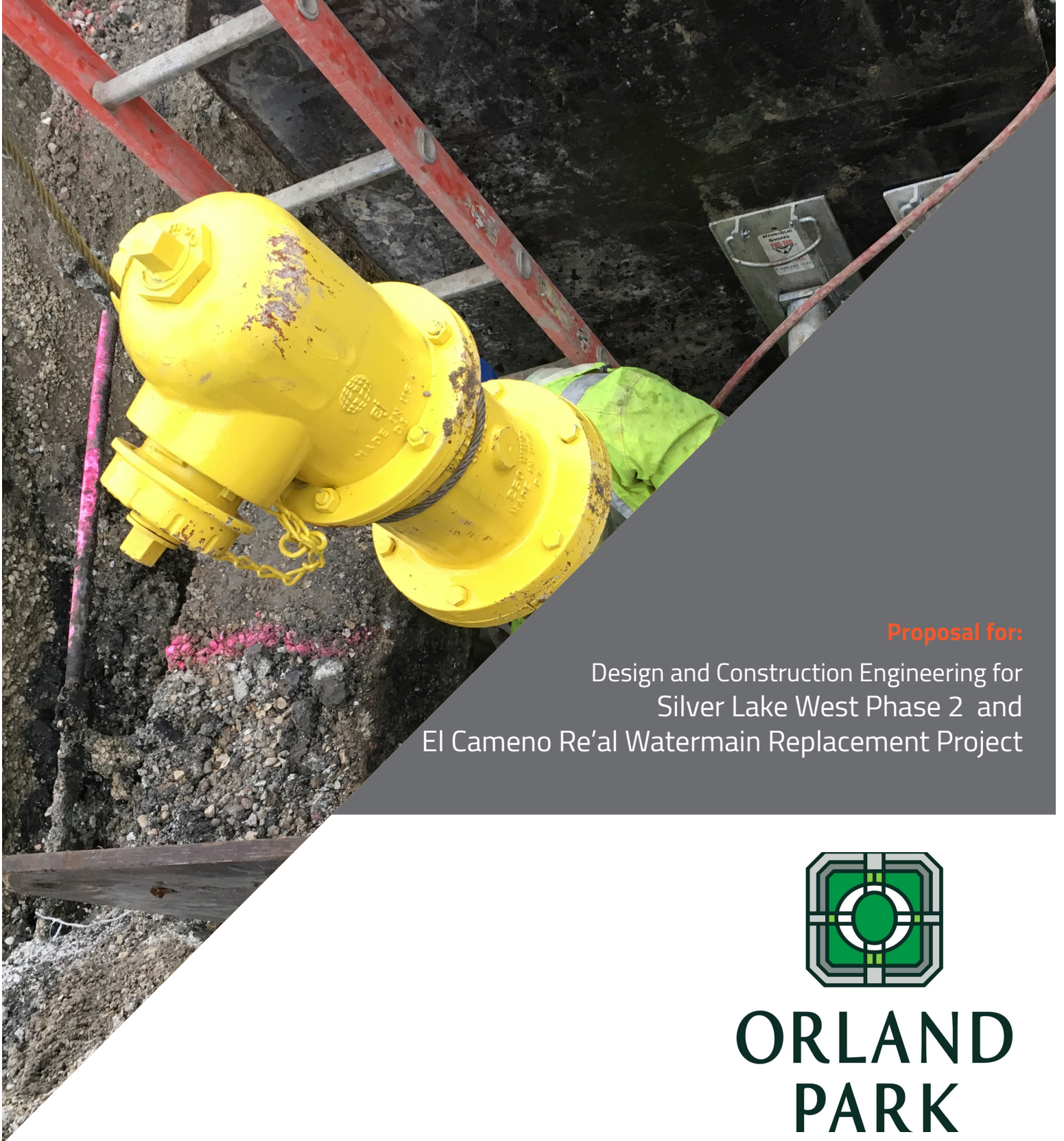


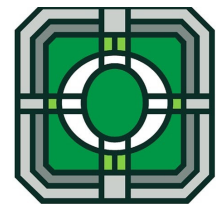


**CiorbaGroup**  
CONSULTING ENGINEERS



**Proposal for:**

Design and Construction Engineering for  
Silver Lake West Phase 2 and  
El Cameno Re'al Watermain Replacement Project



