

CITY OF BEAUMONT WWTP SALT MITIGATION UPGRADE PROJECT

**CHANGE ORDER PROPOSAL (COP) # 045
(By Contractor)**

To (Engineer/CM): MWH Constructors Attention: Charles Reynolds Phone: 702-497-8024 Email: Charles.w.reynolds@mwhconstructors.com	From (Contractor): W.M. Lyles Co. Attention: Oscar Mendoza Phone: 619-565-6064 Email: omendoza@wmlylesco.com
PCO/DCM No.: N/A	
Subject: New UV Structure	
Reference Documents: Aqua Conceptual Design Drawings Sheets 1 & 2, Trojan UV Signa Quote	
DESCRIPTION	
<p>Please review the attached not-to-exceed change order pricing for the new UV channel. It is W.M. Lyles understanding that once approved the final design will be completed by Aqua engineering. At that time WML will update our pricing based on the final design.</p> <p>Inclusions:</p> <ul style="list-style-type: none">• Demolition of Existing South UV Train• Installation of New Concrete Channels, Piping Tie-ins, PEMB Canopy per the AQUA conceptual drawings.• Purchase and install of Trojan Signa UV system per the attached quote.• Startup and Commissioning of the UV System, Bioassay testing by Trojan. <p>Notes/Exclusions:</p> <ul style="list-style-type: none">• Process or Performance Guarantee of any kind. WML will install and commission UV equipment per the attached quote.	
COST ESTIMATE	
Total cost \$ 1,624,252.52 – see attached breakdown	
SCHEDULE IMPACT	

Pricing is based on UV equipment being released for Fabrication by February 1st 2021 and UV equipment installed and commissioned by July 15th, 2020.

Received by MWH Constructors (Date):

RESPONSE

Response By:

Date:

Final Distribution: Oscar Mendoza, W.M. Lyles Co.
Grant Gourley, W.M. Lyles Co.
Brian Knoll, Webb Associates
MWH Inspector

W . M. Lyles Co.
 42142 Roick Drive
 Temecula, CA 92590

Date: 30-Oct-20

Reference #:

Attention:

JOB LOCATION: City of Beaumont WWTP Salt Mitigation Upgrade Project

DESCRIPTION: New UV Channels - Trojan Signa

Item:		Unit	Total MH	Total MH Cost	Eq. Cost	Material	Subcont.	Total Cost
1	New UV Channels - Trojan Signa	1 LS	3005	\$ 255,625.38	\$ 90,502.92	\$ 913,408.69	\$ 195,594.00	\$ 1,455,130.99
2		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
3		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
		1 LS	0	\$ -	\$ -	\$ -	\$ -	\$ -
Total Costs				3005	\$ 255,625.38	\$ 90,502.92	\$ 913,408.69	\$ 1,455,130.99

Subtotal	\$	1,455,130.99
Mark-up - Labor	15%	\$ 38,343.81
Mark-up - Equipment	15%	\$ 13,575.44
Mark-up - Materials	10%	\$ 91,340.87
Mark-up - Subcontractor	5%	\$ 9,779.70
Bond	1.0%	\$ 16,081.71
Total This Change Order	\$	1,624,252.52

Comments:

City of Beaumont WWTP Salt Mitigation Upgrade Project
New UV Channels - Trojan Signa

A. Labor

Description	Lab Pipe FM			Lab Pipe			Operator			Carp FM			Carp			Lab			Cement Mason			Start-up Eng.	
	ST	PT	DT	ST	PT	DT	ST	PT	DT	ST	PT	DT	ST	PT	DT	ST	PT	DT	ST	PT	DT	DY	
Concrete Labor							120			280			560			280			120				
Demo	120			240			120																
Earthwork	80			160			80																
Electrical Ex/BF/Concrete	30			60			30																
Piping	80			160			80																
Install Canopy Anchors & Grout										12			12										
Metals										32			64										
UV Install							40			80			160									5	
	310	0	0	620	0	0	470	0	0	404	0	0	796	0	0	280	0	0	120	0	0	5	0

