

October 5, 2022

Eduardo Olivarez, Chief Administrative Officer  
**Attn: Josefina Garces**  
County of Hidalgo Texas Health Department  
1304 S 25<sup>th</sup> Avenue  
Edinburg, Texas 78539

**RE: Professional Engineering Services for Construction Materials Testing  
(C-20-184-01-12) Work Authorization No. 2 ~ Construction Materials Testing  
Hidalgo County Health Dept. Testing/Bio-Safety Laboratory  
PO #847843**

Dear Mr. Olivarez:

Attached for your review and approval is our invoice for services rendered under Work Authorization #2 during the month of September 2022 on the subject referenced project.

The following is attached:

- Invoice No. 20349

The following is a narrative of the progress for this period.

	<b>% Complete</b>
<b>Construction Materials Testing</b>	<b>40%</b>
<b><u>UPDATED:</u></b>  B2Z continues to perform Concrete and Laboratory testing. Casting of concrete cylinders included Preparation / Hold / Cure and Compressive Strength testing.  B2Z continues to perform welding inspection of the Tilt Panels and Angle to joists.	

Should you have any questions regarding this submittal, please do not hesitate to call me at (956) 585-3773.

Sincerely,



Oliver Salgado, P.E.  
Project Manager  
B2Z Engineering, LLC



# Invoice

Date	Invoice #
10/5/2022	20349

P.O. Box 2724  
 McAllen, Tx. 78502  
 (956) 585-3773

Please send remittance with copy of invoice to:

Attn: Mrs. Aisha Gonzalez  
 P.O. Box 2724  
 McAllen, Tx. 78502

Bill To:

County of Hidalgo Texas Executive Office  
 2818 S. Bus. Hwy. 281  
 Edinburg, TX 78539

Project Info:

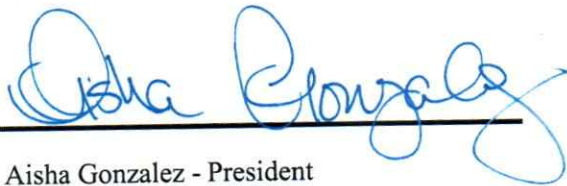
Hidalgo County Bio-Safety Lab Geo & CMT  
 Contract # C-20-184-01-12  
 Work Authorization #2  
 PO# 847843  
 B2Z JOB: 4124

**Billing Period**                      **September 2022**

Description	Contract	Previous Applications	Current Completed	Total Completed	% Complete
Construction Materials Testing	\$ 64,763.07	\$ 23,314.71	\$ 2,590.52	\$ 25,905.23	40.0%
<b>Total For This Billing Period</b>					<b>\$2,590.52</b>

Work Authorization ~ Summary

<u>WA No.</u>	<u>WA Amount</u>	<u>Previously Inv.</u>	<u>Percent Complete</u>	<u>Remaining Balance</u>
2	\$64,763.07	\$23,314.71	40.0%	\$38,857.84