**ORLAND  
PARK**

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# Project Approach

Ciorba Group's Project Team has the technical expertise required by the Village of Orland Park to complete the design engineering and construction inspection services for the Silver Lake West Stage 2 and El Cameno Re'al Water Main Replacement Projects. We understand that the Village intends to replace approximately 4,000 linear feet (LF) of 8" water main and 3,000 LF of 12" water main in the Silver Lake West neighborhood in 2022. We also understand that the Village intends to replace approximately 6,000 LF of 8" water main in the El Cameno Re'al neighborhood, also in 2022. Ciorba Group will follow the project approach described below for each of these projects.

## DESIGN ENGINEERING

### Meetings and Coordination

Ciorba Group will attend an initial kick off meeting with the Village to review the proposed scope of improvements, engineering parameters, and project schedule. Prior to this meeting, Ciorba will request the following information to be provided at the meeting if possible: Electronic copies of standard Village specifications, contract conditions and details; public utility atlases and GIS data; and historic as-built plans. Discussions will be held with Public Works on the location of any known problem areas beyond that defined in the RFP scope. Other meetings will be scheduled with the Village for the preliminary and final plan submittals or as needed to discuss design issues.

### Topographic Survey and Base Sheet Preparation

Horizontal and vertical topographic survey will be completed for the entire project length for the 2022 replacement section with work beginning soon after Notice to Proceed is received from the Village. Survey tasks will include setting horizontal and vertical control and obtaining utility information such as manhole invert elevations and conditions. Collecting storm sewer and sanitary sewer manhole inverts will be important to identify potential conflicts with the proposed water main. A tree survey of all trees with a diameter over 6 inches will also be completed. Besides obtaining the topographic features in the project area, the survey will establish the centerline alignment of the existing pavement. As directed by the Village, the street right of way can also be established to show its relationship with the existing pavement.

Once the survey is completed, the topographic data will be used to develop base sheets for the design plan preparation. A Digital Terrain model will also be developed to create an existing ground profile over the water main.

A preliminary investigation of ROW limits indicates that there should not be a need for any ROW or easement acquisition. Our understanding is that the new 8" connection at the northeast corner of the El Cameno Re'al neighborhood is already existing. We also assume the Village has existing easements for the water main behind the homes on La Reina Court in the El Cameno Re'al neighborhood and on Fernwood Court, Cypress Court, Castlebar Lane, and Quail Hollow Drive in the Silver Lake West neighborhood.

### Geotechnical Analysis (Optional)

Ciorba Group recommends obtaining 10-foot soil borings with pH sampling along the water main replacement alignments at 500-foot intervals. The pH sampling will be provided for the Village's use in preparing an LPC-662 form (source site certification by owner or operator). This certification will be made part of the bid documents to inform the bidding contractors of the existing soil conditions as they relate to CCDD. Since geotechnical analysis was not listed as a scope item in the RFP, we have not included it in the fee proposal. We propose to use Soil & Material Consultants for the geotechnical work, and it



# Project Approach

can be added as an additional cost if desired by the Village.

## Utility Coordination

We will obtain atlases from private utility companies once the Notice to Proceed is received from the Village. This information will be added onto our base sheets with the drafted topographic survey data. A critical item is to identify any private utility adjustments or relocations as soon as possible. During design, the staff will identify any potential conflicts so that the utility company can be contacted immediately to verify the conflict. Utility coordination will go beyond contacting the various companies about potential adjustments of their facilities. Once verified, we will request the private utility company develop a schedule for the adjustment or relocation to avoid delaying the start of construction. We will also discuss with utility companies any known future improvements planned for the project area so that the work can be coordinated with the roadway construction.

