Prepared for:

The City of Commerce City

Project Management Plan

88TH AVENUE: I-76 NB RAMPS TO HIGHWAY 2

EST | HDR

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1 PROJECT DEFINITION

The project client is the City of Commerce City (City). Primary Stakeholders in the project include the City, Adams County, CDOT, FHWA, and adjacent property owners. The purpose of this project is to prepare a Template Environmental Assessment and preliminary design for the section of 88th Avenue between I-76 (from the NB ramps) and Highway 2. The project includes:

- Widening 88th Avenue from 2 lanes to 4 lanes with appropriate turn lanes and median
- Upgrading the traffic signal at the intersection of 88th Avenue with Rosemary Street and connect all signals between I-76 and Highway 2
- Changing the existing railroad at-grade crossing to become a grade-separated structure
- Constructing sidewalks and providing bike facilities through the corridor in accordance with the City's adopted Bike-Walk-Fit Plan
- Accommodating a new large storm sewer planned by Urban Drainage and Flood Control District (UDFCD) through the corridor

The project study limits are shown below:

This project will end when the following is accomplished:

- Kick off meeting
- Initial data gathering
- Traffic analysis
- Alternatives developed
- Public involvement process complete
- Preferred Alternative selected
- Template Environmental Assessment Decision Document complete
- Conceptual Plans and Plan Report complete

2 CONSULTANT TEAM ORGANIZATION

Organization Chart

The following organization chart indicates the flow of responsibility and the resources within the team.

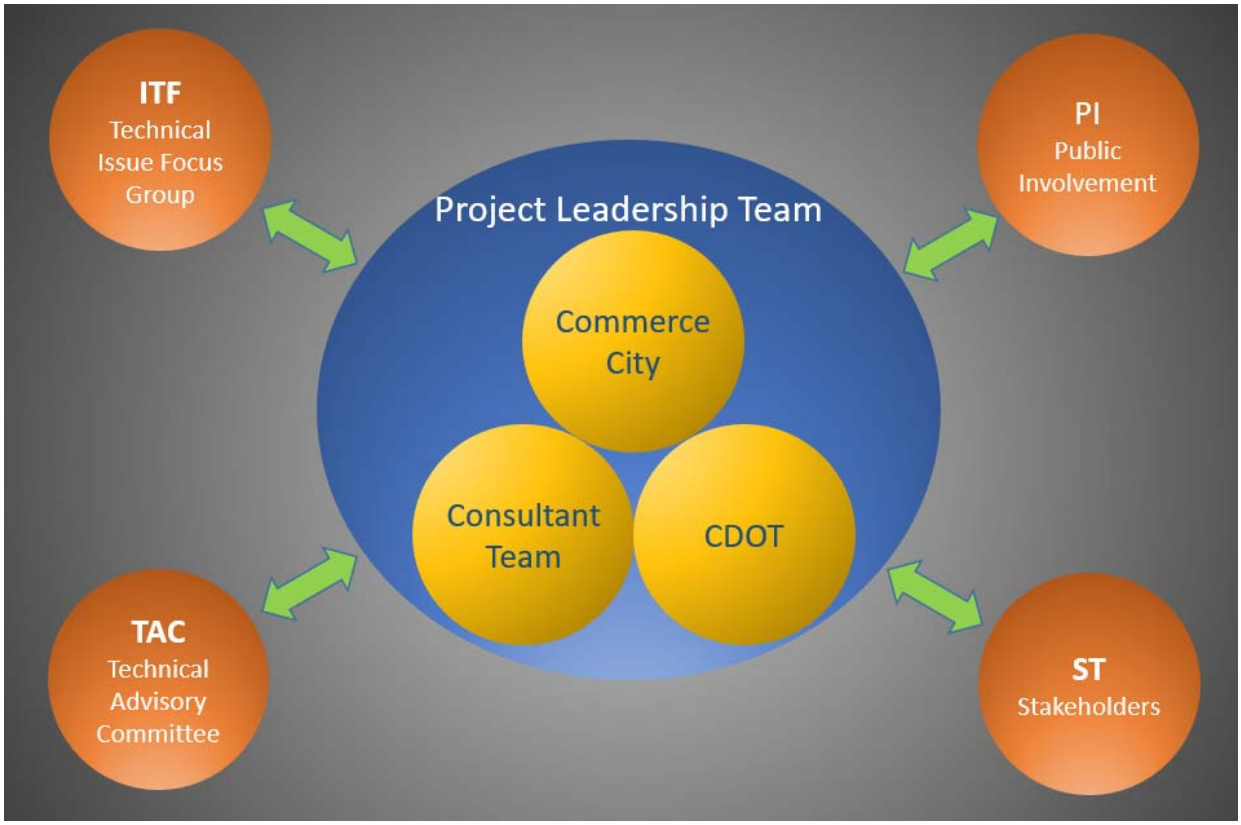

Figure 2-1: Organization Chart

The project will be managed by the Consultant Team and supported by City and CDOT staff that will make up the entire Project Leadership Team. The following Project Leadership Team Chart illustrates how this is organized.

Figure 2-2: Project Leadership Team

A Directory of the Project Leadership Team and Technical Advisory Committee with other appropriate Stakeholders is provided in the Section 9. This Directory will be updated periodically.

Distribution protocols

- Official project correspondence to the Client and CDOT is to be complete via the project OneDrive file hosting service, which will be setup and controlled by EST, Inc. Read-only access to OneDrive is provided through the following link: https://estmail-my.sharepoint.com/:f:/g/personal/amyb_estinc_com/Ei5D6ExiIJNFuChPFZbhvpEB1_PSHukksMdUdSXbQaWKzA. If additional access is required, please contact Amy Backel.
- Day to day e-mail correspondence that discusses the technical details, clarification, and meeting minute transmittals are to be copied to Gary Johnson and Amy Backel.
- Project draft deliverables such as meeting minutes, reports, traffic data, and electronic files are to be first provided to Gary Johnson for concurrence prior to being published.
- Number of revisions, anticipated distribution of meeting minutes, etc. are described in the scope of work.

Communication protocols

- The communication strategy is focused on efficiency. The Consultant Leadership Team can contact the Client, CDOT, and stakeholders related to their individual task items, with Gary Johnson and Amy Backel copied on correspondence.
- Any public information content shall be reviewed by Gary Johnson prior to distribution.
- The Consultant Leadership Team plan on a weekly conference call to keep all members of the consultant team cohesive.
- Sub-consultants are encouraged to collaborate with other resources within the team provided the Consultant Leadership Team is kept informed.

3 SCOPE OF SERVICES

See Exhibit A

I. PROJECT SERVICES SUMMARY

The study area (see Figure 1 below) is bounded by the I-76 east ramp intersection to the west and State Highway 2 to the east, and encompasses approximately 1.6 miles of East 88th Avenue (also referred to as 88th Avenue or 88th Ave. throughout this document).

Figure 1: Study Area

88th Avenue was identified within the City of Commerce City's Transportation Plan (2010) as needing grade separation at the Union Pacific Railroad ("UPRR") tracks and also recommended highway widening in order to provide capacity improvements. 88th Avenue is classified as a minor arterial throughout the study area. A NEPA study will therefore be performed to determine the environmental effects of the proposed roadway project on 88th Avenue. Based on the understanding of the current project, an Environmental Assessment ("EA"), will be undertaken through the use of CDOT's EA Template, available at: https://www.codot.gov/programs/environmental/resources/forms

The Consultant will undertake an initial environmental scoping that will aim to:

- Identify environmental issues warranting detailed analysis in the EA;
- Identify environmental issues NOT warranting further analysis in the EA; and
- Identify potentially significant environmental issues that require a separate, detailed study to determine environmental effects from the proposed project.

CDOT's Environmental Scoping Form will be used for this purpose, and is available from the aforementioned link.

The Consultant will combine environmental technical analysis with modelling and associated surveys (if deemed necessary) to determine the preferred alternative. There will be a comprehensive look at the social, environmental and economic effects of the Project. Additionally, the Consultant will prepare conceptual layouts of 88th Avenue improvements relative to the project objectives, prepare Right of Way ("ROW") drawings based on publicly available records, and conduct necessary traffic counts and traffic studies to assist in developing alternative design options. Initial design considerations for environmental assessment and analysis for the Project include:

- Widening 88th Avenue from 2 lanes to 4 lanes with appropriate turn lanes and median, as needed.
- Upgrading the traffic signal at the intersection of 88th Avenue with Rosemary Street and interconnect all signals between I-76 (both sets of ramps) to the signal at Rosemary Street and the signal at Highway 2.
- Changing the existing railroad at-grade crossing to become a grade-separated structure.
- Constructing sidewalks along both sides of the roadway. An adjacent bike path will be added in accordance with the City's adopted Bike-Walk-Fit Plan.
- Accommodate the planned 60 inch storm sewer planned by Urban Drainage and Flood Control District (UDFCD) identified in the Outfall Systems Plan Conceptual Design Report dated September 2011.

A. PROJECT/SERVICES GOALS

The goals of the Project are as follows:

- Provide improved roadway connections between I-76 and Highway 2;
- Provide lighting, landscaping and drainage improvements;
- Provide sidewalks and curb ramps; and
- Improve safety for pedestrians and cyclists.

B. DELIVERY APPROACH

The Project consists of design and environmental analysis services to complete a study that will identify a preferred alternative, potential environmental impacts and mitigation for those impacts, and satisfy the goals of the Project. The Environmental Assessment, including the decision document will be completed within approximately 15 months from the issuance of the Notice to Proceed.

C. DESIGN REFERENCE DOCUMENTS

The following reference documents are to be used as a basis for design criteria, details, and specifications for this project. All sources shall be the current edition at the date of contract execution.

- Commerce City Engineering Construction Standards and Specifications
- Commerce City Storm Drainage Design and Technical Criteria Manual
- Urban Drainage and Flood Control District, Urban Storm Drainage Criteria Manual
- FEMA FIRMs for Adams County
- Colorado Department of Transportation Design Guide
- Colorado Department of Transportation Right-of-Way Manual
- Colorado Department of Transportation Standard Specifications for Road and Bridge Construction
- Colorado Department of Transportation Standard Plans
- Colorado Department of Transportation NEPA Manual
- Colorado Department of Transportation Traffic Analysis and Forecasting Guidelines (July 2018)
- American Association of State Highway and Transportation Officials Roadside Design Guide
- American Association of State Highway and Transportation Officials, A Policy on the Geometric Design of Highways and Streets
- American Association of State Highway and Transportation Officials LRFD Bridge Design Specifications
- American Association of State Highway and Transportation Officials LRFD Guide Specifications for the Design of Pedestrian Bridges
- Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way
- Transportation Research Board, Highway Capacity Manual
- ASCE C-I 38-02, Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data
- Manual on Uniform Traffic Control Devices

D. CONSULTANT TEAM

The following companies, providing services as sub-consultants, as referenced in this document, shall be understood to be an extension of the prime Consultant:

- HDR
- Surveying and Mapping, LLC (SAM)
- Goodbee & Associates, Inc. (Goodbee)
- Geocal, Inc. (Geocal)
- All Traffic Data Services, Inc (ATD)
- Project Vision 21, LLC
- H.C. Peck

II. SCOPE OF SERVICES

The following are the specific tasks for the project:

A. TASK 1: PROJECT MANAGEMENT AND INITIATION

Following execution of a contract including a detailed scope of work, a project initiation meeting (kick off meeting) will be held by October 12th, 2018 at the latest. This meeting will include review of the approved Project description, scope of work, timeline and milestones. Roles and responsibilities of the City, CDOT, and Consultant will be discussed.

It is anticipated that the project will be advised by a Technical Advisory Committee (TAC) consisting of selected members of the City staff, CDOT staff, the Consultant Leadership team, Motor Carriers Association, FRICO, and any other agency having major jurisdictional input to this Project (Union Pacific Railroad, Urban Drainage and Flood Control District, etc.). This TAC will be used to present and discuss technical issues, review and approve alternatives and the associated screening criteria, review the draft deliverables and advise the progress of the project as appropriate.

Assumptions:

- Anticipated Client and TAC coordination meetings and City Council Briefings are as follow-
  - Client meetings will be periodic and issue specific. Up to 10 meetings are assumed in this scope. A standing agenda will include a review of specific technical areas and resources such as environmental, Public Involvement and traffic.
  - Up to 10 TAC meetings are anticipated to be held at the City Administration office.
  - Attendance at 3 Council Briefings.