Name	Rate			Hours			Extension		
	ST	PT	DT	ST	PT	DT			
Lab Pipe FM	\$80.30		\$103.90	\$129.98	310	0	0	\$24,894.30	
Lab Pipe	\$77.69		\$99.97	\$124.75	620	0	0	\$48,166.68	
Operator	\$98.83		\$128.99	\$0.10	470	0	0	\$46,452.07	
Carp FM	\$87.53		\$115.33	\$145.63	404	0	0	\$35,362.48	
Carp	\$83.61		\$109.45	\$137.79	796	0	0	\$66,551.09	
Lab	\$74.22		\$94.78	\$117.82	280	0	0	\$20,782.16	
Cement Mason	\$80.55		\$102.25	\$126.45	120	0	0	\$9,666.59	
Start-up Eng.	\$750.00		\$0.00	\$0.00	5	0	0	\$3,750.00	Rate: \$750/Day
0	\$0.00		\$0.00	\$0.00	0	0	0	\$0.00	
					3005	0	0		
					Total Labor =			\$255,625.38	

B. Equipment

Description	17.120	32.037	31.028	30.048	20.041	77.020	14.037	
Concrete Labor	280	140	60					
Demo	120	40	20	0	80			
Earthwork	80	0			80			
Electrical Ex/BF/Concrete	30			30				
Piping	80	40	0		80			
Install Canopy Anchors & Grout	12							
Metals	32	12						
UV Install	80	20	20					
	714	252	100	30	240	0	0	0

Number	Description	Rate	Hours	Extension
17.120	Foreman Truck	\$29.60	714	\$21,134.40
32.037	Reachlift Xtreme XR1055	\$58.61	252	\$14,769.72
31.028	Hydro Crane - 80 Ton Link Belt RTC-8080 II 80 Ton	\$164.01	100	\$16,401.00
30.048	Loader Backhoe 410 John Deere 410L	\$64.30	30	\$1,929.00
20.041	Excavator John Deere 350GLC	\$151.12	240	\$36,268.80
77.020	Scissor Lift JLG 2646ES	\$20.04	0	\$0.00
17.120	Foreman Truck	\$29.60	0	\$0.00
			1336	
	Total Equipment =			\$90,502.92

C. Materials

	Quantity	Unit	Price	Extension
				\$0.00
Concrete Materials	1	LS	\$ 35,000.00	\$35,000.00
Trucking & Demo Fees	1	LS	\$ 3,000.00	\$3,000.00
Electrical DB Concrete & Encasement	1	LS	\$ 4,000.00	\$4,000.00
Pipe Bedding, Encasement Materials	1	LS	\$ 7,450.00	\$7,450.00
Pipe Materials	1	LS	\$ 40,000.00	\$40,000.00
FRP Grating	1	LS	\$ 5,000.00	\$5,000.00
Ledger & Anchors	1	LS	\$ 15,000.00	\$15,000.00
Canopy Anchors & Grout	1	LS	\$ 3,500.00	\$3,500.00
FRP Covers	1	LS	\$ 9,000.00	\$9,000.00
Tax	7.750%			\$9,451.13
				\$0.00
Small Tools (\$2/MH)	3005	MH	\$ 2.00	\$6,010.00
UV Equipment (Includes Tax)	1	LS	\$ 775,997.56	\$775,997.56
			Total Material =	\$913,408.69

