
February 26, 2020 (Latest Revision March 26, 2020)

SENT VIA E-MAIL (HGUENOT@hollywoodfl.org)

Ms. Heather Baburek Guenot, P.E.
City of Hollywood
Design and Construction Management
2207 Raleigh Street
Hollywood, FL 33020

**Subject: Replacement of 3 Mast Arms
CMA Proposal No. P19.136.02**

Dear Ms. Guenot:

Chen Moore and Associates (CMA) is pleased to submit the attached Scope of Services to provide civil engineering services for the replacement of three mast arms located at N 26th and Hollywood Boulevard/Polk (NE corner), S 26th and Hollywood Boulevard/Van Buren (SW corner), and S 26th and Hollywood Boulevard/Van Buren (SE corner). The services will be performed in accordance with the Continuing Services Contract for Civil / Landscape Architecture/ Planning Engineering Services dated February 13, 2019.

BACKGROUND

The City had a condition survey and evaluation performed on December 4, 2017 by Ladas/Yoahlem Engineering, Inc. Consulting Engineers for the 16 mast arms on Hollywood Boulevard between E I-95 and E City Hall Circle. The City has requested that CMA provide engineering services to design the installation of three new mast arms. The Scope of services is prepared based on a walk-through of the site with the Owner on February 1, 2019, an email provided by the City of Hollywood describing the work on January 14, 2019 and April 23, 2019, a follow up meeting held on October 23, 2019, and comments received by the City of Hollywood on January 9, 2020 and on March 5, 2020. This scope of work includes design services for the new mast arms.

The "Client" is the City of Hollywood (CITY)

The "Consultant" is Chen Moore and Associates (CMA)

The "Subconsultants" are Master Consulting Engineers, Inc. (MCE) for Structural Engineering, Delta G Consulting Engineers Inc. (DCE) for Electrical Engineering, Stoner and Associates, Inc. (SAI) for Surveying, and PANGEO Consultants (PCI) for Geotechnical Engineering.

SCOPE OF SERVICES

The scope of services our firm shall provide are as follows:

Task 1 – Phase I: Programming and Schematic Design

- Project Administration, including QA/QC, coordination and meeting attendance with CITY and subconsultants. A detailed QA/QC plan is attached as Exhibit C.

- Preparation of Meeting Minutes.
- Processing of Invoices.
- Preparation and management of Execution of Project and Deliverables Schedule. A project schedule is attached as Exhibit D.
- Please see attached proposal from SAI for a detailed description of services. SAI will prepare a Topographic, Utility, and Tree Survey meeting the Standards of Practice established by The Board of Professional Surveyors and Mapper within the State of Florida.
- Please see attached proposal from PCI Consultants for a detailed description of services. The general description is three (3) standard penetration test borings to depths of forty feet (40) below land surface in general accordance with ASTM D-1586 specifications. We will provide an engineering report including a description of our findings. The engineering report will include graphic logs of the tests and a test location plan. We assume the site is accessible to truck mounted drilling equipment and that underground utilities will be cleared prior to our performing the on-site work. Fee includes maintenance of traffic plans and permits for the day of field testing.
 - The associated clearance of underground utilities will be done via a Design Ticket request to Sunshine 811.
- Consultant shall prepare MOT plans for field investigations.
- Subconsultant, together with Consultant, will be responsible for obtaining a permit for lane closures required for inspection work and geotechnical investigation.

Task 2 – Phase II: Design Development

- Project Administration, including QA/QC, coordination and meeting attendance with CITY and subconsultants, and public meeting(s) if necessary.
- Consultant will review previous reports performed by others.
- Consultant will prepare an estimate of probable construction cost at each phase submittal.
- Consultant will submit the 30% plans.
- Consultant will address comments from CITY on the 30% submittal.
- Consultant will submit the 60% plans.
- Consultant will address comments from CITY on the 60% submittal.
- Consultant will perform one (1) site visit to confirm field conditions for plans preparation.
- Consultant will prepare Maintenance of Traffic (MOT) plans for the work.
- Consultant will design the mast arm locations, layout of signal head and signage for mast arms, signal phasing plan, and signal interconnect design.
- Please see attached proposal from DCE for a detailed description of electrical engineering services.
- Please see attached proposal from MCE for a detailed description of services. The general description is construction documents for the replacement of 3 mast arms within the project limits.
- All project permitting (BCTED, etc.)

Task 3 – Phase III: Construction Documents

- Project Administration, including QA/QC, coordination and meeting attendance with CITY and subconsultants.
- Please see attached proposal from MCE for a detailed description of services. The general

description is construction documents for the replacement of 3 mast arms within the project limits.

- Consultant will prepare an estimate of probable construction cost at each phase submittal.
- Consultant will submit the 90% plans.
- Consultant will address comments from CITY on the 90% submittal.
- Consultant will submit the 100% plans.

Task 4 – Phase IV: Administration of the Construction Contract

- Consultant and subconsultants shall assist the City with the evaluation bids, attend pre-construction meeting with selected contractor, review shop drawings and respond to Requests for information, perform up to (8) site visits, provide punch list, and perform final inspection for project close out and certification. See MCE proposal for additional detail.

Task 5 – Reimbursables

- Reimbursable expenses for mileage, printing, postage, and report preparation have been included in the lump sum fees.

Option – Self-Standing Posts for Temporary Signals

- The base fee assumes that the existing mast arms can be used for self-standing posts for temporary signals, however we have added this if design or site conditions dictate that new self-standing posts are required for temporary signals.
- This option would impact the scopes of the traffic engineering (CMA), the structural engineering (MCE), the geotechnical engineering (PCI), and the electrical engineering (DCE).

The basis for the scope of services and associated fee(s) are based on the following:

- The Project is in the City of Hollywood, FL.
- All work shall comply with applicable zoning and building codes.
- This scope of services includes three (3) coordination meetings with the CITY.
- Surveying services are included.
- Geotechnical test holes for the proposed mast arm locations will be performed after review and approval of permits by BCTED, City of Hollywood, etc.
- This scope of services does not include the Traffic Data Collection, Traffic Data Analysis, Signal Warrant Study, System Timings, or Traffic Signal Operation Report. If required, the latest Traffic Data Collection, Traffic Data Analysis, Signal Warrant Study, System Timings, and/or Traffic Signal Operation Report will be provided by the City.
- Fee includes reimbursable expenses such as printing and travel.

The following items are requested from the CITY:

- Past reports and as-built drawings.

SCHEDULE AND FEES

Consultant shall schedule work upon receipt of signed approval for this project as required. See Fee Summary below and the Fee Breakdown in Exhibit B.

The total lump sum fee will be divided as follows:

Exhibit B - CMA Summary							
Phase	Phase Description	Consultant	(MCE)	(DCE)	(SAI)	(PCI)	Phase Totals
Phase 1:	Programming and Schematic Design	\$ 3,320.00	\$ -	\$ 2,875.00	\$ 9,640.00	\$ 5,695.00	\$ 21,530.00
Phase 2:	Design Development	\$ 15,500.00	\$ 5,160.00	\$ 1,770.00	\$ -	\$ -	\$ 22,430.00
Phase 3:	Construction Documents	\$ 8,870.00	\$ 26,190.00	\$ 2,490.00	\$ -	\$ -	\$ 37,550.00
Phase 4:	Administration of the Construction Contract	\$ 6,000.00	\$ 13,135.00	\$ 1,780.00	\$ -	\$ -	\$ 20,915.00
SUBTOTAL BASE FEES:		\$ 33,690.00	\$ 44,485.00	\$ 8,915.00	\$ 9,640.00	\$ 5,695.00	\$ 102,425.00
TASK 5 - REIMBURSABLES:							\$ 2,500.00
TOTAL BASE FEES:							\$ 104,925.00

Phase	Phase Description	Consultant	(MCE)	(DCE)	(SAI)	(PCI)	Phase Totals
Option	Self-Standing Posts for Temporary Signals	\$ 12,035.00	\$ 26,750.00	\$ 2,250.00	\$ -	\$ 3,405.00	\$ 44,440.00
SUBTOTAL OPTION FEES:		\$ 12,035.00	\$ 26,750.00	\$ 2,250.00	\$ -	\$ 3,405.00	\$ 44,440.00
TASK 5 - REIMBURSABLES:							\$ 500.00
TOTAL OPTION FEES:							\$ 44,940.00

TOTAL BASE AND OPTION FEES:							\$ 149,865.00
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Should you have any questions, please do not hesitate to contact me at my office at (561) 746-6900 x 1078, my cell phone at (772) 486-9250 or send me an electronic message at cbetancourt@chenmoore.com.

Respectfully submitted,



CHEN MOORE AND ASSOCIATES
Cristobal Betancourt, RLA, AICP
Director – Planning/Landscape Architecture
Senior Project Manager

Cc: Daniel Davila, PE

Attachments: Exhibit A – Sub-consultant Agreements
Exhibit B – Detailed Fee Summary and Breakdown
Exhibit C – Detailed QA/QC Plan
Exhibit D – Project Schedule

2020 Labor Rate Schedule

<u>Title</u>	<u>Hourly Rate</u>
Principal	\$275.00
Project Director	\$220.00
Senior Project Manager	\$190.00
Project Manager	\$180.00
Senior Engineer	\$150.00
Project Engineer	\$125.00
Associate Engineer	\$115.00
Engineer	\$100.00
Senior Landscape Architect	\$185.00
Project Landscape Architect	\$120.00
Associate Landscape Architect	\$90.00
Senior Designer	\$120.00
Designer	\$100.00
Senior Technician	\$85.00
Technician	\$75.00
Senior Construction Specialist	\$125.00
Construction Specialist	\$85.00
Clerical	\$65.00
Engineering Intern	\$50.00

March 12, 2020

Mr. Cristobal Betancourt, RLA
Director – Planning/Landscape Architecture
Chen Moore And Associates
500 Australian Avenue South
Suite 850
West Palm Beach, FL 33401

RE: Structural Design of New Signal Mast Arms (3 ea.): at 26th St. and Hollywood Blvd. (North), at 26th St. East and Hollywood Blvd. (South) and at 26th St. West and Hollywood Blvd. (South) for the City of Hollywood, Florida.

Dear Cris:

Master Consulting Engineers, Inc. (MCE) is pleased to present this proposal to provide you with our professional services for the design of three new traffic signal mast arms; MCE will prepare an Engineer's Probable Construction Cost Estimate, technical specifications, and CD deliverables for the 30%, 60%, 90% and 100%. Other services such as shop drawings review, response to contractor's Request for Information (RFI), field construction inspections for the construction and installation of the three new mast arms will be included as part of this proposal.