With the input of the TAC and City Project Manager, the Consultant shall prepare a project management plan for the study that specifies the roles and responsibilities of the consultant, sub-consultants and other study participants, identifies specific work tasks and sub-tasks, milestones, deliverables, Quality Assurance Plan, review/comment points, team/stakeholders directory, communications protocol plan, and provides a timeline/schedule of work.

All project meeting minutes shall be completed by the Consultant and provided to Commerce City within one week of the actual meeting. When a definable task is discussed during a meeting, the minutes will identify the “Action Item”, the party responsible for accomplishing it, and the proposed completion date.

Invoices will be submitted monthly and include a monthly progress report. Monthly progress reports will include a narrative report detailing progress made during the billing duration, key issues, and a two-month “look ahead” of upcoming work efforts.

Deliverables:

- Project Management Plan
- Project Timeline/schedule
- Meeting Agendas
- Meeting Materials
- Meeting Minutes
- Invoices and Progress Reports

B. TASK 2: PROJECT PURPOSE, GOALS AND ISSUES

The Consultant will develop a solid Purpose and Need statement, reviewed, and approved by Commerce City, CDOT, and FHWA. The objectives of the project should be clearly identified and agreed upon early in the project process to prevent backtracking and limit schedule changes. Develop and refine, as necessary, to address information collected on the project during data collection, transportation analysis, and public and agency scoping and involvement. Review previously prepared studies to help direct Purpose and Need information as appropriate (e.g., local planning studies, engineering feasibility studies, etc.).

Deliverable:

- White paper providing a draft statement of purpose and need, goals and objectives, and evaluation criteria for analysis of alternatives.

Assumption:

- No more than 3 (three) versions of the Purpose and Need will be submitted for review and comment.

C. TASK 3: PUBLIC INVOLVEMENT PROCESS

1. Social & Political Risk Assessment and Stakeholder Scoping Input

A social and political risk assessment will take place before the plan is developed with the purpose of identifying key issues related to the project area via past public comment and media/social media discussion, as well as up to 10 one-hour interviews with key City staff/TAC members, City Council members, and key stakeholder and community influencers, as agreed upon by the City and Consultant.

In addition, the key stakeholders identified in the risk assessment will have an opportunity for thoughtful input into the project process. A two-hour session with those key stakeholders will take place to share with them a draft overall project process and the public involvement plan to be sure all outreach elements and the level of effort associated with them are appropriate and satisfy the Environmental Justice requirements and the City's desire to be a good neighbor.

Deliverables:

- Scheduling of 10 one-hour interviews
- Invitation distribution to interview subjects
- Facilitation and notes from 10 one-hour interviews
- Social and political risk assessment report to be attached to EA
- Scheduling of two-hour session to get stakeholder input on process
- Report from two-hour session

Assumptions:

- Two Consultant public involvement team members will attend each session (facilitator and note-taker)
- Two rounds of edits between Consultant and City for invitations and reports
- All reports and notes will be delivered electronically
- All sessions will be held at the City's facilities or near the project area

2. Public Involvement Plan Development

From the results of Task C1., the Consultant will continue to identify key stakeholders who could be affected by changes in the study area and create and implement a targeted public involvement plan which builds on prior planning and outreach efforts.

The level of effort included in the plan will be in keeping with the complexity and potential controversy of the project. There will be coordination with the City/PM to identify the level of effort to be documented in the plan. The social and political risk assessment will also influence the level of effort for each of the outreach tasks and areas associated with the Environmental Justice requirements that need more time and energy. At a minimum, the plan should:

a) Develop a stakeholder database

(1) Establish and maintain a computerized list of appropriate interested parties for the communication process. The information on the list shall include as a minimum:
   - Name
   - Organization/Firm (if any)
   - Mailing/E-mail address
   - Phone/Fax number

(2) The contacts will be compiled from the list below, as supplemented by the Project Team and the attendees at public meetings:
   - Public Agencies
   - Elected/Appointed Officials
   - Neighborhood Groups
   - Property Owners/Tenants
   - Business Interests

- Special Interests
- Media Contacts
- Citizens from the surrounding study area
- Landowners of currently undeveloped properties in proximity to the project
- Regional Transportation District (RTD) representatives
- Leaders from associations like the Urban Land Institute or the Denver Transit Alliance
- Leaders from faith organizations

b) Outline a strategy and schedule for public notice of outreach efforts and dissemination of information. It will identify methods for public notification and dissemination of information, such as newsletters, flyers, door hangers, website content, press releases, and miscellaneous informational materials, among others.

Deliverables:
- Draft and Final Public Involvement Plan
- Stakeholder spreadsheet/database template

Assumptions:
- Two rounds of edits between Consultant and City for the plan and database template
- The Plan and database will be delivered and then maintained electronically

3. Graphic Design & Collateral Material Development

a) Meeting & Event Materials

The Consultant will provide content for any and all marketing/outreach materials using existing Commerce City templates and outreach mechanisms. Those communication channels include, but are not limited to:
- Fact sheets & brochures
- City-wide monthly newsletter
- Other outreach collateral the City chooses to use

The Consultant's in-house graphic artists will produce the following materials for the project:
- Four infographics, including one on the study process
- Door Hanger design
- PowerPoint Presentation Template and Updates for the 88th Avenue widening Videos

Up to ten (10) cell-phone produced videos will be created to update the stakeholders and public on project milestones and opportunities to provide input. One (1) final project animated video will be produced to outline the successes of the plan, the outcomes of it and the next steps in the project.

b) Advertisements

Up to four (4) advertisements will be designed and distributed to agreed-upon media and community newsletter outlets that will be identified in the Public Involvement Plan.

c) Ambassador & Stakeholder Toolkit

A toolkit will be packaged to include all materials listed above and distributed electronically to all stakeholders and special interest groups who can act as Project Ambassadors. There will be bi-monthly updates of the toolkit sent via email to the list of Ambassadors.

Deliverables:

- Meeting and event materials
  - Fact Sheet
  - Brochure
  - Up to four (4) infographics (study process, public input results are examples)
  - Up to twenty (20) large format display boards to use at meetings and events
  - Invitation template to update for each event or meeting notification
  - Up to four (4) door hanger designs for critical outreach milestones
- PowerPoint Presentation Template
  - One (1) PowerPoint template will be developed at the onset of the project
  - Up to ten (10) significant updates, including needed graphics/maps, will be completed during the project
- Project Videos
  - Up to ten (10) one-to-two minute cell phone-produced videos will be produced by the Consultant and used on all appropriate outreach platforms
  - One (1) final outcome video using an in-house Consultant animator and video producer will be produced to visualize the final report in video form and used on all appropriate outreach platforms
- Advertisements
  - Up to four (4) advertisements for distribution to area media outlets and stakeholders (who can post on websites or in printed community newsletters) will be produced
  - Ambassador & Stakeholder Toolkit Packet
  - Will include all deliverables listed above and packaged for easy distribution

Assumptions:

- Up to three (3) rounds of edits for each deliverable between Consultant and City
- All materials will be proofed and delivered electronically
- For event and meeting materials, as well as door hangers, the Consultant will handle all printing
- The City will provide the Consultant with all native files of outreach material templates for the Consultant to update with project information as needed

- The Consultant will provide content-only for the materials the City will update using internal City staff (i.e. website, social media, monthly City-wide newsletter)
- The Consultant will be provided Commerce City templates and brand logos for use by the project.
- All meeting and event materials will be bilingual (Spanish/English)

4. Public Involvement Management & Coordination

A kick-off meeting, participation in up to 4 client meetings and up to 4 additional Public Involvement conference calls will be facilitated by the Consultant with the necessary project and City staff to provide updates on the public involvement activities and mitigate any challenges that might come up. These coordination meetings are not meant to include external parties. A two (2) hour kick-off meeting will happen after the Public Involvement Plan is finalized. Four one (1) hour conference calls are assumed through the duration of the project; attendees should include Consultant PM, Consultant Public Involvement team (up to two people) and the City communication staff as appropriate. In addition, one (1) public involvement Consultant team member will attend up to 5 TAC meetings to provide high-level updates on the outreach efforts.

Deliverables:

- Agendas and meeting minutes from the kick-off and client meetings and conference calls
- Consultant Public Involvement team member attendance at up to 5 TAC meetings

Assumptions:

- Two Consultant Public Involvement team members will attend each outreach-related meeting
- One Consultant Public Involvement team member will attend up to 5 TAC meetings
- The Consultant will print all materials needed for the in-person meetings (kick-off and TAC)
- The City will provide venue space for the kick-off meeting
- All agendas will be sent electronically two days in advance
- One round of review for agendas and meeting minutes between Consultant and City

5. Community & Public Events/Outreach

a) Community Conversations/Block-by-Block Meetings: (2 rounds of meetings):

Consultant will organize logistics, public notice, meeting materials, refreshments, and facilitate two (2) rounds of Block-by-Block Meetings. Each round of Block-by-Block meeting will consist of four (4) one and a half (1.5) hour presentations to small groups representing geographic subsets of the project area. Each round of meetings will take place over the course of one (1) day.

b) Individual Landowner Meetings

Eight (8) meetings with property and business owners or others directly affected by the project work will be scheduled by the Consultant with property owners identified during project development to identify likely impacts and discuss possible mitigation or resolution.

c) Stakeholder Visioning Tour

One 2-hour tour will take place during the project for key stakeholders identified in the Public Involvement Plan.

d) Stakeholder Work Sessions

Four (4) stakeholder work sessions will take place during key milestones of the project to be determined in the Public Involvement Plan. Attendees will include internal and external key stakeholders and decision makers that may be different than those on the TAC. The Consultant and City will agree on the invitees when the social and political risk assessment is complete.

e) Existing Event Attendance

In the public involvement plan, ten (10) existing community/area events will be attended by the Consultant in the form of a booth or table. Materials and give-a-ways, as well as an interactive map and survey activity, will be provided to attendees.

f) Interactive Comment Map (print only)

A project area map will be created to be used and updated throughout the project. At each public comment milestone, the map will be updated to include the areas we need and want public feedback on. The map will be created to be used in print form at meetings and events. A total of four (4) map versions will be created during the project timeframe.

g) Social Media & Project Website

A social media calendar with weekly post content and graphics/visuals will be produced by the Consultant and provided to the City to post on social media channels as the City deems appropriate. One (1) project website will be developed and managed by the Consultant and linked to a project page on the City's existing website. Alternatively, content and graphics can be created for the City's web team to build a subpage on the City's existing website. All online meetings, graphics, meeting and event schedules and materials, videos, advertisements, and other announcements will be curated by the Consultant and posted on the project website.

h) Text Message Notifications

The Consultant will produce a calendar of text message notification blasts that promote project kick-off, project milestones/where we are in the process, event and meeting notifications, opportunities to participate in online surveys and meetings, and cell-phone based quizzes. Up to twenty (20) text messages will be created.

i) Door Hanger Outreach

Door hangers are an effective tool to notify residences and businesses about project kick-off, milestone, events/meetings and opportunities to provide input. Up to four (4) will be designed (as noted in Task 3.b) and the Consultant will manage the printing and distribution of the door hangers. A one-mile radius will be used from the project limits.

j) Comment Management & Reporting

Monthly comment management reports will outline the public and stakeholder input from each of the meetings and events listed above.

k) VMS board content

The Consultant will create content for the City's public works department's VMS signs to use in the area. The signs will promote public event opportunities.

Deliverables:

- Coordination, facilitation and invitations for Block-by-Block and Community Conversation meetings
- Coordination, facilitation and invitations for Individual Property Owner meetings
- Coordination and attendance to each of the 10 existing events
- Meeting minutes and notes from each meeting and event
- Website development and content with graphics
- 20 Text Messages
- Door hanger distribution map (door hanger itself noted in Task 3.b)
- Monthly comment management reports from all outreach efforts
- Coordination, facilitation and invitations for Stakeholder Work Sessions
- Coordination, facilitation and invitations for Stakeholder Visioning Tour (2 hours)

Assumptions:

- Three (3) rounds of edits per deliverable above between the Consultant and City
- All materials delivered electronically; Consultant will handle printing when needed
- Commerce City has a database of phone numbers for text message distribution

6. Public Involvement Report/Appendix

A final public involvement report/appendix will be produced for inclusion in the overall final plan/report. It will recap each outreach effort, the return on investment, public and stakeholder comments, lessons learned and best practices, and next steps to keep public and political interest in the project.