## Engineering Design

General	The General Notes will include notification to the post office, schools, garbage collection, PACE, the Village's Public Works and Fire and Police Departments prior to beginning any construction stage. Other forms of construction notification, such as contractor produced information flyers will be included in the plans and specifications as directed by the Village. Appropriate notes, specifications and schedules will be included in the plans to clearly identify time periods for allowable water service and traffic interruptions and how businesses and residents will be notified.
New Water Main	During the initial kick off meeting, discussions will be held on the proposed alignment of the new water main as envisaged by the Village. Their detailed understanding of the area, as well as any special factors associated with the connection to the Village system at the project limits, will be invaluable in the design. With the desk study information in hand, Ciorba will review utility information against the collected field survey data, identify any previously unknown design variables, and provide a preliminary layout of the new water main. All vertical and horizontal separation requirements between water mains and sewers will be maintained per IEPA requirements. Once the preliminary alignment is approved by the Village, Ciorba will proceed with the preparation of the preliminary and final plans and specifications.

## Permits

Once the pre-final plans and specifications have been developed, Ciorba will submit permit applications to the necessary regulatory agencies. This includes a submittal to the Illinois Environmental Protection Agency (IEPA) for a water construction permit. Ciorba is familiar with this process from our numerous municipal water main projects and can obtain the permit in an expedited fashion. A National Pollutant Discharge Elimination System (NPDES) permit and Storm Water Pollution Prevention Plan (SWPPP) with Notice of Intent (NOI) will be prepared for submittal. We will also coordinate with the Illinois Historic Preservation Agency (IHPA) for any potential historic or cultural concerns. This is a common process that we go through on all our water main projects. If sanitary sewers are impacted during the design for IEPA requirements, a Notification and Request for Inspection (NRI) permit will also be submitted to the Metropolitan Water Reclamation District (MWRD).

## Pre-Final Plans, Specifications, and Cost Estimates

Ciorba Group will prepare pre-final plans, specifications and cost estimates. The plans will include but are not limited to: Title Sheet; General Notes; Summary of Quantities; Typical Sections; Alignment, Ties and Benchmarks; Existing Conditions and Removal Items; Proposed Water Main Plan and Profile; Maintenance of Traffic Plans and Details; Restoration and Erosion Control Plans; and Special Details.

All specifications will conform to the Standard Specifications for Water and Sewer Construction in Illinois, IDOT Standard Specifications for Road and Bridge Construction, and Village of Orland Park requirements. Special Provisions will be prepared for pay items not addressed by either Standard Specifications. A Status of Utilities will be included in the specifications. An Estimate of Time and an Estimate of Cost will be prepared for submittal. Before pre-final PS&E are submitted to the Village, a QC/QA Engineer not associated with the project's day to day work efforts will review the documents in accordance with the established QC/QA Plan.





# Project Approach

## Final Plans, Specifications and Cost Estimates (100% Level)

The PS&E will be revised per Village comments on the pre-final documents. After a last QC/QA review, the final PS&E will be submitted to the Village for bid letting review. Final last-minute adjustments will be made to the documents if required by the Village. Copies of the final PS&E will be submitted in the numbers required by the Village for bidding.

## Engineering Support during Bidding

Ciorba will assist the Village with the advertisement and bidding process. Prior to the Village advertising for bids, Ciorba will assist the Village in identifying qualified contractors in the area to perform the work. Ciorba will remain available to answer any questions from bidders. If any questions raised result in the need for an addendum, Ciorba will prepare and issue the addendum in cooperation with the Village. Finally, once bids are received, Ciorba will assist the Village with review of the bids and identifying the lowest qualified bidder.

## Construction Engineering

### Construction Startup

The Resident Engineer will begin final utility coordination to verify that any needed relocations/adjustments have been or are scheduled to be completed. If necessary, an on-site utility coordination meeting will be held to discuss remaining issues. The Resident Engineer will also coordinate with the Village of Orland Park on parking impacts created by the project as well as prepare construction notification letters for Project Stakeholders.

### Preconstruction Conference

The Resident Engineer will create a list of potential attendees for Village review. After the list is finalized, the Resident Engineer will notify participants of the time and place for the meeting. Typical topics that may be discussed at this meeting will include the progress schedule, construction staging and material and equipment storage sites. The Resident Engineer's and the Contractor's 24-hour emergency numbers will also be made available to participants. Catalog cuts and shop drawings may be distributed at the meeting by the Contractor for review by Ciorba. A list of suppliers and subcontractors will be furnished by the Contractor for approval.