Project Description:

The following is MCE's understanding of the required tasks for this project:

- a) MCE will provide structural design for three new traffic signal mast arms per FDOT guidelines. Proposed mast arms will replace existing ones. It is MCE understanding that new locations for the new mast arms will be provided by Chen Moore's design team project traffic engineer. The proposed signal and sign layout along horizontal arms of the new mast arms will be provided by Chen Moore's design team project traffic engineer. A geotechnical report including soil borings and soil properties and foundation recommendation for the new mast arms will be provided by the assigned project geotechnical engineer.
- b) MCE will develop new mast arm tabulation plans per FDOT; prepare an Engineer's Probable Construction Cost Estimate, and Technical Specifications at the 90% and 100% phases. Project traffic engineer will provide mast arm signal and sign layout information for the 90% structural submittal.
- c) During new mast arm construction, existing mast arms will be utilized as temporary traffic signal devices. In the event, existing sign mast arms cannot be utilized as temporary a design option fee for self-standing signals or any other type of temporary signal has been prepared and included in this proposal.

MCE Basic Scope of Service for this project is limited to:

- a) As part of this Basic Scope of Services, eight (8) field inspections / coordination meetings have been included in this proposal. If any issues during construction arise MCE will provide assistance to the City.
- b) **Contractor requests for changes are considered additional services; time spent researching contractors requests are considered additional services.**

If additional site visits are requested, we will bill them as per our customary schedule of charges enclosed herein. It is our experience that some counties, municipalities or city will require a letter from MCE certifying that the structure of the building has been constructed as per the structural documents. MCE will only provide that letter if field inspections are done to inspect the construction. **MCE will not sign off any mast arm repair that has not been inspected. It is extremely important that the building department is consulted in this matter and a response in writing is received to avoid problems when the structure is covered.**

Information and Services provided by the Chen Moore's Design Team:

The Chen Moore's Design Team shall provide the following information and/or services for performance of the Basic Scope of Services indicated above:

- a) Survey plans (.cad, .pdf) showing location of all existing and proposed mast arms, intersection details. A plan set of drawing sheets (.cad, .pdf) containing information of the existing and proposed mast arms including elevation, dimensions, travel lanes, etc.
- b) Shop Drawings for the Structural elements designed by MCE with at least three days to be reviewed.
- c) Sign and seal Engineering documents (Calculations and Drawings) for those elements to be designed by a delegated engineer and that are not included in the Basic Scope of Services. At least three days for review must be provided as indicated above.
- d) Notification at least 4 days prior to any inspection to allow scheduling, a more precise day and time can be provided within 24 hrs. notice.

MCE proposes to provide the Basic Scope of Services indicated above for a lump sum fee of \$44,485.00. A detailed schedule of charges is included in this proposal for your information.

A design option has been included for the structural design of temporary mast arms: \$ 26,750.00. This is in case existing mast arms cannot be utilized as temporary signalization.

MCE will cover the expenses of printing two review sets (single copies) and pdf copies per submittal and one final set (three signed and sealed copies), any additional sets will be charged at our cost plus a handling fee. MCE will cover the expense of sending drawings, reports, shop drawings using regular mail. If special delivery, overnight delivery or any other service is requested, those charges will be billed at our cost plus a handling fee.

Our lump sum fee is distributed as indicated in the Appendix "A" included at the end of this proposal.

Invoicing will be on a monthly basis in accordance with the amount of work done. Invoices are due in thirty (30) days from the date they are submitted. MCE has the right to suspend services or terminate its obligation under this agreement if any invoiced amount is not paid within 60 days from the date due. After 60 days we will charge a minimum of 1.5% interest but not more than the amount allowed by the law of the State of Florida in the money owed. **Final sign and sealed drawings for permit will be provided after the 80% of the design fee is paid in full.**

Should you be in agreement with this proposal, please signify by signing in the space provided below and return a copy to our office for our files. If drawings are received for us to proceed with work in this project, it will be understood that the proposal has been accepted as is, even though a signed copy has not been received.

Very truly yours,
Master Consulting Engineers, Inc.



Miguel A. Villegas, PE
Project Manager

Accepted by **

Title

(enclosures)

STANDARD SCHEDULE OF CHARGES

I. PAYMENT FOR SERVICES

- A. When Master Consulting Engineers, Inc. (MCE) is to be paid on the basis of time expended and expenses incurred on the project, compensation shall be determined as noted in Sections I and II hereunder.
- B. All time spent by MCE personnel, will be billed at the rates below. Current rates for each personnel classification are as noted in the table below. These rates will remain effective for a period of one year from the Effective Date of this schedule. The noted rates may thereafter be modified by MCE at six-month intervals depending on market conditions in accordance with the standard rates then being charged by MCE to other clients. However, any increase in the minimum and maximum rates will not exceed ten percent (10%) in any six-month period.

<u>Classification</u>	<u>Rate Per Hour</u>
Sr. Principal	\$ 225.00
Principal	\$ 200.00
Project Manager	\$ 150.00
Sr. Engineer	\$ 125.00
Project/ Design Engineer	\$ 105.00
Technician / CAD Operator	\$ 85.00
Administrative	\$ 60.00

A 50% premium (1 ½ times) will be charged over the rates indicated above for those hours required to be spent during Saturday, Sunday, Holidays or any day between 7:00pm and midnight and between midnight and 7:00am.

II. PAYMENT FOR OTHER DIRECT NON-SALARY EXPENSES

- A. All other expenses incurred will be separately billed at actual cost plus 10%. Such expenses include, but are not necessarily limited to, subcontractor, consultant, laboratory, and other outside vendor charges; Courier services, special delivery, long-distance phone and other communications; reproduction; special equipment costs necessary for project execution; special insurance premiums; and any other costs not otherwise part of general office overhead.
- B. The use of company or employee owned cars on the project will be billed at the rate authorized by the Internal Revenue Service (\$0.545) per mile as of the Effective Date of this Schedule. In the event rental vehicles are used at the option of the firm, the actual rental charges plus 15% will be billed in lieu of the mileage rate.

III. INVOICES AND PAYMENT TERMS

Unless otherwise agreed to in writing, invoices for all services regardless of billing type (time and expense, fixed fee, etc.) will be issued every month, payable within 30 days of the invoice date. Interest of one percent per month (but not exceeding the maximum rate allowable by law) will be payable on any amounts not paid within 30 days, payment thereafter to be applied first to accrued interest and then to the principal unpaid amount. All reasonable attorneys' fees or other costs incurred in collecting any delinquent amount shall be paid by the Client.

MCE has the right to suspend services or terminate its obligations under this agreement if any invoiced amounts are not paid within 60 days. Once services are suspended for nonpayment, they will be resumed at the convenience of MCE when all principal amounts and accrued interest are paid in full. In the event of termination, MCE has the right to payment from the Client for reasonable costs associated with termination. Any election to suspend services shall not preclude a later election to terminate. Any failure by MCE to terminate or suspend services shall not constitute a waiver of these or any other rights. All rights and remedies in this Section III are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available at law or equity.

IV. TAXES

The Client shall pay the cost of any sales, use, excise, value added or similar tax which is or may become applicable to the services provided by MCE. All invoiced amounts shall be increased by the amount of any such tax.

Phase	Phase Description	Consultant		Phase Totals	
Phase 2A (30%) :	Layout of proposed mast arms	\$	2,580.00	\$	2,580.00
Phase 2B (60%):	Mast arm design, mast arm inspection	\$	2,580.00	\$	2,580.00
Phase 3A (90%):	Mast arm design, Plan sheets	\$	12,075.00	\$	12,075.00
Phase 3B (100%):	Final Signed and Sealed Design and Plans, Cost Estimate, Technical Spec.	\$	14,115.00	\$	14,115.00
Phase 4 (CA):	Shop Drawings, RFI, CA, Const. Certification	\$	13,135.00	\$	13,135.00
TOTAL FEES				\$	44,485.00

Additional Fee for Design Option to Design Temporary Mast Arms				\$	26,750.00
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Project Staff Hour Summary								
Billing Rate	Technician		Senior Engineer		Senior Project Manager		Total	
	\$ 85.00 /hr		\$ 140.00 /hr		\$ 190.00 /hr			
	Hours	Cost	Hours	Cost	Hours	Cost		
Phase 2A (30%) : Layout of proposed mast arms								
Coord. w traffic eng., constructability	4	\$ 340.00	16	\$ 2,240.00	0	\$ -	\$	2,580.00
	0	\$ -	0	\$ -	0	\$ -	\$	-
Subtotals Phase 2A	4	\$ 340.00	16	\$ 2,240.00	0	\$ -	\$	2,580.00
Phase 2B (60%): Mast arm design, mast arm inspection								
Coord. w traffic eng., constructability	4	\$ 340.00	16	\$ 2,240.00	0	\$ -	\$	2,580.00
	0	\$ -	0	\$ -	0	\$ -	\$	-
Subtotals Phase 2B	4	\$ 340.00	16	\$ 2,240.00	0	\$ -	\$	2,580.00
Phase 3A (90%): Mast arm design, Plan sheets								
Mast arm design, 3 ea	20	\$ 1,700.00	40	\$ 5,600.00	3	\$ 570.00	\$	7,870.00
Prelim. Construction Cost Estimate	8	\$ 680.00	20	\$ 2,800.00	1	\$ 190.00	\$	3,670.00
90% CD deliverables	3	\$ 255.00	2	\$ 280.00	0	\$ -	\$	535.00
Subtotals Phase 3A	31	\$ 2,635.00	62	\$ 8,680.00	4	\$ 760.00	\$	12,075.00
Phase 3B (100%): Final Signed and Sealed Design and Plans, Cost Estimate, Technical Spec.								
Mast arm design, 3 ea	20	\$ 1,700.00	40	\$ 5,600.00		\$ -	\$	7,300.00
Cost Estimate	4	\$ 340.00	20	\$ 2,800.00	0	\$ -	\$	3,140.00
Technical Specifications	4	\$ 340.00	20	\$ 2,800.00	0	\$ -	\$	3,140.00
100% CD deliverables	3	\$ 255.00	2	\$ 280.00	0	\$ -	\$	535.00
Subtotals Phase 3B	31	\$ 2,635.00	82	\$ 11,480.00	0	\$ -	\$	14,115.00
Sub-Total Phases 2A thru 3B: \$ 31,350.00								

Phase 4 (CA): Shop Drawings, RFI, CA, Const. Certification

CA_1 - Shop drawing review, RFI's	0	\$	-	12	\$	1,680.00	0	\$	-	\$	1,680.00
CA_2 -Construction Certification	0	\$	-	80	\$	11,200.00	0	\$	-	\$	11,200.00
100% CD deliverables	3	\$	255.00	0	\$	-	0	\$	-	\$	255.00
Subtotals Phase 4 (CA)	3	\$	255.00	92	\$	12,880.00	0	\$	-	\$	13,135.00

