

FACSIMILE COVER LETTER

FAX NUMBER (208) 384-0765

RECEIVED**MUSGROVE ENGINEERING**

410 S. Orchard, Suite 184

Boise, Idaho 83705

Phone # (208) 384-0585

AUG 16 2006**TO: EHM Engineers, Inc.**DEPT. OF WATER RESOURCES
SOUTHERN REGION**FAX #: (208) 734-6049****ATTENTION: Gary Burkett****DATE: 8/16/06****FROM: Charles Paulin****TRANSMISSION INCLUDES COVER PAGE PLUS 6 ATTACHMENTS.****PROJECT REFERENCE: Jerome Elementary and Middle School****COMMENTS:**

Gary,

Attached is the breakdown on where the well water flows came from and the heat exchanger selections.

Please let me know if you need anything else.

Charles Paulin

CC: File

IF YOU DON'T RECEIVE ALL PAGES PLEASE CALL US AS SOON AS POSSIBLE

MUSGROVE ENGINEERING, P.A.
Over 30 Years Of Engineering Excellence
410 S. Orchard, Suite 184
Boise, Idaho 83705
208.384.0585, Fax 208.384.0765

JOB Jerome Middle School
SHEET NO. _____ OF _____
CALCULATED BY _____ DATE 8/14/06
CHECKED BY _____ DATE _____
SCALE _____

Cooling:

Total heat of rejection = 3,445,000 Btu/h

With 22°DT Flow = $\frac{3,445,000}{(500)(22)} = 313 \text{ GPM}$

Total heat required = 1,500,000 Btu/h

With 7°DT Flow = $\frac{1,500,000}{500(7)} = 428 \text{ GPM}$

Because of (3) possible 2-story additions the flow was increased to 1480 GPM

ITT Heat Transfer Plate & Tube Specifics

Customer

Att:

Item: 78

Quotation No: 001

Ref:

Friday, March 24, 2006

PHE-Type P41-135-TMTL-74		Hot side	Cold side
Flowrate	(g.p.m.)	480.00	480.00
Inlet temperature	(°F)	55.00	45.00
Outlet temperature	(°F)	48.00	52.00
Pressure drop	(PSI)	4.93	4.94
Heat exchanged	(Btu/h)	1686264	
Thermodynamic properties:		Water	Water
Density	(Lb/Ft³)	62.36	62.37
Specific heat	(Btu/Lb*F)	1.00	1.00
Thermal conductivity	(Btu/h*Ft*F)	0.34	0.34
Mean viscosity	(cP)	1.29	1.35
Wall viscosity	(cP)	1.35	1.29
LMTD	(°F)		3.0
Excess Surface	(%)		0.0
Inlet branch		F1	F3
Outlet branch		F4	F2
Design of Frame / Plates:			
Plate arrangement (passes*channel)		1 x 67 + 0 x 0	
Plate arrangement (passes*channel)		1 x 67 + 0 x 0	
Number of plates		135	
Effective heat surface	(Ft²)	615.59	
Overall K-value Duty/Clean	(Btu/Ft²*h*F)	909 / 909	
Plate material		0.0197 inch AISI 316	
Gasket material		NITRIL LOCK	
Max. working temperature	(°F)	257	
Working/test pressure	(PSI)	150.0 / 195.0	
Frame type		IS	
Connections HOT side		6.00 " Unlined studded port, 150 # ANSI	
Connections COLD side		6.00 " Unlined studded port, 150 # ANSI	
Liquid volume	(Ft³)	5.91	
Carry Bar Length	(Ft)	4.27	Max. No. of Plates 168
Net weight	(Lb)		
		Approval	

ITT Heat Transfer

175 Standard Parkway

Cheektowaga, NY 14227

Tlf: 800-447-7700

Fax: 716-897-1777

ITT Heat Transfer Plate & Frame Specifications

Customer
Quotation No : 001Alt :
Ref :Item : 78
Friday, March 24, 2006

PHE-Type P41-135-TMTL-74		Hot side	Cold side
Flowrate	(g.p.m.)	479.78	480.17
Inlet temperature	(°F)	85.00	55.00
Outlet temperature	(°F)	63.36	76.59
Pressure drop	(PSI)	4.85	4.86
Heat exchanged	(Btu/h)	5182708	
Thermodynamic properties:		Water	Water
Density	(Lb/Ft³)	62.21	62.27
Specific heat	(Btu/Lb*F)	1.00	1.00
Thermal conductivity	(Btu/h*Ft*F)	0.35	0.35
Mean viscosity	(cP)	0.93	1.04
Wall viscosity	(cP)	1.04	0.93
LMTD	(°F)	8.4	
Excess Surface	(%)	0.0	
Inlet branch		F1	F3
Outlet branch		F4	F2
Design of Frame / Plates:			
Plate arrangement (passes*channel)		1 x 67 + 0 x 0	
Plate arrangement (passes*channel)		1 x 67 + 0 x 0	
Number of plates		135	
Effective heat surface	(Ft²)	615.59	
Overall K-value Duty/Clean	(Btu/Ft²*h*F)	1004 / 1004	
Plate material		0.0197 inch AISI 316	
Gasket material		NITRIL LOCK	
Max. working temperature	(°F)	257	
Working/test pressure	(PSI)	150.0 / 195.0	
Frame type		IS	
Connections HOT side		6.00 " Unlined studded port, 150 # ANSI	
Connections COLD side		6.00 " Unlined studded port, 150 # ANSI	
Liquid volume	(Ft³)	5.91	
Carry Bar Length	(Ft)	4.27	
Net weight	(Lb)	Max. No. of Plates 168	
		Approval	