Assumptions:

- Three (3) rounds of edits per deliverable above between the Consultant and City

Deliverables:

- Content for the final report, as well as graphics related to each element, that the Consultant Project Management team will include in the final report/plan.

D. TASK 4: TRAFFIC DATA COLLECTION AND ANALYSIS

Complete the traffic data collection effort identified in Figure 2 and conduct the analysis that will be support the evaluation criteria for determining a preferred alternative.

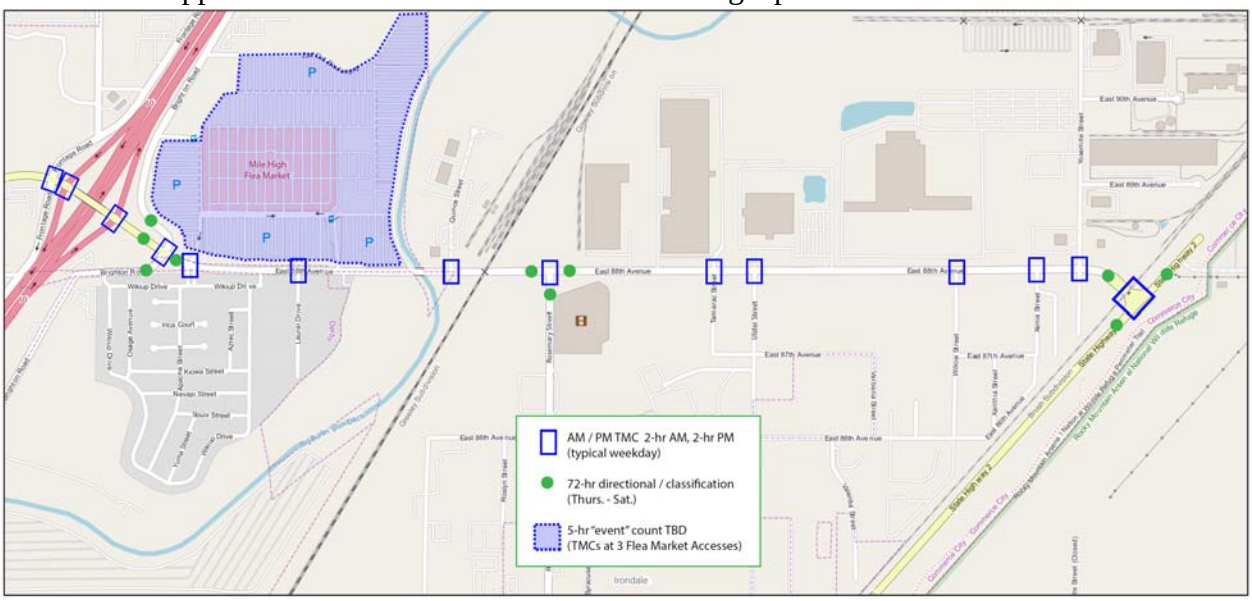

Figure 2: Traffic Data Collection

This effort will include:

- The modeling tool – Synchro/SimTraffic
- Collect data (existing) – See Figure 2
- Build model and calibrate model

- Traffic forecasting to horizon year will be developed with the DRCOG Regional Transportation model which will be adjusted based on the existing traffic counts and anticipated local development activity.
- Evaluate 2040 No Action
- Evaluate 2040 Alternatives

Development of future traffic will use the DRCOG Regional Transportation model numbers with adjustments based on current traffic counts and the introduction of proposed redevelopment in the general area, which includes review of up to three (3) previously prepared traffic impact studies in the area.

At a minimum, analysis will consider existing traffic volumes, accident history, percent of truck traffic, directional splits on all arterials, turning movements at intersections, interchange and ramp characteristics, travel/access patterns, level of service, delays, travel times and speeds, and areas of congestion. During the alternatives development and evaluation process, the appropriate level of operations analysis will also be conducted on the alternatives being considered. The results of the operations analysis are documented into a Transportation Technical Report.

Conduct safety analysis. Document accident rates based on data collected from Commerce City, local emergency services, Colorado State Patrol, and CDOT Traffic Analysis Unit; obtain weighted hazard index from CDOT/PM; evaluate trends; document safety issues and how they can be addressed.

Organize, write, and edit the traffic report and coordinate with the design team responsible for producing conceptual layouts of 88th Avenue improvements.

Intersection geometric controls and design will be completed for the alternatives analysis, as well as warrant studies for up to three (3) currently unsignalized intersections.

Deliverables:

- Transportation Technical Report

Assumptions:

- Analysis does not include I-76 interchange ramps.
- DRCOG to provide future traffic demands.
- Crash data review limited to the most recent five-year period, with crash listings provided by CDOT and/or Commerce City.
- Existing traffic signal phasing and timing data will be provided by CDOT and/or Commerce City.
- Analysis will evaluate up to two (2) alternatives for the 2040 horizon.
- The long term street network in the area is assumed to be the existing.
- To the extent possible, daily and intersection turning movement traffic data will be collected on the same day. The exception to this is one “event” count at the Mile High Flea Market access points when a weekend event is occurring.

- Analysis along Rosemary Street is limited to the intersection with 88th Avenue.
- Traffic signal warrant studies will include analysis of the volume-based warrants only (Warrants 1, 2, and 3).
- Intersection geometric and control design will be based on applicable Commerce City standards, in terms of deceleration, storage and taper lengths.

E. TASK 5: PRODUCE CONCEPTUAL LAYOUTS AND ROW DRAWINGS

Produce conceptual layouts of the 88th Avenue improvements and produce ROW drawings. This should include options for areas which will be widened, landscape areas, sidewalks and cyclist lanes, and options for grade separation of the UPRR railroad crossing. A concept plan report will also be produced, which should include at least a background to the project, development of alternatives, consideration of alternatives, and development of the preferred alternative. Discussion of alternative options shall be included in the concept plan report and as part of the EA.

1. Aerial Mapping, Design Survey, and ROW Mapping

The following task list describes the services to be provided for the Aerial Mapping, Design Survey, and ROW Mapping for the proposed 88th Avenue Improvements located in Commerce City. The area included for these services are along the 88th Avenue corridor bound on the west by Interstate 76 and on the east by State Highway 2. This project includes aerial mapping of the entire project area with ground based supplemental surveying to strengthen the aerial mapping. The 88th Avenue ROW will also be established within this area and documented in an ownership map. A ROW plan will be prepared for the recommended alternative, but no parcel drawings (exhibits) or ROW monumentation will be performed at this time.

a) Administration and General Statements

Comply with the requirements of the Contract Documents and shall meet all applicable federal, State, and local requirements related to surveys, records, and monuments. A Colorado Registered Professional Land Surveyor will be assigned as the project survey coordinator. The project survey coordinator shall be in responsible charge of all survey activities on the project. The project survey coordinator shall direct and review all survey work and shall be the point of contact for all survey related activities. Survey staff shall perform work under the direct supervision of the project survey coordinator.

All survey crew chiefs shall carry business cards that include their name, title, business address, and phone number while engaged in performing survey activities on the project. These cards shall be offered to any public contacts made during the performance of survey activities as a means of introduction and point of contact.

(1) Conduct a pre-survey conference in accordance with CDOT Survey Manual OR Conduct a project Kick-off conference.
(2) Develop a Traffic Control Plan if necessary
(3) Mobilize personnel and brief them on project objectives
(4) Attend monthly progress meetings if deemed necessary

b) Survey Data Research

The full extent of survey and mapping (see Figure 3 labeled EST 88th Ave) information shall be supplied by the client where available. SAM shall verify and confirm the accuracy of all survey and mapping information provided to the Consultant, regardless of the source of the information. Any discrepancies in information provided shall be reported to the Project Manager.

The preservation of survey markers and monuments is mandatory and affects all governmental agencies. The Consultant shall notify the agency affected as soon as it becomes known that a marker is in a position that will interfere with new construction or with Contractor operations. The marker position shall be accurately preserved prior to disturbing any such marker by the governmental agency.

The Project survey coordinator shall be required to sign and seal all survey documentation in accordance with state law. All such documentation shall be transmitted to the Project Manager at the completion of the work or deposited in accordance with state law.

- Verify and confirm the existing control which is provided by CDOT and other public agencies.
- Consultant will provide existing Project Control (where possible) through the project corridor as well as any additional information which may be helpful to SAM including a complete set of Right-of-Way plans.
- SAM will verify and confirm the existing control which is provided by CDOT and other public agencies.

c) Field Survey

- Obtain a Highway Survey Permit from CDOT Utility Engineer/Inspector
- Obtain Permission to Enter Property – It is anticipated that right-of-entry may be required on up to 40 properties. SAM will use CDOT Form 730 with authorization for survey, environmental, and soils or hydraulic investigation work items noted, before entering property other than CDOT's or Commerce City.

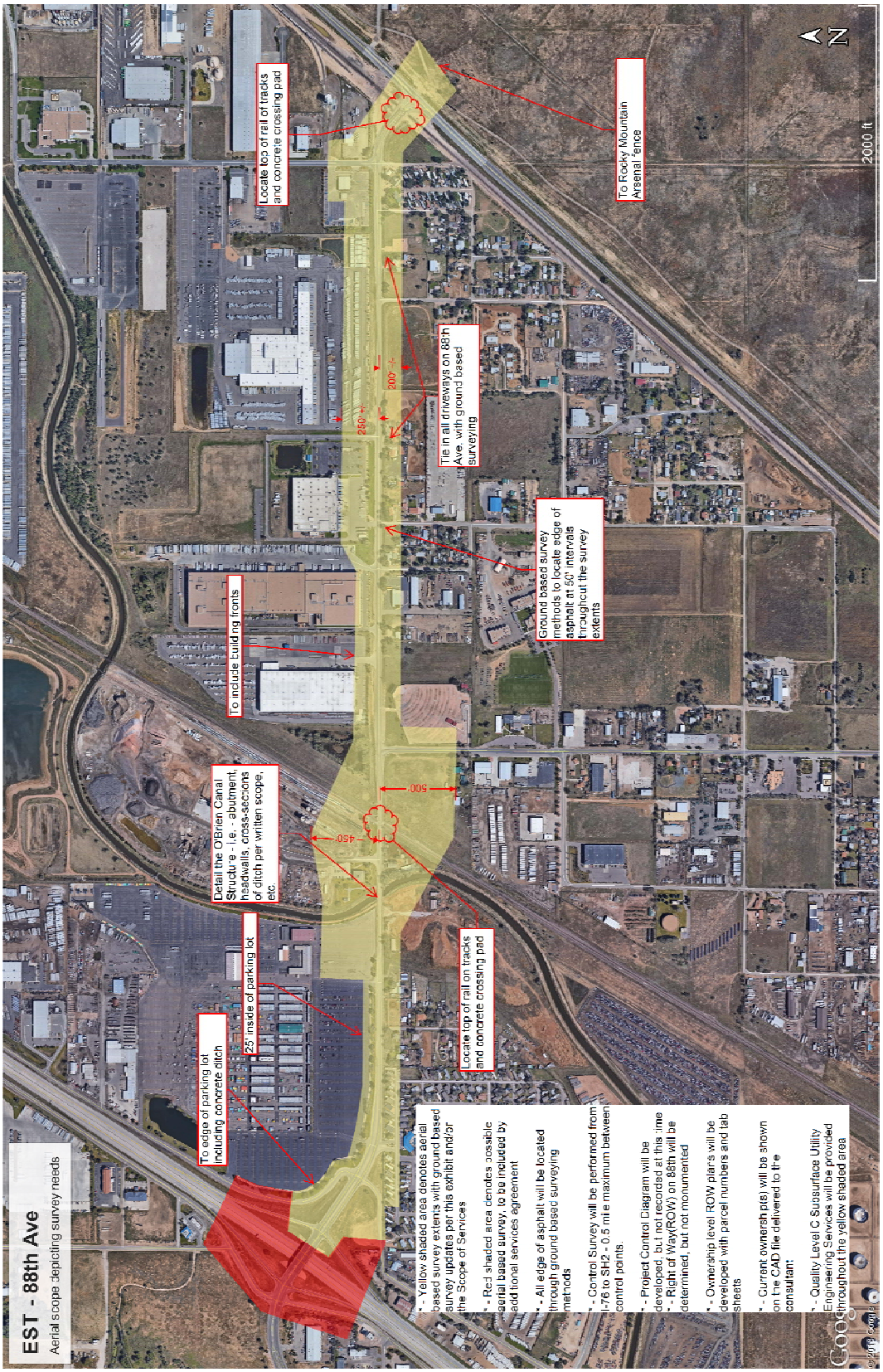

Figure 3: Survey and Mapping

d) Control Surveys

The project surveyor shall plan, schedule, and perform all surveys and monumentation necessary to establish, maintain, and/or supplement the Project control network for the design of the Project in accordance to CDOT standards.

