

CITY OF BETHEL

City Council Meeting Agenda, May 28, 2024 – 6:30 PM

Website: <https://www.cityofbethel.org/council>

Location: Council Chambers, City Hall, 300 Chief Eddie Hoffman Highway, Bethel

Council Members: Mayor Mark Springer, Vice-Mayor Sophie Swope, Rose Henderson, Beth Hessler, Patrick Snow, Teresa Keller, Mikayla Miller

Zoom Meeting Link: <https://us06web.zoom.us/j/4888456188?pwd=bkN1dGI4MHpGZ1kwOUVYWU5kd0xhZz09>

Zoom Meeting ID: 488 845 6188

Zoom Meeting Passcode: 13871

Zoom Meeting Conference Line Numbers: 833 548 0276 US Toll-free

833 548 0282 US Toll-free

877 853 5257 US Toll-free

888 475 4499 US Toll-free



1. CALL TO ORDER

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

4. PEOPLE TO BE HEARD – FIVE MINUTES PER PERSON

- 4.1. *Written Public Comments can be submitted by opening your phone camera and hovering over this URL code. The link to the submission form will appear. You may also go to www.cityofbethel.org.*



5. APPROVAL OF CONSENT AGENDA AND REGULAR AGENDA

6. APPROVAL OF MEETING MINUTES

- 6.1. *5-7-2024 Special City Council Meeting
6.2. *5-14-2024 Regular City Council Meeting
6.3. *5-16-2024 Special City Council Meeting

7. REPORTS OF STANDING COMMITTEES

- 7.1. Committee/Commission Agendas And Draft Meeting Minutes

8. SPECIAL ORDER OF BUSINESS

9. UNFINISHED BUSINESS

10. NEW BUSINESS

- 10.1. *Introduction Of Ordinance 24-04: Adoption Of The Annual Operating Budget For Fiscal Year 2025, July 1, 2024-June 30, 2025, And Appropriating Funds to Carry Out Said Budget (Acting City Manager Arnold)
10.2. *Introduction Of Ordinance 24-05: Adoption Of The Capital Improvement Budget For Fiscal Year 2025, July 1, 2024-June 30, 2025 And Appropriating Funds To Carry Out Said Budget (Acting City

Posted May 22, 2024 at AC Co., Swanson's, City Hall, and the Post Office.

Kevin Morgan, Deputy City Clerk

City Clerk's Office Contact Information: Email cityclerk@cityofbethel.net Phone 907-543-1384

Items noted with an asterisk (*) are consent agenda items, unless removed from the consent agenda they are approved upon the approval of the agenda. Ordinances introduced at this meeting may be set for public hearing at the next regular meeting.

The Council may by unanimous consent, after 12:00 AM Fix the Time to Which To Adjourn until the following day at 6:30 PM

Manager Arnold)

- 10.3. *Resolution 24-08: Certifying The Annual Financial Statement Of Revenues And Authorized Expenditures For The Fiscal Year Ending June 30, 2023 (Acting City Manager Arnold)
- 10.4. *AM 24-12: Negotiate And Execute Bid For Bethel Heights Martina Oscar Water And Sewer Improvements Phase 1. By Sturgeon Electric Company, Inc. With Lowest Bid Of 1,660,489.00 (Acting City Manager Arnold)

11. REPORTS

- 11.1. Mayor's Report
- 11.2. City Manager's Report
- 11.3. Clerk's Report

12. COUNCIL MEMBER COMMENTS

13. EXECUTIVE SESSION

14. ADJOURNMENT

Posted May 22, 2024 at AC Co., Swanson's, City Hall, and the Post Office.

Kevin Morgan, Deputy City Clerk

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Items noted with an asterisk (*) are consent agenda items, unless removed from the consent agenda they are approved upon the approval of the agenda. Ordinances introduced at this meeting may be set for public hearing at the next regular meeting.

The Council may by unanimous consent, after 12:00 AM Fix the Time to Which To Adjourn until the following day at 6:30 PM

1. CALL TO ORDER

A Special Meeting of the Bethel City Council was held on May 7, 2024 at 6:00 p.m., in the Council Chambers, Bethel, Alaska.

Vice- Mayor Swope called the meeting to order at 6:01 p.m.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

Comprising a quorum of the Council, the following members were present:
City Council Member Beth Hessler (Participated telephonically) City Council Member Patrick Snow City Council Member Teresa Keller City Council Member Rose Henderson Vice-Mayor Sophie Swope
Members Absent:
Mayor Mark Springer City Council Member Mikayla Miller
Also in attendance were the following:
Acting City Manager Arnold, City Clerk Lori Strickler

4. PEOPLE TO BE HEARD – Five minutes per person

No one present to be heard.

5. APPROVAL OF AGENDA

Approve the agenda.

Moved by:	Rose Henderson
Seconded by:	Teresa Keller
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

6. UNFINISHED BUSINESS

7. NEW BUSINESS

Item 7.1. - Fiscal Year 2025 Operating Budget Review/Amendment-
Motion to move into committee of the whole.

Moved by:	Patrick Snow
Seconded by:	Rose Henderson
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

Council moved out of Committee of the whole at 7:19 p.m.

Motion to amend:

00-51-6041 Administration Utility Benefits to strike 13,680 and insert 9,120
 00-72-6509 Community Services Kusko Consortium Library to strike 72,600 and insert 92,600
 00-66-6161 Public Works Streets and Roads Street Lights to strike 70,000 and insert 80,500
 00-70-6242 Public Works Property Maintenance Boardwalk Lighting Project to strike 93,339 and insert 0
 00-70-6250 Public Works Property Maintenance Carpentry Expense to strike 25,000 and insert 5,000
 00-50-663 YK Fitness Center Janitorial Supplies to strike 5,000 and insert 12,000
 00-50-6320 YK Fitness Center Other Professional Fees to strike 171,888 and insert 178,785
 00-71-6231 Landfill Operations Vehicle Parts and Tools to strike 10,000 and insert 20,000
 00-70-6231 Hauled Refuse Vehicle Parts and Tools to strike 100,000 and insert 20,000
 10-81-6539 Hauled Water Miscellaneous to strike 20,000 and insert 2,000
 10-85-6150 Hauled Sewer Gasoline/Diesel/Oil to strike 3,800 and insert 38,000
 10-82-6410 Piped Water to strike 8,500 and insert 0
 30-55-25100 Court Complex Bond Principal to strike 232,875 and insert 255,000

Moved by:	Rose Henderson
Seconded by:	Theresa Keller
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

Motion to amend 400-50 Wages and Staff to strike 301,537 and insert 281,473 and 400-50 YK Fitness Center Other Purchased Services to strike 5,000 and insert 25,100.

Moved by:	Patrick Snow
Seconded by:	Rose Henderson
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

Item 7.2. - Presentation Of Recommended Candidates To City Council From Gov HR And Determination Of Candidate Interview Schedule.

Motion to invite candidates one and two to a Zoom interview with the Council.

Moved by:	Rose Henderson
Seconded by:	Patrick Snow
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

8. ADJOURNMENT

Motion to adjourn.

Moved by:	Rose Henderson
Seconded by:	Patrick Snow
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Teresa Keller
Opposed:	None
Results:	Motion Carries

Meeting ended at 7:52 p.m.

Sophie Swope, Vice Mayor

ATTEST:

Lori Strickler, City Clerk

1. CALL TO ORDER

A Regular Meeting of the Bethel City Council was held on May 14, 2024 at 6:30 p.m., in the Council Chambers, Bethel, Alaska.

Vice-Mayor Swope called the meeting to order at 6:30 p.m.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

Comprising a quorum of the Council, the following members were present:
City Council Member Mikayla Miller City Council Member Patrick Snow City Council Member Rose Henderson City Council Member Beth Hessler Vice-Mayor Sophie Swope
Members Absent:
City Council Member Teresa Keller Mayor Mark Springer
Also in attendance were the following:
Acting City Manager Arnold, City Clerk Lori Strickler, City Attorney Libby Bakalar (telephonically)

4. PEOPLE TO BE HEARD – Five minutes per person

No one present to be heard.

Item 4.1. - Written Public Comments

No written comments were submitted.

5. APPROVAL OF CONSENT AGENDA AND REGULAR AGENDA

Main Motion: Approval of the Consent and Regular Agenda.

Moved by:	Mikayla Miller
Seconded by:	Patrick Snow
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Mikayla Miller
Opposed:	None
Results:	Motion Carries

6. APPROVAL OF MEETING MINUTES

Item 6.1. - *4-16-2024 Special City Council Meeting
Passed on the consent agenda.

Item 6.2. - *4-18-2024 Special City Council Meeting
Passed on the consent agenda.

Item 6.3. - *4-23-2024 Regular City Council Meeting
Passed on the consent agenda.

Item 6.4. - *4-25-2024 Special City Council Meeting
Passed on the consent agenda.

Item 6.5. - *4-30-2024 Special City Council Meeting
Passed on the consent agenda.

7. REPORTS OF STANDING COMMITTEES

Item 7.1. - Committee/Commission Agendas And Draft Meeting Minutes
Port Commission, Council Member Henderson- A meeting was not held.

Planning Commission, Council Member Hessler- The commission discussed the different type of structures that would need a site plan permit. The Commission requested there be enforcement on code violations.

Community Action Grant Committee- Meetings are on hold.

Community Parks and Recreation Committee, Vice-Mayor Swope- The Committee discussed some of the data on the pool use, explored ways to improve community use of the pool and considered the creation of a parks and recreation department within the City of Bethel. The Committee reviewed the kids vote submissions for the Harbor Park sign.

Finance Committee, Council Member Snow- A meeting has not been held since the last city council meeting.

Public Safety and Transportation Commission, Council Member Miller- A meeting was not held due to lack of administrative support.

8. SPECIAL ORDER OF BUSINESS

Item 8.1. - Appreciation For Years Of Service- William "Billy" Stuart (Acting City

Manager Arnold)

Vice-Mayor Swope read an appreciation for William "Billy" Stuart.

Item 8.2. - Fiscal Year 2022 Audit Report From Altman, Rogers And Co (Acting City Manager Arnold)

Brian Kupilik from Altman, Rodgers and Co presented the Audit Report.

9. UNFINISHED BUSINESS

10. NEW BUSINESS

Item 10.1. - *AM 24-09: Negotiate And Execute Negotiations For Bid Proposal For Police Communications Tower From STG Inc. With Lowest Bid Of \$606,200.00 (Acting City Manager Arnold)

Passed on the consent agenda.

Item 10.2. - AM 24-10: Confirming The Appointment Of James Harris As Chief Of Police (Acting City Manager Arnold)

Main Motion: Approve AM 24-10.

Moved by:	Patrick Snow
Seconded by:	Mikayla Miller
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Mikayla Miller
Opposed:	None
Results:	Motion Carries

Motion to Suspend the Rules to hear from the Human Resources Director, Laura Cloward.

Moved by:	Rose Henderson
Seconded by:	Beth Hessler
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Mikayla Miller
Opposed:	None
Results:	Motion Carries

11. REPORTS

Item 11.1. - Mayor's Report

Item 11.2. - City Manager's Report

Item 11.3. - Clerk's Report

12. COUNCIL MEMBER COMMENTS

Vice-Mayor Sophie Swope- Happy spring. Encouraged people to slow down when driving on the gravel roads.

Council Member Henderson- Recommended people to drive slowly on the gravel roads to reduce the dust; to wear their life jacket when on the river; and for the council to pay attention to certain establishments.

Council Member Hessler- Hopes everyone is ok after the flooding and is proud of the community for helping each other. Congratulations to the graduates.

Council Member Snow- No comment.

Council Member Miller- Thanked Billy Stewart for his years of service to the community.

13. EXECUTIVE SESSION

14. ADJOURNMENT

Main Motion: Adjournment.

Moved by:	Rose Henderson
Seconded by:	Mikayla Miller
In favor:	Rose Henderson, Beth Hessler, Patrick Snow, Sophie Swope, Mikayla Miller
Opposed:	None
Results:	Does not Carry

Meeting ended at 7:28 p.m.

Sophie Swope, Vice-Mayor

ATTEST:

Lori Strickler, City Clerk

1. CALL TO ORDER

A Special Meeting of the Bethel City Council was held on May 16, 2024 at 12:00 noon, in the Council Chambers, Bethel, Alaska.

Clerk Strickler called the meeting to order at 12:00 noon.

2. PLEDGE OF ALLEGIANCE

3. ROLL CALL

Comprising a quorum of the Council, the following members were present:
City Council Member Rose Henderson (telephonically) Vice-Mayor Sophie Swope (telephonically) City Council Member Teresa Keller (telephonically) City Council Member Mikayla Miller (telephonically) City Council Member Patrick Snow (telephonically) Mayor Mark Springer (telephonically)
Members Absent:
City Council Member Beth Hessler
Also in attendance were the following:
Acting City Manager Arnold, City Clerk Lori Strickler

4. PEOPLE TO BE HEARD – Five minutes per person

No one present to be heard.

Item 4.1. - Written Public Comments

No Written Comments were submitted.

5. APPROVAL OF AGENDA

Main Motion: Approval of the Agenda.

Moved by:	Rose Henderson
Seconded by:	Mikayla Miller
In favor:	Mark Springer, Rose Henderson, Patrick Snow, Sophie Swope, Teresa Keller, Mikayla Miller
Opposed:	None
Results:	Motion Carries

6. UNFINISHED BUSINESS

7. NEW BUSINESS

Item 7.1. - AM 24-11: Acting City Manager To Negotiate And Execute Bid For Chemical Storage Building From Bethel Contracting, LLC. With Lowest Bid Of \$1,349,230.00 (Acting City Manager Arnold)

Moved by:	Rose Henderson
Seconded by:	Mikayla Miller
In favor:	Mark Springer, Rose Henderson, Patrick Snow, Sophie Swope, Teresa Keller, Mikayla Miller
Opposed:	None
Results:	Motion Carries

8. ADJOURNMENT

Main Motion: Adjournment.

Moved by:	Rose Henderson
Seconded by:	Mikayla Miller
In favor:	Mark Springer, Rose Henderson, Patrick Snow, Sophie Swope, Teresa Keller, Mikayla Miller
Opposed:	None
Results:	Motion Carries

Meeting ended at 12:03 p.m.

Mark Springer, Mayor

ATTEST:

Lori Strickler, City Clerk



CITY OF BETHEL

FINANCE COMMITTEE

TUESDAY, MAY 21, 2024, 6:30 PM

LOCATION: 300 CHIEF EDDIE HOFFMAN HIGHWAY, BETHEL, ALASKA

ZOOM MEETING LINK

[HTTPS://US06WEB.ZOOM.US/J/87274519480?PWD=WUTESNPDYVC3NKVYUHZZNDJKOVLAQT09](https://us06web.zoom.us/j/87274519480?pwd=WUTESNPDYVC3NKVYUHZZNDJKOVLAQT09)

MEETING ID: 872 7451 9480

PASSCODE: 060155

MEMBERS

John Hamilton, Chair
John Llyod, Vice Chair
Robert Rey
Patrick Snow, Council Rep.
Carol Ann Willard
Vacancies (4)

STAFF

Aaron Vasslotti, Ex Officio Member
Cindy Sharp, Ex Officio Member
Alexandra Batchelor, Ex Officio Member
finance@cityofbethel.net
907-543-1381

I. CALL TO ORDER

II. ROLL CALL

III. PEOPLE TO BE HEARD – FIVE MINUTES PER PERSON

- A. Please submit written public comments to finance@cityofbethel.net by 4:00 p.m. the day of the meeting.

IV. APPROVAL OF AGENDA

- A. 05/21/2024

V. APPROVAL OF MEETING MINUTES

- A. 01/22/2024
- B. 02/26/2024
- C. 03/25/2024
- D. 04/22/2024

VI. UNFINISHED BUSINESS

VII. NEW BUSINESS

- A. Change meeting time to 5:30 pm (John Lloyd)

VIII. EX OFFICIO REPORT

- A. April 2024 Report

IX. MEMBER COMMENTS

X. ADJOURNMENT

Posted <<DATE>> at City Hall, AC Co., Swanson's, and the Post Office.

Ex-Officio Staff

Introduced by: Acting City Manager Arnold
Introduction Date: May 28, 2024
Public Hearing: June 11, 2024
Action:
Vote:

CITY OF BETHEL, ALASKA

ORDINANCE #24-04

AN ORDINANCE BY THE BETHEL CITY COUNCIL PROVIDING FOR THE ADOPTION OF THE ANNUAL OPERATING BUDGET FOR FISCAL YEAR 2025, JULY 1, 2024-JUNE 30, 2025 AND APPROPRIATING FUNDS TO CARRY OUT SAID BUDGET

BE IT ORDAINED by the City Council of Bethel, Alaska, as follows:

SECTION 1. Classification. This is a noncodified ordinance establishing the City of Bethel Annual Operating Budget for Fiscal Year 2024. The document entitled "City of Bethel Annual Budget" that includes complete line-item details of revenue and expenditures for all funds, is incorporated here by reference.

SECTION 2. Purpose. In accordance with Bethel Municipal Code 4.04 the Bethel City Council hereby adopts the Annual Budget for the Fiscal Year 2025.

SECTION 3. Budget Adoption. The following sums of money are hereby appropriated for the operations of the City of Bethel for the fiscal year commencing on the first day of July 1, 2024, and ending the 30th day of June, 2025, to be expended consistent with and subject to the restrictions, procedures, and purposes set forth in the Code of the City of Bethel, and to be expended substantially by line item in the manner shown in the budget adopted by Section 1 hereof:

General Fund Revenue Sources	Revenues
Federal Sources	\$950,000
State of Alaska Sources	\$570,500
Taxes and Interest	\$11,669,000
Charges and Services	\$162,000
Licenses, Permits and Fees	\$633,100
Miscellaneous	\$738,180
Total General Fund Revenue	\$14,722,780

General Fund Expenditures	Expenditures
Administration	\$957,012
City Clerk	\$472,966
Finance	\$1,598,953
Planning	\$390,391
Technology	\$1,343,290

City Attorney	\$303,255
Fire	\$2,362,490
Police	\$5,093,832
Public Works Administration	\$138,315
Public Works Streets	\$1,626,048
Public Works Maintenance	\$662,202
Community Services	\$528,900
In -Kinds and Transfers	\$1,210,735
Total Revenue Over Expenditures	\$9,442

Special Revenue Funds	Expenditures
Community Service Patrol	\$390,089
Enhanced 911 System	\$129,194
School Resource Officer	\$37,705

Enterprise Fund Summaries	Revenue	Expenditures
Yukon Kuskokwim Fitness Center	\$1,498,489	\$1,487,391
Solid Waste Enterprise Fund	\$1,275,495	\$1,257,184
Water and Sewer Utility Fund	\$8,592,702	\$8,676,356
Municipal Dock Summary	\$1,400,052	\$1,216,249
Leased Properties	\$884,001	\$499,312
Public Transit System	\$485,326	\$485,832

Internal Service Funds *	Expenditures
Vehicle and Equipment	\$1,156,074
Employee Group Health Benefits	\$3,142,392

SECTION 4. Effective Date. This ordinance shall become effective upon the passage by the Bethel City Council.

NOW THEREFORE BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF BETHEL, ALASKA, that the Fiscal Year 2025 operating budget is adopted for a period of one year, from July 1, 2024, through June 30, 2025.

ENACTED THIS 11 DAY OF JUNE 2024, BY A VOTE OF __ IN FAVOR AND ____ OPPOSED.

Mark Springer, Mayor

ATTEST:

Lori Strickler, City Clerk

Suggested Amendments to Budget Ordinance 24-04 from Administration.

Amendment No. 1 FINANCE DEPT

Motion to amend to strike \$60,000 under 100-53-6311 Finance Department Auditing Expenses and insert \$205,500.

Explanation: The Fiscal Year 2023 as well as Fiscal Year 2024 Audits are expected to be completed during the Fiscal Year 2025 fiscal year. The proposed Finance Department, line item 100-53-6311 Auditing Expense lists \$60,000. The cost of the two audits is quoted to be \$205,500.

Amendment No. 2 EMPLOYEE HEALTH

Motion to amend Employee Health Group Benefits to strike 3,142,392 and insert \$1,637,638.

Explanation: The FY25 budget currently reflects a per employee/per month cost for the Employee Group Benefit as \$2,119, which totals \$3,142,392. Based on a three-year look-back at the City's insurance policy renewals, the broker has provided a quote of \$1,637,638 annual cost. This represents coverage for 69 employees, the City's average participation rate. Because enrollment numbers and dependent coverages fluctuate, Administration is choosing to add a cushion to the quote of roughly 40% to allow for increased participation and/or coverages. With 126 budgeted FTE's across all funds, the new cost per employee per month is \$1508, for a resultant budget of \$2,280,096.

Amendment No. 3 MUNICIPAL DOCK

Motion to amend Municipal Dock to update the budgeted amount to reflect 2.52 Full Time Employees instead of 3.92 Full Time Employees.

Explanation: The FY25 budget incorrectly calculated the FTE (Full Time Equivalents) in the Municipal Dock fund. The budget as presented reflected 3.92 FTE allocated to fund 520-50. The number should be 2.52 FTE. This change reduces both the Employee Group Benefit and the Utility Benefit budget. The reduced amount will be calculated by the Finance Department after the amendments are implemented.

The result of the amendments listed above would reflect the following summary of expense allocations:

General Fund Revenue Sources	Revenues
Federal Sources	\$950,000
State of Alaska Sources	\$570,500
Taxes and Interest	\$11,669,000
Charges and Services	\$162,000
Licenses, Permits and Fees	\$633,100
Miscellaneous	\$738,180
Total General Fund Revenue	\$14,722,780

General Fund Expenditures	Expenditures Current	Expenditures After
Administration	\$957,012	<u>\$934,964</u>
City Clerk	\$472,966	<u>\$458,302</u>
Finance	\$1,598,953	<u>\$1,691,191</u>
Planning	\$390,391	<u>\$375,649</u>
Technology	\$1,343,290	<u>\$1,328,469</u>
City Attorney	\$303,255	<u>\$295,923</u>
Fire	\$2,362,490	<u>\$2,273,566</u>
Police	\$5,093,832	<u>\$4,888,193</u>
Public Works Administration	\$138,315	<u>\$135,891</u>
Public Works Streets	\$1,626,048	<u>\$1,579,869</u>
Public Works Maintenance	\$662,202	<u>\$638,063</u>
Community Services	\$528,900	<u>\$528,900</u>
In -Kinds and Transfers	\$1,210,735	<u>\$1,187,785</u>
Debt Payment on Leased Equipment	\$27,000	<u>\$27,000</u>
Total General Fund Expenditures	\$14,713,338	<u>\$14,326,127</u>
Excess Revenue Over Expenditures	\$9,442	<u>\$396,653</u>

Special Revenue Funds	Expenditures Current	Expenditures After
Community Service Patrol	\$390,089	<u>\$309,485</u>
Enhanced 911 System	\$129,194	<u>\$121,129</u>
School Resource Officer	\$37,705	<u>\$35,872</u>

Enterprise Fund Summaries	Revenue	Expenditures Current	Expenditures After	Difference
YK Fitness Center	\$1,498,489	\$1,487,391	<u>\$1,488,149</u>	<u>\$10,340</u>
Solid Waste	\$1,275,495	\$1,257,184	<u>\$1,219,201</u>	<u>\$56,924</u>
Water and Sewer Utility	\$8,592,702	\$8,676,356	<u>\$7,998,785</u>	<u>\$593,917</u>
Municipal Dock	\$1,400,052	\$1,216,249	<u>\$1,149,924</u>	<u>\$250,128</u>
Leased Properties	\$884,001	\$499,312	<u>\$771,404</u>	<u>\$112,597</u>
Public Transit System	\$464,209	\$485,832	<u>\$464,209</u>	<u>0</u>

Internal Service Funds	Expenditures	Expenditures After
Vehicle and Equipment	\$1,156,074	<u>\$1,104,017</u>
Employee Group Health Benefits	\$3,142,392	<u>\$2,280,096</u>

GENERAL FUND SUMMARY

(100)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
General Fund Revenues		13,444,240	14,876,752	14,577,780	8,498,047	14,722,780
Operating Expenditures:						
100-51	Administration	912,935	536,790	891,960	171,474	957,012
100-52	City Clerk	441,328	225,692	442,069	140,149	472,966
100-53	Finance	904,776	760,548	1,608,808	392,592	1,598,953
100-54	Planning	394,231	261,438	393,827	107,533	390,391
100-55	Technology	310,994	755,248	746,489	278,941	1,343,290
100-56	City Attorney	123,681	238,954	303,255	98,880	303,255
100-60	Fire	2,090,162	1,857,193	2,235,637	1,293,376	2,362,490
100-61	Police	4,283,804	3,809,015	4,522,997	1,656,086	5,093,832
100-65	Public Works-Administration	76,742	168,679	133,871	76,742	138,315
100-66	Public Works-Streets	1,901,769	1,909,401	1,922,299	875,582	1,626,048
100-70	Property Maintenance	678,649	532,751	851,705	242,279	662,202
100-72	Community Services	502,120	502,120	358,898	343,840	528,900
100-73	In-Kind & Transfers	917,113	833,281	1,077,881	427,870	1,210,735
	SUBTOTAL OPERATING EXPENDITURES	13,538,303	12,391,110	15,489,697	6,105,344	16,688,389
875	Indirect Cost Recovery	(1,780,353)	(2,115,493)	(2,153,593)	(616,192)	(2,002,051)
	SUBTOTAL OPERATING EXPENDITURES	11,757,950	10,275,617	13,336,104	5,489,152	14,686,338
Net after Operating Expenditures		1,686,290	4,601,135	1,241,676	3,008,895	36,442
Payments on Debt (Leased Equipment):						
100-60	Fire	-		-		-
100-66	Streets & Roads	27,000	27,000	27,000	27,000	27,000
	TOTAL DEBT PAYMENTS	27,000	27,000	27,000	27,000	27,000
Excess of Revenues after Debt Payments		1,659,290	4,574,135	1,214,676	2,981,895	9,442

GENERAL FUND REVENUES

GENERAL FUND REVENUES:		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Federal Sources:						
42-4102	Payment in Lieu of Taxes Program (PILT)	950,000	983,654	950,000	1,081,842	950,000
	Total	950,000	983,654	950,000	1,081,842	950,000
State of Alaska:						
4201	SOA-Police Therapeutic Court	250	-	-	-	-
4203	Community Dividend	102,000	225,611	102,000	154,518	150,000
4204	PERS on Behalf	320,000	-	400,000	-	400,000
4345	SOA-Electric Co-Op Tax Share	20,000	20,545	20,000	20,456	20,000
9411	Debt Proceeds	-	-	-	-	-
4203	SOA-Miscellaneous Receipts	500	-	500	-	500
	Total	442,750	246,156	522,500	174,974	570,500
Taxes and Interest:						
4300	Sales Tax	7,800,000	9,082,625	8,200,000	4,354,234	8,400,000
4301	Sales Tax on Interest & Penalties	33,000	151,754	160,000	2,063	160,000
4310	Transient Lodging Tax	512,000	514,943	512,000	259,888	512,000
4320	Cigarette and Tobacco Tax	675,000	554,455	620,000	306,805	620,000
4322	Marijuana Tax	850,000	892,668	850,000	429,252	850,000
4330	TAX -Alcohol Use	500,000	356,754	430,000	193,947	430,000
4340	Tax - Motor Vehicle Registration	50,000	36,015	47,000	25,772	47,000
4342	AK Remote Seller Sales Tax Commission	600,000	795,030	650,000	580,537	650,000
	Total	11,020,000	12,384,244	11,469,000	6,152,498	11,669,000
Charges for Services:						
4374	Ambulance Services	250,000	339,614	160,000	28,961	160,000
4379	Police Department Miscellaneous (fines, etc.)	3,000	-	2,000	-	2,000
	Total	253,000	339,614	162,000	28,961	162,000
Licenses, Permits & Fees						
4341	Gaming Fees	400,000	485,959	420,000	235,099	420,000
4377	Parks and Recreation-4th of July	500	100	800	-	800
4500	Taxi Permits	160,000	123,696	145,000	59,950	145,000
4502	Business Licenses	25,000	31,556	32,000	25,575	32,000
4504	Animal Control Licenses/Fees	2,500	2,397	2,200	885	2,200
4510	Planning Fees	1,700	7,559	5,000	1,400	5,000
4511	Plat/Recording Fees	250	-	100	-	100
4512	Site Review Fees	1,500	17,275	17,000	-	17,000
4559	Miscellaneous Fees	6,000	16,405	11,000	4,699	11,000
	Total	597,450	684,947	633,100	327,608	633,100
Miscellaneous:						
4202	SOA Court Fines/Fees	5,000	2,200	12,000	1,555	12,000
4361	100 Years Publication	40	-	30	-	30
4362	PC Tickets	4,000	5,050	5,000	6,160	8,000
4379	Police Department Miscellaneous (SOA, taxi, etc.)	12,000	2,913	6,000	125	6,000
4439	Miscellaneous Revenue	65,000	21,290	30,000	67,150	30,000
4566	Cleanup Greenup Donations	-	300	150	-	150
4590	Invesment Income	75,000	(60,331)	530,000	657,174	650,000
4640	Xfers in from Other Funds	-	-	28,000	-	-
4890	Gain (Loss) Sale of Fixed Asset	20,000	36,715	-	-	-
9481	ONC Gravel Contract	-	130,000	130,000	-	-
9482	Snow Removal	-	100,000	100,000	-	32,000
	Total	181,040	238,137	841,180	732,164	738,180
	TOTAL REVENUES	13,444,240	14,876,752	14,577,780	8,498,047	14,722,780

Administrative Personnel

(100-51)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIV	10501	City Manager	151,438		149,587		160,823
MII	10101	Director of Human Resources	107,443		107,851		127,579
MI	10103	Grants Manager	116,386		108,000		39,229
R3		Administrative Assistant		-	-		53,560
	6000	SALARIES AND WAGES	332,912	362,389	365,438	92,113	381,191
		Merit Increases (Bargaining Unit only)	-	-	-		1,070
	6010	Overtime	10,000	8,402	-	866	2,000
		Subtotal of miscellaneous wages	10,000	8,402	-	866	3,070
		TOTAL GROSS WAGES	342,912	370,791	365,438	92,979	384,261
	6021	Sick Pay	363	-	-		-
	6022	Holiday Pay	1,438	5,211	2,870	2,081	-
	6023	Leave Cashout: (TW*5%)(FTE=3)	19,263	28,118	25,944	26,607	17,252
	6030	Soc Sec Exp 6.2% of Temp Salary	3,500	9,003	-	3,528	2,432
	6031	Medicare: 1.45% of Total Wages	5,586	5,743	5,299	1,755	5,572
	6032	Unemployment Ins: 1.78%*TW	6,858	-	6,505	-	2,841
	6033	Workers' Comp: (TW/100)*2.5833	9,953	641	944	24	993
	6034	PERS Contributions: TW*22%	84,759	53,868	80,396	7,778	75,907
	6040	Emp Group Ben: (2119*12)*(FTE=3)	76,284	50,249	76,284	2,429	76,284
	6041	Utility Benefit: (380*12)*(FTE=2)	13,680	6,685	13,680	322	9,120
		BENEFITS AND TAXES	221,684	159,518	211,922	44,524	190,400
		TOTAL PERSONNEL	564,596	530,309	577,360	137,503	574,661

Administration (100-51)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes excluding EGHB	478,312	471,658	501,076	92,113	496,377
	Overtime	10,000	8,402	-	866	2,000
6040	Employee Group Health Benefits (EGHB)	76,284	50,249	76,284	2,429	76,284
	Total personnel	564,596	530,309	577,360	95,408	574,661
MATERIALS, SUPPLIES, & SERVICES:						
6002	Relocation Expenses	10,000	9,729	15,000	13,182	15,000
6003	Recruitment Costs	10,000	4,260	20,000	2,759	20,000
6044	YK Fitness Membership	40,000	40,000	40,000	-	40,000
6060	Travel/Training	5,000	12,260	10,000	7,362	10,000
6100	Supplies	7,000	9,387	7,000	3,152	7,000
6103	Wearing Apparel	1,000	-	-	-	-
6150	Gasoline/Diesel/Oil	-	354	-	516	500
6153	Heating Fuel	20,000	36,591	25,000	15,231	25,000
6155	Water/Sewer/Garb	12,000	14,106	12,000	7,495	13,100
6160	Electricity	15,000	21,825	15,000	10,267	24,150
6170	Telephone	20,000	12,485	15,000	3,305	7,500
6171	Staff Cellular Phones	1,000	2,041	2,500	953	2,500
6200	Minor Equipment	2,000	835	1,000	304	1,000
6210	Equipment Rental	2,000		-	-	-
6230	Vehicle Maint/Repair (ISF) 570-43-4651	-	1,344	2,000	678	1,163
6231	Vehicle Parts	-	-	-	1,078	-
6320	Other Professional Fees	20,000	42,302	38,000	14,484	38,000
6321	Legal Fees	-		-	-	-
6325	Consulting Fees	59,250	18,433	20,000	18,244	20,000
6331	Hardware/Software Sup/669	-		-		-
6333	Janitorial	20,000	10,725	11,700	8,475	15,000
6335	Other Purchased Services	30,000	55,073	10,000	64,729	34,000
6400	Insurance	17,000	18,216	20,100	7,726	21,000
6401	Insurance-Ded Exp & other	7,000	-	7,400	-	10,000
6430	Allowance Special Events	15,050	15,985	15,000	11,541	20,000
6500	Drug Testing/Background Checks	9,500	250	-		10,000
6502	Advertising	5,000	3,643	2,500		2,500
6503	Dues/Subscriptions	1,000	1,787	2,000	1,443	2,000
6506	Postage	1,000	173	-	140	1,000
6539	Miscellaneous Expenses	1,000	3,308	1,000	-	1,500
6700	Indirect Cost Recovery	(263,180)	(351,550)	(363,900)	(133,470)	(382,805)
6711	Administrative Overhead - IT Services	17,539	22,919	22,400	16,472	40,438
9684	International Governmental Relations	-	-	-	-	-
	Total materials, supplies and services	85,159	6,481	(49,300)	76,066	(454)
	Total operating expenditures	649,755	536,790	528,060	171,474	574,207

City Clerk's Office Personnel

(100-52)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MII	12501	City Clerk	109,252		128,201		131,406
MI	12901	Deputy City Clerk	78,973		79,973		84,599
	6000	SALARIES AND WAGES	188,225	202,462	208,174	104,087	216,005
		Merit Increases (BU)	-		-		5,334
	6010	Overtime	-		-		-
		Subtotal of misc wages	-	-	-	-	5,334
		TOTAL GROSS WAGES	188,225	202,462	208,174	104,087	221,339
	6022	Holiday Pay	-	308	-	-	-
	6023	Leave Cashout: (TW*5%) of FTE(2)	-	5,984	10,409	6,164	11,067
	6031	Medicare: 1.45% of Total Wages	2,729	2,972	3,019	1,574	3,209
	6032	Unemployment Ins: 1.78%*TW	3,350	-	3,705	-	1,420
	6033	Workers' Comp: (TW/100)*2.5833	4,862	319	538	32	572
	6034	PERS Contributions: TW*22%	41,410	44,609	45,798	22,899	48,695
	6040	Employee Group Benefits: (2119*12)*FTE(2)	50,856	45,548	50,856	25,496	50,856
	6041	Utility Benefit: (380*12)*FTE (FTE=2)	9,120	8,066	9,120	4,339	9,120
		BENEFITS AND TAXES	112,328	107,806	123,445	60,504	124,939
		TOTAL PERSONNEL	300,553	310,268	331,619	164,591	346,278

City Clerk's Office (100-52)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes excluding EGHB	249,697	264,720	280,763	139,095	295,422
	Overtime	-	-	-	-	-
6040	Employee Group Health Benefits (EGHB)	50,856	45,548	50,856	25,496	50,856
	Total personnel	300,553	310,268	331,619	164,591	346,278
MATERIALS, SUPPLIES, & SERVICES:						
6060	Tavel/Training-Council	19,000	24,451	19,000	10,798	19,000
6061	Training/Travel-Clerk	7,800	2,382	9,300	6,755	9,300
6100	Supplies-Clerk	500	1,230	500	625	500
6101	Supplies-Council	500	35	500	-	500
6170	Telephone	-	-	-	-	-
6171	Staff Cellular Phones	1,680	1,174	1,750	597	1,750
6200	Minor Equipment	20,000	19,230	-	-	-
6321	Legal Fees	5,000	322	5,000	-	5,000
6334	Computer Services	-	-	-	-	-
6335	Other Purchase Services	16,000	33,899	23,800	47,348	29,520
6400	Insurance	9,935	2,939	-	(700)	-
6430	Allowance for Special Events	600	535	600	-	600
6502	Advertising	-	-	-	-	-
6503	Dues/Subscriptions	7,000	8,080	7,700	315	7,700
6505	Election Expenses	18,700	22,750	18,700	10,576	18,900
6507	Donations & Awards	800	682	800	-	800
6539	Miscellaneous Expenses	-	490	-	-	-
6700	Indirect Cost Recovery	(275,460)	(225,694)	(177,291)	(117,523)	(236,483)
6711	Admin Overhead - IT Services	33,260	22,919	22,800	16,767	33,118
	Total materials, supplies and services	(134,685)	(84,576)	(66,841)	(24,442)	(109,795)
	Total operating expenditures	165,868	225,692	264,778	140,149	236,483

Finance Department Personnel

(100-53)				FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:								
MII	13401	Finance Director		141,372		130,768		115,580
MI	13402	Deputy Finance Director		119,450		108,824		110,000
R6	13101	General Ledger Accountant		80,137		80,184		83,867
R4	13102	Accounting Specialist II		73,800		75,898		83,379
R3	13103	Accounting Specialist I (Sales Tax)		68,523		66,888		71,689
R3	13104	Accounting Specialist I		60,475		62,112		61,823
R3	13105	Accounting Specialist I (Payroll/ AP)		16,304		14,778		53,560
R2	13106	Accounting Clerk (Front Desk/Utility Billing) @2		68,675		66,888		12,402
	6000	SALARIES AND WAGES		628,736	565,607	562,416	133,059	592,300
		Merit Increases (Bargaining Unit only)		3,848		9,169	-	7,334
		Merit Increases (Exempt Employees)					-	5,640
	6010	Overtime		16,000	26,929	19,000	19,572	21,000
		Subtotal of miscellaneous wages		19,848	26,929	28,169	19,572	33,974
		TOTAL GROSS WAGES		648,584	592,536	590,585	152,631	626,274
	6022	Holiday Pay		-	15,736	3,000	7,804	-
	6023	Leave Cashout: (BW*2%) of FTEs (FTE=7.25)		40,064	46,976	11,248	3,479	11,846
	6030	Social Security Expense		1,300	676	-	-	-
	6031	Medicare: 1.45% of Total Wages		9,404	9,708	8,563	2,430	9,081
	6032	Unemployment Insurance: 1.78%*TW		11,545	-	10,512	2,734	5,149
	6033	Workers' Compensation: (TW/100)*0.25833		1,675	1,215	1,526	(35)	1,618
	6034	PERS Contributions: TW*22%		142,689	135,684	129,929	35,069	137,780
	6040	Employee Group Benefits: (2119*12)*(FTE=7.25)		228,852	119,358	222,495	35,420	184,353
	6041	Utility Benefit: (380*12)*FTE (FTE=7.25)		41,040	21,574	39,900	10,670	33,060
		BENEFITS AND TAXES		476,569	350,927	427,173	97,571	382,887
		TOTAL PERSONNEL		1,125,154	943,463	1,017,758	250,202	1,009,161

FINANCE DEPARTMENT (100-53)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Sal, Ben & Taxes excluding EGHB	880,302	797,176	776,263	195,210	803,808
6010	Overtime	16,000	26,929	19,000	19,572	21,000
6040	Employee Group Health Benefits	228,852	119,358	222,495	35,420	184,353
	Total personnel	1,125,154	943,463	1,017,758	250,202	1,009,161
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	20,000	15,575	20,000	8,051	20,000
6100	Supplies	11,000	15,532	16,000	7,705	16,000
6150	Gasoline/Diesel/Oil	1,200	1,055	1,200	246	1,200
6170	Telephone	250	89	100	50	100
6171	Staff Cellular Phones	2,000	1,817	1,750	601	1,750
6200	Minor Equipment	11,000	17,106	8,000	1,519	8,000
6230	Vehicle Maint/Repair (ISF)	1,266	1,344	2,000	678	2,319
6231	Vehicle Parts & Tools	-	82	-	351	-
6310	Admin Outsourced Services (Support)	95,000	76,473	90,000	-	90,000
6311	Auditing Expense	100,000	52,053	127,500	49,700	60,000
6331	Hardware/Software Support	19,000	10,457	15,000	13,710	32,904
6335	Other Professional Fees	290,000	262,092	205,000	368,051	250,000
6400	Insurance	33,901	6,492	7,100	2,715	7,100
6410	Rents and Leases	-	-	-	1,884	-
6502	Advertising	2,500	135	2,500	-	2,500
6503	Dues & Subscriptions	5,000	1,769	5,000	755	5,000
6506	Postage	1,300	767	1,000	2,803	1,000
6530	Finance Charges/Penalties	300	159	300	710	300
6531	Bank Charges	52,000	51,623	52,000	25,634	52,000
6532	Cash Over/Short	500	(25)	500		500
6533	IRS Penalties & Interest	4,000	899	2,000	-	2,000
6534	Collection/Small Claims	-	-	-	-	-
6539	Miscellaneous Expenses	4,000	2,385	4,000	291	4,000
6610	Loss-Fraudulent Transactions	-	-	-	-	-
6700	Indirect Cost Recovery	(907,855)	(731,109)	(805,262)	(365,199)	(575,623)
6711	Administrative Overhead IT SVCS	33,260	30,315	30,100	22,135	33,118
	Total materials, supplies and services	(220,378)	(182,915)	(214,212)	142,390	14,168
	Total operating expenditures	904,776	760,548	803,546	392,592	1,023,330

Planning Department Personnel

(100-54)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MII R2	14401	City Planner	107,302		86,844	-	92,550
	14101	Planning Clerk	55,899		60,423	-	64,722
	6000	SALARIES AND WAGES	163,201	71,940	147,267	32,482	157,272
		Merit Increases (Bargaining Unit only)	1,397	-	1,511	-	1,294
		Merit Increases Exempt Employee's		-			2,314
	6010	Overtime	-	-	-	-	-
		Subtotal of miscellaneous wages	1,397	-	1,511	-	3,608
		TOTAL GROSS WAGES	164,599	71,940	148,778	32,482	160,880
	6022	Holiday Pay	-	2,596	-	1,894	-
	6023	Leave Cashout: (BW*2%) of FTEs (FTE=2)	8,699	20,182	1,239	-	2,589
	6031	Medicare: 1.45% of Total Wages	2,387	1,329	2,157	511	2,333
	6032	Unemployment Insurance: 1.78%*TW	2,930	-	2,648	-	2,864
	6033	Workers' Compensation: (TW/100)*.25833	425	279	384	2	206
	6034	PERS Contributions: TW*22%	36,212	16,670	32,731	7,563	35,394
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=2)	50,856	17,584	50,856	6,223	50,856
	6041	Utility Benefit: (380*12)*FTE (FTE=2)	9,120	2,104	9,120	1,100	9,120
		BENEFITS AND TAXES	110,628	60,744	99,136	17,293	103,361
		TOTAL PERSONNEL	275,227	132,684	247,913	49,775	264,241

Planning Department (100-54)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes excluding EGHB	224,371	115,100	224,371	43,552	213,385
	Overtime	-	-	-	-	-
6040	Employee Group Health Benefits (EGHB)	50,856	17,584	50,856	6,223	50,856
	Total personnel	275,227	132,684	275,227	49,775	264,241
MATERIALS, SUPPLIES, & SERVICES:						
6061	Travel/Training	3,600	-	10,000	-	15,000
6100	Supplies	5,600	2,687	2,000	346	4,500
6103	Wearing Apparel	300	271	-	185	400
6150	Gasoline/Diesel/Oil	1,800	387	-	457	1,500
6153	Heating Fuel	3,437	5,651	-	-	3,402
6155	Water/Sewer/Garbage	1,038	169	-	-	760
6160	Electricity	1,876	498	-	-	3,930
6170	Telephone	200	40	50	20	50
6171	Staff Cellular Phones	84	587	750	299	750
6200	Minor Equipment	5,500	10	-	-	1,000
6230	Vehicle Maint/Repairs (ISF)	1,559	1,344	1,500	508	1,739
6231	Vehicle Parts & Tools	1,000	496	500	279	1,000
6320	Other Professional Services	20,000	77,968	50,000	36,826	50,000
6321	Legal Fees	1,000	-	-	-	-
6330	Other Professional Fees	20,000	7,540	30,000	100	-
6331	Hardware/Software Support	2,500	2,539	-	2,792	-
6400	Insurance	12,750	3,442	-	(820)	-
6502	Advertising	2,000	1,416	-	-	3,000
6503	Dues & Subscriptions	500		1,000	-	1,000
6510	Rents & Leases		739			-
6539	Miscellaneous Expenses	1,000	51	-	-	5,000
6711	Admin Overhead-IT SVCS	33,260	22,919	22,800	16,767	33,118
	Total materials, supplies and services	119,003	128,754	118,600	57,759	126,150
	Total operating expenditures	394,231	261,438	393,827	107,533	390,391

Information Technology Services Personnel

(100-55)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII R4	15401	IT Services Director	100,384		110,011		115,500
	15101	IT Technician			63,851	-	70,140
	6000	SALARIES AND WAGES	100,384	150,783	173,862	86,974	185,640
	6010	Merit Increases (Bargaining Unit only)	-	-	1,596	-	1,403
		Merit Increases (Exempt Employee's)		-	-		2,888
		Overtime	-	3,334	10,000	3,905	10,000
		Subtotal of miscellaneous wages	-	3,334	11,596	3,905	14,290
		TOTAL GROSS WAGES	100,384	154,117	185,458	90,879	199,930
	6022	Holiday Pay	-	2,456	500	1,794	-
	6023	Leave Cashout: (TW*2%) of FTEs (FTE=2)	5,019	45,771	9,273	-	7,997
	6031	Medicare: 1.45% of Total Wages	1,456	2,863	2,689	1,309	2,899
	6032	Unemployment Insurance: 1.78%*TW	1,787	-	3,301	-	1,420
	6033	Workers' Compensation: (TW/100)*.25833	259	170	479	76	516
	6034	PERS Contributions: TW*22%	22,084	34,446	40,801	20,388	43,985
	6040	Employee Group Benefits: (2119*12)(FTE=2)	25,428	30,290	50,856	20,243	50,856
	6041	Utility Benefit: (380*12)*FTE (FTE=2)	4,560	5,821	9,120	3,949	9,120
		BENEFITS AND TAXES	60,593	121,817	117,019	47,759	116,794
		TOTAL PERSONNEL	160,977	275,934	302,477	138,638	316,724

Information Technology Services (100-55)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:						
	Salaries, Benefits & Taxes excluding EGHB	135,549	242,310	241,621	114,490	255,868
6010	Overtime		3,334	10,000	3,905	10,000
6040	Employee Group Health Benefits (EGHB)	25,428	30,290	50,856	20,243	50,856
	Total personnel	160,977	275,934	302,477	138,638	316,724
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	10,000	4,727	10,000	350	10,000
6100	Supplies	7,000	6,994	7,000	967	7,000
6150	Gasoline/Diesel/Oil	3,000	3,405	4,000	1,597	4,000
6171	Staff Cellular Phones	2,000	3,097	3,500	1,022	45,000
6179	Connectivity Services	400,000	465,281	320,000	148,535	350,000
6200	Minor Equipment	35,000	16,184	35,000	6,911	30,000
6210	Equipment Rental	180,000	114,534	215,000	101,672	220,000
6230	Vehicle Maint/Repairs (ISF)	1,280	1,344	3,000	1,017	3,479
6231	Vehicle Parts & Tools	1,000	2,067	3,000	-	3,000
6320	Other Professional Fees	115,000	88,790	100,000	40,450	85,000
6331	Hardware/Software Support	70,000	79,208	70,000	68,060	115,000
6335	Other Purchased Services	15,500	13,658	10,000	7,835	10,000
6400	Insurance	8,969	2,687	8,969	4,744	8,969
6539	Miscellaneous Expenses	2,000	3,719	2,000	5	2,000
6700	Indirect Cost Recovery	(798,240)	(666,254)	(705,010)	(309,057)	(746,489)
6711	Admin Overhead-IT SVCS	33,260	86,946	-	(63,298)	33,118
6890	Capital Expenditures	-	209,721		127,556	100,000
9694	Server Room Air Conditioner	-	-	-	1,937	-
9695	Building Mapping/Floor Plans	-	-		-	-
9696	Air Conditioner for Servers	-	43,206	-	-	-
	Total materials, supplies and services	85,769	479,314	86,459	140,303	280,077
	Total operating expenditures	246,746	755,248	388,936	278,941	596,801

City Attorney's Office Personnel

(100-56)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MIII	30501	City Attorney	145,343	144,347	149,703	74,852	157,813
	6000	SALARIES AND WAGES	145,343	144,347	149,703	74,852	157,813
		Merit Increases (Bargaining Unit only)	-	-	-	-	
	6010	Overtime	-	-	-	-	
		Subtotal of miscellaneous wages	-	-	-	-	-
		TOTAL GROSS WAGES	145,343	144,347	149,703	74,852	157,813
	6023	Leave Cashout: (TW*2%) (FTE=1)	7,267	-	7,485	-	3,156
	6031	Medicare: 1.45% of Total Wages	2,107	2,077	2,171	1,078	2,288
	6032	Unemployment Ins: 1.78%*TW	2,587	-	2,665	-	2,809
	6033	Workers' Comp: (TW/100)*.25833	375	247	387	16	103
	6034	PERS Contributions: TW*22%	31,975	31,749	44,000	16,467	34,719
	6040	Emp Group Ben: (2119*12)*1	25,428	34,117	42,000	12,710	25,428
	6041	Utility Benefit: (380*12)*FTE	-	-	-	-	-
BENEFITS AND TAXES			69,741	68,190	98,707	30,271	68,504
TOTAL PERSONNEL			215,084	212,537	248,410	105,122	226,317

City Attorney's Office
(100-56)

PERSONNEL:		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
6010	Salaries, Benefits & Taxes excluding EGHB	189,656	178,420	149,703	74,852	200,889
	Overtime	-	-	-		-
6040	Employee Group Health Benefits (EGHB)	25,428	34,117	42,000	13,657	25,428
	Total personnel	215,084	212,537	191,703	88,508	226,317
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	12,000	8,353	12,000	3,105	12,000
6100	Supplies	1,000	356	500	-	300
6150	Gasoline/Diesel/Oil	-	-	-	-	-
6171	Staff Cellular Phones	1,000	587	800	299	800
6320	Other Professional Fees	20,000	35,134	15,000	9,762	20,000
6321	Legal Fees	15,000	-	20,000	5,673	15,000
6335	Other Purchased Services	10,000	9,873	10,000	4,179	7,000
6400	Insurance	5,515	2,156	2,400	927	2,400
6410	Rents & Leases	11,000	8,444	3,000	1,478	-
6502	Advertising	-	-	-	-	-
6503	Dues & Subscriptions	1,500	2,041	1,200	-	1,000
6539	Miscellaneous Expense	1,000	24	1,200	49	1,200
6700	Indirect Cost Recovery	(275,460)	(59,739)	(133,794)	(24,801)	(60,651)
6711	Admin Overhead-IT SVCS	33,260	19,188	19,100	9,702	17,239
	Total materials, supplies and services	(164,185)	26,417	(48,594)	10,372	16,288
	Total operating expenditures	50,898	238,954	143,109	98,880	242,604

Fire Department Personnel

(100-60)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII	16401	Fire Chief	119,602		120,185	-	126,193
PS6	16101	Fire Captain	83,992		75,399	-	82,763
PS4	16102	Lieutenant	67,336		67,336	-	74,192
PS4	16103	Lieutenant	67,336		69,019	-	84,418
PS2	16104	Lieutenant	67,336		67,336	-	76,038
PS2	16105	Firefighter/EMT	53,682		59,255	-	59,171
PS2	16106	Firefighter/EMT	55,024		52,373	-	57,729
PS2	16107	Firefighter/EMT	70,436		52,373	-	55,224
PS2	16108	Firefighter/EMT	56,400		52,373	-	55,224
PS2	16109	Firefighter/EMT	53,682		52,373	-	55,224
PS2	16110	Firefighter/EMT	52,373		52,373	-	55,224
R2	16111	Administrative Assistant	42,673		42,763	-	58,662
	6000	SALARIES AND WAGES	789,872	654,014	763,158	486,187	840,062
		Merit Increases (Bargaining Unit only)	19,747	-	19,079	-	16,801
	6004	Longevity Bonus	-	-	10,000	-	-
	6010	FLSA Overtime	70,000	102,807	120,000	107,674	150,000
	6011	Call-Back Overtime	50,000	51,955	50,000	30,029	75,000
	6022	Holiday Pay	-	40,750	15,000	20,550	-
		Summer Intern Program (1 temp) @ \$20/hr	14,400	-	10,000	-	20,800
	9649	Volunteer Stipend	20,000	1,715	15,000	(160)	10,000
		Subtotal of miscellaneous wages	174,147	197,227	239,079	158,093	272,601
		TOTAL GROSS WAGES	964,019	851,241	1,002,237	644,280	1,112,663
	6023	Leave Cashout: (BW*6%) of FTEs (FTE=12)	47,392	61,445	45,789	2,750	60,484
	6030	Social Security 6.2% of Temp Salary	2,500	2,275	-	167	1,290
	6031	Medicare: 1.45% of Total Wages	11,454	13,564	14,532	6,675	16,134
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	17,143	-	17,840	-	8,523
	6033	Workers' Compensation: (TW/100)*2.5833	3,482	28,974	25,891	3,067	28,735
	6034	PERS Contributions: TW*22%	211,873	188,060	220,492	96,943	227,514.00
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=12)	330,564	164,025	305,136	62,857	305,136
	6041	Utility Benefit: (380*12)*FTE (FTE=12)	54,720	30,761	54,720	17,976	54,720
		BENEFITS AND TAXES	679,128	489,104	684,400	190,435	702,536
		TOTAL PERSONNEL	1,643,147	1,340,345	1,686,637	834,715	1,815,199

Fire Department (100-60)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:						
	Salaries, Benefits & Taxes excluding EGHB	1,192,583	1,021,558	1,211,501	634,155	1,285,063
6010	Overtime	120,000	154,762	170,000	158,253	225,000
6040	Employee Group Health Benefits (EGHB)	330,564	164,025	305,136	62,857	305,136
	Total personnel	1,643,147	1,340,345	1,686,637	855,265	1,815,199
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	31,600	25,392	42,900	19,558	59,800
6061	Travel/Training	-	(1,288)	-	-	-
6100	Supplies	25,200	26,680	77,800	57,634	27,400
6103	Wearing Apparel	13,214	27,590	16,700	3,386	20,800
6150	Gasoline/Diesel/Oil	13,500	17,190	16,400	9,857	16,400
6153	Heating Fuel	20,000	32,362	40,000	10,402	40,000
6155	Water/Sewer/Garbage	4,459	-	11,600	1,515	11,600
6160	Electricity	18,205	20,285	21,200	10,102	25,300
6170	Telephone	2,500	3,046	2,400	1,452	2,400
6171	Staff Cellular Phones	5,000	2,696	4,000	1,369	4,000
6200	Minor Equipment	21,000	41,293	22,000	4,499	23,700
6230	Vehicle Maint/Repair (ISF)	18,000	11,869	18,000	7,594	20,873
6231	Vehicle Parts & Tools	48,000	34,201	28,000	24,520	32,000
6240	Property Maint	33,000	1,516	30,000	5,170	30,000
6335	Other Purchased Services	34,100	30,908	31,000	31,846	31,000
6400	Insurance	76,777	97,789	108,000	41,535	108,000
6502	Advertising	1,800	1,553	3,000	2,863	5,000
6503	Dues/Subscriptions	9,500	11,885	12,500	5,074	15,200
6530	Finance Charges/Penalties	-	-	500	-	500
6534	Collection/Ambulance Billing	31,200	17,996	31,200	9,783	31,200
6537	Fire Prevention Program	5,200	4,755	7,500	2,931	7,500
6539	Miscellaneous Expenses	1,500	868	1,500	447	1,500
6660	XFER TO F-58 FLEET REPLACEMENT	-	85,343	-	169,807	-
6711	Admin Overhead-IT SVCS	33,260	22,919	22,800	16,767	33,118
	Total materials, supplies and services	447,015	516,848	549,000	438,111	547,291
	Total operating expenditures	2,090,162	1,857,193	2,235,637	1,293,376	2,362,490

Police Department Personnel

(100-61)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MII	17401	Police Chief (90%)	133,673		117,691		104,022
PS6	17301	Police Lieutenant	106,537		110,632		122,905
PS6	17302	Police Lieutenant	-		111,930		129,121
PS5	17304	Police Officer IV (Sgt)	84,093		90,559		78,297
PS4	17305	Police Officer IV (Sgt)	90,801		78,297		95,398
PS5	17306	Police Officer IV (Sgt)	95,398		95,398		76,648
PS4	17307	Police Officer III (Corporal)	86,426		72,707		94,984
PS3	17308	Police Officer II (Investigator)	84,093		67,336		77,714
PS3	17309	Police Officer II (Investigator)	86,196		62,350		85,798
PS3	17310	Police Officer II	79,813		70,534		75,826
PS3	17311	Police Officer II	75,967		72,307		79,666
PS3	17312	Police Officer II	72,307		79,813		83,697
PS3	17313	Police Officer II	65,506		77,867		79,666
PS3	17314	Police Officer II	79,813		79,813		81,660
PS3	17315	Police Officer II	74,115		75,967		85,798
PS3	17316	Police Officer II	72,307		95,398		85,798
PS3	17317	Police Officer II	68,823		88,099		81,660
PS3	17318	Police Officer II	48,522		62,350		93,016
PS4	17319	Police Officer II	-		62,350		75,826
R2	17329	Administrative Assistant	47,339		52,373		50,600
R3	17320	Community Service Officer	50,978		54,898		54,631
R3	17321	Community Service Officer	50,978		52,253		56,010
R3	17322	Evidence Custodian	56,271		56,271		53,560
R4	17323	Dispatch Supervisor	65,447		83,778		89,786
R3	17324	Public Safety Dispatcher I	46,184		48,522		56,010
R3	17325	Public Safety Dispatcher I	70,274		73,822		79,136
R3	17326	Public Safety Dispatcher I	46,184		48,522		58,832
R3	17327	Public Safety Dispatcher I	54,898		46,184		54,631
	6000	SALARIES AND WAGES	1,892,943	1,631,033	2,088,081	884,047	2,240,696
		Merit Increases (Bargaining Unit only)	47,324	-	52,202	-	53,417
		Merit Increases (Exempt Employees)		-		-	2,601
		Field Training	12,000	-	-	-	-
	6010	Shift Differential and Overtime	240,000	293,712	266,208	247,556	266,208
		Subtotal of miscellaneous wages	299,324	293,712	318,410	247,556	322,225
		TOTAL GROSS WAGES	2,192,267	1,924,745	2,406,491	1,131,603	2,562,922
	6020	Vacation Pay	-	100	-	-	-
	6021	Sick Pay	-	100	-	-	-
	6022	Holiday Pay	-	75,991	30,000	61,702	-
	6023	Leave Cashout: (BW*6%) of FTEs (FTE=27.9)	113,577	158,771	125,285	19,855	134,442
	6030	Social Security Expense				338	-
	6031	Medicare: 1.45% of Total Wages	27,448	31,792	34,894	17,770	37,162
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	39,022	-	42,836	-	45,620
	6033	Workers' Compensation: (TW/100)*2.5833	56,633	57,258	62,167	2,071	66,208
	6034	PERS Contributions: TW*22%	482,299	461,445	529,428	258,199	563,843
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=27.9)	737,412	324,072	709,441	147,631	709,441
	6041	Utility Benefit: (380*12)*FTE (FTE=27.9)	132,240	53,421	127,224	20,568	127,224
		BENEFITS AND TAXES	1,588,630	1,162,950	1,661,275	528,134	1,683,940
		TOTAL PERSONNEL	3,780,897	3,087,695	4,067,767	1,659,737	4,246,862

Police Department
(100-61)

		FY23 Budget	FY23 Actuals	FY24 Budget	December FY24 Actuals	FY25 Proposed Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes excluding EGHB	2,803,485	2,469,911	2,803,485	884,047	3,271,213
	Overtime	240,000	293,712	240,000	247,566	266,208
6040	Employee Group Health Benefits (EHGB)	737,412	324,072	737,412	139,570	709,441
	Total personnel	3,780,897	3,087,695	3,780,897	1,271,183	4,246,862
MATERIALS, SUPPLIES, & SERVICES:						
6002	Relocation Expenses	10,000	7,083	10,000	1,518	10,000
6060	Travel/Training	50,000	70,887	60,000	48,418	80,000
6100	Supplies	27,000	29,152	30,000	15,720	32,000
6102	SART Exams	10,000	2,010	10,000	1,010	10,000
6103	Employee Wearing Apparel	20,000	12,851	25,000	21,415	25,000
6150	Gasoline/Diesel/Oil	36,000	52,609	36,000	22,101	45,000
6153	Heating Fuel	26,000	51,934	59,500	13,021	59,500
6155	Water/Sewer/Garbage	8,397	8,389	8,600	6,530	19,000
6160	Electricity	42,465	45,144	47,000	19,270	45,000
6170	Telephone	19,000	18,745	17,000	12,585	28,000
6171	Staff Cellular Phones	10,000	17,615	20,000	7,912	20,000
6200	Minor Equipment	25,000	12,077	27,000	2,068	30,000
6230	Vehicle Maint/Repair (ISF)	17,554	25,401	20,600	7,435	23,888
6231	Vehicle Parts & Tools	8,000	21,949	28,400	31,512	35,000
6240	Property Maint	-	-	-	-	-
6335	Other Purchased Services	35,000	32,747	81,000	59,416	85,000
6400	Insurance	109,232	226,252	249,000	95,573	249,000
6401	Insurance-Ded Exp & Other	15,000	-	10,000	-	10,000
6503	Dues/Subscriptions	1,000	3,324	3,000	3,119	6,000
6539	Miscellaneous Expenses	-	1,202	-	-	-
6711	Admin Overhead IT-SVCS	33,260	81,949	-	16,278	34,582
	Total materials, supplies and services	502,907	721,320	742,100	384,903	846,970
	Total operating expenditures	4,283,804	3,809,015	4,522,997	1,656,086	5,093,832

Public Works-Admin Personnel

(100-65)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII R2	19401	Public Works Director 15%	19,901		19,228		20,897
	19101	Admin Assistant 15%	7,620		7,434	-	8,586
	6000	SALARIES	27,521	29,041	26,662	15,421	29,483
	6010	Overtime	3,000	-	-	42	-
		Merit Increase	191	136	186	-	215
		Subtotal of miscellaneous wages	3,191	136	186	42	215
		Subtotal Total Wages	30,712	29,177	26,848	15,463	29,698
	6020	Vacation Pay	-	-	-	-	-
	6022	Holiday Pay	-	80	-	58	-
	6023	Leave Cashout	152	7,220	149	-	172
	6031	Medicare: 1.45% of Total Wages	445	472	389	198	431
	6032	Unemployment Insurance: 1.78%*TW	547	-	478	-	529
	6033	Workers' Compensation: (TW/100)*2.5833	793	52	69	0	77
	6034	PERS Contributions: TW*22%	6,757	6,488	5,907	3,392	6,533
	6040	Employee Group Benefits: (2119*12)*FTE	7,628	7,272	7,628	3,755	7,628
	6041	Utility Benefit: (380*12)*FTE (FTE=0.3)	1,368	481	1,368	541	1,368
		BENEFITS AND TAXES	17,691	22,065	15,988	7,944	16,738
		TOTAL PERSONNEL	48,403	51,242	42,837	23,407	46,435

**Public Works Admin.
(100-65)**

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes minus EGHB	37,774	43,970	37,774	15,421	38,807
	Overtime	3,000	-	3,000	42	-
6040	Employee Group Health Benefits	7,628	7,272	7,628	3,755	7,628
	Total Personnel	48,403	51,242	48,403	19,218	46,435
MATERIALS, SUPPLIES, & SERVICES						
6060	Travel/Training	10,000	1,880	10,000	7,320	10,000
6100	Supplies	4,000	2,972	4,000	408	4,000
6103	Wearing Apparel	-	-	-	640	-
6150	Gasoline/Diesel/Fuel	5,000	1,977	4,000	207	2,000
6153	Heating Fuel	8,200	7,042	9,800	29,510	9,000
6155	Water/Sewer/Garbage	1,038	3,148	4,400	447	500
6160	Electricity	1,876	804	580	741	1,725
6170	Telephone	50	40	50	20	50
6171	Staff Cellular Phones	2,000	1,174	1,500	597	1,500
6200	Minor Equipment	-	10	-		-
6230	Vehicle Maint/Repair (ISF)	2,457	3,455	4,300	1,227	4,986
6231	Vehicle Parts & Tools	3,000	2,137	3,000	846	3,000
6232	Tires & Wheels	-	-	-	-	-
6335	Other Purchased Services	71,208	67,329	16,379	3,273	15,000
6400	Insurance	21,090	2,775	3,060	1,176	3,500
6503	Dues & Subscriptions	500	689	500	496	500
6539	Miscellaneous Expenses	3,000	951	3,000	-	3,000
6711	Admin Overhead-IT Services	33,260	21,054	20,900	10,616	33,118
	Total materials, supplies and services	166,679	117,437	85,469	57,524	91,879
	Total Operating Expenditures	215,081	168,679	133,871	76,742	138,315

Streets & Roads

(100-66)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL							
MII	19401	Public Works Director 5%	6,666		6,441	-	6,966
R2	19101	Public Works Admin Assistant 5%	2,540		2,478	-	2,862
R4	20101	Streets & Roads - Foreman	101,173		98,705	-	109,335
R3	20102	Grader Operator	86,706		84,591	-	68,231
R3	20103	Grader Operator	86,706		84,591	-	73,492
R3	20104	Grader Operator	64,710		63,131	-	83,146
R3	20105	Operator/Driver	61,628		60,125	-	83,146
R3	20106	Driver (\$47,110 @ 50% HR, 25% S&R, 12.5% HW, 12.5% I	12,676		12,367	-	14,003
		Temporary Driver	-		36,400	-	36,400
	6000	SALARIES AND WAGES	422,805	311,592	448,829	190,608	477,581
		Merit Increases (Bargaining Unit only)	10,403	-	11,060	-	10,855
	6010	Overtime	35,000	40,145	35,000	11,442	35,000
		Subtotal of miscellaneous wages	45,403	40,145	46,060	11,442	45,855
		TOTAL GROSS WAGES	468,208	351,737	494,889	202,051	523,436
	6022	Holiday Pay	-	14,489	5,000	11,215	-
	6023	Leave Cashout: (BW*3%) of FTEs (5.23)	12,484	43,406	12,180	12,425	13,026
	6031	Medicare: 1.45% of Total Wages	6,789	6,064	7,176	3,363	7,590
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	8,334	-	8,809	-	4,623
	6033	Workers' Compensation: (TW/100)*2.5833	12,095	17,027	12,784	151	1,352
	6034	PERS Contributions: TW*22%	103,006	88,556	108,876	46,765	115,156
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=5.23)	132,988	98,156	132,988	62,514	132,988
	6041	Utility Benefit: (380*12)*FTE (FTE=5.23)	23,849	14,646	23,849	8,502	23,849
		BENEFITS AND TAXES	299,545	282,344	306,662	144,936	298,585
		TOTAL PERSONNEL	767,753	634,081	801,551	346,987	822,021

Streets & Roads (100-66)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:						
	Salaries, Benefits & Taxes excluding EGHB	599,765	495,780	599,765	190,608	654,033
502	Overtime	35,000	40,145	35,000	11,442	35,000
512	Employee Group Health Benefits (EHGB)	132,988	98,156	132,988	62,514	132,988
	Total personnel	767,753	634,081	767,753	264,564	822,021
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	-	-	-	-	-
6100	Supplies	4,500	8,494	4,500	930	4,500
6103	Wearing Apparel	4,000	2,313	5,000	1,309	5,000
6111	Signs	4,500	2,472	4,500	4,903	4,500
6131	Street Maint Gravel	530,000	702,008	440,000	410,400	200,000
6132	Salt	50,000	27,029	70,000	-	-
6140	Calcium Chloride	50,000	59,601	70,000	-	-
6141	Asphalt Products/Supplies	-	-	-	-	-
6150	Gasoline/Diesel/Oil	70,000	108,453	70,000	42,571	100,000
6153	Heating Fuel (25% of City Shop)	11,168	15,147	96,796	6,645	16,250
6155	Water/Sewer/Garbage (25% of City Shop)	2,853	2,686	2,700	1,229	6,492
6160	Electricity (25% of City Shop)	2,136	2,954	3,200	1,014	15,875
6161	Electricity Street Lights	60,000	56,109	70,000	22,058	80,500
6170	Telephone	50	20	50	10	50
6171	Staff Cellular Phones	2,500	1,454	2,500	597	2,500
6200	Minor Equipment	10,000	7,168	10,000	3,115	10,000
6230	Vehicle Maint/Repair (ISF)	146,047	134,485	150,000	42,809	173,942
6231	Vehicle Parts & Tools	70,000	70,275	70,000	49,841	70,000
6232	Tires & Wheels	18,000	807	10,000	3,838	25,000
6240	Property Maintenance		4,174			-
6250	Street Light MT & Pole Repair	20,000	18,530	20,000	-	20,000
6335	Other Purchased Services	-	8,064	10,000	-	10,000
6400	Insurance	45,000	23,882	26,300	10,098	26,300
6430	Finance Charges/Penalties		7			-
6502	Advertising	-	-	-	-	-
6711	Admin Overhead-IT SVCS	33,260	19,188	19,000	9,651	33,118
	Total materials, supplies and services	1,134,015	1,275,320	1,154,546	611,018	804,027
	Total operating expenditures	1,901,769	1,909,401	1,922,299	875,582	1,626,048

Property Maintenance

(100-70)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII	19401	Public Works Director 5%	6,631		6,407	-	6,966
R2	19101	Admin Assistant 5%	2,540		2,478	-	2,862
R4	22101	Building Maintenance Foreman	68,482		66,812	-	65,133
R2	22102	Maintenance Worker	53,237		51,938	-	60,147
R2	22103	Maintenance Worker	45,997		44,875	-	54,631
R2	22104	Maintenance Worker	73,116		71,333	-	87,092
R2	22105	Maintenance Worker	58,693		57,262	-	54,483
	18901	Temp Maint Worker (800 hrs @18/hr)	14,432		14,080	-	14,400
	18902	Temp Maint Worker (800 hrs @18/hr)	14,432		14,080	-	14,400
R2		Maintenance Worker	-		-	-	-
	6000	SALARIES AND WAGES	337,559	266,645	329,264	143,005	360,114
		Merit Increases (Bargaining Unit only)	8,273	-	8,071	-	8,829
	6010	Overtime	50,000	59,722	50,000	27,234	50,000
		Subtotal of miscellaneous wages	58,273	59,722	58,071	27,234	58,829
		TOTAL GROSS WAGES	395,833	326,367	387,335	170,239	418,943
	6022	Holiday Pay	-	11,872	7,000	9,304	-
	6023	Leave Cashout: (BW*2%) of FTEs(5.1)	27,261	40,945	6,585	3,907	42,022
	6030	Social Security (6.2% of Temp Salary)	1,790	218	1,746	-	1,786
	6031	Medicare: 1.45% of Total Wages	5,740	5,660	5,616	2,707	6,075
	6032	Unemployment Ins: 1.78%*TW (39,900 cap)	7,046	-	6,895	-	4,239
	6033	Workers' Compensation: (TW/100)*2.5833	10,226	10,006	10,006	(135)	10,823
	6034	PERS Contributions: TW*22%	87,083	80,946	85,214	39,420	92,167
	6040	Emp Group Ben: (2119*12)*FTE (FTE=5.1)	129,683	98,802	129,683	44,722	129,683
	6041	Utility Benefit: (380*12)*FTE (FTE=5.1)	23,256	30,378	23,256	17,566	23,256
		BENEFITS AND TAXES	292,083	278,827	276,001	117,491	310,049
		TOTAL PERSONNEL	687,916	605,194	663,336	287,730	728,992

Property Maintenance
(100-70)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes excluding EGHB	508,233	446,670	508,233	215,774	549,310
	Overtime	50,000	59,722	50,000	27,234	50,000
6040	Employee Group Health Benefits (EHGB)	129,683	98,802	129,683	44,722	129,683
	Total personnel	687,916	605,194	687,916	287,730	728,992
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	8,000	-	8,000	-	8,000
6100	Supplies	5,000	2,531	5,000	737	5,000
6103	Wearing Apparel	5,000	1,252	5,000	-	5,000
6105	Cleanup Greenup Supplies	700	381	1,000	-	1,000
6106	Paint Supplies	2,000	709	2,000	-	2,000
6107	Electrical Supplies	7,000	2,870	5,000	127	5,000
6108	Plumbing Supplies	7,000	2,708	7,000	1,557	7,000
6110	Materials	5,000	5,338	5,000	1,114	5,000
6111	Boardwalk Repair Supplies	10,000	32	10,000	-	10,000
6142	Glycol Supplies	15,000	-	10,000	-	10,000
6150	Gasoline/Diesel/Oil	10,000	14,255	15,000	9,324	15,000
6153	Heating Fuel	28,924	62,438	94,100	14,708	25,000
6155	Water/Sewer/Garbage	17,268	2,150	2,300	1,007	8,000
6160	Electricity	9,783	12,004	11,600	5,698	13,340
6170	Telephone	100	26	50	136	50
6171	Staff Cellular Phones	1,680	1,120	1,700	570	1,700
6200	Minor Equipment	8,000	7,987	8,000	465	8,000
6201	Boiler Expense	25,000	14,587	25,000	5,420	25,000
6230	Vehicle Maint. Repair (ISF)	5,713	5,456	6,200	2,102	7,190
6231	Vehicle Parts & Tools	10,000	2,730	5,000	1,540	5,000
6240	Wind Turbine Contract	11,000	14,400	11,000	-	11,000
6241	Parks Maintenance	45,000	1,675	45,000	5,096	45,000
6242	Boardwalk Lighting Project	-	34	93,339	-	-
6250	Carpentry Expense	5,000	1,506	25,000	69	5,000
6335	Other Purchased Services	25,000	20,054	15,000	3,326	15,000
6400	Insurance	34,758	12,950	14,300	5,499	14,300
6510	4th of July	400	130	1,000	53	1,000
6539	Miscellaneous Expenses	1,300	11	15,000	1,373	15,000
6700	Indirect Cost Recovery	(346,153)	(298,288)	(319,000)	(131,993)	(372,488)
6711	Admin Overhead -IT Services	33,260	36,511	36,200	26,621	33,118
	Total materials, supplies and services	(9,268)	(72,443)	163,789	(45,451)	(66,791)
	Total operating expenditures	678,649	532,751	851,705	242,279	662,202

Community Services

(100-72)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
MATERIALS, SUPPLIES, & SERVICES						
6155	Bethel Winter House	33,520	-	3,298	-	118,300
6171	Bethel Friends of Canines	85,000	102,000	85,000	115,000	115,000
6430	Community Action Grant	100,000	143,383	86,000	44,240	86,000
6431	UAF 4-H Contribution	112,000	112,000	112,000	112,000	112,000
6509	Kusko Consortium Library Agreement	72,600	72,600	72,600	72,600	92,600
6512	Donation-Ice Road Maintenance	9,000	-	-	-	-
9755	Bethel Search & Rescue	20,000	-	-	-	-
	K-300/Family Bereavement W/S Donations			-	-	5,000
Total Donations		502,120	502,120	358,898	343,840	528,900

In-Kind & Transfers (100-73)

(100-73)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
TRANSFERS						
6640	Cash Transfer to YKRHASTC - General Sales Tax *8.33%	649,740	725,450	683,060	358,758	699,720
6641	Cash Transfer to YKRHASTC - Alcohol Sales Tax *3.33%	16,650	11,880	14,319	6,459	14,319
6643	*Cash Transfer to Transit Bus	-	66,226	172,976	48,359	187,883
6647	Xfer out to Fleet Replacement Fund	125,000	-	80,000	-	80,000
6667	Cash Transfer to YKRHASTC - Alaska Remote Sellers Sales Tax*8.33%	49,980	-	54,145	-	54,145
9552	Cash Transfer to YKRHASTC - Marijuana Tax*3.33%	28,305	-	28,305	14,294	28,305
	Community Service Patrol Program	32,308	29,725	32,308	-	32,308
6430	Cash Transfer to CAG-Alcohol Sales Tax*20.%					71,350
	Cash Transfer from Community Service to W/S Rev School Resource Officer	15,130	-	12,768	-	5,000 37,705
	Total In-Kind Transfers	917,113	833,281	1,077,881	427,870	1,210,735

Special Revenue Funds

270 - Community Service Patrol

410 - Enhanced 911 System

740 - School Resource Officer

Community Service Patrol Program

Personnel (270-50)			FY23 Budget	FY23 Actuals	FY24 Budget	Dec. 2023 Actuals	FY25 Budget
PERSONNEL:							
R5	28101	Community Service Patrol	48,522		47,339		54,631
R5	28102	Community Service Patrol	47,339		46,184		53,560
R5	28103	Community Service Patrol	48,522		46,184		54,631
	6000	SALARIES AND WAGES	144,383	82,377	139,707	56,802	162,822
		Shift differential @3.5% of base wages	5,053	-	4,890	-	5,699
		Merit Increases (Bargaining Unit only)	3,610	-	3,493	-	4,071
	6010	Overtime	15,000	7,824	-	11,374	10,000
		Subtotal of miscellaneous wages	23,663	7,824	8,383	11,374	19,769
		TOTAL GROSS WAGES	168,046	90,201	148,090	68,176	182,591
	6022	Holiday Pay	-	5,456	5,000	4,519	
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=3)	7,219	15,283	6,985	1,166	8,141
	6031	Medicare: 1.45% of Total Wages	2,437	1,604	2,147	1,109	2,648
	6032	Unemployment Ins: 1.78%*TW	2,991	-	2,636	-	3,250
	6033	Workers' Comp: (TW/100)*2.5833	4,341	4,490	3,826	(195)	4,717
	6034	PERS Contributions: TW*22%	36,970	23,849	32,580	15,993	40,170
	6040	Employee Group Benefits: (2119*12)*FTE	76,284	23,485	76,284	19,631	76,284
	6041	Utility Benefit: (380*12)*FTE (FTE=3)	13,680	4,076	13,680	3,261	13,680
		BENEFITS AND TAXES	143,922	78,243	143,138	45,484	148,890
		TOTAL PERSONNEL	311,968	168,444	291,228	113,660	331,481

Community Service Patrol Program (270-50)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes excluding EGHB	220,684	137,135	214,944	82,655	245,197
502	Overtime	15,000	7,824	-	11,374	10,000
512	Employee Group Health Benefits (EHGB)	76,284	23,485	76,284	19,631	76,284
	Total Personnel	311,968	168,444	291,228	113,660	331,481
MATERIALS, SUPPLIES, & SERVICES:						
6100	Supplies	4,000	405	4,000	-	4,000
6103	Wearing Apparel	1,800	-	1,800	-	1,800
6150	Gasoline/Diesel/Fuel	16,000	9,701	16,000	1,289	16,000
6153	Heating Fuel	88	(59)	100	-	100
6171	Staff Cellular Phones	1,500	-	800	448	800
6170	Telephone	-	-	-	-	-
6400	Insurance	15,686	3,261	3,600	1,384	3,600
6440	In-Kind Expenses/Grant Match	32,308	-	32,308	2,297	32,308
	Total materials, supplies and services	71,382	13,308	58,608	5,418	58,608
	Total Operating Expenditures	383,350	181,752	349,836	119,078	390,089

E-911 Services Fund Personnel

(410-50)			FY23 Budget	FY23 Actuals	FY24 Budget	Dec. 2023 Actuals	FY25 Budget
PERSONNEL:							
MII R5	17401	Police Chief 10% (90% GF)	14,925		13,077		13,077
	17120	Public Safety Dispatcher	54,898		59,119		59,119
	6000	SALARIES AND WAGES	69,823	56,021	72,196	6,538	72,196
	6010	Merit Increases (Bargaining Unit o	1,372	-	-		-
		Overtime	5,000	9,537	-		-
		Subtotal of miscellaneous wages	6,372		-		-
		TOTAL GROSS WAGES	76,195	56,021	72,196	6,538	72,196
	6022	Holiday Pay	-	4,884	2,000	-	2,000
	6023	Leave Cashout: (BW*5%)(FTE=1.1)	10,023	6,368	3,610	-	3,610
	6031	Medicare: 1.45% of TW	1,105	1,204	1,047	99	1,047
	6032	Unemployment Ins: 1.78%*TW	1,356	-	1,311	-	1,285
	6033	Workers' Comp: (TW/100)*2.5833	197	129	190	5	187
	6034	PERS Contributions: TW*22%	16,763	16,326	16,208	1,438	15,883
	6040	EmpGroup Ben: (2119*12)*FTE	27,971	49,046	27,971	1,846	27,971
	6041	Utility Benefit: (380*12)*FTE (FTE	5,016	3,772	5,016	1,545	5,016
BENEFITS AND TAXES			62,431	81,729	57,352	4,933	56,998
TOTAL PERSONNEL			138,626	137,750	129,548	11,471	129,194

E-911 Services Fund
(410-50)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
REVENUES:						
4428	Surcharge	144,000	139,619	148,000	75,663	148,000
9416	Public Safety Dispatch Contract w/SOA	-		-		-
	Total Revenue	144,000	139,619	148,000	75,663	148,000
PERSONNEL:						
	Salaries, Benefits & Taxes excluding EGHB	105,655	79,167	103,078	9,625	101,223
6010	Overtime	5,000	9,537	-	-	-
6040	Employee Group Health Benefits (EHGB)	27,971	49,046	27,971	1,846	27,971
	Total personnel	138,626	137,750	131,049	11,471	129,194
MATERIALS, SUPPLIES, & SERVICES:						
6170	911 Phone Lines	-	-	-	-	-
6171	Staff Cellular Phones	-	-	-	-	-
6335	Other Purchased Services	60,000	48,530	-	1,248	-
6400	Insurance	6,022	2,292	2,500	955	2,500
6410	Rents & Leases	5,800	17,400	13,000	16,546	13,000
6500	Drug Testing	-	-	-	-	-
6503	Dues & Subscriptions	-	-	-	-	-
	Total Operating Expenditures	71,822	68,222	15,500	18,749	129,194
	NET Operating Profit/(Loss)	(66,448)	(66,353)	1,451	45,443	18,806

School Resource Officer Program Personnel

(740-50)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
PS3	6000	Police Officer II @25%	22,575		15,588		22,575
		SALARIES AND WAGES	22,575		15,588		22,575
		Merit Increases (Bargaining Unit only)	-		-		-
		Field Training	-		-		-
		Shift Differential and Overtime	-		-		-
		Subtotal of miscellaneous wages	-		-		-
		TOTAL GROSS WAGES	22,575		15,588		22,575
	6022	Holiday Pay	-		-		-
	6023	Leave Cashout: (BW*6%) of FTEs (FTE=1)	1,355		935		1,355
	6031	Medicare: 1.45% of Total Wages	327		226		327
	6032	Unemployment Ins: 1.78%*TW (W/ \$39,900 cap)	402		277		402
	6033	Workers' Compensation: (TW/100)*2.5833	583		403	174	583
	6034	PERS Contributions: TW*22%	4,967		3,429		4,967
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=1)	6,357		6,357		6,357
	6041	Utility Benefit: (380*12)*FTE (FTE=1)	1,140		1,140		1,140
		BENEFITS AND TAXES	15,130		12,768	174	15,130
		TOTAL PERSONNEL COSTS	37,705		28,356	174	37,705

City of Bethel
Enterprise Funds

400 - Multi-Use Recreation Center Enterprise Fund

500 - Solid Waste Enterprise Fund

510 - Water & Sewer Enterprise Fund

520 - Municipal Dock Enterprise Fund

530 - Leased Properties Enterprise Fund

560 - Bethel Transit System Enterprise Fund

Yukon Kuskokwim Regional Health and Aquatic Safety Training Center (400-50)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
REVENUES:						
43-4360	Pro Shop Revenue	40,000	41,251	42,000	17,618	42,000
43-4361	Concession Revenue	60,000	58,703	60,000	28,659	60,000
43-4362	Entry Fee	100,000	120,552	115,000	77,056	140,000
43-4369	Program Fees	50,000	46,696	50,000	29,319	50,000
43-4440	Facility Rental	25,500	21,604	26,000	21,596	40,000
43-9420	Memberships	260,000	179,191	250,000	123,046	250,000
Total Operating Revenues		535,500	467,997	543,000	297,294	582,000
Grant Revenues						
42-9411	SFY13 Designated Legislative Grant	-	-	-	-	-
42-4570	Delta Women's Group Grant	-	-	-	-	-
42-4571	Community Action Grant	-	-	-	-	-
42-416	Grant Revenue	5,000	-	100,000	-	-
Total Grant Revenues		5,000	-	100,000	-	-
Transfer In/Miscellaneous						
46-4300	Cash Xfer from GF: 8.33%* Retail Sales Taxes	649,740	725,450	683,060	358,758	699,720
46-4330	Cash Xfer from GF: 3.33%*Alcohol Sales Taxes	16,650	11,880	14,319	6,459	14,319
46-4370	Wellness Program	-	-	-	-	40,000
46-4530	Penalties & Interest	-	-	-	-	-
46-9415	Cash Xfer from GF: 8.33%*ARSST	49,980	66,226	54,145	48,359	54,145
46-9417	Xfer from GF: 3.33%* Marijuana Sales Tax	28,305	29,725	28,305	14,294	28,305
49-4560	Public Donation	-	5,157	-	-	-
49-4590	Investment Income	2,000	109,290	80,000	120,153	80,000
Total Non-Operating Revenue		746,675	947,728	859,829	548,023	916,489
Total Revenues		1,287,175	1,415,725	1,502,829	845,317	1,498,489
EXPENSES:						
MATERIALS, SUPPLIES, & SERVICES:						
6150	Gasoline/Diesel/Oil	3,500	1,817	2,000	1,064	2,000
6153	Heating Fuel	175,392	351,123	210,000	137,237	210,000
6155	Water/Sewer/Garbage	56,650	56,863	56,650	27,739	52,600
6160	Electricity	91,421	103,269	92,000	54,450	120,000
6170	Telephone	1,300	1,503	1,300	751	1,300
6200	Minor Equipment	-	7,639	-	-	-
6230	Vehicle Maint/Repairs	97	1,130	1,000	290	1,156
6240	Prop Maint	50,000	48,271	55,640	18,500	50,000
6241	Property Maintenance (ICR) (5%)	55,407	-	50,000	1,021	51,735
6320	Other Professional Fees (HealthFit @ \$14,325.75)	157,570	-	171,909	71,629	178,785
6326	Contractor Fees	792,000	633,622	714,821	264,377	620,721
6335	Other Purchased Services	10,000	11,492	5,000	3,282	25,100
6400	Insurance	40,939	71,526	62,000	20,179	62,000
6710	Admin Overhead General Fund	21,819	38,580	40,000	59,996	90,974
6711	Admin Overhead-IT SVCS	33,260	56,765	43,000	31,621	21,021
Total Operating Expenses		1,489,355	1,383,600	1,505,320	692,136	1,487,391
Cash Transfer from YKRHASTC Reserve Fund		203,280		-		-
Net Operating Profit/(Deficit)		1,100	32,125	(2,491)	153,181	11,098

Yukon Kuskokwim Regional Health Fitness Center

(400-50)

		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Wages & Benefits						
	Facility Director	-		97,882		97,882
	Manager - Memberships	-		70,000		-
	Manager - Aquatics	-		75,000		75,000
	Operations Staff	-		301,573		281,473
	Instructional Staff	-		19,600		19,600
	Youth Program Staff	-		33,800		33,800
	Staff Training	-		12,066		12,066
	Sub-Total Wages & Benefits	610,000	467,029	609,921	232,308	519,821
	Housing	42,550		-	-	-
	Total Personnel	652,550	467,029	609,921	232,308	519,821
545 Travel & Training:						
	1st Aid/CPR	500		500	-	500
	Staff Inservice Training	500		1,500	-	1,500
	Total Travel & Training	1,000	1,048	2,000	-	2,000
561 Supplies:						
	Office Supplies	1,000		1,000	15,489	1,000
	Pool Maintenance	6,000		6,000		6,000
	Chemicals	22,000		22,000		22,000
	Fitness Items	2,000		1,000		1,000
	Aquatic Program	2,000		1,000		1,000
	Concession Inventory	25,000		25,000		25,000
	Pro-Shop Inventory	18,000		18,000		18,000
	Total Supplies	76,000	88,249	74,000	15,489	74,000
Building Maintenance:						
580	Boiler	1,500		-		-
661	Vehicle Maintenance	100		100		100
663	Janitorial Supplies	15,000		10,000	5,061	12,000
799	Maintenance Reserve	6,000		6,000		-
	Total Building Maintenance	22,600	6,646	16,100	5,061	12,100
668 IT/Software:						
	Point of Sale System	6,000		-	3,203	-
	Employee Scheduling	500	-	500		500
	Total IT/Software	6,500	5,748	500	3,203	500
General Expenses:						
563	Wearing Apparel	2,000		1,000		1,000
580	Minor Equipment	10,000		6,000		6,000
661	Donations/ Awards	250		250		250
724	Dues/Subscriptions	1,000		1,000		1,000
727	Advertising	3,000		2,000		2,000
733	Postage	100		50		50
736	Bank Fees	14,500		-		-
	Total General Expenses:	30,850	62,118	10,300	7,016	10,300
790 Special Events:						
	Member Incentives	550		500		500
	Community Events	550		500	186	500
	Total Special Events	1,100		1,000	186	1,000
799 Misc. Expenses:						
	Unforeseen Expenses	2,500		2,000		2,000
	Total Misc. Expenses	2,500	2,784	2,000	1,114	2,000
646 Total Contractor Pass-Thru Exp.:						
	Total Personnel Expenses	652,550	467,029	609,921	232,308	519,821
	Total Operational Expenses	139,450	166,593	104,900	32,069	100,900
	Total Contractor Pass-Thru	792,000	633,622	714,821	264,377	620,721
	Total Expenses	792,000	633,622	714,821	264,377	620,721

SOLID WASTE ENTERPRISE FUND SUMMARY

(500)	FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Operating Revenues:	1,200,638	1,243,926	1,275,495	649,292	1,275,495
Operating Expenses for Services:					
Hauled Refuse	418,349	406,744	504,187	206,551	475,682
Landfill Operations	596,581	619,604	628,580	256,094	716,867
Landfill Closure Costs	59,931		29,965		64,636
TOTAL OPERATING EXPENSES FOR SERVICES	1,014,930	1,026,348	1,132,767	462,645	1,257,184
Excess of Revenues over Operating Expenses for Services	185,708	217,578	142,728	186,647	18,310
Solid Waste Landfill Closure Reserve Fund					
Landfill Closure Costs	59,931		94,939		64,636
Previous Landfill Closure Fund Balance	1,284,629		1,344,560		1,439,498
Landfill Closure Fund Balance	1,344,560		1,439,498		1,504,134

SOLID WASTE ENTERPRISE FUND REVENUES

(500)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Revenues:						
44-4396	Commercial Garbage Pickup	765,774	766,357	800,000	357,165	800,000
44-4397	Landfill Dump Fee	97,850	135,940	125,000	125,459	125,000
44-9420	Residential Garbage Pickup	337,014	341,429	350,495	166,668	350,495
	Total Solid Waste Services	1,200,638	1,243,726	1,275,495	649,292	1,275,495
42-4201	SOA-Jury Duty Reimb	-	200	-	-	-
	Total Misc	-	200	-	-	-
45-9434	Utility Penalty & Interest	-		-		-
45-4391	Service Fee	-		-		-
	Total Revenues	1,200,638	1,243,926	1,275,495	649,292	1,275,495

Hauled Refuse Personnel

Enterprise Fund (500-70)			FY23 Actuals	FY23 Budget	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII	19401	Public Works Director @ 5%	-	6,664	6,664	-	6,966
R2	19101	Admin Asst @ 5%	-	2,540	2,540	-	2,862
R3	23104	Hauled Refuse Driver	-	94,184	94,184	-	103,765
	23106	Temporary Worker	-	14,432	14,432	-	14,432
	23107	Temporary Worker	-	14,432	14,432	-	14,432
	6000	SALARIES AND WAGES	98,144	132,252	132,252	58,295	142,457
		Merit Increases (Bargaining Unit only)	-	3,140	3,140	-	2,666
	6010	Overtime	5,854	10,250	10,250	5,944	10,250
		Subtotal of miscellaneous wages	5,854	13,390	13,390	5,944	12,916
		TOTAL GROSS WAGES	103,998	145,641	145,641	64,239	155,373
	6022	Holiday Pay	4,236	-	1,500	2,916	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=1.1)	23,400	7,282	7,041	-	5,864
	6030	Social Security (6.2% of Temp/Contract Salary)	-	1,790	1,790	440	1,790
	6031	Medicare: 1.45% of Total Wages	1,848	2,112	2,112	944	2,253
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 c	52	2,592	2,592	-	1,399
	6033	Workers' Compensation: (TW/100)*2.5833	12,553	3,762	3,762	823	4,014
	6034	PERS Contributions: TW*22%	26,295	32,041	32,041	13,203	34,182
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=1.1)	14,979	27,971	27,971	8,157	27,971
	6041	Utility Benefit: (380*12)*FTE (FTE=1.1)	2,290	5,016	5,016	1,107	5,016
		BENEFITS AND TAXES	85,653	82,566	83,825	27,589	82,489
TOTAL PERSONNEL			189,651	228,207	229,466	91,828	237,862