D. Subcontractor

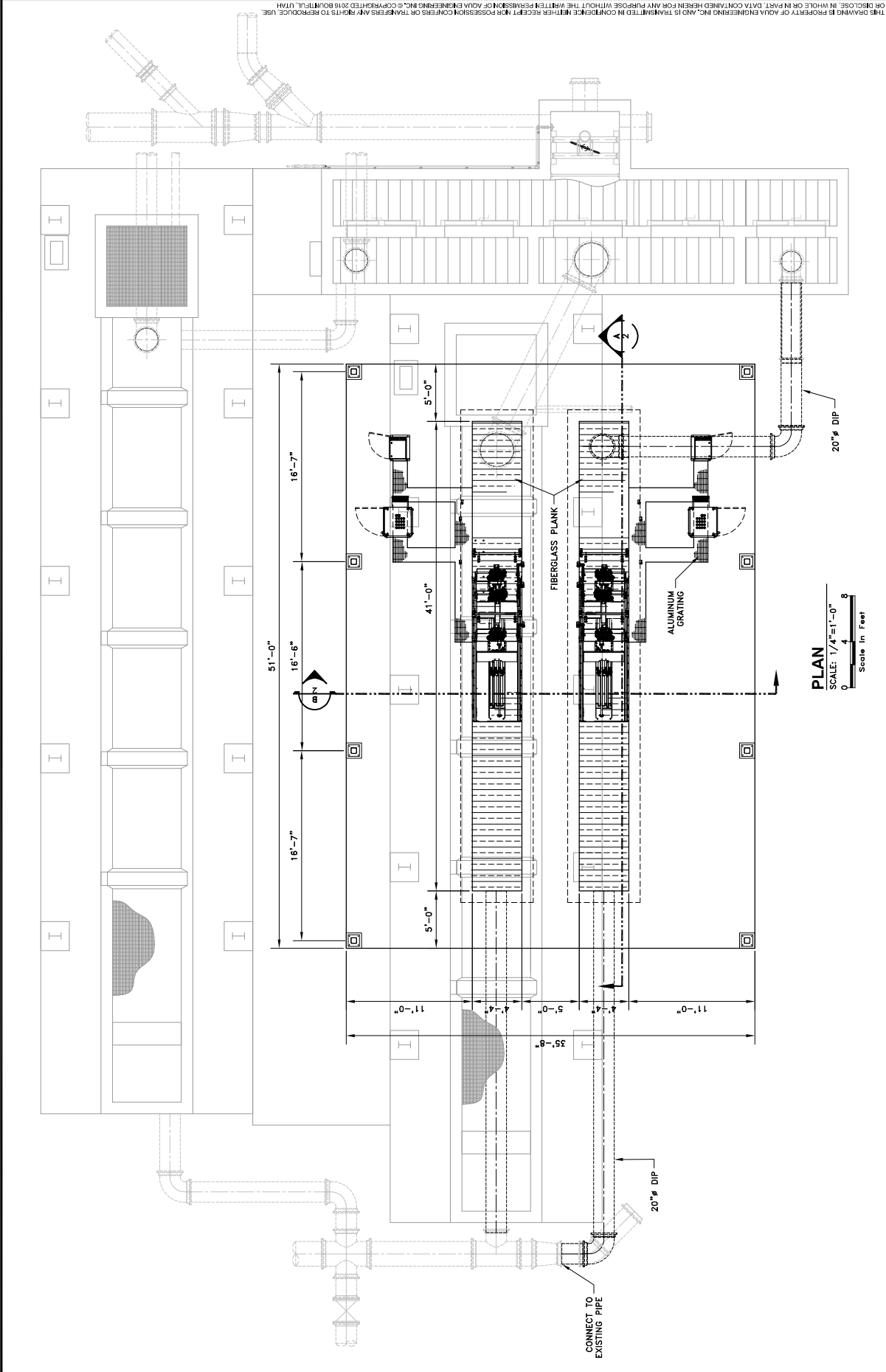
	Quantity	Unit	Price	Extension
				\$0.00
Electrical - Southern	1	LS	\$98,703.00	\$98,703.00
Canopy - (1,836 SF)	1	LS	\$59,000.00	\$59,000.00
Rebar - Pacific Steel Group	1	LS	\$36,391.00	\$36,391.00
Canopy Anchor Design	1	LS	\$1,500.00	\$1,500.00
			Total Subcontract =	\$195,594.00