- SAM will establish primary control along 88th Avenue for the entire length of the project. This control will be established at a maximum of 0.5 mile increments and will tie into existing control on I-76 and/or SH2 where available.
- SAM shall supplement the project control where necessary for performing aerial, design, and utility surveys.
- At the completion of the project a Project Control Diagram will be produced showing the existing and set control. This diagram will be in accordance to CDOT Standards. The project control diagram will be a "stand alone" product. Said Project Control Diagram will be created using the latest survey datum available or a datum mutually agreed upon by SAM and the consultant. Said Project Control Diagram will not be recorded at this time.

e) Aerial Mapping

Aerial mapping will be generated in the area depicted on Figure 3 labeled "EST – 88th Ave". The contour mapping will be able to produce one foot contour intervals to national aerial mapping standards.

- Said aerial mapping will generate orthorectified imagery so the photos for project deliverables can be used as necessary.

d) Additional Mapping Surveys

SAM shall arrange for supplemental survey along the 88th Avenue corridor as depicted in the following paragraphs and/or as depicted on Figure 3 labeled "EST – 88th Ave".

- Locate Culverts, Boxes, Pipe Sizes and Inverts of any drainage features running alongside or crossing 88th Avenue in the project extents area
- Locate the RR tracks(top of rail) and concrete crossing pads at the middle of the project and at the easterly end of the project
- Profile the EOA of 88th Avenue east of eastbound I-76 on/off ramps through the project extents
- Profile the EOA on all intersecting side streets to the survey boundary as depicted on attached Figure 3
- Profile any driveway and/or business entrances off of 88th Avenue or within 50' of 88th Avenue on any intersecting streets
- Detail of the structure at the O'Brien Canal – i.e. – abutment, headwalls, etc.

- Cross sections of the O'Brien Canal on each side of existing structure and at 50' intervals for 150' north and south of 88th Avenue
- Field surveying to obtain accurate horizontal position of visible utility surface appurtenances of existing subsurface utility systems located within the project limits will be provided.

e) Prepare Model

SAM will provide a single DTM incorporating both aerial and ground based survey data providing 1' contours throughout the project extents.

f) Prepare Ownership and Right of Way Mapping

- Each ownership name will be shown on the CAD deliverable including parcel numbers.
- CAD files and PDF's will be generated for the 88th corridor.
  - The ownership mapping will consist of individual plan sheets as well as ownership tab sheets
- Tied project control, aliquot corners, ROW markers and property corner numbers will be shown on the CAD deliverable.
- All layer names will have CDOT InRoads/TMOSS format where possible.
- Develop a AutoCAD drawing (to be plotted on 11" x 17" paper using CDOT form borders) that includes GIS property boundaries, aliquot section lines, the InRoads/COGO numbers for the angle points in the boundaries; project control, found aliquot corners, found property corners, found ROW markers with number assigned by the field surveyor, topography for existing roads, rivers and appropriate names, etc.
- Show easements and encumbrances noted on vesting deeds.

Deliverables:

- All data and submittals will be reviewed and/or checked by a State of Colorado Professional Land Surveyor (PLS) before delivery to the designer.
- Design Survey – One electronic AutoCAD file containing both aerial and ground-based survey data in the most current Colorado Department of Transportation configuration.
- Digital Terrain Model – One electronic InRoads file containing no errors or crossing breaklines.
- Preliminary Ownership Map – One electronic AutoCAD file. Preliminary Ownership CAD file will be delivered at a date agreed upon by SAM and the Consultant at the project-scheduling meeting.
- All CAD deliverables will be georeferenced so that they all drop seamlessly into the project coordinate system.

Assumptions:

- The horizontal and vertical control network will be supplied by the Consultant and supplemented by SAM.

- Ownership will be calculated off vesting deeds, assessors information, subdivision plats and Land Survey plats
- ROW will be calculated off record information found at court house and plans supplied by various entities.
- Services Not Included:
  - ROW design plans – To be completed in a future phase of the project, requiring supplemental agreement
  - ROW Monumentation – To be completed in a future phase of the project, requiring supplemental agreement
  - Appraisal Staking
  - As-Built Surveys
  - Construction support
  - Obtain, City or RR Permits for survey work.
  - Bridge Scanning

g) Traffic Control

It is anticipated that two (2) days of traffic control will be needed for survey work in the roadway. All traffic control will be in accordance with the 2009 Edition MUTCD.

h) Title Work

It is anticipated that H.C. Peck will be utilized by the Consultant in obtaining vesting deeds along the 88th Avenue corridor.

(1) Approximately 40 total ownerships
(2) Ability to change "update" to full Title Commitments when Final ROW Plans are developed under a different scope
(3) SAM will coordinate this effort, but not include the cost in their proposal. All associated title work costs will be paid directly by the consultant.

i) Subsurface Utility Engineering (SUE)

Goodbee will provide the following Subsurface Utility Engineering (SUE) services to the standard of care applicable in the Subsurface Utility Engineering profession. The services meet the standard guidelines of ASCE C-I 38-02 for "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data."

Quality Level D (QL-D) – Collect existing utility records information (as-builts) from utility providers, municipalities, counties, and other agency suppliers within the area of investigation. Review records for indications of additional available records, duplicate information, and a need for clarifications by utility owners. These utilities could include but are not limited to electrical, telephone, cable TV, fiber optic, gas, petroleum, water, wastewater, steam, and storm drain systems.

Goodbee will attempt to contact utility providers, counties and other agency suppliers identified through the utility easement information, Colorado 811, and via vehicle reconnaissance and inventory of utility marker posts along adjacent roadways. The sole purpose of this activity is to collect existing record information of utility systems that may have an impact on this project.

Quality Level C (QL-C) – Utility mapping will be developed based on QL-D record search enhanced by additional survey of visible utility surface appurtenances of existing subsurface utility systems located within the project limits. When records and features do not agree discrepancies will be resolved using professional judgment.

Assumptions:

- The budget estimate is to provide all services on a one time basis.
- Subsurface Utility Engineering services include comprehensive record research/collection of all known existing utility systems and survey of all visible utility surface features.
- Normal traffic control, for Subsurface Utility Engineering services, is considered standard placement of traffic cones, freestanding warning signage and vehicle-mounted traffic directional sign. Traffic control requiring lane closures, traffic detouring, flagpersons, police, etc., is considered special traffic control. No special traffic control is included.
- Sanitary and Storm Drain systems will be shown as QL-C based on surveyed invert data where achievable. If invert data is not attainable due to lack of access, they will be shown as QL-D based on available records.
- Based on review of surface appurtenances and existence of service, it is estimated there are 60,150 linear feet of utilities. It is assumed there are up to 13,000 linear feet of sanitary and/or storm drain.
- Mapping and depicting sanitary sewer and storm drain will be at QL-C based upon CDOT's recommended process during 0-10% design.
- Quality Level A test holes are not included.

SUE Deliverables:

A digital .dwg AutoCAD Civil 3D file depicting the utilities within the area of investigation at their achieved quality levels will be provided. The file will clearly identify all utilities discovered from QL-D and QL-C. These utility lines will have a unique line style and symbology in the deliverables. The utilities will be referenced by the type of utility, color coded to American Public Works Association standards, utility company or agency name, address, telephone number and contact person. A signed and sealed plan view drawing will also be provided based upon the utility results outlined above. A USB flash drive containing all electronic project files used, and/or modified, scanned utility records collected, and utility contact information will be created for this project.

2. Railroad Coordination

a) Provide a courtesy notice to the Public Utilities Commission (PUC) of this project.
b) Attend one diagnostic meeting for each of the following two railroads: UPRR Greeley Subdivision and the BNSF Railway.
c) Railroads will be invited to participate in the TAC meetings as appropriate.

3. Geotechnical investigation –

a) Assumptions:
The project starts at the intersection of 88th Avenue/I-76 northbound and extends east for approximately 1.8 miles to the intersection of 88th Avenue/Highway 2. The proposed bridge will be a 6-span structure and will be over the O'Brian canal and the adjacent railroad. The project will also involve construction of embankments/walls for the bridge approaches and a box culvert over O' Brian canal. Total length of the bridge including the approach embankments is approximately 1,500 feet. We anticipate the height of the approach embankments will not exceed 30 feet.

b) Geotechnical Scope of Services
Geocal's scope of work includes preliminary geotechnical investigation for the proposed bridge, drilling and sampling of the pavement and subgrade, conducting laboratory testing, data analyses, and providing preliminary geotechnical recommendations for the bridge foundations and pavement design. We understand that a comprehensive geotechnical study will be required in future.

c) We understand that there may be contaminated materials within the project site especially adjacent to the railroad. We also understand that a firm associated with this project is involved in the environmental data review for contaminated materials and will assist us during drilling if it is determined that monitoring during drilling is necessary. Therefore, based on the discussion with EST, Inc., we have not included the fees related to environmental monitoring during drilling and disposal of the contaminated materials in this proposal.

d) The details of our proposed scope are discussed as follows:
(1) Subsurface Drilling and Sampling:
- Two (2) borings will be drilled for the bridge foundations on the opposite sides of O'Brian Canal. The borings will be drilled to approximately 70 feet or 20 feet into bedrock, whichever is shallower.
- A total of four (4) borings will be drilled to depths of about 5 feet in the pavement area. Pavements cores will be taken from the locations of the existing pavements to find out the depths and conditions of the existing pavements.
- Traffic control plans will be developed and submitted to the City of Commerce City along with the Right of Way (ROW) permit application. The

actual proposed boring layout will also be submitted for review. After review and approved from City of Commerce City, the borings will be staked and the Utility Notification Center of Colorado (UNCC) will be notified for locates. Geocal will subcontract for traffic control and drilling. Borings will be backfilled and patched in accordance with City of Commerce City procedures.

- Soil will be sampled using procedures similar to those described in the American Society of Testing and Materials (ASTM) most recent applicable standards. A Geocal field engineer or geologist will log the borings, record groundwater levels, results of penetration tests, and obtain representative soil samples. Samples collected during drilling will be returned to our laboratory, and selected soil and rock samples will be programmed for testing.

(2) Laboratory Testing: Laboratory testing will be performed on the selected samples. Laboratory tests will include moisture content, gradation, Atterberg limits tests, unconfined compressions tests, consolidation and/or direct shear tests, water soluble sulfates, moisture density, R-value tests etc.

e) Deliverable:

A report will be prepared under the direction of a registered professional engineer. This report will include all logs and laboratory test results, and other items such as site geology and area development that can have an effect on the ground water. Our engineering report will be prepared to summarize at least the following:

- site description and geology,
- brief review of field and laboratory procedures,
- subsurface conditions encountered (soils, bedrock, and groundwater),
- results of the field exploration and laboratory testing,
- figures of boring locations and logs of subsurface conditions,
- preliminary foundation recommendations for bridge, and
- pavement design recommendations using 2019 CDOT M-E approach.

4. Alternative development – Up to 2 basic alternatives will be developed to the conceptual plan level to clearly show the intent, information to determine differences between alternatives, costs, and the basic variable elements that will make up the development of project alternatives. This scope assumes only one (1) round of comments and revisions will be made to the conceptual plans. Alternatives developed will consider the following elements:

a) Minor Arterial cross-section alternatives and their impact to ROW

b) Railroad grade separation
   (1) One (1) general layout sheet per structure per alternative
   (2) Square foot basis cost estimates only (not itemized)

c) Access control elements

d) Corridor lighting

e) Traffic Engineering – see section D. Task 4.

f) Landscape Architecture treatments
   i. Conduct field review of existing roadside landscape conditions.
   ii. Develop two standard landscape treatment alternatives which can be applied in various locations along the corridor. Alternatives will take safety, maintenance and aesthetics into consideration for the designs. A typical plan view of a 50' length in area along with an elevation will be provided for each.
   iii. Develop two bridge/wall (if applicable) aesthetic options for UPRR grade separation.
   iv. Refine selected bridge/wall aesthetic alternative for 15% preliminary design plans.