ITT Heat Transfer

175 Standard Parkway

Cheektowaga, NY 14227

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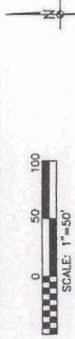
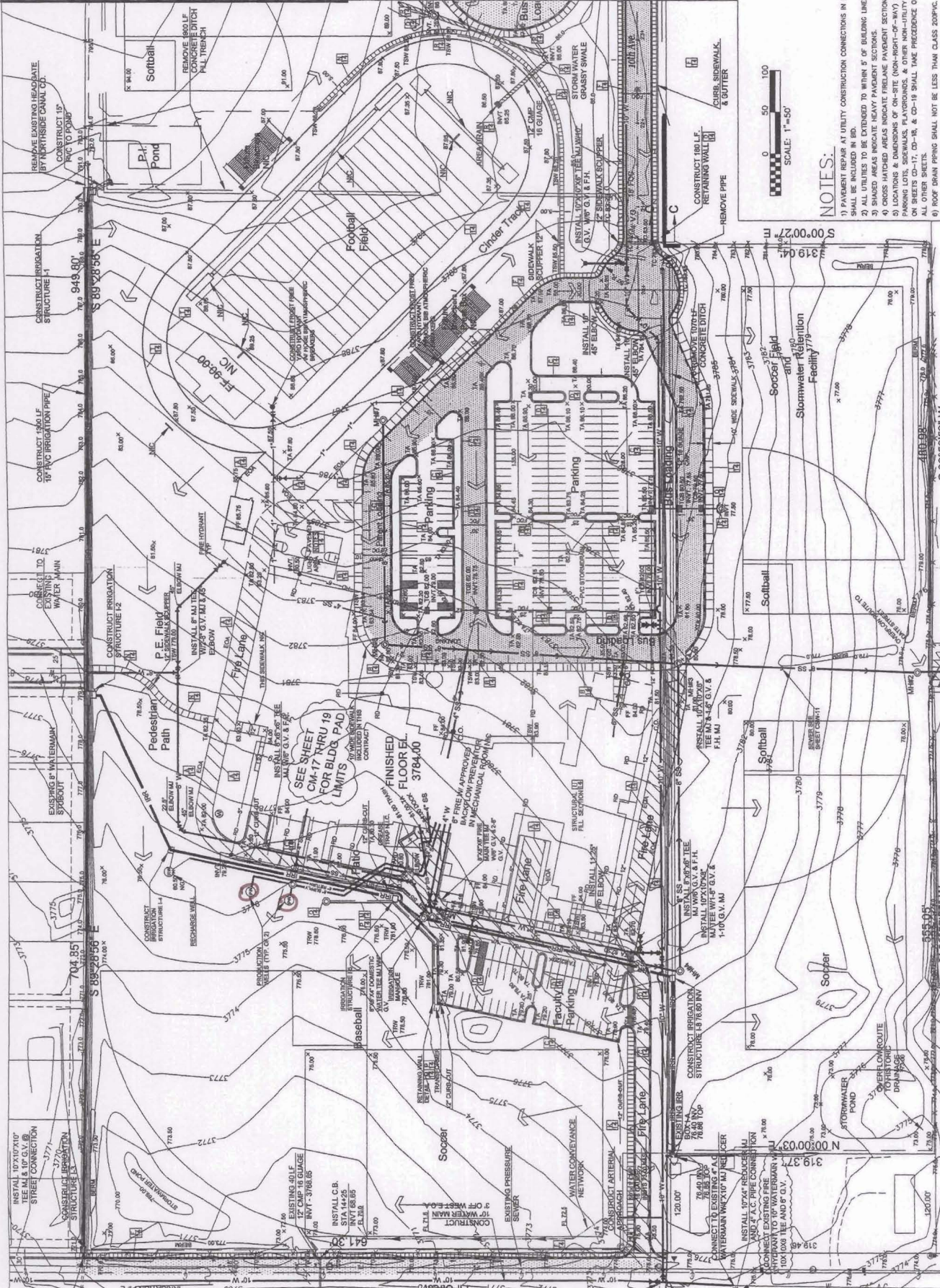
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EHM Engineers Inc.
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 TEL: 208-334-8888 FAX: 208-334-8849
 E-MAIL: ehm@earthlink.net

LEATHAM - KROHN - VANOCKER
 ARCHITECTS
 1738 Main Street
 TWIN FALLS, IDAHO 83401
 (208) 336-3443

**New Jerome Elementary
 And Middle Schools
 Site Improvements**
 Jerome School District No. 1
 Jerome, Idaho

DATE: 27 APR 2008
 DRAWN: [Signature]
 CHECKED BY: [Signature]
 APPROVED BY: [Signature]



NOTES:

- 1) PAYMENT REPAIR AT UTILITY CONNECTIONS IN EXISTING STREETS SHALL BE INCLUDED IN THE BID. ALL REPAIRS SHALL BE LIMITED TO WITHIN 5' OF BUILDING LINES.
- 2) SHADDED AREAS INDICATE HEAVY PAVEMENT SECTIONS.
- 3) CROSS HATCHED AREAS INDICATE PRELIMINARY PAVEMENT SECTIONS.
- 4) LOCATIONS & DIMENSIONS OF ON-SITE (NON-RIGHT-OF-WAY) BUILDINGS, DRIVEWAYS, PARKING LOTS, SIDEWALKS, PLAYGROUNDS, & OTHER NON-UTILITY DTE FEATURES SHOWN ON SHEETS CD-17, CD-18, & CD-19 SHALL TAKE PRECEDENCE OVER DIMENSIONS ON ALL OTHER SHEETS.
- 5) ROOF DRAIN PIPING SHALL NOT BE LESS THAN CLASS 200PC.