Aisha Gonzalez - President

**Mission Office**

900 S Stewart Rd, Ste. 2  
Mission, TX 78572  
Phone: 956-585-3773

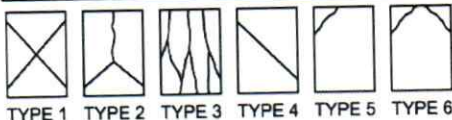
**Client:**

Hidalgo County  
100 North Closner  
Edinburg, TX 78539

**Project:**

4124  
Hidalgo County Health Dept Testing/Bio-Safety  
Laboratory  
Various  
Edinburg, TX

Sample Details										
<b>Set #:</b>	7	<b>Technician:</b>	Sergio Navarro	<b>Batched:</b>	05:56 CDT					
<b>Specimen Size:</b>	4 x 8 Cast Cylinder	<b>Cast By:</b>	Sergio Navarro	<b>Sampled:</b>	06:20 CDT					
<b>Specimens In Set:</b>	6	<b>Date Cast:</b>	07/27/22	<b>Cast:</b>	06:31 CDT					
<b>Truck / Ticket #:</b>	7264 / 2091452	<b>Sampled From:</b>	Chute	<b>Truck Empty:</b>	06:50 CDT					
<b>Contractor:</b>		<b>Placement Method:</b>	Chute	<b>Placement Time:</b>	54 (min)					
Location										
<b>Placement Location:</b>	Concrete Wall Panels									
<b>Location Details:</b>	South side of building pad									
<b>Sample Location / Notes:</b>	Panels 16,19,20,1,& 4									
Batch Log						Specifications				
<b>Supplier:</b>	Alamo Concrete	<b>Mix Design:</b>	5000 PSI	<b>Strength:</b>	4000 (psi)					
<b>On-Site Admixtures:</b>	None									
Field Measurements										
<b>Weather:</b>		<b>Slump (in):</b>	8	<b>Plastic Unit Weight:</b>						
<b>Air Temperature (F):</b>	79	<b>Concrete Temp (F):</b>	93	<b>Air Content:</b>	1.1					
				<b>Load Volume:</b>	10.00 (yd <sup>3</sup> )					
Standard Cure					Field Cure					
<b>Min / Max Temp (F):</b>	77/99									
<b>Initial Cure Method:</b>	Plastic Cover/Lid/Blanket									
<b>Final Cure Method:</b>	Water Storage Tank									
Lab Test Results										
<b>Testing Lab:</b> B2Z Mission Lab, 900 S. Stewart Rd., Suite 2, Mission, TX, 78572										
Specimen Number	Test Age Days	Test Date	Field / Lab Cure Days	Average Cylinder Diameter (in)	Cylinder Area (in <sup>2</sup> )	Max Load (lbs)	Strength (psi)	Fracture Type	Break Remark	Capping Method
7-1	7	08/03/22	1 / 6	4.00	12.57	36,859	2,930	2	TP	1
7-2	7	08/03/22	1 / 6	4.00	12.57	38,222	3,040	2	TP	1
7-3	7	08/03/22	1 / 6	4.00	12.57	42,765	3,400	2	TP	1
7-4	28	08/24/22	1 / 27	4.00	12.57	52,458	4,170	3	R6	1
7-5	28	08/24/22	1 / 27	4.00	12.57	55,952	4,450	5	R6	1
7-6	56	09/21/22	1 / 55	4.00	12.57	65,560	5,220	6	R7	1
<b>Test Age Average Strengths (psi):</b> 7 Day - 3130, 28 Day - 4310, 56 Day - 5220										
										Capping Methods
<b>TP:</b> Testing in Progress <b>R6:</b> The 28 day test results meets or exceeds the 56 day specified strength. <b>R7:</b> The 56 day test results meets or exceeds the specifications. <b>Tested By:</b> Manuel De Santiago (1,2,3,4,5,6) <b>Checked In :</b> 07/28/2022 (1,2,3,4,5,6)										1: Neoprene Pad