BEAUMONT

NO.	DATE	DESIGN	DRAWN	CHECKED
0	09/09/2020			
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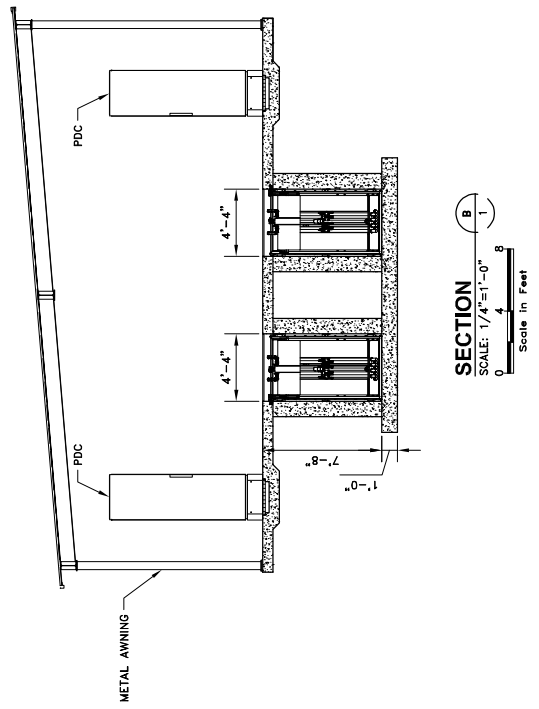
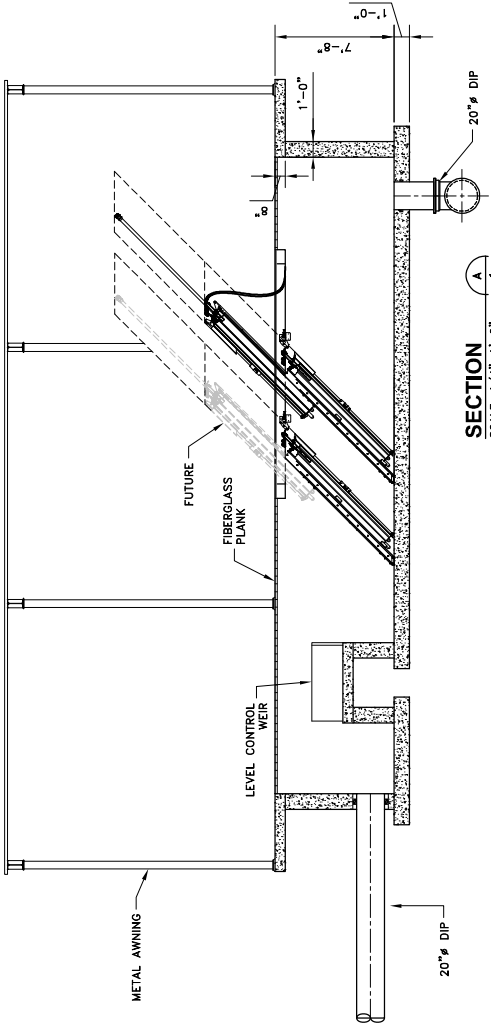


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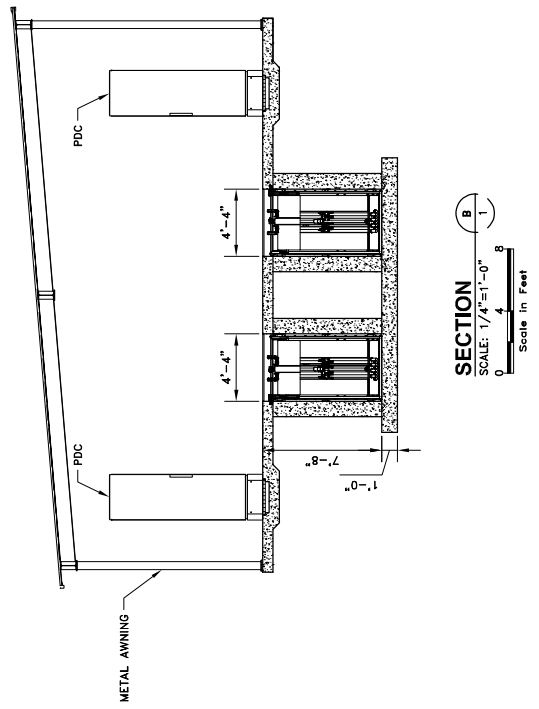
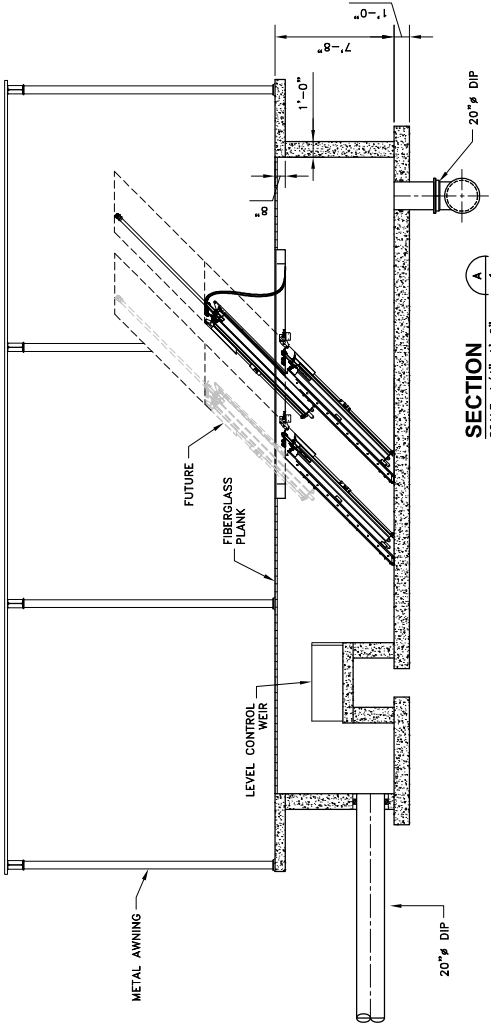