Assumptions:
- The recommended alternative (that will be compared to the "No-build" alternative) will be developed through working at the TAC level and through Technical Issue Focus group feedback.

Exclusions:
- Inventory of existing corridor vegetation.
- Corridor wide landscape treatment plan
- Cost estimate
- 30% landscape preliminary design plans
- Visualizations of landscape treatments
- Public involvement to develop landscape concepts

g) Alternative Analysis – See Task 6 for more information on alternative analysis

h) Drainage Report -

- Review past drainage reports and other available drainage-related information (Master Plans, Flood Plain Studies, etc.).
- Establish drainage basin boundaries and characteristics for minor cross drainages.
- Conduct field reconnaissance to verify drainage basin boundaries for cross drainage and storm sewer design.
- Determine design discharges in minor cross drainages according to the Commerce City Storm Drainage Design and Technical Criteria Manual and the CDOT Design Guide.
- Establish locations of required drainage structures. Check capacity of existing drainage structures. Identify drainage structures to be replaced for capacity or condition issues.
- Establish a plan for meeting the City's MS-4 requirements for permanent water quality with regard to the proposed roadway improvements.
- Using the Commerce City Storm Drainage Design and Technical Criteria Manual and the CDOT Design Guide, analyze flows on pavements and determine storm sewer and

inlet requirements along the project.

- Using the Commerce City Storm Drainage Design and Technical Criteria Manual and the CDOT Design Guide, analyze each cross culvert structure and determine opening sizes to accommodate design discharges.

Deliverables:

- Prepare a Drainage report in accordance with the requirements of the Commerce City Storm Drainage Design and Technical Criteria Manual.
- Drainage report will be attached to the EA.
- Include drainage items in the preliminary construction cost estimate.

Assumptions:

- Based on current FIRM maps there is no floodplain in the project area.
- Stormwater Management Plan will not be developed.

i) Structure Selection Report for selected alternative

j) Recommended alternative and 15% Plans

a. Plan Sheets:

- Title Sheet
- Standard Plans List
- Typical Sections
- Survey Control Diagram and Notes
- Ownership Tabulation Sheet
- Ownership Map
- Plan Sheets
- Profile Sheets
- Structure General Layout
- Structure Typical Section
- Retaining Wall/Sound Wall Plan
- Sample Aesthetics for Structures
- Lighting Plan
- Storm Sewer Plans

b. 15% Cost Estimate (itemized with contingency)
c. No specifications will be developed
d. Striping will be shown on roadway plans, but no separate signing or striping plans provided

Deliverables:

- Conceptual layout plan that visually illustrates the proposed improvement layouts along 88th Avenue.
- A conceptual plan report that will accompany the conceptual plan and will provide a narrative description including a construction phasing plan and summary of design

criteria applied to the corridor (CDOT Form 263).

- Conceptual plan report will support the EA as an attachment.
- A set of 15% design plans (sheets listed above) and 15% cost estimate (itemized with contingency) will be developed. A maximum of two (2) rounds of review comments will be addressed.
- Right of Way plans to indicate ownership and identify areas which may need to be acquired (+10' estimation).
- Topographical survey

F. TASK 6: PREPARE EA

1. EA Project Management and Continuing Requirements

a) Environmental Project Meetings

i. Environmental Progress Meetings
The Environmental Task Lead or a designee will attend up to 10 of the Client meetings and present environmental updates as part of a standing agenda item.

ii. Internal Core Team Environmental Meetings
Bi-weekly meetings of technical team leads, assumed to be 5 people, meetings to not exceed a half hour.

b) Obtain Necessary Right-Of-Entry and Permits

Some activities may require work on land not controlled by Commerce City. In such cases the Consultant shall obtain the necessary written permission to enter the premises. Written permission shall be coordinated with Commerce City and is to include no more than 40 parcels. See section E.1.c) for details.

2. Environmental Project Initiation

a) Environmental Scoping Task

An early environmental coordination/scoping task will occur and will include Commerce City and CDOT staff. During the early scoping process, determine the effort required for the preparation and coordination requirements to allocate: 1) work to be completed by CDOT Region Staff; 2) work to be completed by CDOT Headquarters Staff; 3) work to be completed by Consultant or its project partners; and 4) outside agency concurrence or approvals require (captured in the environmental scoping form).

The level of analysis required for each resource area is described below. The extent will be one of these four categories: 1) full analysis required; 2) short analysis to define resources/impacts; 3) no analysis required; or 4) analysis already completed (for example, by a previous study).

For each resource, determine during the scoping phase the extent to which documentation is required for each resource. The level of documentation can be included in several ways, such as: 1) a complete analysis/ documentation included in the text; 2) a summary of the analysis performed included in the text; 3) a statement that no impacts are expected; or 4) including information and documentation (technical memoranda, references, annotated bibliography) in an appendix of the document with reference to the appendix in the body of the text. This will be detailed to the extent possible using information available during the scoping phase.

b) Review Applicable Existing Documents

Review project-specific documents or data related to the assessment of environmental, social, and economic resources and impacts in the project area that are determined relevant. Examples of relevant documents are previous studies, planning efforts, access management plans, safety assessments, and other traffic studies.

c) Project Study Area Limits/Logical Termini

Preliminary project study area limits are established in I. Project Services Summary section of this document. Perform necessary research and data collection to propose a study area boundary for environmental resources and logical termini for use in scoping. In coordination with Commerce City and the CDOT/PM, prepare a recommendation to the FHWA for approval of the logical termini, if applicable. Establish a study area that includes the area where impacts could occur as part of the Preferred Alternative and use this to begin to establish impacts and existing conditions.

d) Project Record

Maintain a NEPA Project Record that adheres to the established process. Make available all parts of this Project Record to Commerce City at any time during the project's duration. All materials associated with the project Project Record will be delivered in the format specified by Commerce City.

3. Environmental Analysis and Documentation

Determine the effort required to examine the transportation needs in the project area definitively and completely, to develop and evaluate transportation alternatives following the NEPA process, and to develop the appropriate Template EAs. All environmental documentation, technical reports and technical memos will be submitted to Commerce City and CDOT, and may be required to be supplied to reviewers at CDOT EPB and FHWA for early review as appropriate and necessary.

a) Purpose and Need (see Task 2)

b) Alternatives Development (see E. Task 5, 4.) and Evaluation

This information will be summarized in an Alternatives Screening Technical report that will be attached to the EA.

c) Evaluate Alternatives Impacts

The Consultant will evaluate the impacts of these alternatives according to established guidelines and examine the degree to which these alternatives satisfy the Purpose and Need requirements of the project.

d) Alternatives Screening Process

Apply an alternatives screening process to identify the recommended alternative. Develop NEPA-appropriate evaluation criteria, and measures of effectiveness, and submit them for review and approval by Commerce City and CDOT before beginning the screening process. The rationale for eliminating alternatives will be thoroughly discussed within the EA Alternatives Technical report documentation and appended to the Template EA. The consultant shall take into account the projected design-year traffic volumes and projected opening day traffic volumes for new facilities as developed for this Scope of Work.

Assumption:

- Up to three (3) rounds of review and revisions will occur

Deliverable:

- Template EA Alternatives Development Report

e) Preliminary Design of Alternatives (see E. Task 5, 8.)

4. NEPA Data Collection, Field Investigation, Mitigation Measures

The following analyses are required for each of the alternatives that pass the screening process. Each resource will be summarized concisely, focusing on the project issues of concern in the Template EA. As determined by the Consultant team, the Region, and EPB, a larger area is typically evaluated for cumulative. The level of detail and analysis will be determined based on the level of environmental documentation. Use of Geographic Information Systems (GIS) for environmental data is required to be in compliance with Commerce City and CDOT GIS standards. Relevant information will be incorporated in the Template EA sections such as: Affected Environment, Environmental Consequences, and Mitigation Measures. In addition, technical reports may be prepared in support of the project and shall be attached to the Template EA.

Assumptions:

- All GIS data shall be provided to Commerce City in electronic format.
- If new or unique resources are identified during scoping, this scope of work (and contract fee) will be modified to include these, as appropriate.
- No more than two (2) rounds of review and revision will be conducted for the Template EA
- No more than three (3) rounds of review and revision will be conducted for the associated technical reports or memoranda

a) Air Quality

Traffic analysis will be developed for the Action and No Action Alternative. If any signalized intersections are LOS D or worse, quantitative analysis will be necessary. This scope assumes one intersection will be modeled as described below.

Perform the necessary air quality assessment or modeling as required and provide the results for integration into the Template EA and Air Quality Technical Report (with modeling data assumptions). These will include, but are not limited to, analysis or discussion of carbon monoxide (CO) hot spots, PM 10 hot spot analysis, regional emissions analysis, Mobile source air toxics (MSAT), greenhouse gases (GHG), climate change, construction issues such as fugitive dust emissions, and mitigation measures.

CDOT staff will lead coordination with the Colorado Department of Public Health and Environment Air Pollution Control Division (CDPHE-APCD) and U.S. Environmental Protection Agency (EPA) (as necessary). The analytical methodologies (including number of intersections to be modeled) will be determined through the coordination. One Build Alternative and the No-Action Alternative will be analyzed for impacts through the appropriate design year. Mitigation commitments will be developed, as necessary and compiled into a mitigation table. The Consultant must get approval from the CDOT Region and/or EPB air specialist (and possibly FHWA staff) for any methodologies to evaluate hazardous air pollutants. Utilize the most current standard, accepted FHWA language for MSATs.

Assumptions:

- Full analysis is required
- One intersection will require quantitative modeling, beyond CO all analysis will be qualitative.

Deliverable:

- Air Quality Technical Report

b) Geologic Resources and Soil

Assumption:

- No geologic resource analysis assumed. If the findings of the Geotechnical Report (completed by the Prime or on of their subs) indicate the geological resources merit analysis a modification may be necessary.

Deliverable:

- Geotechnical Report (a design deliverable) will be summarized and included with the Template EA.

c) Water Quality

Water quality analysis to include the following:

- Status of the water resources (quality, etc.) for the purposes of describing the "affected environment" before construction: ground water, lakes, rivers, streams, and springs. Locations of drinking water treatment plants and locations of sewage treatment facilities.
- Water resource and quality impacts of the project during and following construction, determined by considering the project location and design concepts in relation to existing water resources including groundwater or alluvial waters or aquifers (particularly sole source), drainage ditches and other State Waters as defined by CDPHE Water Quality Control Division, aquatic as well as riparian habitat, and Sensitive Waters (Class 1 Aquatic Life, Recreation 1, and Water Supply, 303[d] listed, etc).
- Municipal Separate Storm Sewer System (MS4), Colorado Discharge Permit System (CDPS), and design and permitting issues per the CDOT PWQ program.
- A mitigation plan that includes conclusions of effects, permanent best management practices (BMPs), temporary/construction BMPs, erosion control measures, and definition of maintenance responsibilities.

Assumptions:

- Full analysis will be required
- Driscoll modeling will not be necessary
- Water sampling will not be necessary

Deliverable:

- Water Quality Technical Report

d) Floodplains Assessment

Floodplain analysis as referenced in section E.6. to include the following:

- Identify location of regulatory floodplains and floodways published by FEMA and local agencies, and assess impacts of planned changes to those boundaries from project activities.
- Add information to environmental resource mapping of existing conditions.
- Determine the adverse impacts of each alternative with respect to the base flood elevation (BFE), floodway boundary, and local drainage. This must include the impacts of construction and other "temporary" activities.
- Analyze impacts and develop possible actions to mitigate for the adverse impacts, then coordinate with roadway and structural designers.
- Analyze the impacts and mitigation. Included in the analysis will be a determination of significant impacts due to:
  - Single community access routes.
  - Risk for social or economic losses due to flooding.
  - Alteration of beneficial floodplain values.
  - Recommend preparation of a local floodplain development permit for all work in floodplains and floodways, as required by state and federal law.
  - Recommend preparation of a no-rise certification for all work in floodways, as required by state and federal law.
  - Recommend preparation of Conditional Letter of Map Revision (CLOMR), Letter of Map Revision (LOMR) requirement

Assumptions:

- Some analysis will be required
- Limited regulated floodplains occur in the project area; changes to the Base Flood Elevation BFE are not anticipated.