*[Handwritten signature]*

Respectfully Submitted by B2Z Engineering

*[Handwritten signature]*

Hector Cantu, Corporate Laboratory Manager

**Mission Office**

900 S Stewart Rd, Ste. 2  
Mission, TX 78572  
Phone: 956-585-3773

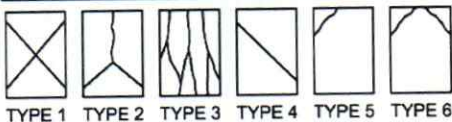
**Client:**

Hidalgo County  
100 North Closser  
Edinburg, TX 78539

**Project:**

4124  
Hidalgo County Health Dept Testing/Bio-Safety  
Laboratory  
Various  
Edinburg, TX

Sample Details										
Set #:	6	Technician:	Rick Garcia	Batched:	04:12 CDT					
Specimen Size:	4 x 8 Cast Cylinder	Cast By:	Rick Garcia	Sampled:	04:30 CDT					
Specimens In Set:	5	Date Cast:	07/19/22	Cast:	04:40 CDT					
Truck / Ticket #:	7264 / 2085160	Sampled From:	Pump	Truck Empty:	04:40 CDT					
Contractor:	Econ-Enriquez Construction	Placement Method:	Pump	Placement Time:	28 (min)					
Location										
Placement Location:	Concrete Wall Panels									
Location Details:	SE panel #13 Center SE panel 12									
Sample Location / Notes:	SE panel 13 Center sE panel 12									
Batch Log				Specifications						
Supplier:	Alamo Concrete	Mix Design:	5000 PSI	Strength:	4000 (psi)					
Plant:	Edinburg									
On-Site Admixtures:	None									
Field Measurements										
Weather:	Humid	Slump (in):	8	Plastic Unit Weight:						
Air Temperature (F):	91	Concrete Temp (F):	91	Air Content:	0.7					
				Load Volume:	10.00 (yd <sup>3</sup> )					
Standard Cure					Field Cure					
Min / Max Temp (F):	93/104									
Initial Cure Method:	Plastic Cover/Lid/Blanket									
Final Cure Method:	Water Storage Tank									
Lab Test Results										
Testing Lab: B2Z Mission Lab, 900 S. Stewart Rd., Suite 2, Mission, TX, 78572										
Specimen Number	Test Age Days	Test Date	Field / Lab Cure Days	Average Cylinder Diameter (in)	Cylinder Area (in <sup>2</sup> )	Max Load (lbs)	Strength (psi)	Fracture Type	Break Remark	Capping Method
6-1	7	07/26/22	1 / 6	4.00	12.57	41,536	3,300	2		1
6-2	7	07/26/22	1 / 6	4.00	12.57	41,779	3,320	2		1
6-3	28	08/16/22	1 / 27	4.00	12.57	50,571	4,020	5	R6	1
6-4	28	08/16/22	1 / 27	4.00	12.57	60,454	4,810	2	R6	1
6-5	56	09/13/22	1 / 55	4.00	12.57	64,370	5,120	2	R7	1
Test Age Average Strengths (psi): 7 Day - 3310, 28 Day - 4420, 56 Day - 5120										
									Capping Methods	
R6: The 28 day test results meets or exceeds the 56 day specified strength. R7: The 56 day test results meets or exceeds the specifications. Tested By: Rick Garcia (1,2), Manuel De Santiago (3,4,5) Checked In : 07/20/2022 (1,2,3,4,5)									1: Neoprene Pad	