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NO.	DATE	REASON	DRAWN	CHECKED
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PROPOSAL FOR BEAUMONT, CALIFORNIA

QUOTE: 225344

10/13/2020



TrojanUVSigna™ incorporates revolutionary innovations, including TrojanUV Solo Lamp™ technology, to reduce the total cost of ownership and drastically simplify operation and maintenance. It is the ideal solution for facilities wanting to upgrade their disinfection system easily and cost-effectively.

We are pleased to provide the enclosed TrojanUVSigna proposal. Please do not hesitate to contact us if you have any questions regarding this proposal. We look forward to working with you.

With best regards,

Jordan Fournier
Regional Manager
Trojan Technologies
(519) 457 – 3400 ext. 2193
jfournier@trojanuv.com

Local Representative:

Matt Rebmann
The Coombs-Hopkins Company
(760) 931-0555

DESIGN CRITERIA

Peak Design Flow*:	13.2 MGD (all banks in service) 8.8 MGD (one redundant bank/channel)
UV Transmittance:	65% (minimum)
Total Suspended Solids:	5 mg/l (30 Day Average, grab sample)
Disinfection Limit:	2.2 Total Coliform per 100 ml, 7 day Median of consecutive daily grab samples
Design Dose:	80mJ/cm²

*Flows to be determined by Spot Check Bioassay

DESIGN SUMMARY

CHANNEL (Refer to Trojan layout drawing for complete details)	
Number of Channels:	2
Minimum Channel Length Required:	30.6'
Channel Width at UV Banks:	4.4'
Channel Depth Recommended:	7.8'
UV BANKS	
Number of Banks per Channel:	3
Number of Lamps per Bank:	18
Total Number of UV Lamps:	108
Maximum Power Draw:	113.7 kW
UV PANELS	
Power Distribution Center Quantity:	2
Hydraulic System Center Quantity:	2
System Control Center Quantity:	1
ANCILLARY EQUIPMENT	
Level Controller Quantity and Type:	2 Fixed Weir
Integral Bank Walls:	Included
Other Equipment:	Online UV Transmittance Monitor
ELECTRICAL REQUIREMENTS	
<ol style="list-style-type: none"> 1. Each Power Distribution Center requires an electrical supply of one (1) 480/277V 60Hz, 63kVA 2. Electrical supply for Hydraulic System Center will be (1) 480V 60Hz, 2.5 kVA 3. Electrical supply for System Control Center will be (1) 120V 60Hz, 1.8 kVA 4. Electrical disconnects are not included in this proposal. Refer to local electrical codes 	

COMMERCIAL INFORMATION

Total Capital Cost: \$ 725,000 (USD)

This price excludes any taxes or duties that may be applicable.
 Standard equipment warranties and start up by Trojan-certified technicians are included.
 Spot Check Bioassay in accordance with 2012 NWRI Included

Operating Conditions

Average Flow: **6 MGD**
 UV Transmittance: **65%**
 Annual Operating Hours: **8760 hours**
 Average Number of Lamps Online: **54**