Sub-Total Phase - CA: \$ 13,135.00

Total All Phases: \$ 44,485.00

Design Option: Structural Design of Temporary Mast Arms**Phase 3C (90%): Design Temporary Mast Arms**

Temporary Mast arm design, 3 ea	20	\$	1,700.00	40	\$	5,600.00	3	\$	570.00	\$	7,870.00
Prelim. Construction Cost Estimate	8	\$	680.00	20	\$	2,800.00	1	\$	190.00	\$	3,670.00
90% CD deliverables	3	\$	255.00	2	\$	280.00	0	\$	-	\$	535.00
Subtotals Phase 3C	31	\$	2,635.00	62	\$	8,680.00	4	\$	760.00	\$	12,075.00

Phase 3D (100%): Design Temporary Mast Arms

Mast arm design, 3 ea	20	\$	1,700.00	40	\$	5,600.00		\$	-	\$	7,300.00
Cost Estimate	4	\$	340.00	20	\$	2,800.00	0	\$	-	\$	3,140.00
Technical Specifications	4	\$	340.00	24	\$	3,360.00	0	\$	-	\$	3,700.00
100% CD deliverables	3	\$	255.00	2	\$	280.00	0	\$	-	\$	535.00
Subtotals Phase 3D	31	\$	2,635.00	86	\$	12,040.00	0	\$	-	\$	14,675.00

Total Desig Option for Temporary Structural Mast Arm Design: \$ 26,750.00
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CHEN MOORE AND ASSOCIATES

12 March 2020

Cristobal Betancourt, RLA, AICP

Director-Landscape Architecture/Planning

500 Australian Avenue South, Suite 850

West Palm Beach, FL 33401

O: +1 (561) 746-6900, Ext. 1078 | F: +1 (561) 746-8333 | C: +1 (772) 486-9250

Email: cbetancourt@chenmoore.com | Website: www.chenmoore.com

Re: Proposal for professional engineering construction documents for the **City of Hollywood Mast Arms Project**. Replace the mast arms at the NE corner of N. 26th Ave & Hollywood Blvd., SW corner of S. 26th Ave & Hollywood Blvd., SE corner of S. 26th Ave & Hollywood Blvd

Dear Mr. Betancourt,

Thank you for considering us with regard to this project. Delta G Consulting Engineers, Inc. agrees to provide professional services to design systems for the above project as required for permit and code compliance. Services shall include detailed construction documents for electrical systems only with specifications and coordination with regulatory agencies and building departments for permit.

ELECTRICAL SYSTEMS

Site investigation with on-site Documentation

Power coordination with FPL or reuse of existing infrastructure if appropriate

Coordination and relocation of some of the electrical and ancillary equipment pertaining to the operation of traffic signals and Lighting Controls

Coordination with Existing and Landscape

Permitting Coordination

Issue specifications at 60%, 90% and 100%, with cost estimate at each phase

Coordination meeting with response to any city comments

CONSTRUCTION ADMINISTRATION

Three meetings with the City (kick off, 30% and 60%) are included

Shop drawing review (one per discipline) and response to RFI's

Bidding assistance

Two on-site construction observations (Pre-Final and Final)

SERVICES NOT INCLUDED

Architectural, HVAC and Plumbing design services

Changes to Documents after S.D. Phase is completed

SPECIFICATIONS, DOCUMENTS & DELIVERABLES COMPLETE

Three sets of signed and sealed documents with specifications in book form

All work can be completed within (6-8) weeks of receipt of all information.

REIMBURSABLE EXPENSES**COST**

Additional prints	Cost
Courier fees	Cost

HOURLY SERVICES

Should additional service beyond the scope of those listed above be required, these services shall be separately negotiated at the time of the request. Typical hourly fees for services are:

Principal Time	\$225.00
Project Manager Time	\$175.00
Senior Engineer	\$135.00
Travel Time	\$ 90.00
CADD Technician	\$ 85.00
Project Accountant	\$ 65.00

TOTAL FEE FOR ENGINEERING SERVICES & PAYMENT SCHEDULE**AMOUNT**

Phase 1: Programming and Schematic Design	\$2,875.00
Phase 2: Design Development	\$1,770.00
Phase 3: Construction Documents	\$2,490.00
Phase 4: Construction Administration	\$1,780.00
Total Fee	\$8,915.00

Potential Additional Services**Amount**

If temporary poles for signaling equipment is needed please add:	\$2,250.00
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GENERAL CONTRACT TERMS AND CONDITIONS**Proposals:**

As applicable, Delta G Consulting Engineers, Inc., (Delta G), extends this proposal to perform the services or invoices for having performed the services as identified in the proposal, invoice, or agreement, (written), for the stated fee arrangement. Proposals offered by Delta G to the Client shall be valid for 30 days. Invoices shall be payable upon receipt or as otherwise noted in this written agreement. If any part of this or related documents are deemed illegal or otherwise unsuitable, the remaining portions of the documents shall remain intact and enforced.

Access to Site:

Unless otherwise stated, Delta G will have access to the site for activities necessary for the performance of the services noted herein. The firm will take or has taken precautions to minimize damage due to these activities, but has not included in the fee the cost of restoration of any resulting damages or repairs.

Dispute Resolution:

Any claim or dispute made during design, construction or post-construction between the Client and Delta G shall be submitted to non-binding mediation. Client and Delta G Consulting Engineers, Inc. agree to include a similar mediation agreement with all contractors, subcontractors, sub-consultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between all parties.

Billings/Payments:

Invoices for Delta G's services shall be submitted at Delta G's option, or per written project schedule; either upon completion of services or as agreed. Invoices shall be payable upon receipt. If the invoice is not paid within 15 days Delta G may, without waving any claim or right against the Client, and without liability whatsoever to the Client, suspend or terminated the performance of the service. Retainers shall be credited on final invoice.

Late Payment:

A lien for professional services may be filed if Delta G's invoices are not paid in full upon delivery. Accounts unpaid 30 days after the invoice date may be subject to a monthly service charge of 1.5%, (or the maximum legal rate in the state), on the unpaid balance. In the event any portion or all of an account remains unpaid 45 days after the billing, the Client shall pay all costs of collection, including Notices to Owner and all attorneys' fees.

Indemnification:

The client shall, to the fullest extent permitted by law, indemnify and hold harmless Delta G, its officers, directors, employees, agents and sub-consultants from and against any damage, liability and cost, including all attorney's fees and defense costs, arising out of or in any way connected with the performance by any of the parties above named of the services under this agreement, excepting only those damages, liabilities or costs attributable to the sole negligence or willful misconduct of Delta G Consulting Engineers, Inc.

Certifications:

Guarantees and Warranties: Delta G shall not be required to execute any document that would result in its certifying, guaranteeing, or warranting the existence of conditions whose existence Delta G cannot ascertain.

Limitation of Liability:

In recognition of the relative risks, rewards and benefits of the project to both Client and Delta G the risks have been allocated such that the Client agrees that, to the fullest extent permitted by the law, the Firm's total liability to the Client for any and all injuries, claims losses, expenses, damages or claim expenses arising out of this agreement from any cause or causes, shall not exceed one half of the fees actually paid under this invoice or contract as applicable. Such causes include, but are not limited to, Delta G's negligence, errors, omissions, strict liability, breach of contract or breach of warranty.

Termination of Services:

This agreement may be terminated by the Client or Delta G should the other fail to perform its obligation hereunder. In the event of termination, the Client shall pay for all services rendered to the date of termination, all reimbursable expenses, and reimbursable termination expenses.

Ownership of Documents: All documents produced by Delta G Consulting Engineers, Inc. under this agreement shall remain the property of Delta G and may not be used by the Client for any endeavor without the written consent of Delta G.

Your signed acceptance of this proposal and an initial payment in the sum of \$1,000.00 shall constitute a binding agreement between us.

Accepted:

CHEN MOORE AND ASSOCIATES
Cristobal Betancourt, RLA

Delta G Consulting Engineers, Inc.
George SanJuan, P. E., LEED AP, Principal

By _____

By *George San Juan*

Date _____

Date *12 March 2020* _____

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March 11, 2020

Mr. Cristobal Betancourt, RLA, AICP
Chen Moore and Associates, Inc.
500 Australian Avenue
Suite 850
West Palm Beach, FL 33401

**RE: Proposal for Professional Surveying Services
Hollywood Blvd. Mast Arms
City of Hollywood, FL**

Dear Mr. Cristobal Betancourt, RLA, AICP

I am pleased to provide you with this proposal for surveying services at the above-referenced site. Based on the information that you provided, I have developed the scope of services shown below.

Site Limits:

26th Ave and Hollywood Blvd. (North)



26th Ave and Hollywood Blvd. (South)



Survey Type:

Stoner & Associates, Inc. (S&A) will prepare a Topographic, Utility, and Tree Survey meeting the Standards of Practice established by The Board of Professional Surveyors and Mapper within the State of Florida.

SCOPE OF SERVICES:

Topographic, Utility and Tree Survey:

- Prepare a topographic and utility survey at the two locations shown on the attached aerial maps.
- Right-of-ways and easements will be depicted graphically based on plats of record and F.D.O.T. right-of-way maps.
- Establish horizontal and vertical control points to support the survey efforts.
- Vertical control (elevations) will be based on National American Vertical Datum of 1988.
- Horizontal control will be based on the Florida State Plane Coordinates System, East Zone, North American Datum of 83/90.
- Elevations will be measured approximately every 50 feet, at centerline and edges of pavement and high and low spots.
- Locate surface features within the survey limits as follows: fences, pavement, driveways, paved swales, sidewalks, slabs, curbs, walls, fences, and signage.
- Locate trees three caliper inches and larger. Identify the tree species and diameter. Tag each tree with a metal tree tag. A tree legend will be affixed to the survey drawing and will list each tree species by common name, survey point number, and trunk diameter.
- Location visible surface evidence of utilities as follows: utility poles, guy wires, street lighting, storm sewer structures, sanitary sewer structures, wire pull boxes, cable enclosures, utility cabinets, valves, valve boxes, meter boxes, backflow preventers, fire hydrants, and overhead utilities.

March 11, 2020

- Measure the rim and invert elevation of sanitary and storm sewer structures that are accessible. Determine pipe types, size, and flow direction, when possible. Structures located within active roadways will be as-built at the field crew's discretion, based on safety considerations.
- Locate pavement marking.
- Prepare Topographic, Utility and Tree Survey utilizing Chen-Moore CAD drafting standards. Horizontal scale and sheet layout to be specified by the client. Provide a text file with spot elevations.