Hauled Refuse

Enterprise Fund (500-70)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
6010	Salaries, Benefits & Taxes (minus EGHB)	189,986	168,818	191,245	77,727	199,641
6010	Overtime	10,250	5,854	10,250	5,944	10,250
6040	Employee Group Health Benefits (EGHB)	27,971	14,979	27,971	8,157	27,971
Total Personnel		228,207	189,651	229,466	91,828	237,862
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	-	-	-		-
6100	Supplies	500	709	1,000	383	1,000
6103	Wearing Apparel	1,000	462	1,000	-	1,000
6121	4 YD Dumpsters	60,000	57,072	60,000	50,455	60,000
6150	Gasoline/Diesel/Oil	10,000	17,564	14,000	7,475	14,000
6160	Electricity	-	-	-	-	-
6200	Minor Equipment		938		8	-
6230	Vehicle Maint/Repair (ISF 57)	61,581	67,256	72,000	24,405	83,492
6231	Vehicle Parts & Tools	10,000	9,095	10,000	7,986	20,000
6232	Tires/Wheels/Chains	8,000	1,320	8,000	-	8,000
6335	Other Purchased Services	1,000	-	1,000	-	1,000
6400	Insurance	6,570	6,996	7,700	2,956	7,700
6710	Admin Overhead - G.F.	31,490	55,681	42,667	21,055	41,628
	Total MS&S	190,141	217,093	217,367	114,723	237,820
	Total Operating Expenses	418,349	406,744	446,833	206,551	475,682

Landfill Personnel

Enterprise Fund (500-71)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MII	19401	Public Works Director @ 5%	6,664		6,634	-	6,966
R2	19101	Admin Asst @ 5%	2,540		2,360	-	2,862
R4	23102	Landfill Manager	99,585		67,083	-	71,901
R3	23103	Landfill Technician	45,997		46,184	-	57,411
R3	20106	Driver (50% Landfill, 25% S&R, 12.5% HW, 12.5% HS)	23,012		26,780	-	28,005
	6000	SALARIES AND WAGES	177,798	148,838	149,041	60,533	167,145
		Merit Increases (Bargaining Unit or	4,278	-	3,510	-	4,004
	6010	Overtime	20,000	32,434	20,000	10,387	35,000
		Subtotal of misc wages	24,278	32,434	23,510	10,387	39,004
		TOTAL GROSS WAGES	202,076	181,272	172,551	70,920	206,149
	6022	Holiday Pay	-	6,673	2,500	4,098	-
	6023	Leave Cashout: (BW*5%) (FTE=2.6	34,890	46,842	7,353	-	20,823
	6030	Social Security	840	54		107	-
	6031	Medicare: 1.45% of Total Wages	2,930	3,465	2,473	1,109	2,989
	6032	Unemployment Ins: 1.78%*TW	3,597	-	3,036	-	1,847
	6033	Workers' Comp: (TW/100)*2.5833	5,220	9,244	4,406	582	5,325
	6034	PERS Contributions: TW*22%	44,457	45,643	37,523	15,868	45,353
	6040	Emp Group Benefits: (2119*12)*FTE	66,113	30,423	66,113	8,388	66,113
	6041	Utility Ben: (380*12)*FTE (2.6)	11,856	6,990	11,856	2,959	11,856
		BENEFITS AND TAXES	169,903	149,334	135,260	33,112	154,306
		TOTAL PERSONNEL	371,979	330,606	307,811	104,032	360,456

LANDFILL OPERATIONS

ENTERPRISE FUND (500-71)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	267,749	267,749	221,698	85,257	259,343
6010	Overtime	32,434	32,434	20,000	10,387	35,000
6040	Employee Group Health Benefits (EGHB)	30,423	30,423	66,113	8,388	66,113
	Total Personnel	330,606	330,606	307,811	104,032	360,456
MATERIALS, SUPPLIES, & SERVICES						
6060	Training/Travel	5,000	2,358	10,000	3,678	10,000
6100	Supplies	3,000	3,844	3,000	663	3,000
6103	Wearing Apparel	3,000	1,430	3,000	497	3,000
6132	Salt	30,000	27,029	30,000	-	30,000
6150	Gasoline/Diesel/Oil	15,000	21,149	15,000	35,547	15,000
6153	Heating Fuel	6,145	9,646	18,100	4,021	18,100
6160	Electricity	4,296	4,921	5,700	1,553	5,700
6171	Staff Cellular Phones	1,000	629	900	299	900
6200	Minor Equipment	5,000	3,366	7,500	3,309	7,500
6230	Vehicle Maint/Repair (ISF 57)	67,728	68,189	80,000	27,116	92,769
6231	Vehicle Parts	10,000	20,117	10,000	16,244	20,000
6232	Tires and Wheels	-	-	-	-	-
6240	Property Maint. (ICR)	28,137	24,857	33,384	10,999	31,041
6335	Other Purchased Services	3,000	3,303	4,000	600	4,000
6400	Insurance	4,598	4,765	5,200	1,986	5,200
6503	Dues and Subscriptions	8,050	4,000	10,000	245	10,000
6539	Miscellaneous Expense	-	-	4,000	-	4,000
6710	Administrative Overhead General Fund	38,763	68,541	60,975	30,083	63,083
6711	Administrative Overhead - IT SVCS	33,260	20,854	20,700	15,222	33,118
	Total MS&S	265,975	288,998	321,459	152,062	356,411
	Total Operating Expenses	596,581	619,604	629,270	256,094	716,867

WATER & SEWER UTILITY FUND SUMMARY

	FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Operating Revenues	8,213,435	8,242,662	8,494,158	4,300,214	8,592,702
Operating Expenditures for Services:					
Hauled Water	1,997,395	1,844,617	2,546,057	992,066	2,403,965
Hauled Sewer	2,027,797	1,992,261	2,055,148	1,001,721	2,551,167
Piped Water	587,631	429,752	542,856	228,289	537,072
Piped Sewer	627,747	608,929	803,136	320,767	812,828
Water Treatment - Bethel Heights	605,458	745,523	861,721	433,018	924,556
Water Treatment - City Subdivision	1,025,898	1,031,495	848,372	487,081	858,263
Sewer Lagoon	162,801	122,692	253,154	76,642	206,633
SUBTOTAL OPERATING EXPENDITURES	7,034,726	6,775,269	7,910,444	3,539,584	8,294,483
Excess of Revenues Over Operating Expenditures	1,178,709	1,467,393	583,714	760,630	298,219
Less: Operating Expenses for Non-Services					
Utility Billing	337,004	150,505	354,336	112,900	381,873
TOTAL OPERATING EXPENSE FOR NON-SERVICES	337,004	150,505	354,336	112,900	381,873
Excess of Revenues over Operating & Non-Service Expenditures	841,705	1,316,888	229,378	647,730	(83,654)

*Note: Capital Exenditures and Capital Projects have been removed from the Operational Budget as well as their calculations from prior years

WATER & SEWER UTILITY FUND REVENUES

(510)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Revenues						
	Cash Transfer from Community Service to W/	-	200	-	50	5,000
42-4384	Contract Water	14,214	13,824	14,101	9,160	14,783
42-4385	Metered Piped Water Residential	-	-	-	-	-
42-4386	Metered Piped Water (Comm)	930,234	880,140	965,759	420,896	967,443
42-4387	Unmetered Piped Water (Res.)	924,418	958,864	952,054	482,899	961,395
42-4389	Pumphouse Water	23,467	26,316	23,074	13,269	24,406
42-4390	Trucked Water	3,209,970	3,174,718	3,222,335	1,642,650	3,338,369
	Total Water Services	5,102,303	5,054,062	5,177,323	2,568,924	5,311,395
43-4384	Contract Sewer & Lagoon Dump	13,917	29,833	22,401	20,309	14,474
43-4386	Metered Piped Sewer (Comm.)	560,695	525,448	663,957	270,627	583,123
43-4387	Unmetered Piped Sewer (Res.)	271,471	283,506	281,603	141,801	282,330
43-4390	Trucked Sewer (EVAC/HB)	1,816,269	1,817,304	1,834,894	979,238	1,888,920
	Total Sewer Services	2,662,352	2,656,091	2,802,855	1,411,975	2,768,846
45-4392	Water Subscription Fees	197,063	204,679	205,486	104,806	204,946
45-4393	Sewer Subscription Fees	207,707	217,379	216,994	109,993	216,015
45-4394	Reconnect Fees	1,500	-	3,000	-	3,000
45-4395	Service Fees	-	-	-	-	-
45-4429	Senior Discounts	(52,000)	(55,134)	(52,000)	(28,446)	(52,000)
45-4430	NSF Fees/Credit Card Surcharge	110	85	-	-	-
45-4520	Utility Inspection Fee	2,500	-	-	137	-
45-4523	Utility Penalty & Interest	73,000	69,377	70,000	34,529	70,000
45-4590	Investment Income	16,000	75,760	50,000	60,857	50,000
49-4439	Miscellaneous Income	3,500	20,381	20,000	38,248	20,000
49-6532	Cash Over/Short	(600)	(18)	500	(809)	500
	Total Miscellaneous Revenues	448,780	532,509	513,980	319,315	512,461
	Total Revenues	8,213,435	8,242,662	8,494,158	4,300,214	8,592,702

Utility Billing Personnel

Enterprise Fund (510-80)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
R3	13101	Acct Specialist I (Utility Billing	65,218		62,112	18,808	54,632
R2	13106	Acct Clerk @ 75% w/25% to 100-53 (Finance Front Desk)	48,913		48,913		37,206
	6000	SALARIES AND WAGES	114,131	10,659	111,025	18,808	91,838
		Merit Increases (Bargaining Un	2,853	-	2,776	-	2,296
	6010	Overtime	5,000	18	3,000	372	3,000
		Subtotal of misc wages	7,853	18	5,776	372	5,296
		TOTAL GROSS WAGES	121,984	10,677	116,801	19,180	97,134
	6022	Holiday Pay	-	253	-	1,100	-
	6023	Leave Cashout: (BW*5%) of FTEs (2.25)	5,707	-	5,551	-	4,592
	6031	Medicare: 1.45% of Total Wage	1,769	158	1,694	294	1,408
	6032	Unemployment Ins: 1.78%*TW	2,171	-	2,079	-	1,729
	6033	Workers' Comp: (TW/100)*2.5%	3,151	207	3,017	7	2,509
	6044	PERS Contributions: TW*22%	26,837	2,405	25,696	4,356	21,369
	6040	Emp Group Ben: (2119*12)*FTE	31,785	36	57,213	-	57,213
	6041	Utility Benefit: (380*12)*FTE	5,700	421	10,260	877	10,260
		BENEFITS AND TAXES	77,119	3,480	105,510	6,634	99,081
		TOTAL PERSONNEL	199,104	14,157	222,312	25,814	196,215

Utility Billing

Enterprise Fund (510-80)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	162,319	14,103	162,099	25,442	136,002
6010	Overtime	5,000	18	3,000	372	3,000
6040	Employee Group Health Benefits	31,785	36	57,213	-	57,213
	Total Personnel	199,104	14,157	222,312	25,814	196,215
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	4,500	-	4,500	-	4,500
6100	Supplies	3,500	719	3,500	-	3,500
6200	Minor Equipment	5,000	-	4,000	-	4,000
6335	Outsourced Services	-	5,161	-	16,445	49,500
6400	Insurance	12,542	1,047	1,200	471	1,200
6506	Postage	15,000	12,691	15,000	997	15,000
6531	Bank Charges	40,000	55,815	40,000	32,333	40,000
6539	Miscellaneous	500	-	500	1,000	500
6710	Administrative Overhead ICR	23,598	41,727	44,325	21,868	34,339
6711	Administrative Overhead IT Services	33,260	19,188	19,000	13,972	33,118
	Total MS&S	137,900	136,348	132,025	87,086	185,658
	Total Operating Expenses	337,004	150,505	354,337	112,900	381,873

Hauled Water Personnel

Enterprise Fund (510-81)			FY23 Budget	FY23 Actuals	FY24 Budget	Dec. 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MIII	19401	Public Works Director @ 5%	6,631		6,634	-	6,966
R2	19101	Admin Asst @ 5%	2,540		2,360	-	2,862
R4	24101	Utility Foreman (50% of base salary)	29,695		46,238	-	49,561
R2	24102	Administrative Assistant-Water/Sewer (50% of base salary)	26,687		30,967	-	33,192
R3	24103	Driver	86,706		59,119	-	63,372
R3	24104	Driver	45,997		46,184	-	53,560
R3	24105	Driver	47,289		46,184	-	53,560
R3	24106	Driver	55,899		46,184	-	53,560
R3	24107	Driver	46,186		46184	-	53,560
R3	24108	Driver	45,997		46,184	-	53,560
R3	24109	Driver	49,495		46,184	-	53,560
R3	24110	Driver	63,664		46,184	-	53,560
R3	20106	Driver (\$47,110 @ 50% HR, 25% S&R, 12.5% HW, 12.5% HS)	6,821		6,695	-	7,001
	6000	Wages	513,607	419,814	475,301	264,645	537,874
		Merit Increases (Bargaining Unit only)	12,674	-	10,132	-	13,447
	6010	Overtime	150,000	221,346	150,000	145,637	225,000
		Subtotal of miscellaneous wages	162,674	221,346	160,132	145,637	238,447
		Total Wages	676,281	641,160	635,433	410,282	776,321
	6022	Holiday Pay	-	11,139	4,000	9,960	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=10) (Salaries reflect FTE)	25,983	25,852	22,734	1,921	26,545
	6030	Social Security (6.2% of Temp Wages)	7,470	26,645	19,344	18,910	-
	6031	Medicare: 1.45% of Total Wages	9,998	9,738	12,819	5,928	11,257
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	12,273	(1,902)	15,736	1,902	9,450
	6033	Workers' Compensation: (TW/100)*2.5833	17,812	10,692	22,838	1,890	20,055
	6034	PERS Contributions: TW*22%	151,691	52,560	125,853	24,625	170,791
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=9.35)	254,280	43,952	161,468	16,837	237,752
	6041	Utility Benefit: (380*12)*FTE (FTE=9.35)	45,600	3,046	28,956	2,113	42,636
		BENEFITS AND TAXES	525,107	181,722	413,748	84,086	518,485
		TOTAL PERSONNEL	1,201,388	822,882	1,049,181	494,368	1,294,806

Hauled Water						
Enterprise Fund (510-81)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
6010	Salaries, Benefits & Taxes minus EGHB	797,108	557,584	986,340	331,893	832,054
	Overtime	150,000	221,346	225,000	145,637	225,000
6040	Employee Group Health Benefits	254,280	43,952	237,752	16,837	237,752
	Total	1,201,388	822,882	1,449,092	494,368	1,294,806
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	35,000	4,640	45,000	-	10,000
6100	Supplies	15,000	12,124	15,000	9,220	15,000
6103	Wearing Apparel	15,000	11,661	15,000	9,755	15,000
6150	Gasoline/Diesel/Oil	110,000	141,621	110,000	78,073	110,000
6153	Heating Fuel (25% of City Shop)	11,017	30,467	167,300	6,241	16,250
6155	Water/Sewer/Garbage (25% of City Shop)	6,809	6,232	7,200	3,518	6,492
6160	Electricity (25% of City Shop)	10,701	13,982	14,900	6,399	15,875
6170	Telephone	200	20	50	15	50
6171	Staff Cellular Phones	8,000	7,446	6,500	597	6,500
6200	Minor Equipment	8,000	5,729	5,000	51	5,000
6230	Vehicle Maint/Repair (ISF 57)	268,201	278,801	299,700	101,585	347,535
6231	Vehicle Parts	50,000	81,244	50,000	47,940	100,000
6232	Tires & Wheels	21,000	2,573	20,000	5,838	20,000
6240	Property Maint. (ICR)	46,895	41,429	55,640	18,332	51,735
6332	Lab Tests	3,000	769	3,000	800	3,000
6335	Other Purchased Services	3,000	2,106	3,000	3,995	3,000
6400	Insurance	27,685	107,044	122,000	50,030	122,000
6539	Miscellaneous	2,000	41,212	20,000	14,337	2,000
6710	Administrative Overhead	121,240	214,380	258,760	127,662	226,603
6711	Administrative Overhead - IT Services	33,260	18,255	18,100	13,310	33,118
	Total MS&S	796,007	1,021,735	1,236,150	497,698	1,109,159
	Total Operating Expenses	1,997,395	1,844,617	2,685,242	992,066	2,403,965

Piped Water Personnel							
Enterprise Fund (510-82)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MIII	19401	Public Works Director @ 10%	13,262		12,814	-	13,931
R2	19101	Admin Asst @ 10%	5,079		4,955	-	5,724
R4	25101	Utility Maintenance Foreman (30% of base salary)	21,058		20,545	-	17,353
R2	25102	Utility Maintenance Worker (45% of base salary)	27,073		26,412	-	22,770
R2	25103	Utility Maintenance Worker (45% of base salary)	36,275		35,390	-	22,770
R2	25104	Utility Maintenance Worker (45% of base salary)	39,018		38,066	-	22,324
R2	25105	Utility Maintenance Worker (45% of base salary)	34,548		33,705	-	22,324
		Temporary Maintenance Worker (5.1-9.1, 800 hrs @ 19/hr)	15,970		15,580	-	15,200
	6000	Wages	192,282	78,582	187,467	34,532	142,396
		Merit Increase (Bargaining Unit only)	4,475	-	4,366	-	3,560
	6010	Overtime	34,000	44,664	34,000	14,499	35,000
		Subtotal of miscellaneous wages	38,475	44,664	38,366	14,499	38,560
		Total Wages	230,757	123,246	225,833	49,031	180,956
	6022	Holiday Pay	-	2,074	800	789	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=2.75)	14,931	11,167	9,373	1,212	9,048
	6030	Social Security (6.2% of Temp Wages)	990	2,258	966	937	942
	6031	Medicare: 1.45% of Total Wages	3,346	1,951	3,275	715	2,624
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	4,107	-	4,020	-	1,953
	6033	Workers' Compensation: (TW/100)*2.5833	5,961	3,431	5,834	(295)	4,675
	6034	PERS Contributions: TW*22%	50,767	20,712	49,683	7,612	39,810
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=2.75)	69,927	52,244	69,927	26,435	69,927
	6041	Utility Benefit: (380*12)*FTE (FTE=2.75)	12,540	4,818	12,540	1,959	12,540
		BENEFITS AND TAXES	162,569	98,655	156,418	39,363	141,519
		TOTAL PERSONNEL	393,327	221,901	382,251	88,395	322,475

Piped Water						
Enterprise Fund (510-82)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	289,400	124,993	206,380	47,460	217,548
6010	Overtime	34,000	44,664	34,000	14,499	35,000
6040	Employee Group Health Benefits	69,927	52,244	69,927	26,435	69,927
	Total	393,327	221,901	310,307	88,395	322,475
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	5,000	-	8,000	-	8,000
6100	Supplies	5,000	2,509	5,000	4,335	5,000
6103	Wearing Apparel	3,000	-	5,000	-	5,000
6108	Plumbing Supplies	15,000	7,824	15,000	14,523	15,000
6150	Gasoline/Diesel/Oil	15,000	15,142	15,000	8,993	15,000
6153	Heating Fuel	30,634	47,826	48,400	22,826	48,400
6155	Water/Sewer/Garbage	563	2,317	2,200	1,351	2,200
6160	Electricity-Util Mt. Shop	5,889	8,185	8,200	3,247	8,200
6170	Telephone	120	40	50	15	50
6171	Staff Cellular Phones	3,000	2,550	2,200	1,285	2,200
6200	Minor Equipment	5,000	-	-	3,348	-
6230	Vehicle Maint/Repair (ISF 57)	2,687	2,688	2,900	983	3,363
6231	Vehicle Parts & Tools	1,500	2,598	1,500	2,433	1,500
6232	Tires & Wheels	500	-	500	835	500
6324	Planning & Engineering Fees	-	-	-	-	-
6332	Lab Tests	500	812	500	-	500
6335	Other Purchased Services	1,500	733	1,500	3,742	1,500
6400	Insurance	10,174	7,368	8,100	3,107	8,100
6401	Insurance-Ded Exp & Other	-	-	530	-	530
6410	Bethel Airport Lease	-	-	-	-	-
6600	Bad Debts Expense	20,000	-	26,300	-	-
6710	Administrative Overhead GF	45,339	80,170	61,870	30,524	56,436
6711	Administrative Overhead - IT Services	33,260	19,921	19,800	14,561	33,118
9691	Piped Water Capital USDA Match	(9,362)	7,168	-	23,786	-
	Total MS&S	194,304	207,851	232,550	139,894	214,597
	Total Operating Expenses	587,631	429,752	542,857	228,289	537,072

Bethel Heights Water Treatment Personnel

Enterprise Fund (510-83)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIHI	19401	Public Works Director @ 5%	6,631		6,407	-	6,966
R2	19101	Admin Asst @ 5%	2,540		2,478	-	2,862
R4	25101	Utility Maintenance Foreman (15% of base salary)	10,530		10,273	-	8,677
R2	25102	Water Treatment Operator - Bethel Heights	86,706		84,591	-	96,078
R2	25103	Water Treatment Operator (50% of base salary)	24,144		23,555	-	28,005
	6000	Wages	130,551	119,383	127,304	68,201	142,588
		Merit Increases (Bargaining Unit only)	3,098	-	3,022	-	3,391
	6010	Overtime	37,000	37,364	37,000	27,769	37,000
		Subtotal of miscellaneous wages	40,098	37,364	40,022	27,769	40,391
		Total Wages	170,649	156,747	167,326	95,970	182,979
	6022	Holiday Pay	-	4,321	2,500	3,184	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=2.75)	13,496	30,300	6,365	-	18,648
	6030	Social Security Expense		-		468	-
	6031	Medicare: 1.45% of Total Wages	2,474	4,130	2,426	931	2,653
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	3,038	-	2,978	-	1,538
	6033	Workers' Compensation: (TW/100)*2.5833	4,408	2,600	4,323	92	4,727
	6034	PERS Contributions: TW*22%	37,543	37,532	36,812	20,141	40,255
	6040	Employee Group Benefits: (2119*12)*FTE (FTE=2.75)	44,499	14,877	69,927	10,585	69,927
	6041	Utility Benefit: (380*12)*FTE (FTE=2.75)	12,540	9,575	12,540	5,293	12,540
		BENEFITS AND TAXES	117,998	103,335	137,871	40,696	150,288
		TOTAL PERSONNEL	288,647	260,082	305,198	136,666	333,267

Bethel Heights Water Treatment Facility

Enterprise Fund (510-83)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	28,439	207,841	(7,214)	98,311	226,340
6010	Overtime	37,364	37,364	27,769	27,769	37,000
6040	Employee Group Health Benefits	37,532	14,877	20,141	10,585	69,927
Total Personnel		103,335	260,082	40,696	136,666	333,267
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	4,000	300	5,000	-	5,000
6100	Supplies	4,000	1,331	4,000	961	4,000
6103	Wearing Apparel	1,500	-	1,500	112	1,500
6108	Plumbing Supplies	3,000	1,785	5,000	2,040	5,000
6140	Chemicals	65,000	15,589	40,000	50,445	40,000
6150	Gasoline/Diesel/Oil	2,000	1,058	2,000	114	2,000
6153	Heating Fuel	120,260	218,056	207,800	103,387	207,800
6160	Electricity	88,695	106,006	104,000	56,625	130,525
6170	Telephone	500	-	-	-	-
6200	Minor Equipment	45,000	14,060	45,000	17,384	45,000
6230	Vehicle Maint/Repair (ISF 57)	2,566	2,688	2,950	1,000	3,421
6332	Lab Tests	4,000	3,820	4,000	4,483	4,000
6335	Other Purchased Services	25,000	11,825	25,000	5,406	25,000
6400	Insurance	65,626	24,130	26,600	10,219	26,600
6502	Advertising	500	-	-	-	-
6710	Administrative Overhead ICR	37,215	65,805	61,520	30,351	58,325
6711	Administrative Overhead - IT Services	33,260	18,988	18,800	13,825	33,118
Total MS&S		502,123	485,441	553,170	296,352	591,289
Total Operating Expenses		605,458	745,523	593,866	433,018	924,556

CITY-SUB WATER TREATMENT PERSONNEL

ENTERPRISE FUND (510-84)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIII	19401	Public Works Director 5%	6,631		6,407	-	6,966
R2	19101	Admin Asst @ 5%	2,540		2,478	-	2,862
R4	25101	Utility Maintenance Foreman (15% of base salary)	10,530		10,273	-	8,677
R3	25102	Water Treatment Facilities Coordinator	82,958		80,935	-	87,601
R2	25104	Water Treatment Operator	67,936		66,279	-	49,608
R2	25103	Water Treatment Operator (50% of base salary)	24,144		23,555	-	28,005
	6000	Wages	170,595	96,676	166,372	62,939	183,719
		Merit Increases	4,703	-	4,588	-	4,593
	6010	Overtime	37,000	42,865	37,000	62,116	45,000
		Subtotal of miscellaneous wages	41,703	42,865	41,588	62,116	49,593
		Total Wages	212,298	139,541	207,960	125,055	233,312
	6022	Holiday Pay	-	3,522	1,000	2,848	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=2.75)	17,340	18332	8,319	-	8,838
	6030	Social Security Expense		-		468	-
	6031	Medicare: 1.45% of Total Wages	3,078	2,295	3,015	1,883	3,383
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	3,779	-	3,702	-	1,953
	6033	Workers' Compensation: (TW/100)*2.5833)	5,484	3,266	5,372	90	6,027
	6034	PERS Contributions: TW*22%	46,706	32,764	45,751	26,471	51,329
	6040	Employee Group Benefits: (2119*12)*FTE	69,927	17,177	69,927	14,740	69,927
	6041	Utility Benefit: (380*12)*FTE (FTE=2.75)	12,540	3,856	12,540	2,846	12,540
BENEFITS & TAXES			158,854	81,212	149,626	49,347	153,997
TOTAL PERSONNEL			371,152	220,753	357,586	174,402	387,309

City-Sub Water Treatment Facility

Enterprise Fund (510-84)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Ben & Taxes (minus EGHB and OT)	75,149	160,711	283,071	97,546	272,382
6010	Overtime	37,000	42,865	37,000	62,116	45,000
6040	Employee Group Benefits	46,706	17,177	69,927	14,740	69,927
	Total Personnel	158,854	220,753	389,998	174,402	387,309
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	5,000	1,350	10,000	-	10,000
6100	Supplies	3,000	1,798	3,000	9	3,000
6103	Wearing Apparel	1,500	464	3,000	-	3,000
6108	Plumbing Supplies	3,000	2,649	3,000	51	3,000
6140	Chemicals	125,000	47,344	75,000	99,009	50,000
6150	Gasoline/Diesel/Oil	1,000	1,605	1,500	3,372	1,500
6153	Heating Fuel	108,667	183,391	179,600	54,235	120,000
6155	Water/Sewer/Garbage	1,500	-	-	-	-
6160	Electricity	69,153	77,115	77,200	42,892	98,900
6170	Telephone	50	20	50	10	50
6200	Minor Equipment	20,000	40,878	25,000	1,763	25,000
6230	Vehicle Maint/Repair (ISF 57)	2,581	3,201	4,000	1,356	4,638
6240	Property Maint.	-	149	-	-	-
6232	Tires & Wheels	-	-	-	-	-
6280	Depreciation-BLDGS/Plants	144,033	-	-	-	-
6290	Depreciation-M&E Water	5,028	-	-	-	-
6332	Lab Tests	15,000	12,883	15,000	11,179	15,000
6335	Other Purchased Services	252,000	308,889	25,000	45,326	15,000
6400	Insurance	24,083	15,025	16,500	6,325	16,500
6501	City Safety	-	-	-	-	-
6502	Advertising	500	-	500	-	500
6530	Finance Charges/Penalties	-	(40)	-	-	-
6710	Administrative Overhead ICR	52,690	93,167	64,720	31,930	67,783
6711	Administrative Overhead - IT Services	33,260	20,854	20,700	15,222	37,083
	Total MS&S	867,044	810,742	523,770	312,679	470,954
	Total Operating Expense	1,025,898	1,031,495	913,768	487,081	858,263

Hauled Sewer Personnel							
Enterprise Fund (510-85)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIII	19401	Public Works Director @ 5%	6,664		6,439	-	9699
R2	19101	Admin Asst @ 5%	2,540		2,478	-	2862
R4	24101	Utility Foreman (50% of base salary)	29,695		28,970	-	49561
R2	24102	Admin Asst - Water/Sewer (50% of base salary)	26,687		26,036	-	33192
R3	24112	Driver	55,899		54,536	-	89532
R3	24113	Driver	76,773		74,901	-	56010
R3	24114	Driver	74,900		73,073	-	54631
R3	24115	Driver	45,987		44,866	-	60317
R3	24116	Driver	49,495		48,288	-	53560
R3	24117	Driver	45,987		44,866	-	53560
R3	24118	Driver	45,987		44,866	-	53560
R3	24119	Driver	61,019		59,531	-	53560
R3	24120	Driver	49,495		48,288	-	53560
R3	20106	Driver (\$47,110 @ 50% HR, 25% S&R, 12.5% HW, 12.5% HS)	6,821		6,654	-	7001
	6000	Wages	577,949	529,041	563,790	299,561	630,605
		Merit Increases (Bargaining unit only)	14,282	-	13,934	-	15,523
	6010	Overtime	125,000	191,891	125,000	125,579	200000
		Subtotal of miscellaneous wages	139,282	191,891	138,934	125,579	215,523
		Total Wages	717,231	720,932	702,724	425,140	846,128
	6022	Holiday Pay	-	17,912	7,000	12,955	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=11.35)	57,307	59,996	28,190	1,921	31,530
	6030	Social Security	1,486	21,845	1,486	15,416	20,000
	6031	Medicare: 1.45% of Total Wages	10,400	11,617	10,189	6,294	12,269
	6032	Unemployment Insurance: 1.78%*TW \$39,900 cap	12,767	-	12,508	-	-
	6033	Workers' Compensation: (TW/100)*2.5833	18,528	22,352	18,153	683	21,858
	6034	PERS Contributions: TW*22%	157,791	92,283	154,599	40,898	186,148
	6040	Employee Group Benefits: (2119*12)*FTE	260,128	107,217	288,608	44,344	288,608
	6041	Utility Benefit: (380*12)*FTE (FTE=11.35)	46,649	12,307	51,756	1,200	51,756
		BENEFITS AND TAXES	565,056	345,529	572,490	123,710	612,169
		TOTAL PERSONNEL	1,282,287	1,066,461	1,275,214	548,850	1,458,297

Hauled Sewer (510-85)						
Enterprise Fund (510-85)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes (minus EGHB and Overtime)	897,159	767,353	861,606	378,927	969,689
6000	Overtime	125,000	191,891	125,000	125,579	200,000
6010	Employee Group Health Benefits (EGHB)	260,128	107,217	288,608	44,344	288,608
	Total Personnel	1,282,287	1,066,461	1,275,214	548,850	1,458,297
MATERIALS, SUPPLIES, & SERVICES:						
6060	Training/Travel	-	-	45,000	-	10,000
6100	Supplies	10,000	8,453	15,000	4,316	15,000
6103	Wearing Apparel	10,000	9,974	15,000	4,362	15,000
6140	Calcium Chloride	-	201	-	-	-
6150	Gasoline/Diesel/Oil	90,000	127,103	9,600	80,093	110,000
6153	Heating Fuel (25% of City Shop)	19,351	30,994	134,700	5,155	16,250
6155	Water/Sewer/Garbage (25% of City Shop)	6,809	6,232	7,200	3,518	6,492
6160	Electricity (25% of City Shop)	10,702	13,982	14,900	6,399	15,875
6170	Telephone	100	-	-	-	-
6171	Staff Cellular Phones	8,000	-	5,500	-	5,500
6200	Minor Equipment	-	204	5,000	515	5,000
6230	Vehicle Maint/Repair (ISF 57)	281,345	282,385	295,000	99,992	342,085
6231	Vehicle Parts & Tools	50,000	57,809	50,000	66,824	100,000
6232	Tires & Wheels	6,000	1,675	20,000	2,867	20,000
6240	Property Maint. (ICR)	46,895	41,511	55,640	18,332	51,735
6335	Other Purchased Services	5,000	2,257	3,000	1,374	3,000
6400	Insurance	28,587	79,702	86,600	52,839	86,600
6530	Finance Charge/Penalties		81		-	
6539	Miscellaneous	1,200	504	2,000	216	2,000
6710	Administrative Overhead - GF	138,261	244,478	188,016	92,759	255,216
6711	Administrative Overhead - IT Services	33,260	18,255	18,100	13,310	33,118
	Total MS&S	745,509	925,800	970,256	452,871	1,092,871
	Total Operating Expenses	2,027,797	1,992,261	2,245,470	1,001,721	2,551,167

Piped Sewer Personnel

Enterprise Fund (510-86)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIII	19401	Public Works Director @ 10%	13,262		12,814	-	13,931
R2	19101	Admin Asst @ 10%	5,079		4,955	-	5,724
R4	25101	Utility Maintenance Foreman (30% of base salary)	21,058		20,545	-	17,353
R2	25102	Utility Maintenance Worker (45% of base salary)	27,073		26,412	-	22,770
R2	25103	Utility Maintenance Worker (45% of base salary)	36,275		35,390	-	22,770
R2	25104	Utility Maintenance Worker (45% of base salary)	39,018		38,066	-	22,324
R2	25105	Utility Maintenance Worker (45% of base salary)	34,548		33,705	-	22,324
		Temporary Maintenance Worker (800 hrs @ 19/hr)	15,970		15,580	-	15,200
	6000	Wages	192,282	57,250	187,467	31,113	142,396
		Merit Increase (Bargaining Unit only)	4,475	-	4,366	-	3,212
	6010	Overtime	34,375	23,038	34,375	14,499	35,000
		Subtotal of miscellaneous wages	38,850	23,038	38,741	14,499	38,212
		Total Wages	231,132	80,288	226,208	45,612	180,608
	6022	Holiday Pay	-	2,074	800	789	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=2.75)	9,614	9,432	9,373	1,212	7,120
	6030	Social Security (6.2% of Temp Wages)	990	-	966	937	942
	6031	Medicare: 1.45% of Total Wages	3,351	1,317	3,280	673	2,619
	6032	Unemployment Insurance: 1.78%*TW	4,114	-	4,027	-	-
	6033	Workers' Compensation: (TW/100)*2.5833	5,971	3,437	5,844	(297)	4,666
	6034	PERS Contributions: TW*22%	50,849	19,275	49,766	6,865	39,734
	6040	Employee Group Benefits: (2119*12)*(FTE=2.75)	69,927	39,561	69,927	6,347	69,927
	6041	Utility Benefit: (380*12)*FTE (FTE=2.75)	12,540	4,692	12,540	1,989	12,540
		BENEFITS & TAXES	157,357	79,788	156,522	18,515	137,547
		TOTAL PERSONNEL	388,489	160,076	382,731	64,127	318,155

PIPED SEWER

ENTERPRISE FUND (510-86)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes (minus EGHB & Overtime)	97,477	97,477	206,388	43,281	213,228
6000	Overtime	23,038	23,038	14,499	14,499	35,000
6010	Employee Group Health Benefits	39,561	39,561	6,347	6,347	69,927
	Total Personnel	160,076	160,076	227,234	64,127	318,155
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	3,000	-	5,000	-	5,000
6100	Supplies	3,000	1,054	3,000	5,409	3,000
6103	Wearing Apparel	3,000	629	4,000	5,076	4,000
6108	Plumbing Supplies	5,000	160	7,500	6,630	7,500
6150	Gasoline/Diesel/Oil	15,000	4,050	15,000	4,974	15,000
6153	Heating Fuel	36,000	53,142	60,000	15,096	60,000
6155	Water/Sewer/Garbage	563	2,317	2,200	1,351	2,200
6160	Electricity (Lift Stations & Mt. Bldg)	100,935	109,312	94,900	46,627	108,000
6170	Telephone	2,000	-	-	-	-
6200	Minor Equipment	140,000	135,141	150,000	64,006	150,000
6230	Vehicle Maint/Repair (ISF 57)	3,108	2,759	3,600	1,220	4,175
6231	Vehicle Parts & Tools	1,500	1,475	1,500	3,198	1,500
6232	Tires & Wheels	50	-	500	2,141	500
6335	Other Purchased Services	20,000	16,942	20,000	35,415	20,000
6400	Insurance	18,838	7,275	8,000	3,069	8,000
6410	Leased Property - Lift Station	17,000	14,369	17,000	15,805	17,000
6503	Dues & Subscriptions	-	-	-	1,500	-
6539	Miscellaneous Expenses	-	-	-	-	-
6600	Bad Debts Expense	20,000	-	18,500	-	-
6710	Administrative Overhead - GF	45,417	80,307	61,946	30,562	55,680
6711	Administrative Overhead - IT Services	33,260	19,921	19,800	14,561	33,118
6890	Piped Sewer Capital	-	-	57,137	-	-
	Total MS&S	467,671	448,853	549,583	256,640	494,673
	Total Operating Expenditures	627,747	608,929	776,817	320,767	812,828

Sewer Lagoon Personnel

(510-87)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:							
MIII	19401	Public Works Director @ 20%	25,888		25,013	-	27,863
R2	19101	Admin Asst @ 20%	10,159		9,911	-	11,448
R4	25101	Utility Mnt Foreman(10% base salary)	7,019		6,848	-	5,784
R2	25102	Utility Mnt Worker(10% base salary)	6,016		5,869	-	5,060
R2	25103	Utility Mnt Worker(10% base salary)	8,061		7,864	-	5,060
R2	25104	Utility Mnt Worker(10% base salary)	8,671		8,459	-	4,941
R2	25105	Utility Mnt Worker(10% base salary)	7,677		7,490	-	4,941
	6000	Wages	73,490	21,256	71,454	12,850	65,097
		Merit Increase (Bargaining Unit only)	1,190	-	1,161	-	931
	6010	Overtime	10,250	5,281	-	3,729	
		Subtotal of misc wages	11,440	5,281	1,161	3,729	931
		Total Wages	84,930	26,537	72,615	16,579	66,028
	6022	Holiday Pay	-	556	300	258	-
	6023	Leave Cashout: (BW*5%)(FTE=0.9)	4,856	3,777	3,573	269	3,301
	6030	Social Security	24	-	24	312	-
	6031	Medicare: 1.45% of Total Wages	1,231	433	1,053	240	957
	6032	Unemployment Ins: 1.78%*TW	1,512	-	1,293	-	-
	6033	Workers' Comp: (TW/100)*2.5833	2,194	843	1,876	(140)	1,706
	6034	PERS Contributions: TW*22%	18,685	6,279	15,975	2,587	14,526
	6040	Emp Group Ben: (2119*12)*FTE	22,885	10,649	22,885	2,153	22,885
	6041	Utility Benefit: (380*12)*(FTE=0.9)	4,104	1,204	4,104	990	4,104
		BENEFITS & TAXES	55,491	23,741	51,082	6,669	47,480
		TOTAL PERSONNEL	140,421	50,278	123,697	23,248	113,508

Sewer Lagoon						
(510-87)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
502	Salaries, Bens & Taxes minus EGHB and OT	34,348	34,348	17,366	17,366	90,622
	Overtime	5,281	5,281	3,729	3,729	-
512	Employee Group Health Benefits	10,649	10,649	2,153	2,153	22,885
	Total Personnel	50,278	50,278	23,248	23,248	113,508
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	3,000	-	3,000	-	3,000
6100	Supplies	2,500	2,218	1,000	279	1,000
6103	Wearing Apparel	2,000	-	3,000	-	3,000
6108	Plumbing Supplies	3,000	-	3,000	-	3,000
6150	Gasoline/Diesel/Oil	20,000	-	38,000	1,014	38,000
6200	Minor Equipment	-	-	1,100	213	1,100
6230	Vehicle Maint/Repair (Int. Svc. Fund 57)	22	-	-	-	-
6231	Vehicle Parts & Tools	-	1,528	160	39	160
6320	Lagoon Study	-	-	56,101	10,193	-
6332	Lab Tests	15,000	10,188	15,000	7,492	15,000
6335	Other Purchased Services	-	-	500	393	500
6400	Insurance	41,328	498	500	181	500
6420	Interest Sewer Lagoon Bond	-	19,554	-	18,836	-
6501	City Safety	-	-	-	-	-
6502	Advertising	500	-	-	-	-
6503	Dues & Subscriptions (SOA Permit)	7,920	7,920	8,000	-	8,000
6710	Administrative Overhead- GF	17,253	30,508	29,905	14,754	19,865
	Total MS&S	112,523	72,414	159,266	53,394	93,125
	Total Operating Expenses	162,801	122,692	182,514	76,642	206,633

MUNICIPAL DOCK FUND SUMMARY

ENTERPRISE FUND (520-50)	FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
Operating Revenues:					
Municipal Dock Operations	974,000	944,649	1,079,552	1,082,879	1,089,552
Small Boat Harbor	265,500	271,024	335,500	263,319	310,500
TOTAL OPERATING REVENUES:					
	1,239,500	1,215,673	1,415,052	1,346,198	1,400,052
Total Operating Expenses:					
Municipal Dock Operations	892,072	564,391	966,252	394,846	947,537
Small Boat Harbor	279,754	187,971	268,722	117,977	268,712
TOTAL OPERATING EXPENSES:	1,171,826	752,362	1,234,974	512,823	1,216,249
TOTAL OPERATING INCOME/(LOSS)	67,674	463,311	180,078	833,375	183,803

MUNICIPAL DOCK REVENUES

ENTERPRISE FUND (520-50)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Revenues:						
40-4402	City Dock-Penalties & Interest	2,000	-	-	-	-
41-4577	Pension on Behalf	-	-	-	-	-
43-4402	City Dock-Storage	90,000	68,872	50,000	39,154	90,000
43-4403	City Dock-Permits	3,000	5,340	3,000	-	3,000
43-4404	City Dock-Wharfage	150,000	122,565	140,000	181,453	140,000
43-4405	City Dock-Dockage	25,000	19,147	25,000	20,141	25,000
43-4406	Slough Berth-Moorage	-	-	-	-	-
43-4408	Slough Berth-Dockage	-	-	2,000	-	2,000
43-4410	Petro Yard-Storage	2,000	-	2,000	-	2,000
43-4412	PetroPort-Fuel Thru-Put (\$.06/ gal.)	440,000	453,524	550,000	499,273	500,000
43-4413	PetroPort-Dockage	20,000	15,735	20,000	24,680	20,000
43-4415	Seawall-Moorage	24,000	31,408	30,000	-	30,000
43-4416	Seawall Dockage	20,000	44,569	30,000	15,548	30,000
43-4418	Beach-Storage	30,000	39,914	25,000	74,330	35,000
43-4419	Beach-Wharfage	95,000	56,200	100,000	131,790	100,000
43-4420	Beach-Dockage	25,000	45,807	25,000	21,640	35,000
44-4440	Lease Revenue	24,000	-	30,552	30,554	30,552
45-4388	Extra Water Calls	20,000	23,628	25,000	28,878	25,000
45-9460	East Addition-Storage	-	-	-	181	-
46-4640	Transfers from Other Funds	-	-	-	-	-
49-4439	Miscellaneous Revenue	2,000	-	2,000	1,040	2,000
49-4590	Investment Income	2,000	17,940	20,000	14,217	20,000
	Total Revenues	974,000	944,649	1,079,552	1,082,879	1,089,552

Municipal Dock Personnel

(520-50)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL							
MIII	27101	Port Director 95% MD 5% SBH	87,368		85,693		89,984
R2	27102	Administrative Assistant 67% MD 33% SBH	35,674		31,625		37,413
R3	27103	City Dock Attendant 90% MD 10% SBH	52,638		44,762		49,168
	27902	Seasonal City Dock Attendant 1,040 hrs @ \$22/hr. 90% MD 10% SBH	18,133		16,848		20,592
	27901	PT Welder/Mech (160 hours @ \$25.00/hr)	4,203		4,203		4,000
	6000	Wages	198,015	134,737	183,131	80,785	201,157
		Merit Increases (Bargaining Unit only)	2,766	-	3,271	-	5,029
	6010	Overtime	5,000	5,132	5,000	1,888	5,000
		Subtotal of miscellaneous wages	7,766	5,132	8,271	1,888	10,029
		Total Wages	205,781	139,869	191,402	82,673	211,186
	6022	Holiday Pay	-	4,650	2,300	3,679	2,300
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=3.92)	9,901	20,963	10,616	9,588	10,058
	6030	Social Security (6.2% of Temp Wages)	1,124	1,264	3,227	200	1,277
	6031	Medicare: 1.45% of Total Wages	2,984	2,454	2,775	1,443	3,062
	6032	Unemployment Insurance: 1.78%*TW (W/ \$39,900 cap)	3,663	-	3,407	-	3,759
	6033	Workers' Compensation: (TW/100)*2.5833	5,316	3,156	4,944	273	5,456
	6034	PERS Contributions: TW*22%	43,563	30,643	40,289	18,289	44,255
	6040	Employee Group Benefits: (2119*12)*FTE	99,678	42,922	99,678	23,376	99,678
	6041	Utility Benefit: (380*12)*FTE (FTE=3.92)	17,875	8,506	17,875	3,777	17,875
		BENEFITS & TAXES	184,104	114,558	185,111	60,625	187,719
		TOTAL PERSONNEL	389,885	254,427	376,513	143,298	398,905

Municipal Dock Expenses

Enterprise Fund (520-50)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	285,207	206,373	271,835	118,034	294,227
	Overtime	5,000	5,132	5,000	1,888	5,000
	Employee Group Health Benefits	99,678	42,922	99,678	23,376	99,678
	Total Personnel	389,885	254,427	376,513	143,298	398,905
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	5,000	2,690	5,000	1,135	5,000
6100	Supplies	8,000	5,279	8,000	978	8,000
6103	Wearing Apparel	5,000	-	5,000	127	5,000
6121	Municipal Dock Gravel	130,000	-	130,000	130,000	130,000
6150	Gasoline/Diesel/Oil	15,000	9,911	15,000	7,457	15,000
6153	Heating Fuel	3,600	6,018	10,000	1,841	5,000
6155	Water/Sewer/Garbage	5,500	12,986	10,000	6,621	13,500
6156	Water for Barges	12,000	-	12,000	-	12,000
6160	Electricity	13,509	18,285	13,509	8,116	18,900
6170	Telephone	2,250	2,294	2,250	1,021	2,250
6171	Staff Cellular Phones	3,000	1,580	2,400	799	2,400
6200	Minor Equipment	30,000	11,623	30,000	137	30,000
6230	Vehicle Maint/Repair (ISF 57)	2,839	3,374	3,200	1,085	3,711
6231	Vehicle Parts & Tools	20,000	32,853	20,000	2,869	20,000
6235	Tires & Wheels	-	3,088	5,000	-	-
6241	Municipal Dock Maintenance	42,815	17,086	50,000	2,622	50,000
6242	Seawall Maintenance	7,000	1,208	7,000	-	7,000
6244	Property Maintenance (ICR)	28,137	24,857	26,600	10,999	31,041
6320	Other Professional Fees	10,000	13,718	20,000	1,053	20,000
6321	Legal Fees	5,000	1,424	5,000	-	5,000
6324	Planning/Engineering Fees	5,000	-	50,000	-	10,000
6339	Other Purchased Services	30,000	21,426	30,000	7,755	30,000
6400	Insurance	35,093	13,467	15,000	5,796	15,000
6502	Advertising	1,000	275	1,000	275	1,000
6503	Dues & Subscriptions	1,000	225	2,000	236	2,000
6531	Bank Charges	3,000	1,882	3,000	1,235	3,000
6539	Miscellaneous	-	-	900	286	900
6710	Administration Overhead - GF	45,185	79,897	83,580	41,235	69,812
6711	Administration Overhead - I.T. SVCS	33,260	24,518	24,300	17,870	33,118
	Total MS&S	502,187	309,964	589,739	251,548	548,632
	Total Operating Expenses	892,072	564,391	966,252	394,846	947,537

Small Boat Harbor Personnel

Enterprise Fund (520-55)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MIII	27101	Port Director @ 5% w/ 95% to Muni Dock	5,993		5,790	-	4,736
R2	27102	Administrative Assistant (33% SBH 67% to Muni Dock)	17,571		17,143	-	19,427
R3	27103	City Dock Attendant (10% SBH 90% to Muni Dock)	5,706		5,567	-	5,463
	27902	Seasonal City Dock Attendant (1,040 hrs. @ \$22/hr. @ 10% SBH 90% MD)	2,015		1,966	-	2,288
	27903	Port Attendant - 5 mo. (867 hrs.) @ 19/hr	15,864		15,477	-	16,473
	27904	Port Attendant - 5 mo. (867 hrs.) @ 19/hr	15,864		15,477	-	16,473
	27905	Port Attendant - 5 mo. (867 hrs.) @ 19/hr	15,864		15,477	-	16,473
	27906	Port Attendant - 5 mo. (867 hrs.) @ 19/hr	15,864		15,477	-	16,473
	27907	Port Attendant - 5 mo. (867 hrs.) @ 19/hr	15,864		15,477	-	16,473
	6000	Wages	110,605	68,854	107,851	46,590	114,279
	6010	Overtime	3,000	-	-	922	1,500
		Merit Increase 2.5%	582	2,168	568	-	622
		Subtotal of miscellaneous wages	3,582	2,168	568	922	2,122
		Total Wages	114,187	71,022	108,418	47,512	116,401
	6022	Holiday Pay	-	1,478	700	627	-
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=0	1,164	8,940	1,266	630	2,794
	6030	Social Security @ 6.2% of PT Wages	5,043	1,548	5,235	2,197	5,248
	6031	Medicare: 1.45% of Total Wages	1,656	1,191	1,599	710	1,688
	6032	Unemployment Insurance: 1.78%*TW	2,033	-	1,963	-	341
	6033	Workers' Compensation: (TW/100)*2.583	2,950	3,268	2,849	(88)	3,007
	6034	PERS Contributions: TW*22%	25,121	11,795	5,572	2,794	25,608
	6040	Employee Group Benefits: (2119*12)*FTE	12,205	17,097	12,205	1,671	12,205
	6041	Utility Benefit: (380*12)*FTE (FTE=0.48)	25,121	5,741	24,261	1,434	2,189
		BENEFITS & TAXES	75,292	51,058	55,650	9,977	53,080
		TOTAL PERSONNEL	189,479	122,080	164,069	57,489	169,482

SMALL BOAT HARBOR (520-55)

Enterprise Fund (520-55)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Revenues						
43-4409	SBH Petro Port-Fuel Thru-Put (\$.02/gal.)	220,000	235,819	275,000	250,301	250,000
43-4424	SBH-Storage	3,500	5,175	3,500	3,650	3,500
43-4422	SBH-Moorage	20,000	18,620	15,000	5,078	15,000
45-4535	SBH-Permits	20,000	11,280	20,000	3,210	20,000
45-4559	Permits/Licenses/Fees	-	130	-	1,080	-
	Total Operating Revenue	263,500	271,024	313,500	263,319	288,500
49-4439	Misc Revenue	-	-	2,000	-	2,000
49-4590	Investment Income	2,000	-	20,000	-	20,000
	Total Revenue	265,500	271,024	335,500	263,319	310,500
Expenses						
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	174,273	104,983	151,863	54,896	155,776
	Overtime	3,000	-	-	922	1,500
	Employee Group Health Benefits	12,205	17,097	12,205	1,671	12,205
	Total Personnel	189,479	122,080	164,069	57,489	169,482
MATERIALS, SUPPLIES, & SERVICES						
6100	Supplies	3,000	4,558	3,000	2,121	3,000
6103	Wearing Apparel	3,000	-	3,000	-	3,000
6132	Small Boat Harbor Gravel	30,000	-	30,000	30,075	30,000
6150	Gasoline/Diesel/Oil	8,000	12,802	10,000	6,492	8,000
6155	Water/Sewer/Garbage	7,100	-	7,100	-	7,100
6160	Electricity	2,000	-	2,000	-	2,000
6200	Minor Equipment	3,000	3,635	4,000	2,577	4,000
6241	Small Boat Harbor Maintenance	5,500	3,502	6,000	-	6,000
6400	Insurance	5,470	1,968	5,470	2,815	5,470
6539	Miscellaneous	1,000	162	1,000	86	1,000
6710	Administrative Overhead-GF	22,205	39,264	33,083	16,322	29,661
	Total Materials, Supplies & Services	90,275	65,891	104,653	60,488	99,231
	Total Operating Expenses	279,754	187,971	268,722	117,977	268,712

Leased Properties Enterprise Fund Summary		FY23 Budget	F23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
REVENUES:						
	Total Leased Properties Revenue	874,029	859,323	859,323	430,967	884,001
	Total Operating Expenses	464,573	461,358	460,619	212,648	499,312
Excess of Revenues over Operating Expenses		409,456	397,965	398,704	218,319	384,689
DEBT PAYMENTS:						
	Court Complex Loan/Bond Payment	190,000	190,000	262,750	-	267,750
	Total Debt Payments	262,650	250,500	262,750	-	267,750
Net Income					218,319	116,939

Other Leased Properties (530-44)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
REVENUES:						
4440	Lease-Fermin & Ulye Iturbide	1	-	1	-	1
4450	Lease- YKHC-PATC	14,400	2,400	-	-	-
4451	Lease-Bethel Sportsman Club	1	1	1	1	1
4456	Lease-Lions Cub	1	-	1	-	1
4457	Lease-BNC Owl Street Park	100	-	100	-	100
4459	Lease-Bethel Group Home	100	-	100	-	3,600
4452	Lease- Faulkner Walsh	12,600	12,600	12,600	6,300	12,600
4453	Lease-YKHC Warehouse	4,200	4,200	4,200	2,100	4,200
4455	Lease-State of AK DMV	12,120	12,360	12,360	6,180	12,360
4461	Lease-AVCP Head Start	2,400	2,700	2,400	1,350	2,700
4463	Lease-BTP/Swanson's	21,120	22,560	21,120	11,280	21,120
4467	Lease-Bethel Korean Full Gospel	1,800	1,800	1,800	900	1,800
4470	Lease-GCI	10,342	10,846	10,200	5,863	12,252
4472	Lease-Other	-	6,000	-	-	-
4474	SOA-DOT Fish and Game	-	9,600	9,600	4,800	9,600
9455	YKHC-Vintage Bldg	19,200	19,200	19,200	9,600	19,200
Total Revenues		98,385	104,267	93,683	48,374	99,535

LEASED PROPERTY ENTERPRISE FUND - NORA GUINN COURT COMPLEX (530-55)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
REVENUES:						
44-4444	SoA - Alaska Court System (\$51,135 per mo)	613,620	595,211	613,620	297,606	613,620
44-4447	SoA - Dept of Law (\$13,612 per mo)	161,784	152,485	157,822	78,911	163,346
44-445	SoA - ACS Electricity Reimb.	-	-	-	-	-
49-9455	Investment Income	240	7,360	-	6,076	7,500
	Total Revenues	775,644	755,056	771,442	382,593	784,466
EXPENSES:						
6153	Heating Fuel	66,847	85,044	80,000	1,865	61,598
6155	Water, Sewer, Garbage-Court Complex	24,000	17,543	24,000	12,688	23,240
6160	Electricity - Court Complex	68,190	74,283	65,000	43,571	97,570
6170	Telephone	700	751	800	376	800
6240	Property Maintenance	10,341	15,781	16,000	37,685	25,000
6241	Property Maintenance (ICR) 15%	140,684	124,287	166,919	54,997	155,204
6333	Janitorial - Court Complex	113,832	82,150	61,500	44,925	89,500
6339	Other Purchased Services	3,500	10,751	2,500	2,283	2,500
6400	Insurance	36,480	50,768	43,900	14,258	43,900
	Total Operating Expenses	464,573	461,358	460,619	212,648	499,312
	Net Operating Income or (Loss)	311,071	293,698	310,823	169,945	285,154
DEBT PAYMENTS:						
25000	Lease Revenue Bonds Payable	1,082,375	1,115,000	935,000	910,000	695,000
25100	Court Complex Bond Principal	190,000	190,000	240,000	-	255,000
6420	Courthouse Loan Interest	72,650	32,625		-	-
6421	Court Complex Bond Interest	-	27,875	22,750	-	12,750
55-6422	Amortization of Bond Premium	-	-	-	-	-
	Total Debt Payments	262,650	250,500	262,750	-	267,750
	Net Income (Loss) before Depr.	48,421	43,198	48,073	169,945	17,404

BETHEL PUBLIC TRANSIT SYSTEM REVENUES
(Enterprise Fund) (560-50)

Revenue Sources		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Local Sources:						
40-4600	Contributed Support by City of Bethel	-	-	172,976	-	187,883
	Total	-	-	172,976	-	187,883
Federal Sources:						
41-4101	Section 5311 Grant	426,232	544,040	257,443	154,674	257,443
41-4102	CARES Act Transit Grant (Section 5311)	-	-	-	-	-
42-4577	Pension on Behalf	-	-	-	-	-
	Total	426,232	544,040	257,443	154,674	257,443
Charges for Services:						
43-4370	Bus Fares	15,000	21,080	40,000	15,260	40,000
43-4371	Bus Fares - Prepaid	-	-	-	-	-
	Total	15,000	21,080	40,000	15,260	40,000
Misc Revenue:						
49-9515	Bus Stop Shelter Reimbursement	-	-	-	-	-
	Total	-	-	-	-	-
	TOTAL REVENUE	441,232	565,120	470,419	169,934	485,326

Bethel Public Transit System Personnel

Enterprise Fund (560-50)			FY23 Budget	FY23 Actuals	FY24 Budget	Dec. 2023 Actuals	FY25 Budget
PERSONNEL:							
R4	29101	Transit Manager	55,058		55,058		59,002
R2	29102	Driver	49,592		50,832		54,483
R2	29201	Driver- Part-Time (25 hours/week)	28,197		18,720		25,300
	6000	Wages	132,847	65,165	124,610	63,382	138,785
R4	29901	Driver- On Call (budgeted at 12 hours/week)	-	-	-	-	-
		Merit Increases (Bargaining Unit only)	3,321	-	2,647	-	2,837
	6010	Overtime	-	3,846	-	5,704	-
		Subtotal of miscellaneous wages	3,321	3,846	2,647	5,704	2,837
		Total Wages	136,168	69,011	127,257	69,086	141,622
	6022	Holiday Pay	-	1,930	800	3,076	800
	6023	Leave Cashout: (BW*5%) of FTEs (FTE=2.5)	6,642	21,802	6,231	4,155	6,939
	6030	Social Security (6.2% of Temp Wages)	-	890	-	714	-
	6031	Medicare: 1.45% of Total Wages	1,974	1,375	1,845	1,146	2,054
	6032	Unemployment Insurance: 1.78%*TW	2,424	0	2,265	-	2,521
	6033	Workers' Compensation: (TW/100)*2.5833	3,518	3,435	3,287	254	3,659
	6034	PERS Contributions: TW*22%	29,957	15,997	27,997	14,603	31,157
	6040	Employee Group Benefits: (2119*12)*FTE	63,570	22,524	63,570	25,104	63,570
	6041	Utility Benefit: (380*12)*FTE (FTE=2.5)	11,400	4,982	11,400	3,424	11,400
		BENEFITS & TAXES	119,485	72,935	117,395	52,476	122,099
		TOTAL PERSONNEL	255,653	141,946	244,652	121,562	263,721

BETHEL PUBLIC TRANSIT SYSTEM ENTERPRISE FUND

ENTERPRISE FUND (560-50)		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
PERSONNEL:						
	Salaries, Benefits & Taxes minus EGHB	11,400	115,576	181,082	90,754	200,151
6010	Overtime	-	3,846	-	5,704	-
6040	Employee Group Health Benefits	63,570	22,524	63,570	25,104	63,570
	Total Personnel	74,970	141,946	244,652	121,562	263,721
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	-	2,119	2,000	(3,629)	2,000
6100	Supplies	1,500	3,999	2,000	3,260	2,000
6103	Wearing Apparel	-	124	-	-	-
6150	Gasoline/Diesel/Oil	29,000	13,679	32,000	13,117	32,000
6153	Heating Fuel	10,583	12,226	13,000	10,112	22,000
6155	Water/Sewer/Garbage	3,300	2,434	1,200	2,027	4,200
6160	Electricity	7,724	7,354	7,500	4,846	11,100
6170	Telephone	700	10	700	10	700
6171	Staff Cellular Phones	1,200	348	-	299	-
6230	Vehicle Maint./Repair (ISF 57)	18,184	14,835	26,000	8,813	30,150
6231	Vehicle Maint. (Parts & Tools)	20,000	1,684	20,000	1,271	20,000
6232	Tires & Wheels	2,000	-	3,000	-	3,000
6326	Contractor Fees	-	-	-	-	-
6339	Other Purchased Services	-	-	-	-	-
6400	Insurance	16,281	7,843	13,889	5,035	13,889
6503	Dues & Subscriptions	300	885	300	32	300
6539	Miscellaneous	-	250	1,500	88	1,500
6710	Administrative Overhead- ICR	41,548	48,701	48,779	24,066	46,154
6711	Administrative Overhead - IT	33,260	14,516	15,000	11,031	33,118
	Total MS&S	185,580	131,007	186,868	80,378	222,111
	Total Operating Expenses	260,550	272,953	431,520	201,940	485,832

Internal Service Funds

560 - Vehicle & Equipment Maintenance

Employee Group Health Benefits

Vehicles & Equipment Maintenance Personnel

Internal Service Fund (570-50)			FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Proposed Budget
PERSONNEL:							
MIII	19101	Public Works Director @ 5%	7,069		6,631	-	6,966
R2	19401	Admin Asst. @ 5%	2,733		2,540	-	2,862
R4	26101	Foreman	79,275		73,659	-	77,417
R3	26102	Heavy Equipment Mechanic	63,382		58,891	-	53,560
R3	26103	Heavy Equip Mechanic II	54,772		50,892	-	66,576
R3	26104	Mechanic II/Oiler	63,406		58,914	-	53,560
R3	26105	Mechanic II/Oiler	60,388		56,109	-	54,631
R2	26106	Mechanic I	55,899		51,939	-	50,600
R2	26107	Parts Inventory Clerk	55,373		51,450	-	50,600
	6000	Wages	442,297	278,558	411,024	161,698	416,772
		Merit Increases (BU only)	10,881		10,110	-	10,245
	6010	Overtime/Shift Differential	15,000	3,041	15,000	297	15,000
		Subtotal of misc wages	25,881	3,041	25,110	297	25,245
		Total Wages	468,178	281,599	436,134	161,995	442,017
	6022	Holiday Pay	-	8,945	4,500	6,886	-
	6023	Leave Cashout: (BW*5%)	57,710	24,850	20,551	23,212	22,101
	6031	Medicare: 1.45% of TW	6,789	4,817	6,324	2,920	6,409
	6032	Unemployment Ins: 1.78%*TW	7,952	-	7,763	-	7,868
	6033	Workers' Comp: (TW/100)*2.5833	11,540	11,801	11,267	6,394	11,419
	6034	PERS Contributions: TW*22%	102,999	66,400	95,949	41,946	97,244
	6040	Emp Group Ben: (2119*12)*FTE	180,539	106,849	180,539	63,793	180,539
	6041	Utility Ben: (380*12)* (FTE=7.1)	32,376	24,762	32,376	14,028	32,376
		BENEFITS AND TAXES	399,905	248,424	359,269	159,180	357,955
		TOTAL PERSONNEL	868,082	530,023	795,403	321,175	799,972

Vehicles & Equipment Maintenance

Internal Service Fund (570-50)		FY23 Budget	FY23 Actuals	FY24 Budget	Dec. 2023 Actuals	FY25 Budget
ALLOCATIONS TO V & E:						
4651	From General Fund-City Administration	1,285	1,344	2,000	678	1,163
4653	From General Fund-Finance	1,266	1,344	2,000	678	2,319
4654	From General Fund-Planning	1,559	1,344	1,739	508	1,739
4655	From General Fund-Fire	18,000	11,869	20,873	7,594	20,873
4656	From General Fund-Police	17,554	25,401	23,888	7,435	23,888
4657	From General Fund-PW Admin	2,457	3,455	4,986	1,227	4,986
4658	From General Fund-Streets & Roads	146,047	134,485	173,942	42,809	173,942
4661	From General Fund-Property Maintenance	5,713	5,456	7,190	2,102	7,190
4665	From General Fund-IT Services	1,280	1,344	3,479	1,017	3,479
4672	From Enterprise Fund-Hauled Water	268,201	278,801	299,700	101,585	347,535
4673	From Enterprise Fund-Hauled Sewer	281,345	282,385	295,000	99,992	342,085
4674	From Enterprise Fund-Piped Water	2,687	2,688	2,900	983	3,363
4664	From Enterprise Fund-Piped Sewer	3,108	2,759	3,600	1,220	4,175
4678	From Enterprise Fund-Water Trmt.-Bethel Hgts	2,566	2,688	2,950	1,000	3,421
4680	From Enterprise Fund-City Sub Water Trmt.	2,581	3,201	4,000	1,356	4,638
4685	From Enterprise Fund-Sewer Lagoon	22	-	-	-	-
4676	From Enterprise Fund-Refuse Hauling	61,581	67,256	72,000	24,405	83,492
4677	From Enterprise Fund-Landfill Operations	67,728	68,189	80,000	27,116	92,769
4671	From Enterprise Fund-Port	2,839	3,374	3,200	1,085	3,711
4684	From Enterprise Fund-Bethel Transit System	18,184	14,835	26,000	8,813	30,150
4686	From YK Aquatic Training Center	97	1,130	1,000	290	1,156
Total Revenues		906,100	913,348	1,029,447	331,894	1,156,074
PERSONNEL:						
Salaries, Benefits & Taxes minus EGHB		672,544	420,133	257,085	257,085	604,433
Overtime		15,000	3,041	297	297	15,000
Employee Group Health Benefits		180,539	106,849	63,793	63,793	180,539
Total Personnel		868,082	530,023	321,175	321,175	799,972
MATERIALS, SUPPLIES, & SERVICES:						
6060	Travel/Training	15,000	48	10,000	-	10,000
6100	Supplies	20,000	11,451	10,000	6,226	10,000
6103	Wearing Apparel	4,000	706	4,000	1,969	4,000
6150	Gasoline/Diesel/Oil	8,000	86,222	8,000	11,016	8,000
6153	Heating Fuel (25% of City Shop)	399	-	6,300	-	16,250
6155	Water/Sewer/Garbage (25% of City Shop)	5,300	4,779	4,800	3,311	6,492
6160	Electricity (25% of City Shop)	18,718	24,315	25,900	11,186	15,875
6200	Minor Equipment	25,000	2,552	25,000	3,923	25,000
6231	Vehicle Parts	8,000	7,831	8,000	6,865	8,000
6232	Tires & Wheels	2,000	1,539	2,000	433	2,000
6339	Other Purchased Services	10,000	3,609	15,000	1,287	15,000
6400	Insurance	24,535	39,900	43,900	16,848	43,900
6503	Dues & Subscriptions	10,000	14,243	20,000	7,370	20,000
6710	Administrative Overhead - GF	91,684	162,119	135,000	72,440	138,467
6711	Administrative Overhead - IT Services	33,260	21,054	20,900	15,369	33,118
Total MS&S		275,896	380,368	338,800	158,243	356,102
Total Operating Expense		1,143,979	910,391	659,975	479,418	1,156,074

EMPLOYEE HEALTH GROUP BENEFITS

INTERNAL SERVICE FUND		FY23 Budget	FY23 Actuals	FY24 Budget	December 2023 Actuals	FY25 Budget
Allocations to Employee Health Group Benefits:						
51	City Administration	50,249	50,249	76,284	2,429	76,284
52	City Clerk & Council	50,856	45,548	50,856	25,496	50,856
53	Finance Department	228,852	119,358	222,495	35,420	184,353
54	Planning Department	7,563	17,584	35,394	6,223	50,856
55	Information Technology Services	20,388	30,290	43,985	20,243	50,856
56	City Attorney	25,428	34,117	42,000	12,710	25,428
60	Fire Department	190,435	164,025	702,536	60,465	305,136
61	Police Department	737,412	324,072	709,441	147,631	709,441
65	Public Works - Administration	7,628	7,272	7,628	3,821	7,628
66	Streets & Roads	62,514	98,156	132,988	64,771	132,988
70	Property Maintenance	44,722	98,802	129,683	44,722	129,683
270-50	Community Service Patrol	76,284	23,485	76,284	19,631	76,284
410-50	E-911 Services	27,971	49,046	27,971	1,846	27,971
	School Resource Officer Program	6,357		6,357		6,357
500-70	Hauled Refuse	8,157	-	27,971	8,295	-
500-71	Landfill Operations	30,423	30,423	8,388	8,388	66,113
510-80	Utility Billing	31,785	36	57,213	-	57,213
510-81	Hauled Water	161,468	43,952	237,752	17,126	237,752
510-82	Piped Water	69,927	52,244	69,927	23,768	69,927
510-83	Bethel Heights Water Treatment Plant	37,532	14,877	20,141	11,222	69,927
510-84	City-Sub Water Treatment Plan	46,706	17,177	69,927	15,454	69,927
510-85	Hauled Sewer	260,128	107,217	288,608	44,344	288,608
510-86	Piped Sewer	39,561	39,561	6,347	6,347	69,927
510-87	Sewer Lagoon	10,649	10,649	2,153	2,153	22,885
520-50	Municipal Dock Department	99,678	42,922	99,678	23,376	99,678
520-55	Small Boat Harbor	17,097	17,097	1,671	1,671	12,205
560-50	Bethel Public Transit System	63,570	22,524	63,570	25,104	63,570
570-50	Vehicle & Equipment Maintenance	106,849	106,849	63,793	49,706	180,539
	Total Contributions	2,520,189	1,567,532	3,281,040	682,362	3,142,392

City of Bethel
Endowment Permanent Fund

900-46

Endowment Permanent Fund (900-46)

REVENUES:		FY23 Budget	FY23 Actual	FY24 Budget	December 2023 Actuals	FY25 Budget
49-4590	Investment Income	20,000	16,856	40,000	11,867	40,000
	Total Revenues	20,000	16,856	40,000	11,867	40,000
46-990	Transfer to General Fund* (70%)	14,000	-	28,000	-	28,000
	Total Expenses	14,000	-	28,000	-	28,000
	Net Income	6,000	16,856	12,000	11,867	12,000

Introduced by: Acting City Manager Arnold
Introduction Date: May 28, 2024
Public Hearing: June 11, 2024
Action:
Vote:

CITY OF BETHEL, ALASKA

ORDINANCE #24-05

AN ORDINANCE BY THE BETHEL CITY COUNCIL PROVIDING FOR THE ADOPTION OF THE CAPITAL IMPROVEMENT BUDGET FOR FISCAL YEAR 2025, JULY 1, 2024-JUNE 30, 2025 AND APPROPRIATING FUNDS TO CARRY OUT SAID BUDGET

BE IT ORDAINED by the City Council of Bethel, Alaska, as follows:

SECTION 1. Classification. This is a noncodified ordinance establishing the City of Bethel Capital Improvement Budget for Fiscal Year 2025

SECTION 2. Appropriations. That money shall be appropriated from the following associated City Funds for capital expenditures:

General Fund – Capital Expenditures	
<u>Police Department</u>	
2024 Ford Expedition *2	\$154,068
Body Camera's	\$104,000
Police Department Sub-Total	\$258,068
<u>Streets & Roads Department</u>	
2024 F-250 *2	\$131,790
Dust Control	\$500,000
Streets & Roads Sub-Total	\$631,790
<u>Property Maintenance</u>	
Boardwalk Lighting	\$250,000
Property Maintenance Sub-Total	\$250,000
General Fund Beginning Balance	
	\$12,329,092
General Fund Total Expenditures	\$1,139,858
General Fund Remaining Balance	\$11,189,234

Leased Properties – Capital Expenditures	
<u>Nora Guinn Court Complex</u>	
Upgrade Hydronic System	\$150,000
Nora Guinn Court Complex Sub Total	\$150,000
Enterprise Fund Beginning Balance	\$2,691,072
Enterprise Fund Total Expenditures	\$150,000
Enterprise Fund Remaining Balance	\$2,541,072

City Sub Proposed Capital Expenditures	
City Sub Water Treatment	
Chemical Storage Building	\$265,000
City Sub Water Treatment Sub-Total	\$265,000
W/S Fund Beginning Balance	\$2,291,735
W/S Fund Total Expenditures	\$265,000
W/S Fund Remaining Balance	\$2026,735

SECTION 3. Effective Date. This ordinance shall become effective upon the passage by the Bethel City Council.

NOW THEREFORE BE IT ENACTED BY THE CITY COUNCIL OF THE CITY OF BETHEL, ALASKA, that the Fiscal Year 2025 Capital Improvement Budget is adopted for a period of one year, from July 1, 2024, through June 30, 2025.

ENACTED THIS 11th DAY OF JUNE 2024, BY A VOTE OF ___ IN FAVOR AND ___ OPPOSED.

Mark Springer, Mayor

ATTEST:

Lori Strickler, City Clerk

**GENERAL FUND
PROPOSED CAPITAL EXPENDITURES
(FUND 100)**

GL Code	Department	Description	FY25 Budget
100-61-6890	Police Department		
	Police Department	2024 Ford Expedition *2	\$154,068
	Police Department	Body Camera's	\$104,000
	Police Department Sub-Total		\$258,068
100-66-6892	Streets & Roads Department		
	Streets & Roads Department	2024 F-250 * 2	\$131,790
	Streets & Roads Department	Dust Control	\$500,000
	Streets& Roads Sub-Total		\$631,790
100-70-6890	Property Maintenance		
	Property Maintenance	Boardwalk Lighting	\$250,000
	Property Maintenance Sub-Total		\$250,000
General Fund Beginning Balance			\$12,329,092
General Fund Total Expenditures			\$1,139,858
General Fund Remaining Balance			\$11,189,234

LEASED PROPERTIES ENTERPRISE FUND PROPOSED CAPITAL EXPENDITURES

GL Code	Department	Description	FY25 Budget
530-55-6890	Nora Guinn Court Complex		
	Nora Guinn Court Complex	Upgrade Hydronic System	\$150,000
	Nora Guinn Court Complex Sub-Total		\$150,000
	Enterprise Fund Beginning Balance		\$2,691,072
	Enterprise Fund Total Expenditures		\$150,000
	Enterprise Fund Remaining Balance		\$2,541,072

CITY SUB PROPOSED CAPITAL EXPENDITURES

GL Code	Department	Description	FY25 Budget
510-84-6891	City Sub Water Treatment		
	City Sub Water Treatment	Chemical Storage Building	\$265,000
	City Sub Water Treatment Sub-Total		\$265,000
	W/S Fund Beginning Balance		\$2,291,735
	W/S Fund Total Expenditures		\$265,000
	W/S Fund Remaining Balance		\$2,026,735

Prepared for: CHRIS WIGNER, CITY OF BETHEL
Office: 907-543-3781
Email: CWIGNER@CITYOFBETHEL.NET

\$56,500.00
FOB ANCHORAGE
SPECIAL ORDER

Freight 7,889.⁰⁰
Upgrades 12,645.⁰⁰

\$ 77,034.⁰⁰

2024 Expedition 4dr 4x4 XL (U1G)

Price Level: 425



Client Proposal

Prepared by:
TERESA WINTER
Office: 907-793-8216
Date: 01/20/2024



Kendall Ford Fleet | 431 Unga St, Anchorage, Alaska , 99501
Office: 907-793-8216 | Fax: 907-793-8255

CITY OF BETHEL POLICE DEPARTMENT



To : William Arnold, Acting City Manager

From: Lt. Wigner

Ref: Request to purchase Axon Body Cameras

I would like to request to be able to purchase Axon 4 Body Cameras and to have the footage from these cameras stored on Axon cloud servers. Body Cameras offer:

1. **Accountability:** Body cameras promote accountability among law enforcement officers by providing an unbiased record of interactions with the public. This helps in ensuring that officers adhere to established protocols and behave appropriately during their duties.
2. **Evidence Collection:** The footage recorded by Axon body cameras can serve as valuable evidence in investigations and court proceedings. It provides a clear and unbiased account of events, helping to establish facts and ensure fair adjudication.
3. **Enhanced Transparency:** Body cameras increase transparency in law enforcement activities by allowing the public to see firsthand how officers interact with individuals during various situations. This transparency can help build trust between law enforcement agencies and the communities they serve.
4. **Training and Evaluation:** Body camera footage can be used for training purposes, allowing law enforcement agencies to review interactions, identify areas for improvement, and provide feedback to officers. It also helps in evaluating officer performance and ensuring adherence to departmental policies.
5. **Reducing Complaints and Litigation:** The presence of body cameras often leads to a decrease in complaints against officers and reduces the likelihood of frivolous lawsuits. When individuals know they are being recorded, they may be less likely to engage in confrontational behavior, leading to fewer instances of misconduct allegations.
6. **Officer Safety:** In addition to protecting civilians, body cameras can also enhance the safety of law enforcement officers. The presence of a camera may deter individuals from engaging in violent or aggressive behavior toward officers, knowing that their actions are being recorded.

7. Public Perception and Trust: Deploying body cameras demonstrates a commitment to transparency and accountability, which can improve public perception and trust in law enforcement agencies. It sends a message that the department is willing to be held accountable for its actions and is proactive in addressing issues of misconduct.

Overall, the purchase of Axon body cameras can contribute to fostering a safer, more accountable, and transparent environment for both law enforcement officers and the communities they serve.

Storing video footage on Axon cloud servers offers several advantages for organizations utilizing Axon body cameras:

1. **Security:** Axon's cloud servers typically employ advanced security measures to safeguard data. This includes encryption protocols, multi-factor authentication, access controls, and regular security audits. Storing data on Axon's secure servers helps protect against unauthorized access, data breaches, and tampering.
2. **Reliability:** Axon's cloud infrastructure is designed for high availability and reliability, ensuring that video footage is accessible when needed. By leveraging redundant storage and backup systems, Axon minimizes the risk of data loss due to hardware failures or other technical issues.
3. **Scalability:** Cloud-based storage solutions offer scalability, allowing organizations to easily accommodate growing amounts of video data without the need for significant upfront investments in additional hardware or infrastructure. As storage needs increase, Axon can dynamically allocate resources to meet demand.
4. **Accessibility:** Storing video footage on Axon's cloud servers makes it readily accessible to authorized personnel from any location with an internet connection. This facilitates efficient review, analysis, and sharing of footage for investigative, evidentiary, or training purposes without the need for physical storage devices or cumbersome data transfer processes.
5. **Integration:** Axon's cloud platform often integrates seamlessly with other software and systems used by law enforcement agencies, such as case management systems, evidence management software, and records management systems. This integration streamlines workflows and enables seamless data sharing between different platforms, enhancing operational efficiency.
6. **Compliance:** Axon's cloud infrastructure is designed to meet stringent data protection and privacy regulations, such as GDPR (General Data Protection Regulation) and CJIS (Criminal Justice Information Services) security policy requirements. Storing data on Axon's compliant cloud servers helps organizations adhere to regulatory standards and avoid potential legal and regulatory consequences.

7. **Cost-Effectiveness:** We are not purchasing servers to store our videos on and from talking with I.T. This is costing the city of Bethel approximately \$12k per server.

8. **Better Workflow:** Having the cloud storage would allow the District Attorney's officer access to our video which would enhance prosecution and would cut down on personal time to make copies for the DA's office. Allowing other tasks to be completed.

Overall, storing video footage on Axon's cloud servers provides organizations with a secure, reliable, scalable, and cost-effective solution for managing their body camera data while ensuring compliance with regulatory requirements.

In this quote, I have also requested 20 sidearm sensors. These are sensors that will be placed in our current holster. These sensors store data and will activate the body camera worn but the officers if a weapon is drawn. The benefits of these sensors are:

1. **Enhanced Officer Safety:** The sensor provides real-time data on an officer's firearm, including whether it's drawn or fired. This information can enhance situational awareness, especially in high-stress situations, potentially improving officer safety.
2. **Accountability and Transparency:** With the sensor, there's an added layer of accountability. Every time an officer draws or fires their weapon, it's recorded, providing an objective record of events. This can be crucial for investigations and ensuring transparency in law enforcement actions.
3. **Training and Performance Monitoring:** The data collected by the sensor can be used for training purposes. It allows departments to analyze usage patterns, identify training needs, and even monitor individual officer performance in firearm handling.
4. **Legal Protection:** In case of use-of-force incidents, having detailed data from the sensor can provide legal protection for officers and their departments. It can help reconstruct the sequence of events accurately, potentially reducing legal liabilities.
5. **Community Relations:** Utilizing technology like the Axon Sidearm sensor can demonstrate a commitment to innovation and accountability within law enforcement. This can help improve community relations by showing proactive efforts to ensure transparency and professionalism.

To better understand the benefits of the sensors offer an example. An officer is responding to a disturbance call. Once the officer arrives, they observe a person with a firearm and that person points it at the officer. The officer exits his vehicle and shoots the suspect. Later it was discovered the suspect was not holding a firearm. During the investigation it was discovered because of the quickness to react the officer did not activate his body camera. This could leave citizens to say the officer shot an unarmed person who was not doing anything.

With transparency, we would be able to show what the officer saw and reacted to because as soon as they drew their weapon their body camera and any other body camera around them would have automatically been activated.

I have spoken with Axon and have received a quote for \$103,860.79 which would include 25 cameras, and 20 sensors along with cloud service for five years. This purchase would also allow us to upgrade the equipment in five years if we wished. After negotiating with Axon, they have offered to drop the cost if we sign an agreement by the end of May.

I have also submitted a micro grant through the Department of Justice which should be awarded on the first of July to whomever is going to receive it. The grant would pay up to \$70,000 toward the body cameras.

Axon has stated we would not receive an invoice until September at which time we would be able to use the grant money if we are awarded the grant or could make yearly installments over the next five years for the cost.



Axon Enterprise, Inc.
17800 N 85th St.
Scottsdale, Arizona 85255
United States
VAT: 86-0741227
Domestic: (800) 978-2737
International: +1.800.978.2737

Q-542819-45428.861CE

Issued: 05/16/2024

Quote Expiration: 03/31/2024

Estimated Contract Start Date: 06/01/2024

Account Number: 107863
Payment Terms: N30
Delivery Method:

SHIP TO	BILL TO
Bethel Police Dept. - AK 157 SALMONBERRY RD BETHEL, AK 99559 USA	Bethel Police Dept. - AK PO Box 809 Bethel AK 99559-0809 USA Email:

SALES REPRESENTATIVE	PRIMARY CONTACT
Cade Edwards Phone: Email: cedwards@axon.com Fax:	Christopher Wigner Phone: 907-545-1084 Email: cwigner@cityofbethel.net Fax:

Quote Summary

Program Length	60 Months
TOTAL COST	\$103,860.79
ESTIMATED TOTAL W/ TAX	\$103,860.79

Discount Summary

Average Savings Per Year	\$12,309.00
TOTAL SAVINGS	\$61,545.00

Payment Summary

Date	Subtotal	Tax	Total
May 2024	\$103,860.79	\$0.00	\$103,860.79
Total	\$103,860.79	\$0.00	\$103,860.79

Quote Unbundled Price: \$165,405.79
 Quote List Price: \$107,916.79
 Quote Subtotal: \$103,860.79

Pricing

All deliverables are detailed in Delivery Schedules section lower in proposal

Item	Description	Qty	Term	Unbundled	List Price	Net Price	Subtotal	Tax	Total
Program									
M00003	BUNDLE - ACQUISITION	25	60	\$93.75	\$53.08	\$53.08	\$79,620.00	\$0.00	\$79,620.00
BWCamTAP	Body Worn Camera TAP Bundle	5	60	\$22.08	\$33.80	\$20.28	\$6,084.00	\$0.00	\$6,084.00
A la Carte Hardware									
100769	AXON SIGNAL - SIDEARM LITERATURE AND SCREWDRIVER PACK	1			\$2.99	\$2.99	\$2.99	\$0.00	\$2.99
71044	AXON SIGNAL - BATTERY - CR2430 SINGLE PACK	20			\$1.00	\$1.00	\$20.00	\$0.00	\$20.00
100681	AXON SIGNAL - SIDEARM SENSOR ONLY	20			\$269.00	\$269.00	\$5,380.00	\$0.00	\$5,380.00
H00001	AB4 Camera Bundle	5			\$849.00	\$849.00	\$4,245.00	\$0.00	\$4,245.00
A la Carte Software									
100673	AXON EVIDENCE - ECOM LICENSE - CONVERSION BASIC TO PRO	4	60		\$27.12	\$27.12	\$6,508.80	\$0.00	\$6,508.80
A la Carte Services									
80146	AXON BODY - PSO - VIRTUAL STARTER	1			\$2,000.00	\$2,000.00	\$2,000.00	\$0.00	\$2,000.00
Total							\$103,860.79	\$0.00	\$103,860.79

Delivery Schedule

Hardware

Bundle	Item	Description	QTY	Shipping Location	Estimated Delivery Date
AB4 Camera Bundle	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	5	1	05/01/2024
AB4 Camera Bundle	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	6	1	05/01/2024
AB4 Camera Bundle	74028	AXON BODY - MOUNT - WING CLIP RAPIDLOCK	6	1	05/01/2024
BUNDLE - ACQUISITION	100147	AXON BODY 4 - CAMERA - NA US FIRST RESPONDER BLK RAPIDLOCK	25	1	05/01/2024
BUNDLE - ACQUISITION	100206	AXON BODY 4 - DOCK - EIGHT BAY	4	1	05/01/2024
BUNDLE - ACQUISITION	100466	AXON BODY 4 - CABLE - USB-C TO USB-C	28	1	05/01/2024
BUNDLE - ACQUISITION	70033	AXON - DOCK WALL MOUNT - BRACKET ASSY	4	1	05/01/2024
BUNDLE - ACQUISITION	71019	AXON BODY - DOCK POWERCORD - NORTH AMERICA	4	1	05/01/2024
BUNDLE - ACQUISITION	74020	AXON BODY - MOUNT - MAGNET FLEXIBLE RAPIDLOCK	28	1	05/01/2024
A la Carte	100681	AXON SIGNAL - SIDEARM SENSOR ONLY	20	1	05/01/2024
A la Carte	100769	AXON SIGNAL - SIDEARM LITERATURE AND SCREWDRIVER PACK	1	1	05/01/2024
A la Carte	71044	AXON SIGNAL - BATTERY - CR2430 SINGLE PACK	20	1	05/01/2024
Body Worn Camera TAP Bundle	73309	AXON BODY - TAP REFRESH 1 - CAMERA	5	1	11/01/2026
BUNDLE - ACQUISITION	73309	AXON BODY - TAP REFRESH 1 - CAMERA	25	1	11/01/2026
BUNDLE - ACQUISITION	73689	AXON BODY - TAP REFRESH 1 - DOCK MULTI BAY	4	1	11/01/2026

Software

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
BUNDLE - ACQUISITION	73686	AXON EVIDENCE - STORAGE - UNLIMITED (AXON DEVICE)	25	06/01/2024	05/31/2029
BUNDLE - ACQUISITION	73840	AXON EVIDENCE - ECOM LICENSE - BASIC	25	06/01/2024	05/31/2029
A la Carte	100673	AXON EVIDENCE - ECOM LICENSE - CONVERSION BASIC TO PRO	4	06/01/2024	05/31/2029

Services

Bundle	Item	Description	QTY
A la Carte	80146	AXON BODY - PSO - VIRTUAL STARTER	1

Warranties

Bundle	Item	Description	QTY	Estimated Start Date	Estimated End Date
Body Worn Camera TAP Bundle	80464	AXON BODY - TAP WARRANTY - CAMERA	5	05/01/2025	05/31/2029
BUNDLE - ACQUISITION	80464	AXON BODY - TAP WARRANTY - CAMERA	25	05/01/2025	05/31/2029
BUNDLE - ACQUISITION	80465	AXON BODY - TAP WARRANTY - MULTI BAY DOCK	4	05/01/2025	05/31/2029

Shipping Locations

Location Number	Street	City	State	Zip	Country
1	157 SALMONBERRY RD	BETHEL	AK	99559	USA

Payment Details

May 2024					
Invoice Plan	Item	Description	Qty	Subtotal	Tax Total
Year 1	100673	AXON EVIDENCE - ECOM LICENSE - CONVERSION BASIC TO PRO	4	\$6,508.80	\$6,508.80
Year 1	100681	AXON SIGNAL - SIDEARM SENSOR ONLY	20	\$5,380.00	\$5,380.00
Year 1	100769	AXON SIGNAL - SIDEARM LITERATURE AND SCREWDRIVER PACK	1	\$2.99	\$2.99
Year 1	71044	AXON SIGNAL - BATTERY - CR2430 SINGLE PACK	20	\$20.00	\$20.00
Year 1	80146	AXON BODY - PSO - VIRTUAL STARTER	1	\$2,000.00	\$2,000.00
Year 1	BWCamTAP	Body Worn Camera TAP Bundle	5	\$6,084.00	\$6,084.00
Year 1	H00001	AB4 Camera Bundle	5	\$4,245.00	\$4,245.00
Year 1	M00003	BUNDLE - ACQUISITION	25	\$79,620.00	\$79,620.00
Total				\$103,860.79	\$0.00 \$103,860.79

Tax is estimated based on rates applicable at date of quote and subject to change at time of invoicing. If a tax exemption certificate should be applied, please submit prior to invoicing.

Standard Terms and Conditions

Axon Enterprise Inc. Sales Terms and Conditions

Axon Master Services and Purchasing Agreement:

This Quote is limited to and conditional upon your acceptance of the provisions set forth herein and Axon's Master Services and Purchasing Agreement (posted at <https://www.axon.com/sales-terms-and-conditions>), as well as the attached Statement of Work (SOW) for Axon Fleet and/or Axon Interview Room purchase, if applicable. In the event you and Axon have entered into a prior agreement to govern all future purchases, that agreement shall govern to the extent it includes the products and services being purchased and does not conflict with the Axon Customer Experience Improvement Program Appendix as described below.

ACEIP:

The Axon Customer Experience Improvement Program Appendix, which includes the sharing of de-identified segments of Agency Content with Axon to develop new products and improve your product experience (posted at www.axon.com/legal/sales-terms-and-conditions), is incorporated herein by reference. By signing below, you agree to the terms of the Axon Customer Experience Improvement Program.

Acceptance of Terms:

Any purchase order issued in response to this Quote is subject solely to the above referenced terms and conditions. By signing below, you represent that you are lawfully able to enter into contracts. If you are signing on behalf of an entity (including but not limited to the company, municipality, or government agency for whom you work), you represent to Axon that you have legal authority to bind that entity. If you do not have this authority, please do not sign this Quote.

Signature

5/16/2024

Date Signed



Prepared for: Robert Lindsey, City Of Bethel
Email: rlindsey@cityofbethel.net

QTY: 2 Price: \$131,790

Includes: Headache Rack W/Strobe and FOB Bethel

2024 F-250 4x4 SD Crew Cab 6.75' box 160" WB SRW XL (W2B)

Price Level: 425



Client Proposal

Prepared by:
Brandon Penrod
Office: 907-793-8233
Date: 05/14/2024



Kendall Ford Fleet | 431 Unga Street, Anchorage, Alaska, 99501
Office: 907-793-8233

Date:	4/23/2024
Proposal #:	ARS24-00477
Expiration:	30 days from above date
Account Manager:	Ryan Skiff
Contact Number:	907-550-2127

Thank you for the opportunity to submit a proposal. LONG Building Technologies Inc. ("LONG") is committed to being the industry leader in providing a single resource for your building solutions.

We are pleased to offer this detailed Scope of Work for your project.

A. SCOPE OF WORK

Upgrade the controls on AHU2,3,4,5, 6, 7 Hydronic System, Heat Exchanger Pumps 6, 6A 15 and 16

B. GENERAL INCLUSIONS:

- Travel, per diem, vehicle, and hotel
- Demo of Honeywell and Invensys controllers that control AHU2, 3,4,5, 6, 7 Hydronic System, Heat Exchanger Pumps 6, 6A 15 and 16
- Build new control panels for AHU2, 3,4,5, 6, 7 Hydronic System, Heat Exchanger Pumps 6, 6A 15 and 16
- Reuse existing sensors, relays, actuators and wiring for AHU2, 3,4,5, 6, 7 Hydronic System, Heat Exchanger Pumps 6, 6A 15 and 16 (field devices)
- Provide and install new supply air sensors, return air sensors, outdoor air sensor, wall plate space sensors and CO2 return sensor
- Program to match existing sequence found on the original control drawings
- Network new controllers together to new front end supervisor software similar to the system at the Aquatic Center
- Create graphics of all connected systems. (existing room thermostats for the re-heat coils and base board zones will not be connected)
- Re-heat coils 17,18 and 19 will be on the DDC system and will be controllable through the graphics
- Engineered drawings
- Check out of existing zone control and valves (if found deficient a quote for replacement will follow)
- Start up
- 4 hours owner training
- 1 year warranty

C. GENERAL EXCLUSIONS:

1. Repair or replacement of defective sensors
2. Hydronic heating zone control of the existing Honeywell zone thermostats, cabinet unit heaters, convector, stand alone unit heaters and HRVs
3. Pump motors
4. Reuse existing sensor wire
5. Piping/plumbing
6. Cutting, patching and painting.

7. All costs of taxes, bonds and permits
8. Hazardous material identification, abatement, or removal
9. Air Balancing and Hydronic Balancing

D. PRICE OF WORK

Price Per Base Bid Scope **\$ 146,646.00**
 Plus Sales Tax as applicable

Your Building Technology Partner

I hereby certify that I am authorized to bind
 LONG Building Technologies, Inc.