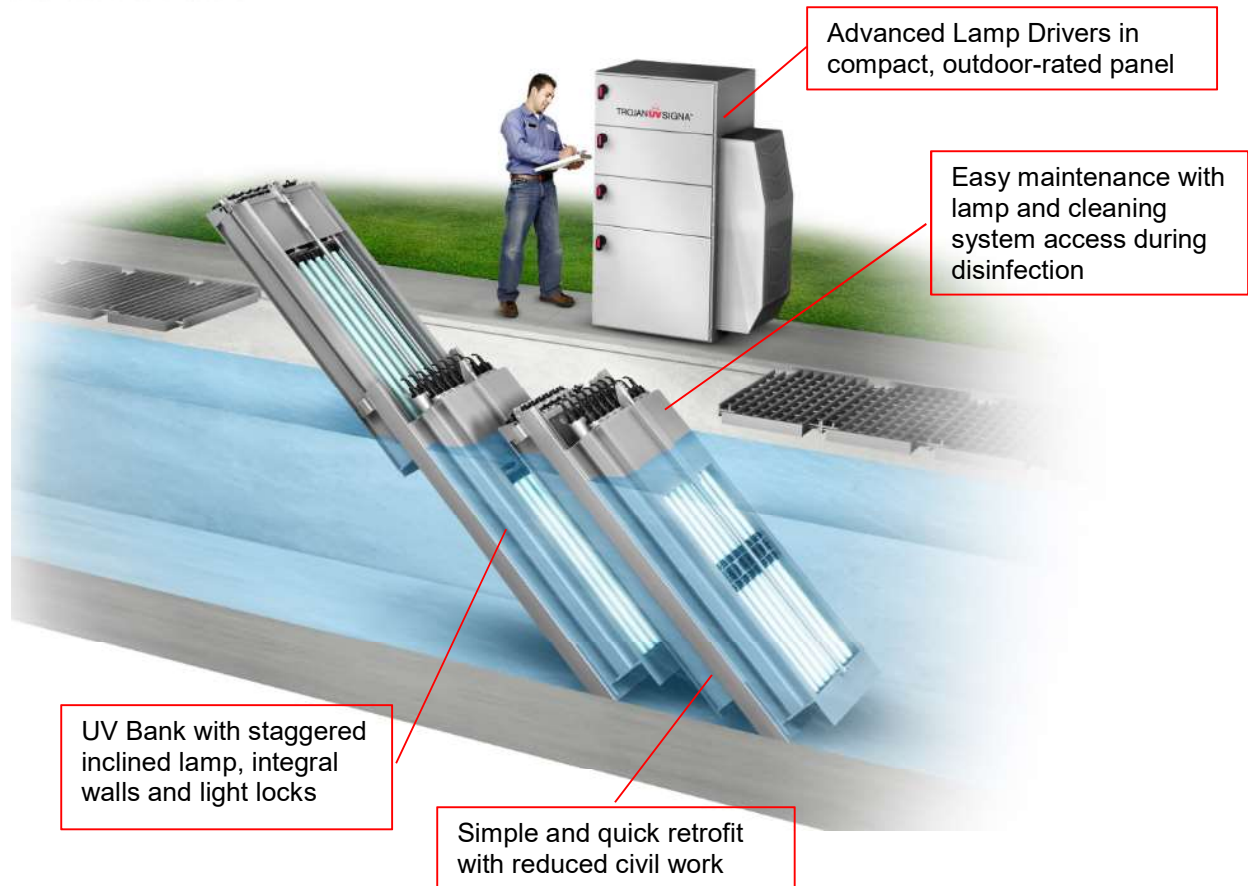
Power Requirements		Lamp Replacement	
Average Power Draw:	44.7 kW	Lamps Replaced per Year:	32
Cost per kW Hour:	\$0.072	Price per Lamp:	\$600
Annual Power Cost:	\$28,193	Annual Lamp Replacement Cost:	\$19,200
Total Annual Operating Cost Estimate: \$47,393			

This cost estimate is based on the average flow and UV transmittance listed above. Actual operating costs may be lower with the TrojanUVSigna automatic dose pacing control system. As UV demand decreases by a change in operating conditions, the number of lamps online and power level of the lamps decreases accordingly. The dose pacing system minimizes equipment power levels while ensuring the target UV dose is maintained at all times.

Easy and Cost-Effective Maintenance

- The 1000 watt TrojanUV Solo Lamp combines the benefits of both low pressure and medium pressure lamps
- Fewer lamps, long lamp life and easy change-outs save time and money
- Lamp change-outs and cleaning solution replacement are done while the UV system is in the channel – minimizing downtime and simplifying maintenance
- Routine maintenance can be performed while banks are in the channel, but an Automatic Raising Mechanism (ARM) makes other tasks, such as winterization, simple, safe and easy
- Lamp plugs with LED status indicators and integral safety interlock prevent an operator from accidentally removing an energized lamp
- ActiClean WW™ chemical/mechanical cleaning system to keep sleeves clean during operation

SYSTEM OVERVIEW

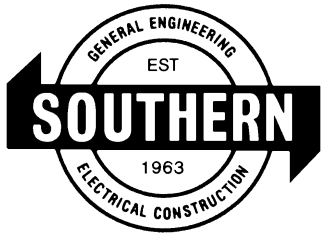


Simple to Design and Install

- Light locks on the UV banks control water level within the channel, reducing dependence on downstream weirs and preventing short-circuiting above the lamp arc
- UV Banks include integral reactor walls to make installation easy and prevent short circuiting at the channel walls
- Stringent tolerances on concrete channel walls are not required – making retrofits simple and cost-effective