Utility Location Survey:

- S&A will retain Keith & Associates (K&A) to designate (paint mark) the utilities within the project limits. The horizontal designations will be located at ASCE Quality Level "B."
- S&A will survey (field locate) the designations and plot them on the survey drawings.

Optional Services (Utility Potholes):

- S&A will retain Keith & Associates (K&A) to pothole the utilities at ASCE Quality Level "A", at locations to identified by the client.
- S&A will survey (field locate) the potholes and plot them on the survey drawings.

Project Fee(s):	Amount
Topographic, Utility and Tree Survey	\$7,000.00
Utility Locator (K&A)	\$2,640.00
Total :	\$9,640.00
Optional Services:	
Utility Potholes (includes Survey) per Pothole \$375.00 (per pothole fee based on a 4 pothole minimum)	

Deliverables:

The survey drawings will be prepared utilizing AutoCAD. Legal Descriptions will be prepared utilizing MS Word. The drawings and Word documents will be delivered digitally via e-mail. Certified hard copies of the drawings will be provided upon request and will be billed at the rates shown below for copies. Hard copies will be delivered by United States Postal Service Standard Mail. Other delivery methods will be invoiced at our cost for the service, plus 15% of the cost.

Black-Line Prints

18" x 24" = \$2.50 Per Sheet
24" x 36" = \$5.00 Per Sheet
30" x 42" = \$7.50 Per Sheet

Outside Printing

Cost + 15%

Courier Services

Cost + 15%

The above scope of services and associated fee(s) are based on the following:

- Maintenance of traffic (MOT) services are not included in the unless specified otherwise in "SCOPE OF SERVICES." Should MOT be needed to safely access the roadway we will contact you in advance and provide a cost estimate for the MOT services.
- Environmental and soil conditions will not be shown on the survey drawings unless specified otherwise in "SCOPE OF SERVICES."
- Subsurface features will not be located or shown on the survey unless specified otherwise in "SCOPE OF SERVICES."
- Subsurface utilities remotely located from the surface of the ground, by electronic means are limited in reliability and accuracy. Before the final design of improvements or beginning construction, key alignments, horizontal and vertical locations, pipe sizes and measurements, should be verified by direct excavation and or measurements to verify and ensure the integrity of the data presented in the survey drawings.
- As-built measurements collected in active facilities (storm, sanitary and other structures), are limited in accuracy and reliability. Before the final design of improvements or beginning construction, critical measurements should be verified with the facilities pumped down and cleaned of effluent and derbies to ensure the integrity of the data being presented in the survey drawings. Subsurface features will not be located or shown on the survey unless specified otherwise in "SCOPE OF SERVICES."
- Trees, shrubs, hedges and other vegetation will not be located or shown on the survey unless specified otherwise in "SCOPE OF SERVICES."
- Coordination with attorneys, title companies, outside consultants is not included and will be hourly at the rates shown below.
- Express delivery fees, copies of public records and printing fees are not included and will be billed at our cost.

Service, outside of the above scope of services, will be billed on an hourly basis per the rate schedule shown below:

Employee Classification	Hourly Rate
Principal	\$150.00
Senior Professional Land Surveyor	\$125.00
Professional Land Surveyor	\$110.00
Field Crew Supervisor	\$75.00
Survey/CAD Technician	\$75.00
Survey Crew	\$150.00
Administrative	\$70.00

Standard General Conditions:

- **Payment of Invoices** – Invoices are due and payable upon receipt. Delinquent accounts more than 30 days from the date of invoice will constitute a breach of this agreement, and all remaining services may be terminated at the option of Stoner & Associates, Inc. (from now on referred to as S&A). Should it become necessary to collect any unpaid invoices through an attorney or legal proceedings, the client agrees to pay all costs of collections, including attorneys' fees.
- **Hours & Rates** - Rates are based on a forty (40) hour week, excluding holidays. Time more than forty (40) hours per week will be invoiced at one and one-half times the rates quoted herein (overtime time-and-a-half).
- **Termination** – The obligation to provide further services under this agreement may be terminated by either party upon seven (7) day' written notice in the event of substantial failure by the other party to perform by the terms hereof through no fault of the terminating party.
- **Client-Furnished Information** – S&A will consider all information supplied by the client as accurate and correct. Extra work or work was done over because of inaccurate or incorrect information supplied by the client will be paid for as additional services.
- **Ownership of Documents** – All documents prepared under this Agreement are instruments of service and are the property of S&A. The use of said documents on other projects or extensions of this project must be approved in writing by S&A.
- **Additional Services** – If authorized by the client, S&A will furnish additional services, which are not considered normal or customary basic services. The cost for additional services provided by S&A personnel will be billed on a time and materials basis. Additional services provided by others (i.e., soil testing, aerial photography, etc.) will be billed directly to the client by the provider.
- **Reimbursable Expenses** – The client will pay S&A for the actual expenses incurred in connection with the project for commercial travel and subsistence, shipping charges (i.e. Federal Express, mail, etc.), courier/delivery charges, printing, and reproduction costs.
- **Controlling Law** – This Agreement will be governed by the laws of the State of Florida and is deemed to have been entered into in Broward County, Florida.
- **Oral Agreements** – No oral agreement guaranty, promise, representation or warranty will be binding.
- **Limitation of Liability** – The client agrees to limit any and all liability or claim for damages, cost of defense, or expenses to be levied against S&A by the client or third parties to a sum not to exceed \$20,000.00 or the amount of our fee, whichever is greater, on account of any design defect, error, omission, or professional negligence.

Sincerely,

STONER & ASSOCIATES, INC.



James D. Stoner, P.S.M.
President

JDS: las

Authorization to Proceed – The person signing below authorizes the work herein described to be performed and does so on behalf of the owner of the property in question and warrants that he/she has authority to sign this agreement on behalf of the owner and will accept all charges incurred on behalf of the owner.

Read and approved this _____ day of _____, 2020.

SIGNATURE:

TYPED NAME AND TITLE:

FIRM:



**Please complete the information requested below to
ensure that we have accurate information for this project.**

PROJECT CONTACT / BILLING INFORMATION

Business Name:

Business Address:

Business Phone Number:

Business Fax Number:

Project Manager's Name:

Contact Phone Number:

E-mail Address:

Billing Contact's Name:

Contact Phone Number:

E-mail Address:

Billing Address:

(if different than above)

Preferred Method of Receiving Invoices:

Mail _____

E-Mail _____

February 24, 2020 (Revised March 13, 2020)

Mr. Cristobal Betancourt, RLA
Director-Landscape Architecture/Planning
CHEN MOORE AND ASSOCIATES
500 Australian Avenue South, Suite 850
West Palm Beach, FL 33401
Phone: +1 (561) 746-6900, Ext. 1078
Cell: +1 (772) 486-9250
Email: cbetancourt@chenmoore.com

Re: Proposal/Agreement for Geotechnical Exploration Services
Proposed Mast Arms
NE Corner of N 26th Ave & Hollywood Blvd./Polk St.
SE Corner of S 26th Ave & Hollywood Blvd./Van Buren St.
& SW Corner of S. 26th Ave & Hollywood Blvd./Van Buren St.
Hollywood, FL

Dear Mr. Betancourt:

Pan Geo Consultants (PGC) is pleased to present this proposal/agreement for performing geotechnical engineering services at the referenced project.

Per our communications with you, we understand that plans for the project call for the installation of three new mast arms at the above referenced intersections. Mast arms are generally supported with drilled shaft foundations.

Based on your request for proposal and our understanding of the project, we propose the following scope of work and fee schedule.

SCOPE OF WORK

We propose to perform three (3) standard penetration test borings to depths of forty feet (40) below land surface in general accordance with ASTM D-1586 specifications. We will provide an engineering report including a description of our findings. The engineering report will include graphic logs of the tests and a test location plan. We assume the site is accessible to truck

mounted drilling equipment and that underground utilities will be cleared by others prior to our performing the on-site work.

FEE SCHEDULE

The above-indicated scope of work will be **performed for an estimated cost of \$5,695.00** based on the following rates and quantities:

Description	Quantity	Unit Cost	Subtotal
Project Engineer	8 hours	\$105.00/ hour	\$840.00
Registered Professional Engineer	2 hours	\$125.00/ hour	\$250.00
Drafting/ Clerical Services	1 hours	\$45.00/ hour	\$45.00
Senior Technician	4 hours	\$65.00/ hour	\$260.00
Mobilization (Equipment/ Crew)	1 each	\$250.00	\$250.00
Soil Test Borings (ASTM D-1586)*	120 linear feet	\$13.50/ l.f.	\$1620.00
Setting 3-Inch Casing	120 linear feet	\$4.00/l.f.	\$480.00
Laboratory Testing	Lump Sum		\$250.00
Right of Way Permit (if needed)	Lump Sum	\$1000.00	\$1,000.00
MOT (if needed)	Lump Sum	\$700.00	\$700.00

*If loose or deleterious soil is encountered it may be necessary to extend the soil boring(s).

Self-standing Posts Option:

In the event it is unfeasible to temporarily utilize the existing mast arms for the temporary signals, additional borings will be performed for an estimated cost of **\$3,405.00** based on the following rates and quantities:

Project Engineer	4 hours	\$105.00/ hour	\$420.00
Registered Professional Engineer	1 hours	\$125.00/ hour	\$125.00
Senior Technician	4 hours	\$65.00/ hour	\$260.00
Mobilization (Equipment/ Crew)	1 each	\$250.00	\$250.00
Soil Test Borings (ASTM D-1586)*	120 linear feet	\$13.50/ l.f.	\$1620.00
Setting 3-Inch Casing	120 linear feet	\$4.00/l.f.	\$480.00
Laboratory Testing	Lump Sum		\$250.00

We currently anticipate starting this work within approximately four business days of receiving written authorization to proceed and 50% deposit. The on-site work should take approximately 3 days to complete. The geotechnical report should be available within approximately 10 business days after the on-site work is completed.

PANGEO CONSULTANTS

2001 Tyler St., Ste. 7
Hollywood, FL 33020
Phone: 954 200 4019
Email: info@pangeoconsult.com

The cost estimated provided is based on our understanding of the expected project requirements PGC will only charge for the work performed and will not exceed the estimated cost without prior written approval from you.

We appreciate the opportunity to be selected for performing geotechnical engineering on this project. Should you have any questions, please contact the undersigned at your convenience.