Accepted by

I hereby certify that I am authorized

Ryan Skiff

LONG Building Technologies, Inc.
 935 Gambell St
 Anchorage, AK 99501

Authorized Signature

Printed Name

Note: All data and information contained herein and provided by LONG Building Technologies is considered confidential and proprietary. The data and information contained herein may not be reproduced, published or distributed to, or for, any third parties without the express prior written consent of LONG Building Technologies.

Notwithstanding, any inconsistent or additional terms that may be embodied in your purchase order/contract, LONG will accept your order subject only to the terms of the written contract between us under which your order is placed. If no such contract exists, LONG Building Technologies will accept your order only on the express written condition that you assent to the terms and conditions contained above and on the pages attached hereto; and acceptance and receipt of the goods shipped hereunder shall constitute assent to such terms and conditions.

This Proposal is subject to change based on unknown items that may occur as result of COVID-19 such as material delays, labor shortages, jobsite disruptions or governmental intervention. Manufactures and production facilities are feeling the impacts of decreasing international imports, health and safety concerns and economic impacts to their business. As a result, manufacturing production may be impacted. Lead times and production may be extended without warning and pricing may be affected. Projects with critical completion schedules should be coordinated with your LONG salesperson.

Terms and Conditions:

By accepting this proposal, Purchaser agrees to be bound by the following Terms and Conditions:

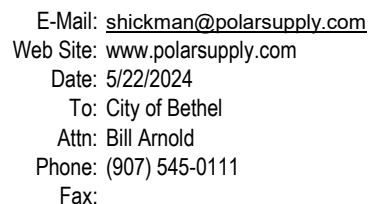
1. **Scope of Work.** Unless otherwise noted, this proposal is based upon the use of straight time labor only. Plastering, patching and painting are excluded. Purchaser agrees to provide LONG Building Technologies, Inc. ("LONG") with required field utilities (electricity, toilets, drinking water, project hoist, elevator service, etc.) without charge. LONG agrees to keep the job site clean of debris arising out of its own operations. Purchaser shall not back charge LONG for any costs or expenses without LONG's written consent.
2. **Invoicing & Payments.** LONG may invoice Purchaser monthly for all materials delivered to the job site or to an off-site storage facility and for all work performed on-site and off-site. Purchaser shall pay LONG in United States currency (USD) amounts invoiced within thirty (30) days of the invoice date. Waivers of lien will be furnished upon request, as the work progresses, and to the extent payments are received. Invoices more

than 30 days from the invoice date shall be subject to finance charges at 1.5% per month or the maximum rate applicable for the State in which the work was performed.

3. **Material Shortages.** If the materials or equipment included in this proposal become temporarily unavailable, the deadline for the performance of the work shall be extended by the length of the temporary unavailability. If the materials or equipment become permanently unavailable, LONG shall (a) be excused from furnishing the unavailable materials or equipment, and (b) be reimbursed for the price difference between the unavailable materials or equipment and a reasonably available substitute.
4. **Taxes.** The price of this proposal does not include duties, sales, use, excise, or other taxes, unless required by federal, state or local law. Purchaser shall pay, in addition to the proposed price, all taxes not legally required to be paid by LONG or, alternatively, shall provide LONG with acceptable tax exemption certificates. LONG shall provide Purchaser with tax payment certificates upon request and after completion and acceptance of work.
5. **Delays.** LONG shall not be liable for any delay in the performance of the work resulting from or attributed to acts or circumstances beyond LONG's control, including, but not limited to, acts of God, fire, riots, labor disputes, condition of the premises, acts or omissions of the Purchaser, Owner, or other Contractors or delays caused by suppliers or subcontractors of LONG.
6. **Compliance with Laws.** LONG shall comply with all applicable federal, state and local laws and regulations and shall obtain all temporary licenses and permits required for the execution of the work. Licenses and permits of a permanent nature shall be procured and paid for by the Purchaser.
7. **Disputes.** All disputes involving more than \$15,000 shall be resolved by arbitration in accordance with the rules of the American Arbitration Association. The prevailing party shall recover all reasonable legal costs and attorney's fees incurred as a result. Nothing here shall limit any rights under construction lien laws.
8. **Insurance.** Insurance coverage in excess of LONG's standard limits may be furnished if required; however, Purchaser will be billed for any additional premium charged to LONG. LONG will neither give Purchaser credit for insurance afforded to it by others, nor pay other insurance premiums.
9. **Indemnity.** The Parties hereto agree to indemnify each other from any and all liabilities, claims, expenses, losses or damages, including attorneys' fees, which may arise in connection with the execution of the work herein specified and which are caused, in whole or in part, by the negligent act or omission of the Indemnifying Party.
10. **Occupational Safety and Health.** The Parties hereto agree to notify each other in writing immediately upon becoming aware of an inspection under, or any alleged violation of, the Occupational Safety and Health Act relating in any way to the project site.
11. **Entire Agreement.** This proposal, upon acceptance, shall constitute the entire agreement between the parties and supersedes any prior representations or understandings, written or oral.
12. **Changes.** No change or modification of any of the terms and conditions stated herein shall be binding upon LONG unless accepted by LONG in writing.
13. **Limitations of Liability.** Neither party's (including additional insured's) total cumulative liability hereunder for any claim or cause of action of any kind, regardless of whether such claim may be based on contract, warranty, tort (including negligence), strict liability, or any other legal or equitable principle, shall exceed the amount of the party's primary general liability policy limits. Notwithstanding any provision of any contract document to the contrary, neither party shall waive subrogation, or be liable to the other party or any of its affiliates, employees or subcontractors for punitive, special, exemplary, incidental or consequential damages, damages for loss of profits, loss of use or loss of revenue, or losses associated with cost of capital in connection with or arising out of this agreement, regardless of whether such claim may be based on contract, warranty, tort (including negligence), strict liability, or any other legal or equitable principle, or for any condition

that is beyond the reasonable control, and without the intentional misconduct or negligence, of that party. Such conditions include, but are not limited to: acts of God; acts of government entities; strikes; labor disputes; fire; explosions or other casualties; thefts; vandalism; riots or war; acts of terrorism; or unavailability of labor, parts, materials or supplies.

14. **Warranty.** LONG warrants that the materials and equipment furnished by LONG will be of good quality and new; that the work will be free from defects not inherent in the quality required or permitted; and that the work will conform to the requirements of this agreement. LONG warrants that the work shall be free from defects in material and workmanship arising from normal usage for a period of one (1) year from the final invoice date and that its services will be free from defects in workmanship, design and material for one (1) year from the final invoice date. Upon written notice from the Purchaser, LONG shall, at its option, repair or replace the defective work or re-perform defective services. These warranties shall not extend to any work or services that have been abused, altered, misused or repaired by the Purchaser or third parties without the supervision of and prior written approval of LONG, or if LONG's serial numbers or warranty date decals have been removed or altered. The Purchaser must promptly report any failure of the equipment to LONG in writing. All replaced equipment becomes LONG's property.
15. **Asbestos-Containing Materials.** LONG is not licensed, nor will it undertake direct obligations relating to the identification, abatement, cleanup, control, removal, and/or disposal of asbestos-containing materials ("ACM"). Consistent with applicable laws, Purchaser shall supply LONG with any information in its possession relating to the presence of ACM at any of its facilities where LONG may perform work or provide services that may result in the disturbance of ACM. Often, LONG asks for certification that no ACM is present in facilities constructed prior to 1982. Purchaser shall provide such certification for buildings it owns, or aid LONG in obtaining such certification from facility owners for buildings it does not own. If either Purchaser or LONG becomes aware of or suspects the presence of ACM that may be disturbed by LONG performing work or providing services, it shall immediately stop the work or services in the identified area(s) and immediately notify the other party in writing. The Purchaser shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable laws, and prior to LONG resuming work or providing services in the identified area(s), will provide a written certification to LONG that the identified area(s) are free from ACM.
16. **Other Hazards.** Purchaser shall supply LONG with any information in its possession relating to the presence of Other Hazards, including but not limited to Structural Hazards, Hazardous Materials, Environmental Hazards, and Dangerous Substances in or near areas where LONG will be required to perform work or provide services. If either Purchaser or LONG becomes aware of or suspects the presence of Other Hazards that may interfere with LONG performing work or providing services, it shall immediately stop the work or services in the identified area(s) and immediately notify the other party in writing. Purchaser shall be responsible at its sole expense for the identification, abatement, cleanup, control, removal, and/or disposal of Other Hazards from areas LONG is required to perform work or provide services, and prior to LONG resuming work or providing services in the identified area(s), will provide a written certification to LONG that the identified area(s) are free from Other Hazards. LONG's obligations under this agreement expressly exclude any work or service of any nature associated or connected with the identification, abatement, clean up, control, removal, or disposal of Other Hazards including but not limited to asbestos, toxic waste, molds, lead, heavy metals, pesticides, pathogens, radon, x-rays or polychlorinated biphenyls ("PCBs"), discovered in or near areas where LONG will be required to perform work or provide services. Any language or provision of the agreement contained elsewhere that may authorize or empower the Purchaser to change, modify, or alter the Scope of Work to be performed by LONG shall not operate to compel LONG to perform any work relating to Asbestos-Containing Materials or Other Hazards.
17. This Proposal is subject to change based on unknown items that may occur as result of COVID-19 such as material delays, labor shortages, jobsite disruptions or governmental intervention. Manufactures and production facilities are feeling the impacts of decreasing international imports, health and safety concerns and economic impacts to their business. As a result, manufacturing production may be impacted. Lead times and production may be extended without warning and pricing may be affected. Projects with critical completion schedules should be coordinated with your LONG salesperson



City of Bethel Roads Dust Control

MATERIAL ESTIMATE

We are pleased to quote the following materials for the above referenced project.

[illegible]

Please Note:

* ***Demurrage for container is \$18 per day after 30 days
***Demurrage for chassis is \$22 per day after 48 days

*
*
* This is an estimate only. Polar Supply reserves the right to correct any mistakes in quantity or price as well as any clerical errors.
* The attached "Standard Terms and Conditions" are a part of this quotation
* This job/project is being bid at net, no prompt pay discounts apply.

Steve Hickman 907-244-1959
Civil Sales Division
Polar Supply Company

Accepted

#N/A
The Civil Sales Division fax number is 562-7003

POLAR SUPPLY COMPANY STANDARD TERMS AND CONDITIONS

- * Quoted Prices and FOB points apply to initial project quantities only. Smaller initial order quantities or additional quantities may be subject to increased prices and or freight rates
- * Quoted Prices are for a single shipment or truckload(s), as applicable, to the stated FOB point. Split shipments or shipments picked up or shipped over time in smaller than bid quantity units will incur additional charges.
- * Unless otherwise noted, allow 3 to 6 weeks for delivery of non-stock or out of stock materials from the date of order.
- * Approximate availability shown is an estimate. Actual availability will depend on current stock at time of order and/or freight times and availability from the manufacturer.
- * Pricing is based on least expensive ground and sea shipping routes. Over the Road, Air, and/or Special Handling will add additional costs.
- * Terms are C.O.D., or net 30 on approved credit, unless otherwise negotiated in writing prior to sale.
- * In order to protect quoted prices, we must receive confirmation of an order within 30 days of the quote date.
- * Materials are sold by the unbroken package (such as; roll, sheet, pail, drum, box) unit only.
- * Quantities shown are bid item or rough estimates only. Estimator should recheck all quantities and/or conversions and allow additional materials for overlap and waste.
- * Returns only in conjunction with Polar Supply Company return policy. Returns are not allowed on non stocked items
- * Special order materials, fabricated items, or large quantities of stocked materials brought in for a project are not returnable
- * Polar Supply Company will hold materials for a maximum of 10 days on account with a written PO. Storage and or restock fees may apply after this time.
- * Polar Supply Company cannot warehouse contractors material unless negotiated prior to purchase in writing.
- * Any changes to this quotation or these terms and conditions must be in writing.

FORCE MAJEURE CLAUSE:

As used in this quotation, a Force Majeure Event means any act or event, whether foreseen or unforeseen, that (1) prevents Polar Supply Company in whole or in part, from performing its obligations to provide products ordered by customer, or satisfying any conditions on shipping product to the customer; (2) is beyond the reasonable control of and not the fault of Polar Supply; or (3) Polar Supply has been unable to overcome by the exercise of due diligence.

Suspension of Performance. Subject to the provisions of this Force Majeure Clause, if a Force Majeure Event occurs, Polar Supply Company is excused from (1) whatever performance is prevented by the Force Majeure Event to the extent so prevented, and (2) satisfying whatever conditions precedent to the customer's obligations that cannot be satisfied to the extent they cannot be satisfied.

Termination. If the suspension of performance continues for a period of one week as a result of a Force Majeure Event, either party is entitled to terminate the purchase agreement by giving a notice to the other party in writing which is the exclusive remedy available to both parties with respect to a Force Majeure Event.

FUEL SURCHARGE CLAUSE:

The quoted prices for products supplied by Polar Supply Company includes the freight to the stated FOB point. The cost of freight has been determined as of the date of this quotation. Customer acknowledges and understands that if Polar Supply Company receives notification of fuel surcharge increases from its carriers after the date of this quotation and prior to delivery, then that fuel surcharge increase will be passed on to the customer. If Polar Supply's selected carriers refuse to deliver any products to customer due to a Force Majeure Event, customer has the option of either arranging for shipment at its expense, and receiving a credit from Polar Supply Company for the freight charges included in the material quotation, or terminating the transaction under the Force Majeure Clause.

Introduced by: Acting City Manager Arnold
Date: May 28, 2024
Action:
Vote:

CITY OF BETHEL

Resolution # 24-08

RESOLUTION CERTIFYING THE ANNUAL FINANCIAL STATEMENT OF REVENUES AND AUTHORIZED EXPENDITURES FOR THE FISCAL YEAR ENDING JUNE 30, 2023

WHEREAS, the City of Bethel is a recognized second class city in the state of Alaska;

WHEREAS, second class cities are required by Alaska Statute 29.20.640(a)(2) to submit an audit to the Alaska Department of Commerce, Community, and Economic Development, Division of Community and Regional Affairs, to receive funds from the Community Assistance Program;

WHEREAS, second class cities are allowed to submit a Certified Financial Statement in lieu of an audit, if the city is not able to submit an audit before payment;

WHEREAS, this resolution is Bethel's City Council's certification of the attached FY 2023 financial statement;

NOW, THEREFORE, BE IT RESOLVED by the Bethel City Council that the attached certified financial statement for the fiscal year ending June 30, 2023 and prepared by the City of Bethel Finance Department is true and complete to the best of our knowledge.

ENACTED THIS 28th DAY OF MAY 2024 BY A VOTE OF ____ IN FAVOR AND ____ OPPOSED.

Mark Springer, Mayor

ATTEST:

Lori Strickler, City Clerk

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>ADMINISTRATION</u>					
100-51-6000 SALARIES	362,388.88	362,388.88	367,621.00	5,232.12	98.6
100-51-6002 RELOCATION EXPENSES	9,729.18	9,729.18	10,000.00	270.82	97.3
100-51-6003 RECRUITMENT COSTS	4,259.76	4,259.76	10,000.00	5,740.24	42.6
100-51-6010 OVERTIME	8,401.94	8,401.94	10,000.00	1,598.06	84.0
100-51-6022 HOLIDAY PAY	5,211.36	5,211.36	.00	(5,211.36)	.0
100-51-6023 LEAVE CASHOUT	28,117.87	28,117.87	32,869.00	4,751.13	85.6
100-51-6030 SOCIAL SECURITY EXPENSE	9,003.13	9,003.13	3,500.00	(5,503.13)	257.2
100-51-6031 PAYABLE MEDICARE FICA	5,744.52	5,744.52	5,475.00	(269.52)	104.9
100-51-6032 UNEMPLOYMENT	.00	.00	6,722.00	6,722.00	.0
100-51-6033 WORKERS' COMPENSATION	640.79	640.79	9,755.00	9,114.21	6.6
100-51-6034 PERS	53,868.25	53,868.25	83,077.00	29,208.75	64.8
100-51-6040 EMPLOYEE GROUP BENEFITS	50,249.13	50,249.13	76,284.00	26,034.87	65.9
100-51-6041 UTILITY BENEFIT	6,685.40	6,685.40	13,680.00	6,994.60	48.9
100-51-6044 YK FITNESS CENTER MEMBERSHIP	40,000.00	40,000.00	40,000.00	.00	100.0
100-51-6060 TRAVEL/TRAINING	12,260.02	12,260.02	20,000.00	7,739.98	61.3
100-51-6100 SUPPLIES	9,386.55	9,386.55	5,000.00	(4,386.55)	187.7
100-51-6103 WEARING APPAREL	.00	.00	500.00	500.00	.0
100-51-6150 GASOLINE/DIESEL/OIL	353.77	353.77	500.00	146.23	70.8
100-51-6153 HEATING FUEL	36,591.29	36,591.29	25,000.00	(11,591.29)	146.4
100-51-6155 WATER/SEWER/GARBAGE	14,106.26	14,106.26	8,107.00	(5,999.26)	174.0
100-51-6160 ELECTRICITY	21,825.37	21,825.37	23,018.00	1,192.63	94.8
100-51-6170 TELEPHONE	12,484.88	12,484.88	20,000.00	7,515.12	62.4
100-51-6171 STAFF CELLULAR PHONES	2,040.75	2,040.75	1,000.00	(1,040.75)	204.1
100-51-6200 MINOR EQUIPMENT	834.99	834.99	2,000.00	1,165.01	41.8
100-51-6230 VEHICLE MAINT/REPAIR	1,343.75	1,343.75	1,285.00	(58.75)	104.6
100-51-6231 VEHICLE PARTS & TOOLS	.00	.00	500.00	500.00	.0
100-51-6320 OTHER PROFESSIONAL FEES	42,301.51	42,301.51	45,000.00	2,698.49	94.0
100-51-6325 CONSULTING FEES	18,432.76	18,432.76	.00	(18,432.76)	.0
100-51-6333 JANITORIAL	10,725.00	10,725.00	20,000.00	9,275.00	53.6
100-51-6335 OTHER PURCHASED SERVICES	55,073.28	55,073.28	80,000.00	24,926.72	68.8
100-51-6400 INSURANCE	18,216.44	18,216.44	29,968.00	11,751.56	60.8
100-51-6430 ALLOWANCE FOR SPECIAL EVENTS	15,984.92	15,984.92	25,000.00	9,015.08	63.9
100-51-6500 DRUG TESTING/BCKGRND CKS	250.00	250.00	10,000.00	9,750.00	2.5
100-51-6502 ADVERTISING	3,642.54	3,642.54	10,000.00	6,357.46	36.4
100-51-6503 DUES & SUBSCRIPTIONS	1,787.00	1,787.00	2,000.00	213.00	89.4
100-51-6506 POSTAGE	172.92	172.92	1,000.00	827.08	17.3
100-51-6539 MISCELLANEOUS EXPENSES	3,308.43	3,308.43	1,000.00	(2,308.43)	330.8
100-51-6700 INDIRECT COST RECOVERY	(351,549.76)	(351,549.76)	(356,387.00)	(4,837.24)	(98.6)
100-51-6711 ADMIN OVERHEAD-IT SVCS	22,919.13	22,919.13	33,260.00	10,340.87	68.9
TOTAL ADMINISTRATION	536,792.01	536,792.01	676,734.00	139,941.99	79.3

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>CITY CLERKS OFFICE</u>					
100-52-6000 SALARIES	202,461.51	202,461.51	188,225.00	(14,236.51)	107.6
100-52-6022 HOLIDAY PAY	307.59	307.59	.00	(307.59)	.0
100-52-6023 LEAVE CASHOUT / PAYOUT	5,983.99	5,983.99	.00	(5,983.99)	.0
100-52-6031 PAYABLE MEDICARE FICA	2,972.49	2,972.49	2,729.00	(243.49)	108.9
100-52-6032 UNEMPLOYMENT	.00	.00	3,350.00	3,350.00	.0
100-52-6033 WORKERS' COMPENSATION	319.36	319.36	4,862.00	4,542.64	6.6
100-52-6034 P.E.R.S.	44,609.11	44,609.11	41,410.00	(3,199.11)	107.7
100-52-6040 EMPLOYEE GROUP BENEFITS	45,548.40	45,548.40	50,856.00	5,307.60	89.6
100-52-6041 UTILITY BENEFIT	8,065.90	8,065.90	9,120.00	1,054.10	88.4
100-52-6060 TRAVEL/TRAINING-COUNCIL	24,450.83	24,450.83	19,000.00	(5,450.83)	128.7
100-52-6061 TRAVEL/TRAINING	2,381.83	2,381.83	7,800.00	5,418.17	30.5
100-52-6100 SUPPLIES-CLERK	1,230.42	1,230.42	500.00	(730.42)	246.1
100-52-6101 SUPPLIES-COUNCIL	34.97	34.97	500.00	465.03	7.0
100-52-6171 STAFF CELLULAR PHONES	1,174.14	1,174.14	1,680.00	505.86	69.9
100-52-6200 MINOR EQUIPMENT	19,229.73	19,229.73	20,000.00	770.27	96.2
100-52-6321 LEGAL FEES	322.00	322.00	5,000.00	4,678.00	6.4
100-52-6335 OTHER PURCHASED SERVICES	33,898.63	33,898.63	66,000.00	32,101.37	51.4
100-52-6400 INSURANCE	2,939.17	2,939.17	9,935.00	6,995.83	29.6
100-52-6430 ALLOWANCE FOR SPECIAL EVENTS	535.42	535.42	600.00	64.58	89.2
100-52-6503 DUES & SUBSCRIPTIONS	8,079.85	8,079.85	7,000.00	(1,079.85)	115.4
100-52-6505 ELECTION EXPENSES	22,750.39	22,750.39	18,700.00	(4,050.39)	121.7
100-52-6507 DONATIONS & AWARDS	681.22	681.22	800.00	118.78	85.2
100-52-6539 OTHER MISC. EXPENSES	489.95	489.95	.00	(489.95)	.0
100-52-6700 INDRIECT COST RECOVERY	(225,694.36)	(225,694.36)	(275,460.00)	(49,765.64)	(81.9)
100-52-6711 ADMIN OVERHEAD-IT SVCS	22,919.13	22,919.13	33,260.00	10,340.87	68.9
TOTAL CITY CLERKS OFFICE	225,691.67	225,691.67	215,867.00	(9,824.67)	104.6

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>FINANCE</u>					
100-53-6000 SALARIES	565,606.63	565,606.63	674,921.00	109,314.37	83.8
100-53-6010 OVERTIME	26,929.01	26,929.01	28,500.00	1,570.99	94.5
100-53-6022 HOLIDAY PAY	15,736.14	15,736.14	12,500.00	(3,236.14)	125.9
100-53-6023 LEAVE CASHOUT	46,976.02	46,976.02	40,064.00	(6,912.02)	117.3
100-53-6030 SOCIAL SECURITY EXPENSE	676.27	676.27	1,300.00	623.73	52.0
100-53-6031 PAYABLE MEDICARE FICA	9,707.63	9,707.63	10,381.00	673.37	93.5
100-53-6032 UNEMPLOYMENT	.00	.00	12,743.00	12,743.00	.0
100-53-6033 WORKERS' COMPENSATION	1,214.78	1,214.78	1,849.00	634.22	65.7
100-53-6034 PERS	135,683.72	135,683.72	157,503.00	21,819.28	86.2
100-53-6040 EMPLOYEE GROUP BENEFITS	119,357.68	119,357.68	228,852.00	109,494.32	52.2
100-53-6041 UTILITY BENEFIT	21,573.74	21,573.74	41,040.00	19,466.26	52.6
100-53-6060 TRAVEL/TRAINING	15,575.34	15,575.34	20,000.00	4,424.66	77.9
100-53-6100 SUPPLIES	15,531.68	15,531.68	19,000.00	3,468.32	81.8
100-53-6150 GASOLINE/DIESEL/OIL	1,054.95	1,054.95	1,200.00	145.05	87.9
100-53-6170 TELEPHONE	88.55	88.55	250.00	161.45	35.4
100-53-6171 STAFF CELLULAR PHONES	1,816.98	1,816.98	2,000.00	183.02	90.9
100-53-6200 MINOR EQUIPMENT	17,106.29	17,106.29	11,000.00	(6,106.29)	155.5
100-53-6230 VEHICLE MAINT/REPAIR	1,343.75	1,343.75	1,266.00	(77.75)	106.1
100-53-6231 VEHICLE PARTS & TOOLS	82.15	82.15	.00	(82.15)	.0
100-53-6310 ADMIN-OUTSOURCED SERVICES	76,472.75	76,472.75	95,000.00	18,527.25	80.5
100-53-6311 AUDITING EXPENSE	52,053.00	52,053.00	100,000.00	47,947.00	52.1
100-53-6331 HARDWARE/SOFTWARE SUPPORT	10,456.90	10,456.90	19,000.00	8,543.10	55.0
100-53-6335 OTHER PROFESSIONAL FEES	262,091.93	262,091.93	290,000.00	27,908.07	90.4
100-53-6400 INSURANCE	6,492.14	6,492.14	25,901.00	19,408.86	25.1
100-53-6502 ADVERTISING	135.05	135.05	2,500.00	2,364.95	5.4
100-53-6503 DUES & SUBSCRIPTIONS	1,769.03	1,769.03	5,000.00	3,230.97	35.4
100-53-6506 POSTAGE	766.87	766.87	1,300.00	533.13	59.0
100-53-6530 FINANCE CHARGES/PENALTIES	158.74	158.74	300.00	141.26	52.9
100-53-6531 BANK CHARGES	51,622.67	51,622.67	52,000.00	377.33	99.3
100-53-6532 CASH OVER/SHORT	(25.32)	(25.32)	500.00	525.32	(5.1)
100-53-6533 IRS PENALTIES AND INTEREST	898.86	898.86	4,000.00	3,101.14	22.5
100-53-6539 MISCELLANEOUS EXPENSES	2,384.75	2,384.75	4,000.00	1,615.25	59.6
100-53-6700 INDIRECT COST RECOVERY	(731,109.42)	(731,109.42)	(907,855.00)	(176,745.58)	(80.5)
100-53-6711 ADMIN OVERHEAD-IT SVCS	30,314.54	30,314.54	33,260.00	2,945.46	91.1
100-53-9693 KIOSK+ANNUAL FEES&NEWCOPIER	.00	.00	20,000.00	20,000.00	.0
TOTAL FINANCE	760,543.80	760,543.80	1,009,275.00	248,731.20	75.4

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PLANNING</u>					
100-54-6000 SALARIES	71,939.63	71,939.63	164,599.00	92,659.37	43.7
100-54-6022 HOLIDAY PAY	2,596.06	2,596.06	.00	(2,596.06)	.0
100-54-6023 LEAVE CASHOUT	20,181.98	20,181.98	8,699.00	(11,482.98)	232.0
100-54-6031 PAYABLE MEDICARE FICA	1,328.90	1,328.90	2,387.00	1,058.10	55.7
100-54-6032 UNEMPLOYMENT	.00	.00	2,930.00	2,930.00	.0
100-54-6033 WORKERS' COMPENSATION	279.31	279.31	425.00	145.69	65.7
100-54-6034 PERS	16,670.19	16,670.19	36,212.00	19,541.81	46.0
100-54-6040 EMPLOYEE GROUP BENEFITS	17,584.46	17,584.46	50,856.00	33,271.54	34.6
100-54-6041 UTILITY BENEFIT	2,103.58	2,103.58	9,120.00	7,016.42	23.1
100-54-6061 TRAVEL/TRAINING	.00	.00	3,200.00	3,200.00	.0
100-54-6100 SUPPLIES	2,686.57	2,686.57	5,600.00	2,913.43	48.0
100-54-6103 WEARING APPAREL	271.48	271.48	300.00	28.52	90.5
100-54-6150 GASOLINE/DIESEL/OIL	386.70	386.70	1,800.00	1,413.30	21.5
100-54-6153 HEATING FUEL	5,651.21	5,651.21	3,437.00	(2,214.21)	164.4
100-54-6155 WATER/SEWER/GARBAGE	169.18	169.18	1,038.00	868.82	16.3
100-54-6160 ELECTRICITY	497.95	497.95	1,876.00	1,378.05	26.5
100-54-6170 TELEPHONE	40.10	40.10	200.00	159.90	20.1
100-54-6171 STAFF CELLULAR PHONES	587.07	587.07	384.00	(203.07)	152.9
100-54-6200 MINOR EQUIPMENT	10.00	10.00	5,500.00	5,490.00	.2
100-54-6230 VEHICLE MAINT/REPAIR	1,343.75	1,343.75	1,559.00	215.25	86.2
100-54-6231 VEHICLE PARTS & TOOLS	495.91	495.91	1,000.00	504.09	49.6
100-54-6320 OTHER PROFESSIONAL FEES	89,425.69	89,425.69	60,000.00	(29,425.69)	149.0
100-54-6321 LEGAL FEES	.00	.00	1,000.00	1,000.00	.0
100-54-6330 OTHER PROFESSIONAL FEES	7,540.00	7,540.00	20,000.00	12,460.00	37.7
100-54-6331 HARDWARE/SOFTWARE SUPPORT	2,539.00	2,539.00	2,600.00	61.00	97.7
100-54-6400 INSURANCE	3,441.64	3,441.64	12,750.00	9,308.36	27.0
100-54-6410 RENTS & LEASES	738.79	738.79	.00	(738.79)	.0
100-54-6502 ADVERTISING	1,416.30	1,416.30	2,000.00	583.70	70.8
100-54-6503 DUES & SUBSCRIPTIONS	.00	.00	500.00	500.00	.0
100-54-6539 MISCELLANEOUS EXPENSES	51.35	51.35	1,000.00	948.65	5.1
100-54-6711 ADMIN OVERHEAD-IT SVCS	22,919.13	22,919.13	33,260.00	10,340.87	68.9
100-54-6890 CAPITAL EXPENDITURES	35,516.43	35,516.43	.00	(35,516.43)	.0
100-54-9694 COMPREHENSIVE PLAN	60,677.70	60,677.70	147,663.00	86,985.30	41.1
100-54-9695 ROAD OWNERSHIP DETERMINATION	.00	.00	40,000.00	40,000.00	.0
TOTAL PLANNING	369,090.06	369,090.06	621,895.00	252,804.94	59.4

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>TECHNOLOGY DEPARTMENTS</u>					
100-55-6000 SALARIES	150,783.06	150,783.06	164,235.00	13,451.94	91.8
100-55-6010 OVERTIME	3,333.76	3,333.76	5,000.00	1,666.24	66.7
100-55-6022 HOLIDAY PAY	2,455.80	2,455.80	.00	(2,455.80)	.0
100-55-6023 LEAVE CASHOUT / PAYOUT	45,770.87	45,770.87	8,212.00	(37,558.87)	557.4
100-55-6031 PAYABLE MEDICARE FICA	2,862.91	2,862.91	2,382.00	(480.91)	120.2
100-55-6032 UNEMPLOYMENT	.00	.00	2,924.00	2,924.00	.0
100-55-6033 WORKERS' COMPENSATION	170.27	170.27	423.00	252.73	40.3
100-55-6034 PERS	34,446.05	34,446.05	36,131.00	1,684.95	95.3
100-55-6040 EMPLOYEE GROUP BENEFITS	30,290.46	30,290.46	50,856.00	20,565.54	59.6
100-55-6041 UTILITY BENEFIT	5,820.94	5,820.94	9,120.00	3,299.06	63.8
100-55-6060 TRAVEL/TRAINING	4,727.35	4,727.35	10,000.00	5,272.65	47.3
100-55-6100 SUPPLIES	6,993.82	6,993.82	7,000.00	6.18	99.9
100-55-6150 GASOLINE/DIESEL/OIL	3,404.72	3,404.72	3,000.00	(404.72)	113.5
100-55-6171 STAFF CELLULAR PHONES	3,096.82	3,096.82	2,000.00	(1,096.82)	154.8
100-55-6179 CONNECTIVITY SERVICES	465,281.20	465,281.20	400,000.00	(65,281.20)	116.3
100-55-6200 MINOR EQUIPMENT	16,184.24	16,184.24	33,000.00	16,815.76	49.0
100-55-6210 EQUIPMENT RENTAL	114,534.00	114,534.00	180,000.00	65,466.00	63.6
100-55-6230 VEHICLE MAINT/REPAIR	1,343.75	1,343.75	1,280.00	(63.75)	105.0
100-55-6231 VEHICLE PARTS & TOOLS	2,067.45	2,067.45	3,000.00	932.55	68.9
100-55-6320 OTHER PROFESSIONAL FEES	88,789.78	88,789.78	115,000.00	26,210.22	77.2
100-55-6331 HARDWARE/SOFTWARE SUPPORT	79,208.44	79,208.44	70,000.00	(9,208.44)	113.2
100-55-6335 OTHER PURCHASED SERVICES	13,658.20	13,658.20	15,500.00	1,841.80	88.1
100-55-6400 INSURANCE	2,686.55	2,686.55	8,969.00	6,282.45	30.0
100-55-6539 MISCELLANEOUS EXPENSES	3,718.73	3,718.73	2,000.00	(1,718.73)	185.9
100-55-6700 INDIRECT COST RECOVERY	(666,253.73)	(666,253.73)	(798,240.00)	(131,986.27)	(83.5)
100-55-6711 ADMIN OVERHEAD-IT SVCS	86,946.13	86,946.13	33,260.00	(53,686.13)	261.4
100-55-6890 CAPITAL EXPENDITURES	209,721.36	209,721.36	160,000.00	(49,721.36)	131.1
100-55-9694 SERVER ROOM AIR CONDITIONER	.00	.00	10,000.00	10,000.00	.0
100-55-9695 BUILDING MAPPING/ FLOOR PLANS	.00	.00	27,603.00	27,603.00	.0
100-55-9696 AIR CONDITIONER FOR SERVERS	43,206.00	43,206.00	50,000.00	6,794.00	86.4
TOTAL TECHNOLOGY DEPARTMENTS	755,248.93	755,248.93	612,655.00	(142,593.93)	123.3

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>CITY ATTORNEY'S OFFICE</u>					
100-56-6000 SALARIES	144,346.86	144,346.86	145,343.00	996.14	99.3
100-56-6023 LEAVE CASHOUT	.00	.00	7,267.00	7,267.00	.0
100-56-6031 PAYABLE MEDICARE FICA	2,076.90	2,076.90	2,107.00	30.10	98.6
100-56-6032 UNEMPLOYMENT	.00	.00	2,587.00	2,587.00	.0
100-56-6033 WORKERS' COMPENSATION	247.14	247.14	375.00	127.86	65.9
100-56-6034 PERS	31,749.25	31,749.25	31,975.00	225.75	99.3
100-56-6040 EMPLOYEE GROUP BENEFITS	34,117.44	34,117.44	25,428.00	(8,689.44)	134.2
100-56-6060 TRAVEL/TRAINING	8,352.95	8,352.95	12,000.00	3,647.05	69.6
100-56-6100 SUPPLIES	356.28	356.28	1,000.00	643.72	35.6
100-56-6171 STAFF CELLULAR PHONES	587.07	587.07	1,000.00	412.93	58.7
100-56-6320 OTHER PROFESSIONAL FEES	35,134.25	35,134.25	32,500.00	(2,634.25)	108.1
100-56-6321 LEGAL FEES	.00	.00	2,500.00	2,500.00	.0
100-56-6335 OTHER PURCHASED SERVICES	9,872.59	9,872.59	10,000.00	127.41	98.7
100-56-6400 INSURANCE	2,155.77	2,155.77	5,515.00	3,359.23	39.1
100-56-6410 RENTS & LEASES	8,444.25	8,444.25	11,000.00	2,555.75	76.8
100-56-6503 DUES & SUBSCRIPTIONS	2,041.08	2,041.08	1,500.00	(541.08)	136.1
100-56-6539 MISCELLANEOUS EXPENSES	23.94	23.94	1,000.00	976.06	2.4
100-56-6700 INDIRECT COST RECOVERY	(59,739.17)	(59,739.17)	(38,787.00)	20,952.17	(154.0)
100-56-6711 ADMIN OVERHEAD-IT SVCS	19,188.12	19,188.12	33,260.00	14,071.88	57.7
TOTAL CITY ATTORNEY'S OFFICE	238,954.72	238,954.72	287,570.00	48,615.28	83.1

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>FIRE DEPARTMENT</u>					
100-60-6000 SALARIES	654,014.38	654,014.38	798,062.00	144,047.62	82.0
100-60-6010 FLSA OVERTIME	102,807.23	102,807.23	82,500.00	(20,307.23)	124.6
100-60-6011 CALL BACK OVERTIME	51,954.50	51,954.50	50,000.00	(1,954.50)	103.9
100-60-6022 HOLIDAY PAY	40,749.70	40,749.70	.00	(40,749.70)	.0
100-60-6023 LEAVE CASHOUT	61,444.78	61,444.78	69,421.00	7,976.22	88.5
100-60-6030 SOCIAL SECURITY EXPENSE	2,275.03	2,275.03	2,500.00	224.97	91.0
100-60-6031 PAYABLE MEDICARE FICA	13,563.83	13,563.83	11,454.00	(2,109.83)	118.4
100-60-6032 UNEMPLOYMENT	.00	.00	17,143.00	17,143.00	.0
100-60-6033 WORKERS' COMPENSATION	28,974.48	28,974.48	15,982.00	(12,992.48)	181.3
100-60-6034 PERS	188,060.36	188,060.36	211,873.00	23,812.64	88.8
100-60-6040 EMPLOYEE GROUP BENEFITS	164,025.10	164,025.10	330,564.00	166,538.90	49.6
100-60-6041 UTILITY BENEFIT	30,760.86	30,760.86	59,280.00	28,519.14	51.9
100-60-6060 TRAVEL/TRAINING	(1,288.00)	(1,288.00)	.00	1,288.00	.0
100-60-6061 TRAVEL/TRAINING	26,680.17	26,680.17	31,600.00	4,919.83	84.4
100-60-6100 SUPPLIES	26,596.02	26,596.02	25,200.00	(1,396.02)	105.5
100-60-6103 WEARING APPAREL	27,589.75	27,589.75	13,214.00	(14,375.75)	208.8
100-60-6150 GASOLINE/DIESEL/OIL	17,190.28	17,190.28	13,500.00	(3,690.28)	127.3
100-60-6153 HEATING FUEL	32,362.41	32,362.41	32,500.00	137.59	99.6
100-60-6155 WATER/SEWER/GARBAGE	.00	.00	4,459.00	4,459.00	.0
100-60-6160 ELECTRICITY	20,284.73	20,284.73	18,205.00	(2,079.73)	111.4
100-60-6170 TELEPHONE	3,045.80	3,045.80	3,000.00	(45.80)	101.5
100-60-6171 STAFF CELLULAR PHONES	2,696.10	2,696.10	5,000.00	2,303.90	53.9
100-60-6200 MINOR EQUIPMENT	41,293.06	41,293.06	28,500.00	(12,793.06)	144.9
100-60-6230 VEHICLE MAINT/REPAIR	11,868.78	11,868.78	18,000.00	6,131.22	65.9
100-60-6231 VEHICLE PARTS & TOOLS	34,201.36	34,201.36	43,000.00	8,798.64	79.5
100-60-6240 PROPERTY MAINT	1,515.97	1,515.97	20,500.00	18,984.03	7.4
100-60-6335 OTHER PURCHASED SERVICES	30,908.46	30,908.46	94,100.00	63,191.54	32.9
100-60-6400 INSURANCE	97,789.36	97,789.36	76,777.00	(21,012.36)	127.4
100-60-6502 ADVERTISING	1,552.50	1,552.50	1,800.00	247.50	86.3
100-60-6503 DUES & SUBSCRIPTIONS	11,884.76	11,884.76	14,500.00	2,615.24	82.0
100-60-6534 COLLECTION/SMALL CLAIMS	17,995.86	17,995.86	31,200.00	13,204.14	57.7
100-60-6537 FIRE PREVENTION PROGRAM	4,755.47	4,755.47	5,200.00	444.53	91.5
100-60-6539 MISCELLANEOUS EXPENSES	868.34	868.34	1,500.00	631.66	57.9
100-60-6660 XFER TO F-58 FLEET REPLACEMENT	85,343.40	85,343.40	.00	(85,343.40)	.0
100-60-6711 ADMIN OVERHEAD-IT SVCS	22,919.13	22,919.13	33,260.00	10,340.87	68.9
100-60-6890 CAPITAL EXPENDITURES	639,512.62	639,512.62	549,815.00	(89,697.62)	116.3
100-60-6891 CAPITAL EXP-LADDER TRUCK LEASE	71,217.61	71,217.61	.00	(71,217.61)	.0
100-60-9649 VOLUNTEER STIPEND	1,715.00	1,715.00	12,000.00	10,285.00	14.3
100-60-9697 FORD EXPEDITION COMMAND VEHIC	.00	.00	7,974.00	7,974.00	.0
TOTAL FIRE DEPARTMENT	2,569,129.19	2,569,129.19	2,733,583.00	164,453.81	94.0

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>POLICE</u>					
100-61-6000 SALARIES	1,631,033.49	1,631,033.49	2,039,491.00	408,457.51	80.0
100-61-6002 RELOCATION EXPENSES	7,083.02	7,083.02	10,000.00	2,916.98	70.8
100-61-6010 OVERTIME	293,712.01	293,712.01	240,000.00	(53,712.01)	122.4
100-61-6020 VACATION PAY	100.00	100.00	.00	(100.00)	.0
100-61-6021 SICK PAY	100.00	100.00	.00	(100.00)	.0
100-61-6022 HOLIDAY PAY	75,990.70	75,990.70	12,500.00	(63,490.70)	607.9
100-61-6023 LEAVE CASHOUT	158,771.33	158,771.33	288,519.00	129,747.67	55.0
100-61-6031 PAYABLE MEDICARE FICA	31,791.59	31,791.59	28,522.00	(3,269.59)	111.5
100-61-6032 UNEMPLOYMENT	.00	.00	40,375.00	40,375.00	.0
100-61-6033 WORKERS' COMPENSATION	57,258.05	57,258.05	58,595.00	1,336.95	97.7
100-61-6034 PERS	461,444.71	461,444.71	499,012.00	37,567.29	92.5
100-61-6040 EMPLOYEE GROUP BENEFITS	324,072.11	324,072.11	737,412.00	413,339.89	44.0
100-61-6041 UTILITY BENEFIT	53,421.25	53,421.25	132,240.00	78,818.75	40.4
100-61-6060 TRAVEL/TRAINING	70,886.92	70,886.92	62,500.00	(8,386.92)	113.4
100-61-6100 SUPPLIES	29,152.01	29,152.01	27,000.00	(2,152.01)	108.0
100-61-6102 SART EXAMS	2,010.00	2,010.00	10,000.00	7,990.00	20.1
100-61-6103 EMPLOYEE WEARING APPAREL	12,850.72	12,850.72	20,000.00	7,149.28	64.3
100-61-6150 GASOLINE/DIESEL/OIL	52,609.05	52,609.05	48,500.00	(4,109.05)	108.5
100-61-6153 HEATING FUEL	51,934.46	51,934.46	26,000.00	(25,934.46)	199.8
100-61-6155 WATER/SEWER/GARBAGE	8,388.95	8,388.95	8,397.00	8.05	99.9
100-61-6160 ELECTRICITY	45,143.62	45,143.62	42,465.00	(2,678.62)	106.3
100-61-6170 TELEPHONE	18,745.31	18,745.31	19,000.00	254.69	98.7
100-61-6171 STAFF CELLULAR PHONES	17,615.04	17,615.04	10,000.00	(7,615.04)	176.2
100-61-6200 MINOR EQUIPMENT	12,077.21	12,077.21	25,000.00	12,922.79	48.3
100-61-6230 VEHICLE MAINT/REPAIR	25,400.83	25,400.83	17,554.00	(7,846.83)	144.7
100-61-6231 VEHICLE PARTS & TOOLS	21,948.53	21,948.53	8,000.00	(13,948.53)	274.4
100-61-6335 OTHER PURCHASED SERVICES	32,746.70	32,746.70	35,000.00	2,253.30	93.6
100-61-6400 INSURANCE	226,251.77	226,251.77	121,732.00	(104,519.77)	185.9
100-61-6401 INSURANCE-DED EXP & OTHER	.00	.00	15,000.00	15,000.00	.0
100-61-6503 DUES & SUBSCRIPTIONS	3,323.72	3,323.72	4,500.00	1,176.28	73.9
100-61-6539 MISCELLANEOUS EXPENSES	1,202.23	1,202.23	500.00	(702.23)	240.5
100-61-6711 ADMIN OVERHEAD-IT SVCS	81,949.22	81,949.22	33,260.00	(48,689.22)	246.4
100-61-6890 CAP EXP	34,854.68	34,854.68	949,778.00	914,923.32	3.7
100-61-6891 VEHICLES	167,281.00	167,281.00	246,756.45	79,475.45	67.8
TOTAL POLICE	4,011,150.23	4,011,150.23	5,817,608.45	1,806,458.22	69.0

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PUBLIC WORKS-ADMIN</u>					
100-65-6000 SALARIES	29,041.22	29,041.22	42,969.00	13,927.78	67.6
100-65-6010 OVERTIME	136.31	136.31	3,000.00	2,863.69	4.5
100-65-6022 HOLIDAY PAY	80.37	80.37	.00	(80.37)	.0
100-65-6023 LEAVE CASHOUT	7,220.04	7,220.04	152.00	(7,068.04)	4750.0
100-65-6031 PAYABLE MEDICARE FICA	472.08	472.08	445.00	(27.08)	106.1
100-65-6032 UNEMPLOYMENT	.00	.00	547.00	547.00	.0
100-65-6033 WORKERS' COMPENSATION	52.06	52.06	793.00	740.94	6.6
100-65-6034 PERS	6,488.34	6,488.34	6,757.00	268.66	96.0
100-65-6040 EMPLOYEE GROUP BENEFITS	7,271.75	7,271.75	7,628.00	356.25	95.3
100-65-6041 UTILITY BENEFIT	480.87	480.87	1,368.00	887.13	35.2
100-65-6060 TRAVEL/TRAINING	1,880.05	1,880.05	10,000.00	8,119.95	18.8
100-65-6100 SUPPLIES	2,972.19	2,972.19	4,000.00	1,027.81	74.3
100-65-6150 GASOLINE/DIESEL/OIL	1,977.45	1,977.45	5,000.00	3,022.55	39.6
100-65-6153 HEATING FUEL	7,041.72	7,041.72	8,200.00	1,158.28	85.9
100-65-6155 WATER/SEWER/GARBAGE	3,148.35	3,148.35	1,038.00	(2,110.35)	303.3
100-65-6160 ELECTRICITY	804.48	804.48	1,876.00	1,071.52	42.9
100-65-6170 TELEPHONE	40.10	40.10	50.00	9.90	80.2
100-65-6171 STAFF CELLULAR PHONES	1,174.12	1,174.12	2,000.00	825.88	58.7
100-65-6200 MINOR EQUIPMENT	10.00	10.00	.00	(10.00)	.0
100-65-6230 VEHICLE MAINT/REPAIR	3,455.20	3,455.20	2,457.00	(998.20)	140.6
100-65-6231 VEHICLE PARTS & TOOLS	2,136.71	2,136.71	3,000.00	863.29	71.2
100-65-6335 OTHER PURCHASED SERVICES	67,329.29	67,329.29	71,208.00	3,878.71	94.6
100-65-6400 INSURANCE	2,774.97	2,774.97	21,090.00	18,315.03	13.2
100-65-6503 DUES & SUBSCRIPTIONS	689.39	689.39	500.00	(189.39)	137.9
100-65-6539 MISCELLANEOUS EXPENSES	951.07	951.07	3,000.00	2,048.93	31.7
100-65-6711 ADMIN OVERHEAD-IT SVCS	21,053.62	21,053.62	33,260.00	12,206.38	63.3
100-65-6890 CAPITAL EXPENDITURES	2,273.55	2,273.55	.00	(2,273.55)	.0
100-65-6893 CITY SHOP FLOOR REPAIR	.00	.00	40,000.00	40,000.00	.0
 TOTAL PUBLIC WORKS-ADMIN	 170,955.30	 170,955.30	 270,338.00	 99,382.70	 63.2

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PW-STREETS & ROADS</u>					
100-66-6000 SALARIES	311,592.44	311,592.44	433,208.00	121,615.56	71.9
100-66-6010 OVERTIME	40,144.97	40,144.97	35,000.00	(5,144.97)	114.7
100-66-6022 HOLIDAY PAY	14,489.17	14,489.17	.00	(14,489.17)	.0
100-66-6023 LEAVE CASHOUT	43,405.88	43,405.88	58,289.00	14,883.12	74.5
100-66-6031 PAYABLE MEDICARE FICA	6,063.79	6,063.79	6,789.00	725.21	89.3
100-66-6032 UNEMPLOYMENT	.00	.00	8,334.00	8,334.00	.0
100-66-6033 WORKERS' COMPENSATION	17,026.80	17,026.80	12,095.00	(4,931.80)	140.8
100-66-6034 PERS	88,556.36	88,556.36	103,006.00	14,449.64	86.0
100-66-6040 EMPLOYEE GROUP BENEFITS	98,155.96	98,155.96	132,988.00	34,832.04	73.8
100-66-6041 UTILITY BENEFIT	14,646.29	14,646.29	23,849.00	9,202.71	61.4
100-66-6100 SUPPLIES	8,493.70	8,493.70	4,500.00	(3,993.70)	188.8
100-66-6103 WEARING APPAREL	2,312.64	2,312.64	4,000.00	1,687.36	57.8
100-66-6111 SIGNS	2,471.97	2,471.97	4,500.00	2,028.03	54.9
100-66-6131 STREET MAINT GRAVEL	702,007.64	702,007.64	530,000.00	(172,007.64)	132.5
100-66-6132 SALT	27,028.89	27,028.89	50,000.00	22,971.11	54.1
100-66-6140 CALCIUM CHLORIDE	59,601.16	59,601.16	50,000.00	(9,601.16)	119.2
100-66-6150 GASOLINE/DIESEL/OIL	108,453.40	108,453.40	82,500.00	(25,953.40)	131.5
100-66-6153 HEATING FUEL	15,146.58	15,146.58	11,168.00	(3,978.58)	135.6
100-66-6155 WATER/SEWER/GARBAGE	2,685.63	2,685.63	2,853.00	167.37	94.1
100-66-6160 ELECTRICITY	2,953.87	2,953.87	2,136.00	(817.87)	138.3
100-66-6161 ELECTRICITY (STREET LTS)	56,108.90	56,108.90	60,000.00	3,891.10	93.5
100-66-6170 TELEPHONE	20.05	20.05	50.00	29.95	40.1
100-66-6171 STAFF CELLULAR PHONES	1,453.98	1,453.98	2,500.00	1,046.02	58.2
100-66-6200 MINOR EQUIPMENT	7,168.43	7,168.43	7,500.00	331.57	95.6
100-66-6230 VEHICLE MAINT/REPAIR	134,484.54	134,484.54	146,047.00	11,562.46	92.1
100-66-6231 VEHICLE PARTS & TOOLS	70,275.01	70,275.01	70,000.00	(275.01)	100.4
100-66-6232 TIRES & WHEELS	806.60	806.60	8,000.00	7,193.40	10.1
100-66-6240 PROPERTY MAINT	4,173.84	4,173.84	.00	(4,173.84)	.0
100-66-6250 STREET LIGHT MT & POLE RENTAL	18,530.40	18,530.40	20,000.00	1,469.60	92.7
100-66-6335 OTHER PURCHASED SERVICES	8,063.93	8,063.93	.00	(8,063.93)	.0
100-66-6400 INSURANCE	23,881.66	23,881.66	45,000.00	21,118.34	53.1
100-66-6530 FINANCE CHARGES/PENALTIES	7.04	7.04	.00	(7.04)	.0
100-66-6711 ADMIN OVERHEAD-IT SVCS	19,188.12	19,188.12	33,260.00	14,071.88	57.7
100-66-6892 CAPTIAL EQUIPMENT	1,257,631.91	1,257,631.91	1,575,000.00	317,368.09	79.9
100-66-9694 CAT 4WD EXTEND-A-HOE BKHoe	697,447.00	697,447.00	170,413.00	(527,034.00)	409.3
100-66-9702 INSTALLATION OF 36" CULVERT	.00	.00	27,073.00	27,073.00	.0
100-66-9703 STIP MATCH OR GRAVEL FOR ROADS	.00	.00	1,095,004.00	1,095,004.00	.0
100-66-9704 DUMP TRUCKS	203,577.88	203,577.88	186,380.00	(17,197.88)	109.2
100-66-9705 CATERPILLAR ATTACHMENTS	126,500.13	126,500.13	375,560.00	249,059.87	33.7
100-66-9706 CATERPILLAR HENJE HI-GATE	4,912.41	4,912.41	732.00	(4,180.41)	671.1
100-66-9707 CATERPILLAR LOADER SNOW BUCKET	3,916.51	3,916.51	.00	(3,916.51)	.0
100-66-9708 BUS BARN IMPROVEMENTS	65,120.93	65,120.93	110,416.00	45,295.07	59.0
100-66-9772 CULVERTS 18"	.00	.00	6,884.00	6,884.00	.0
TOTAL PW-STREETS & ROADS	4,268,506.41	4,268,506.41	5,495,034.00	1,226,527.59	77.7

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PROPERTY MAINTENANCE</u>					
100-70-6000 SALARIES	266,644.66	266,644.66	345,832.00	79,187.34	77.1
100-70-6010 OVERTIME	59,722.33	59,722.33	50,000.00	(9,722.33)	119.4
100-70-6022 HOLIDAY PAY	11,872.11	11,872.11	.00	(11,872.11)	.0
100-70-6023 LEAVE CASHOUT	40,945.15	40,945.15	27,261.00	(13,684.15)	150.2
100-70-6030 SOCIAL SECURITY EXPENSE	217.91	217.91	1,790.00	1,572.09	12.2
100-70-6031 PAYABLE MEDICARE FICA	5,659.81	5,659.81	5,740.00	80.19	98.6
100-70-6032 UNEMPLOYMENT	.00	.00	7,046.00	7,046.00	.0
100-70-6033 WORKERS' COMPENSATION	10,005.94	10,005.94	10,226.00	220.06	97.9
100-70-6034 PERS	80,945.99	80,945.99	87,083.00	6,137.01	93.0
100-70-6040 EMPLOYEE GROUP BENEFITS	98,802.34	98,802.34	129,683.00	30,880.66	76.2
100-70-6041 UTILITY BENEFIT	30,278.02	30,278.02	23,256.00	(7,022.02)	130.2
100-70-6060 TRAVEL/TRAINING	.00	.00	8,000.00	8,000.00	.0
100-70-6100 SUPPLIES	2,530.83	2,530.83	5,000.00	2,469.17	50.6
100-70-6103 WEARING APPAREL	1,252.42	1,252.42	5,000.00	3,747.58	25.1
100-70-6105 CLEANUP GREENUP SUPPLIES	380.92	380.92	700.00	319.08	54.4
100-70-6106 PAINT SUPPLIES	708.50	708.50	2,000.00	1,291.50	35.4
100-70-6107 ELECTRICAL SUPPLIES	2,870.45	2,870.45	7,000.00	4,129.55	41.0
100-70-6108 PLUMBING SUPPLIES	2,707.50	2,707.50	7,000.00	4,292.50	38.7
100-70-6110 MATERIALS	5,338.07	5,338.07	5,000.00	(338.07)	106.8
100-70-6111 BOARDWALK REPAIR SUPPLIES	31.96	31.96	10,000.00	9,968.04	.3
100-70-6142 GLYCOL SUPPLIES	.00	.00	15,000.00	15,000.00	.0
100-70-6150 GASOLINE/DIESEL/OIL	14,804.97	14,804.97	10,000.00	(4,804.97)	148.1
100-70-6153 HEATING FUEL	76,050.41	76,050.41	28,924.00	(47,126.41)	262.9
100-70-6155 WATER/SEWER/GARBAGE	2,149.75	2,149.75	17,268.00	15,118.25	12.5
100-70-6160 ELECTRICITY	12,004.08	12,004.08	9,783.00	(2,221.08)	122.7
100-70-6170 TELEPHONE	26.04	26.04	100.00	73.96	26.0
100-70-6171 STAFF CELLULAR PHONES	1,119.69	1,119.69	1,680.00	560.31	66.7
100-70-6200 MINOR EQUIPMENT	8,174.90	8,174.90	8,000.00	(174.90)	102.2
100-70-6201 BOILER EXPENSE	14,586.84	14,586.84	25,000.00	10,413.16	58.4
100-70-6230 VEHICLE MAINT/REPAIR	5,608.22	5,608.22	5,713.00	104.78	98.2
100-70-6231 VEHICLE PARTS & TOOLS	2,729.84	2,729.84	10,000.00	7,270.16	27.3
100-70-6240 WIND TURBINE CONTRACT	14,400.00	14,400.00	11,000.00	(3,400.00)	130.9
100-70-6241 PARKS MAINTENANCE	1,674.96	1,674.96	45,000.00	43,325.04	3.7
100-70-6242 BOARDWALK LIGHTING PROJECT	33.79	33.79	43,373.00	43,339.21	.1
100-70-6250 CARPENTRY EXPENSE	1,505.75	1,505.75	5,000.00	3,494.25	30.1
100-70-6335 OTHER PURCHASED SERVICES	20,053.59	20,053.59	25,000.00	4,946.41	80.2
100-70-6400 INSURANCE	12,949.52	12,949.52	34,758.00	21,808.48	37.3
100-70-6510 4TH OF JULY	129.65	129.65	400.00	270.35	32.4
100-70-6530 FINANCE CHARGES/PENALTIES	11.07	11.07	.00	(11.07)	.0
100-70-6539 MISCELLANEOUS EXPENSES	1,052.95	1,052.95	1,300.00	247.05	81.0
100-70-6700 INDIRECT COST RECOVERY	(298,288.40)	(298,288.40)	(346,153.00)	(47,864.60)	(86.2)
100-70-6711 ADMIN OVERHEAD-IT SVCS	36,510.71	36,510.71	33,260.00	(3,250.71)	109.8
100-70-6890 CAPITAL EXPENDITURES	118,007.21	118,007.21	200,000.00	81,992.79	59.0
100-70-9596 FIRE SUPPRESSION & INSPECTION	773.00	773.00	7,313.00	6,540.00	10.6
100-70-9696 TWO 3/4 TON PICK UP TRUCKS	133,260.00	133,260.00	106,832.00	(26,428.00)	124.7
100-70-9697 CITY HALL IMPROVEMENTS	.00	.00	436,236.00	436,236.00	.0
TOTAL PROPERTY MAINTENANCE	800,243.45	800,243.45	1,472,404.00	672,160.55	54.4

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

GENERAL FUND

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>COMMUNITY SERVICE</u>					
100-72-6155 SENIOR CTR - W/S/G ONC	.00	.00	33,520.00	33,520.00	.0
100-72-6171 BETHEL FRIENDS OF CANINES	102,000.00	102,000.00	85,000.00	(17,000.00)	120.0
100-72-6430 COMMUNITY ACTION GRANT	143,383.41	143,383.41	100,000.00	(43,383.41)	143.4
100-72-6431 UAF 4-H CONTRIBUTION	112,000.00	112,000.00	112,000.00	.00	100.0
100-72-6509 LIBRARY CONTRIBUTION	72,600.00	72,600.00	72,600.00	.00	100.0
100-72-6512 DONATION-ICE ROAD MAINTENANCE	.00	.00	9,000.00	9,000.00	.0
100-72-9755 BETHEL SEARCH & RESCUE	.00	.00	20,000.00	20,000.00	.0
TOTAL COMMUNITY SERVICE	429,983.41	429,983.41	432,120.00	2,136.59	99.5
<u>IN KIND MATCH & TRANSFERS</u>					
100-73-6640 CASH XFER POOL F40- SALES TAX	725,450.00	725,450.00	649,740.00	(75,710.00)	111.7
100-73-6641 CASH XFER POOL F40- ALCO TAX	11,880.00	11,880.00	16,650.00	4,770.00	71.4
100-73-6643 CASH XFER- FUND	66,226.00	66,226.00	.00	(66,226.00)	.0
100-73-6647 CASH XFER-FLEET REPLACE FUND	.00	.00	125,000.00	125,000.00	.0
100-73-6667 XFER FROM POOL F40-AK REMOTEST	.00	.00	49,980.00	49,980.00	.0
100-73-9552 XFER FROM GF: MARIJUANA TAX	29,725.00	29,725.00	28,305.00	(1,420.00)	105.0
TOTAL IN KIND MATCH & TRANSFERS	833,281.00	833,281.00	869,675.00	36,394.00	95.8
TOTAL FUND EXPENDITURES	15,969,570.18	15,969,570.18	20,514,758.45	4,545,188.27	77.8
NET REVENUE OVER EXPENDITURES	(15,969,570.18)	(15,969,570.18)	(20,514,758.45)	(4,545,188.27)	(77.8)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

COMMUNITY SERVICE PATROL GRANT

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>CSP PROGRAM</u>					
270-50-6000 SALARIES	82,377.40	82,377.40	153,046.00	70,668.60	53.8
270-50-6010 OVERTIME	7,823.66	7,823.66	15,000.00	7,176.34	52.2
270-50-6022 HOLIDAY PAY	5,456.18	5,456.18	.00	(5,456.18)	.0
270-50-6023 LEAVE CASHOUT	15,283.08	15,283.08	17,005.00	1,721.92	89.9
270-50-6031 PAYABLE MEDICARE FICA	1,604.38	1,604.38	2,437.00	832.62	65.8
270-50-6032 UNEMPLOYMENT	.00	.00	2,991.00	2,991.00	.0
270-50-6033 WORKERS' COMPENSATION	4,489.89	4,489.89	4,341.00	(148.89)	103.4
270-50-6034 PERS	23,849.31	23,849.31	36,970.00	13,120.69	64.5
270-50-6040 EMPLOYEE GROUP BENEFITS	23,485.13	23,485.13	76,284.00	52,798.87	30.8
270-50-6041 UTILITY BENEFIT	4,075.74	4,075.74	13,680.00	9,604.26	29.8
270-50-6100 SUPPLIES	405.38	405.38	4,000.00	3,594.62	10.1
270-50-6103 WEARING APPAREL	.00	.00	1,800.00	1,800.00	.0
270-50-6150 GASOLINE/DIESEL/OIL	9,701.39	9,701.39	16,000.00	6,298.61	60.6
270-50-6153 HEATING FUEL	(58.82)	(58.82)	88.00	146.82	(66.8)
270-50-6171 STAFF CELLULAR PHONES	.00	.00	1,500.00	1,500.00	.0
270-50-6400 INSURANCE	3,260.86	3,260.86	15,686.00	12,425.14	20.8
270-50-6440 IN-KIND EXPENSES	.00	.00	32,308.00	32,308.00	.0
TOTAL CSP PROGRAM	181,753.58	181,753.58	393,136.00	211,382.42	46.2
TOTAL FUND EXPENDITURES	181,753.58	181,753.58	393,136.00	211,382.42	46.2
NET REVENUE OVER EXPENDITURES	(181,753.58)	(181,753.58)	(393,136.00)	(211,382.42)	(46.2)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

YK REG AQUA HLTH & SAFETY CTR

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>LOCAL FUNDED EXPENDITURES</u>					
400-50-6100 SUPPLIES	20,643.32	20,643.32	.00	(20,643.32)	.0
400-50-6150 GASOLINE/DIESEL/OIL	1,817.44	1,817.44	3,500.00	1,682.56	51.9
400-50-6153 HEATING FUEL	351,123.45	351,123.45	175,392.00	(175,731.45)	200.2
400-50-6155 WATER/SEWER/GARBAGE	56,862.60	56,862.60	56,650.00	(212.60)	100.4
400-50-6160 ELECTRICITY	103,269.45	103,269.45	91,421.00	(11,848.45)	113.0
400-50-6170 TELEPHONE	1,502.50	1,502.50	1,300.00	(202.50)	115.6
400-50-6200 MINOR EQUIPMENT	7,639.17	7,639.17	26,554.00	18,914.83	28.8
400-50-6230 VEHICLE MAINT/REPAIR	1,129.89	1,129.89	97.00	(1,032.89)	1164.8
400-50-6240 PROP MAINT	48,270.97	48,270.97	50,000.00	1,729.03	96.5
400-50-6241 ICR-PROPERTY MAINTENANCE-5%	.00	.00	55,407.00	55,407.00	.0
400-50-6320 OTHER PROFESSIONAL FEES	.00	.00	157,570.00	157,570.00	.0
400-50-6326 CONTRACTOR FEES	277,490.96	277,490.96	793,100.00	515,609.04	35.0
400-50-6335 OTHER PURCHASED SERVICES	11,491.87	11,491.87	30,000.00	18,508.13	38.3
400-50-6400 INSURANCE	71,526.39	71,526.39	40,939.00	(30,587.39)	174.7
400-50-6504 HARDWARE/SOFTWARE SUPPORT	705.00	705.00	.00	(705.00)	.0
400-50-6710 ADMIN OVERHEAD-GF	38,580.21	38,580.21	21,819.00	(16,761.21)	176.8
400-50-6711 ADMIN OVERHEAD-IT SVCS	56,764.85	56,764.85	33,260.00	(23,504.85)	170.7
400-50-9691 FEASIBILTY STUDY	1,514.97	1,514.97	21,928.00	20,413.03	6.9
400-50-9692 REPAIRS	876,160.18	876,160.18	884,230.00	8,069.82	99.1
TOTAL LOCAL FUNDED EXPENDITURES	1,926,493.22	1,926,493.22	2,443,167.00	516,673.78	78.9
TOTAL FUND EXPENDITURES	1,926,493.22	1,926,493.22	2,443,167.00	516,673.78	78.9
NET REVENUE OVER EXPENDITURES	(1,926,493.22)	(1,926,493.22)	(2,443,167.00)	(516,673.78)	(78.9)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

E-911 SYSTEM/SURCHARGE

		PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
	<u>E-911 SERVICES</u>					
410-50-6000	SALARIES	56,021.22	56,021.22	71,195.00	15,173.78	78.7
410-50-6010	OVERTIME	9,537.44	9,537.44	5,000.00	(4,537.44)	190.8
410-50-6022	HOLIDAY PAY	4,883.65	4,883.65	.00	(4,883.65)	.0
410-50-6023	LEAVE CASHOUT	6,368.33	6,368.33	10,023.00	3,654.67	63.5
410-50-6031	PAYABLE MEDICARE FICA	1,204.17	1,204.17	1,105.00	(99.17)	109.0
410-50-6032	UNEMPLOYMENT	.00	.00	1,356.00	1,356.00	.0
410-50-6033	WORKERS' COMPENSATION	129.32	129.32	197.00	67.68	65.6
410-50-6034	PERS	16,326.34	16,326.34	16,763.00	436.66	97.4
410-50-6040	EMPLOYEE GROUP BENEFITS	49,046.03	49,046.03	27,971.00	(21,075.03)	175.4
410-50-6041	UTILITY BENEFIT	3,771.91	3,771.91	5,016.00	1,244.09	75.2
410-50-6335	OTHER PURCHASED SERVICES	48,530.02	48,530.02	60,000.00	11,469.98	80.9
410-50-6400	INSURANCE	2,292.20	2,292.20	6,022.00	3,729.80	38.1
410-50-6410	RENTS & LEASES	17,399.76	17,399.76	5,800.00	(11,599.76)	300.0
	<u>TOTAL E-911 SERVICES</u>	<u>215,510.39</u>	<u>215,510.39</u>	<u>210,448.00</u>	<u>(5,062.39)</u>	<u>102.4</u>
	 <u>TOTAL FUND EXPENDITURES</u>	 <u>215,510.39</u>	 <u>215,510.39</u>	 <u>210,448.00</u>	 <u>(5,062.39)</u>	 <u>102.4</u>
	 <u>NET REVENUE OVER EXPENDITURES</u>	 <u>(215,510.39)</u>	 <u>(215,510.39)</u>	 <u>(210,448.00)</u>	 <u>5,062.39</u>	 <u>(102.4)</u>

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

SOLID WASTE SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>HAULED REFUSE</u>					
500-70-6000 SALARIES	98,144.19	98,144.19	135,392.00	37,247.81	72.5
500-70-6010 OVERTIME	5,854.25	5,854.25	10,250.00	4,395.75	57.1
500-70-6022 HOLIDAY PAY	4,235.68	4,235.68	.00	(4,235.68)	.0
500-70-6023 LEAVE CASHOUT	23,400.41	23,400.41	18,493.00	(4,907.41)	126.5
500-70-6030 SOCIAL SECURITY EXPENSE	.00	.00	1,790.00	1,790.00	.0
500-70-6031 PAYABLE MEDICARE FICA	1,847.52	1,847.52	2,112.00	264.48	87.5
500-70-6032 UNEMPLOYMENT	.00	.00	2,592.00	2,592.00	.0
500-70-6033 WORKERS' COMPENSATION	12,553.45	12,553.45	3,762.00	(8,791.45)	333.7
500-70-6034 PERS	26,295.46	26,295.46	32,041.00	5,745.54	82.1
500-70-6040 EMPLOYEE GROUP BENEFITS	14,979.02	14,979.02	27,971.00	12,991.98	53.6
500-70-6041 UTILITY BENEFIT	2,289.99	2,289.99	5,016.00	2,726.01	45.7
500-70-6100 SUPPLIES	708.88	708.88	500.00	(208.88)	141.8
500-70-6103 WEARING APPAREL	462.25	462.25	1,000.00	537.75	46.2
500-70-6121 4 YD DUMPSTERS	57,072.45	57,072.45	60,000.00	2,927.55	95.1
500-70-6150 GASOLINE/DIESEL/OIL	17,564.21	17,564.21	10,000.00	(7,564.21)	175.6
500-70-6200 MINOR EQUIPMENT	937.89	937.89	.00	(937.89)	.0
500-70-6230 VEHICLE MAINT/REPAIR	67,255.60	67,255.60	61,581.00	(5,674.60)	109.2
500-70-6231 VEHICLE PARTS & TOOLS	9,094.66	9,094.66	10,000.00	905.34	91.0
500-70-6232 TIRES & WHEELS	1,320.00	1,320.00	8,000.00	6,680.00	16.5
500-70-6335 OTHER PURCHASED SERVICES	.00	.00	1,000.00	1,000.00	.0
500-70-6400 INSURANCE	6,996.11	6,996.11	6,570.00	(426.11)	106.5
500-70-6600 BAD DEBTS EXPENSE	.00	.00	10,000.00	10,000.00	.0
500-70-6710 ADMIN OVERHEAD-GF	55,681.37	55,681.37	31,490.00	(24,191.37)	176.8
500-70-9693 REFUSE TRUCK	.00	.00	285,850.00	285,850.00	.0
500-70-9694 SINGLE AXLE REAR LOADER	185,424.00	185,424.00	170,336.00	(15,088.00)	108.9
TOTAL HAULED REFUSE	592,117.39	592,117.39	895,746.00	303,628.61	66.1

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

SOLID WASTE SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>LANDFILL OPERATIONS</u>					
500-71-6000 SALARIES	148,838.14	148,838.14	182,076.00	33,237.86	81.8
500-71-6010 OVERTIME	32,434.20	32,434.20	20,000.00	(12,434.20)	162.2
500-71-6022 HOLIDAY PAY	6,673.43	6,673.43	.00	(6,673.43)	.0
500-71-6023 LEAVE CASHOUT	46,842.26	46,842.26	55,822.00	8,979.74	83.9
500-71-6030 SOCIAL SECURITY EXPENSE	53.57	53.57	840.00	786.43	6.4
500-71-6031 PAYABLE MEDICARE FICA	3,464.52	3,464.52	2,930.00	(534.52)	118.2
500-71-6032 UNEMPLOYMENT	.00	.00	3,597.00	3,597.00	.0
500-71-6033 WORKERS' COMPENSATION	9,244.10	9,244.10	5,220.00	(4,024.10)	177.1
500-71-6034 PERS	45,643.32	45,643.32	44,457.00	(1,186.32)	102.7
500-71-6040 EMPLOYEE GROUP BENEFITS	30,422.58	30,422.58	66,113.00	35,690.42	46.0
500-71-6041 UTILITY BENEFIT	6,990.40	6,990.40	11,856.00	4,865.60	59.0
500-71-6060 TRAVEL/TRAINING	2,358.00	2,358.00	5,000.00	2,642.00	47.2
500-71-6100 SUPPLIES	3,843.78	3,843.78	3,000.00	(843.78)	128.1
500-71-6103 WEARING APPAREL	1,429.91	1,429.91	3,000.00	1,570.09	47.7
500-71-6132 SALT	27,028.89	27,028.89	30,000.00	2,971.11	90.1
500-71-6150 GASOLINE/DIESEL/OIL	23,507.91	23,507.91	15,000.00	(8,507.91)	156.7
500-71-6153 HEATING FUEL	9,645.97	9,645.97	6,145.00	(3,500.97)	157.0
500-71-6160 ELECTRICITY	4,920.52	4,920.52	4,296.00	(624.52)	114.5
500-71-6171 STAFF CELLULAR PHONES	629.36	629.36	1,000.00	370.64	62.9
500-71-6200 MINOR EQUIPMENT	3,366.26	3,366.26	4,800.00	1,433.74	70.1
500-71-6230 VEHICLE MAINT/REPAIR	68,189.30	68,189.30	67,728.00	(461.30)	100.7
500-71-6231 VEHICLE PARTS & TOOLS	20,117.24	20,117.24	10,200.00	(9,917.24)	197.2
500-71-6240 PROPERTY MAINT	24,857.38	24,857.38	28,137.00	3,279.62	88.3
500-71-6335 OTHER PURCHASED SERVICES	3,302.60	3,302.60	3,000.00	(302.60)	110.1
500-71-6400 INSURANCE	4,764.71	4,764.71	4,598.00	(166.71)	103.6
500-71-6503 DUES & SUBSCRIPTIONS	4,000.00	4,000.00	8,050.00	4,050.00	49.7
500-71-6600 BAD DEBT EXPENSE	.00	.00	3,000.00	3,000.00	.0
500-71-6710 ADMIN OVERHEAD-GF	68,541.44	68,541.44	38,763.00	(29,778.44)	176.8
500-71-6711 ADMIN OVERHEAD-IT SVCS	20,853.74	20,853.74	33,260.00	12,406.26	62.7
500-71-6891 CAP EXP	.00	.00	530,000.00	530,000.00	.0
500-71-9695 HAMMEL DK SHREDDER	84,080.09	84,080.09	150,100.00	66,019.91	56.0
TOTAL LANDFILL OPERATIONS	706,043.62	706,043.62	1,341,988.00	635,944.38	52.6
<u>RECYCLING OPERATIONS</u>					
500-72-6153 HEATING FUEL	18,655.90	18,655.90	.00	(18,655.90)	.0
TOTAL RECYCLING OPERATIONS	18,655.90	18,655.90	.00	(18,655.90)	.0
TOTAL FUND EXPENDITURES	1,316,816.91	1,316,816.91	2,237,734.00	920,917.09	58.9
NET REVENUE OVER EXPENDITURES	(1,316,816.91)	(1,316,816.91)	(2,237,734.00)	(920,917.09)	(58.9)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>UTILITY BILLING</u>					
510-80-6000 SALARIES	10,658.58	10,658.58	116,984.00	106,325.42	9.1
510-80-6010 OVERTIME	17.81	17.81	5,000.00	4,982.19	.4
510-80-6022 HOLIDAY PAY	253.38	253.38	.00	(253.38)	.0
510-80-6023 LEAVE CASHOUT	.00	.00	5,707.00	5,707.00	.0
510-80-6031 PAYABLE MEDICARE FICA	157.50	157.50	1,769.00	1,611.50	8.9
510-80-6032 UNEMPLOYMENT	.00	.00	2,171.00	2,171.00	.0
510-80-6033 WORKERS' COMPENSATION	206.96	206.96	3,151.00	2,944.04	6.6
510-80-6034 PERS	2,404.55	2,404.55	26,837.00	24,432.45	9.0
510-80-6040 EMPLOYEE GROUP BENEFITS	36.41	36.41	31,785.00	31,748.59	.1
510-80-6041 UTILITY BENEFIT	421.02	421.02	5,700.00	5,278.98	7.4
510-80-6060 TRAVEL/TRAINING	.00	.00	4,500.00	4,500.00	.0
510-80-6100 SUPPLIES	718.64	718.64	3,500.00	2,781.36	20.5
510-80-6200 MINOR EQUIPMENT	.00	.00	5,000.00	5,000.00	.0
510-80-6335 OUTSOURCED SERVICES	5,161.20	5,161.20	.00	(5,161.20)	.0
510-80-6400 INSURANCE	1,046.39	1,046.39	12,542.00	11,495.61	8.3
510-80-6506 POSTAGE	12,690.70	12,690.70	15,000.00	2,309.30	84.6
510-80-6531 BANK CHARGES	55,814.71	55,814.71	40,000.00	(15,814.71)	139.5
510-80-6539 MISCELLANEOUS EXPENSES	.00	.00	500.00	500.00	.0
510-80-6710 ADMIN OVERHEAD-GF	41,726.82	41,726.82	23,598.00	(18,128.82)	176.8
510-80-6711 ADMIN OVERHEAD-IT SVCS	19,188.12	19,188.12	33,260.00	14,071.88	57.7
510-80-9649 ONLINE BILL PAY	.00	.00	4,500.00	4,500.00	.0
TOTAL UTILITY BILLING	150,502.79	150,502.79	341,504.00	191,001.21	44.1

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>HAULED WATER</u>					
510-81-6000 SALARIES	419,814.39	419,814.39	513,607.00	93,792.61	81.7
510-81-6010 OVERTIME	221,345.58	221,345.58	150,000.00	(71,345.58)	147.6
510-81-6022 HOLIDAY PAY	11,138.93	11,138.93	.00	(11,138.93)	.0
510-81-6023 LEAVE CASHOUT	25,851.51	25,851.51	50,879.00	25,027.49	50.8
510-81-6030 SOCIAL SECURITY EXPENSE	26,644.93	26,644.93	7,470.00	(19,174.93)	356.7
510-81-6031 PAYABLE MEDICARE FICA	9,738.44	9,738.44	9,806.00	67.56	99.3
510-81-6032 UNEMPLOYMENT	(1,901.88)	(1,901.88)	12,038.00	13,939.88	(15.8)
510-81-6033 WORKERS' COMPENSATION	10,692.20	10,692.20	17,470.00	6,777.80	61.2
510-81-6034 PERS	52,560.37	52,560.37	148,782.00	96,221.63	35.3
510-81-6040 EMPLOYEE GROUP BENEFITS	43,952.11	43,952.11	254,280.00	210,327.89	17.3
510-81-6041 UTILITY BENEFIT	3,045.54	3,045.54	45,600.00	42,554.46	6.7
510-81-6060 TRAVEL/TRAINING	4,640.42	4,640.42	35,000.00	30,359.58	13.3
510-81-6100 SUPPLIES	12,123.93	12,123.93	15,000.00	2,876.07	80.8
510-81-6103 WEARING APPAREL	11,660.71	11,660.71	15,000.00	3,339.29	77.7
510-81-6150 GASOLINE/DIESEL/OIL	141,621.49	141,621.49	110,000.00	(31,621.49)	128.8
510-81-6153 HEATING FUEL	30,467.49	30,467.49	11,017.00	(19,450.49)	276.6
510-81-6155 WATER/SEWER/GARBAGE	6,232.36	6,232.36	6,809.00	576.64	91.5
510-81-6160 ELECTRICITY	13,982.34	13,982.34	10,701.00	(3,281.34)	130.7
510-81-6170 TELEPHONE	20.05	20.05	200.00	179.95	10.0
510-81-6171 STAFF CELLULAR PHONES	7,445.96	7,445.96	8,000.00	554.04	93.1
510-81-6200 MINOR EQUIPMENT	5,729.25	5,729.25	8,000.00	2,270.75	71.6
510-81-6230 VEHICLE MAINT/REPAIR	278,800.52	278,800.52	268,201.00	(10,599.52)	104.0
510-81-6231 VEHICLE PARTS & TOOLS	81,243.87	81,243.87	80,000.00	(1,243.87)	101.6
510-81-6232 TIRES & WHEELS	2,573.25	2,573.25	21,000.00	18,426.75	12.3
510-81-6240 PROPERTY MAINT	41,428.95	41,428.95	46,895.00	5,466.05	88.3
510-81-6332 LAB TESTS	769.20	769.20	3,000.00	2,230.80	25.6
510-81-6335 OTHER PURCHASED SERVICES	2,106.05	2,106.05	3,000.00	893.95	70.2
510-81-6400 INSURANCE	107,043.87	107,043.87	27,685.00	(79,358.87)	386.7
510-81-6539 MISCELLANEOUS EXPENSES	41,211.56	41,211.56	29,000.00	(12,211.56)	142.1
510-81-6710 ADMIN OVERHEAD-GF	214,380.12	214,380.12	121,240.00	(93,140.12)	176.8
510-81-6711 ADMIN OVERHEAD-IT SVCS	18,255.34	18,255.34	33,260.00	15,004.66	54.9
510-81-6890 CAP EXP	828.20	828.20	300,000.00	299,171.80	.3
510-81-9695 FLEET MGMT. SOFTWARE/TABLETS/	.00	.00	75,000.00	75,000.00	.0
510-81-9696 RADIO BASE STATION UPGRADE	.00	.00	9,500.00	9,500.00	.0
TOTAL HAULED WATER	1,845,447.05	1,845,447.05	2,447,440.00	601,992.95	75.4

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PIPED WATER</u>					
510-82-6000 SALARIES	78,582.32	78,582.32	196,757.00	118,174.68	39.9
510-82-6010 OVERTIME	44,663.99	44,663.99	34,000.00	(10,663.99)	131.4
510-82-6022 HOLIDAY PAY	2,073.99	2,073.99	.00	(2,073.99)	.0
510-82-6023 LEAVE CASHOUT	11,167.05	11,167.05	14,931.00	3,763.95	74.8
510-82-6030 SOCIAL SECURITY EXPENSE	2,258.44	2,258.44	990.00	(1,268.44)	228.1
510-82-6031 PAYABLE MEDICARE FICA	1,951.14	1,951.14	3,346.00	1,394.86	58.3
510-82-6032 UNEMPLOYMENT	.00	.00	4,107.00	4,107.00	.0
510-82-6033 WORKERS' COMPENSATION	3,430.66	3,430.66	5,961.00	2,530.34	57.6
510-82-6034 PERS	20,712.56	20,712.56	50,767.00	30,054.44	40.8
510-82-6040 EMPLOYEE GROUP BENEFITS	52,244.21	52,244.21	69,927.00	17,682.79	74.7
510-82-6041 UTILITY BENEFIT	4,818.36	4,818.36	12,540.00	7,721.64	38.4
510-82-6060 TRAVEL/TRAINING	.00	.00	5,000.00	5,000.00	.0
510-82-6100 SUPPLIES	2,509.20	2,509.20	5,000.00	2,490.80	50.2
510-82-6103 WEARING APPAREL	.00	.00	3,000.00	3,000.00	.0
510-82-6108 PLUMBING SUPPLIES	7,823.58	7,823.58	15,000.00	7,176.42	52.2
510-82-6150 GASOLINE/DIESEL/OIL	15,141.63	15,141.63	15,000.00	(141.63)	100.9
510-82-6153 HEATING FUEL	50,895.15	50,895.15	30,634.00	(20,261.15)	166.1
510-82-6155 WATER/SEWER/GARBAGE	2,317.05	2,317.05	563.00	(1,754.05)	411.6
510-82-6160 ELECTRICITY-UTIL MT SHOP	8,185.02	8,185.02	5,889.00	(2,296.02)	139.0
510-82-6170 TELEPHONE	40.10	40.10	120.00	79.90	33.4
510-82-6171 STAFF CELLULAR PHONES	2,550.43	2,550.43	3,000.00	449.57	85.0
510-82-6200 MINOR EQUIPMENT	.00	.00	5,000.00	5,000.00	.0
510-82-6230 VEHICLE MAINT/REPAIR	2,687.51	2,687.51	2,687.00	(.51)	100.0
510-82-6231 VEHICLE PARTS & TOOLS	2,598.10	2,598.10	1,500.00	(1,098.10)	173.2
510-82-6232 TIRES & WHEELS	.00	.00	500.00	500.00	.0
510-82-6332 LAB TESTS	812.24	812.24	500.00	(312.24)	162.5
510-82-6335 OTHER PURCHASED SERVICES	732.78	732.78	1,500.00	767.22	48.9
510-82-6400 INSURANCE	7,367.55	7,367.55	10,174.00	2,806.45	72.4
510-82-6600 BAD DEBT EXPENSE	.00	.00	20,000.00	20,000.00	.0
510-82-6710 ADMIN OVERHEAD-GF	80,170.23	80,170.23	45,339.00	(34,831.23)	176.8
510-82-6711 ADMIN OVERHEAD-IT SVCS	19,920.99	19,920.99	33,260.00	13,339.01	59.9
510-82-9691 PIPED WATER CAPITAL USDA MATCH	7,168.32	7,168.32	(9,362.00)	(16,530.32)	76.6
TOTAL PIPED WATER	432,822.60	432,822.60	587,630.00	154,807.40	73.7

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>BETHEL HTS WTR TREATMENT</u>					
510-83-6000 SALARIES	119,383.45	119,383.45	133,649.00	14,265.55	89.3
510-83-6010 OVERTIME	37,364.43	37,364.43	37,000.00	(364.43)	101.0
510-83-6022 HOLIDAY PAY	4,321.36	4,321.36	.00	(4,321.36)	.0
510-83-6023 LEAVE CASHOUT	30,300.25	30,300.25	13,496.00	(16,804.25)	224.5
510-83-6031 PAYABLE MEDICARE FICA	4,129.86	4,129.86	2,474.00	(1,655.86)	166.9
510-83-6032 UNEMPLOYMENT	.00	.00	3,038.00	3,038.00	.0
510-83-6033 WORKERS' COMPENSATION	2,599.96	2,599.96	4,408.00	1,808.04	59.0
510-83-6034 PERS	37,531.81	37,531.81	37,543.00	11.19	100.0
510-83-6040 EMPLOYEE GROUP BENEFITS	14,876.54	14,876.54	44,499.00	29,622.46	33.4
510-83-6041 UTILITY BENEFIT	9,575.09	9,575.09	12,540.00	2,964.91	76.4
510-83-6060 TRAVEL/TRAINING	300.00	300.00	4,000.00	3,700.00	7.5
510-83-6100 SUPPLIES	1,331.00	1,331.00	4,000.00	2,669.00	33.3
510-83-6103 WEARING APPAREL	.00	.00	1,500.00	1,500.00	.0
510-83-6108 PLUMBING SUPPLIES	1,785.20	1,785.20	3,000.00	1,214.80	59.5
510-83-6140 CHEMICALS	15,589.06	15,589.06	65,000.00	49,410.94	24.0
510-83-6150 GASOLINE/DIESEL/OIL	1,057.76	1,057.76	2,000.00	942.24	52.9
510-83-6153 HEATING FUEL (PUMPHOUSE)	218,056.10	218,056.10	120,260.00	(97,796.10)	181.3
510-83-6160 ELECTRICITY (PUMPHOUSE)	106,005.85	106,005.85	88,695.00	(17,310.85)	119.5
510-83-6170 TELEPHONE	.00	.00	500.00	500.00	.0
510-83-6200 MINOR EQUIPMENT	14,060.15	14,060.15	45,000.00	30,939.85	31.2
510-83-6230 VEHICLE MAINT/REPAIR	2,687.51	2,687.51	2,566.00	(121.51)	104.7
510-83-6332 LAB TESTS	3,820.00	3,820.00	4,000.00	180.00	95.5
510-83-6335 OTHER PURCHASED SERVICES	11,825.09	11,825.09	50,000.00	38,174.91	23.7
510-83-6400 INSURANCE	24,130.94	24,130.94	65,626.00	41,495.06	36.8
510-83-6502 ADVERTISING	.00	.00	500.00	500.00	.0
510-83-6710 ADMIN OVERHEAD-GF	65,805.26	65,805.26	37,215.00	(28,590.26)	176.8
510-83-6711 ADMIN OVERHEAD-IT SVCS	18,988.23	18,988.23	33,260.00	14,271.77	57.1
510-83-6890 CAPITAL EXPENDITURES	.00	.00	80,000.00	80,000.00	.0
510-83-9773 SITE IMPROVEMENTS -CAPITAL	6,943.51	6,943.51	27,094.00	20,150.49	25.6
TOTAL BETHEL HTS WTR TREATMENT	752,468.41	752,468.41	922,863.00	170,394.59	81.5

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>CITY SUB WTR TREATMENT</u>					
510-84-6000 SALARIES	96,675.93	96,675.93	175,298.00	78,622.07	55.2
510-84-6010 OVERTIME	42,864.60	42,864.60	37,000.00	(5,864.60)	115.9
510-84-6022 HOLIDAY PAY	3,522.17	3,522.17	.00	(3,522.17)	.0
510-84-6023 LEAVE CASHOUT	18,332.31	18,332.31	17,340.00	(992.31)	105.7
510-84-6031 PAYABLE MEDICARE FICA	2,294.55	2,294.55	3,078.00	783.45	74.6
510-84-6032 UNEMPLOYMENT	.00	.00	3,779.00	3,779.00	.0
510-84-6033 WORKERS' COMPENSATION	3,266.46	3,266.46	5,484.00	2,217.54	59.6
510-84-6034 PERS	32,763.87	32,763.87	46,706.00	13,942.13	70.2
510-84-6040 EMPLOYEE GROUP BENEFITS	17,176.53	17,176.53	69,927.00	52,750.47	24.6
510-84-6041 UTILITY BENEFIT	3,856.24	3,856.24	12,540.00	8,683.76	30.8
510-84-6060 TRAVEL/TRAINING	1,350.00	1,350.00	5,000.00	3,650.00	27.0
510-84-6100 SUPPLIES	1,798.02	1,798.02	3,000.00	1,201.98	59.9
510-84-6103 WEARING APPAREL	463.91	463.91	1,500.00	1,036.09	30.9
510-84-6108 PLUMBING SUPPLIES	2,648.50	2,648.50	3,000.00	351.50	88.3
510-84-6140 CHEMICALS	47,343.54	47,343.54	125,000.00	77,656.46	37.9
510-84-6150 GASOLINE/DIESEL/OIL	1,605.24	1,605.24	1,000.00	(605.24)	160.5
510-84-6153 HEATING FUEL(CS WTF)	183,391.49	183,391.49	108,667.00	(74,724.49)	168.8
510-84-6155 WATER/SEWER/GARBAGE	.00	.00	1,500.00	1,500.00	.0
510-84-6160 ELECTRICITY (CS WTF)	77,114.97	77,114.97	69,153.00	(7,961.97)	111.5
510-84-6170 TELEPHONE	20.05	20.05	50.00	29.95	40.1
510-84-6200 MINOR EQUIPMENT	40,878.23	40,878.23	55,000.00	14,121.77	74.3
510-84-6230 VEHICLE MAINT (ISF)	3,200.54	3,200.54	2,581.00	(619.54)	124.0
510-84-6240 PROPERTY MAINT	149.16	149.16	.00	(149.16)	.0
510-84-6280 DEPRECIATION - BLDGS/PLANTS	.00	.00	144,033.00	144,033.00	.0
510-84-6290 DEPRECIATION-M&E WATER	.00	.00	5,028.00	5,028.00	.0
510-84-6332 LAB TESTS	12,883.00	12,883.00	15,000.00	2,117.00	85.9
510-84-6335 OTHER PURCHASED SERVICES	308,889.35	308,889.35	252,000.00	(56,889.35)	122.6
510-84-6400 INSURANCE	15,024.79	15,024.79	24,083.00	9,058.21	62.4
510-84-6502 ADVERTISING	.00	.00	500.00	500.00	.0
510-84-6530 FINANCE CHARGES/PENALTIES	(40.31)	(40.31)	.00	40.31	.0
510-84-6710 ADMIN OVERHEAD-GF	93,167.12	93,167.12	52,690.00	(40,477.12)	176.8
510-84-6711 ADMIN OVERHEAD-IT SVCS	20,853.74	20,853.74	33,260.00	12,406.26	62.7
510-84-6890 CAPITAL EXPENDITURES	15,196.50	15,196.50	171,500.00	156,303.50	8.9
TOTAL CITY SUB WTR TREATMENT	1,046,690.50	1,046,690.50	1,444,697.00	398,006.50	72.5