Supported by Trojan Technologies

- Trojan Technologies warrants all components of the system (excluding UV lamps) against faulty workmanship and materials for a period of 12 months from date of start-up or 18 months after shipment, whichever comes first.
- UV lamps are warranted for 15,000 hours of operation or 3 years from shipment, whichever comes first. Lamp warranty is pro-rated after 9,000 hours of operation. This means that if a lamp fails prior to 9,000 hours of use, a new lamp is provided at no charge.
- Trojan offers an unparalleled Lifetime Performance Guarantee. The spirit of this guarantee is simple: the Trojan equipment, as sized for the project, will meet the disinfection requirements for the life of the system.



Southern Contracting Company

LIC NO. 222252

559 Twin Oaks Valley Road • P.O. Box 445 • San Marcos, California 92079
Phone 760-744-0760 Fax 760-744-6475

10-26-2020

Daniel Alcantar
Project Manager
Southern Contracting Co

Oscar Mendoza
Project Manager
W. M. LYLES CO.

Subject: UV Option electrical

The work associated with the UV Electrical Option would be a change to Southern Contracting Company's scope of work in which a change in Contract Price and Time is to be considered.

Cost of Work is as follows:

- Per the request made by W.M. Lyles and based on the documents that were provided by Aqua Engineering we have come up with a possible cost of \$98,702.93

Once engineered drawings and a Clarification is issued we can then provide a finalized price.

Scope of Work is as follows:

Labor and materials to demo old Switchgear, install new Switchgear, install underground conduit (trench by others), install overhead cable tray between the UV equipment and the new Switchgear, Wire, Terminations, Power up of the equipment (UV Equipment installation and Start up by others).

-Electrical Switchgear

* 2 480 volt MLO Panel Boards each with 125amp 3 phase distribution breaker and 15 amp 3 phase distribution breaker.

* 2 75 KVA 480 volt Delta to Wye Transformers.

- Cable tray with hardware (Structure Support by others)

- Conduit, wire, terminations.

Exclusions: Set up of network communication, programming, installation of inline instrumentation, digging, backfill, all Concrete, cable tray support structure, UV equipment installation and start up by others, Overtime.

Change in time: materials lead time 6 to 8 weeks

Change in time: Installation labor time 4 weeks

Southern Contracting reserves all rights to additional costs and time for changes not identified in the documents furnished, and is not responsible for additional costs or time for work which is not part of our contract scope of work, unless stipulated above. Should additional information or clarification be required, please contact me at your convenience.

Daniel Alcantar
Project Manager

Brine WWTP Beaumont UV Canopy

WM Lyles Co.

10/29/20

Ph: 714-962-6828

Attn: Oscar Mendoza

CODES AND LOADS:

- 2016 CALIFORNIA BUILDING CODE
- **ADDITIONAL 5 POUND COLLATERAL LOAD ADDED TO ROOF FRAMING**
 - COLLATERAL LOAD WILL BE USED TO HANDLE THE 10 POUND A LINEAL FOOT CABLE TRAY
 - ASSUMES TAKING THE LOAD 5' PAST THE STEEL LINE, AFTER 5', IT IS ASSUMED THERE WILL BE A SUPPORT BY OTHERS.
 - UNISTRUT SPANNING THE PURLINS FOR CABLE TRAY ATTACHMENT IS BY OTHERS.
- WIND SPEED: 135 MPH
- WIND EXPOSURE "C"
- LIVE LOAD: 20 PSF NON REDUCABLE
- Ss: 1.525 / S1: .653
- OCCUPANCY CLASSIFICATION III – HIGH HAZARD
- ROOF SNOW LOAD 5.5 PSF

EQ BASIN CANOPY

- Width: 25'-0"
- Length: 31'-4" (TWO BAYS @ 15'-8")
- HEIGHT: 15'-0 LOW SIDE, 18'-0 HIGH SIDE.