Respectfully submitted,
Pan Geo Consultants

Paul C. Catledge, P.E.
Principal

Reports and invoices will be addressed to the client as listed below unless other instructions are provided in writing with this executed proposal. The undersigned, as an authorized representative of the entity listed below, approves this proposal and agrees to be bound by the terms and conditions contained in this proposal. We note that our terms are net thirty days. Any invoices over thirty days will be assessed a 1 1/2 percent service charge. If you are a first time client, we request that the fee for these services be paid at the time of report completion. Once your account is established, we will bill you on an invoice basis.

SIGNATURE: _____ DATE: _____

PRINT NAME: _____ TITLE: _____

COMPANY NAME: _____

ADDRESS: _____

PHONE: _____ FAX: _____

EMAIL: _____

General Terms and Conditions

For the purpose of this project, the addressee of this proposal will be known as the Client. The client is expected to furnish PAN GEO CONSULTANTS,LLC (PGC), with accurate information including sketch of survey and/or site plan, construction drawings/specifications as appropriate,

PANGEO CONSULTANTS
2001 Tyler St., Ste. 7
Hollywood, FL 33020
Phone: 954 200 4019
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details of proposed construction including the proposed structural system and loads or existing construction problem information and site accessibility information as appropriate. Other information requirements may be detailed in the enclosed proposal. IF ANY CONDITIONS CHANGE such as building layout, loading, project specifications/design, or unusual site conditions are observed, PGC should be notified immediately in writing about the changed condition for possible review and comment. Should the Client wish to impose other conditions and requirements beyond those contained in this proposal such as in a separate contract, we reserve the option to modify contract language, fee amounts, to remove our proposal from consideration or other measures as may be indicated.

Delivery – Scheduled upon receipt of written authorization to proceed and deposit unless other arrangements are agreed to in writing. Additional report copies can be provided for a nominal fee to the Client. PGC will exercise appropriate measures to ensure project completion within a reasonable time frame subject to existing workloads. However, PGC will not be held responsible for unavailability of necessary project data and site access within the time frame agreed upon for the investigation. Project delivery may be delayed if the ENTIRE signed proposal and deposit are not received in a timely manner. The ENTIRE signed quotation should be returned along with the requested project information. This unsigned proposal is valid for 60 days.

Payment – 50% deposit required with signed agreement. Directing PGC to proceed with the work shall constitute acceptance of the terms of PGC's proposal and these General Terms and Conditions. Balance due upon delivery of report. Interest at the rate of 18% per annum or the highest rate allowable by law whichever is less, will be added to all amounts not paid within 30 days after date of invoice. All attorney fees and expenses associated with collection of past due invoices will be paid by Client.

Insurance – PGC maintains Workers' Compensation and Employer's Liability Insurance in conformance with state law. In addition, we maintain Comprehensive General Liability Insurance and Automobile Liability Insurance. A certificate of insurance can be supplied evidencing such coverage which contains a clause providing that fifteen days written notice be given prior to cancellation.

Right-of-Entry - Unless otherwise agreed, Client will furnish right-of-entry on the property for PGC to make the planned borings, surveys, and/or explorations. PGC will not be responsible for removing fences, earth berms, vegetation or other obstructions for purposes of our investigation. PGC will take reasonable precautions to minimize damage to the property caused by its equipment and sampling procedures, but the cost of restoration or damage which may result from the planned operations is not included in the contracted amount. If Client desires to restore the property to its former condition, PGC will accomplish this and add the cost to its fee. Client agrees to waive all claims arising from or related to the failure to provide PGC with proper access to conduct its work.

Damage to Existing Man-made Objects - It shall be the responsibility of the Owner or his duly authorized representative to disclose the presence and accurate location of all hidden or obscure man-made objects relative to routes of access, field tests, sampling, or boring locations. When cautioned, advised or given data in writing that reveal the presence or potential presence of underground or over-ground obstructions, such as utilities, septic tanks, etc., PGC will give special instructions to its field personnel. In addition, Client waives any claim against PGC arising from damage to existing man-made objects.

Warranty and Limitation of Liability - PGC shall perform services for Client in a professional manner, using that degree of care and skill ordinarily exercised by and consistent with the standards of competent consultants practicing in the same or a similar locality as the project. In the event any portion of the services fails to comply with this warranty obligation and PGC is promptly notified in writing prior to one year after completion of such portion of the services, PGC will re-perform such portion of the services, or if re-performance is impracticable, PGC will refund the amount of compensation paid to PGC for such portion of the services. This warranty is in lieu of all other warranties. No other warranty, expressed or implied, including warranties of merchantability and fitness for a particular purpose is made or intended by the proposal for consulting services, by furnishing an oral response of the findings made or by any representations made regarding the services included in this agreement. In no event shall PGC or any of its professional employees be liable for any special, indirect, incidental or consequential loss or damages, including but not limited to impact and delay claims. The remedies set forth herein are exclusive and the total liability of consultant whether in contract, tort (including negligence whether sole or concurrent), or otherwise arising out of, connected with or resulting from the services provided pursuant to this Agreement shall not exceed the total fees paid by Client. At additional cost, Client may obtain a higher limit prior to commencement of services.

PURSUANT TO §558.0035, FLORIDA STATUTES, PGC'S INDIVIDUAL EMPLOYEES AND/OR AGENTS MAY NOT BE HELD INDIVIDUALLY LIABLE FOR NEGLIGENCE ARISING OUT OF, CONNECTED WITH, OR RESULTING FROM THEIR SERVICES PROVIDED PURSUANT TO THIS AGREEMENT.

Indemnification – Client agrees to defend, indemnify and save harmless PGC from all claims, including negligence claims, suits, losses, personal injuries, death and property liability resulting from PGC's performance of the proposed work, whether such claims or damages are caused in part by PGC, and agrees to reimburse PGC for expenses in connection with any such claims or suits, including reasonable attorney's fees. Client's obligation to indemnify is limited to \$2 million per occurrence, which Client agrees bears a reasonable commercial relationship to the Work undertaken by PGC. Client further agrees that these general conditions are a part of the Work's specifications or bid documents, if any.

Sampling or Testing Location - Unless specifically stated to the contrary, the unit fees included in this proposal do not include costs associated with professional land surveying of the site or the accurate horizontal and vertical locations of tests. Field tests or boring locations described in our report or shown on our sketches are based on specific information furnished to us by others and/or estimates made in the field by our technicians. Such dimensions, depths or elevations should be considered as approximations unless otherwise stated in the report. It is understood that all drilling locations are accessible to conventional truck mounted drilling equipment unless otherwise specified by the client. If unscheduled remobilizations or use of portable or all terrain equipment is required additional charges will apply. PGC will attempt to clear utilities at our excavation/test locations by manual drilling to 3' below land surface (BLS). Any utilities/obstructions present at client specified test locations or below 3' BLS will be the responsibility of the client.

PANGEO CONSULTANTS

2001 Tyler St., Ste. 7
Hollywood, FL 33020
Phone: 954 200 4019
Email: info@pangeoconsult.com

Sample Handling and Retention – Generally soil test samples are retained for approximately three months after which time they will be discarded unless written instructions to the contrary are received from the client.

Legal Jurisdiction - The parties agree that any actions brought to enforce any provision of this Agreement shall only be brought in a court of competent jurisdiction located in Broward County, Florida. Any and all causes of action arising out of PGC's performance of the Work, including but not limited to claims for indemnity, contribution and equitable subrogation, shall be deemed to have accrued and the applicable statutes of limitations shall commence to run not later than the date of PGC's last invoice for the Work performed hereunder.

Force Majeure - PGC shall not be held responsible for any delay or failure in performance of any part of this Agreement to the extent such delay or failure is caused by fire, flood, explosion, war, strike, embargo, government requirement, civil or military authority, acts of God, act or omission of subcontractors, carriers, client or other similar causes beyond its control.

Documents - PGC shall be entitled to rely upon the accuracy and completeness of all surveys, reports and information furnished by the client. If conditions different from those described in our report are found at the site, PGC should be notified in writing immediately upon discovery. PGC reserves the right to revise conclusions and recommendations presented in the final report should additional information regarding the project become available. All permits will be obtained by others unless otherwise specified in this proposal or in writing to PGC. PGC has no liability for consequences of information not provided or unavailable or otherwise not reviewed or known from the normal sources customarily examined by PGC in such investigations within the time frame allowed for this investigation under this agreement. The client, entities identified in writing on the address portion of our report, design team professionals engaged by our client and building official staff are entitled to use and rely upon PGC's reports for purposes of the current project. Other parties are not authorized to use or rely upon PGC's reports unless PGC so states in writing.

General Contract Terms and Conditions 2020

EXHIBIT B

Exhibit B - CMA Summary							
Phase	Phase Description	Consultant	(MCE)	(DCE)	(SAI)	(PCI)	Phase Totals
Phase 1:	Programming and Schematic Design	\$ 3,320.00	\$ -	\$ 2,875.00	\$ 9,640.00	\$ 5,695.00	\$ 21,530.00
Phase 2:	Design Development	\$ 15,500.00	\$ 5,160.00	\$ 1,770.00	\$ -	\$ -	\$ 22,430.00
Phase 3:	Construction Documents	\$ 8,870.00	\$ 26,190.00	\$ 2,490.00	\$ -	\$ -	\$ 37,550.00
Phase 4:	Administration of the Construction Contract	\$ 6,000.00	\$ 13,135.00	\$ 1,780.00	\$ -	\$ -	\$ 20,915.00
SUBTOTAL BASE FEES:		\$ 33,690.00	\$ 44,485.00	\$ 8,915.00	\$ 9,640.00	\$ 5,695.00	\$ 102,425.00
TASK 5 - REIMBURSABLES:							\$ 2,500.00
TOTAL BASE FEES:							\$ 104,925.00

Phase	Phase Description	Consultant	(MCE)	(DCE)	(SAI)	(PCI)	Phase Totals
Option	Self-Standing Posts for Temporary Signals	\$ 12,035.00	\$ 26,750.00	\$ 2,250.00	\$ -	\$ 3,405.00	\$ 44,440.00
SUBTOTAL OPTION FEES:		\$ 12,035.00	\$ 26,750.00	\$ 2,250.00	\$ -	\$ 3,405.00	\$ 44,440.00
REIMBURSABLES:							\$ 500.00
TOTAL OPTION FEES:							\$ 44,940.00

TOTAL BASE AND OPTION FEES:							\$ 149,865.00
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**Exhibit B - CMA Breakdown
Project Staff Hour Summary**