### Construction Layout

Ciorba Group's survey crew will provide layout for the water main at the onset of the project including valves, hydrants, and alignment / elevation at 50-foot stationing. Layout will be completed one time under this scope, with additional layout by the Contractor. Ciorba will provide technical support and quality checks throughout the life of the project.

### Construction Observation and Documentation

It is intended that our Resident Engineer (RE) will be on-site daily and will act as oversight to our full time Construction Technician (CT). We have assumed 40 hours per week between mobilization



# Project Approach

and de-mobilization for the Construction Technician. Inspection time for staff will not be charged for rain days or scheduling issues when the contractor is not on site. This mitigates the RE and CT from sitting on the project when there is no activity.

Construction will be monitored for conformance with the contract documents and Village requirements. If there are any unforeseen conditions or issues that develop, the Resident Engineer will be available to provide options to the Village to mitigate costly delays. Measurements, calculations and Inspector Reports will be made on a daily basis. Monthly pay estimates will be prepared and submitted to the Village for review and processing. The RE will prepare any necessary Change Orders for Village review and approval and will also maintain a daily diary describing the work accomplished each day. Weekly progress and quantity reports will be prepared and provided to the Contractor and the Village.

Other duties for the RE and CT will be to continue public stakeholder involvement by addressing any concerns or issues of businesses and residents and to notify residents of service disruptions. The RE will maintain close communication with the Village's designated representative. This will be accomplished by as-needed daily communication and weekly progress meetings chaired by Ciorba.

## Material Testing

Material testing was not listed in the RFP. Therefore, it has not been included in the fee proposal. If the Village would like to add it, our sub-consultant Soil and Material Consultants can carry out density testing of HMA pavements and field testing / strength cylinders for concrete testing for an additional fee. Testing frequency would be carried out according to IDOT QA requirements.

## Project Closeout

The RE, in coordination with the CT, will maintain a punch list of construction items that require correction before final acceptance of the project and provide it to the Contractor. The site will be inspected for completion of punch list items and the Contractor will be notified of any incomplete items. After the punch list is completed, a walk through will be conducted by the Resident Engineer with the Village and the Contractor. Any concerns identified at the walk through will be resolved prior to acceptance of the improvement. The closeout process continues with the preparation of final documentation papers for project acceptance by the Village. This includes all material certifications and testing results, final quantity measurements, balancing change orders and final pay estimates. As construction proceeds, any modifications to the plans will be field measured and documented for inclusion in the final construction record drawings.

# Fee Proposal

Ciorba Group proposes the following fees to complete the Silver Lake West Phase 2 and El Cameno Re'al Water Main Replacement Projects. The construction engineering fee assumes 14.5 weeks of construction for the Silver Lake West Phase 2 project and 12.5 weeks for the El Cameno Re'al project.

## SILVER LAKE WEST PHASE 2 WATER MAIN REPLACEMENT PROJECT

Design Engineering Labor & Overhead Costs:	\$ 80,222
Construction Engineering Labor & Overhead Costs:	\$ 87,754
<u>In-House Direct Costs:</u>	<u>\$ 7,952</u>
Total Engineering Fee:	\$ 175,928

## EL CAMENO RE'AL WATER MAIN REPLACEMENT PROJECT

Design Engineering Labor & Overhead Costs:	\$ 68,761
Construction Engineering Labor & Overhead Costs:	\$ 75,217
<u>In-House Direct Costs:</u>	<u>\$ 6,818</u>
Total Engineering Fee:	\$ 150,796

## COMBINED SILVER LAKE WEST AND EL CAMENO RE'AL WATER MAIN REPLACEMENT PROJECTS

Design Engineering Labor & Overhead Costs:	\$ 148,983
Construction Engineering Labor & Overhead Costs:	\$ 162,971
<u>In-House Direct Costs:</u>	<u>\$ 14,770</u>
Total Engineering Fee:	\$ 326,724

The tables on the following pages provide detailed staff hour and direct cost estimates as well as proposed staff hourly rates.