FRAMING:

- COLUMNS ARE STRAIGHT
- MAIN FRAMES TO BE GALVANIZED
- SECONDARY TO BE PRE-GALVANIZED
- X-ROD BRACING IN ROOF
- COLUMNS TO BE FIXED WITH NO WALL BRACING.
- ALL WALLS OPEN TO REMAIN OPEN

COVERING:

- 24 GAUGE, SINGLE SKIN STANDING SEAM ROOF.
 - KYNAR FINISH
 - EXACT COLOR TO BE CHOSEN BY OWNER FROM MANUFACTURERS STANDARD COLOR CHART
- HIGH SIDE AND LOW SIDE STANDARD METAL BUILDING EAVE TRIM.
 - KYNAR FINISH
 - EXACT COLOR TO BE CHOSEN BY OWNER FROM MANUFACTURERS STANDARD COLOR CHART.

GENERAL:

- ALL NECESSARY TAX AND FREIGHT
- ALL NECESSARY PLANS AND CALCULATIONS STAMPED BY CALIFORNIA LICENSED ENGINEER
- ALL NECESSARY LABOR AND EQUIPMENT TO PERFORM DESCRIBED WORK.
- PRICE IS BASED OFF PREVAILING WAGES AND REGULAR BUSINESS HOURS.
- PRICE ASSUMED 15' OFF ACCESS ON ALL SIDES OF THE CANOPY.

QUOTE LUMP SUM = \$59,000.00

EXCLUSIONS

1. FOUNDATION/CONCRETE	9. BONDS	15.
2. PROTECTIVE COATING	10. FIRE SPRINKLERS	16.
3. GUTTERS AND DOWNSPOUTS	11. Electrical	17.
4. GRADING	12. Mechanical	18. ROOF PENETRATION
5. Finish Painting of Structural Steel	13	19.
6. ANCHOR BOLTS	14.	20. ANYTHING NOT LISTED.

Due to the volatility of steel prices from the steel mills. The manufacturers steel prices quoted are only good for 30 days. After order steel prices are still subject to any, Nation Wide, steel increases from the mills to the manufacturers that are a pass thru increase. There will be no steel increases assed to individual projects. This potential increase would only occur if it is levied against all projects across the nation to all customers. If this should occur, we would receive written notice from the manufacturer and would still be able to avoid the increase if the steel was released for fabrication within the allotted time given by the manufacturers. This release date would be in writing from the manufacturers and passed on to our clients so that everyone is in the loop. If it should occur there would be no additional mark-up added to the increase, just the actual hard cost.



PACIFIC STEEL GROUP

Contractor: WM Lyles

Date: 10/26/2020

Job Name: Salt Mitigation WWTP Upgrades

PSG Job #: L18161

Extra No.: 15

Description: **Added Material and Labor for new UV Structure per Sheets 1 & 2 per Aqua Engineering. This ROM is based on prfeliminary Drawings and excludes all Pipe Encasement Reinforcing.**
Please see attached correspondence.

Material:	Quantity:	Unit:	Unit Price:	Comments:	Extended Price:
Rebar	24,000	LB	\$ 0.60		\$ 14,400.00
Specialty Rebar	-	LB	\$ 1.50		\$ -
Mesh	-	SQFT	\$ 0.35		\$ -
Couplers	-	Each	\$ 1.75		\$ -
Other	-	Each	\$ -		\$ -
					\$ 14,400.00

Labor Impact:	Quantity:	Unit:	Unit Price:	Comments:	Extended Price:
Rebar	160	Hours	\$ 93.04		\$ 14,886.00
Specialty Rebar	-	Hours	\$ 93.04		\$ -
Mesh	-	Hours	\$ 93.04		\$ -
Couplers	-	Hours	\$ 93.04		\$ -
Other	-	Hours	\$ 93.04		\$ -
					\$ 14,886.00

FWA Labor:	Quantity:	Unit:	Unit Price:	Comments:	Extended Price:
Ironworker	-	Hours	\$ 93.04	Regular Base Pay	\$ -
Overtime	-	Hours	\$ 22.68	Premium Portion Only	\$ -
Doubletime	-	Hours	\$ 46.26	Premium Portion Only	\$ -
					\$ -

Other:	Quantity:	Unit:	Unit Price:	Comments:	Extended Price:
Engineering	16.00	Hours	\$ 85.00	Additional Detailing	\$ 1,360.00
Crane	-	Hours	\$ 300.00		\$ -
Delivery	1.00	Each	\$ 550.00		\$ 550.00
Other	-	Each	\$ -		\$ -
					\$ 1,910.00

Sub Total = \$ 31,196.00

Overhead & Profit @ 10% & 5% = \$ 4,835.00

Sub Total = \$ 36,031.00

Bond Fee = \$ 360.00

Total Extra To Contract = **\$ 36,391.00**