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>HAULED SEWER</u>					
510-85-6000 SALARIES	529,041.29	529,041.29	592,231.00	63,189.71	89.3
510-85-6010 OVERTIME	191,891.19	191,891.19	125,000.00	(66,891.19)	153.5
510-85-6022 HOLIDAY PAY	17,912.36	17,912.36	.00	(17,912.36)	.0
510-85-6023 LEAVE CASHOUT	59,995.82	59,995.82	57,307.00	(2,688.82)	104.7
510-85-6030 SOCIAL SECURITY EXPENSE	21,844.84	21,844.84	1,486.00	(20,358.84)	1470.0
510-85-6031 PAYABLE MEDICARE FICA	11,617.27	11,617.27	10,400.00	(1,217.27)	111.7
510-85-6032 UNEMPLOYMENT	.00	.00	12,767.00	12,767.00	.0
510-85-6033 WORKERS' COMPENSATION	22,352.17	22,352.17	18,528.00	(3,824.17)	120.6
510-85-6034 PERS	92,282.82	92,282.82	157,791.00	65,508.18	58.5
510-85-6040 EMPLOYEE GROUP BENEFITS	107,217.17	107,217.17	260,128.00	152,910.83	41.2
510-85-6041 UTILITY BENEFIT	12,306.60	12,306.60	46,649.00	34,342.40	26.4
510-85-6100 SUPPLIES	8,452.79	8,452.79	10,000.00	1,547.21	84.5
510-85-6103 WEARING APPAREL	9,973.90	9,973.90	10,000.00	26.10	99.7
510-85-6140 CALCIUM CHLORIDE	200.94	200.94	.00	(200.94)	.0
510-85-6150 GASOLINE/DIESEL/OIL	127,102.90	127,102.90	90,000.00	(37,102.90)	141.2
510-85-6153 HEATING FUEL	30,993.74	30,993.74	19,351.00	(11,642.74)	160.2
510-85-6155 WATER/SEWER/GARBAGE	6,232.36	6,232.36	6,809.00	576.64	91.5
510-85-6160 ELECTRICITY	13,982.35	13,982.35	10,702.00	(3,280.35)	130.7
510-85-6170 TELEPHONE	.00	.00	100.00	100.00	.0
510-85-6171 STAFF CELLULAR PHONES	.00	.00	8,000.00	8,000.00	.0
510-85-6200 MINOR EQUIPMENT	203.94	203.94	.00	(203.94)	.0
510-85-6230 VEHICLE MAINT/REPAIR	282,384.66	282,384.66	281,345.00	(1,039.66)	100.4
510-85-6231 VEHICLE PARTS & TOOLS	57,808.78	57,808.78	65,000.00	7,191.22	88.9
510-85-6232 TIRES & WHEELS	1,674.50	1,674.50	6,000.00	4,325.50	27.9
510-85-6240 PROPERTY MAINT	41,511.42	41,511.42	39,877.00	(1,634.42)	104.1
510-85-6335 OTHER PURCHASED SERVICES	2,256.66	2,256.66	5,000.00	2,743.34	45.1
510-85-6400 INSURANCE	79,702.23	79,702.23	28,587.00	(51,115.23)	278.8
510-85-6530 FINANCE CHARGES/PENALTIES	81.23	81.23	.00	(81.23)	.0
510-85-6539 MISCELLANEOUS EXPENSES	503.69	503.69	1,200.00	696.31	42.0
510-85-6600 BAD DEBT EXPENSE	.00	.00	65,000.00	65,000.00	.0
510-85-6710 ADMIN OVERHEAD-GF	244,478.18	244,478.18	138,261.00	(106,217.18)	176.8
510-85-6711 ADMIN OVERHEAD-IT SVCS	18,255.34	18,255.34	33,260.00	15,004.66	54.9
510-85-9691 SEWER TRUCK(S)	226.52	226.52	300,000.00	299,773.48	.1
510-85-9693 FLEET MGMT. SOFTWARE/TABLETS/	.00	.00	75,000.00	75,000.00	.0
510-85-9694 CATERPILLAR ANGLE BROOM	17,500.00	17,500.00	17,500.00	.00	100.0
510-85-9696 RADIO BASE STATION UPGRADE	.00	.00	9,500.00	9,500.00	.0
510-85-9699 HAULED SEWER CAP SL ASSET RES	.00	.00	182,825.00	182,825.00	.0
TOTAL HAULED SEWER	2,009,987.66	2,009,987.66	2,685,604.00	675,616.34	74.8

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>PIPED SEWER</u>					
510-86-6000 SALARIES	57,250.21	57,250.21	196,757.00	139,506.79	29.1
510-86-6010 OVERTIME	23,037.74	23,037.74	34,375.00	11,337.26	67.0
510-86-6022 HOLIDAY PAY	2,073.99	2,073.99	.00	(2,073.99)	.0
510-86-6023 LEAVE CASHOUT	9,432.01	9,432.01	14,930.00	5,497.99	63.2
510-86-6030 SOCIAL SECURITY EXPENSE	.00	.00	990.00	990.00	.0
510-86-6031 PAYABLE MEDICARE FICA	1,317.30	1,317.30	3,351.00	2,033.70	39.3
510-86-6032 UNEMPLOYMENT	.00	.00	4,114.00	4,114.00	.0
510-86-6033 WORKERS' COMPENSATION	3,436.73	3,436.73	5,971.00	2,534.27	57.6
510-86-6034 PERS	19,275.37	19,275.37	50,849.00	31,573.63	37.9
510-86-6040 EMPLOYEE GROUP BENEFITS	39,561.23	39,561.23	69,927.00	30,365.77	56.6
510-86-6041 UTILITY BENEFITS	4,692.37	4,692.37	12,540.00	7,847.63	37.4
510-86-6060 TRAVEL/TRAINING	.00	.00	3,000.00	3,000.00	.0
510-86-6100 SUPPLIES	1,054.01	1,054.01	3,000.00	1,945.99	35.1
510-86-6103 WEARING APPAREL	628.97	628.97	3,000.00	2,371.03	21.0
510-86-6108 PLUMBING SUPPLIES	160.11	160.11	5,000.00	4,839.89	3.2
510-86-6150 GASOLINE/DIESEL/OIL	4,050.11	4,050.11	15,000.00	10,949.89	27.0
510-86-6153 HEATING FUEL	55,110.13	55,110.13	36,000.00	(19,110.13)	153.1
510-86-6155 WATER/SEWER/GARBAGE	2,317.04	2,317.04	563.00	(1,754.04)	411.6
510-86-6160 ELECTRICITY-LIFTST & BLDG	109,311.73	109,311.73	100,935.00	(8,376.73)	108.3
510-86-6170 TELEPHONE	.00	.00	2,000.00	2,000.00	.0
510-86-6200 MINOR EQUIPMENT	135,140.99	135,140.99	140,000.00	4,859.01	96.5
510-86-6230 VEHICLE MAINT/REPAIR	2,759.23	2,759.23	3,108.00	348.77	88.8
510-86-6231 VEHICLE PARTS & TOOLS	1,475.24	1,475.24	1,500.00	24.76	98.4
510-86-6232 TIRES & WHEELS	.00	.00	50.00	50.00	.0
510-86-6335 OTHER PURCHASED SERVICES	16,941.80	16,941.80	20,000.00	3,058.20	84.7
510-86-6400 INSURANCE	7,274.63	7,274.63	18,838.00	11,563.37	38.6
510-86-6410 LEASED PROPERTY-LIFT STATIONS	14,368.50	14,368.50	17,000.00	2,631.50	84.5
510-86-6600 BAD DEBT EXPENSE	.00	.00	20,000.00	20,000.00	.0
510-86-6710 ADMIN OVERHEAD-GF	80,307.04	80,307.04	45,417.00	(34,890.04)	176.8
510-86-6711 ADMIN OVERHEAD-IT SVCS	19,920.90	19,920.90	33,260.00	13,339.10	59.9
510-86-6890 PIPED SEWER CAPITAL	.00	.00	57,137.00	57,137.00	.0
510-86-9693 HERMAN NELSON HEATER	.00	.00	68,000.00	68,000.00	.0
510-86-9694 3/4 TON PICK-UP TRUCK	60,813.00	60,813.00	61,000.00	187.00	99.7
510-86-9699 PIPED SEWER CAP EXP SL ASSETS	78,866.15	78,866.15	182,825.00	103,958.85	43.1
TOTAL PIPED SEWER	750,576.53	750,576.53	1,230,437.00	479,860.47	61.0

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

WATER & SEWER SERVICES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>SEWER LAGOON</u>					
510-87-6000 SALARIES	21,255.61	21,255.61	74,680.00	53,424.39	28.5
510-87-6010 OVERTIME	5,281.04	5,281.04	10,250.00	4,968.96	51.5
510-87-6022 HOLIDAY PAY	556.09	556.09	.00	(556.09)	.0
510-87-6023 LEAVE CASHOUT	3,777.20	3,777.20	4,856.00	1,078.80	77.8
510-87-6030 SOCIAL SECURITY EXPENSE	.00	.00	24.00	24.00	.0
510-87-6031 PAYABLE MEDICARE FICA	433.29	433.29	1,231.00	797.71	35.2
510-87-6032 UNEMPLOYMENT	.00	.00	1,512.00	1,512.00	.0
510-87-6033 WORKERS' COMPENSATION	843.49	843.49	2,194.00	1,350.51	38.5
510-87-6034 PERS	6,278.50	6,278.50	18,685.00	12,406.50	33.6
510-87-6040 EMPLOYEE GROUP BENEFITS	10,649.49	10,649.49	22,885.00	12,235.51	46.5
510-87-6041 UTILITY BENEFIT	1,204.31	1,204.31	4,104.00	2,899.69	29.3
510-87-6060 TRAVEL/TRAINING	.00	.00	3,000.00	3,000.00	.0
510-87-6100 SUPPLIES	2,218.02	2,218.02	2,500.00	281.98	88.7
510-87-6103 WEARING APPAREL	.00	.00	2,000.00	2,000.00	.0
510-87-6108 PLUMBING SUPPLIES	.00	.00	3,000.00	3,000.00	.0
510-87-6150 GASOLINE/DIESEL/OIL	.00	.00	20,000.00	20,000.00	.0
510-87-6230 VEHICLE MAINT/REPAIR	.00	.00	22.00	22.00	.0
510-87-6231 VEHICLE PARTS & TOOLS	1,528.33	1,528.33	.00	(1,528.33)	.0
510-87-6332 LAB TESTS (SAMPLES)	10,188.40	10,188.40	15,000.00	4,811.60	67.9
510-87-6400 INSURANCE	498.09	498.09	41,328.00	40,829.91	1.2
510-87-6420 INTEREST-SEWER LAGOON BND	19,554.28	19,554.28	.00	(19,554.28)	.0
510-87-6502 ADVERTISING	.00	.00	500.00	500.00	.0
510-87-6503 DUES & SUBSCRIPTIONS	7,920.00	7,920.00	7,920.00	.00	100.0
510-87-6710 ADMIN OVERHEAD-GF	30,508.48	30,508.48	17,253.00	(13,255.48)	176.8
510-87-6890 CAPITAL EXPD LAGOON ROCK	.00	.00	34,740.00	34,740.00	.0
510-87-9692 TERRAMAC RT9-T4 MAROOKA	.00	.00	299,465.00	299,465.00	.0
TOTAL SEWER LAGOON	122,694.62	122,694.62	587,149.00	464,454.38	20.9
TOTAL FUND EXPENDITURES	7,111,190.16	7,111,190.16	10,247,324.00	3,136,133.84	69.4
NET REVENUE OVER EXPENDITURES	(7,111,190.16)	(7,111,190.16)	(10,247,324.00)	(3,136,133.84)	(69.4)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

MUNICIPAL DOCK

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>DOCK EXPENDITURES</u>					
520-50-6000 SALARIES	134,736.58	134,736.58	200,781.00	66,044.42	67.1
520-50-6010 OVERTIME	5,131.56	5,131.56	5,000.00	(131.56)	102.6
520-50-6022 HOLIDAY PAY	4,649.61	4,649.61	.00	(4,649.61)	.0
520-50-6023 LEAVE CASHOUT	20,963.22	20,963.22	27,308.00	6,344.78	76.8
520-50-6030 SOCIAL SECURITY EXPENSE	1,263.69	1,263.69	1,124.00	(139.69)	112.4
520-50-6031 PAYABLE MEDICARE FICA	2,453.87	2,453.87	2,984.00	530.13	82.2
520-50-6032 UNEMPLOYMENT	.00	.00	3,663.00	3,663.00	.0
520-50-6033 WORKERS' COMPENSATION	3,155.87	3,155.87	5,316.00	2,160.13	59.4
520-50-6034 PERS	30,643.42	30,643.42	43,563.00	12,919.58	70.3
520-50-6040 EMPLOYEE GROUP BENEFITS	42,921.88	42,921.88	99,678.00	56,756.12	43.1
520-50-6041 UTILITY BENEFIT	8,506.10	8,506.10	17,875.00	9,368.90	47.6
520-50-6060 TRAVEL/TRAINING	2,690.24	2,690.24	5,000.00	2,309.76	53.8
520-50-6070 PENSION EXPENSE	.00	.00	15,000.00	15,000.00	.0
520-50-6100 SUPPLIES	5,278.52	5,278.52	8,000.00	2,721.48	66.0
520-50-6103 WEARING APPAREL	.00	.00	5,000.00	5,000.00	.0
520-50-6121 MUNICIPAL DOCK GRAVEL	.00	.00	3,133.00	3,133.00	.0
520-50-6150 GASOLINE/DIESEL/OIL	9,911.20	9,911.20	15,000.00	5,088.80	66.1
520-50-6153 HEATING FUEL	6,017.62	6,017.62	3,600.00	(2,417.62)	167.2
520-50-6155 WATER/SEWER/GARBAGE	12,985.70	12,985.70	5,500.00	(7,485.70)	236.1
520-50-6156 WATER FOR BARGES	.00	.00	12,000.00	12,000.00	.0
520-50-6160 ELECTRICITY	18,285.22	18,285.22	13,509.00	(4,776.22)	135.4
520-50-6170 TELEPHONE	2,293.85	2,293.85	2,250.00	(43.85)	102.0
520-50-6171 STAFF CELLULAR PHONES	1,579.55	1,579.55	3,000.00	1,420.45	52.7
520-50-6200 MINOR EQUIPMENT	11,622.78	11,622.78	30,000.00	18,377.22	38.7
520-50-6230 VEHICLE MAINT/REPAIR	3,374.09	3,374.09	2,839.00	(535.09)	118.9
520-50-6231 VEHICLE PARTS & TOOLS	32,853.18	32,853.18	20,000.00	(12,853.18)	164.3
520-50-6232 TIRES & WHEELS	3,087.70	3,087.70	.00	(3,087.70)	.0
520-50-6241 MUNICIPAL DOCK MAINT.	17,085.60	17,085.60	42,815.00	25,729.40	39.9
520-50-6242 MAINT-SEAWALL	1,207.86	1,207.86	7,000.00	5,792.14	17.3
520-50-6244 ICR-PROPERTY MAINTENANCE 5%	24,857.32	24,857.32	28,137.00	3,279.68	88.3
520-50-6320 OTHER PROFESSIONAL FEES	13,717.73	13,717.73	10,000.00	(3,717.73)	137.2
520-50-6321 LEGAL FEES	1,423.80	1,423.80	5,000.00	3,576.20	28.5
520-50-6324 PLANNING/ENGINEERING FEES	.00	.00	5,000.00	5,000.00	.0
520-50-6339 OTHER PURCHASED SERVICES	21,425.89	21,425.89	30,000.00	8,574.11	71.4
520-50-6400 INSURANCE	13,466.71	13,466.71	35,093.00	21,626.29	38.4
520-50-6502 ADVERTISING	275.00	275.00	1,000.00	725.00	27.5
520-50-6503 DUES & SUBSCRIPTIONS	225.00	225.00	1,000.00	775.00	22.5
520-50-6531 BANK CHARGES	1,881.56	1,881.56	3,000.00	1,118.44	62.7
520-50-6710 ADMIN OVERHEAD-GF	79,896.62	79,896.62	45,185.00	(34,711.62)	176.8
520-50-6711 ADMIN OVERHEAD-IT SVCS	24,518.14	24,518.14	33,260.00	8,741.86	73.7
520-50-6890 CAPITAL EXPENDITURES	295,431.25	295,431.25	656,452.00	361,020.75	45.0
520-50-9700 3/4 TON PICK-UP TRUCK	.00	.00	4,762.00	4,762.00	.0
520-50-9701 DROP DECK TRAILER	.00	.00	13,931.00	13,931.00	.0
TOTAL DOCK EXPENDITURES	859,817.93	859,817.93	1,472,758.00	612,940.07	58.4

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

MUNICIPAL DOCK

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>DEPARTMENT 55</u>					
520-55-6000 SALARIES	68,853.90	68,853.90	111,187.00	42,333.10	61.9
520-55-6010 OVERTIME	2,168.44	2,168.44	3,000.00	831.56	72.3
520-55-6022 HOLIDAY PAY	1,477.60	1,477.60	.00	(1,477.60)	.0
520-55-6023 LEAVE CASHOUT	8,940.13	8,940.13	7,492.00	(1,448.13)	119.3
520-55-6030 SOCIAL SECURITY EXPENSE	1,547.72	1,547.72	5,043.00	3,495.28	30.7
520-55-6031 PAYABLE MEDICARE FICA	1,190.87	1,190.87	1,656.00	465.13	71.9
520-55-6032 UNEMPLOYMENT	.00	.00	2,033.00	2,033.00	.0
520-55-6033 WORKERS' COMPENSATION	3,267.88	3,267.88	2,950.00	(317.88)	110.8
520-55-6034 PERS	11,795.10	11,795.10	25,121.00	13,325.90	47.0
520-55-6040 EMPLOYEE GROUP BENEFITS	17,097.02	17,097.02	12,205.00	(4,892.02)	140.1
520-55-6041 UTILITY BENEFIT	5,740.79	5,740.79	25,121.00	19,380.21	22.9
520-55-6100 SUPPLIES	4,558.10	4,558.10	3,000.00	(1,558.10)	151.9
520-55-6103 WEARING APPAREL	.00	.00	3,000.00	3,000.00	.0
520-55-6132 SMALL BOAT HARBOR GRAVEL	.00	.00	30,000.00	30,000.00	.0
520-55-6150 GASOLINE/DIESEL/OIL	12,802.18	12,802.18	8,000.00	(4,802.18)	160.0
520-55-6155 WATER/SEWER/GARBAGE	.00	.00	7,100.00	7,100.00	.0
520-55-6160 ELECTRICITY	.00	.00	2,000.00	2,000.00	.0
520-55-6200 MINOR EQUIPMENT	3,634.55	3,634.55	3,000.00	(634.55)	121.2
520-55-6241 SMALL BOAT HARBOR MAINTENANCE	3,502.46	3,502.46	5,500.00	1,997.54	63.7
520-55-6400 INSURANCE	1,967.51	1,967.51	5,470.00	3,502.49	36.0
520-55-6539 MISCELLANEOUS EXPENSES	162.18	162.18	1,000.00	837.82	16.2
520-55-6710 ADMIN OVERHEAD-GF	39,264.26	39,264.26	22,205.00	(17,059.26)	176.8
520-55-6890 CAP EXP SBH	.00	.00	1,000,000.00	1,000,000.00	.0
TOTAL DEPARTMENT 55	187,970.69	187,970.69	1,286,083.00	1,098,112.31	14.6
TOTAL FUND EXPENDITURES	1,047,788.62	1,047,788.62	2,758,841.00	1,711,052.38	38.0
NET REVENUE OVER EXPENDITURES	(1,047,788.62)	(1,047,788.62)	(2,758,841.00)	(1,711,052.38)	(38.0)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

LEASED PROPERTIES

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>LEASED PROPERTIES-MISC</u>					
530-50-6339 OTHER PURCHASED SERVICES	(273.00)	(273.00)	.00	273.00	.0
530-50-6400 INSURANCE	12,194.08	12,194.08	.00	(12,194.08)	.0
TOTAL LEASED PROPERTIES-MISC	11,921.08	11,921.08	.00	(11,921.08)	.0
<u>LEASED PROP-COURT COMPLEX</u>					
530-55-6153 HEATING FUEL-COURTCOMPLEX	85,043.51	85,043.51	66,847.00	(18,196.51)	127.2
530-55-6155 WATER/SEWER/GARB-COURTCOM	18,444.37	18,444.37	24,000.00	5,555.63	76.9
530-55-6160 ELECTRICITY-COURT COMPLEX	74,282.94	74,282.94	68,190.00	(6,092.94)	108.9
530-55-6170 TELEPHONE	751.25	751.25	700.00	(51.25)	107.3
530-55-6240 PROPERTY MT-COURT COMPLEX	15,781.49	15,781.49	10,341.00	(5,440.49)	152.6
530-55-6241 ICR-PROPERTY MAINTENANCE-15%	124,286.85	124,286.85	140,684.00	16,397.15	88.3
530-55-6333 JANITORIAL-COURT COMPLEX	82,150.00	82,150.00	113,832.00	31,682.00	72.2
530-55-6339 OTHER PURCHASED SERVICES	10,751.02	10,751.02	3,500.00	(7,251.02)	307.2
530-55-6400 INSURANCE	50,768.12	50,768.12	36,480.00	(14,288.12)	139.2
530-55-6420 COURTHOUSE LOAN INTEREST	32,625.00	32,625.00	72,650.00	40,025.00	44.9
530-55-6421 BOND INTEREST EXPENSE	27,875.00	27,875.00	.00	(27,875.00)	.0
530-55-9694 GENERATOR REPAIR	316,961.51	316,961.51	794,346.00	477,384.49	39.9
TOTAL LEASED PROP-COURT COMPLEX	839,721.06	839,721.06	1,331,570.00	491,848.94	63.1
TOTAL FUND EXPENDITURES	851,642.14	851,642.14	1,331,570.00	479,927.86	64.0
NET REVENUE OVER EXPENDITURES	(851,642.14)	(851,642.14)	(1,331,570.00)	(479,927.86)	(64.0)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

BETHEL PUBLIC TRANSIT SYSTEM

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>TRANSIT SYSTEM SECTION 5311</u>					
560-50-6000 SALARIES	65,164.73	65,164.73	136,168.00	71,003.27	47.9
560-50-6010 OVERTIME	3,845.67	3,845.67	.00	(3,845.67)	.0
560-50-6022 HOLIDAY PAY	1,929.54	1,929.54	.00	(1,929.54)	.0
560-50-6023 LEAVE CASHOUT	21,801.50	21,801.50	19,710.00	(2,091.50)	110.6
560-50-6030 SOCIAL SECURITY EXPENSE	890.01	890.01	.00	(890.01)	.0
560-50-6031 PAYABLE MEDICARE FICA	1,375.47	1,375.47	1,974.00	598.53	69.7
560-50-6032 UNEMPLOYMENT	.00	.00	2,424.00	2,424.00	.0
560-50-6033 WORKERS' COMPENSATION	3,434.65	3,434.65	3,518.00	83.35	97.6
560-50-6034 PERS	15,997.45	15,997.45	29,957.00	13,959.55	53.4
560-50-6040 EMPLOYEE GROUP BENEFITS	22,524.06	22,524.06	63,570.00	41,045.94	35.4
560-50-6041 UTILITY BENEFIT	4,981.56	4,981.56	11,400.00	6,418.44	43.7
560-50-6060 TRAVEL/TRAINING	2,118.55	2,118.55	.00	(2,118.55)	.0
560-50-6100 SUPPLIES	3,999.32	3,999.32	1,500.00	(2,499.32)	266.6
560-50-6103 WEARING APPAREL	123.81	123.81	.00	(123.81)	.0
560-50-6150 GASOLINE/DIESEL/OIL	13,679.42	13,679.42	29,000.00	15,320.58	47.2
560-50-6153 HEATING FUEL	12,226.28	12,226.28	10,583.00	(1,643.28)	115.5
560-50-6155 WTR/SWR/GRB	2,434.23	2,434.23	3,300.00	865.77	73.8
560-50-6160 ELECTRICITY	7,354.39	7,354.39	7,724.00	369.61	95.2
560-50-6170 TELEPHONE	10.02	10.02	700.00	689.98	1.4
560-50-6171 STAFF CELLULAR PHONES	348.26	348.26	1,200.00	851.74	29.0
560-50-6230 VEHICLE MAINT/REPAIR	14,835.33	14,835.33	18,184.00	3,348.67	81.6
560-50-6231 VEHICLE PARTS & TOOLS	1,683.85	1,683.85	20,000.00	18,316.15	8.4
560-50-6232 TIRES & WHEELS	.00	.00	2,000.00	2,000.00	.0
560-50-6400 INSURANCE	7,842.60	7,842.60	16,281.00	8,438.40	48.2
560-50-6503 DUES & SUBSCRIPTIONS	885.00	885.00	300.00	(585.00)	295.0
560-50-6539 MISCELLANEOUS EXPENSES	249.94	249.94	.00	(249.94)	.0
560-50-6710 ADMIN OVERHEAD-GF	48,701.06	48,701.06	41,548.00	(7,153.06)	117.2
560-50-6711 ADMIN OVERHEAD-IT SVCS	14,515.60	14,515.60	33,260.00	18,744.40	43.6
560-50-6890 CAPITAL EXPENDITURES	(3,326.20)	(3,326.20)	86,000.00	89,326.20	(3.9)
560-50-9691 BUS SHELTERS	.00	.00	23,505.00	23,505.00	.0
560-50-9692 PRESSURE WASHER	.00	.00	9,350.00	9,350.00	.0
TOTAL TRANSIT SYSTEM SECTION 5311	269,626.10	269,626.10	573,156.00	303,529.90	47.0
TOTAL FUND EXPENDITURES	269,626.10	269,626.10	573,156.00	303,529.90	47.0
NET REVENUE OVER EXPENDITURES	(269,626.10)	(269,626.10)	(573,156.00)	(303,529.90)	(47.0)

CITY OF BETHEL
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING JUNE 30, 2023

VEHICLES & EQUIP MAINTENANCE

	PERIOD ACTUAL	YTD ACTUAL	BUDGET	UNEXPENDED	PCNT
<u>VEHICLE & EQUIP MAINT</u>					
570-50-6000 SALARIES	278,558.11	278,558.11	431,729.00	153,170.89	64.5
570-50-6010 OVERTIME	3,041.49	3,041.49	15,000.00	11,958.51	20.3
570-50-6022 HOLIDAY PAY	8,944.56	8,944.56	.00	(8,944.56)	.0
570-50-6023 LEAVE CASHOUT	24,849.91	24,849.91	57,710.00	32,860.09	43.1
570-50-6031 PAYABLE MEDICARE FICA	4,817.29	4,817.29	6,478.00	1,660.71	74.4
570-50-6032 UNEMPLOYMENT	.00	.00	7,952.00	7,952.00	.0
570-50-6033 WORKERS' COMPENSATION	11,801.43	11,801.43	11,540.00	(261.43)	102.3
570-50-6034 PERS	66,400.26	66,400.26	98,280.00	31,879.74	67.6
570-50-6040 EMPLOYEE GROUP BENEFITS	106,848.60	106,848.60	180,539.00	73,690.40	59.2
570-50-6041 UTILITY BENEFIT	24,762.22	24,762.22	32,376.00	7,613.78	76.5
570-50-6060 TRAVEL/TRAINING	48.00	48.00	15,000.00	14,952.00	.3
570-50-6100 SUPPLIES	11,450.60	11,450.60	20,000.00	8,549.40	57.3
570-50-6103 WEARING APPAREL	705.79	705.79	4,000.00	3,294.21	17.6
570-50-6150 GASOLINE/DIESEL/OIL	86,222.48	86,222.48	8,000.00	(78,222.48)	1077.8
570-50-6153 HEATING FUEL	.00	.00	399.00	399.00	.0
570-50-6155 WATER/SEWER/GARBAGE	4,779.40	4,779.40	5,300.00	520.60	90.2
570-50-6160 ELECTRICITY	24,314.76	24,314.76	18,718.00	(5,596.76)	129.9
570-50-6171 STAFF CELLULAR PHONES	.00	.00	840.00	840.00	.0
570-50-6200 MINOR EQUIPMENT	2,551.87	2,551.87	25,000.00	22,448.13	10.2
570-50-6230 VEHICLE MAINT (ISF)	(168.60)	(168.60)	.00	168.60	.0
570-50-6231 VEHICLE PARTS & TOOLS	8,051.45	8,051.45	8,000.00	(51.45)	100.6
570-50-6232 TIRES & WHEELS	1,538.85	1,538.85	2,000.00	461.15	76.9
570-50-6240 PROPERTY MAINT	153.17	153.17	.00	(153.17)	.0
570-50-6339 OTHER PURCHASED SERVICES	3,609.14	3,609.14	10,000.00	6,390.86	36.1
570-50-6400 INSURANCE	39,899.59	39,899.59	24,535.00	(15,364.59)	162.6
570-50-6503 DUES & SUBSCRIPTIONS	14,243.00	14,243.00	10,000.00	(4,243.00)	142.4
570-50-6539 MISCELLANEOUS EXPENSES	832.19	832.19	.00	(832.19)	.0
570-50-6710 ADMIN OVERHEAD-GF	162,118.97	162,118.97	91,684.00	(70,434.97)	176.8
570-50-6711 ADMIN OVERHEAD-IT SVCS	21,053.62	21,053.62	33,260.00	12,206.38	63.3
TOTAL VEHICLE & EQUIP MAINT	911,428.15	911,428.15	1,118,340.00	206,911.85	81.5
TOTAL FUND EXPENDITURES	911,428.15	911,428.15	1,118,340.00	206,911.85	81.5
NET REVENUE OVER EXPENDITURES	(911,428.15)	(911,428.15)	(1,118,340.00)	(206,911.85)	(81.5)

City of Bethel Action Memorandum

Action memorandum No.	24-12		
Date action introduced:	May 28, 2024	Introduced by:	Acting City Manager Arnold
Date action taken:		Approved	Denied
Confirmed by:			

Action Title: Acting City Manager to negotiate and execute bid for Bethel Heights Martina Oscar Water and Sewer Improvements Phase 1. by Sturgeon Electric Company, Inc. with lowest bid of 1,660,489.00

Attachment(s) (1) Request for Bids – Bethel Hts/Martina Oscar Water and Sewer Improvements Phase 1, Prepared by DOWL, LLC (2) Sturgeon Electric Company, Inc Construction Bid Submission Package.

Department/Individual:	Initials:	Remarks:
Administration William Arnold, Acting City Manager	WA	
Purchasing Agent, Carmen Murat	CM	

Account information:		Amount of fiscal impact:
631-50	Village Safe Water- Grant 13,860,000	None

Summary Statement

The City of Bethel had DOWL prepare and issue a Request for Bids document for the construction of the Bethel Hts/Martina Oscar Water and Sewer Improvements Phase 1, with the proposal submission deadline of May 3, 2024. The City received two proposals from Company A and Company B by the deadline from qualified contractors in the state of Alaska, specifically with qualifications to work in the YK Delta. Sturgeon Electric Inc. entered the lowest bid with all Request for Bid requirements attached.

**CITY OF BETHEL
BETHEL, ALASKA**



REQUEST FOR BIDS

**Bethel Heights/Martina Oscar
Water and Sewer Improvements Phase 1**

Mandatory Prebid Conference:	Wednesday, April 10, 2024, at 1:30 pm
Conference Place:	City of Bethel – City Hall 300 Chief Eddie Hoffman Highway Bethel, Alaska 99559
Deadline for Questions / Protests:	Wednesday, April 17, 2024, at 12:00 pm
Opening / Due Date:	Friday, April 26, 2024
Opening Time:	12:00 pm
Opening Place:	City of Bethel – City Hall 300 Chief Eddie Hoffman Highway Bethel, Alaska 99559

BID DOCUMENTS

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00 43 13 Bid Bond (EJCDC C-430)
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DIVISION 01 GENERAL REQUIREMENTS

01 00 00 General Requirements
01 00 01 Method of Measurement and Basis of Payment
01 33 00 Submittals

DIVISION 02 EXISTING CONDITIONS

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02 41 00 Site Demolition

DIVISION 03 CONCRETE

03 30 00 Cast-in-place Concrete

DIVISION 05 METALS

05 12 00 Structural Steel Framing

DIVISION 06 WOOD, PLASTICS, COMPOSITES

06 10 00 Rough Carpentry

DIVISION 22 PIPE HANGERS AND SUPPORTS

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DIVISION 26 ELECTRICAL

26 00 00 Electrical Work, General
26 01 26 Electrical Tests
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26 05 19 Wires and Cables
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33 10 01 Steel Piping, Fittings, and Valves
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33 10 06 CPVC and PVC Pipe and Fittings
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DIVISION 40 PROCESS INTEGRATION

40 90 00 Process Control and Instrumentation Systems
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DIVISION 46 WATER AND WASTEWATER EQUIPMENT

46 10 01 Plate and Frame Heat Exchangers

SIGNATURE AND VERIFICATION OF ANTI-COLLUSION

BUILD AMERICA, BUY AMERICA CERTIFICATION

ENGINEERING DRAWINGS

SUPPLEMENTAL INFORMATION

Attachment A –Project Contract Forms

Notice of Award (EJCDC C-510, 2018 edition)
Notice to Proceed (EJCDC C-550, 2018 edition)
Contractors Application for Payment (EJCDC C-620, 2018 edition)
Progress Payment – Unit Price Work (EJCDC C-620, 2018 edition)
Stored Material Summary (EJCDC C-620, 2018 edition)
Certificate of Substantial Completion (EJCDC C-625, 2018 edition)
Change Order (EJCDC C-941, 2018 edition)

**SECTION 00 11 13
ADVERTISEMENT FOR BIDS**

**CITY OF BETHEL
BETHEL, ALASKA**

BETHEL HEIGHTS/MARTINA OSCAR WATER AND SEWER IMPROVEMENTS – PHASE 1

The City of Bethel (Owner) is seeking separate sealed Bids for the construction of Phase 1 of Bethel Heights/Martina Oscar Water and Sewer Improvements (Project). Bids will be received by the Purchasing Agent at City Hall, located at 300 Chief Eddie Hoffman Highway (or PO Box 1388), Bethel, Alaska 99559, until 12:00 PM local time on Friday, April 26, 2024, at which time the Bids received will be publicly opened and read.

The Project includes Improvements to the water treatment plant including mechanical and electrical upgrades, new heat exchangers, new circulation pump for Loop C, and fire water loop connection point for Ayaprun School.

Bids will be received for a single prime Contract. Bids shall be developed on a unit price basis as indicated in the Bid Form and the Method of Measurement and Basis of Payment.

The Issuing Office for the Bidding Documents is:

City of Bethel
C/O Purchasing Agent
Bethel, Alaska 99559
Email: purchasingagent@cityofbethel.net

Prospective Bidders may examine the Bidding Documents at the Issuing Office on Monday through Friday between the hours of 8:00 AM and 5:00 PM and may obtain copies of the Bidding Documents from the Issuing Office.

The Issuing Office has established a Bidding Documents Website: <https://www.cityofbethel.org/rfps>

Bidding Documents may be downloaded from the designated website. The designated website, and only the designated, website will be updated when necessary with addenda, lists of registered plan holders, and other information relevant to submitting a Bid for the Project.

Bidding Documents may also be examined at The Plans Room LLC (4831 Old Seward Highway, Suite 202, Anchorage, Alaska), The Association of General Contractors (8005 Schoon Street, Anchorage, Alaska), and AGC/The Plans Room (3750 Bonita Street, Fairbanks, Alaska) on Monday through Friday between the hours of 9:00 AM and 4:00 PM; and the office of the Engineer, DOWL (5015 Business Park Boulevard, Suite 4000, Anchorage, Alaska), on Monday through Friday between the hours of 8:00 AM and 5:00 PM.

Each bid must be submitted and sealed in an envelope addressed to City of Bethel C/O Purchasing Agent, Bethel, Alaska 99559 and plainly marked on the outside of the envelope as “Bid for City of Bethel, Bethel Height/Martina Oscar Water and Sewer Improvements – Phase 1” and the date and hour of the bid opening. In person bids will be accepted from 11:30 AM to 12:00 PM at the entrance to City Hall (at 300 Chief Eddie Hoffman Highway). Bids may also be mailed to PO Box 1388, Bethel, Alaska 99559, or emailed to the Purchasing Agent.

Pre-Bid Conference: All bidders must attend a mandatory pre-bid conference starting at Bethel City Hall, 300 Chief Eddie Hoffman Highway, Bethel, Alaska 99559 on April 10, 2024 at 1:30pm. Bids will not be accepted from Bidders that do not attend the mandatory pre-bid conference.

Prevailing Wage Rates: This Project is subject to the prevailing wage rates of the State of Alaska Department of Labor and Safety for Laborers' & Mechanics Minimum Rates of Pay (Pamphlet 600), the Davis-Bacon Act, and the Contract Work Hours and Safety Standards Act.

Build America Buy America Act: This project is subject to the statutory requirements commonly known as Build America, Buy America that requires all of the iron and steel, manufactured projects, and construction materials used in the project to be produced in the United States.

Each Bid will be reviewed by the Owner and Engineer for compliance and completeness. Bidders must be in good standing with the City of Bethel. The winning bid will be selected based on the lowest, responsive, qualified bid. Local Bids will receive a five percent (5%) preference in determining the lowest responsible and responsive bid.

The City of Bethel will not be liable for any costs incurred by any Bidder in response to this advertisement. The City of Bethel reserves the right to reject any or all bids without cause.

All questions should be submitted in writing to the Purchasing Agent at purchasingagent@cityofbethel.net

END OF ADVERTISEMENT FOR BIDS

SECTION 00 21 13
INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT
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ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Issuing Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.
 - B. *Local Bidder*—A local bidder means a business that submits a bid with fixed offices or distribution points located within the boundaries of the City of Bethel and who has a current City of Bethel business license and who is at the time of bidding in compliance with all requirements of the City of Bethel sales tax ordinance. A Bethel post office box number or residential address may not be used solely to establish status as a local bidder. The Owner reserves the final right to determine local bidder status.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Owner has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant.
- 2.04 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents or make them available for examination. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.05 *Electronic Documents*
- A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
 - 1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version 2017 or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot and do not

guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

- B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.06.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
 - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.
 - F. Listing of at least three similar projects within the last five years in the Yukon-Kuskokwim Delta Region. Include project location, size, owner contact name, and telephone number.
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.
- 3.04 Bidders must be in good standing with the Owner. Good standing includes but is not limited to:
 - A. No outstanding debts, fees, payments, or taxes owed to the Owner.
 - B. No outstanding claims between the Owner and Bidder, and
 - C. No previous history of default of duty, contract, or obligation to the Owner.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A mandatory pre-bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Proposals will not be accepted from Bidders who do not attend the conference. It is each Bidder's responsibility to sign in at the pre-bid conference to verify its participation. Bidders must sign in using the name of the organization that will be submitting a Bid. A list of qualified Bidders that attended the pre-bid conference and are eligible to submit a Bid for this Project will be issued in an Addendum.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the

pre-Bid conference. Information presented, and statements made at the pre-bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER’S SAFETY PROGRAM; OTHER WORK AT THE SITE

5.01 *Site and Other Areas*

- A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

A. *Subsurface and Physical Conditions; Hazardous Environmental Conditions*

- 1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
- 2. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
- 3. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.

5.03 *Other Site-related Documents*

- A. No other Site-related documents are available.

5.04 *Site Visit and Testing by Bidders*

- A. Bidder is required to visit the Site and conduct a thorough visual examination of the Site and adjacent areas. During the visit the Bidder must not disturb any ongoing operations at the Site.
- B. A Site visit is scheduled following the pre-bid conference. Maps to the Site will be available at the pre-Bid conference.
- C. Bidders visiting the Site are required to arrange their own transportation to the Site.

- D. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the Owner or Engineer. Bidder must conduct the required Site visit during normal working hours.
- E. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
- F. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
- G. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
- H. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.

5.05 *Owner's Safety Program*

- A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 *Other Work at the Site*

- A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to the Purchasing Agent in writing. Contact information and submittal procedures for such questions are as follows:
- City of Bethel
C/O Purchasing Agent
Email: purchasingagent@cityofbethel.net
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five (5) percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.
- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 days after the Bid opening.

ARTICLE 9—CONTRACT TIMES

- 9.01 The number of days within which, or the dates by which, the Work is to be (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.

ARTICLE 10—SUBSTITUTE AND “OR EQUAL” ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, and those “or-equal” or substitute or materials and equipment subsequently approved by Engineer prior to the submittal of Bids and identified by Addendum. No item of material or equipment will be considered by Engineer as an “or-equal” or substitute unless written request for approval has been submitted by Bidder and has been received by Engineer within 10 days of the issuance of the Advertisement for Bids or invitation to Bidders. Each such request must comply with the requirements of Paragraphs 7.05 and 7.06 of the General Conditions, and the review of the request will be governed by the principles in those paragraphs. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any such proposed item, such approval will be set forth in an Addendum issued to all registered Bidders. Bidders cannot rely upon approvals made in any other manner.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of “or-equal” or substitution requests are made at Bidder’s sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening:
- A. Electrical
 - B. Mechanical
 - C. Piping
 - D. Instrumentation
- 11.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder’s Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
- A. All blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words “No Bid” or “Not Applicable.”
- 12.02 If Bidder has obtained the Bidding Documents as Electronic Documents, then Bidder shall prepare its Bid on a paper copy of the Bid Form printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.
- 12.03 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.04 A Bid by a partnership must be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership must be shown.
- 12.05 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.06 A Bid by an individual must show the Bidder’s name and official address.
- 12.07 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.
- 12.08 All names must be printed in ink below the signatures.
- 12.09 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.10 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.11 The Bid must contain evidence of Bidder’s authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.12 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder’s licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such

certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 Unit Price

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. The final quantities and Contract Price will be determined in accordance with Paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 14—SUBMITTAL OF BID

- 14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.
- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid and must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted and will be returned to the Bidder unopened.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and

the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 16—OPENING OF BIDS

- 16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 17.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.
- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 18.05 *Evaluation of Bids*
- A. In evaluating Bids, Owner will consider whether the Bids comply with the prescribed requirements, and such alternates, unit prices, and other data, as may be requested in the Bid Form or prior to the Notice of Award.
 - B. In the comparison of Bids, alternates will be applied in the same order of priority as listed in the Bid Form. To determine the Bid prices for purposes of comparison, Owner will announce to all bidders a “Base Bid plus alternates” budget after receiving all Bids, but prior to opening them. For comparison purposes alternates will be accepted, following the order of priority established in the Bid Form, until doing so would cause the budget to be exceeded. After determination of the Successful Bidder based on this comparative process and on the responsiveness, responsibility, and other factors set forth in these Instructions, the award may be made to said Successful Bidder on its base Bid and any combination of its additive alternate Bids for which Owner determines funds will be available at the time of award.
 - C. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for

those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.

- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

- 20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

ARTICLE 21—STATE AND FEDERAL REQUIREMENTS

- 21.01 The prevailing wage rates of the State of Alaska Department of Labor and Safety for Laborers' & Mechanics Minimum Rates of Pay (Pamphlet 600) apply to this Project.
- 21.02 Federal requirements listed in Article 19 of the Supplementary Conditions apply to this Project.

SECTION 00 41 13**BID FORM****TABLE OF CONTENTS**

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BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to:

City of Bethel
C/O Purchasing Agent
300 Chief Eddie Hoffman Highway (or PO Box 1388)
Bethel, Alaska 99559
Email: purchasingagent@cityofbethel.net

- 1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:

- A. Required Bid Security;
- B. List of Proposed Subcontractors;
- C. List of Proposed Suppliers;
- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
- E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
- F. Required Bidder Qualification Statement with supporting data;
- G. If a Local Bidder, signed letter stating status as a Local Bidder, then show that the Bidder complies with the definition of a Local Bidder as found in Article 1, Instruction to Bidders;
- H. Signed and dated verification of anti-collusion; and
- I. Signed and dated Build America, Buy America Act certification of compliance.

ARTICLE 3—BASIS OF BID—LUMP SUM BID AND UNIT PRICES

- 3.01 *Unit Price Bids*

- A. Bidder will perform the following Work at the indicated unit prices:

BASE BID SCHEDULE

Item No.	Description	Unit	Bid Unit Price	Bid Amount
101	Mobilization and Demobilization	Lump Sum		\$
102	Record Drawings	Lump Sum		\$
103	Installation of BHWTP Upgrades	Lump Sum		\$
104	Startup, Commissioning, Automation, Switchover, Project Operation and Maintenance Manuals	Lump Sum		\$
105	Instrumentation	Lump Sum		\$
TOTAL				\$

B. Bidder acknowledges that:

1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
2. Bidder will comply with State of Alaska Wage Rates.
3. If Bidder wishes to submit manufacturer's data for a product for preliminary approval, the bidder must submit the manufacturer's data no later than when questions are due. Preliminary approvals will be granted on a case-by-case basis and are not guaranteed. Preliminary approvals are not to take the place of the submittal review and approval process with the successful bidder.
4. Bidder will comply with Build America/Buy America Act provisions.

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

4.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA**5.01 Bid Acceptance Period**

- A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

5.02 Instructions to Bidders

- A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER’S REPRESENTATIONS AND CERTIFICATIONS6.01 *Bidder’s Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder’s (Contractor’s) safety precautions and programs.
7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
8. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
 - a. Corrupt practice means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process.
 - b. Fraudulent practice means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition.
 - c. Collusive practice means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels.
 - d. Coercive practice means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or printed name of organization)

By:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest:

(individual's signature)

Name:

(typed or printed)

Title:

(typed or printed)

Date:

(typed or printed)

Address for giving notices:

Bidder's Contact:

Name:

(typed or printed)

Title:

(typed or printed)

Phone:

Email:

Address:

Bidder's Contractor License No.:

SECTION 00 43 12 BID BOND (PENAL SUM FORM)

Bidder Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Bethel Address <i>(principal place of business)</i> : P.O. Box 1388 Bethel, Alaska 99559	Bid Project <i>(name and location)</i> : Bethel Heights/Martina Oscar Water & Sewer Improvements – Phase 1 Bid Due Date: April 26, 2024
Bond Penal Sum: Date of Bond:	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder	Surety
<i>(Full formal name of Bidder)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature) (Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.</i>	

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond will be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder occurs upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation will be null and void if:
 - 3.1. Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2. All Bids are rejected by Owner, or
 - 3.3. Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions does not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.
6. No suit or action will be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety, and in no case later than one year after the Bid due date.
7. Any suit or action under this Bond will be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder must be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Postal Service registered or certified mail, return receipt requested, postage pre-paid, and will be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond will be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute governs and the remainder of this Bond that is not in conflict therewith continues in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION 00 52 13

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between **City of Bethel, P.O. Box 1388 Bethel, AK 99559** ("Owner") and _____ ("Contractor").

Terms used in this Agreement have the meanings stated in the General Conditions and the Supplementary Conditions.

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

- 1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: All materials, equipment, labor and related services to construct and commission the Bethel Heights Water Treatment Plant Improvements Project as described under Article 2 and in the Contract Documents.

ARTICLE 2—THE PROJECT

- 2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: The project scope consists of mechanical and electrical upgrades to the water treatment plant.

ARTICLE 3—ENGINEER

- 3.01 The Owner retained **DOWL, INC.** ("Engineer") to act as Owner's representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.
- 3.02 The part of the Project that pertains to the Work has been designed by **the Engineer**.

ARTICLE 4—CONTRACT TIMES

- 4.01 *Time is of the Essence*
- A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Dates*
- A. The Work will be substantially complete on or before **October 31, 2024**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **December 31, 2024**. The substantial and final completion dates may change based on the awarding of any or all of the additive alternates.
- 4.04 *Liquidated Damages*
- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and

Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

1. *Substantial Completion*: Contractor shall pay Owner **\$500.00** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$500.00** for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

- A. For all Work, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

6.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the 1st (first) day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.

- a. 95 percent of the value of the Work completed (with the balance being retainage).
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
 - B. Upon Substantial Completion of the entire construction to be provided under the construction Contract Documents, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **200** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.
- 6.03 *Final Payment*
- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.
- 6.04 *Consent of Surety*
- A. Owner will not make final payment, or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.
- 6.05 *Interest*
- A. All amounts not paid when due will bear interest at the rate of **8** percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

7.01 *Contents*

- A. The Contract Documents consist of all of the following:
 - 1. This Agreement.
 - 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 - 3. General Conditions.
 - 4. Supplementary Conditions.
 - 5. Specifications as listed in the table of contents of the project manual.
 - 6. Drawings (not attached but incorporated by reference) consisting of **43** sheets with each sheet bearing the following general title: **Bethel Heights/Martina Oscar Water and Sewer Improvements - Phase 1.**
 - 7. Addenda (numbers _____ to _____, inclusive).
 - 8. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages __ _ to __ _, inclusive).
 - b. Permits obtained:
 - 1) Alaska DEC Approvals to Construct (will be provided prior to construction);

- c. Project Contract Forms
- 9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

8.01 Contractor's Representations

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
 - 5. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
 - 6. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests,

studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

7. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
8. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
9. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
10. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

8.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

8.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement.

This Agreement will be effective on _____ (which is the Effective Date of the Contract).

Owner:

City of Bethel

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

PO Box 1388

Bethel, AK 99559

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

(If **[Type of Entity]** is a corporation, attach evidence of authority to sign. If **[Type of Entity]** is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

Contractor:

(typed or printed name of organization)

By:

(individual's signature)

Date:

(date signed)

Name:

(typed or printed)

Title:

(typed or printed)

(If **[Type of Entity]** is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest:

(individual's signature)

Title:

(typed or printed)

Address for giving notices:

Designated Representative:

Name:

(typed or printed)

Title:

(typed or printed)

Address:

Phone:

Email:

License No.:

(where applicable)

State:

SECTION 00 61 13.13 PERFORMANCE BOND

Contractor Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Bethel Mailing address <i>(principal place of business)</i> : PO Box 1388 Bethel, AK 99559	Contract Description <i>(name and location)</i> : Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☐ None ☐ See Paragraph 16	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____ <i>(Signature)</i>	By: _____ <i>(Signature)(Attach Power of Attorney)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____ <i>(Signature)</i>	Attest: _____ <i>(Signature)</i>
Name: _____ <i>(Printed or typed)</i>	Name: _____ <i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner for the performance of the Construction Contract, which is incorporated herein by reference.
2. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
4. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
5. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
- 6. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
- 7. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
- 8. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
- 9. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
- 10. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
- 11. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
- 12. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
- 13. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

14. Definitions

- 14.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.
 - 14.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 14.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 14.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
15. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
16. Modifications to this Bond are as follows: **None**

SECTION 00 61 13.16 PAYMENT BOND

Contractor Name: Address <i>(principal place of business)</i> :	Surety Name: Address <i>(principal place of business)</i> :
Owner Name: City of Bethel Mailing address <i>(principal place of business)</i> : PO Box 1388 Bethel, AK 99559	Contract Description <i>(name and location)</i> : Contract Price: Effective Date of Contract:
Bond Bond Amount: Date of Bond: <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: ☐ None ☐ See Paragraph 18	
Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.	
Contractor as Principal	Surety
<i>(Full formal name of Contractor)</i>	<i>(Full formal name of Surety) (corporate seal)</i>
By: _____	By: _____
<i>(Signature)</i>	<i>(Signature)(Attach Power of Attorney)</i>
Name: _____	Name: _____
<i>(Printed or typed)</i>	<i>(Printed or typed)</i>
Title: _____	Title: _____
Attest: _____	Attest: _____
<i>(Signature)</i>	<i>(Signature)</i>
Name: _____	Name: _____
<i>(Printed or typed)</i>	<i>(Printed or typed)</i>
Title: _____	Title: _____
<i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i>	

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
 - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *Claimant*—An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials, or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of "labor, materials, or equipment" that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: **None**

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

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STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

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requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.

- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
- 11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 - 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 - 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 - 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 - 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 - 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 - 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 - 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 - 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 - 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 - 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - 1. does not conform to the Contract Documents;
 - 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
 - 1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 - 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 - 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 - 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

- A. *Standards Specifications, Codes, Laws and Regulations*
 - 1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 - 2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the part of the Contract Documents prepared by or for Engineer take precedence in resolving any conflict, error, ambiguity, or discrepancy between such provisions of the Contract Documents and:
 - a. the provisions of any standard specification, manual, reference standard, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference as a Contract Document); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work may be done at the Site prior to such date.

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. ~~Abnormal weather conditions;~~
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas*

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

and machinery, and surplus materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading of Structures:* Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent structures or land to stresses or pressures that will endanger them.

5.03 *Subsurface and Physical Conditions*

- A. *Reports and Drawings:* The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition **within 15 calendar days of discovery**. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
 - a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
 3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions:* Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities:* Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.
- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.

- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
- F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
- G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
- H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
- I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
- J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
- K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 *Contractor's Insurance*

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start up, and completion of the Work, whether or not such items are specifically called for in the Contract Documents.
- B. All materials and equipment incorporated into the Work must be new and of good quality, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications will expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment must be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense*: Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination*: Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request*: If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor's Request; Governing Criteria*: Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination*: Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee*: Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost*: Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

- E. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination:* If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. **Deleted.**
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.
- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.

- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If an invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights will be disclosed in the Contract Documents.
- B. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, and its officers, directors, members, partners, employees, agents, consultants, and subcontractors, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device specified in the Contract Documents, but not identified as being subject to payment of any license fee or royalty to others required by patent rights or copyrights.
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one printed record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, written interpretations and clarifications, and approved Shop Drawings. Contractor shall keep such record documents in good order and annotate them to show changes made during construction. These record documents, together with all approved Samples, will be available to Engineer for reference. Upon completion of the Work, Contractor shall deliver these record documents to Engineer.

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of safety data sheets (formerly known as material safety data sheets) or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

7.15 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused by an emergency, or are required as a result of Contractor's response to an emergency. If Engineer determines that a change in the Contract Documents is required because of an emergency or Contractor's response, a Work Change Directive or Change Order will be issued.

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

- 1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
- 2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. Resubmittal Procedures for Shop Drawings and Samples

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
- 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 Contractor's General Warranty and Guarantee

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
 - 1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 - 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 - 1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 - 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
 - 1. Observations by Engineer;
 - 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 - 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 - 4. Use or occupancy of the Work or any part thereof by Owner;
 - 5. Any review and approval of a Shop Drawing or Sample submittal;
 - 6. The issuance of a notice of acceptability by Engineer;
 - 7. The end of the correction period established in Paragraph 15.08;
 - 8. Any inspection, test, or approval by others; or

9. Any correction of defective Work by Owner.
- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 Indemnification

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 Delegation of Professional Design Services

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract.

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

10.06 *Decisions on Requirements of Contract Documents and Acceptability of Work*

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee*: When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

- B. *Change Proposal Procedures*

- 1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
- 2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

- 3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
- 4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

ARTICLE 12—CLAIMS

12.01 *Claims*

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded:* The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit*: Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances*: Contractor agrees that:
1. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 2. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment for any of the foregoing will be valid.
- C. *Owner's Contingency Allowance*: Contractor agrees that an Owner's contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor for Work covered by allowances, and the Contract Price will be correspondingly adjusted.

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and authorities having jurisdiction have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply with such procedures and programs as applicable.

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 - 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 - 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 Owner May Correct Defective Work

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 Progress Payments

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. Review of Applications

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.

D. *Payment Becomes Due*

1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.

E. *Reductions in Payment by Owner*

1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work, or agreed portion thereof, is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
- 3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 *Waiver of Claims*

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
 - 1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 - 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
 - 1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 - 2. agree with the other party to submit the dispute to another dispute resolution process; or
 - 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
 - 1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 - 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 - 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

- A. When any period of time is referred to in the Contract by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the applicable jurisdiction, such day will be omitted from the computation.

18.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract. The provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract, as well as all continuing obligations indicated in the Contract, will survive final payment, completion, and acceptance of the Work or termination of the Contract or of the services of Contractor.

18.07 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

18.10 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 5 – SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.03 *Subsurface and Physical Conditions*

SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:

- C. The following reports of explorations and tests of subsurface conditions at or adjacent to the Site are known to Owner:
 - 1. No known reports for the Site.

5.06 *Hazardous Environmental Conditions*

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

- 4. The following REPORTS REGARDING Hazardous Environmental Conditions at the Site are known to Owner:
 - a. No known reports for the Site.

ARTICLE 6 – BONDS AND INSURANCE

6.03 *Contractor's Insurance*

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. The limits of liability for the insurance required by Paragraph 6.03 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
 - 1. Workers' Compensation, and related coverages under Paragraphs 6.03.A.1 and A.2 of the General Conditions:

State:	<u>Statutory</u>
Federal, if applicable (e.g., Longshoreman's):	<u>Statutory</u>
Employer's Liability:	

Bodily injury, each accident	<u>\$1,000,000</u>
Bodily injury by disease, each employee	<u>\$1,000,000</u>
Bodily injury/disease aggregate	<u>\$1,000,000</u>

2. Contractor's Commercial General Liability under Paragraphs 6.03.B and 6.03.C of the General Conditions:

General Aggregate	<u>\$2,000,000</u>
Products - Completed Operations Aggregate	<u>\$1,000,000</u>
Personal and Advertising Injury	<u>\$1,000,000</u>
Each Occurrence (Bodily Injury and Property Damage)	<u>\$1,000,000</u>

3. Automobile Liability under Paragraph 6.03.D. of the General Conditions:

Combined Single Limit	<u>\$1,000,000</u>
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4. Excess or Umbrella Liability:

Per Occurrence	<u>\$4,000,000</u>
General Aggregate	<u>\$4,000,000</u>

5. Contractor's Pollution Liability:

Each Occurrence	<u>NA</u>
General Aggregate	<u>NA</u>

6. Additional Insureds: In addition to Owner and Engineer, include as additional insureds the following:

- a. City of Bethel
- b. DOWL
- c. EDC

7. Contractor's Professional Liability:

Each Claim	<u>NA</u>
Annual Aggregate	<u>NA</u>

ARTICLE 7 – CONTRACTOR’S RESPONSIBILITIES

7.03 *Labor; Working Hours*

SC-7.03 Amend the first and second sentences of Paragraph 7.03.C to state “...all Work at the Site must be performed during regular working hours.”

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours will be 7:00 am to 7:00 pm.

7.13 *Safety and Protection*

SC-7.13 Insert the following after the second sentence of Paragraph 7.13.G:

The Contractor is to prepare and maintain a project specific health and safety plan. The health and safety plan will be subject to review and approval by Owner and Engineer.

ARTICLE 17 – FINAL RESOLUTIONS OF DISPUTES

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 *Arbitration*

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association’s supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.

- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and
 - 4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

SC-19 Add the following new article immediately after Article 18:

ARTICLE 19 –FEDERAL REQUIREMENTS

- 19.01 The Project has been funded wholly or in part by the United States Environmental Protection Agency. The contents of the Bidding Documents do not necessarily reflect the views and policies of the Environmental Protection Agency, nor does the Environmental Protection

Agency endorse trade names or recommend the use of commercial products mentioned in this document.

- 19.02 The Contractor shall comply with all applicable federal statutes, regulations, ordinances and codes, whether or not specifically mentioned herein including:
- A. Americans with Disabilities Act of 1990
 - B. Section 504 of the Rehabilitation Act of 1973
 - C. Title VI of the Civil Rights Act of 1965
 - D. Age Discrimination Act of 1975
 - E. Equal Employment Opportunity Executive Orders
 - F. Copeland Anti-Kickback Act
 - G. Davis-Bacon Act
 - H. Contract Work Hours and Safety Standards Act
 - I. Debarment and Suspension Executive Order 1259
 - J. Bayh-Dole Act
 - K. Byrd Anti-Lobbying Amendment
 - L. Drug Free Workplace Act
 - M. Hotel-Motel Fire Safety Act
 - N. Clean Air and Clean Water Act
 - O. 2 CFR 200 Uniform Administrative Requirements, Cost Principles, and Audit Requirements
- 19.02 The Contractor shall place a sign at the Site that displays the Environmental Protection Agency Logo in a manner that informs the public that the project is funded in wholly or in part by the Environmental Protection Agency. The sign must be placed in a visible location that can be directly linked to the work taking place and must be maintained in good condition throughout the construction period. Sign specifications are available at: <https://www.epa.gov/grants/epa-logo-seal-specifications-signage-produced-epa-assistance-agreement-recipients>
- 19.03 The Contractor shall comply with the requirements of the Environmental Protection Agency's Disadvantaged Business Enterprise Program contained in 40 CFR Part 33 and described at: <https://www.epa.gov/grants/disadvantaged-business-enterprise-program-requirements>
- 19.04 The Contractor shall notify the Owner and Engineer immediately upon determination of any Conflict of Interest as defined and described in the Environmental Protection Agency's Conflict of Interest policy found at: <https://www.epa.gov/grants/epas-financial-assistance-conflict-interest-policy>
- 19.05 The Contractor must comply with all federal requirements imposed by the Build America, Buy America Act imposed by the Infrastructure Investment and Jobs Act, Public Law No. 117-58, which includes, but is not limited to, the following requirements:

- A. That all of the iron and steel, manufactured products, and construction materials used in the Project are to be produced in the United States unless:
 - 1. The Contractor has requested and obtained a waiver pertaining to the Project or the Project is otherwise covered by a general applicability waiver; or
 - 2. All of the Contractor has been advised in writing that the Build America, Buy America requirements are not applicable to the Project.
- B. Record keeping and reporting as identified at: <https://www.epa.gov/cwsrf/build-america-buy-america-baba>

SECTION 01 00 00
GENERAL REQUIREMENTS

PART 1 - SCOPE OF WORK

1.01 PROJECT INFORMATION

- A. Project Identification: City of Bethel, Bethel Heights/Martina Oscar Water and Sewer Improvements – Phase 1
- B. Owner: City of Bethel Public Works Department.
 - 1. City's Representative: William Arnold
- C. Engineer: DOWL, LLC
 - 1. Project Engineer Representative: DOWL 5015 Business Park, Suite 4000, Anchorage AK 99503. Phone Number: 907-562-2000.

1.02 GENERAL

The Project consists of mechanical and electrical upgrades to the water treatment plant.

1.03 CONTRACTOR USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall not disturb portions of the BHWTP beyond the project site in which Work is indicated.
 - a. Driveways, walkways, and entrances to the buildings shall be kept clear and available to the City, City personnel and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.
 - b. NOTE: the front and side of the WTP building are used for water truck filling operations throughout the day. Contractor shall familiarize themselves with the site conditions and plan accordingly.

1.04 PUBLIC RELATIONS

- A. The Contractor shall communicate to the public any road closures, driveway closures or other traffic control impacts on the community.
- B. The water treatment plant is located at a busy street intersection. Contractor shall familiarize themselves with the area and plan accordingly.

PART 2 - PRE-CONSTRUCTION REQUIREMENTS

- 2.01** Photographs and videos will be taken showing details of existing conditions to ensure complete restoration after the project.
- 2.02** A full 3D scan (in AutoDesk ReCap format) of the existing facility and 3D model (in AutoCAD Navisworks format) of the proposed upgrades will be made available to the winning bidder on request.
- 2.03** City of Bethel bears sole responsibility for keeping the rights-of-way and easements clean of debris, dirt, and gravel during construction.

PART 3 - EXTRA OR DISPUTED WORK REPORTS

3.01 If payment for work performed is to be based on time and materials, or if a claim is contemplated in which time and material reports would assist in settling the claim, the Contractor shall maintain adequate records on the Daily Report forms available from the Engineer. The reported work shall have the Engineer's and/or Resident Project Representative's signature to indicate his concurrence prior to being submitted to the Engineer or Contract Administrator within 48 hours of the time the work was performed. Concurrence by the Resident Project Representative does not indicate agreement to or authorization of "extra work" or "extra payment" but rather indicates agreement that the work effort recorded during that time period was in fact done.

PART 4 - MATERIAL TESTING AND INSPECTION**4.01 CONTRACTOR'S OBLIGATION**

- A. The Contractor shall obtain and pay for all testing that may be necessary to qualify Contractor-furnished materials for use in the work. This shall include material quality tests, mix designs, equipment and plant calibration, and other similar tests required to qualify Contractor-furnished materials for compliance with the specifications. The Contractor shall submit test results to the Engineer sufficiently in advance of the work so that approval to proceed is received by the Contractor prior to using that material in the work.
- B. Samples of material required for testing shall be furnished by the Contractor.
- C. The Contractor is responsible for coordinating with the Resident Project Representative and requesting all testing, including any field testing paid for by the Owner.
- D. The Contractor shall pay for all failing field tests performed to monitor construction control of the materials used in the work.
- E. Payment for failing field tests will be deducted from any amounts due or to become due to the Contractor.
- F. Contractor to verify the Owner supplied items are not damaged or defective. Damage and defective items shall not be used for this project.

4.02 OWNER'S OBLIGATION

- A. The Owner will be paying for a full-time Resident Project Representative during the construction.

PART 5 - WEATHER LIMITATIONS

The Contractor shall protect each increment of completed work against detrimental effects due to weather, by approved methods. Any increment of completed work that is damaged by freezing or rain, shall be reconditioned, reshaped, re-compacted, or replaced by the Contractor in conformance with the requirements of this specification without additional cost to the Owner.

The first barge of the year usually arrives in the first week of June.

PART 6 - NOTICE TO BE GIVEN

6.01 Contractor shall notify the Engineer's Resident Project Representative at least 24 hours prior to the following:

- A. Disruptions in utility services.
- B. Any Material or Quality Control Testing as indicated in the Specifications.
- C. Needs for Traffic Control.

PART 7 - LABOR STANDARDS, REPORTING, AND PREVAILING WAGE RATES DETERMINATIONS

The prevailing wage rates of the State of Alaska apply to this contract as do any requirements of the State of Alaska associated with the use of these State prevailing wages.

PART 8 - AS-BUILTS**9.01 GENERAL**

The Contractor shall provide the Owner as-built information on all construction. This information will include copies of the Contractor's field survey notes and a set of the Drawings red-lined with as-built information. Items to be as-built by the Contractor include any item that deviates from the plans or is Contractor designed, including, but not limited to, pipe route modifications, all installed pipe support locations and details, all installed instrument locations and details, equipment pad final locations and sizes, any required electrical modifications, or other information required to ensure a complete and accurate set of record drawings are delivered to the Owner and the State of Alaska Department of Environmental Conservation.

A. Control

Basis for horizontal control for as-built information shall be the system of stationing shown on the Drawings. All elevations shall be based on the datum used for design.

B. Survey Notes

All field survey notes shall include date, name of surveyor or foreman, and adequate description of TBM's when used. Sketches shall have north arrow and show relationship or ties to stationing control. All notes shall be reduced to show actual elevation at design datum.

END OF SECTION 01 00 00

SECTION 01 00 01**METHOD OF MEASUREMENT AND BASIS OF PAYMENT****PART 1 – GENERAL****1.01 SCOPE**

- A. This section describes the method of measurement and basis of payment.

1.02 GENERAL

- A. The total bid price for each item of the Contract shall cover all work shown on the Construction Drawings and required by the Specifications and other Contract Documents. All costs in connection with the Work, including furnishing all materials, equipment, supplies and appurtenances; providing all construction, equipment, and tools, performing all necessary labor and supervision to fully complete the Work and associated start-up and Commissioning, shall be included in the unit and lump sum bid prices. No item required by the Contract Documents for the proper and successful completion of the Work will be paid for outside of or in addition to the prices submitted in the bid. All work not specifically set forth as a pay item in the Bid Form included but not limited to reclamation, sodding, topsoil, seed, reinstalling existing signs and fences, replacing construction caused damaged signs and driveways, shall be considered a subsidiary obligation of the Contractor and all costs in connection therewith shall be included in the bid prices. Bid prices will also apply to additional similar work that is not shown on the plans that the Engineer may require to be installed during the project.
- B. All work completed under the Contract will be measured by the Engineer according to the United States Standard Measure. A station when used as a definition or term of measurement shall be 100 linear feet measured horizontally, unless otherwise specified.
- C. The method of measurement and computations to be used in determination of quantities of material furnished and of work performed under the Contract will be those methods generally recognized as conforming to standard engineering practice.
- D. Unless otherwise specified, longitudinal measurements for area computations will be made horizontally, and no deductions will be made for individual items having an area of nine square feet or less. Unless otherwise specified, transverse measurements for area computations will be the neat dimensions shown on the Drawings or ordered in writing by the Engineer.
- E. All items which are measured by the linear foot, such as pipe culverts, sewers or water lines, will be measured parallel to the base or foundations upon which structures are placed, unless otherwise shown on the Drawings.

1.03 ESTIMATED QUANTITIES

- A. All estimated quantities stipulated in the Bid Form or other Contract Documents are approximate and are to be used only (a) as a basis for estimating the probable cost of the Work and (b) for the purpose of comparing the bids submitted for the Work. The basis of payment for work and materials will be by lump sum or unit price as indicated. The Contractor shall supply a schedule of values for each lump sum item to be reviewed and approved by the Engineer.

- B. The Contractor agrees to make no claim for damages, anticipated profits, or otherwise on account of any difference between the amounts of work actually performed and materials actually furnished and the estimated amounts herein.
- C. If the Contractor desires to receive payment for materials in storage for any bid item, the Contractor shall provide a breakout of all materials and their actual costs for that bid item. The Contractor shall furnish the Engineer copies of the supplier's invoices relating to the breakout to verify all materials being requested for payment under that bid item. The Contractor shall furnish copies of the required invoices no later than 5 business days before the cut-off-date of each progress payment. Invoices received later than 5 business days before the cutoff date will not be included in that progress payment. Materials in storage will only be paid for major bid items and will not be paid for associated items such as nuts, bolts, glue, gaskets, tools, etc. Materials in storage are Contractor responsibility and Contractor must provide insurance to cover any loss, theft, damage, etc. Quantities to be utilized on the monthly pay request will be based on signed daily quantities.
- D. The following applies to materials in storage; materials in storage will only be allowed on the first three pay requests received from the Contractor unless otherwise agreed to by the Engineer. Materials in storage must be tied to an actual bid item, and quantities in storage must be removed from the storage quantity as work progresses. All materials in storage will be removed from the pay estimate no later than the sixth pay estimate, for each construction season. Any materials ordered and stored over the winter shall be secured and properly covered in accordance with the material manufactures recommendations and per the Engineer's directions.
- E. Contractor shall develop a form on which to record the percent complete for all lump sum bid items and submit the form at the preconstruction meeting, to the Engineer for approval. At the end of each pay period the Engineer and Contractor must agree on bid schedule values and the percent completion actually installed. A copy signed by the Contractor must be distributed to the Resident Project Representative on a monthly basis 5 days before the monthly pay period ends. Payment for lump sum items shall be made in accordance with the agreed upon percent complete each progress payment.

1.04 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

A. BASE BID SCHEDULE

101- Mobilization and Demobilization (Lump Sum)

Payment will be made on a lump sum basis for all Contractor Mobilization and Demobilization efforts. Disposal of unsalvageable materials at local landfill shall be incidental to Mobilization and Demobilization. Bonding and Insurance requirements shall be incidental to this Pay Item.

102- Record Drawings (Lump Sum)

Payment will be made on a lump sum basis for all work associated with maintaining on-site construction record drawings and submitting final record drawings. Preparation of all detailed record drawings in accordance with the specifications will also be paid under this item. Forty percent (40%) of this line item will be withheld until the Engineer approves record drawings.

103- Installation of Bethel Heights Water Treatment Plant Upgrades (Lump Sum)

Payment will be made on a lump sum basis for all Work required to complete the Bethel Heights Water Treatment Plant improvements shown on the Drawings and specified herein. This Pay Item shall include

all Work not specified in other pay items and all Work necessary to provide a final finished project capable of the performance specified for all components and systems of the project. This pay item shall include all work associated with demolition and relocation of existing equipment.

104 – Startup, Commissioning, Automation, Switchover, Project Operation and Maintenance Manuals (Lump Sum)

Payment will be made on a lump sum basis for Contractor to provide the equipment, personnel, and logistical support to perform all system Startup, Commissioning, Automation, and Switchover Work specified. Payment will also cover all work associated with testing and commissioning the utilities and equipment including instrumentation and PLC program. Payment will also cover all coordination with Owner's system integrator during electrical/control system commissioning and testing. This Work includes, but is not limited to:

1. Startup, Testing and Commissioning of all building systems as specified herein.
2. Preparation and submittal of project Operation and Maintenance Manuals.

105 - Instrumentation (Lump Sum)

Payment will be made on a lump sum basis for all instrumentation improvements inside the Bethel Heights Water Treatment Plant. Payment will be full compensation for furnishing, installing, calibrating and testing all instruments including all labor, materials, tools, equipment, apparatus, and incidentals for doing all the work required with the instrumentation improvements.

END OF SECTION 01 00 01

SECTION 01 33 00
SUBMITTALS PROCEDURES

PART 1 - GENERAL

1.01 DESCRIPTION

The work of this section consists of submittal requirements before and during construction.

1.02 SCHEDULES

As soon as possible after Notice of Award and before beginning any work, submit Progress Schedule and Schedule of Values as a package. Engineer will review the Progress Schedule and the Schedule of Values for format and content.

- A. Progress Schedule: Submit three copies of Progress Schedule (normally in bar chart form) showing estimated starting and completion dates for each part of the work. The first progress payment will not be issued until an acceptable progress schedule is submitted.
- B. Schedule of Values: Submit a schedule of dollar values based on the Project Schedule including all major components and milestones for each phase. Break down into component parts each phase using a series of operations for which progress payments may be requested. The total cost of all items shall equal the contract sum. The Engineer may request data to verify accuracy of dollar values.

1.03 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

- A. General Procedures:
 - 1. As specified in the individual sections, forward submittals to Engineer at least 30 days before need for approval. ENGINEER will establish an electronic submittal registry for this project through Newforma Info Exchange (<https://infoexchange.newforma.com/>), or Submittal Exchange. DOWL will provide training for use of the Exchange and supply a template submittal cover page for entry of submittal information.
 - 2. Coordinate all submittals and review them for legibility, accuracy, completeness, and compliance with contract requirements. Forward submittals that are related to or affect one another as a package to facilitate coordinated review.
 - 3. Submittals will not be accepted for review if identification or approval stamps are missing or are placed on the back of the submittal, an incorrect number of submittals are submitted, the transmittal form is incorrectly filled out, submittals are not coordinated, or submittals do not show evidence of Contractor's approval.
 - 4. Engineer reserves the right to require submittals in addition to those called for in individual sections.
 - 5. Submittals must be organized by specification section and each submittal section must be labeled with the proper item tag number or other identification name or number (i.e. equipment tag, instrument tag, valve tag) when applicable.
- B. Specific Procedures:
 - 1. Shop Drawings: Identify each copy of shop drawings with contract drawing number in lower right corner.
 - 2. Samples: Samples shall be large enough to clearly illustrate the functional characteristics and full range of color, texture, or pattern.

3. Manufacturers' Literature: Submit only pertinent pages; mark each copy of standard printed data to identify products referenced in specification section.
- C. Engineer Approval:
1. Engineer will indicate approval or disapproval of each submittal and the reasons for disapproval.
 2. After Engineer review, revise and resubmit as required. Identify changes made since previous submittal.
 3. When Engineer has approved submittals, Contractor's copies will be returned. Any work done before approval shall be at Contractor's own risk. No payment shall be made for any work performed without an approved submittal.

1.04 APPROVED EQUALS

- A. For each item proposed as an "approved equal," submit a separate request that is clearly marked as an "approved equal request" to the Engineer. With each request submit supporting data, including:
1. Drawings and samples as appropriate.
 2. Comparison of the qualities of the proposed item with that specified.
 3. Changes required in other elements of the work because of the substitution.
 4. Name, address, and telephone number of vendor.
 5. Manufacturer's literature regarding installation, operation, and maintenance, including schematics for electrical and hydraulic systems, lubrication requirements, and parts lists. Describe availability of maintenance service, and state source of replacement materials.
- B. A request for approval constitutes a representation that Contractor:
1. Has investigated the proposed item and determined that it is equal or superior in all respects to that specified.
 2. Will provide the same warranties for the proposed item as for the item specified.
 3. Has determined that the proposed item is compatible with interfacing items.
 4. Will coordinate the installation of an approved item and make all changes required in other elements of the work because of the substitution.
 5. Waives all claims for additional expenses that may be incurred as a result of the substitution.
- C. The Engineer has final determination whether or not an item is approved and considered equal.

1.05 MANUFACTURER'S INSTALLATION INSTRUCTIONS

When contract documents require compliance with manufacturer's printed instructions, provide one complete set of instructions for Engineer and keep another complete set of instructions at the project site until substantial completion.

PART 2: PRODUCTS: (NOT USED).

PART 3: EXECUTION: (NOT USED).

END OF SECTION 01 33 00

SECTION 02 01 60**EXISTING UTILITIES AND STRUCTURES****1.01 RELATED WORK SPECIFIED ELSEWHERE****1.02 PUBLIC AND PRIVATE UTILITIES AND STRUCTURES**

- A. Existing above-ground utilities and structures, including but not limited to power transmission and distribution, telephone, water and sewer pipes, street signs/posts, and traffic signs/posts, whether shown on the drawings or not, shall be maintained, relocated, rerouted, removed and restored as may be necessary by the Contractor in a manner satisfactory to Engineers and operators of the utilities.
- B. Existing major underground utilities and appurtenant structures, whether shown on the drawings or not, shall be maintained, relocated, rerouted, removed and restored by the Contractor. The Contractor shall expose existing utilities and verify crossing utility elevations prior to installing new utilities. In the following special cases, the Contractor will be reimbursed incidentally in accordance with the pay items for all costs of modifying, rerouting, relaying or maintaining service of major underground utilities.
 - 1. An existing utility is shown on the drawings as being above or below the pipeline or structure to be constructed under this Contract but is found during construction to be in conflict with the proposed work.
 - 2. An existing underground utility is shown on the drawings in plan but not in profile and is found during construction to be in conflict with the proposed work.
 - 3. An existing underground utility is not shown on the drawings and is found during construction to be in conflict with the proposed work.
 - 4. Minor underground utility service lines, including but not limited to gas services, water services, sewers, house or yard drains, and electricity or telephone services and driveway culverts shall be maintained, relocated, rerouted, removed and restored by the Contractor with the least possible interference with such services and in no case shall the interference of such service lines be considered for extra compensation under any of the special cases listed above.
 - 5. The right is reserved by Engineers of public utilities and franchises to enter upon any street, road, right-of-way, or easement for the purpose of maintaining their property and for making necessary repairs for adjustments caused by the Contractor's operations. The Contractor shall hold the Engineer harmless of any costs so incurred.

1.03 QUALITY ASSURANCE

- A. The Contractor will be required to have available an underground utility locating device and a person competent in its use and to utilize same to satisfy himself or herself as to the exact location of such underground facilities in the interest of avoiding unnecessary damage, maintenance costs, and to ensure continuity of customer service. It is recommended that the Contractor make arrangements with the applicable utility company or department to aid in the location and maintenance of existing utilities.
- B. Should Engineer be requested to aid in location of existing utilities, it makes no warranty as to completeness or accuracy of its suggested location. Extra payment will not be made by the Engineer nor shall the Contractor make any claim for extra payment.

Bethel Public Utilities:

Electric Dept.	Alaska Village Electric Cooperative	907-561-1818
GCI Communications.	GCI	907-543-3226

Bethel Public Works:

Public Works Director	Bill Arnold	907-545-0111
		907-543-3110

1.04 RESTORATION OF DRAINAGE FACILITIES

- A. Where it is necessary for drainage facilities to be removed and replaced, existing pipe and catch basins may be reinstalled when approved by the agency having jurisdiction.
- B. The materials shall be cleaned.
- C. When it is necessary to replace existing pipe or catch basins, the new materials shall be of equal strength and similar design to existing materials.
- D. Installation shall be in accordance with the applicable provisions of these Specifications.
- E. All costs, whether new or existing facilities are installed, shall be considered to be included in the unit prices bid for the various items and no additional payment shall be allowed.

END OF SECTION

SECTION 02 41 00**DEMOLITION****PART 1 - GENERAL****1.01 SUMMARY**

- A. This section covers the furnishing of materials, labor, and equipment required to partially or entirely remove and/or demolish those items identified on the Drawings; transport, salvage or dispose of said items per state requirements; and restore any disturbed areas.

1.02 JOB CONDITIONS

- A. Conditions of structures: The Owner assumes no responsibility for actual condition of structures to be salvaged or demolished.
- B. Explosives: Use of explosives will not be permitted.
- C. Traffic: Conduct demolition and removal operations to ensure minimum interference with streets, walks or other adjacent facilities being used. Issue Public Service Announcement on radio station KYUK for road closures.
- D. Protection: Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, and persons.
- E. Damages: Promptly repair damages caused to adjacent structures by demolition operations at no cost to the Owner.
- F. Coordinate with water treatment plant operator(s) to ensure supply of water is not interrupted.

1.03 PRODUCTS

Not applicable.

PART 2 - EXECUTION**2.01 SITE SURFACE CONDITIONS**

- A. Examine the areas and conditions under which work of this section will be performed. Determine the location and extent of demolition required by the Contract documents and verify the work required by a careful site examination. Some previous demolition or removal may have occurred since preparation of contract documents.

2.02 DEMOLITION

- A. Buried Structures
 1. Buried pipes and other buried structures identified on the Drawings to be removed shall be carefully excavated, removed, and transported to the Contractor's salvage or disposal area.
 2. Excavations to remove buried structures and pipes shall be restored as described in Paragraph C or below.
 3. Pipes not shown to be removed shall be abandoned in place and filled with slurry sand and securely plugged at ends.

- B. Excavation Backfill: Completely fill below-grade areas and voids resulting from removal of structures.
 - 1. Backfill excavations with Class C-1 Gravel or NFS in-situ material as appropriate for the location on-site.
 - 2. Thoroughly compact backfill material to 95 percent of maximum density.
 - 3. Fill shall be placed as described in Section 31 20 00, EARTH MOVING.
- C. Miscellaneous Site Improvements: Miscellaneous site improvements such as signs, fences, bollards, parking bumpers, etc., shown to be removed on the Drawings, shall be removed, transported, and disposed of at Contractor's disposal area.

2.03 DISPOSAL OF DEMOLISHED MATERIALS

- A. All debris, rubbish, and other materials resulting from demolition operations and not identified as salvageable by the Owner's Representative shall be removed and transported to a Contractor-furnished disposal site.
- B. Burning of removed materials will not be permitted on site.
- C. Grubbing, organic soils, and unsuitable soil will be delivered to an Owner specified site for Owner's use.
- D. All copper piping removed will be delivered to an Owner specified site for Owner's use.

2.04 MEASUREMENT AND PAYMENT

- A. See 01 00 01 Method of Measurement and Basis of Payment.

END OF SECTION 02 41 00

SECTION 03 30 00
CAST-IN-PLACE STRUCTURAL CONCRETE

PART 1 - GENERAL

The work of this section includes cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.

1.01 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, and other pozzolans materials subject to compliance with requirements.
- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.02 ACTION SUBMITTALS

- A. Product Data for each of the following:
 - 1. Portland cement
 - 2. Fly ash
 - 3. Slag cement
 - 4. Blended hydraulic cement
 - 5. Aggregates
 - 6. Admixtures: include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates, temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures
 - 7. Vapor retarders
 - 8. Curing materials
 - 9. Joint fillers
- B. Design Mixtures
 - 1. Mixture identification
 - 2. Minimum 28-day compressive strength
 - 3. Durability exposure class
 - 4. Maximum w/c
 - 5. Slump limit
 - 6. Air content
 - 7. Nominal maximum aggregate size
 - 8. Intended placement method
 - 9. Submit alternate design mixtures when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments
- C. Shop Drawings – Reinforcing steel and other embedded items

1.03 INFORMATIONAL SUBMITTALS

- A. Material Certificates for each of the following, signed by manufacturers:
 - 1. Cementitious materials
 - 2. Admixtures
 - 3. Curing compounds
 - 4. Vapor retarders
 - 5. Joint-filler strips

- B. Material Test Reports for the following from a qualified testing agency:
 - 1. Portland cement
 - 2. Fly ash
 - 3. Aggregates
 - 4. Admixtures
- C. Research Reports for concrete admixtures in accordance with ICC's Acceptance Criteria ACI98
- D. Preconstruction Test Reports for each Mix Design

1.04 QUALITY ASSURANCE

Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94/C94M requirements for production facilities and equipment. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

1.05 DELIVERY, STORAGE, AND HANDLING

Comply with ASTM C94/C94M and ACI 301

1.06 FIELD CONDITIONS

- A. Cold-Weather Placement – Comply with ACI 301 and ACI 306.1
- B. Hot-Weather Placement – Comply with ACI 301 and ACI 305.1

PART 2 - MATERIALS

2.01 CONCRETE, GENERAL

ACI Publications: Comply with ACI 301 (ACI 301M) unless modified by requirements in the Contract Documents

2.02 CONCRETE MATERIALS

- A. Cementitious Materials:
 - 1. Portland Cement: ASTM C150/C150M, Type I/II, gray
 - 2. Fly Ash: ASTM C618, Class C or F
 - 3. Slag Cement: ASTM C989/C989M, Grade 100 or 120
 - 4. Silica Fume: ASTM C1240 amorphous silica
- B. Normal-Weight Aggregates: ASTM C33/C33M, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.
 - 1. Alkali-Silica Reaction: Comply with one of the following:
 - a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293
 - b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567
 - c. Alkali Content in Concrete: Not more than 4 lb./yd³ (2.37 kg/m³) for moderately reactive aggregate or 3 lb./yd³ (1.78 kg/m³) for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301 (ACI 301M)
 - 2. Maximum Coarse-Aggregate Size: 3/4 inch (Size No. 67)
 - 3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement
- C. Air-Entraining Admixture: ASTM C260/C260M

- D. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in any concrete
 - 1. Water-Reducing Admixture: ASTM C494/C494M, Type A
 - 2. High-Range, Water-Reducing Admixture: ASTM C494/C494M, Type F
- E. Water and Water Used to Make Ice: ASTM C94/C94M, potable

2.03 VAPOR RETARDER

Vapor Barrier to consist of 15 mil thick plastic waterstop sheathing having strength complying with ASTM E1745 Class A.

2.04 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./yd² (305 g/m²) when dry
- B. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.
 - 1. Color:
 - a. Ambient Temperature Below 50 deg F (10 deg C): Black
 - b. Ambient Temperature between 50 deg F (10 deg C) and 85 deg F (29 deg C): Any color
 - c. Ambient Temperature Above 85 deg F (29 deg C): White
- C. Water: Potable or complying with ASTM C1602/C1602M
- D. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B
- E. Clear, Waterborne, Membrane-Forming, Curing and Sealing Compound: ASTM C1315, Type 1, Class A or Class C (preferred)

2.05 RELATED MATERIALS

- A. Expansion- and Isolation-Joint-Filler Strips: ASTM D1752, cork or self-expanding cork
- B. Bonding Agent: ASTM C 1059/C, 1059M, Type II, non-redisersable, acrylic emulsion or styrene butadiene
- C. Epoxy Bonding Agent: ASTM C881, two-component epoxy resin, capable of humid curing and bonding to damp surfaces of class suitable for application temperature and of grade to suit requirements, and Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete
- D. Adhesive Anchors: Hilti HIT-RE 500 or Simpson SET XP adhesive anchors. Install per manufacturer's recommendations

2.06 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301 (ACI 301M). Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete to Fly Ash or Other Pozzolans: 25 percent by mass
- C. Admixtures: Use admixtures in accordance with manufacturer's written instructions
 - 1. Use water-reducing and high-range water-reducing admixture in concrete, as required, for placement and workability

2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions

2.07 CONCRETE MIXTURES

- A. Class A: Normal-weight concrete used for footings and interior slabs-on-grade
 1. Exposure Class: ACI 318 (ACI 318M) F0/C1
 2. Minimum Compressive Strength: 3000 psi at 28 days
 3. Maximum w/c: 0.45
 4. Slump Limit: 4 inches (100 mm), plus or minus 1 inch (25 mm). Exposure Classes F0/C1: 2 percent, plus or minus 1 percent at point of delivery for concrete containing 3/4-inch (19-mm) nominal maximum aggregate size
 5. Limit water-soluble, chloride-ion content in hardened concrete to 0.5 percent by weight of cement

2.08 CONCRETE MIXING

Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and furnish batch ticket information.

PART 3 - EXECUTION

3.01 INSTALLATION OF EMBEDDED MATERIALS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 1. Use drawings, templates, diagrams, instructions, and directions furnished with items to be embedded
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303

3.02 INSTALLATION OF VAPOR RETARDER

- A. Sheet Vapor Retarders: Place, protect, and repair sheet vapor retarder in accordance with ASTM E1643 and manufacturer's written instructions
 1. Install vapor retarder with longest dimension parallel with direction of concrete pour
 2. Face laps away from exposed direction of concrete pour
 3. Lap vapor retarder over footings and grade beams not less than 6 inches, sealing vapor retarder to concrete
 4. Lap joints 6 inches and seal with manufacturer's recommended tape
 5. Terminate vapor retarder at the top of floor slabs, grade beams, and pile caps, sealing entire perimeter to floor slabs, grade beams, foundation walls, or pile caps
 6. Seal penetrations in accordance with vapor retarder manufacturer's instructions
 7. Protect vapor retarder during placement of reinforcement and concrete. Repair damaged areas by patching with vapor retarder material, overlapping damages area by 6 inches on all sides, and sealing to vapor retarder

3.03 JOINTS

For Doweled Joints, install dowel bars and support assemblies at joints where indicated on Drawings.

3.04 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed
 - 1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas
 - 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses
- B. Notify Owner and testing and inspection agencies 24 hours prior to commencement of concrete placement
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Owner in writing, but not to exceed the amount indicated on the concrete delivery ticket. Do not add water to concrete after adding high-range water-reducing admixtures to mixture
- D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness
 - 1. If a section cannot be placed continuously, provide construction joints as indicated
 - 2. Deposit concrete to avoid segregation
 - 3. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures and in a manner to avoid inclined construction joints
 - 4. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301 (ACI 301M)
 - a. Do not use vibrators to transport concrete inside forms
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches (150 mm) into preceding layer
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate
- E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete
 - 1. Do not place concrete floors and slabs in a checkerboard sequence
 - 2. Consolidate concrete during placement operations, so concrete is thoroughly worked around reinforcement and other embedded items and into corners
 - 3. Maintain reinforcement in position on chairs during concrete placement
 - 4. Screed slab surfaces with a straightedge and strike off to correct elevations
 - 5. Level concrete, cut high areas, and fill low areas
 - 6. Slope surfaces uniformly to drains where required
 - 7. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane, before excess bleedwater appears on the surface
 - 8. Do not further disturb slab surfaces before starting finishing operations

3.05 FINISHING FORMED SURFACES

- A. Coordinate required formed surface finishes with Owner before application
- B. As-Cast Surface Finishes:
 - 1. ACI 301 Surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material
 - a. Patch voids larger than 1-1/2 inches wide or 1/2 inch deep
 - b. Remove projections larger than 1 inch
 - c. Tie holes do not require patching

- d. Surface Tolerance: ACI 117 Class D
 - e. Apply to concrete surfaces not exposed to public view
- 2. ACI 301 Surface Finish SF-2.0: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams
 - a. Patch voids larger than 3/4 inch wide or 1/2 inch deep
 - b. Remove projections larger than 1/4 inch
 - c. Patch tie holes
 - d. Surface Tolerance: ACI 117 Class B
 - e. Locations: Apply to concrete surfaces exposed to public view, to receive a rubbed finish, or to be covered with a coating or covering material applied directly to concrete
- 3. ACI 301 Surface Finish SF-3.0:
 - a. Patch voids larger than 3/4 inch wide or 1/2 inch deep
 - b. Remove projections larger than 1/8 inch
 - c. Patch tie holes
 - d. Surface Tolerance: ACI 117 Class A
 - e. Locations: Apply to concrete surfaces where indicated on the Drawings
 - 1) Related Unformed Surfaces:
 - a) At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a color and texture matching adjacent formed surfaces
 - b) Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces unless otherwise indicated

3.06 FINISHING FLOORS AND SLABS

- A. Comply with ACI 302.1R recommendations for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces
- B. Trowel Finish:
 - 1. After applying float finish, apply first troweling and consolidate concrete by hand or power-driven trowel
 - 2. Continue troweling passes and restraighten until surface is free of trowel marks and uniform in texture and appearance
 - 3. Grind smooth any surface defects that would telegraph through applied coatings or floor coverings
 - 4. Do not add water to concrete surface
 - 5. Do not apply hard-troweled finish to concrete, which has a total air content greater than 3 percent

3.07 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 - 1. Comply with ACI 301 (ACI 301M) and ACI 306.1 for cold weather protection during curing.
 - 2. Comply with ACI 301 (ACI 301M) and ACI 305.1 (ACI 305.1M) for hot-weather protection during curing
 - 3. Maintain moisture loss no more than 0.2 lb/ft² x h (1 kg/m² x h), calculated in accordance with ACI 305.1, before and during finishing operations
- B. Curing Unformed Surfaces: Comply with ACI 308.1 (ACI 308.1M) as follows:
 - 1. Begin curing immediately after finishing concrete
 - 2. Interior Concrete Floors to Receive Curing Compound:

- a. Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions
- b. Recoat areas subjected to heavy rainfall within three hours after initial application
- c. Maintain continuity of coating, and repair damage during curing period

3.08 TOLERANCES

Conform to ACI 117 (ACI 117M).

3.09 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports
- B. Testing Agency: Owner will engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports
 1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31/C31M
 2. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents
 3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests. Test reports shall include reporting requirements of ASTM C31/C31M, ASTM C39/C39M, and ACI 301, including the following as applicable to each test and inspection:
 - a. Project name
 - b. Name of testing agency
 - c. Names and certification numbers of field and laboratory technicians performing inspections and testing
 - d. Name of concrete manufacturer
 - e. Date and time of inspection, sampling, and field testing
 - f. Date and time of concrete placement
 - g. Location in Work of concrete represented by samples
 - h. Date and time sample was obtained
 - i. Truck and batch ticket numbers
 - j. Design compressive strength at 28 days
 - k. Concrete mixture designation, proportions, and materials
 - l. Field test results
 - m. Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period
 - n. Type of fracture and compressive break strengths at seven days and 28 days
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site
- D. Inspections:
 1. Verification of use of required design mixture
 2. Concrete placement, including conveying and depositing
 3. Curing procedures and maintenance of curing temperature
 4. Verification of concrete strength before removal of shores and forms from beams and slabs

- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M shall be performed in accordance with the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m) or fraction thereof. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used
 2. Slump: ASTM C143/C143M:
 3. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture
 4. Perform additional tests when concrete consistency appears to change
 5. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture
 6. Concrete Temperature: ASTM C1064/C1064M: One test hourly when air temperature is 40 deg F (4.4 deg C) and below or 80 deg F (27 deg C) and above, and one test for each composite sample
 7. Compression Test Specimens: ASTM C31/C31M: Cast and laboratory cure two sets of four 6-inch (150 mm) by 12-inch (300 mm) or 4-inch (100 mm) by 8-inch (200 mm) cylinder specimens for each composite sample
 8. Compressive-Strength Tests: ASTM C39/C39M. Test one laboratory-cured specimen at seven days and two specimens at 28 days with the fourth cylinder held in reserve
 9. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi (3.4 MPa) if specified compressive strength is 4000 psi (34.5 MPa)
 10. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete
 11. Additional Tests:
 - a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect
 - b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42/C42M or by other methods as directed by Architect. Acceptance criteria for concrete strength shall be in accordance with ACI 301 (ACI 301M), section 1.6.6.3
 12. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements
 13. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents

3.10 PROTECTION

- A. Protect concrete surfaces as follows:
1. Protect from petroleum stains
 2. Diaper hydraulic equipment used over concrete surfaces
 3. Prohibit vehicles from interior concrete slabs

4. Prohibit use of pipe-cutting machinery over concrete surfaces
5. Prohibit placement of steel items on concrete surfaces
6. Prohibit use of acids or acidic detergents over concrete surfaces
7. Protect liquid floor treatment from damage and wear during the remainder of construction period. Use protective methods and materials, including temporary covering, recommended in writing by liquid floor treatments installer

END OF SECTION 03 30 00

SECTION 05 12 00**STRUCTURAL STEEL FRAMING****PART 1 - GENERAL****1.1 SUMMARY**

- A. Section includes structural steel.