Deliverable:

- Floodplain Technical Memo to be summarized for the Template EA.

e) Wetlands

- Wetlands Determination/Delineation:
  - Conduct a field evaluation for the presence of wetlands within the project study area. Global Positioning System (GPS) should be used for this activity.
  - Delineate the boundaries and size of all anticipated jurisdictional and non-jurisdictional wetlands and waters of the US within the project area using United States Army Corps of Engineers (USACE) guidance listed in Appendix A.
  - Prepare wetlands maps that delineate the wetland boundaries within the corridor. GPS will be used for this mapping.

- Coordinate the findings Commerce City and CDOT Region to determine permitting approach.

Assumptions

- Full analysis will be required.
- It is assumed that wetland impacts will not rise to the thresholds that require a wetland finding report.
- It is assumed that wetland impacts will not rise to the thresholds that require a FACWet analysis finding report.
- No Section 404 permitting is included, this is a final design task.

Deliverable:

- Wetlands and Waters of the US Technical Report to be appended to Template EA

f) Vegetation and Noxious Weeds

Conduct necessary field surveys and identify vegetation and noxious weeds within the project area. GPS will be used for this activity. Plot major vegetation zones/ecosystems, and weed locations and densities on a map. Summarize findings for inclusion in the Template EA and Biological Resources Report to be appended to the Template EA.

Assumptions:

- Some analysis will be required
- It is assumed that an Integrated Noxious Weed Management Plan will not be completed, this is a final design task.

Deliverable:

- Vegetation and Noxious weeds will be included as a resource in the Biological Resources Report.

g) Fish and Wildlife

Conduct necessary field surveys and prepare a Biological Resources Report, which will include the identification of fish and wildlife and their habitat within the project area, impact analysis, and the development of mitigation measures. Summarize findings for inclusion in the Template EA and Biological Resources Report to be appended to the Template EA.

Assumptions:

- Full analysis will be required
- A general habitat assessment, including one day of fieldwork (2 people), and review of readily available data will be adequate to characterize fish and wildlife and associated habitat.

Deliverable:

- Fish and Wildlife will be included as a resource in the Biological Resources Report.

h) Threatened and Endangered (T&E) Species

Analysis of state and federally listed species will be contained within the Biological Resources Report.

- Federally listed species present include the following:
  - Downstream species: Whooping crane, pallid sturgeon, least tern, piping plover (these species will be covered by the existing PBO between CDOT and USFWS)
  - Colorado butterfly plant
  - Ute Ladies'-tresses orchids
  - Mexican spotted owl
  - Project occurs within the PMJM block clearance zone, therefore this species will not be considered.
- Conducts desktop survey and early coordination, including the following:
  - Confirm State Listed species with CDOT R1 biologist.
  - Conduct necessary desktop and field surveys and identify T&E species and/or Designated Critical Habitat.

Conduct general field survey to determine the presence and/or absence of listed species or their habitat. Summarize findings for inclusion in the Template EA and Biological Resources Report to be appended to the Template EA.

Assumptions:

- Some analysis will be required
- There is not an adverse effect on a federally-listed threatened or endangered species or critical habitat.
- Downstream species will be covered by the existing PBO between CDOT and USFWS. Remaining species will require no USFWS coordination as a "no effect" determination is assumed based on a lack of adequate habitat.
- No protocol surveys are included in this scope of work.

Deliverable:

- T&E will be included as a resource in the Biological Resources Report to be appended to the Template EA.

i) Historic Architecture

A maximum of 6 historical properties will be evaluated as historical places.

- Determine the area of potential effect (APE), in coordination with CDOT and the State Historic Preservation Officer (SHPO).

- Conduct a literature and records search for previously recorded historic resources in the APE at the OAHP.
- Conduct an intensive architectural field survey of the APE and determine National Register of Historic Places (NRHP) eligibility for each resource 45 years or older. Potential resources include man-made structures, ditches, railroads, etc.
- Identify and coordinate with consulting parties (e.g., public, historic preservation groups, local historical societies, museums) regarding historic properties in the project area.
- Write a comprehensive Historic Resources Survey Report according to guidelines established by the OAHP to submit for review by the CDOT Region and/or EPB Senior Staff Historian.
- Determine potential impacts, both direct and indirect, to historic resources and recommend mitigation strategies to avoid, minimize, or mitigate impacts.
- Prepare correspondence as necessary for the CDOT Region and/or EPB Senior Staff Historian to submit to the SHPO.
- Work with the CDOT Region historian or EPB Staff Historian to obtain any necessary approvals and identify mitigation.
- Section 106 documentation and the Historic Resources Report will be summarized for the Template EA and appended to the Template EA..

Assumptions:

- Full analysis will be required
- HDR architectural historians will participate in any necessary meetings via conference call (assume up to three (3) conference calls).
- There will be no determination of adverse effect by the State Historic Preservation Officer (SHPO)
- CDOT will review all consultant work and handle all SHPO and Consulting Party coordination
- Development of a Memorandum of Agreement or completion of mitigation measures for adverse effects under Section 106 are not included in this scope. This service can be provided with a modification of scope and fee.

Deliverables:

- Historic Resource Report
- Effects Letter

j) Archaeology

Assumptions:

- No analysis is required
- CDOT Region 1 and CDOT EPB will provide clearance for archeology, in coordination with HDR. HDR will provide the necessary information, including project limits and area of disturbance for CDOT Region 1 and CDOT EPB staff.

- CDOT will complete Tribal consultation.
- Summarize findings for inclusion in the Template EA

Deliverables:

- CDOT will proved the archaeology clearance letter and it will be attached to the Template EA.

k) Paleontological Resources

Assumptions

- No analysis required
- CDOT Region 1 and CDOT EPB will provide clearance for paleontology, in coordination with HDR. HDR will provide the necessary information, including project limits and area of disturbance for CDOT Region 1 and CDOT EPB staff.
- Summarize findings for inclusion in the Template EA

Deliverables

- CDOT will provide the paleo clearance letter and it will be attached to the Template EA.

l) Land Use

Collect, map and evaluate baseline information. Prepare information on land use and zoning, including maps of existing, planned and future uses. Prepare land use mapping. Mapping may include parcel use categories such as land in public ownership, commercial, retail, wholesale, industrial, residential, vacant, mixed etc. identifying jurisdictional boundaries and land usage along each alternative. (Information may be obtained from Department of Local Affairs, from old Sanborn maps, from archival aerial photos, from the local city, town or County, and/or from field verification.) Identify any impacts or consequences to land uses and recommend appropriate mitigation measures as necessary. Additional analysis will include high level overview of potential future redevelopment that could result from implementation of transportation improvements. Findings will be included in the Land Use and Economic Resources Technical Report and findings will be summarized for the Template EA and appended to the report.

Assumption:

- Full analysis required.

Deliverable:

- Land Use and Economics Technical Report to be appended to Template EA

m) Social Resources

Collect, map, and evaluate baseline information to investigate and document the effects of the project alternatives on community cohesion, safety and security, neighborhoods, and accessibility of facilities and services. Recent Census data shall be utilized. This will be done at the regional and corridor level, as well as part of a cumulative effects analysis, as appropriate. Identify any impacts and recommend appropriate mitigation measures as necessary.

Assumption:
- Full analysis required.

Deliverable:
- Social Resources and Environmental Justice Technical Report to be appended to Template EA

n) Economic Resources

Collect, map, and evaluate baseline information to investigate and document the effects of the recommended alternative on commercial and industrial enterprises, employment, local tax base, regional earnings, etc. Recent Census data shall be utilized. Identify any impacts and recommend appropriate mitigation measures as necessary.

Assumption:
- Full analysis required.

Deliverable:
- Economic and Environmental Justice Resources Technical Report to be appended to Template EA

o) Environmental Justice

Collect the necessary U.S. Census and other applicable data to identify existing low-income and minority populations, as well as adverse effects and mitigation measures or alternatives that would avoid or reduce the impacts according to environmental justice guidelines. Impacts to these communities will be evaluated using CDOT and FHWA guidance in accordance with Executive Order 12898. Beneficial effects of the project on these populations will also be identified. The analysis will cross-reference other resources as appropriate (e.g., noise, air and water pollution, aesthetics, community cohesion, relocation impacts). Summarize any impacts and appropriate mitigation measures as necessary.

As part of the project's public participation or public involvement program, ensure that meaningful opportunities for all members of the community to provide input to the

project exist. Document the degree to which affected low-income or minority populations have been afforded the opportunity to provide input in the NEPA process related to the development of purpose and need, alternatives analysis and screening, impact analysis, recommended alternative identification, and mitigation measures development. Collaborate with EPB's Environmental Justice specialist to determine the level of Environmental Justice outreach activities necessary to obtain sufficient input from low-income and/or minority populations. Summarize outreach activities to environmental justice communities for inclusion in the Public Involvement Report/Appendix to be appended to the Template EA,

Assumption:

- Full analysis required.

Deliverable:

- Summary of outreach activities and feedback to and from environmental justice communities for inclusion in the Public Involvement Report/Appendix to be appended to the Template EA,
- Economic and Environmental Justice Resources Technical Report to be appended to Template EA

p) Bicycle and Pedestrian Facilities

Research and identify existing and future planned bicycle and pedestrian facilities in the project area. The necessary data will be collected from project design documents, community transportation plans, local land developers, open space and park trails, or local governmental agency or community interest groups to determine if any facilities will be impacted, and as a result what mitigation is necessary. Determine if the corridor is a heavily traveled biking facility, the scope of work shall include meetings to coordinate with bike users throughout the NEPA process. (If Section 4(f) resources are impacted, see Section 4(f) and 6(f) Evaluation.). Summarize impacts and recommend mitigation for inclusion in the Transportation Report to be appended to the Template EA.

Assumption:

- Full analysis required

Deliverable:

- Transportation Technical Report to be appended to Template EA

q) Residential/Business/Right-of-Way (ROW) Relocation

The following activities will be performed and documented by a qualified member of the Consultant team, in coordination with the Commerce City, CDOT Region ROW manager (or designee), or Headquarters ROW specialist assigned to the project, in accordance with Title 23 CFR 710:

- Prepare a table identifying and listing all potentially affected properties including, at a minimum, ownership names, property and mailing addresses, estimated areas of impacts, and indicating which alternatives impact each property. This table will be submitted to the Commerce City and CDOT Region ROW Manager for review and may be included in the Template EA (without personal property details) at the discretion of Commerce City, CDOT Region and/or Headquarters ROW staff.
- Perform a ROW field inspection of each short-listed alternative. Ascertain number of parcels, types of improvements, and possible issues (e.g., historic sites). Estimate family sizes for residential relocations.
- Compile a cost estimate for a ROW acquisition and relocation for 3 alternatives.
- Prepare a property ownership map based on tax records, which identifies ownerships for 3 alternatives.
- Develop and document mitigation measures

r) Transportation Resources – See Section D Task 4 for Traffic Data Collection and Analysis Information.

s) Utilities and Railroads

Collect utility location key maps for all existing and planned utilities in the area in coordination with Commerce City and the CDOT Region utilities specialist. Conduct all field utility locates. The potential impacts on or from utilities in the project area will be analyzed as well as any appropriate mitigation measures. See section E.2 for Railroad coordination information.

t) Section 4(f) Evaluation

- Per review of the CDOT OTIS website there are no Section 6f) resources in the project area.
- Inventory and map project area for Section 4(f)facilities.
    - Determine if any potential impacts or ROW acquisitions include Section 4(f) properties (e.g., publicly owned parks, recreational facilities, nationally significant historic sites, wildlife refuges). Initially no recreational Section 6(f) properties have been identified. A brief summary of findings will be included in the Template EA.
- Determine and evaluate project impacts on Section 4(f)
    - Using preliminary design information, and the necessary commitments for mitigation measures. Determine whether impacts qualify under the "*de minimis*" 4(f) use. Prepare an analysis that includes avoidance alternatives, discussion of prudent and feasible, least harm (if necessary), minimization, and mitigation related to Section 4(f) properties. This may include the development of a new alternative(s) as an avoidance alternative(s).

- Prepare evaluation and coordinate reviews with REM and EPB staff for review by FHWA.