Respectfully Submitted by B2Z Engineering

Hector Cantu, Corporate Laboratory Manager

**Mission Office**

900 S Stewart Rd, Ste. 2  
Mission, TX 78572  
Phone: 956-585-3773

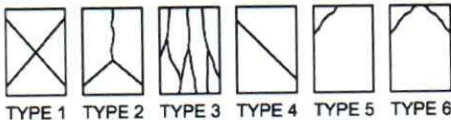
**Client:**

Hidalgo County  
100 North Closser  
Edinburg, TX 78539

**Project:**

4124  
Hidalgo County Health Dept Testing/Bio-Safety  
Laboratory  
Various  
Edinburg, TX

Sample Details										
<b>Set #:</b>	5	<b>Technician:</b>	Rick Garcia	<b>Batched:</b>	03:18 CDT					
<b>Specimen Size:</b>	4 x 8 Cast Cylinder	<b>Cast By:</b>	Rick Garcia	<b>Sampled:</b>	03:30 CDT					
<b>Specimens In Set:</b>	5	<b>Date Cast:</b>	07/19/22	<b>Cast:</b>	03:45 CDT					
<b>Truck / Ticket #:</b>	7264 / 2085041	<b>Sampled From:</b>	Pump	<b>Truck Empty:</b>	03:50 CDT					
<b>Contractor:</b>	Econ- Enriquez Construction	<b>Placement Method:</b>	Pump	<b>Placement Time:</b>	32 (min)					
Location										
<b>Placement Location:</b>	Concrete Wall Panels									
<b>Location Details:</b>	N. W. Corner panel 3 Center panel 4									
<b>Sample Location / Notes:</b>	NW corner panel N center panel									
Batch Log						Specifications				
<b>Supplier:</b>	Alamo Concrete	<b>Mix Design:</b>	5000 PSI	<b>Strength:</b>	4000 (psi)					
<b>Plant:</b>	Edinburg									
<b>On-Site Admixtures:</b>	None									
Field Measurements										
<b>Weather:</b>	Humid	<b>Slump (in):</b>	7-3/4	<b>Plastic Unit Weight:</b>						
<b>Air Temperature (F):</b>	90	<b>Concrete Temp (F):</b>	91	<b>Air Content:</b>	0.7					
				<b>Load Volume:</b>	10.00 (yd <sup>3</sup> )					
Standard Cure					Field Cure					
<b>Min / Max Temp (F):</b>	93/104									
<b>Initial Cure Method:</b>	Plastic Cover/Lid/Blanket									
<b>Final Cure Method:</b>	Water Storage Tank									
Lab Test Results										
<b>Testing Lab:</b> B2Z Mission Lab, 900 S. Stewart Rd., Suite 2, Mission, TX, 78572										
Specimen Number	Test Age Days	Test Date	Field / Lab Cure Days	Average Cylinder Diameter (in)	Cylinder Area (in <sup>2</sup> )	Max Load (lbs)	Strength (psi)	Fracture Type	Break Remark	Capping Method
5-1	7	07/26/22	1 / 6	4.00	12.57	38,707	3,080	2		1
5-2	7	07/26/22	1 / 6	4.00	12.57	40,327	3,210	2		1
5-3	28	08/16/22	1 / 27	4.00	12.57	56,253	4,480	2	R6	1
5-4	28	08/16/22	1 / 27	4.00	12.57	59,077	4,700	2	R6	1
5-5	56	09/13/22	1 / 55	4.00	12.57	63,141	5,020	2	R7	1
<b>Test Age Average Strengths (psi):</b> 7 Day - 3140, 28 Day - 4590, 56 Day - 5020										
									Capping Methods	
<b>R6:</b> The 28 day test results meets or exceeds the 56 day specified strength. <b>R7:</b> The 56 day test results meets or exceeds the specifications. <b>Tested By:</b> Rick Garcia (1,2), Manuel De Santiago (3,4,5)									1: Neoprene Pad	
<b>Checked In :</b> 07/20/2022 (1,2,3,4,5)										



Respectfully Submitted by B2Z Engineering

Hector Cantu, Corporate Laboratory Manager

# Inspection Report

B2Z Report No. BSL-8I

**Mission Office**  
900 S Stewart Rd, Ste. 2  
Mission, TX 78572  
Phone: 956-585-3773

**Client:**  
Hidalgo County  
100 North Closner  
Edinburg, TX 78539

**Project:**  
4124  
Hidalgo County Health Dept Testing/Bio-Safety  
Laboratory  
Various  
Edinburg, TX

**Project Contractor:** ECON-Enriquez Construction

On 09/22/2022, a representative of B2Z Engineering was dispatched to the subject project to performed Inspection for Structural Welding. Please see Inspection report.

<b>Contractor Present:</b>	ECON-Enriquez Construction
<b>Inspector/Technician Time:</b>	3.0
<b>Trip Charge:</b>	30 Miles
<b>Inspector/Technician:</b>	Subconsultant

98

Respectfully Submitted by B2Z Engineering



Hector Cantu, Corporate Laboratory Manager

This report applies only to the standards or procedures indicated and to the sample(s) tested and/or observed and are not necessarily indicative of the qualities of apparently identical or similar products or procedures, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and are not to be reproduced without written permission.