# Fee Proposal



## Cost Estimate of Consultant Services (Direct Labor Multiple)

09/06/21

Firm	Ciorba Group, Inc
Client	Village of Orland Park
County	Cook
Job No.	Silver Lake West Phase 2 & El Cameno Re'al Water Main Replacement

ITEM	MANHOURS (A)	PAYROLL (B)	(2.8+R) TIMES PAYROLL (C)	DIRECT COSTS (D)	TOTAL (C+D+E)	% OF GRAND TOTAL
Meetings, Data Collection & Coordination	24	\$ 1,394.45	\$ 3,904.47	\$ 115.00	\$ 4,019.47	1.23%
Topographic Survey	220	\$ 9,344.78	\$ 26,165.40	\$ 1,568.00	\$ 27,733.40	8.49%
Water Resources	676	\$ 28,766.88	\$ 80,547.26		\$ 80,547.26	24.65%
Engineering Plans	192	\$ 9,683.42	\$ 27,113.58		\$ 27,113.58	8.30%
Construction Engineering / Phase III Assis.	1448	\$ 56,951.62	\$ 159,464.54	\$ 13,087.50	\$ 172,552.04	52.81%
QC/QA	32	\$ 2,766.40	\$ 7,745.92		\$ 7,745.92	2.37%
Project Management & Administration	32	\$ 2,504.49	\$ 7,012.58		\$ 7,012.58	2.15%
<b>TOTALS</b>	2624	\$ 111,412.05	\$ 311,953.75	\$ 14,770.50	\$ 326,724.25	100.00%





# Fee Proposal

**STAFF HOURS**  
**Village of Orland Park**  
**Silver Lake West Phase 2 & El Cameno Re'al Water Main Replacement**

Task Sub-Task	Activity	Grand Total	Project Manager	Senior Project Engineer	Resident Engineer	Engineer II	Engineer I	Senior Technician	Technician II
		2624	52	250	254	370	352	188	1158
<b>1. Meetings, Data Collection &amp; Coordination</b>	Task Total:	24	4	9		7	4		
010 Meetings	Subtotal:	10	2	5		3			
	Meetings with Owner	8	2	4		2			
	Prepare Agenda/Exhibits for Meetings	2		1		1			
011 Coordination	Subtotal:	14	2	4		4	4		
	Coordination with Owner	6	2	4					
	Coordination with Utilities	8				4	4		
<b>2. Topographic Survey</b>	Task Total:	220				8		188	24
020 Field Survey	Subtotal:	208				8		176	24
	Horizontal Topography	200						176	24
	Field Verification of Existing Conditions	8				8			
021 Process Survey Information	Subtotal:	12						12	
	Base Sheet Development	12						12	
<b>3. Water Resources</b>	Task Total:	676		108		304	264		
032 Water Main System	Subtotal:	648		96		296	256		
	Conflict Investigation (Utilities)	48		8		24	16		
	Water Main Design	200		40		96	64		
	Water Service Design	16				8	8		
	Water Main Plan and Profile Sheets	248		24		112	112		
	Water Main Details	24		8		8	8		
	Concrete / Asphalt Restoration Design	56		8		24	24		
	Erosion Control & Landscaping Plans	56		8		24	24		
034 Reports / Location Drainage Studies	Subtotal:	8		8					
	Design Summary Memo	8		8					
035 Permits	Subtotal:	20		4		8	8		
	Permit - IEPA (Water)	20		4		8	8		