Assumptions:

- Brief analysis required
- No Individual Section 4(f) Evaluation will be required for clearance.
- No Technical Report or Technical Memos will be produced.
- Historic Section 4(f)
  - It is assumed that no more than four historic properties will be included for Section 4(f) analysis and that all four of these will be a *de minimis* use, requiring four de minimis forms to completed and submitted to CDOT.
- Non-Historic Section 4(f)
  - It is assumed that there are no Non-Historic Section 4(f) resources in the project area.
- Section 6(f)
  - It is assumed that there are no Section 6(f) resources in the project area.

Deliverables

- Four de minimis forms for Section 4(f) resources
- A brief summary of findings will be included in the Template EA.

u) Farmlands

In coordination with the Natural Resource Conservation Service (NRCS), investigate and quantify the effect of the project alternatives on farmlands—determining whether farmlands in question are classified as “prime” or “unique,” as well as the extent to which impacts may affect local communities. The US Department of Agriculture Farmland Conversion Form (Form AD 1006) will be completed as necessary. Develop mitigation measures, if applicable, for impacts. A brief summary of findings will be included in the Template EA.

Assumptions:

- Some analysis required
- Per review of NRCS WSS data, prime farmland is present in the project area in parcels adjacent to 88th EA

Deliverables:

- Form AD-1006
- Letter for NRCS coordination
- A brief summary of findings will be included in the Template EA.

v) Noise

Prepare a technical noise assessment in accordance with the most recent CDOT Noise Analysis and Abatement Guidelines and submit a comprehensive noise assessment

document to CDOT for review and acceptance. The analysis will consist of the following, each of which must be covered in the noise assessment document:

- Definition of relevant noise abatement criteria and identification of noise-sensitive land uses
- Determination of existing noise levels (by measurement and/or modeling).
- Prediction of future traffic noise levels for all alternatives, including the No-Action Alternative, using FHWA's current Traffic Noise Model.
- Determination of traffic noise impacts
- Identify and evaluate feasibility and reasonableness of noise abatement measures. Coordinate with Project Engineer with regards to locations and heights of proposed abatement measures
- Development of recommendations regarding noise abatement measures
- Assessment of construction related noise issues.
- The above items will be addressed and documented in a Noise Technical Report. Prior to beginning this work, the Consultant shall meet with Commerce City and CDOT to review the appropriate noise methodology. Noise modeling should be completed for the model year 2040. The draft and final technical report will be completed and made available to the CDOT Noise Specialist for review; the findings will be incorporated into the Template EA.

  Assumption:
  - Full Analysis will be required

  Deliverable:
  - Noise Technical Report

w) Visual Resources

- Development of VIA scoping questionnaire
- Visual impact assessment to be prepared consistent with FHWA's 2015 VIA guidance and includes the development of VIA scoping questionnaire to determine the level of documentation. This scope of work assumes a VIA Memorandum would be the appropriate documentation based on the scoping questionnaire. Photo simulations are excluded. Findings from the VIA memorandum will be summarized for inclusion in the Template EA and the VIA Technical Report will be appended to the Template EA.

  Assumptions:
  - Some analysis required.
  - Assumes that impacts only rise to a level that a VIA memorandum
  - No rendering or simulations are included.

Deliverables:

- VIA Questionnaire
- VIA Memorandum

x) Energy

Discuss in general terms the construction and operational energy requirements and conservation potential of various alternatives under consideration. The discussion should be reasonable and supportable. A calculation of energy consumption during construction will be included. A summary of findings will be included in the Template EA.

Assumptions:

- Brief analysis required.

Deliverables:

- Summary of findings for inclusion in the Template EA.

y) Hazardous Materials

Perform and document the following Initial Site Assessment (ISA) activities:

(1) Conduct regulatory research that includes the collection, mapping and Evaluation of data from the following resources:

- Hazardous Waste Lists compiled by U.S. EPA or CDPHE which identify, utilizing a database provider if appropriate.
- Records kept by U.S. EPA or CDPHE on hazardous waste regulation violations or citations
- Lists kept by the appropriate fire department
- Available historic tax records which indicate past land use (coordinate with property ownership and land use data research), such as Sanborn Fire Insurance Maps
- Available historic aerial photos of the corridor (e.g., United States Geological Survey, public libraries, etc.)
- Historic topographic maps
- Any pertinent records maintained by CDOT
- Documented personal interviews, if approved by CDOT/PM
- Agency file reviews

(2) Analyze results of regulatory research and records review and identify potential impacts construction activities may have on existing hazardous waste sites. Assess potential liability issues and hazards to the public and construction workers and develop potential mitigation options. Prepare the ISA Report Document to include the following:

- Prepare the draft and subsequent final ISAs to address comments provided by CDOT.
- ISAs will conform to American Society for Testing and Materials (ASTM) standards for Phase I reports (with limitations), and make a determination of the necessity of a Phase II report.
- Identify how the presence of hazardous waste locations may impact each alternative, including the no-action alternative. GIS mapping will be desired.

Assumptions:

- Full analysis will be required.
- Phase II investigations excluded.
- Additional services beyond the ISA can be provided with a modification of scope and fee.

Deliverable:

- Form 881 ISA report will be generated

z) Cumulative Impacts

Consistent with CEQ regulations, the cumulative effects of each proposed action on a resource, ecosystem or human community will be evaluated for each alternative. The cumulative impact study area will be created in coordination with CDOT prior to beginning evaluation. The analysis will both list and consider incremental impacts of in conjunction with all past, present, and reasonably foreseeable future actions, no matter what entity (federal, non-federal, local government, or private) is taking or has taken the action; but the analysis should only focus on meaningful effects. Develop the scope of the analysis in consultation with FHWA and CDOT, and, in general, will base temporal and spatial boundaries on the natural boundaries of resources of concern and the period of time that the proposed action's impacts will persist. The analysis will be incorporated into the Template EA, and mitigation measures specific to cumulative impacts, if needed, will be identified.

Standard FHWA global climate change language is to be incorporated within every cumulative impacts section of a Template EA.

Assumptions

- Some analysis will be required
- No more than five (5) resources will be identified for Cumulative Impact analysis

Deliverable

- Summary of findings for inclusion in the Template EA.

5. Deliverables

The following documents will be considered as official deliverables.

- Air Quality Technical Report
- Water Quality Technical Report
- Floodplain Technical Memo
- Wetland and Other Waters of the US Delineation Report
- Biological Resources Report, which will include vegetation, wildlife, and threatened and endangered species
- Historic Resources Report and Draft SHPO Correspondence
- Archeological Clearance (to be provided by CDOT)
- Paleontology Clearance (to be proved by CDOT)
- Land Use and Economic Resources Technical Report
- Social and Environmental Justice Technical Memo
- Historic Section 4(f) Documentation
- Noise Technical Report
- VIA Questionnaire
- VIA Memorandum
- Form 881 ISA Report (Hazmat Review)

6. Template EA Documentation Process

Develop, coordinate, write, review, conduct QA/QC and finalize the Template EA in accordance with the current provisions of the following laws, regulations, and standards.

a) Preliminary Data Submission

Provide a report detailing all the data collected for the resources listed under “Data Collection, Field Investigation and Analysis” and “Environmental Analysis and Documentation” of this Scope of Work for the affected environment and impact sections of the Template EA.. The Scope of Work will be revisited for possible update at the end of this Preliminary Data Submission task when more is understood about the impacts or analyses that will be necessary (determined during scoping and data collection).

b) Draft and Final Template EA Preparation

Assign a team leader qualified to (1) manage the NEPA process, (2) develop a schedule for document preparation, printing, review, and comment response, (3) will direct the Consultant team in the following tasks in coordination with the CDOT Region, EPB,

and FHWA. The CDOT NEPA Manual specifies the number of copies to be provided for document review for each phase of the NEPA process.

- Distribute the internal draft Template EA and relevant technical reports for review to a distribution list specified by CDOT. Prepare no more than two versions of the draft Template EA and relevant technical reports with each version. Provide effort for no more than two review cycles of the draft Template EA and relevant technical reports. Coordinate and conduct no more than two comment resolution meetings for distribution list comments. Respond to comments within a reasonable number of working days after received.
- Determine review process to be used for the Template EA Coordinate the impacts and mitigation measures with Commerce City, CDOT, and appropriate agencies, and FHWA. Take necessary actions to resolve issues.
- Prepare a Template EA outline for review by Commerce City, CDOT and FHWA.
- Prepare and provide to the CDOT Region up to two versions of the complete draft Template EA and relevant technical reports. Provide effort for no more than two review cycles of the draft Template EA and relevant technical reports for Region review. Coordinate and conduct no more than two comment resolution meetings for Region comments. If deemed appropriate by the TAC and CDOT, a concurrent review may be conducted between the Region and EPB, at which point combine tasks A and B above may be combined.
- Prepare and provide to CDOT EPB up to two versions of the complete draft Template EA and relevant technical reports. Provide effort for no more than two review cycles of the draft Template EA and relevant technical reports for CDOT EPB review. Coordinate and conduct no more than two comment resolution meetings for CDOT EPB comments.
- Prepare and provide to FHWA Colorado Division and FHWA Legal up to two versions of the complete draft Template EA and relevant technical reports. Provide effort for no more than two review cycles of the draft Template EA and relevant technical reports for FHWA Colorado Division and FHWA Legal review. Coordinate and conduct no more than two comment resolution meetings for FHWA comments.
- Distribute the draft Template EA and relevant technical reports for review to a distribution list specified by CDOT. Prepare no more than two versions of the draft Template EA and relevant technical reports with each version including a comment/response period. Provide effort for no more than two review cycles of the draft Template EA and relevant technical reports. Coordinate and conduct no more than two comment resolution meetings for distribution list comments.
- After each review cycle, make appropriate revisions to each subsequent version draft Template EA and relevant technical reports until all comments are sufficiently addressed. Copies of each subsequent draft shall be provided to CDOT for distribution to CDOT, and appropriate agencies, and FHWA. A review meeting will be held to discuss review comments, if needed.

- For the review cycles listed above, prepare a comment/response matrix for each draft Template EA and relevant technical reports that describes how each comment was addressed. This matrix will be distributed with each version of the draft document and relevant technical reports that CDOT and FHWA review.
- Submit the Template EA to CDOT for signature and routing to FHWA for approval.
- Draft Template EA Distribution, Advertising and Public Review, Review and Concurrence, and Public Template EA Availability and Advertisement [make project specific]
- Create draft and final text for the public Notice of Availability of the Template EA and the date, time and location of the public hearing [if appropriate for Template EA] for placement in all appropriate local papers and within the Federal Register [if for an EIS] and provide to the FHWA Operations Engineer for processing.
- Follow the signature process outlined in the CDOT NEPA Manual.
- Prepare all aspects of the project necessary for public review of the Template EA and relevant technical reports, including placing the documents in libraries, on the project web site, and with agencies. For public dissemination the Consultant shall provide an agreed upon number of copies of the signed Template EA.
- Compile public comments in determined format by CDOT/PM.
- Provide an electronic version of the Template EA and relevant technical reports on the CDOT website in PDF, or other read only format.
- Make revisions to the final draft Template EA and relevant technical reports. The resulting Template EA and relevant technical reports will be provided to CDOT for distribution and final review, prior to preparing the signature copy. Provide certification that all comments have been addressed. HDR shall submit a signature copy of the Template EA and relevant technical reports to CDOT for signatures and routing to FHWA for approval, and then will provide copies of the signed final Template EA to CDOT.

c) Public Open House

Provide the following services, in coordination with the City, CDOT Region and EPB:

- Determine location for public meeting and ascertain that facilities are ADA compliant and culturally neutral.
- Advertise the public hearing/meeting date and location.
- Provide translator
- Provide audio/visual equipment and support for presentations, as needed
- Prepare the graphics/display boards to include, at a minimum, the following features:
    - Purpose of and need for project
    - Maps showing alternatives
    - Description of social, environmental and economic impacts

  - Design features
  - Consistency with federal and local plans
  - Right-of-way information, acquisition, and construction
  - Source and amount of funding
  - Location of 4(f) properties if required
  - Any other project-specific resource impacts deemed appropriate
  - Mitigation measures that warrant public disclosure or relevance
  - Anticipated project schedule and next steps
- How and where the public can provide comments

Assumptions:

- Meeting Materials will be bilingual
- No more than five consultant team members will attend

Deliverable:

- A summary of input received and brief responses will be developed and included with the final Template EA.