Robles Consulting, LLC an AWS Affiliate Company Member  
P.O. Box 1231  
Rio Hondo, TX 78583  
(956) 748-0176 Fax, (956) 245-6774 Cell  
roblesconsulting@yahoo.com

Job: B2Z - 002  
County: Hidalgo  
File: 01.222202

## STRUCTURAL/WELDING INSPECTION REPORT

Consulting Engineer: B2Z Engineering, LLC  
Address: 900 S. Stewart Rd. Suite 4  
City: Mission, TX 78572

Project Name: Bio Safety Health Facility

Date Inspected: 09/22/2022

Prime Contractor: Econ

Project Ref. No. 4124

Contractor: Acero Fab

Location: Edinburg, Texas

### Documents Reviewed:

Electrode to Specification:  Yes  No  N/A  
Welders Qualified:  Yes  No  N/A  
Reviewed Drawings:  Yes  No  N/A

CWI Present: Continuous  Periodic

Weld Procedures Followed:  Yes  No  N/A  
Verified Joint Fit-up:  Yes  No  N/A  
Reviewed WPS:  Yes  No  N/A

### Weld Types Observed:

Fillet Welds 1/8"  3/16"  1/4"  5/16"  3/8" Seam Welds  5/8" Arc Spot Welds  Other   
Groove Welds CJP  PJP  Moment Connections   
Electrode Type Used: E7018H4R Welding Process: SMAW

### Structural Weld/Bolt Location Observed/Inspected and Gridlines:

Perimeter Angle to Joists  Angle Braces to Joists  Beam to Beam Connections  
 Joists to CMU Embeds  Horizontal/X-bridging to Joists  Beam to Column Connections  
 Tilt Panels to Footings  Bridging Anchored/Welded at Ends  Splice Plates at Chord Angle  
 Girder to Girder Seats  Mech. Frames Welded to Joists  
 Columns to Baseplate Embeds  Bolts A325 Snug Tight

**Notes:** Inspection of welds at items marked (X) at structural roof framing at grid 1to5@B-F was performed. Inspection of completed welds at tilt panel bearing to footings was performed. Inspection of welds at joists welded to beams and joists seats at tilt panels was performed. Inspection of welds at outriggers welded to joists at top chord and outrigger seats at tilt panels was performed. Inspection of welds at bridging welded to joists was performed. Observation of ongoing welds at deck angle welded to panel embeds was performed. Inspection of deck angle welded to outriggers and joists was performed. Welds inspected were acceptable to Specs and AWS D1.1 Code criteria.

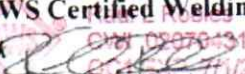
### Deck Weld Pattern Inspected:

Deck Type: \_\_\_\_\_ Weld Pattern: \_\_\_\_\_ Fasteners per Span: \_\_\_\_\_  
Deck to Joists  Deck to Chord Angle  Weld Washers: Yes  No  N/A   
Deck to Outriggers  Deck Fastening  Deck Fastening Pattern: N/A

Inspection performed to visual inspection acceptance criteria as set forth by AWS D 1.1 / AWS D1.3 Structural Welding Code.

**Comments:** This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations, unless specified or RFI approved.

**Applicable Code, Standards:** AWS D1.1 , AWS D1.3 , AISC , ASME Section IX , Specs , RFI

Inspected By: **Raul L. Robles, CWI, CWE** AWS Certified Welding Inspector / AWS Certified Welding Educator  
Credential Verification: [www.AWS-CWI-Quick-Check.com](http://www.AWS-CWI-Quick-Check.com)  Acceptable  Unacceptable   
Date: 09/22/2022

Authorized By: **David Rivera, Project Manager**

B2Z Engineering, LLC

**Client:**

Hidalgo County  
 100 North Closner  
 Edinburg, TX 78539

**Project:**

4124  
 Hidalgo County Health Dept Testing/Bio-Safety  
 Laboratory  
 Various  
 Edinburg, TX

**Project Contractor:** ECON-Enriquez Construction

On 09/20/2022, a representative of B2Z Engineering was dispatched to the subject project to performed Inspection for Structural Welding. Please see Inspection report.