1.2 DEFINITIONS

- A. Structural Steel: Elements of structural-steel frame, as classified by AISC 303, "Code of Standard Practice for Steel Buildings and Bridges."

1.3 PERFORMANCE REQUIREMENTS

- A. Connections: Provide details of connections required by the Contract Documents as indicated.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show fabrication details and erection plan of structural steel components.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.
- B. Welding certificates.
- C. Mill test reports for structural steel, including chemical and physical properties.
- D. Source quality-control reports.

1.6 QUALITY ASSURANCE

- A. Fabricator Qualifications: A qualified fabricator that participates in the AISC Quality Certification Program and is designated an AISC-Certified Plant, Category STD.
- B. Installer Qualifications: A qualified installer who participates in the AISC Quality Certification Program and is designated an AISC-Certified Erector, Category CSE.
- C. Welding Qualifications: Qualify procedures and personnel according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- D. Comply with applicable provisions of the following specifications and documents:
 - 1. AISC 303.
 - 2. AISC 360.
 - 3. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."

PART 2 - PRODUCTS**2.1 STRUCTURAL-STEEL MATERIALS**

- A. Plate and Bar: ASTM A 36/A 36M.
- B. Welding Electrodes: Comply with AWS requirements.

2.2 COATINGS

- A. Structural steel plates, shapes, bars and fabrications: Hot dip galvanize in accordance with ASTM A123.
- B. Structural steel hardware: Hot dip galvanize in accordance with ASTM A153 or mechanically deposited zinc coatings per ASTM B695.
- C. Fasteners: Hot dip galvanize in accordance with ASTM 2329 or plating per ASTM F1941.

2.3 FABRICATION

- A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC 360.

2.4 SHOP CONNECTIONS

- A. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.

2.5 SOURCE QUALITY CONTROL

- A. Testing Agency: Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.
 - 1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.
- B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.
- C. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at testing agency's option:
 - 1. Liquid Penetrant Inspection: ASTM E 165.
 - 2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - 3. Ultrasonic Inspection: ASTM E 164.
 - 4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION**3.1 EXAMINATION**

- A. Verify, with steel Erector present, elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments for compliance with requirements.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 ERECTION

- A. Set structural steel accurately in locations and to elevations indicated and according to AISC 303 and AISC 360.
- B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

3.3 FIELD CONNECTIONS

- A. Weld Connections: Comply with AWS D1.1/D1.1M for tolerances, appearances, welding procedure specifications, weld quality, and methods used in correcting welding work.
 - 1. Comply with AISC 303 and AISC 360 for bearing, alignment, adequacy of temporary connections, and removal of paint on surfaces adjacent to field welds.

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engineer will inspect field welds and high-strength bolted connections.
- B. Welded Connections: Field welds will be visually inspected according to AWS D1.1/D1.1M.
 - 1. In addition to visual inspection, field welds will be tested and inspected according to AWS D1.1/D1.1M and the following inspection procedures, at the Engineer's option:
 - a. Liquid Penetrant Inspection: ASTM E 165.
 - b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
 - c. Ultrasonic Inspection: ASTM E 164.
 - d. Radiographic Inspection: ASTM E 94.
- C. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents at no additional cost to the Owner.

END OF SECTION 05 12 00

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Timber.

1.2 DEFINITIONS

A. Timber: Lumber of 5 inches nominal size or greater in least dimension.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.

1. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
2. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D 5664.
3. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSB Board of Review.

B. Evaluation Reports: For the following, from ICC-ES:

1. Wood-preservative-treated wood.
2. Engineered wood products.
3. Power-driven fasteners.

1.5 QUALITY ASSURANCE

A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Certified Wood: The following wood materials shall be certified as "FSC Pure according to FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and to FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
 - 1. Dimension lumber.
 - 2. Timber.
- B. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, mark grade stamp on end or back of each piece.
 - 3. Dress lumber, S4S, unless otherwise indicated.
- C. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness unless otherwise indicated.
- D. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist showing compliance with building code in effect for Project. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWP A U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
 - 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.

- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review. For exposed lumber indicated to receive a stained or natural finish, mark end or back of each piece.

2.3 TIMBER FRAMING

- A. Comply with the following requirements, according to grading rules of grading agency indicated:
 - 1. Species and Grade: Douglas fir-larch, Douglas fir-larch (north), or Douglas fir-south; Select Structural grade; NLGA, WCLIB, or WWPA.
 - 2. Maximum Moisture Content: 19 percent.
 - 3. Additional Restriction: Free of heart centers.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction.
- B. For blocking not used for attachment of other construction, No. 2 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- C. For blocking used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.
- B. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
 - 1. Material: Carbon-steel components, zinc plated to comply with ASTM B 633, Class Fe/Zn 5.
 - 2. Material: Stainless steel with bolts and nuts complying with ASTM F 593 and ASTM F 594, Alloy Group 1 or 2 ASTM F 738M and ASTM F 836M, Grade A1 or A4.

2.6 MISCELLANEOUS MATERIALS

- A. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chlorpyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- D. Do not splice structural members between supports unless otherwise indicated.
- E. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
- F. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 - 3. ICC-ES evaluation report for fastener.
- I. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- J. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
- K. Comply with indicated fastener patterns where applicable.
 - 1. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
 - 2. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

1.2 WOOD BLOCKING, AND NAILER INSTALLATION

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.

- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

1.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes wet enough that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 06 10 00

SECTION 22 05 29**HANGERS AND SUPPORTS FOR SERVICE PIPING****PART 1 - GENERAL****1.01 DESCRIPTION**

- A. SCOPE: The work covered by this section includes furnishing and installing pipe and equipment hangers, supports, and accessories necessary to complete the work.

1.02 RELATED SECTIONS

- A. 33 10 01 – Steel Piping and Fittings
- B. 33 10 06 – CPVC_PVC Pipe and Fittings
- C. 33 10 07 – Copper Pipe and Tubing

1.03 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. Manufacturer's Standardization Society (MSS) SP-58 Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation.

1.04 SUBMITTALS

- A. Action Submittals:
 - 1. Shop Drawings: Detailed drawings showing all hangers and supports for each piping system specified.
 - 2. Product Data: Submit manufacturers' catalogs, literature, and engineering data on all hangers and supports.

PART 2 - PRODUCTS**2.01 GENERAL REQUIREMENTS**

- A. Piping systems and pipe connections to equipment shall be properly anchored and supported in order to prevent undue deflection, vibration, and dislocation due to seismic events, ground movement, line pressures, pipe weight, fluid weight, liquid movement, thermal changes, vibration, probable forces applied during construction, and stresses on piping, equipment, and structures.
- B. Standard and fabricated hangers and supports shall be furnished complete with necessary inserts, bolts, nuts, rods, washers, and other accessories.

2.02 SUPPORT LOCATIONS

- A. Where locations are not specifically identified in the drawings, pipe supports shall be placed according to the following guidelines.
 - 1. Generally, run piping in groups where practicable and parallel to building wall. Provide minimum clearance of 1-inch between pipe and other work.
 - 2. Install hangers or supports at all locations where pipe changes direction.
 - 3. All hangers and supports shall be capable of vertical adjustment after placement of piping.
 - 4. Different types of hangers or supports shall be kept to a minimum.
 - 5. All suspended or supported HDPE pipe shall have a hanger or support adjacent to each butt-fused joint.

6. Support vertical piping at each floor and between floors by stays or braces to prevent rattling and vibration.
7. Hanger rods shall be straight and vertical. Chain, wire, strap or perforated bar hangers shall not be used. Hangers shall not be suspended from piping.
8. All metallic valves or flanged instruments located in plastic piping or valves with actuators shall be supported at the valve/instrument flange.

2.03 SUPPORT SPACING

- A. Maximum support spacing unless otherwise shown or approved:

Pipe Size (inches)	Maximum Pipe Span ¹ (feet)		
	HDPE in HDPE Jacket	Sch80 PVC or Steel	Copper
0-2	-	6	4
3	-	8	6
4	10	9	8
6	10	10	10
8	10	10	-
10	10	10	-
12	10	10	-
14	10	-	-
16	10	-	-
18	10	-	-
20	10	-	-

¹ Pipe shall not have pockets formed in the span due to sagging of the pipe between supports caused by the weight of the pipe, medium in the pipe, insulation, valves and fittings.

2.04 HANGERS AND SUPPORTS

- A. Hangers and supports where shown shall be in accordance with detail drawings.
- B. Hangers and supports not shown shall be in accordance with MSS SP 58.
- C. Manufacturers
 1. Anvil International
 2. TOLCO
 3. Pipe Support Group (Bergen)
 4. Unistrut Corporation
 5. Or equal

2.05 THREADED STEEL RODS:

- A. Two-inch vertical adjustment with two nuts each end for positioning and locking. Size hanger rods according to the schedule below, unless otherwise noted:

Nominal Pipe (Inches)	Rod Diameter (Inches)
2 and less	3/8
2-1/2 to 3-1/2	1/2
4	5/8
6	3/4
8 through 12	7/8

14 through 18	1
20 through 30	1-1/4

2.06 COATING & CORROSION PROTECTION

- A. Galvanizing: Unless otherwise indicated, fabricated pipe supports other than stainless steel or non-ferrous supports shall be blast-cleaned after fabrication and hot-dip galvanized in accordance with ASTM A 123 - Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
- B. Stainless Steel: Type 304 stainless steel supports, rods, anchor bolts and fasteners shall be as indicated in the drawings and inside tanks subject to high humidity, water spray or submergence. Stainless steel required inside SBR tanks, post equalization tank and digester tanks.

PART 3 - PRODUCTS

3.01 INSTALLATION

- A. General
 - 1. Pipe supports, hangers, brackets, anchors, guides, and inserts shall be fabricated and installed in accordance with the manufacturer's printed instructions.
 - 2. Concrete inserts for pipe hangers and supports shall be coordinated with the formwork.
- B. Appearance
 - 1. Pipe supports and hangers shall be positioned to produce an orderly, neat piping system.
 - 2. Hanger rods shall be vertical, without offsets.
 - 3. Hangers shall be adjusted to line up groups of pipes at the proper grade for drainage and venting, as close to floors as possible, and without interference with other WORK.
- C. Fabrication Quality Control
 - 1. Pipe hangers and supports shall be fabricated and installed by experienced welders and fitters, using the best welding procedures available.
 - 2. Fabricated supports shall be neat in appearance without sharp corners, burrs, or edges.
- D. Dissimilar Metals: Where dissimilar metals are adjacent, all dissimilar metals shall be isolated from each other for galvanic protection using appropriate materials such as felt, rubber, etc. to prevent direct metal-to-metal contact.

END OF SECTION 22 05 29

SECTION 26 00 00
ELECTRICAL WORK, GENERAL

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide electrical work, complete and operable, in accordance with the Contract Documents.
- B. The provisions of this Section apply to all sections in Division 26, except as indicated otherwise.
- C. The WORK of this Section is required for operation of electrically-driven equipment provided under specifications in other Divisions. The CONTRACTOR's attention is directed to the requirement for proper coordination of the WORK of this Section with the WORK of equipment specifications, and the WORK of instrumentation sections.
- D. The CONTRACTOR shall coordinate with the OWNER, ENGINEER and the serving utility, Alaska Village Electric Cooperative (AVEC), as necessary for all work to be done in accordance with the drawings.

1.02 REFERENCE STANDARDS

- A. The WORK of this Section and all sections in Division 26 shall comply with the following, as applicable:

NEC (NFPA 70)	National Electrical Code
NETA	International Electrical Testing Association
NEMA 250	Enclosure for Electrical Equipment (1000 Volts Maximum)
- B. All electrical equipment shall be listed by and shall bear the label of Underwriters' Laboratories, Inc. (UL) or other State of Alaska recognized testing laboratory.
- C. Installation of electrical equipment and materials shall comply with OSHA Safety and Health Standards, state building standards, and applicable local codes and regulations.
- D. Where the requirements of the specifications conflict with UL, NEMA, NFPA, or other applicable standards, the more stringent requirements shall govern.

1.03 SIGNAGE

- A. Local Disconnect Switches:
 - 1. Each local disconnect switch for motors and equipment shall be legibly marked to indicate its purpose unless the purpose is indicated by the location and arrangement.
- B. Isolating Switches: Isolating switches not interlocked with an approved circuit interrupting device shall be provided with a sign warning against opening them under load.

1.04 PUBLIC UTILITIES REQUIREMENTS

- A. The Public Electrical Utility associated with this project is Alaska Village Electric Cooperative (AVEC). The CONTRACTOR shall coordinate all requirements with the Utility.

- B. The CONTRACTOR shall complete and submit all service applications required to the utility.
- C. The CONTRACTOR shall contact the serving utility and verify compliance with requirements before construction. The CONTRACTOR shall coordinate schedules and payments for work by all utilities.
- D. Electrical service shall be as indicated and be as required by the serving utility.
- E. The CONTRACTOR shall verify and provide all service conduits, fittings, grounding devices, and all service wires not provided by the serving utility.
- F. The CONTRACTOR shall verify with the utility the exact location of each service point and type of service and shall pay all charges levied by the serving utilities as part of the WORK.

1.05 PERMITS AND INSPECTION

- A. All electrical permits shall be obtained and inspection fees shall be paid by the CONTRACTOR.
- B. The CONTRACTOR shall pay all electrical utility line extension, service upgrade, equipment, connection, disconnection and turn-on service charges required by the utility company.

1.06 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 Submittals Procedure.
- B. Shop Drawings: Include the following:
 - 1. Complete material lists stating manufacturer and brand name of each item or class of material.
 - 2. Front, side, rear elevations, and top views with dimensional data.
 - 3. Location of conduit entrances and access plates.
 - 4. Component data.
 - 5. Connection diagrams, terminal numbers, internal wiring diagrams, conductor size, and cable numbers.
 - 6. Method of anchoring, seismic requirements, weight.
 - 7. Types of materials and finish.
 - 8. Nameplates.
 - 9. Temperature limitations, as applicable.
 - 10. Voltage requirement, phase, and current, as applicable.
 - 11. Front and rear access requirements.
 - 12. Test reports.
 - 13. Grounding requirements.
 - 14. Catalog cuts of applicable pages of bulletins or brochures for mass produced, non-custom manufactured material. Catalog data sheets shall be stamped to indicate the project name, applicable Section and paragraph; and shall be clearly marked to indicate exact model number, and options being provided.

- C. Shop Drawings shall be custom prepared. Drawings or data indicating "optional" or "as required" equipment are not acceptable. Options not proposed shall be crossed out or deleted from Shop Drawings.
- D. Materials and Equipment Schedules: The CONTRACTOR shall deliver to the ENGINEER within 30 days of the commencement date in the Notice to Proceed, a complete list of all materials, equipment, apparatus, and fixtures proposed for use. The list shall include type, sizes, names of manufacturers, catalog numbers, and other such information required to identify the items.
- E. Owner's Manuals: Complete information in accordance with Section 01 33 00.
- F. Record Drawings: The CONTRACTOR shall show invert and top elevations and routing of all duct banks and concealed below-grade electrical installations. Record Drawings shall be prepared, be available to the ENGINEER, and be submitted according to Section 01 33 00.

1.07 AREA DESIGNATIONS

- A. General:
 - 1. Raceway system enclosures shall comply with Section 26 05 33 – Raceway and Boxes for Electrical Systems.
 - 2. Electrical WORK specifically indicated in sections within any of the Specifications shall comply with those requirements.
 - 3. Electrical WORK in above ground indoor non-process areas shall be NEMA 12.
 - 4. Electrical WORK in damp or wet locations and process areas shall be NEMA 4X unless otherwise indicated.
 - 5. Electrical WORK in below ground facilities and outdoors shall be NEMA 4X unless otherwise indicated.
 - 6. Installations in hazardous locations shall conform strictly to the requirements of the Class, Group, and Division indicated.
- B. Material Requirements:
 - 1. NEMA 4X enclosures shall be stainless steel, Type 304 or 316.

1.08 TESTS

- A. The CONTRACTOR shall be responsible for factory and field tests required by specifications in Division 26 and by the ENGINEER or authority having jurisdiction. The CONTRACTOR shall furnish necessary testing equipment and pay costs of tests, including all replacement parts and labor, due to damage resulting from damaged equipment or from testing and correction of faulty installation.
- B. Where test reports are indicated, proof of design test reports for mass-produced equipment shall be submitted with the Shop Drawings, and factory performance test reports for custom-manufactured equipment shall be submitted and be approved prior to shipment. Field test reports shall be submitted for review prior to Substantial Completion.
- C. Equipment or material which fails a test shall be removed and replaced.

- D. Cable Testing: Cables and conductors shall be tested in accordance with Section 26 05 19.
- E. Test Ground Fault Interrupter (GFI) receptacles and circuit breakers for proper operation by methods sanctioned by the receptacle manufacturer.
- F. A functional test and check of all electrical components is required prior to performing subsystem testing and commissioning. Compartments and equipment shall be cleaned as required by other provisions of these Specifications before commencement of functional testing. Functional testing shall comprise:
 - 1. Visual and physical check of cables, circuit breakers, transformers and connections associated with each item of new and modified equipment.
 - 2. Circuit breakers that have adjustable time or pick-up settings for ground current, instantaneous overcurrent, short-time overcurrent, or long-time overcurrent, shall be field-adjusted by a representative of the circuit breaker manufacturer. Setting shall be tabulated and proven for each circuit breaker in its installed position. Test results shall be certified by the person performing the tests and be transmitted to the ENGINEER.
- G. Subsystem testing shall occur after the proper operation of alarm and status contacts has been demonstrated or otherwise accepted by the ENGINEER and after process control devices have been adjusted as accurately as possible. It is intended that the CONTRACTOR will adjust limit switches and level switches to their operating points prior to testing and will set pressure switches, flow switches, and timing relays as dictated by operating results.
- H. After initial settings have been completed, each subsystem shall be operated in the manual mode and it shall be demonstrated that operation is in compliance with the Contract Documents. Once the manual mode of operation has been proven, automatic operation shall be demonstrated through coordination with the Owner's System Integrator to verify such items as proper start and stop sequence of pumps, proper operation of valves, proper speed control, etc.
- I. Motor operated valves shall be tested after having been phased and tested for correct motor rotation and after travel and torque limit switches have been adjusted by a representative of the valve manufacturer. Tests shall verify status indication, proper valve travel, and correct command control from local and remote devices.

1.09 DEMOLITION AND RELATED WORK

- A. The CONTRACTOR shall perform electrical demolition WORK as indicated on the electrical drawings and in parts of this Specification Section. The CONTRACTOR is cautioned that demolition WORK may also be indicated on non-electrical drawings. Coordinate electrical de-energization, disconnection, and removal with the utility, OWNER and/or all trades and the overall sequence of construction.
- B. Where new lighting and receptacles are installed, old lighting, receptacles, switches, wiring, and conduits shall be removed.
- C. Raceways to be reused or extended shall be terminated in a new junction box. The junction box shall have a NEMA rating in accordance with the area in which it is located and shall be sized as required.
- D. Materials and equipment not indicated to be removed and returned to the OWNER shall, upon removal, become the CONTRACTOR's property and shall be disposed of off-site.

- E. Material and equipment indicated to be relocated or reused shall be removed, relocated, and reinstalled with care to prevent damage thereto.
- F. Materials indicated to be returned to the OWNER shall be placed in boxes with the contents clearly marked and be stored at a location determined by the ENGINEER.
- G. Where MCCs or panelboards are indicated to have circuits removed and reconnected, the MCCs shall have a new engraved phenolic nameplate worded as indicated, and the panelboards shall have new typed schedules modified to indicate the revised circuits. Pencil or magic marker markings directly on the MCC or panelboard breaker are not permitted.

1.010 CONSTRUCTION SEQUENCING

- A. Continuance of water treatment plant operation during demolition and construction is critical at this facility. Therefore, the CONTRACTOR shall carefully examine all work to be done in, on, or adjacent to existing equipment. Work shall be scheduled, subject to the OWNER's approval, to minimize required process or equipment shutdown time. The CONTRACTOR shall submit a written request including sequence and duration of activities to be performed prior to any plant shutdown.
- B. Temporary power and communications between existing facilities may be required. Temporary systems shall be in place and staged for switchover prior to disconnection of any active circuits.
- C. All switching, safety tagging, etc., required for process or equipment shutdown or to isolate existing equipment shall be performed by the CONTRACTOR. In no case shall the CONTRACTOR begin any work in, on, or adjacent to existing equipment without written authorization by the plant supervisor and the ENGINEER. The CONTRACTOR shall remove the lock within 4 hours upon request of the OWNER, in an emergency, and if the equipment is operable.
- D. The CONTRACTOR shall make all modifications or alterations to existing electrical facilities required to successfully install and integrate the new electrical equipment as indicated on the electrical drawings. Modifications to existing equipment, panels, or cabinets shall be made in a professional manner with all coatings repaired to match existing. The CONTRACTOR is responsible for ensuring all panels and equipment are UL-listed. The costs for modifications (including UL listing) to existing electrical facilities required for a complete and operating system shall be included in the CONTRACTOR's original Bid amount and no additional payment for this WORK will be authorized.
- E. Extreme caution shall be exercised by the CONTRACTOR in digging trenches in order not to damage existing underground utilities. Cost of repairs of damages caused during construction shall be the CONTRACTOR's responsibility without any additional compensation from the OWNER.
- F. The CONTRACTOR shall be responsible for identifying available existing circuit breakers in lighting panels for the intended use as required by the Drawings. The CONTRACTOR shall also be responsible for field-verifying the available space in panelboards to integrate new circuit breakers. Costs for this WORK shall be included in the CONTRACTOR's original Bid amount.
- G. The CONTRACTOR is advised to visit the Site before submitting a Bid to better acquaint itself with the WORK of this Contract. Lack of knowledge will not be accepted as a reason for granting extra compensation to perform the WORK.

1.011 INSTALLATION OF NEW EQUIPMENT:

- A. The CONTRACTOR will install and terminate the new panelboards, meter/mains, load centers, motor starters, control panels, wireways, cables, and instruments, etc. in accordance with the agreed schedule. The CONTRACTOR shall provide a list, daily, of the points that are ready for service as they are connected, calibrated, and tested. The CONTRACTOR shall only connect to equipment that is new or is out of service.
- B. The recommended construction sequence is as follows:
 - 1. Provide temporary power and communication provisions.
 - 2. Install new switchboards, motor starters, control panels and instruments.
 - 3. Install new raceways between switchboards, motor starters, instruments, and new control panel.
 - 4. Install all new wiring as specified.
 - 5. Remove all demolition items and make good all surfaces before applying appropriate surface finish and paint.
 - 6. Complete wiring modifications to existing equipment.
 - 7. Allowable down time requirements: The CONTRACTOR shall minimize the amount of time a facility is out of service. All outages shall be scheduled with the OWNER and ENGINEER a minimum of two (2) days prior to outage. Scheduled outages shall last no longer than two (2) hours.
 - 8. The OWNER shall take beneficial occupancy of each facility as the WORK is signed off.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Equipment and materials shall be new, shall be listed by UL, and shall bear the UL label where UL requirements apply. Equipment and materials shall be the products of experienced and reputable manufacturers in the industry. Similar items in the WORK shall be products of the same manufacturer. Equipment and materials shall be of industrial grade standard of construction.
- B. Where a NEMA enclosure type is indicated in a non-hazardous location, the CONTRACTOR shall utilize that type of enclosure, despite the fact that certain modifications, such as cutouts for control devices, may negate the NEMA rating.
- C. On devices indicated to display dates, the year shall be displayed as 4 digits.

2.02 MOUNTING HARDWARE

- A. Miscellaneous Hardware:
 - 1. Nuts, bolts, and washers shall be stainless steel when used with PVC-Coated raceway and boxes or stainless steel enclosures. Hot-dipped galvanized nuts, bolts and washers may be used with galvanized rigid conduit (GRC) and enclosures that are not constructed of stainless steel.

2. Threaded rods for trapeze supports shall be continuous-threaded, stainless steel, 3/8-inch diameter minimum, when used with PVC-coated raceway and boxes. Hot-dipped galvanized hardware may be used with GRC.
3. Strut for mounting of raceways and equipment shall be galvanized or stainless steel as required by the area classification. Where contact with concrete or dissimilar metals may cause galvanic corrosion, suitable non-metallic insulators shall be utilized to prevent such corrosion. Strut shall be as manufactured by **Unistrut**, **B-Line**, or equal.
4. Anchors for attaching equipment to concrete walls, floors and ceilings shall be stainless steel expansion anchors, such as "**Rawl-Bolt**," "**Rawl-Stud**" or "**Lok-Bolt**" as manufactured by **Rawl**; similar by **Star**, or equal. Wood plugs shall not be used.

2.03 ELECTRICAL IDENTIFICATION

- A. Nameplates: Nameplates shall be fabricated from white-letter, black-face laminated plastic engraving stock, **Formica type ES-1**, or equal. Each shall be fastened securely, using fasteners of brass, cadmium-plated steel, or stainless steel, screwed into inserts or tapped holes, as required. Engraved characters shall be block style, with no characters smaller than 1/8-inch in height.
- B. Conductor and Equipment Identification: Conductor and equipment identification devices shall be heat-shrink plastic tubing with machine printing. Lettering shall read from left to right and shall face toward the front of the panel.

PART 3 - EXECUTION

3.01 GENERAL

- A. Incidentals: The CONTRACTOR shall provide all materials and incidentals required for a complete and operable system, even if not required explicitly by the Specifications or the Drawings. Typical incidentals are terminal lugs not furnished with vendor-supplied equipment, compression connectors for cables, splices, junction and terminal boxes, and control wiring required by vendor-furnished equipment to connect with other equipment indicated in the Contract Documents.
- B. Field Control of Location and Arrangement: The Drawings diagrammatically indicate the desired location and arrangement of outlets, conduit runs, equipment, and other items. Exact locations shall be determined by the CONTRACTOR in the field, based on the physical size and arrangement of equipment, finished elevations, and other obstructions. Locations on the Drawings, however, shall be followed as closely as possible.
 1. Where raceway development drawings, or "home runs," are shown, the CONTRACTOR shall route the raceways in accordance with the indicated installation requirements.
 2. Conduit and equipment shall be installed in such a manner as to avoid all obstructions and to preserve headroom and keep openings and passageways clear. Lighting fixtures, switches, convenience outlets, and similar items shall be located within finished rooms as indicated. Where the Drawings do not indicate exact locations, the ENGINEER shall determine such locations. If equipment is installed without instruction and must be moved, it shall be moved without additional cost to the OWNER. Lighting fixture locations shall be adjusted slightly to avoid obstructions and to minimize shadows.
 3. Wherever raceways and wiring for lighting and receptacles are not indicated, it shall be the CONTRACTOR's responsibility to provide all lighting and receptacle-related conduits and

wiring as required, based on the actual installed fixture layout and the circuit designations as indicated. Wiring shall be #12 AWG minimum, and conduits shall be 3/4-inch minimum. Where circuits are combined in the same raceway, the CONTRACTOR shall de-rate conductor ampacities in accordance with NEC requirements.

- C. Workmanship: Materials and equipment shall be installed in strict accordance with printed recommendations of the manufacturer. Installation shall be accomplished by workers skilled in the work. Installation shall be coordinated in the field with other trades to avoid interferences.
- D. Protection of Equipment and Materials: The CONTRACTOR shall fully protect materials and equipment against damage from any cause. Materials and equipment, both in storage and during construction, shall be covered in such a manner that no finished surfaces will be damaged, marred, or splattered with water, foam, plaster, or paint. Moving parts shall be kept clean and dry. The CONTRACTOR shall replace or refinish damaged materials or equipment, including faceplates of panels and switchboard sections, as part of the WORK.
- E. Incoming utility power equipment shall be provided in conformance with the utility's requirements.

3.02 CORE DRILLING

- A. The CONTRACTOR shall perform core drilling required for installation of raceways through concrete walls, floors and handholes. Locations of floor penetrations, as may be required, shall be based on field conditions. Verify all exact core drilling locations based on equipment actually furnished, as well as exact field placement. To the extent possible, identify the existence and locations of encased raceways and other piping in existing walls and floors with the OWNER prior to any core drilling activities. Damage to any encased conduits, wiring, and piping shall be repaired as part of the WORK.
- B. All penetrations required to extend raceways through concrete walls, roofs, and floors or masonry walls shall be core drilled.

3.03 EQUIPMENT ANCHORING

- A. Floor supported, wall-, or ceiling-hung equipment and conductors shall be anchored in place by methods that will meet seismic requirements in the area where the project is located. Wall-mounted panels that weigh more than 500 pounds, or which are within 18 inches of the floor, shall be provided with fabricated steel (stainless steel in designated areas) support pedestals. If the supported equipment is a panel or cabinet enclosed within removable side plates, it shall match supported equipment in physical appearance and dimensions. Transformers hung from 4-inch stud walls and weighing more than 300 pounds shall have auxiliary floor supports.
- B. Anchoring methods and leveling criteria in the printed recommendations of the equipment manufacturers are a part of the WORK of this Contract. Such recommendations shall be submitted as Shop Drawings under Section 01 33 00.
- C. Panels, raceways, and other equipment shall be anchored and supported for Seismic requirements.

3.04 EQUIPMENT IDENTIFICATION

- A. General: Equipment and devices shall be identified as follows:

1. Nameplates shall be provided for all switchboards, panelboards, MCCs, control and instrumentation panels, starters, switches, and pushbutton stations. In addition to nameplates, control devices shall be equipped with standard collar-type legend plates.
2. Control devices within enclosures shall be identified as indicated. Identification shall be similar to the subparagraph above.
3. Equipment names and tag numbers, where indicated on the Drawings, shall be utilized on all nameplates.
4. The CONTRACTOR shall furnish typewritten circuit directories for panelboards; circuit directory shall accurately reflect the equipment connected to each circuit.

3.05 CLEANING

- A. Before final acceptance, the electrical WORK shall be thoroughly cleaned. Exposed parts shall be thoroughly clean of cement, plaster, and other materials. Oil and grease spots shall be removed with a non-flammable cleaning solvent. Such surfaces shall be carefully wiped and all cracks and corners cleaned out. Touch-up paint shall be applied to scratches on panels and cabinets. Electrical cabinets or enclosures shall be vacuum-cleaned.
- B. CONTRACTOR shall group, coil, and tie wrap all spare cables at the bottom of the Local Control Panels. The wires shall be grouped according to the device, control panel, or MCC section they originate from. Cable groups shall be tagged according to their point of origin.
- C. All debris shall be removed from the void below the panels.

END OF SECTION 26 00 00

SECTION 26 01 26
ELECTRICAL TESTS

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. This Section specifies the WORK necessary to test, commission, and demonstrate that the electrical WORK satisfies the criteria of these Specifications and functions as required by the Contract Documents.
- B. The requirements of Section 26 05 00 – Electrical Work, General, apply to the WORK of this Section.

1.02 TESTING

- A. The following test requirements supplement test and acceptance criteria that may be stated elsewhere.
 - 1. Lighting: Verify proper switching, including remote control, if indicated. Confirm circuitry is in accordance with panel schedules.
 - 2. Power Instrumentation: Demonstrate that power monitor, power monitoring, current monitoring, and voltage monitoring is functional.
 - 3. Demonstrate mechanical and/or electrical interlocking by attempting to subvert the intended sequence.
 - 4. Activate ground fault tripping by operating test features provided with ground current protective systems and by injecting a known and reasonable current in the ground current sensor circuit. In general, ground fault tripping should occur at a ground current equivalent to 20 percent of phase current. Current injection is not required of circuit 400 amps or less.
 - 5. Cable Testing: 480-volt circuits shall be tested for insulation resistance with a 1000-volt megohm meter. Testing shall be done after the 480-volt equipment is terminated. Control and signal wires shall be tested for continuity and resistance to ground.
 - 6. Test Ground Fault Interrupter (GFI) receptacles and circuit breakers for proper operation by methods sanctioned by the receptacle manufacturer.
 - 7. A functional test and check of all electrical components is required prior to performing subsystem testing and commissioning. Compartments and equipment shall be cleaned as required by other provisions of these Specifications before commencement of functional testing. Functional testing shall comprise:
 - a. Visual and physical check of cables, circuit breakers, transformers and connections associated with each item of new and modified equipment.
 - b. Circuit breakers that have adjustable time or pick-up settings for ground current, instantaneous overcurrent, short-time overcurrent, or long-time overcurrent, shall be field-adjusted by a representative of the circuit breaker manufacturer. Setting shall be tabulated and proven for each circuit breaker in its installed position. Test results shall be certified by the person performing the tests and be transmitted to the ENGINEER.

- B. Subsystem testing shall occur after the proper operation of alarm and status contacts has been demonstrated or otherwise accepted by the ENGINEER and after process control devices have been adjusted as accurately as possible. It is intended that the CONTRACTOR will adjust limit switches and level switches to their operating points prior to testing and will set pressure switches, flow switches, and timing relays as dictated by operating results.
- C. After initial settings have been completed, each subsystem shall be operated in the manual mode and it shall be demonstrated that operation is in compliance with the Contract Documents. Once the manual mode of operation has been proven, automatic operation shall be demonstrated to verify such items as proper start and stop sequence of pumps, proper operation of valves, proper speed control, etc.
- D. Motor operated valves shall be tested after having been phased and tested for correct motor rotation and after travel and torque limit switches have been adjusted by a representative of the valve manufacturer. Tests shall verify status indication, proper valve travel, and correct command control from local and remote devices.
- E. General: Carry out tests indicated herein for individual items of materials and equipment in other Sections.
- F. Megger each complete phase wire, cable, termination, and pump winding to ground.

PART 2 - PRODUCTS (NOT USED)**PART 3 - EXECUTION (NOT USED)**

END OF SECTION 26 01 26

**SECTION 26 05 05
ELECTRIC MOTORS**

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. General: The CONTRACTOR shall provide electric motors, accessories, and appurtenances complete and operable, in conformance with the specifications and the Contract Documents.
- B. The provisions of this Section apply to constant torque AC squirrel cage induction motors throughout the Contract Documents, except as indicated otherwise.
- C. The CONTRACTOR shall assign to the equipment supplier the responsibility to select suitable electric motors for the equipment. The choice of motor manufacturer shall be subject to review by the ENGINEER. Such review will consider future availability of replacement parts and compatibility with driven equipment.

1.02 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00.
- B. Complete motor data shall be submitted. Motor data shall include:
 - 1. Motor manufacturer.
 - 2. Motor type or model and dimension drawing. Include motor weight.
 - 3. Nominal horsepower.
 - 4. NEMA design.
 - 5. Enclosure.
 - 6. Frame size.
 - 7. Winding insulation class and temperature rise class.
 - 8. Voltage, phase, and frequency ratings.
 - 9. Service factor.
 - 10. Full load current at rated horsepower for application voltage.
 - 11. Full load speed.
 - 12. Torque characteristics.
 - 13. Guaranteed minimum full load efficiency. Also, nominal efficiencies at 1/2 and 3/4 load.
 - 14. Type of thermal protection or overtemperature protection, if included.
 - 15. Wiring diagram for devices such as motor leak detection, temperature, or zero speed switches, as applicable.
 - 16. Bearing data. Include recommendation for lubricants of re-greasable type bearings.
 - 17. Power factor at 1/2, 3/4 and full load.

PART 2 - PRODUCTS**2.01 DESIGN REQUIREMENTS**

- A. General: Electric motors shall comply with NEMA MG-1 - Motor and Generator.
- B. NEMA Design: Electric motors shall be NEMA Design B unless otherwise indicated. In no case shall starting torque or breakdown torque be less than the value in NEMA MG 1. Motors shall be suitable for the indicated starting method.
- C. Insulation: Three phase motors shall be provided with Class F insulation, rated to operate at a maximum ambient temperature of 40 degrees C and at the altitudes where the motors will be installed and operated, without exceeding Class B temperature rise limits stated in NEMA MG 1-12.44. Motors shall be provided with insulation systems to withstand 1600-volt spikes, with dV/dt as defined in NEMA MG 1-31.
- D. Motors shall be totally enclosed, fan-cooled (TEFC) with a Service Factor of 1.15, unless otherwise indicated.
- E. Motors in electrical hazardous locations shall be appropriately rated for the type of hazardous location.

2.02 ACCESSORY REQUIREMENTS

- A. General: Motors shall have split-type cast metal conduit boxes.
- B. Lifting Devices: Motors weighing 265 lb (120 Kg) or more shall have suitable lifting eyes for installation and removal.
- C. Grounding Lugs: Provide motor grounding lug suitable to terminate ground wire, sized as indicated.
- D. Nameplate: Motors shall be fitted with permanent stainless-steel nameplates indelibly stamped or engraved with NEMA Standard motor data, in conformance with NEMA MG-1-10.40.

2.03 MOTOR THERMAL PROTECTION

- A. Thermostats: Winding thermostats shall be snap action, bi-metallic, temperature-actuated switch. Thermostats shall be provided with one normally closed contact for each phase. The thermostat switch point shall be pre-calibrated by the manufacturer.

2.04 MOTOR BEARINGS

- A. Motors shall have bearings designed for 100,000 hours (coupled) L-10 life.
- B. Motors that are indirectly coupled and are controlled by VFD's shall have provisions to limit bearing currents. Provisions shall as a minimum be AEGIS SGR Bearing Protection Ring or an approved substitute. Contractor shall submit provisions, including means of installation, for approval.

2.05 MANUFACTURERS

- A. U.S. Motors, Reliance Electric, or equal.

PART 3 - EXECUTION**3.01 INSTALLATION**

- A. Motor installation shall be performed in accordance with the motor manufacturer's written recommendations and the written requirements of the manufacturer of the driven equipment.
- B. Motors shall be installed as required by the existing field conditions, including coupling and shims.
- C. Related electrical WORK involving connections, controls, switches, and disconnects shall be performed in accordance with the applicable sections of Division 26.

3.02 FIELD TESTING

- A. The CONTRACTOR shall perform the following field tests:
 - 1. Inspect each motor installation for any deviation from rated voltage, phase, frequency, and improper installation.
 - 2. Visually check for proper phase and ground connections. Verify that multi-voltage motors are connected for proper voltage.
 - 3. Check winding and bearing temperature detectors and space heaters for functional operation.
 - 4. Test for proper rotation prior to connection to the driven equipment.
 - 5. Test insulation (megger test) of new and re-used motors in accordance with NEMA MG-1. Test voltage shall be 1000 VAC plus twice the rated voltage of the motor.

END OF SECTION 26 05 05

**SECTION 26 05 19
WIRE AND CABLES**

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide wires and cable, complete and operable, in accordance with the Contract Documents.

1.02 CONTRACTOR SUBMITTALS

- A. The CONTRACTOR shall submit Shop Drawings in accordance with Section 01 33 00 and 26 00 00 – Electrical Work, General.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Conductors, including grounding conductors, shall be copper. Aluminum conductor wire and cable will not be permitted. Insulation shall bear the label of Underwriters' Laboratories, Inc. (UL), the manufacturer's trademark, and identify the type, voltage, and conductor size. All conductors except flexible cords and cables, fixture wires, and conductors that form an integral part of equipment, such as motors and controllers, shall conform to the requirements of Article 310 of the National Electric Code, latest edition, for current carrying capacity. Flexible cords and cables shall conform to Article 400, and fixture wires shall conform to Article 402. Wiring shall have wire markers at each end.

2.02 LOW VOLTAGE WIRE AND CABLE

- A. Power and Lighting Wire
1. Power and lighting wire shall be No. 12 copper AWG minimum size.
 2. Wire rated for 600 volts in duct or conduit for all power shall be:
 - a. In above grade interior locations: Class B Type THWN-2
 - b. In exterior, underground and below grade installations XHHW-2
 3. Wiring for 600-volt class power and lighting shall be as manufactured by **General Cable**, **Okonite**, or **Rome Cable**.
- B. Control Wire
1. Control wire in duct or conduit shall be the same type as power and lighting wire indicated above.
 2. Control wiring shall be No.14, 19-strand copper AWG.
- C. Instrumentation Cable
1. Instrumentation cable shall be rated at 600 volts.
 2. Individual conductors shall be No. 18 AWG stranded, tinned copper. Insulation shall be color-coded polyethylene: black-red for two-conductor cable, and black-red-white for three-conductor cable.
 3. Instrumentation cables shall be composed of the individual conductors, an aluminum polyester foil shield, a No. 18 AWG stranded, tinned copper drain wire, and a PVC outer jacket with a thickness of 0.048-inches.

- 4. Single pair, No. 18 AWG, twisted, shielded cable shall be **Belden Part No. 9341**, or equal.
- 5. Single triad, No. 16 AWG, twisted, shielded cable shall be **Belden Part No. 1119A**, or equal.
- D. Multi-pair Control Cable – Multi-pair control cable shall be 6-pair, 600V, No. 16 AWG, twisted, shielded, direct burial rated **Belden Part No. 1040A**, or equal.
- E. Cat 6 Cable: Cat 6 patch cable shall be 4-pair 24-gauge twisted pair rated to TIA/EIA 568-C.2 Category 6 and UL-listed. The CONTRACTOR shall install RJ-45 connectors as required.
- F. DeviceNet Cable: Shall be 600-volt rated sunlight resistant, 65% braid coverage, UL Listed, **Allen-Bradley DeviceNet Trunk Cable, Type TC**, or equal.

2.03 CABLE TERMINATIONS

- A. Pre-insulated, pressure type, twist-on connectors for conductors #10 AWG and smaller shall be 3M Company "Scotchlok" or Ideal Industries, Inc. "Super Nut" or equal.
- B. Compression connectors shall be **Burndy "Hi Lug", Thomas & Betts "Sta-Kon,"** or equal. Threaded connectors shall be split bolt type of high strength copper alloy.
- C. Pre-insulated fork tongue lugs shall be **Thomas & Betts, Burndy**, or equal.
- D. General purpose insulating tape shall be **Scotch No. 33, Plymouth "Slip-knot,"** or equal. High temperature tape shall be polyvinyl as manufactured by **Plymouth, 3M**, or equal.
- E. Labels for coding 600-volt wiring shall be heat-shrink plastic tubing type with machine print. Lettering shall read from left to right and face the front of the panel. Field wires terminating at a Control Panel shall be labeled with the wire number shown on the Control Panel wiring diagrams. The CONTRACTOR shall mark all as-built drawings with wire labels.

PART 3 - EXECUTION

3.01 GENERAL

- A. The CONTRACTOR shall provide and terminate all power, control, and instrumentation conductors, except where indicated.

3.02 INSTALLATION

- A. Conductors for feeders as defined in Article 100 of the NEC shall be sized to prevent a voltage drop exceeding 2 percent at the farthest point of power distribution, and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5 percent.
- B. Conductors for branch circuits as defined in Article 100 of the NEC, shall be sized to prevent a voltage drop exceeding 3 percent at the farthest connected load or combinations of such loads, and where the maximum total voltage drop on both feeders and branch circuits to the farthest connected load does not exceed 5 percent.
- C. Conductors shall not be pulled into raceway until raceway has been cleared of moisture and debris.
- D. Pulling tensions on raceway cables shall be within the limits recommended by the cable manufacturer. Wire pulling lubricant, where needed, shall be UL-approved for the cables/wires being pulled.

- E. The following wiring shall be run in separate raceways:
 - 1. 24 VDC discrete signal and instrument power supply.
 - 2. 4-20 mA analog signal.
 - 3. All AC circuits.
 - 4. Communications circuits.
- F. Wire in panels, cabinets, and wireways shall be neatly grouped using nylon tie straps and shall be fanned out to terminals.
- G. Conduit Seals: Conduit penetrating building exterior walls shall be sealed with duct seal at the end of the conduit where the conduit enters the building. Provide cloth rag backing and 1" of duct seal so duct seal can be removed in the future.

3.03 SPLICES AND TERMINATIONS

- A. General
 - 1. No splicing or taps will be permitted in either feeder or branch circuits except at outlet or accessible junction boxes. Utilize compression type solderless connectors when making splices or taps in conductors # 8 AWG or larger. Utilize pre-insulated connectors, 3M Company "Scotchlok" or Ideal Industries, Inc. "Super Nut" for splices and taps in conductors # 10 AWG and smaller. Tape all splices and joints with Scotch #88 plastic tape to secure insulation strength equal to that of the conductors joined.
 - 2. There shall be no cable splices in underground conduits, manholes or pullboxes.
 - 3. Stranded conductors shall be terminated directly on equipment box lugs, making sure that all conductor strands are confined within the lug. Use forked-tongue lugs where equipment box lugs have not been provided.
 - 4. Excess control and instrumentation wire shall be properly taped and terminated as spares.
- B. Control Wire and Cable
 - 1. Control conductors shall be spliced or terminated only on terminal strips in panels or vendor-furnished equipment.
 - 2. In terminal cabinets, junction boxes, motor control centers, and control panels, control wire and spare wire shall be terminated to terminal strips.
- C. Instrumentation Wire and Cable
 - 1. Shielded instrumentation cables shall be grounded at one end only, the receiving end (i.e., in the control panel) on a 4-20 mA system.
- D. Power Wire and Cable
 - 1. No 120/208-volt, 120/240-volt, and 480/277-volt branch circuit conductors may be spliced unless the CONTRACTOR can convince the ENGINEER that they are essential and the ENGINEER gives written permission.

3.04 CABLE IDENTIFICATION

- A. General: Wires and cables shall be identified for proper control of circuits and equipment and to reduce maintenance effort.
- B. Identification Numbers: The CONTRACTOR shall assign to each control and instrumentation wire and cable a unique identification number. Numbers shall be assigned to all conductors having common terminals and shall be shown on "as built" drawings. Identification numbers shall appear within 3 inches of conductor terminals. "Control Conductor" shall be defined as any conductor used for alarm, annunciator, or signal purposes.

1. Multiconductor cable:
 - a. Assign a number that shall be attached to the cable at intermediate pull boxes and at stub-up locations beneath freestanding equipment.
 - b. Cable number shall form a part of the individual wire number.
 - c. Individual control conductors and instrumentation cable shall be identified at pull points as described above.
 - d. The instrumentation cable numbers shall incorporate the loop numbers assigned in the Contract Documents.
2. All 120/208-volt system feeder cables and branch circuit conductors shall be color-coded as follows:
 - a. Phase A - Black
 - b. Phase B - Red
 - c. Phase C - Blue
 - d. Neutral - White
3. The 120/240-volt system conductors shall be color-coded as follows:
 - a. Line 1 - Black
 - b. Line 2 - Red
 - c. Neutral - White
4. The 480/277-volt system conductors shall be color-coded as follows:
 - a. Phase A - Brown
 - b. Phase B - Orange
 - c. Phase C - Yellow
 - d. Neutral - Gray
5. Color-coding tape shall be used where colored insulation is not available.
 - a. Branch circuit switch shall be Yellow.
 - b. Insulated ground wire shall be Green.
 - c. Neutral shall be White or Gray as indicated above.
6. Color coding and phasing shall be consistent throughout the Site, bus bars at panelboards, switchboards, and motor control centers shall be connected Phase A-B-C, top to bottom, or left to right, facing connecting lugs.
7. General purpose AC control cables shall be Red.
8. General purpose DC control cables shall be Blue.
9. Spare cable shall be terminated on terminal screws and shall be identified with a unique number as well as with destination.
10. Terminal strips shall be identified by computer-printable, cloth, self-sticking marker strips attached under the terminal strip.

3.05 TESTING

- A. Cable Assembly and Testing: Cable assembly and testing shall comply with applicable requirements of ICEA Publication No. S-68-516 - Ethylene-Propylene-Rubber Insulated Wire and Cable for the Transmission and Distribution of Electrical Energy. Factory test results shall be submitted in accordance with Section 013000 – Contractor Submittals, prior to shipment of cable. The following field tests shall be the minimum requirements:

1. Power cable rated at 600 volts shall be tested with a 1000-volt megohm meter for insulation resistance between phases and from each phase to a ground using a megohmmeter. Tests shall be performed on all feeders as well as branch circuits serving motors or major pieces of equipment.
 2. Field testing shall be done after cables are installed in the raceways.
 3. Field tests shall be performed by a certified test organization acceptable to the cable manufacturer. Test results shall be submitted to the ENGINEER for review and acceptance.
 4. Cables showing less than 100 megohm resistance shall be replaced with a new cable or be repaired. Repair methods shall be as recommended by the cable manufacturer and shall be performed by persons certified by the industry.
- B. Continuity Test: Control and instrumentation cables shall be tested for continuity, polarity, undesirable ground, and origination. Such tests shall be performed after installation and prior to placing all wires and cables in service.

END OF SECTION 26 05 19

**SECTION 26 05 26
GROUNDING****PART 1 - GENERAL****1.01 THE REQUIREMENT**

- A. The CONTRACTOR shall provide the electrical grounding system, complete and operable, in accordance with the Contract Documents.
- B. The requirements of Section 26 00 00 – Electrical Work, General apply to this Section.
- C. Single Manufacturer: Like products shall be the end product of one manufacturer in order to achieve standardization of appearance, operation, maintenance, spare parts and manufacturer's services.

1.02 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 and Section 26 00 00 – Electrical Work, General.
- B. Shop Drawings: Manufacturer's product information for connections, clamps, and grounding system components, showing compliance with the requirements of this Section.

PART 2 - PRODUCTS**2.01 GENERAL**

- A. Components of the grounding electrode system shall be manufactured in accordance with ANSI/UL 467 - Standard for Safety Grounding and Bonding Equipment and shall conform to the applicable requirements of National Electrical Code Article 250 and local codes.

2.02 GROUNDING SYSTEM

- A. Ground Rods
 - 1. Unless indicated otherwise, the ground rod shall be a minimum of 3/4-inch in diameter, 8 feet long, and have a uniform covering of electrolytic copper metallicity bonded to a rigid steel core. The copper to steel bond shall be corrosion resistant.
 - 2. Conform to ANSI/UL 467.
 - 3. Sectional type joined by threaded copper alloy couplings.
- B. Buried cable-to-cable and cable-to-ground rod connections shall be made using exothermic welds by **Cadweld, Enrico Products**, or equal.
- C. Exposed grounding connectors shall be of the irreversible compression type (connector to cable), made of high copper alloy, and be manufactured specifically for the particular grounding application. The connectors shall be **Burndy, O.Z. Gedney**, or equal.
- D. Grounding clamps shall be used to bond each separately derived system to the grounding electrode conductors.
- E. Equipment Grounding Circuit Conductors
 - 1. These conductors shall be the same type and insulation as the load circuit conductors. The minimum size shall be as outlined in Table 250.122 of the National Electrical Code, unless indicated otherwise.

2. Metallic conduit systems shall have equipment grounding wires as well as being equipment grounding conductors themselves.

F. Manufacturers of grounding materials shall be **Copperweld, Blackburn, Burndy**, or equal.

PART 3 - EXECUTION

3.01 GROUNDING

- A. Provide a separate grounding conductor, securely grounded in each raceway independent of raceway material.
- B. Provide a separate grounding conductor for each motor and connect at motor box. Do not use bolts securing motor box to frame or cover for grounding connectors.
- C. Size in accordance with the NEC-Article 250 and local amendments.
- D. Route conductors inside raceway.
- E. Provide a green insulated wire as grounding jumper from the ground screw to a box grounding screw and, for grounding type devices, to equipment grounding conductor.
- F. Provide a separate grounding conductor in each individual raceway for parallel feeders.
- G. Low Voltage Grounded System (600-volt or less): A low voltage grounded system is a system where the local power supply is a transformer with the transformer secondary grounded.
 1. Grounding system connections for a premises wired system supplied by a grounded AC service shall have a grounding electrode connector connected to the grounded service conductor at each service, in accordance with the NEC.
 2. The grounded circuit conductor shall not be used for grounding non-current carrying parts of equipment, raceways, and other enclosures except where specifically listed and permitted by the NEC.
- H. Shield Grounding
 1. Shielded instrumentation cable shall have its shield grounded at one end only unless Shop Drawings indicate the shield will be grounded at both ends.
 2. The grounding point shall be at the control panel or otherwise at the receiving end of the signal carried by the cable.
 3. Termination of shield drain wire shall be on its own terminal screw.
 4. Terminal screws shall be jumpered together using manufactured terminal block jumpers.
 5. Connection to the ground bus shall be via a minimum green No. 12 conductor to the main ground bus for the panel.

END OF SECTION 26 05 26

SECTION 26 05 33
ELECTRICAL RACEWAY SYSTEMS

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide electrical raceway systems, complete and in place, in accordance with the Contract Documents.
- B. In addition to NEC requirements provide an equipment grounding conductor run with or enclosing the circuit conductors in all raceways. The equipment grounding conductor shall be one or more or a combination of the following:
 - 1. A copper, or copper-clad aluminum conductor.
 - 2. This conductor shall be solid or stranded; insulated, covered, or bare; and in the form of a wire or a bus bar of any shape.

1.02 DEFINITIONS

- A. Raceway System – raceway system consists of conduits, wireways, fittings, junction and pull boxes, supports and labels complete and ready for conductors.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Conduits, wireways, fittings, supports, labels, junction and pull boxes, and other indicated enclosures which are dedicated to the raceway system, shall comply with the requirements of this Section.

2.02 CONDUIT

- A. Galvanized Rigid Steel Conduit (GRC)
 - 1. Rigid steel conduit shall be mild steel, hot-dip galvanized inside and out.
 - 2. Rigid steel conduit shall be manufactured in accordance with ANSI C80.1 - Rigid Steel Conduit, Zinc Coated, and UL-6.
 - 3. Manufacturers, or Equal
 - 4. LTV Steel;
 - 5. Triangle;
 - 6. Wheatland Tube.
 - 7. GRC shall be used in damp, wet or exterior exposed locations and in process areas.
- B. Liquidtight Flexible Conduit (LFMC)
 - 1. Liquidtight flexible conduit (LFMC) shall be constructed of a flexible galvanized metal core with a sunlight-resistant thermoplastic outer jacket.
 - 2. LFMC shall be manufactured in accordance with UL-360 - Steel Conduits, Liquid-Tight Flexible.
 - 3. Manufacturers, or Equal

4. Anaconda, "Sealtite";
5. Electriflex, "Liquatite".

C. Electrical Metallic Tubing (EMT)

1. Electrical metallic tubing shall be mild steel, hot-dip galvanized tubing complying with ANSI C80.3 and Fed.Spec. WWC-563 and shall be UL listed.
2. Elbows, bends, and fittings shall be made from full weight materials complying with the above and shall be coated the same as electrical metallic tubing.
3. EMT connectors and couplings shall be compression type with insulated throat. Set screw type not allowed. Fittings shall comply with UL514B.
4. Electrical metallic tubing shall be 3/4-inch trade size or larger and shall be manufactured by Allied Tube and Conduit Corp., Triangle PWC, Inc., or approved equal.
5. EMT conduit may be used in dry interior, non-process locations.

2.03 FITTINGS AND BOXES

A. General:

1. Fittings and boxes shall follow the conduit type of which they are installed with: galvanized malleable iron Fittings and Boxes shall be used with GRC. Pressed or stamped steel boxes shall be used with EMT.
2. Cast and malleable iron fittings for use with metallic conduit shall be the threaded type with 5 full threads.
3. Fittings and boxes shall have neoprene gaskets and non-magnetic stainless steel screws. All covers shall be attached by means of holes tapped into the body of the fitting. Covers for fittings attached by means of clips or clamps will not be acceptable.
4. Non-explosion-proof boxes larger than standard cast or malleable types shall be 304 stainless steel, NEMA 4X.
5. Boxes larger than standard cast or malleable types shall be 304 stainless steel, NEMA 4X.
6. In outdoor areas, raceways shall be terminated in raintight hubs as manufactured by **Myers, O.Z. Gedney**, or equal. In other than outdoor areas, sealed locknuts and bushings shall be used.
7. Fittings and boxes in hazardous locations shall be suitable for the Class and Division indicated or required by code.

B. Cast Aluminum Fittings and Boxes

1. Cast aluminum boxes and fittings shall have less than 0.40 percent copper content.
2. Manufacturers, or Equal
3. O.Z. Gedney;
4. Appleton;
5. Crouse-Hinds.

C. Malleable Iron Fittings and Boxes

1. Fittings and boxes for use with galvanized steel conduit shall be of malleable iron or gray-iron alloy with zinc plating with same finish as the conduit.

2. Manufacturers, or Equal
3. O.Z. Gedney;
4. Crouse-Hinds;
5. Appleton.

D. Stainless Steel Boxes

1. Stainless steel boxes shall be NEMA 4X, Type 304.
2. Stainless steel shall be a minimum 14-gauge thickness, with a brushed finish.
3. Doors shall have full-length stainless steel piano hinges. Non-hinged boxes are not acceptable.
4. Manufacturers, or Equal
5. Hoffman;
6. Rohn;
7. Hammond.

2.04 CABLE TRAYS

- A. Cable trays are not to be used.

PART 3 - EXECUTION

3.01 GENERAL

- A. All wiring shall be run in raceway unless indicated otherwise.
- B. Raceways shall be installed between equipment as indicated. Raceway systems shall be electrically and mechanically complete before conductors are installed. Bends and offsets shall be smooth and symmetrical and shall be accomplished with tools designed for this purpose. Field bends are required on conduits up to 2". Factory elbows may be utilized on raceways over 2". All fittings and connections shall be made tight.
- C. Separate raceway systems shall be provided for:
1. Analog signals
 2. 24 VDC discrete signals and instrument power supply conductors
 3. 120 VAC and higher wiring
 4. Communications circuits
- D. When non-loop powered instruments have only one raceway port, the CONTRACTOR may run both the analog and 24 VDC wiring in a short length of ½" LFMC to a splitter box where the wiring must then be separated into the required raceway system. The length of LFMC must be kept to the absolute minimum and must not exceed 3 feet unless written approval has been given by the ENGINEER.
- E. Where raceway routings are indicated on plan views, follow those routings to the extent possible.
- F. Routings shall be adjusted to avoid obstructions. Coordinate between trades prior to installation of raceways. Lack of such coordination shall not be justification for extra compensation, and removal and re-installation to resolve conflicts shall be by the CONTRACTOR as part of the WORK.

- G. Support rod attachment for ceiling-hung trapeze installations shall meet the seismic requirements.
- H. Exposed raceways shall be installed parallel or perpendicular to structural beams.
- I. Install expansion fittings with bonding jumpers wherever raceways cross building expansion joints.
- J. Exposed raceways shall be installed at least 1/2-inch from walls or ceilings except that at locations above finished grade where damp conditions do not prevail, exposed raceways shall be installed 1/4-inch minimum from the face of walls or ceilings by the use of clamp backs or struts.
- K. In underground facilities or NEMA 4X areas, all raceway penetrations in panels shall be bottom entry.
- L. Wherever contact with concrete or dissimilar metals can produce galvanic corrosion of equipment, suitable insulating means shall be provided to prevent such corrosion.
- M. To facilitate future expansion, boxes and fittings are to be installed when indicated on the drawings. Unused hubs are to be plugged with proprietary devices. Raceways that include future expansion provision are to be sized to accommodate any such specified wiring without exceeding the requirements of this specification.
- N. The maximum allowable conduit fill for instrumentation and control wiring is given by the following table:

Conduit Diameter	No. of 14-Gauge Wires	No. of 18-Gauge TWS
3/4"	8	2
1"	16	4
1-1/4"	32	7
1-1/2"	48	10
2"	72	17

- O. Note: No instrumentation or control wiring conduit is to be larger than 2 inches in diameter.

3.02 RACEWAYS

- A. Exposed raceway systems shall be of the type specified for the area installed as identified herein.
- B. Raceways concealed or encased in concrete shall be PVC-coated GRC. Conduit shall emerge from the concrete perpendicular to the surface whenever possible.
- C. Exposed conduit shall be 3/4-inch minimum trade size. Supports shall be installed at distances required by the NEC.
- D. Conduit shall not be encased in the bottom floor slab below grade.
- E. Concrete cover for conduit and fittings shall not be less than 1-1/2 inches for concrete exposed to earth or weather, or less than 3/4-inch for concrete not exposed to weather or in contact with the ground.
- F. Raceways passing through a slab, wall, or beam shall not impair significantly the strength of the construction.

- G. Raceways embedded within a slab, wall, or beam (other than those merely passing through) shall satisfy the following:
 - 1. Conduits with their fittings embedded within a column shall not displace more than 4 percent of the gross area of cross section.
 - 2. Conduits shall not be larger in outside dimension than one third the overall thickness of slab, wall, or beam in which embedded.
 - 3. Raceways shall not be spaced closer than 3 outside diameters on centers.
- H. Raceways shall be placed so that cutting, bending, or displacing reinforcement from its proper location will not be required.
- I. Threads shall be coated with a conductive lubricant before assembly.
- J. Joints shall be tight, thoroughly grounded, secure, and free of obstructions in the pipe. Conduit shall be adequately reamed to prevent damage to the wires and cables inside. Strap wrenches and vises shall be used to install conduit to prevent wrench marks on conduit. Conduit with wrench marks shall be replaced.
- K. Wherever raceways enter substructures below grade, the raceways shall be sloped to drain water away from the structure. Extreme care shall be taken to avoid pockets or depressions in raceways.
- L. Connections to motors and other equipment subject to vibration shall be made with LFMC not exceeding 3-feet in length. Equipment subject to vibration that is normally provided with wiring leads shall be provided with a cast junction box for the make-up of connections. The junction box is to be independently supported and not left free to hang from the equipment.
- M. Raceways passing through walls or floors shall have plastic sleeves. Core drilling shall be performed in accordance with Section 26 00 00.
- N. Conduit, fittings, and boxes required in hazardous classified areas shall be suitably rated for the area and shall be provided in strict accordance with NEC requirements.
- O. Empty raceways shall be tagged at both ends to indicate the final destination. Where it is not possible to tag the raceway, destination shall be identified by a durable marking on an adjacent surface. A pull-cord shall also be installed in each empty conduit. This shall apply to conduits in floors, panels, manholes, equipment, etc.
- P. Where an underground raceway enters a structure through a concrete roof or a membrane waterproofed wall or floor, core-drill the entrance and provide a Link-Seal, or equal, sealing device. The sealing device shall be utilized with PVC-coated GRC/rigid steel conduit.
- Q. Final connections to heaters, instruments, motors, limit switches, and any equipment subject to vibration shall be made with LFMC and approved fittings. Maximum length of LFMC shall be 3 feet.
- R. Connections to solenoid valves, motor actuators, and flood sensors shall be made with LFMC and approved fittings to a cast box with screw cover (GUA type), independently and securely supported. In no case is the device to support the cast box.

3.03 CABLE TRAYS

- A. Cable trays are not to be used.

END OF SECTION 26 05 33

SECTION 26 24 19
MOTOR CONTROL CENTERS

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The CONTRACTOR shall provide motor control center modifications (MCC's), complete and operable, in accordance with the Contract Documents.
- B. The requirements of Section 26 05 00 – Electrical Work, General, apply to the WORK of this Section.

1.02 QUALITY ASSURANCE

- A. General: All materials shall be inspected for compliance with Section 26 05 00 – Electrical Work, General, and shall be tested per Section 26 01 26 – Electrical Tests.
- B. The MCC components shall be of the manufacturer's latest approved design. MCC components shall meet UL-845 and IEC 60439-1 requirements and bear the appropriate labels.
- C. For the equipment specified herein, the manufacturer shall be ISO 9001 or 9002 certified.
- D. The manufacturer of this equipment shall have produced similar electrical equipment for a minimum period of five (5) years. When requested by the Engineer, an acceptable list of installations with similar equipment shall be provided demonstrating compliance with this requirement.
- E. Modifications to an existing MCC shall be field evaluated to UL 845 and any other applicable standard as required by the components comprising the modified assembly. Individually listing MCC "buckets" to UL 508A is not acceptable.
- F. Factory Tests: Design test reports conducted on similar assemblies at the factory testing facilities shall be submitted.
- G. Provide Seismic tested equipment as follows:
 - 1. The equipment and major components shall be suitable for and certified by actual seismic testing to meet all applicable seismic requirements of the latest International Building Code (IBC).
 - 2. The Project Structural Engineer will provide site specific ground motion criteria for use by the manufacturer to establish SDS values required.
 - 3. The IP rating of the equipment shall be 1.5.
 - 4. The Structural Engineer for the Site will evaluate the SDS values published on the Manufacturer's website to ascertain that they are "equal to" or "greater than" those required for the Project Site.

1.03 WARRANTY

- A. The system warranty shall be no less than one year after initial startup and shall include all costs for repair, parts, travel and living expenses, and labor.

1.04 OPERATION AND MAINTENANCE

- A. The CONTRACTOR shall submit operation and maintenance procedures for each of the new MCC components for the ENGINEER's review. The data sheets shall be supplemented by written text and shall include the following:

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Motor Control Centers

1. Operating procedures.
2. Maintenance procedures.
3. Manufacturers' parts list, illustrations, assemblies, and diagrams.

1.05 CONTRACTOR SUBMITTALS

- A. General: Submittals shall be in accordance with Section 01 33 00.
- B. Shop Drawings. Provide shop drawings showing:
 1. Enclosure NEMA rating and color
 2. Plan, top and front elevation dimensioned drawings.
 3. Horizontal and vertical bus ampacities, voltage rating and interrupting capacity. Include materials of construction.
 4. Control unit nameplate schedule
 5. All circuit breaker types, frames and settings.
 6. Product data sheets for all components.
 7. Elementary schematic ladder diagrams for each compartment. Custom schematics shall be furnished. Diagrams shall include all remote devices. Submittals with drawings not meeting this requirement will not be reviewed further and will be returned to the CONTRACTOR stamped "REJECTED-RESUBMIT."
 8. Short circuit rating of the complete assembly
 9. Replacement parts lists and operation and maintenance procedures
 10. Seismic design certification of the anchoring system in accordance with Section 26 05 00.
 11. Time-current curves for all protective devices

PART 2 - PRODUCTS

2.01 GENERAL

- A. Devices of the same type shall be products of the same manufacturer.
- B. Motor control centers shall conform to the standards for NEMA Class IIS, type B diagrams and wiring. All equipment within the MCC shall be front accessible.
- C. The MCC shall contain all items and accessories required for a complete working system.

2.02 DESIGN, CONSTRUCTION, AND MATERIAL REQUIREMENTS

- A. Motor Control Center components
 1. Shall be 600-volt class suitable for operation on a three-phase, 60-Hz system.
 2. The system operating voltage and number of wires shall be as indicated.
- B. Motor Control Center components(s) shall be compatible with the existing Allen Bradley Centerline 2100 MCC, catalog #N GYMX25.
- C. All feeder breakers through 400 Amp shall be of the draw-out type. Draw-out provisions shall include a positive guide rail system and stab shrouds to absolutely ensure alignment of stabs with the vertical bus. Draw-out units shall have a tin-plated stab assembly for connection to the vertical bus. No wiring to these stabs shall extend outside of the draw-out unit. Interior of all units shall be painted white for increased visibility. Units shall be equipped with side-mounted, positive latch pull-apart type control terminal blocks rated 600 volts. Knockouts shall be provided for the addition of future terminal blocks. All control wire to be 14 gauge minimum.

- D. All draw-out units shall be secured by a spring-loaded, quarter turn, indicating type fastening device located at the top front of the unit. Except for the dual-mounted units, each unit compartment shall be provided with an individual front door.
- E. An operating mechanism shall be mounted on the primary disconnect of each unit. It shall be mechanically interlocked with the unit door to prevent access, unless the disconnect is in the "OFF" position. A defeater shall be provided to bypass this interlock. With the door open, an interlock shall be provided to prevent inadvertent closing of the disconnect. A second interlock shall be provided to prevent removal or reinsertion of the unit while in the "ON" position. Padlocking facilities shall be provided to positively lock the disconnect in the "OFF" position with up to three (3) padlocks with the door open or closed. In addition, means shall be provided to padlock the unit in a partially withdrawn position with the stabs free of the vertical bus.
- F. Size and Arrangement
 - 1. Motor control centers shall be of mechanical groupings of control center units, assembled into a lineup of control center sections. Each section shall be sized as shown on the drawings.
 - 2. MCC units shall be designed to not exceed the space requirements as indicated on the Contract Drawings.
 - 3. Equipment within the MCC shall be arranged as shown on the drawings.
 - 4. All switches and circuit breakers used as switches shall be located so that the center of the grip of the operating handle of the switch or circuit breaker, when in its highest position, will not be more than 6-feet 7-inches above the floor, including the height of the concrete pad.
- G. Cabinet
 - 1. Structural members shall be fabricated of not less than 12-gauge steel and side and top panels and doors shall be not less than 14-gauge steel.
 - 2. Spaces designated as "SPACE" or "EMPTY" shall include blank hinged doors and vertical bus bars.
 - 3. Control units inside compartments shall be clearly identified with tags or stencil markings.
 - 4. Each control unit including spares, spaces and blanks, lights, and devices shall be identified by an engraved nameplate. Identification shall include circuit number as indicated.
 - 5. Each motor control center unit shall be fitted with the manufacturer's nameplate which shall include the NEMA Standard electric rating and other pertinent data, including manufacturer, sales order number, date of manufacture, and place of manufacture.
- H. Control Wiring:
 - 1. All control wiring shall be brought to identified terminal blocks; every cubicle containing control wiring which extends to other cubicles shall have terminal blocks. Connection made on terminal blocks and on internal devices shall be by means of locking spade-type pre-insulated terminals.
 - 2. Control and secondary wiring shall be 600 V flame-retardant switchboard-type, minimum size No. 14 AWG, stranded tinned copper. Hinge wiring shall be extra-flexible stranding.
- I. Terminal Blocks
 - 1. Terminal blocks for all external control connections shall be 600-volt, barrier type, having a minimum rating of 20 amps with marker strips identifying all internal and external wiring.

2. Terminal blocks for current transformer secondary connections shall be of the short-circuiting type. One 4-pole block shall be used for each current transformer set.
- J. Nameplates
1. Nameplates shall be provided for front and rear face of each cubicle and for major devices thereon, such as meters, instruments, control switches, and relays.
 2. Nameplates shall also be provided for major internal devices such as relays, instrument and control power transformer, fuse blocks, switches, and transformers.
 3. Cubicle nameplates shall be 3-layer laminated phenolic plastic, white background, engraved to show black lettering.
 4. Lettering shall be upper case as follows:
 - a. 1-inch high for switchgear identification.
 - b. 7/16-inch high for compartment identification.
 - c. 1/8-inch high for component nameplate.
 5. Thickness
 - a. Nameplates 1-1/2 inches tall and smaller shall be 1/16-inch thick.
 - b. Nameplates larger than 1-1/2 inches tall shall be 1/8-inch thick.
 6. Edges of nameplates shall be beveled.
- K. Surface Preparation, Painting, and Cleanliness
1. Metal surfaces shall be smooth and free of all foreign matter such as scale, sand, blisters, weld splatter, metal chips and shavings, oil, grease, organic matter, and rust, and shall be chemically cleaned and treated in a process which provides a phosphate coating.
 2. Immediately after the treatment process, the surfaces shall be sprayed with a coating each of primer and finish paint; both shall be baked. Electrostatically deposited powder coated epoxy finishes, oven baked and 1-mil minimum thickness indoor and 2 mils minimum thickness outdoor, are acceptable.

2.03 MAIN AND FEEDER CIRCUIT BREAKERS (480/240/208-VOLT)

- A. Circuit breakers having a frame size of 150 amps or less shall be molded-case type with thermal magnetic non-interchangeable, trip-free, sealed trip units.
- B. The interrupting capacity of all main, and feeder branch circuit breakers shall be a minimum of 65,000 RMS symmetrical amperes.
- C. Circuit breaker disconnect operators shall be capable of accommodating three padlocks for locking in the "open" position.

2.04 FACTORY TESTS

- A. All motor control centers components shall be given manufacturer's standard electrical and mechanical production tests and inspections. The tests shall include electrical continuity check, dielectric tests for each circuit, and inspection for proper functioning of all components including controls, protective devices, metering, and alarm devices.

PART 3 - EXECUTION**3.01 GENERAL**

- A. The CONTRACTOR shall install motor control center components in accordance with manufacturer's published instructions. Conduit installation shall be coordinated with manufacturer's as-fabricated drawings so that all conduit connections are within the area allotted for conduit. Conduit shall be connected to the section that contains the devices to which conductors are terminated.
- B. If stored at the Site, motor control center components shall be stored in a clean, dry space. Factory wrapping shall be maintained, or an additional heavy plastic cover shall be provided to protect units from dirt, water, construction debris, and traffic. Storage space shall be heated.
- C. Motor control center components shall be handled carefully to avoid damage to motor control center components, enclosure, and finish. Damage shall be repaired before installation.

3.02 INSTALLATION

- A. Motor control center cubicles shall be installed in spare spaces in the existing MCC as shown on the drawings. MCC cubicle doors and covers shall be modified as required to accommodate the new cubicles.
- B. The CONTRACTOR shall:
 - 1. Torque all bus bar bolts to manufacturer's recommendations. Tighten all sheet metal and structure assembly bolts.
 - 2. After equipment is installed, touch up scratches and verify that nameplate, and other identification is accurate.

3.03 FIELD TESTS

- A. Visual and mechanical inspection after installation
 - 1. Inspect for physical damage, proper anchorage, and grounding.
 - 2. Check tightness of bolted connections.

3.04 STARTUP / FINAL

- A. After system has had any repairs/modification completed, Contractor shall clean all debris in the MCC and repair / touch up any cosmetic damage.

END OF SECTION 26 24 19

**SECTION 26 27 26
WIRING DEVICES****PART 1 - GENERAL****1.01 THE REQUIREMENT**

- A. The CONTRACTOR shall provide all wiring devices, plates, and nameplates in accordance with the Contract Documents.
- B. The requirements of Section 26 05 00 – Electrical Work, General apply to this Section.
- C. Single Manufacturer: Like products shall be the end product of one manufacturer in order to achieve standardization of appearance, operation, maintenance, spare parts, and manufacturer's services.

1.02 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00.
- B. Shop Drawings
 - 1. Complete catalog cuts of switches, receptacles, enclosures, covers, and appurtenances, marked to clearly identify proposed materials.
 - 2. Documentation showing that proposed materials comply with the requirements of NEC and UL.
 - 3. Documentation of the manufacturer's qualifications.

PART 2 - PRODUCTS**2.01 GENERAL**

- A. All devices shall carry the UL label.
- B. General purpose duplex receptacles and toggle switch handles shall be brown everywhere except in finished rooms where they shall be ivory. Special purpose receptacles shall have a body color as indicated. Receptacles and switches shall conform to Federal Specifications W-C-596E and W-S-896E, respectively.

2.02 DISCONNECT SWITCHES

- A. Local branch circuit disconnect switches for fractional horsepower glycol and water circulation pumps shall be toggle type with red pilot light, rated at 20 amps, 120 VAC, 1HP and shall be **Leviton Cat. No. 1221-PLR** for single pole or equal.
- B. Local branch circuit disconnect switches for electric heat trace shall vary based on the ampacity and voltage requirements of the heat trace. Provide the following types as shown on the Drawings:
 - 1. Toggle type with red pilot light, rated at 20 amps, 120 VAC, 1HP, single-pole **Leviton Cat. No. 1221-PLR** or equal.
 - 2. Toggle type with red pilot light, rated at 30 amps, 120 VAC, 2HP, single-pole **Leviton Cat. No. 30311-PLR** or equal.
 - 3. Toggle type rated at 20 amps, 240-277 VAC, 2HP, double-pole Leviton Cat. No. 1222-2 or equal.
 - 4. Toggle type rated at 30 amps, 240-277 VAC, 2HP, double-pole **Leviton Cat. No. 3032-2** or equal.

2.03 GENERAL PURPOSE RECEPTACLES

- A. Duplex receptacles rated 120-volt, 20 amps shall be polarized 3-wire type for use with 3-wire cord with grounded lead and 1 designated stud shall be permanently grounded to the conduit system (NEMA 5-20R). Duplex 120-volt receptacles shall be **G.E. 5362, Hubbell 5362**, or equal. Single receptacles shall be **G.E. 4102, Hubbell 4102**, or equal.
- B. Ground-fault circuit interrupting receptacles (GFCI's) shall be installed at the locations indicated. GFCI's shall be rated 125-volt, 20 amps and shall be **Hubbell GF-5362**, or equal.

2.04 ENCLOSURES AND COVERS

- A. Surface mounted switches and receptacles shall be in FS or FD type cast device boxes.
- B. In finished areas, switch and receptacle boxes shall be provided with SUPER STAINLESS STEEL COVERS as manufactured by **Harvey Hubbell, Arrow Hart, Bryant**, or equal.
- C. In areas where cast boxes are used, switch and receptacle covers shall be **Crouse-Hinds Catalogue No. DS185 and WLRD-1, or Adalet No. WSL and WRD**, or equal.
- D. Receptacles in exterior locations shall be with s-hinged cover/enclosure marked "Suitable for Wet Locations when in use" and "UL Listed." There shall be a gasket between the enclosure and the mounting surface and between the hinged cover and mounting plate/base. The cover shall be **TayMac Specification Grade**, or equal.

2.05 NAMEPLATES

- A. Provide nameplates or equivalent markings on switch enclosures to indicate ON and OFF positions of each switch. ON and OFF for 3-way or 4-way switches is not acceptable. Provide receptacles for special purposes with nameplates indicating their use. Conform to requirements of Section 26 05 00 – Electrical Work, General.

PART 3 - EXECUTION

3.01 CONNECTION

- A. Securely fasten nameplates using screws, bolts, or rivets centered under or on the device, unless otherwise indicated.

3.02 GROUNDING

- A. Ground all devices, including switches and receptacles, in accordance with NEC, ART 250, and Section 26 05 26 – Grounding.
- B. Ground switches and associated metal plates through switch mounting yoke, outlet box, and raceway system.
- C. Ground flush receptacles and their metal plates through positive ground connections to outlet box and grounding system. Maintain ground to each receptacle by spring-loaded grounding contact to mounting screw or by grounding jumper, each making positive connection to outlet box and grounding system at all times.

3.03 FIELD TESTING

- A. Provide checkout, field, and functional testing of wiring devices in accordance with Section 26 05 00 – Electrical Work, General.
- B. Test each receptacle for polarity and ground integrity with a standard receptacle tester.

END OF SECTION 26 27 26

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Wiring Devices

SECTION 33 10 01**STEEL PIPING, FITTINGS, AND VALVES****PART 1 - GENERAL****1.01 SUMMARY**

This section covers steel piping, fittings, and valves used inside the treatment plant building in glycol service. In order to match existing piping systems and provide the Contractor with ease and flexibility of installation, Victaulic brand items have been specified throughout. Equivalent items will be considered with Engineer's approval.

All piping, fittings, and instruments used in glycol service shall be designed for an operating pressure of 120 psig and a minimum design pressure of 150 psig at 240 °F. Threaded schedule 40 black iron pipe or schedule 40 Victaulic grooved pipe is pre-approved for this service.

- A. Section Includes:
 - 1. General
 - 2. Materials
 - 3. Execution
- B. Related Sections:
 - 1. 22 05 29 – Pipe Hangers and Supports
- C. Submittals:
 - 1. Victaulic products shall be shown in product submittals and shall be specifically identified with the applicable Victaulic style or series number.
 - 2. Submittals indicating conformance with ANSI/NSF 61 are required for all parts having direct contact with potable water.
- D. References:
 - 1. American Society for Testing Materials (ASTM)
 - a. ASTM A-53 – Pipe, Steel, Black and Hot-Dipped Zinc Coated, Welded and Seamless.
 - b. ASTM A-183 – Carbon Steel Track Bolts and Nuts
 - c. ASTM A-234 – Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel.
 - d. ASTM A-449 – Quenched and Tempered Steel Bolts and Studs
 - e. ASTM A-536 – Ductile Iron Castings
 - f. ASTM F-1476 - Standard Specification for Performance of Gasketed Mechanical Couplings for Use in Piping Applications
 - 2. American Society of Mechanical Engineers
 - a. ASME B16.9 – Factory Made Wrought Butt-Welded Fittings
 - b. ASME B31.1 – Power Piping
 - c. ASME B31.9 – Building Services Piping
 - 3. American Water Works Association
 - a. AWWA C-606 – Grooved and Shouldered Joints
 - 4. American National Standards Institute (ANSI)

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Steel Piping, Fittings, and Valves

a. ANSI / NSF 61 – Drinking Water System Components

- E. Quality Assurance: To assure uniformity and compatibility of piping components in grooved end piping systems, all grooved products utilized shall be supplied by Victaulic or engineering approved equal. Grooving tools shall be supplied by the same manufacturer as the grooved components.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Pipe

1. Grooved: Carbon Steel, A-53B/A-106B - Roll or cut grooved-ends as appropriate to pipe material, wall thickness, pressures, size and method of joining. Pipe ends to be grooved in accordance with Victaulic current listed standards conforming to ANSI/AWWA C-606.
2. Threaded Black Iron: Schedule 40, A53 Grade B black steel.
 - a. Pipe fittings, unions, nipples, and couplings: Malleable iron, cast iron, or steel with pressure rating to suit application.
 - b. Unions: Provide ground joint unions on piping 2 inches and smaller and gasketed, flanged joint unions on piping 2-1/2 inches and larger. Provide gaskets compatible with fluid carried.
 - c. Welded fittings and flanges: Fabricated from the same material as the pipe.
 - d. Sleeve couplings:
 - 1) Gasketed sleeve type consisting of one steel middle ring, two steel followers, two gaskets, and the necessary steel bolts and nuts to compress the gasket. Dresser or equal.
 - 2) Gasket material as recommended by the manufacturer for fluid carried.
 - 3) Pressure rating not less than adjoining pipeline.
 - 4) Constructed to permit pipe expansion, contraction, and angular deflection.
 - 5) Pipe joint lubricant: Anti-seize Teflon tape or liquid Teflon thread lubricant, unless otherwise indicated.
3. All piping shall be labeled with flow direction and marked to indicate contents. Since piping will be under insulation, marking on the metal is not required.

B. Insulation

1. All piping with operating temperature above 80 °F shall be insulated with a minimum of 1" rigid closed cell foam insulation covered with a PVC jacket.
2. PVC jacket shall be white in color.

C. Victaulic Mechanical Couplings for Joining Carbon Steel Pipe

1. Victaulic Standard Mechanical Couplings, 2 inch (DN50) through 12 inch (DN300): Manufactured in two segments of cast ductile iron, conforming to ASTM A-536, Grade 65-45-12. Gaskets shall be pressure-responsive synthetic rubber, grade to suit the intended service, conforming to ASTM D-2000. (Gaskets used for potable water applications shall be UL classified in accordance with ANSI/NSF-61 for potable water service.) Mechanical Coupling bolts shall be zinc plated (ASTM B-633) heat treated carbon steel track head

conforming to ASTM A-449 and ASTM A-183, minimum tensile strength 110,000 psi (758450 kPa) as provided standard Victaulic.

- a. Rigid Type: Coupling housings with offsetting, angle-pattern bolt pads shall be used to provide system rigidity and support and hanging in accordance with ANSI B31.1, B31.9, and NFPA 13.
 - 1) 2" (DN50) through 8" (DN200): Victaulic Style 107H (Quick-Vic™). Installation ready rigid coupling for direct stab installation without field disassembly. Gasket shall be Grade "EHP" EPDM compound with red color code designed for operating temperatures from -30 deg F (-34 deg C) to +250 deg F (+120 deg C).
 - 2) 10" (DN250) through 12" (DN300): Victaulic Style 07 (Zero-Flex®). Standard rigid coupling. Gasket shall be Grade "E" EPDM compound with green color code designed for operating temperatures from -30 deg F (-34 deg C) to +230 deg F (+110 deg C).
 - b. Flexible Type: Use in locations where vibration attenuation and stress relief are required. Flexible couplings may be used in lieu of flexible connectors at equipment connections. Three couplings, for each connector, shall be placed in close proximity to the vibration source.
 - 1) 2" (DN50) through 8" (DN200): Victaulic Style 177 (Quick-Vic™). Installation ready flexible coupling for direct stab installation without field disassembly. Gasket shall be Grade "EHP" EPDM compound with red color code designed for operating temperatures from -30 deg F (-34 deg C) to +250 deg F (+120 deg C).
 - 2) 10" (DN250) through 12" (DN300): Victaulic Style 75 or 77 standard flexible couplings. Gasket shall be Grade "E" EPDM compound with green color code designed for operating temperatures from -30 deg F (-34 deg C) to +230 deg F (+110 deg C).
 2. Flange Adapters: For use with grooved end pipe and fittings. For direct connection to flat faced ANSI Class 125 / 150 flanges, use Victaulic Style 741. For direct connection to raised face ANSI Class 300 flanges use Victaulic Style 743. See Victaulic Publication 06.06 for selection of gaskets and other parts needed for complete installation of flange adapters. Follow installation instructions provided in this publication.
 3. Grooved couplings shall meet the requirements of ASTM F-1476.
 4. Gasket: Synthetic rubber conforming to steel pipe outside diameter and coupling housing, manufactured of elastomers as designated in ASTM D-2000.
 - a. Reference shall always be made to the latest published Selection Guide for Victaulic Gaskets for proper gasket selection for the intended service.
- D. Victaulic Grooved End Fittings:
1. Standard fittings shall be cast of ductile iron conforming to ASTM A-536, Grade 65-45-12, forged steel conforming to ASTM A-234, Grade WPB 0.375" wall (9.53 mm wall), or fabricated from Std. Wt. Carbon Steel pipe conforming to ASTM A-53, Type F, E or S, Grade B. Fittings provided with an alkyd enamel finish or hot dip galvanized to ASTM A-153. Zinc electroplated fittings and couplings conform to ASTM B633.

2. AGS Fittings shall be supplied with factory AGS grooved ends, for use with Victaulic W07 or W77 couplings and W741 flange adapter. Fittings shall be manufactured of ductile iron conforming to ASTM A-536, forged carbon steel conforming to ASTM A-234, or factory fabricated from carbon steel pipe conforming to ASTM A-53. Fittings shall be manufactured to the dimensional standards ASME B16.9. Orange enamel coated or galvanized.
 3. Victaulic Hole-Cut Branch Outlets:
 - a. Bolted Branch Outlet: Branch reductions on 2"(DN50) through 8"(DN200) header piping. Bolted branch outlets shall be manufactured from ductile iron conforming to ASTM A-536, Grade 65-45-12, with synthetic rubber gasket, and heat-treated carbon steel zinc plated bolts and nuts conforming to physical properties of ASTM A-183. Victaulic Style 920 / 920N.
 - b. Strapless Outlet: 1/2"(DN15) or 3/4"(DN20) NPT outlet on 4" (DN100) and larger header sizes rated for 300 PSI (2065 kPa). Victaulic Style 923.
 - c. Strapless Thermometer Outlet: To accommodate industrial glass bulb thermometers with standard 1-1/4"-18 NEF 2B extra fine thread and 6" (152mm) nominal bulb length on 4" (DN100) and larger header sizes rated for 300 PSI (2065 kPa).
- E. Grooved End Valves
1. Butterfly Valves: 2"(DN50) through 12"(DN300) Sizes: 300 psi CWP (2065 kPa) suitable for bidirectional and dead-end service at full rated pressure. Body shall be grooved end black enamel coated ductile iron conforming to ASTM A536. Disc shall be electroless nickel plated ductile iron with blowout proof 416 stainless steel stem. Disc shall be offset from the stem centerline to allow full 360-degree seating. Seat shall be pressure responsive EPDM. Valve bearings shall be TFE lined fiberglass, and stem seals shall be of the same grade elastomer as the valve seat. Valve shall be complete with ISO flange for actuation mounting. Valve operators shall be lever handle or gear operator, available with memory stop feature, locking device, chainwheel, or supplied bare. (Valve with EPDM seat is UL classified in accordance with ANSI/NSF-61.) Victaulic Vic®-300 MasterSeal™.
 2. Valve Actuators
 - a. Valve actuators shall be from the same manufacturer as the valve with compatible bolt pattern requiring no adaptors. Actuator shall be 120V AC / 1ph powered with DeviceNet communication capability. Body shall be rated for water spray. Actuator shall include visual position indication, manual clutch, and manual handwheel operator.
 - b. Bray Series 70 with DeviceNet module or Engineer approved equal.
 3. Check Valves:
 - a. 3"(DN80) through 12"(DN300) Sizes AWWA C-508: Enamel coated cast iron body, ASTM B-584 bronze disc suitable for intended service, stainless steel shaft, bronze seat, EPDM seal, rated for 150 psig at 180 °F. Victaulic Series 317 or Engineer approved equal.
 - b. 2"(DN50) through 4"(DN100) Sizes Horizontal Swing: Horizontal installation, ductile iron body, ASTM A-536, Grade 65-45-12, and Type 316 stainless steel clapper. Synthetic rubber bumper & bonnet seals suitable for intended service, stainless steel wetted parts, 300 psi (2065 kPa). Victaulic Series 712 or Engineer approved equal.

4. Ball Valves: 1-1/2"(DN40) through 6"(DN150) sizes, ASTM A-536, Grade 65-45-12, ductile iron body, chrome plated carbon steel ball and stem, TFE seats, with Fluoroelastomer seals. 800 psi (5515 kPa). Victaulic Series 726.
5. Plug Valves: 3"(DN75) through 12"(DN300) sizes, with memory stop for throttling, metering or balancing service. Unidirectional bubble-tight shut-off, bi-directional sealing optional. Ductile iron body, bonnet, and plug, ASTM A-536, Grade 65-45-12. Plug encapsulated with synthetic rubber suitable for intended service. Welded-in nickel seat, stainless steel self-lubricating bearings. 175 PSI (1200 kPa). AWWA rigid groove dimensions may be adapted to IPS sized system through the use of Victaulic Style 307 transition couplings. Victaulic Series 377 eccentric plug balancing valves.
6. Circuit Balancing Valves:
 - a. 2"(DN50) and Smaller Sizes: 300 psi (2065 kPa), y-pattern, globe type with soldered or threaded ends, non-ferrous Ametal® brass copper alloy body, EPDM O-ring seals. 4-turn digital readout handwheel for balancing, hidden memory feature with locking tamper-proof setting, and connections for portable differential meter. Victaulic / TA Hydronics Series 786 or 787 STAD.
 - b. 2-1/2"(DN65) and Larger Sizes: 300 psi (2065 kPa), y-pattern, globe type with flanged or grooved ends, ASTM A536 ductile iron body, all other metal parts of Ametal® brass copper alloy, EPDM O-ring seals. 8, 12 or 16-turn digital readout handwheel for balancing, hidden memory feature with locking tamper-proof setting, and connections for portable differential meter. Victaulic / TA Hydronics Series 788 or 789 STAG.
7. Air Release / Vent Valves: Air release valves shall be placed at any high point or high point pocket that could trap air whether or not they are shown on the drawings. Brass / bronze body, rubber seal, high temperature resistant float, manual air release capability, suitable for use in glycol systems. Watts DuoVent or engineering approved equal.
8. Pressure Release / Safety Valves: Pressure relief valves shall be installed where indicated on the drawings. Pressure relief valves are sized for thermal expansion only and outlets should be routed to the floor. Set pressure 165 psig. Watts LF3L or Engineering approved equal
9. Solenoid Valves
 - a. Solenoid valves shall be two-way full-size valves, brass body, 24V DC electric actuation.
 - b. Valves shall be rated for 150 psig at 180 °F and for use in glycol service.
 - c. Valve shall be ASCO Redhat Series 220 or Engineering approved equal.
- F. Victaulic Tooling:
 1. Tools shall be manufactured and supplied by Victaulic. Use roll sets or cut groovers compatible with the pipe material and wall thickness per Victaulic installation instructions (I-100).
 2. Common wedge shaped AGS groove for pipe sizes 14" (DN350) through 24"(DN600) requiring one (1) common AGS roll set per tool, for use with approved Victaulic grooving tools. (VE414MC, VE416 FSD, VE424 MC, or VE436.)
- G. Flanged Valves:
 1. Butterfly Valves
 - a. Body: Shall be one-piece lug design with extended neck to allow for 2" of piping insulation. Flange locating holes shall be provided on wafer bodies to allow for quick and precise

alignment during valve installation. Flange hole drilling per international flange standard as specified. A non-corrosive bushing and a self-adjusting stem seal shall be provided. No field adjustment shall be necessary to maintain optimum field performance.