Billing Rate	Technician		Construction Specialist		Project Engineer		Senior Engineer		Senior Project Manager		Total
	\$ 75.00 /hr	Cost	\$ 85.00 /hr	Cost	\$ 125.00 /hr	Cost	\$ 150.00 /hr	Cost	\$ 190.00 /hr	Cost	
Phase 1: Programming and Schematic Design											
Project Administration and Coordination	0	\$ -	0	\$ -	4	\$ 500.00	2	\$ 300.00	1	\$ 190.00	\$ 990.00
Project Meetings (1)	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
MOT Plans Preparation	16	\$ 1,200.00	0	\$ -	4	\$ 500.00	0	\$ -	1	\$ 190.00	\$ 1,890.00
Subtotals Phase 1	16	\$ 1,200.00	0	\$ -	10	\$ 1,250.00	2	\$ 300.00	3	\$ 570.00	\$ 3,320.00
Phase 2: Design Development											
Project Administration and Coordination	0	\$ -	0	\$ -	4	\$ 500.00	2	\$ 300.00	1	\$ 190.00	\$ 990.00
Project Meetings (1)	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
Design of mast arms locations, traffic signals, signage, pavement markings, and associated appurtenances for 30% and 60% submittal.	22	\$ 1,650.00	0	\$ -	8	\$ 1,000.00	40	\$ 6,000.00	6	\$ 1,140.00	\$ 9,790.00
MOT Plans Preparation	32	\$ 2,400.00	0	\$ -	8	\$ 1,000.00	0	\$ -	1	\$ 190.00	\$ 3,590.00
Response to Comments	0	\$ -	0	\$ -	4	\$ 500.00	0	\$ -	1	\$ 190.00	\$ 690.00
Subtotals Phase 2	54	\$ 4,050.00	0	\$ -	26	\$ 3,250.00	42	\$ 6,300.00	10	\$ 1,900.00	\$ 15,500.00
Phase 3: Construction Documents											
Project Administration	0	\$ -	0	\$ -	4	\$ 500.00	0	\$ -	1	\$ 190.00	\$ 690.00
Project Meetings (1)	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
Design of mast arms locations, traffic signals, signage, pavement markings, and associated appurtenances for 30% and 60% submittal.	10	\$ 750.00	0	\$ -	4	\$ 500.00	16	\$ 2,400.00	3	\$ 570.00	\$ 4,220.00
MOT Plans Preparation	16	\$ 1,200.00	0	\$ -	4	\$ 500.00	0	\$ -	1	\$ 190.00	\$ 1,890.00
Project Permitting	0	\$ -	0	\$ -	8	\$ 1,000.00	0	\$ -	1	\$ 190.00	\$ 1,190.00
Response to Comments	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
Subtotals Phase 3	26	\$ 1,950.00	0	\$ -	24	\$ 3,000.00	16	\$ 2,400.00	8	\$ 1,520.00	\$ 8,870.00
Phase 4: Administration of the Construction Contract											
Pre-Bid Meeting Attendance	0	\$ -	0	\$ -	4	\$ 500.00	0	\$ -	0	\$ -	\$ 500.00
Shop/Submittals Drawing Review	0	\$ -	0	\$ -	16	\$ 2,000.00	0	\$ -	0	\$ -	\$ 2,000.00
Site Visits (6)	0	\$ -	0	\$ -	12	\$ 1,500.00	0	\$ -	0	\$ -	\$ 1,500.00
Punch List	0	\$ -	0	\$ -	8	\$ 1,000.00	0	\$ -	0	\$ -	\$ 1,000.00
Project Certification	0	\$ -	0	\$ -	8	\$ 1,000.00	0	\$ -	0	\$ -	\$ 1,000.00
Subtotals Phase 4	0	\$ -	0	\$ -	48	\$ 6,000.00	0	\$ -	0	\$ -	\$ 6,000.00
Sub Totals Base:	96	\$ 7,200.00	0	\$ -	108	\$ 13,500.00	60	\$ 9,000.00	21	\$ 3,990.00	\$ 33,690.00
Task 5 - Reimbursables:											\$ 2,500.00
Sub-Consultant Totals Base:											\$ 68,735.00
Grand Totals Base:											\$ 104,925.00
Option Self-Standing Posts for Temporary Signals											
Project Administration and Coordination	0	\$ -	0	\$ -	2	\$ 250.00	2	\$ 300.00	1	\$ 190.00	\$ 740.00
Project Meetings (1)	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
Design of self-standing pole locations, traffic signals, signage, pavement markings, and associated appurtenances.	16	\$ 1,200.00	0	\$ -	7	\$ 875.00	30	\$ 4,500.00	5	\$ 950.00	\$ 7,525.00
MOT Plans Preparation	16	\$ 1,200.00	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 1,640.00
Response to Comments	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	1	\$ 190.00	\$ 440.00
Shop/Submittals Drawing Review	0	\$ -	0	\$ -	4	\$ 500.00	0	\$ -	0	\$ -	\$ 500.00
Site Visits (2)	0	\$ -	0	\$ -	4	\$ 500.00	0	\$ -	0	\$ -	\$ 500.00
Punch List	0	\$ -	0	\$ -	2	\$ 250.00	0	\$ -	0	\$ -	\$ 250.00
Subtotals Options	32	\$ 2,400.00	0	\$ -	25	\$ 3,125.00	32	\$ 4,800.00	9	\$ 1,710.00	\$ 12,035.00
Sub Totals Options:	32	\$ 2,400.00	0	\$ -	25	\$ 3,125.00	32	\$ 4,800.00	9	\$ 1,710.00	\$ 12,035.00
Reimbursables:											\$ 500.00
Sub-Consultant Totals Options:											\$ 32,405.00
Grand Totals Options:											\$ 44,940.00
Grand Totals Base and Options:											\$ 149,865.00



QUALITY ASSURANCE AND QUALITY CONTROL POLICY (DRAFT)

Chen Moore and Associates (CMA) has established this Quality Assurance and Quality Control (QA/QC) Policy to define the procedures to be implemented throughout each phase of project development. The purpose of these procedures defined within the QA/QC Policy is to ensure project deliverables meet project objectives and are of appropriate accuracy and quality. For the purpose of ensuring quality project deliverables throughout CMA, this QA/QC Policy defines the documentation required during each phase of project development and defines the responsibilities of each project team member during each phase of project development. The basic requirements for all projects are summarized below:

- The QA/QC Policy must be implemented during each phase of project development, which includes the implementation of appropriate review procedures during Project Kickoff, Conceptual Plans, Planning Reports, Design Plan Submittal, Design Calculations, Construction Cost Estimates, Technical Specifications, Bid Documents, and other professional documents prepared for a project.
- All project deliverables prepared by CMA, such as planning reports, design plans, design calculations, cost estimates, bid documents, and other professional documents, shall be completed under the direction of a Professional Engineer or Registered Landscape Architect licensed and registered in the state where the proposed project is to be constructed.
- The Professional Engineer or Registered Landscape Architect and his or her staff shall not perform work outside of his or her general field of knowledge and experience, unless they have been consulted with another experienced professional regarding the specialized design work involved.
- It is the responsibility of the Project Manager to ensure all procedures defined within this QA/QC Policy are implemented throughout each phase of project development.
- Specific individuals to be involved and their responsibilities should be identified for each project at the commencement of project activities.
- All relevant project deliverables shall be reviewed by a qualified individual other than the preparer of the deliverable documents. The QA/QC reviewer who has responsibility for ensuring that the plan is properly executed should be identified for each project at the project kickoff meeting. The QA/QC reviewer should not be closely associated with the project and should have the appropriate experience relative to the project.
- Each office shall have a location (electronic and physical) with sample calculations and design materials for use in preparing project deliverables along with CMA QA/QC Tool Box, which include the various review documentation to be used at each phase of project development. The CMA QA/QC Tool Box should be updated periodically to assist in improving the efficiency of our staff in the QA/QC Review Process. The CMA QA/QC Tool Box shall contain region specific design guidelines that shall also include checklists in preparation of construction documents as well as sample plans.
- The relevant review documentation from the most current version of the CMA QA/QC Toolbox shall accompany each project document to be reviewed by the QA/QC reviewer designated for the project. It is the responsibility of the preparer of each task to complete the form and have the work reviewed by the QA/QC reviewer designated for the project.
- All QA/QC review documentation must be saved in the project files under a designated QA/QC folder. Electronic filing and/or physical filing of documents is acceptable with the approval of the Operations.
- Names of the preparer and the QA/QC reviewer shall be clearly identified with the appropriate signatures and review dates on the QA/QC review documentation and project deliverable documents under review.
- All project deliverables shall be reviewed by the designated QA/QC reviewer prior to submittal to the client as scheduled and coordinated with the project manager.

The responsibilities of each project team member to follow procedures and documentation are defined below according to the phase of project development:

Project Setup

Upon approval of a scope and fee proposal for a project by a client, CMA needs to set up the project in the Deltek accounting system. CMA established the CMA Project Setup Worksheet to assist with the proper data entry into the Deltek accounting system. A current version of the CMA Project Setup Worksheet can be found in the CMA QA/QC Toolbox. The Project Manager shall be responsible for completing the CMA Project Setup Worksheet based on the scope of services and fee proposal prepared for the project. The Project Manager shall submit the completed CMA Project Setup Worksheet to the Vice President – Operations for approval. Upon approval, the Project Manager shall be responsible for saving the approved CMA Project Setup Worksheet along with the corresponding Scope of Services and Fee Proposal within the project files. CMA Accounting staff shall setup the project in the Deltek accounting system based on the approved CMA Project Setup Worksheet. The CMA Project Setup Worksheet for the project shall be reviewed to confirm the inclusion of the following items for each project task:

- Client contact information
- Billing Method (Lump Sum or Hourly Not to Exceed)
- Billing Rate Schedule (CMA Standard Rate Table or Contract Rate Table)
- Task Project Manager and Discipline
- Task Costs (CMA Fees + Subconsultant Fees + Direct Costs)
- Task Hours (Hourly Breakdown for all labor categories)
- Task Duration
- Estimated Task Completion Date

Project Kickoff

Prior to commencement of work on a new project, a project kickoff meeting must be scheduled by the Project Manager. The project kickoff meeting shall always include the Project Manager, the designated QA/QC Reviewer, and relevant CMA Project Team members that will be working on the project. For projects with a contract value in excess of \$25,000 in fees, the CMA Vice President – Operations and the CMA CAD Manager shall be invited to allow for the proper planning of resources. Participation in the project kickoff meeting via conference call shall be acceptable when necessary. CMA established the CMA Project Kickoff Meeting Worksheet which must be completed by the Project Manager prior to scheduling the kickoff meeting. A current version of the CMA Project Kickoff Meeting Worksheet can be found in the CMA QA/QC Toolbox. The Project Manager shall be responsible for saving the approved CMA Project Kickoff Meeting Worksheet within the project files. During the project kickoff meeting, the Project Manager shall be responsible for identifying the following information to the Project Team:

- Project Team Members (CMA Staff + Subconsultants)
- QA/QC Reviewer
- Project Team Member Responsibilities
- Project Deliverables
- Project Deliverable Schedule
- Hourly Budget per Project Task

Project Deliverables

CMA established the various project review checklists to assist with the review of all project deliverables to ensure project objectives are met with appropriate accuracy and quality. A current version of these project review checklists can be found in the CMA QA/QC Toolbox. The Project Manager shall be responsible to ensuring each project deliverable is appropriately reviewed prior to submittal to a client. The Project Manager shall be responsible for scheduling all reviews by the designated QA/QC Reviewer prior to submitting any deliverable to a client. Upon completion of any review by the designated QA/QC Reviewer, the Project Manager shall be responsible for saving the appropriate project review checklists along with any corresponding marked-up comments on the project deliverable within the project files. At a minimum, the Project Manager shall ensure each of the following components of project deliverables are appropriately reviewed by the designated QA/QC Reviewer for accuracy and consistency:

- Conceptual Plans and/or Planning Reports
- Design Plan Submittals
 - 1) Review for accuracy and consistency through all team disciplines prior to issuance to the client and/or regulatory governmental agency.
 - 2) Constructability review prior to construction and release for bidding/pricing.
- Design Calculations (Drainage, Sanitary Sewer, Water, Earthwork, Environmental, etc.)
- Construction Cost Estimates (Current Unit Costs, Quantities, Appropriate Assumptions, etc.)
- Technical Specifications
- Bid Documents



CMA QA/QC Manual
Project Setup Worksheet



PROJECT SETUP WORKSHEET

☐ New Client ☐ Existing Client

Client Name: _____ Client No.: _____

Client Type: ☐ State ☐ County ☐ Municipal ☐ Institutional ☐ Private Developer ☐ Prime Consultant

Client Project Manager: _____ Contact: _____

Client Billing Contact: _____ Contact: _____

Billing Address (if not in Deltek): _____

Project Owner Name (if different from Client): _____

Owner Type: ☐ State ☐ County ☐ Municipal ☐ Institutional ☐ Private Developer ☐ Prime Consultant

☐ New Project ☐ Existing Project

Project Name: _____ CMA Project No.: _____

CMA Project Office: ☐ MIA ☐ FLL ☐ WPB ☐ ORL

CMA Responsibility: ☐ Prime ☐ Subconsultant

CMA Project Manager: _____ CMA Assistant PM: _____

Project Discipline: ☐ Engineering ☐ Landscape Architecture ☐ Planning ☐ Construction ☐ Other

Federal Profile Codes (SF330): _____ _____ _____ _____

CMA Opportunity No.: _____ CMA Promotional Project No.: _____

CMA Billing Rate Schedule: _____ CMA Rate Table No.: _____

Billing Method: ☐ Lump Sum ☐ Hourly Not to Exceed ☐ Variable by Project Task

Contract Authorization Number: _____ Contract Authorization Date: _____

Total Contract Amount: _____

Prepared By: _____ Date: _____

Operations Approval: _____ Date: _____

Entered By: _____ Date: _____



PROJECT TASK SETUP WORKSHEET

Client Name: _____ Client No.: _____

Project Name: _____ Project No.: _____

☐ New Project ☐ Existing Project

Task Name: _____ CMA Task No.: _____

Task Discipline: ☐ Engineering ☐ Landscape Architecture ☐ Planning ☐ Construction ☐ Other

Task Project Manager: _____ Task Assistant PM: _____

Task Duration: _____ Estimated Task Start Date: _____ Estimated Task Completion Date: _____

Client Authorization Number: _____ Task Billing Method: ☐ Lump Sum ☐ Hourly Not to Exceed

CMA Fee: \$ _____ Subconsultant/Expense Costs: \$ _____ ☐ Direct ☐ Reimbursable

Total Task Amount: \$ _____ Total Task Hours: _____

Task Name: _____ CMA Task No.: _____

Task Discipline: ☐ Engineering ☐ Landscape Architecture ☐ Planning ☐ Construction ☐ Other

Task Project Manager: _____ Task Assistant PM: _____

Task Duration: _____ Estimated Task Start Date: _____ Estimated Task Completion Date: _____

Client Authorization Number: _____ Task Billing Method: ☐ Lump Sum ☐ Hourly Not to Exceed

CMA Fee: \$ _____ Subconsultant/Expense Costs: \$ _____ ☐ Direct ☐ Reimbursable

Total Task Amount: \$ _____ Total Task Hours: _____

Task Name: _____ CMA Task No.: _____

Task Discipline: ☐ Engineering ☐ Landscape Architecture ☐ Planning ☐ Construction ☐ Other

Task Project Manager: _____ Task Assistant PM: _____

Task Duration: _____ Estimated Task Start Date: _____ Estimated Task Completion Date: _____

Client Authorization Number: _____ Task Billing Method: ☐ Lump Sum ☐ Hourly Not to Exceed

CMA Fee: \$ _____ Subconsultant/Expense Costs: \$ _____ ☐ Direct ☐ Reimbursable

Total Task Amount: \$ _____ Total Task Hours: _____



CMA QA/QC Manual
Project Kickoff Meeting Agenda



PROJECT KICK-OFF MEETING AGENDA

Client Name: _____ Client No.: _____

Project Name: _____ CMA Project No.: _____

CMA Project Office: ☐ MIA ☐ FLL ☐ WPB ☐ ORL

Kickoff Meeting Date: _____ Meeting Location: _____

CMA Project Team Members

Present at Meeting

Principal in Charge: _____ ☐ Yes ☐ No ☐ N/A

Project Manager: _____ ☐ Yes ☐ No ☐ N/A

Quality Control Reviewer: _____ ☐ Yes ☐ No ☐ N/A

Project Engineer: _____ ☐ Yes ☐ No ☐ N/A

Landscape Architect: _____ ☐ Yes ☐ No ☐ N/A

CAD Technician: _____ ☐ Yes ☐ No ☐ N/A

Construction Specialist: _____ ☐ Yes ☐ No ☐ N/A

Project Subconsultants

☐ Survey: _____

☐ Geotechnical: _____

☐ Subsurface Utility Engineering: _____

☐ Electrical Engineering: _____

☐ Environmental Engineering: _____

☐ Structural Engineering: _____

☐ Other: _____

Required Regulatory Agency Approvals

☐ Municipality: _____

☐ Utility: _____

☐ Drainage District: _____

☐ County Agencies: _____

☐ State Agencies: _____

PROJECT DELIVERABLES

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____

Project Task: _____ CMA Task No.: _____

Project Task Budget: \$ _____ CMA Labor Budget: _____ (Hours)

Deliverables: _____

QA/QC Review Date: _____ Submittal Date: _____



CMA QA/QC Manual
Design Plan Quality Control Flowchart

DESIGN PLANS QUALITY CONTROL FLOWCHART

Project Number: _____ Project Name: _____

<div style="border: 1px solid black; padding: 10px; margin-bottom: 10px; text-align: center;"> Project Kickoff Meeting Date: _____ </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> Progress Check: _____ % Date: _____ </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> Progress Check: _____ % Date: _____ </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 10px; margin-bottom: 10px;"> Constructability Check Date: _____ </div> <div style="text-align: center;">↓</div> <div style="border: 1px solid black; padding: 10px;"> Bid Documents Check Date: _____ </div>	<table border="0" style="width: 100%;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding-right: 10px;">Discipline Lead</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">CAD Manager</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Quality Control</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Project Manager</td> <td style="padding-left: 10px;">_____</td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding-right: 10px;">Discipline Lead</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">CAD Manager</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Quality Control</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Project Manager</td> <td style="padding-left: 10px;">_____</td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding-right: 10px;">CEI Lead</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">CAD Manager</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Quality Control</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Project Manager</td> <td style="padding-left: 10px;">_____</td> </tr> </table> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; border-right: 1px solid black; padding-right: 10px;">Discipline Lead</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">CAD Manager</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Quality Control</td> <td style="padding-left: 10px;">_____</td> </tr> <tr> <td style="border-right: 1px solid black; padding-right: 10px;">Project Manager</td> <td style="padding-left: 10px;">_____</td> </tr> </table>	Discipline Lead	_____	CAD Manager	_____	Quality Control	_____	Project Manager	_____	Discipline Lead	_____	CAD Manager	_____	Quality Control	_____	Project Manager	_____	CEI Lead	_____	CAD Manager	_____	Quality Control	_____	Project Manager	_____	Discipline Lead	_____	CAD Manager	_____	Quality Control	_____	Project Manager	_____
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CMA QA/QC Manual
Engineering Review Checklists



SITE DEVELOPMENT – DUE DILIGENCE INVESTIGATION CHECKLIST

I. Traffic

- ☐ Internal Right-of-Way Requirements: _____
- ☐ On-Site Road Geometry: _____
- ☐ Entrance Width(s) and Location(s): _____
- ☐ Sidewalk Requirements: _____
- ☐ Turn Lanes (on-site and off-site): _____
- ☐ Other Off-Site Improvements: _____
- ☐ Traffic Signals: _____

II. Earthwork

- ☐ Finish Floor Criteria: _____
- ☐ Road Crown Criteria: _____
- ☐ Cut/Fill Balance: _____

III. Landscaping

- ☐ Required Plantings: _____
- ☐ Screen Walls and Berms: _____
- ☐ Irrigation and Reuse: _____

IV. Permitting

- ☐ Site Plan: _____
- ☐ Engineering: _____
- ☐ Fees: _____
- ☐ Bonding: _____
 - 1) Forms: _____
 - 2) Improvements Bonded: _____
 - 3) Agreements: _____



PRELIMINARY PLANS CHECKLIST

Client Name: _____ Client No.: _____

Project Name: _____ CMA Project No.: _____

Reviewers:

☐ Discipline Lead: _____ Date: _____

☐ Project Manager: _____ Date: _____

☐ Quality Control Reviewer: _____ Date: _____

☐ CAD Manager: _____ Date: _____

Check that the following items are within the plans:

- | | | |
|---|---|---|
| <input type="checkbox"/> Project Information | <input type="checkbox"/> Client Information | <input type="checkbox"/> Engineer of Record Information |
| <input type="checkbox"/> Project Location Map | <input type="checkbox"/> Key Map | <input type="checkbox"/> Sheet Index |
| <input type="checkbox"/> Scale | <input type="checkbox"/> North Arrow | <input type="checkbox"/> Vertical Datum |
| <input type="checkbox"/> Survey Information | <input type="checkbox"/> General Notes | <input type="checkbox"/> Drawing Dates |

Paving/Grading/Drainage/Transportation

Label the following items within plans:

- ☐ Drainage Piping (length, diameter, and material)
- ☐ Exfiltration Trench/Drainfield (length, diameter, material, and trench width)
- ☐ Drainage Structures (type, rim elevation, invert elevations, bottom elevation)
- ☐ Drainage Control Structures (type, rim elevation, weir elevation, invert elevations, bottom elevation)
- ☐ System Outfalls (pipe diameter, invert elevation, edge of water, headwall)
- ☐ Water Management Areas (top of bank, side slopes, edge of water, bottom, cross section)
- ☐ Swales (elevations, cross sections, dimensions)
- ☐ Grading (proposed elevations and flow arrows)
- ☐ All easements, right-of-ways, and ingress/egress easements
- ☐ Parking lot/roadway cross section with pavement, base course, and stabilized subgrade information
- ☐ Proposed off-site improvements are shown (i.e., sidewalks, turn lanes, etc.)
- ☐ Signal pole location(s)

Water/Sewer

Label the following items within plans:

- ☐ Existing Water Main / Force Mains / Gravity Sewer (diameter, material, slope, inverts, depth)
- ☐ Proposed Water Main / Force Main / Gravity Sewer Piping (length, diameter, material, slope, separation)
- ☐ Water Main / Force Main Fittings (size, material, location)
- ☐ Fire Hydrants (type, service diameter, service material, connection point, typical spacing)

- ☐ Gate / Plug Valves (size, location)
- ☐ Pipe Deflections (slope, location)
- ☐ Sewer Manhole (size, rim elevation, invert elevations, bottom elevation)
- ☐ Sanitary Lift Station (type, wetwell depth, wetwell diameter, influent elevation, control elevations)
- ☐ Connections to Existing Water Main



ENGINEERING PLANS CHECKLIST

Client Name: _____ Client No.: _____

Project Name: _____ CMA Project No.: _____

Reviewers:

☐ Discipline Lead: _____ Date: _____

☐ Project Manager: _____ Date: _____

☐ Quality Control Reviewer: _____ Date: _____

☐ CAD Manager: _____ Date: _____

COVER SHEET / TITLE BLOCK

- ☐ Company name and logo
- ☐ Project name
- ☐ Client name and logo
- ☐ Project number
- ☐ Current City/County Commissioners
- ☐ Drawing index (table of contents)
- ☐ Project location map
- ☐ Legal description of property
- ☐ Check spelling
- ☐ North arrow (up or to the right)
- ☐ Graphic scale
- ☐ Match title to each sheet title
- ☐ Engineer of Record PE number and name

KEY SHEET

- ☐ Include a key sheet in the plans if necessary
- ☐ Key map on every sheet if plans are more than one sheet
- ☐ Sheet Numbers noted (EC, WS, SW, PGD, PMS, LA, IR, EL as necessary)
- ☐ North arrow and scale
- ☐ Standard general notes for disciplines within plans
- ☐ Insert additional general notes as necessary

GENERAL

- ☐ Checklist for each submittal (30%, 60%, 90%, 100%)
- ☐ File tracer for file locations
- ☐ Provide cross section at all property lines. Verify elevation on adjacent private property and/or right of way.
- ☐ Consistent text height and type on all sheets and detail drawings
- ☐ Property and right of way lines identified with proper line type and thickness

- ☐ Confirm appropriate utility/municipality/county name for project area
- ☐ Check for spelling, numbering, cover sheet, page names, name of client, title block inconsistencies
- ☐ Provide general notes specifically requesting contractor to provide as-built of existing utilities for all connecting points and existing utilities that will be crossed prior to construction.
- ☐ Demolition Notes address contaminants and local jurisdiction
- ☐ General Notes indicating SWPPP are conceptual but shall be prepared by the Contractor

PAVING AND DRAINAGE PLANS

Roadways

- ☐ Longitudinal slope of pavement labeled from high to low points
- ☐ Centerline elevations shown at all street intersections
- ☐ Adequate elevation callouts provided in the plan view or details to ensure appropriate runoff of stormwater
- ☐ Define all rights-of-ways and easements
- ☐ Include O.R. Book and page number for all off-site easements
- ☐ Define sidewalk widths, elevation grading, and maximum slopes per ADA requirements
- ☐ Show platted opening clearly
- ☐ Include street names
- ☐ Confirm sheet match lines
- ☐ Confirm cross section arrows match direction of view
- ☐ All text aligned correctly to read from bottom or right of plan sheet
- ☐ Display existing utilities
- ☐ Flow arrows
- ☐ Signal pole location(s)
- ☐ Confirm signal head locations
- ☐ Confirm signage
- ☐ Confirm pavement markings

Parking Lot Plan Views

- ☐ Dimension parking spaces and landscaped areas or refer to site plan and/or pavement marking and signage plans
- ☐ Edge of pavement elevations included around landscaped fingers and islands
- ☐ Define curb type
- ☐ Adequate flow arrows included to make drainage patterns clear
- ☐ Identify and show parking wheel stops if required
- ☐ Show sod, landscape, roadways, and walkways
- ☐ Indicate paint or thermoplastic pavement markings

Miscellaneous Paving

- ☐ Hatch for all new asphalt pavement and/or concrete
- ☐ Restoration hatch for all driveways impacted by construction
- ☐ Restoration hatch for all asphalt roadways impacted by construction
- ☐ Restoration hatch for all concrete sidewalks impacted by construction
- ☐ Note to match elevation of existing pavements and define existing elevation at matching locations
- ☐ If off-site turn lanes are shown on the project plan views, include all necessary information. If they are shown on other sheets, note where to find them.
- ☐ Minimum finish floor elevation noted on the initial paving and drainage plan sheet
- ☐ Include finish floor elevations for each building (if required by municipality)
- ☐ Minimum road crown elevation noted on the initial plan sheet
- ☐ Adjust existing valve boxes, manholes, etc. to new asphalt overlay elevations
- ☐ Include flow arrows

Drainage Piping

- ☐ Slope
- ☐ Linear feet between structures (from center of structure to center of structure)

- ☐ Size of pipe
- ☐ Material
- ☐ Match crowns at catch basins
- ☐ Check minimum cover
- ☐ Check conflicts
- ☐ Direction of flow
- ☐ Sizing of structures vs. pipe angles (if required)

Exfiltration Trench / Drainfields

- ☐ Dimension length
- ☐ Pipe size
- ☐ Pipe material
- ☐ Trench width
- ☐ Dimension length of trench and pipe after trench
- ☐ Cross-section detail of the trench
- ☐ Invert of pipe at water table or above if pretreatment

Drainage Structures

- ☐ Structure number
- ☐ Structure type - where there are several types (or sizes)
- ☐ Rim elevation
- ☐ Bottom elevation
- ☐ Invert elevations and directions
- ☐ Grate type and size
- ☐ Proper cover on pipe is provided to avoid conflict with top slab
- ☐ Confirm structure size to ensure all intersecting pipes fit with adequate clearance
- ☐ Note when to use pollution control baffles
- ☐ Confirm pollution control baffles fit within structure with adequate clearance
- ☐ Cross sectional area of a pipe must equal the flow area of the pollution control baffle

Headwalls

- ☐ Invert and cap elevations
- ☐ Structure number
- ☐ Define FDOT Index Drawing (if applicable)
- ☐ Dimension location
- ☐ Water elevation relative to outfall pipe crown

Water Management Areas (Lakes/Canals/Retention)

- ☐ Define flowage easements
- ☐ Define maintenance easements
- ☐ Define drainage easements
- ☐ Include edge of water symbol
- ☐ Define control elevation
- ☐ Define top of bank elevation
- ☐ Guardrails
- ☐ Cross section showing slope, top of bank and control water elevation
- ☐ Slope breaks

Lot Grading

- ☐ Check municipality requirements for lot grading
- ☐ Allow sufficient tolerance

PAVING AND DRAINAGE DETAIL DRAWINGS

Roadway Detail Drawings

- ☐ Typical roadway design
- ☐ Cross slope
- ☐ Curb and gutter or swale slopes
- ☐ Sidewalk cross slope and width
- ☐ Thickness of asphalt, base course, and stabilized subgrade along with specifications
- ☐ Right-of-way and easement line dimensions and labels
- ☐ Swale dimensions, depths, side slopes, and elevations
- ☐ Curb type and width
- ☐ Wheel stop
- ☐ Sidewalk width and material labeled
- ☐ Fire lane
- ☐ Sawcut detail
- ☐ Curb inlet
- ☐ Conflict manhole
- ☐ Drainage manhole
- ☐ Curb transition
- ☐ Intersection detail
- ☐ Signal pole detail
- ☐ Intersection notes

Cul-de-sac Detail Drawings

- ☐ Typical cul-de-sac
- ☐ Typical cross section

Wet/Dry Lot Detail Drawings

- ☐ Minimum finished floor elevation
- ☐ Slope toward the front, rear, and easements

Catch Basins Detail Drawings

- ☐ Note where to use pollution control baffles
- ☐ Confirm pollution control baffles fit in catch basin structure with adequate clearance
- ☐ Checked for clearance over the pipe opening with top slab
- ☐ Check frame and grate type
- ☐ Confirm structure table matches structure sizes defined in plan views

Exfiltration Trench / Drainfields Detail Drawings

- ☐ Typical inverted section
- ☐ Show debris baffle

Headwall Detail Drawings

- ☐ Length (provide detail of cross section of headwall)
- ☐ Material (location in relationship to)
- ☐ Cap and invert elevations
- ☐ Make sure size table matches sizes used on plans

Water Management Area Detail Drawings

- ☐ Top of bank
- ☐ Slope
- ☐ Deep cut elevation
- ☐ Maximum depth
- ☐ Control elevation

- ☐ Maintenance easements shown and labeled
- ☐ Show outfall pipe detail
- ☐ Cross section to be checked
- ☐ Typical berm cross section
- ☐ Typical lake bank cross section
- ☐ Define drainage district within general notes

PAVEMENTS MARKING AND SIGNAGE PLANS

- ☐ Typical pavement marking and signage notes
- ☐ Typical stop signs and stop bar details
- ☐ Sign legend
- ☐ Specify any high intensity signage
- ☐ Confirm location of signage does not create any ADA clearance issues within pedestriansidewalks
- ☐ RPM detail
- ☐ Specify paint, thermoplastic, or tape for pavement markings
- ☐ Parking space details with correct dimensions
- ☐ Handicap parking space detail with correct dimensions
- ☐ Show wheel stops
- ☐ Double yellow lines on roadway radii
- ☐ Directional arrows
- ☐ Dimension storage and transition lengths for turn lanes
- ☐ Match lines

EXHIBIT D