<b>Contractor Present:</b>	ECON-Enriquez Construction
<b>Inspector/Technician Time:</b>	3.0
<b>Trip Charge:</b>	30 Miles
<b>Inspector/Technician:</b>	Subconsultant

92

Respectfully Submitted by B2Z Engineering



Hector Cantu, Corporate Laboratory Manager

Robles Consulting, LLC an AWS Affiliate Company Member  
P.O. Box 1231  
Rio Hondo, TX 78583  
(956) 748-0176 Fax, (956) 245-6774 Cell  
roblesconsulting@yahoo.com

Job: B2Z - 002  
County: Hidalgo  
File: 01.222102

## STRUCTURAL/WELDING INSPECTION REPORT

Consulting Engineer: B2Z Engineering, LLC  
Address: 900 S. Stewart Rd. Suite 4  
City: Mission, TX 78572

Project Name: Bio Safety Health Facility

Date Inspected: 09/20/2022

Prime Contractor: Econ

Project Ref. No. 4124

Contractor: Acero Fab

Location: Edinburg, Texas

### Documents Reviewed:

Electrode to Specification:  Yes  No  N/A  
Welders Qualified:  Yes  No  N/A  
Reviewed Drawings:  Yes  No  N/A

CWI Present: Continuous  Periodic

Weld Procedures Followed:  Yes  No  N/A  
Verified Joint Fit-up:  Yes  No  N/A  
Reviewed WPS:  Yes  No  N/A

### Weld Types Observed:

Fillet Welds 1/8"  3/16"  1/4"  5/16"  3/8" Seam Welds  5/8" Arc Spot Welds  Other   
Groove Welds CJP  PJP  Moment Connections

Electrode Type Used: E7018H4R

Welding Process: SMAW

### Structural Weld/Bolt Location Observed/Inspected and Gridlines:

Perimeter Angle to Joists  Angle Braces to Joists  Beam to Beam Connections  
 Joists to CMU Embeds  Horizontal/X-bridging to Joists  Beam to Column Connections  
 Tilt Panels to Footings  Bridging Anchored/Welded at Ends  
 Girder to Girder Seats  Mech. Frames Welded to Joists  
 Columns to Baseplate Embeds  Bolts A325 Snug Tight

**Notes:** Inspection of welds at tilt panels and bolts for snug tight at structural framing at grid 1to5@B-F was performed. Inspection of leveling nuts and anchor nuts for snug tight at columns was performed. Inspection of ongoing welds at tilt panel bearing to footings was performed. Inspection of welds at panel to panel and corners at panels as per details L15 and P15 was performed. Inspection of welds at joist seats to panel embeds as per detail L12 was performed. Inspection of welds at shear tabs to panel embeds was performed. Inspection of bolts for snug tight at beam to shear tabs and beam to column connections was performed. Bolts inspected were acceptable to Specs. Welds inspected were acceptable to Specs and AWS D1.1 Code criteria.

### Deck Weld Pattern Inspected:

Deck Type: \_\_\_\_\_ Weld Pattern: \_\_\_\_\_ Fasteners per Span: \_\_\_\_\_  
Deck to Joists  Deck to Chord Angle  Weld Washers: Yes  No  N/A   
Deck to Outriggers  Deck Fastening  Deck Fastening Pattern: N/A

Inspection performed to visual inspection acceptance criteria as set forth by AWS D 1.1 / AWS D1.3 Structural Welding Code.

**Comments:** This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations, unless specified or RFI approved.

Applicable Code, Standards: AWS D1.1  AWS D1.3  AISC  ASME Section IX  Specs  RFI

Inspected By: Raul L. Robles, CWI, CWE  **Acceptable  Unacceptable**   
Credential Verification: www.AWS CWI Quick Check

Authorized By: David Rivera, Project Manager

B2Z Engineering, LLC

October 5, 2022

Hidalgo County Auditor's Office  
2808 S. Business Hwy. 281  
Edinburg, TX 78539

Reference: **C-20-184-01-12 WA No. 2 – Hidalgo County Bio-Safety Lab –  
Geotechnical & Construction Materials Testing Services**

Dear Commissioner:

I have reviewed the attached geotechnical and/or construction material testing results prepared by B2Z Engineering billed with invoice number **20349** for **Hidalgo County Bio-Safety Lab – Geotechnical & Construction Materials Testing Services**.

I hereby certify that the testing results meet or exceed project specifications.

Should you have any questions, please call me at (956) 585-3773.

Respectfully,



Oliver Salgado, P.E.