- b. Disc: Disc edge and hub on metal discs shall be spherically machined and hand polished for torque and maximum sealing capability.
 - c. Stem: Shall be one-piece design. Disc to stem connection shall be and internal double “D” design with no possible leak paths in the disc-to-stem connection. External disc-to stem connections such as disc screws or pins are not allowed. Stem shall be mechanically retained in the body neck and no part of the stem shall be exposed to the line media.
 - d. Seat: Shall be tongue-and-groove seat with a primary hub seal and a molded flange O-ring for weldneck and slip-on flanges. The seat shall totally encapsulate the body isolating it from the line media and no flange gaskets shall be required.
 - e. Bray Series 31 or Engineer approved equal.
- H. Threaded Valves and Fittings:
- 1. Check Valves
 - a. Check valves less than 2” nominal pipe size shall be 300# class threaded bronze swing check with bronze seat.
 - b. Apollo Series 168T or approved equal.
 - 2. Ball Valves
 - a. Ball valves 2” and under nominal pipe size shall be threaded bronze ball with 600# cold working pressure.
 - b. Apollo Series 70 two-piece uni-directional or approved equal.

2.02 VALVE TAGGING AND IDENTIFICATION

Provide permanent plastic or metal identifying valve tags.

2.03 BOLTS AND NUTS FOR FLANGED VALVES

- A. Bolts and nuts for flanged valve shall be as described in the piping specifications.

2.04 PACKING, O-RINGS, AND GASKETS

- A. Unless otherwise stated in the detailed valve specifications, packing, O-rings, and gaskets shall be one of the following non-asbestos materials:
 - 1. Teflon
 - 2. Kevlar aramid fiber
 - 3. Acrylic or aramid fiber bound by nitrile. products: Garlock "Bluegard", Klinger "Klingersil C4400", or equal
 - 4. Buna-N (nitrile)

2.05 Pipe Hangers & Supports:

- A. General: The CONTRACTOR shall be responsible for providing hangers and supports for all interior piping. Unless otherwise indicated, all pipe supports shall be standard, commercially accepted pipe supports and accessories. In locations where a standard support cannot be used,

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Steel Piping, Fittings, and Valves

the CONTRACTOR shall be responsible for fabricating these supports in accordance with the details provided in the Drawings. Support spacing shall be as indicated on the drawings. Where no spacing is indicated, CONTRACTOR shall provide adequate support to eliminate all sagging in the pipe, to eliminate all dead loads on equipment or tank flanges, and/or movement of the pipe when subjected to the operating flow and pressure of the transported fluid.

- B. Adjustable Pipe Stands Floor Supports: Pipe stands shall be ITT Grinnell Figure 259 pipe stands with U-bolt strap with Figure 62 adjustable pipe stanchions, or approved equals. All sharp edges in contact with plastic pipe shall be ground to a minimum radius of 50% of the support plate thickness and be smooth and free of any burrs to minimize potential of pipe gouging over time.
- C. Wall Hangers & Supports: For pipes 1" in diameter or less, use Unistrut Corporation J1205N through J1220N, or approved equal. Where larger piping is supported from the wall, a wall support and "U" bolt shall be installed. The wall support shall be Figure 195 or 199 as manufactured by ITT Grinnell or approved equal.
- D. Small diameter pipe supports for attachment of 1" to 3" diameter pipe to walls shall consist of all-purpose metal framing. Metal framing shall be 1-5/8" square and constructed of hot-dipped galvanized steel, as manufactured by Unistrut. Pipe straps shall be Unistrut Series P2558 of the appropriate size or approved equal. Support spacing shall be as indicated on the Drawings. Where no spacing is indicated, CONTRACTOR shall provide adequate support to eliminate all sagging in the pipe and/or movement of the pipe when subjected to the operating flow and pressure of the transported fluid.
- E. Solid Wall, Ceiling or Floor Anchor Bolts: Anchor bolts used to attach structural steel support brackets in solid masonry or concrete ceilings, walls and floors shall have an externally threaded stud with a full-length expanding sleeve as manufactured by Hilti or approved equal. Anchor bolts shall be stainless steel and shall be installed per manufacturer's recommendations. Minimum size and depths of embedment shall be as indicated by the manufacturer for the specific use.
- F. Hollow Wall Anchor Bolts: Anchor bolts for attachment of structural steel support brackets in hollow masonry walls shall be sleeve anchor type as manufactured by Hilti or approved equal. Anchor bolts shall be 3/8" stainless steel and shall be installed according to the manufacturer's recommendations. Minimum depths of embedment shall be 1½".
- G. Corrosion Protection: Provide materials that comply with standards indicated for metal pipe supports. All new fabricated metal supports shall be painted for corrosion protection with industrial grade epoxy paint as follows:
 - 1. Paint Primer Materials:
 - a. Suitable for wet, chemical exposure, interior use.
 - b. DFT as recommended by manufacturer.
 - c. Meet zinc-rich primer requirements of AWWA D102-03 Standard for Inside System No. 5 and Outside System No. 4 & 6.

- d. Meets the requirements of ASTM D 520 Type III and contains less than .002% lead.
 - e. 63% +/- 2.0% solids (mixed)
 - f. Dry Film Thickness: 2.5 to 3.5 mils.
 - g. Unthinned Volatile Organic Compounds: 2.65 lb/gal
 - h. Dry Temperature Resistance: 250° F.
- 2. Primer for metals:
 - a. Aromatic Urethane, Zinc-Rich
 - b. ANSI/NSF 61 certified
 - c. AWWA D102 Paint System: ICS-3
- 3. Finish Coat for metals:
 - a. Polyamidoamine Epoxy.
 - b. ANSI/NSF 61 certified
 - c. AWWA D 102 Inside Systems No. 1 and No. 2.
 - d. 67 +/- 2.0% solids (mixed)
 - e. Dry Film Thickness: 4.0 to 6.0 mils
 - f. Unthinned Volatile Organic Compounds: 2.37 lb/gal.
 - g. Two Component
 - h. Dry Temperature Resistance: 250° F.
- 4. Primer for metals:
 - a. Sherwin Williams Corothane I Galvapak Two Pack Zinc Primer Gray
 - b. Sherwin Williams Zinc clad zinc dust Part F
- 5. Paint for Metals:
 - a. Sherwin Williams Macropoxy 646 Fast Cure Epoxy Part A Mill White.
 - b. Sherwin Williams Macropoxy 646 Fast Cure Epoxy Part B Hardener.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Connections to the Bethel Heights Water Treatment Plant shall be coordinated with the Owner's Representative and the Owning Utility before any shutdown of existing water facilities. Maximum allowable shutdown time shall be four hours. All shutdowns shall be approved and coordinated with the City of Bethel. Public notice (if required) shall be given a minimum of 24 hours before shutting down.
- B. Pipe ends shall be clean and free from indentations, projections and roll marks in the area from pipe end to groove for proper gasket sealing.
- C. The gasket style and elastomeric material (grade) shall be verified as suitable for the intended service as specified.
- D. Install the Victaulic AGS piping system in accordance with the latest Victaulic installation instructions.

- E. AGS products shall not be installed with standard grooved end pipe or components. (Installing AGS products in combination with standard grooved end products could result in joint separation and/or leakage.)
- F. Use Victaulic grooving tools with AGS roll sets to groove the pipe. Follow Victaulic guidelines for tool selection and operation.
- G. Couplings installation shall be complete when visual metal-to-metal contact is reached.
- H. See the latest copy of Victaulic's Field Assembly and Installation Instruction Pocket Handbook (I-100).

3.02 TRAINING

- A. A Victaulic factory trained representative (direct employee) shall provide on-site training for contractor's field personnel in the use of grooving tools, application of groove, and product installation unless Contractor can demonstrate prior training for all piping installers within 24 months from construction start.

3.03 APPLICATION

- A. A Victaulic representative shall visit the job site and review installation at the completion of at least 90% of the pipe fittings. Contractor shall remove and replace any improperly installed products.
- B. Victaulic grooved mechanical pipe couplings, fittings, valves and other grooved components may be used as an option to welding, threading or flanged methods.
- C. All grooved components shall conform to local code approval and/or as listed by ANSI-B-31.1, B-31.3, B-31.9, ASME, UL/ULC, FM, IAPMO or BOCA.
- D. Grooved end product manufacturer to be ISO-9001 certified.

END OF SECTION 33 10 01

SECTION 33 10 02
PUMPS AND MOTORS

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. This section covers pumps and motors used inside the treatment plant building in potable water and glycol service. To match existing equipment and provide the Owner ease and flexibility of operations and maintenance, specific brand items have been specified throughout this section; however, equivalent items will be considered with Engineer's approval.
1. Vertical in-line multi-stage centrifugal pumps
 2. Vertical in-line single stage centrifugal pumps
 3. Motors (associated with pumps)
 4. Drives (associated with motors)

1.02 REFERENCE STANDARDS

- A. The work in this section is subject to the requirements of applicable portions of the following standards:
1. Hydraulic Institute
 2. ANSI – American National Standards Institute
 3. ASTM – American Society for Testing and Materials
 4. IEEE - Institute of Electrical and Electronics Engineers
 5. NEMA – National Electrical Manufacturers Association
 6. NEC – National Electrical Code
 7. ISO – International Standards Organization
 8. AWWA – American Water Works Association

1.03 TESTING

- A. The pump manufacturer shall perform non-witnessed testing (in accordance with ISO9906 annex A) of pumps prior to shipment.
- B. The pump manufacturer shall be capable of providing certified testing of pumps prior to shipment.

1.04 WARRANTY

- A. The warranty period shall be a non-prorated period of 24 months from date of installation, not to exceed 30 months from date of manufacturer.

PART 2 - PRODUCTS

2.01 VERTICAL IN-LINE MULTI-STAGE CENTRIFUGAL PUMPS

- A. Pumps used in potable water service shall have NSF-61 approved wetted parts.
- B. The head-capacity curve shall have a steady rise in head from maximum to minimum flow

within the preferred operating region. The shut-off head shall be a minimum of 20% higher than the head at the best efficiency point.

- C. All pump bearings shall be lubricated by the pumped liquid.
- D. Vertical In-Line Pumps shall have the following features:
 1. Each pump shall be designed for in-line installation requiring no more than 1.5 square feet of floor space (including motor). Multiple pump installations shall be skid mounted with a common suction header, common discharge header, inlet and outlet block valves, and outlet check valve. The skid shall include: Suction pressure indication and low suction pressure alarm with interlock to stop motor operation. Suction header water level indicator or switch to ensure flooded suction prior to pump motor start.
 2. VFD motor controls integral to the motor and suitable for installation in a wet environment. VFD shall include Ethernet communication protocols and connection point(s) – see electrical drawings for details.
 3. The pump impellers shall be secured directly to the pump shaft by means of a splined shaft arrangement.
 4. The suction/discharge base shall have ANSI Class 250 flange or internal pipe thread (NPT) connections as indicated in the drawings or pump schedule.
 5. Pump Construction.

Component	Material
Suction/Discharge Base, Pump Head, Motor Stool	Cast iron (Class 30)
Impellers, Diffuser Chambers, Outer Sleeve	304 Stainless Steel
Shaft	316 or 431 Stainless Steel
Impeller Wear Rings	304 Stainless Steel
Shaft Journals and Chamber Bearings	Silicon Carbide
O-rings	EPDM
Shaft couplings for motor flange sizes 184TC and smaller shall be made of cast iron or sintered steel. Shaft couplings for motor flange sizes larger than 184TC shall be made of ductile iron (ASTM 60-40-18).	
Optional materials for the suction/discharge base and pump head shall be cast 316 stainless steel (ASTM CF-8M) resulting in all wetted parts of stainless steel.	

- 6. The shaft seal shall be a balanced o-ring cartridge type with the following features:

Component	Material
Collar, Drivers, Spring	316 Stainless Steel
Shaft Sleeve, Gland Plate	316 Stainless Steel
Stationary Ring	Silicon Carbide
Rotating Ring	Silicon Carbide
O-rings	EPDM
The Silicon Carbide shall be imbedded with graphite.	

- 7. Shaft seal replacement shall be possible without removal of any pump components

- other than the coupling guard, shaft coupling, and motor. Pumps with motors equal to or larger than 15 hp shall have adequate space within the motor stool so that shaft seal replacement is possible without motor removal.
8. All parts in contact with the pumped fluid shall be compatible with potable water containing 0.5 to 2.0 ppm sodium hypochlorite and be ANSI / NSF 61 compliant.
 9. Grundfos CRE series or TPE3 series pumps are pre-approved to match existing equipment. Alternates can be used with Engineer approval. See equipment list for specific pre-approved models.

2.02 MOTORS

- A. Motors are to be provided with the following basic features subject to the electrical specification section of this manual. Where discrepancies or conflicts arise, the electrical specifications shall govern.
- B. Motors shall be designed for continuous duty operation, TEFC, NEMA T frame with a 1.15 S.F. Motors shall be designed with the understanding that the motor will be installed indoors in a wet environment typical of a water treatment plant.
- C. Totally Enclosed Fan Cooled Motors are to be furnished with class “F” insulation.
- D. Motor nameplate shall be mounted on enclosure with stainless steel fastening pins. Nameplate shall have, as a minimum, all information as described in NEMA Standard MG 1-20.40.1.
- E. Motors over 50 lbs shall having lifting provisions.
- F. Motors shall have a NEMA C-Flange for vertical mounting.
- G. Drive end bearings shall be adequately sized so that the minimum L10 bearing life is 17,500 hours at the minimum allowable continuous flow rate for the pump.
- H. Baldor Super-ET[™] Premium Efficiency VFD rated motors are pre-approved, and equals will be considered with Engineering approval.
- I. Motors shall have integral variable speed drives.

2.03 CONTROLS

- A. The pump skid shall include a control system capable of providing full speed control from an external 4-20mA signal for each pump and motor combination. Pumps in skid packages shall rotate operations to provide a balanced run time for each motor and pump.
- B. Pressure or flow set-points shall be field adjustable with a target set point for normal operations provided in the field during start-up.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. All pumps and associated motors shall be installed per manufacturers’ instructions. All inlet / outlet piping shall be independently supported to eliminate loads on the pump flanges.

- B. Pump alignment shall be verified after installation, leveling, and grouting of the pump base. A minimum 4" housekeeping pad shall be installed under all pumps.

3.02 TRAINING

- A. A factory trained representative shall provide on-site training for Owner's personnel in the use and maintenance of all pumps and starters (including integral VFD's). Contractor shall allow for two full days of training at the Owners location after equipment is installed and tested.

END OF SECTION 33 10 02

SECTION 33 10 03**INSTRUMENTS AND SPECIALTY PIPING ITEMS****PART 1 - GENERAL****1.01 REFERENCES**

- A. The following specifications are referenced in this document and shall be considered integral to this specification:
 - 1. NSF/ANSI-61 Drinking Water System Components-Health Effects.
- B. All items in this specification shall also comply with the specifications for the pipe in which they are installed.

1.02 SUBMITTALS

- A. Product Data: For each type of unit indicated. Submittals shall be in accordance with the General Conditions.
- B. All submittals shall include the instrument tag number on relevant pages for proper identification of which submittal pages relate to which instruments.

1.03 WARRANTY

- A. Provide copies of manufacturer's standard limited warranty for units placed in service.

1.04 MANUALS

- A. Provide Owner's Representative with a copy of all manuals for each unit placed in service.
- B. All manuals, installation guides, or other reference documents included with the item when shipped MUST be collected and supplied to Owner's Representative.

1.05 ELECTRICAL REQUIREMENTS

- A. Conform to National Electric Code, State, Local, and NEMA Electrical Standards.
- B. Provide properly sized conduit for all wiring in accordance with the National Electric Code and electrical specifications included with this design manual. Provide outlets, junctions, and pull boxes suitable for wet locations. Refer to electrical specification sections for additional details.

1.06 FIELD TESTS

- A. Tests shall be conducted by a factory trained, qualified representative unless other arrangements have been made and pre-approved by the Engineer. All system components shall be checked to verify they have been installed properly and that all terminations have been made correctly and all deficiencies and irregularities shall be corrected.
- B. Witnessed Field tests shall be performed on each individual instrument and the complete system. All instruments shall either be field calibrated by a qualified representative or shall include a factory calibration certificate.

- C. Each function shall be demonstrated to the satisfaction of the Owner's Representative.
- D. Each test shall be witnessed and signed off by the system supplier and the Owner's Representative upon satisfactory completion.
- E. Provide written certification from the manufacturer to the Owner's Representative that the installation is in accordance with the manufacturer's requirements and the warranty is validated.

PART 2 - PRODUCTS

2.01 MAGNETIC FLOW METERS

- A. Magnetic style flow meters shall be provided as indicated on the drawings. Pre-approved model is Rosemount 8700 series with local display and 4-20 mA output. Equals will be considered with Engineering approval.
- B. Wetted materials in contact with treated potable water shall be ANSI / NSF-61 certified with PTFE pre-approved for this application. Include manufacturer's grounding rings with all mag meters.
- C. 24-volt DC electrical power is available to power the meters and transmitters. Transmitters shall be field programmable to provide a 4-20 mA output signal optimized to the flow range.

2.02 PADDLE WHEEL FLOW METERS

- A. Paddle wheel style flow meters shall be provided as indicated on the drawings. Pre-approved model is GF/Signet 2537 series (3-2537-6C-P1) with local display. Equals will be considered with Engineering approval.
- B. Wetted materials in contact with treated potable water shall be ANSI / NSF-61 certified with PVDF pre-approved for this application. O-rings shall be EPDM or FKM. Rotor pin shall be titanium or stainless steel.
- C. Meter shall be loop powered.
- D. Meter shall be rated for 120 psi operating pressure at 120°F maximum temperature.

2.03 FLOW SWITCHES

- A. Flow switches shall be provided as indicated on the drawings. Pre-approved model is Johnson Controls F261 Series. Equals will be considered with Engineering approval.
- B. Wetted materials in contact with treated potable water shall be ANSI / NSF-61 certified.
- C. Paddle shall be stainless steel sized appropriately for the service line.
- D. Switch shall be rated for 120 psi operating pressure at 140°F maximum temperature.
- E. Switch shall open with flows less than 10 gpm in water or 60% propylene glycol / water mixtures.

2.04 FLOW INDICATORS - LOCAL

- A. Flow indicators in this section are to be used in glycol/water service where local indication of flow is required and are typically utilized in conjunction with flow balancing valves around heat exchangers or other heat tracing lines.
- B. Flow indicators shall be bronze body, 3.5" analog dial with glass cover, factory calibrated for 50/50 water/glycol, threaded connections, Viton seals, Flo-Gage series 7000 (or equal) as produced by RCM Industries, 110 Mason Circle, Concord, CA.
- C. Flow indicators shall be one size smaller than nominal pipe diameter to ensure flow range / velocity can be met.

2.05 COMBINATION VALVE/FLOW INDICATOR

- A. The combination valve/flow indicator is to be used for glycol/water or potable water flow balancing / flow regulation to achieve desired heat transfer rates in the heat exchangers.
- B. Furnish and install, per project plans, a balancing valve with integral flow indicator. Each balancing valve must be designed with a brass body, ball control stem, flow meter body, headwork, and shutoff control stem, chrome-plated; peroxide-cured EPDM seals and pre-formed shell insulation in expanded closed cell PE-X.
- C. The balancing valve must include NPT female threaded or integral press connections for 1/2", 3/4", 1", 1-1/4", 1-1/2", 2" sizes.
- D. Valve and flow indicator assembly must be rated for a minimum of 145 psi (10 bar) working pressure and 14–230 °F (-10–110 °C) working temperature range.
- E. Flow indicator shall have no more than a $\pm 10\%$ measurement accuracy.
- F. Pre-approved manufacturer: Caleffi QuickSetter™ model 132 or approved equal.

2.06 PRESSURE TRANSMITTERS

- A. Pressure transmitters shall be NSF-61 approved for potable water service.
- B. Pressure transmitters shall include chemical seals when located in glycol service. All transmitters shall be rated for 250 psig at 240 °F minimum. Pressure range shall be 0-150 psi unless lower range is acceptable for the service. Rosemount 3051T or equal.
- C. Pressure transmitters shall have local read-out with operator adjustable units, loop powered, and 4-20mA output.

2.07 PRESSURE GAUGES

- A. Local pressure gauges shall be provided as indicated on the piping drawings or piping schematics.
- B. Gauges shall be 4½" diameter dial, glycerin filled, with stainless steel case.
- C. Gauges shall be rated for 0-150 PSI.

2.08 PRESSURE SWITCHES

- A. Pressure switches shall be provided as indicated on the piping drawings or piping schematics and set as indicated in the controls narrative.
- B. Switches shall be SPDT set to open on high pressure.
- C. Set range of 50-150 psig minimum.
- D. Johnson Controls Series P70 or Engineering approved equal.

2.09 TEMPERATURE GAUGES & SWITCHES

- A. Local temperature gauges shall be provided as indicated on the piping drawings or piping schematics. Gauges shall have a temperature range of 0-150°F minimum. All gauges shall be lead free. Bluefin GTH35LF (or Engineer approved equal).
- B. All temperature gauges and/or switches shall be installed in a thermowell to allow removal of the gauge while pipe is in operation.
- C. Temperature switches shall have remote copper sensing bulb, be rated for full line voltage (120V), 8.0 amp, and have a set range of 0-100 °F, with SPDT switch. Remote sensing bulb shall be installed in a thermowell. Honeywell T675A1565 (or Engineer approved equal).

2.10 TEMPERATURE TRANSMITTERS

- A. Temperature transmitters and associated RTD sensors shall be provided as indicated on the piping drawings or piping schematics. Temperature transmitters shall be NSF-61 approved for potable water service.
- B. Temperature transmitters shall have a temperature range of 0-150°F minimum.
- C. All temperature transmitters shall be installed in a thermowell to allow removal of sensor and transmitter while pipe is in operation.
- D. Temperature transmitters shall have a local read-out with operator adjustable units, loop powered, and 4-20mA output.

PART 3 - EXECUTION**3.01 INSTALLATION**

- A. Install equipment as per manufacturer's recommendations.

3.02 TESTING AND STARTUP

- A. All elements shall be tested to demonstrate a fully functional item and system.
- B. Control system supplier shall provide all special testing materials and equipment.
- C. Coordinate and schedule all testing and start up work with the Owner's Representative.

3.03 TRAINING

- A. Provide a minimum on site 8-hour training to demonstrate operation of all control system components.
- B. Instructors shall be thoroughly trained in operating theory as well as practical operation and maintenance work for each component of the system.

END OF SECTION 33 10 03

SECTION 33 10 06
CPVC / PVC PIPE, VALVES, AND FITTINGS

PART 1 - GENERAL**1.01 SUMMARY**

- A. This section covers CPVC and PVC piping and fittings used inside the various treatment, pump, and maintenance buildings. Schedule 80 PVC piping will service potable water and schedule 80 CPVC will service 50% to 60% propylene glycol in water only. Verify compatibility of any new heat transfer fluids with existing fluids currently in use by the City prior to their use.
- B. **IMPORTANT NOTE:** Owner requests the Contractor NOT use glued fittings where possible. Contractor must use Victaulic or other similar connection styles unless no other option is available for a particular part or connection.

1.02 SECTION INCLUDES

- A. General
- B. Materials
 - 1. CPVC pipe and fittings
 - 2. PEX tube and fittings
 - 3. PEX-AL-HDPE tube and fittings
 - 4. PVC pipe and fittings
- C. Execution

1.03 REFERENCES

- A. The following specifications are referenced in this document and shall be considered integral to this specification:
 - 1. ASTM D1784
 - 2. ASTM F441
 - 3. ANSI / AWWA C653 Disinfection of Water Treatment Plants
 - 4. NSF/ANSI-61 Drinking Water System Components-Health Effects
- B. All materials in direct contact with potable water must be certified to NSF/ANSI-61.

1.04 SUBMITTALS

- A. Submittals shall indicate manufacturer, material properties, pressure rating, dimensional information, and conformance to referenced standards.

1.05 QUALITY ASSURANCE

- A. All piping shall be marked no less than once every 4 feet with manufacturer standard information to ensure proper identification of pipe size, material, and rating.

PART 2 - PRODUCTS**2.01 MATERIALS****A. PVC Pipe and Fittings**

1. PVC Pipe: ASTM D 1785, Schedule 80, IPS.
2. CPVC Pipe: ASTM F 441, Schedule 80, IPS.
3. Fittings for C/PVC Pipe: Victaulic PGS-300 (or engineering approved equal) clamp and grove style. Glued fittings are not allowed without specific approval by Owner.
4. Comply with piping specification as indicated on the piping schematics and mechanical drawings.
5. Potable water piping and components shall comply with NSF-61. Plastic piping components shall be marked with “NSF-pw”.
6. Comply with NSF Standard 372 for low lead.

B. Butterfly Valves

1. Body: Shall be one-piece lug design with extended neck to allow for 2” of piping insulation. Flange locating holes shall be provided on wafer bodies to allow for quick and precise alignment during valve installation. Flange hole drilling per international flange standard as specified. A non-corrosive bushing and a self-adjusting stem seal shall be provided. No field adjustment shall be necessary to maintain optimum field performance.
2. Disc: Disc edge and hub on metal discs shall be spherically machined and hand polished for torque and maximum sealing capability.
3. Stem: Shall be one-piece design. Disc to stem connection shall be and internal double “D” design with no possible leak paths in the disc-to-stem connection. External disc-to-stem connections such as disc screws or pins are not allowed. Stem shall be mechanically retained in the body neck and no part of the stem shall be exposed to the line media.
4. Seat: Shall be tongue-and-groove seat with a primary hub seal and a molded flange O-ring for weldneck and slip-on flanges. The seat shall totally encapsulate the body isolating it from the line media and no flange gaskets shall be required.
5. Valve shall be equipped with a lever handle unless an electric actuator is fitted.
6. Bray Series 31 or Engineer approved equal.

C. Valve Actuators

1. Valve actuators shall be from the same manufacturer as the valve with compatible bolt pattern requiring no adaptors.
2. Actuator shall be 120V AC / 1ph / 60 Hz powered with anti-condensation heater.
3. Actuator must have DeviceNet communication and control capability.
4. Body shall be rated for water spray.
5. Actuator shall include visual position indication, manual clutch, and manual handwheel operator.
6. Bray Series 70 with DeviceNet module or Engineer approved equal.

D. Ball Valves

1. Ball valves 4” smaller shall be PVC/CPVC body with PVC/CPVC or bronze ball and stainless-steel shaft. Hand operators shall be provided.
2. All valves shall be NSF-61 certified for potable water use.

3. Valve body shall be PVC from virgin materials, schedule 80, with grooved ends or plain ends for field grooving.
 4. Bronze valves may be substituted for PVC with appropriate couplings installed (Victaulic Style 356 or Engineering approved equal).
- E. Check Valves
1. All thermoplastic Check Valves shall be Butterfly design constructed from PVC Type I, ASTM D 1784 Cell Classification 12454 or CPVC Type IV, ASTM D 1784 Cell classification 23447. Valves shall be Grooved end.
 2. All valve seals shall be reinforced EPDM or FKM with replaceable internal components. All 2" - 8" valves shall be pressure rated at 150 psi for water at 73°F.
 3. Valves shall be NSF-61 certified for potable water use.
 4. Bronze check valves may be substituted for PVC with appropriate couplings installed (Victaulic Style 356 or Engineering approved equal).
 5. Spears, Asahi, or Engineering approved equal.
- F. Fittings
1. Fittings shall be grooved end schedule 80 gray PVC/CPVC from virgin materials.
 2. All fittings shall be NSF-61 certified for potable water use.
 3. Field-grooved fittings are acceptable as long as the installer has been trained and certified in the proper procedures for field grooving of PVC pipe.
 4. No glued fittings will be permitted.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Connections to the Bethel Heights Water Treatment Plant shall be coordinated with the Owner's Representative and the Owning Utility before any shutdown of existing water facilities. Maximum allowable shutdown time shall be four hours. All shutdowns shall be approved and coordinated with the City of Bethel. Public notice (if required) shall be given a minimum of 24 hours before shutting down.
- B. Installation shall conform to all manufacturers' instructions and the Plastic Pipe Institute Handbook of Polyethylene Pipe, latest edition.
- C. All piping must be adequately supported at to eliminate stress at flanges, instrument connections, and equipment connections. Not all required pipe supports will be shown on the drawings, reference specification 22 05 29 for additional information.
- D. The installation will be complex, and the Contractor is instructed to review the plans carefully and plan out the work in advance to ensure all required materials and tools are available at the time of construction.
- E. Installer shall be trained and certified by the manufacturer for grooving of CPVC and PVC pipe.
- F. No glued fittings will be allowed for any PVC or CPVC piping unless no other option is available and these must be approved by the Engineer prior to installation.

END OF SECTION 33 10 06

SECTION 33 10 07
COPPER PIPE AND TUBING

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Copper pipe and fittings.
2. Copper tube and fittings.
3. Accessories.

B. Related Requirements:

1. Section 33 13 00 - Disinfecting of Water Utility Distribution: Disinfection requirements for potable water systems.
2. Section 22 05 29 – Pipe Hangers and Supports.

1.02 REFERENCE STANDARDS

A. American Welding Society: AWS A5.8/A5.8M - Specification for Filler Metals for Brazing and Braze Welding.

B. ASME International:

1. ASME B1.1 - Unified Inch Screw Threads, UN and UNR Thread Form.
2. ASME B1.20.1 - Pipe Threads, General Purpose, Inch.
3. ASME B16.5 - Pipe Flanges and Flanged Fittings: NPS 1/2 through NPS 24 Metric/Inch Standard.
4. ASME B16.15 - Cast Copper Alloy Threaded Fittings: Classes 125 and 250.
5. ASME B16.18 - Cast Copper Alloy Solder Joint Pressure Fittings.
6. ASME B16.20 - Metallic Gaskets for Pipe Flanges: Ring-Joint, Spiral-Wound, and Jacketed.
7. ASME B16.21 - Nonmetallic Flat Gaskets for Pipe Flanges.
8. ASME B16.22 - Wrought Copper and Copper Alloy Solder Joint Pressure Fittings.
9. ASME B16.23 - Cast Copper Alloy Solder Joint Drainage Fittings: DWV.
10. ASME B16.24 - Cast Copper Alloy Pipe Flanges and Flanged Fittings: Classes 150, 300, 600, 900, 1500, and 2500.
11. ASME B16.26 - Cast Copper Alloy Fittings for Flared Copper Tubes.
12. ASME B16.29 - Wrought Copper and Wrought Copper Alloy Solder Joint Drainage Fittings - DWV.
13. ASME B31.1 - Power Piping.

C. ASTM International:

1. ASTM B88 - Standard Specification for Seamless Copper Water Tube.
2. ASTM B32 - Standard Specification for Solder Metal.
3. ASTM B42 - Standard Specification for Seamless Copper Pipe, Standard Sizes.
4. ASTM B61 - Standard Specification for Steam or Valve Bronze Castings.
5. ASTM B62 - Standard Specification for Composition Bronze or Ounce Metal Castings.

6. ASTM B75/B75M - Standard Specification for Seamless Copper Tube.
 7. ASTM B98/B98M - Standard Specification for Copper-Silicon Alloy Rod, Bar and Shapes.
 8. ASTM B124/B124M - Standard Specification for Copper and Copper Alloy Forging Rod, Bar, and Shapes.
 9. ASTM B150/B150M - Standard Specification for Aluminum Bronze Rod, Bar, and Shapes.
 10. ASTM B251 - Standard Specification for General Requirements for Wrought Seamless Copper and Copper-Alloy Tube.
 11. ASTM B302 - Standard Specification for Threadless Copper Pipe, Standard Sizes.
 12. ASTM B306 - Standard Specification for Copper Drainage Tube (DWV).
- D. Manufacturers Standardization Society: MSS SP-58 - Pipe Hangers and Supports - Materials, Design, Manufacture, Selection, Application, and Installation.
- E. NSF International:
1. NSF 61 - Drinking Water System Components - Health Effects.
 2. NSF 372 - Drinking Water System Components - Lead Content.

1.03 SUBMITTALS

- A. Section 013300 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit manufacturer information regarding pipe, tube, and fittings.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Field Quality-Control Submittals: Indicate results of Contractor-furnished tests and inspections (pressure testing and bacteriological testing results).
- E. Qualifications Statements: Submit qualifications for manufacturer, installer, and licensed professional.

1.04 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of piping, valves and other appurtenances, connections, and invert elevations. All valves shall be located with survey accuracy. All pipe shall be located with survey accuracy with on data point per each pipe segment at a minimum.
- B. Identify and describe unexpected variations to subsoil conditions or discovery of uncharted utilities.

1.05 QUALITY ASSURANCE

- A. Permanently mark each length of pipe with manufacturer's name or trademark and indicate conformance to standards.
- B. Materials in Contact with Potable Water: Certified according to NSF 61 and NSF 372.
- C. Perform Work according to Alaska Department of Environmental Conservation and City of Bethel standards.

1.06 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years of documented experience providing same in potable water applications.
- B. Installer: Company specializing in performing Work of this Section with minimum five years of documented experience installing potable water systems in the State of Alaska.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Store materials according to manufacturer instructions.
- C. Protection:
 - 1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
 - 2. Protect piping and appurtenances by storing off ground.
 - 3. Provide additional protection according to manufacturer instructions.
 - 4. Maintain inside piping cleanliness by keeping ends sealed with plastic caps or other suitable method until installation is completed.

1.08 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to fabrication.
 - 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS**2.01 COPPER PIPE, TUBE, AND FITTINGS**

- A. All products used in potable water service must be NSF-61 certified, certified “lead free”, and meet ANSI/AWWA C-800 latest edition. This requirement supersedes any other standard referenced in this (or other) specification section.
- B. Pipe:
 - 1. Material: Seamless copper.
 - 2. Comply with ASTM B88.
 - 3. Temper: Annealed.
 - 4. Type: K or L.
- C. Tube:
 - 1. Material: Seamless copper alloy.
 - 2. Comply with ASTM B88.
 - 3. Type: K or L.
 - 4. Temper: Drawn or Soft Annealed.
- D. Fittings:
 - 1. Material: Copper alloy.
 - 2. Temper: Comply with ASTM B62.
 - 3. Solder-Joint Fittings: Comply with ASME B16.18.
 - 4. Flared Fittings: Comply with ASME B16.26.
 - 5. Threaded Fittings:
 - a. Material: Cast bronze.
 - b. Comply with ASME B16.15.
 - c. Threads: Comply with ASME B1.20.1.

6. Flanges and Flanged Fittings:
 - a. Comply with ASME B16.24.
 - b. Class 150.
 - c. Gaskets:
 - 1) Material: Neoprene.
 - 2) Comply with ASME B16.5 and ASME B16.21.
 - 3) Thickness: 1/16 inch.
7. Seals:
 - a. Material: EPDM.
 - b. Factory installed.
8. Tubing Compression Fittings:
 - a. Material: Forged brass alloy.
 - b. Comply with ASTM B124.
 - c. Threads: Comply with ASME B1.1.
 - d. Press Fittings:
 - 1) Material: Copper.
 - 2) Comply with ASME B16.18.
9. Grooved Fittings, couplings, and gaskets:
 - a. Material for fittings: Cast brass alloy, NSF-61 certified.
 - b. Rolled groove or cast fittings.
 - c. Victaulic Style 607 or Engineer approved equal couplings with NSF-61 certified Grade P Fluoroelastomer gaskets and 316SS bolts/nuts.
- E. Pipe Joints:
 1. Type:
 - a. Threaded, flanged, or grooved.
 - b. Connections to Equipment: Flanged.

F. Tube Joints: Type: Soldered, flared, press compression, or compression.

2.02 ACCESSORIES

- A. Bolting: Comply with ASTM B98.
- B. Solder:
 1. Comply with ASTM B32 and AWS A5.8.
- C. Piping Supports:
 1. Material: Padded/isolated steel or galvanized steel.
 2. To prevent possibility of galvanic corrosion, direct contact with steel and/or galvanized steel hangers is not allowed. Provide rubber (or equal) insulating material between hangers or supports and copper piping.

3. Comply with section 22 05 29 – Pipe Hangers and Supports.

2.03 SOURCE QUALITY CONTROL

- A. Provide shop inspection and testing of off-site completed assemblies.
- B. Provide certificates for materials in contact with potable water to verify compliance with NSF-61.
- C. Certificate of Compliance:
 1. If manufacturer is approved by authorities having jurisdiction, submit certificate of compliance indicating Work performed at manufacturer's facility conforms to Contract Documents.
 2. Specified shop tests are not required for Work performed by approved manufacturer.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Inspect existing flanges for nonstandard bolt hole configurations or design and verify that new pipe and flange mate properly.

3.02 PREPARATION

- A. Thoroughly clean pipe and fittings before installation.
- B. Ensure compliance with sections 33 12 13 and 33 13 00.

3.03 INSTALLATION

- A. Comply with ASME B31.1.
- B. Run piping straight along alignment as indicated on Drawings, with minimum number of joints.
- C. Fittings:
 1. Clean gasket seats thoroughly, and wipe gaskets clean prior to installation.
 2. Install fittings according to manufacturer instructions.
 3. Bolts:
 - a. Tighten bolts progressively, drawing up bolts on opposite sides until bolts are uniformly tight.
 - b. Use torque wrench to tighten bolts to manufacturer instructions.
- D. Provide required upstream and downstream clearances from devices as indicated on Drawings.
- E. Install piping with sufficient slopes for venting air or draining liquids to low points. Even if not indicated on the plans, provide high point vents and low point drains.
- F. Support exposed piping as specified in Section 220529 - Hangers and Supports for Process Piping.
- G. Disinfection: Disinfect potable water piping as specified in Section 331300 - Disinfecting of Water Piping.
- H. Dielectric Fittings: Provide between dissimilar metals.
- I. Field Cuts: According to pipe manufacturer instructions.

3.04 FIELD QUALITY CONTROL

- A. Inspection:

1. Inspect for damage to pipe lining or coating and for other defects that may be detrimental as determined by Architect/Engineer.
2. Repair damaged piping or provide new, undamaged pipe.
3. After installation, inspect for proper supports and interferences.

B. Pressure Testing:

1. Test Pressure: Not less than 150 psig or 50 psi in excess of maximum static pressure, whichever is greater.
2. Conduct hydrostatic test for minimum two hours.
3. Filling:
 - a. Fill section to be tested with water slowly and expel air from piping at high points.
 - b. Install corporation cocks at high points.
 - c. Close air vents and corporation cocks after air is expelled.
 - d. Raise pressure to specified test pressure.
4. Observe joints, fittings, and valves under test.
5. Remove and renew cracked pipe, joints, fittings, and valves showing visible leakage and retest.
6. Leakage:
 - a. Correct visible deficiencies and continue testing at same test pressure for additional two hours to determine leakage rate.
 - b. Maintain pressure within plus or minus 5 psi of test pressure.
 - c. Leakage is defined as quantity of water supplied to piping necessary to maintain test pressure during period of test.
 - d. Compute maximum allowable leakage by following formula:
 - 1) $L = SD \times \sqrt{P}/C$.
 - 2) L = testing allowance in gph.
 - 3) S = length of pipe tested in feet.
 - 4) D = nominal diameter of pipe in inches.
 - 5) P = average test pressure during hydrostatic test in psig.
 - 6) C = 148,000.
 - 7) If pipe under test contains sections of various diameters, calculate allowable leakage from sum of computed leakage for each size.
 - e. If test of pipe indicates leakage greater than allowed, locate source of leakage, make corrections, and retest until leakage is within allowable limits.
 - f. Correct visible leaks regardless of quantity of leakage.

3.05 CLEANING

- A. Keep pipe interior clean as installation progresses.
- B. After installation, clean pipe interior of soil, grit, and other debris. Use potable water for flushing water lines. Comply with AWWA standards for potable water piping and service lines.

END OF SECTION 33 10 07

SECTION 33 13 00**DISINFECTING OF WATER PIPING****PART 1 - GENERAL****1.01 SUMMARY**

- A. Section includes disinfection of potable water distribution system, and sampling and reporting results.

1.02 REFERENCES

- A. American Water Works Association:
 - 1. AWWA B300 - Hypochlorites.
 - 2. AWWA B303 - Sodium Chlorite.
 - 3. AWWA C651 - Disinfecting Water Mains.

1.03 SUBMITTALS

- A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.
- B. Product Data: Submit procedures, proposed chemicals, and treatment levels for review.
- C. Sample Reports: Indicate results comparative to specified requirements. A disinfection plan and discharge of the disinfectant concentrated water must be submitted for review. The Engineer will receive and approve 48 hours before disinfection commences.

1.04 CLOSEOUT SUBMITTALS

- A. Disinfection Report:
 - 1. Name of the person administering the disinfectant
 - 2. Type and form of disinfectant used.
 - 3. Date and time of disinfectant injection start and time of completion.
 - 4. Sample locations.
 - 5. Name of person collecting samples.
 - 6. Initial and 24-hour disinfectant concentration and residuals in treated water in ppm for each outlet sampled.
 - 7. Date and time of flushing start and completion.
 - 8. Disinfectant residual after flushing in ppm for each outlet sampled.
 - 9. Information of the State Approved Laboratory certified to conduct the test of the samples
 - 10. Copies of the analytical reports from the laboratory
- B. Bacteriological Report:
 - 1. Date issued, project name, and testing laboratory name, address, and telephone number.
 - 2. Time and date of water sample collection.

3. Name of person collecting samples.
 4. Sample locations.
 5. Initial and 24-hour disinfectant concentration and residuals in ppm for each outlet sampled.
 6. Coliform bacteria test results for each outlet sampled.
 7. Certify water conforms, or fails to conform, to bacterial standards for potable water.
- C. Water Quality Certificate: Certify water conforms to quality standards of State of Alaska, suitable for human consumption.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with AWWA C651.

1.06 QUALIFICATIONS

- A. Sampling Firm: Company certified by State of Alaska in testing potable water systems.
- B. Submit bacteriologist's signature and authority associated with testing of the samples.

PART 2 - PRODUCTS

2.01 DISINFECTION CHEMICALS

- A. Chemicals: AWWA B300, Hypochlorite, AWWA B301, and AWWAB303, Sodium Chlorite.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of existing conditions before starting work.
- B. Verify piping system has been cleaned, inspected, and pressure tested.
- C. Perform scheduling and disinfecting activity with start-up, water pressure testing, adjusting, and balancing, demonstration procedures, including coordination with related systems.

3.02 INSTALLATION

- A. Provide and attach required equipment to perform the Work of this section.
- B. Perform disinfection of water distribution system and installation of system and pressure testing. Samples will be taken during the disinfection test as indicated by the Sampling Plan and as referenced in AWWA C651.
- C. Inject treatment disinfectant into piping system.
- D. Maintain disinfectant in system for 24 hours. Maximum free residual concentration shall be 20mg/L.
- E. Flush, circulate, and clean until required cleanliness is achieved; use City domestic water.
- F. Replace permanent system devices removed for disinfection.

3.03 FIELD QUALITY CONTROL**A. Disinfection, Flushing, and Sampling:**

1. Disinfect pipeline installation in accordance with AWWA C651. Use of liquid chlorine is not permitted.
2. Upon completion of retention period required for disinfection, flush pipeline until chlorine concentration in water leaving pipeline is no higher than that generally prevailing in existing system or is acceptable for domestic use.
3. Legally dispose of chlorinated water. Dam and contain any accidental discharge of heavily chlorinated liquids. Prior to discharge of chlorinated water to surface water, wetlands or sewers, apply neutralizing chemical to chlorinated water to neutralize chlorine residual remaining in water.
4. After final flushing and before pipeline is connected to existing system, or placed in service, employ an approved independent testing laboratory to test and certify water quality suitable for human consumption.
5. Do not place water piping in service until water testing certifies that water quality is suitable for human consumption.
6. If testing indicates water is not suitable, Contractor shall re-disinfect the system and retest until suitable results are obtained at the Contractor expense.

END OF SECTION 33 13 00

SECTION 40 90 00**PROCESS CONTROL AND INSTRUMENTATION SYSTEMS****PART 1 - GENERAL****1.01 THE REQUIREMENT**

- A. The CONTRACTOR shall provide all Process Control and Instrumentation Systems (PCIS) complete and operable, in accordance with the Contract Documents.
- B. The requirements of this Section apply to all components of the PCIS, unless indicated otherwise.
- C. Responsibilities
 - 1. The CONTRACTOR shall provide a SYSTEM INTEGRATOR for the implementation of the PCIS and the integration of the PCIS with other required instrumentation and control devices.
 - 2. Due to the complexities associated with the interfacing of numerous control system devices, the SYSTEM INTEGRATOR shall be responsible for the integration of the CONTRACTOR provided PCIS and other devices provided under other sections, with the objective of providing a completely integrated control system free of signal incompatibilities.
 - 3. As a minimum, the SYSTEM INTEGRATOR shall perform the following WORK:
 - a. Provide the hardware modifications to the existing Pump Control Panel (PCP).
 - b. Provide the software programming changes to the PCP.
 - c. Modify the Devicenet configuration to incorporate the new motor operate valves.
 - d. Upgrade the PCP network switch and configure new network connections to the Loop C water circulation pump VFDs.
 - e. Provide connectivity via radio to the community-wide SCADA system and interface with the Master Station PC in the City Subdivision WTP. Provide screen upgrade to the Master PC showing local pressure system data and alarms.
 - f. Provide start-up, testing and commissioning of the PCIS including:
 - i. Oversee, document, and certify loop testing of the new PCP connected equipment.
 - ii. Confirm proper communications between the PCP, the new Operator Interface Terminal (OIT), Loop C circulation pump VFD's and the SCADA system.
 - iii. Perform subsystem testing including the water circulation loop, high demand pump and SCADA interface.
 - iv. Provide OWNER training.
 - 4. As a minimum, the CONTRACTOR shall perform the following WORK:
 - a. Provide all instrumentation, motor operated valves, VFD operated pumps, switches and other equipment as required by the contract documents.
 - b. Provide all conduit, wiring, connectors and terminations required to interconnect the PCP and all field devices including instrumentation, motor operated valves, VFD's, switches and other equipment.

- c. Provide all conduit, wiring, connectors and terminations required to interconnect the PCP with the SCADA interface.
- d. Calibrate and configure all instrumentation and field devices.
- e. Complete field device terminations, loop testing, system start-up, testing and commissioning.

1.02 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Section 01 33 00 – Contractor Submittal Procedures and the following:
 - 1. The CONTRACTOR shall coordinate the instrumentation work so that the complete instrumentation and control system will be provided and will be supported by accurate Shop Drawings and record drawings.
 - 2. Exchange of Technical Information: During the period of preparation of these submittals, the CONTRACTOR shall authorize a direct, informal liaison with the ENGINEER for exchange of technical information. As a result of this liaison, certain minor refinements and revisions in the systems as indicated may be authorized informally by the ENGINEER but will not alter the scope of work or cause increase or decrease in the Contract Price. During this informal exchange, no oral statement by the ENGINEER shall be construed to give approval of any component or method, nor shall any statement be construed to grant exception to or variation from these Contract Documents.
 - 3. Symbolology and Nomenclature: In these Contract Documents, all systems, all meters, all instruments, and all other elements are represented schematically, and are designated by symbolology as derived from Instrument Society of America Standard ANSI/ISA S5.1 – Instrumentation Symbols and Identification. The nomenclature and numbers designated herein and on the Drawings shall be employed exclusively throughout Shop Drawings, and similar materials. No other symbols, designations, or nomenclature unique to the manufacturer's standard methods shall replace those prescribed above, used herein, or on the Drawings.
- B. Shop Drawings
 - 1. General
 - a. Shop Drawings shall include the letterhead or title block of the CONTRACTOR. The title block shall include, as a minimum, the CONTRACTOR's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing. The quantity of submittal sets shall be as indicated in Section 01 33 00 – Contractor Submittal Procedures.
 - b. Organization of the Shop Drawing submittals shall be compatible with eventual submittals for later inclusion in the Technical Manual.
 - c. Shop Drawing information shall be bound in standard size, three-ring, loose-leaf, vinyl plastic, hard cover binders suitable for bookshelf storage. One set of drawings for each facility is to be hung inside the control panel. The drawings are to be enclosed in PVC pockets suitable for hanging from a 3-ring binder, two drawings per pocket. The ring binder is to be attached to the inside of the front panel door.

- d. Interfaces between instruments, motor starters, control valves, variable speed drives, flow meters, chemical feeders and other equipment related to the PCIS shall be included in the Shop Drawing submittal.
- 2. Hardware Submittal: The CONTRACTOR shall submit a hardware submittal as a complete bound package at one time within 60 calendar days after the commencement date stated in the Notice to Proceed, including:
 - a. A complete index which lists each device by tag number, type, and manufacturer. A separate technical brochure or bulletin shall be included with each instrument data sheet (original documents only – photocopies are not acceptable and will be rejected). The data sheets shall be indexed in the submittal by systems or loops, as a separate group for each system or loop. If, within a single system or loop, a single instrument is employed more than once, one data sheet with one brochure or bulletin may cover all identical uses of that instrument in that system. Each brochure or bulletin shall include a list of tag numbers for which it applies. System groups shall be separated by labeled tags.
 - b. Fully executed data sheets according to ISA-S20 – Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, for each component, together with a technical product brochure or bulletin. The technical product brochures shall be complete enough to verify conformance to all Contract Document requirements. The data sheets, as a minimum, shall show:
 - i. Component functional description used in the Contract Documents
 - ii. Manufacturer's model number or other product designation
 - iii. Project tag number used in the Contract Documents
 - iv. Project system or loop of which the component is a part
 - v. Project location or assembly at which the component is to be installed
 - vi. Input and output characteristics
 - vii. Scale, range, units, and multiplier (if any)
 - viii. Requirements for electric supply (if any)
 - ix. Requirements for air supply (if any)
 - x. Materials of component parts to be in contact with or otherwise exposed to process media and corrosive ambient air
 - xi. Special requirements or features
 - c. Priced list of all spare parts for all devices.
 - d. Instrument installation, mounting, and anchoring details shall be submitted in an electronic hard copy format. Each instrument shall have a dedicated 8-1/2-inch by 11-inch detail which only pertains to the specific instrument by tag number. Each detail shall be certified by the instrument manufacturer that the proposed installation is in accordance with the instrument manufacturer's recommendations and is fully warrantable. These certifications shall be embedded in the CAD files and also appear as a stamp on the hard copies. As a minimum, each detail shall have the following contents:

- i. Show all necessary sections and elevation views required to define instrument location by referencing tank, building or equipment names and numbers, and geographical qualities such as north, south, east, west, basement, first floor.
- ii. Process line pipe or tank size, service and material.
- iii. Process tap elevation and location.
- iv. Upstream and downstream straight pipe lengths between instrument installation and pipe fittings and valves.
- v. Routing of tubing and identification of supports.
- vi. Mounting brackets, stands, and anchoring devices.
- vii. Conduit entry size, number, location, and delineation between power and signal.
- viii. NEMA ratings of enclosures and all components.
- ix. Clearances required for instrument servicing.
- x. List itemizing all manufacturer makes, model numbers, quantities, lengths required, and materials of each item required to support the implementation of the detail.

C. Technical Manual

1. General: Information in the Technical Manual shall be based upon the approved Shop Drawing submittals as modified for conditions encountered in the field during the WORK.
2. The Technical Manual shall have the following organization for each process:
 - a. Section A – Edited As Built Drawings
 - b. Section B – Instrument Summary
 - c. Section C – Instrument Data Sheets
 - d. Section D – Instrument Installation Details
 - e. Section E – Test Results
3. Signed results from Loop Testing and the Final Acceptance Testing (FAT) report.
4. Initially, two sets of draft Technical Manuals shall be submitted for review after return of favorably reviewed Shop Drawings and data required herein. Following the ENGINEER's review, one set will be returned to the CONTRACTOR with comments. The Manuals shall be revised and amended as required and the final Manuals shall be submitted 15 days prior to start-up of systems.
5. The CONTRACTOR shall provide an Instrument Equipment Summary Form for all instruments, devices, control hardware, and miscellaneous equipment in accordance with Section 01 33 00 – Contractor Submittal Procedures and the Special Provisions. The data shall be provided in electronic format, **Microsoft Excel**, or approved equal.

D. Record Drawings

1. The CONTRACTOR in coordination with the SYSTEM INTEGRATOR shall keep current a set of complete loop and schematic diagrams which shall include all field and panel wiring, piping and tubing runs, routing, mounting details, point-to-point diagrams with cable, wire, tube and termination numbers. These drawings shall include all instruments and instrument

elements. Two sets of drawings electronically formatted in AUTOCAD on CD-ROM and two hard copies shall be submitted after completion of all commissioning tasks. All such drawings shall be submitted for review prior to acceptance of the completed work by the OWNER.

1.03 WARRANTY

- A. The warranty shall start from the date of final acceptance of the completed project and shall extend for 1 year.

PART 2 - PRODUCTS

2.01 GENERAL

- A. Code and Regulatory Compliance: PCIS WORK shall conform to or exceed the applicable requirements of the National Electrical Code and local building codes.
- B. Current Technology: Meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the Shop Drawings, unless otherwise required to match existing equipment.
- C. Hardware Commonality: Instruments which utilize a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters which monitor hydrostatic head) shall be furnished by a single manufacturer. Panel-mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single manufacturer.
- D. Loop Accuracy: The accuracy of each instrumentation system or loop shall be determined as a probable maximum error; this shall be the square-root of the sum of the squares of certified "accuracies" of the designated components in each system, expressed as a percentage of the actual span or value of the measured variable. Each individual instrument shall have a minimum accuracy of plus and minus 2 percent of full scale and a minimum repeatability of plus and minus 1 percent of full scale when installed in the field, unless otherwise indicated. Instruments that do not conform to or improve upon these criteria are not acceptable.
- E. Instrument and Loop Power: Power requirements and input/output connections for all components shall be verified. Power for transmitted signals shall, in general, originate in and be supplied by the control panel devices. The use of "2-wire" transmitters is preferred and use of "4-wire" transmitters shall be minimized. Individual loop or redundant power supplies shall be provided as required by the manufacturer's instrument load characteristics to ensure sufficient power to each loop component. Power supplies shall be mounted within control panels or in the field at the point of application.
- F. Loop Isolators and Converters: Signal isolators shall be provided as required to ensure adjacent component impedance match where feedback paths may be generated, or to maintain loop integrity during the removal of a loop component. Dropping precision wirewound resistors shall be installed at all field side terminations in the control panels to ensure loop integrity. Signal conditioners and converters shall be provided where required to resolve any signal level incompatibilities or provide required functions.
- G. Environmental Suitability: Indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided to maintain all instrumentation devices 20 percent within the minimums and maximums of their rated environmental operating ranges. The CONTRACTOR shall provide power wiring for these

devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.

- H. Signal Levels: Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 mA DC, except as indicated. Signals within enclosures may be 1-5 VDC. Electric signals shall be electrically or optically isolated from other signals. Pneumatic signals shall be 3 to 15 psig, with 3 psig equal to 0 percent, and 15 psig equal to 100 percent.
- I. Alternative Equipment and Methods: Equipment or methods requiring redesign of any project details are not acceptable without prior written approval of the ENGINEER through the "or equal" process of Section 01 25 00 – Products, Materials, Equipment and Substitutions. Any proposal for approval of alternative equipment or methods shall include evidence of improved performance, operational advantage and maintenance enhancement over the equipment or method indicated or shall include evidence that an indicated component is not available. To match existing equipment and future equipment being installed under other contracts, equipment substitutions for equipment specified as no equal will not be accepted.
- J. Instrument Brackets and Mounting Hardware: All instrument brackets and mounting hardware shall be stainless steel.

2.02 OPERATING CONDITIONS

- A. The PCIS shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
 - 1. Environment: water treatment/supply facility
 - 2. Indoor Temperature Range: 32 through 84 degrees F
 - 3. Relative Humidity: 20 through 90 percent, non-condensing

2.03 SPARE PARTS AND SPECIAL TOOLS

- A. The CONTRACTOR shall furnish a priced list of all special tools required to calibrate and maintain the instrumentation provided under the Contract Documents. After approval, the CONTRACTOR shall furnish tools on that list.
- B. Special tools and spare parts shall be submitted before startup commences, suitably wrapped and identified.

PART 3 - EXECUTION

3.01 PRODUCT HANDLING

- A. Special Instructions: Special instructions for proper field handling, storage, and installation required by the manufacturer shall be securely attached to each piece of equipment prior to packaging and shipment.
- B. Tagging: Each component shall be tagged to identify its location, instrument tag number, and function in the system. A permanent stainless-steel tag firmly attached and stamped with the instrument tag number, as given in the tabulation, shall be provided on each piece of equipment in the PCIS. Identification shall be prominently displayed on the outside of the package.
- C. Storage: Equipment shall not be stored outdoors. Equipment shall be stored in dry, permanent shelters, including in-line equipment, and shall be adequately protected against mechanical injury.

If any apparatus has been damaged, such damage shall be repaired by the CONTRACTOR. If any apparatus has been subject to possible injury by water, it shall be thoroughly dried out and put through tests as directed by the ENGINEER. If such tests reveal defects, the equipment shall be replaced.

3.02 INSTALLATION

A. General

1. Instrumentation, including instrumentation furnished under other Divisions, shall be installed under Division 40 and the manufacturers' instructions.
2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. Equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the OWNER exercises the right to require changes in location of equipment which do not impact material quantities or cause material rework, the CONTRACTOR shall make such changes without additional cost to the OWNER.

B. Conduit, Cables, and Field Wiring

1. Conduit shall be provided under Division 26.
2. Process equipment control wiring, 4-20 mA signal circuits, signal wiring to field instruments, PLC input and output wiring and other field wiring and cables shall be provided under Division 26.
3. Communication networks shall be provided under Division 26.
4. Terminations and wire identification at PCIS equipment furnished under this or any other Division shall be provided under Division 26.

C. Instrumentation Tie-Downs: Instruments, control panels, and equipment shall be anchored by methods that comply with seismic requirements applicable to the Site.

D. Existing Instrumentation: Each existing instrument to be removed and reinstalled shall be cleaned, reconditioned, and recalibrated by an authorized service facility of the instrument manufacturer. The CONTRACTOR shall provide certification of this work prior to reinstallation of each instrument.

E. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The CONTRACTOR shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements. Such additions and such changes, including the proposed method of installation, shall be submitted to the ENGINEER for approval prior to commencing the WORK. Such changes shall not be a basis of claims for extra work or delay.

F. Installation Criteria and Validation: Field-mounted components and assemblies shall be installed and connected according to the requirements below:

1. Installation personnel have been instructed on installation requirements of the Contract Documents.
2. Technical assistance is available to installation personnel at least by telephone.
3. Installation personnel have at least one copy of the approved Shop Drawings and data.

4. Instrument process sensing lines shall be installed under Section 40 23 12 – Piping and Tubing.
5. Flexible cables and capillary tubing shall be installed in flexible conduits. The lengths shall be sufficient to withdraw the element for periodic maintenance.
6. Power and signal wires shall be terminated with crimped type lugs.
7. Connectors shall be, as a minimum, watertight.
8. Wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
9. Wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices, unless specifically approved by the ENGINEER. Wiring shall be protected from sharp edges and corners.
10. Mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
11. Verify the correctness of each installation, including polarity of electric power and signal connections, and make sure process connections are free of leaks. The CONTRACTOR shall certify in writing that discrepancies have been corrected for each loop or system checked out.
12. The OWNER will not be responsible for any additional cost of rework attributable to actions of the CONTRACTOR and the SYSTEM INTEGRATOR.

3.03 CALIBRATION

- A. General: Devices provided under Division 40 shall be calibrated according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.
- B. Calibration Points: Each instrument shall be calibrated at 25, 50, 75 and 100 percent of span using test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Testing Standards.
- C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations need adjustment. Such adjustments, if required, shall be made only after consultation with the ENGINEER.
- D. Field Calibration: Instruments that were not bench-calibrated shall be calibrated in the field to ensure proper operation in accordance with the instrument loop diagrams or specification data sheets.
- E. Analyzer Calibration: Each analyzer system shall be calibrated and tested as a workable system after installation. Testing procedures shall be directed by the manufacturers' technical representatives. Samples and sample gases shall be furnished by the manufacturers.
- F. Calibration Sheets: Each instrument calibration sheet shall provide the following information and a space for sign-off on individual items and on the completed unit:
 1. Project name
 2. Loop number
 3. Tag number
 4. Manufacturer

5. Model number
 6. Serial number
 7. Calibration range
 8. Calibration data: Input, output, and error at 25 percent, 50 percent, 75 percent and 100 percent of span
 9. Switch setting, contact action, and deadband for discrete elements
 10. Space for comments
 11. Space for sign-off by CONTRACTOR and date
 12. Test equipment used and associated serial numbers
- G. Calibration Tags: A calibration and testing tag shall be attached to each piece of equipment or system at a location determined by the ENGINEER. The CONTRACTOR shall have the SYSTEM INTEGRATOR sign the tag when calibration is complete. The ENGINEER will sign the tag when the calibration and testing has been accepted.

3.04 LOOP TESTING

- A. The CONTRACTOR shall coordinate with and assist the SYSTEM INTEGRATOR as necessary to complete the various control panel loop testing.
- B. Control Valve Tests: Control valves, cylinders, drives and connecting linkages shall be stroked from the operator interface units as well as local control devices and adjusted to verify proper control action, hand switch action, limit switch settings, torque settings, remote control actions, and remote feedback of valve status and position. Control valve actions and positioner settings shall be checked with the valves in place to ensure that no changes have occurred since the bench calibration.
- C. Instrument and Instrument Component Validation: Each instrument shall be field-tested, inspected, and adjusted to its indicated performance requirement in accordance with manufacturer's specifications and instructions. Any instrument which fails to meet any Contract requirement, or, in the absence of a Contract requirement, any published manufacturer performance specification for functional and operational parameters, shall be repaired or replaced, at the discretion of the ENGINEER and at the CONTRACTOR's expense.
- D. Loop Validation: Controllers and electronic function modules shall be field-tested and exercised to demonstrate correct operation of the hardware and wiring. Control loops shall be checked under simulated operating conditions by impressing input signals at the primary control elements and observing appropriate responses at register in the PLC processor. Actual signals shall be used wherever available. Following any necessary corrections, the loops shall be retested.
- E. Loop Validation Sheets: The CONTRACTOR shall prepare loop confirmation sheets for each loop covering each active instrumentation and control device including simple hand switches and lights. Loop confirmation sheets shall form the basis for operational tests and documentation. Each loop confirmation sheet shall cite the following information and shall provide spaces for sign-off on individual items and on the complete loop by the SYSTEM INTEGRATOR:
 1. Project name
 2. Loop number
 3. Tag number, description, manufacturer and model number for each element
 4. Installation bulletin number
 5. Specification sheet number

6. Adjustment check
 7. Space for comments
 8. Space for loop sign-off by SYSTEM INTEGRATOR and date
 9. Space for ENGINEER witness signature and date
- F. Loop Certifications: When installation tests have been successfully completed for all individual instruments and all separate analog control networks, a certified copy of each test form signed by the ENGINEER or the ENGINEER's representative as a witness, with test data entered, shall be submitted to the ENGINEER together with a clear and unequivocal statement that the instrumentation has been successfully calibrated, inspected, and tested.

3.05 PERFORMANCE TEST

- A. The CONTRACTOR shall assist and coordinate with the SYSTEM INTEGRATOR during the complete start-up, testing and commissioning process. The CONTRACTOR shall provide the proper qualified personnel to make adjustments, assist with troubleshooting, provide technical support, etc. as necessary during the commissioning process.
- B. The entire PCIS hardware, field instruments, power supplies, and wiring shall operate for 30 days without failure.
- C. The CONTRACTOR shall furnish support staff as required to satisfy the repair or replacement requirements.
- D. If any component, other than field instruments, fails during the performance test, it shall be repaired or replaced and the PCIS shall be restarted for another 30-day period.

3.06 REQUIREMENTS FOR SUBSTANTIAL COMPLETION

- A. For the purpose of this Section, the following shall be fulfilled before the WORK is considered substantially complete:
 1. Submittals have been completed and approved.
 2. The PCIS has been installed, calibrated, and loop tested.
 3. Spare parts and expendable supplies and test equipment have been delivered to the ENGINEER.
 4. The performance test has been successfully completed.
 5. Punch-list items have been corrected.
 6. Record drawings in both hard copy and electronic format have been submitted.
 7. Revisions to the Technical Manuals that may have resulted from the field tests have been made and reviewed.
 8. Debris associated with installation of instrumentation has been removed.
 9. Probes, elements, sample lines, transmitters, tubing, and enclosures have been cleaned and are in like-new condition.
 10. Instrument Equipment Summary Forms have been accepted by the OWNER.

END OF SECTION 40 90 00

SECTION 40 90 00.01
PROCESS CONTROL FUNCTIONAL NARRATIVE

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. The existing PLC control panel monitors, controls, and alarms various systems and/or conditions within the water treatment plant. This is accomplished with discrete and analog inputs and outputs to/from the PLC as well as through a Devicenet network connecting the PLC and motor control center. After addition of the new Loop C related equipment, the PLC will provide the control, monitoring, and alarm functions described below:

1.02 PRESSURE PUMPS (EXISTING)

Normal

- A. In Auto mode, the pump will respond to start/stop and speed commands received from the PLC through the pump's VFD Devicenet connection. The pumps will start, stop, and vary in speed to maintain the return pressure on each of the three (two existing and one new) circulation loops. The minimum return pressure setpoint (operator adjustable) for each of the loops is set independently; however, the lowest return pressure will control pump speeds. The pressure pumps shall operate to maintain the return pressure on any loop above the minimum return pressure setpoint. The pumps will sequence as follows:
- B. The pumps will operate in a Lead, Lag 1, Lag 2, and Lag 3 manner with the Lead pump selectable or set to alternate consecutively among the four duty pumps. In alternating mode (this is the normal configuration), the first pump on will be the first pump off.
- C. It is anticipated that there will always be some flow demand and that the lead pump will always run. However, for low flows (less than approx. 50 gpm), the lead pump will not ramp down below its minimum run speed (as recommended by the manufacturer for adequate cooling of the pump and motor) as long as the return pressures are maintained above their minimums.
- D. When a single pump is running, the pump will run at its minimum speed if the minimum setpoint pressure (30 psi –winter operation, 60 psi – summer operation) for each of the circulation loops' return lines is maintained. As the demand (flow) increases, the lead pump will speed up as necessary to maintain the return line pressures. If the lead pump is at full speed and the demand continues to increase the return pressure will begin to drop. If the return pressure drops below 25 psi (winter) or 55 psi (summer) for more than 15 seconds (programmer adjustable), then the Lag 1 pump will start and ramp up to maintain the minimum return pressures or its minimum run speed, whichever is greater.
- E. NOTE: All timer values listed in this document represent a value to be initially set as directed by the engineer and field adjusted based on system response by the operator, system integrator, and/or engineer.
- F. Should the demand continue to increase, and the Lead and Lag 1 pumps are running at full speed, the return pressure will again begin to drop. If the return pressure drops below 25 psi (winter) or 55 psi (summer) for more than 15 seconds, then the Lag 2 pump will start and ramp up to maintain the minimum return pressures or its minimum run speed, whichever is greater.

All three pumps will then modulate their speeds to maintain system return pressure. This process will continue until all pumps are running.

- G. As the demand reduces, the pumps will slow down, but not below their minimum speed. If the return pressures are being maintained at setpoint and the demand drops below 200 gpm (programmer adjustable) for 15 seconds (programmer adjustable), then the Lead pump will shut off. The first pump on will be the first pump to shut off if automatic rotation is selected. If the lead pump is manually selected, it will be the first pump on and the last pump off. If the return pressures are being maintained and the demand continues to reduce below 100 gpm (programmer adjustable) for 15 seconds (programmer adjustable), then the Lag 1 pump will shut off. This process continues until only one pump is operating.
- H. A high-pressure event will stop the pumps when the pressure in any header exceeds 120 psig.
- I. A high-demand event does not stop the pressure pumps as the remaining loops must be kept above their minimum pressure set-point at all times.

High Demand Condition

- A. If a high demand condition is triggered (see High Demand Pump below) the pressure pumps will need to remain operational to generate adequate flows to the system. The pressure pumps will transfer control from return pressure to header pressure (PT-371) control to maintain 100 psig at the WTP. The goal is to provide a minimum of 1,500 gpm to the loop that is in the high demand state. At 100 psig header pressure, the high demand pump will produce approximately 1,145 gpm. The remaining 355 gpm will be provided by the pressure pumps.
- B. The distribution system shall not be allowed to exceed 120 psig at any time. 100 psig is the maximum operating pressure for the entire system to prevent damage to fittings and fixtures located beyond the service connection.

Hand Mode

- A. Each pressure pump has Hand-Off-Auto modes of operation. In the Hand mode, the pump will operate independent of the PLC control system. Its speed will be controlled from the operator control terminal on the front of the pump's VFD. The high pressure alarm and pump trip will continue to be active even if the pump is in Hand control.

1.03 HIGH DEMAND PUMP (EXISTING)

Normal (High Demand Only)

- A. The high demand pump has Hand-Off-Auto modes of operation. In Hand mode, the pump will operate independent of the PLC control system. The pump will be controlled by a solid-state reduced voltage starter or 'soft start'.
- B. In Auto mode, the high demand pump will automatically start whenever the return pressure on any loop has dropped below 20 psi (summer or winter) for more than 15 seconds (programmer adjustable). When the high demand pump starts, the impacted loop's circulation pumps stop, the MOV valve at the circulation pump suction closes, and the two high demand MOV valves to that loop open. The remaining loops will stay in normal operation; however, they will be

operating at a higher pressure until the high demand event is over. The specific valve and pump numbers for each loop are:

- Loop A: Pumps P-320A/B are stopped. Suction valve MOV-363 is closed. High demand valves MOV-322B and MOV-322C are opened.
 - Loop B: Pumps P-330A/B are stopped. Suction valve MOV-366 is closed. High demand valves MOV-332B and MOV-332C are opened.
 - Loop C: Pumps P-340A/B are stopped. Suction valve MOV-420 is closed. High demand valves MOV-421A and MOV-421B are opened.
- C. The high demand pump will run until system pressures in the impacted loop remain above 115 psig for more than 5 minutes and then automatically shut down unless the 'high demand run enable' command is entered at the PLC operator interface terminal (OIT) touchscreen or the 'high demand pump run enable' pushbutton is pressed on the pump control panel, 'PCP'. The 'high demand run enable' command shall be automatically displayed on the OIT when the high demand pump starts. Alternately, an input from a remote access system controlled by either the fire department or the operator shall allow the high demand pump to continue to run.
- D. The high demand pump, if manually enabled, will run until manually shut down by placing the HOA switch in the OFF position, or by entering a 'high demand pump stop' command at the OIT. When the high demand pump stops, by either deactivation method, the motorized valves will return to their normal operating position. The pressure pumps will then operate as described above. Once the valves are in their appropriate position, the loop circulation pumps will re-start if they were previously running (winter mode).
- E. When the high demand pump runs, the backwash pumps will be disabled as indicated by a 'Pump Fail' light on the existing backwash pump control panel and a 'Backwash Pump Disabled' message on the OIT. The backwash pumps will remain disabled even if the high demand pump stops. They may be re-enabled only by entering a 'Backwash Pump Enable' command at the OIT.
- F. The distribution system shall not be allowed to exceed 120 psig at any time. 100 psig is the maximum operating pressure for the entire system to prevent damage to fittings and fixtures located beyond the service connection.
- G. A small circulation loop has been provided to ensure the high demand header water remains fresh and adequately chlorinated at all times. This loop is a ¾" line from the farthest points in the system back to the pump discharge and the flow through the line can be set manually using FV-417 and FI-418. The driving force for this flow is the Loop C circulation pump discharge and suction. The discharge line is routed to the discharge pump outlet and the return is divided into two lines that are routed back to the circulation pump suction creating a small flow through the high demand header.

1.04 LOOP A CIRCULATION PUMPS (EXISTING)

Normal

- A. Each circulation loop (A & B) has two pumps, a main and a standby. The pumps have Hand-Off-Auto modes of operation. In Hand, the pump will run continuously independent of the control system. In Off, the pump will be disabled.

- B. In Auto, only one pump in a loop may operate at a time if in winter operation (all pumps will be disabled in summer operation). The pump to be run will be selected at the OIT. The selected pump will run continuously unless a high demand pump run condition occurs as described above. The pump will automatically be re-started if the high demand pump is disabled, signaling the end of a high demand event.
- C. The operating pump speed will be controlled by the loop return flow meter (FIT-320R). The set-point for the return flow is intended to maintain a return velocity in the loop of 1.25 ft/s at all times.

High Demand

- D. During a high demand condition in Loop A, the circulation pumps are stopped.

1.05 LOOP B CIRCULATION PUMPS (EXISTING)

Normal

- A. Each circulation loop (A & B) has two pumps, a main and a standby. The pumps have Hand-Off-Auto modes of operation. In Hand, the pump will run continuously independent of the control system. In Off, the pump will be disabled.
- B. In Auto, only one pump in a loop may operate at a time if in winter operation, and all pumps will be disabled in summer operation. The pump to be run will be selected at the OIT. The selected pump will run continuously unless a high demand pump run condition occurs as described above. The pump will automatically be re-started if the high demand pump is disabled, signaling the end of a high demand event.
- C. The operating pump speed will be controlled by the loop return flow meter (FIT-330R). The set-point for the return flow is intended to maintain a return velocity in the loop of 1.25 ft/s at all times.

High Demand

- D. During a high demand condition in Loop B, the circulation pumps are stopped.

1.06 LOOP C CIRCULATION PUMPS (NEW)

Normal

- A. Circulation Loop C has two pumps, a main and a standby. The pumps have Hand-Off-Auto modes of operation. In Hand, the pump will run continuously and independent of the control system. In Off, the pump will be disabled.
- B. In Auto, only one pump in a loop may operate at a time if in winter operation, and all pumps will be disabled in summer operation. The pump to be run will be selected at the OIT. The selected pump will run continuously unless a high demand pump run condition occurs as described above. The pump will automatically be re-started if the high demand pump is disabled, signaling the end of a high demand event.
- C. The operating pump speed will be controlled by the loop return flow meter (FIT-414). The set-point for the return flow is intended to maintain a return velocity in the loop of 1.25 ft/s at all times. This equates to approximately 150 gpm for the new 8" DR11 HDPE water main loop.

High Demand

- D. During a high demand condition in Loop C, the circulation pumps are stopped.

1.07 UPGRADED HEAT EXCHANGERS (NEW)

The existing exchangers are in need of upgrades and piping in the circulation room requires modification to allow room for the new high demand header. Because of this, all exchangers are being upgraded to double-wall brazed plate and frame style.

Glycol Circulation Pumps (existing)

- A. The main glycol circulation pumps that provide hot glycol from the boilers to all heat exchangers are located at the water treatment plant and have an integral VFD controller. The set speed for each pump is made locally by the operator based on desired flow and/or glycol return temperature. The pumps are sized for only one to run at a time with an installed spare.
- B. An interlock stops the pumps on high discharge pressure or high discharge temperature (maximum 140 °F).
- C. All upgraded heat exchangers will be supplied by the existing pumps which have adequate capacity for all existing exchangers and all new loads added by this project.

Loop A Glycol Heat Exchanger (new)

- 1. The Loop A exchanger hot glycol supply is controlled by the loop return temperature switch TS-501 which actuates a solenoid valve, SV-501, to provide hot glycol to the exchanger. The glycol flow rate is manually adjusted using the flow control valve FV-501 and flow indicator FI-501.
- 2. The Loop A exchanger water circulation flow utilizes the circulation pump discharge and suction to provide flow. The flow rate is adjusted manually using flow control valve FV-350 and flow indicator FI-502.

Loop B Glycol Heat Exchanger (new)

- 1. The Loop B exchanger hot glycol supply is controlled by the loop return temperature switch TS-502 which actuates a solenoid valve, SV-502, to provide hot glycol to the exchanger. The glycol flow rate is manually adjusted using the flow control valve FV-511 and flow indicator FI-503.
- 2. The Loop B exchanger water circulation flow utilizes the circulation pump discharge and suction to provide flow. The flow rate is adjusted manually using flow control valve FV-351 and flow indicator FI-504.

Loop C Glycol Heat Exchanger (new)

- 1. The Loop C exchanger hot glycol supply is controlled by the loop return temperature TT-401 which actuates a solenoid valve, SV-522, to provide hot glycol to the exchanger. The glycol flow rate is manually adjusted using the flow control valve FV-523 and flow indicator FI-505.
- 2. The Loop C exchanger water circulation flow utilizes the circulation pump discharge and suction to provide flow. The flow rate is adjusted manually using flow control valve FV-410 and flow indicator FI-417.

Tank Glycol Heat Exchanger (new)

1. The Tank Glycol Heat Exchanger is used to provide heat to the storage tank and the proposed new school fire water loop piping.
2. The Tank exchanger hot glycol supply is controlled by a return temperature switch that is not shown on the current P&ID sheets. This switch actuates a solenoid valve, SV-503, to provide hot glycol to the exchanger. The glycol flow rate is manually adjusted using the flow control valve FV-524 and flow indicator FI-506.
3. The Tank exchanger water circulation flow utilizes existing circulator pumps P-380A/B to provide flow. The flow rate is adjusted manually on the circulator pump.
4. An additional service will be added to this exchanger to provide heat to a new fire water loop located around the new school building. The flow for this loop is provided by the school using circulation pumps at each fire hydrant box. Flow can be manually adjusted using flow control valve FV-525 and FI-503B.

PART 2 - SOFTWARE COMPONENTS**2.01 TOTALIZERS**

- A. No new flow totalizers are being added to the system.

2.02 PRIMARY SYSTEM CALCULATIONS

- A. No new system calculations are being added.

PART 3 - PARAMETERS, SET POINTS, AND DISPLAY POINTS

Tag Number	Description	Value	Range	Location
FIC-414	Water circulation loop flow controller, signal from FE-414 / FIT-414, controls SC-340A/B (VFD on P-340A/B)	150 gpm	125 - 165 gpm	Circ. pump room
TIC-401	Water loop add heat, controls hot glycol flow to HX-504, signal from TT-401, open/close SV-522.	On @ 42 °F Off @ 48 °F	40-50 °F	Circ. pump room
FI-416	Water circulation loop supply flow rate (circulation pump plus pressure pump flow to Loop C). Signal from FE-416 / FIT-416.	N/A	0-300 gpm	Circ. pump room
MOV-363, 322B, 322C, 366, 332B, 332C, 420, 421A, 421B	Position Indication over Devicenet. Display valve position and fault if valve is in wrong position or manual clutch is disengaged.	Active / Fault	-	Circ. pump room

PART 4 - ALARMS AND INTERLOCKS**4.01 ALARMS**

Device	Alarm Points	Tag #	Description	Priority
FE-414	145 gpm	FAL-414	Low circulation flow	1
TT-401	33°F	TAL-401	Low return temperature in Loop C	1
PAH-371	120 psig	PT-371	High system pressure alarm	1
PIT-404	25 psig	PAL-404	Low return pressure in Loop C	1

4.02 INTERLOCKS

Message Description	Conditions	Actions
Loop C High Demand	Interlock Tag #2 Signal from PIT-404 Pressure on Loop C return drops below 23 psig	Stop Pumps P-340 A/B Start High Demand Pump Close MOV-420 Open MOV-421A/B Initiates high demand sequence
High distribution system pressure	PT-320/330/404 exceeds 120 psig	Stop high demand pump and pressure pumps. Reset pressure pumps to normal operating mode. Alarm shall notify the operator of a high system pressure condition and that the high demand pump has been stopped.

PART 5 - PRODUCTS**PART 6 - EXECUTION****END OF SECTION 40 90 00.01**

SECTION 40 95 13
CONTROL PANELS

PART 1 - GENERAL

1.01 THE REQUIREMENT

- A. General: The System Integrator (SI) shall provide modifications to the existing programmable logic controller (PLC) based Pump Control Panel (PCP), complete and operable, in accordance with the Contract Documents.
- B. The requirements of Section 40 90 00 – Process Control and Instrumentation Systems apply to this Section.
- C. The panel shall be modified by a UL 508A listed panel shop to UL, ETL, or other independent testing laboratory standards acceptable to the State of Alaska Mechanical Inspections Division. The panels shall have UL or ETL labels attached to them by the panel builder.
- D. System Integrator: It is the intent of these Specifications to have the System Integrator be singularly responsible for selecting and verifying correct operation of compatible hardware to provide a functional PCP and to provide future support of all PCP operation.
- E. Minimum System Integrator Scope:
 - 1. Procurement of all hardware and software required to conform to these Specifications.
 - 2. Design and submit PLC hardware, software and spare parts submittals.
 - 3. Perform all required PLC hardware tests, software programming, adjustments, and calibrations.
 - 4. Furnish all required PLC tools, test equipment, spare parts, supplies, operations and maintenance manuals, and reproducible record drawings as specified herein.

1.02 CONTRACTOR SUBMITTALS

- A. General: Submittals shall be furnished in accordance with Section 01 33 00 – Contractor Submittal Procedures.
- B. Control Panel Shop Drawings:
 - 1. Shop Drawings shall include the letterhead or title block of the System Integrator. The title block shall include, as a minimum, the System Integrator's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing.
 - 2. Organization of the Shop Drawing submittals shall be compatible with eventual submittals for later inclusion in the O&M Manual.
 - 3. Shop Drawing information shall be bound in standard size, three-ring, loose-leaf, vinyl plastic, hard cover binders suitable for bookshelf storage. One set of drawings for each facility is to be hung inside the control panel. The drawings are to be enclosed in PVC pockets suitable for hanging from a 3-ring binder, two drawings per pocket. The ring binder is to be attached to the inside of the front panel door.
 - 4. A complete index shall appear in the front of each bound volume. All drawings and data sheets associated with a panel shall be grouped together with the drawings being indexed by systems or process areas. All panel tagging, and nameplate nomenclature shall be consistent with the requirements of the Contract Documents.

5. The submittal shall completely define and document the new and existing construction, finish, fuses, circuit breakers, internally-mounted hardware, communications hardware, and PLC system components.
 6. All panel drawings shall, as a minimum, be "B" size with all data sheets and manufacturer specification sheets being "A" size. The submittal shall be submitted as a singular complete bound volume or multi-volume package and shall have the following contents:
 - a. Scaled panel layout drawings showing exterior panel face and interior back panel layouts clearly identifying all new and existing components and devices.
 - b. Complete wiring diagrams showing all panel interior wiring identifying electrical devices, terminals, and interconnecting wiring. These diagrams shall show interconnecting wiring by lines, designate terminal assignments, and show the physical location of all electrical and control devices. These wiring diagrams shall clearly identify location and terminals for all new and existing field wiring connections.
 - c. Complete loop drawings showing all wiring connections to new and existing field devices, equipment and instruments.
 - d. Manufacturer's data sheets for all new components included in the panel. Data sheets shall clearly define the electrical, environmental and physical characteristics and limitations of each component. Any optional features to be included shall be clearly defined and where multiple options, models, catalog numbers are shown, the ones being provided shall be clearly identified.
 - e. Complete and detailed bill of materials: A bill of material list, including quantity, description, manufacturer, and part number, shall be submitted for all components of the PCP.
 - f. Representative Operator Interface Terminal (OIT) graphical screen shots. OIT screens shall accurately represent the overall system process. Individual screens shall be provided to show the overall system, major subsystems (circulation loop pumps, high demand pump, glycol loops), an alarm log and major process trend historical graphs.
- C. Owner's Manuals: General requirements for Owner's Manuals are as described in Section 40 90 00 – Process Control and Instrumentation Systems. The following items shall also be included in the Owner's manual:
1. Operation and maintenance manuals for all PLC hardware as specified herein.
 2. Electronic and hardcopy of PLC and OIT annotated software programs.
- D. Field Test Procedure: The System Integrator shall prepare and submit a field test procedure which incorporates test sequences, test forms, samples of database lists, a PLC testing block diagram, and an estimated test duration which comply with the requirements specified herein.

1.03 WARRANTY

- A. The SI shall warrant the control panel for a period of one year from all component failures, defects or software programming issues. Warranty shall cover the cost of all repair work and any required shipping or travel expenses.

PART 2 - PRODUCTS

2.01 CONTROL PANEL

- A. All materials and all PCP equipment furnished under this Contract shall be new, free from defects, of first quality, and produced by manufacturers regularly engaged in the manufacture of these products.

- B. Hardware Commonality: Where there is more than one item of similar equipment being furnished all such similar equipment shall be the product of a singular manufacturer.
- C. PCP ENCLOSURE
1. The PLC and its corresponding I/O modules, communication interface device(s) and peripheral equipment shall be mounted inside the existing enclosure. All I/O wiring from the field to the I/O modules shall be terminated on terminal blocks in the enclosure.
- D. Operating Conditions: The PCP shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
1. Environment - water treatment/supply facility
 2. Indoor Temperature Range - 32 through 84 degrees F
 3. Relative Humidity - 20 through 90 percent, non-condensing
- E. NEW PCP COMPONENTS – The PCP shall be provided with the following new components:
1. Central Processor: The CPU shall contain all the relays, timers, counters, number storage registers, shift registers, sequencer, arithmetic capability, and comparators necessary to perform the indicated control functions. It shall be capable of interfacing enough discrete inputs, analog inputs, discrete outputs, and analog outputs as shown on the drawings. The Processor shall replace the existing processor and shall be an Allen Bradley CompactLogix 1769-L33ER. The CPU shall be supplied with a 1GB SD card standard.
 2. Analog Input Modules: Defined as 4 to 20 mA DC signals, where an analog to digital conversion is performed with 14-bit precision and the digital result is entered the processor. The analog to digital conversion shall be updated with each scan of the processor. Input modules shall be source or sink to handle 2-wire or 4-wire transmitters, respectively. Analog input modules of the quantity shall on the drawings shall be added to the PCP along with associated analog input terminals. Input modules shall be Allen-Bradley 1769-IF4, or equal.
 3. Operator Interface Terminal (OIT): A color LCD, touch sensitive, OIT is to be provided to allow local display. The unit is to be supplied at 24 VDC and is to communicate to the PLC via an Ethernet interface. The OIT shall replace the existing OIT and shall be Allen-Bradley model Panel View Plus 7 model #2711P-T7C21D8S.
 4. Network Switch: An unmanaged, Ethernet switch with 8 fast ethernet ports shall be provided to replace the existing network switch. The switch will allow communication between the PCP processor, OIT, loop circulation pump VFD's and the City SCADA system. Switch shall be Allen Bradley Stratix model # 1783-US8T.
 5. Terminals: Fused Terminals for analog input points shall be a 3-wire terminal with a fused circuit, a feed through circuit and a ground terminal. Provide a one-tenth of an ampere rapid blow 250-volt fuse for all analog circuits. The analog terminals shall be **Weidmuller model KDKS 1 part 953245**, or equal.

PART 3 - EXECUTION

3.01 GENERAL

- A. Panel modifications shall conform to Article 409 and shall be marked in accordance with paragraph 409.110 of the National Electrical Code.
- B. Internal control components shall be DIN-rail mounted on an internal back-panel or side-panel as required.
- C. Each source of 'external' voltage shall be isolated by providing disconnecting fused terminal blocks or DIN rail mounted relays. The control panel shall be provided with identified terminal

strips for the connection of all external conductors. The System Integrator shall provide enough terminal blocks as shown on the Drawings.

- D. Discrete outputs from the control panels shall be provided by electrically isolated contacts rated for 2 amps at 24 VDC or 10 amps at 120 VAC minimum.
- E. All control panel mounted devices shall be provided as shown on the Drawings.
- F. Mounting of Devices
 - 1. The System Integrator shall provide or modify cut-outs and shall mount all devices indicated to be panel-mounted.
 - 2. The SI shall also mount behind the panels other device accessory items as required for functionality or as indicated.
 - 3. Equipment mounted at the rear of panel shall be installed to allow for commissioning adjustments, servicing requirements, and cover removal.
 - 4. Spare space shall be kept clear of wiring, etc., to give maximum space for future additions.
- G. Electrical Requirements
 - 1. Each terminal connection shall have a plastic plate with a terminal and instrument tag number. Wiring shall be identified with stamped tubular wire end markers. Terminals shall be DIN-rail mounted.
 - 2. Wiring Methods: Wiring methods and materials for all panels shall be in accordance with the NEC requirements for General Purpose (no open wiring) unless otherwise indicated.
 - 3. Signal and Control Circuit Wiring
 - a. Wire type and sizes: Control panel conductors shall be flexible stranded copper wire, UL. Wires for instrument signal, alarm and power circuits shall be No. 16 AWG minimum Type MTW rated for 300 volts.
 - b. Wire Insulation Colors:
 - 1) 120 VAC Power - Black 14 AWG minimum
 - 2) 120 VAC Neutral - White 14 AWG minimum
 - 3) 120 VAC Ground - Green 14 AWG minimum
 - 4) 120 VAC Control - Red 14 AWG minimum
 - 5) 120 VAC Foreign Power - Yellow 16 AWG minimum
 - 6) 120 VAC Foreign Neutral – Yellow/White 16 AWG minimum
 - 7) DC Positive - Blue 16 AWG minimum
 - 8) DC Negative - White/Blue 16 AWG minimum
 - c. All 120 VAC power wiring protected by the main circuit breaker and incoming power service shall be No. 12 AWG.
 - d. Wire Marking: Wire numbers shall be marked using black numbered wire markers made from heat-shrink plastic. Wires shall be marked as shown on the approved Shop Drawings. Numbers shall read from left to right.
 - 4. Power Supply Wiring
 - a. Unless otherwise indicated, all instruments and solenoid shall operate on 24VDC circuits.
 - b. When instruments do not come equipped with integral fuses, provide fuses as required for the protection of individual instruments against fault currents. Fuses shall be mounted on the back of the panel in a fuse holder, and each fuse shall be identified by a service name tag. Fuses shall be as manufactured by **Bussmann Manufacturing Division, Type KAW TRON**, or equal.

- H. Spare Fuses: provide the following spare fuses:
 - 1. A minimum of two spare fuses of each size
 - 2. One spare fuse for every ten fused circuits
- I. Labor and Workmanship: The control panel modifications shall be made and wired by fully qualified workmen who are properly trained, experienced, and supervised.

3.02 MARKING

- A. If not already provided the PCP shall be marked with the following information that is plainly visible:
 - 1. Manufacturer's name
 - 2. Supply voltage, number of phases, frequency and full load current.
 - 3. Short-circuit rating of the main breaker
 - 4. Name of the project and site
 - 5. Enclosure rating

3.03 INSTALLATION

- A. The control panel shall be installed, and field tested in accordance with Section 40 90 00 – Process Control and Instrumentation Systems.

3.04 CONTROL PANEL SIGNAL AND CONTROL CIRCUIT WIRING

- A. Wiring Installation: All wires shall be run in plastic wireways except (1) field wiring, (2) wiring between mating blocks in adjacent sections, (3) wiring from components on a swing-out panel to components on a part of the fixed structure, and (4) wiring to panel-mounted components. Wiring run from components on a swing-out panel to other components on a fixed panel shall be made up in tied bundles. These bundles shall be tied with nylon wire ties and shall be secured to panels at both sides of the "hinge loop" so that conductors are not strained at the terminals.
- B. Wiring run to control devices on the front panels shall be tied together at short intervals with nylon wire ties and be secured to the inside face of the panel using adhesive mounts.
- C. Wiring to rear terminals on panel-mount instruments shall be in plastic wireways secured to horizontal brackets above or below the instruments in about the same plane as the rear of the instruments.
- D. Shop Drawings shall show conformance to the above wiring installation requirements.
- E. Wire Marking: Each signal, control, alarm, and indicating circuit conductor connected to a given electrical point shall be designated by a single unique number as shown on the Shop Drawings. These numbers shall be marked on all conductors at every terminal.

3.05 PROGRAMMING

- A. The System Integrator shall copy the existing program in the PCP processor to the new processor and provide additional logic for the new Loop C. The SI shall modify the existing PLC program in the PCP to provide the proper control sequences as shown in the Functional Narrative. Both the existing and new Functional Narratives are included in the Appendix to the Specifications.
- B. In addition to the PLC program, the System Integrator shall modify the OIT screens to reflect the new Loop C water circulation equipment and process control functions, conditions and alarms.

3.06 SCADA INTERFACE

- A. The PCP shall communicate with the new Bethel-wide Supervisory Control and Data Acquisition (SCADA) system. The System Integrator shall provide the network configuration and programming necessary.
- B. The System Integrator shall also provide updates to the SCADA system's head-end operator interface to show the PCP related process control functions, conditions and alarms. The SCADA system shall provide means of remotely controlling the high demand pump start/stop via cell phone, web interface or other method approved by the City.

3.07 TESTING

- A. The PCP shall be tested for functional operation in the field after the connection of external conductors and prior to equipment startup. Field calibration, testing, and instruction shall be performed in accordance with Section 40 90 00 – Process Control and Instrumentation Systems.
- B. Prior to testing, the PLC and communication devices shall be loaded with their applicable software packages. PLC input and output modules shall be installed in their assigned housings and wired to field termination points in the enclosures. The SI shall have a complete, up-to-date set of wiring drawings and a PLC register list of all the test points, for review throughout the test. A complete system checklist shall be available during the test for recording results of selected points.
- C. Test Procedure: The test shall be conducted in accordance with the previously submitted and approved test procedures. The test procedures shall include written descriptions of how individual tests shall be performed and shall incorporate testing the following features as a minimum.
 - 1. Verify that the Operator Interface Terminal (OIT) graphics accurately and completely display the water treatment process in accordance with the P&ID drawings and that all process equipment, valve, pump, instrument, etc. tags match the drawings.
 - 2. Verification of proper response and display of all I/O points on the Operator Interface Terminal (OIT) graphical touchscreen. The proper device status or process variable shall be correctly updated on the OIT when the associated I/O point value is changed.
 - 3. Verify the proper operation of the SCADA system connection. Verify the OIT screens can be viewed and navigated through SCADA.
 - 4. Verify the alarm reporting feature of the SCADA system by activating each programmed alarm point and verifying receipt of the appropriate alarm message.
- D. Test Report: The SI shall record the results of all testing on preapproved test forms which the OWNER's and ENGINEER's representatives shall sign. A copy of the completed test forms and a report certifying the results shall be provided to the ENGINEER within 10 days of completing the test.
- E. Rework and Retest: If the PCP does not operate as required, the SI shall make whatever corrections are necessary, and the failed part of the tests shall be repeated. If, in the opinion of ENGINEER's representative, the changes made by the SI for such a correction are enough in kind or scope to effect parts of system operation already tested, then the effected parts shall be retested also. If a reliable determination of the effect of changes made by the SI cannot be made, then the ENGINEER's representative may require that all operations be retested. The SI shall bear all its own costs for the test, including any required retesting.

