the project area (Bluebonnet @ existing storm sewer turn to follow natural flow path)
- Top of open channel @ Kinney
- @ confluence with Lamar branch of storm sewer system (separate basins between Del Curto and Lamar branches)
- @ confluence with WBO creek (existing point in model)
- @ other existing downstream model junctions

2.2. Update the existing conditions model created above to reflect proposed conditions in the project area (no changes to the watershed other than project related). Impact analysis will be performed at the locations identified above.

2.3. Update the existing conditions StormCAD model (provided by the City) to prepare a design of open and closed components which meet the standards of the City's Drainage Criteria Manual. Hydraulic design modeling will be performed using Bentley StormCAD.

3. Design Plans, Specifications & Estimates:

3.1. 60 % Design

- Begin field studies and assessment of the permitting requirements, as described in the attached proposal from Baer Engineering. Coordination with CoA, TPWD, THC, and the USACE will be performed.
- Provide document research and field surveys to identify and locate property boundaries, utility locations, tree locations, and prepare right of entry letters for affected property owners as described in the attached proposal from Macias & Associates.
- Begin preparation of documents and field surveys for the acquisition of permanent easements along existing and proposed drainage infrastructure and for temporary construction easements, as necessary.
- Begin preparation of temporary traffic control plans for the 4 sub-projects with construction activities.
- Begin preparation of erosion and sedimentation control for the 4 sub-projects with construction activities.
- Begin preparation of tree protection plans for the 4 sub-projects with construction activities.

- Begin preparation of a stormwater pollution prevention plan for the 4 sub-projects with construction activities.
- Begin preparation of geotechnical analysis of the soils in the project vicinity.
- Begin preparation of plan and profile of all design elements, including aesthetic elements along the channel improvements, thru the services of a professional landscape architect.
- Begin preparation of list of standard specifications and special specifications with bid quantities.
- Submit plans for review by the AULCC. Attend meetings to support AULCC approval.
- Coordinate project design and reviews thru the COA General Permit process.
- Submit plans for review by the City.

3.2. 90% Design

- Submit itemized response to 60% comments from the City. Address comments.
- Complete field studies and agency submittals, as described in the attached proposal from Baer.
- Complete document research and field surveys to identify and locate property boundaries, utility locations, and tree locations.
- Complete documents and field surveys for the acquisition of temporary construction and permanent drainage easements.
- Update temporary traffic control plans for the 4 sub-projects with construction activities.
- Update erosion and sedimentation control for the 4 sub-projects with construction activities.
- Update tree protection plans for the 4 sub-projects with construction activities.
- Update stormwater pollution prevention plan for the 4 sub-projects with construction activities.
- Complete geotechnical analysis of the soils in the project vicinity.
- Update plan and profile of all design elements, including aesthetic elements along the channel improvements, thru the services of a professional landscape architect (include standard notes and details).
- Update list of standard specifications and special specifications with bid quantities (include opinion of probable construction cost).
- Submit plans for review by the AULCC. Attend meetings to support AULCC approval.
- Coordinate project design and reviews thru the COA General Permit process.
- Submit plans and contract documents for review by the City.

3.3. 100% Design

- Submit itemized response to 90% comments from the City. Address comments.
- Complete temporary traffic control plans for the 4 sub-projects with construction activities.
- Complete erosion and sedimentation control for the 4 sub-projects with construction activities.
- Complete tree protection plans for the 4 sub-projects with construction activities.
- Complete stormwater pollution prevention plan for the 4 sub-projects with construction activities.
- Complete plan and profile of all design elements, including aesthetic elements along the channel improvements, thru the services of a professional landscape architect.
- Complete list of standard specifications and special specifications with bid quantities (include opinion of probable construction cost).
- Submit plans for review by the AULCC. Attend meetings to support AULCC approval.
- Coordinate project design and reviews thru the COA General Permit process.
- Submit final signed and sealed plans and contract documents to the City.

The following tasks are not included in the scope of Phase 1B, and the addition of any of these will require additional authorization:

- Coordination with USACE beyond the PCN submittal
- Bid phase services
- Construction phase services
- CLOMR or LOMR preparation

PHASE IB DELIVERABLES

The following deliverables will be submitted to the CITY.

1. 60% Submittal:
    a. Three (3) paper copies of the 60% Plans (half-size, 11”x17” plans @ 1”=40’horizontal),
    b. A digital copy of the HEC-HMS model,
    c. A digital copy of the StormCAD model,
    d. All other digital plans (AutoCAD Civil 3D) and contract documents required in the QMD 60% submittal checklist.
2. 90% Submittal:
    a. Three (3) paper copies of the 90% Plans (half-size),
    b. A digital copy of the HEC-HMS model (if revised),
    c. A digital copy of the StormCAD model (if revised),
    d. All other digital plans (AutoCAD Civil 3D) and contract documents required in the QMD 90% submittal checklist.
3. 100% (Final) Submittal:
    a. One (1) signed and sealed original and Two (2) paper copies of the 100% Plans (half-size),
    b. A digital copy of the HEC-HMS model (if revised),
    c. A digital copy of the StormCAD model (if revised),
    d. All other digital plans (AutoCAD Civil 3D) and contract documents required in the QMD 90% submittal checklist.
4. One (1) digital copy of the 100% H&H models (HMS and StormCAD format);
5. One (1) digital copy of the 100% CAD files (AutoCAD Civil 3D format).