G. TASK 7: PREPARE DECISION DOCUMENT

Upon approval and signature of the EA, a NEPA decision document will be written. This document will include, but not be limited to, a summary of environmental impacts and mitigation, a summary of public and agency coordination with comments addressed, a description of any project changes since the EA was signed, and the decision regarding significant impacts.

Albeit subject to change pending the outcome of the NEPA process, it is assumed that a Finding of No Significant Impact (FONSI) document will be prepared, using CDOT's FONSI template, and will include the following services:

- Prepare draft NEPA decision document and relevant supporting documentation for incorporating comments received at the public hearing/meeting or from the Template EA public review period.
- Submit draft NEPA decision document (note how many copies: electronic vs. paper) and relevant supporting documentation to Commerce City, CDOT Region, EPB, and FHWA for two reviews.
- Coordinate and conduct a draft NEPA decision document and relevant supporting documentation review meeting and modify the draft decision document to respond to comments received. Provide certification that comments have been addressed.
- If necessary, re-submit the draft NEPA decision document and relevant supporting documentation for review to ensure that all comments have been made.
- If necessary, modify the draft NEPA decision document and relevant supporting documentation to respond to comments received.
- Submit final NEPA decision document and relevant supporting documentation for signature using the signature process outlined in the CDOT NEPA Manual. Make no

more than five hard copies and five electronic versions of the final NEPA decision document and relevant supporting documentation on compact disc.

- This Scope of Work could be supplemented for additional as-yet unidentified work, if CDOT determines additional work is warranted or needed. In the event that none of the alternatives is selected at the conclusion of the EA process, this portion of the scope and contract will be voided.

Deliverables:

- Draft decision document for review
- Final decision document

H. ADDITIONAL EXCLUSIONS/LIMITATIONS

This project concludes with the approval of the decision document. Items that are not included:

- PUC application
- Design of the 60 inch storm sewer line as shown in the UDFCD study
- Construction Plans for the recommended alternative
- Official Field Inspection Review (FIR) meeting

4 SCHEDULE

Project Milestones

The following milestones will occur in the month and year shown:

- Consultant will receive the Notice to Proceed — Oct. 2018
- Kick-off Meeting with Commerce City (and representatives), CDOT, and the consultant team — Oct. 2018
- Begin Traffic Data Collection — Oct. 2018
- Begin Aerial and Ground Survey — Oct. 2018
- Begin Public Involvement — Oct. 2018
- First Project Leadership Team (PLT) Meeting — Nov. 2018
- Environmental Scoping Meeting — Nov. 2018
- Title Work Complete — Nov. 2018
- SUE QL-C Complete — Nov. 2018
- Public Involvement 1-on-1 Interviews Complete — Dec. 2018
- First Technical Advisory Committee (TAC) Meeting — Dec. 2018
- Purpose and Need White Paper Complete — Dec. 2018
- UPRR Coordination Meeting Complete — Dec. 2018
- First Council Briefing — Jan. 2019
- Drainage Report Complete — Jan. 2019
- Geotechnical Investigation and Report Complete — Feb. 2019
- Transportation Technical Resources Report Complete — Feb. 2019
- Conceptual Plan Sets for 2 Alternatives Complete — Mar. 2019
- Conceptual Plan Report Complete — Mar. 2019
- Structure Selection Report Complete — May 2019
- Environmental Analysis and Documentation Complete — Aug. 2019
- Public Involvement and Public Events Complete — Aug. 2019
- Public Involvement Report Complete — Sept. 2019
- Preferred Alternative 15% Plan Set Complete — Oct. 2019
- Environmental Public Meeting — Oct. 2019
- Final TAC Meeting — Nov. 2019
- Final Council Briefing — Nov. 2019
- Final PLT Meeting — Dec. 2019
- Final Version of Decision Document Complete — Dec. 2019

Schedule
Commerce City - 88th Avenue: I-76 NB Ramps to SH 2
Prepared by EST 10/10/18

Exhibit B - Schedule

	Project Specific Requirements	2018			2019											
		Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
A. Task 1	**Project Management and Initiation**															
	Kick-off Meeting															
	Project Management Plan/Schedule Development															
	Project Leadership Team (PLT) Meetings (10)															
	Technical Advisory Committee (TAC) Meetings (10)															
	Council Breifings (3)															
	Environmental Meetings															
B. Task 2	**Project Purpose, Goals, and Issues**															
	Purpose and Need White Paper															
C. Task 3	**Public Involvement Process**															
C. 1.	Social & Political Risk Assessment and Stakeholder Scoping Input															
C. 2.	Public Involvement Plan Development															
C. 5.	Community & Public Events Outreach						Detail under development									
C. 6.	Public Involvement Report/Appendix															
D. Task 4	**Traffic Data Collection and Analysis**															
	Data Collection															
	Transportation Technical Report															
E. Task 5	**Conceptual Layouts and ROW Drawings**															
E. 1.	Aerial Mapping, Design Survey, and ROW Mapping															
E. 1. j)	Title Work (40 ownerships)															
E. 1. k)	Subsurface Utility Engineering (SUE)															
E. 2.	Railroad Coordination															
E. 3.	Geotechnical Investigation															
E. 4.	Alternatives - (2) Conceptual Plans															
E. 4.	Conceptual Plan Report															
E. 5.	Alternatives Analysis															
E. 6.	Drainage Report															
E. 7.	Structure Selection Report															
E. 8. a)	Preferred Alternative 15% Plan Set															
F. Task 6	**Prepare EA**															
F. 2.	Environmental Project Initiation															
F. 3.	Environmental Analysis and Documentation								Detail under development							
F. 5.	Data Collection, Field Investigation, Mitigation															
F. 7.	NEPA Documentation Process															
F. 7. c)	Public Meeting															
G. Task 7	**Prepare Decision Document**															
	Draft and Final Versions of Decision Document															

Draft - subject to change

5 BUDGET

The following is the Work Breakdown Structure (WBS) contained in the Prime Agreement. All billing will be referenced to this WBS.

A. Task 1	Project Management and Initiation	$ 102,612
B. Task 2	Project Purpose, Goals, and Issues	$ 3,872
C. Task 3	Public Involvement Process	$ 172,788
D. Task 4	Traffic Data Collection and Analysis	$ 46,260
E. Task 5	Conceptual Layouts and ROW Drawings	$ 469,395
F. Task 6	Prepare EA	$ 269,032
G. Task 7	Prepare Decision Document	$ 21,074
	Sub-consultants Direct Expense	$ 13,356
Design Services Total		$ 1,098,389

Subconsultants were instructed to email invoices to: Accounts_Payable@estinc.com and copy JanetA@estinc.com. Subconsultants were also instructed to reference the Task number for their work and have a subtotal for labor and direct expenses for each Task if they do work under multiple tasks.

Invoicing Schedule

The EST billing period ends on the last day of the month. Subconsultant invoices are due to EST by the 5th of the month so they can be included in invoices to the Client.

6 CHANGE MANAGEMENT

a. Procedures – This project scope and fee have many constraints. The goal is to contain all work to the scope. Should the client ask this consultant team to perform any work that is outside the scope contained herein, and that work

would result in a claim for more fee, notice will be given to Gary Johnson, EST Project Manager, immediately. No work shall be performed outside this scope of work without written approval from EST and Commerce City.

b. Crisis Management – Should for some reason a crisis arise as a result of the work of this consultant team or as a result of an event of action beyond the control of this team, but still impacts the work of the consultant team, notice of such crisis shall be immediately give to Gary Johnson, EST Project Manager. An appropriate response will be developed in conjunction with the PLT and distributed for action to appropriate parties.

c. Issue Resolution – When issues arise on the project, not of the severity of a 'crisis', these issues will be discussed at PLT meetings and a resolution will be discussed as a group.

7 QUALITY PLAN

Our ultimate goal is to produce quality deliverables and projects that the City and our team can all be proud of. Our QMP includes traditional detailed checking procedures and documentation for tracking purposes. It also includes quality assurance functions as a feedback loop to ensure quality control is performed to company standards. The functional discipline leads are responsible for final deliverable quality within their respective disciplines.

Our QMP requires our PM to include time in the schedule and hours in the budget to perform Quality Control (QC) activities. It also stresses that QC reviewers shall be senior experienced professionals who know what they are reviewing. Finally, our QMP insists on respecting traditional workflow processes because an orderly workflow minimizes the potential for error.

The Quality Management approach applied to this project is founded in the following:

- We want to promote a culture of openness, high quality, and collaboration.

- Quality should not be thought of by staff as a punitive task. It is critically important to producing safe and appropriate improvements.
- Quality control should not be prescriptive. It should be guidance-based.
- We welcome review of, and comments on our work. They will only make it better. We do not perceive quality comments as being critical.
- Each individual must be an advocate for the Plan and work to keep quality part of the project process.
- Every deliverable will: follow design criteria and be checked prior to client delivery.

Specific to this project, EST will:

- Conduct a quality review of each document that is published for the public before it is submitted to the client for review or use.
- Request periodic feedback from effected Stakeholders to assure expected execution and timeliness of the work.
- Provide detailed monthly progress reports to the PLT that presents:
    - Work performed
    - Deliverables submitted
    - Any pending action or outstanding items that need to be resolved (decisions, responses to requests, etc.)
    - Assessment of schedule; acknowledge critical path

Documents will have the following stamp on the title page of each report and on each plan sheet, completed before final submission to the client, and saved in the "Review Documents" folder in each Task on OneDrive.

Design Package/Submittal Name: _____

Check Print No. _____ Date: _____ Project No. _____

CHECK PRINT

	Originator	Calc Check	Checker	Concurrence	Changes Made	Changes Verified
Initials						
Date						
		(Verify calcs were checked)	(Yellow=OK; Red = Correction)	(Red check)	(Yellow over red)	(Green check = OK; green circle = fix)

EST, Inc.

For reports, the 'Calc Check' box will be 'Content Check' showing that the reviewer has checked the accuracy of the content presented. The 'Concurrence' for corrections needed will be completed by the originator.

8 REFERENCE DOCUMENTS

Document templates (memos, letters, telecom minutes, meeting minutes, AutoCAD sheet templates, etc.) will be loaded to the OneDrive site for this project for use by the team.

9 PROJECT DIRECTORY –

Project Leadership Team (PLT):

Name	Organization	Email	Phone
Joe Wilson	Commerce City	jwilson@c3gov.com	303-289-8156
Troy Halouska	Atkins	Troy.Halouska@atkinsglobal.com	303-214-0833
Gary Johnson	EST, Inc.	garyj@estinc.com	303-946-8424
Chuck Dreesen	EST, Inc.	chuckd@estinc.com	303-885-0001
Amy Backel	EST, Inc.	amyb@estinc.com	405-416-0878
Jason Longsdorf	HDR	Jason.Longsdorf@hdrinc.com	303-301-4017
Wendy Wallach	HDR	Wendy.Wallach@hdrinc.com	303-323-9817
Tara Bettale	HDR	Tara.Bettale@hdrinc.com	303-318-6270
Jessica Myklebust	CDOT	jessica.myklebust@state.co.us	303-757-9929
Thanh Ly	CDOT	Thanh.ly@state.co.us	303-398-6725

Public Involvement Program Stakeholders:

Name	Organization	Email	Phone
Vikram Navin	Mile High Flea Market		303-289-4656 x 330
	FedEx		
	88 Drive-In Theatre		
	Wiki Residential Park		
Pete Gunderson	Phill Foster & Co.		303-399-9422
	Agasi Family		
Sam Stein	Intsel Steel		713-696-4027
Eve Craven	Burlington Ditch Reservoir and Land Co		303-659-7373 x 312
Scott Weber	Adams County School District 14		303-853-7903
Linda Galdean or Jose Garcia	Ministerio Palabra De Vida		720-887-4861

Technical Advisory Committee (TAC):

Name	Organization	Email	Phone
Joe Wilson	Commerce City	jwilson@c3gov.com	303-289-8156
Michelle Magelssen	Commerce City	mmagelssen@c3gov.com	303-289-3730
Chris Cramer	Commerce City	ccramer@c3gov.com	303-289-3675
Steve Timms	Commerce City	stimms@c3gov.com	303-289-3683
Stacy Wasinger	Commerce City	swasinger@c3gov.com	
Jeff Nelson	SACWSD	jnelson@sacwsd.org	
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