END OF SECTION 40 95 13

SECTION 46 10 01**PLATE AND FRAME HEAT EXCHANGERS****PART 1 - GENERAL****1.01 WORK INCLUDED**

- A. This section covers heat exchangers used for freeze protection of the potable water circulation mains. Heat exchangers shall be designed for potable water and 50% propylene glycol in water and be of double wall construction to ensure no path of contamination exists between heating fluid and potable water. Materials in contact with potable water must be ANSI/NSF 61 approved.

1.02 REFERENCE STANDARDS

- A. The work in this section is subject to the requirements of applicable portions of the following standards:
 - 1. ANSI – American National Standards Institute
 - 2. ASTM – American Society for Testing and Materials
 - 3. ISO – International Standards Organization
 - 4. AWWA – American Water Works Association
 - 5. NSF – National Science Foundation

1.03 TESTING

- A. The manufacturer shall perform non-witnessed testing (in accordance with ASME Code, Sect. VIII, Div. 1) prior to shipment.
- B. The pump manufacturer shall be capable of providing certified testing of exchangers prior to shipment. Certified test results shall be provided to the Engineer prior to shipment of the equipment.

1.04 WARRANTY

- A. The warranty period shall be a non-prorated period of 24 months from date of installation, not to exceed 30 months from date of manufacturer.

PART 2 - PRODUCTS**2.01 GLYCOL WATER HEAT EXCHANGERS****A. GENERAL**

- 1. Furnish and deliver to jobsite Plate & Frame Heat Exchangers with capacity and sizes as shown on the project plans.
- 2. Plate Heat Exchanger selections shall be verified by the manufacturer to provide the required heat transfer area for the operating conditions and pressure drops as specified on the schedules and/or drawings.
- 3. Plate & Frame Heat Exchanger shall be shipped completely assembled, free standing, pressure tested at factory, flushed clean, dried, and ready for connection at jobsite.
- 4. When field erection is required, the manufacturer shall pressure test units at factory, flushed clean & dried, then knocked-down and properly crated and marked for erection at jobsite. Manufacturer's supervision will be required at jobsite and warranties as factory assembled units shall remain in effect.

B. PLATE & FRAME DESIGN

1. The frame assembly shall be of bolted construction to allow field erection on site, where required. Welded frame assemblies are not acceptable. Lifting lugs designed to allow lifting of the entire unit to be provided.
2. All inlet and outlet connections to be located in fixed cover. Same side flow pattern is preferable.
3. The Plate unit shall be designed to withstand full design pressure in each circuit independently. The entire unit shall be hydrostatically tested according to the ASME Code, Sect. VIII, Div. 1 for 1.3x Design Pressure at maximum working temperature.
4. The Plate & Frame Exchanger shall have the capacity shown on the drawings and shall include at least 20% additional plates for future expansion.

C. PLATE & FRAME CONSTRUCTION

1. **COVERS** - Fixed and moveable covers shall be able to withstand the given Design Pressure without added reinforcement or stiffeners. The moveable cover shall be provided with a heavy duty roller bearing assembly for units 3" diameter and greater. The cover plate material shall be a corrosion resistant carbon steel (SA-516-70) cleaned (sandblasted), primed and enamel or epoxy painted.
2. **PLATES** - Stainless steel (SA-240, 304SS or 316SS) plates pressed with a herringbone corrugation to optimize heat transfer shall be provided. Thickness shall not be less than 0.4mm. Plates to be reinforced at carrying bar groove to prevent distortion and misalignment. Plates to be provided with an alignment design, preferably an interlocking mechanism pressed into each plate which interlocks with its adjacent plate providing a precise plate-to-plate alignment to assure proper sealing of the plate pack.
3. **GASKETS** - A one piece molded elastomer gasket compatible with the fluids shown on the plans. The gasket shall have relief grooves in the double gasketed areas to prevent any cross-contamination between the hot and cold fluids. Gaskets to be Nitrile (NBR) rubber (for non-steam applications) where maximum working temperatures are below 250 °F.
4. **CARRYING BARS** - Each plate shall be supported and guided by a top & bottom carrying bar, which accurately locates the plates within the frame assembly. The top bar that contacts the stainless steel plates shall be machined stainless steel surface that provides ease of movement of the plates. Upon opening of the unit, the carrying bar design shall permit removal of any one plate within the plate pack without removing adjacent plates.
5. **CONNECTIONS** - Piping connections 3" diameter and larger shall be stubbed port design. Piping connections less than 3" diameter shall be externally threaded type MNPT stainless steel.
6. **TIGHTENING BOLTS** - High tensile strength carbon steel (SA-193, B7) bolts shall be provided. Both fixed and free nuts shall be heavy duty carbon steel (SA-194, 2H). The bolts, nuts and washers shall be zinc plated.
7. **FRAME SUPPORT PADS** - Steel base plates for anchoring to the floor shall be provided. The Frame shall be provided with an end support (outrigger), for units with port sizes 3" and larger.
8. **PROTECTIVE SHROUD & INSULATION** - Galvanized Steel protective shroud shall enclose exterior plate bundle. Factory insulation of Plate & Frame unit, if required, shall be shown on plans.

D. CODE REQUIREMENTS

1. The manufacturer or his agent must be registered with the National Board. The Plate & Frame Heat Exchanger shall be designed and tested to the latest ASME Code, Sect. VIII, Div. 1 requirements. Design Pressure and maximum working temperatures shall be in accordance with project plans.
2. The unit shall be stamped with "U" symbol and the Engineer shall be furnished with a completed U-1 FORM to submit to the Owner.

E. SUBMITTALS

1. Upon receipt of order, the manufacturer shall submit three copies of the Certified Prints and guaranteed performance data to the Contractor who shall forward two copies to the Engineer. Alternatively, a PDF format digitally signed submittal may be provided.
2. One PDF copy will be returned to manufacturer marked "APPROVED" or with comments and corrections as required.

F. MANUFACTURER

1. Plate & Frame Exchanger manufacturer shall have a minimum of 5 years' experience in the manufacture and supply of heat exchangers for hydronic (or equal) and potable water service.
2. Pre-approved manufacturers are provided below; however, equals will be accepted with Engineer approval:
Plate Concepts, Inc., 1710 MacArthur Rd, Ste 209, Whitehall, PA 18052,
484-240-9235, info@plateconcepts.com
Ameridex Plate Exchangers, 145 County Road 309, Bryant, Alabama 35958, (256) 597-3360, Ameridexplateexchangers@ameridex.net

PART 3 - EXECUTION**3.01 INSTALLATION**

- A. All exchangers shall be installed per manufacturers' instructions. All inlet / outlet piping shall be independently supported to eliminate loads on the inlet/outlet flanges or connections.
- B. Exchanger shall be leveled and squared using grouting per manufacturer's instructions, but must allow for future leveling adjustments as required. Exchangers shall be placed on a housekeeping pad of at least 4".

3.02 TRAINING

- A. A factory trained representative shall provide on-site training for Owner's personnel in the use and maintenance of all exchangers, including but not limited to, procedures for removal and replacement of plates and gaskets. Contractor shall allow for two full days of training at the Owners location after equipment is installed and tested.

END OF SECTION 46 10 01

SIGNATURE AND VERIFICATION OF ANTI-COLLUSION

By signing below, I hereby acknowledge the following:

1. Bidder, nor any of their representatives or third party mandated by Bidder, has attempted to contact City representatives or members of the selection committee for the purpose of influencing their choice, judgment or recommendation relating to the contract, or with members of the City Council to influence their decision.
2. Bidder has produced the bid package without collusion, communication, agreement or arrangement with a competitor with regards to price, methods, factors or formulas for setting prices, to the decision to submit a bid package or to present a bid package that does not comply, directly or indirectly, with specifications contained in the Request for Bids.
3. Neither the Bidder nor any of its representatives engaged in discrimination, intimidating measures, influence peddling or corruption or entered into any form of collusion, communication, agreement or arrangement with other suppliers or third parties relating to a contract with the City of Bethel.
4. If selected, neither Bidder nor any of its representatives will engage in discriminating against any person because of race, color, religion (creed), gender, gender expression or identity, age, national origin (ancestry), disability, marital status, sexual orientation, military status, political affiliation, or any other status protected by law.
5. Failure to complete and attach this sworn declaration shall result in automatic rejection of the bid.
6. In the event that the Bidder, or a representative or third party mandated by them, has violated any of the statements above, the Bidder's proposal shall be automatically rejected.
7. The City may cancel a contract that has been awarded if the City becomes aware, during the course of the contract, of a situation contravening any sworn statement required by this section.

Signature

Date

Printed Name

**BUILD AMERICA, BUY AMERICA (BABA) ACT
BIDDER'S CERTIFICATION OF COMPLIANCE**

By signing below, the Bidder hereby acknowledges to and for the benefit of the Owner of the Project that the Bidder understands the Project is being funded in part with State of Alaska and Environmental Protection Agency Alaska Native Villages (ANV) funding. Build America, Buy America (BABA) requirements specify that all iron and steel, manufactured products, and construction materials used in the Project shall be produced in the United States. Consistent with the terms of the Owner's bid solicitation and the provisions of ANV Assistance, the Bidder hereby represents and warrants to and for the benefit of the Owner and the State of Alaska that:

1. The Bidder has reviewed and understands the BABA requirements.
2. The Bidder certifies all of the iron and steel, manufactured products, and construction materials used in the project will be and/or have been produced in the United States in a manner that complies with the BABA requirements, unless a waiver of the requirements is approved by the Owner, the State of Alaska, and the Environmental Protection Agency.
3. The Bidder agrees to provide any further verified information, certification, or assurance of compliance with BABA requirements, or information necessary to support a waiver of the BABA requirements, as may be requested by the Owner or the State of Alaska.

Signature

Date

Printed Name

SUPPLEMENTARY DOCUMENTS
ATTACHMENT A – Project Contract Forms

NOTICE OF AWARD

Date of Issuance:

Owner:

Owner's Project No.:

Engineer:

Engineer's Project No.:

Project:

Contract Name:

Bidder:

Bidder's Address:

You are notified that Owner has accepted your Bid dated **[date]** for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

[Describe Work, alternates, or sections of Work awarded]

The Contract Price of the awarded Contract is \$**[Contract Price]**. Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

[Number of copies sent] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

☐ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

1. Deliver to Owner **[number of copies sent]** counterparts of the Agreement, signed by Bidder (as Contractor).
2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
3. Other conditions precedent (if any): **[Describe other conditions that require Successful Bidder's compliance]**

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner: **[Full formal name of Owner]**

By (signature): _____

Name (printed): _____

Title: _____

Copy: Engineer

EJCDC® C-510, Notice of Award.

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Page 1 of 1

NOTICE TO PROCEED

Owner: _____ Owner's Project No.: _____
Engineer: _____ Engineer's Project No.: _____
Contractor: _____ Contractor's Project No.: _____
Project: _____
Contract Name: _____
Effective Date of Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on **[date Contract Times are to start]** pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement: **[Select one of the following two alternatives, insert dates or number of days, and delete the other alternative.]**

The date by which Substantial Completion must be achieved is **[date for Substantial Completion, from Agreement]**, and the date by which readiness for final payment must be achieved is **[date for readiness, from Agreement]**.

[or]

The number of days to achieve Substantial Completion is **[number of days, from Agreement]** from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion of **[date, calculated from commencement date above]**; and the number of days to achieve readiness for final payment is **[number of days, from Agreement]** from the commencement date of the Contract Times, resulting in a date for readiness for final payment of **[date, calculated from commencement date above]**.

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner: **[Full formal name of Owner]**
By *(signature)*: _____
Name *(printed)*: _____
Title: _____
Date Issued: _____
Copy: Engineer

Contractor's Application for Payment

Owner: _____ Engineer: _____ Contractor: _____ Project: _____ Contract: _____	Owner's Project No.: _____ Engineer's Project No.: _____ Contractor's Project No.: _____
Application No.: _____ Application Date: _____	
Application Period: From _____ to _____	

1. Original Contract Price	\$	-
2. Net change by Change Orders	\$	-
3. Current Contract Price (Line 1 + Line 2)	\$	-
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-
5. Retainage		
a. _____ X \$ _____ Work Completed	\$	-
b. _____ X \$ _____ Stored Materials	\$	-
c. Total Retainage (Line 5.a + Line 5.b)	\$	-
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-
7. Less previous payments (Line 6 from prior application)		
8. Amount due this application	\$	-
9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: _____	
Signature: _____	Date: _____

Recommended by Engineer By: _____ Title: _____ Date: _____	Approved by Owner By: _____ Title: _____ Date: _____
Approved by Funding Agency By: _____ Title: _____ Date: _____	By: _____ Title: _____ Date: _____

Contractor's Application for Payment

Owner:	_____	Owner's Project No.:	_____
Engineer:	_____	Engineer's Project No.:	_____
Contractor:	_____	Contractor's Project No.:	_____
Project:	_____		
Contract:	_____		

[illegible]

Contractor's Application for Payment

Owner:	_____	Owner's Project No.:	_____
Engineer:	_____	Engineer's Project No.:	_____
Contractor:	_____	Contractor's Project No.:	_____
Project:	_____		
Contract:	_____		

Application No.:	Application Period:	From	to	Application Date:
-------------------------	----------------------------	-------------	-----------	--------------------------

A	B	C	D	E	F	G	H	I	J	K	L
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)				
Change Orders											
					-		-		-		-
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Change Order Totals					\$ -		\$ -	\$ -	\$ -		\$ -
Original Contract and Change Orders											
Project Totals					\$ -		\$ -	\$ -	\$ -		\$ -

Contractor's Application for Payment

Owner:		Owner's Project No.:	
Engineer:		Engineer's Project No.:	
Contractor:		Contractor's Project No.:	
Project:			
Contract:			

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

[illegible]

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:
Engineer:
Contractor:
Project:
Contract Name:

Owner's Project No.:
Engineer's Project No.:
Contractor's Project No.:

This ☐ Preliminary ☐ Final Certificate of Substantial Completion applies to:

☐ All Work ☐ The following specified portions of the Work:

[Describe the portion of the work for which Certificate of Substantial Completion is issued]

Date of Substantial Completion: **[Enter date, as determined by Engineer]**

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be all-inclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: ☐ None ☐ As follows:

[List amendments to Owner's Responsibilities]

Amendments to Contractor's Responsibilities: ☐ None ☐ As follows:

[List amendments to Contractor's Responsibilities]

The following documents are attached to and made a part of this Certificate:

[List attachments such as punch list; other documents]

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By *(signature)*: _____

Name *(printed)*: _____

Title: _____

Change Order No. _____

Date of Issuance: _____ Effective Date: _____

Project:	Owner:	Owner's Contract No.:
Contract:		Date of Contract:
Contractor:		Engineer's Project No.:

The Contract Documents are modified as follows upon execution of this Change Order:

Description:

Attachments (list documents supporting change):

CHANGE IN CONTRACT PRICE:

Original Contract Price:

\$ _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____

\$ _____

Contract Price prior to this Change Order:

\$ _____

[Increase] [Decrease] of this Change Order:

\$ _____

Contract Price incorporating this Change

\$ _____

CHANGE IN CONTRACT TIMES:

Original Contract Times: ☐ Working days ☐ Calendar days

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] from previously approved Change Orders No. _____ to No. _____:

Substantial completion (days): _____

Ready for final payment (days): _____

Contract Times prior to this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

[Increase] [Decrease] of this Change Order:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

Contract Times incorporating approved Change Orders:

Substantial completion (days or date): _____

Ready for final payment (days or date): _____

RECOMMENDED:

By: _____
Engineer (Authorized Signature)

Date: _____

Approved by Funding Agency (if applicable):

ACCEPTED:

By: _____
Owner (Authorized Signature)

Date: _____

ACCEPTED:

By: _____
Contractor (Authorized Signature)

Date: _____

Date: _____

CITY OF BETHEL

Bethel Heights/Martina Oscar Water and Sewer Improvements Phase 1

Addendum No. 1

April 16, 2024

(1 page)

The information in this Addendum modifies and changes the original Bid Documents. In case of conflicts between this Addendum and previously issued documents, this Addendum shall take precedence.

NOTE: This Addendum does **not** change the deadline for questions/protests or the bid opening/due date.

This Addendum recognizes that representatives of the following entities were in attendance at the mandatory pre-bid conference held on Wednesday, April 10, 2024:

- Wolverine Supply, Inc.
- Sturgeon Electric Company
- Bethel Native Corporation and qualified subsidiaries
- Inlet Mechanical

Per the Bid Documents, only Bidders that attended the pre-bid conference are eligible to submit a Bid for this Project.

This Addendum also responds to the following questions that were asked during the pre-bid conference:

“Is systems integration / SCADA included in the contract, or will that be by other / by City?”

Per Section 40 90 00, Part 1, Paragraph 1.01.C.1, in the issued Request for Bids, the Contractor shall provide a System Integrator as part of the Contractor scope of work. Further details are outlined in this specification.

“Please confirm the substantial completion date (expected to be in early December).”

The construction schedule is a Contractor required submittal per Section 01 33 00, Part 1, Paragraph 1.02, in the issued Request for Bids. The Owner is anticipating that some shut-downs may be required in the existing circulation system which **MUST** occur during warm weather. Given that requirement, substantial completion is expected to occur by mid-October and final completion by December 1st.

End of Addendum No. 1

CITY OF BETHEL

Bethel Heights/Martina Oscar

Water and Sewer Improvements Phase 1

Addendum No. 2

April 19, 2024

(46 pages)

The information in this Addendum modifies and changes the original Bid Documents. In case of conflicts between this Addendum and previously issued documents, this Addendum shall take precedence.

NOTE: Bid Opening/Due Date has been extended to Friday, May 3 at 12:00 PM. The Deadline for Questions/Protests has passed, and no additional questions will be accepted.

This Addendum responds to the following questions that were received after the first addendum was issued:

“Lead times of plate and frame heat exchangers is 16-20 weeks to ship from factory to Alaska, as stated by both approved manufacturers (Ameridex and Plate Concepts). Will this interfere with the substantial completion date?” The Owner will purchase the plate and frame heat exchangers and they are to be installed by Contractor. At this time, no change to the substantial completion date is being made and the Contractor is requested to propose a plan to complete the project on time. The final schedule will be negotiated with the successful bidder. NOTE: the RFB calls for substantial completion on or before October 31, 2024, and completion/final payment on or before December 31, 2024.

“On the mechanical sheets, general note #2 states “see specification package for equipment, valve, instrument, and tie-point schedule.” Where in the specification package are the schedules located?” These documents were inadvertently left out of the package and are attached for reference.

“Can you please extend the bid date 1 week?” Bid Opening has been extended to Friday, May 3 at 12:00 PM.

“Can you provide more information on heat exchangers to obtain pricing and models? I.E. flow rate, temperature profile, model number.” Please see attached specification sheet for the heat exchanger design conditions. Use of a particular manufacturers’ data sheets do not constitute endorsement of a particular manufacturer, nor do they exclude any equivalent supplier. These exchangers are now “Owner provided equipment”.

“Reference Sections 40 90 00 through 40 95 13. Contractor is to provide/perform system integration. Bidder requests information on the existing SCADA system, existing PCP panels & PLC panels, such as: Manufacturer/Brand & model numbers of components and any information in order to source a qualified system integrator for the bid.” Please see attached record drawings for the existing control panel ‘PCP’ with most pertinent information shown on drawing E-504. Koniag Energy and Water/TecPro are both familiar with this treatment plant and have experience working for the City of Bethel. Contractor shall select a qualified systems integrator to complete the work per specification Section 40 90 00 Process Control and Instrumentation in the issued Request for Bids.

“Is the intention is[sic] to have a dedicated control panel to control the 2 pumps as a booster system, or are the pumps are[sic] to basically be independent with the ability to communicate between them and operate as a 2 pump system?” The new circulation pumps are operating as circulation pumps on return flow control. One pump is operating, and one pump is an installed spare. The pumps alternate on start/stop to maintain similar operating times. The design intent is for the operator to be able to set a desired return flow rate and the operating pump maintains that flow rate via the VFD drive. Please see specification Section 40 90 00.01 Process Control and Functional Narrative, Paragraph 1.06 in the issued Request for Bids for additional information. No separate dedicated control panel was intended. These pumps should be integrated into the existing control system.

Revision in scope: Please see attached mark-up on Sheet PI-05 indicating a minor reduction in scope. The new school piping connection will occur outside of the building and is “By Others”. Tie point 13 will be a blind flange on an existing butterfly valve with a minor pipe support (or hanger) required to support the valve and no piping extension is required.

End of Addendum No. 2

Item Lists are provided for reference only. Material take-offs are the responsibility of the Contractor. Drawings and specifications govern in all cases and any additional valves required for high point vents or low point drains to meet design intent must be included whether listed here or not to provide a fully operational system.

	EQUIPMENT LIST					Project No.:	50270.63	Revision:	0
						Client:	Cith of Bethel	Date:	4/18/2024
						Location:	Bethel, AK	By:	SAB
								Checked:	

EQUIP NUMBER	ON P&ID	EQUIPMENT NAME	PURCHASED BY	PO ISSUED	EXPECTED ON SITE	INSTALLED BY	PART NUMBER / MANUFACTURER / NOTES
P-310	PI-03	EXISTING HIGH DEMAND PUMP	N/A	N/A	INSTALLED	N/A	THIS PUMP IS INSTALLED AND WIRED, DISCHARGE PIPING IS NOT CONNECTED.
P-340A	PI-06	LOOP C WATER CIRCULATION PUMP A	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: VERTICAL CENTRIFUGAL FLUID SERVICE: POTABLE WATER DESIGN POINT: 165 GPM AT 70 FT TDH POWER: 7.5 HP
P-340B	PI-06	LOOP C WATER CIRCULATION PUMP B	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: VERTICAL CENTRIFUGAL FLUID SERVICE: POTABLE WATER DESIGN POINT: 165 GPM AT 70 FT TDH POWER: 7.5 HP
HX-501	PI-04	LOOP A GLYCOL HEAT EXCHANGER	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: PLATE AND FRAME DESIGN DUTY = 149,557 BTU/HR COLD SIDE: POTABLE WATER DESIGN FLOW RATE : 20 GPM DESIGN INLET TEMPERATURE: 35 DEG F DESIGN OUTLET TEMPERATURE : 50 DEG F HOT SIDE: 50% PROPYLENE GLYCOL DESIGN FLOW RATE: 8.5 GPM DESIGN INLET TEMPERATURE: 180 DEG F DESIGN OUTLET TEMPERATURE: ±142 DEG F
HX-502	PI-05	LOOP B GLYCOL HEAT EXCHANGER	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: PLATE AND FRAME DESIGN DUTY = 79,764 BTU/HR COLD SIDE: POTABLE WATER DESIGN FLOW RATE : 10.2 GPM DESIGN INLET TEMPERATURE: 35 DEG F DESIGN OUTLET TEMPERATURE : 50 DEG F HOT SIDE: 50% PROPYLENE GLYCOL DESIGN FLOW RATE: 4.6 GPM DESIGN INLET TEMPERATURE: 180 DEG F DESIGN OUTLET TEMPERATURE: ±142 DEG F
HX-503	PI-07	TANK GLYCOL HEAT EXCHANGER	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: PLATE AND FRAME DESIGN DUTY = 79,764 BTU/HR COLD SIDE: POTABLE WATER DESIGN FLOW RATE : 10.2 GPM DESIGN INLET TEMPERATURE: 35 DEG F DESIGN OUTLET TEMPERATURE : 50 DEG F HOT SIDE: 50% PROPYLENE GLYCOL DESIGN FLOW RATE: 4.6 GPM DESIGN INLET TEMPERATURE: 180 DEG F DESIGN OUTLET TEMPERATURE: ±142 DEG F
HX-504	PI-06	LOOP C GLYCOL HEAT EXCHANGER	CONTRACTOR	NO	N/A	CONTRACTOR	TYPE: PLATE AND FRAME DESIGN DUTY = 0.5 MMBTU/HR COLD SIDE: POTABLE WATER DESIGN FLOW RATE : 20 GPM DESIGN INLET TEMPERATURE: 35 DEG F DESIGN OUTLET TEMPERATURE : 85 DEG F HOT SIDE: 50% PROPYLENE GLYCOL DESIGN FLOW RATE: 28.2 GPM DESIGN INLET TEMPERATURE: 180 DEG F DESIGN OUTLET TEMPERATURE: ±142 DEG F

	INSTRUMENT LIST				Project No.:	50270.63	Revision:	1
					Client:	City of Bethel	Date:	18-Apr-24
					Location:	Bethel, AK	By:	SAB
							Checked:	

Instrument Number	Line / Equip. Number	On P&ID	Size (in)	Type	Service	Part Number / Manufacturer / Notes
FE-414	6"-VIC-DCW-1001	PI-06	6"	MAGNETIC FLOW METER	LOOP C RETURN WATER FLOW	ROSEMOUNT 8700 SERIES FLOW SENSOR (OR APPROVED EQUAL) WITH LOCAL DISPLAY, 120V POWER SUPPLY & 4-20mA OUTPUT
FE-416	4"-VIC-DCW-1002	PI-06	4"	MAGNETIC FLOW METER	LOOP C SUPPLY WATER FLOW	ROSEMOUNT 8700 SERIES FLOW SENSOR (OR APPROVED EQUAL) WITH LOCAL DISPLAY, 120V POWER SUPPLY & 4-20mA OUTPUT
FI-417	2"-VIC-DCW-1005	PI-06	2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	LOOP C HEATED WATER FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132992A
FI-418	3/4"-PVC-DCW-1034	PI-06	1/2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HIGH DEMAND HEADER CIRC WATER FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132432A
FI-501	2"-CU-GLR-??	PI-04	2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-501 GLYCOL RETURN FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132992A
FI-502	1"-CU-DCW-??	PI-04	1"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-501 HOT WATER FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132662A
FI-503	1-1/2"-CU-GLR-??	PI-05	1-1/2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-502 GLYCOL RETURN FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132882A
FI-503B	1-1/2"-CU-DCW-??	PI-07	1-1/2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HEATED WATER TO NEW SCHOOL LOOP	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132882A
FI-504	1"-CU-DCW-??	PI-05	1"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-502 HOT WATER FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132662A
FI-505	2"-CU-GLR-1010	PI-06	2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-504 GLYCOL RETURN FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132992A
FI-506	2"-CU-DCW-??	PI-07	2"	DIFFERENTIAL PRESSURE FLOW INDICATOR	HX-503 GLYCOL RETURN FLOW	CALEFFI QUICKSETTER 132 SERIES (OR APPROVED EQUAL) WITH INTEGRAL FLOW VALVE, MODEL 132992A
FIT-414	6"-VIC-DCW-1001	PI-06	-	MAGNETIC FLOW INDICATING TRANSMITTER	DISPLAY AND TRANSMITTER FOR FE-414	SEE FE-414
FIT-416	4"-VIC-DCW-1002	PI-06	-	MAGNETIC FLOW INDICATING TRANSMITTER	DISPLAY AND TRANSMITTER FOR FE-416	SEE FE-416
PE-404	6"-VIC-DCW-1011	PI-06	1/2"	PRESSURE SENSOR	LOOP C RETURN WATER PRESSURE	ROSEMOUNT 3051T OR APPROVED EQUAL WITH LOCAL DISPLAY, 120V POWER, AND 4-20mA OUTPUT
PI-386	8"-VIC-DCW-1022	PI-03	1/2"	LOCAL PRESSURE INDICATOR	HIGH DEMAND PUMP DISCHARGE PRESSURE	4 1/2" DIAMETER, GLYCERIN FILLED, STAINLESS STEEL CASE, 0-150 PSI
PI-405	3"-VIC-DCW-1002	PI-06	1/2"	LOCAL PRESSURE INDICATOR	LOOP C CIRC PUMP P-340A DISCH PRESSURE	4 1/2" DIAMETER, GLYCERIN FILLED, STAINLESS STEEL CASE, 0-150 PSI
PI-406	3"-VIC-DCW-1004	PI-06	1/2"	LOCAL PRESSURE INDICATOR	LOOP C CIRC PUMP P-340B DISCH PRESSURE	4 1/2" DIAMETER, GLYCERIN FILLED, STAINLESS STEEL CASE, 0-150 PSI
PIT-404	6"-PVC-DCW-1001	PI-06	-	PRESSURE INDICATING TRANSMITTER	DISPLAY AND TRANSMITTER FOR PE-404	SEE PE-404
TI-407	2"-VIC-DCW-1005	PI-06	3/4"	LOCAL TEMPERATURE GAUGE	CIRC WATER HEATING LOOP TO HX-504	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-409	2"-CU-DCW-1006	PI-06	3/4"	LOCAL TEMPERATURE GAUGE	CIRC WATER HEATING LOOP FROM HX-504	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-411	1-1/2"-CU-GLR-1010	PI-06	3/4"	LOCAL TEMPERATURE GAUGE	GLYCOL RETURN FROM HX-504 TO BOILER	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TT-401	6"-VIC-DCW-1001	PI-06	1/2"	TEMPERATURE TRANSMITTER	LOOP C RETURN WATER TEMPERATURE	ROSEMOUNT 3144P OR APPROVED EQUAL IN THERMOWELL
TI-503	1-1/2"-CU-DCW-??	PI-07	1/2"	LOCAL TEMPERATURE GAUGE	POTABLE WATER RETURN FROM NEW SCHOOL LOOP	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-503B	2"-CU-GLR-??	PI-07	1/2"	LOCAL TEMPERATURE GAUGE	GLYCOL RETURN FROM HX-503 TO BOILER	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-521A	1"-CU-DCW-??	PI-04	1/2"	LOCAL TEMPERATURE GAUGE	HX-501 HOT WATER OUTLET	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-521B	2"-CU-GLR-??	PI-04	1/2"	LOCAL TEMPERATURE GAUGE	GLYCOL RETURN FROM HX-501 TO BOILER	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-522A	1"-CU-DCW-??	PI-05	1/2"	LOCAL TEMPERATURE GAUGE	HX-502 HOT WATER OUTLET	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL
TI-522B	1-1/2"-CU-GLR-??	PI-05	1/2"	LOCAL TEMPERATURE GAUGE	GLYCOL RETURN FROM HX-502 TO BOILER	BLUEFIN GTH35LF OR APPROVED EQUAL IN THERMOWELL

	TIE-POINT LIST	Project No.:	50270.63	Revision:	0
		Client:	Cith of Bethel	Date:	4/18/2024
		Location:	Bethel, AK	By:	SAB
				Checked:	

NUMBER	ON P&ID	LINE NUMBER	DESCRIPTION
TP-1	PI-03	8"-VIC-DCW-1022	INSTALL NEW 8" SCHEDULE 80 PVC HIGH DEMAND HEADER AND ASSOCIATED VALVES FROM DISCHARGE FLANGE OF EXISTING HIGH DEMAND PUMP (P-310). ROUTE HEADER TOWARDS EAST WALL OF BUILDING, INTO PIPE RACK, AND NORTH TO THE CIRCULATION PUMP ROOM.
TP-2	PI-03	6"-VIC-DCW-1007	INSTALL NEW 6" LINE FROM EXISTING PRESSURE PUMP HEADER TO LOOP C SUPPLY UPSTREAM OF MAGNETIC FLOW METER FE-416.
TP-3	PI-04	8"-VIC-DCW-1031	CONNECT NEW 8" SCHEDULE 80 PVC HIGH DEMAND HEADER TO EXISTING 6" SCHEDULE 80 PVC CIRCULATION LOOP A RETURN. INSTALL 8"x6" REDUCER AND MOTOR OPERATOR TO EXISTING BUTTERFLY VALVE TO CREATE MOV-322B.
TP-4	PI-05	6"-PVC-DCW-1030	CONNECT NEW 8" SCHEDULE 80 PVC HIGH DEMAND HEADER TO EXISTING 6" SCHEDULE 80 PVC CIRCULATION LOOP B RETURN. INSTALL 8"x6" REDUCER AND MOTOR OPERATOR TO EXISTING BUTTERFLY VALVE TO CREATE MOV-332B.
TP-5	PI-04	6"-VIC-DCW-1027	CONNECT NEW 8" SCHEDULE 80 PVC HIGH DEMAND HEADER TO EXISTING 6" SCHEDULE 80 PVC CIRCULATION LOOP A SUPPLY. INSTALL 8"x6" REDUCER AND MOTOR OPERATOR TO EXISTING BUTTERFLY VALVE TO CREATE MOV-322C.
TP-6	PI-05	6"-VIC-DCW-1022	CONNECT NEW 8" SCHEDULE 80 PVC HIGH DEMAND HEADER TO EXISTING 6" SCHEDULE 80 PVC CIRCULATION LOOP B SUPPLY. INSTALL 8"x6" REDUCER AND MOTOR OPERATOR TO EXISTING BUTTERFLY VALVE TO CREATE MOV-332C.
TP-7	PI-04	1"-CU-DCW-??	CONNECT NEW HEAT EXCHANGER HX-501 WARM WATER RETURN TO EXISTING WATER CIRCULATION LOOP AT LOOP A CIRCULATION PUMP SUCTION. EXISTING PIPING CAN BE REUSED AS MUCH AS IS PRACTICAL.
TP-8	PI-04	1"-CU-DCW-??	CONNECT NEW HEAT EXCHANGER HX-501 COLD WATER SUPPLY TO EXISTING WATER CIRCULATION LOOP AT LOOP A CIRCULATION PUMP DISCHARGE. EXISTING PIPING CAN BE REUSED AS MUCH AS IS PRACTICAL.
TP-9	PI-05	1"-CU-DCW-??	CONNECT NEW HEAT EXCHANGER HX-502 WARM WATER RETURN TO EXISTING WATER CIRCULATION LOOP AT LOOP B CIRCULATION PUMP SUCTION. EXISTING PIPING CAN BE REUSED AS MUCH AS IS PRACTICAL.
TP-10	PI-05	1"-CU-DCW-??	CONNECT NEW HEAT EXCHANGER HX-502 COLD WATER SUPPLY TO EXISTING WATER CIRCULATION LOOP AT LOOP B CIRCULATION PUMP DISCHARGE. EXISTING PIPING CAN BE REUSED AS MUCH AS IS PRACTICAL.
TP-11	PI-05	6"-PVC-DCW-??	CAP EXISTING PRESSURE HEADER AT VALVE CV-391.
TP-12	PI-05	6"-PVC-DCW-??	CAP EXISTING PRESSURE HEADER AT VALVE CV-392.
TP-13	PI-05	6"-PVC-DCW-??	CAP EXISTING PRESSURE HEADER AT VALVE CV-393. PROVIDE PIPE SUPPORT OR HANGER TO SUPPORT END OF PRESSURE HEADER PIPING AND VALVES CV-391/392/393.
TP-14	PI-04	4"PVC-DCW-1028	LOOP A SUPPLY PIPING WILL REQUIRE MODIFICATION TO MAKE ROOM FOR NEW 8" HIGH DEMAND HEADER. THESE TWO TIE POINTS ARE THE ENDS OF THAT RELOCATED PIPE SPOOL.
TP-15	PI-04	4"PVC-DCW-1028	LOOP A SUPPLY PIPING WILL REQUIRE MODIFICATION TO MAKE ROOM FOR NEW 8" HIGH DEMAND HEADER. THESE TWO TIE POINTS ARE THE ENDS OF THAT RELOCATED PIPE SPOOL.
TP-16	PI-07	4"-STL-GLS-??	CONNECT TO EXISTING GLYCOL SUPPLY HEADER NEAR BACK CORNER BEHIND EXISTING BOILERS. CREATE NEW SUPPLY HEADER FOR NEW HEAT EXCHANGERS.
TP-17	PI-07	4"-STL-GLS-??	CONNECT TO EXISTING GLYCOL RETURN HEADER NEAR BACK CORNER BEHIND EXISTING BOILERS. FROM NEW RETURN HEADER FOR NEW HEAT EXCHANGERS.



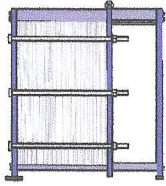
VALVE LIST

Project No.:	50149-01	Revision:	1
Client:	City of Bethel	Date:	19-Jan-23
Location:	Bozeman, MT	By:	GAP
		Checked:	SAB

Valve Number	Line / Equip. Number	On P&ID	Size (in)	Type	Connection	Part Number / Manufacturer / Notes
ARV-301	1"-CU-GLS-??	PI-05	1/8"	AIR RELEASE VALVE	THREADED	PLASTOMATIC ARV OR APPROVED EQUAL WITH OUTLET ROUTED TO FLOOR DRAIN
ARV-302	1"-CU-GLS-??	PI-04	1/8"	AIR RELEASE VALVE	THREADED	PLASTOMATIC ARV OR APPROVED EQUAL WITH OUTLET ROUTED TO FLOOR DRAIN
ARV-394	8"-PVC-DCW-1011	PI-06	2"	AIR RELEASE VALVE	THREADED	PLASTOMATIC ARV OR APPROVED EQUAL WITH OUTLET ROUTED TO FLOOR DRAIN
CV-376	3/4"-PVC-DCW-1034	PI-03	3/4"	CHECK VALVE	THREADED	SWING CHECK, APOLLO SERIES 168T OR APPROVED EQUAL
CV-387	3/4"-PVC-DCW-1035	PI-04	3/4"	CHECK VALVE	THREADED	SWING CHECK, APOLLO SERIES 168T OR APPROVED EQUAL
CV-390	3/4"-PVC-DCW-1035	PI-05	3/4"	CHECK VALVE	THREADED	SWING CHECK, APOLLO SERIES 168T OR APPROVED EQUAL
CV-375	8"-PVC-DCW-1022	PI-03	8"	CHECK VALVE	GROOVE OR FL	BUTTERFLY DESIGN. SPEARS, ASAH, OR APPROVED EQUAL
CV-404	3"-PVC-DCW-1002	PI-06	3"	CHECK VALVE	GROOVE OR FL	BUTTERFLY DESIGN. SPEARS, ASAH, OR APPROVED EQUAL
CV-405	3"-PVC-DCW-1004	PI-06	3"	CHECK VALVE	GROOVE OR FL	BUTTERFLY DESIGN. SPEARS, ASAH, OR APPROVED EQUAL
CV-411	2"-CU-DCW-1006	PI-06	2"	CHECK VALVE	GROOVE OR THR	HORIZONTAL SWING, VICTAULIC SERIES 712 OR APPROVED EQUAL
CV-430	4"-PVC-DCW-1007	PI-06	4"	CHECK VALVE	GROOVE OR FL	BUTTERFLY DESIGN. SPEARS, ASAH, OR APPROVED EQUAL
FV-410	2"-CU-DCW-1005	PI-06	2"	NEEDLE	N/A	INTEGRAL TO FI-417
FV-417	1/2"-CU-DCW-1034	PI-06	1/2"	NEEDLE	N/A	INTEGRAL TO FI-418
FV-350	1"-CU-DCW-??	PI-04	1"	NEEDLE	N/A	INTEGRAL TO FI-502
FV-351	1"-CU-DCW-??	PI-05	1"	NEEDLE	N/A	INTEGRAL TO FI-504
FV-510	2"-CU-GLR-??	PI-04	2"	NEEDLE	N/A	INTEGRAL TO FI-501
FV-511	1-1/2"-CU-GLR-??	PI-05	1-1/2"	NEEDLE	N/A	INTEGRAL TO FI-503
FV-523	2"-CU-GLR-??	PI-06	2"	NEEDLE	N/A	INTEGRAL TO FI-505
FV-524	2"-CU-GLR-??	PI-07	2"	NEEDLE	N/A	INTEGRAL TO FI-506
FV-525	1-1/2"-CU-GLR-??	PI-07	1-1/2"	NEEDLE	N/A	INTEGRAL TO FI-503B
HV-386	3/4"-PVC-DCW-1034	PI-03	3/4"	BALL VALVE	GROOVE OR THR	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-388	3/4"-CU-DCW-1035	PI-04	3/4"	BALL VALVE	GROOVE OR THR	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-391	3/4"-PVC-DCW-1035	PI-05	3/4"	BALL VALVE	GROOVE OR THR	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-385	8"-PVC-DCW-1022	PI-03	8"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-400	8"-PVC-DCW-1011	PI-06	8"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-401	3/4"-CU-DCW-1035	PI-06	3/4"	BALL VALVE	GROOVE OR THR	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-402	3"-PVC-DCW-1001	PI-06	3"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-403	3"-PVC-DCW-1003	PI-06	3"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-406	3"-PVC-DCW-1002	PI-06	3"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-420	3"-PVC-DCW-1004	PI-06	3"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-421	8"-PVC-DCW-1011	PI-06	8"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-423	2"-CU-DCW-1006	PI-06	2"	BALL VALVE	GROOVE OR THR	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-426	2"-CU-GLR-1005	PI-06	2"	BALL VALVE	GROOVE OR THR	VICTAULIC SERIES 726 OR APPROVED EQUAL
HV-440	6"-VIC-DCW-1007	PI-03	6"	BUTTERFLY VALVE	GROOVE OR FL	BRAY SERIES 31, VICTAULIC VIC-300 SERIES 761 MASTERSEAL OR APPROVED EQUAL
HV-508	2"-CU-GLS-??	PI-04	2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-509	2"-CU-GLR-??	PI-04	2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-511	1-1/2"-CU-GLS-??	PI-05	1 1/2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-513	1-1/2"-CU-GLR-??	PI-05	1 1/2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-520	2"-CU-DCW-1009	PI-06	2"	BALL VALVE	THREADED	APOLLO OR EQUAL.
HV-521	2"-CU-DCW-1010	PI-06	2"	BALL VALVE	THREADED	APOLLO OR EQUAL.
HV-525	2"-CU-GLS-??	PI-07	2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-526	2"-CU-GLS-??	PI-07	2"	GATE VALVE	THREADED	APOLLO OR EQUAL.
HV-527	1-1/2"-CU-DCW-??	PI-07	1 1/2"	GATE VALVE	THREADED	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
HV-528	1-1/2"-CU-DCW-??	PI-07	1 1/2"	GATE VALVE	THREADED	APOLLO SERIES 77CLF-A (LEAD FREE) OR APPROVED EQUAL
MOV-322B	6"-PVC-DCW-1031	PI-04	6"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 322B WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-322C	6"-PVC-DCW-1027	PI-04	6"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 322C WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-332B	6"-PVC-DCW-1030	PI-05	6"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 332B WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-332C	6"-PVC-DCW-1022	PI-05	6"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 332C WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-363	4"-PVC-DCW-??	PI-04	4"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 363 WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-366	4"-PVC-DCW-??	PI-05	4"	BUTTERFLY VALVE	FL	REPLACE EXISTING MANUAL VALVE 366 WITH MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR EQUAL.
MOV-420	6"-PVC-DCW-1001	PI-06	6"	BUTTERFLY VALVE	FL	MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR APPROVED EQUAL.
MOV-421A	8"-PVC-DCW-1033	PI-06	8"	BUTTERFLY VALVE	FL	MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR APPROVED EQUAL.
MOV-421B	8"-PVC-DCW-1008	PI-06	8"	BUTTERFLY VALVE	FL	MOTOR OPERATED VALVE, BRAY SERIES 31 WITH BRAY SERIES 70 DEVICENET ACTUATOR OR APPROVED EQUAL.
PSV-418	2"-CU-DCW-1006	PI-06	3/4"	PRESSURE SAFETY VALVE	THREADED	WATTS LF3L OR APPROVED EQUAL
PSV-501	1"-CU-DCW-??	PI-04	3/4"	PRESSURE SAFETY VALVE	THREADED	WATTS LF3L OR APPROVED EQUAL
PSV-502	1"-CU-DCW-??	PI-05	3/4"	PRESSURE SAFETY VALVE	THREADED	WATTS LF3L OR APPROVED EQUAL

	VALVE LIST	Project No.:	50149-01	Revision:	1
		Client:	City of Bethel	Date:	19-Jan-23
		Location:	Bozeman, MT	By:	GAP
				Checked:	SAB

Valve Number	Line / Equip. Number	On P&ID	Size (in)	Type	Connection	Part Number / Manufacturer / Notes
SV-501	2"-CU-GLS-??	PI-04	2"	SOLENOID VALVE	THREADED	ASCO REDHAT SERIES 220 OR APPROVED EQUAL, ACTUATED FROM EXISTING TS-501
SV-502	1-1/2"-CU-GLS-??	PI-04	1 1/2"	SOLENOID VALVE	THREADED	ASCO REDHAT SERIES 220 OR APPROVED EQUAL, ACTUATED FROM EXISTING TS-502
SV-522	2"-CU-GLS-??	PI-06	2"	SOLENOID VALVE	THREADED	ASCO REDHAT SERIES 220 OR APPROVED EQUAL, ACTUATED FROM NEW TT-401 / TIC-401



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PLATE HEAT EXCHANGER RFQ INFORMATION

Number of Units One (1) Budget Design Yes No
Project Name Bethel Heights MO, Ph1 Phone
Project Location Bethel, AK Fax
Representative E-mail

HX-501 (Loop A Glycol Heat Exchanger)

SIDE ONE

Medium 50% Prop. Glycol / Water
Flow Rate 8.5 gpm
Temp. In 180 °F
Temp. Out Varies (142 °F)
Pressure Drop <5 psig
Fouling Factor
Design Temp. 250 °F
Design Pressure 125 psig
Shroud Yes X No
Design Heat Load 149,557 Btu/h
Nozzle Size & Type 2" F-Threaded
Delivery
Purchase Date

SIDE TWO

Potable Water
20 gpm
35 °F
50 °F
<3 psig

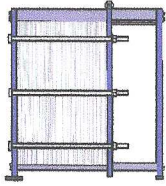
Comments:

This exchanger will be modified in Phase 2 of the project to have approximately half of the heat load. It is expected plates can be removed to accomplish this change.

List Code Requirements

- 1: Wetted parts in contact with potable water must be NSF-61 certified.
- 2:
- 3:

AMERIDEX PLATE EXCHANGERS



Ameridex Plate Exchangers

10 Eagles Court
Cartersville, GA 30120
(770) 386-7855 (Voice)
(770) 386-8350 (Fax)
ameridex1@cs.com

PLATE HEAT EXCHANGER RFQ INFORMATION

Number of Units One (1) Budget Design Yes No
Project Name Bethel Heights MO, Ph1 Phone
Project Location Bethel, AK Fax
Representative E-mail

HX-502 (Loop B Glycol Heat Exchanger)

SIDE ONE

Medium 50% Prop. Glycol / Water
Flow Rate 4.6 gpm
Temp. In 180 °F
Temp. Out Varies (142 °F)
Pressure Drop <5 psig
Fouling Factor
Design Temp. 250 °F
Design Pressure 125 psig
Shroud Yes X No
Design Heat Load 79,764 Btu/h
Nozzle Size & Type 2" F-Threaded
Delivery
Purchase Date

SIDE TWO

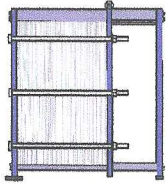
Potable Water
10.6 gpm
35 °F
50 °F
<3 psig

Comments:

List Code Requirements

- 1: Wetted parts in contact with potable water must be NSF-61 certified.
- 2:
- 3:

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10 Eagles Court
Cartersville, GA 30120
(770) 386-7855 (Voice)
(770) 386-8350 (Fax)
ameridex1@cs.com

PLATE HEAT EXCHANGER RFQ INFORMATION

Number of Units One (1) Budget Design Yes No
Project Name Bethel Heights MO, Ph1 Phone
Project Location Bethel, AK Fax
Representative E-mail

HX-503 (Tank Glycol Heat Exchanger)

SIDE ONE

Medium 50% Prop. Glycol / Water
Flow Rate 4.6 gpm
Temp. In 180 °F
Temp. Out Varies (142 °F)
Pressure Drop <5 psig
Fouling Factor
Design Temp. 250 °F
Design Pressure 125 psig
Shroud Yes X No
Design Heat Load 79,764 Btu/h
Nozzle Size & Type 2" F-Threaded
Delivery
Purchase Date

SIDE TWO

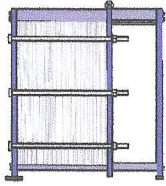
Potable Water
10.6 gpm
35 °F
50 °F
<3 psig

Comments:

List Code Requirements

- 1: Wetted parts in contact with potable water must be NSF-61 certified.
- 2:
- 3:

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(770) 386-8350 (Fax)
ameridex1@cs.com

PLATE HEAT EXCHANGER RFQ INFORMATION

Number of Units One (1) Budget Design Yes No
Project Name Bethel Heights MO, Ph1 Phone
Project Location Bethel, AK Fax
Representative E-mail

HX-504 (Loop C Glycol Heat Exchanger)

SIDE ONE

Medium 50% Prop. Glycol / Water
Flow Rate 28.2 gpm
Temp. In 180 °F
Temp. Out Varies (142 °F)
Pressure Drop <5 psig
Fouling Factor
Design Temp. 250 °F
Design Pressure 125 psig
Shroud Yes X No
Design Heat Load 0.5 MBtu/h
Nozzle Size & Type 2" F-Threaded
Delivery
Purchase Date

SIDE TWO

Potable Water
20 gpm
35 °F
85 °F
<3 psig

Comments:

List Code Requirements

- 1: Wetted parts in contact with potable water must be NSF-61 certified.
- 2:
- 3:

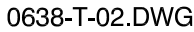
AMERIDEX PLATE EXCHANGERS

CITY OF BETHEL ALASKA

Page 413 of 450

 WARNING IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SCALE SCALE: NONE		RECORD DRAWING Note: To be filled out on original drawings upon project completion.		REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF ANCHORAGE AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF ANCHORAGE.		 TEC PRO SOLUTIONS Anchorage Alaska 907.346.8240		DRAWING 0648 T-01																																		
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REVISIONS						DESIGNED: CRW CHECKED: WES		DRAWN: JOE MWH JOB: -																																				

LEGEND	
	GROUND
	CONTROL RELAY
	RTU/PLC CONTROL INPUT
	RTU/PLC CONTROL OUTPUT
	SOLENOID VALVE
	RELAY CONTACT, NORMALLY OPEN
	RELAY CONTACT, NORMALLY CLOSED
	INDICATING LIGHT-G,A,V (LETTER INDICATES COLOR)
	POSITIVE
	NEGATIVE
	SCREW TERMINALS
	TERMINAL BLOCK (FIELD WIRING)
	IN PANEL DEVICE TERMINAL
	RADIO FREQUENCY PATH
	PUSH BUTTON NORMALLY OPEN
	PUSH BUTTON NORMALLY CLOSED
	FUSE
	TERMINAL BLOCK FUSE/SWITCH
	FUSE
	CONTROL RELAY OR COIL WITH SURGE SUPPRESSOR
	RECEPTACLE
	INSTRUMENT TAG
	LADDER CONTINUATION
	SEPARABLE CONNECTORS (ENGAGED)
	EXTERIOR DEVICE
	INTERIOR DEVICE
	FIELD WIRING
	CROSSING OF CONDUCTORS (NO CONNECTION)
	CONNECTION OF CONDUCTORS
	HAPPY CIRCUIT
	LIMIT SWITCH HELD OPEN (SPECIFY WHEN OPERATED)
	LIMIT SWITCH HELD CLOSED (SPECIFY WHEN OPERATED)
	LIMIT SWITCH NORMALLY CLOSED (SPECIFY WHEN OPERATED)
	LIMIT SWITCH NORMALLY OPEN (SPECIFY WHEN OPERATED)
	PULLCORD NORMALLY OPEN (SPECIFY WHEN OPERATED)
	TEMPERATURE SWITCH OPEN ON RISE
	TEMPERATURE SWITCH CLOSE ON RISE
	VACUUM OR PRESSURE SWITCH OPEN ON RISE
	VACUUM OR PRESSURE SWITCH CLOSE ON RISE
	FLOAT SWITCH OPEN ON RISE
	FLOAT SWITCH CLOSE ON RISE
	FLOW SWITCH NORMALLY CLOSED
	FLOW SWITCH NORMALLY OPEN
	TIMED CONTACT NORMALLY CLOSED TIME CLOSING
	TIMED CONTACT NORMALLY OPEN TIME OPENING
	TIMED CONTACT NORMALLY CLOSED TIME OPENING
	TIMED CONTACT NORMALLY OPEN TIME CLOSING
	2 POSITION SELECTOR SWITCH (SPECIFY WHEN OPERATED)
	3 POSITION SELECTOR SWITCH (SPECIFY WHEN OPERATED)
	ADDITIONAL SWITCH CONTACT (SPECIFY WHEN OPERATED)
	PULSED CONTACT
	CONTROL CIRCUIT TRANSFORMER
	THERMAL OVERLOAD ELEMENT
	CIRCUIT BREAKER
	AUDIBLE ALARM - H = HORN, B = BELL
	STROBE ALARM LIGHT
	WIRE LABEL NUMBER
	ANTENNA
	NOTE IDENTIFIER



- A – ARCHITECTURAL
- B – BURNER MANAGEMENT
- C – CONTROL WIRING & PANEL VIEW DRAWINGS
- D – DEVICE LOCATION, DESCRIPTIONS AND OTHER DIAGRAMS
- E – ELECTRICAL
- F – FIRE
- H – HYDRAULIC
- I – INTER CONNECTIVITY AND CONTROLS
- L – LOOP DIAGRAMS AND LOGICAL CONTROLLERS (PLC I/O DRAWINGS)
- M – MECHANICAL
- N – COMPUTER NETWORK OR NODE ADDRESSES
- P – PIPING AND INSTRUMENTATION DIAGRAM
- R – REFERENCE DRAWINGS
- S – SITE
- T – TITLE PAGE & LEGENDS
- U – UNDEFINED
- V – VESSELS
- X – DRAWING INDEX

- = AMP
- AI = ANALOG INPUT
- AO = ANALOG OUTPUT
- AUX = AUXILIARY
- C = COMMON
- CB = CIRCUIT BREAKER
- DI = DISCRETE INPUT
- DO = DISCRETE OUTPUT
- CCT = CONTROL CIRCUIT TRANSFORMER
- CR = CONTROL RELAY
- ETM = ELAPSE TIME METER
- F = FUSE
- FLR = FIELD LOSS RELAY
- G = GROUND
- GFI = GROUND FAULT INTERRUPTER
- ISR = INTRINSICALLY SAFE RELAY
- ITC = INSTRUMENT TERMINAL CABINET
- MS = MOTOR STARTER
- MTU = MASTER TELEMETRY UNIT
- MV = MAINLINE VALVE
- NC = NORMALLY CLOSED
- NIC = NOT IN CONTRACT
- NO = NORMALLY OPEN
- OL = OVERLOAD RELAY
- PLC = PROGRAMMABLE LOGIC CONTROLLER
- PMR = POWER MONITOR RELAY
- PRV = PRESSURE REGULATING VALVE
- PTT = PUSH TO TEST
- R = RUN
- RTU = REMOTE TELEMETRY UNIT
- S = START
- SA = SURGE ARRESTER
- SW = SWITCH
- TB = TERMINAL BLOCK
- UON = UNLESS OTHERWISE NOTED
- VCP = VALVE CONTROL PANEL

 WARNING: IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE: NONE		RECORD DRAWING Note: To be filled out on original drawings upon project completion.		REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.		 Anchorage Alaska 907.346.8240		DRAWING 0648 T-02																																	
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REVISIONS				Page 414 of 450																																							

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REVISIONS		

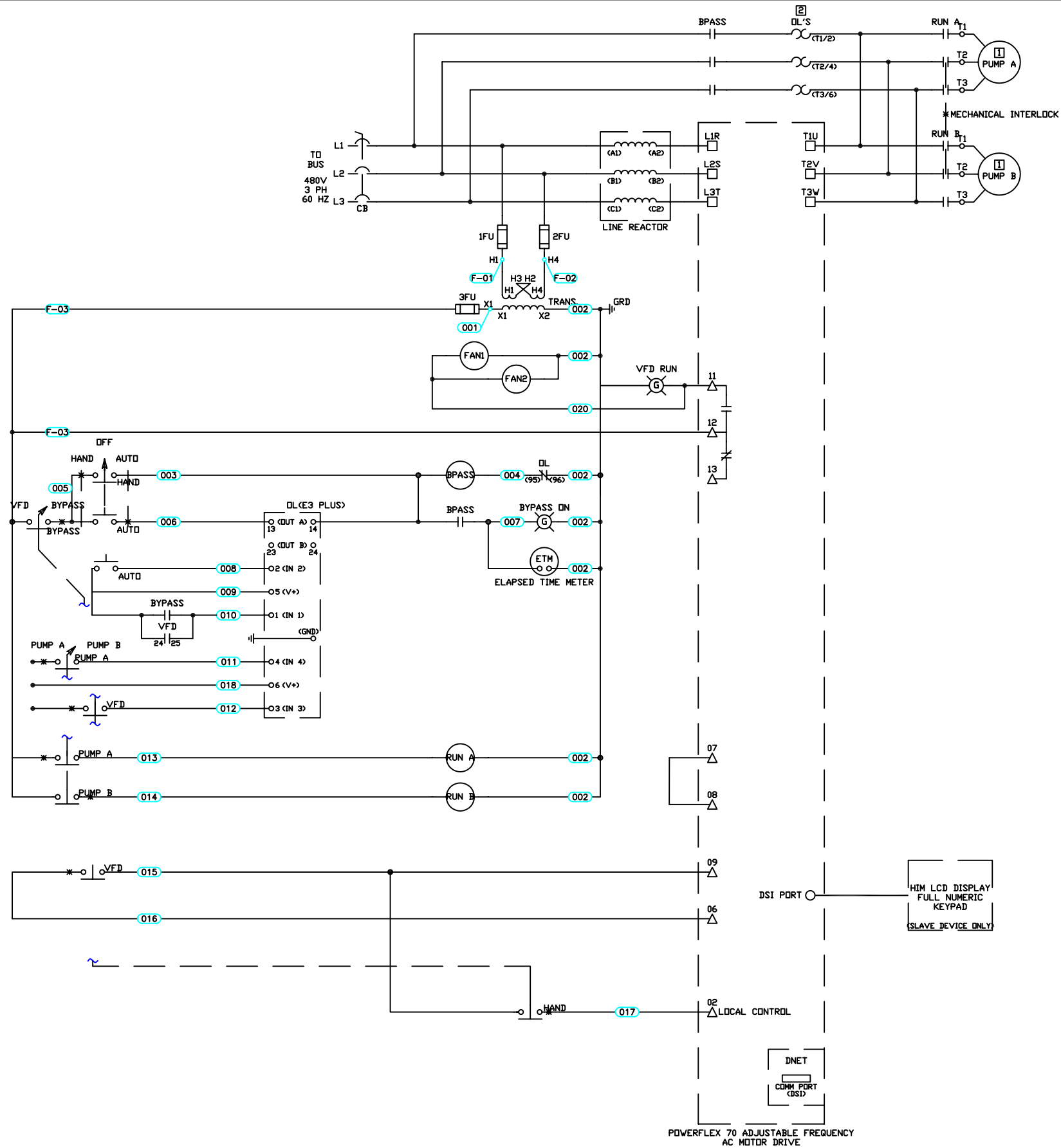
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SOLUTIONS
Anchorage Alaska
907.346.8240

NED: CRW DRAWN: JOE
KED: WES MWH JOB: -

			DRAWING
WATER DISTRIBUTION FACILITIES CITY OF BETHEL ALASKA BETHEL HEIGHTS WATER SYSTEM LOOP A CIRC VFD WITH BYPASS			0648 MCC-01
SCALE: NONE	DATE: 11/15/08	GRID: -	SHEET



0 WARNING: _{1/2}		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: NONE
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REVISIONS			-

RECORD DRAWING

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CONTRACTOR:

BY: _____ TITLE: _____

DATE: _____

2. DATA TRANSFERRED BY:

COMPANY: _____

DATE: _____

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COMPANY: _____

BY: _____ TITLE: _____

DATE: _____

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DESIGNED: CRW

CHECKED: WES

DRAWN: JOE

MWH JOB: -

TEC PRO

SOLUTIONS

Anchorage Alaska

907.346.8240

DRAWING

0648

MCC-02

WATER DISTRIBUTION FACILITIES

CITY OF BETHEL ALASKA

BETHEL HEIGHTS WATER SYSTEM

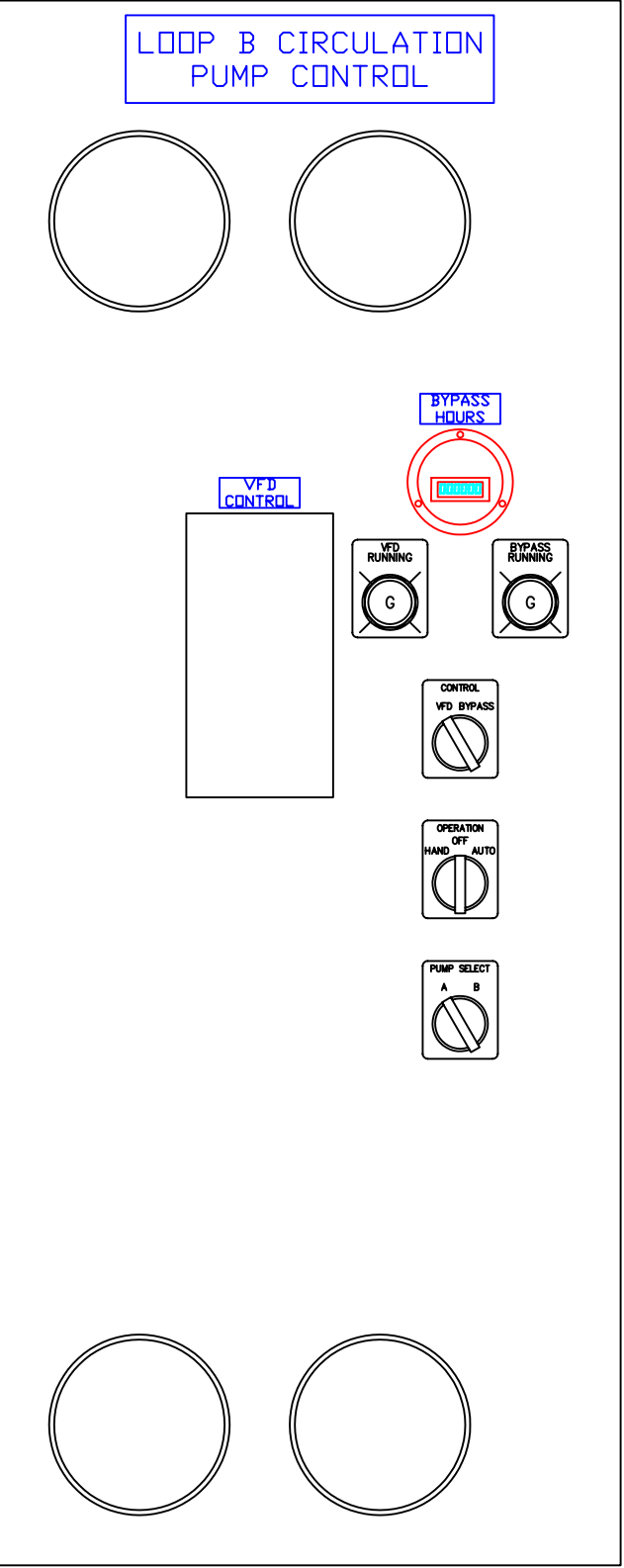
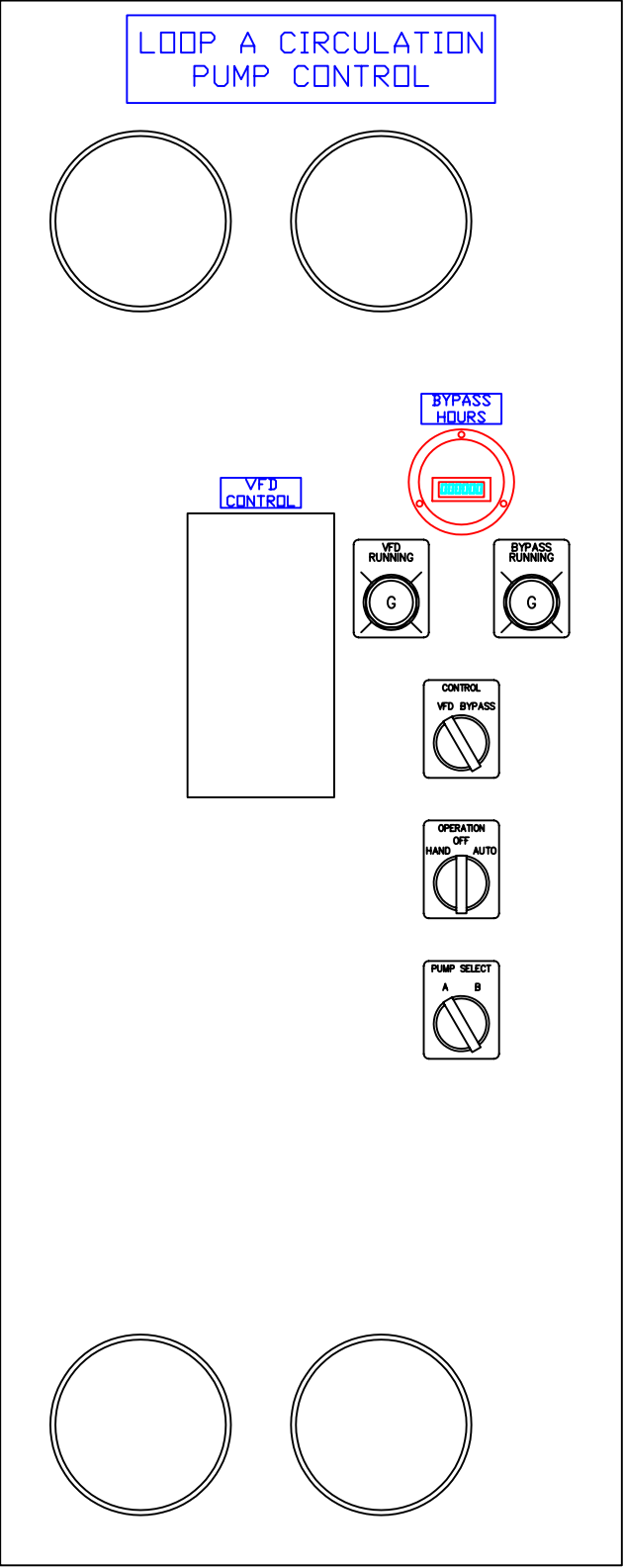
LOOP B CIRC VFD WITH BYPASS

SCALE: NONE

DATE: 11/15/08

GRID: -

SHEET



0 WARNING: 		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: NONE
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REVISIONS			

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Anchorage Alaska
907.346.8240

DESIGNED: CRW
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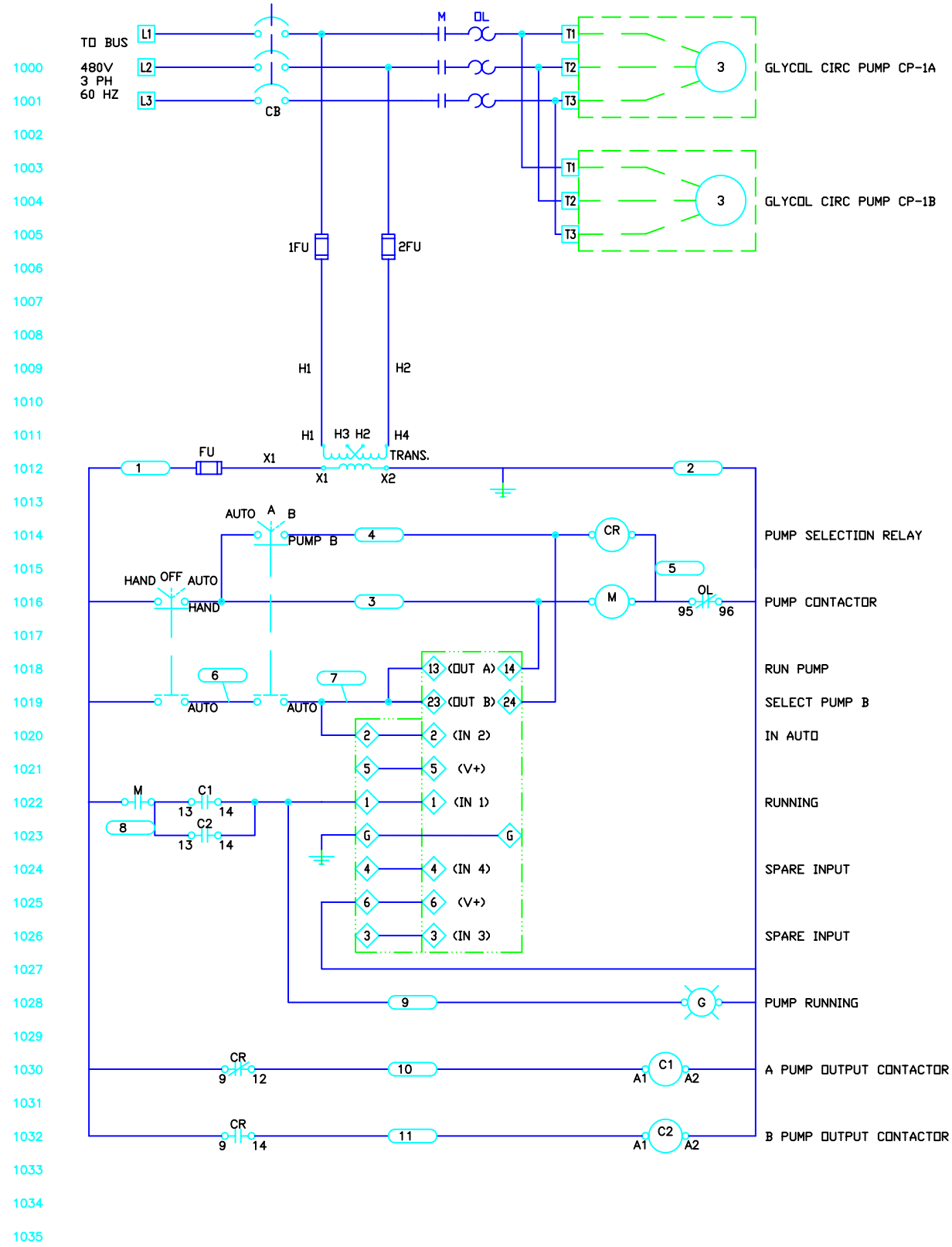
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MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
LOOP CIRC VFD FRONT VIEW

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING
0648
MCC-03

SHEET



BETHEL HEIGHTS WATER SYSTEM

0 WARNING 1/2 		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.
REV	DATE	DESCRIPTION
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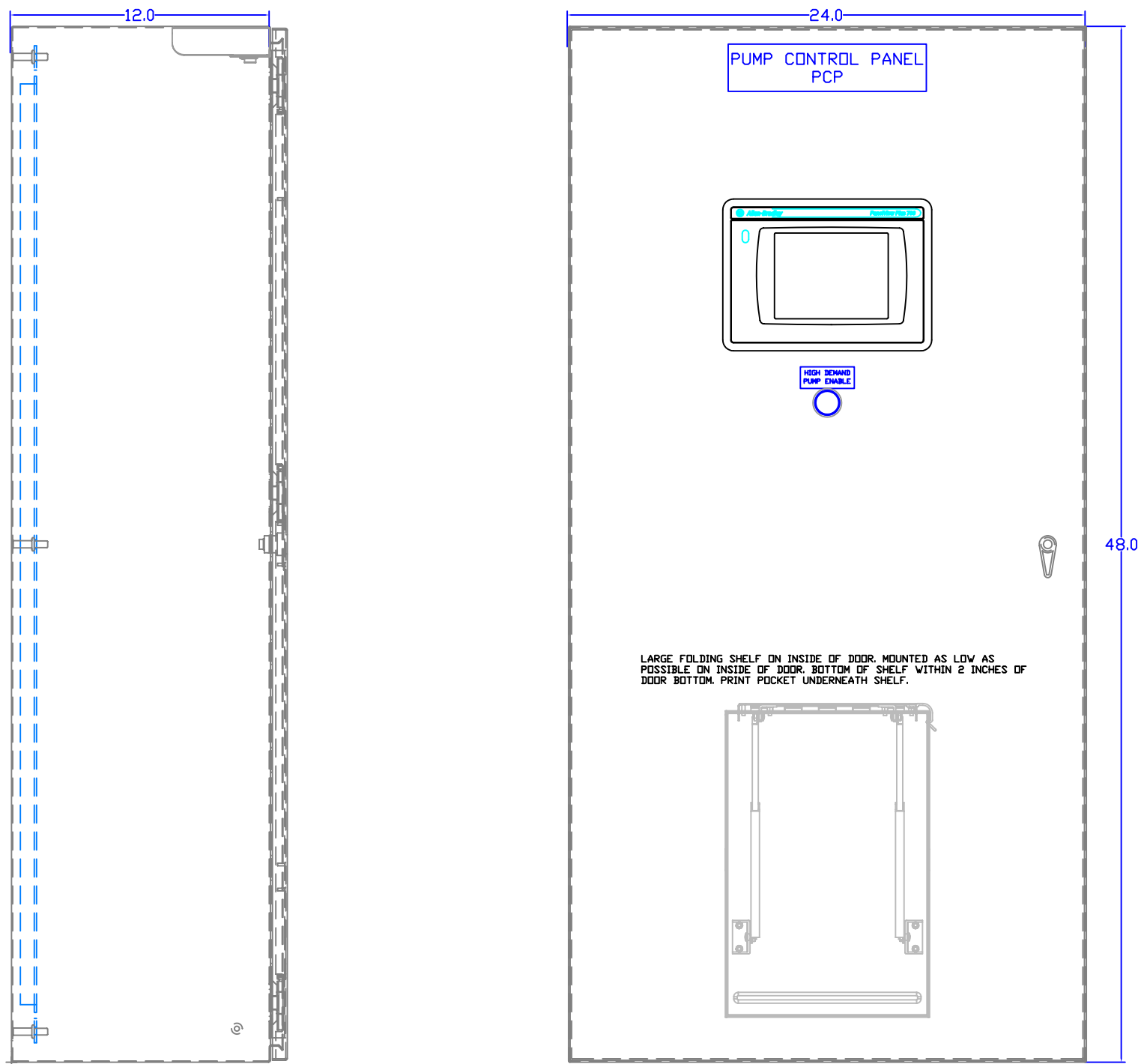
DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: 0648



MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY		
CITY OF BETHEL BETHEL HEIGHTS WTP GLYCOL CIRCULATION PUMPS PANEL WIRING		
SCALE: NONE	DATE: 11/15/08	GRID:

DRAWING
0648
MCC-04
SHEET



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:
.15 = 1.0

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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REVISIONS

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Anchorage Alaska

907.346.8240

DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
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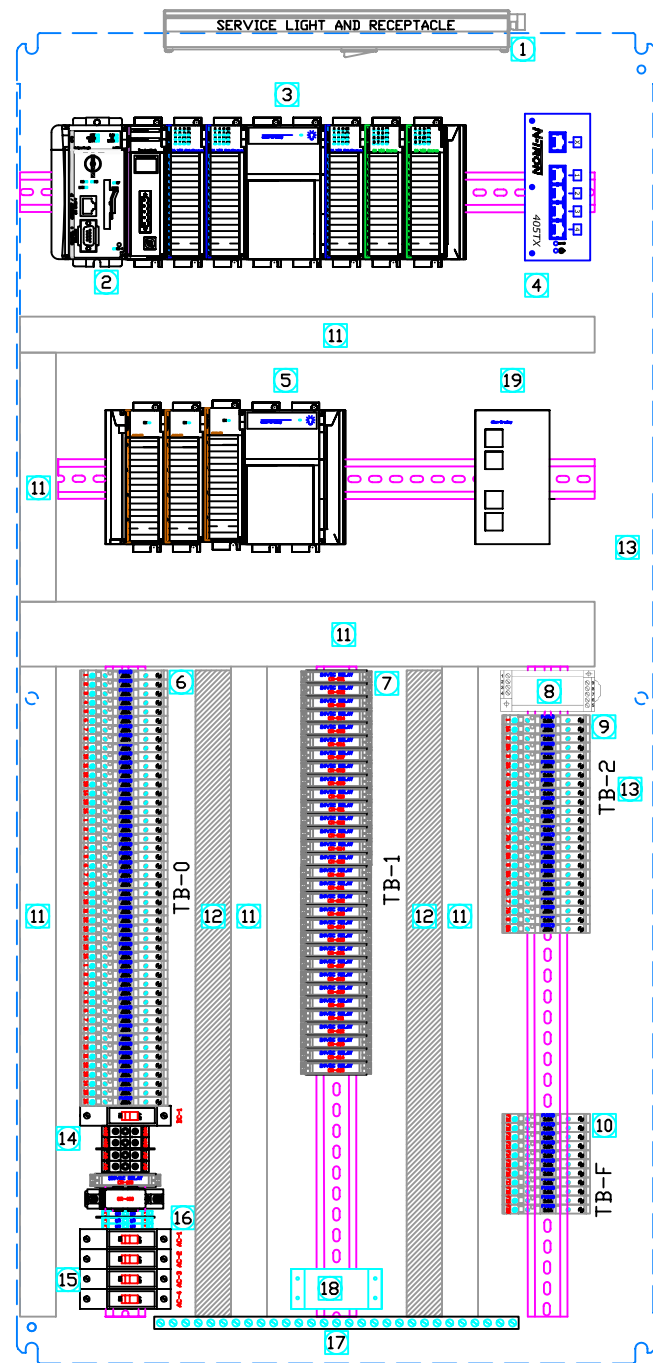
WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FRONT PANEL VIEW

SCALE: .15 = 1.0
DATE: 11/15/08
GRID: -

DRAWING

0648
EC-02

SHEET
Page 421 of 450



- 1 HOFFMAN ALF16M12R 120 VAC PANEL LIGHTING AND CONVENIENCE RECEPTACLE WITH MANUAL SWITCH.
- 2 ETHERNET COMMUNICATIONS ON PROCESSOR.
- 3 RACK 00 PLC HARDWARE, INSTALL PER MANUFACTURER'S REQUIREMENTS, PROVIDE 4 INCHES OF CLEAR TOP PANEL SPACE FOR WIRING AND 2 INCHES OF COOLING SPACE BELOW PLC. SEE SHEET EC-01 FOR ADDITIONAL RACK DETAILS.
- 4 DIN RAIL MOUNTED ETHERNET SWITCH. PROVIDE THE NECESSARY ETHERNET CABLES TO CONNECT TO THE PLC, DI AND OTHER ETHERNET DEVICES.
- 5 RACK 01 PLC HARDWARE, INSTALL PER MANUFACTURER'S REQUIREMENTS, PROVIDE 2 INCHES OF COOLING SPACE ABOVE & BELOW PLC. SEE SHEET EC-01 FOR ADDITIONAL RACK DETAILS.
- 6 TB-0, DISCRETE INPUTS, (48) FUSED & FEED THROUGH TERMINAL BLOCKS.
- 7 TB-1, DISCRETE OUTPUTS, (31) 24 VDC RELAY BLOCKS. RELAYS ENTRELEC 3000223.
- 8 24 VDC BATTERY VOLTAGE POWER MONITOR.
- 9 TB-2, ANALOG INPUTS (24); FUSED & FEED THROUGH W/GROUND TERMINAL BLOCKS. SEE TYPICAL ANALOG IO WIRING DETAILS AND PROVIDE JUMPERS AS NEEDED AT THE TERMINALS AND ON THE PLC WIRING ARM. COORDINATE WITH IL DRAWINGS AND RELATED DETAILS.
- 10 TB-F 24 VDC CARD SUPPLY FUSES AND OTHER PANEL POWER DISTRIBUTION FUSES, (11) FUSED & FEED THROUGH TERMINAL BLOCKS, SEE SHEET EC-04 FOR ADDITIONAL DETAILS AND TO CONFIRM QUANTITIES.
- 11 PANEL WIRING RACEWAY, PROVIDE WIRE TRAYS AND COVERS FOR PANEL AND FIELD WIRING. DO NOT FILL ABOVE 40% CROSS SECTIONAL AREA, ALLOWING FOR 20% SPARE WIRING. PROVIDE DEEPER TRAYS PRIOR TO WIDER TRAYS.
- 12 FIELD WIRING RACEWAY, PROVIDE WIRE TRAYS AND COVERS FOR PANEL AND FIELD WIRING. DO NOT FILL ABOVE 40% CROSS SECTIONAL AREA, ALLOWING FOR 20% SPARE WIRING. PROVIDE DEEPER TRAYS PRIOR TO WIDER TRAYS.
- 13 NEATLY TERMINATE AND BUNDLE ANALOG WIRING SEPARATELY FROM OTHER FIELD WIRING IN THE PANEL.
- 14 24 VDC MAIN BREAKER AND FIELD CONNECTIONS SUITABLE FOR 6 GAGE WIRE TERMINATIONS. PROVIDE SEPARATOR AS SHOWN.
- 15 120 VAC BREAKERS, BATTERY CHARGER, LIGHT WITH RECEPTACLE, POWER SUPPLY. KEEP AC WIRING OUT OF TRAYS AND AWAY FROM DC WIRING. ROUTE 120VAC WIRING TO LIGHT FIXTURE NEATLY TIE WRAPPED TO PANEL INTERIOR WITH STICKY BLOCKS. PROVIDE 14 GAGE WIRE FOR ALL AC WIRING.
- 16 INCOMING 120 VAC MAIN PANEL POWER CONNECTION. 120VAC L1 TO TERMINATE DIRECTLY ON BREAKER. PROVIDE FACTORY JUMPER AND ACCESSORIES TO JOIN BREAKERS AND FOR TERMINATION POINT AS NEEDED. TERMINATE NEUTRAL ON L2 TERMINAL. ADDITIONAL L1 AND L2 TERMINALS TO BE WIRED FOR BATTERY CHARGER SUPPLY. BATTERY CHARGER AC CONTROL RELAY; SIEMENS 15 AMP 3TX7110-5JC03 WITH 3TX7144-1E7 BASE, WIRE PER EC-04
- 17 GROUND BAR FOR PANEL AND CONDUIT GROUND WIRE CONNECTIONS. PROVIDE 2 INCHES OF CLEAR SPACE BELOW THE GROUND BAR.
- 18 SURGE SUPPRESSOR
- 19 9300 RADES ETHERNET MODEM

0 WARNING 1/2		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: .15 = 1.0
REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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REVISIONS			

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1. DATA PROVIDED BY: _____	
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CONTRACTOR: _____	DATE: _____
BY: _____	TITLE: _____
2. DATA TRANSFERRED BY: _____	
COMPANY: _____	DATE: _____
3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.	
DATA TRANSFER CHECKED BY: _____	DATE: _____
COMPANY: _____	BY: _____
DATE: _____	TITLE: _____

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DESIGNED: CRW	DRAWN: JOE
CHECKED: WES	MWH JOB: -

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907.346.8240

DESIGNED: CRW
CHECKED: WES

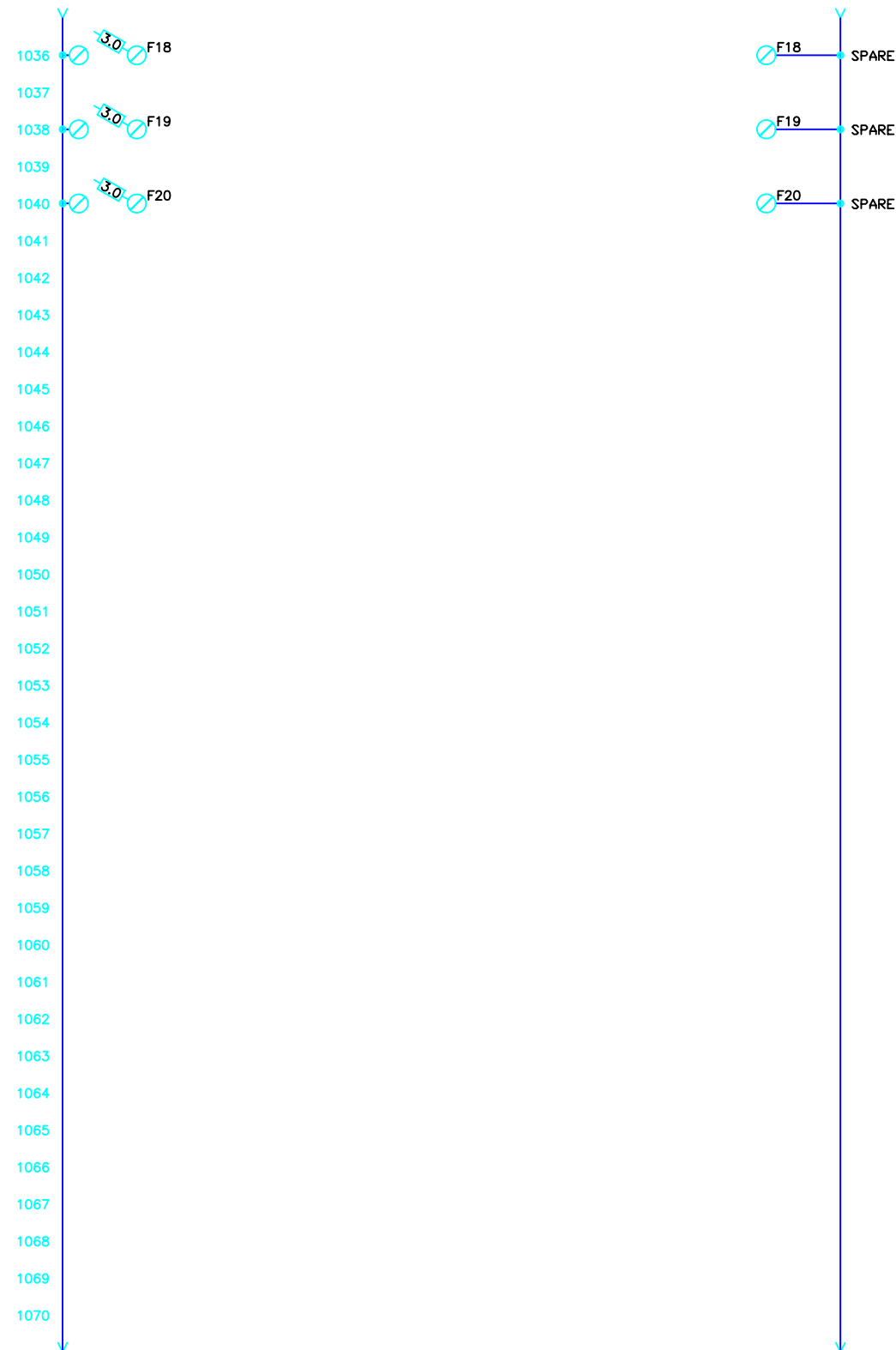
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MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
BACK PANEL VIEW

SCALE: .15 = 1.0
DATE: 11/15/08
GRID: -

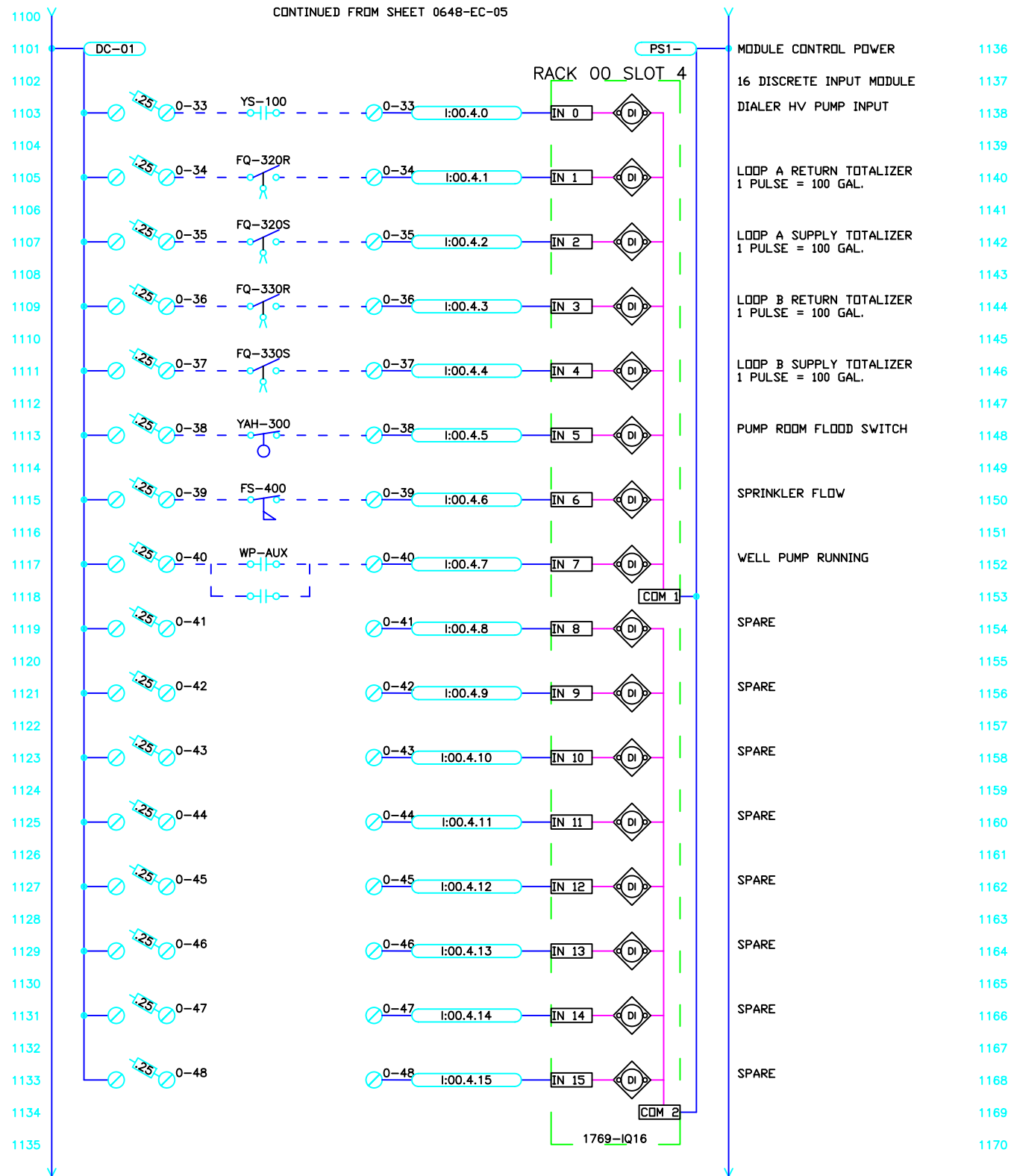
DRAWING
0648
EC-03

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Page 422 of 450



BETHEL HEIGHTS WATER SYSTEM

DRAWING
0648
EC-04
SHEET
Page 423 of 450



CONTINUED ON SHEET 0648-EC-07

BETHEL HEIGHTS WATER SYSTEM

0 WARNING: 1/2 		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: NONE
REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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REVISIONS			

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1. DATA PROVIDED BY:		3. Based on periodic field observations by the	
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BY: _____ TITLE: _____		COMPANY: _____	
DATE: _____		BY: _____ TITLE: _____	
2. DATA TRANSFERRED BY:		DATE: _____	
COMPANY: _____			
DATE: _____			

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DESIGNED: CRW	DRAWN: JOE
CHECKED: WES	MWH JOB: -