# Fee Proposal

## STAFF HOURS Village of Orland Park Silver Lake West Phase 2 & El Cameno Re'al Water Main Replacement

Task Sub-Task	Activity	Grand Total	Project Manager	Senior Project Engineer	Resident Engineer	Engineer II	Engineer I	Senior Technician	Technician II
<b>4. Engineering Plans</b>	<b>Task Total:</b>	<b>192</b>		81		39	72		
055 <b>Contract Plans</b>	<b>Subtotal:</b>	<b>100</b>		21		39	40		
	Title Sheet	4		1		3			
	General Notes	6		2		4			
	Summary of Quantities	12		4		4	4		
	Plan Revisions	64		8		24	32		
	Disposition of Comments	14		6		4	4		
058 <b>Quantity Calculations</b>	<b>Subtotal:</b>	<b>48</b>		16			32		
	Quantities	48		16			32		
059 <b>Specifications &amp; Estimates</b>	<b>Subtotal:</b>	<b>44</b>		44					
	Specifications	32		32					
	Estimate of Time	4		4					
	Estimate of Cost	8		8					
<b>5. Construction Engineering / Phase III Assis.</b>	<b>Task Total:</b>	<b>1448</b>		36	254	12	12		1134
080 <b>Construction Startup</b>	<b>Subtotal:</b>	<b>10</b>			2				8
	Review Plans, Specifications and Contract Documents	10			2				8
081 <b>Pre-Construction Conference</b>	<b>Subtotal:</b>	<b>16</b>		2	8				6
	Preparation	8			4				4
	Attendance	6		2	2				2
	Meeting Minutes	2			2				
083 <b>Construction Observation / Documentation</b>	<b>Subtotal:</b>	<b>1312</b>		16	216				1080
	Resident Engineer (27 weeks x 8 hrs/week)	216			216				
	Construction Technician (27 weeks x 5 days/week x 8 hrs/day)	1080							1080
	Project Engineer site visits	16		16					
084 <b>Project Close-out</b>	<b>Subtotal:</b>	<b>34</b>			18				16
	Coordinate Punch List Completion	18			6				12
	Final Walk Through with Client	8			4				4
	Pre-final and Final Pay Estimates	8			8				



# Fee Proposal

**STAFF HOURS**  
**Village of Orland Park**  
**Silver Lake West Phase 2 & El Cameno Re'al Water Main Replacement**

Task Sub-Task	Activity	Grand Total	Project Manager	Senior Project Engineer	Resident Engineer	Engineer II	Engineer I	Senior Technician	Technician II
085	Construction Record Drawings	Subtotal:	60	6	6	12	12		24
	Plan Sheets		60	6	6	12	12		24
086	Shop Drawing Review / Catalog Cut Review	Subtotal:	8	4	4				
	Utilities		8	4	4				
087	Construction Assistance	Subtotal:	8	8					
	Assistance During Bidding		8	8					
<b>6. QC/QA</b>	<b>Task Total:</b>	<b>32</b>	32						
090	QC/QA	Subtotal:	32	32					
	Water Resources		32	32					
<b>7. Project Management &amp; Administration</b>	<b>Task Total:</b>	<b>32</b>	16	16					
100	Project Management & Administration	Subtotal:	32	16	16				
	Project Administration		16	16					
	Project Management		16	16					





# Fee Proposal



FIRM NAME	Ciorba Group, Inc.	DATE	09/06/21
PRIME/SUPPLEMENT	Prime		
Client	Village of Orland Park		

ESCALATION FACTOR	2.31%
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CLASSIFICATION	CURRENT RATE	ESCALATED RATE
Project Manager	\$84.50	\$86.45
Senior Project Engineer	\$68.50	\$70.08
Resident Engineer	\$52.00	\$53.20
Engineer II	\$39.50	\$40.41
Engineer I	\$33.00	\$33.76
Senior Technician	\$42.50	\$43.48
Technician II	\$34.50	\$35.30



# Fee Proposal

## IN-HOUSE DIRECT COSTS

### Village of Orland Park

#### Silver Lake West Phase 2 & El Cameno Re'al Water Main Replacement

#### PHASE II/III

##### Meetings, Data Collection & Coordination

Description	Unit	Unit Cost	Quantity	Extended Cost
Vehicle (mileage)	mile	\$ 0.575	200	\$ 115.00
Total:				<u>\$ 115.00</u>

##### Topographic Survey

Description	Unit	Unit Cost	Quantity	Extended Cost
Vehicle (mileage)	mile	\$ 0.575	240	\$ 138.00
Vehicle (day)	day	\$ 65.00	22	\$ 1,430.00
Total:				<u>\$ 1,568.00</u>

##### Construction Engineering / Phase III Assis.

Description	Unit	Unit Cost	Quantity	Extended Cost
Vehicle (mileage)	mile	\$ 0.575	7500	\$ 4,312.50
Vehicle (day)	day	\$ 65.00	135	\$ 8,775.00
Total:				<u>\$ 13,087.50</u>