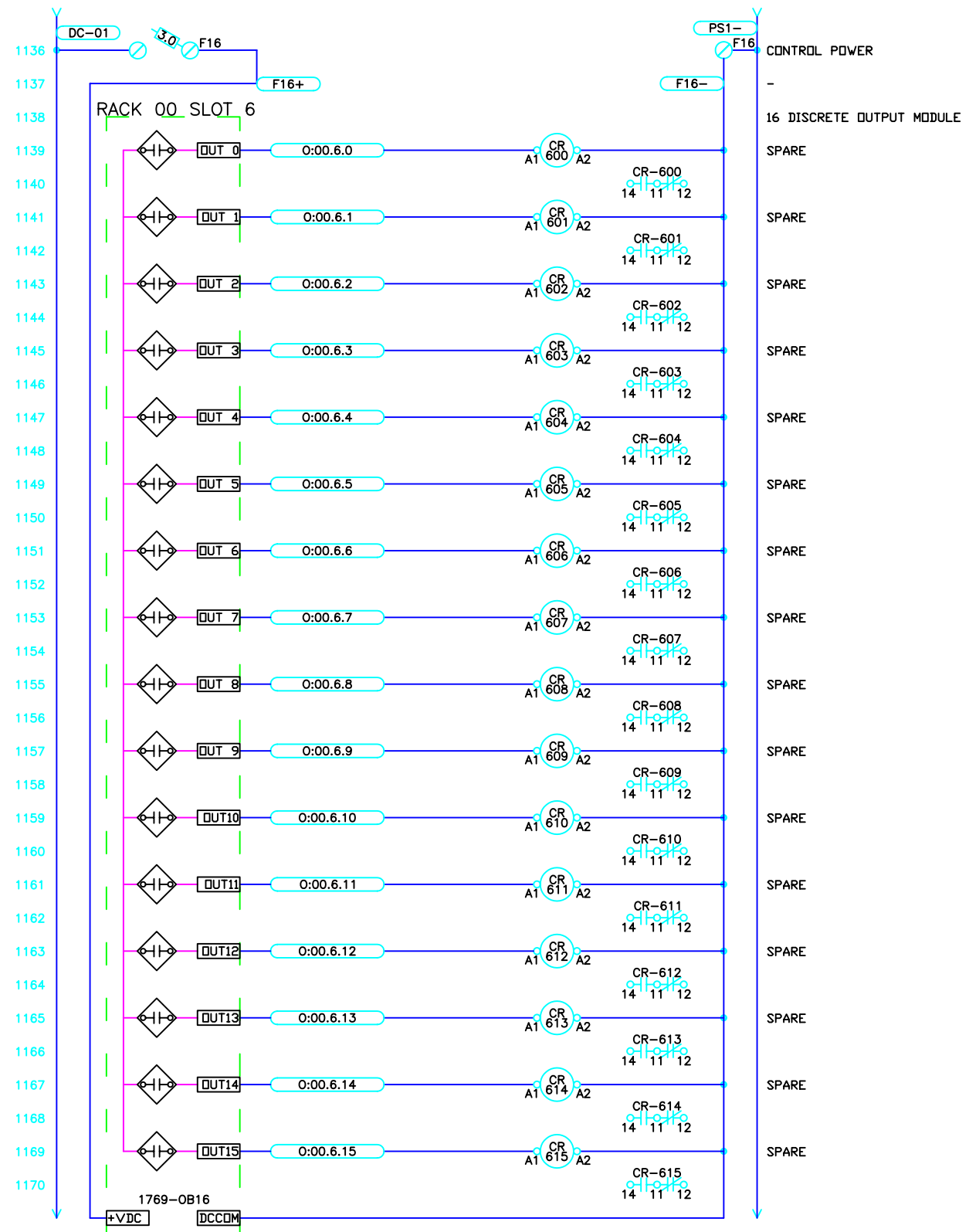
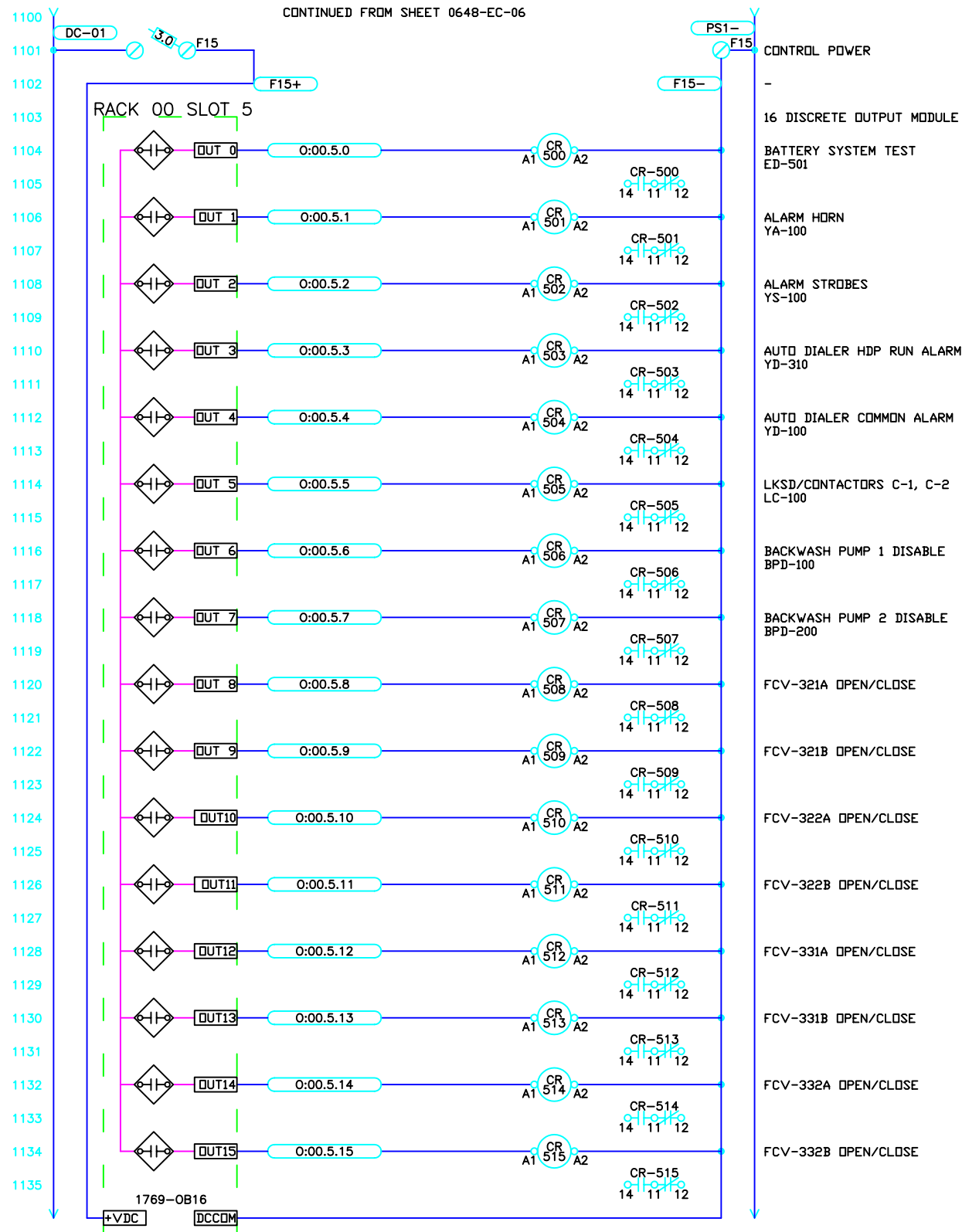
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Anchorage Alaska
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DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES CITY OF BETHEL ALASKA BETHEL HEIGHTS WATER SYSTEM PANEL WIRING		
SCALE: NONE	DATE: 11/15/08	GRID: -

DRAWING	
0648 EC-06	
SHEET Page 425 of 450	



CONTINUED ON SHEET 0632-EC-08

0 WARNING 1/2		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: NONE
REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
REVISIONS			-

RECORD DRAWING	Note: To be filled out on original drawings upon project completion.
1. DATA PROVIDED BY: _____	3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
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CONTRACTOR: _____	COMPANY: _____
BY: _____ TITLE: _____	BY: _____ TITLE: _____
DATE: _____	DATE: _____
2. DATA TRANSFERRED BY: _____	
COMPANY: _____	
DATE: _____	

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DESIGNED: CRW	DRAWN: JOE
CHECKED: WES	MWH JOB: -

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907.346.8240

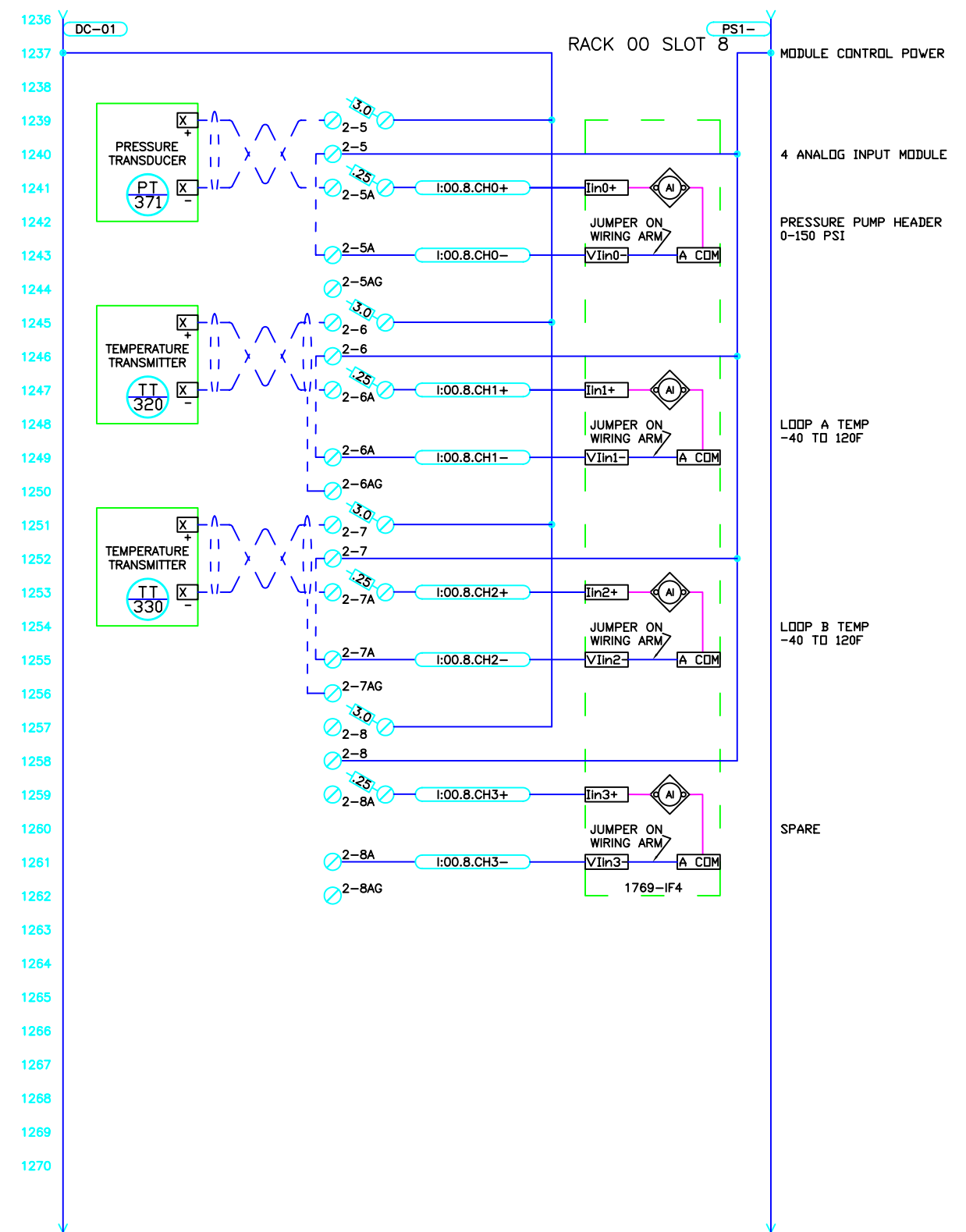
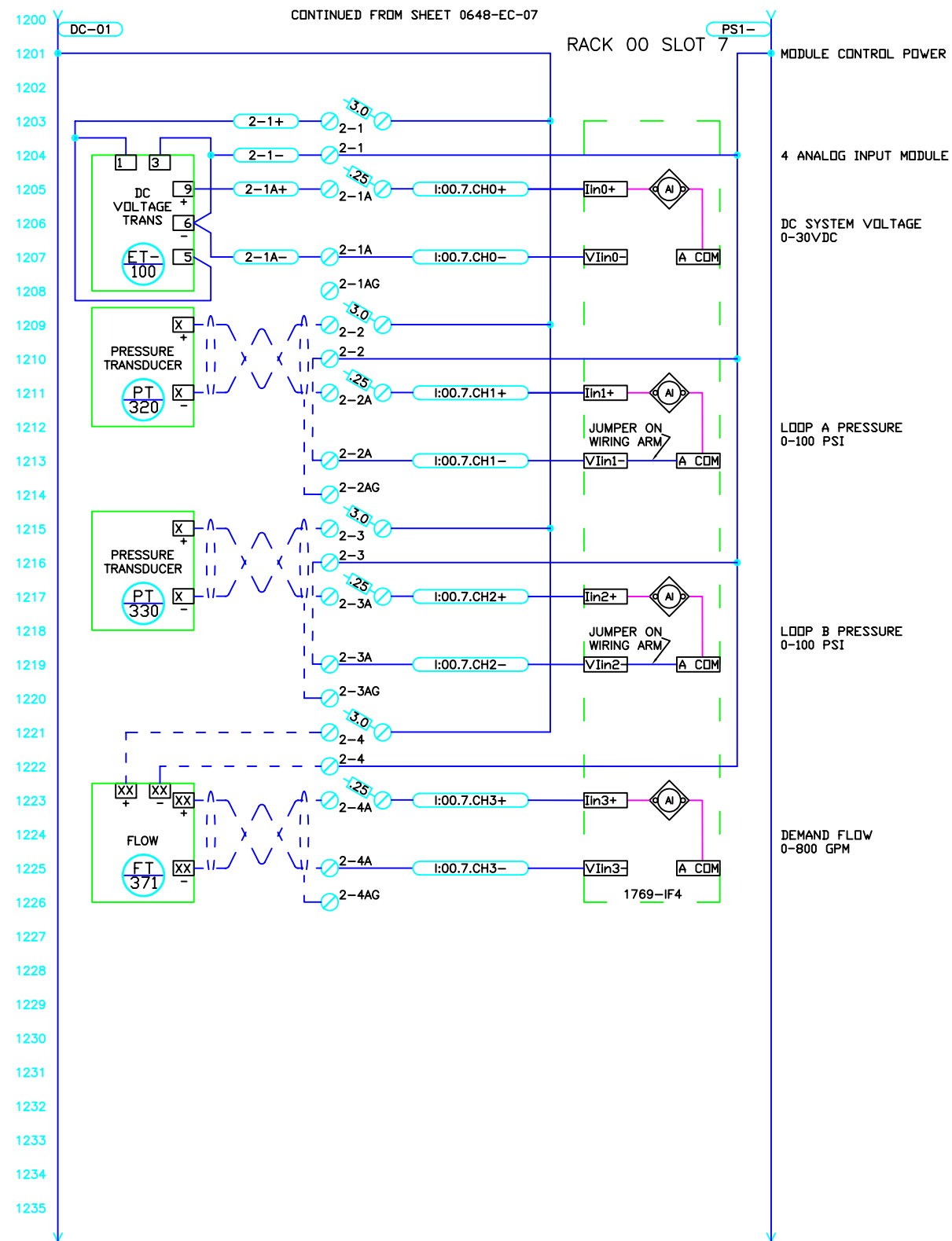
DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES CITY OF BETHEL ALASKA BETHEL HEIGHTS WATER SYSTEM PANEL WIRING		
SCALE: NONE	DATE: 11/15/08	GRID: -

DRAWING
0648
EC-07
SHEET
Page 426 of 450

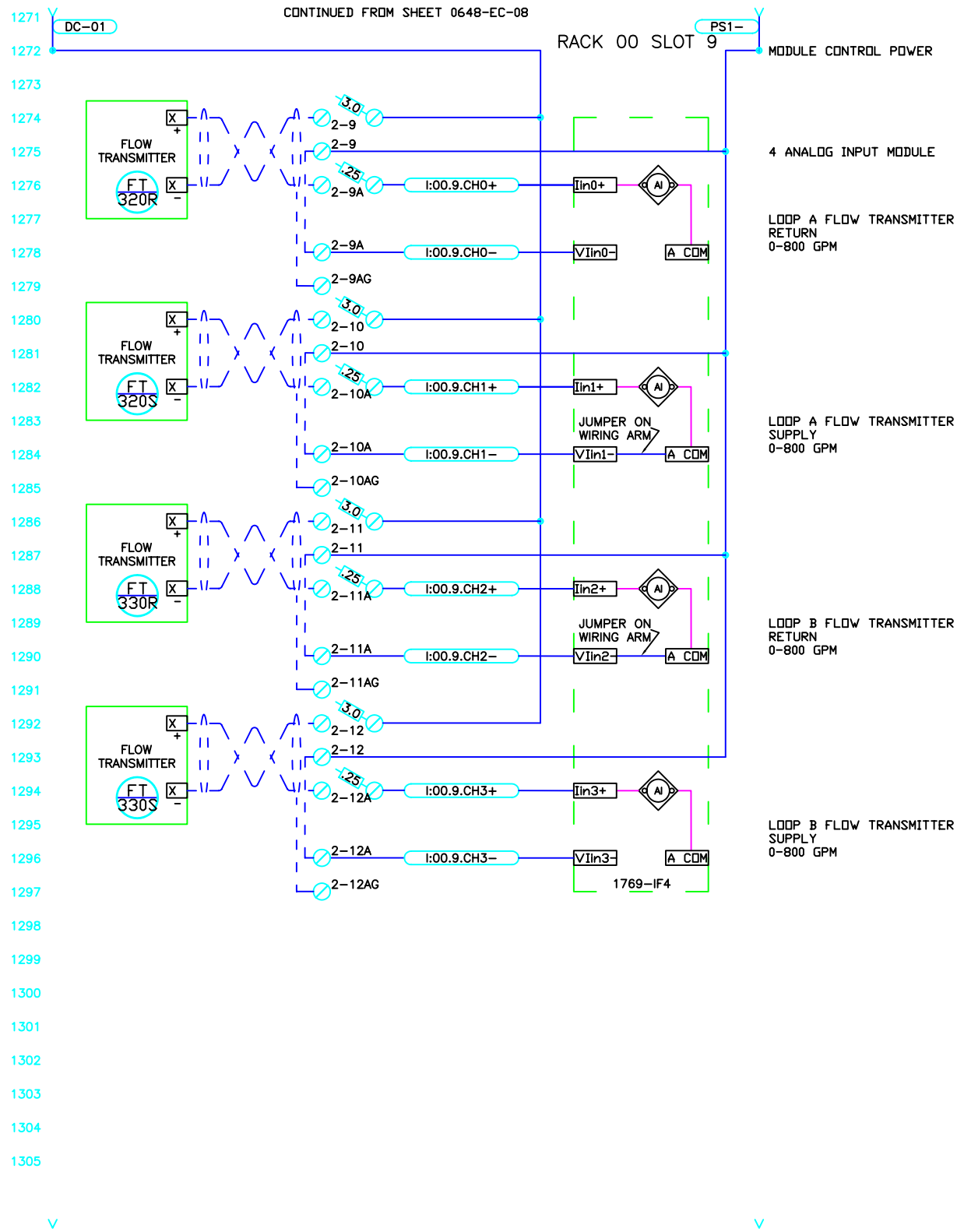
BETHEL HEIGHTS WATER SYSTEM



CONTINUED ON SHEET 0648-EC-09

BEIHEL HEIGHS WATER SYSTEM

0 WARNING 1/2 IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE: NONE		RECORD DRAWING Note: To be filled out on original drawings upon project completion.		REUSE OF DOCUMENTS THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.		TECOPRO SOLUTIONS Anchorage Alaska 907.346.8240		DRAWING 0648 EC-08																																	
<table><tr><td>REV</td><td>DATE</td><td>DESCRIPTION</td><td>BY</td></tr><tr><td>1.0</td><td>11/15/08</td><td>RECORD DRAWING</td><td>TPL</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr></table>		REV	DATE	DESCRIPTION	BY	1.0	11/15/08	RECORD DRAWING	TPL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1. DATA PROVIDED BY: _____ This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed. CONTRACTOR: BY: _____ TITLE: _____ DATE: _____		3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed. DATA TRANSFER CHECKED BY: _____ COMPANY: _____ BY: _____ TITLE: _____ DATE: _____		2. DATA TRANSFERRED BY: _____ COMPANY: _____ DATE: _____		WATER DISTRIBUTION FACILITIES CITY OF BETHEL ALASKA BETHEL HEIGHTS WATER SYSTEM PANEL WIRING		SCALE: NONE DATE: 11/15/08 GRID: -	
REV	DATE	DESCRIPTION	BY																																								
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REVISIONS				Page 427 of 450																																							



0 WARNING: 1/2		IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.	FULL SIZE SCALE: NONE
REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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REVISIONS			

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CONTRACTOR: _____		COMPANY: _____	
BY: _____ TITLE: _____		BY: _____ TITLE: _____	
DATE: _____		DATE: _____	
2. DATA TRANSFERRED BY: _____			
COMPANY: _____			
DATE: _____			

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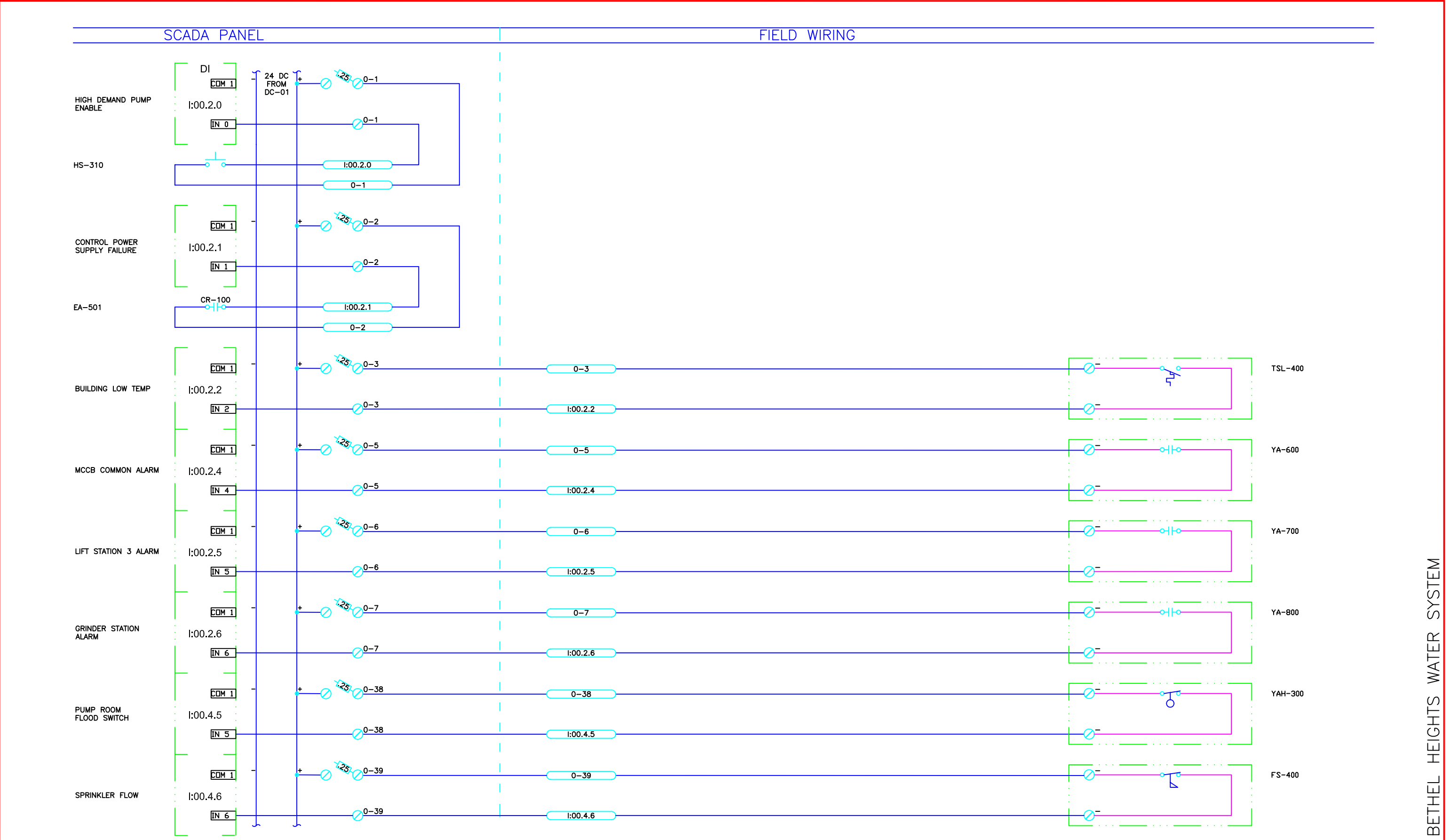
DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

SCALE: NONE		DATE: 11/15/08		GRID: -	
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WATER DISTRIBUTION FACILITIES CITY OF BETHEL ALASKA BETHEL HEIGHTS WATER SYSTEM PANEL WIRING	
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DRAWING	
0648 EC-09	
SHEET	
Page 428 of 450	



0 WARNING 1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE: NONE

RECORD DRAWING

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BY: _____ TITLE: _____
DATE: _____

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COMPANY: _____
DATE: _____

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CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FACILITY MONITORING

SCALE: NONE
DATE: 11/15/08
GRID: -

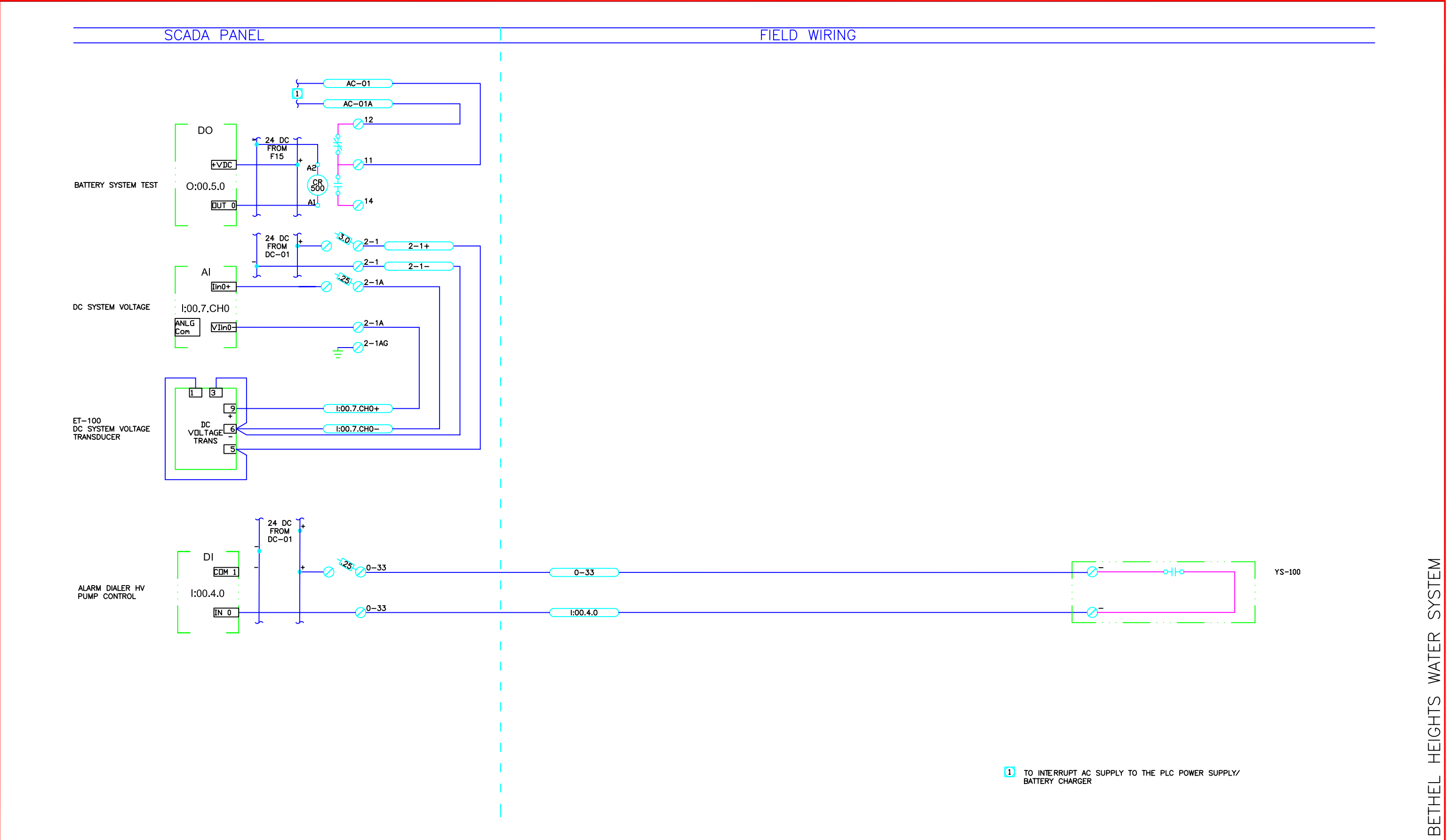
DRAWING

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IL-01

SHEET

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0 WARNING 1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE: NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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REVISIONS

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CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
DC POWER MONITORING

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING

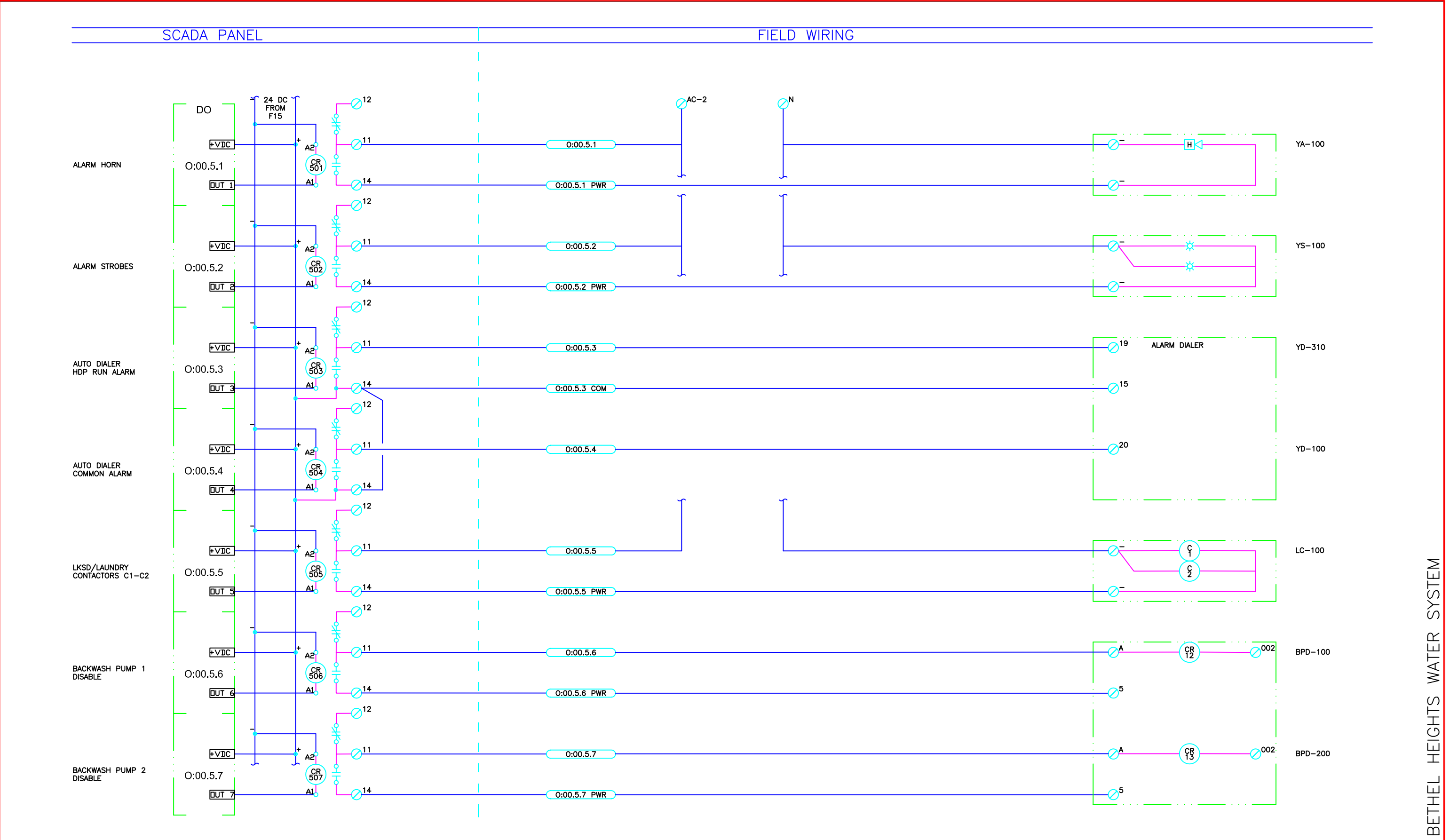
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IL-02

SHEET

Page 430 of 450

BETHEL HEIGHTS WATER SYSTEM



0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL

REVISIONS

RECORD DRAWING

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CHECKED: WES

DRAWN: JOE
MWH JOB: -

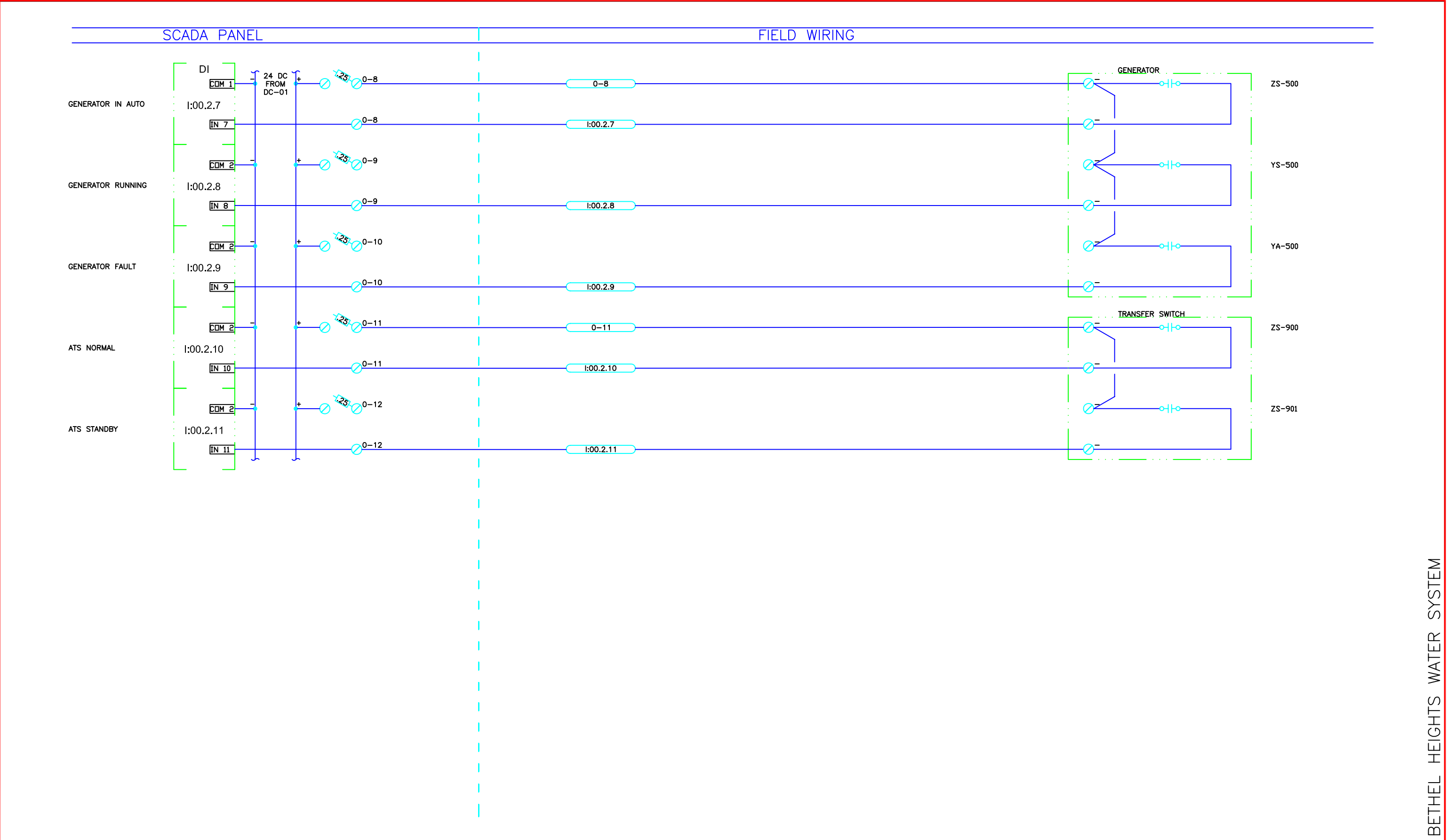
WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
ALARM & PERMISSIVE OUTPUTS

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING

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IL-03

SHEET
Page 431 of 450



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WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL

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MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
GENERATOR & TRANSFER SWITCH

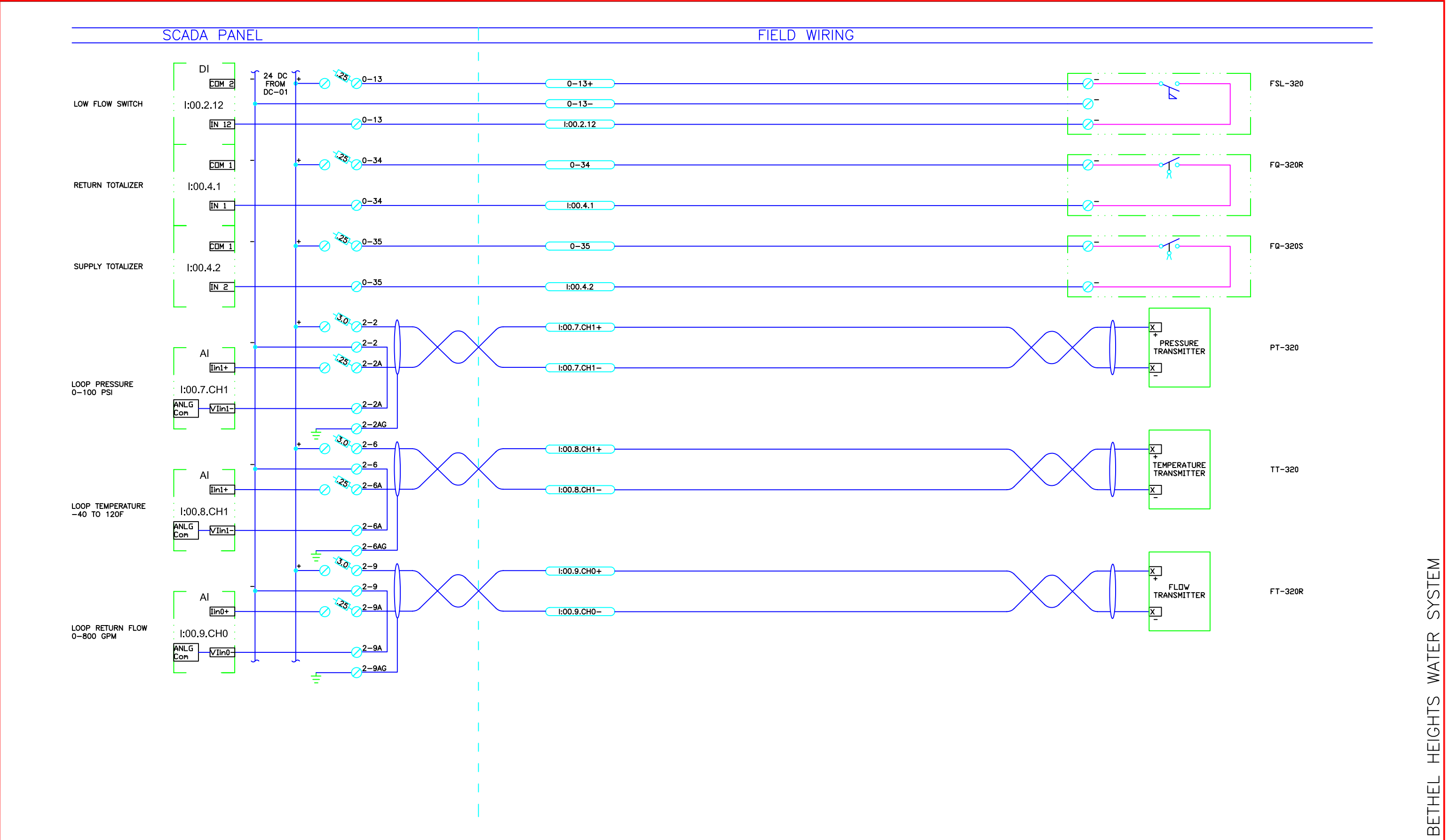
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DATE: 11/15/08
GRID: -

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IL-04

SHEET
Page 432 of 450

BETHEL HEIGHTS WATER SYSTEM



0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE: NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL

REVISIONS

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MWH JOB: -

WATER DISTRIBUTION FACILITIES

CITY OF BETHEL ALASKA

BETHEL HEIGHTS WATER SYSTEM

LOOP A STATUS

SCALE: NONE

DATE: 11/15/08

GRID: -

DRAWING

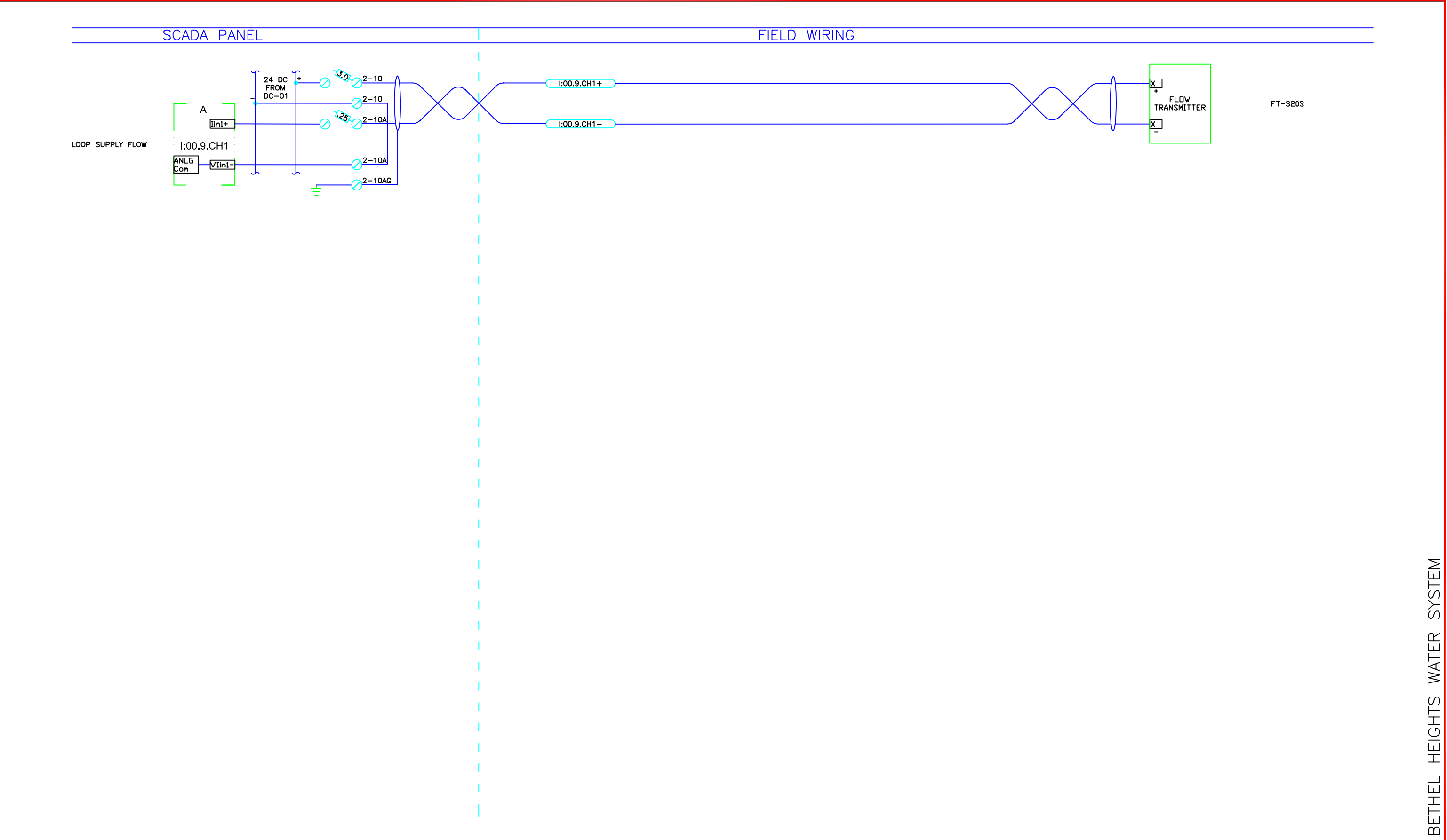
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SHEET

Page 433 of 450

BETHEL HEIGHTS WATER SYSTEM



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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-	-	-	-
-	-	-	-
-	-	-	-
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REVISIONS

RECORD DRAWING

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DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

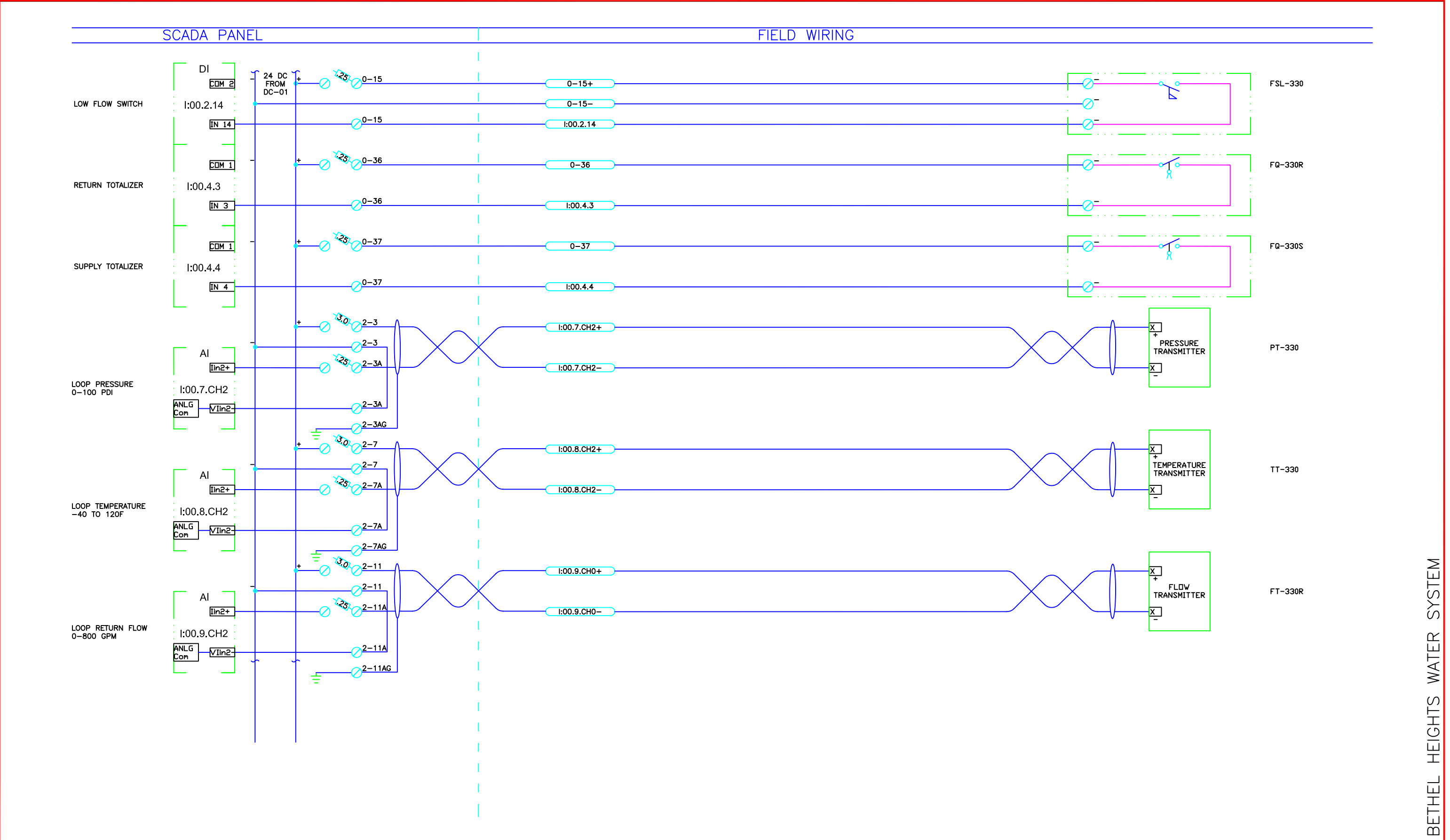
WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
LOOP A STATUS

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING

0648
IL-06

SHEET
Page 434 of 450



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL

REVISIONS

RECORD DRAWING

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CONTRACTOR: _____

BY: _____ TITLE: _____

DATE: _____

2. DATA TRANSFERRED BY:

COMPANY: _____

DATE: _____

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COMPANY: _____

BY: _____ TITLE: _____

DATE: _____

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907.346.8240

DESIGNED: CRW

CHECKED: WES

DRAWN: JOE

MWH JOB: -

WATER DISTRIBUTION FACILITIES

CITY OF BETHEL ALASKA

BETHEL HEIGHTS WATER SYSTEM

LOOP B STATUS

SCALE: NONE

DATE: 11/15/08

GRID: -

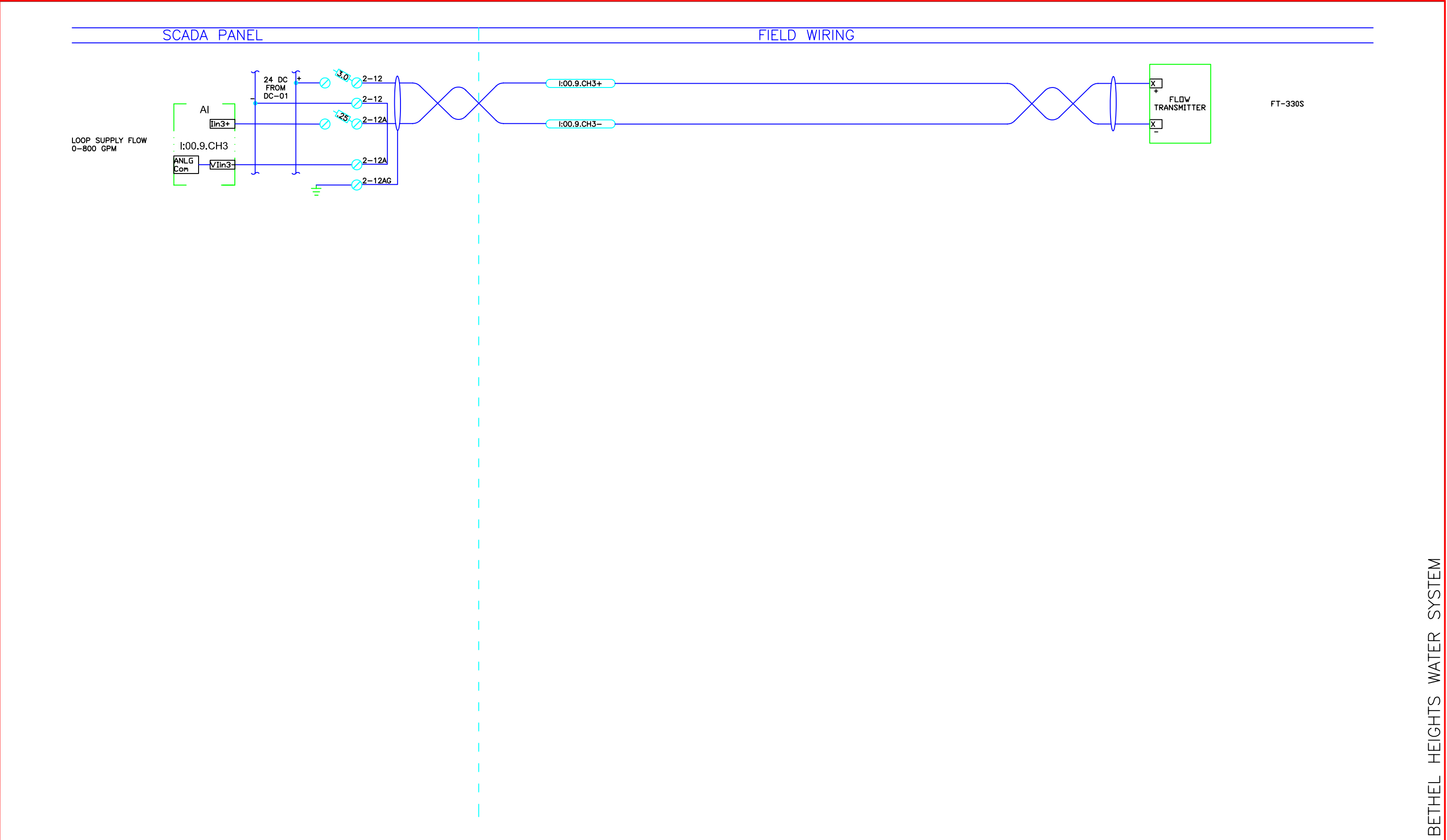
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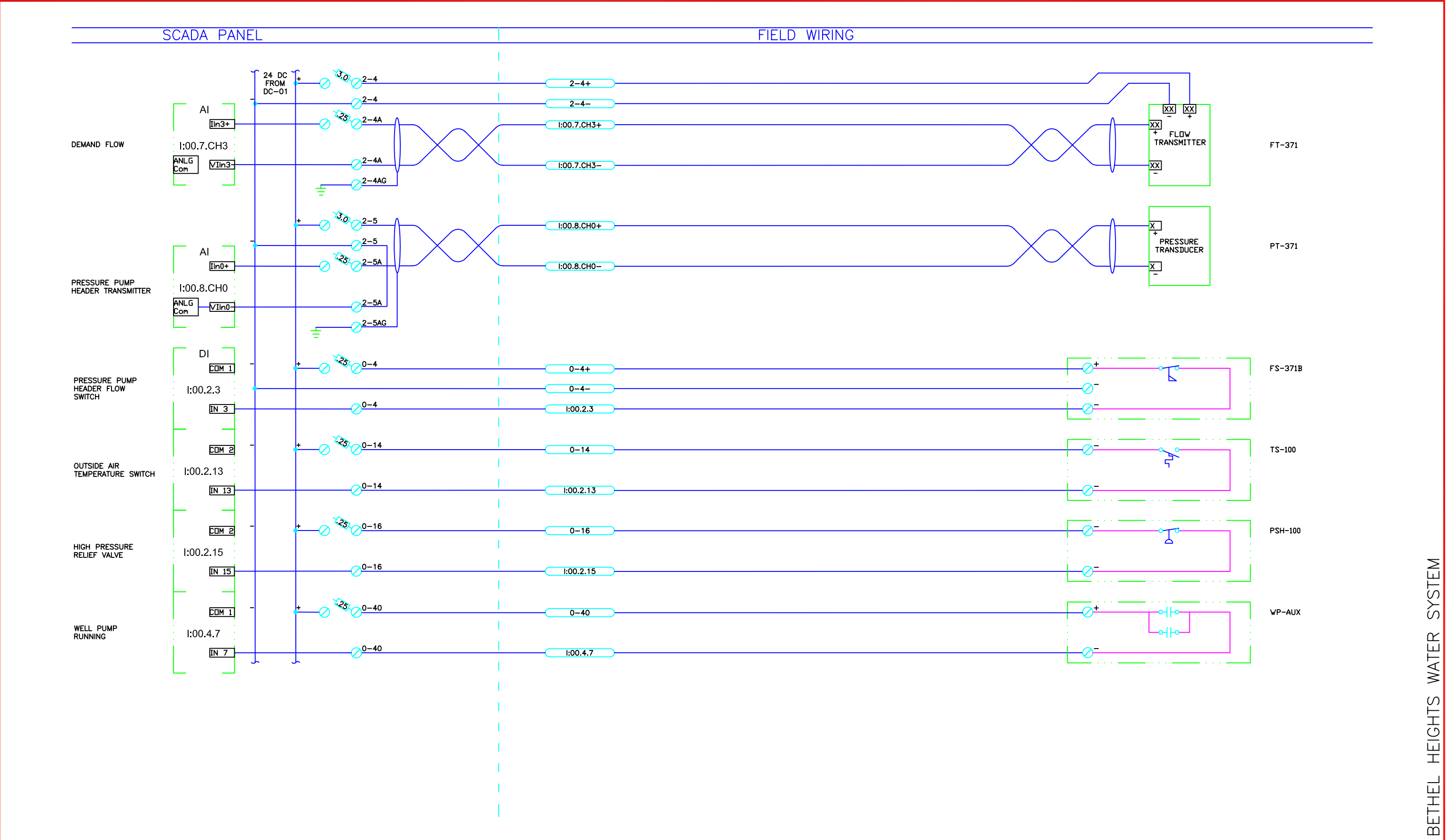
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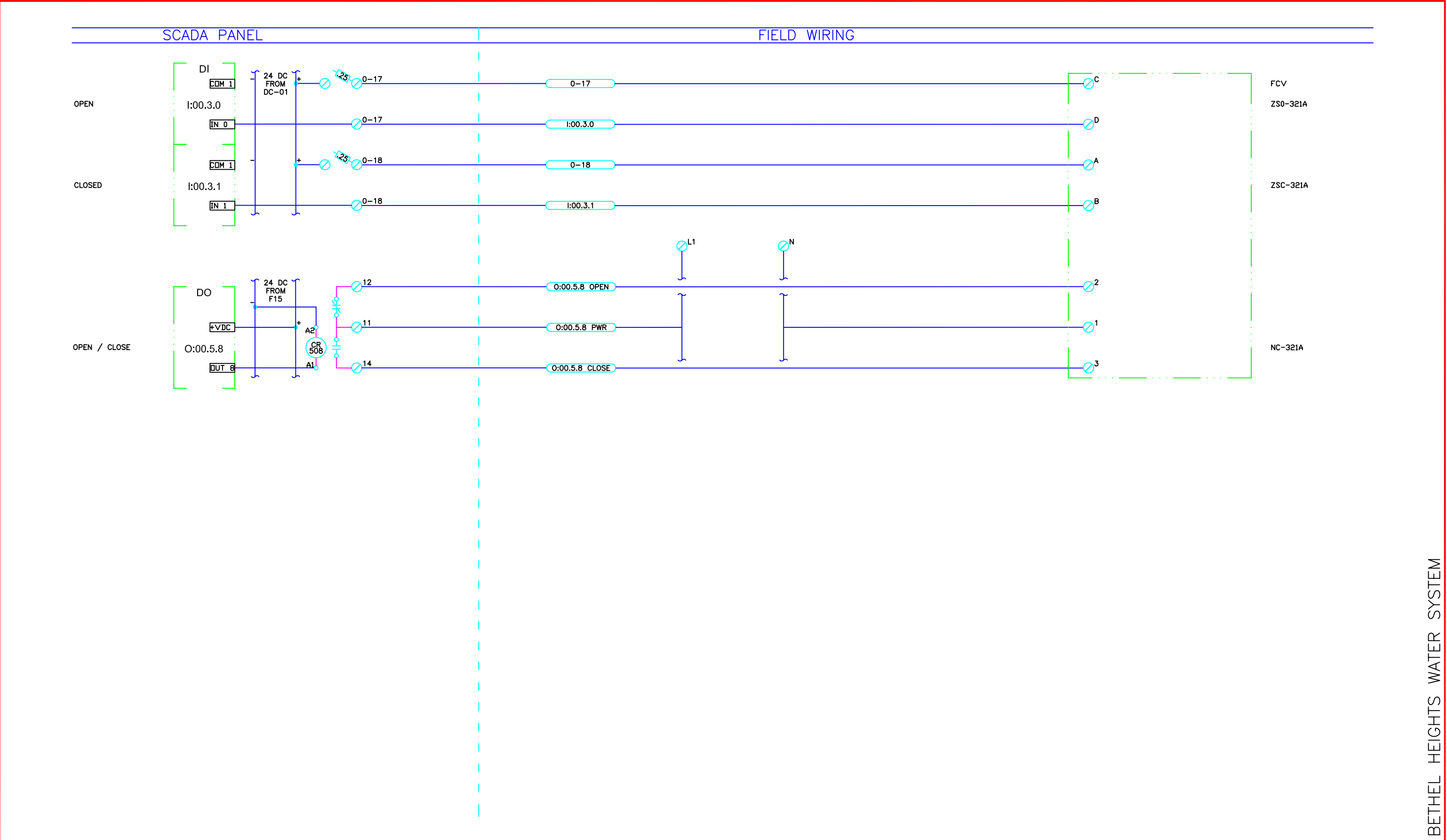
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Page 435 of 450





BETHEL HEIGHTS WATER SYSTEM



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

REVISIONS

RECORD DRAWING

Note: To be filled out on original drawings upon project completion.

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This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: _____
BY: _____ TITLE: _____
DATE: _____

2. DATA TRANSFERRED BY: _____
COMPANY: _____
DATE: _____

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: _____
COMPANY: _____
BY: _____ TITLE: _____
DATE: _____

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TEC

PRO

SOLUTIONS

Anchorage Alaska

907.346.8240

DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FCV-321A

SCALE: NONE
DATE: 11/15/08
GRID: -

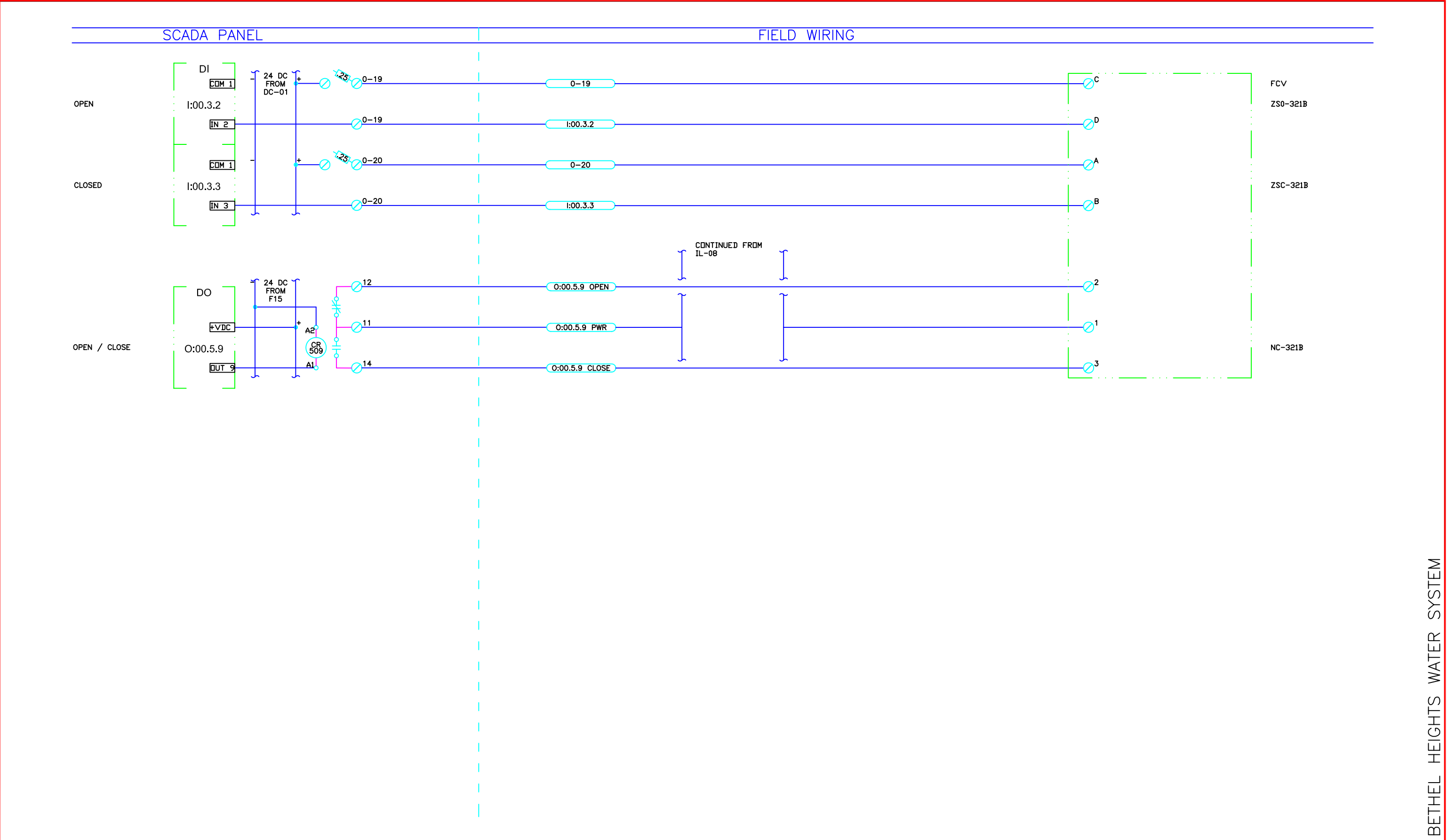
DRAWING

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SHEET

Page 438 of 450



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

1/2

IF BAR IS NOT 1/2 INCH, ADJUST DRAWING SCALE ACCORDINGLY.

FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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SOLUTIONS

Anchorage Alaska

907.346.8240

DESIGNED: CRW
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DRAWN: JOE
MWH JOB: -

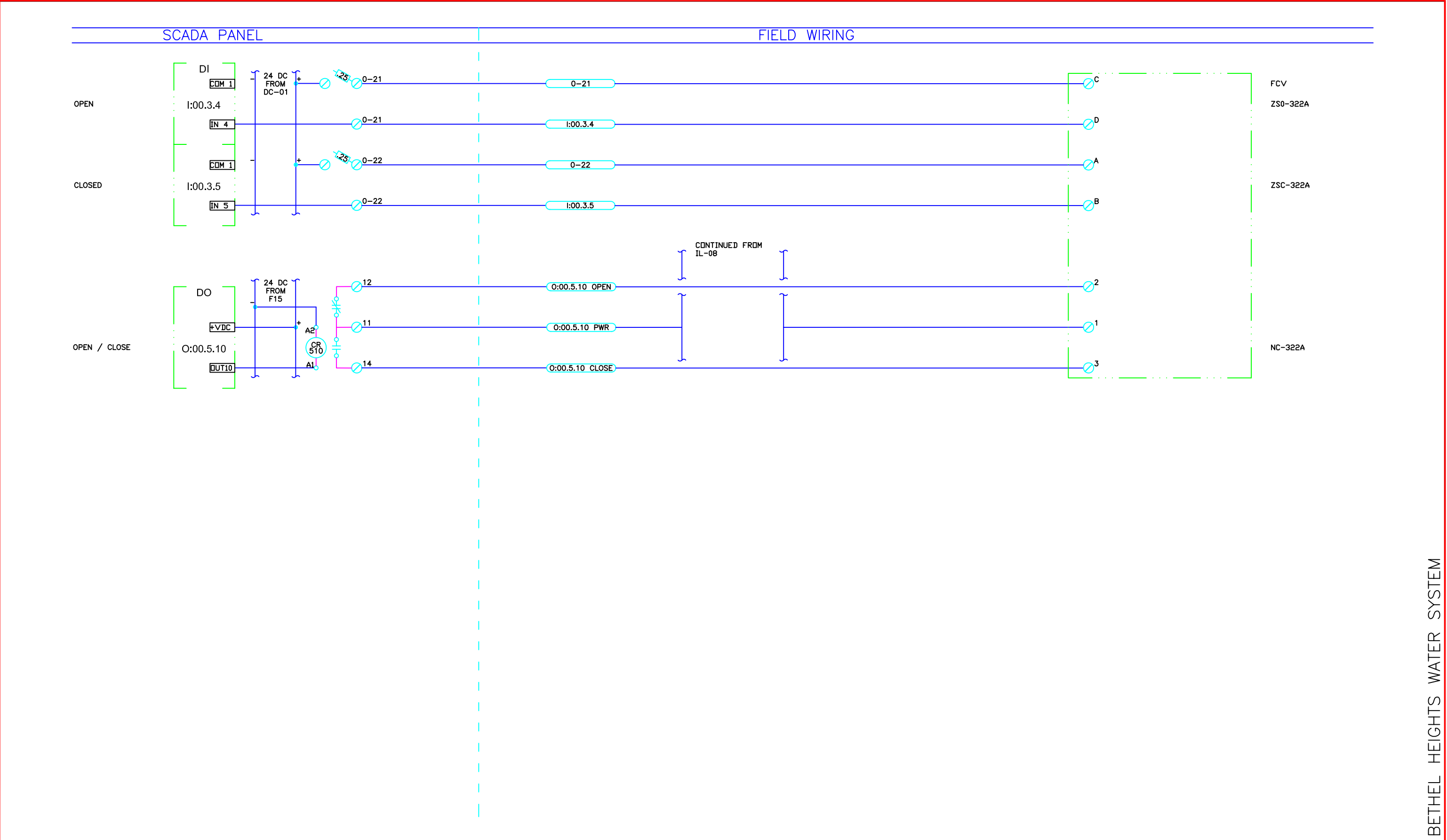
WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FCV-321B

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING

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SHEET
Page 439 of 450



BETHEL HEIGHTS WATER SYSTEM

0

WARNING

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NONE

REV	DATE	DESCRIPTION	BY
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-	-	-	-
-	-	-	-
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-	-	-	-
-	-	-	-
-	-	-	-

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SOLUTIONS

Anchorage Alaska

907.346.8240

DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

SCALE: NONE

DATE: 11/15/08

GRID: -

WATER DISTRIBUTION FACILITIES

CITY OF BETHEL ALASKA

BETHEL HEIGHTS WATER SYSTEM

FCV-322A

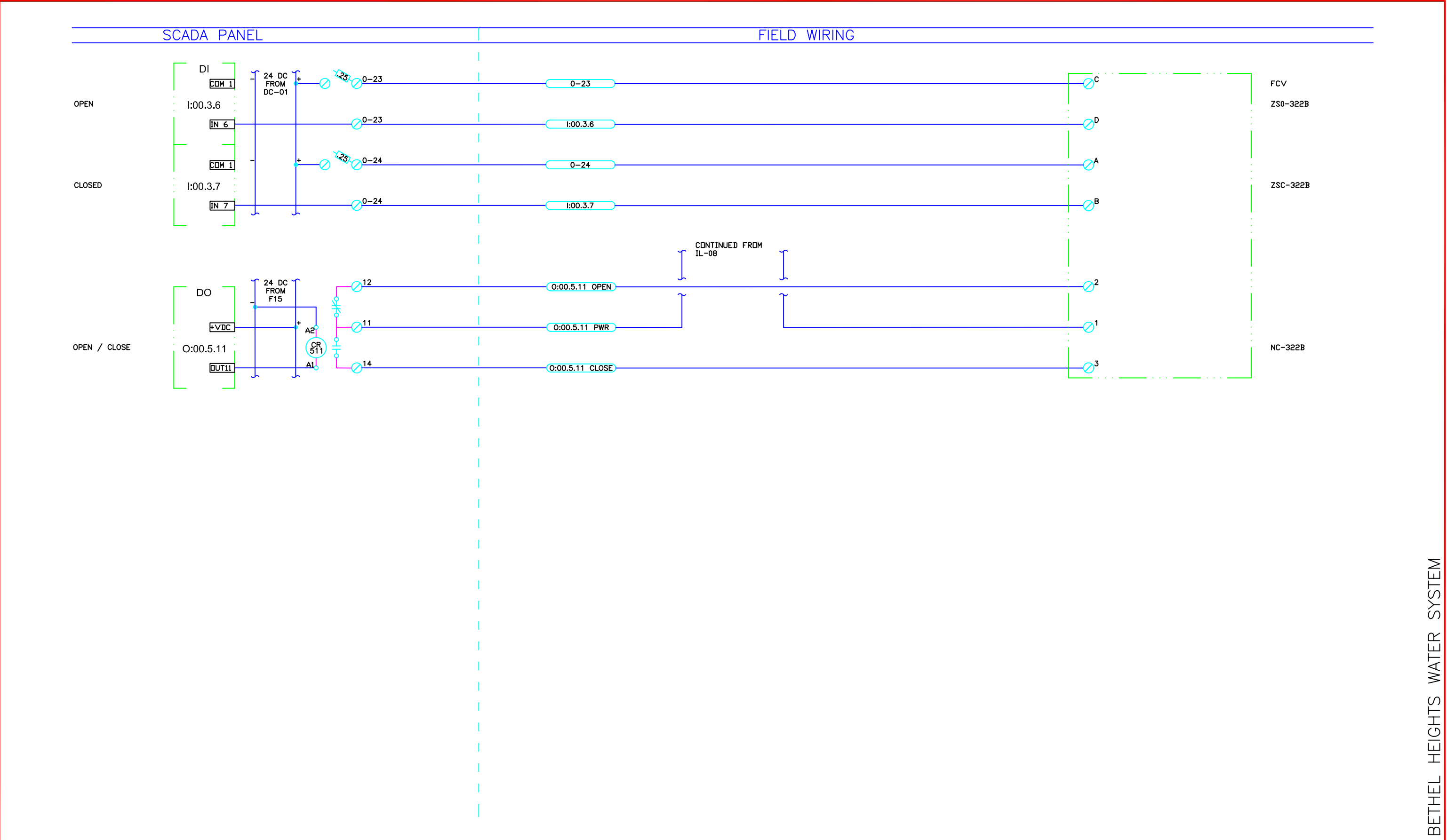
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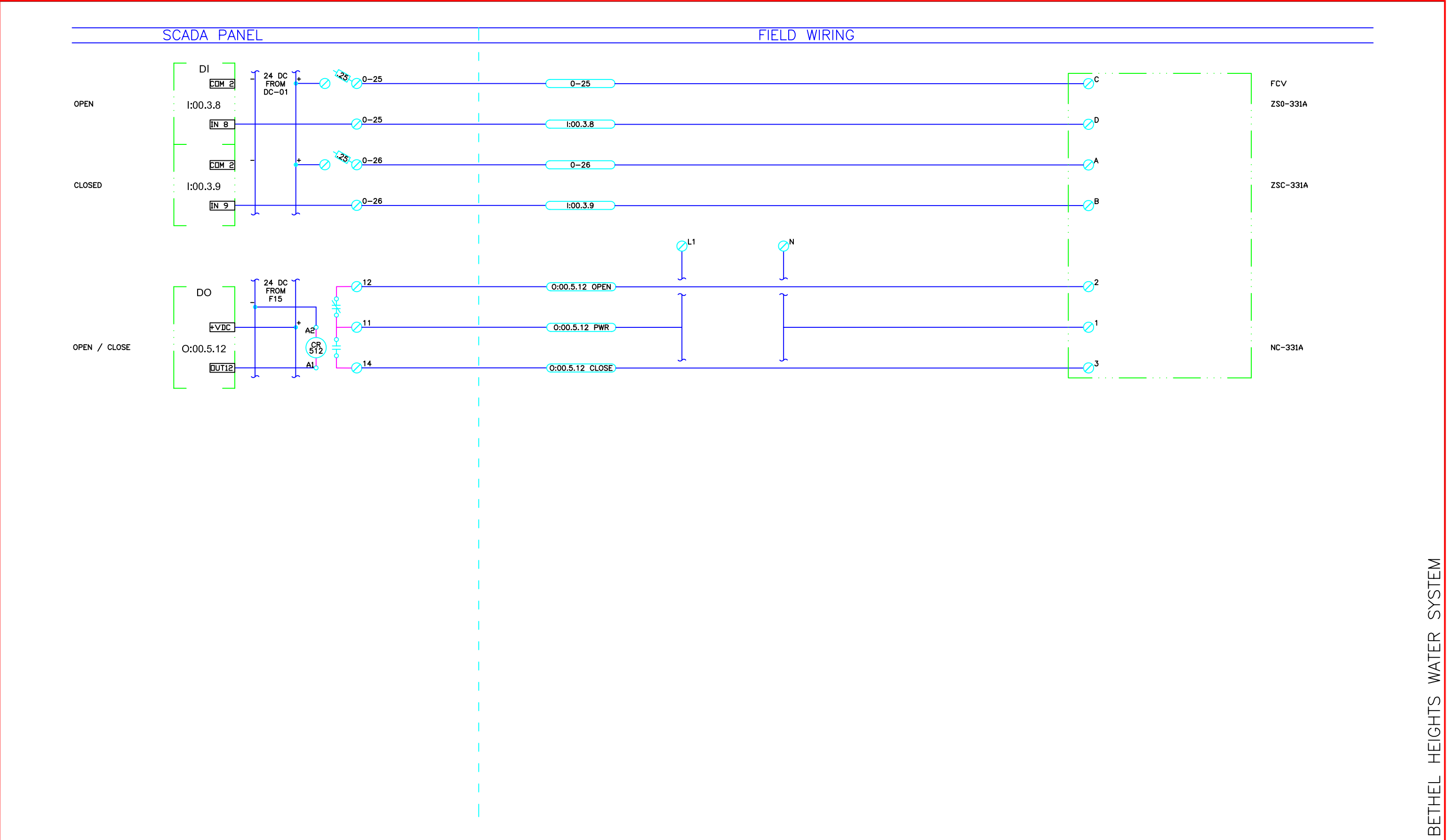
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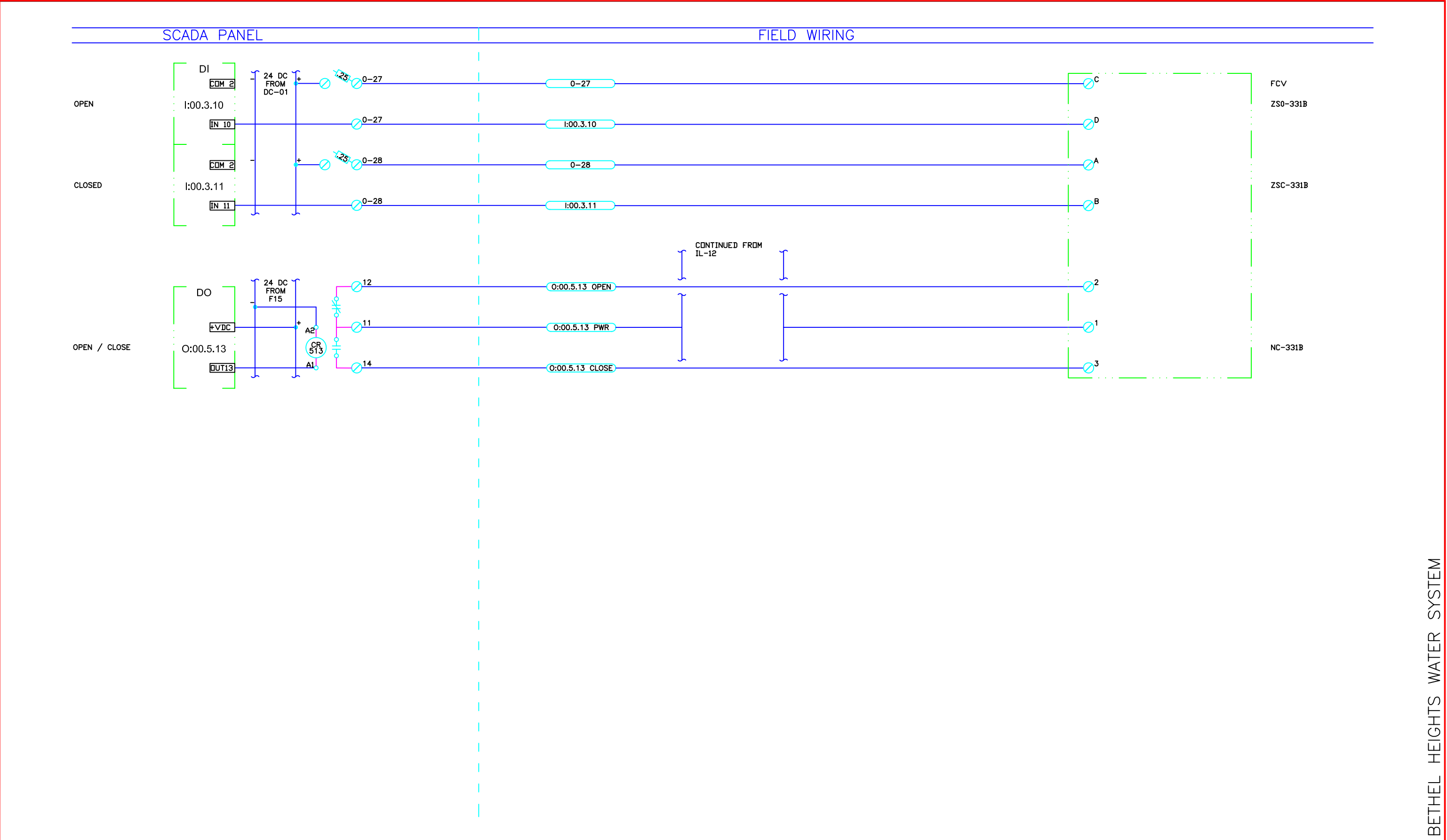
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Page 440 of 450







BETHEL HEIGHTS WATER SYSTEM

0

WARNING

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FULL SIZE SCALE:

NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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-	-	-	-
-	-	-	-
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-	-	-	-

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Anchorage Alaska

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CHECKED: WES

DRAWN: JOE
MWH JOB: -

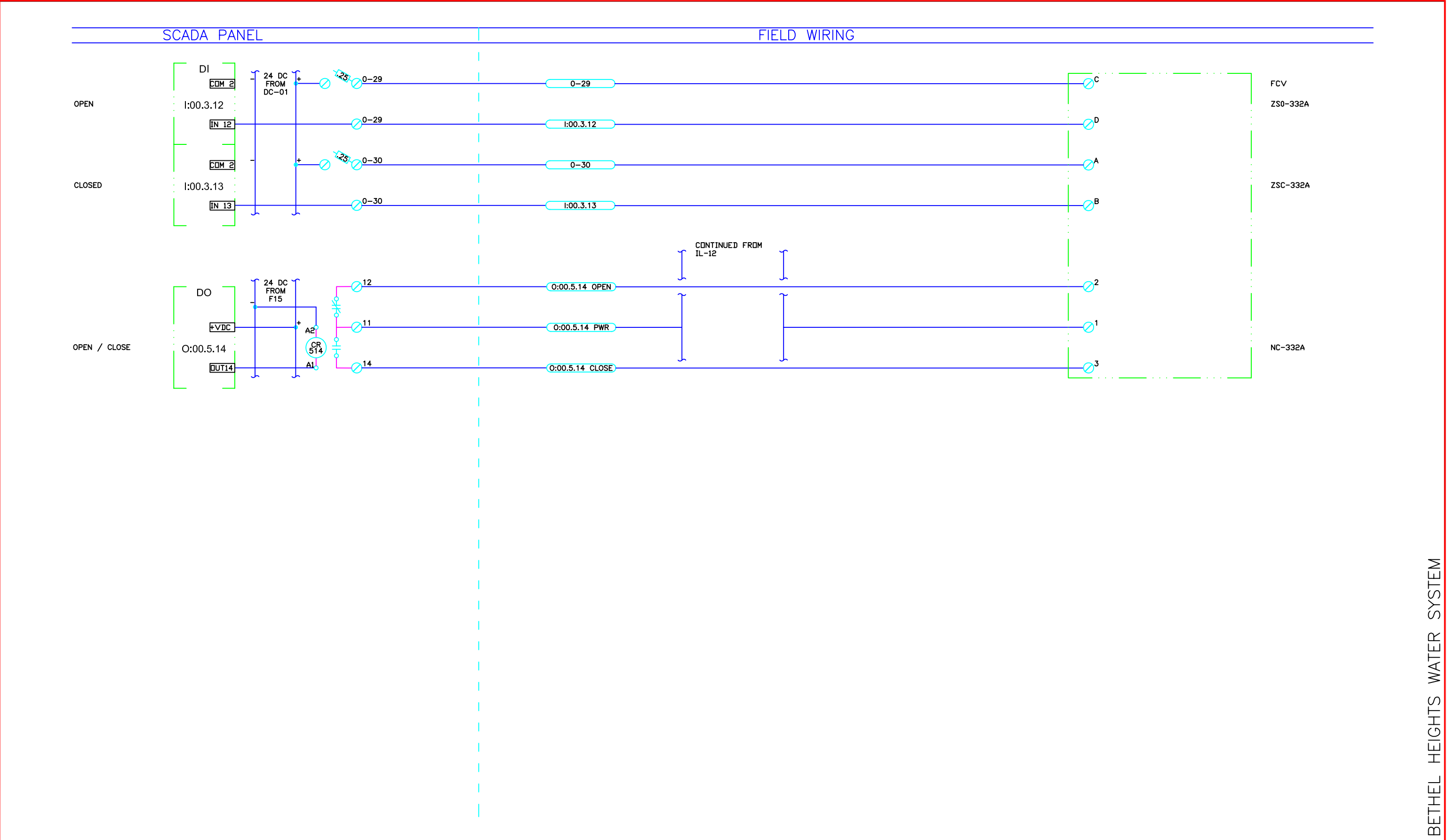
WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FCV-331B

SCALE: NONE
DATE: 11/15/08
GRID: -

DRAWING

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Page 443 of 450



BETHEL HEIGHTS WATER SYSTEM

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WARNING

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NONE

REV	DATE	DESCRIPTION	BY
1.0	11/15/08	RECORD DRAWING	TPL
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-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

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SOLUTIONS

Anchorage Alaska

907.346.8240

DESIGNED: CRW
CHECKED: WES

DRAWN: JOE
MWH JOB: -

WATER DISTRIBUTION FACILITIES
CITY OF BETHEL ALASKA
BETHEL HEIGHTS WATER SYSTEM
FCV-332A

SCALE: NONE
DATE: 11/15/08
GRID: -

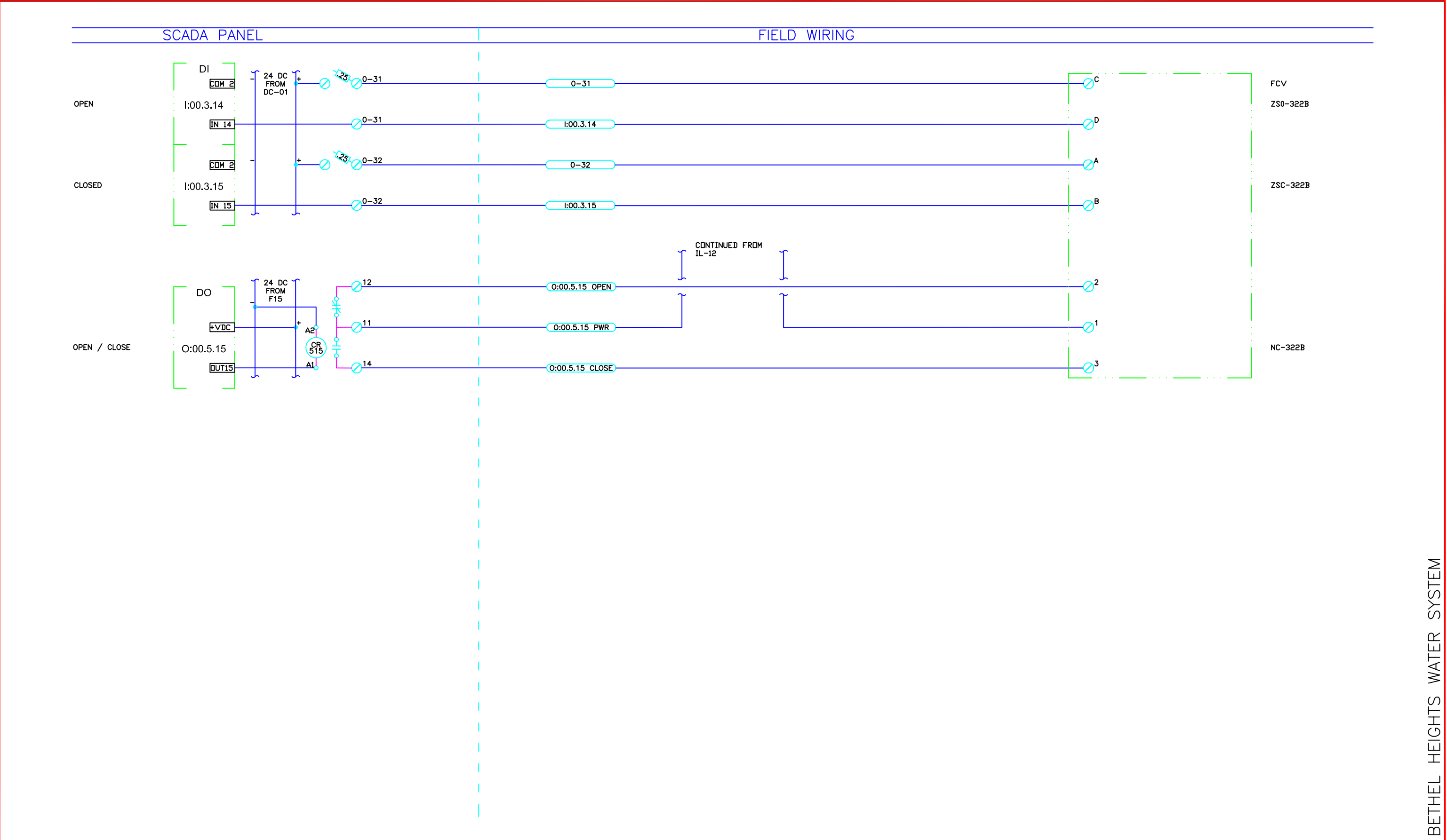
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BID TABULATION FORM

OWNER City of Bethel, Bethel, Alaska
PROJECT Bethel Heights/Martina Oscar Water and Sewer Improvements Phase 1
Contract No.
Bid Opening Friday, May 3, 2024 at 12:00PM

	1	2	3	4	5	6	6
Bidder	Sturgeon Electric	Bethel Contracting					
Date Received	5/3/2024	5/3/2024					
Time Received	11:34 AM	11:18 AM					
Bid Received by	Purchasing Agent	Purchasing Agent					

Acknowledge Addenda							
Addendum No. 1 issued April 16,2024	Y	Y					
Addendum No. 2 issued April 19, 2024	Y	Y					

Required Actions/Attachments*							
Attend Mandatory Prebid Conference	Y	Y					
Bid Form (00 41 13)	Y	Y					
Bid Bond (C-430)	Y	Y					
List of Subcontractors	Y	Y					
List of Suppliers	Y	Y					
List of Project References	Y	Y					
Evidence of Authority to do Business in AK	Y	Y					
Contractor's License #	Y	Y					
Qualification Statement	Y	Y					
Verification of Anti-Collusion	Y	Y					
BABA Certification of Compliance	Y	Y					
Local Bidder Support [if applicable]	N	N					

Bid Tabulation							
Base Bid	\$ 1,660,489.00	\$ 1,761,755.00	\$ -	\$ -	\$ -	\$ -	\$ -
Base Bid Total with Local Bidder Reduction (not for Contract Value)	\$ 1,660,489.00	\$ 1,761,755.00	\$ -	\$ -	\$ -	\$ -	\$ -
RANK	1	2					

*Subject to review for compliance, post Bid Opening

Bid Opened By:	Marcus Smith	Witnessed By:	William Arnold
-----------------------	--------------	----------------------	----------------



William Arnold, Acting City Manager
300 Chief Eddie Hoffman HWY
PO Box 1388 Bethel, AK 99559
P: (907) 543-1373
C: (907)545-0111
warnold@cityofbethel.net

MEMORANDUM

DATE: 5/21/2024
TO: City Council
FROM: Bill Arnold, Acting City manager
SUBJECT: Manager's Report

Dog Pound

The low bid on the Dog Pound came in at \$2,338,604. The original budget was \$800,000 in 2023 then we added \$400,000 in 2024 and before going out to bid there was a budget mod for \$300,000. At this time there is not sufficient funding for the project. We would need an additional \$1,000,000.

Failing Culverts

There are two sets of culverts on Ptarmigan that are failing. The city is working with DOWL to replace them with box culverts. This project will have to go out to bid due to the scope of the work.

Dust Control

The State approved \$1,200,000 in the capital budget for dust control. We will use these funds to purchase gravel and EK-35.

Project Description	Task Order	GL Code	Total Budget	Billed	Remaining
Lead/Copper Issues at City Sub	TO #17	510-84-6335	\$49,000.00	\$31,966.06	\$17,033.94
YK Fitness Center Repairs	TO #28	400-50-9692	\$124,266.00	\$120,388.38	\$3,877.62
Utility Rate Study	TO #39	100-51-6325	\$94,431.00	\$89,860.36	\$4,570.64
Chemical Storage Building	TO #45	660-70-6892	\$415,034.00	\$333,593.49	\$81,440.51
Transit Center Boiler Replacement	TO #46	560-50-6890	\$85,320.00	\$59,587.60	\$25,732.40
Dog Pound Facility	TO #49	100-61-6890	\$209,349.00	\$202,236.87	\$7,112.13
General Planning Services	TO #52	100-54-6320	\$165,180.00	\$159,033.75	\$6,146.25
QFC#2 Lift Station	TO #55	660-50-6320	\$107,855.00	\$93,363.00	\$14,492.00
WTP Automation Study	TO #56	510-84-6890	\$67,630.00	\$28,142.32	\$39,487.68
Police Tower Estimate	TO #59	100-61-6890	\$64,047.00	\$32,714.22	\$31,332.78
Well Testing	TO #61	510-83-6335	\$24,197.00	\$22,173.51	\$2,023.49
Bethel Hts/Martina Oscar W&S	TO #63	631-50-6324	\$233,140.00	\$229,470.73	\$3,669.27
Lagoon Assessment	TO #66	510-87-6320	\$56,101.00	\$25,729.02	\$30,371.98

City of Bethel, Alaska

City Clerk's Office

Council Meetings

May 7, 2024 Special City Council Meeting
May 14, 2024 Regular City Council Meeting
May 28, 2024 Regular City Council Meeting

City Clerk's Office

- Met with CIVIC Optimize contractor again to go oversteps with the forms and workflow management. Received a brief training on the new process for creating forms on the website.
- The Clerk's Office and Administration Staff took part in a two-day training session on how to navigate, edit, and publish content on the new Website.
- Finalizing website design choices and preparing for the website transition. The launch date of the new website is scheduled for June 13th.
- The City Clerk attended the 2024 International Institute of Municipal Clerks Annual Conference in Calgary, Canada.
- Trained the Public Safety and Transportation Commission Ex-Officio Staff on how to use the Agenda and Packet management software.
- The State of Alaska Elections Office has confirmed that the voting location for Precinct 1 and 2 will be consolidated to the Cultural Center.

Task	Period Total	Year to Date Total
Passport Appointments	4	35
Burial Permits/Reservations	4	19
Notary Services	-	13
Meeting Minutes Drafted	3	12
Resolutions Drafted	-	6
Ordinances Drafted	-	2
AM/IM Drafted	-	2

Committee/Commission Vacancies

	Regular	Alternate
Community Parks and Recreation Committee	full	full
Planning Commission	full	2
Port Commission	2	2
Public Safety and Transportation Commission	full	2
Community Action Grant Technical Review Board	full	full
Public Works Committee	3	2
Finance Committee	1	2
Ethics Board	full	1